

AGENDA REGULAR BUSINESS MEETING OF CITY COUNCIL

Monday, March 23, 2015, 1:00 p.m.
Council Chamber, City Hall

Pages

1. NATIONAL ANTHEM AND CALL TO ORDER
2. CONFIRMATION OF AGENDA
3. DECLARATION OF PECUNIARY INTEREST
4. ADOPTION OF MINUTES

4.1 Minutes of Regular Meeting of City Council held on February 23, 2015

Recommendation

That the minutes of Regular Business Meeting of City Council held on February 23, 2015, be approved.

5. PUBLIC ACKNOWLEDGMENTS

5.1 Presentation - 2015 Mayor's Poetry Challenge [File No. CK. 205-5]

16 - 22

Mr. John Donlan, Saskatoon Library Writer in Residence, will be in attendance to read a poem. The proclamations will be considered at the public hearing meeting on March 23, 2015.

6. UNFINISHED BUSINESS
7. QUESTION PERIOD

8. CONSENT AGENDA

Recommendation

That the Committee recommendations contained in items 8.1.1 to 8.1.8, 8.3.1 to 8.3.7, 8.4.1 to 8.4.8 and 8.5.1 to 8.5.11 be adopted as one motion.

8.1 Standing Policy Committee on Planning, Development & Community Services

8.1.1 Optimist Canada Day 2015 [File No. CK. 205-1] 23 - 24

Recommendation

That the request for an exemption from the Recreation Facilities and Parks Usage Bylaw from 7 a.m. on June 30th to 1:00 p.m. on July 2, 2015, for set-up, pull down and cleanup by vendors and exhibitors for Optimist Canada Day 2015 be approved subject to administrative conditions.

8.1.2 2014 Annual Report – Municipal Heritage Advisory Committee [File No. CK. 430-27] 25 - 31

Recommendation

That the 2014 Annual Report of the Municipal Heritage Advisory Committee be received as information.

8.1.3 Marr Residence 2014 Annual Report [File No. CK. 430-60] 32 - 44

Recommendation

That the 2014 Annual Report of the Marr Residence Management Board be received as information.

8.1.4 Neighbourhood Level Infill Development Strategy – Zoning Bylaw Text Amendments to Amend the Development Standards for Primary Dwellings in Established Neighbourhoods – Approval for Advertising [Files CK. 4350-63 and PL. 4350-Z26/14] 45 - 73

Recommendation

That the City Solicitor be requested to prepare the required bylaws to amend Sidewalks – Private Crossings Over Bylaw No. 4785.

- 8.1.5 City Centre Recreation Facility Update and Information on Facility Feasibility Study [Files CK. 610-11 and RS. 610-25]** 74 - 78

Recommendation

That the report of the General Manager, Community Services Department, dated March 2, 2015, be received as information.

- 8.1.6 Local Area Plan Program Neighbourhood Monitoring Report [Files CK. 4000-11 and PL. 4110-70-1]** 79 - 90

Recommendation

That the Neighbourhood Planning Section be authorized to undertake Local Area Plans in the neighbourhoods identified in the report of the General Manager, Community Services Department dated March 2, 2015.

- 8.1.7 Initiating the Establishment of the Public Art Reserve and Amending the Cultural Grant Capital Reserve [Files CK. 1815-1 and RS. 1870-13]** 91 - 98

Recommendation

1. That the initial establishment of the Public Art Reserve be funded by a reallocation of \$20,000 from the existing Cultural Grant Capital Reserve;
2. That the Cultural Grant Capital Reserve be amended to be named the Culture Reserve with two components: Cultural Grant Reserve and Public Art Reserve; and
3. That Reserves for Future Expenditures Policy No. C03-003 be updated to reflect the changes outlined in the report of the General Manager, Community Services Department, dated March 2, 2015.

- 8.1.8 Innovative Housing Incentives - Inn. Residential Investments Inc. - 225 Hassard Close [Files CK. 750-4 and PL. 951-125]** 99 - 113

Recommendation

1. That four additional two-bedroom units at 225 Hassard Close be designated under the Mortgage Flexibilities Support Program, specifically for low-income households; and
2. That the City Solicitor be requested to amend the incentive agreement and that His Worship the Mayor and the City Clerk be authorized to execute this amendment under the Corporate Seal.

8.2 Standing Policy Committee on Finance

8.3 Standing Policy Committee Transportation

- 8.3.1 **2014 Traffic Control, Parking Restrictions and Parking Prohibitions Signage [File No. CK. 6280-1]** 114 - 121

Recommendation

That the report of the General Manager, Transportation & Utilities Department dated March 9, 2015, be received as information.

- 8.3.2 **New Pilot Programs Improve Ice Management Results [Files CK. 6290-1 and PW. 6291-1]** 122 - 126

Recommendation

That the report of the General Manager, Transportation & Utilities Department dated March 9, 2015, be received as information.

- 8.3.3 **Amendments to Policy C07-010, Parking Restrictions and Parking Prohibitions [File No. CK. 6120-2]** 127 - 136

Recommendation

1. That the revisions to Policy C07-010, Parking Restrictions and Parking Prohibitions be adopted; and
2. That the City Clerk be requested to update the policy as reflected in the report of the General Manager, Transportation & Utilities Department dated March 9, 2015.

- 8.3.4 **College Drive Classification [Files CK. 6000-1 and TS. 6330-1]** 137 - 145

Recommendation

1. That the classification of College Drive, between the Canadian Pacific Railway tracks and the city limits, be modified to an Urban Expressway in order to improve connectivity into the Holmwood Sector; and
2. That the City Solicitor be requested to prepare the necessary amendment to Bylaw 7200, The Traffic Bylaw.

8.3.5	Extension of Street Sweeping Contractor Assistance Contract [Files CK. 6315-3 and PW. 6315-3]	146 - 150
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Recommendation

1. That the contract with Virtay Street Sweepers Ltd. for a cost of \$727,650 per year (including taxes) be extended for two years; and
2. That the City Solicitor be requested to amend the contract agreement and that His Worship the Mayor and the City Clerk be authorized to execute the agreement under the Corporate Seal.

8.3.6	2014 Annual Report – Traffic Safety Committee [File No. CK. 430-59]	151 - 154
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Recommendation

That the 2014 Annual Report of the Traffic Safety Committee be received as information.

8.3.7	Caswell Hill Neighbourhood Traffic Review [File No. CK. 6330-1]	155 - 204
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Recommendation

That the Neighbourhood Traffic Review for the Caswell Hill neighbourhood be adopted as the framework for future traffic improvements in the area, to be undertaken as funding is made available through the annual budget process.

8.4 Standing Policy Committee on Environment, Utilities & Corporate Services

8.4.1	Household Hazardous Waste Days Program Options [Files CK. 7830-2 and CP. 7550-2-2]	205 - 214
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Recommendation

That an increase of \$100,000 to the Household Hazardous Waste Days Program be referred to the 2016 (\$50,000) and 2017 (\$50,000) Business Plan and Budget deliberations.

8.4.2	2015 Composting Programs [Files CK. 7830-4-3 and WT. 7832-21]	215 - 233
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Recommendation

That consultations with Green Cart program subscribers and the public assess support for changing the level of service provided by the existing seasonal program to include food waste.

8.4.3 Award and Price Cap Approval for Short Service Connection Replacement Contracts 2015 [Files CK. 7780-1 and TS. 7721-4]

234 - 242

Recommendation

1. That the proposal submitted by Brunner's Construction Ltd. for the Emergency Connection Rehabilitation contract, for work to be done in 2015, at a total estimated cost of \$1,851,790.50 (including G.S.T. and P.S.T.), be accepted;
2. That the proposal submitted by Brunner's Construction Ltd. for the Homeowner Request Connection Rehabilitation contract, for work to be done in 2015, at a total estimated cost of \$1,071,135.45 (including G.S.T. and P.S.T.), be accepted;
3. That the cap on the residential property owners' portion of service connection replacements be increased from \$2,590 to \$2,900, plus applicable taxes, effective April 1, 2015; and
4. That the City Solicitor be requested to prepare the appropriate agreement and that His Worship the Mayor and the City Clerk be authorized to execute the agreement under the Corporate Seal.

8.4.4 Saskatoon Water Borrowing Reduction and Funding Reallocation [Files CK. 1702-1 and WT. 1815-1]

243 - 245

Recommendation

That the transfer of funds from capital and replacement reserves as indicated below, to reduce borrowing by \$3,600,000 be approved:

1. \$2,900,000 from the Waste Water Capital Project Reserve to the following projects:
 - a. \$1,600,000 for Project #1234 – WWT Odour Abatement System;
 - b. \$800,000 for Project #1243 – WWT Lift Stations Upgrades;
 - c. \$500,000 for Project #2224 – WWT Liquid Waste Haulers Station; and
2. \$700,000 from the Water Replacement Reserve to Project #2557 – WTP Acadia Pump Replacement.

- 8.4.5 Capital Project No. 625-29 – Feasibility Study – Sanitary River Crossing – Award of Engineering Services [Files CK. 7820-4 and TS. 7930-2-3]** 246 - 250

Recommendation

1. That the proposal for engineering services, submitted by Associated Engineering (Sask) Ltd., for the feasibility study of a new sanitary sewer crossing of the South Saskatchewan River, on a time and expense basis, at an estimated cost of \$93,473.52 (including GST and PST), be accepted; and
2. That the City Solicitor be requested to prepare the appropriate agreement and that His Worship the Mayor and the City Clerk be authorized to execute the agreement under the Corporate Seal.

- 8.4.6 Storm and Sanitary Sewer Flow Monitoring Program Expansion and Upgrade – Sole Source [Files CK. 7820-1, x1000-3 and TS. 8200-1]** 251 - 255

Recommendation

1. That ISCO flow monitoring equipment be adopted as the City's Standard for storm sewer and sanitary sewer flow monitoring equipment until December 31, 2018;
2. That the Administration prepare a sole source to Avensys Solutions for the supply of ISCO flow monitoring equipment for a total cost of \$86,972.55 (including GST); and
3. That Purchasing Services issue the appropriate purchase order.

- 8.4.7 Source Control Programs for the Sanitary Sewer System [Files CK. 7820-3 and CP. 8460-01-01]** 256 - 264

Recommendation

That the report of the General Manager, Corporate Performance dated March 9, 2015 be received as information.

8.4.8	Advanced Metering Infrastructure Project – Award of Contract with Elster Solutions Canada [Files CK. 1000-2 and WT. 2030-4]	265 - 270
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Recommendation

1. That a contract with Elster Solutions Canada Incorporated for the supply of electricity meters, water meter communication modules, and AMI software, data collectors and repeaters for the Advanced Metering Infrastructure project for a total fee of \$10,878,257.25 (including GST) be approved;
2. That the City Solicitor be requested to prepare the appropriate agreement and that His Worship the Mayor and the City Clerk be authorized to execute the agreement under the Corporate Seal; and
3. That Purchasing Services be authorized to issue the necessary Purchase Orders to Elster Solutions Canada Incorporated for these purchases.

8.5 Executive Committee

8.5.1	Appointment – Public Art Advisory Committee [File No. CK. 175-58]	271
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Recommendation

That Barbara Stehwien be appointed to the Public Art Advisory Committee to the end of 2017.

8.5.2	P4G Regional Plan - Saskatoon North Partnership for Growth - 2014 Annual Report [File No. CK. 4250-1]	272 - 278
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Recommendation

That the information be received.

8.5.3	Notice - Councillor Donauer - Unpaid Leave of Absence - Federal Election [File No. CK. 255-1]	279
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Recommendation

That the information be received.

Recommendation

1. That the 2015 membership fee in the Saskatchewan Urban Municipalities Association in the amount of \$110,244.79, be paid; and
2. That a formal letter of communication be sent to SUMA asking them to review the governance structure and population of their Executive Committee to ensure that Saskatoon and Regina be considered for permanent positions on the Committee.

8.5.5 Notice of Annual General Meetings – Saskatoon Centennial Auditorium & Convention Centre Corporation and Foundation [File No. CK. 175-28]

Recommendation

1. That the City of Saskatoon, being a member of the Saskatoon Centennial Auditorium & Convention Centre Corporation Board of Directors, appoint Donald Atchison, or in his absence, Tiffany Paulsen or Ann Iwanchuk, of the City of Saskatoon, in the Province of Saskatchewan, as its proxy to vote for it on its behalf at the Annual General Meeting of the members of the Saskatoon Centennial Auditorium & Convention Centre Corporation, to be held on the 30th day of April, 2015, or at any adjournment or adjournments thereof; and
2. That the City of Saskatoon, being a member of the Saskatoon Centennial Auditorium Foundation Board of Directors, appoint Donald Atchison, or in his absence, Tiffany Paulsen or Ann Iwanchuk, of the City of Saskatoon, in the Province of Saskatchewan, as its proxy to vote for it on its behalf at the Annual General Meeting of the members of the Saskatoon Centennial Auditorium Foundation, to be held on the 30th day of April, 2015, or at any adjournment or adjournments thereof.

8.5.6	Notice of Annual Members' Meeting – Saskatchewan Place Association Inc. [File No. CK. 175-31]	287 - 290
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Recommendation

That the City of Saskatoon, being a member of the Saskatchewan Place Association Inc., appoint Donald Atchison, or in his absence, Councillors Davies or Hill, of the City of Saskatoon, in the Province of Saskatchewan, as its proxy to vote for it on its behalf at the Annual General Meeting of the members of the Saskatchewan Place Association Inc., to be held on the 6th day of May, 2015, or at any adjournment or adjournments thereof.

8.5.7	SREDA Bonus Payment - 2014 [File No. CK. 1870-10]	291 - 294
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Recommendation

That a bonus payment in the amount of \$110,000 to the Saskatoon Regional Economic Development Authority Inc. be approved.

8.5.8	Municipal Governance and Public Accountability [File No. CK. 255-1]	295 - 312
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Recommendation

1. That the information be received;
2. That the processes for in camera matters be amended as outlined in the report of the City Solicitor dated March 16, 2015;
3. That the City Solicitor provide any required bylaw amendments to Council for consideration;
4. That the explicit noting of items considered In Camera and when considered In Camera be reported out as part of the public agenda items;
5. That the Administration report back about the potential of releasing In Camera items after a defined period of time that were exempted under the permissive exemptions for release to the public; and
6. That a year over year comparison evaluation mechanism be developed.

8.5.9	Nutana Slope Failure – Options Matrix [File No. CK. 4000-1]	313 - 634
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Recommendation

1. That the information be received; and
2. That Option A as outlined in the report of the Executive Committee dated March 16, 2015, be accepted.

8.5.10	Appointment – Municipal Heritage Advisory Committee [File No. CK. 225-18]	635
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Recommendation

That James Scott be appointed to the Municipal Heritage Advisory Committee as a representative of the 33rd Street Business Improvement District to the end of 2016.

8.5.11	Appointment – Mendel Art Gallery & Civic Conservatory; Remai Modern Art Gallery of Saskatchewan – Appointment to Board of Trustees [File No. CK. 175-27]	636
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Recommendation

That the City's representative be instructed to vote the City's proxy at the Annual General Meetings of The Saskatoon Gallery and Conservatory Corporation and The Art Gallery of Saskatchewan Inc. for the appointment of John Gormley to the Board of Trustees for each, throughout a term expiring at the conclusion of the 2017 Annual General Meeting.

9. REPORTS FROM ADMINISTRATION AND COMMITTEES

9.1 Asset & Financial Management Department

9.1.1	2015 Tag Days [Files CK. 200-3 and AF. 200-3]	637 - 638
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Recommendation

That the applications for the 2015 Tag Days be approved.

9.2 Community Services Department

9.3 Corporate Performance Department

9.4 Transportation & Utilities Department

- 9.4.1 **University Bridge Rehabilitation Transportation Planning [Files CK. 6050-7 and TU. 6050-104-03]** 639 - 662

Attachment 2 will be circulated under separate cover by end of the day March 20, 2015.

Recommendation

That the information be received.

- 9.4.2 **Capital Project No. 2407 - IS North Commuter Parkway and Traffic Bridge - Traffic Bridge Pier Locations [Files CK. 6050-8, CS. 6050-10 and IS. 6050-104-044]** 663 - 666

Recommendation

That the Proponents of the Public-Private-Partnership Request for Proposals be permitted to relocate the new piers for the Traffic Bridge up to a maximum of 10 meters along the centreline alignment of the bridge, provided that all relocated piers are moved the same distance in the same direction.

9.5 Office of the City Clerk

9.6 Office of the City Solicitor

- 9.6.1 **Municipal Review Commission: Code of Conduct, Conduct of Municipal Elections, Total Compensation for Members of Council [File No. CK. 255-18]** 667 - 669

Recommendation

That City Council consider Bylaw No. 9273, *The Saskatoon Municipal Review Commission Amendment Bylaw, 2015*.

- 9.6.2 **The Low-Income Seniors Property Tax Deferral Amendment Bylaw, 2015 [Files CK. 1930-1 and SO. 227.1534]** 670 - 672

Recommendation

That City Council consider Bylaw No. 9271, *The Low-Income Seniors Property Tax Deferral Amendment Bylaw, 2015*.

9.7 Standing Policy Committee on Environment, Utilities And Corporate Services

9.7.1 2015 Compost Depot Operations [Files CK. 7830-4-2 and PW. 7832-2] 673 - 680

Recommendation

1. That the operating hours at the compost depots be approved as follows:
 - a. East Depot: five days per week, 11:00 a.m. to 5:00 p.m.
 - b. West Depot: seven days per week, 9:00 a.m. to 6:00 p.m.;
2. That the new East Compost Depot (transfer station) accept material from residents and small commercial loads only; and
3. That large commercial loads be directed to the West Compost Depot.

9.8 Standing Policy Committee on Finance

9.9 Standing Policy Committee on Planning, Development And Community Services

9.10 Standing Policy Committee on Transportation

9.10.1 Bicycle Program Update – Feasibility of Protected Bike Lanes [Files CK. 6000-5 and PL. 6330-4] 681 - 721

Letters from the following are also provided:

- Paula McKechney
- Anne Hanson
- Jake Buhler
- Philip Chilibeck

Recommendation

1. That the protected bike lanes be installed on 23rd Street (from Spadina Crescent to Idylwyld Drive) as a demonstration project in 2015; and
2. That the curb parking be installed on the north side of 24th Street between Ontario Avenue and Idylwyld Drive.

9.11 Executive Committee

- 9.11.1 **Appointments - Saskatoon Municipal Review Commission [File No. CK. 255-18]** 722

Recommendation

1. That the following be appointed to the Saskatoon Municipal Review Commission to the end of 2018:

Mr. Paul Jaspar

Ms. Jennifer Lester

Ms. Linda Moulin

Professor Charles Smith

Ms. Joan White

Honorable Merri-Ellen Wright Q.C.; and

2. That the per diem rate be \$400/day.

- 9.11.2 **Remai Modern Business Plan - 2015-2019 [File No. CK. 153-1 x 1705-RL]** 723 - 817

Recommendation

1. That the Remai Modern Business Plan: 2015 to 2019 be received as information; and
2. That the approval and phased implementation of The Remai Modern Business Plan: 2015 to 2019 occur on an annual basis through the Corporate Business Plan and Budget review process.

- 9.11.3 **The Adult Services Licensing Bylaw, 2012 – Implications of Criminal Code Amendments [File No. CK. 4350-25]** 818 - 824

Recommendation

1. That The Adult Services Licensing Bylaw, 2012 be amended by:
 - a. inserting a “whereas” clause at the commencement of The Adult Services Licensing Bylaw, 2012; and
 - b. amending the definition of “adult service agency” to remove any reference to advertising; and
2. That City Council consider Bylaw No. 9274.

9.12 Other Reports

- 10. INQUIRIES**
- 11. MOTIONS (NOTICE PREVIOUSLY GIVEN)**
- 12. GIVING NOTICE**
- 13. URGENT BUSINESS**
- 14. IN CAMERA SESSION (OPTIONAL)**
- 15. ADJOURNMENT**

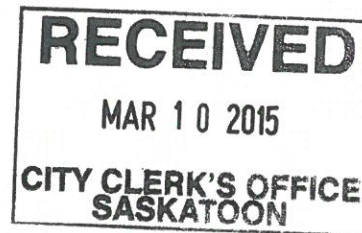
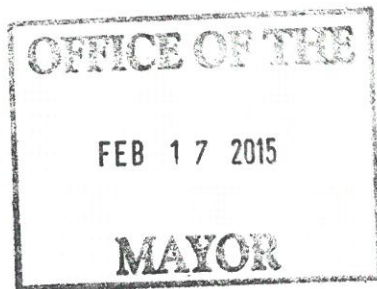
205-5



THE CITY OF
CALGARY

February 11, 2015

Mayor Atchison
222 Third Avenue North
City of Saskatoon S7K 0J5



Dear Mayor Atchison:

**Re: Mayor's Poetry City Challenge: A Celebration of Poetry,
Writing and Publishing**

For the past three years the City of Regina's Mayor has issued a challenge to the Mayors across Canada to participate in an annual Mayor's Poetry City Challenge. This year the torch has been passed from Mayor Michael Fougere to me, and I am honoured to challenge you to some friendly literary competition.

The purpose of the Challenge is to recognize both UNESCO's World Poetry Day on March 21 as well as National Poetry Month, which is celebrated in Canada and the United States for the month of April. Last year, 45 communities from Whitehorse and Dawson City to Victoria and St. John's took part. Fifty established, emerging and student poets were recognized.

In this spirit, I would like to issue this Challenge – to have a local poet read a poem at the start of one of your Council meetings in March or April. In addition to ensuring that Calgary's Poet Laureate is provided with an opportunity to open a Council meeting with a reading, I also undertake to declare March 21 as World Poetry Day and April as National Poetry Month in Calgary. I hope you will join me in making a similar declaration.

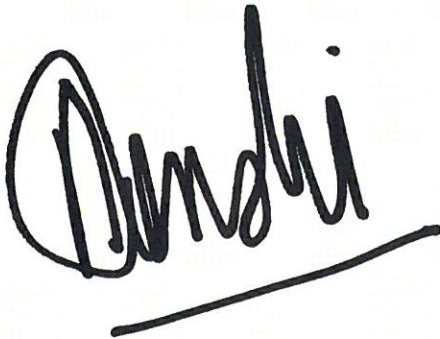
A confirmation form and guide, FAQ, and list of communities that participated in 2014 are attached. Please confirm your intention to participate by completing the confirmation form and returning it to the League of Canadian Poets at the address provided. The League is the lead organization for day-to-day management of this initiative and any questions you may have. I am sure you will find that the municipal requirements are easily managed. Participating communities will be promoted through traditional and social media, as part of National Poetry Month campaign and will be recognized in special promotion for the Mayor's Poetry City Challenge.

All Canadian cities are encouraged to meet the Challenge, but yours is one of those identified as a strong supporter of culture in your region. If you have participated before, thank you for your support and leadership. If this is a new undertaking, I am excited to see you join this initiative which touches artists and citizens alike.

Calgary is proud of its support for the literary arts, and of the many poets and writers in our community. Calgary is pleased to be this year's host city, with our partners, the League of Canadian Poets (LCP), the Writers' Guild of Alberta (WGA), and Loft 112 literary hub. With this challenge, we are pleased to be supporting local artists, while raising awareness and profile on a national level.

I hope you will take up the Mayor's Poetry City Challenge for 2015.

Yours truly,

A handwritten signature in black ink, appearing to read 'Naheed Nenshi', with a horizontal line underneath it.

Mayor Naheed Nenshi
City of Calgary

Attachments

MAYOR'S POETRY CITY CHALLENGE 2015 – FAQ

*The League of Canadian Poets (LCP), Writers' Guild of Alberta (WGA), and Loft 112
in partnership with The City of Calgary*

What is the Mayor's Poetry City Challenge?

Calgary Mayor, Naheed Nenshi, has challenged other Mayors in communities across Canada to have a local poet read a poem at the opening of a Council meeting in March or April. The challenge is a celebration of UNESCO's World Poetry Day (March 21) and National Poetry Month in April. The purpose is to recognize poetry, writing, small presses and the contribution of poets and all writers to the quality of life in our communities. It also celebrates schools, libraries, and the work of so many mayors and municipalities to promote the arts, culture, literacy, and reading.

Who can participate?

Communities large and small. A letter issuing the challenge has been sent to the mayors of selected cities, regional municipalities and towns of all sizes, in all provinces and territories. These communities include capital cities, communities with poets laureate, federally recognized "Cultural Capitals", and key local centres, counties and towns. Other communities are encouraged to join in and to let us know what they are doing.

How many communities are expected to take part?

Forty-five English and Francophone communities from Whitehorse and Dawson City to Victoria and St. John's took part in 2014. We expect more this year. Some communities combine the Mayor's Challenge with writing contests, centennials and community celebrations, poetry strolls, and school programs.

How much administration is there?

Very little. The readings are simply put on the agenda of a regular Council meeting. Communities are encouraged to declare March 21 as UNESCO World Poetry Day and April as National Poetry Month.

Are the poets compensated?

Through Calgary Arts Development, The City of Calgary will provide its poet(s) with a fee based on established arts community rates. Many other communities have done so as well, and we encourage this practice in support of the status of the artist.

How can I find out what's going on?

- The League will issue a national media release on the Mayor's Poetry City Challenge as part of its National Poetry Month communications, and will promote the Challenge on social media. Like [Mayor's Poetry City Challenge](#) on Facebook, Follow [@CanadianPoets](#) on Twitter, watch for updates on the League of Canadian Poets webpage at <http://poets.ca/mayors-poetry-city-challenge-2015>, or email mayorspoetrycitychallenge@gmail.com.
- Participating municipalities are encouraged to issue media releases and to post notices on social media.

What communities participated in 2014?

MAYOR'S POETRY CITY CHALLENGE 2014 / LE DÉFI DE LA POÉSIE 2014

Communities confirmed Villes participants au Défi des maires confirmés

March/Mars

Cobourg, ON
Dauphin, MB
Grande Prairie, AB
Jasper, AB
Moncton, NB
New Westminster, BC
Saint John's, NL
Quebec, QC
Victoria, BC
Whitehorse, YT

April/Avril

Barrie, ON
Brantford, ON
Calgary, AB
Caraquet, NB
Charlottetown, PEI
Creighton, SK
Dawson City, YT
Edmonton, AB
Flin Flon, MB
Fredericton, NB

April /Avril (continued/continué)

Gabriola Island, BC
Gander, NL
Guelph, ON
Halifax Regional Municipality, NS
La Ronge, SK
Moose Jaw, SK
Nanaimo, BC
Nelson, BC
New Glasgow, NS
Norfolk County, ON
Oshawa, ON
Powell River, BC
Regina, SK
Swift Current, SK
Toronto, ON
Vancouver, BC
Victoria, BC
Wainwright, AB
Whistler, BC
Windsor, ON
Wolfville, NS
Wood Buffalo, AB
Yorkton, SK

Declared UNESCO World Poetry Day and National Poetry Month / a declare la Journée de la poésie de IUNESCO et le mois national de la poésie:

Dauphin, MB
Prince Albert, SK
Saskatoon, SK
Victoria, BC
Windsor, ON

MAYOR'S POETRY CITY CHALLENGE
CONFIRMATION OF PARTICIPATION

Name of Mayor: _____

City/Community: _____

_____ My community will be participating in the Mayor's Poetry City Challenge

_____ Decline

IF YOU ARE TAKING PART

1. Who may we contact for information or follow-up?

Name: _____

Position/Department _____

Phone: _____ Email: _____

For Social Media Promotion: City Twitter Handle _____

City Website _____ City Facebook Page _____

2. When do you expect the Poetry City reading to be held:

_____ March

_____ April

_____ To be determined

3. Do you know the name of the poet(s) who will be reading?

_____ No, Still to be determined

_____ Yes. Poet's Name: _____

4. Will you be declaring:

_____ March 21 as UNESCO World Poetry Day

_____ April as National Poetry Month

PLEASE COMPLETE THIS PAGE AND RETURN IT TO:

The League of Canadian Poets

312 – 192 Spadina Avenue

Toronto ON M5T 2C2

Tel: 416.504.1657

Fax: 416.504.0096; email mayorspoetrycitychallenge@gmail.com

GUIDE FOR MAYOR'S POETRY CITY CHALLENGE COMMUNITIES

The Mayor's Poetry City Challenge is a program of the League of Canadian Poets (LCP) in partnership with the City of Calgary, the Writers' Guild of Alberta (WGA), and Loft 112.

1. ***Be sure to complete the preceding confirmation form***, including the contact information for the person in your Council or Administration who will be the lead for this project. This helps us to track the program and to make sure you are recognized.

If you prefer not to take part, please help us by checking off the your answer and returning the form.

2. Choose a poet from your community to read a poem at your Council meeting in March or April 2015.
3. We suggest a minimum reading time of about five minutes.
4. If you need help choosing a poet, please see the attached contact information on writing organizations in your province and across Canada. These organizations have been advised of the project and should be able to assist you.
5. Please provide us with the name and contact information for your poet (or poets) as soon as one is selected.
6. All communities participating in the 2015 Mayor's Poetry City Challenge are encouraged to follow Calgary's lead in compensating their local poet for their reading, to support the Status of the Artist.
7. Participating communities will be identified in media releases, social media, and at the national launch. We encourage you to promote your participation through your own media channels as well.
8. Poets are invited to send links to bios and their poems (text or video) to be posted on the League of Canadian Poets webpage via the gmail address below. Photos and links to poems and videos can also be sent to our gmail address to be posted on the Mayor's Poetry City Challenge Facebook Page.
9. Contact information:

Mayor's Poetry City Challenge email: mayorspoetrycitychallenge@gmail.com; or fax 416.504.0096.

Barbara Erochina, LCP Administration and Communications Coordinator, Toronto Office
admin@poets.ca; phone: 416.504.1657.

Bruce Rice, LCP Volunteer lead for the Mayor's Challenge Committee, lives in Regina
Bruce.rice@sasktel.net; phone 1.306.539.6127.

Lisa Murphy-Lamb, *Loft 112* and Contact for the Mayor's Challenge in Calgary
loftonetwelve@gmail.com; phone: 1.404.445.1120.

PROVINCIAL WRITERS' ORGANIZATIONS

The following provincial writers organizations can assist you in identifying a local poet to participate in the Mayor's Poetry City Challenge, or you may already have a poet in mind.

The League of Canadian Poets

312-192 Spadina Avenue
Toronto, ON M5T 2C2
Phone: 1.416.504.1657
Email: admin@poets.ca

The Federation of British Columbia Writers

P.O. Box 3887 Stn Terminal
Vancouver, BC V6B 2Z3
Phone: 1.604.683.2057
Email: info@bcwriters.ca

Writers' Guild of Alberta

11759 Groat Road
Edmonton, AB T5M 3K6
Phone: 1.780.422.8174
Toll Free: 1.800.665.5354
Email: mail@writersguild.ab.ca Saskatchewan

Writers' Guild

P.O. Box 3986
Regina, SK S4P 3R9
Phone: 1.306.791.7746
Email: swgevents@skwriter.com

Manitoba Writers' Guild

218-100 Arthur Street
Winnipeg, MB R3B 1H3
Phone: 1.204.944.8013
Email: info@mbwriter.mb.ca

Union des écrivaines et des écrivains Québécois

3492 Avenue Laval
Montreal, QC H2X 3C8
Téléphone: 1.514.849.8540
Courrielle: ecrivez@uneq.qc.ca

Maison de la poésie de Montréal

911, rue Jean-Talon Est, local 323
Montreal, QC H2R 1V5
Téléphone: 1.514.526.6251
Courrielle: poesie@maisondelapoesie.qc.ca

Quebec Writers' Federation

1200 Atwater Avenue, Suite 3
Westmount, QC H3Z 1X4
Phone: 1.514.933.0878
Email: admin@qwf.org

Writers' Federation of Nova Scotia

1113 Marginal Road
Halifax, NS B3H 4P7
Phone: 1.902.423.8116
Email: director@writers.ns.ca

Writers' Federation of New Brunswick

527 Dundonald Street, Suite 151
Fredericton, NB E3B 1X5
Phone: 1.506.260.3564
Email: info@wfnb.ca

Association acadienne des artistes professionnelles du Nouveau Brunswick

140, rue Botsfordpièce 29
Moncton, NB E1C 4X5
Téléphone: 1.506.852.3313
Courrielle: info@aaapnb.ca

PEI Writers' Guild

81 Prince Street
Charlottetown, PEI C1A 4R3
Email: peiwritersguild@gmail.com

Writers' Alliance of Newfoundland and Labrador

Haymarket Square
223 Duckworth Street, Suite 208
St. John's, NL A1C 6N1
Phone: 1.709.739.5215
Email: wanlassist@nf.aibn.com



STANDING POLICY COMMITTEE ON PLANNING, DEVELOPMENT AND COMMUNITY SERVICES

Optimist Canada Day 2015

Recommendation of the Committee

That the request for an exemption from the Recreation Facilities and Parks Usage Bylaw from 7 a.m. on June 30th to 1:00 p.m. on July 2, 2015, for set-up, pull down and cleanup by vendors and exhibitors for Optimist Canada Day 2015 be approved subject to administrative conditions.

History

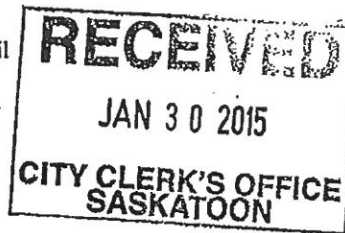
At the March 2, 2015 meeting of the Standing Policy Committee on Planning, Development and Community Services, a communication from the Optimist Club of Saskatoon, dated January 29, 2015, was considered.

Attachment

January 29, 2015, Optimist Club of Saskatoon Communication

Jan 29 2015

Mayor Don Atchison and Members of City Council
City of Saskatoon
City Hall
Saskatoon, Saskatchewan
S7K 0J5



RE: OPTIMIST CANADA DAY 2015

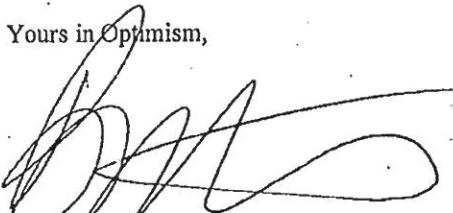
Dear Your Worship and members of city Council;

The Optimist Club of Saskatoon (OCS) is in the planning stages for this year's celebration of Optimist Canada Day 2015, in Diefenbaker Park, on July 1. The Optimist Club of Saskatoon has been organizing Canada Day events since 1967, which started as a centennial project. 2017 will be our 50th year. There are five separate items for your consideration as follows:

- OCS requests an exemption from the noise bylaw until 11:30 pm on July 1. This will allow time for the fireworks and crowd clearance from the park. We will continue to face the main stage south, to mitigate the noise that occurs in the local neighborhood.
- Exemption from the *park access* by-law from 7 am June 30th to 1 pm July 2 for set-up/pull down and clean up by vendors and exhibitors.
- OSC requests continued Transit services, as was provided in 2014 by the city of Saskatoon Transit. Operationally this service was a success and we see community value for the city of Saskatoon to continue providing this service.
- As in the previous years, OSC requests continued support from the Saskatoon Police Services, and Fire and Protective Services to work with our committee to provide a safe family day and evening
- OCS would be pleased to work with the city to provide a safe environment to watch the fireworks. While last year we suggested the bridge be closed during the Fireworks portion of the event, the city elected to slow traffic during that time. The OCS would be pleased to provide any program information to best plan the traffic strategy for the Circle Drive South Bridge this year.

I understand that these requests will be referred to committees for consideration. OCS will provide a representative(s) to answer questions at committee level and/or at council upon request.

Yours in Optimism,


Bradley S Sylvester, C.Dir
Chair, Optimist Canada Day 2015
1014 Hurley Way
Saskatoon, Sask. S7N 4J7
306 653 0971 daytime
306 653 1458 fax





STANDING POLICY COMMITTEE ON PLANNING, DEVELOPMENT AND COMMUNITY SERVICES

2014 Annual Report – Municipal Heritage Advisory Committee

Recommendation of the Committee

That the 2014 Annual Report of the Municipal Heritage Advisory Committee be received as information.

History

At the March 2, 2015 meeting of the Standing Policy Committee on Planning, Development and Community Services, a report from the Municipal Heritage Advisory Committee, dated February 4, 2015, was considered.

Attachment

February 4, 2015, Municipal Heritage Advisory Committee 2014 Annual Report

ADVISORY COMMITTEE REPORT

TO: Standing Policy Committee on Planning, Development & Community Services
FROM: Municipal Heritage Advisory Committee
DATE: February 4, 2015
SUBJECT: 2014 Annual Report – Municipal Heritage Advisory Committee
FILE NO. CK. 430-27)

RECOMMENDATION: that this report be submitted to City Council as information.

BACKGROUND

The 2014 membership of the Municipal Heritage Advisory Committee was as follows:

Ms. Carla Duval-Tyler, Chair, Riversdale Business Improvement District,
Ms. Maggie Schwab, Vice-Chair, Public Appointment
Ms. Janet Glow, Sutherland Business Improvement District
Mr. Don Greer, Saskatchewan Association of Architects
Mr. Robert McPherson, public appointment
Mr. Lloyd Minion, Saskatoon Region Association of Realtors
Mr. Brent Penner, The Partnership
Ms. Dorothea Funk, Local History Room, Saskatoon Public Library
Mr. Peter Kingsmill, Tourism Saskatoon (January – September 2014)
Ms. Patti McGillivray, public appointment
Ms. Signa Daum Shanks, public appointment (January – September 2014)
Ms. Lenore Swystun, Saskatoon Heritage Society
Mr. Mike Velonas, Meewasin Valley Authority
Mr. Michael Williams, Saskatoon Archaeological Society
Ms. Darla Wyatt, Broadway Business Improvement District
Councillor Charlie Clark

REPORT

In 2014 the Municipal Heritage Advisory Committee (MHAC) was involved in several activities. Some of the noteworthy activities that occurred in 2014 included:

1. Perhaps one of the most important things to happen in 2014 was the continuation of the roll-out of the new Heritage Policy and Program Review, through the creation and adoption of the Heritage Plan Companion Document. Administration of the City of Saskatoon indicated that this document along with new marketing material, were important for all of the upcoming Heritage work that will be undertaken over the course of the next years. Some examples of changes to be expected included amendments to the City's Zoning Bylaw including:
 - The change of vacant lots from permitted uses to discretionary uses;
 - Amendments to the incentive program;

- Creation of a historic interest map;
- Integration of Heritage into all the LAP's; and
- Incorporating Heritage into the City budget as a program.

These changes are proposed to ensure that heritage aligns with the City Centre Plan and Infill strategy.

The Planning and Operations Committee resolved that the revised Civic Heritage Policy No. C10-20, including the Heritage Conservation Program Incentives be approved and that the Saskatoon Register of Historic Places be created and made publically available. City Council adopted this recommendation in March, 2014. The Heritage Plan (companion document) was adopted by City Council in June, 2014.

2. The Heritage Awards took place on February 10, 2014. The bi-annual awards ceremony recognizes work in heritage preservation in Saskatoon. Six project categories for building, sites and grounds were presented at the awards, in addition to awards for volunteer public service and education. Ms. Kim Ali of On Purpose Leadership provided a review of the Heritage Awards.
3. The Heritage Festival of Saskatoon took place on February 2, 2014. The Theme for this year's event was "Who Do You Think We Were?" The festival was extremely well-received with over 2,900 people attending the event and close to 40 booths. Mr. Don Greer, Mr. Robert McPherson, Ms. Janet Glow, Ms. Maggie Schwab and Ms. Paula Kotasek-Toth volunteered at the event and Ms. Carla Duval-Tyler helped with the organization of the MHAC booth.
4. In conjunction with the roll-out of the new Heritage Policy and Program Review and associated Heritage Plan, the MHAC drafted goals and objectives and associated action items and timeline. These documents identify where the Committee should focus its efforts, as well as providing a direct sense of how the Committee is doing in achieving the goals and objectives on an annual basis.
5. In February 2014, the MHAC was made aware of a cell tower that was proposed to be erected in the Forestry Farm Park. Mr. Darryl Dawson, Manager, Development Review Section attended the February meeting to provide background information and answer questions regarding the proposed cell tower. It was noted at the meeting that the approval of cell towers rests with the Federal Government (Industry Canada) and not the City of Saskatoon. Although additional public consultation was undertaken to approximately 275 residents in the area, no concerns by residents were heard. Additionally, the Administration reviewed the location of the proposed tower with regard to the Commemorative Integrity Statement, and came to the conclusion that there was no contravention of the Park with the proposed tower as it was proposed to be located in the east parking lot and outside of the core heritage area. Several members of the Committee expressed their concern about the proposed cell tower, in addition to

the notification process. Ultimately, the MHAC requested that a change to the Antenna Systems Policy be undertaken to include a statement that the Community Services Department work with the relevant groups, including the Municipal Heritage Advisory Committee with regard to municipal, provincial, or national sites that are of historic significance. An amendment was made to the policy in October, 2014.

6. City Council, at its meeting on January 6, 2014 passed Bylaw No. 9145 which designated the City's Gardener's Site as a municipal heritage property.
7. In February, 2014 Ms. Maggie Schwab attended the Forum presented by Heritage Conservation Branch concerning 10 Strategies for Downtown Revitalization. The Forum was broken down into two components: a Presentation by Jon Linton of TCI Management Consultants in the morning and a workshop in the afternoon that fostered ideas on how to encourage economic development on "Main Street".
8. A total of five publications were undertaken in 2014 in the *Saskatoon Express* by Mr. Lucas Richert. The articles included an overview of the history of Wilson School, Ghost Signs, King George Hotel, Broadway Theatre and the President's Residence at the University of Saskatchewan.
9. The Capitol Theatre Artefact Inventory Project was undertaken in 2014. The three stewards for the articles consist of the Saskatoon Heritage Society, Twenty-Fifth Street Theatre and Persephone Theatre. The groups met and chose a successful contractor to undertake the project in March, 2014. Anticipated completion was April, 2014. All artifacts were photographed and the inventory should be publically accessible towards the end of February, 2015.
10. In 2014, the City also rolled out a new Façade Conservation & Enhancement Grant. This program was circulated to the Committee in April, 2014. The Grant is designed to assist commercial property owners and businesses with the rejuvenation of their building façade. It functions to conserve the built heritage and to enhance the city's public profile and urban design. Projects \$5,000 and under are eligible for a grant up to \$2,500. Projects over \$5,000 are eligible for a grant up to 50% of the budgeted costs up to a maximum of \$20,000. Application forms for the grants are available online.
11. The Moose Jaw Trail Park received the Lieutenant Governor Award for heritage. A ceremony was held in June, 2014 in Regina.
12. In the Spring of 2014, members of MHAC also aided with the Commemorations and Monuments Committee to review the proposed wording of the proposed 1812 monument at Avenue A.

13. In the Summer of 2014, summer students working with the Planning and Development Branch were busy helping with the roll-out of the new Heritage Policy and Program Review and Heritage Plan. One summer student worked on the Heritage Register and created an information sheet for each property. Students working as summer interns were also responsible for the research undertaken on ghost signs (presented in October, 2014 by Julie Krieger and Linda Huynh). Lastly, the summer students helped with the drafting of the heritage brochure that will help with the marketing of the new Heritage Policy and Heritage Plan.
14. In June, 2014 application was made for funding under the Heritage Conservation Program for the City Gardener's Site at 810 Spadina Crescent West (the City Gardener's Site). A request for funding was made under the Heritage Conservation Program for the installation of signs, as designed, fabricated and led by the Meewasin Valley Authority. It was noted that a car hit the sign at the City Gardener's Site and half of the granite slab was destroyed. Work was undertaken to have the sign replaced. The MHAC resolved that City Council approve funding to a maximum of \$8,000 through the Heritage Conservation Program for interpretive signage. The MHAC also assisted with the wording of the heritage signage.
15. Knox United Church (838 Spadina Crescent East) was seeking funding under the Heritage Conservation Program to repair the roof, including re-shingling and installing ventilation. It was recommended that funding be approved, to a maximum of \$51,000 through the Heritage Conservation Program in October, 2015. The McLean Block (263 – 3rd Avenue South) was seeking funding under the Heritage Conservation Program for façade rehabilitation and window replacement. It was recommended that funding be approved, to a maximum of \$36,000 through the Heritage Conservation Fund in October, 2015. Both of these examples demonstrate the benefits of Municipal Heritage Designation and could potentially be used as case studies going forward.
16. The sale of the Third Avenue United Church that occurred in October, 2013 is still being monitored by the Committee. This building is still listed on the Saskatoon Holding Bylaw and is considered to be among Saskatoon's most precious heritage buildings because of its exterior, the interior ceiling, and the important social historical role the building filled in the city for the last 100 years. The Request for Proposals which the congregation issued in July 2013 required, among other things, that the winner provide heritage designation to the building. However, in October, 2013 Mr. John Orr requested the congregation's permission to defer heritage designation until late 2015 to enable renovations and development. While this issue was not brought forth before the Committee, the Committee continues to wish to pursue a working relationship with the Developer, and with the help of the Heritage and Design Coordinator, to help them obtain Municipal Heritage Designation.

17. In November, 2014 the Committee received notification that an application for Municipal Heritage Designation and Tax Abatement Funding was received for 1102 Spadina Crescent East. The property owners attended the meeting in November, 2014 to answer questions from the Committee. The Committee ultimately resolved that the City Solicitor be requested to prepare and bring forward a bylaw to designate the property. It is noted that although the designation would be applied to the exterior of the house. It was further recommended that the owners receive a tax abatement, to a maximum of \$84,400 and a refund of the building permit fee of \$289.11 commencing in the year following satisfactory completion of the rehabilitation project.

18. In November, 2014 the Committee received notification that an application for Municipal Heritage Property Designation was made for 803 – 9th Avenue North. Ultimately, the Committee resolved that the City Solicitor be requested to prepare and bring forward a bylaw to designate the property and that \$2,500 be allocated from the Heritage Reserve Fund for supply and installation for a recognition plaque for the property.

2015 GOALS

Going forward in 2015, there are several exciting heritage events to look forward to. Attached to this document are the 2014/2015 MHAC Goals and Objectives, which clearly outline important items that the Committee believes should be undertaken on an annual basis.

The Municipal Heritage Advisory Committee is looking forward to working with City Council and helping the City of Saskatoon with the continued roll out of new policies, procedures and incentives surrounding heritage conservation, preservation and awareness. As a continued effort to promote the City's new Heritage Policy and Program Review and associated Heritage Plan, the Committee is looking forward to the roll-out of the new Heritage Registry, the new marketing material, and the newly designed website.

The Heritage Festival of Saskatoon took place on February 1, 2015 at the Western Development Museum. The theme from this year's event was "Young Saskatoon". The MHAC had a booth at the Festival with the results of the Ghost Signage research that was undertaken in the summer by the two University of Saskatchewan Urban Planning Students. A full summary of the Festival will be undertaken in the 2015 Municipal Heritage Advisory Committee report.

Planning is underway for Doors Open, 2015. The proposed date for this event is June 7, 2015. A full summary of this event will be undertaken in the 2015 Municipal Heritage Advisory Committee report.

The Municipal Heritage Advisory Committee welcomed a new Heritage and Design Coordinator, Catherine Kambeitz, to the Committee in October, 2014. The Committee

wishes to thank Ms. Paula Kotasek-Toth for her continued efforts in keeping members informed of heritage matters, as well as Ms. Christine Gutmann for her efforts in working with the Committee in 2014.

ATTACHMENT

1. Municipal Heritage Advisory Committee 2015 Goals and Objectives

Written By: Carla Duval-Tyler and Maggie Schwab

Approved By: "J. Fast" for
Carla Duval-Tyler, Chair
Municipal Heritage Advisory Committee
Dated: February 18, 2015



STANDING POLICY COMMITTEE ON PLANNING, DEVELOPMENT AND COMMUNITY SERVICES

Marr Residence 2014 Annual Report

Recommendation of the Committee

That the 2014 Annual Report of the Marr Residence Management Board be received as information.

History

At the March 2, 2015 meeting of the Standing Policy Committee on Planning, Development and Community Services, a report from the Marr Residence Management Board, dated February 19, 2015, was considered.

Attachment

February 19, 2015, Marr Residence Management Board 2014 Annual Report

430-60



MARR RESIDENCE
326 11TH STREET EAST
SASKATOON SK S7N 0E7
PH: 652 1201

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FEB 19 2015
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SASKATOON



MARR RESIDENCE 2014

ANNUAL REPORT

Submitted by

The Marr Residence Management Board



MARR RESIDENCE
326 11TH STREET EAST
SASKATOON SK S7N 0E7
PH: 652 1201



Councillor Charlie Clark

City Council

Della Greer

Saskatoon Heritage Society

Garth Cantrill

Nutana Community Association

Andrew Whiting

Meewasin Valley Authority

David Hude

Infrastructure Services Dept.

Jenny Ryan

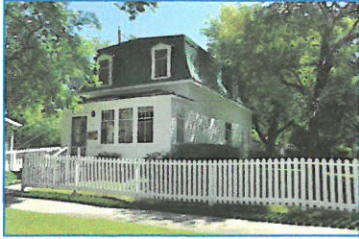
Member at Large

Victoria Neufeldt

Member at Large

Barb Lucas

Recording Secretary



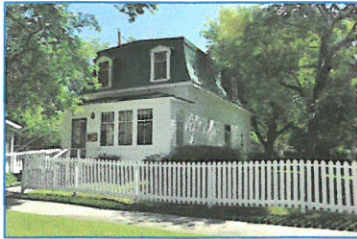
MARR RESIDENCE
326 11TH STREET EAST
SASKATOON SK S7N 0E7
PH: 652 1201



Introduction

The Board of the Marr Residence respectfully submitted to the City of Saskatoon its Annual Report for 2014.

Board members and valued volunteers work many volunteer hours providing interpretations of the house, school tours and varied programming to the public.



MARR RESIDENCE
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PH: 652 1201

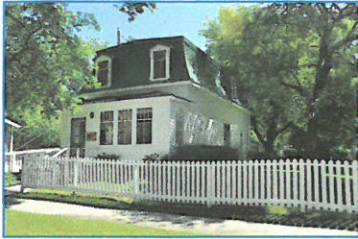


The Board mandate is to :

Maintaining and enhancing the historical integrity of the site

Provide public access

Develop programming which increases public awareness of Saskatoon's heritage.



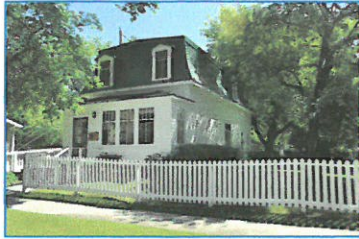
MARR RESIDENCE
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PH: 652 1201



Board Initiatives for 2014

State of National Historical Designation

National Heritage Designation for the Marr remains in the hands of the Government of Canada for consideration. We continue to be positive that this designation will occur.



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This year the Marr partnered with Meewasin Valley Authority to have Puppet Shows at the Marr , on Tuesdays and Thursdays every other week during the summer. Response was good.

Website

Our website, themarr.ca , continues to be a valuable tool. All of our programing will appear on the site , making it easy to find out what activity is happening at the Marr.



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PH: 652 1201

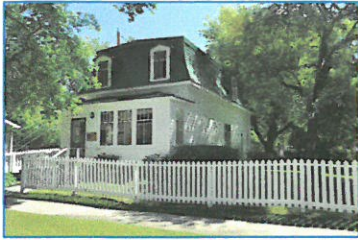


Facebook site

Jenny Ryan (Board Member) has taken on this responsibility. We expect positive outcomes from this action

New Brochure

We remain unsure as to what our brochure should be., what with the use of the web site and our facebook page.



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PH: 652 1201



Programing and Special Events For 2014

Winter Programs

- January 5 The Saskatoon Heritage Society held its New Year's Levy
- February 2 Heritage Festival at Western Development Museum.
 We presented a display using some of our valued artifacts.
A 1872 blue brocade Wedding Dress and a 1903 Ambrolla.



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May 10 - Sask-tel-Mendal Art Caravan partnered with the Marr for interactive activities

May 27 - Marr Volunteer Appreciation

June 18 - Father's Day activity and Open House

Summer Programs

July 1 Dominion Day Celebrations

July 6 Garden Concert and Open House

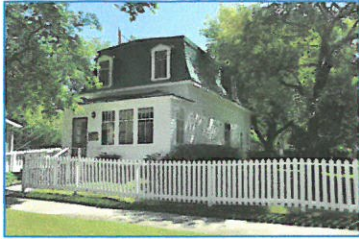
July 13 Teddy Bears Picnic



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SASKATOON SK S7N 0E7
PH: 652 1201



- | | |
|-----------|---------------------------------|
| July 20 | Open House |
| July 27 | Family Chores in Pioneer Times |
| August 3 | Twelfth Annual Rhubarb Festival |
| August 10 | Pioneer Games |
| August 17 | Open House |
| August 24 | Antique Appraisal |
| August 31 | Garden Concert - The Lost Keys |



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Fall Programming

- | | |
|-------------------|-----------------------------------|
| September 17 | Volunteer Appreciation Supper |
| October 19 | Open House and Autumn Craft |
| November 9 | The Marr and World War 1 |
| December 2, 3 & 4 | John Huston's "A Christmas Carol" |
| December 8 | A Pioneer Gathering at The Marr |

Vandalism issues at the house continue to be a problem. The cost of repairs is significant. It is unclear what can be done to prevent this .



MARR RESIDENCE
326 11TH STREET EAST
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PH: 652 1201



We currently are having difficulty recruiting board members. This creates a heavier work load for others. An addition was made to the Term of Reference for becoming a board member, more clearly describing board responsibilities.

In closing the Marr Board wish's to express our appreciation to the City of Saskatoon for their support in maintaining the house and keeping it open to the public..

Respectfully Submitted by

Della Greer Board Chair (dellagreer@gmail.com)



STANDING POLICY COMMITTEE ON PLANNING, DEVELOPMENT AND COMMUNITY SERVICES

Neighbourhood Level Infill Development Strategy – Zoning Bylaw Text Amendments to Amend the Development Standards for Primary Dwellings in Established Neighbourhoods – Approval for Advertising

Recommendation of the Committee

That the City Solicitor be requested to prepare the required bylaws to amend Sidewalks – Private Crossings Over Bylaw No. 4785.

History

At the March 2, 2015 meeting of the Standing Policy Committee on Planning, Development and Community Services, a report of the General Manager, Community Services Department, dated March 2, 2015, was considered.

This report deals only with the proposed amendment to the Sidewalks – Private Crossings Overs Bylaw No. 4785. The proposed amendments supported by the Committee are to prohibit front yard driveways or curb cuts and prohibit expanding existing curb cuts where rear lanes exist for Category 1 neighbourhoods to preserve the street character.

A public hearing will be held on March 23, 2015 regarding the proposed amendments to the Zoning Bylaw.

Attachment

March 2, 2015 Report of the General Manager, Community Services Department

Neighbourhood Level Infill Development Strategy – Zoning Bylaw Text Amendment to Amend the Development Standards for Primary Dwellings in Established Neighbourhoods – Approval for Advertising

Recommendations

1. That the advertising, in respect to the proposed text amendment to Zoning Bylaw No. 8770, be approved;
2. That the General Manager, Community Services Department, be requested to prepare the required notices for advertising the proposed amendment to Zoning Bylaw No. 8770;
3. That the City Solicitor be requested to prepare the required bylaws to amend Zoning Bylaw No. 8770; and
4. That the Standing Policy Committee on Planning, Development and Community Services recommend that this report be forwarded to City Council requesting that the City Solicitor be requested to prepare the required bylaws to amend Sidewalks - Private Crossings Over Bylaw No. 4785.

Topic and Purpose

The purpose of this report is to consider additional information requested by the Standing Policy Committee (SPC) on Planning, Development and Community Services (PDCS) and to request advertising approval for the amendment to Zoning Bylaw No. 8770 (Zoning Bylaw) to provide development standards for infill development for primary dwellings in the established neighbourhoods as part of the Neighbourhood Level Infill Development Strategy. This report also recommends amendments to Sidewalks - Private Crossings Over Bylaw No. 4785 to prohibit driveway crossings (curb cuts) in Category 1 neighbourhoods.

Report Highlights

1. The Administration is recommending amendments to the Zoning Bylaw that will implement development standards with the goal of balancing demand for contemporary housing with the existing built form in Established Neighbourhoods, as identified in the Neighbourhood Level Infill Development Strategy.
2. The Administration is recommending that Sidewalks - Private Crossings Over Bylaw No. 4785 be amended to prohibit driveway crossings (curb cuts) in Category 1 neighbourhoods to preserve the unique street character of Saskatoon's oldest neighbourhoods.
3. The Administration is providing modelling drawings that illustrate the implications on house size as a result of the proposed Zoning Bylaw amendments for primary dwellings.

Strategic Goal

This report supports the City of Saskatoon’s (City) Strategic Goal of Sustainable Growth by ensuring that infill development is compatible with the existing built form. Developing design guidelines to promote infill development in existing neighbourhoods is specifically identified as a four-year priority.

Background

The Neighbourhood Level Infill Development Strategy (Strategy) was endorsed by City Council on December 16, 2013. The Strategy outlined best practices, design guidelines, and regulations, which will provide design flexibility and minimize the impact on neighbouring property owners. A report was considered by the Planning and Operations Committee on March 25, 2014, which included an overall implementation plan for the Strategy.

During its May 20, 2014 meeting, City Council resolved to approve the advertising for amendments to the Zoning Bylaw regarding infill development. At that time, the Administration was prepared to implement amendments that would regulate neighbourhood level infill. However, stakeholders, which included homebuilders, expressed concerns that the regulations were too restrictive and may not accommodate conventional house design or common construction methods. Civic staff held additional meetings with these stakeholders to discuss concerns and provide clarity to the regulations. Their input was considered and incorporated into the regulations where appropriate.

At its January 5, 2015 meeting, the SPC on PDCS considered a report by the General Manager of the Community Services Department requesting to approve the advertising of the Zoning Bylaw text amendments with respect to standards for Primary Dwellings in Established Neighbourhoods. Three individuals made presentations in regard to the proposed bylaw amendments. Two of the speakers expressed concerns that the proposed amendments would excessively reduce the house size that could be built.

The SPC on PDCS did not support recommendations for advertising approval of the proposed amendments and resolved, in part, that the Administration report back to the SPC on PDCS regarding the following:

- “2. That the Administration report back to the Committee in the spring of 2017 regarding the proposed Neighbourhood Level Infill Development Strategy Zoning Bylaw amendments;
3. That the Administration report back on the possibility of a simplified process that could be used, rather than the appeal process, for those who may wish to build a new basement for their existing character homes in terms of door height and building height restrictions;

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4. That the Administration report on measures that need to be implemented to prohibit the use of front porches as permanent sleeping quarters;
5. That the Administration report back to the SPC on PDCS on the following:
 - a) Implications on implementing interim development controls in Category 1 and Category 2 neighbourhoods;
 - b) Possibility of having requests for driveways in Category 1 neighbourhoods being subject to discretionary use approval by City Council;
 - c) Impact of freezing development of secondary suites in areas with surface drainage or no sidewalks and addressing drainage issues arising from infill development;
 - d) Implications of implementing a maximum allowable site coverage as a percent of the lot, to include the primary building and all secondary structures;
 - e) Addressing maximum site depth for development;
 - f) Possibility of implementing a lower building height allowable in Category 2 neighbourhoods; and
 - g) Addressing with developers any damage caused to the lane and surrounding area with redevelopment.
6. That the Committee recommend to City Council that a letter be sent to the Provincial Government detailing the specific problems with Architectural Districts and specific solutions required in legislation to deal with the concerns.
7. That Administration provide a report to the SPC on PDCS, with three options for building length, including the proposed 50% of lot length, 52.5% of lot length and 55% of lot length, with associated modeling that shows the square footage impact of the options.”

Resolution Nos. 2, 3, 5a), 5b), 5d), 5e), 5f), and 7 are addressed in this report and remaining Resolution Nos. 4, 5c), 5g), and 6 will be addressed in subsequent reports to the SPC on PDCS.

Report

Zoning Bylaw Amendments

The Strategy recommended that the existing development standards, in particular those that regulate building height and massing, be amended to ensure that new infill development does not detract from the character of an existing neighbourhood. In this regard, the Administration is proposing amendments to the development standards for one- and two-unit dwellings, and semi-detached dwellings in the low-density residential zoning districts in established neighbourhoods.

Category 1 and 2 Neighbourhoods

As identified in the Strategy, the established neighbourhoods are divided into two categories. Category 1 neighbourhoods include City Park, Caswell Hill, Westmount,

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Riversdale, Pleasant Hill, King George, Nutana, Varsity View, Buena Vista, North Park, Haultain, and Exhibition. These neighbourhoods are generally Saskatoon's oldest, characterized by a grid design with narrow residential streets, rear lanes, and large mature trees. Category 2 neighbourhoods are the remainder of the established neighbourhoods (see Attachment 1).

Details of the proposed amendments are outlined and illustrated in Attachment 2. The key amendments proposed for primary dwellings include the following:

- 1) allowable sidewall area, which is determined by a calculation of building height and building wall length;
- 2) regulations specific to flat-roof structures;
- 3) revisions to current site width requirements;
- 4) height of front door; and
- 5) permitting porches to extend into the required front yard.

The Administration has received information from a group of homebuilders regarding the proposed bylaw changes. It is evident that some are not in agreement with the regulations, which will limit the size of dwellings. There is a concern that homes will no longer be able to be built to the maximum site coverage of 40%. This group has proposed that the length of the first floor (or storey) not be limited and that the building length of upper floors be limited to 14 metres. **The Administration has aimed to balance the concerns heard during the public input phase of this project.**

Amendments to Sidewalks - Private Crossings Over Bylaw No. 4785

The Administration recommends that Sidewalks - Private Crossings Over Bylaw No. 4785 be amended to prohibit front yard driveways or curb cuts, and prohibit expanding existing curb cuts where rear lanes exist for Category 1 neighbourhoods. There was strong support shown for this amendment to preserve street character.

Housekeeping Amendments for Garden and Garage Suites

The Zoning Bylaw was amended in May 2014 to allow for the development of garden and garage suites. Following further stakeholder input, minor amendments are proposed to clarify the height in Category 1 neighbourhoods, add Exhibition to the list of Category 1 neighbourhoods, and remove two-storey suites in Category 2 neighbourhoods (refer to Attachment 2).

Resolutions Made by the SPC on PDCS at the January 5, 2015 Meeting:

Resolution No. 2 - That the Administration report back to the Committee in the spring 2017 regarding the proposed Neighbourhood Level Infill Development Strategy Zoning Bylaw amendments.

Should the amendments be approved by City Council, the Administration will monitor the impacts of the new regulations. Staff time required for review and permit fees to process infill development applications, will also be monitored and evaluated. The Administration will provide City Council with a report in Spring 2017 after the regulations have been in effect for approximately two years.

Nbhd Level Infill Dev. Strategy – Zoning Bylaw Text Amendment to Amend the Dev. Standards for Primary Dwellings in Established Nbhds – Approval for Advertising

Resolution No. 3 - That the Administration report back on the possibility of a simplified process that could be used, rather than the appeal process, for those who may wish to build a new basement for their existing character homes in terms of door height and building height restrictions.

A development that does not meet Zoning Bylaw provisions cannot be approved by the Administration, and the applicant may appeal the denial to the Development Appeals Board. Approximately two basements have been replaced annually since 2008 in the established neighbourhoods, and all have met the bylaw requirements. Options exist for basement replacements to be constructed within the Zoning Bylaw regulations. For non-conforming structures (i.e. an existing dwelling that currently exceeds the maximum height requirement of 8.5 metres), the basement could be replaced, provided the height of the dwelling is not increased. The Administration does not recommend further action be taken on this item as this occurrence would be very rare, and the issue could be resolved through the Development Appeal process.

Resolution No. 5a) - That the Administration report back to the SPC on PDCS on the implications on implementing interim development controls in Category 1 and 2 neighbourhoods.

The Planning and Development Act, 2007 (Act) provides City Council with the authority to enact an Interim Development Control Bylaw to control development of land for an area that may be affected by:

- (a) a proposed official community plan or zoning bylaw;
- (b) an amendment being prepared by City Council to an existing official community plan or zoning bylaw; or
- (c) a study of a land use planning matter being undertaken by City Council.

An Interim Development Control Bylaw allows City Council to review and approve or refuse all development proposals in the area being studied while it prepares and adopts a new or amended official community plan and a zoning bylaw. Implementation would require review, consultation, and adoption of a bylaw by City Council.

The Administration does not recommend adopting an Interim Development Control Bylaw as this would impact all development in the established neighbourhoods, not just primary dwellings. Furthermore, a thorough review of the Strategy has been completed, and proposed amendments to the Zoning Bylaw have been submitted for City Council's consideration.

Resolution No. 5b) - That the Administration report back to the SPC on PDCS on the possibility of having requests for driveways in Category 1 neighbourhoods being subject to discretionary use approval by City Council.

The amendments to Sidewalks – Private Crossings Over Bylaw No. 4785 could be amended to include a provision that City Council be able to approve driveway crossings

Nbhd Level Infill Dev. Strategy – Zoning Bylaw Text Amendment to Amend the Dev. Standards for Primary Dwellings in Established Nbhds – Approval for Advertising

in Category 1 neighbourhoods. The Strategy recommended that driveway crossings be prohibited in Category 1 neighbourhoods for primary dwellings where rear lanes exist. Driveway crossings interrupt continuous street tree planting and continuous pedestrian access along the length of local streets. This initiative was supported by stakeholders during consultation of this project. The Administration does not recommend that driveway crossings be considered at the discretion of City Council.

Resolution No. 5d) - That the Administration report back to the SPC on PDCS on the implications of implementing a maximum allowable site coverage as a percent of the lot, to include the primary building and all secondary structures.

The Zoning Bylaw regulates the site coverage, which is currently calculated using only the primary dwelling for residential sites. The maximum site coverage for primary dwellings, in residential zoning districts is 40% of the site. Separate regulations determine the amount of rear yard that can be covered by an accessory building. An accessory building may cover 30% to 50% of the area of the rear yard depending on the size of the site. These provisions have been in place for many years and provide for appropriate open space on residential sites. Furthermore, combining primary dwellings and accessory buildings in the site coverage calculation would decrease overall site coverage and reduce the opportunities for site development. The Administration feels that the current approach facilitates the needs of homeowners and provides for flexibility in site design.

Resolution No. 5e) - That the Administration report back to the SPC on PDCS on addressing maximum site depth for development.

The proposed regulations address building massing through the allowable sidewall calculation. Restrictions on maximum site depth for buildings was considered during review of infill development, but it was determined that it would be too prescriptive and limit design options. The Administration does not recommend that further action be taken on this item.

Resolution No. 5f) - That the Administration report back to the SPC on PDCS on the possibility of implementing a lower building height allowable in Category 2 neighbourhoods.

When a new Zoning Bylaw was implemented in 1999, as part of the Plan Saskatoon project, the maximum height of primary dwellings was decreased from 11 metres and 2.5 storeys to 8.5 metres. To adapt to housing trends in new neighbourhoods, the Zoning Bylaw was amended in 2007 to increase maximum building height in the R1A, R1B, R2, and RMTN zoning districts from 8.5 metres to 10 metres in areas outside the established neighbourhoods. The building height was not increased in the established neighbourhoods because in many instances, new or substantial additions to dwellings may be larger in terms of both scale and massing to the existing housing stock. The Strategy did not recommend reducing the maximum height. A maximum height of 8.5 metres allows for the construction of two-storey dwellings. This standard is similar

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to other Western Canadian cities, including Regina (11 metres), Edmonton (8.6 metres or 2.5 storeys) and Calgary (8.6 metres). The Administration does not recommend that maximum building height be decreased in Category 2 neighbourhoods.

Resolution No. 5g) - That the Administration report back to the SPC on PDCS on addressing with developers any damage caused to the lane and surrounding area with redevelopment.

This issue is currently under review by the Community Services and Transportation and Utility Services Departments. The SPC on PDCS will receive a report later this quarter.

Resolution No. 7 - That Administration provide a report to the SPC on PDCS, with three options for building length, including the proposed 50% of lot length, 52.5% of lot length, and 55% of lot length, with associated modelling that shows the square footage impact of the options.

The allowable sidewall calculation was done using 50%, 52.5%, and 55% as an input for building length. Comparisons of the floor area achieved are included in Attachment 3.

As requested by the SPC on PDCS, the Administration has provided modelling diagrams that illustrate the existing, the proposed regulations, and the proposal presented by Mr. Cam Skoropat from the Saskatoon and Region Home Builders' Association (SRHBA). Diagrams have been done for three common lot sizes and illustrate the impacts of the proposed regulations. Information regarding the square footage impact of the proposed regulations and modelling diagrams is included in Attachment 3.

Options to the Recommendation

The SPC on PDCS has the option of not approving the advertising for the proposed bylaws. Further direction would be requested.

Public and/or Stakeholder Involvement

A Community Advisory Committee (Committee), comprised of civic staff, homebuilders, and interested members of the public, was assembled to provide direction and oversee implementation of the Strategy. The Committee provided input into the development standards contained in this report.

Zoning Bylaw amendments were proposed in May 2014; however, many homebuilders expressed concerns with the proposed development standards. Since that time, the Administration has held additional meetings with homebuilders and other stakeholders to discuss concerns and consider feedback. Further revisions were made to the infill guidelines.

A public information meeting was held on October 30, 2014, to present the proposed regulations. The meeting was attended by approximately 75 people. Planning and

Nbhd Level Infill Dev. Strategy – Zoning Bylaw Text Amendment to Amend the Dev. Standards for Primary Dwellings in Established Nbhds – Approval for Advertising

Development presented the proposed bylaw amendments, and a question and answer period followed. Comments were submitted that supported the proposed infill regulations. Comments were also received that opposed the regulations, in particular those that would limit building area.

The Administration has conducted substantial consultation and met with several stakeholders during the review process to discuss bylaw amendments. A full list of all consultation has been provided in Attachment 4.

Communication Plan

If the amendments are approved, marketing materials will be produced that include the new regulations and design guidelines for primary dwellings. The information will be available on the City's website and will be distributed to the SRHBA.

Policy Implications

Amendments to the Zoning Bylaw are outlined in this report.

Other Considerations/Implications

There are no environmental, financial, privacy, or CPTED implications.

Due Date for Follow-up and/or Project Completion

Should the amendments be approved, the Administration will monitor the impacts of the new regulations. Staff time required, as well as permit fees to process infill development applications, will also be monitored and evaluated. The Administration will provide City Council with a report after the regulations have been in effect for approximately two years.

Public Notice

Once the SPC on PDCS has granted advertising approval for this application, it will be advertised in accordance with Public Notice Policy No. C01-021, and a date for a public hearing will be set. A notice will be placed in The StarPhoenix two weeks prior to the public hearing.

Attachments

1. Category 1 and Category 2 Neighbourhoods
2. Proposed Changes to Existing Development Standards
3. Modelling Diagrams, February 2015
4. Community Engagement Summary

Report Approval

Written by: Paula Kotasek-Toth, Senior Planner, Planning and Development
Reviewed by: Alan Wallace, Director of Planning and Development
Approved by: Randy Grauer, General Manager, Community Services Department

S/Reports/DS/2015/PDCS – Nbhd Level Infill Dev Strategy – Zoning Bylaw Text Amend to Amend the Dev Standards for Primary Dwellings in Est. Nbhds – Approval for Advertising/ks
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Proposed Changes To Existing Development Standards

The Neighbourhood Level Infill Development Strategy (Strategy) recommended that the existing development standards, in particular those that regulate building height and massing, be amended to ensure that new infill development does not detract from the character of an existing neighbourhood. In this regard, the Administration is proposing amendments to the development standards for one- and two-unit dwellings, and semi-detached dwellings in the R1 – Large Lot One-Unit Residential District, R1A – One-Unit Residential District, and R2 One- and Two-Unit Residential District in the established neighbourhoods.

Category 1 and 2 Neighbourhoods

1. Category 1 neighbourhoods include City Park, Caswell Hill, Westmount, Riversdale, Pleasant Hill, King George, Nutana, Varsity View, Buena Vista, North Park, Haultain, and Exhibition. These neighbourhoods are generally characterized by a grid design with narrow residential streets and large mature trees.
2. Category 2 neighbourhoods are the remainder of the established neighbourhoods and include Hudson Bay, Mayfair, Kelsey-Woodlawn, Richmond Heights, Sutherland, Forest Grove, Greystone Heights, Grosvenor, Brevoort Park, Nutana S.C., Eastview, Nutana Park, Adelaide/Churchill, Queen Elizabeth, Avalon, Holiday Park, Montgomery Place, Mount Royal, and Meadowgreen.

Amendments that Pertain to Both Category 1 and 2 Neighbourhoods

Allowable Sidewall Area

To provide for dwellings that do not overwhelm the character of adjacent dwellings, it is proposed that the building height and length be used to calculate an allowable building area. This allows for flexibility in design, while limiting the mass of the sidewall.

Development Standard	Existing	Proposed	Rationale
Allowable sidewall area.	No regulation.	<ol style="list-style-type: none"> 1. Determine the building height (using the angular plane). See diagram on page 3. 2. Determine the maximum building length. See page 4. 3. Allowable sidewall area is calculated using building height and wall length. <p>The sidewall of the building shall not exceed this area. Sidewall area is all areas, located under eaves and facing the same direction.</p> <p>The maximum height standard of the building remains at 8.5 metres to the highest point of a flat roof, the deck line of a mansard roof, and to the mean height level between the ridge for a gable, hip, or gambrel roof.</p>	<p>Decrease the overall building mass of dwelling to mitigate shading and increase privacy of neighbouring properties.</p> <p>The sidewall calculation is intended to limit the overall mass of the sidewall.</p>

Allowable Sidewall Area Diagrams

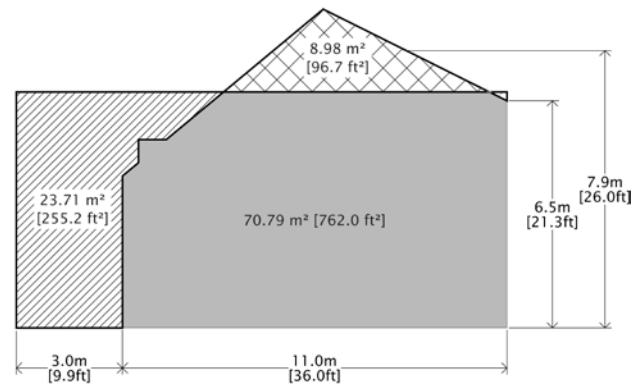
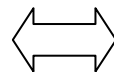
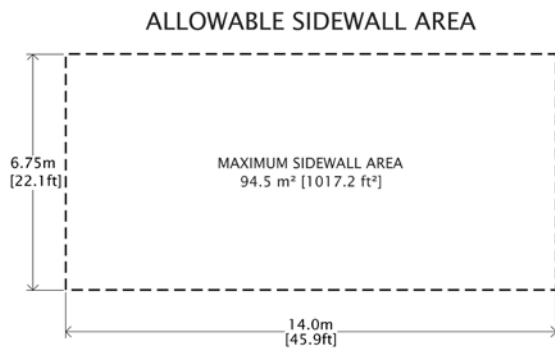
The diagrams below illustrate how the allowable sidewall calculation is applied. In this example, the allowable wall area is 94.5 m², which is shown on the left. The diagrams on the right show how the area can be applied. Allowable sidewall area is determined by the building wall height and building wall length calculations on pages 3 and 4.

Example: Modified Two Storey




1



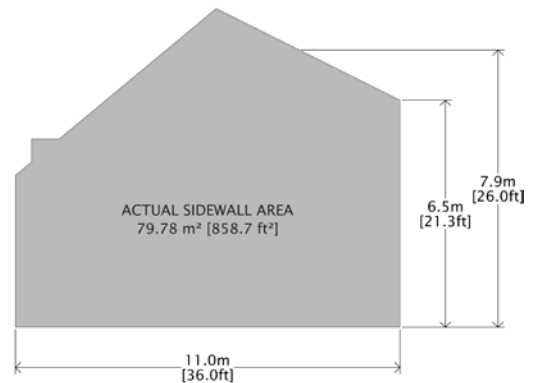
2



Total Sidewall Area = 79.8m²

-  SIDEWALL AREA WITHIN ALLOWABLE BOUNDARY
-  REMAINING SIDEWALL AREA
-  RELOCATED SIDEWALL AREA

3



Modified Two Storey

Allowable Sidewall Area: 94.5 m²

Actual Sidewall Area: 79.78 m²

This example complies with the allowable sidewall area.

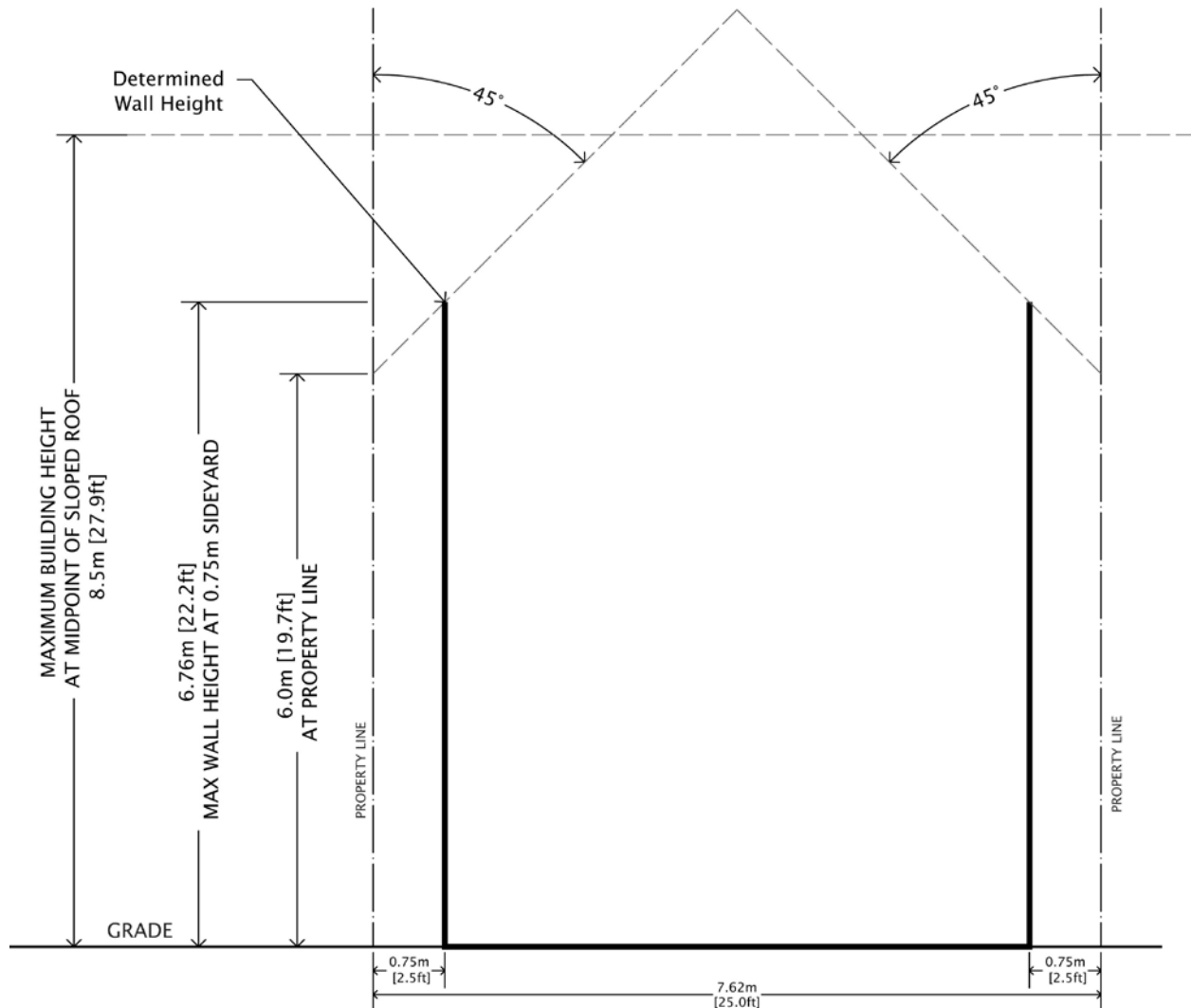
Building Wall Height Calculation for Allowable Sidewall Area

The Strategy proposes a “building envelope” or angular plane to regulate massing of a dwelling. It is recommended that this tool be implemented to determine a building wall height to be used in conjunction with a building wall length to calculate allowable sidewall area.

Proposed

The wall height would be determined by a 45 degree angular plane, measured from a height of 6 metres, projecting vertically from the side property line. The allowable wall height is determined where the wall intersects the 45 degree angular plane.

By increasing side yard, the allowable wall height would be increased.



Building Wall Length Calculation for the Allowable Sidewall Area

There are currently no restrictions for the length of a wall of one- and two-unit dwellings or a semi-detached dwelling. This may result in a sidewall of an infill development extending further into the rear yard, beyond the adjacent dwellings.

It is recommended that a building wall length to be used in conjunction with building wall height to calculate allowable sidewall area.

Proposed

The building wall length shall be:

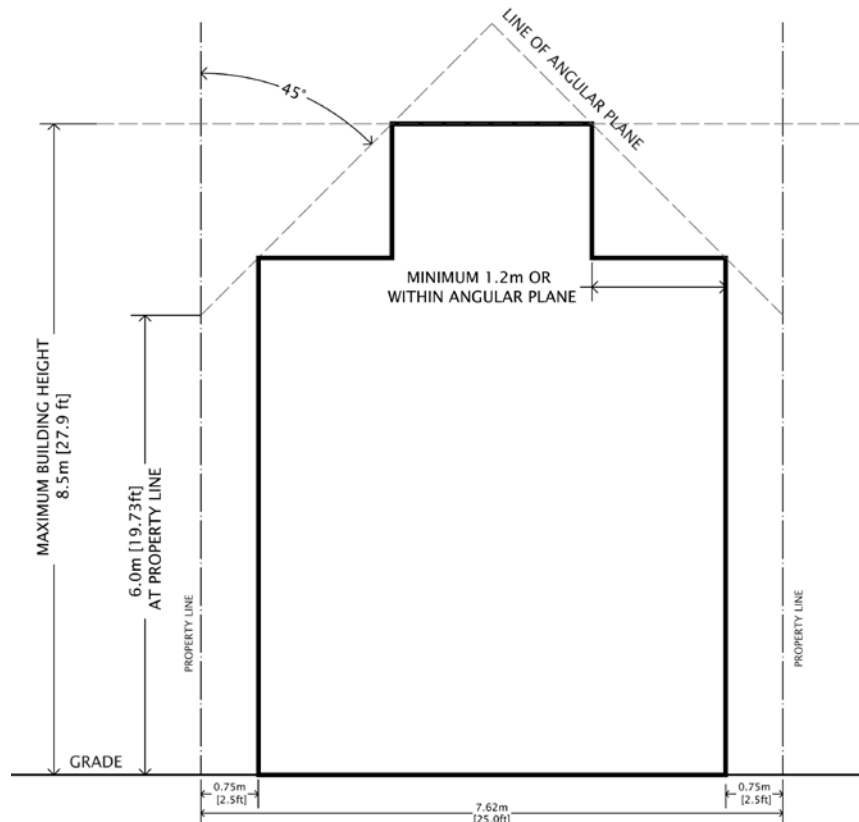
- a) For sites less than 40 metres in depth, the maximum is 14 metres; and
- b) For sites greater than 40 metres in depth, the wall length is determined by: Site depth x 50% - Front yard setback.

Example: calculation for sites longer than 40 metres in depth
 42.67 metres x 50% = 21.335 – 6 metre front yard setback = 15.335 metres
 140 feet x 50% = 70 feet - 20 foot front yard setback = 50 feet

Flat-Roofed Structures

The angular plane will be applied to determine the building height of flat-roofed structures. An upper storey or penthouse may be included provided that it is setback from the building walls.

Development Standard	Existing	Proposed	Rationale
Building massing for one-unit, two-unit, and semi-detached dwellings. Flat-roofed structures	8.5 metres.	<p>The wall height would be determined by a 45 degree angular plane, measured from a height of 6 metres, projecting vertically from the side property line. The maximum wall height is determined where the wall intersects the 45 degree angular plane. Wall height would be measured as an average of the lowest and highest points of the wall. The resulting wall height would be able to be increased provided that the dwelling is setback further from the side property line.</p> <p>Any portion of sidewalls above the maximum height must have a minimum setback of 1.2 metres from the sidewall of the dwelling and be located within the angular plane.</p> <p>The allowable sidewall areas apply to flat-roofed structures.</p>	<p>Decrease the overall building mass of dwelling to mitigate shading and increase privacy of neighbouring properties.</p> <p>The calculation is intended to limit the overall mass of the sidewall.</p>



Site Width for One-Unit Dwellings

The current development standard for minimum site width for one-unit dwellings is 15 metres in the R1 District, 12 metres in the R1A District, and 7.5 meters in the R2 District. The site width for the construction of new one-unit dwellings in established neighbourhoods shall be at least 70% of the average site width for one-unit dwelling sites fronting on the subject block face and the opposite block face. The intent of this provision is to ensure that lots have consistent widths along a block face; however, this has inadvertently resulted in the development of an over-abundance of semi-detached dwellings.

It is proposed to remove this provision in Category 1 neighbourhoods and provide a site width as stated in the zoning district.

For Category 2 neighbourhoods, the Administration is recommending that the 70% rule be changed to 60% of the average lot width. The provision will increase the number of lots available for one-unit dwellings and maintain the character of blocks with wider lots.

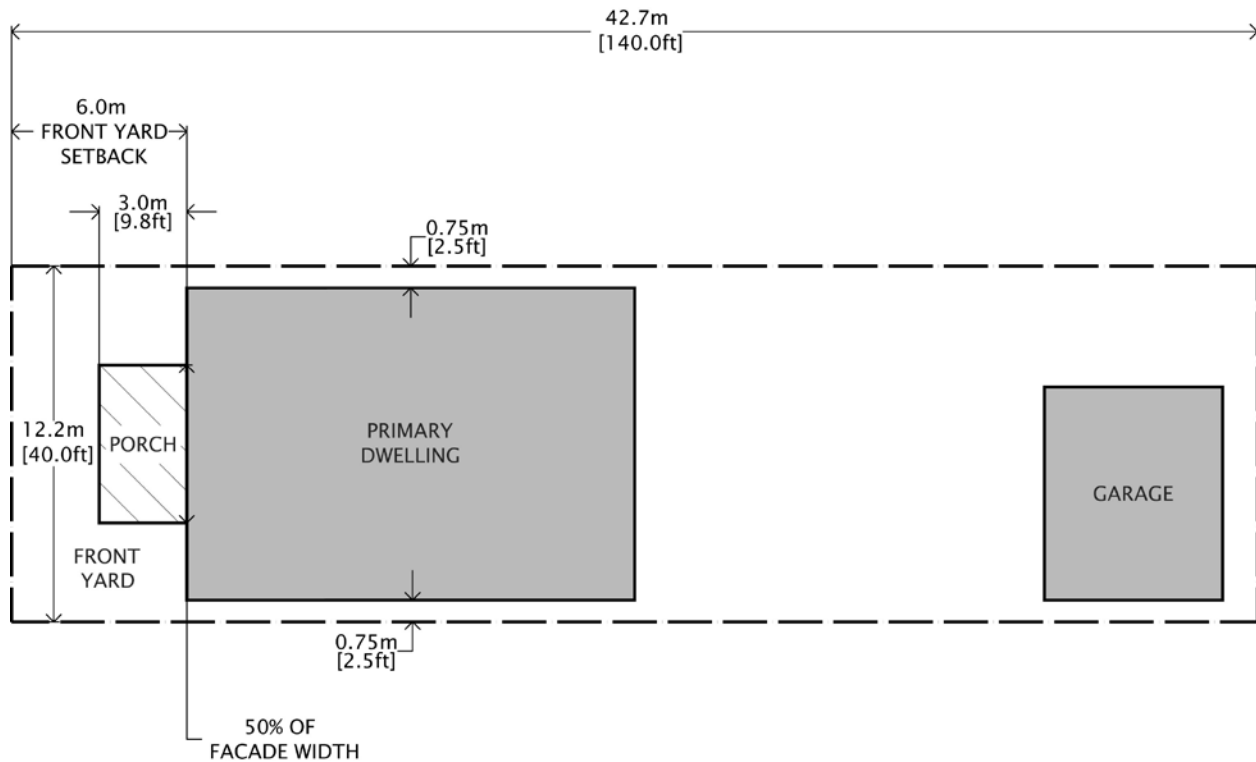
Site Width for Saskatchewan Crescent West and Poplar Crescent West - It has been identified that a portion of the Nutana neighbourhood, which is described as the 100 to 300 blocks of Saskatchewan Crescent West and Poplar Crescent West, will be included into Category 2 to ensure the character of the area is maintained. This area contains wide lots with estate homes, and there has been little subdivision. Further consultation with the property owners will be undertaken.

Note: In Montgomery Place, the minimum site width is 18.25 metres. This minimum site width is not proposed to be changed and will not be impacted by the proposed amendments.

Development Standard	Existing	Proposed	Rationale
Site width for one-unit dwellings in Category 1 areas.	Minimum R1 – 15 metres* R1A – 12 metres* R2 – 7.5 metres* *70% rule applies.	Minimum site width to remain unchanged. The provision, which requires that the site will be 70% of the average, will be removed. 100 - 300 blocks of Saskatchewan Crescent West and Poplar Crescent will be treated as Category 2.	The result of the provision had been construction of two-unit and semi-detached dwellings. The unintended result of the 70% rule is an abundance of two-unit and semi-detached dwellings. In Category 1 areas, the development of detached one-unit dwellings is more compatible with the existing character.
Site width for one-unit dwellings in Category 2 areas.	Minimum R1 – 15 metres* R1A – 12 metres* R2 – 7.5 metres* *70% rule applies.	Minimum site width to remain unchanged. Note: Minimum site width in Montgomery neighbourhood remains unchanged. The site width for the construction of new one-unit dwellings in Category 2 neighbourhoods shall be at least 60% of the average site width for one-unit dwelling sites fronting on the subject block face and the opposite block face, but in no case shall the site width be less than minimum standard metres.	The reduction in the provision will allow for additional sites for one-unit dwellings, while ensuring that lot width along the block face remains consistent.

Amendments that Pertain to Category 1 Neighbourhoods Only

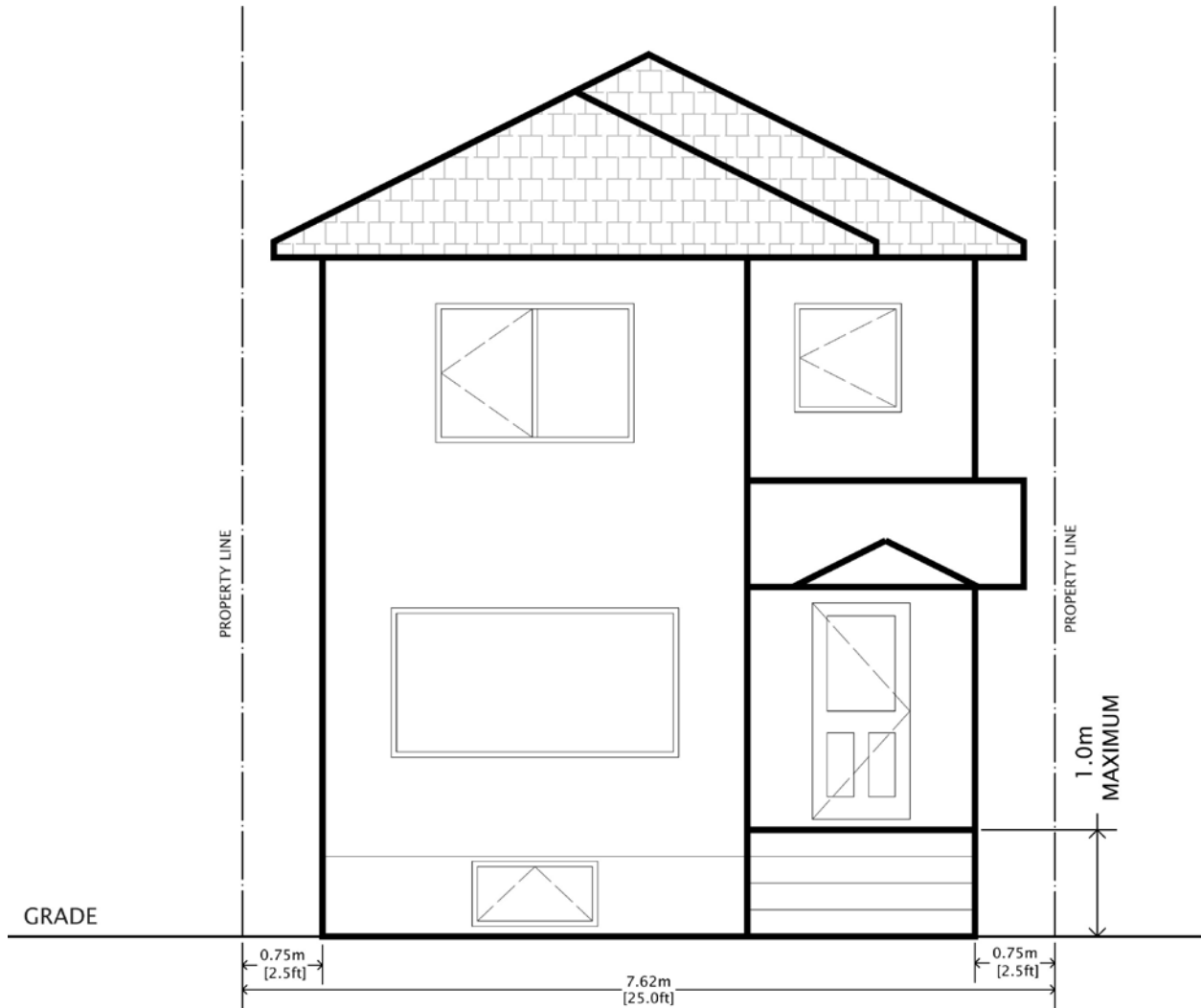
Front Porch Encroachment			
The current Zoning Bylaw No. 8770 (Zoning Bylaw) regulations do not allow a front porch to extend into the required front yard, as it is considered part of the dwelling. In Category 1 neighbourhoods, the proposed amendments will allow front porches to encroach, provided that they do not extend more than 50% of the width of the dwelling and do not encroach more than 3 metres into the required front yard.			
Development Standard	Existing	Proposed	Rationale
Front porch encroachment for one-unit, two-unit, and semi-detached dwellings.	Not permitted to encroach into required front yard.	A portion of the front facade of the dwelling may encroach up to 3 metres into the required front yard provided that the width does not exceed 50% of the width of the facade. The front porch must contain a front door.	The Strategy identified that a front porch was a desirable design feature in Category 1 neighbourhoods. Many of the traditional building styles contain front porches.



Height of Front Door

The height of the main floor of dwellings should have a maximum finished floor height or front door elevation threshold of 1.0 metre above finished grade. The intent of this requirement is to maintain the pedestrian-scaled relationship to the street.

Development Standard	Existing	Proposed	Rationale
Height of front door.	No restriction.	The bottom of the front door shall not be located more than 1.0 metre above the finished grade.	To maintain a pedestrian-scaled relationship with the street.

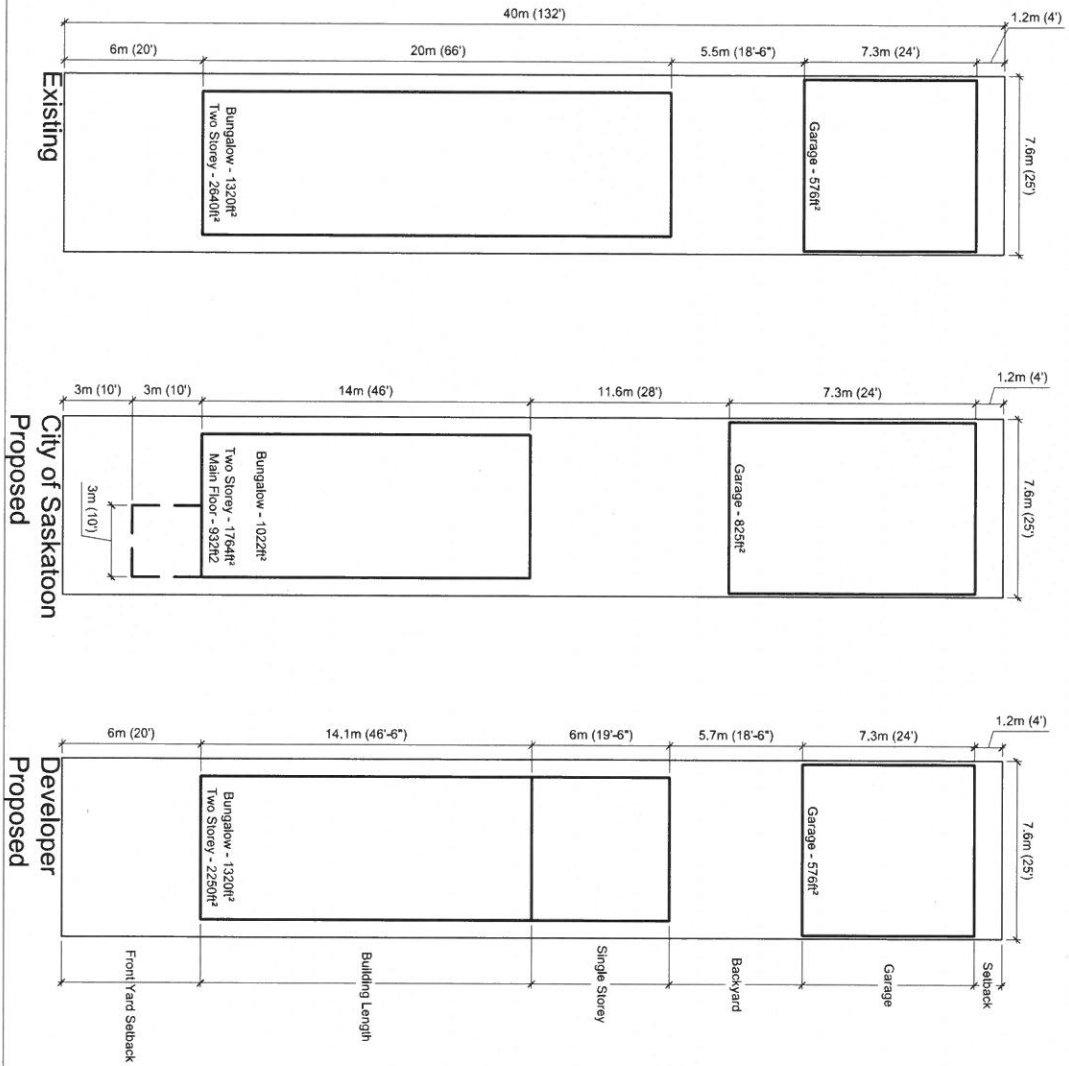


Amendments to Sidewalks - Private Crossings Over Bylaw No. 4785			
Sidewalks - Private Crossings Over Bylaw No. 4785 (Sidewalk Crossing Bylaw) allows for the installation of private crossings across a sidewalk, curb, or boulevard for vehicular access to the front yard of the property.			
To protect the street character of Category 1 neighbourhoods, the Strategy identified that on-site parking should be provided in the rear yard and accessed from the rear lane, where rear lanes exist. To implement this, the Administration recommends that the Sidewalk Crossing Bylaw be amended to prohibit front yard driveways or curb cuts and prohibit expanding existing curb cuts where rear lanes exist for Category 1 neighbourhoods.			
Development Standard	Existing	Proposed	Rationale
Restrict vehicular access to front yards (driveway access/curb cuts).	No restriction	Amend the bylaw to prohibit driveway crossings into front yards on sites where a rear lane exists.	The addition of front yard driveway and/or garages does not fit into the character of the Category 1 neighbourhoods. Traditional building forms do not have front garages or driveways.

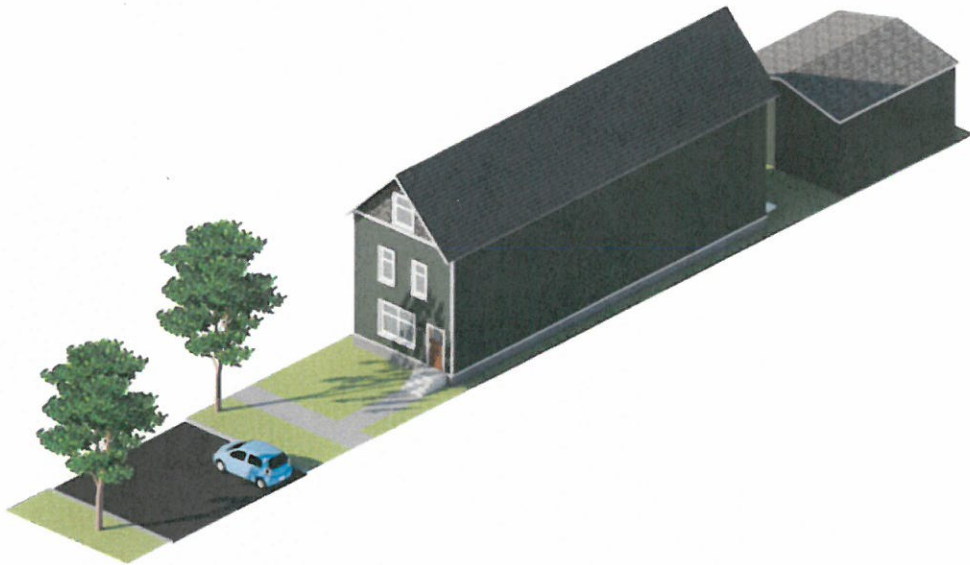
Housekeeping Amendments for Garden and Garage Suites			
The Zoning Bylaw was amended in May 2014 to allow for the development of garden and garage suites. It has been identified that the following provisions were not consistent with the recommendations in the Strategy, and it is recommended that the Zoning Bylaw be amended:			
Development Standard	Existing	Proposed	Rationale
Provision to allow for a two-storey garage suite on corner lots in Category 2 neighbourhoods.	On corner lots in Category 2 areas, the maximum height to the peak of the roof is 5.0 metres, and the maximum wall height is 4.0 metres. On corners sites, the building may have 2 stories provided that maximum height is not exceeded.	Remove the provision that allows for 2 stories for buildings on corner sites.	
The maximum roof height for garden and garage suites in Category 1 neighbourhoods.	The maximum height of garden and garage suites in Category 2 is 6 metres and is currently measured to the peak of the roof.	It is proposed that the maximum height provision be amended to measure the maximum height to the mid-point of a peaked roof.	It has been identified by stakeholders that the provision encourages the development of flat roofs, rather than peaked roof structures.
List of Category 1 neighbourhoods.		Add Exhibition neighbourhood.	This neighbourhood has the same characteristics of the other Category 1 neighbourhoods.

City of Saskatoon Infill Regulations
Saskatoon SK

Site Plan
Small Site
(25' x 132') 7.62m x 40.23m

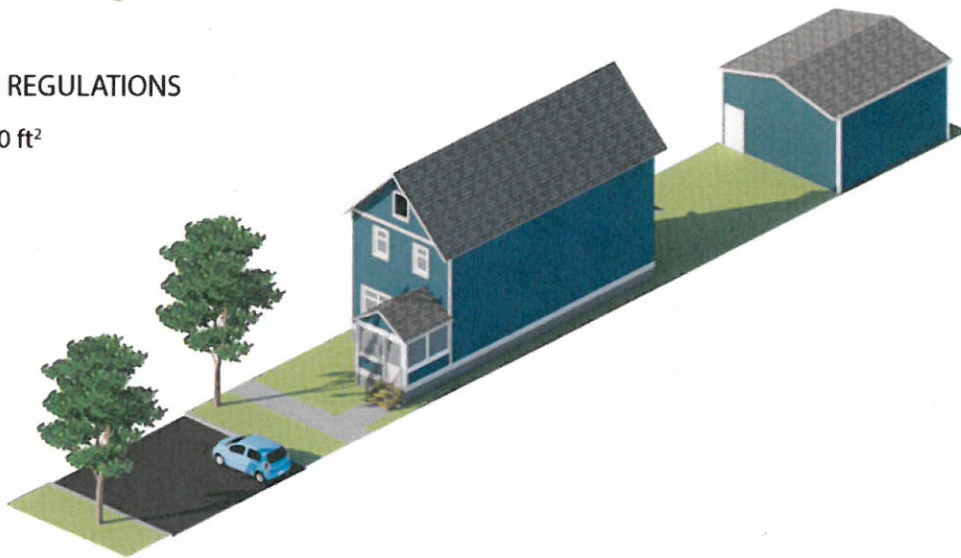


	Site Coverage (%)		
	Existing	Proposed	Developer
One Unit Dwellings (OUD)	40	31	40
Accessory Building	18	25	18
Total	58	56	58



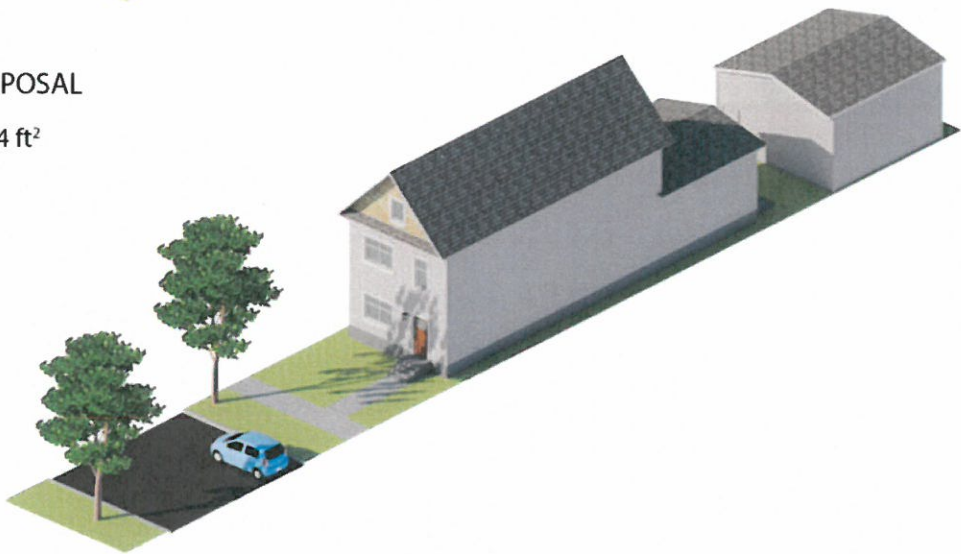
EXISTING REGULATIONS

AREA: 2640 ft²



CITY PROPOSAL

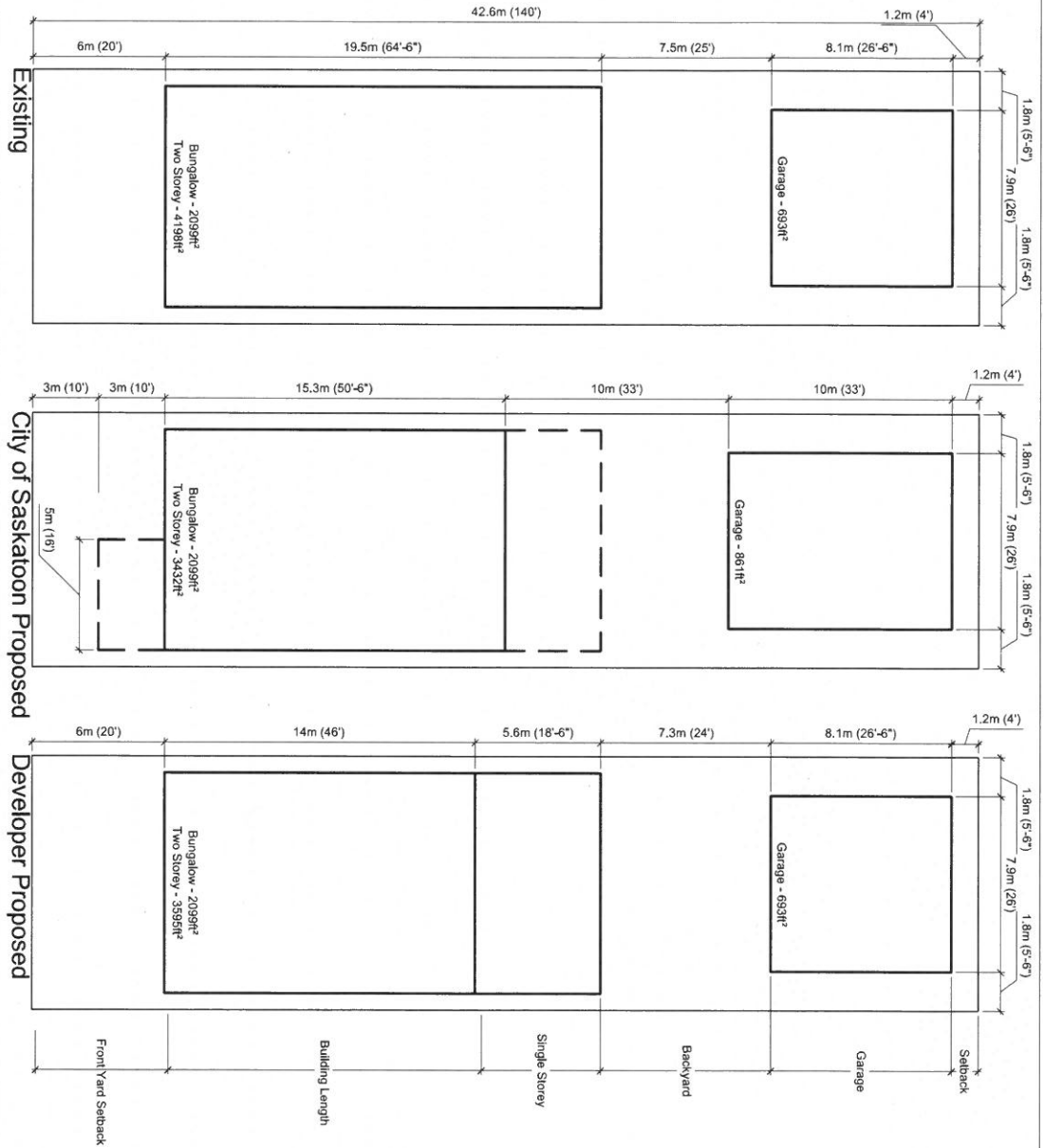
AREA: 1764 ft²



DEVELOPER PROPOSAL

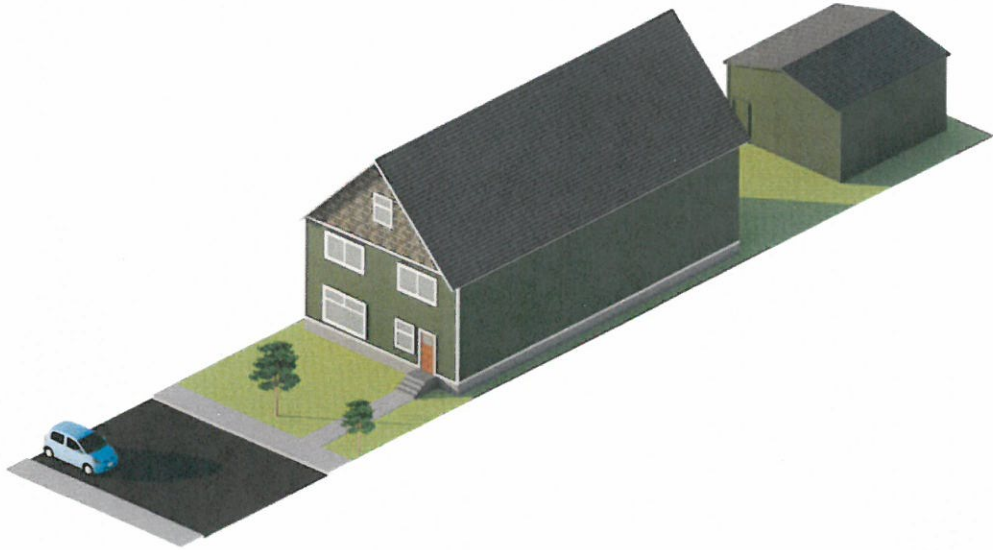
AREA: 2250 ft²

Site Plan
Medium Site
(37.5' x 140') 11.43m x 42.67m



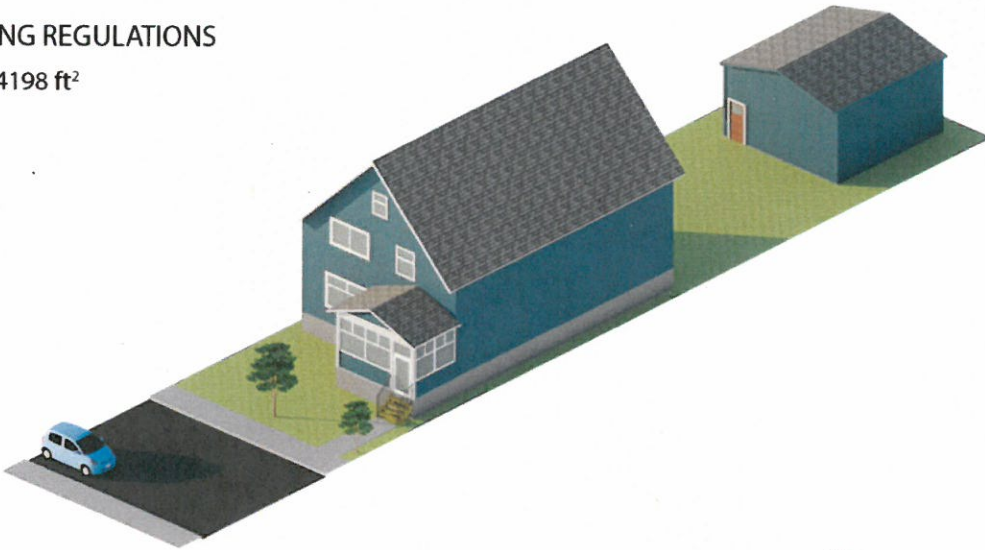
City of Saskatoon Infill Regulations
Saskatoon SK

	Site Coverage (%)		
	Existing	Proposed	Developer
One Unit Dwellings (OUD)	40	34	40
Accessory Building	13	17	13
Total	53	51	53



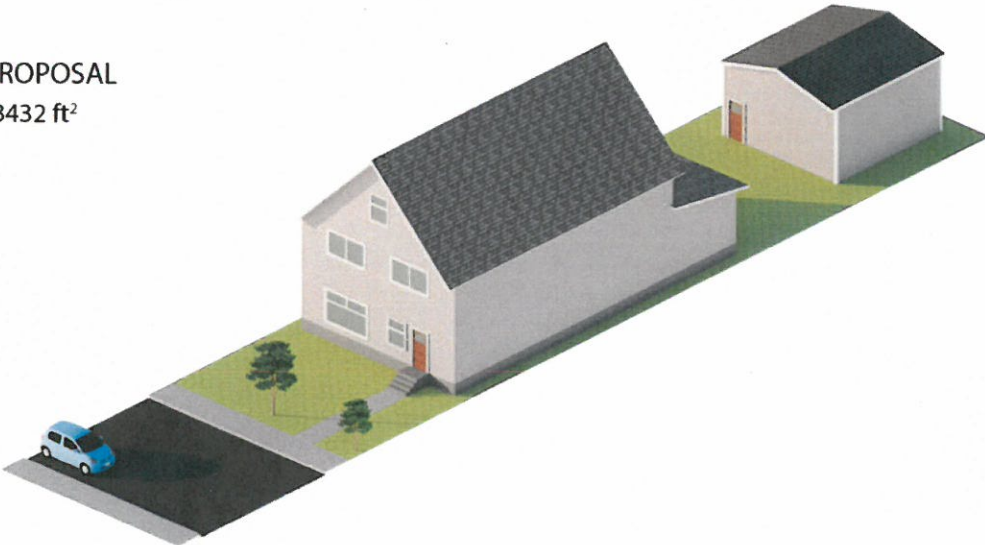
EXISTING REGULATIONS

AREA: 4198 ft²



CITY PROPOSAL

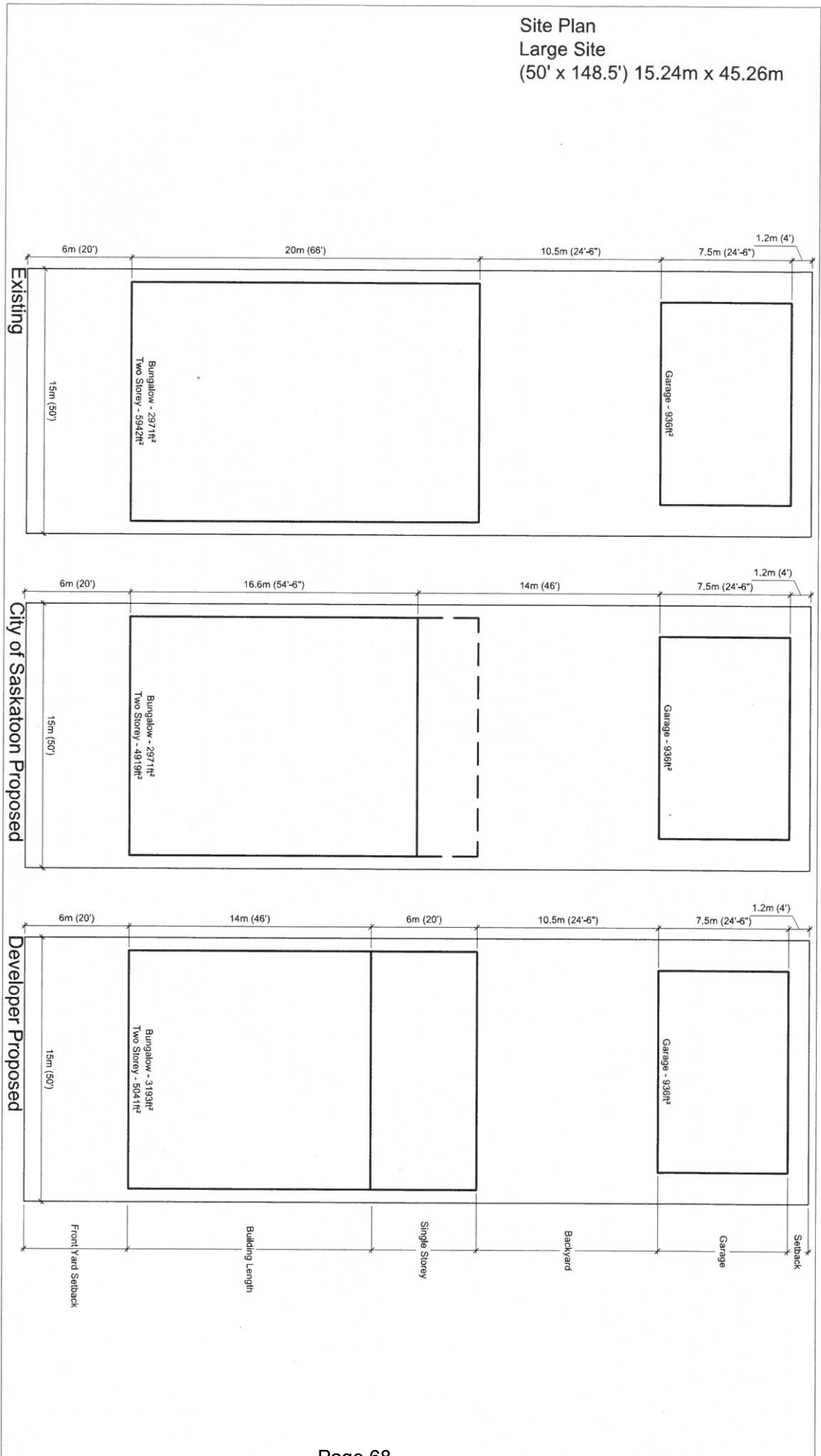
AREA: 3432 ft²



DEVELOPER PROPOSAL

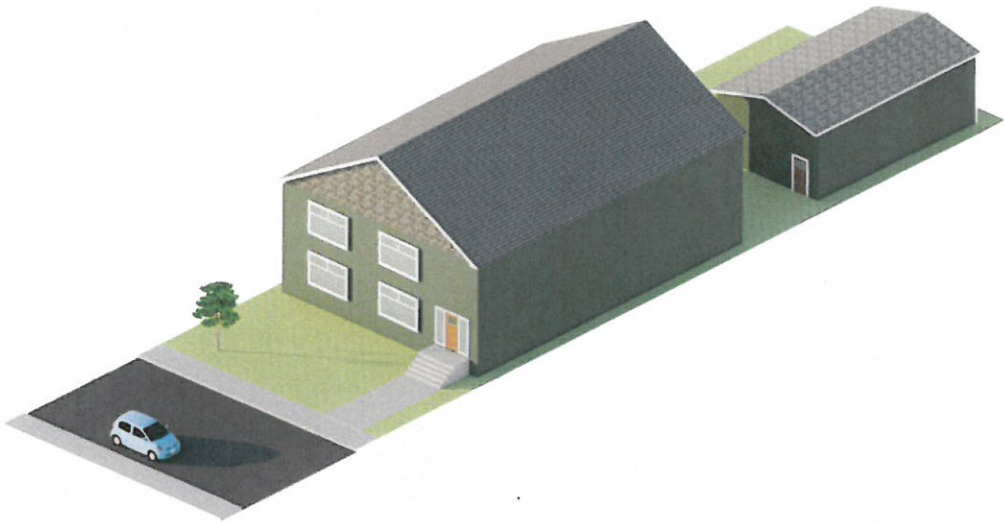
AREA: 3595 ft²

Site Plan
Large Site
(50' x 148.5') 15.24m x 45.26m



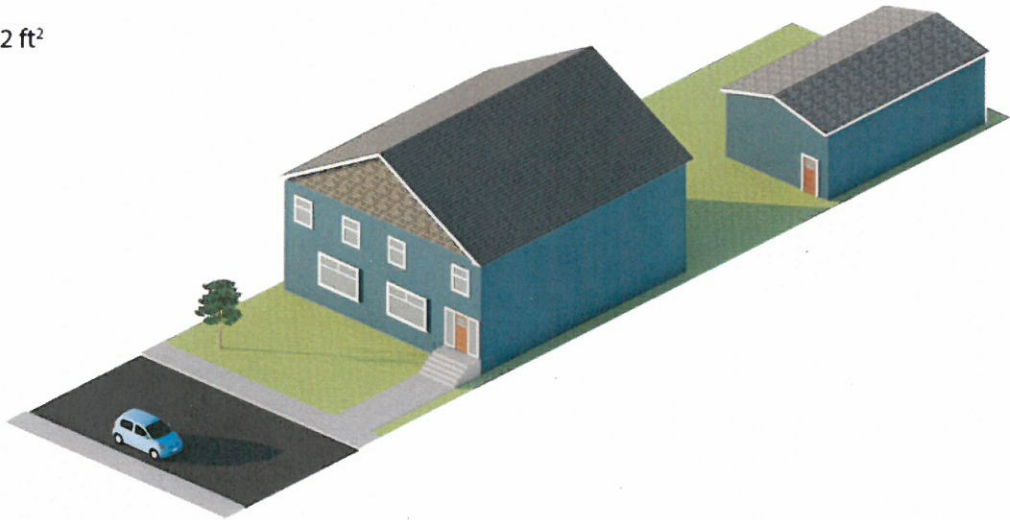
City of Saskatoon Infill Regulations
Saskatoon SK

Site Coverage (%)			
	Existing	Proposed	Developer
One Unit Dwellings (OUD)	40	36	40
Accessory Building	13	13	13
Total	53	49	53



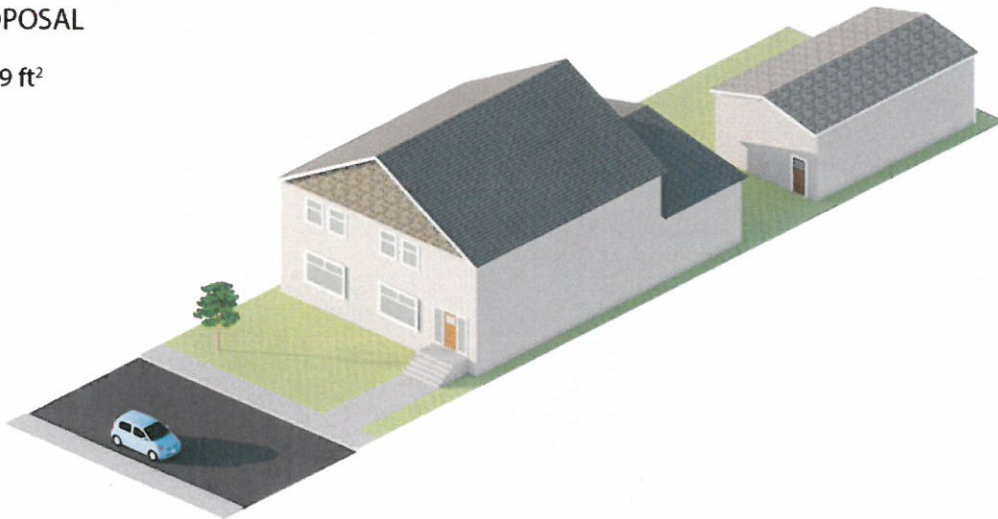
EXISTING REGULATIONS

AREA: 5942 ft²



CITY PROPOSAL

AREA: 4919 ft²



DEVELOPER PROPOSAL

AREA 5041 ft²

Square Footage Calculations for Primary Dwellings Maximum Built-out

50%, 52.5% and 55% for the maximum building length in step 2, in the Allowable Side Area Calculation:

1. Determine the building height (using the angular plane).
2. Determine the maximum building length.
 - a) For sites less than 40 metres in depth, the maximum is 14 metres; and
 - b) For sites greater than 40 metres in depth, the wall length is determined by: Site depth x 50% - Front yard setback
3. Allowable sidewall area is calculated using building height and wall length.

Table 1 Imperial (square feet)

		Small	Medium	Large
	Site Dimensions	25' x 132'	37.5' x 140'	50' by 148.5'
Current Regulations	building footprint (main floor)	1,320	2,099	2,971
	total floor area on 2 stories	2,640	4,198	5,942
Proposed at 50%* or 45.93 feet	building footprint (main floor)	932	1,712	2,460
	total floor area on 2 stories	1,764	3,423	4,919
Proposed at 52.5%*	building footprint (main floor)	986	1,739	2,608
	total floor area on 2 stories	1,972	3,478	5,217
Proposed at 55%*	floor area - storey	1,052	1,853	2,775
	total floor area on 2 stories	2,104	3,705	5,551

Table 2 Metric (square metres)

		Small	Medium	Large
	Site Dimensions	7.62 m x 40.23 m	11.43 m x 42.67 m	15.24 X by 45.40 m
Current Regulations	building footprint (main floor)	123	195	277
	total floor area on 2 stories	245	390	554
Proposed at 50%* or 14 metres	building footprint (main floor)	87	159	229
	total floor area on 2 stories	174	318	459
Proposed at 52.5%*	building footprint (main floor)	93	163	245
	total floor area on 2 stories	185	326	490
Proposed at 55%*	main floor area	99	173	261
	total floor area on 2 stories	197	347	521

COMMUNITY ENGAGEMENT SUMMARY

NEIGHBOURHOOD LEVEL INFILL STRATEGY PROPOSED REGULATIONS FOR PRIMARY DWELLINGS

Summary of Community Engagement for the Infill Development Strategy

Development of Infill Development Strategy (Brook McIlroy and skarc)

- December 4, 2012 – Public Workshop #1
- December 13, 2012 – Online Survey was launched
- March 14, 2013 – Public Workshop #2
- Several Community Advisory Committee meetings between December 2012 and December 2013

Key Dates for Implementation

- December 16, 2013 - City Council endorsed Infill Development Strategy
- March 25, 2014 – Implementation Plan approved by Planning and Operations Committee
- May 5, 2014 - City Council approves Garden and Garage Suites
- May 20, 2014 – Advertising for Proposed Regulations for Primary Dwellings and Small Multiple Unit Dwellings on Corner Sites was approved by City Council

Implementation of Infill Development Strategy – City of Saskatoon

Public Open Houses:

- March 4, 2014 – Proposed Regulations for Garden and Garage Suites
- May 7, 2014 – Proposed Regulations for Primary Dwellings and Small Multiple Unit Dwellings on Corner Sites.

This public open house was held to present the proposed amendment for low-density residential development (one-unit, two-unit, and semi-detached dwellings). Following that meeting, concerns were expressed by homebuilders that the regulations were not feasible or implementable. Planning and Development undertook additional analysis and consultation with homebuilders and designers to develop the current proposal.

- October 30, 2014 - Proposed Regulations for Primary Dwellings

Meetings with Community Advisory Committee (2014)

- January 9
- February 27
- April 9
- June 16
- September 30
- October 9

Meetings between May 2014 and December 2014

- June 6 – Alan Wallace, Darryl Dawson, and Paula Kotasek-Toth met with Patrick Wolfe, Mark Bobyn, Jim Seimens, and Councillor Clark
- June 23 – Alan Wallace, Darryl Dawson, and Paula Kotasek-Toth met with Patrick Wolfe, Mark Bobyn, Jim Seimens, and Councillor Clark
- June 24 – Alan Wallace met with Tim Ryan and Patrick Wolfe
- June 25 – Alan Wallace, Darryl Dawson, and Paula Kotasek-Toth met with Mark Bobyn, Patrick Wolfe, Councillor Charlie Clark, and others

- June 25 - Call to Cal Brook to clarify intent of recommendations in the report
- July 23 - Alan Wallace, Darryl Dawson, and Paula Kotasek-Toth met with Mark Bobyn, Patrick Wolfe, Councillor Charlie Clark, and others
- August 20 - Darryl Dawson and Paula Kotasek-Toth met with Councillor Paulsen and Heather Ryan
- September 9 – Alan Wallace updated City Council by email
- September 17- Alan Wallace had a phone conversation with Patrick Wolfe
- September 18 – Patrick Wolfe, Brett Johnson, and Robert Lessard
- September 23 – Darryl Dawson and Paula Kotasek-Toth met with Patrick Wolfe and Brett Johnson
- October 10 - Alan Wallace updated City Council by email
- October 30 – Darryl Dawson and Paula Kotasek-Toth met with Karl Miller
- November 20 – Alan Wallace and Darryl Dawson at Saskatoon Region Association of Realtors.

Community Engagement Strategy – October 30, 2014 Public Open House

Purpose

To inform. Planning and Development provided two presentations of the proposed regulations. Each presentation was followed by a question and answer period.

Form of Community Engagement Used

Public Information Meeting – Stakeholders were provided an opportunity to review a series of display boards and handouts were provided. Planning and Development provided two presentations of the proposed regulations. Each presentation was followed by a question and answer period.

Level of Input or Decision Making Required from the Public

Those in attendance were given the opportunity to provide comments.

Who was Involved

External stakeholders: Planning and Development has compiled a list of stakeholders and interested members of the public during the Infill Strategy project who were notified of the meeting. Other methods of notification used included an advertisement in The StarPhoenix, Public Service Announcements, and notices on the City's social media. Several councillors attended including: Councillors Lorje, Clark, Iwanchuk, Loewen, Olauson, Hill, and Jeffries.

Feedback Summary of October 30, 2014 Public Open House

The meeting was attended by 74 people. The following summarizes the feedback received:

- i. Not in favour of the proposed amendments where they will have an effect on the site coverage that can be achieved. The ability to build up to 40% site coverage should not be impacted. (10 similar comments received).
- ii. Current regulations have resulted in large incompatible infill development that creates problems with access to sunlight, drainage, privacy, loss of greenspace, and parking;
- iii. A maximum building length should be applied as very large buildings could be built on deep lots;
- iv. Driveway crossings should be allowed;
- v. Character of older neighbourhoods is compromised by infill;
- vi. Support elimination of 70% rule as it encourages semi-detached dwellings;
- vii. No such thing as a character neighbourhood, do not support any changes;
- viii. Infill increases the value of homes in older neighbourhoods;

- ix. The City needs to regulate how lots are graded and how it affects neighbouring properties;
- x. Developers should be liable for any damages to other properties during infill projects;
- xi. The infill developments that are currently underway are not affordable;
- xii. Not in favour of the rule to limit the height of the front door;
- xiii. Regarding solar access, it appears that only upper floors are an issue, therefore, just the length of the main floor should be restricted;
- xiv. Concern that the regulations will be in place before the Mayfair Local Area Plan is completed;
- xv. Should be restricting front garages (driveway crossings) in Category 2 areas as well;
- xvi. The semi-detached homes that have been built are not keeping within the character of the area;
- xvii. The current and proposed regulations allow for very large homes to be built in Montgomery;
- xviii. Front porches and stairs are a nice feature but may impact access to light;
- xix. Concerns that two-unit dwellings (duplexes) are being used as fourplexes; and
- xx. Drainage and run-off are issues.

Next Steps

ACTION	ANTICIPATED TIMING
Planning and Development Division prepares and presents to Municipal Planning Commission (MPC). MPC reviews proposal and recommends approval or denial to City Council.	December 9, 2014
Planning and Development Division prepares and presents to the Standing Policy Committee (SPC) on Planning, Development and Community Services (PDCS) for approval to advertise the amendments to the Zoning Bylaw. SPC on PDCS can approve or deny the request to advertise the amendments.	January 5, 2015
Public Notice - Advertisements prepared and placed in <u>The StarPhoenix</u> , City Page (as per the City's Public Notice Policy), and stakeholders will be notified.	January 10 to 15, 2015
Public Hearing – Public Hearing conducted by City Council, with opportunity provided to interested persons or groups to present. Proposal considered together with the reports of the Planning and Development Division, MPC, and any written or verbal submissions received by City Council.	January 26, 2015
Council Decision - may approve or deny proposal.	January 26, 2015

Prepared by:

Paula Kotasek-Toth, Senior Planner
 Planning and Development Division
 November 10, 2014



STANDING POLICY COMMITTEE ON PLANNING, DEVELOPMENT AND COMMUNITY SERVICES

City Centre Recreation Facility Update and Information on Facility Feasibility Study

Recommendation of the Committee

That the report of the General Manager, Community Services Department, dated March 2, 2015, be received as information.

History

At the March 2, 2015 meeting of the Standing Policy Committee on Planning, Development and Community Services, a report of the General Manager, Community Services Department, dated March 2, 2015, was considered.

Attachment

March 2, 2015 Report of the General Manager, Community Services Department

City Centre Recreation Facility Update and Information on Facility Feasibility Study

Recommendation

That the report of the General Manager, Community Services Department, dated March 2, 2015, be forwarded to City Council for information.

Topic and Purpose

The purpose of this report is to provide an update on the concept of a City Centre Recreation Facility (CCRF) and to provide an overview of the plans to undertake a Needs Assessment and Facility Feasibility Study (Feasibility Study) in collaboration with the YMCA and Saskatoon Tribal Council (STC).

Report Highlights

1. The YMCA, City of Saskatoon (City) and STC are embarking on plans to collaborate on a potential CCRF. The initial phase of the work is to conduct a Feasibility Study, which will be completed by the end of June 2015.
2. The Feasibility Study will include: a review of existing programs within the city centre area; identify any gaps in programs, services, and facilities in this area; and will look to determine needs that could be addressed through the creation of a new recreation facility. The Feasibility Study will also undertake a broader market analysis of information and will test the concept of a new facility in the city centre.

Strategic Goal

This report supports the City's Strategic Goal of Quality of Life, specifically the four-year priority of establishing a leisure centre in the city centre.

Background

At its May 20, 2014 meeting, City Council authorized the Administration to continue discussions related to a potential partnership on a CCRF. City Council also requested that further information and data be gathered to develop a more formalized business plan for such a facility.

Report

Potential CCRF

The YMCA, the City, and STC are embarking on plans to collaborate on a potential CCRF. Part of the initial phases of the work is to determine the appropriateness of the plan to build a new facility. This will be established through a formal Needs Assessment and a Feasibility Study. The staff from the three organizations collaborated to develop a terms of reference for a Feasibility Study and on February 7, 2015, issued a Request For Proposal (RFP), seeking consultant(s) to carry out the study.

City Centre Recreation Facility Update and Information on Facility Feasibility Study

Timeline for the Needs Assessment/Feasibility Study

The YMCA took the lead on issuing the RFP in February 2015, and all three partners are involved in the review of proposals and the selection of the consultant/company for the project. An upset limit of \$30,000 has been allocated for this project with each of the partners contributing \$10,000. The timelines for this Feasibility Study are as follows:

- a) Review of proposals and Award of Contract - Early March 2015;
- b) Start-up meeting(s) March 2015;
- c) Community meetings and project work April/May 2015; and
- d) Completed Feasibility Study and Business Case June 30, 2015.

Needs Assessment and Feasibility Study Overview

The Needs Assessment phase of the Feasibility Study will include:

- a) a review of existing programs within the city centre area;
- b) identification of any gaps in programs, services, and facilities in this area; and
- c) determining needs that could be addressed through the creation of a new recreation facility.

For this phase, each of the partners will provide an inventory of existing programs and facilities within the city centre area. The partners will also provide the consultant with a summary of the community input received during the development of the Recreation and Parks Master Plan, as well as a copy of the Recreation and Parks Master Plan once it has been presented to City Council in April 2015.

The Feasibility Study phase of the project is a broader analysis of information and will look to test the concept of a new facility in the city centre. The Feasibility Study will include a number of components such as:

- a) a market analysis;
- b) a draft management plan to identify potential management options;
- c) information about the financial viability of a proposed facility; and
- d) an analysis of the planning and construction costs of comparable facilities.

Attachment 1 provides a more detailed outline of the terms of reference for the Feasibility Study.

Throughout the Feasibility Study, the consultants will ensure that the three partner organizations, the community, the community-based organizations, and key stakeholders have an opportunity for input and feedback.

Once the Feasibility Study is completed, the summary report will be presented to each partner's elected officials for review and consideration on next steps.

Financial Implications

There are no immediate financial implications of the recommendations, as the City's \$10,000 contribution to a one-third share of the costs for the Feasibility Study have already been identified within the 2015 budget.

Other Considerations/Implications

There are no options, environmental, policy, privacy, or CPTED implications or considerations. No communication plan is required.

Due Date for Follow-up and/or Project Completion

CCRF – timeline and key milestones for the overall project is as follows:

- a) Partnership discussions, feasibility study, and business case development will continue through the first half of 2015. Feasibility Study results to be presented to City Council in the summer of 2015.
- b) With necessary approvals to proceed (including City Council), an Agreement in Principle (including: purpose and goals of a new facility, services to be provided in the facility, funding commitments, and partnership roles), is to be developed, then submitted to City Council for authorization to proceed to the next steps – fall 2015.
- c) With necessary approvals (including City Council), the partners could then formalize a Partnership Memorandum of Agreement – on capital, operating, location, access, programming, etc. – late 2015.
- d) If the partnership moves forward, design of a new recreation facility could begin in 2016.
- e) Construction could commence as early as 2017, with completion in 2018 or 2019.
- f) The new facility could open sometime in 2019.

Public Notice

Public Notice, pursuant to Section 3 of Public Notice Policy No. C01-021, is not required.

Attachment

1. City Centre Recreation Facility – Feasibility Study – Terms of Reference

Report Approval

Written by: Lynne Lacroix, Director of Community Development
Reviewed by: Shannon Hanson, Acting Director of Community Development
Approved by: Randy Grauer, General Manager, Community Services Department

S:\Reports\CD\2015\PDCCS – City Centre Recreation Facility Update Report and Information on Facility Feasibility Study\kt
FINAL/APPROVED – R. Grauer – Feb 15/15

City Centre Recreation Facility – Feasibility Study – Terms of Reference

The YMCA, City of Saskatoon (City) and Saskatoon Tribal Council (STC) are embarking on plans to collaborate on a potential City Centre Recreation Facility (CCRF) in Saskatoon. Part of the initial phases of the work is to determine the appropriateness of the plan to build a new facility. This will be established through a formal Needs Assessment and Facility Feasibility Study (Feasibility Study).

The Needs Assessment will include:

1. Review existing programs (recreation, fitness, aquatics, health/wellness, and childcare) within the city centre area.
2. Identify any gaps in programs, services, and facilities in the city centre.
3. Determine needs that could be addressed through the creation of a centre and the provision of services (recreation, fitness, aquatics, health/wellness, childcare).

The Feasibility Study will include:

1. A Market Analysis – This tests the concept of a new facility and provides specific measurable data regarding the market’s ability to sustain the proposed facility.
 - assess the likelihood in consideration of participation and the fee sensitivity, particularly with respect to the adult purchase decision;
 - examine the competitive market (focus on private and city-funded fitness/leisure) – and what other facilities, programs, and services already exist in this area; and
 - assess socio-demographic characteristics of the area and participation trends.
2. Justification for the proposed facility based on the needs assessment data.
3. A Draft Management Plan – to identify potential management options (who operates the facility, who delivers programs) prior to considering the design of the proposed facility to ensure the end result is a facility that is designed for cost effective management.
4. Information on the financial viability of the proposed facility based on a typical operational model.
5. Identification of a general location that will maximize access to the facility and long-term sustainability. (Identifying a specific site too soon can “muddy the waters” regarding true project feasibility. The feasibility decision could be driven by specific location instead of community needs and synergies. Also, if the identified site is not owned by a partner, it can also hurt the purchase negotiations if the seller knows it is preferred.)
6. A recommendation on any special facility needs that should be incorporated into the design process, in particular Aboriginal and cultural elements.
7. An analysis of the planning and construction costs of comparable facilities (once models of centres are identified) and designs.



STANDING POLICY COMMITTEE ON PLANNING, DEVELOPMENT AND COMMUNITY SERVICES

Local Area Plan Program Neighbourhood Monitoring Report

Recommendation of the Committee

That the Neighbourhood Planning Section be authorized to undertake Local Area Plans in the neighbourhoods identified in the report of the General Manager, Community Services Department dated March 2, 2015.

History

At the March 2, 2015 meeting of the Standing Policy Committee on Planning, Development and Community Services, a report of the General Manager, Community Services Department, dated March 2, 2015, was considered.

Attachment

March 2, 2015 Report of the General Manager, Community Services Department

Local Area Plan Program Neighbourhood Monitoring Report

Recommendation

That the Standing Policy Committee on Planning, Development and Community Services recommend to City Council:

1. That the Neighbourhood Planning Section be authorized to undertake Local Area Plans in the neighbourhoods identified in this report.

Topic and Purpose

The purpose of this report is to present the Neighbourhood Monitoring Report (NMR), which considers a variety of indicators affecting the quality of life for local stakeholders in order to identify neighbourhoods that should be approved to receive a Local Area Plan (LAP).

Report Highlights

1. The NMR utilizes a variety of data to identify neighbourhoods of high priority to participate in a comprehensive local planning process.
2. The Neighbourhood Planning Section discussed methodology for assessing neighbourhood indicators with an economics and statistics professor from the University of Saskatchewan.
3. Exhibition, Mount Royal, Confederation Park, and Massey Place have been identified as high-priority neighbourhoods for future LAPs.

Strategic Goals

Local Area Planning supports a variety of Strategic Goals at the neighbourhood level, including Quality of Life through engaging citizens to identify opportunities for local improvements, and Sustainable Growth by ensuring our established neighbourhoods remain healthy. Depending on the issues of the neighbourhood, there may also be local benefits relating to other Strategic Goals.

Background

The Local Area Planning program was established in 1997, resulting from the Plan Saskatoon public engagement project. During Plan Saskatoon, the City of Saskatoon (City) was requested to provide greater opportunities for direct citizen input into growth and change within Saskatoon's established and historic neighbourhoods.

LAPs are community-based, long-range plans that focus on the renewal of established neighbourhoods and distinct areas in Saskatoon. The LAP process is comprised of three phases: a consultation phase, a plan development and adoption phase, and an implementation phase. Twelve LAPs have been completed and adopted by City Council to date, with the most recent being Varsity View in April 2014.

Neighbourhood Monitoring Report

In 2007, the Neighbourhood Planning Section introduced a method of monitoring and assessing neighbourhoods by examining a comprehensive set of statistics that are believed to affect the local quality of life for citizens. The NMR is used as a tool to identify neighbourhoods experiencing significant challenges and issues. The indicators are based on data related to safety, housing, employment and income, infrastructure, land use, population change, and traffic. Over time, indicators are added or removed from consideration as appropriate.

On June 25, 2007, City Council resolved:

“that the Administration be instructed to report the results of the Local Area Plan Indicators Project every three years starting in 2009, and recommend, if need be, a list of neighbourhoods that are in need of a Local Area Plan.”

During the 2011 Civic Service Review, the Neighbourhood Planning Section conducted a thorough assessment of the LAP program to identify its strengths and challenges. As well, utilizing the results of the NMR, additional neighbourhoods were proposed to undergo the LAP process. On September 7, 2011, City Council resolved:

“that the Local Area Plan Program (LAP) continue with current staffing levels, and that new LAPs be undertaken in the Mayfair/Kelsey-Woodlawn, Meadowgreen and Montgomery Place neighbourhoods.”

The Neighbourhood Planning Section has the capacity to work on two LAPs concurrently. Once an LAP has been adopted by City Council, the following LAP project begins. The Mayfair and Kelsey-Woodlawn LAP began in December 2012 and is anticipated to be presented to City Council for consideration in mid-2015; the Meadowgreen LAP began in April 2014; and the Montgomery Place LAP is scheduled to begin in mid-2015.

Report

Neighbourhood Monitoring and Intervention

The Neighbourhood Planning Section developed the NMR by identifying a comprehensive set of available statistics that include data related to: safety, housing, employment and income, infrastructure, land use, population change, and traffic. The indicators are not intended to create a specific ranking of Saskatoon's neighbourhoods. Instead, the indicators are one method to quantify issues through available data and identify high-priority neighbourhoods that would benefit from undergoing a comprehensive local planning process.

In 2014, the Neighbourhood Planning Section worked in partnership with Nancy Lee, professor of economics and statistics classes in the College of Arts and Science at the University of Saskatchewan, to discuss the associated data sets. Among the new data sets added are: Saskatoon Police Service calls for service, Smart Cities Healthy Kids

assessment, Neighbourhood Traffic Review Program prioritization ranking, traffic tickets issued, housing affordability index, low income rate, and mobility status (proportion of residents who have moved within previous five years).

The NMR details the indicators considered and provides an overview of the assessment tool, along with a map identifying low-, medium-, and high-priority neighbourhoods (see Attachment 1).

Future Local Area Plans

Four neighbourhoods have been identified that would benefit from a comprehensive local planning process. Exhibition, Mount Royal, Confederation Park, and Massey Place are proposed to participate in the development of LAPs. If approved, beginning in 2015, the Community Associations for each of these neighbourhoods will be approached to confirm the need for municipal intervention and to gauge community support and capacity towards undertaking a planning process in the future.

- **Exhibition (following completion of Meadowgreen LAP)** – The residential area of Exhibition is generally comprised of older housing and infrastructure. The neighbourhood is affected by local land uses, such as light industrial businesses and special events regularly hosted at Prairieland Park. Prevalence of low-income families and low median family incomes are also noted as concerns identified through the indicators.
- **Mount Royal (following completion of Montgomery Place LAP)** – The indicators for Mount Royal show the presence of a variety of issues that may be affecting the neighbourhood. This includes consistently high levels of reported crime, older housing and infrastructure, high number of failed Saskatoon Fire inspections, low rankings in employment and income categories, all combined with an increasing population.
- **Confederation Park and Massey Place (given study area size, resources may need to be adjusted in determining timing to begin LAP process)** – There has been a challenging trend in the Confederation Park indicators when comparing the 2007, 2010, and the most recent assessment. This includes very low total building permit values, combined with a population increase larger than most other established neighbourhoods. It is proposed that the study area for this LAP include Confederation Park and the adjacent Massey Place neighbourhood. The indicators for Massey Place suggest the neighbourhood shares some of the same issues as noted for Confederation Park.

Due to resource limitations and the necessary level of commitment required to develop an LAP, the Neighbourhood Planning Section is not recommending that each of the ten neighbourhoods identified as high-priority be approved for future LAPs at this time. Indicator results fluctuate with each updated statistic, and these ratings can change in a relatively short period of time. The neighbourhoods recommended for an LAP in this report have rated consistently high in 2007, 2010, and 2014. The Neighbourhood

Planning Section will continue to monitor all residential neighbourhoods, utilizing available statistics and other information sources.

Options to the Recommendation

City Council has the option to request further examination of the indicators, or to propose alternative neighbourhoods for consideration for future LAPs.

Public and/or Stakeholder Involvement

LAPs rely upon the participation of local stakeholders and the support of a variety of City divisions.

Communication Plan

If City Council approves the creation of additional LAPs, the identified neighbourhoods will be advised. The Neighbourhood Planning Section will work with the neighbourhoods to confirm the need for municipal intervention and to gauge community support and capacity for a LAP.

Other Considerations/Implications

There are no policy, environmental, financial, privacy, or CPTED implications or considerations.

Due Date for Follow-up and/or Project Completion

The Neighbourhood Planning Section provides an annual report to City Council. Every LAP is brought forward to City Council upon completion for consideration and adoption.

Public Notice

Public Notice, pursuant to Section 3 of Public Notice Policy No. C01-021, is not required.

Attachment

1. Neighbourhood Monitoring Report – February 2015

Report Approval

Written by: Mark Emmons, Senior Planner, Neighbourhood Planning
Reviewed by: Alan Wallace, Director of Planning and Development
Approved by: Randy Grauer, General Manager, Community Services Department

S/Reports/CP/2015/PDCS – LAP Program Neighbourhood Monitoring Report/ks

NEIGHBOURHOOD MONITORING REPORT

FEBRUARY 2015

INDICATOR DESCRIPTIONS & 2014 RESULTS MAP

INTRODUCTION

The Neighbourhood Monitoring Report consists of an index created from sources of data related mainly to the neighbourhood fundamentals of safety, development, and infrastructure. These indicators are in support of the City of Saskatoon's Official Community Plan to engage in comprehensive neighbourhood planning. The indicators include statistics related to: crime/safety, housing, employment/income, infrastructure, land use, population change, and traffic. For each neighbourhood, the statistics are assessed through the creation of an overall index. The index is used to determine the need for municipal intervention to ensure that all of Saskatoon's neighbourhoods remain healthy, safe, and vibrant places to live. For the purpose of this report, neighbourhoods have been grouped into High, Medium, and Low Priority categories based on an assessment of compiled data.

In 2007, a preliminary Neighbourhood Indicators Report was completed, to "monitor critical stress factors" in each neighbourhood and an update of this assessment was conducted in 2011. This Neighbourhood Monitoring Report is an update of the project, and includes the most current neighbourhood data available. Additional data sets that were included in this assessment are noted. In the long term, municipal intervention should result in improvement in the indicators of a neighbourhood.

PURPOSE

Neighbourhood indicators are intended to monitor critical stress factors for all neighbourhoods in Saskatoon. The indicators are required in order to determine which neighbourhoods are experiencing significant socio-economic challenges, land use issues, safety concerns and development difficulties and to monitor these indicators over time. Monitoring indicators will help the Neighbourhood Planning Section assess the changes which are taking place within each neighbourhood, and assist in determining the need to intervene and focus resources on a particular issue.

INDICATORS

Employment and Income

- Participation Rate
- Median Household Income
- Low Income Prevalence (new for 2014)

The participation rate for a particular group (geographic area) is the total labour force (persons aged 15 and over who are 'employed' or 'unemployed') in that group, expressed as a percentage of the total population in that group. Median household income is the dollar amount which divides income size distribution, into two halves. Employment and income indicators can point to economic and neighbourhood investment. Caution must be taken when interpreting the participation rate as residents who choose not to work, are retired or are still in school, for example, can lower the participation rate for an area. The prevalence of low income residents is a new indicator being considered in this assessment. This variable is based on after-tax low income measures. *(Data Source: 2011 National Household Survey).*

Housing

- Homeownership (percent)
- Number of Failed Inspections
- Average Year Built
- Housing Affordability Index (new for 2014)

Housing indicators provide a picture of general neighbourhood housing issues and conditions. Homeownership and housing is a fundamental quality of life factor and is also an indicator of other conditions, such as, the economy, employment, investment and neighbourhood stability. The number of failed inspections can vary depending on the type of inspection performed. Different types of inspections can include re-inspections and inspections driven by Health & Safety Hotline complaints. The total number of failures indicated by Saskatoon Fire was chosen for this indicator. The average age of housing in a neighbourhood can also act as proxy for general neighbourhood structural conditions. Housing affordability is measured as a ratio of a neighbourhood's median dwelling selling price to Saskatoon's median household income. Changes in the Housing Affordability Index may be evidence of instability within a neighbourhood. This variable had not been included in previous assessments. The 2006 and 2011 Housing Affordability Indexes are

compared to assess trends. (*Data Sources: 2011 National Housing Survey, Saskatoon Fire and Protective Services, Housing Information System, 2006 Census*).

Infrastructure

- Average Age of Sidewalks
- Average Age of Curbs
- Average Age of Water Mains

Infrastructure indicators are vital to the measuring of a neighbourhood's functionality. Examining the average age of sidewalks, curbs, and water mains in a neighbourhood is a very basic method of assessing the current infrastructure. Neighbourhoods with older infrastructure may require municipal investment in the form of upgrades. (*Data Source: Transportation and Utilities Department*)

Land Use

- Land Use Mix Intensity Index
- Park Space Index
- Building Permit Value
- Smart Cities, Healthy Kids (new for 2014)

The Land Use Mix Intensity Index measures the potential for land use conflicts or issues. This index is a measure of the compatibility of the mix of land uses within the neighbourhood. This measure is consistent with the Official Community Plan Policy on LAPs and may be used to monitor land use conflicts and development trends. Park space is often noted by LAP stakeholders as an important neighbourhood amenity and these indicators consider total park space per neighbourhood resident. The total value of building permits issued in a neighbourhood is also one measure of neighbourhood investment or economic activity. Smart Cities, Healthy Kids is a recent Saskatchewan Population Health and Evaluation Research Unit (SPHERU) project that surveyed school-age children from across Saskatoon to identify their activity levels and consider the connection between physical activity among children with design elements within a neighbourhood, creating a "Neighbourhood Activity Living Potential" score through an assessment of Activity Friendliness, Density of Destinations, Safety, and Universal Accessibility. Results of the Smart Cities, Healthy Kids project had not previously been included as an indicator. (*Data Sources: City of Saskatoon GIS Data, Building Permit Report, 2006 and 2011 Census, SPHERU [Smart Cities, Healthy Kids project – Nazeem Muhajarine, Principal Investigator]*)

Safety

- Reported Crime Incidents per 100,000 People
- Calls For Service per 100,000 People (new for 2014)

The overall reported crime incident rate was chosen as a general safety indicator. Basing the safety indicator on rates for specific offences requires judgment on which incidents are more important than others. Since safety and crime issues can vary from neighbourhood to neighbourhood, all crime incidents were assessed equally. Traffic is also another safety issue and is included in the Traffic indicator below. Total calls for service, adjusted for neighbourhood population, represent the draw on Saskatoon Police Services resources and had not previously been included as an indicator in this assessment. *(Data Source: Saskatoon Police Services)*

Population Change

- Population Change (percent)
- Neighbourhood Mobility (new for 2014)

Population change (increasing or decreasing) is one measure of a neighbourhood's changing demographics and can help project future demand for civic and other types of services. Strong population growth can indicate neighbourhood expansion due to construction or a return to a neighbourhood due to favourable conditions, but can also place stress on a neighbourhood's amenities. Declines and stagnant growth often highlight disparity, as those who can choose and afford to leave a neighbourhood do so. A declining neighbourhood population may also be correlated to varying family composition, which is part of the normal neighbourhood life cycle (i.e. school kids growing up and moving away). Neighbourhood mobility is a new indicator being considered in this assessment and represents the proportion of residents in a neighbourhood who reported having moved within the previous five years, although it should be noted that this data set is not able to separate the residents changing neighbourhoods compared to residents moving within a neighbourhood. *(Data Sources: 2006 and 2011 Census)*

Traffic

Overall, developing an indicator to measure traffic issues in a neighbourhood is very challenging. Previous assessments considered average daily traffic volume and number of accidents with damage over \$1000. Recently, SGI adjusted the minimum damage threshold for inclusion in accident statistics to \$5000, making it difficult to compare current and previous years. Traffic counter data is also challenging to

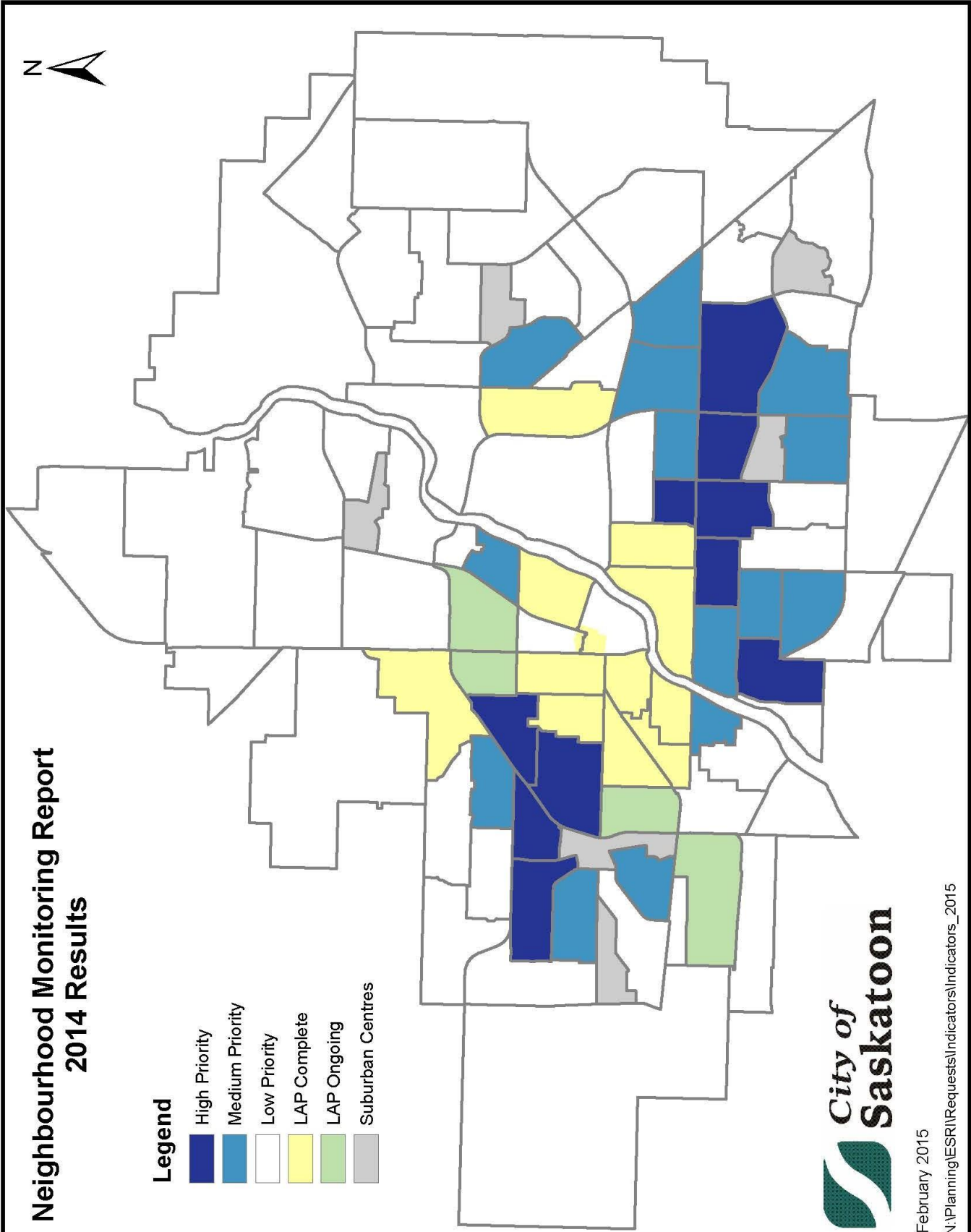
interpret because traffic volumes are not measured on all streets. These data sets have been replaced by the following two variables:

- Neighbourhood Traffic Review Program Prioritization Ranking (new for 2014)
- Traffic Tickets Issued (new for 2014)

The Transportation and Utilities Department recently developed a program to develop comprehensive plans addressing neighbourhood traffic issues. All residential neighbourhoods were ranked, based on priority. Traffic tickets issued by Saskatoon Police Services, compiled by neighbourhood where incident occurred, is another indicator of unresolved traffic issues affecting a neighbourhood. *(Data Sources: Transportation and Utilities Department, Saskatoon Police Services)*

Neighbourhood Monitoring Report 2014 Results

- Legend**
- High Priority
 - Medium Priority
 - Low Priority
 - LAP Complete
 - LAP Ongoing
 - Suburban Centres



February 2015
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STANDING POLICY COMMITTEE ON PLANNING, DEVELOPMENT AND COMMUNITY SERVICES

Initiating the Establishment of the Public Art Reserve and Amending the Cultural Grant Capital Reserve

Recommendation of the Committee

1. That the initial establishment of the Public Art Reserve be funded by a reallocation of \$20,000 from the existing Cultural Grant Capital Reserve;
2. That the Cultural Grant Capital Reserve be amended to be named the Culture Reserve with two components: Cultural Grant Reserve and Public Art Reserve; and
3. That Reserves for Future Expenditures Policy No. C03-003 be updated to reflect the changes outlined in the report of the General Manager, Community Services Department, dated March 2, 2015.

History

At the March 2, 2015 meeting of the Standing Policy Committee on Planning, Development and Community Services, a report of the General Manager, Community Services Department, dated March 2, 2015, was considered.

Attachment

March 2, 2015 Report of the General Manager, Community Services Department

Initiating the Establishment of the Public Art Reserve and Amending the Cultural Grant Capital Reserve

Recommendation

That the Standing Policy Committee on Planning, Development and Community Services recommend to City Council:

1. That the initial establishment of the Public Art Reserve be funded by a reallocation of \$20,000 from the existing Cultural Grant Capital Reserve;
2. That the Cultural Grant Capital Reserve be amended to be named the Culture Reserve with two components: Cultural Grant Reserve; and Public Art Reserve; and
3. That Reserves for Future Expenditures Policy No. C03-003 be updated to reflect the changes outlined in this report.

Topic and Purpose

The purpose of this report is to initiate the establishment of the Public Art Reserve and to submit recommended amendments to the Cultural Grant Capital Reserve (to be renamed as the Culture Reserve) so as to create one reserve with two components within; specifically, the Cultural Grant Reserve and the Public Art Reserve.

Report Highlights

1. The City of Saskatoon's (City) Cultural Grant Capital Reserve was first established in 2010 and was last amended in 2013.
2. The establishment of a Public Art Reserve was approved, in principle, in March 2014, as part of City Council's approval of the Public Art Policy No. C10-025.
3. The recommended amendment establishes one Culture Reserve with two components: the Cultural Grant Reserve and Public Art Reserve.

Strategic Goal

This report supports the City Strategic Goal of Quality of Life, specifically the long-term strategies of implementing the Municipal Culture Plan and supporting community building through direct investment, community development expertise, and support to volunteers on civic boards, committees, and community associations.

Background

At its March 31, 2014 meeting, City Council resolved, in part:

- “3) that the establishment of a Public Art Reserve, in accordance with the terms outlined in this report, be referred to 2015 Business Plan and Budget Review.”

Initiating the Establishment of the Public Art Reserve and Amending the Cultural Grant Capital Reserve

Report

Cultural Grant Capital Reserve

The purpose of the Cultural Grant Capital Reserve is to accumulate funds for financing periodic one-time capital funding for major cultural organizations currently eligible for ongoing operating support under the Culture Grant Program. The annual provision to the reserve, currently set at \$100,000, is authorized by City Council through the Operating Budget.

Public Art Reserve

The establishment of a Public Art Reserve was approved, in principle, as part of the approval of Public Art Policy No. C10-025 and was referred to the 2015 Business Plan and Budget Review. The Public Art Reserve is to be a dedicated reserve to fund public art projects that are not tied to particular capital projects or for capital projects where the City's contribution is less than \$5 million, which may not have an already identified budget for public art.

At the time that the Public Art Reserve was approved, in principle, the Administration recommended a five-year phase in of \$20,000 per year, incrementally, to achieve an annual contribution of \$100,000. In the 2015 Operating Budget, there was no funding approved for the Public Art Reserve; therefore, the reserve is currently unfunded.

In an effort to initiate the establishment of the Public Art Reserve, the Administration has reviewed potential sources of funding and, as an interim measure, is recommending a reallocation of \$20,000 from the current approved funding for the Cultural Grant Capital Reserve. This reallocation would serve two purposes in that it will formally establish the Public Art Reserve to address potential projects in 2015, and it will still leave a substantial source of funding for the Cultural Grant Reserve projects in 2015. In future budget years, the Administration would then look to replenish the \$20,000 for the Cultural Grant Capital Reserve and continue the phase in of funding for the Public Art Reserve.

Amendment to the Cultural Grant Capital Reserve establishes one reserve, to be called the Culture Reserve, with two components: the Cultural Grant Reserve and the Public Art Reserve.

For the first component, the Cultural Grant Capital Reserve criteria has already been approved by City Council with the most recent amendments approved in 2013 (see Attachment 1).

For the Public Art Reserve component, direct expenditures from this component of the reserve would be as outlined in Public Art Policy No. C10-025:

- a) fund new public art commissions;
- b) supplement designated civic capital project public art commissions;
- c) purchase City-leased or other existing artworks; and
- d) undertake major public art conservation treatments.

Initiating the Establishment of the Public Art Reserve and Amending the Cultural Grant Capital Reserve

Within the overall Culture Reserve, the Administration would also have discretion for extenuating circumstances to allocate funding from one component to the other.

Options to the Recommendation

An option would be to not approve the reallocation of \$20,000 from the Cultural Grant Capital Reserve to the Public Art Reserve, and to wait for the 2016 Operating Budget to establish the Public Art Reserve. This option would delay the implementation of public art projects planned for 2015.

Policy Implications

If the recommendations are approved by City Council, Reserves for Future Expenditures Policy No. C03-003 will need to be amended to reflect the changes outlined in Attachment 2 of this report.

Also, Public Art Policy No. C10-025 will need to be amended to reflect the change in name from Public Art Operating Reserve to be the Public Art Reserve.

Financial Implications

There are no immediate financial implications as it is only a reallocation of already approved operating funding. However, the Administration will be seeking City Council's approval, through future operating budget deliberations, to build each component of the reserve to \$100,000.

Other Considerations/Implications

There are no environmental, privacy, or CPTED implications or considerations.

Due Date for Follow-up and/or Project Completion

The Cultural Grant Capital Reserve will be amended to be named the Culture Reserve with two components by April of 2015, and Reserves for Future Expenditures Policy No. C03-003 will updated to reflect the changes outlined in this report by April 2015.

Public Notice

Public Notice, pursuant to Section 3 of Public Notice Policy No. C01-021, is not required.

Attachments

1. Current Cultural Grant Capital Reserve
2. Proposed Culture Reserve

Report Approval

Written by: Kevin Kitchen, Community Initiatives Manager, Community Development
Reviewed by: Shannon Hanson, Acting Director of Community Development
Approved by: Randy Grauer, General Manager, Community Services Department

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CITY OF SASKATOON COUNCIL POLICY

NUMBER
C03-003

POLICY TITLE	EFFECTIVE DATE	UPDATED TO	PAGE NUMBER
<i>Reserves for Future Expenditures</i>	<i>July 18, 1983</i>	<i>December 16, 2013</i>	<i>13 of 38</i>

14. CULTURAL GRANT CAPITAL RESERVE

14.1 Purpose

To accumulate funds for the purpose of financing the periodic one-time capital funding for major arts organizations, currently eligible for ongoing operating support under the Cultural Grant Program.

14.2 Source of Funds

The annual provision to the reserve shall be the amount authorized by City Council through the Operating Budget.

14.3 Application of Funds

Allocation of funds from the reserve shall be adjudicated by the Cultural Grant Capital Reserve Adjudication Committee and made in accordance with the following criteria:

- a) Cultural Grant Capital Reserve Adjudication Committee – will include three members from the art, festival, or heritage organizations who are receiving funding through the Cultural Grant Program and who are not applying at the deadline being adjudicated, plus a City of Saskatoon representative with project management expertise. If three members of the Cultural Grant Program are not available, then individuals from the community with relevant expertise in the running of not-for-profit organizations will be utilized.
- b) Eligibility requirements
 - i) Eligible applicants will be restricted to those Major Arts Organizations currently receiving funding under the Cultural Grant Program, as well as major festival institutions and major heritage institutions currently eligible for support in the Cultural Grant Program.
 - ii) Must demonstrate leverage of other sources of funding for this project.
 - iii) Will be for one-time projects.

CITY OF SASKATOON COUNCIL POLICY

NUMBER
C03-003

POLICY TITLE	EFFECTIVE DATE	UPDATED TO	PAGE NUMBER
<i>Reserves for Future Expenditures</i>	<i>July 18, 1983</i>	<i>December 16, 2013</i>	<i>14 of 38</i>

- c) The priority areas in which major cultural organizations can apply for one-time funding are:
 - i) Capital projects – new and replacement.
 - ii) Governance reviews.
 - iii) Strategic planning and market research aimed at refocusing direction.

- d) There will be two categories of funding, as follows:
 - i) Major Capital Grants (max \$80,000); and
 - ii) Minor Capital Grants (max \$10,000)

Priority will be given to Major Grants.

- e) Projects must be completed within 24 months of approval of the funds.

14.4 Responsibility

The reserve will be managed by the Community Services Department. The Adjudication Committee shall review applications and make recommendations for funding to the Planning and Operations Committee. The Planning and Operations Committee will be responsible for reviewing recommendations made by the Adjudication Committee and providing appropriate recommendations to City Council for approval.

15. ERRORS AND OMISSIONS LIABILITY RESERVE

15.1 Purpose

To provide the City with a source of funding for claims for economic loss that arise from errors and omissions made by civic officials. In reviewing our loss history to premium payments ratio for Errors and Omissions Liability insurance, it became apparent that the insurance coverage provided was not cost effective. The Errors and Omissions Liability Reserve was approved to provide a reserve funded in the same way as the previous insurance policy.

Proposed Culture Reserve

CULTURE RESERVE

(Cultural Grant Component and Public Art Component)

14.1 Purpose

The purpose of the reserve is to accumulate funds for the purpose of financing the periodic one-time capital funding for major arts organizations, currently eligible for ongoing operating support under the Cultural Grant Program and to support the implementation of Public Art Policy No. C10-025.

14.2 Source of Funds

The annual provision to the reserve for both components shall be the amount authorized by City Council through the Operating Budget.

The General Manager, Community Services Department, shall have authority to allocate funding from one component to the other.

14.3 Application of Funds

14.3.1 Cultural Grant Component:

Allocation of funds from the reserve shall be adjudicated by the Cultural Grant Capital Reserve Adjudication Committee and made in accordance with the following criteria:

- a) Cultural Grant Capital Reserve Adjudication Committee – will include three members from the art, festival, or heritage organizations who are receiving funding through the Cultural Grant Program and who are not applying at the deadline being adjudicated, plus a City of Saskatoon representative with project management expertise. If three members of the Cultural Grant Program are not available, then individuals from the community with relevant expertise in the running of not-for-profit organizations will be utilized.
- b) Eligibility requirements
 - i) Eligible applicants will be restricted to those Major Arts Organizations currently receiving funding under the Cultural Grant Program, as well as major festival institutions and major heritage institutions currently eligible for support in the Cultural Grant Program.
 - ii) Must demonstrate leverage of other sources of funding for this project.
 - iii) Will be for one-time projects.

- c) The priority areas in which major cultural organizations can apply for one-time funding are:
 - i) Capital projects – new and replacement.
 - ii) Governance reviews.
 - iii) Strategic planning and market research aimed at refocusing direction.
- d) There will be two categories of funding, as follows:
 - i) Major Capital Grants (max \$80,000); and
 - ii) Minor Capital Grants (max \$10,000).

Priority will be given to Major Grants.

- e) Projects must be completed within 24 months of approval of the funds.

14.3.2 Public Art Component:

Direct expenditures may be made to:

- a) fund new public art commissions;
- b) supplement designated civic capital project public art commissions;
- c) purchase City-leased or other existing artworks; and
- d) undertake major public art restoration and conservation treatments.

All expenditures qualifying as capital projects are reflected in the City's Capital Budget/Capital Plan and require City Council approval.

14.4 Responsibility

14.4.1 Cultural Grant Component

The reserve will be managed by the Community Services Department. The Adjudication Committee shall review applications and make recommendations for funding to the Planning Development and Community Services (PDCS) Committee. The PDCS Committee will be responsible for reviewing recommendations made by the Adjudication Committee and providing appropriate recommendations to City Council for approval

14.4.2 Public Art Component

The Director, Community Development Division, Community Services Department, shall be responsible for the administration of this reserve in accordance with Public Art Policy No C10-025 and related programs; and

All expenditures qualifying as capital projects require City Council approval.



STANDING POLICY COMMITTEE ON PLANNING, DEVELOPMENT AND COMMUNITY SERVICES

Innovative Housing Incentives – Innovative Residential Investments Inc. – 225 Hassard Close – Kensington Estates

Recommendation of the Committee

1. That four additional two-bedroom units at 225 Hassard Close be designated under the Mortgage Flexibilities Support Program, specifically for low-income households; and
2. That the City Solicitor be requested to amend the incentive agreement and that His Worship the Mayor and the City Clerk be authorized to execute this amendment under the Corporate Seal.

History

At the March 2, 2015 meeting of the Standing Policy Committee on Planning, Development and Community Services, a report of the General Manager, Community Services Department, dated March 2, 2015, was considered.

Attachment

March 2, 2015 Report of the General Manager, Community Services Department

Innovative Housing Incentives – Innovative Residential Investments Inc. – 225 Hassard Close – Kensington Estates

Recommendation

That the Standing Policy Committee on Planning, Development and Community Services recommend to City Council:

1. That four additional two-bedroom units at 225 Hassard Close be designated under the Mortgage Flexibilities Support Program, specifically for low-income households; and
2. That the City Solicitor be requested to amend the incentive agreement and that His Worship the Mayor and the City Clerk be authorized to execute this amendment under the Corporate Seal.

Topic and Purpose

The purpose of this report is to recommend that four additional housing units be designated under the Mortgage Flexibilities Support Program (MFSP) in the previously approved Kensington Estates Project.

Report Highlights

1. It has taken time to identify qualified low-income buyers for the Kensington Estates project.
2. City Council is being asked to designate four additional units at Kensington Estates, specifically for low-income buyers.
3. Kensington Estates is a mixed-income ownership project.

Strategic Goal

This report supports the City of Saskatoon's (City) long-term Strategic Goal of Quality of Life by increasing the supply and range of affordable housing options.

Background

On March 17, 2014, City Council designated 16 units under the MFSP to be built by Innovative Residential Investments Inc. (Innovative Residential) as part of a larger 44-unit entry-level housing project called Kensington Estates.

In support of these 16 units, City Council authorized up to \$99,956 in down-payment grants, which would be funded from the provincial Affordable Home Ownership Program (AHOP) and from tax redirection on these housing units once they were sold. To qualify for down-payment assistance, homebuyers would need to have income below the moderate income limits as defined in the Innovative Housing Incentives Policy No. C09-002.

City Council also approved capital funding of up to \$47,976 on the condition that 4 of the 16 housing units designated under the MFSP are sold to low-income households earning less than the Saskatchewan Household Income Maximums (SHIMs). City Council agreed to enter into a tax sponsorship agreement with Innovative Residential that would allow the builder to pre-pay property taxes on a declining basis over eight years, thus allowing lower-income buyers to qualify for a mortgage. A copy of the full report approved by City Council on March 17, 2014, is found in Attachment 1.

Report

It has Taken Time to Identify Qualified Low-Income Buyers

In partnership with the City under the MFSP, Innovative Residential has been actively marketing the Kensington Estates project to households with both low and moderate incomes. The City's 2013 – 2022 Housing Business Plan identifies both of these demographics as facing challenges when it comes to purchasing a home and offers two tiers of support depending on which income group the homes are sold to.

City Council approved down-payment assistance for 16 units in the Kensington Estates project and capital assistance for four of these units if they were sold to low-income buyers. The report approved by City Council indicated that Innovative Residential was free to forfeit the capital grant and sell any of the four low-income units to buyers with moderate incomes, if qualified low-income buyers were not found for these units. Either way, the City's housing targets would be met as both income groups are identified by the City's 2013 – 2022 Housing Business Plan to be in need of assistance to purchase a home.

In the early stages of marketing this project, it appeared that low-income buyers were not able to qualify to purchase one of these four homes. Therefore commitments were made by Innovative Residential and the City to sell all 16 homes to moderate-income buyers from whom there was strong demand to purchase a home in this project.

Low-income buyers can require more time to qualify for a mortgage and may not be readily aware of home ownership programs. These may be some of the reasons why qualified low-income buyers didn't present themselves earlier in the marketing process before commitments were made for the 16 designated units.

City Council is being asked to Designate Four Additional Homes under the MFSP

On January 29, 2015, the Planning and Development Division received a letter from Innovative Residential requesting that four additional two-bedroom units be designated under the MFSP in the Kensington Estates Project, specifically for low-income households. A low-income household must earn less than the SHIMs (\$46,000 per year for a household requiring a two-bedroom unit).

Innovative Residential will make tax sponsorships available that will make these four units attainable to low-income households. It is anticipated that households with incomes as low as \$39,000 will be able to purchase one of these homes. Currently,

Innovative Residential has three qualified low-income buyers who are interested in purchasing one of these units.

The Administration supports this request because it will provide up to four low-income households with the opportunity to purchase a home and free up heavily subsidized affordable rental units.

Designating four additional two-bedroom units under the MFSP would require an additional \$16,952 in funding from the City for down-payment grants. The provincial AHOP program would fund \$8,476 of this amount, and the remaining \$8,476 will be recovered by the City through tax redirection once the units were sold.

Kensington Estates will Continue to be a Mixed-Income Ownership Development

The designation of four more units under the MFSP would not significantly change the nature of the Kensington Estates Project or the income mix of home owners. The majority of the homes in this 44-unit project will be market sales with no assistance from the City.

Options to the Recommendations

City Council could choose to not designate four additional units under the MFSP in the Kensington Estates Project. This would allow City Council to direct the \$47,976 previously approved for this project to another project. Choosing this option would represent a departure from the Innovative Housing Incentives Policy No. C09-002.

Financial Implications

A capital grant of \$47,976 and down-payment grants totaling \$99,956 were previously approved for this project. The funding source for the additional \$16,952 required for down-payment grants is the Affordable Housing Reserve. The provincial AHOP program will reimburse the City for \$8,476, and the remaining \$8,476 will be returned to the Affordable Housing Reserve through the redirection of property tax once the homes are sold.

Budgeted	Unbudgeted	External	Tax Redirection
\$16,952	\$0	\$8,476	\$8,476

Public and/or Stakeholder Involvement

None required.

Other Considerations/Implications

There are no policy, environmental, privacy, or CPTED implications or considerations. No communication plan is required.

Due Date for Follow-up and/or Project Completion

The housing units are expected to be sold by July 31, 2015.

Public Notice

Public Notice, pursuant to Section 3 of Public Notice Policy No. C01-021, is not required.

Attachment

1. Approved Innovative Housing Incentives Report

Report Approval

Written by: Daryl Sexsmith, Housing Analyst, Planning and Development

Reviewed by: Alan Wallace, Director of Planning and Development

Approved by: Randy Grauer, General Manager, Community Services Department

S/Reports/CP/2015/PDCS – Innovative Housing Incentives – Inn. Res. Investments Inc. – 225 Hassard Close – Kensington Estates/ks

TO: Secretary, Planning and Operations Committee
FROM: General Manager, Community Services Department
DATE: February 14, 2014
SUBJECT: Innovative Housing Incentives Applications – Mortgage Flexibilities Support Program - Innovative Residential Inc. – Kensington Estates
FILE NO.: PL 951-125

RECOMMENDATION: that a report be submitted to City Council recommending:

- 1) that 16 affordable housing units, to be constructed by Innovative Residential Inc. on Parcel FF on Hassard Way in the Kensington neighbourhood, be designated under the Mortgage Flexibilities Support Program as defined in Innovative Housing Incentives Policy No. C09-002, contingent upon this housing project being fully approved for mortgage loan insurance flexibilities by Genworth Canada and/or Canada Mortgage and Housing Corporation;
- 2) that funding of up to \$47,976 be approved under Innovative Housing Incentives Policy No. C09-002 on the condition that four of the above housing units be sold to low-income households earning less than the Saskatchewan Household Income Maximums; and
- 3) that the City Solicitor be instructed to prepare the necessary tax sponsorship and incentive agreements with Innovative Residential Inc., and that His Worship the Mayor and the City Clerk be authorized to execute the agreements under the corporate seal.

TOPIC AND PURPOSE

The purpose of this report is to recommend designation of 16 affordable ownership units under the Mortgage Flexibilities Support Program (MFSP) and approve a grant of \$47,976 to support four low-income home buyers in this project.

REPORT HIGHLIGHTS

1. Innovative Residential Inc. is proposing to build a 44 unit attainable housing development in the Kensington neighbourhood.
2. The Administration is recommending that 16 of these units be designated under the City of Saskatoon's (City) MFSP and that down-payment assistance be made available for these units.
3. The Administration is recommending a grant of \$47,976 that the builder will use to provide tax sponsorships to support low-income home buyers.
4. Innovative Residential Inc. is providing partial down-payment assistance to support entry-level buyers for up to 28 units in this development.

STRATEGIC GOAL

This report supports the City's long-term Strategic Goal of Quality of Life by increasing the supply and range of affordable housing options.

BACKGROUND

During its June 22, 2009 meeting, City Council approved the MFSP, which provides a 5 percent down-payment grant to low- and moderate-income homebuyers who purchase a home in a designated project. City Council approved a Cost-Sharing Agreement with the Province of Saskatchewan (Province) during its September 26, 2011 meeting, to help fund the MFSP until 2015. Changes to the MFSP were approved by City Council during its August 15, 2012 meeting, allowing builders to contribute up to 3 percent towards the cost of the down-payment grants, with the City and the Province contributing 1 percent each.

During its June 24, 2013 meeting, City Council approved the 2013 - 2022 Housing Business Plan (Housing Business Plan), which included a number of provisions to support the creation of additional units across the attainable housing spectrum over the next ten years. The Housing Business Plan included a number of updates such as adopting the Saskatchewan Household Income Maximums (SHIMs) as the income limits for grants under Innovative Housing Incentives Policy No. C09-002. The plan also included the adoption of a new points system for projects that are eligible for grants under Innovative Housing Incentives Policy No. C09-002. Eligible projects can earn a grant up to 10 percent of the housing costs through an evaluation matrix based on the priorities of the Housing Business Plan.

During its December 4, 2013 meeting, City Council approved the 2014 Business Plan and Budget, which allocated \$1.4 million for the Housing Business Plan in support of a target of 480 new attainable housing units. The budget included funding of \$878,000 for grants under Innovative Housing Incentives Policy No. C09-002 to support a target of 35 to 50 new affordable rental or transitional housing units.

REPORT

An application for down-payment grants under the MFSP and financial assistance under Innovative Housing Incentives Policy No. C09-002 was received from Innovative Residential Inc. by the Planning and Development Division on December 19, 2013.

Innovative Residential Inc.'s Attainable Home Ownership Proposal

The proposal received from Innovative Residential Inc. involves constructing 44 stacked townhouse units on a site (Parcel FF) located on Hassard Way in the Kensington neighbourhood. The Kensington Estates Project will include 22 three-bedroom townhouse units and 22 two-bedroom walk out units (see Attachment 1). The three-bedroom townhouse units are 1,254 square feet with 1.5 bathrooms, a single detached

garage, and one surface parking stall. The two-bedroom walkout units are 760 square feet with one bathroom and one surface parking stall.

The homes will be modular built with on-site construction beginning in March 2014, and completion is expected by November 2014. The stacked townhouse design is energy efficient, and the homes will be built to ENERGY STAR for New Homes standards, resulting in approximately 30 percent energy savings over non-ENERGY STAR units. Warranty coverage will be provided by Blanket Home Warranty Ltd.

The Kensington Estates Project is the first of three adjacent housing developments that Innovative Residential Inc. plans to construct in the southern end of the Kensington neighbourhood on three sites that Dundee Developments have made available to them. At the request of the City, Dundee Developments has made these sites available in a privately developed neighbourhood in support of achieving the targets in the Housing Business Plan and policies contained in the City's Official Community Plan. The Administration appreciates the participation by Dundee Developments in assisting to meet the Housing Business Plan targets. Plans are underway for an apartment-style ownership development and a mixed-use development, including purpose-built rental units and neighbourhood commercial development. The three projects will be designed to complement each other and will meet or exceed the architectural guidelines for the area (see Attachment 2).

Down-Payment Assistance for Moderate-Income Households

Innovative Residential Inc. has requested that 16 units be designated under the City's MFSP and that down-payment grants equal to 5 percent of the purchase be made available under the program. Households would need to have incomes below the Maximum Income Limits (MILs) to qualify for a down-payment grant. Currently, the MILs are \$66,500 for households without dependents and \$74,000 for households with dependents.

Eight of these units will be three-bedroom townhouses selling for approximately \$274,900 with monthly mortgage payments of approximately \$1,350. The remaining eight units will be two-bedroom walk-out units selling for approximately \$199,900 with monthly mortgage payments of approximately \$990.

The cost of financing the 5 percent down-payment incentives for the 16 units will be shared between Innovative Residential Inc., the Province, and the City. Innovative Residential Inc. will provide 3 percent, the Province will contribute 1 percent through their Affordable Home Ownership Program, and the City will contribute 1 percent. The City's portion will be recovered through the redirection of property taxes back into the Affordable Housing Reserve over a period of approximately three years.

Tax Sponsorship to Support Low-Income Home Buyers

Innovative Residential Inc. is requesting a grant of up to \$47,976 to enable them to make up to four of the eight two-bedroom units designated under the MFSP affordable to low-income households with incomes below the Saskatchewan Household Maximum Income Limits (SHIMs). The SHIMs are significantly lower than the MILs, and the

income limit for a household with dependents requiring a two-bedroom unit is currently \$44,000.

The grant will be used, along with Innovative Residential Inc.'s own resources, to provide tax sponsorships and/or monthly mortgage assistance for low-income buyers. These assistance programs provide monthly assistance on a declining basis over an eight-year period. By year nine, the homeowners must carry the full monthly payments for their home.

Tax sponsorships are lump sum payments made to the City when the home is purchased. The City holds the sponsorship funds, in trust, and makes annual payments to the homebuyers property tax account, significantly reducing the monthly cost of purchasing a home. Monthly mortgage assistance is a similar program that is administered by the National Affordable Housing Corporation (NAHC). The NAHC provides the monthly support directly to the bank or mortgage holder.

This funding request has been evaluated by the Neighbourhood Planning Section using the grant evaluation matrix (see Attachment 3) and has received 6 points and, therefore, qualifies for a grant of up to 6 percent of the total cost of the homes to a maximum of \$12,000 per two-bedroom unit. The grant request of \$11,994 per unit is just below this limit and will be used to directly support low-income homebuyers.

The budget for grants in 2014 is intended primarily for transitional and affordable rental housing. Innovative Residential Inc.'s project is ownership housing that will serve families that would otherwise be accessing affordable rental housing. Therefore, the Administration recommends providing financial support to this project.

Innovative Residential Inc. will be directing some of its profits towards monthly assistance programs for these four homes and, therefore, is not in a position to contribute to the down-payment grants on these four units. The cost of financing the 5 percent down-payment incentives for these four units will be shared between the Province and the City. The Province will contribute the value of five years of the education portion of the property tax on these homes, estimated to be \$4,000, towards the down-payment grant. The City's portion of the down-payment grant, estimated at \$6,000, will be recovered through the redirection of property taxes back into the Affordable Housing Reserve over a period of approximately six years.

Should Innovative Residential Inc. not be able to find qualified low-income buyers for these four homes, they would be free to sell these homes to moderate-income households with incomes below the MILs. If this were the case, Innovative Residential Inc. would not receive the grant and would be required to contribute 3 percent down-payment grant as indicated in the section above.

Builder-Sponsored Incentives for Entry-Level Units

The 28 units that are not designated under the MFSP will be sold as entry-level units, which are also a needed type of housing as identified in the City's Housing Business Plan.

Innovative Residential Inc. will provide builder-sponsored down-payment grants of 3 percent to households not qualifying for support under the MFSP. Households earning up to \$84,000 will be eligible for a builder-sponsored down-payment grant of 3 percent, and households earning between \$84,000 and \$90,000 will be eligible for a down-payment grant of 1 percent. These entry-level buyers will be required to make a down-payment of at least 5 percent and contribute their own resources to make up the difference.

OPTIONS TO THE RECOMMENDATION

The only option is to deny the request to designate and fund these affordable housing units. Choosing this option would represent a departure from Innovative Housing Incentives Policy No. C09-002.

POLICY IMPLICATIONS

There are no policy implications.

FINANCIAL IMPLICATIONS

The funding source for 16 down-payment grants totalling \$99,956 is the Affordable Housing Reserve. The City has a commitment from the Province to contribute up to 50 percent towards these grants estimated at \$45,988. The balance of the grant amount (\$53,968) will be returned to the Affordable Housing Reserve through the redirection of municipal and library property taxes.

The Affordable Housing Reserve is also the funding source for the \$47,976 grant for the four low-income units. The Affordable Housing Reserve has an uncommitted balance of \$416,802 remaining for grants for additional affordable housing projects to be approved for 2014 construction. If this project is approved, the uncommitted balance will be reduced to \$368,826, which should be sufficient to support at least 18 more units and meet the 2014 target of 50 units to be supported from this funding.

Budgeted	Unbudgeted	Reserve	Operating	Non-Mill Rate	Tax Redirection	External Funding
\$147,932	\$0	\$47,976	\$0	\$0	\$53,968	\$45,988

PUBLIC AND/OR STAKEHOLDER INVOLVEMENT

No public and/or stakeholder involvement is required.

COMMUNICATION PLAN

A communication plan is not required.

DUE DATE FOR FOLLOW-UP AND/OR PROJECT COMPLETION

The project is estimated to be completed by November 2014.

ENVIRONMENTAL IMPLICATIONS

No environmental and/or greenhouse gas implications have been identified at this time.

PRIVACY IMPACT

There are no anticipated privacy implications arising from this initiative.

SAFETY/CRIME PREVENTION THROUGH ENVIRONMENTAL DESIGN (CPTED)

A CPTED review is not required.

PUBLIC NOTICE

Public Notice, pursuant to Section 3 of Public Notice Policy No. C01-021, is not required.

ATTACHMENTS

1. Artist Rendering of Kensington Estate Development
2. Area Map
3. Project Evaluation Matrix

Written by: Daryl Sexsmith, Housing Analyst
 Keith Folkersen, Planner

Reviewed by: "Alan Wallace"
 Alan Wallace
 Director of Planning and Development

Approved by: "Alan Wallace" for
 Randy Grauer, General Manager
 Community Services Department
 Dated: "February 26, 2014"

cc: Murray Totland, City Manager

S/Reports/CP/2014/P&O Inn Housing Incentives Apps – Mortgage Flexibilities Support Program – Inn Res Inc. – Kensington Estates/ks

Artist Rendering of
Kensington Estate Development



Kensington Estates, Artist's Concept

Exterior finishings will adhere to development controls for the neighbourhood and compliment residential dwelling units on Parcel BB ad Parcel EE.

Area Map



Kensington Overview

Innovative Residential Inc.'s two ownership parcels in the Kensington Development will offer a variety of housing types suitable to singles, couples, and families. Price points will be attainable to low- and moderate-income households.

Kensington Estates will be located on Parcel FF shown in blue in the Area Map above.

Project Evaluation Matrix

Innovative Housing Incentive Program – Capital Grant Point System Evaluation

A points system has been developed to achieve various targets within the Housing Business Plan. The Innovative Housing Incentive Program is the City of Saskatoon's (City) main incentive program for affordable- and special-needs housing. The program offers a capital grant of up to 10 percent of the total capital cost of affordable housing projects. Housing created under this incentive must be provided to households within incomes below the Saskatchewan Household Income Maximums (SHIMs) described in Appendix 2 of the Housing Business Plan.

The program offers a base level of municipal support equal to 3 percent of the total capital costs. The capital grant can be increased to a maximum of up to 10 percent of the total capital cost of affordable housing projects. Grants are calculated on a points system with extra points assigned for each housing priority addressed within the City's Housing Business Plan.

Proponent	Project Location	Date Application Received	Date Application Evaluated
Innovative Residential Inc.	Kensington Estates	December 19, 2013	January 24, 2014
Housing Business Plan Priority	Criteria	Possible Points	Points Earned
Base Grant	Projects must serve households below provincial SHIMs.	3 percent	3
Leveraging Funding from Senior Levels of Government	Secured funding from federal or provincial government under an eligible grant program.	2 percent	0
Significant Private Partnership	There is a significant donation (at least 10 percent in-kind or donation) from a private donor, faith group, or service club.	1 percent	0
Accessible Housing	At least 5 percent of units meet barrier free standards	1 percent	0
Neighbourhood Revitalization	a) project improves neighbourhood by renovating or removing rundown buildings; and/or	1 percent	0
	b) developing a vacant or brownfield site.	1 percent	
Mixed Tenure Development	Project has a mix of affordable/market units or a mix of rental/ownership	1 percent	1

Housing Business Plan Priority	Criteria	Possible Points	Points Earned
Safe and Secure Housing	a) landlord is committed to obtaining Crime Free Multi-Housing certification for the project, and/or b) incorporates CPTED principles into design	1 percent 1 percent	1
Supportive Housing	The proposal includes ongoing supports for the residents to assist them in staying housed such as drug and alcohol free, cultural supports, elements of Housing First.	1 percent	0
Meets specific identified Housing Need	Project meets an identified housing need from a recent study such as: a) homelessness; b) large family housing (3 bedrooms or more); c) accommodation for students; and d) Aboriginal housing.	2 percent	0
Innovative Housing	Project uses innovative design, construction technique, materials, or energy saving features.	1 percent	1
Innovative Tenure	Innovative Housing tenures such as Rent to Own, Life Lease, Land Trust, Sweat Equity, Co-op Housing, or Co-Housing.	1 percent	0
Notes:			Total Points and Capital Grant Percent Earned
			6



STANDING POLICY COMMITTEE ON TRANSPORTATION

2014 Traffic Control, Parking Restrictions and Parking Prohibitions Signage

Recommendation of the Committee

That the report of the General Manager, Transportation & Utilities Department dated March 9, 2015, be received as information.

History

At the March 9, 2015 Standing Policy Committee on Transportation meeting, a report of the General Manager, Transportation & Utilities Department dated March 9, 2015 was considered.

Attachment

March 9, 2015 Report of the General Manager, Transportation & Utilities

2014 Traffic Control, Parking Restrictions and Parking Prohibitions Signage

Recommendation

That the report of the General Manager, Transportation & Utilities Department, dated March 9, 2015, be forwarded to City Council for information.

Topic and Purpose

This report provides City Council with information regarding the installation of signage in 2014.

Report Highlights

1. The Administration is required to provide City Council with a report annually, outlining completed signage throughout the year.
2. In 2014, there were 193 sign installation projects to support parking restrictions (loading zones), parking prohibitions (no parking, no stopping), traffic control (stop and/or yield signs) and school zones (new zones).

Strategic Goal

This report supports the Strategic Goal of Moving Around by providing safe movement for all modes of transportation.

Background

City Council at its meeting held on January 26, 2009, delegated authority to the General Manager, Infrastructure Services Department, to proceed with the placement of traffic controls (stop and/or yield signs); the installation of all parking restrictions including general loading zones; church loading zones; hotel loading zones; school loading zones and disability parking zones and parking prohibitions, without City Council approval. Prior to being given delegated authority, the Administration required City Council approval for all requests for new or modified signage.

Report

All signage requests received from the public, City Council, property owners, schools and other civic departments require a thorough review to ensure it meets policies approved by City Council or guidelines to control the placement of signage.

The Traffic Control Retrofit Program was initiated in 2013, after successfully completing a pilot project that involved the installation of stop and/or yield signs in the City Park neighbourhood in 2008. The program also works in conjunction with the Neighbourhood Traffic Management Program to address traffic issues in residential neighbourhoods. The five neighbourhoods reviewed in 2014, including Sutherland, Holiday Park, Mount

2014 Traffic Control, Parking Restrictions and Parking Prohibitions Signage

Royal, Exhibition, and Queen Elizabeth, were retrofitted with stop and/or yield signs at all uncontrolled intersections.

The table below summarizes the 193 sign installation projects installed in 2014. Numerous requests were denied as they did not meet policy guidelines.

Type	Number of Locations
Parking Restrictions:	
General Loading Zone	6
Disabled Person Parking Zone	29
Church Loading Zone	1
School Bus Loading Zone	4
5 Minute Parking	4
2 Hour Parking	2
Saturday & Sunday Parking	1
Parking Prohibitions:	
No Parking	38
No Stopping	5
Traffic Control:	
Two-Way Stop	2
Single Stop	2
Two-Way Yield	56
Single Yield	42
School Zones:	
New School Zone	1
Total Number of Requests Resulting in Signage	
	193

The detailed list as illustrated in Attachment 1 provides the ward, location and type of traffic sign installations completed in 2014.

Other Considerations/Implications

There are no options, policy, public and/or stakeholder involvement, communication, policy, financial, environmental, privacy, or CPTED considerations or implications

Due Date for Follow-up and/or Project Completion

An annual report will be provided to City Council regarding the completed installation of traffic signage. The next report will be submitted in early 2016.

Public Notice

Public Notice pursuant to Section 3 of Policy No. C01-021, Public Notice Policy, is not required.

Attachment

1. Detailed List of All 2014 Sign Installations

Report Approval

Written by: Mariniel Flores, Traffic Engineer, Transportation
Reviewed by: Jay Magus, Engineering Manager, Transportation
Angela Gardiner, Director of Transportation
Approved by: Jeff Jorgenson, General Manager, Transportation & Utilities
Department

TRANS MF – 2014 Traffic Control Parking Restrictions Parking Prohibitions Signage.docx

Detailed List of All 2014 Sign Installations

Ward	Councillor	Location	Type of Sign Installation	Date Approved
1	Hill	Along 33rd Street and along 2nd Avenue	2 Hour Parking	15-Aug
1	Hill	402/420 Queen Street (Near the Mennonite Church)	2 Hour Parking	19-Aug
1	Hill	1627 Avenue B North	Disabled Persons Parking Zone	21-Jan
1	Hill	1305 Avenue F North	Disabled Persons Parking Zone	23-Apr
1	Hill	1210 Avenue P North	Disabled Persons Parking Zone	19-Jun
1	Hill	1658 Edward Avenue	Disabled Persons Parking Zone	10-Nov
1	Hill	1529 Avenue C North	General Loading Zone	24-Aug
1	Hill	450 2nd Avenue North	General Loading Zone	5-Nov
1	Hill	1301 Quebec Avenue	No Parking	11-Feb
1	Hill	1405 Faulkner Crescent	No Parking	21-Feb
1	Hill	402/420 Queen Street (Near the Mennonite Church)	No Parking	19-Aug
1	Hill	Affinity Credit Union (Along Duke Street)	No Parking	5-Nov
1	Hill	Affinity Credit Union (Along 7th Avenue)	No Parking	5-Nov
1	Hill	610 2nd Avenue North	No Parking	12-Dec
1	Hill	109th Street & Bryans Avenue	Two-Way Yield (Retrofit Program)	31-Jul
1	Hill	109th Street & Rita Avenue	Two-Way Yield (Retrofit Program)	31-Jul
1	Hill	110th Street & Bryans Avenue	Two-Way Yield (Retrofit Program)	31-Jul
1	Hill	111th Street & Bryans Avenue	Two-Way Yield (Retrofit Program)	31-Jul
1	Hill	111th Street & Rita Avenue	Two-Way Yield (Retrofit Program)	31-Jul
1	Hill	111th Street & Violet Avenue	Two-Way Yield (Retrofit Program)	31-Jul
1	Hill	112th Street & Bryans Avenue	Two-Way Yield (Retrofit Program)	31-Jul
1	Hill	112th Street & Rita Avenue	Two-Way Yield (Retrofit Program)	31-Jul
1	Hill	113th Street & Bryans Avenue	Two-Way Yield (Retrofit Program)	31-Jul
1	Hill	113th Street & Rita Crescent (East)	Two-Way Yield (Retrofit Program)	31-Jul
1	Hill	105th Street & Gardiner Avenue	Yield (Retrofit Program)	31-Jul
1	Hill	105th Street & O'Neill Crescent	Yield (Retrofit Program)	31-Jul
1	Hill	O'Neill Crescent & O'Neill Crescent	Yield (Retrofit Program)	31-Jul
1	Hill	O'Neill Crescent & O'Neill Crescent	Yield (Retrofit Program)	31-Jul
1	Hill	105th Street & Moran Avenue	Yield (Retrofit Program)	31-Jul
1	Hill	110th Street & Rita Avenue	Yield (Retrofit Program)	31-Jul
1	Hill	110th Street & Violet Avenue	Yield (Retrofit Program)	31-Jul
1	Hill	113th Street & Rutherford Avenue	Yield (Retrofit Program)	31-Jul
1	Hill	113th Street & Rita Crescent (West)	Yield (Retrofit Program)	31-Jul
1	Hill	Rita Crescent & Bryans Avenue	Yield (Retrofit Program)	31-Jul
1	Hill	Rutherford Crescent & Rutherford Crescent	Yield (Retrofit Program)	31-Jul
1	Hill	116th Street & Thompson Avenue	Yield (Retrofit Program)	31-Jul
1	Hill	Adolph Crescent & Adolph Way	Yield (Retrofit Program)	31-Jul
1	Hill	117th Street & Greig Avenue	Yield (Retrofit Program)	31-Jul
1	Hill	117th Street & Thompson Avenue	Yield (Retrofit Program)	31-Jul
1	Hill	Red Road & Adolph Way	Yield (Retrofit Program)	31-Jul
2	Lorje	W.P. Bate School (2515 18th Street West)	5 Minute Parking	31-Jan
2	Lorje	W.P. Bate School (2515 18th Street West)	Disabled Persons Parking Zone	31-Jan
2	Lorje	207 27th Street	Disabled Persons Parking Zone	11-Feb
2	Lorje	202 Avenue P South	Disabled Persons Parking Zone	24-Feb
2	Lorje	1117 Avenue L South	Disabled Persons Parking Zone	15-May
2	Lorje	118 Avenue S South	Disabled Persons Parking Zone	15-May
2	Lorje	217 Witney Avenue South	Disabled Persons Parking Zone	19-Jun
2	Lorje	416 Avenue V South	Disabled Persons Parking Zone	10-Sep
2	Lorje	236 Avenue E North	Disabled Persons Parking Zone	24-Nov
2	Lorje	201 Avenue M South	General Loading Zone	29-Sep
2	Lorje	30th Street West & Idylwyld Drive	No Parking	23-Sep
2	Lorje	11th Street & Avenue W	No Parking	24-Sep
2	Lorje	W.P. Bate School (2515 18th Street West)	No Stopping	31-Jan
2	Lorje	Ashworth Holmes Park (South side)	Saturday & Sunday Parking	24-Dec

Ward	Councillor	Location	Type of Sign Installation	Date Approved
2	Lorje	W.P. Bate School (2515 18th Street West)	School Bus Loading Zone	31-Jan
2	Lorje	Dudley Street & Avenue O South	Two-Way Yield (Retrofit Program)	31-Jul
2	Lorje	Dudley Street & Avenue N South	Two-Way Yield (Retrofit Program)	31-Jul
2	Lorje	Dudley Street & Avenue M South	Two-Way Yield (Retrofit Program)	31-Jul
2	Lorje	Dudley Street & Avenue L South	Two-Way Yield (Retrofit Program)	31-Jul
2	Lorje	Dudley Street & Avenue J South	Two-Way Yield (Retrofit Program)	31-Jul
2	Lorje	Dudley Street & Avenue Q South	Yield (Retrofit Program)	31-Jul
2	Lorje	Dudley Street & Avenue I South	Yield (Retrofit Program)	31-Jul
2	Lorje	Wellington Street & Avenue N South	Yield (Retrofit Program)	31-Jul
2	Lorje	Wellington Street & Avenue M South	Yield (Retrofit Program)	31-Jul
2	Lorje	Wellington Street & Embassy Drive	Yield (Retrofit Program)	31-Jul
3	Iwanchuk	Henigman Place (Next to Pendencygrasse Road)	No Parking	6-Oct
4	Davies	Bedford Road & Avenue M	2-Way Stop	3-Mar
4	Davies	Bedford Road & Avenue L	2-Way Stop	3-Mar
4	Davies	407 Coad Manor	Disabled Persons Parking Zone	23-Apr
4	Davies	915 Avenue V North	Disabled Persons Parking Zone	15-May
4	Davies	30 Matheson Place	Disabled Persons Parking Zone	24-Nov
4	Davies	324 Avenue J North	Disabled Persons Parking Zone	24-Nov
4	Davies	901 Rusholme Road	Disabled Persons Parking Zone	11-Dec
4	Davies	819 29th Street West	General Loading Zone	28-Feb
4	Davies	Ryleston Road & Avenue X	Two-Way Yield (Retrofit Program)	31-Jul
4	Davies	Ryleston Road & Avenue S	Two-Way Yield (Retrofit Program)	31-Jul
4	Davies	Ryleston Road & Avenue R	Two-Way Yield (Retrofit Program)	31-Jul
4	Davies	Ryleston Road & Avenue Q	Two-Way Yield (Retrofit Program)	31-Jul
4	Davies	Bedford Road & Ottawa Avenue	Two-Way Yield (Retrofit Program)	31-Jul
4	Davies	Bedford Road & Montreal Avenue	Two-Way Yield (Retrofit Program)	31-Jul
4	Davies	Bedford Road & Avenue Y	Two-Way Yield (Retrofit Program)	31-Jul
4	Davies	Bedford Road & Avenue X	Two-Way Yield (Retrofit Program)	31-Jul
4	Davies	Bedford Road & Avenue V	Two-Way Yield (Retrofit Program)	31-Jul
4	Davies	Bedford Road & Avenue U	Two-Way Yield (Retrofit Program)	31-Jul
4	Davies	Bedford Road & Avenue T	Two-Way Yield (Retrofit Program)	31-Jul
4	Davies	Bedford Road & Avenue R	Two-Way Yield (Retrofit Program)	31-Jul
4	Davies	Bedford Road & Avenue Q	Two-Way Yield (Retrofit Program)	31-Jul
4	Davies	Tomlinson Crescent & Hamilton Place	Yield (Retrofit Program)	31-Jul
4	Davies	Tomlinson Crescent & Avenue X	Yield (Retrofit Program)	31-Jul
4	Davies	Ryleston Road & Avenue T	Yield (Retrofit Program)	31-Jul
4	Davies	Bedford Road & Avenue S	Yield (Retrofit Program)	31-Jul
5	Donauer	855-857 Coppermine Crescent	Disabled Persons Parking Zone	28-Feb
5	Donauer	810 57th Street	No Parking	14-Feb
5	Donauer	820 60th Street	No Parking	21-Feb
5	Donauer	57th Street & Miners Avenue	No Parking	10-Mar
5	Donauer	602 50th Street East	No Parking	15-Aug
5	Donauer	618 50th Street East	No Parking	15-Aug
5	Donauer	330 La Ronge Road	No Parking	12-Dec
5	Donauer	Cynthia Street & Avenue C North	No Parking	12-Dec
5	Donauer	855 60th Street East	No Parking	24-Dec
5	Donauer	800 Block of 59th Street	No Parking	24-Dec
5	Donauer	800 Block of 58th Street	No Parking	24-Dec
6	Clark	Brunskill School (101 Wiggins Avenue South)	5 Minute Parking	11-Dec
6	Clark	314 Edmund Park	Disabled Persons Parking Zone	31-Jan
6	Clark	433 5th Street East	Disabled Persons Parking Zone	13-Feb
6	Clark	1040 University Drive	Disabled Persons Parking Zone	26-Aug
6	Clark	411 10th Street West	Disabled Persons Parking Zone	10-Sep
6	Clark	10 Grosvenor Crescent	Disabled Persons Parking Zone	15-Dec

Ward	Councillor	Location	Type of Sign Installation	Date Approved
6	Clark	922 Broadway Avenue	General Loading Zone	20-Feb
6	Clark	922 Broadway Avenue	No Parking	20-Feb
6	Clark	14th Street (West of McEown Place)	No Parking	24-Feb
6	Clark	2010 8th Street East	No Parking	23-Jun
6	Clark	2nd Street & Lorne Avenue (Next to Tastebuds Café)	No Parking	19-Aug
6	Clark	Brunskill School (101 Wiggins Avenue South)	School Bus Loading Zone	11-Dec
7	Loewen	Holy Cross High School (2115 McEown Avenue)	5 Minute Parking	11-Dec
7	Loewen	2617 Clarence Avenue South	Church Loading Zone	15-Dec
7	Loewen	2125 Ste. Cecilia Avenue	Disabled Persons Parking Zone	12-Feb
7	Loewen	2 Clare Crescent	Disabled Persons Parking Zone	11-Apr
7	Loewen	Alvin Buckwold School (715 East Drive)	Disabled Persons Parking Zone	20-Oct
7	Loewen	Holy Cross High School (2115 McEown Avenue)	Disabled Persons Parking Zone	11-Dec
7	Loewen	2617 Clarence Avenue South	Disabled Persons Parking Zone	15-Dec
7	Loewen	100 Block of Ruth Street East	No Parking	12-Feb
7	Loewen	Preston Avenue U-Turn Bay at Dumont Crescent	No Parking	13-Feb
7	Loewen	Isabella Street & Clarence Avenue (Next to Aden Bowman High School)	No Parking	19-Aug
7	Loewen	2900 Block of Cumberland Avenue South	No Parking	20-Oct
7	Loewen	3102 Clarence Avenue South	No Parking	5-Nov
7	Loewen	St. Henry Avenue	No Parking	12-Dec
7	Loewen	Walter Murray School (Preston Avenue South & Taylor Street East)	No Stopping	29-May
7	Loewen	Alvin Buckwold School (715 East Drive)	No Stopping	20-Oct
7	Loewen	Alvin Buckwold School (715 East Drive)	School Bus Loading Zone	20-Oct
7	Loewen	Rempel Lane & Rempel Crescent (West)	Two-Way Yield	5-Nov
7	Loewen	Adelaide Street & St. Andrews Avenue	Two-Way Yield (Retrofit Program)	31-Jul
7	Loewen	Adelaide Street & St. Patrick Avenue	Two-Way Yield (Retrofit Program)	31-Jul
7	Loewen	Adelaide Street & McPherson Avenue	Two-Way Yield (Retrofit Program)	31-Jul
7	Loewen	Adelaide Street & Melrose Avenue	Two-Way Yield (Retrofit Program)	31-Jul
7	Loewen	Ash Street & McPherson Avenue	Two-Way Yield (Retrofit Program)	31-Jul
7	Loewen	Ash Street & Melrose Avenue	Two-Way Yield (Retrofit Program)	31-Jul
7	Loewen	Elm Street & McPherson Avenue	Two-Way Yield (Retrofit Program)	31-Jul
7	Loewen	Elm Street & Melrose Avenue	Two-Way Yield (Retrofit Program)	31-Jul
7	Loewen	Hilliard Street & Coy Avenue	Two-Way Yield (Retrofit Program)	31-Jul
7	Loewen	Hilliard Street & McPherson Avenue	Two-Way Yield (Retrofit Program)	31-Jul
7	Loewen	Hilliard Street & Melrose Avenue	Two-Way Yield (Retrofit Program)	31-Jul
7	Loewen	Willow Street & McPherson Avenue	Two-Way Yield (Retrofit Program)	31-Jul
7	Loewen	Willow Street & Melrose Avenue	Two-Way Yield (Retrofit Program)	31-Jul
7	Loewen	Isabella Street & St. George Avenue	Two-Way Yield (Retrofit Program)	31-Jul
7	Loewen	Isabella Street & Coy Avenue	Two-Way Yield (Retrofit Program)	31-Jul
7	Loewen	Isabella Street & McPherson Avenue	Two-Way Yield (Retrofit Program)	31-Jul
7	Loewen	Isabella Street & Melrose Avenue	Two-Way Yield (Retrofit Program)	31-Jul
7	Loewen	Maple Street & McPherson Avenue	Two-Way Yield (Retrofit Program)	31-Jul
7	Loewen	Maple Street & Melrose Avenue	Two-Way Yield (Retrofit Program)	31-Jul
7	Loewen	Eastlake Avenue & Isabella Street	Two-Way Yield (Retrofit Program)	31-Jul
7	Loewen	Eastlake Avenue & Hilliard Street	Two-Way Yield (Retrofit Program)	31-Jul
7	Loewen	William Avenue & Maple Street	Two-Way Yield (Retrofit Program)	31-Jul
7	Loewen	William Avenue & Isabella Street	Two-Way Yield (Retrofit Program)	31-Jul
7	Loewen	William Avenue & Adelaide Street	Two-Way Yield (Retrofit Program)	31-Jul
7	Loewen	Dufferin Avenue & Maple Street	Two-Way Yield (Retrofit Program)	31-Jul
7	Loewen	Lansdowne Avenue & Maple Street	Two-Way Yield (Retrofit Program)	31-Jul
7	Loewen	York Avenue & Isabella Street	Two-Way Yield (Retrofit Program)	31-Jul
7	Loewen	York Avenue & Hilliard Street	Two-Way Yield (Retrofit Program)	31-Jul
7	Loewen	York Avenue & Adelaide Street	Two-Way Yield (Retrofit Program)	31-Jul

Ward	Councillor	Location	Type of Sign Installation	Date Approved
7	Loewen	Albert Avenue & Hilliard Street	Two-Way Yield (Retrofit Program)	31-Jul
7	Loewen	Albert Avenue & Adelaide Street	Two-Way Yield (Retrofit Program)	31-Jul
7	Loewen	700 Block of Dickson Crescent & Dickson Crescent	Yield	28-Feb
7	Loewen	Trident Crescent & Trident Crescent	Yield (Retrofit Program)	31-Jul
7	Loewen	Ste. Cecilia Avenue & Isabella Street	Yield (Retrofit Program)	31-Jul
7	Loewen	Eastlake Avenue & Maple Street	Yield (Retrofit Program)	31-Jul
7	Loewen	Eastlake Avenue & Elm Street	Yield (Retrofit Program)	31-Jul
7	Loewen	Eastlake Avenue & Adelaide Street	Yield (Retrofit Program)	31-Jul
7	Loewen	Eastlake Avenue & Ash Street	Yield (Retrofit Program)	31-Jul
7	Loewen	William Avenue & Hilliard Street	Yield (Retrofit Program)	31-Jul
7	Loewen	Dufferin Avenue & Isabella Street	Yield (Retrofit Program)	31-Jul
7	Loewen	Lansdowne Avenue & Hilliard Street	Yield (Retrofit Program)	31-Jul
7	Loewen	Hanover Avenue & Adelaide Street	Yield (Retrofit Program)	31-Jul
7	Loewen	York Avenue & Maple Street	Yield (Retrofit Program)	31-Jul
7	Loewen	Albert Avenue & Isabella Street	Yield (Retrofit Program)	31-Jul
8	Olauson	810 Arlington Avenue	Disabled Persons Parking Zone	11-Dec
8	Olauson	2917 Early Drive	No Parking	11-Feb
9	Paulsen	928 Heritage View	No Parking	25-Jul
9	Paulsen	North of the Kingsmere Boulevard & Delaronde Road (Adjacent to 103 Kingsmere Boulevard)	No Parking	25-Jul
9	Paulsen	Herold Road & Herold Terrace/Pawlychenko Lane	No Parking	25-Jul
9	Paulsen	Slimmon Road & Slimmon Place	No Parking	20-Oct
9	Paulsen	834 Swan Crescent	No Stopping	11-Dec
9	Paulsen	8th Street East & Wildwood Golf Course Access	Stop	2-Jul
10	Jeffries	Willowgrove School/Holy Family School	5 Minute Parking	26-Nov
10	Jeffries	407 Nelson Road	General Loading Zone	24-Nov
10	Jeffries	Willowgrove School/Holy Family School	New School Zone	26-Nov
10	Jeffries	303 and 331 Lowe Road	No Parking	28-Jan
10	Jeffries	419 Nelson Road	No Parking	23-Jun
10	Jeffries	Stensrud Road & Shepherd Crescent	No Parking	19-Aug
10	Jeffries	407 Nelson Road	No Parking	24-Nov
10	Jeffries	Willowgrove School/Holy Family School	No Stopping	26-Nov
10	Jeffries	Willowgrove School/Holy Family School	School Bus Loading Zone	26-Nov
10	Jeffries	Muzyka Road & Patrick Crescent (South)	Stop	7-Jan



STANDING POLICY COMMITTEE ON TRANSPORTATION

New Pilot Programs Improve Ice Management Results

Recommendation of the Committee

That the report of the General Manager, Transportation & Utilities Department dated March 9, 2015, be received as information.

History

At the March 9, 2015 Standing Policy Committee on Transportation meeting, a report of the General Manager, Transportation & Utilities Department dated March 9, 2015 was considered.

Attachment

March 9, 2015 Report of the General Manager, Transportation & Utilities

New Pilot Programs Improve Ice Management Results

Recommendation

That the report of the General Manager, Transportation & Utilities Department dated March 9, 2015, be forwarded to City Council for information.

Topic and Purpose

New pilot programs were introduced this winter for ice management products and processes. They have been, and continue to be, applied to test for effectiveness and efficiencies for maintaining good road conditions in colder temperatures on priority streets this winter. This report summarizes the success of the pilot tests.

Report Highlights

1. A new de-icing product called Caliber M1000 was tested this winter to soften ice build-up on priority streets at temperatures below -14°C , when salting is no longer effective.
2. Sand volumes were reduced by 45% on roads treated with the Caliber M1000/sand mixture compared to the previous de-icing product. Administration observed a significant improvement of sand adherence to roadways and traction.
3. Material savings should be achieved with this new product because of the lower amounts of sand required. Preliminary estimates indicate \$131,464 was saved over a two-month test period.
4. For the upcoming winter season, prior to the first snow fall, Public Works intends to test an anti-icing technique called Direct Liquid Application to prevent ice from bonding to the roadway, making it easier to clear.

Strategic Goals

Improving winter road conditions, through the use of new products and processes, supports the Strategic Goals of Moving Around and Continuous Improvement. The reduction in sand and salt applied to the road supports the long-term strategy under Environmental Leadership.

Background

Due to the Public Works division's on-going commitment to continuous improvement, the ice management program was evaluated for Winter 2014/15. Public Works explored industry standards for sanding specifications, anti-icing, and de-icing techniques.

Report

Caliber M1000 De-icing Additive

A new de-icing chemical additive for the sand/salt mixture was tested this winter to improve winter driving conditions at cold temperatures. Caliber M1000 is a combined product of liquid Magnesium-Chloride (MgCl_2) and a corn derivative that:

New Pilot Programs Improve Ice Management Results

- Lowers the eutectic (effective working) temperature of salt (to -65°C) and
- Helps sand stick to the roadway – even in extreme cold temperatures when it tends to bounce to the side of the road.

Beginning in November 2014, a pre-mixed blend of Caliber M1000 and sand/salt was used on Circle Drive, Priority 1 and Priority 2 (primarily intersections) streets when temperatures were below -14°C and salt was ineffective on its own. The chemical is activated with the moisture in the air and the friction from vehicles and works as a de-icing agent for snowpack and/or ice build-up. The product was found to be very successful in maintaining good driving conditions and works well at providing adhesion for the sand to the snowpack.

The second new de-icing application technique implemented, called Pre-Wetting, was tested beginning in January 2015 along Priority 1 streets at temperatures below -14°C. A liquid spray application of Caliber M1000 is applied directly to the sand/salt mixture as it is dispensed onto the road, allowing it to activate immediately. One speed plow/sander was upgraded with pre-wetting equipment in January 2015 and three more vehicles will be equipped for the winter of 2015/2016.

Sand Applied to Roads Reduced by 45%

Because of the effectiveness of Caliber M1000, the treated sand becomes tackier and heavier allowing it to adhere more quickly to the icy surface upon application, therefore reducing the frequency of additional sanding. The pre-wetting application applies the treated aggregate directly to the affected area where it adheres, further reducing waste caused by sand scattering across the road or being blown to the side.

A comprehensive operator and management training program helped improve efficiencies in the overall sanding program by identifying the right ratio of Caliber M1000 to sand and the ideal conditions for pre-wetting for peak performance. A control module in the truck allows for governing of the application rate for the dispensed sand. This allows for improved targeting for the conditions of the roadway, reduction of waste, and increased effectiveness.

The conditions and characteristics of each winter season vary, which makes it difficult for a true comparison. Although the current winter season is not yet complete, it is anticipated that there will be a reduction in the overall sand applied to the targeted priority streets to be cleaned up with the Spring Sweeping Blitz. Less sand on the road reduces the dust in the air which improves air quality and may help to reduce allergens and/or respiratory issues. Less sand on the road also improves the overall appearance of roads during the spring melt.

Aggregate Cost Savings

While this doesn't account for the up-front costs of the equipment and modifications to the sanding units, preliminary estimates indicate \$131,464 was saved in aggregate over a two-month test period.

New Pilot Programs Improve Ice Management Results

This winter, approximately 8,465 tonnes of sand (45% less) was used in November and December, 2014. The average amount of salt/sand mixture used in 2012 and 2013, during the same period, was 15,535 tonnes. At 2014/15 rates, this equates to a cost reduction of \$200,690 and an overall 45% reduction in sand.

While less sand was used this winter, higher ratios of de-icing product was required compared with the two previous winters. Approximately 3,960 tonnes of de-icer was used in November and December, 2014, compared to the average amount of 1,990 tonnes in the previous two years. At 2014/15 rates, this equates to an additional \$69,226, as a result of nearly twice as much product, but at a lower cost per unit of the new product.

Final realized cost reductions will be reinvested in the snow & ice programs. The anti-icing program described below, for example, will have costs associated with implementation.

Anti-icing Pilot Program for Late Fall 2015

The Caliber M1000 can also be used to prevent ice from bonding to the road surface. Using a Direct Liquid Application, a layer of Caliber M1000 is sprayed on the road prior to snow or freezing rain. Direct Liquid Application prevents ice from bonding to the roadway, making it easier to clear during plowing, comparable to using a non-stick spray for cooking to prevent food from sticking to the pan. Public Works will do further investigation prior to the coming winter season with the intention of piloting this treatment program.

Public and/or Stakeholder Involvement

The Request for Tender for the de-icing and anti-icing products was open for new suppliers to submit applications for consideration.

Communication Plan

An extensive communications plan branded 'Better Winter Roads' was developed and includes tools such as, updates to the City's website, billboards, radio and print advertisements, frequent communication with the news media and community associations. Public Service Announcements and Snow & Ice Service Alerts are regularly provided to local media, posted to the City's social media channels and available on the City's website when temperatures or weather changes affect driving conditions.

Public education messages remind drivers to remain a safe distance behind sanding equipment. The sanders must reduce their speed to 40-60 km/h depending on the type of application for effectiveness.

Financial Implications

Cost savings from reduced aggregate are preliminary and do not include initial investment required for retrofitting sanding fleet, storing and dispensing, liquid de-icer,

New Pilot Programs Improve Ice Management Results

and development and implementation of the ongoing training program. Final program reporting at season end will be required to determine an estimate of net savings.

Environmental Implications

The reduction in sand and salt applied to the road lessens the environmental impact.

Caliber M1000 is an approved qualified product by the Pacific Northwest Snow Fighters Association and is classified as 'Not Hazardous' to the environment and 80% less corrosive than rock salt.

Other Considerations/Implications

There are no policy, privacy, or CPTED implications or considerations.

Due Date for Follow-up and/or Project Completion

A 2014/15 Snow & Ice summary report will be presented in the spring to highlight the success of the program.

Public Notice

Public Notice pursuant to Section 3 of Policy No. C01-021, Public Notice Policy, is not required.

Report Approval

Written by: Karen Grant, Communications Consultant
Reviewed by: Pat Hyde, Director of Public Works
Approved by: Jeff Jorgenson, General Manager, Transportation & Utilities
Department

TRANS KG – New Pilot Programs Improve Ice Management Results



STANDING POLICY COMMITTEE ON TRANSPORTATION

Amendments to Policy C07-010, Parking Restrictions and Parking Prohibitions

Recommendation of the Committee

1. That the revisions to Policy C07-010, Parking Restrictions and Parking Prohibitions be adopted; and
2. That the City Clerk be requested to update the policy as reflected in the report of the General Manager, Transportation & Utilities Department dated March 9, 2015.

History

At the March 9, 2015 Standing Policy Committee on Transportation meeting, a report of the General Manager, Transportation & Utilities Department dated March 9, 2015 was considered.

Attachment

March 9, 2015 Report of the General Manager, Transportation & Utilities

Amendments to Policy C07-010, Parking Restrictions and Parking Prohibitions

Recommendation

That the Standing Policy Committee on Transportation recommend to City Council:

1. That the revisions to Policy C07-010, Parking Restrictions and Parking Prohibitions be adopted; and
2. That the City Clerk be requested to update the policy as reflected in this report.

Topic and Purpose

The purpose of this report is to amend Policy C07-010, Parking Restrictions and Parking Prohibitions.

Report Highlights

Changes to sections of the existing policy are recommended, which the Administration believes will strengthen the City's traffic safety approach and clarify the policy.

Strategic Goal

This report supports the Strategic Goal of Moving Around to provide the movement of people and goods around the city quickly and safely.

Background

Parking restrictions and/or prohibitions are typically installed to address traffic safety concerns by improving sight restrictions and turning radii, while maintaining reasonable access to, and use of on-street parking. Policy C07-010 outlines the criteria for warranting the installation of parking restrictions and prohibitions.

Components of the existing policy (Attachment 1) are outdated and require updating.

Report

The Purpose statement of the Policy has been modified to clarify the intent, which is to define the criteria for the installation of parking restrictions and prohibitions to ensure that traffic safety is paramount, yet still allowing reasonable access to, and use of on-street parking by residents.

Previously, the policy also focused on larger scale parking restrictions in areas near high traffic generators. The Policy will still indicate that parking restrictions may be warranted if there is an influx of parking that is impacting residential properties. If properties owners are interested in implementing timed parking restrictions, they still have the ability to request parking restrictions. However, in recent years, Policy C07-014, Residential Parking Permit Policy has been modified to provide options for addressing parking concerns in residential areas due to large traffic generators.

Policy – Section 3.2.1

The Administration is recommending the removal of conditions (a) and (b), as these are no longer used to determine the need for parking restrictions. Whether there is one vehicle parked periodically in a certain location or numerous vehicles, improving visibility and ensuring adequate room for vehicle movement is paramount and needs to be maintained at all times. The conditions to remove include:

- “a) An average on street stall occupancy of 80% or greater combined with an average turnover of 4.0 or less during the time that the proposed parking restriction would be in effect.
- b) The area under consideration is within 450 meters of a large traffic generator.”

Influx of parking near large traffic generators is typically addressed through Policy C07-014, Residential Parking Permit Policy, which includes similar criteria to measure the demand for parking.

Policy – Section 3.2.1

Near intersections where there are no dedicated left turn bays, parked vehicles often block the flow of traffic, resulting in increased congestion or unsafe vehicle manoeuvres. One solution is to restrict parking during certain hours or at all times (depending on the specific location). The Administration is recommending the below additional condition:

- “(d) On Arterial streets where increased traffic capacity has been deemed as necessary to improve traffic flow and congestion.”

Policy – Section 3.2.2

This section addresses several safety concerns as conditions that may warrant the installation of parking prohibitions; however, it is extremely broad in its interpretation. Under this section, the Administration is recommending the inclusion of the following conditions to provide more clarity, one of which will need to be satisfied to warrant the installation of parking prohibitions:

- The five year collision history of the area will be analysed. Three or more collisions have been reported in the last twelve month period and are of a type that is susceptible to correction by a parking prohibition.
- If an area is identified where enforcement is an ongoing issue (i.e. vehicles continually are parking within 1 metre from a driveway access or 10 metres from an intersection).
- If Emergency responders (Fire, Police, Ambulance) are having difficulty manoeuvring around a driveway access.
- In areas (i.e. specifically industrial areas) where semi-trucks and trailers are having difficulty manoeuvring out of a private driveway.
- If the roadway geometrics cause issues with visibility such as a curve in the road or if there is an obstruction within city right-of-way causing visibility issues.

Concerns must be submitted in writing to the Transportation division where they will be reviewed according to the updated policy.

Public and/or Stakeholder Involvement

The Parking Services Section is in agreement with the recommended changes.

When reviewing the need for significant parking restrictions or prohibitions in a specific location, the adjacent property owner is consulted during the review process.

Communication Plan

If approved, the policy update will be communicated to all internal City departments. The City's website will provide updates to inform the public of these conditions, as well as instructions on how to request an inquiry. This subject may be considered as the topic of a Building Better Roads news conference or a parking "Did You Know" campaign.

Policy Implications

If approved, Policy C07-010, Parking Restrictions and Parking Prohibitions will need to be updated to reflect the changes.

Other Considerations/Implications

There are no options, financial, environmental, privacy or CPTED considerations or implications.

Due Date for Follow-up and/or Project Completion

A follow-up report is not required.

Public Notice

Public Notice pursuant to Section 3 of Policy No. C01-021, Public Notice Policy, is not required.

Attachment

1. Council Policy C07-010, Parking Restrictions and Parking Prohibitions (Updated to February 8, 2010).

Report Approval

Written by: Shirley Matt, Traffic Management Engineer, Transportation
Reviewed by: Jay Magus, Engineering Manager, Transportation
Angela Gardiner, Director of Transportation
Approved by: Jeff Jorgenson, General Manager, Transportation & Utilities
Department

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CITY OF SASKATOON COUNCIL POLICY

NUMBER
C07-010

POLICY TITLE <i>Parking Restrictions and Parking Prohibitions</i>	ADOPTED BY: <i>City Council</i>	EFFECTIVE DATE <i>July 18, 1983</i>
		UPDATED TO <i>February 8, 2010</i>
ORIGIN/AUTHORITY <i>Clause 2, Report No. 14-1983 of the Works and Utilities Committee; Clause D5, Administrative Report No. 2-2009 and Clause E2, Administrative Report No. 2-2010</i>	CITY FILE NO. <i>CK. 6120-1</i>	PAGE NUMBER <i>1 of 6</i>

1. PURPOSE

To define criteria for the installation of parking restrictions, ~~in residential areas close to large traffic generators, such as: hospitals, colleges, university, high schools, etc., to prevent excessive on-street parking by patrons of the large traffic generators, yet allow reasonable access to and use of on-street parking by residents and to define criteria for the installation of parking prohibitions in all areas of the City of Saskatoon.~~ and prohibitions to ensure traffic safety is paramount, yet allow reasonable access to, and use of on-street parking.

2. DEFINITIONS

- 2.1 Parking Restriction - a time limitation on the use of a parking facility to increase the turnover of parking stalls.
- 2.2 Parking Supply - the number of legal parking spaces in a given area.
- 2.3 Parking Inventory - the number of parking spaces available in a given area categorized by on-street or off-street spaces, public or private use, or by other classifications.
- 2.4 Private Parking Supply - parking spaces provided for employees or customers of a business or habitants of a residence and not available to the general public.
- 2.5 Public Parking Supply - parking spaces available to the general public either free of charge or for a fee.
- 2.6 Parking Demand - the number of drivers desiring to park in a given area during a specified time period.

CITY OF SASKATOON COUNCIL POLICY

NUMBER <i>C07-010</i>

POLICY TITLE	EFFECTIVE DATE	UPDATED TO	PAGE NUMBER
<i>Parking Restrictions and Parking Prohibitions</i>	<i>July 18, 1983</i>	<i>February 8, 2010</i>	<i>2 of 6</i>

- 2.7 Short-Term Demand - parking demand with a duration of less than three to four hours.
- 2.8 Long-Term Demand - parking demand with a duration exceeding three to four hours.
- 2.9 Parking Surplus - the extent to which the parking supply exceeds the demand of spaces.
- 2.10 Parking Deficiency - the extent to which the parking demand exceeds the supply of spaces.
- 2.11 Parking Accumulation - the total number of cars parked in a given area at a given time.
- 2.12 Parking Duration - the length of time a given vehicle remains in a specific space.
- 2.13 Turnover - the number of different vehicles that park in a given space during a specified time period.
- 2.14 Occupancy - the portion of time a vehicle is parked in a given space during a specified time period.
- 2.15 Walking Distance - the distance on a normal walking path with crossings at intersections from the driver's parking space to the nearest door of his destination.
- 2.16 Parking Prohibitions – prohibiting vehicles from parking in a designated area.
- 2.17 **Private Driveway** – allows habitants of a residence to gain access to a private parking supply.

CITY OF SASKATOON COUNCIL POLICY

NUMBER
C07-010

POLICY TITLE	EFFECTIVE DATE	UPDATED TO	PAGE NUMBER
<i>Parking Restrictions and Parking Prohibitions</i>	<i>July 18, 1983</i>	<i>February 8, 2010</i>	<i>3 of 6</i>

3. POLICY

3.1 General

- a) The City will employ the least restrictive parking restrictions and parking prohibitions possible to achieve the desired results.
- b) Parking restrictions and parking prohibitions shall be used in a manner that will encourage obedience and respect.
- c) Parking restrictions and parking prohibitions are not to be applied without regard for the existing and potential land use and street system.
- d) Parking restrictions and parking prohibitions should meet the following elementary requirements:
 - i) Be capable of fulfilling an important need.
 - ii) Command respect of the road user.
 - iii) Be sanctioned by law.
 - iv) Be enforceable.
- e) The following data is required before recommendations for parking restrictions will be made:
 - i) Private parking supply.
 - ii) Public Parking supply.
 - iii) Short term demand.
 - iv) Long term demand.
 - v) Parking surplus or deficiency.
 - vi) Parking accumulation
 - vii) Parking duration.
 - viii) Turnover.
 - ix) Occupancy.
 - x) Walking distance.

CITY OF SASKATOON COUNCIL POLICY

NUMBER
C07-010

POLICY TITLE	EFFECTIVE DATE	UPDATED TO	PAGE NUMBER
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3.2 Warrants

3.2.1 The following conditions MAY warrant the installation of parking restrictions:

~~a) An average on-street stall occupancy of 80% or greater combined with an average turnover of 4.0 or less during the time that the proposed parking restriction would be in effect.~~

~~b) The area under consideration is within 450 meters of a large traffic generator.~~

a) A high utilization of the area's private parking supply during the time that the proposed parking restriction would be in effect.

b) Installation of the parking restriction would not transfer the parking problem to another area.

c) A petition requesting a parking restriction on a block face signed by 90% of the residences of that block face.

d) **On Arterial streets where increased traffic capacity has been deemed as necessary to improve traffic flow and congestion.**

3.2.2 The following conditions MAY warrant the installation of parking prohibitions:

a) Where a safety concern ~~has been identified as indicated by one of the following:~~ regarding parked vehicles or obstructions restricting the sight lines for motorist exiting an alley, driveway or intersections and one of the following conditions are met:

CITY OF SASKATOON COUNCIL POLICY

NUMBER C07-010

POLICY TITLE	EFFECTIVE DATE	UPDATED TO	PAGE NUMBER
<i>Parking Restrictions and Parking Prohibitions</i>	<i>July 18, 1983</i>	<i>February 8, 2010</i>	<i>5 of 6</i>

- i) ~~Parked vehicles or obstructions restricting the sight lines for motorists exiting an alley, private driveway or intersection. At a location where three or more collisions are reported in the last twelve month period and are a type that is susceptible to correction by a parking prohibition;~~
- ii) ~~To provide adequate lane widths where necessary and to improve traffic flow at locations where parking causes safety concerns such as congestion and delay. At a location where Parking Enforcement have continued issues with violations of the Traffic Bylaw;~~
- iii) ~~At a mid-block crosswalk location to allow appropriate visibility for pedestrians. Emergency Service vehicles having trouble manoeuvring out of a driveway accesses;~~
- iv) ~~To provide adequate space for transit stops. In an area where semi-trucks and trailers have difficulty manoeuvring out of their driveway;~~
- v) ~~To provide sufficient sight lines between two driveways that are too close together. If the geometrics of the road alignment, such as curve in the roadway or any obstructions on city right-of-way restrict visibility.~~

- b) ~~To identify specific time limits for allowance of roadway maintenance work including snow removal, street sweeping, and roadway work such as patching, paving and repairing potholes. To provide adequate lane widths where necessary and to improve traffic flow at locations where parking causes safety concerns such as congestion and delay.~~
- c) ~~At a mid-block or signed and marked crosswalk location to allow appropriate visibility for pedestrians.~~
- d) ~~To provide adequate space for transit stops.~~

CITY OF SASKATOON COUNCIL POLICY

NUMBER
C07-010

POLICY TITLE	EFFECTIVE DATE	UPDATED TO	PAGE NUMBER
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- e) To provide sufficient sight lines between two driveways that is too close together.
- f) To identify specific time limits for allowance of roadway maintenance work including snow removal, street sweeping, and roadway work such as patching, paving and repairing potholes.

3.3 Traffic Control Devices

Parking control signs manufactured and installed as specified in the Uniform Traffic Control Device Manual for Canada shall be used to effect all parking restrictions and parking prohibitions.

4. RESPONSIBILITIES

- 4.1 ~~The Infrastructure Services Department~~ **Transportation & Utilities Department** shall be responsible for:
 - a) Administering, reviewing and recommending updates to the policy.
 - b) Installing all parking restrictions and parking prohibitions.
- 4.2 ~~The General Manager, Infrastructure Services Department~~ **Director of Transportation, Transportation division** shall be responsible for approving all parking restrictions and parking prohibitions.
- 4.3 City Council shall be responsible for approving any updates to this policy as recommended by the ~~Infrastructure Services Department~~ **Transportation & Utilities Department**.



STANDING POLICY COMMITTEE ON TRANSPORTATION

College Drive Classification

Recommendation of the Committee

1. That the classification of College Drive, between the Canadian Pacific Railway tracks and the city limits, be modified to an Urban Expressway in order to improve connectivity into the Holmwood Sector; and
2. That the City Solicitor be requested to prepare the necessary amendment to Bylaw 7200, The Traffic Bylaw.

History

At the March 9, 2015 Standing Policy Committee on Transportation meeting, a report of the General Manager, Transportation & Utilities Department dated March 9, 2015 was considered.

Attachments

1. March 9, 2015 Report of the General Manager, Transportation & Utilities
2. March 6, 2015 Letter from Mike Possberg

College Drive Classification

Recommendation

That the Standing Policy Committee on Transportation recommend to City Council:
That the classification of College Drive, between the Canadian Pacific Railway tracks and the city limits, be modified to an Urban Expressway in order to improve connectivity into the Holmwood Sector.

Topic and Purpose

The purpose of this report is to seek City Council endorsement to classify College Drive as an Urban Expressway in order to facilitate improved connectivity to and between the Holmwood Sector and the greater city.

Report Highlights

1. The Brighton neighbourhood Traffic Impact Analyses (TIA) identified increased traffic demands resulting from higher density development in the Holmwood Sector.
2. The Transportation division undertook an analysis of options to accommodate the increased demand. The results of that analysis demonstrated that the option to re-classify College Drive from a Rural Highway to an Urban Expressway provides the best overall solution to accommodate the planned development in the Holmwood Sector.
3. To achieve the accelerated time frame for construction of the interchange at College Drive and McOrmond Drive, design parameters for the interchange need to be finalized by the end of March 2015.
4. The modified classification of College Drive, and additional access points into the Holmwood Sector Plan, will be incorporated into an upcoming amendment to the Holmwood Sector Plan, and the Brighton Neighbourhood Concept Plan.

Strategic Goals

This report supports the Strategic Goal of Moving Around by planning the short-term priority of creating “complete communities” in new neighbourhoods that feature greater connectivity, both internally and externally. It also supports the long-term goal to develop an integrated transportation network that is practical and useful for vehicles, buses, bikes and pedestrians.

Background

Access to the Holmwood Sector is limited by the Canadian Pacific Railway (CPR) line that runs the length of the southwest sector boundary and the future perimeter highway alignment, which currently bounds the east and southeast edge of the sector (Attachment 1). The approved Holmwood Sector Plan specifies seven access/egress locations for Holmwood which is estimated, at full build-out, to have a population that exceeds 73,000 people and employ nearly 18,500 individuals.

Since the Holmwood Sector Plan was developed, the City adopted a Strategic Plan and initiated the Growing Forward! Shaping Saskatoon project. Both of these initiatives and the Official Community Plan Bylaw No. 8769 promote a high degree of connectivity within and between neighbourhoods.

City Council at its meeting held on October 27, 2014, approved a report from the General Manager, Transportation & Utilities Department to expedite the timeline and eliminate the need for interim improvements for construction of the College Drive and McOrmond Drive interchange, and retain funding to hire an Owner's Engineer for the project. This project will be tendered in 2015 with completion anticipated for the end of 2017.

Report

Traffic Impacts from Holmwood Sector Plan Development

As part of the development of the Holmwood Sector Plan, the Administration modeled forecast traffic volumes using the City's transportation model to a population of 400,000. Recently, the Administration received the TIA that was submitted by the Developer as part of the Brighton Neighbourhood Concept Plan. Based on more specific land use assumptions, the Brighton neighbourhood TIA indicated higher traffic demands as a result of increased density in the neighbourhood. This prompted a re-examination of the plans for the College Drive corridor, including existing and planned access points, and the College Drive and McOrmond Drive interchange.

Transportation Analysis

Re-examination of the planned interchange at College Drive and McOrmond Drive indicated that due to the increased density in the Brighton neighbourhood, the planned interchange would not have significant capacity to accommodate future traffic demands. As a result, options to either modify the interchange or add additional access points were considered and are outlined in Attachment 2.

The recommended option is to re-classify College Drive between the CPR tracks and the city limits to an Urban Expressway with a posted speed limit of 80km/h. This would facilitate a tight-urban diamond interchange and provide the ability to improve connectivity into the Brighton neighbourhood by adding additional access points along College Drive. The combination of the interchange and additional access points provides:

1. The required capacity to support the planned development in the Holmwood Sector;
2. Provides multiple entrances and exits to the sector, thus improving connectivity during normal and abnormal conditions, such as temporary closure of an access point; and
3. Allows the road to function as a more complete street in the future, providing the opportunity for other transportation modes such as cycling facilities and walking trails. These facilities are not permitted on a Rural Highway.

The Administration believes that the combination of classifying this section of College Drive to an Urban Expressway, and allowing additional access points, is the appropriate long term strategy. The current restricted-access Rural Highway, dissecting developed areas, will not meet the needs and expectations of residents in future years.

College Drive and McOrmond Drive Interchange

With City Council's endorsement of the preferred option, the Administration will proceed with finalizing the functional design for the construction of the College Drive and McOrmond Drive interchange. To achieve the accelerated timeframe for the construction of the interchange, a Request for Proposal will be issued in the second quarter of 2015. In order to meet this timeline, the functional design for the interchange needs to be finalized by the end of March 2015. A tight-urban diamond interchange is projected to cost \$35 million.

Sector Plan and Neighbourhood Concept Plan Amendment

Growth in population and traffic to and from the Holmwood Sector are expected to have a significant impact on the function of College Drive, both within the sector and on the existing roadway west to the University of Saskatchewan campus. Additionally, ongoing development on the University of Saskatchewan lands is expected to have access requirements and may further impact the function of the corridor. The Administration will therefore undertake a functional planning study of the College Drive corridor in due course.

The Administration will initiate a process to amend the Holmwood Sector Plan to incorporate the findings of the functional planning study and to address a number of other items including the revised alignment of Perimeter Highway once it is confirmed, additional urban growth opportunities, neighbourhood connectivity, and open space needs.

The Administration will also initiate the process to amend the Brighton Neighbourhood Concept Plan, in consultation with Dream Developments. The amendment will specifically address one additional access point in the neighbourhood along College Drive.

Options to the Recommendation

If College Drive remains a Rural Highway cross-section with a speed limit of 90km/h or 100km/h, a Partial Cloverleaf-B (Parclo-B) interchange will be required to accommodate forecasted traffic volumes. Due to the land required for this type of interchange, the existing grade of College Drive and the proximity of adjacent properties, a horizontal and vertical realignment of College Drive would be required. This would require the acquisition of additional property to accommodate the realignment, and would eliminate the ability for improved connectivity into the neighbourhood. The estimated cost of this option is approximately \$50 Million.

This alternate option is not recommended as it prevents future additional access points along College Drive and has a significantly higher construction cost with no added capacity over the recommended option.

Public and/or Stakeholder Involvement

In 2013, the functional plan for the College Drive and McOrmond Drive interchange was presented at a public open house. The feedback at that time focused on the desire to expedite the construction of the interchange and the desire to retain a free flow movement for southbound traffic. No information related to the re-classification of College Drive was presented at that time. Additional stakeholder and public involvement would occur as a result of the Holmwood Sector Plan and Brighton Neighbourhood Concept Plan amendment process.

Communication Plan

Information regarding the interchange will be made available on the City's website. As the project progresses, specific information, including any construction or traffic flow impacts, will be shared via the City's Daily Road Report, the City Service Alerts (saskatoon.ca/service-alerts), the online construction map (saskatoon.ca/constructionmap) and through advertisements and public service announcements as appropriate.

Financial Implications

The costs associated with changing the classification of the roadway pertain to the modification of the speed limit signs at an estimated cost of \$1,000. Funding is available in the operating budget to complete this work.

Other Considerations/Implications

There are no policy, environmental, privacy, or CPTED considerations or implications.

Due Date for Follow-up and/or Project Completion

The Administration will be reporting further on the finalized funding strategy for the interchange at College Drive and McOrmond Drive in the second quarter of 2015. The amendment to the Holmwood Sector Plan is planned for early 2016.

Public Notice

Public Notice is required for consideration of this matter, pursuant to Section 3 of Policy No. C01-021, The Public Notice Policy, is not required.

Attachments

1. Holmwood Sector Plan – Roadway Plan
2. Comparison of Options

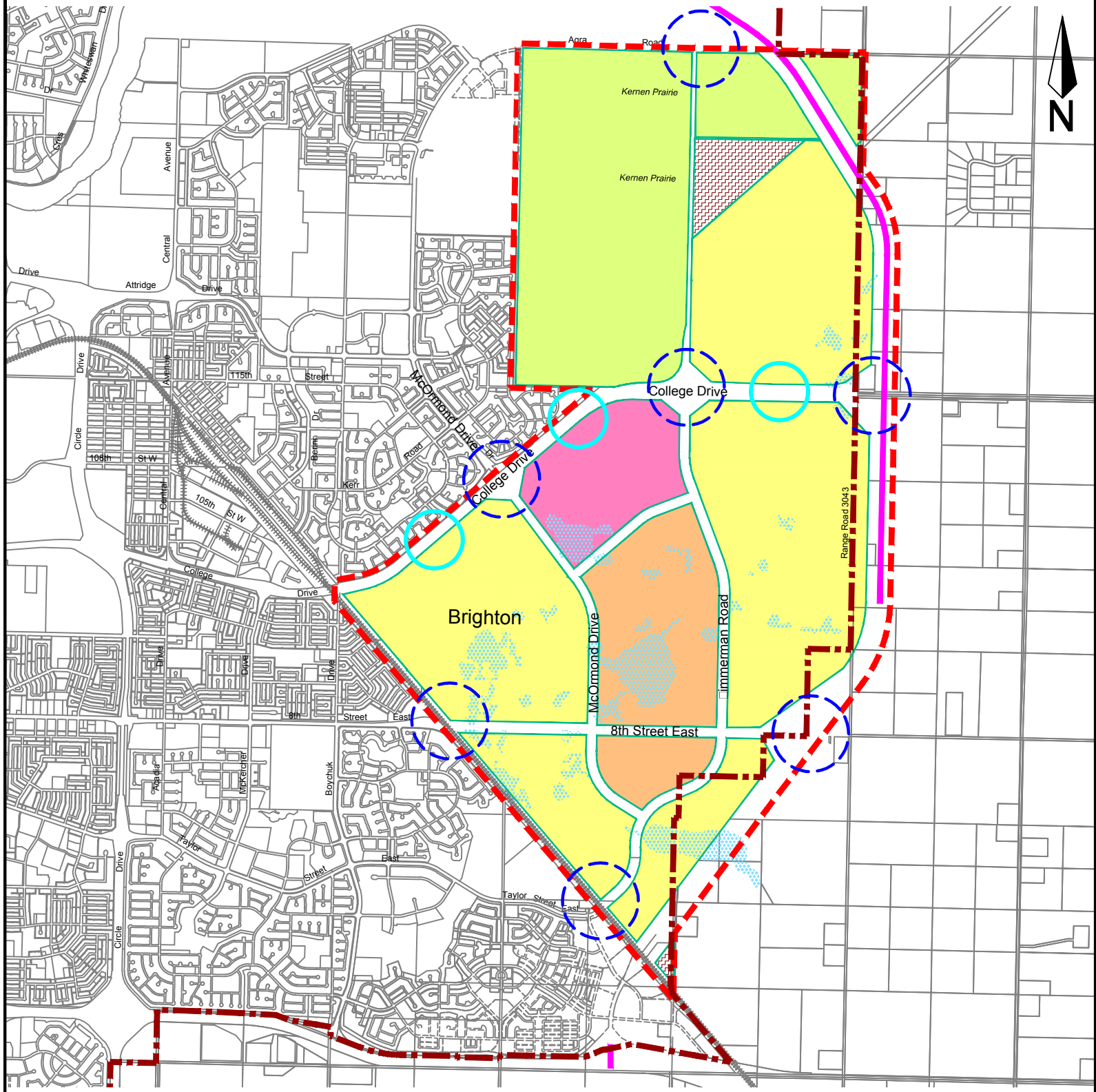
Report Approval

Written by: Danae Balogun, Senior Planner, Planning and Development
Chris Schulz, Senior Planner II, Planning and Development

Reviewed by: Angela Gardiner, Director of Transportation
Alan Wallace, Director of Planning and Development







Approved by: Jeff Jorgenson, General Manager Transportation & Utilities
Department

Holmwood Sector Plan Roadway Plan



Scale: N.T.S.

Legend

-  City Limits
-  Sector Boundary
-  Neighbourhood Boundary
-  Highways
-  Sector Access Point (as specified in Holmwood Sector Plan)
-  Proposed Additional Access

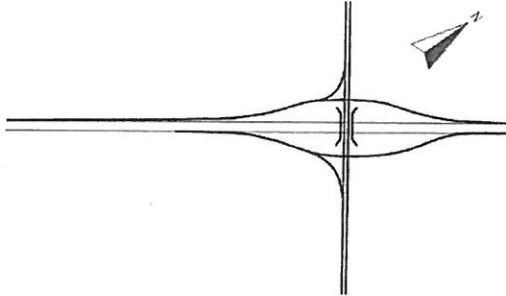
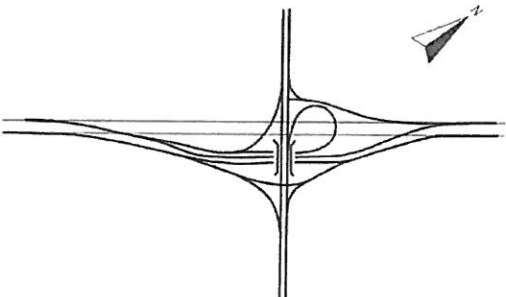
 **City of Saskatoon**
Community Services - Planning and Development
NOTE: The information contained on this map is for reference only and not to be used for legal purposes.
January 2015

Comparison of Options

Table 1: Future Case Scenario Comparison

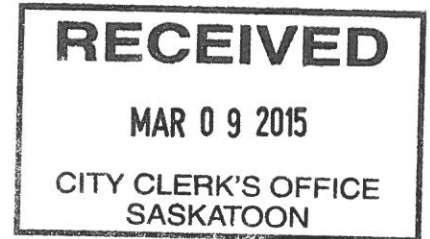
Classification	RECOMMENDED OPTION	ALTERNATE OPTION
	Expressway – urban/semi-urban	Freeway – rural
College/McOrmond Interchange	Tight-Urban Diamond	ParClo-B
<i>Cost Estimate</i>	\$35M	\$50M+
<i>Accommodates Holmwood growth</i>	✓	✓
<i>Accommodates current & forecast traffic volumes</i>	✓	✓
<i>Adequate ROW available</i>	✓	X (property acquisition required - \$)
<i>College Drive alignment</i>	✓ (Existing alignment is retained)	X (horizontal & vertical re-alignment Required - \$)
College/Zimmerman Interchange	Optional	Required - \$30M
Neighbourhood Access	Permits additional access along College Dr.	Prevents additional access along College Dr.
Active Transportation Link	✓	X

Table 2: Traffic Volume Projections (Level of Service)

		Level of Service (400K population)
Recommended Option: Revised Roadway Classification Tight Urban Diamond Interchange with additional access points along College Drive 	North intersection	A(A)
	South intersection	B(B)
Alternate Option: Existing Roadway Classification ParClo-B Interchange 	North intersection	A(A)
	South intersection	B(B)

Morning Traffic Volumes are shown without brackets: AM
 Afternoon Traffic Volumes are in brackets: (PM)

From: Web NoReply
Sent: March 06, 2015 7:55 PM
To: City Council
Subject: Form submission from: Write a Letter to Council



Submitted on Friday, March 6, 2015 - 19:54
Submitted by anonymous user: 204.83.109.168
Submitted values are:

Date: Friday, March 06, 2015
To: His Worship the Mayor and Members of City Council
First Name: Mike
Last Name: Possberg
Address: 914 Budz Green
City: Saskatoon
Province: Saskatchewan
Postal Code: S7N4M9
Email: mhp122@hotmail.ca

Comments:

I just saw the proposal to reclassify College Drive from the railway overpass to the city limits with the intent of adding new intersections. This proposal can not proceed in my opinion. According to the 2013 Department of Highways traffic counts College Drive approaching McOrmond had 23,800 vehicles per day. I'm sure this number is 25,000 today and growing. Once Holmwood is built out with a population of 70,000 people the traffic volumes will double or triple at which time College drive should have a third lane in each direction, likely a dedicated HOV lane. Intersections with traffic lights is not feasible for these traffic volumes. College Drive must remain a freeway. In addition, this is not only the main access point into the city core from the east sector bus also the main access point into the city from Highways 5 and 41 with heavy truck traffic.

With respect to the interchange at McOrmond I understood the design was already approved. I full support the existing design. The new proposal would remove the loop in the NE quadrant of the interchange. With the volume of traffic exiting College Drive onto McOrmond NW the loop has to remain in the final design.

I understand there is a belief that traffic volumes at McOrmond and College Drive will decrease with the new North Bridge however I totally disagree. The traffic using this intersection is not coming from the north end. It is coming from the downtown, university, south end of the city, etc. North end traffic is using Attridge. I doubt the new bridge will have a significant impact on traffic at that intersection.

I conclusion, I urge you to defeat the proposal to add intersections with traffic lights on College Drive. College has to remain a freeway to move the huge volumes of traffic as this area develops. Enough mistakes were made in the past when building infrastructure in this city, do not make another major blunder that will impede us in the future. Build the interchange at McOrmond as designed and leave College Drive as a freeway.

The results of this submission may be viewed at:
<https://www.saskatoon.ca/node/398/submission/6747>



STANDING POLICY COMMITTEE ON TRANSPORTATION

Extension of Street Sweeping Contractor Assistance Contract

Recommendation of the Committee

1. That the contract with Virtay Street Sweepers Ltd. for a cost of \$727,650 per year (including taxes) be extended for two years; and
2. That the City Solicitor be requested to amend the contract agreement and that His Worship the Mayor and the City Clerk be authorized to execute the agreement under the Corporate Seal.

History

At the March 9, 2015 Standing Policy Committee on Transportation meeting, a report of the General Manager, Transportation & Utilities Department dated March 9, 2015 was considered.

Attachment

March 9, 2015 Report of the General Manager, Transportation & Utilities

Extension of Street Sweeping Contractor Assistance Contract

Recommendation

That the Standing Policy Committee on Transportation recommend to City Council:

1. That the contract with Virtay Street Sweepers Ltd. for a cost of \$727,650 per year (including taxes) be extended for two years; and
2. That the City Solicitor be requested to amend the contract agreement and that His Worship the Mayor and the City Clerk be authorized to execute the agreement under the Corporate Seal.

Topic and Purpose

The purpose of this report is to request that City Council approve extending the contract with Virtay Street Sweepers Ltd. for the 2015 and 2016 Roadways Summer Street Sweeping Programs.

Report Highlights

1. In 2014, there was an approximate \$1M over expenditure in the street sweeping cost centre (01-720). Public Works is actively enacting measures to reduce a similar cost overrun for 2015 and bring the program in line with available funding.
2. Contract street sweeping is required to complete the accelerated city-wide sweep in 2015 and 2016 and maintain the current level of service.
3. The Administration is recommending a two-year extension. This maintains a 19.5% savings on contract costs than if the contract was awarded in a one-year term.
4. If the contract extension is not approved, the City is responsible to pay the contractor the one-year rate for the 2014 sweep, which is an additional \$178,077 (excluding taxes) to payments already made.

Strategic Goals

The recommendations in this report support the City of Saskatoon's Strategic Goal of Environmental Leadership by improving air quality and reducing the potential for health issues related to airborne dust debris within the City and reducing the amount of sediment that reaches the South Saskatchewan River through the storm sewer network. It also supports the Strategic Goal of Moving Around by maintaining the established and desired level of service for clean summer streets in a timely manner.

Background

The City changed the service level for the 2014 Street Sweeping Program by accelerating the city-wide sweeping program. A request for proposals was issued for a contractor to assist Public Works in achieving this new level of service.

The proposal submitted by Virtay Street Sweepers Ltd. (Virtay) was selected as providing the best value to the City of Saskatoon. The proposal outlined a one-year program with costs associated, but also had a three-year alternative that would reduce the annual cost to the City in return for a guaranteed number of hours over the next three years. This reduced the annual contractor cost by 19.5% over Virtay's one-year proposal.

The Street Sweeping Award of Contract was adopted by City Council at its meeting held on March 31, 2014. The report indicated upon conclusion of the first year of the Contract, the Administration would bring a report through Council with a recommendation on whether or not to renew for 2015.

Report

Projected Budget Shortfall and Measures Taken

In 2015, Public Works will be implementing changes to the sweeping program to realize improved efficiencies and bring the program costs as close to the budget as possible. Some examples of such are:

- Altering of the crew personnel/shifts will provide for a reduction in overtime while ensuring seven day coverage for the program.
- Redistribution of the heavy debris pickup program from a separate contractor to Virtay saving \$150,000.
- Exploring alternate approaches to the spring blitz and regular sweep program. In 2014, Public Works engaged in a significant and comprehensive sweeping program to collect heavy debris from areas that had not received the same attention in previous years. That same level of 'deep cleaning' should not be necessary this year as a result and thereby saving on costs.

This leaves a projected shortfall comprised of:

- \$350,000 for sign management practices to provide for parking enforcement and a full curb-to-curb sweep of streets. The Administration will continue to pursue program changes in an attempt to make up this shortfall.

Maintaining the Accelerated Sweep

In 2014, the first year of the contract, Virtay performed 424 hours of crew time during spring sweeping operations (their allotment from the contract was 420 hours). This was instrumental in Public Works achieving the required level of service by completing the 2014 Spring Sweeping Program two weeks sooner than previous years and allowing civic forces to start other spring & summer seasonal programs sooner.

Contract Savings

Public Works recommends that extending this contract to 2015 and 2016 represents good value to the citizens of Saskatoon as there are limited civic forces and equipment in spring combined with urgency to complete the work as soon as possible.

One-Year Rate payout

The City of Saskatoon is required to pay Virtay \$178,077 in a fee increase for 2014 work completed should the contract not be extended.

Options to the Recommendation

1. Cancel the award of the contract, pay the contractor increased work rates for 2014, and decrease level of service provided or re-tender the work. This is not recommended, as City Council has made it a priority to continue with the new level of service for sweeping.
2. Cancel the award of the contract; pay the contractor increased work rates; and maintain current level of service by hiring new FTE's and procuring equipment. This option is not recommended, as the Administration believes it is more cost-effective to utilize private sector resources to help with the peak spring period.

Communication Plan

This contract work will be performed on an integrated schedule with work being completed by city forces. The communications launch will not distinguish who is doing the work on behalf of the City, but will detail locations, schedules and delays/impacts due to weather and other events.

Financial Implications

2014 was not a typical year, as both Public Works and Virtay staff picked up excessive material from multiple years of buildup in some areas of the City. This, in combination with the reduced volume of street stand placed this past winter, will help offset other areas of the sweeping program where higher costs will be incurred. Administration will actively manage the 2015 sweeping program and provide update reports to City Council through the quarterly reporting process.

Environmental Implications

The accelerated sweeping program is expected to enhance air quality as well as help reduce the amount of sediment entering the storm sewer system and ultimately entering the South Saskatchewan River.

Other Considerations/Implications

There are no public and/or stakeholder involvement, policy, privacy or CPTED implications or considerations.

Due Date for Follow-up and/or Project Completion

The programs that the contractor is involved with typically complete in mid-July. Actual costs and variances can be calculated in August.

Public Notice

Public Notice pursuant to Section 3 of Policy No. C01-021, Public Notice Policy, is not required.

Report Approval

Written by: Barrett Froc, Operations Engineer, Logistics and Procurement

Reviewed by: Eric Quail, Manager, Roadways Section

Approved by: Pat Hyde, Director, Public Works

Jeff Jorgenson, General Manager, Transportation and Utilities

TRANS BF – Extension of Street Sweeping Assistance Contract



STANDING POLICY COMMITTEE ON TRANSPORTATION

2014 Annual Report – Traffic Safety Committee

Recommendation of the Committee

That the 2014 Annual Report of the Traffic Safety Committee be received as information.

History

At the March 9, 2015 Standing Policy Committee on Transportation meeting, a report from the Traffic Safety Committee dated February 10, 2015 was considered.

Attachment

February 10, 2015 Traffic Safety Committee 2014 Annual Report

ADVISORY COMMITTEE REPORT

TO: Standing Policy Committee on Transportation
FROM: Chair, Traffic Safety Committee
DATE: February 10, 2015
SUBJECT: 2014 Annual Report – Traffic Safety Committee
FILE NO. CK. 430-59

RECOMMENDATION: that the information be received and forwarded to City Council for information.

BACKGROUND

The mandate of the Traffic Safety Committee is to provide advice to City Council on policy matters relating to traffic safety. The Committee reports to City Council through the Standing Policy Committee on Transportation. The Committee also provides education and awareness programs relating to traffic safety.

The Traffic Safety Committee membership for 2014 was as follows:

Councillor Zach Jeffries
Ms. Shel Bater, representing the Board of Education for Saskatoon Public Schools – School Community Council Assembly
Sergeant Dan Bryden, representing the Saskatoon Police Service – Traffic Division
Mr. Joseph Chan, representing SGI – Traffic Safety Promotion Division (May – December 2014)
Mr. Ken Claffey, representing the Board of Education for Saskatoon Public Schools – Driver Education
Mr. Brock Girling, representing the Saskatchewan Trucking Association
Mr. Doug Hingston, representing the general public
Mr. Brady Ives, representing SGI – Traffic Safety Promotion Division (January – April 2014)
Ms. Cora Janzen, representing the Saskatoon Health Region
Mr. Raymond Lennark, representing the general public (January – April 2014)
Mr. Rod Meier, representing the general public
Mr. Al Reichert, representing the Saskatoon and District Safety Council
Ms. Deb Taylor, representing the general public

REPORT

Summary of Activities for 2014

1. Traffic Safety Education and Awareness

As part of the Committee's initiative to promote traffic safety, funding of \$500 was provided to Saskatoon Cycles in support of the "Light Up Your Life" campaign – an

initiative to increase awareness about cycling safety and having appropriate lights and reflectors on bikes at night.

The Committee also provided funding of \$1,000 to the Saskatoon Police Service in support of “Operation Baby Blitz” child car seat/booster seat initiative. With new legislation in effect commencing end of June, 2014 making booster seats mandatory for children under seven years of age and under 80 pounds in weight, this initiative made it possible for those unable to obtain or afford a car seat to be provided one at no cost.

In the Fall of 2014 the Committee’s transit tailboard advertisement, produced by Rawlco Transit in 2013, was displayed on six buses with an image of an aggressive-looking driver and the slogan: “Are you THAT driver? It’s up to you.”

2. Reports/Presentations from Administration

The Committee received a presentation from the Administration on Traffic Calming Guidelines and Tools – a new process for addressing neighbourhood traffic concerns by way of community engagement to develop joint solutions.

The Committee also received a presentation from the Administration on street sweeping operations which included details of the Spring Street Sweeping Blitz and the Residential Sweep Program.

The Administration provided updates on matters raised during the year by Committee members.

3. Issues Identified by Committee Members

Throughout the year, the Committee identified a number of traffic safety concerns that the Administration reviewed and took appropriate action if required, as well as responding to the Committee. The following traffic issues were raised by Committee members and reviewed by the Administration:

- Height of snow piled on center medians
- Ice buildup on bridges
- Hazards with lack of snow removal in front of schools
- Obstruction of view due to swale located near Flying J and Marquis Drive
- Snow removal and jersey barrier misalignment at Warman Road/Circle Drive overpass
- Visibility of left turn bays on 1st, 2nd, and 3rd Avenues during winter season
- Lane designations southbound on Warman Road, south of 51st Street/Lenore Drive intersection—bottleneck created due to left through-lane terminating at Primrose Drive
- Unlawful exit of intersection at Faithfull Avenue and Circle Drive southbound into Scotiabank parking lot
- Speed limit on the Circle Drive North Bridge
- Signage off 11th Street and Fletcher Road when accessing industrial area

- Private commercial signs obstructing visibility at junctions
- Potholes along Faithfull Avenue
- Parking issues outside of schools and enforcement of 30 km speed limit
- Deer in greenspace between the freeway and train tracks (on southwest side driving east on Circle Drive South Bridge)
- Visibility of pavement markings for two turning lanes at Marquis Road and Idylwyld Drive
- Street sweeping
- Mall speeds
- Merging traffic signage required at Idylwyld Drive/Highway 11 (southeast corner)
- Proposed bike lane on 24th Street and related delivery truck issues
- Window tint on vehicles
- Signage required at 51st Street/Lenore Drive by Bishop James Mahoney High School indicating right lane ends
- Size and intensity of flashing school zone lights
- Lane markings
- Signage in work zones
- Overhanging tree branches
- Slow moving equipment
- Barriers for traffic restrictions when no workers present
- Traffic congestion

Plans for 2015

The Traffic Safety Committee, in consultation with the Administration, will pursue opportunities for further traffic safety education.

“Joyce Fast” for
Mr. Ken Claffey, Chair
Traffic Safety Committee
Dated: February 10, 2015



STANDING POLICY COMMITTEE ON TRANSPORTATION

Caswell Hill Neighbourhood Traffic Review

Recommendation of the Committee

That the Neighbourhood Traffic Review for the Caswell Hill neighbourhood be adopted as the framework for future traffic improvements in the area, to be undertaken as funding is made available through the annual budget process.

History

At the March 9, 2015 Standing Policy Committee on Transportation meeting, a report of the General Manager, Transportation & Utilities Department dated March 9, 2015 was considered.

Attachment

March 9, 2015 Report of the General Manager, Transportation & Utilities

Caswell Hill Neighbourhood Traffic Review

Recommendation

That the Standing Policy Committee on Transportation recommend to City Council:
That the Neighbourhood Traffic Review for the Caswell Hill neighbourhood be adopted as the framework for future traffic improvements in the area, to be undertaken as funding is made available through the annual budget process.

Topic and Purpose

The purpose of this report is to provide information on the Neighbourhood Traffic Review for the Caswell Hill neighbourhood.

Report Highlights

A traffic plan for the Caswell Hill neighbourhood was developed, in consultation with the community, in response to concerns such as speeding, traffic shortcutting, and pedestrian safety. The plan will be implemented over time as funding for the improvements is available.

Strategic Goal

This report supports the Strategic Goal of Moving Around by providing a plan to guide the installation of traffic calming devices and pedestrian safety enhancements to improve the safety of pedestrians, motorists, and cyclists.

Background

A public meeting was held in April 2014 to identify traffic concerns and potential solutions within the Caswell Hill neighbourhood. Representatives from the Saskatoon Police Service were in attendance to address traffic enforcement issues. Based on the residents' input provided at the initial public meeting and the analysis of the traffic data collected, a Traffic Management Plan was developed and presented to the community at a second public meeting held in October 2014.

Report

The development and implementation of the Traffic Management Plan includes four stages:

1. Identifying existing problems, concerns and possible solutions through the initial neighbourhood consultation and the Shaping Saskatoon.ca website;
2. Developing a draft traffic plan based on residents' input and traffic assessments;
3. Presenting the draft traffic plan to the neighbourhood at a follow-up meeting; circulating the plan to other civic divisions for feedback; making adjustments as needed and presenting the plan to City Council for adoption; and
4. Implementing the proposed measures in a specific time frame, short-term (1 to 2 years), medium-term (3 to 5 years), or long-term (more than 5 years).

The majority of concerns received during the consultation included: shortcutting, speeding, pedestrian safety (specifically near the Caswell Hill School and Ashworth Holmes Park) and parking.

The Administration is recommending the following modifications to improve safety in the Caswell Hill neighbourhood:

- One directional closure (upgrades at Avenue D & 23rd Street)
- Three traffic calming locations
- Five stop sign locations
- Three zebra crosswalks
- One pedestrian corridor
- One parking restriction
- One advanced warning sign location
- Two pedestrian accessibility ramps
- Asphalt path connection into Ashworth Holmes Park
- Various sidewalk locations

Installation of each proposed improvement will be implemented in three specific time frames as follows:

Short-term (1 to 2 years)	Temporary traffic calming measures, signage, pavement markings, accessible pedestrian ramps
Medium-term (3 to 5 years)	Permanent traffic calming devices, roadway realignment, sidewalks (in some cases), major intersection reviews
Long-term (5 years plus)	Permanent traffic calming devices, roadway realignment, sidewalks

The Caswell Hill Neighbourhood Traffic Review is included in Attachment 1.

Public and/or Stakeholder Involvement

In April 2014, a public meeting was held to discuss traffic concerns and identify potential solutions. The feedback was used to develop the neighbourhood traffic plan which was presented at a follow up public meeting in October 2014. Additional feedback received at the follow-up public meeting was also incorporated into the Neighbourhood Traffic Review.

Feedback was provided by internal civic stakeholders of various divisions and departments: Public Works, Saskatoon Transit, Saskatoon Police Service, and the Saskatoon Fire Department on the proposed improvements, which was incorporated into the proposed Traffic Management Plan.

Communication Plan

The final neighbourhood traffic plan will be shared with the residents of the impacted neighbourhood using several methods: City website, Community Association communication forums (i.e. website, newsletter), and by a direct mail-out.

Environmental Implications

The overall impact of the recommendations on traffic characteristics including the impacts on greenhouse gas emissions is not known at this time.

Financial Implications

The implementation of the neighbourhood traffic calming plan will have significant financial implications. The costs are summarized in the following table:

Item	2015	Beyond 2015
Traffic Calming	\$ 3,000	\$108,000
Marked Pedestrian Crosswalks	3,700	30,000
Stop and Yield Signs	1,500	-
Miscellaneous Signs	1,000	-
Avenue D & 23 rd Street upgrades	4,250	45,000
Sidewalks & Accessibility Ramps	-	179,400
TOTAL	\$13,450	\$362,400

There is sufficient funding within Capital Project #1512 – Neighbourhood Traffic Management to undertake the work in 2015.

The remainder of the work, beyond 2015, will be considered alongside all other improvements identified through the Neighbourhood Traffic Management Program. The Administration's annual budget submission package will include the list of projects recommended to be funded, and the rationale used to prioritize the projects.

Other Considerations/Implications

There are no options, policy, privacy or CPTED considerations or implications.

Due Date for Follow-up and/or Project Completion

If adopted by City Council, temporary traffic calming devices and signage will be implemented during the 2015 construction season.

Public Notice

Public Notice pursuant to Section 3 of Policy No. C01-021, Public Notice Policy, is not required.

Attachment

1. Caswell Hill Neighbourhood Traffic Review, February 9, 2015

Report Approval

Written by: Justine Nyen, Traffic Safety Engineer, Transportation
Reviewed by: Jay Magus, Engineering Manager, Transportation
Reviewed by: Angela Gardiner, Director of Transportation
Approved by: Jeff Jorgenson, General Manager, Transportation & Utilities Department

City of Saskatoon

Caswell Hill Neighbourhood Traffic Review

February 9, 2015

Acknowledgements

The completion of this review would not be possible without the contribution of the following organizations and individuals:

- Caswell Hill residents
- Caswell Hill Community Association
- Saskatoon Police Service
- Saskatoon Light & Power
- Saskatoon Fire Department
- City of Saskatoon Environmental Services
- City of Saskatoon Transit
- City of Saskatoon Transportation
- Great Works Consulting
- Councillor Pat Lorje

Executive Summary

The objective of the Neighbourhood Traffic Management Program is to address traffic concerns within neighbourhoods such as speeding, shortcutting, and pedestrian safety. The program was revised in August 2013 to address traffic concerns on a neighbourhood-wide basis. The revised program involves additional community and stakeholder consultation that provides the environment for neighbourhood residents and City staff to work together in developing solutions that address traffic concerns. The process is outlined in the *Traffic Calming Guidelines and Tools*, City of Saskatoon, 2013.

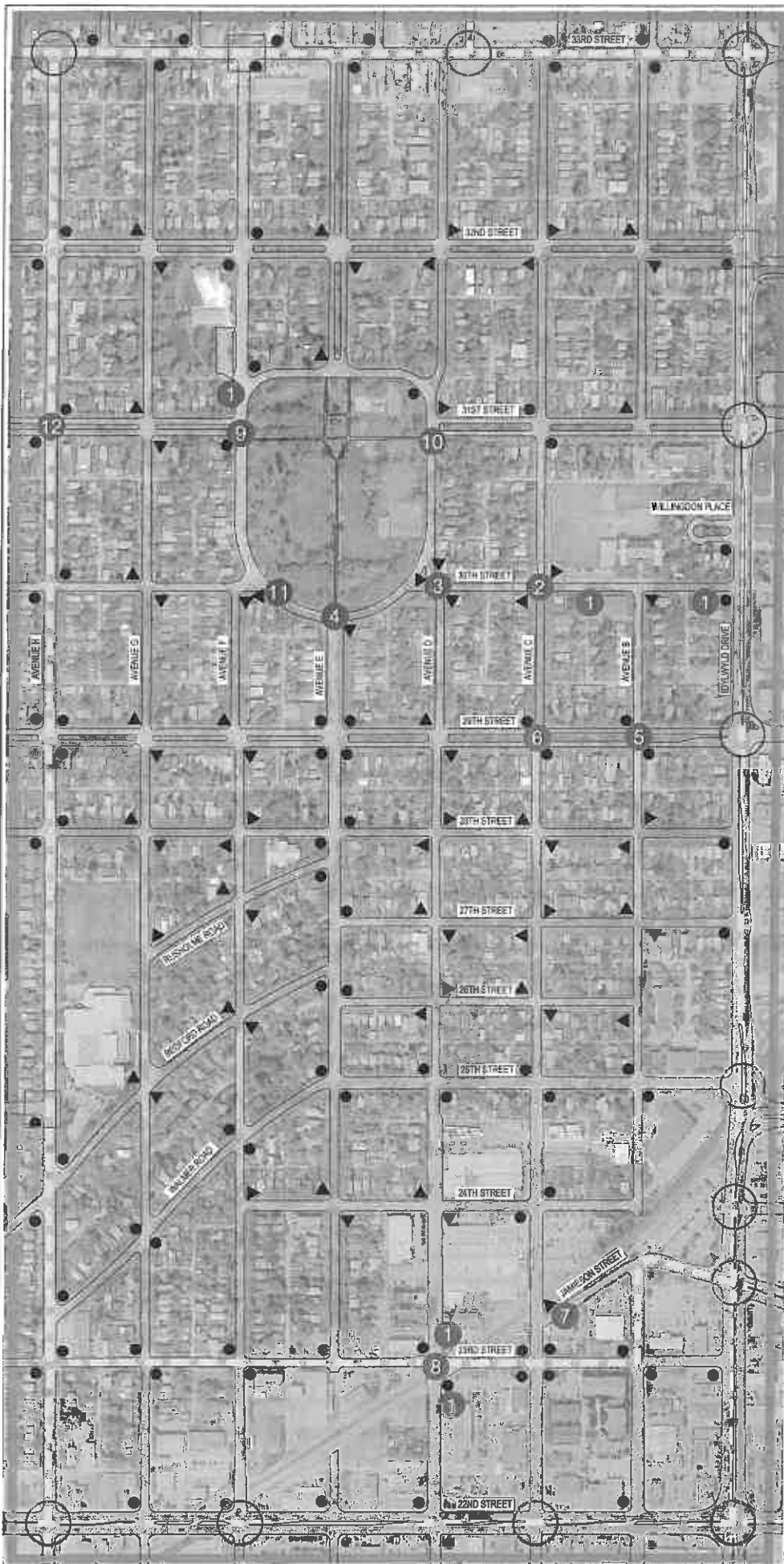
A public meeting was held in April of 2014 to identify traffic concerns and potential solutions within the Caswell Hill neighbourhood. As a result of the meeting a number of traffic assessments were completed to confirm and quantify the concerns raised by the residents. Based on the residents input and the completed traffic assessments, a Traffic Management Plan was developed and presented to the community at a follow-up meeting held in October 2014.

A summary of recommended improvements for the Caswell Hill neighbourhood are included in **Table ES-1**. The summary identifies the locations, the recommended improvement, and a schedule for implementation. The schedule to implement the Traffic Management Plan can vary depending on the complexity of the proposed improvement. According to the *Traffic Calming Guidelines and Tools* document, the time frame may range from short-term (1 to 2 year); medium-term (3 to 5 years) and long-term (5 years plus). Accordingly, the specific time frame to implement the improvements for these neighbourhoods ranges from 1 to 5 years.







The resulting proposed Caswell Hill Traffic Management Plan is illustrated in **Exhibit ES-1**.

Table ES-1: Caswell Hill Neighbourhood Recommended Improvements

Location	Proposed Measure	Time Frame
Avenue B & 27 th Street	Stop signs	1 to 2 years
32 nd Street & Avenue D	Alternate direction of stop signs	
Avenue C & 30 th Street	Change yield signs to stop signs	
Jamieson Street & Avenue C	Change yield sign to stop sign	
Avenue F & 30 th Street	Change yield sign to stop sign; install closer to intersection	
Avenue H & 31 st Street	Zebra crosswalks	
Avenue F - north of 30 th Street (at curve)	30kph advisory speed sign & curve ahead sign	
Avenue D & 30 th Street	"No parking" signs	
29 th Street & Avenue C	Zebra crosswalk	
29 th Street & Avenue B	Pedestrian corridor & zebra crosswalk	
Avenue E & 30 th Street	Raised median islands; accessibility ramps; pathway connection into park; add reflectors to park posts	
Avenue D & 23 rd Street	Directional Closure, signage, & pavement markings to restrict northbound through movement (Subject to CP approval)	
Avenue F & 31 st Street	Curb extensions & raised median island	
Avenue D & 31 st Street	Curb extension	
30th Street between Idylwyld Drive & Avenue C (south side); Avenue F between parking lot south of pool & 31st Street (west side); Avenue D (portions on east side, north & south of 23rd Street to connect to existing); Avenue E between 28th Street & 29th Street (east side)	Sidewalk	5 years plus



LEGEND

-  STOP SIGN
-  YIELD SIGN
-  BUS ROUTE
-  TRAFFIC SIGNAL LOCATION
-  PEDESTRIAN ACTUATED SIGNAL LOCATION
-  ACTIVE PEDESTRIAN CORRIDOR LOCATION

ITEM	LOCATION	PROPOSED MEASURE
1	Avenue B & 27th Street	Stop Sign
2	32nd Street & Avenue D	North-South facing stop signs
3	Avenue C & 30th Street	Change yields sign to stop sign
4	Jamleson St & Avenue C	Change yield sign to stop sign
5	Avenue F & 30th Street	Change yield sign to stop sign; install closer to intersection
6	Avenue H & 31st Street	Zebra crosswalks
7	Avenue F north of 30th St (at curve)	30kph advisory speed sign & curve ahead sign
8	Avenue D & 30th Street	"no parking" signs
9	29th Street & Avenue C	Zebra crosswalk
10	29th Street & Avenue B	Pedestrian corridor & zebra crosswalk
11	Avenue E & 30th Street	Median islands; accessibility ramps; pathway connection into park; add reflectors to park posts
12	Avenue D & 23rd Street	Median island, signage & pavement markings to restrict northbound through movement (subject to CP approval)
13	Avenue F & 31st Street	Curb extensions & median island
14	Avenue D & 31st Street	Curb extension

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- B. Pedestrian Device Assessments
- C. Sidewalks Map
- D. Peak Hour Assessment – Avenue D & 23rd Street
- E. Recommendation Review Matrix

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1. Introduction

The purpose of this project was to develop a Traffic Management Plan for the Caswell Hill neighbourhood following the implementation procedure outlined in the *City of Saskatoon Traffic Calming Guidelines and Tools* adopted by City Council in August 2013.

The Caswell Hill neighbourhood is located on the west side of the South Saskatchewan River and is bound by 22nd Street to the south, Idwylwyld Drive to the east, 33rd Street to the north, and Avenue H to the west. The area use is mostly residential, with an elementary school on 30th Street (Caswell Hill School) and a high school on Avenue H & Bedford Road (Bedford Road Collegiate), and some commercial land use adjacent to 22nd Street and 33rd Street.

The development and implementation of the traffic management plan includes four stages:

- **Stage 1** - Identify existing problems, concerns and possible solutions through the initial neighbourhood consultation and the Shaping Saskatoon Website.
- **Stage 2** - Develop a draft traffic plan based on resident's input and traffic assessments.
- **Stage 3** - Present the draft traffic plan to the neighbourhood at a follow-up meeting; circulate the plan to other civic divisions for feedback; make adjustments as needed; and present the plan to City Council for approval.
- **Stage 4** - Implement the proposed measures in specific time frame, short-term (1 to 2 years), medium-term (3 to 5 years) or long-term (5 years plus).

2. Identifying Issues, Concerns, & Possible Solutions

A public meeting was held in April of 2014 to identify traffic concerns within the neighbourhood. At the meeting, residents were given the opportunity to express their concerns and suggest possible solutions.

The following pages summarize the concerns and suggested solutions identified during the initial consultation with the neighbourhood residents.

CONCERN 1 – SPEEDING AND SHORTCUTTING

Shortcutting occurs when non-local traffic passes through the neighbourhood on local streets which are designed and intended for low volumes of traffic. In the case of Caswell Hill, the bordering arterial streets (33rd Street, Idylwyld Drive, 22nd Street, and Avenue H) are designated to accommodate larger traffic volumes.

As speeding often accompanies shortcutting, these concerns have been grouped into one category.

Neighbourhood concerns for speeding and shortcutting were at the following locations:

- 30th Street between Avenue E & Avenue F
- 29th Street (including high volumes of heavy trucks)
- Avenue D between 29th Street & 33rd Street
- Avenue I
- 23rd Street near Avenue D
- Avenue B between 31st Street & 33rd Street
- Avenue F near Mayfair Pool, Ashworth Holmes Park, and Walmer Road
- Near Ashworth Holmes Park (Avenue F, Avenue D, 30th Street, & 31st Street)
- Jamieson Street

Proposed solutions identified by residents:

- Install speed humps
- Install raised crosswalks
- Install curb extensions
- Alternate direction of yield or stop signs

CONCERN 2 - PEDESTRIAN SAFETY

A majority of the residents were concerned about pedestrian safety near the Ashworth Holmes Park and the school sites within Caswell Hill (Caswell Hill School on 30th Street; and Bedford Road Collegiate on Avenue H).

Pedestrian crosswalks need to adhere to the City of Saskatoon Council Policy C07-018 *Traffic Control at Pedestrian Crossings*, November 15, 2004 which states the following:

"The installation of appropriate traffic controls at pedestrian crossings shall be based on warrants listed in the document entitled "Traffic Control at Pedestrian Crossings – 2004" approved by City Council in 2004."

Neighbourhood concerns regarding pedestrian safety were at the following locations:

- Ashworth Holmes Park (Avenue F, Avenue D, 30th Street, Avenue E, & 31st Street)
- 29th Street (particularly Avenue B & Avenue C)
- Jamieson Street – pedestrians walking on street; pedestrian safety concerns at Avenue C
- Avenue H – no safe crossings between 29th Street & 33rd Street
- Idylwyld Drive & 32nd Street – pedestrian device takes too long to activate; light turning red when no pedestrians are present
- Idylwyld Drive & 30th Street – install pedestrian-activated signal
- Enforcement for winter maintenance/sidewalk clearing in front of private property
- Missing sidewalks:
 - 30th Street on the south side between Idylwyld Drive & Avenue C
 - Gap on west side of Avenue F just south of pool
 - Avenue E between 25th Street & 29th Street
 - Avenue C between 25th Street & 29th Street
 - Avenue D near 23rd Street

Proposed solutions identified by residents:

- Install pedestrian-activated light
- Install raised median islands or curb extensions
- Install zebra crossing
- Install raised pedestrian crosswalk
- Pedestrian accessibility ramps needed into Ashworth Holmes Park
- Trim hedges around Ashworth Holmes Park to improve visibility of pedestrians

CONCERN 3 - TRAFFIC CONTROL

Traffic control signs are used in order to assign the right-of-way and must meet guidelines in City of Saskatoon Council Policy C07-007 *Traffic Control – Use of Stop and Yield Signs*, April 26, 2009 which states that stop and yield signs are not to be used as speed control devices, to stop priority traffic over minor traffic, on the same approach to an intersection where traffic signals are operational, or as a pedestrian crossing device.

An all-way stop must meet the conditions for traffic volume, collision history, and must have a balanced volume from each leg to operate sufficiently.

Neighbourhood concerns regarding traffic control improvements were at the following intersections:

- 25th Street & Avenue C – drivers ignoring stop sign
- 29th Street – drivers disobeying 4-way stops at Avenue H and Avenue E
- Jamieson Street & Avenue C – drivers disobeying yield sign
- 23rd Street & Avenue C – 4-way stop isn't working
- Avenue D & 30th Street – right-of-way is confusing
- Avenue B & 27th Street – dangerous
- 25th Street eastbound – difficult to get onto Idylwyld Drive
- Idylwyld Drive & 32nd Street – install motion detector for vehicles waiting on 32nd Street; truck traffic going through intersection; drivers going through on Idylwyld Drive on red

Proposed solutions identified by residents:

- 30th Street & Avenue C – yield signs should be stop signs
- Avenue B & 27th Street – install stop signs

CONCERN 4 – PARKING

Parking is allowed on all city streets unless signage is posted. According to City of Saskatoon Bylaw 7200, *The Traffic Bylaw*, December 16, 2013, vehicles are restricted from parking within 10 metres of an intersection and one metre of a driveway crossing.

Neighbourhood concerns regarding parking were at the following locations:

- 30th Street & Avenue D
- 31st Street & Avenue D
- 29th Street
- Jamieson Street & Avenue C
- Ashworth Holmes Park
- Avenue B & 27th Street
- Trucks parking on Avenue B between 24th Street & 25th Street

Proposed solutions identified by residents:

- Install “no parking” signs to indicate 10 metre distance from intersection.

CONCERN 5 - CYCLING

Cycling is a practical mode of transportation in Caswell Hill, as the neighbourhood is in close proximity to the downtown and other nearby amenities.

The Blairmore Bikeway is a designated pathway connecting the downtown area to the Blairmore Suburban Centre. Jamieson Street and a portion of 23rd Street from Idylwyld Drive to Vancouver Avenue (Circle Drive) were selected as part of the route due to low traffic volumes. A number of traffic calming devices were installed along the route to further decrease traffic volumes and vehicular speeds and increase safety for cyclists. The portion of 23rd Street that intersects the Caswell Hill neighbourhood, from Idylwyld Drive to Avenue H, includes a "pinch point" at between Avenue E and Avenue F, and curb extensions/raised median island at Avenue H.

Neighbourhood concerns regarding cycling were at the following locations:

- Sharrows on Jamieson Street go into parked cars
- 23rd Street & Avenue E pinch point is dangerous and increases frustration; cyclists have no place to go
- Not in favour of the temporary traffic calming used for the cycling route improvements on 23rd Street. The curbing is ugly and collects garbage. Graders frequently hit the curb leaving bolts sticking out.

Proposed solutions identified by residents:

- Remove the bulbing at 23rd Street & Avenue E and paint bike lanes
- Curb extensions force cyclist into the middle of the road. Install path through curb extensions for cyclists to go through
- Prioritize cycling routes in terms of spring maintenance (i.e. potholes, debris, gravel)

3. Assessment

Stage 2 of the plan development included developing a draft traffic management plan. This was completed through the following actions:

- Create a detailed list of all the issues provided by the residents.
- Collect historical traffic data and information the City has on file for the neighbourhood.
- Prepare a data collection program that will provide the appropriate information needed to undertake the assessments.
- Complete the data collection, which may include:
 - Intersection turning moving counts
 - Pedestrian counts
 - Daily and weekly traffic counts
 - Average speed measurements
- Assess the issues by using the information in reference with City policies, bylaws, and guidelines, transportation engineering design guidelines and technical documents, and professional engineering judgement.

The following sections provide details on the data collected for traffic volumes (peak hours, daily, and weekly), travel speed, and pedestrian movements.

1. Traffic Volumes and Travel Speeds

Traffic volumes and travel speeds were measured to assist in determining the need for traffic calming devices. In Saskatoon the neighbourhood streets are classified typically as either local or collector streets. Traffic volumes (referred to as Average Daily Traffic) on these streets should meet the City of Saskatoon guidelines shown in **Table 3-1**.

Table 3-1: City of Saskatoon Street Classifications and Characteristics

Characteristics	Classifications					
	Back Lanes		Locals		Collectors	
	Residential	Commercial	Residential	Commercial	Residential	Commercial
Traffic function	Access function only (traffic movement not a consideration)		Access primary function (traffic movement secondary consideration)		Traffic movement and land access of equal importance	
Average Daily Traffic (vehicles per day)	<500	<1,000	<1,000	<5,000	<5,000	8,000-10,000
Typical Speed Limits (kph)	20		50		50	
Transit Service	Not permitted		Generally avoided		Permitted	
Cyclist	No restrictions or special facilities		No restrictions or special facilities		No restrictions or special facilities	
Pedestrians	Permitted, no special facilities		Sidewalks on one or both sides	Sidewalks provided where required	Typically sidewalks provided both sides	Sidewalks provided where required
Parking	Some restrictions		No restrictions or restriction on one side only		Few restrictions other than peak hour	

Travel speeds were measured to determine the 85th percentile speed, which is the speed at which 85 percent of vehicles are travelling at or below. The speed limit in the Caswell Hill area is 50kph, except for school zones where the speed limit is 30kph from September and June, 8:00am to 5:00pm, excluding weekends.

The speed studies and Average Daily Traffic (ADT) on streets where speeding was identified as an issue are summarized in **Table 3-2**.

Table 3-2: Speed Studies and Average Daily Traffic Counts (2014)

Street	Between	Class	Average Daily Traffic (vpd)	Speed (kph)
25 th Street	Avenue B & Idylwyld Drive	Local	933	N/A
Avenue D	28 th Street & 29 th Street		415	37.8
30 th Street	Avenue E & Avenue F		342	41.3
Avenue D	29 th Street & 30 th Street		228	40.9
Avenue F	31 st Street & 32 nd Street		352	40.9
Avenue F	30 th Street & 31 st Street		977	47.5
Avenue B	31 st Street & 32 nd Street		143	46.5
Avenue B	31 st Street & 32 nd Street		512	39.4
Jamieson Street	Avenue B & Avenue C	Local-Commercial	4,100	N/A
Avenue C	22 nd Street & 23 rd Street		3,603	N/A
29 th Street	Avenue F & Avenue G	Collector	3,400	44.6
29 th Street	Idylwyld Drive & Avenue B		5,345	N/A
29 th Street	Avenue B & Avenue C		4,680	N/A
29 th Street	Idylwyld Drive & Avenue B		4,390	N/A

2. Turning Movement Counts

Turning movement counts were completed to determine the need for an all-way (i.e. three-way or four-way) stop control. All-way stop controls need to meet City of Saskatoon Council Policy C07-007 *Traffic Control – Use of Stop and Yield Signs*, January 26, 2009. Criteria outlined in the policy that may warrant an all-way stop include a peak hour count greater than 600 vehicles or an ADT greater than 6,000 vehicles per day. Further conditions that must be met for an all-way stop to be warranted are:

1. Traffic entering the intersection from the minor street must be at least 35% for a 4-way stop and 25% for a 3-way stop.
2. No other all-way stop or traffic signals within 200m.

Results of the studies are shown in Table 3-3.

Table 3-3: All-Way Stop Assessments

Location	Peak Hour Traffic Count (veh)	Average Daily Traffic (vpd)	% of Traffic from minor street (%)	Traffic signals or all-way stop within 200m	Results
Avenue F & 31 st Street (south)	114	1,230	11	no	All-Way Stop Not Warranted
Avenue F & 31 st Street (north)	122	1,270	20	no	
Avenue C & 29 th Street	617	6,650	21	no	
Avenue H & 28 th Street	572	5,740	3	yes (90m from 4-way stop at 29 th Street)	
Avenue H & 31 st Street	596	5,960	6	No	
Avenue D & 23 rd Street	504	5,360	31	yes (100m from 4-way stop at Avenue C)	

As a result of the assessment there are no all-way stop controls recommended. Details of the all-way stop assessments are provided in **Appendix A**.

3. Pedestrian Assessments

Pedestrian assessments are conducted to determine the need for pedestrian actuated signalized crosswalks which, in adherence to the City of Saskatoon Council Policy C07-018 *Traffic Control at Pedestrian Crossings*, November 15, 2004, are typically active pedestrian corridor (flashing yellow lights) or pedestrian-actuated signals. A warrant system assigns points for a variety of conditions that exist at the crossing location, including:

- The number of traffic lanes to be crossed;
- the presence of a physical median;
- the posted speed limit of the street;
- the distance the crossing point is to the nearest protected crosswalk point; and
- the number of pedestrian and vehicles at the location.

Pedestrian and traffic data is collected during the five peak hours of: 8:00am-9:00am, 11:30am-1:30pm, and 3:00pm-5:00pm.

In addition, if a pedestrian actuated crosswalk is not warranted, a standard marked pedestrian crosswalk, or a zebra crosswalk (i.e. striped) may be considered. A summary of the pedestrian studies are provided in **Table 3-4**.

Table 3-4: Pedestrian Assessment

Location	Number of Pedestrians Crossing	Results
Avenue C & 29 th Street	63	Pedestrian Devices Not Warranted
Avenue H & 28 th Street	14	
31 st Street & Avenue H	27	
Avenue F & 31 st Street (south)	51	
Avenue F & 31 st Street (north)	39	

As a result of the assessment, no pedestrian devices are recommended. Details of the pedestrian device assessments are provided in **Appendix B**.

4. Plan Development

Stage 3 of the review included finalizing the recommended plan. This was achieved by completing the following steps:

- Based on the assessments, prepare a plan that illustrates the appropriate recommended improvement
- Present the draft plan to the residents at a follow-up public meeting
- Circulate the draft plan to the Civic Divisions for comment
- Revise the draft plan based on feedback from the stakeholders
- Prepare a technical document summarizing the recommended plan and project process

The tables in the following sections provide the details of the recommended traffic management plan, including the location, recommended improvement, and the justification of the recommended improvement.

1. Pedestrian Safety

Caswell Hill residents identified pedestrian safety near Caswell Hill School and Ashworth Holmes Park as a concern. The safety of the pedestrian environment near schools is important to encourage people to walk to school, as opposed to being dropped off. Accordingly, the recommended improvements to increase pedestrian safety are detailed in Table 4-1.

Table 4-1: Recommended Pedestrian Safety Improvements – School Sites

Location	Recommended Improvement ¹	Purpose
Avenue H & 31 st Street	Zebra crosswalks	Improve pedestrian safety crossing Avenue H (currently no enhanced crossings between 29 th Street & 33 rd Street)
29 th Street & Avenue C	Zebra crosswalk	Improve pedestrian safety on school route
29 th Street & Avenue B	Pedestrian corridor & zebra crosswalk	Improve pedestrian safety on school route
Avenue E & 30 th Street	Raised median islands; accessibility ramps; pathway connection into park; add reflectors to park posts	Reduce speed & improve pedestrian safety near park
Avenue F & 31 st Street	Curb extensions & raised median island	Reduce speed & improve pedestrian safety near park
Avenue D & 31 st Street	Curb extension	Reduce speed & improve pedestrian safety near park
Avenue F - north of 30 th Street (at curve)	30kph advisory speed sign & curve ahead sign	Reduce speed around curve near park
30 th Street between Idylwyld Drive & Avenue C (south side); Avenue F between parking lot south of pool & 31 st Street (west side); Avenue D (portions on east side, north & south of 23 rd Street to connect to existing); Avenue E between 28 th Street & 29 th Street (east side)	Sidewalk	Improve pedestrian safety and connectivity near parks/schools

¹ For details on these devices refer to the *City of Saskatoon Traffic Calming Guidelines and Tools*

2. Traffic Control

The recommended improvements to intersections that will improve the level of safety by clearly identifying the right-of-way through traffic controls are provided in **Table 4-2**.

Table 4-2: Recommended Traffic Control Improvements

Location	Recommended Improvement	Purpose
32 nd Street & Avenue D	Alternate direction of stop signs	As part of the Stop & Yield Retrofit Program, signs are to be installed in an alternating pattern so a thoroughfare isn't created
Avenue C & 30 th Street	Change yield signs to stop signs	Enhance compliance near Caswell School
Jamieson Street & Avenue C	Change yield sign to stop sign	Enhance compliance (Policy C07-007 – warranted based on roadway geometry / alignment)
Avenue F & 30 th Street	Change yield sign to stop sign; install closer to intersection	Enhance compliance near Ashworth Holmes Park (Policy C07-007 – warranted based on roadway geometry / alignment)
32 nd Street & Avenue D	North-south facing stop signs	As part of the Stop & Yield Retrofit Program, signs are to be installed in an alternating pattern so a thoroughfare isn't created
Avenue B & 27 th Street	Stop Signs	Enhance compliance

3. Parking Improvements

The recommended improvements to parking that will improve the level of safety at specific intersections is detailed in **Table 4-3**.

Table 4-3: Recommended Parking Improvements

Location	Recommended Improvement	Purpose
Avenue D & 30th Street	"No parking" signs	Improve sightlines
Avenue D & 30th Street	Add "no parking" signs around island.	Parked cars obstruct sight lines

4. Cycling Improvements

An assessment is currently being conducted for the Blairmore Bikeway (i.e. 23rd Street cycling route). All comments received during the public consultation were forwarded to the project leader for further consideration.

5. 23rd Street & Avenue D

Safety concerns were an identified concern at the intersection of Avenue D & 23rd Street including high traffic volumes and visibility issues.

An all-way stop assessment was conducted and is not warranted due to low traffic volumes and the proximity of the existing all-way stop at Avenue C & 23rd Street.

A review of the most recent 5-year collision data (2009 – 2013) indicated 20 collisions occurred, and 80% of all collisions involved the northbound through movement. A directional closure to restrict the northbound through movement is recommended to reduce the number of collisions and improve overall safety at the intersection. In addition, a yield sign will be added for the northbound right turn and parking restrictions will be installed on 23rd Street on the southeast corner to improve sight lines. Refer to **Exhibit 4-1**.

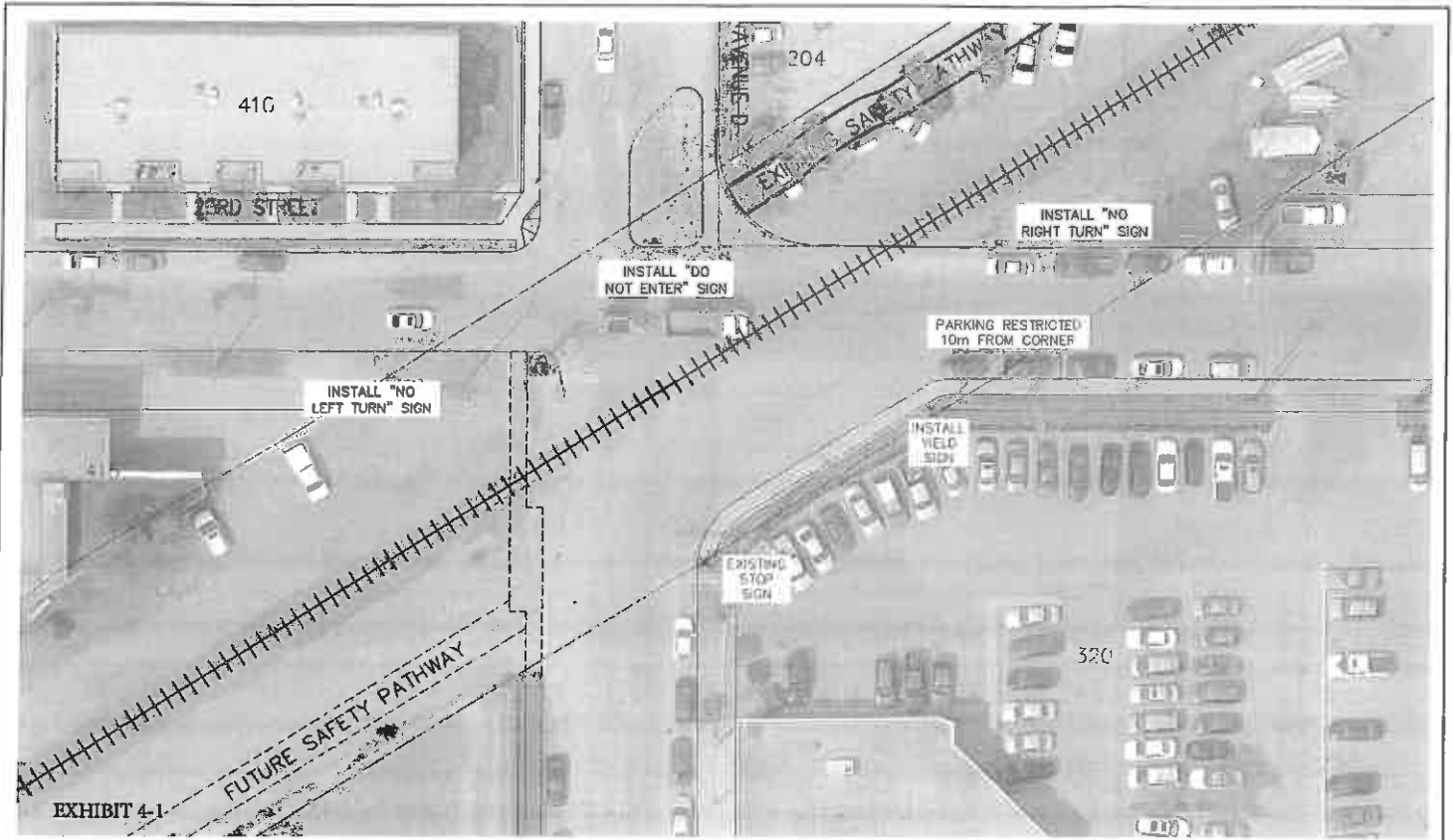


EXHIBIT 4-1

NO.	DESCRIPTION/REVISION	DATE	BY

DESIGNED BY	CHECKED BY



AVENUE D & 23RD STREET

DATE	BY

PROPOSED

The peak hour traffic volumes were reviewed to assess the impact of the directional closure. During the morning peak hour (7:45am-8:45am), there were 18 northbound-through vehicles, 10 westbound-right vehicles, and 2 eastbound-left vehicles resulting in a total of 40 vehicles during the afternoon peak hour effected. During the afternoon peak hour (4:30pm-5:30pm), there were 38 northbound-through vehicles, 20 westbound-right vehicles, and 7 eastbound-left vehicles resulting in a total of 65 vehicles during the afternoon peak hour effected. Based on the peak hour assessment the directional closure will have minimal impact on the level of service of the intersection. For full details of the peak hour assessment refer to **Appendix D**.

Follow up Consultation – Presentation of Traffic Management Plan

The initial recommended improvements were presented at a follow-up public meeting in October 2014. Recommended improvements that were not supported by the residents were eliminated or altered accordingly. A decision matrix detailing the list of recommended improvements presented at the follow-up meeting are included in **Appendix E**. A decision matrix for additional comments received after the draft traffic plan is also included in **Appendix E**.

The following table displays a list of the improvements that were adjusted based on the feedback received at the October 2014 follow up meeting.

The recommendations were circulated to all Civic Divisions to gather comments and concerns. General support was received along with the following comments:

- Saskatoon Fire Department requested that emergency vehicles be able to proceed northbound on Avenue D at 23rd Street. They would simply ignore the left/right turn only and go against traffic in the southbound lane.
- Saskatoon Light & Power requested that Transportation Division contact them when the sidewalk location is determined to see if it required relocation of lighting.

5. Recommended Plan and Cost Estimates

Stage 4, the last stage of the process, is to install the recommended improvements for the Caswell Hill neighbourhood within the specified timeframe. The timeframe depends upon the complexity and cost of the solution. A short-term time frame is defined by implementing the improvements within 1 to 2 years; medium-term is 3 to 5 years; and long-term is 5 years plus.

The placement of pedestrian and traffic control signage will be completed short-term (1 to 2 years).

All traffic calming measures will be installed temporarily using rubber curbing until proven effective, and will be implemented short-term (1 to 2 years).

Permanent traffic calming often includes removing the temporary barriers and reconstructing with concrete. The timeline for permanent traffic calming may depend on the complexity of the device and the availability of funding; therefore the timeline is medium-term (3 to 5 years).

Major intersection reviews are based on the number of other locations to be reviewed city-wide and the availability of funding. The timeline for review will be medium-term (3 to 5 years).

The estimated costs of the improvements included in the Neighbourhood Traffic Management Plan are outlined in the following tables:

- Table 5-1: Traffic Calming Cost Estimate
- Table 5-2: Marked Pedestrian Crosswalks Cost Estimate
- Table 5-3: Traffic Control Signage – Stop & Yield Cost Estimate
- Table 5-4: Miscellaneous Signage Cost Estimate
- Table 5-5: Sidewalk & Pedestrian Accessibility Cost Estimate
- Table 5-6: Avenue D & 23rd Street Improvements Cost Estimate
- Table 5-7: Total Cost Estimate

Table 5-1: Traffic Calming Cost Estimate

Location	Device (s)	Cost Estimate		Time Frame
		Temporary	Permanent	
Avenue E & 30 th Street	2 raised median islands	\$1,000	\$12,000	1 to 5 years
Avenue F & 31 st Street	2 curb extensions & 1 raised median island	\$1,500	\$66,000	
Avenue D & 31 st Street	1 curb extension	\$500	\$30,000	
Total		\$3,000	\$108,000	

Temporary traffic calming will be installed in 2015 and will be monitored to determine its effectiveness. If proven effective, the devices will be made permanent. Until they are made permanent, the devices will remain temporary and maintained on a yearly basis. An estimated cost for maintenance is about \$5,000 per year. The maintenance typically involves the replacement of damage curbs as result of snow removal, damage from vehicle impact, etc.

Table 5-2: Marked Pedestrian Crosswalks Cost Estimate

Location	Device (s)	Cost Estimate	Time Frame
Avenue H & 31 st Street	4 signs & zebra markings	\$1,200	1 to 2 years
29 th Street & Avenue C	4 signs & zebra markings	\$1,200	
29 th Street & Avenue B	4 signs & zebra markings	\$1,200	
Avenue E & 30 th Street	Post reflectors	\$100	1 to 5 years
29 th Street & Avenue B	Pedestrian corridor	\$30,000	
Total		\$33,700	

The operating cost on an annual basis to maintain a crosswalk is approximately \$60 each.

Table 5-3: Traffic Control Signage – Stop & Yield Cost Estimate

Location	Device (s)	Number of Signs	Cost Estimate	Time Frame
Avenue B & 27 th Street; Avenue C & 30 th Street; Avenue F & 30 th Street; and Jamieson Street & Avenue C	Stop Sign	6	\$1,500	1 to 2 years
32 nd Street & Avenue D	Alternate stop signs	2	\$0	
Total			\$1,500	

Table 5-4: Miscellaneous Signage Cost Estimate

Location	Device (s)	Cost Estimate	Time Frame
Avenue F - north of 30 th Street (at curve)	30kph speed sign	\$250	1 to 2 years
Avenue D & 30 th Street	"No parking" signs	\$750	
Total		\$1,000	

Table 5-5: Sidewalk & Pedestrian Accessibility Cost Estimate

Location	Device	Distance (m)	Cost Estimate	Time Frame
30 th Street between Idylwyld Drive & Avenue C (south side)	Sidewalk	170	\$74,800	5 years plus
Avenue F between parking lot south of pool & 31 st Street (west side)	Sidewalk	40	\$17,600	
Avenue D (portions on east side, north & south of 23 rd Street to connect to existing)	Sidewalk	55	\$24,200	
Avenue E between 28 th Street & 29 th Street (east side)	Sidewalk	60	\$26,400	
Avenue E & 30 th Street	Asphalt pathway connection	20	\$30,000	
Avenue E & 30 th Street	2 accessibility ramps	NA	\$6,400	
Total			\$179,400	

Table 5-6: Avenue D & 23rd Street Improvements Cost Estimate

Device	Cost Estimate		Time Frame
	Temporary	Permanent	
Pavement markings (lane designation, stop bar)	NA	\$2,000	1 to 2 years
5 Signs (1 yield sign, 1 No Entry, 2 No Right/Left Turns, 1 "No Parking")	NA	\$1,250	
Directional Closure	\$1,000	\$45,000	1 to 5 years
Total	\$1,000	\$48,250	

Table 5-7: Total Cost Estimate

Category	Signage & Temporary Traffic Calming	Permanent
Traffic Calming	\$3,000	\$108,000
Marked Pedestrian Crosswalks	\$3,700	\$30,000
Traffic Control Signage	\$1,500	NA
Miscellaneous Signage	\$1,000	NA
Sidewalks & Pedestrian Accessibility Ramps	NA	\$179,400
Avenue D & 23rd Street Improvements	\$4,250	\$45,000
Total	\$13,450	\$362,400

The total cost estimate for the signage and temporary traffic calming devices to be installed in 2015 is **\$13,450**. The total cost estimate for the installation of future permanent devices, including the pedestrian corridor, sidewalks, pedestrian accessibility ramps, asphalt pathway, and permanent traffic calming is **\$362,400**.







Resulting from the plan development process, the recommended improvements, including the location, type of improvement, and schedule for implementation are summarized in **Exhibit 5-1**. The resulting recommended Caswell Hill neighbourhood Traffic Management Plan is illustrated in **Table 5-8**.

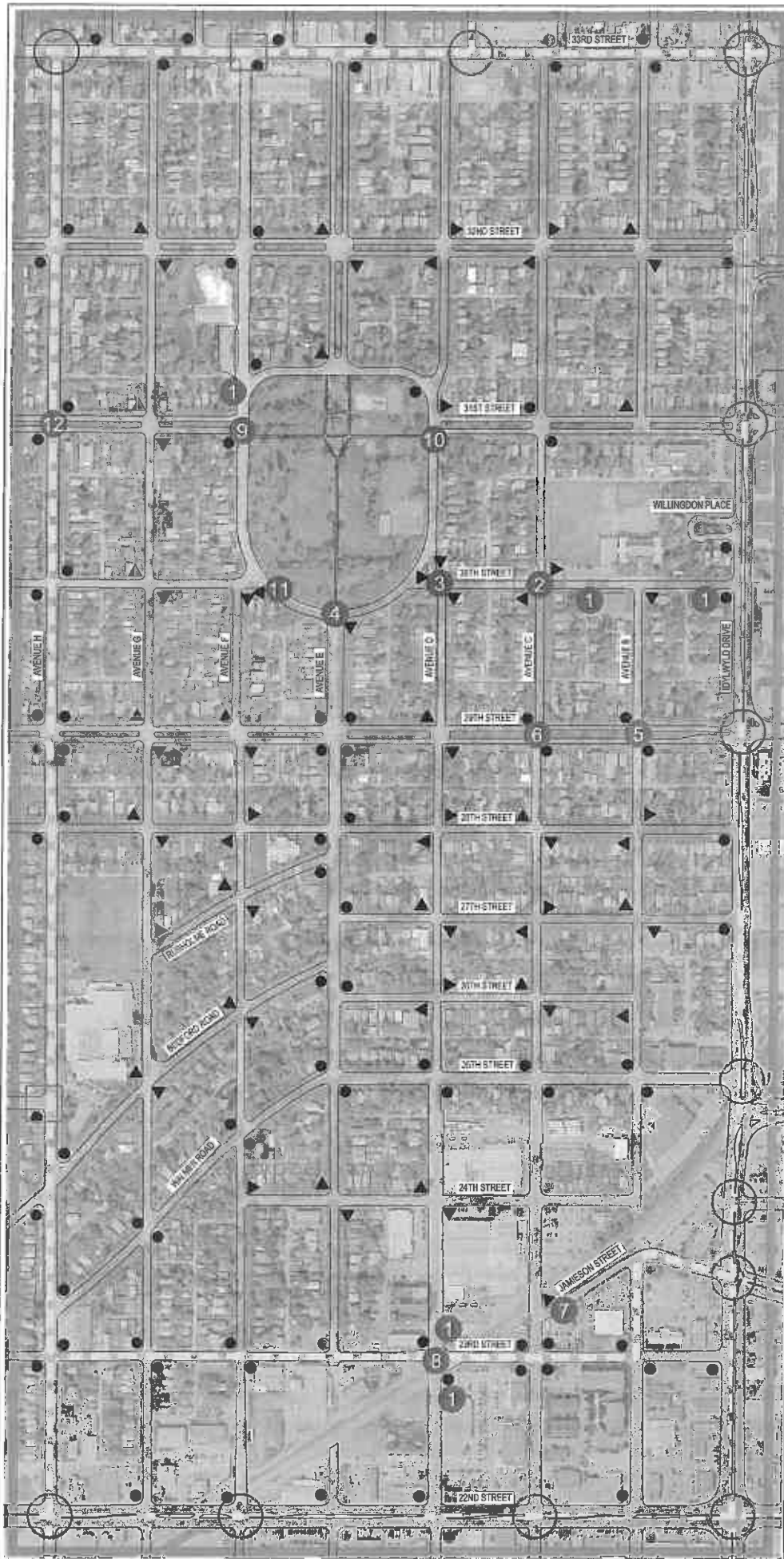
Table 5-8: Caswell Hill Neighbourhood Recommended Improvements

Location	Proposed Measure	Time Frame
Avenue B & 27th Street	Stop signs	1 to 2 years
32nd Street & Avenue D	Alternate direction of stop signs	
Avenue C & 30th Street	Change yield signs to stop signs	
Jamieson Street & Avenue C	Change yield sign to stop sign	
Avenue F & 30th Street	Change yield sign to stop sign; install closer to intersection	
Avenue H & 31st Street	Zebra crosswalks	
Avenue F - north of 30th Street (at curve)	30kph advisory speed sign & curve ahead sign	
Avenue D & 30th Street	"No parking" signs	
29th Street & Avenue C	Zebra crosswalk	
29th Street & Avenue B	Pedestrian corridor & zebra crosswalk	3 to 5 years (traffic calming devices will be installed temporarily until proven effective)
Avenue E & 30th Street	Raised median islands; accessibility ramps; pathway connection into park; add reflectors to park posts	
Avenue D & 23rd Street	Directional Closure, signage, & pavement markings to restrict northbound through movement (Subject to CP approval)	
Avenue F & 31st Street	Curb extensions & raised median island	
Avenue D & 31st Street	Curb extension	
30th Street between Idylwyld Drive & Avenue C (south side); Avenue F between parking lot south of pool & 31st Street (west side); Avenue D (portions on east side, north & south of 23rd Street to connect to existing); Avenue E between 28th Street & 29th Street (east side)	Sidewalk	5 years plus

EXHIBIT 5-1

LEGEND

-  STOP SIGN
-  YIELD SIGN
-  BUS ROUTE
-  TRAFFIC SIGNAL LOCATION
-  PEDESTRIAN ACTUATED SIGNAL LOCATION
-  ACTIVE PEDESTRIAN CORRIDOR LOCATION



ITEM	LOCATION	PROPOSED MEASURE
1	Avenue B & 27th Street	Stop Sign
2	32nd Street & Avenue D	North-South facing stop signs
3	Avenue C & 30th Street	Change yields sign to stop sign
4	Jamieson St & Avenue C	Change yield sign to stop sign
5	Avenue F & 30th Street	Change yield sign to stop sign; install closer to intersection
6	Avenue H & 31st Street	Zebra crosswalks
7	Avenue F north of 30th St (at curve)	30kph advisory speed sign & curve ahead sign
8	Avenue D & 30th Street	"no parking" signs
9	29th Street & Avenue C	Zebra crosswalk
10	29th Street & Avenue B	Pedestrian corridor & zebra crosswalk
11	Avenue E & 30th Street	Median islands; accessibility ramps; pathway connection into park; add reflectors to park posts
12	Avenue D & 23rd Street	Median island, signage & pavement markings to restrict northbound through movement (subject to CP approval)
13	Avenue F & 31st Street	Curb extensions & median island
14	Avenue D & 31st Street	Curb extension

Appendix A

All Way Stop Assessments

All-way Stop Assessment (Policy C07-007 – Traffic Control – Use of Stop & Yield Signs)

The following conditions must be met for all-way stop control to be considered:

- i) The combined volume of traffic entering the intersection over the five peak hour periods from the minor street must be at least 25% of the total volume for a three-way stop control, and at least 35% of the total volume for a four-way stop control.
- ii) There can be no all-way stop control and traffic signal within 200 metres of the proposed intersection being considered for all-way stop control on either of the intersecting streets.

Location	Condition 1: Combined volume of traffic entering intersection from minor street is at least 25% for 3-way stop or 35% for 4-way stop	Condition 2: There can be no all-way stop or traffic signal within 200m	Results
Avenue F & 31 st Street (south)	11% - Condition NOT met	No all-way stop or traffic signals within 200m – Condition met	Conditions NOT met therefore all-way stop not warranted
Avenue F & 31 st Street (north)	20% - Condition NOT met	No all-way stop or traffic signals within 200m – Condition met	
Avenue C & 29 th Street	21% - Condition NOT met	No all-way stop or traffic signals within 200m – Condition met	
Avenue H & 28 th Street	3% - Condition NOT met	90m from 4-way stop at 29 th Street - condition NOT met	
Avenue H & 31 st Street	6% - Condition NOT met	No all-way stop or traffic signals within 200m – Condition met	
Avenue D & 23 rd Street	31% - Condition NOT met	100m from 4-way stop at Avenue C - condition NOT met	

Provided the above criteria are met, the following conditions, singly or in combination, may warrant the installation of all-way stop signs:

- i) When five or more collisions are reported in the last twelve month period and are of a type susceptible to correction by an all-way stop control.
- ii) When the total number of vehicles entering the intersection from all approaches averages at least 600 per hour for the peak hour or the total intersection entering volume exceeds 6,000 vehicles per day.
- iii) The average delay per vehicle to the minor street traffic must be 30 seconds or greater during the peak hour.
- iv) As an interim measure to control traffic while arrangements are being made for the installation of traffic signals.

Appendix B

Pedestrian Device Assessments

Pedestrian device assessment (Traffic Controls at Pedestrian Crossing, 2004)

29th Street & Avenue C:

1. Lanes Priority Points:

$L = 2$ lanes = number of lanes.
 $LANF = 0.0$ points = $(L-2) \times 3.6$ to a max of 15 points, urban x-section only.

2. Median Priority Points:

$MEDF = 6.0$ points = indicating there is no physical median here.

3. Speed Priority Points:

$S = 50$ kph = speed limit or 85th percentile speed.
 $SPDF = 6.7$ points = $(S-30) / 3$ to a maximum of 10 points.

4. Pedestrian Protection Location:

$D = 210$ m = distance from study location to nearest protected crosswalk.
 $LOCF = 0.8$ points = $(D-200) / 13.3$ to a maximum of 15 points.

5. Pedestrian/Vehicle Volume Priority Points:

$H = 5.0$ = (hours) duration of counting period.
 $Ps = 63.0$ = total number of children, teenagers, seniors and/or impaired counted.
 $Pa = 0.0$ = total number of adults counted.
 $Pw = 94.5$ = weighted average of pedestrians crossing the main street.
 $Pcm = 18.9$ = weighted average hourly pedestrian volume crossing the main street.
 $V = 2245.0$ = volume of traffic passing through the crossing(s).
 $Vam = 449.0$ = average hourly volume of traffic passing through the crossing(s).
 $VOLF = 17.0$ points = $Vam \times Pcm / 500$

6. Satisfaction of Installation Criteria:

$SUMF = (LANF + MEDF + SPDF + LOCF + VOLF)$

$SUMF = 30$ points

(P.A. Signal Warrant Points)

The total of the warrant points is less than 100 indicating that a pedestrian actuated signal is NOT warranted.

Avenue H & 28th Street:

1. Lanes Priority Points:

$L = 2$ lanes = number of lanes.
 $LANF = 0.0$ points = $(L-2) \times 3.6$ to a max of 15 points, urban x-section only.

2. Median Priority Points:

$MEDF = 6.0$ points = indicating there is no physical median here.

3. Speed Priority Points:

$S = 50$ kph = speed limit or 85th percentile speed.
 $SPDF = 6.7$ points = $(S-30) / 3$ to a maximum of 10 points.

4. Pedestrian Protection Location:

$D = 95$ m = distance from study location to nearest protected crosswalk.
 $LOCF = 0.0$ points = $(D-200) / 13.3$ to a maximum of 15 points.

5. Pedestrian/Vehicle Volume Priority Points:

$H = 5.0$ = (hours) duration of counting period.
 $Ps = 14.0$ = total number of children, teenagers, seniors and/or impaired counted.
 $Pa = 0.0$ = total number of adults counted.
 $Pw = 21.0$ = weighted average of pedestrians crossing the main street.
 $Pcm = 4.2$ = weighted average hourly pedestrian volume crossing the main street.
 $V = 2263.0$ = volume of traffic passing through the crossing(s).
 $Vam = 452.6$ = average hourly volume of traffic passing through the crossing(s).
 $VOLF = 3.8$ points = $Vam \times Pcm / 500$

6. Satisfaction of Installation Criteria:

$SUMF = (LANF + MEDF + SPDF + LOCF + VOLF)$

$SUMF = 16$ points

(P.A. Signal Warrant Points)

The total of the warrant points is less than 100 indicating that a pedestrian actuated signal is NOT warranted.

Avenue H & 31st Street:

1. Lanes Priority Points:

L = 2 lanes = number of lanes.
LANF = 0.0 points = $(L-2) \times 3.6$ to a max of 15 points, urban x-section only.

2. Median Priority Points:

MEDF = 6.0 points = indicating there is no physical median here.

3. Speed Priority Points:

S = 50 kph = speed limit or 85th percentile speed.
SPDF = 6.7 points = $(S-30) / 3$ to a maximum of 10 points.

4. Pedestrian Protection Location:

D = 400 m = distance from study location to nearest protected crosswalk.
LOCF = 15.0 points = $(D-200) / 13.3$ to a maximum of 15 points.
Actual value = 15.03759 points.

5. Pedestrian/Vehicle Volume Priority Points:

H = 5.0 = (hours) duration of counting period.
Ps = 27.0 = total number of children, teenagers, seniors and/or impaired counted.
Pa = 0.0 = total number of adults counted.
Pw = 40.5 = weighted average of pedestrians crossing the main street.
Pcm = 8.1 = weighted average hourly pedestrian volume crossing the main street.
V = 2008.0 = volume of traffic passing through the crossing(s).
Vam = 401.6 = average hourly volume of traffic passing through the crossing(s).
VOLF = 6.5 points = $Vam \times Pcm / 500$

6. Satisfaction of Installation Criteria:

SUMF = (LANF + MEDF + SPDF + LOCF + VOLF)

SUMF = 34 points

(P.A. Signal Warrant Points)

The total of the warrant points is less than 100 indicating that a pedestrian actuated signal is NOT warranted.

Avenue F & 31st Street (south):

1. Lanes Priority Points:

- L = 2 lanes = number of lanes.
- LANF = 0.0 points = (L-2) x 3.6 to a max of 15 points, urban x-section only.

2. Median Priority Points:

- MEDF = 6.0 points = indicating there is no physical median here.

3. Speed Priority Points:

- S = 50 kph = speed limit or 85th percentile speed.
- SPDF = 6.7 points = (S-30) / 3 to a maximum of 10 points.

4. Pedestrian Protection Location:

- D = 1,000 m = distance from study location to nearest protected crosswalk.
- LOCF = 15.0 points = (D-200) / 13.3 to a maximum of 15 points.
- Actual value = 60.15038 points.

5. Pedestrian/Vehicle Volume Priority Points:

- H = 5.0 = (hours) duration of counting period.
- Ps = 51.0 = total number of children, teenagers, seniors and/or impaired counted.
- Pa = 0.0 = total number of adults counted.
- Pw = 76.5 = weighted average of pedestrians crossing the main street.
- Pcm = 15.3 = weighted average hourly pedestrian volume crossing the main street.
- V = 398.0 = volume of traffic passing through the crossing(s).
- Vam = 79.6 = average hourly volume of traffic passing through the crossing(s).
- VOLF = 2.4 points = Vam x Pcm / 500

6. Satisfaction of Installation Criteria:

SUMF = (LANF + MEDF + SPDF + LOCF + VOLF)

SUMF = 30 points

(P.A. Signal Warrant Points)

The total of the warrant points is less than 100 indicating that a pedestrian actuated signal is NOT warranted.

Avenue F & 31st Street (north):

1. Lanes Priority Points:

L = 2 lanes = number of lanes.
LANF = 0.0 points = (L-2) x 3.6 to a max of 15 points, urban x-section only.

2. Median Priority Points:

MEDF = 6.0 points = indicating there is no physical median here.

3. Speed Priority Points:

S = 50 kph = speed limit or 85th percentile speed.
SPDF = 6.7 points = (S-30) / 3 to a maximum of 10 points.

4. Pedestrian Protection Location:

D = 1,000 m = distance from study location to nearest protected crosswalk.
LOCF = 15.0 points = (D-200) / 13.3 to a maximum of 15 points.
Actual value = 60.15038 points.

5. Pedestrian/Vehicle Volume Priority Points:

H = 5.0 = (hours) duration of counting period.
Ps = 39.0 = total number of children, teenagers, seniors and/or impaired counted.
Pa = 0.0 = total number of adults counted.
Pw = 58.5 = weighted average of pedestrians crossing the main street.
Pcm = 11.7 = weighted average hourly pedestrian volume crossing the main street.
V = 423.0 = volume of traffic passing through the crossing(s).
Vam = 84.6 = average hourly volume of traffic passing through the crossing(s).
VOLF = 2.0 points = Vam x Pcm / 500

6. Satisfaction of Installation Criteria:

SUMF = (LANF + MEDF + SPDF + LOCF + VOLF)

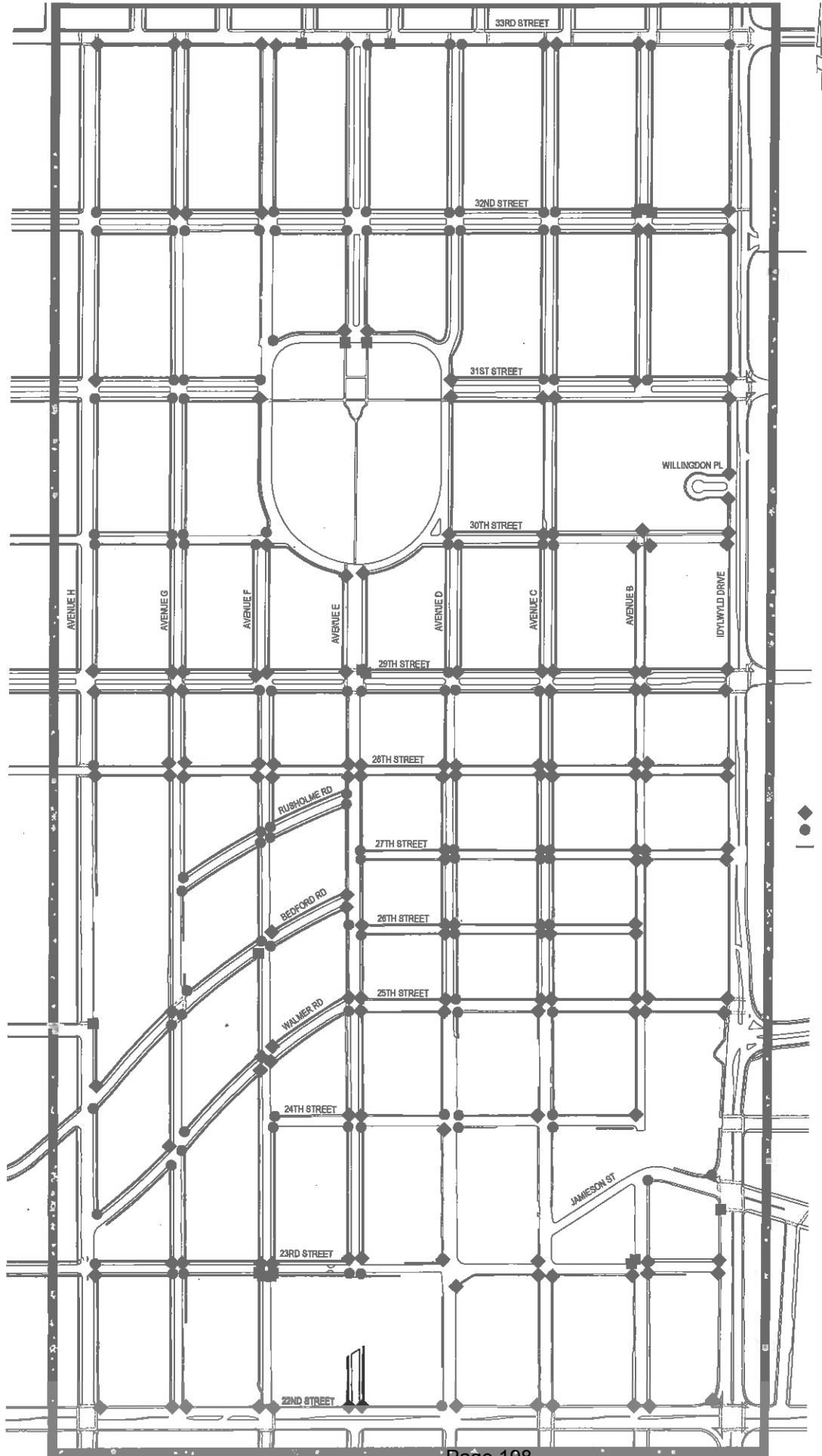
SUMF = 30 points

(P.A. Signal Warrant Points)

The total of the warrant points is less than 100 indicating that a pedestrian actuated signal is NOT warranted.

Appendix C
Pedestrian Facilities Map

CASWELL HILL PEDESTRIAN FACILITIES

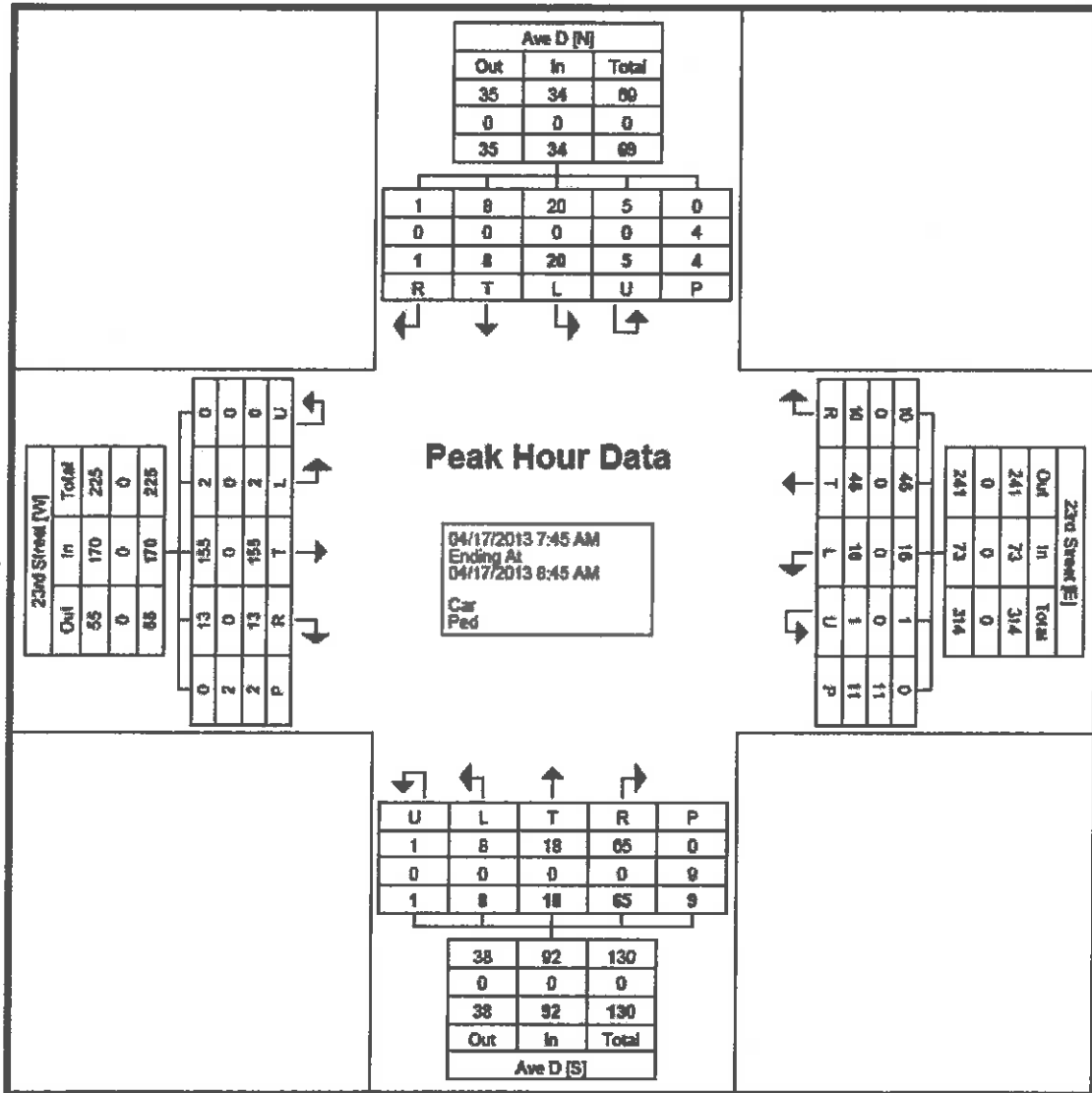


LEGEND

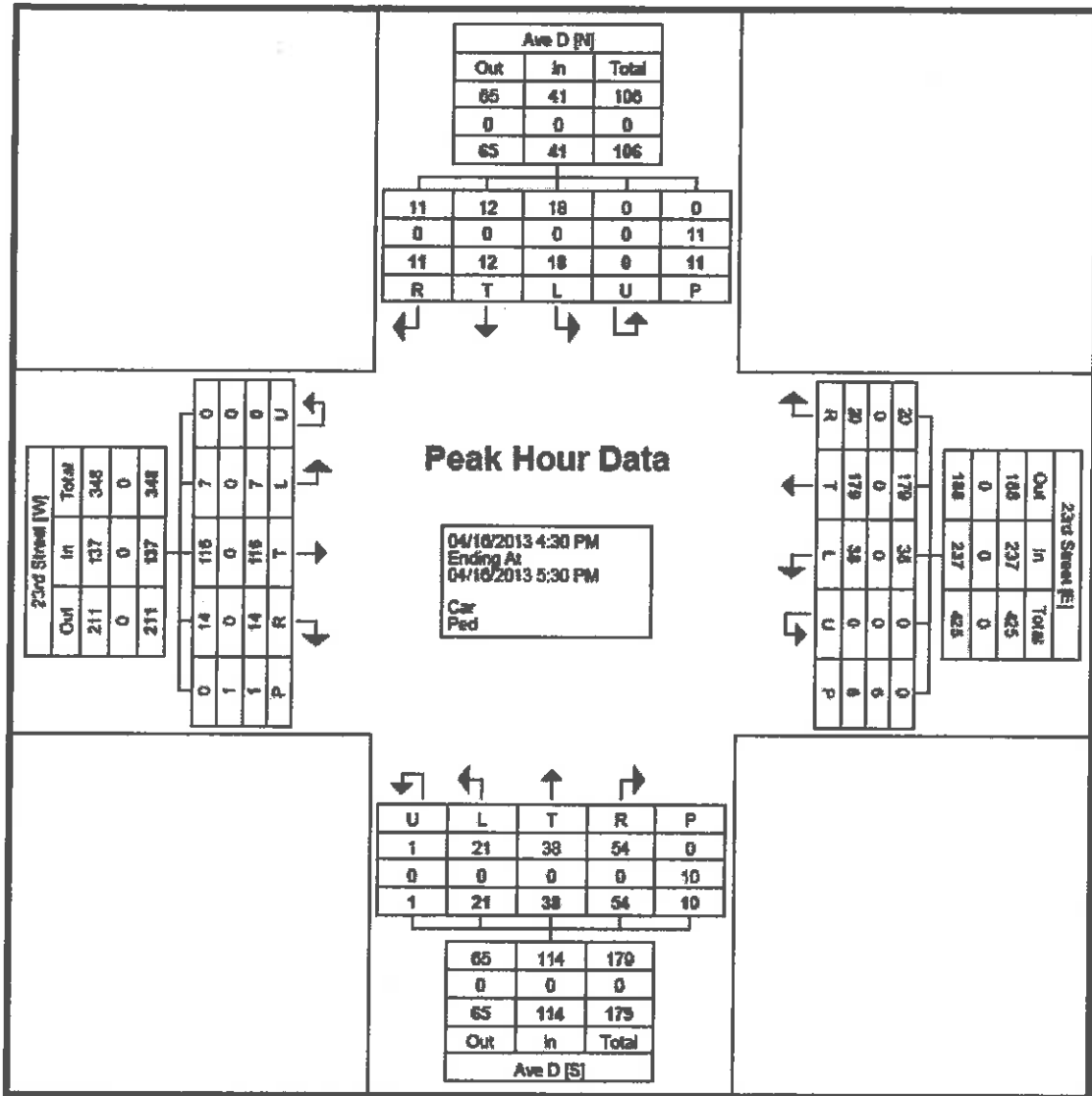
- ◆ EXISTING DISABILITY RAMP
- PROPOSED DISABILITY RAMP
- EXISTING SIDEWALK

Appendix D

Peak Hour Assessment – Avenue D & 23rd Street



Turning Movement Peak Hour Data Plot (7:45 AM)



Turning Movement Peak Hour Data Plot (4:30 PM)

Appendix E

Recommendation Review Matrix

Decision Matrix – Recommendations proposed at initial meeting

Item	Location	Recommendation	Group 1	Group 2	Group 3	Additional Responses	Decision
1	30th St between Idylwyld Dr & Ave C (south side between Idylwyld Dr & Ave C); Ave F between parking lot south of pool & 31st St (west side); Ave D (portions on east side, north & south of 23rd St to connect to existing)	Install Sidewalk		Ave B - 27th St to 29th St; around park		SL&P - has street light poles on the south side of 30 th Street between Avenue B and Avenue C. Please have your engineering team contact SL&P when the sidewalk location is determined to see if it requires the relocation of the lighting.	Carried.
2	Ave C 30th St St	Change yield signs to stop signs	agree, consider 4-way stop				Carried.
3	Ave D & 30th St	Install "no parking" sign on 30th St (southeast corner) 10m		Speeding near Ave D & 30th St; confusion	southeast corner not problem; needed around island/park on west side		Carried. Add "no parking" signs around island.
4a	Ave E & 30th St	Install median islands (west & south legs); install accessibility ramps & pathway connection on north side (Refer to picture #4a)	30kph signs on both sides; visibility is fine	Reflectors on posts into park to restrict vehicle access at path	curb extension pose a safety concern for cyclists; 50/50 support for islands		Carried. Add reflectors to posts. Add "30kph (yellow) & curve ahead" signs at Avenue F & 30th Street.
4b	Ave E & 30th St	Install curb extension on 30th St (southwest corner) & median island on Ave E; install accessibility ramps & pathway connection on north side (Refer to picture #4b)	More in favour of curb extensions; install stop signs instead of yield heading into circle around park		not in agreement		Rejected.
5	29th St & Ave B	Install pedestrian corridor & zebra crosswalk					Carried.
6	29th St & Ave C	Install zebra crosswalk	agree, consider 10m "no parking" signs		consider 4-way stop		Carried. 4-way stop not warranted.
7	Jamieson St & Ave C	Change yield sign to stop sign					Carried.
8	Avenue D & 23rd St	Install median island, signage, & pavement markings to restrict northbound through movement; "no parking" signs 10m (Refer to picture #8) (Subject to CP approval)	agree but see how it works; pedestrian-activated light; roundabout; 4-way stop		consider pedestrians		Carried.
9	Ave F & 31st St	Install curb extensions & median island on Ave F (south side)			visibility is an issue for peds coming out of park; depressed/hedge; curb extension is concern for cyclist, especially younger (pushes cyclist into traffic lane)		Carried.
10	Ave D & 31st St	Install curb extension on Ave D (southeast corner)			No, parking is an issue (visibility) on both park & residential side		Carried.
11	Ave F & 30th St	Change yield sign to stop sign; install closer to intersection					Carried.
12	Ave H & 31st St	Install zebra crosswalks on 31st St (north & south legs)					Carried.

Decision Matrix – Additional comments

Item	Location	Concern	Decision
1	Back lane south of 33rd St facing westbound onto Ave E	Add "Right Turn only" worded tab under existing "Right Turn Only" pictured tab	Rejected. Will be included in 33rd Street Review.
2	Ave E and Ave C between 28th St & 29th St	Sidewalks needed on east side	Site check confirmed existing sidewalk in mentioned locations except Ave E between 28th St & 29th St. Connects to park one block north. Add to recommendations.
3	32nd St & Ave D	Signs not visible; speeding on Ave D between 31st St & 33rd St; switch yield signs	Yield signs were installed throughout Caswell Hill as part of the Stop & Yield Retrofit Program. As such they are to be installed in an alternating pattern so a thoroughfare isn't created. The yields at 32nd St of Ave D and Ave C were installed prior to the retrofit, each facing east-west. To continue in alternating pattern one of these may be switched to face north-south. North-south facing stop signs (to further enhance compliance) will be added to the recommendations.
4	Ashworth Holmes Park	Parking on straight area around park	Parking on east side permitted. Parking restrictions already signed on east side (near crosswalks).
5	Jamieson St	Sharrows go into parked cars	Noted. Forwarded to project manager (Blairmore Bikeway) to follow up.
6	29rd St between Ave E & Ave F	Pinch point increases frustration	Noted. Forwarded to project manager (Blairmore Bikeway) to follow up.
7	Ave B & 27th St	Revisit dangerous "blind corner"; stop signs instead of yields	Carried. Add stop signs to recommendations
8	Unknown	Pedestrian-activated takes too long to activate once pressed	Rejected. Need location.
9	Ashworth Holmes Park	Trim hedge around park; makes it a blind corner	Forwarded to Parks Division for tree trimming.
10	Ave C between 29th St & 31st St	Speeding	Rejected. Speed study indicated 85th percentile speed = 40.9kph. Acceptable range.
11	Ave B & 25th St	Difficult to see cars parked too close	Noted. "No parking" signs in place. Fire hydrant on northeast corner. Follow up with parking enforcement if parking occurs.
12	Ashworth Holmes Park	Accessibility ramps needed at all entries	Site check indicated ramps are in place at all entries except south end. Accessibility ramps have already been proposed in the traffic plan at this location.



STANDING POLICY COMMITTEE ON ENVIRONMENT, UTILITIES & CORPORATE SERVICES

Household Hazardous Waste Days Program Options

Recommendation of the Committee

That an increase of \$100,000 to the Household Hazardous Waste Days Program be referred to the 2016 (\$50,000) and 2017 (\$50,000) Business Plan and Budget deliberations.

History

At the March 9, 2015 Standing Policy Committee on Environment, Utilities & Corporate Services meeting, a report of the General Manager, Corporate Performance Department dated March 9, 2015 was considered.

Attachment

March 9, 2015 Report of the General Manager, Corporate Performance.

AdminReport - Household Hazardous Waste Days Program Options.docx

Recommendation

That a report be submitted to City Council recommending:

That an increase of \$100,000 to the Household Hazardous Waste Days Program be referred to the 2016 (\$50,000) and 2017 (\$50,000) Business Plan and Budget deliberations.

Topic and Purpose

This report outlines the importance of the Household Hazardous Waste (HHW) Days Program, identifies the requirement for an increase in funding to match the growth of the program and provides options to improve access to HHW collection.

Report Highlights

1. The HHW Days Program continues to demonstrate growth through resident participation and material collection rates.
2. The current budget allocated to the HHW Days Program is not sufficient to meet current or anticipated demand for services.
3. Opportunities have been identified to improve program convenience and reduce costs associated with HHW events.

Strategic Goals

The recommendation contained in this report supports the four year priority to promote and facilitate city-wide composting and recycling to reduce the rate and volume of waste sent to the landfill, and the long term strategies of soil and water quality protection under the Strategic Goal of Environmental Leadership.

Background

On May 5, 2014, City Council approved the Award of Professional Services Agreement to Envirotec Services Incorporated (Envirotec) to deliver the HHW Days Program for a term of 19 months until December 31, 2015, with the option to extend the Agreement for up to three additional one-year terms. Envirotec was the only respondent to the RFP.

City Council also resolved, in part:

“that the number of collection days scheduled for 2015 be further reviewed and a report on options be provided for the 2015 Business Plan and Budget deliberations; and

that the Administration report further on the options for improving the convenience of drop-off locations for hazardous materials.”

Report

The HHW Days Program has been available to residents of Saskatoon since 2006. The goal of the HHW Days Program is to divert all hazardous materials generated from residents away from landfills into safe and environmentally responsible disposal or recycling channels.

Participation and Material Collection Rates Continue to Grow

The HHW Days Program experienced higher than anticipated growth in 2014, both in terms of resident participation (2,737 vehicles) and weight of materials collected (73,942 kg). Detailed results are presented in Attachment 1. Results of the 2012 Waste Characterization Study show that HHW represents approximately 0.5% of the curbside residential waste stream – or 300 tonnes. Hazardous materials collected through the HHW Days Program represent approximately 18.5% of the total amount of HHW generated by residents. The success of the program demonstrates the community's awareness and willingness to divert hazardous materials from landfills.

Program Budget Insufficient to Meet Current Demand

The program's current budget of \$100,000 is insufficient to cover escalating costs associated with the program. The current budget is expected to be exceeded in 2015; however, the eight events scheduled for 2015 will maximize the efficiency of the events and ensure service is available at times proven historically to be popular. The Administration forecasts that the 2015 events will cost \$25,000 each.

Program Convenience and Cost-Sharing Opportunities

A scan of HHW programs in other Canadian cities (Attachment 2) demonstrates that Saskatoon provides a high level of service among municipalities that do not receive provincial funding support. The Saskatchewan Ministry of Environment is developing an Extended Producer Responsibility (EPR) program for HHW, similar to existing provincial programs for used oil materials, scrap tires, electronics, paint and household paper and packaging. No timeline has been established for launching the program, therefore the City of Saskatoon continues to be the sole funder for HHW Days events.

Reducing the number of events has not effectively reduced costs in the past, therefore Administration recommends executing the provision of the contract with Envirotec (which was competitively procured) to lock in unit prices for HHW materials to the end of 2018 as an EPR program is not anticipated before this time.

The Administration will also implement strategies to reduce or share costs for HHW events including:

- encouraging residents (through education efforts) to access existing drop-off programs in the community for batteries, lightbulbs, oil and paint – to be implemented starting in March 2015
- engaging local businesses to promoting 'take-back' programs for batteries and light bulbs – to be implemented starting in May 2015
- continue to explore opportunities to cost-share HHW events by delivering a regional program with surrounding municipalities.

Options to the Recommendation

City Council could choose to reject the recommendation in favour of the following:

- Decrease the number of HHW events in 2015 to four or fewer. Reducing the number of events has not proven to be an effective cost-saving strategy; therefore, the current budget is unlikely to be realized through this approach.
- Enhance HHW disposal opportunities as described in Attachment 3.

Public and/or Stakeholder Involvement

In-person surveys were completed at two HHW events, revealing that while 25% of participants had no problem and/or no comment, suggested improvements included:

- Adding an extra line to reduce wait time (50%) – implemented in November 2014
- Offering an east side drop-off location (8%)
- Offering an additional HHW drop-off event per month (7%)
- Better/more advertisement (5%)
- Providing access to a Public washroom (2%)

Communication Plan

Communications will provide information on the dates of events, accepted materials, the importance of keeping HHW out of the waste stream and surrounding environment, and will highlight existing collection programs for HHW materials in the community. This information will be conveyed through the City's website, social media channels and the Waste and Recycling Calendar.

Financial Implications

The 2015 approved operating budget for this program is \$100,000; however, a budget of \$200,000 is required to meet the estimated costs of the eight scheduled events. The Administration recommends a budget increase of \$50,000 per year over the next two years, to meet the demands of the program.

Environmental Implications

HHW includes a variety of common substances used in and around homes which can pose serious environmental and human health concerns if not managed properly. Many of these substances contain corrosive, toxic, flammable or reactive ingredients that require special handling during use and disposal. Improper containment or disposal can ultimately lead to contamination of our air, land and water resources.

Other Considerations/Implications

There are no policy, privacy or CPTED implications or considerations.

Due Date for Follow-up and/or Project Completion

A report summarizing the results of the 2015 HHW Days Program, along with a proposed program plan for 2016 will be prepared in advance of the 2016 Business Plan and Budget deliberations in December 2015.

Public Notice

Public Notice pursuant to Section 3 of Policy No. C01-021, Public Notice Policy, is not required.

Attachments

1. HHW Days Program Results
2. HHW Programs in Other Canadian Municipalities
3. HHW Days Program Enhancement Options

Report Approval

Written by: Matthew Regier, Environmental Coordinator

Reviewed by: Amber Jones, Manager of Education and Environmental Performance

Approved by: Brenda Wallace, Director of Environmental & Corporate Initiatives
Catherine Gryba, General Manager, Corporate Performance Department

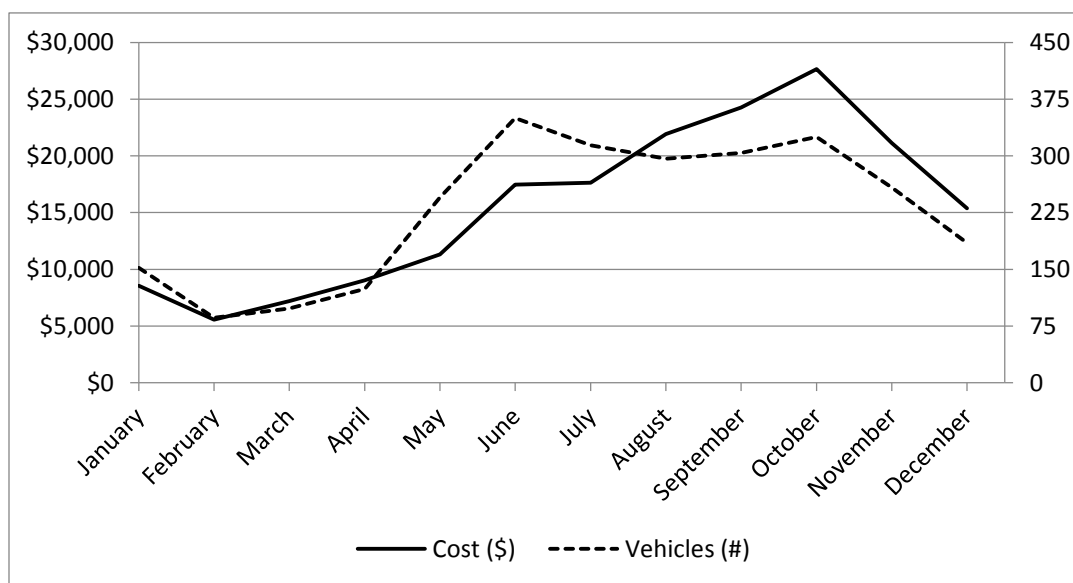
Administrative Report - Household Hazardous Waste Days Program Options.docx

HHW Days Program Results

2014 Event Summary

- Total participants: 2,737
- Average participants per event: 228
- Total weight collected: 73,942 kg
- Average weight collected per event: 6,162 kg
- Average weight collected per participant: 27 kg
- Total cost: \$187,042.09
- Average cost per event: \$15,586.84 (October event: \$27,636.97)

2014 Event Costs and Participation



Material Collection Summary

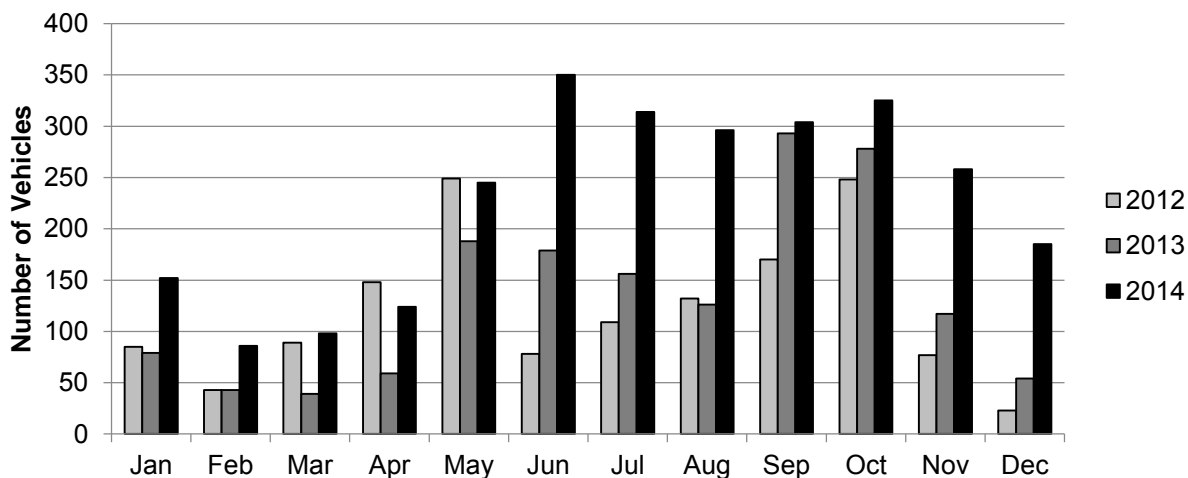
Class Type	% of Total Weight	% of Total Cost
Class 2: compressed gas (includes propane tanks)	7.6%	12.0%
Class 3: flammable liquids (includes paint)	20.5%	20.4%
Class 4: flammable solids	0.7%	1.6%
Class 5: oxidizers	0.6%	3.2%
Class 6: toxics (includes pesticides and pharmaceuticals)	3.9%	13.3%
Class 8: corrosives (not including batteries)	2.9%	5.6%
Batteries	14.0%	3.9%
Non-regulated (includes oil, antifreeze, light bulbs, etc.)	47.2%	14.7%
Other (includes glycol, light ballasts, contaminated water, etc.)	2.6%	2.5%
Insurance	n/a	4.6%
Event Fee	n/a	18.2%

The 2014 program provided collections to 2,737 vehicles and diverted 73,942 kg of materials from the waste stream – establishing a new benchmark for each performance metric.

Year	Participation (# of vehicles)	Weight Collected (kg)
2010	1,274	n/a
2011	1,349	n/a
2012	1,451	40,036
2013	1,611	51,598
2014	2,737	73,942

Event Participation – 3 Year Summary

HHW Days Program Participation



Note: There were 16 events held in 2012 and 2013 versus only 12 events held in 2014.

HHW Programs in Other Canadian Municipalities

Municipality	Items Accepted	Accessibility	Funding Available from Other Sources
Regina	HHW, major appliances, tires, electronics, toys, books, bedding and more; no paint	2 events in 2014	No
Edmonton	HHW (including paint), sharps, electrical appliances electronics, scrap metals, clean recyclables, and items accepted at the Reuse Centre; charges apply for bulky items such as furniture, fencing and rubble, and certain appliances	4 eco stations open Tuesday to Saturday, 9am-4:30pm (winter hours) and Monday to Saturday, 9am-6:30pm (summer hours)	Currently funded by Government of Alberta; moving toward Extended Producer Responsibility
Calgary	HHW (including paint); no batteries or pharmaceuticals	6 fire stations open daily from 8am-6pm, and 3 landfill Throw 'n' Go locations	Currently funded by Government of Alberta; moving toward Extended Producer Responsibility
Winnipeg	HHW (including paint)	Miller Environmental Corporation open weekdays from 9am-4pm (8pm on Thursdays), first Saturday of each month (October to April), first and last Saturdays of each month (May to September)	Extended Producer Responsibility
Victoria	HHW, paint	Ellice Recycling open weekdays from 7:30am-5pm and weekends from 8:30am-5pm, and Hartland Landfill	Extended Producer Responsibility

Municipality	Items Accepted	Accessibility	Funding Available from Other Sources
Ottawa	HHW (including paint)	4 annual drop-off events held on Sundays from 8am-4pm; locations vary	Depending on material, funded by Recycling Council of Ontario or Extended Producer Responsibility
Halton Region	HHW (including paint)	Halton Waste Management Site open Monday to Saturday, 8am-4:30pm, and 7 additional "special waste drop-off days" from April to October	Depending on material, funded by Recycling Council of Ontario or Extended Producer Responsibility
Markham	HHW (including paint), electronics and batteries	HHW & Electronic Recycling Depot open Thursday to Monday, 8:30am-4:30pm (open until 7pm on Thursdays from April to October)	Depending on material, funded by Recycling Council of Ontario or Extended Producer Responsibility

HHW Days Program Enhancement Options

Program Option	Projected Additional Budget Required
Add public drop-off 'kiosks' for light bulbs at identified publicly-accessible locations	<u>Operating cost implications:</u> \$199 per site per month, or \$16,716 per year
Add drop-off events in Spring (1) and Fall (1), held at an alternate location(s) – e.g., Prairieland Park or Saskatoon Field House	<u>Operating cost implications:</u> \$25,000 per event
Add drop-off option of HHW to Community Clean-up events	<u>Operating cost implications:</u> \$5,000 per event
Establish a permanent drop-off location at Recovery Park	<u>Capital improvements required:</u> \$56,000 for converted shipping containers for HHW collection, once Recovery Park is operational <u>Operating cost implications:</u> Based on current costs for handling HHW materials, the cost to sort and process HHW (assuming up to 160 tonnes or 50% of the material in the waste stream are diverted) could be more than \$300,000 annually
Expanded communications for HHW 'take-back' opportunities in the community – e.g., paint, pharmaceuticals, used oil, etc.	<u>Operating cost implications:</u> \$10,000 per campaign for development of materials and implementation (engagement) of program
Set up a permanent program for drop-off at fire halls	<u>Capital improvements anticipated:</u> \$150,000 per fire hall <u>Operating cost implications:</u> Based on current costs for handling HHW materials, the cost to sort and process HHW (assuming up to 240 tonnes or 75% of the material in the waste stream are diverted) could be more than \$700,000 annually



STANDING POLICY COMMITTEE ON ENVIRONMENT, UTILITIES & CORPORATE SERVICES

2015 Composting Programs

Recommendation of the Committee

That consultations with Green Cart program subscribers and the public assess support for changing the level of service provided by the existing seasonal program to include food waste.

History

At the March 9, 2015 Standing Policy Committee on Environment, Utilities & Corporate Services meeting, a report of the General Manager, Corporate Performance Department dated March 9, 2015 was considered.

Your Committee heard from a representative of the Saskatoon Environmental Advisory Committee supporting the composting initiative going forward along with the work being done by the Environmental and Corporate Initiatives Division.

Attachment

1. January 12, 2015 Report of the General Manager, Corporate Performance.
2. Email dated February 26, 2015, Brian Sawatzky, Saskatoon Environmental Advisory Committee.
3. Letter dated May 20, 2014, Saskatoon Environmental Advisory Committee.

2015 Composting Programs

Recommendation

That the Standing Policy Committee on Environment, Utilities, and Corporate Services recommend to City Council:

That consultations with Green Cart program subscribers and the public assess support for changing the level of service provided by the existing seasonal program to include food waste.

Topic and Purpose

This report provides information on options for expanding composting education, incentives, and subscription food waste services with recommended enhancements to composting programs that the Administration could pursue beginning in 2015.

Report Highlights

1. Current City of Saskatoon (City) composting programs include education and incentives similar to those offered in other communities. Expanding these efforts may lead to an increase in composting in the community.
2. Subscription food waste program options have been identified. Public consultations will determine the level of support in the community for including food waste in the Green Cart collection program.
3. Backyard composting is a cost-effective method of reducing waste. Most communities promote home composting, while also providing curbside services to achieve efficient and larger-scale waste diversion.
4. The benefits of placing additional compostable waste in the landfill to support the Landfill Gas Collection System do not outweigh the costs associated with the use of finite landfill airspace.

Strategic Goals

The initiatives discussed in this report support the Strategic Goal of Environmental Leadership. Composting programs respond directly to the four-year priorities to promote and facilitate city-wide composting and recycling and eliminate the need for a new landfill by diverting waste for re-use. They also support the 10 year strategies to improve the quality and reduce the quantity of storm water run-off going to the river, reduce greenhouse gas (GHG) emissions, and address soil-quality issues on City-owned properties.

Background

On October 14, 2014, after receiving a report describing options to expand composting programs, the Standing Policy Committee on Environment, Utilities and Corporate Services directed:

“That the matter be referred to the Administration for further exploration and report back to the Standing Policy Committee on Environment, Utilities and Corporate Services.”

Committee members specifically asked for additional information on the costs of subscription food waste collection, education and incentive options to increase participation in composting programs, and the Landfill Gas Collection System. Future reports will address questions raised regarding the potential to treat garbage collection and management as a utility, and the effectiveness of landfill bans to encourage waste diversion.

Report

Status of Composting in Saskatoon

The City provides a number of composting programs and services to residents ranging from compost bin rebates to optional curbside collection of yard-waste. Current City composting programs are described in detail in Attachment 1.

Financial Implications

\$30,000 is currently spent annually on composting education and incentives as follows:

- \$20 rebates toward the purchase of backyard compost bins (\$4,500)
- Training program on home composting (\$5,000)
- Educational resources, outreach and promotion of composting (\$10,500)
- Membership with the Saskatchewan Waste Reduction Council (\$10,000)

The seasonal Green Cart yard-waste collection service for subscribers has a current annual cost of \$320,000. Seasonal subscriptions of \$55 contribute toward the costs of delivering this service.

Existing seasonal drop-off compost depots have an operating cost of \$775,000. Compost depots are free to residents.

Opportunities to Expand Composting Education and Incentives

Home composting has been found to be an efficient method for diverting organics from landfills. The Administration reviewed the composting programs of numerous Canadian communities to identify opportunities to encourage more composting in Saskatoon.

Financial Implications

The City provides a similar range of education and incentives to what is offered in other municipalities; however, the Administration has identified that there is an opportunity to expand current education and incentive programs by \$180,000 in 2015 based on the ideas described in Attachment 2.

Opportunities to Introduce a Subscription Food Waste Collection Program

A subscription program allows residents to voluntarily participate in a food waste collection program for a monthly fee. The Administration surveyed 30 Canadian municipalities with populations greater than 150,000 to identify subscription food waste program options, learning that Saskatoon, Regina, and London, Ontario are the only three centres not providing a city-wide service. Saskatoon is the only community with a subscription program.

The Ministry of Environment has approved composting of food waste at the City's existing Compost Depots for up to 8,000 subscribers.

Options for diverting food waste through a subscription program have been identified and include:

- adding food waste to the existing seasonal Green Cart program;
- expanding the Green Cart program into a weekly year-round service that includes food waste; or
- introducing a separate food waste program.

The Administration recommends consulting with existing seasonal Green Cart program subscribers and the general public on these three options.

Landfill Gas Collection System

As existing organic waste slowly decomposes within the mound of the Landfill, gases are generated and captured for use in the Landfill Gas Power Generation Project. The landfill gas system draws from the 5 million tonnes of waste already in place at the Saskatoon Landfill to generate electricity for sale to SaskPower. Revenues are projected at \$1.3 million each year.

As of 2010, each cubic meter of airspace at the Landfill has a value of \$90. Based on the last characterization of garbage hauled to the Saskatoon landfill, organic material delivered from households is utilizing approximately \$3 million in airspace each year, a cost that is greater than the value of the electricity that could be sold by continuing to landfill these materials.

The Landfill Gas Collection System has been installed on approximately one-third of the Landfill mound and captures 70% of greenhouse gas emissions generated in that area. Diverting organics for composting results in a 100% reduction in GHGs.

Public and/or Stakeholder Involvement

Consultations with the public and existing Green Cart subscribers will be conducted through market research, such as surveys, to assess current composting program effectiveness, interest and level of awareness in composting, and introduce options for including food waste in the Green Cart program (Attachment 3).

The Saskatchewan Waste Reduction Council (SWRC) is a key partner in many of the initiatives identified in this report. SWRC have been consulted and support the recommendations as outlined. Preliminary engagement with garden centres also preceded completion of this report.

Further engagement with businesses, community associations, and community gardens could be conducted to improve outreach for existing compost education, programs, incentives and services. Results of this research could inform the foundation of a 3-year communications strategy to increase awareness of how to compost and the benefits of composting.

Communication Plan

Communication efforts will continue to focus on increasing composting awareness as well as promoting existing services and expanded education and incentive programs. Communication tactics will include hands-on small-group workshops, presentations, composting displays, website content, simple infographics (i.e. illustrating the story of waste), social media, news media, informational brochures, print and online ads, frequently asked questions (Attachment 4) and educational displays at various festivals and events throughout our community.

Environmental Implications

A subscription food waste program could be expected to divert an additional 1,000 tonnes from the landfill each year, or 1.5% of the total residential waste, and reduce up to 230 tonnes of GHG annually. This is equivalent to removing 45 cars from our roadways each year. Composting has a number of environmental benefits that are described in the Frequently Asked Questions (Attachment 4).

Other Considerations/Implications

There are no policy, privacy or CPTED implications or considerations.

Due Date for Follow-up and/or Project Completion

The outcomes of existing and any expanded composting programs implemented in 2015 will be included in the annual report on Integrated Waste Management prepared for City Council in April 2016.

Public Notice

Public Notice pursuant to Section 3 of Policy No. C01-021, Public Notice Policy, is not required.

Attachments

1. Status of Current City Composting Programs
2. Composting Education and Incentives
3. Market Research – Compost Behaviour and Awareness
4. Frequently Asked Questions

Report Approval

Written by: Amber Jones, Education and Environmental Performance Manager
Joshua Quintal, Project Engineer
Shannon Dyck, Environmental Coordinator

Reviewed by: Brenda Wallace, Director of Environmental and Corporate Initiatives

Approved by: Catherine Gryba, General Manager, Corporate Performance Department

Status of Current City Composting Programs

Current City composting programs include:

- Rebates toward the purchase of backyard compost bins
- A training program on home composting
- Seasonal Green Cart yard-waste collection service for subscribers
- Seasonal drop-off composting depots for yard-waste
- Education resources and promotion of composting

Among these programs, visitation to the compost depots is the most popular with 20,750 unique visitors taking advantage of this service in 2014. This suggests 31% of all households receiving residential cart based waste services used a compost depot at least once last season.

Community awareness of composting as an important waste diversion strategy was last measured in 2012. The City of Saskatoon Environmental Awareness Survey found that 41% of respondents compost food and/or yard waste (19% of these indicated that they used the City's compost depots). These results suggest there remains an opportunity to broaden awareness of composting. The survey will be repeated in 2015.

Compost Bin Rebates

Since 2005, the City of Saskatoon has encouraged backyard composting by offering a limited number of rebates to Saskatoon residents who purchase a compost bin (or rain barrel) from a Saskatoon retailer. Between 2005 and 2013, 187 \$10 rebates were awarded. In 2014, the rebate was increased to \$20 and 60 compost bin and 64 rain barrel rebate forms were awarded. With more promotion and a larger rebate amount, it is expected that more residents would access this incentive.

Saskatoon Land has also been providing each new homeowner in Evergreen and Kensington a coupon for one free compost bin. Program participation has been low, as only 7.7% of residents have claimed and redeemed their coupons. Information about the incentive is included in lot packages on the Saskatoon Land website, and has also been advertised through mail outs and notices hung on the doors of each home.

Compost bin rebates (\$20) and coupons (for customers of Saskatoon Land) will continue to be offered in 2015.

Home Composting Training and Outreach – Master Composter Program

Research has shown that there is significant value in involving residents in training their peers how to compost. The Saskatchewan Waste Reduction Council (SWRC) started the Master Composters program in Saskatoon in 1993. Two years later, a partnership with the City of Saskatoon began and has since trained approximately 200 Master Composters. These trained volunteers have collectively provided over 2,000 volunteer hours in Saskatoon and engaged hundreds of residents a year through tradeshow,

City of Saskatoon, Corporate Performance Department, Environmental and Corporate Initiatives Division

1 of 3

public presentations and home visits. In 2014, the SWRC trained 16 new Master Composters.

Last year, home visits were introduced into the Master Composter program to help residents seeking advice on how to set up a new home composting system or improve an existing one. Home visits took on average 15-45 minutes and the service was available to both new and experienced composters. This new service had minimal promotions and only 10 home visits were requested. Increased awareness of the program may encourage more residents to access the service.

In 2015, the Master Composter program will include:

- Training 15 new Master Composters. Residents who provide a minimum of 12 volunteer hours (e.g. assisting and educating others) in Saskatoon within the first year of completing their training will receive reimbursement for the cost of the training.
- Providing a free 3 hour workshop during the University of Saskatchewan's 'Hort Week' (July 4 to 10, 2015) to engage new and seasoned gardeners in composting.
- Revealing the results of the year-long research project, 'Dishing the Dirt', which will help residents choose which style of compost bin will meet their needs.
- Conducting 15 free community events, presentations, or workshops presented by a Master Composter.
- Setting up composting displays at home and garden centres.
- Continuing the home visit service.

Green Cart (Leaves and Grass) Collection Program

The Green Cart program has operated since 2004 as a subscription-based program. In 2014 it was expanded to service 3,918 households (up from 2,744 in 2013), representing 6% of households receiving blue/black cart waste service.

Service includes bi-weekly pickup of unbagged leaves, grass clippings, and non-woody yard vegetation. The program runs from the beginning of May to the beginning of November with a fee of \$55 for the season.

In 2014 over 1,500 tonnes of material was collected and diverted from the landfill; an increase of 700 tonnes over 2013.

Compost Depots

Residents are encouraged to take their leaves, grass, sod, topsoil, and non-elm branches, stumps and tree trimmings to the City's compost depots free of charge. Today, residents are delivering approximately 13,500 tonnes of yard-waste to the depots in a year.

Since 2006, the compost depots have generated more than 16,000 cubic metres of Class A compost; this has increased landfill diversion by nearly 15% over the last seven years and saved the Saskatoon Landfill approximately 400,000 cubic metres of

airspace. By composting materials at the depots instead of taking it to the landfill, greenhouse gas emissions have been reduced by 5,000 tonnes (in carbon dioxide equivalent or CO₂e), or the equivalent of removing 1,050 passenger vehicles from our roadways.

The McOrmond Road Compost Depot is currently being decommissioned and operations will continue at a new location east of the intersection of Highways 5 and 41 (near the old Sundown Drive-in Theatre). Operations at the Highway 7 Depot will also continue.

General Compost Education

The City provides general information and resources to residents including:

- New City of Saskatoon website - Compost information resources on the website will include how to compost, how to use compost in the garden and on the lawn, the benefits of composting, etc.
- Brochures - Through a recent partnership with the University of Saskatchewan's Master Gardeners program, new educational brochures will be available: *Compost Bin* how-to guide, *Mulch and More* how-to guide, *Tips for New Gardeners* pamphlet, *Rain Barrels* how-to guide and *Pesticide-Free Gardening* pamphlet.
- Social media - Social media compost awareness campaigns will run during the spring, summer and fall months. Linkages to the Be Water Wise water conservation campaign will continue as the City encourages residents to use compost and mulch to conserve water, retain moisture in their soil, and keep their lawns and gardens healthy.
- Outreach and events – Public education, including hands-on demonstrations, will occur at tradeshow events such as Seedy Saturday, Gardenscape, and the Saskatchewan Living Green Expo. A new mobile education unit will also be used at events, festivals and other venues to promote composting, recycling and other waste management techniques.
- An interactive visual representation of the 'Story of Waste' is being developed in 2015.

Composting Education and Incentives

Survey of Compost Education and Incentives in Canada

The Administration surveyed 29 communities in Canada to identify their compost education and incentive efforts. All municipalities offer some form of information or education to residents about composting.

Common strategies include:

- Website resources on how and why to compost, as well as how to use compost in your yard and garden
- Information on vermicomposting and grasscycling
- Information on troubleshooting (e.g. how to reduce odors and pests)
- 16 communities offered subsidized compost bins
- 13 communities offered compost sales or giveaways

Saskatoon has utilized all of these strategies.

Research on industry best practices demonstrate that education efforts are more effective if accompanied by personal interaction. The following strategies are utilized in some municipalities to provide an interactive experience:

- Presentations and workshops on how to compost
- 7 communities offered or supported a Master Composter program
- Home visits, Compost Hotlines, or other forms of one-on-one education

A few unique approaches were also identified including:

- Compost Demonstration Garden - composting activities demonstrated for public viewing (Richmond, Vancouver, Brampton)
- Interactive waste management education centre - interactive displays for children and adults that focus on different aspects of waste management including household hazardous waste, recycling, backyard composting and waste management facilities (Brampton)
- Green Bin in Schools program - enables schools to divert all their organic waste from the landfill through weekly curbside collection services, including free curbside green bins, classroom-sized containers, program signage, and weekly collection services (Ottawa)
- Corporate Lunch and Learns and School Hands-On presentations (Edmonton)
- Compost Coaching services - residents are encouraged to invite their friends and neighbours to a coaching session and give a "Pass it On" card to friends and family to encourage more participation. (North Shore – This unique program found that households participating in coaching sessions compost almost 100 kg more each year than unsupported households. Between 1991 and 2008, 16,208 composters were distributed to North Shore residents through the program.)
- Community Based Social Marketing approach - door-to-door education and engagement, one-on-one education to address barriers and questions, free compost

bins for residents, written commitments from and follow ups with residents, public acknowledgement to recognize the efforts of those who participated in the backyard composting program, and communications tools that established norms within neighbourhoods (Langley – Launched as a pilot, this program saw a 51% participation rate, 31% reduction in garbage, and led to an average of 5.1 kg of food scraps composted per household per week.)

Expansion of Composting Education and Incentives in 2015

A number of additional program features or expansions could be added to reach more residents. The proposed initiatives are scalable.

Recommended Initiatives – 2015	Cost
Expand general communication efforts to better promote existing and proposed programs and messages (could include a communications strategy, print and online ads, and digital media such as infographics and/or video)	\$45,000
Increase the number of compost bin and rain barrel rebates available to residents – goal of 1000 (includes cost of rebate and SWRC administration fee)	\$25,000
Increase the value of compost bin and rain barrel rebates from \$20 to \$35 (includes cost of rebate and SWRC administration fee)	\$15,000
Increase the number of Master Composters home visits – goal of 100 (includes program coordination, volunteer honorariums, the creation of Compost Coaching ‘Pass-It-On’ cards, as well as a compost hotline and email to provide residents with responses to their compost inquiries within 1-2 business days)	\$11,000
Set up additional composting displays and demonstrations at festivals and events – goal of 13 events (includes program attendants, coordination and venue rentals)	\$22,750
Offer additional composting demonstrations to community gardens and community associations – goal of 10 events (includes volunteer honorariums and coordination)	\$3,100
Deliver Master Composter training to City of Saskatoon staff (includes teaching costs, text books, and subsidized registration fees for those who complete 20 volunteer hours within one year of training)	\$4,750
Engage businesses to sell more composters through coordinated sale efforts – goal of 5 events (includes sales personnel and program coordination)	\$19,100
Provide free compost to Green Cart subscribers and home composters (includes compost depot attendants and loading equipment)	\$17,900

Opportunities to Further Expand Composting Education and Incentives in 2016 and Beyond

In addition to maintaining the expanded or additional compost education and incentive programs started in 2015, administration has compiled additional information on options for 2016 or beyond.

Community Association compost pilot program

Some Local Area Plans have identified composting as a recommendation. Administration could engage with these Community Associations to see if any opportunities exist to work on a neighbourhood-scale composting program(s) / pilot(s).

The pilot would be developed in partnership with community members and could include a Community Based Social Marketing program, curbside collections pilot, home composting pilot, community gardening program, or other type of program. Techniques to increase participation and resident engagement would be determined.

Demonstration garden

A Compost Demonstration Garden could be created to showcase how to compost, how to use finished compost, and the benefits of compost. The garden could also include water conservation and pesticide-free gardening techniques, native plants, and local food production to demonstrate how gardens can be beautiful, healthy and productive.

The garden could act as an educational site for school children, new and experienced gardeners, and the community at large. Education could be provided in the way of signage and tours. Yearly maintenance would be required.

Education Centre

A permanent set of educational displays focused on integrated waste management could be created with interactivity as a key focus. The Rolling Education Unit provides an example of such displays that could be used at events. Loraas has also created an education room at their Material Recovery Facility. A more permanent and comprehensive set of interactive displays could be developed and placed in civic or leased space, or booked as a 'show' or 'exhibit' in facilities like the Children's Discovery Museum.

Green Cart collection pilot program for schools

Before the City of Saskatoon pursues a pilot scale composting program with schools, a waste characterization study would be required to:

- determine the types and volume of material generated;
- verify that anticipated quantities are manageable;
- verify that the end product is of high quality; and
- determine that a business model exists that demonstrates a viable program for collections, processing and sales.

If it is determined that a school green cart collection program is feasible, an initial one-year pilot could be rolled out to four schools before eventually reaching the 100+ public and Catholic schools in Saskatoon.

A school program would also require proper management at the producer end (the students and teachers) and would therefore need to be tied in with an education component that ensures high participation rates and a strong desire to put the correct materials in the bin(s). Ongoing education could include in-class demonstrations and education, effective signage and inside bins, teacher training, and ties to the curriculum. Education could also extend beyond the school property and engage members of the community as well.

Market Research - Compost Behaviour and Awareness

Composting Awareness, Attitudes and Behaviours – Pre and Post Season

The City of Saskatoon will conduct pre and post compost-season research that assesses residents understanding of composting and composting behaviours.

The research will focus on two target audiences:

- residents who do not currently compost
- residents who participate in some form(s) of composting

The findings from the pre compost-season research will function as a baseline assessment; a post compost-season assessment will be conducted to see how residents' attitudes and behaviours change over time. Post season research will also help assess the success of the City of Saskatoon's composting education and services, and provide measurable data that shows whether there has been an increase in composting and composting awareness.

Specifically, the pre and post surveys should determine:

- How many residents currently compost;
- Residents' current composting behaviours (e.g. how do they compost, what materials do they compost, why do they/don't they compost, etc.);
- How many residents are accessing the City of Saskatoon's composting services and their level of satisfaction with these programs (e.g. Green Cart collection, compost depots, compost bin rebates, etc.);
- Residents' level of knowledge regarding what compost(ing) is, how to compost, and how to use compost;
- The challenges and barriers to composting that residents face; and
- What residents would like the future of composting to look like in Saskatoon, including their opinions on a Green Cart collection service.

Composting Awareness, Attitudes and Behaviours – Green Cart Subscribers

A separate assessment of Green Cart subscribers will be conducted. The target audience is residents who subscribed to the Green Cart program in 2014 (and potentially new 2015 subscribers to understand their expectations of the program).

The results will provide information on:

- Participation (e.g. how often they place their cart out);
- Level of satisfaction with the service (e.g. collections, cart capacity, cost, accepted materials, etc.);
- Type and quantity of materials (e.g. what materials do they put in their cart, what materials do they *want* to put in their cart, what do they do with organic material (like food) that are currently not accepted in their cart);
- Subscribers' yard "profile" (e.g. their behaviours and level of awareness on composting, gardening, etc.); and
- Attitudes toward putting food waste in their green cart.

Frequently Asked Questions

What are the benefits of compost?

Adding compost to soil in lawns, gardens, and other landscaping improves the ability of the soil to retain moisture, resist erosion, retain nutrients, and optimize fertility for plants to help with drought resistance. Studies have also found that compost can suppress weed growth and the development of diseases. Use of compost in landscaping may also allow for reduced use of chemical fertilizers and pesticides, which rely on greenhouse gas producing fossil fuels for production.

Why is the City promoting home composting?

Backyard composting is ultimately the most financially, environmentally and socially responsible choice for residents and municipalities alike. Backyard composting avoids the cost of transporting waste to a centralized facility which eliminates the cost for collections, the cost for processing, the related greenhouse emissions, and the additional traffic from collections vehicles.

Promoting home composting has value to the municipality. Studies have been conducted to measure the value of backyard composting and estimate the payback period for compost bin rebates to be less than 3 years and the annual cost associated with promoting and supporting home composting can be as low as one-tenth the cost of regular garbage collections.

Home composting also generates value to the participant. A resident can create up to one yard of compost per year (for free) through home composting. This has a retail value of approximately \$150 if the resident makes use of this valuable resource in their own landscaping.

How much waste can be diverted through home composting and how does that compare to a city-wide collections program?

Backyard composting has not been shown to significantly increase waste diversion rates on a community scale, as only a relatively small number of people actually participate in home composting. Even successful home composting programs are commonly partnered with curbside collection programs. In a survey of 30 Canadian cities having a population greater than 150,000, all but Regina and Saskatoon provide city-wide curbside collections to transfer compostables to a central composting facility in order to achieve greater waste diversion. These same cities offer education and programs to encourage home composting.

I've been putting food waste in my black garbage cart for years. Why should I participate in a composting program for food waste in Saskatoon? Doesn't this material just decompose at the landfill?

Each Saskatonian generates 252 kilograms of waste each year, with approximately 100 kilograms of this being compostable. This means more than one-third of the space in your black garbage cart could be freed up if compostable waste went somewhere else.

On a community scale, approximately 64,000 tonnes of garbage is delivered from black carts to the Landfill each year. 25,000 tonnes of this material could have been turned into high-quality compost rather than using valuable landfill space. Organic (compostable) waste such as leaves, grass, and food scraps break down in the landfill over time. However, because the waste is buried, it breaks down without the presence of oxygen in a process that releases methane gas. Methane gas (also referred to as landfill gas) is a greenhouse gas that is 21 times more potent than carbon dioxide.

With food waste out of black garbage carts, there is less need for frequent, expensive garbage collection.

If I choose to backyard compost, will there be odours?

Following a few simple steps can ensure backyard composts don't smell. Ensuring the pile receives oxygen (by stirring it frequently), adding a ratio of 3 parts "browns" (dried plant material) to 2 parts "greens" (kitchen scraps), and avoiding material such as milk and oil products, meat, and pet waste can help keep compost smelling as it should – earthy!

What is compost generated through the City's compost programs used for?

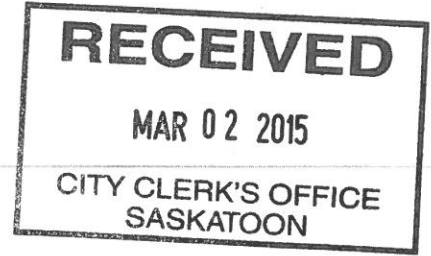
Compost from our compost depots has been used to keep Saskatoon parks and community gardens healthy and beautiful. As more compost is generated, more uses and opportunities to sell the material become possible.

Where can I find out more information about composting?

Check out the City's website at Saskatoon.ca, follow us on Twitter and Facebook and follow the news media for information on composting.

7830-5

Subject: FW: Request to Speak - SPC EU&CS



From: Brian Sawatzky [mailto:briancfi@sasktel.net]
Sent: Thursday, February 26, 2015 2:53 PM
To: Sackmann, Debby (Clerks)
Cc: 'Angie Bugg'
Subject: RE: Request to Speak - SPC EU&CS

Hi Debby Sackmann -- I am requesting to speak to the SPC on EU&CS Mon. Mar 9. (2pm). We wish to make comment on City composting plans and to inform the SPC on our change of focus for 2015(and beyond) towards Greenhouse Gas reduction. We have expertise on SEAC re GHGs and plan to help the City reduce these dangerous gases.

Thanks

Brian Sawatzky, SEAC member

To: Administration and Finance Committee
From: Environmental Advisory Committee
Date: May 20, 2014
Re: Organics Program

At the April 10th, 2014 meeting of the Saskatoon Environmental Advisory Committee (SEAC), Brenda Wallace, Director of Environmental and Corporate Initiatives, discussed her department's future plans for organic waste diversion. She indicated that her department will be presenting a report to City Council on options for new organic waste diversion initiatives in the near future.

Subsequent to Ms. Wallace's presentation, the SEAC unanimously passed the following motion: that a letter be sent to Administration and Finance Committee "advising that the Saskatoon Environmental Advisory Committee supports the City exploring a city-wide organics diversion program." The SEAC also requested that City's Administration "provide a power point presentation on the preliminary results of the work completed regarding the city-wide organics diversion program at the June 12, 2014 Saskatoon Environmental Advisory Committee meeting."

Having established a paper and plastics recycling program for all households in Saskatoon, we believe that the next logical step in waste management would be to enhance municipal programs aimed at composting organic waste such as leaves, branches, grass clippings, and kitchen waste. Such organic waste diversion should take the form of the promotion of backyard/on-site composting as well as enhancing the collection of organic waste to be composted at a central site.

We would like to note that several Canadian cities have recently created organic waste diversion programs that are administered by municipal government. These cities range from large metropolitan areas like Hamilton, Toronto, and Ottawa to smaller cities like Nanaimo and Guelph. For the most part, organic household waste in these cities is collected curbside in 'green bins' or within common bins in multi-dweller units and composted to make fertilizer that is sold at a profit.

The environmental benefits of improving composting in Saskatoon are potentially massive. According to the City of Saskatoon's 2012 Waste Characterization Study, the typical waste of a Saskatoon residential household is 40% organic (food and yard waste); 37% recyclable paper, plastics, glass, beverage containers, and metal; 9% tissue paper and diapers; and 14% other (fabric, textiles, painted wood, hazardous waste, etc.).¹ The combination of our current paper and plastics recycling program with an aggressive organic waste diversion program would mean that the average Saskatoon household would have the potential to reduce landfill waste by nearly 80% more than when the current City

¹ City of Saskatoon, Environmental Services Branch, *Integrated Waste Management Annual Report 2012*, page 17.

Council began its mandate in 2012.

Why is reducing the amount of organic waste going into the city's landfill important? We would argue that landfilling organic waste produces two environmental problems for Saskatoon.

First, when organics are exposed to water in landfills, the liquid trickles down through the pile picking up contaminants along the way. As recent concerns over this leachate seeping into our city's river illustrate, reducing our landfilled organic waste lowers the risk of groundwater contamination.

Second, Saskatoon's landfill is a major source of greenhouse gas emissions. Saskatoon set an ambitious goal of reducing greenhouse gas emissions by 10% below 1990 levels by 2013 for the City's corporate operations² and Saskatoon will be called upon to do more as the provincial government devises its greenhouse gas reduction plan in the near future. Burying organic waste in landfills means that it decays without oxygen, thereby producing methane, which is a very potent greenhouse gas. Saskatoon should be doing its part to help Canada and Saskatchewan meet their goals in reducing greenhouse gas emissions. The right combination of organics (food waste and yard waste) along with frequent turning and aeration will reduce our city's methane production.

Environmental benefits are not the only reason to adopt enhanced organic waste collection program. There are compelling economic reasons.

Building a new landfill is extremely expensive and controversial as well as potentially harmful for the environment. We understand that Saskatoon's landfill has about 40 years of capacity left at our current waste diversion rates but our city's population is growing rapidly. An organic waste collection program would mean that we could continue to use our current landfill long into the future. In fact, our goal should be to attain an appropriate rate of waste reduction and waste diversion in Saskatoon so that we never have to build another landfill.

There are also other economic benefits that are generated through organic waste collection and composting programs. The Canadian Federation of Municipalities estimates that composting creates seven jobs compared to just one job that is created through landfilling.³ Further, municipal revenue can be created by selling the compost meaning that organic waste collection programs help pay for themselves.

² City of Saskatoon, *Energy and Greenhouse Gas Management Plan*, page i.

³ Federation of Canadian Municipalities, Green Municipal Fund, *Getting to 50% and Beyond: Waste Diversion Success Stories from Canadian Municipalities*, page 1.

Finally, a recent report by the Institute of Certified Management Consultants entitled *The Role of Urban Communities in Sustaining Saskatchewan's Growth* argued that our province's future economic growth depends on the ability of its major cities to attract skilled and educated workers through improving the "sustainability and appeal of their urban environment"⁴ (page 43). Being within the first wave of Canadian cities to adopt aggressive organic waste collection initiatives will build Saskatoon's brand as a city on the leading edge of environmentally sustainable urban living.

We are competing with other cities for the types of skilled workers and young professionals that drive economic growth. These skilled workers, or the 'creative class' to use Richard Florida's term⁵, are used to living in cities that have composting programs. The creative class wants cultural amenities but they also want to live in an environmentally sustainable fashion. Improved organic waste collection would ensure that these types of workers and their companies are attracted to our city because we provide them with the opportunity to reduce their environmental footprint.

In closing, we believe that improved organic waste diversion and composting would be healthy for our city's environment, save money in the long-term, promote economic growth, and improve our quality of life.

As such, we would urge Administration and Finance Committee to closely examine the report from the Environmental and Corporate Initiatives Branch and to seriously consider ways to improve Saskatoon's organic waste diversion both in terms of enhancing curbside collection and promoting on-site composting. Increased on-site composting means fewer emissions from collection trucks and processing facilities and reduced costs related to transportation, processing, and marketing of finished compost. Ultimately, composting is best if done at the point of generation, but it is also very important to have curbside collection available for those who are not willing or able to compost at their residence. Both options are important to consider as we move forward in developing better organic waste diversion and composting programs for our city.

Sincerely,

Dr. Michael Hill, Chair
Saskatoon Environmental Advisory Committee

⁴ Institute of Certified Management Consultants of Saskatchewan, *The Role of Urban Communities in Sustaining Saskatchewan's Growth*, 43.

⁵ Richard Florida, *The Rise of the Creative Class -- Revisited: 10th Anniversary Edition*, New York: Basic Books, 2012.



STANDING POLICY COMMITTEE ON ENVIRONMENT, UTILITIES & CORPORATE SERVICES

Award and Price Cap Approval for Short Service Connection Replacement Contracts 2015

Recommendation of the Committee

1. That the proposal submitted by Brunner's Construction Ltd. for the Emergency Connection Rehabilitation contract, for work to be done in 2015, at a total estimated cost of \$1,851,790.50 (including G.S.T. and P.S.T.), be accepted;
2. That the proposal submitted by Brunner's Construction Ltd. for the Homeowner Request Connection Rehabilitation contract, for work to be done in 2015, at a total estimated cost of \$1,071,135.45 (including G.S.T. and P.S.T.), be accepted;
3. That the cap on the residential property owners' portion of service connection replacements be increased from \$2,590 to \$2,900, plus applicable taxes, effective April 1, 2015; and
4. That the City Solicitor be requested to prepare the appropriate agreement and that His Worship the Mayor and the City Clerk be authorized to execute the agreement under the Corporate Seal.

History

At the March 9, 2015 Standing Policy Committee on Environment, Utilities & Corporate Services meeting, a report of the General Manager, Transportation and Utilities Department dated March 9, 2015 was considered.

Attachment

March 9, 2015 Report of the General Manager, Transportation and Utilities.

Award and Price Cap Approval for Short Service Connection Replacement Contracts 2015

Recommendation:

1. That the proposal submitted by Brunner's Construction Ltd. for the Emergency Connection Rehabilitation contract, for work to be done in 2015, at a total estimated cost of \$1,851,790.50 (including G.S.T. and P.S.T.), be accepted;
2. That the proposal submitted by Brunner's Construction Ltd. for the Homeowner Request Connection Rehabilitation contract, for work to be done in 2015, at a total estimated cost of \$1,071,135.45 (including G.S.T. and P.S.T.), be accepted;
3. That the cap on the residential property owners' portion of service connection replacements be increased from \$2,590 to \$2,900, plus applicable taxes, effective April 1, 2015; and
4. That the City Solicitor be requested to prepare the appropriate agreement and that His Worship the Mayor and the City Clerk be authorized to execute the agreement under the Corporate Seal.

Topic and Purpose

This report is to obtain City Council's approval to award to Brunner's Construction Ltd. the Emergency Connection Rehabilitation contract and the Homeowner Request Connection Rehabilitation contract, for work to be done in 2015, as well as for approval to increase the price cap on the residential property owners' portion of the service connection replacements. With each contract, the City has the option to renew with the same contractor for up to two additional one-year periods. Contract costs for each renewal period will be negotiated by the contractor and the City at the time of renewal.

Report Highlights

1. The City is responsible for service connections from the main lines to the property line and homeowners are responsible for the portion from the property line to the building. The City has made it mandatory to replace failed/disturbed lead service connections.
2. A cost sharing program is offered to homeowners who qualify; the City pays 60% of the replacement costs, and the homeowner pays 40%, with a cap on the homeowner's costs.
3. 2015 contract prices for water and sewer connection replacements require an increase to the cap on the homeowner portion of the replacement costs.
4. Each contract includes a renewal option for up to two additional one-year periods.
5. Approximately 200 failed water and sewer connections will be replaced under the Emergency Connection Rehabilitation contract and approximately 100 water and sewer connections will be replaced under the Homeowner Request Connection Rehabilitation contract.

Strategic Goal

The recommendations in this report support the Strategic Goal of Asset and Financial Sustainability as it will help to reduce the gap in funding required for rehabilitating and maintaining the City's aging infrastructure. It will also help to ensure failing infrastructure and service connections made of materials no longer in compliance with the specifications are being replaced in a manner that is cost effective to both the homeowner and the City.

Background

Policy C07-008 – Emergency Sanitary Sewer Maintenance Service, adopted in 1982, and Bylaw No. 8880, The Private Sewer and Water Service Connection Bylaw approved by City Council in 2010, govern the construction, installation, replacement and maintenance of service connections.

The Water and Sewer Service Connection Rehabilitation on Private Property - Disturbance of Lead Water Service Connections report was adopted by City Council, at its meeting held on April 12, 2010.

The City currently offers a cost sharing program for property owners with failed lead water lines or collapsed sewer lines. Attachment 1 provides information pertaining to the breakdown of these costs and the current program in place.

Report

Proposed Increase to Cap for 2015

The cap for homeowner costs has been set at 40% of the contract price for a full connection replacement. The 2015 contract price for a full connection replacement is \$7,247 (not including GST). As such, the homeowner's cost for a full replacement is \$2,900 and the City's cost is \$4,350. This requires an increase in the homeowner cap from the 2014 limit of \$2,590. Approving the cap increase to \$2,900 ensures that the City is able to replace a greater number of failed connections under each contract. Details of approved cap increases for previous years are included in Attachment 1 (Table 1).

Request for Proposals were tendered for the below two contracts. Brunner's Construction Ltd. submitted the only proposals received in response to each contract. The Administration reviewed the proposals and determined the proposals to be acceptable:

- Emergency Connection Rehabilitation: Total cost of \$1,851,790.50 (including G.S.T. and P.S.T.).
- Homeowner Request Connection Rehabilitation: Total cost of \$1,071,135.45 (including G.S.T. and P.S.T.).

Contract Renewal Periods

Each contract has the option to renew for up to two additional one-year periods as outlined in the attachment. This strategy was developed in consultation with Purchasing, with the intention of attracting bidders interested in a potential multiple-year contract and reducing the cost of procurement. Future prices were not asked for in the

proposal. The Administration will negotiate prices for future years with Brunner's and make a recommendation to City Council depending on how future years' prices compare with industry trends.

Options to the Recommendation

Options to the recommendation would be as follows:

- Not to increase the cap. This would increase the cost to the City of each connection replacement and reduce the amount of homeowner requested replacements that could be completed. The Administration does not recommend this option.
- Not to accept the proposal from Brunner's Construction Ltd. for the Emergency Connection Rehabilitation contract. This option is not recommended, as the proposal is deemed to be acceptable, and it would result in failed water and/or sewer connections not getting repaired.
- Not to accept the proposal from Brunner's Construction Ltd. for the Homeowner Request Rehabilitation contract. This option is not recommended as the proposal is deemed to be acceptable, and it would result in not being able to complete the homeowner requested lead line replacements.

Communication Plan

Information explaining the Emergency Connection Rehabilitation and Homeowner Requests for Connection Rehabilitation programs and associated costs will be provided to the homeowners whose residences are scheduled for rehabilitation in 2015.

Financial Implications

Emergency Connection Rehabilitation

Details of the proposal from Brunner's Construction Ltd. are as follows:

Base Fees	\$1,763,610.00
G.S.T.	<u>88,180.50</u>
Total Fees	\$1,851,790.50
Less Home Owner Costs (External Funding)	(513,219.00)
Less G.S.T. Rebate	<u>(63,741.50)</u>
Net Cost to the City	<u>\$1,274,830.00</u>

There is sufficient funding allocated for this program within approved Capital Project #1615 – Lead Connections and Capital Project #1616 – Sanitary Connections.

Homeowner Requests for Connection Rehabilitation

Details of the proposal from Brunner's Construction Ltd. are as follows:

Base Fees	\$1,020,129.00
G.S.T.	<u>51,006.45</u>
Total Fees	\$1,071,135.45
Less Home Owner Costs (External Funding)	(300,486.90)
Less G.S.T. Rebate	<u>(36,697.55)</u>
Net Cost to the City	<u>\$ 733,951.00</u>

There is sufficient funding for this program within the approved Capital Project #1615 – Water Distribution Preservation Program.

Environmental Implications

The Emergency Connection Rehabilitation & Homeowner Request Connection Rehabilitation contract recommendations will result in the consumption of natural resources and the generation of greenhouse gas emissions once construction proceeds. Construction activities will require an estimated 13,965 L of diesel fuel, contributing to estimated greenhouse gas emissions of 38 tonnes CO₂e.

Other Considerations/Implications

There are no public and/or stakeholder involvement, policy, privacy, or CPTED implications or considerations.

Due Date for Follow-up and/or Project Completion

A follow up informational report will be submitted to City Council at the beginning of each renewal period to provide information on the Net Cost to the City for each renewal as well as any cap increases to the Homeowner portion of the replacement cost.

Public Notice

Public Notice pursuant to Section 3 of Policy No. C01-021, Public Notice Policy, is not required.

Attachment

1. Short Service Connection Replacement Contracts

Report Approval

Written by: Caleb Ripley, Project Engineer, Construction & Design
Reviewed by: Sohrab Khan, Senior Project Management Engineer,
Construction & Design
Reviewed by: Matt Jurkiewicz, A/Director of Construction & Design
Approved by: Jeff Jorgenson, General Manager, Transportation & Utilities
Department

EUCS CR – Award and Cap Approval – Short Service Connection Replacement Contracts 2015.docx

Short Service Connection Replacement Contracts

Background

Bylaw No. 8880, The Private Sewer and Water Service Connection Bylaw governs the construction, installation, replacement and maintenance of service connections. This Bylaw states that when a service connection fails on private property, the property owner is responsible for replacement costs and when the connection fails on City property the City is responsible for replacement costs.

Bylaw No. 8880 states that when the lines of an existing service connection located on City right-of-way fail, it is the City's responsibility to repair or replace the portion of the service connection from the main line to the boundary of the property line. Conversely, when the lines of an existing service connection located on a property owner's parcel of land fail, it is the property owner's responsibility to repair or replace the portion of the service connection from their building to the property line.

It is the City's practice to offer a cost-sharing program to homeowner's for the following circumstances:

1. When the lines of an existing service connection located on a property owner's parcel of land fail, and the failed service connection is made of materials no longer in compliance with the specifications, and the property owner chooses to replace their portion of the service connection;
2. When an existing service connection is made of materials no longer in compliance with the specifications, and the main lines located on City right-of-way fail or the City is upgrading the main lines of the system, and the owner of the parcel of land adjacent to the failure or work on the main lines agrees to replace their portion of the service connection from the building to the property line at the same time.

The cost sharing program that the City offers to homeowners is that the City pays 60% of the replacement costs, while the homeowner pays 40%, with a cap on the homeowner costs. The cap on homeowner costs has increased annually due to increasing contract costs. The homeowner costs were originally established in 2009, at a value of \$1,984. In 2010, 2011, 2013, and 2014 the cap was increased to \$2,112, \$2,250, \$2,540, and \$2,590 respectively. Under the service connection rehabilitation program, homeowners can choose to pay their portion of the costs either directly to the contractor, or alternatively have the costs added to their property taxes.

It should be noted that the City also pays for administration and replacement costs on the City's portion of the replacement, including asphalt patching, sidewalk replacement and landscaping.

Proposed Increase to Cap for 2015

As was done in the 2014 contracts, the 2015 Request for Proposals (RFPs) include an item for full replacement (the City's portion as well as the homeowner's portion) in order

to continue to allow homeowners to participate in the program and replace their portion of the connection at a reduced price.

On January 12, 2015, RFPs for the 2015 Emergency Connection Rehabilitation and the 2015 Homeowner Request Connection Rehabilitation were received. The total cost for service connection replacements, as submitted by the winning bidder is \$7,247, (not including GST). As such, the City's portion of replacements costs for 2015 is calculated to be \$4,350 and the homeowner's portion \$2,900. This requires an increase in the homeowner portion of the costs from \$2,590 in 2014 to \$2,900 in 2015.

The proposed 12% increase in the homeowner cap offsets the small cap increase from 2013 to 2014 of 2%. Increasing the homeowner cap each year to 40% of the contract cost of replacement ensures that the City is able to replace a greater number of service connections that fail, leak, or collapse under each replacement contract. Table 1 shows the annual increase of the homeowner cap since 2009.

Table 1: Homeowner Cap Increase

Year	Owner Cap	City	Total	% change from previous year
2009	\$ 1,984	\$ 2,976	\$ 4,960	-
2010	\$ 2,112	\$ 3,168	\$ 5,280	6%
2011	\$ 2,250	\$ 3,375	\$ 5,625	7%
2013	\$ 2,540	\$ 3,810	\$ 6,350	13%
2014	\$ 2,590	\$ 3,885	\$ 6,475	2%
2015	\$ 2,900	\$ 4,350	\$ 7,250	12%

The Administration is recommending that the cap of \$2,590 for the residential property owners' portion of service connection replacements be increased to \$2,900, plus applicable taxes, effective March 1, 2015.

Emergency Connection Rehabilitation

The Emergency Connection Rehabilitation Program consists of the replacement of failed lead water lines and/or failed sewer connections. The Emergency Connection Rehabilitation contract is intended to address emergency replacements which are prioritized in such a way to ensure that connections are replaced in an acceptable timeframe.

Homeowners with failed water and/or sewer connections are eligible to participate in the City's cost sharing program if they replace their portion of the failed water and/or sewer lines when the contractor replaces the City's portion of failed connections.

On January 12, 2015, RFPs for the 2015 Emergency Connection Rehabilitation program for the period of March 1, 2015 to December 31, 2015 were opened.

One proposal was received, from Brunner's Construction Ltd. The proposal was reviewed using the following criteria, with 1 being the most important and 5 the least important:

1. Price;
2. Methodology;
3. Recent contractor experience;
4. Past performance; and
5. General quality of the proposal.

The Administration has determined the proposal from Brunner's Construction Ltd., at a total cost of \$1,851,790.50 (including G.S.T. and P.S.T.) to be acceptable.

Homeowner Requests for Connection Rehabilitation

The lead replacement program consists of replacing lead water lines and sewer lines by trenchless methods. Most houses built prior to 1949 (approximately 6,000 homes in Saskatoon) have this type of connection. There are currently approximately 300 homes where the homeowners have requested their lead water line or sewer line be replaced.

The lead replacement program is limited to the City's portion of the connection only. The cost is substantially reduced when the private portion is done in conjunction with the City's portion, with the City paying 60% of the total cost and the homeowner paying 40%, to a maximum of \$2,900 (proposed 2015 cap). The homeowner can either pay the contractor directly, or have their share of the costs added to their property taxes.

On December 30, 2014, RFPs for the Homeowner Requests for Connection Rehabilitation contract for the period of March 1, 2015 to October 31, 2015 were opened. The contract includes the replacement of approximately 90 full water and sewer connections and approximately 20 sewer only connections which were requested by homeowners, and may also include the replacement of lead lines, in conjunction with water main rehabilitation locations.

One proposal was received, from Brunner's Construction Ltd. The proposal was reviewed using the same criteria as the Emergency Connection Rehabilitation Program as listed above.

The Administration has determined the proposal from Brunner's Construction Ltd., at a total cost of \$1,071,135.45 (including G.S.T. and P.S.T.) to be acceptable.

Contract Renewal Periods

In past years, the connection replacement contracts were tendered annually and had no option for renewal. Issuing a new RFP each year has led to service interruptions in the program due to the length of the award process. Including a renewal option in the contracts will allow Administration to more effectively execute the City's Connection Replacement Program and provide more constant and seamless service to the residential property owners who use this program.

Each contract has the option to renew for up to two additional one-year periods. Unit prices for each renewal period for each contract will be negotiated by the Administration and Brunner's Construction Ltd. and will be proportional to the total Consumer Price Index for Saskatchewan. If no unit prices can be mutually agreed upon between the Administration and Brunner's Construction Ltd., then the contracts will not be renewed and will be put out for re-tender.

Once the unit prices for the contract renewal have been mutually agreed upon by the Administration and Brunner's Construction Ltd., the cap on the residential property owner's portion of the service connection replacement cost will be adjusted to a maximum of 40% of the new contract cost of replacement.



STANDING POLICY COMMITTEE ON ENVIRONMENT, UTILITIES & CORPORATE SERVICES

Saskatoon Water Borrowing Reduction and Funding Reallocation

Recommendation of the Committee

That the transfer of funds from capital and replacement reserves as indicated below, to reduce borrowing by \$3,600,000 be approved:

1. \$2,900,000 from the Waste Water Capital Project Reserve to the following projects:
 - a) \$1,600,000 for Project #1234 – WWT Odour Abatement System;
 - b) \$800,000 for Project #1243 – WWT Lift Stations Upgrades;
 - c) \$500,000 for Project #2224 – WWT Liquid Waste Haulers Station; and
2. \$700,000 from the Water Replacement Reserve to Project #2557 – WTP Acadia Pump Replacement.

History

At the March 9, 2015 Standing Policy Committee on Environment, Utilities & Corporate Services meeting, a report of the General Manager, Transportation and Utilities Department dated March 9, 2015 was considered.

Attachment

March 9, 2015 Report of the General Manager, Transportation and Utilities.

Saskatoon Water Borrowing Reduction and Funding Reallocation

Recommendation

That the Standing Policy Committee on Environment, Utilities and Corporate Services recommend to City Council that the transfer of funds from capital and replacement reserves as indicated below, to reduce borrowing by \$3,600,000 be approved:

1. \$2,900,000 from the Waste Water Capital Project Reserve to the following projects:
 - a) \$1,600,000 for Project #1234 – WWT Odour Abatement System;
 - b) \$800,000 for Project #1243 – WWT Lift Stations Upgrades;
 - c) \$500,000 for Project #2224 – WWT Liquid Waste Haulers Station; and
2. \$700,000 from the Water Replacement Reserve to Project #2557 – WTP Acadia Pump Replacement.

Topic and Purpose

This report is to obtain City Council approval to transfer reserve funding to projects to reduce borrowing required for those projects.

Report Highlights

1. Saskatoon Water has sufficient reserves to apply funding to several projects that were budgeted to be funded through borrowing or borrowing plus reserves.
2. The reduction in borrowing requirements will be \$3,600,000.

Strategic Goal

This report supports the Strategic Goal of Asset and Financial Sustainability by reducing borrowing.

Background

A comprehensive review of borrowing needs for 2014 was completed and four projects were identified for which borrowing can be reduced.

Report

During a comprehensive review of identifying borrowing needs for 2014, and considering the reserve sufficiency, four projects were found which can be funded partially through reserves to reduce the borrowing requirements for previously approved utility projects. This will result in a borrowing reduction of \$3,600,000. It is recommended that funds be reallocated as indicated above.

Options to the Recommendation

An option would be to borrow \$3,600,000 to fund these projects which would result in a higher debt level and interest costs.

Financial Implications

There is sufficient funding within the capital and replacement reserves to fund the changes detailed in this report. These transfers will reduce Saskatoon Water borrowing requirements by \$3,600,000.

Other Considerations/Implications

There are no public and/or stakeholder involvement, communications, policy, environmental, privacy, or CPTED implications or considerations.

Due Date for Follow-up and/or Project Completion

The projects listed are expected to be completed by December 31, 2015, except for Project #1243 – WWT Lift Stations Upgrades which is an ongoing project.

Public Notice

Public Notice pursuant to Section 3 of Policy No. C01-021, Public Notice Policy, is not required.

Report Approval

Written by: Beverly Stanley, Accounting Coordinator II, Business Administration
Reviewed by: Reid Corbett, Director of Saskatoon Water
Approved by: Jeff Jorgenson, General Manager, Transportation & Utilities Department

EUCS – Saskatoon Water Borrowing Reduction and Funding Reallocation.docx



STANDING POLICY COMMITTEE ON ENVIRONMENT, UTILITIES & CORPORATE SERVICES

Capital Project #625-29 – Feasibility Study – Sanitary River Crossing – Award of Engineering Services

Recommendation of the Committee

1. That the proposal for engineering services, submitted by Associated Engineering (Sask) Ltd., for the feasibility study of a new sanitary sewer crossing of the South Saskatchewan River, on a time and expense basis, at an estimated cost of \$93,473.52 (including GST and PST), be accepted; and
2. That the City Solicitor be requested to prepare the appropriate agreement and that His Worship the Mayor and the City Clerk be authorized to execute the agreement under the Corporate Seal.

History

At the March 9, 2015 Standing Policy Committee on Environment, Utilities & Corporate Services meeting, a report of the General Manager, Transportation & Utilities Department dated March 9, 2015 was considered.

Attachment

March 9, 2015 Report of the General Manager, Transportation & Utilities.

Capital Project #625-29 – Feasibility Study – Sanitary River Crossing – Award of Engineering Services

Recommendation

That the Standing Policy Committee on Environment, Utilities and Corporate Services recommend to City Council:

1. That the proposal for engineering services, submitted by Associated Engineering (Sask) Ltd., for the feasibility study of a new sanitary sewer crossing of the South Saskatchewan River, on a time and expense basis, at an estimated cost of \$93,473.52 (including GST and PST), be accepted; and
2. That the City Solicitor be requested to prepare the appropriate agreement and that His Worship the Mayor and the City Clerk be authorized to execute the agreement under the Corporate Seal.

Topic and Purpose

The purpose of this report is to request City Council approval for the award of engineering services to provide a feasibility study for a proposed new sanitary sewer crossing of the South Saskatchewan River.

Report Highlights

1. There is a need to analyze and investigate the hydraulic, geotechnical, environmental, and archeological constraints in order to develop a feasibility study for the future sanitary sewer river crossing.
2. A Request for Proposal was posted on Sasktenders asking for consulting services to conduct this investigation and provide a report summarizing and interpreting the findings.
3. Based on a systematic evaluation, the proposal from Associated Engineering (Sask) Ltd. (AE) received the highest rating.

Strategic Goals

The recommendations in this report support the Strategic Goals of Asset and Financial Sustainability and Sustainable Growth as work completed under this contract will ensure that the new sanitary sewer crossing will be properly located and sized to handle the ultimate and also intermediate sanitary flows during the build out of future northeast neighborhoods. A new sanitary river crossing would allow a direct servicing route from Saskatoon's northeast development area to the Wastewater Treatment Plant.

The recommendations also support the Strategic Goal of Environmental Leadership as this study will assess the geotechnical, environmental, and archeological conditions within the area to ensure the crossing will be situated appropriately and minimize the impact to each constraint.

Background

The proposed sanitary river crossing was identified in previous servicing investigations dating back to 1987. These previous investigations indicated a new crossing would be necessary once development moved north of the Northeast Swale. Currently, Evergreen and Aspen Ridge are building up to the southern boundary of this Swale and functional design work has begun for the next neighbourhood north of the Swale.

Report

The City is in the preliminary stages of functional design work for land north of Evergreen and Aspen Ridge within the northeast development area. As development proceeds into this area, a new sanitary crossing will be required to ensure there is adequate capacity to service future neighbourhoods.

Feasibility Study

A feasibility study of the proposed river crossing will provide valuable initial groundwork and cost estimates to assist in later phases of design. The study will provide an optimized location and orientation of the crossing by minimizing impacts to environmental and heritage sensitivities identified within the area. The study also includes analysis of the geotechnical conditions within the area to provide information on river bank slope stability and recommendations for appropriate construction methods based on the soil characteristics. Lastly, the feasibility study will provide a review of the hydraulics of the crossing to ensure the sanitary sewer will function properly through a range of flows, including early development to eventual full build-out of future University Heights and Northeast Sector neighbourhoods.

A Request for Proposal was posted on Sasktenders asking for consulting services to conduct a feasibility study of the sanitary sewer river crossing. After a systematic evaluation of six proposals, the Administration rated AE above the others.

The Administration recommends that the City enter into an Engineering Services Agreement with AE to complete a feasibility study of the proposed sanitary sewer river crossing.

Public and/or Stakeholder Involvement

Six potential stakeholders have been identified within the study area: Meewasin Valley Authority, the Ministry of Environment, the Department of Fisheries and Oceans, PR Developments, Saskatoon Land division, and Parks division. For these stakeholders, AE has proposed holding a workshop to discuss potential crossing locations along with the financial, environmental, heritage, and hydraulic implications for each option so concerns and feedback can be incorporated into the process. If deemed necessary, leadership within potentially impacted First Nations and Metis communities will also be contacted to participate in the stakeholder meeting to fulfill the Duty to Consult obligations outlined in the Government of Saskatchewan First Nation and Metis Consultation Policy Framework.

Communication Plan

For the borehole drilling portion of this study, four potential stakeholders have been identified. Affected stakeholders, including the Meewasin Valley Authority, will be contacted and consulted prior to any work commencing.

Construction notices will also be issued if boreholes are proposed within the vicinity of nearby residents. Once the drilling location is determined, further communications for the general public will be considered to keep residents informed.

Financial Implications

The proposal from AE was priced on a time and expense basis, at an estimated cost of \$93,473.52 (including GST and PST). The estimated net cost to the City for engineering services would be as follows:

Base Fee	\$70,329.00
Optional Boreholes	15,330.00
PST	3,531.57
GST	<u>4,282.95</u>
Total Fee	\$93,473.52
Less GST Rebate	<u>(4,282.95)</u>
Net Cost to City	<u>\$89,190.57</u>

Funding for this project has been approved under Capital Project #625-29 – Land Development – Trunk Sewers – North East Sector – EF – Sanitary River Crossing.

Environmental Implications

The completion of this project will provide important environmental baseline data to establish pre-construction conditions. All testing will be conducted according to industry standards that prevent any contamination of the test holes and site.

Other Considerations/Implications

There are no options, policy, privacy, or CPTED implications or considerations.

Due Date for Follow-up and/or Project Completion

The final project report is due December 31, 2015.

Public Notice

Public Notice pursuant to Section 3 of Policy No. C01-021, Public Notice Policy, is not required.

Report Approval

Written by: Michael Beal, Design Engineer, Engineering & Planning
Reviewed by: M. Nisar Khan, Senior Design Engineer, Engineering & Planning
AJ McCannell, Manager, Engineering & Planning
Reid Corbett, Director of Saskatoon Water

Capital Project #625-29 – Feasibility Study - Sanitary River Crossing – Award of Engineering Services

Approved by: Jeff Jorgenson, General Manager, Transportation & Utilities
Department

EUCS MB – Feasibility Study–Sanitary River Crossing–Award of Eng Services



STANDING POLICY COMMITTEE ON ENVIRONMENT, UTILITIES & CORPORATE SERVICES

Storm and Sanitary Sewer Flow Monitoring Program Expansion and Upgrade – Sole Source

Recommendation of the Committee

1. That ISCO flow monitoring equipment be adopted as the City's Standard for storm sewer and sanitary sewer flow monitoring equipment until December 31, 2018;
2. That the Administration prepare a sole source to Avensys Solutions for the supply of ISCO flow monitoring equipment for a total cost of \$86,972.55 (including GST); and
3. That Purchasing Services issue the appropriate purchase order.

History

At the March 9, 2015 Standing Policy Committee on Environment, Utilities & Corporate Services meeting, a report of the General Manager, Transportation and Utilities Department dated March 9, 2015 was considered.

Attachment

March 9, 2015 Report of the General Manager, Transportation and Utilities.

Storm and Sanitary Sewer Flow Monitoring Program Expansion and Upgrade – Sole Source

Recommendation

That the Standing Policy Committee on Environment, Utilities and Corporate Services recommend to City Council:

1. That ISCO flow monitoring equipment be adopted as the City's Standard for storm sewer and sanitary sewer flow monitoring equipment until December 31, 2018;
2. That the Administration prepare a sole source to Avensys Solutions for the supply of ISCO flow monitoring equipment for a total cost of \$86,972.55 (including GST); and
3. That Purchasing Services issue the appropriate purchase order.

Topic and Purpose

The purpose of this report is to obtain approval to purchase ISCO brand flow monitors for the upgrade and expansion of the Saskatoon Water Flow Monitoring Program.

Report Highlights

1. The purchase of 15 new monitors is required for the Flow Monitoring Program.
2. ISCO flow monitors represent 70% of the City's current inventory and have become the City's standard.
3. Avensys Solutions is the only distributor in Canada for ISCO monitors.

Strategic Goals

The recommendations in this report support the Strategic Goal of Sustainable Growth as this purchase will help facilitate informed decision making related to future storm and sanitary sewer infrastructure projects and infill developments.

The recommendations also support the Strategic Goal of Asset and Financial Sustainability as this purchase will allow more pipe flow data to be captured within the city to aid with design standard updates, reliable forecasting of preservation and system upgrade work.

Background

The Flow Monitoring Program is necessary to build and calibrate the storm and sanitary sewer models which are fundamental for the planning and design phases of future water and sewer infrastructure projects and infill developments. The current Flow Monitoring Program consists of measuring:

- Flow rate at 23 sanitary trunk locations and 10 storm trunk locations;
- Rainfall at eight locations;
- Level at six sanitary storage tank locations;

- Pressure at approximately 80 hydrant locations; and
- Water quality within the Northeast Swale.

Report

The purchase of 15 new ISCO flow monitors will be used to upgrade and expand the flow monitoring network to collect flow data in new developments. Additionally, some outdated and failing monitors will be replaced in order to ensure high quality data.

ISCO flow monitors have become the City’s standard as they are compatible with the City’s data management software and are currently operating at 70% of monitoring locations. The existing inventory of flow monitors began by purchasing three ISCO monitors in 2011 to assess the performance of this make and model. In 2012, ISCO brand monitors were specified and purchased through a competitive tender process. Based on exceptional past performance, additional ISCO monitors were purchased in 2013.

Continuing to use ISCO flow monitors will provide consistent data collection methods which are important for:

- Comparability within the monitoring system;
- Data quality control; and
- Efficient and cost effective equipment maintenance.

Avensys Solutions is the only distributor in Canada for ISCO monitors, as shown in Attachment 1.

Financial Implications

The quote from Avensys Solutions was priced on a per unit basis, at a total estimated cost of \$86,972.55 (including GST). The estimated cost to the City for the equipment would be as follows:

Base Cost	\$82,831.00
GST	<u>4,141.55</u>
Total Cost	\$86,972.55
Less GST Rebate	<u>(4,141.55)</u>
Net Cost to the City	<u>\$82,831.00</u>

Funds for this purchase are available in the 2015 Capital Budget – Project #1618 – Waste Water Trunks and Project #1621 – Storm Sewer Preservation.

Environmental Implications

Storm and Sanitary flow monitoring is essential for building and calibrating system models. These models are fundamental for cost effective planning, design, and operation of the storm and sanitary systems while considering the environmental implications in existing and new neighbourhoods.

Some examples of environmental implications include:

- Assessment of basement sewer backup and possible solutions.
- Identifying surface flooding locations and possible remediation work to reduce the impact.
- Reduction of the risk for sanitary and storm system failure and the associated environmental consequences.
- Increased accuracy for analysis and modelling of the water quality impact, following a spill into the sanitary or storm system.

Other Considerations/Implications

There are no options, public and/or stakeholder involvement, communications, policy, privacy, or CPTED implications or considerations.

Due Date for Follow-up and/or Project Completion

The monitors are required by mid-April 2015 in order to capture the start of the rain season. Delivery time is four to six weeks from date of order.

Public Notice

Public Notice pursuant to Section 3 of Policy No. C01-021, Public Notice Policy, is not required.

Attachment

1. Teledyne Isco Letter Dated February 24, 2015

Report Approval

Written by: Grant Gardner, Monitoring Technician, Engineering & Planning
Reviewed by: Hossein Azinfar, Senior Planning Engineer, Engineering & Planning
AJ McCannell, Manager, Engineering & Planning
Reid Corbett, Director of Saskatoon Water
Approved by: Jeff Jorgenson, General Manager, Transportation & Utilities
Department

EUCS – Storm and Sanitary Sewer Flow Monitoring Program Expansion and Upgrade



4700 Superior Street
P.O. Box 82531
Lincoln NE 68501
P: 402.464.0231 F: 402.464.0318
Toll Free: 800.228.4373
E-mail: iscoinfo@teledyne.com

February 24, 2015

To Whom It May Concern:

The Teledyne Isco International Distributor Agreement dated April 1, 2012 between Teledyne Isco and Avensys, Inc., has been assumed by Avensys Solutions until either the existing agreement expires or a new agreement is put in place between Avensys Solutions and Teledyne Isco.

A new agreement is in process and expected to be finalized before the expiration of the old agreement which is set to expire on March 31, 2015.

The new agreement will establish Avensys Solutions as the exclusive distributor in Canada for all Teledyne Isco Environmental Products, to be defined in the agreement as Samplers and Open Channel Flow Meters. Avensys Solutions will be authorized to facilitate factory warranty issues and supply service support for Teledyne Isco environmental products.

Should you have any questions about the above please do not hesitate to contact me at (724) 831-6325.

Respectfully,

A handwritten signature in black ink that reads "Richard Skradski". The signature is written in a cursive style with a horizontal line at the end.

Richard Skradski
Regional Sales Manager
Teledyne Isco



STANDING POLICY COMMITTEE ON ENVIRONMENT, UTILITIES & CORPORATE SERVICES

Source Control Programs for the Sanitary Sewer System

Recommendation of the Committee

That the report of the General Manager, Corporate Performance dated March 9, 2015 be received as information.

History

At the March 9, 2015 Standing Policy Committee on Environment, Utilities & Corporate Services meeting, a report of the General Manager, Corporate Performance Department dated March 9, 2015 was considered.

Attachment

March 9, 2015 Report of the General Manager, Corporate Performance.

Source Control Programs for the Sanitary Sewer System

Recommendation

That the information be received.

Topic and Purpose

This report outlines a new approach to modernizing the Sewer Use Bylaw (Bylaw) and provides an update on the development of source control programs to support the existing and new bylaws.

Report Highlights

1. The Administration will bring forward changes to modernize the existing regulations for sewer use to focus on the quality of discharges rather than how businesses must treat their wastewater (i.e. prescribed plumbing fixtures).
2. Source control programs are common practice for communities in managing risk related to the large number and variety of users of the sanitary sewer system. Such programs are being developed to educate Saskatoon businesses on managing discharges and meeting discharge.
3. The first source control programs to be launched will target the food industry (generators of fats, oils, and grease) and businesses that generate grit.
4. A baseline inventory is currently being developed through site visits to 1,600 businesses that may pose a risk to the sanitary sewer and therefore may be impacted by the future Bylaw.

Strategic Goals

Source control programs manage corporate risks related to compliance with Federal and Provincial Environmental Regulations, support the City of Saskatoon's (City) strategic goal of Environmental Leadership. The programs also support the strategic goal of Asset and Financial Stability by ensuring that our assets are well managed and maintained.

Background

Discharges to the sanitary sewer are currently regulated by the Sewage Works Control Bylaw (Bylaw #5115), which came into effect in 1971. The current bylaw is general in nature, open to interpretation, and does not have adequate provisions for enforcement. There have been several changes to federal and provincial legislation that affect the City's wastewater system since the bylaw was formulated.

At its meeting on March 7, 2011, City Council considered a new Bylaw with an effective date of July 1, 2013. The Bylaw was to be based on the foundational principle of source control through prescribed plumbing fixtures. In March 2013, implementation of the Bylaw was postponed in order to accommodate education programs with affected businesses.

Report

New Approach to the Sewer Use Bylaw

The past approach to the new Bylaw included requirements for wastewater pre-treatment by specific businesses. Some of these standards were more stringent than the requirements of current provincial and national plumbing codes. There were concerns from businesses about the costs and benefits of implementing these changes, especially in relation to changing national regulations and industry best practices.

The proposed new approach to the Bylaw focuses on the quality of the discharge. Businesses discharging waste water containing materials of concern will be identified in a baseline inventory. Administration will, through source control programs, work with these businesses to help them comply with existing and future regulations. Additional information about the new Bylaw will be provided in an upcoming report to City Council.

Source Control Programs

Source control is a standard municipal approach to managing risk related to the large number and variety of users of the sanitary sewer system. Source control programs are intended to support the implementation of the existing and/or future Bylaw by clearly stating what is expected from businesses in managing its wastewater discharges and educating businesses on how to comply with the Bylaw. Compliance efforts will begin with education and proceed to enforcement measures when absolutely necessary.

Attachment 1 provides an overview of the source control programs under development. The first source control programs to be launched will target the food industry (generators of fats, oils, and grease) and businesses that generate grit.

Education for users of the sanitary sewer system is critical to the success of the source control management approach. Programs are used to clearly communicate the City's expectations about how to comply with the Bylaw. This approach is intended to reduce the need for enforcement to protect the environment and civic infrastructure while ensuring that source control measures do not unreasonably impact business owners.

Baseline Wastewater Discharge Inventory

Since March 2013, the Administration has created an inventory of 1,600 businesses that may be affected by the Bylaw and has been conducting site visits to ensure that the impacts to businesses are fully evaluated before the Bylaw is implemented.

Communications Plan

Information sessions for food industry businesses are scheduled for April 2015. Letters and information packages will be sent to car wash facilities and other grit-producing operations. Educational materials will be posted on the City's website.

Environmental Implications

A healthy environment is a key driver for the implementation of Source Control Programs. Education and enforcement tools will help users of the infrastructure

understand that if harmful substances are put down the drain and cannot be removed by our treatment processes, these substances end up directly in the environment.

In addition, source control is anticipated to reduce the amount of energy used in wastewater treatment, reduce maintenance and extend the life of the wastewater system, and reduce the potential for sewer backups.

Other Considerations/Implications

There are no finance, policy, privacy, or CPTED implications at this time.

Due Date for Follow-up and/or Project Completion

Environmental and Corporate Initiatives will bring another report to City Council in November 2015 recommending implementation of the new standards and procedures as outlined in this report and requesting that Council direct the Office of the City Solicitor to draft a new Sewer Use Bylaw incorporating these changes.

Public Notice

Public Notice, pursuant to Section 3 of Public Notice Policy No. C01-021, is not required.

Attachment

1. Source Control Programs for Sanitary Sewer System: An Overview

Report Approval

Written by: Twyla Yobb, Watershed Protection Manger
Reviewed by: Brenda Wallace, Director of Environmental and Corporate Initiatives
Approved by: Catherine Gryba, General Manager, Corporate Performance Department

Administrative Report - Source Control Programs for Sanitary Sewer System.docx

Source Control Programs for the Sanitary Sewer System: An Overview

Source control is a standard municipal approach to managing risk related to the large number and variety of users of the sanitary sewer system. The intent of source control management is to:

- Protect sanitary sewer system infrastructure from damage and reduce the need for costly maintenance;
- Protect City employees from exposure to harmful wastes;
- Protect public and private property from damage related to inappropriate discharges;
- Reduce the risk that an inappropriate or high strength discharge will upset the treatment process; and
- Reduce the risk of inadvertently releasing harmful substances into the South Saskatchewan River or onto farmland through the land-spreading of dewatered biosolids

Education of the users of the sanitary sewer system is critical to the success of the source control management approach. In order to achieve compliance, there is a need for the City to clarify, as much as possible, what substances can be discharged to the sewer, and what discharge behaviors are and are not acceptable.

Educational initiatives (source control programs) that clearly communicate these expectations help businesses understand how to comply with the new bylaw. This proactive approach is intended to reduce the number of enforcement actions that are needed to achieve compliance.

Source control programs provide protection of the environment and civic infrastructure while also respecting the needs of businesses and ensuring that source control measures do not unreasonably impact business owners.

Limited and Prohibited Substances

The Limited and Prohibited Substances Program is the umbrella for all other source control programs. The new bylaw will contain a list of substances that cannot be discharged to the sanitary sewer (prohibited), or that can only be discharged in regulated amounts (limited).

Limits and prohibitions will be set in accordance with the national *Municipal Waste Water Effluent Strategy* that was adopted by the Canadian Council of the Ministers of the Environment (CCME) in 2009. Where there are specific problems with limited or prohibited substances, a special source control program has been developed to provide targeted education and enforcement.

Businesses that are found to discharge a substance that is limited or prohibited will be notified of non-compliance, provided with educational materials related to their specific

Source Control Programs for the Sanitary Sewer System: An Overview

source control program, and given time to work with the City toward compliance with the bylaw.

Surcharge Program

The Surcharge Program is an existing program that targets larger industries that discharge high amounts of treatable waste. The City has identified four substances which, when present in high amounts, can cause trouble in the collection system, upset the treatment process, and/or greatly increase the cost of treatment.

The City levies a surcharge on those industries that discharge these substances in amounts larger than certain pre-set limits to encourage better wastewater discharge practices and to partially recover the costs of treatment and collection system maintenance.

Fats, Oils and Grease (FOG) Program

The National Plumbing Code of Canada (2005) requires installation of grease interceptors where a plumbing fixture discharges fats, oils, or grease and is located in a public kitchen, in a restaurant, or in a care or detention occupancy. Installation of grease interceptors is regulated by the Building Standards Division of the City.

The FOG Program will focus on identification of those businesses that do not have, or do not maintain their grease interceptors properly, thereby allowing excess fats, oils, and grease to discharge to the sanitary sewer system.

Grit Program

The National Plumbing Code of Canada (2005) also requires installation of interceptors where the discharge from a fixture may contain sand, grit, or similar materials. Installation of grit interceptors is also regulated by the Building Standards Division.

The Grit Program will focus on identification of those businesses who do not maintain their interceptors properly, or who do not have an appropriate interceptor installed.

Trucked Liquid Waste (TLW) Program

Businesses that haul trucked liquid waste are currently issued permits by the Saskatchewan Ministry of Environment. There are currently two locations where the City allows discharge of trucked liquid waste.

The TLW Program will authorize liquid waste haulers to dispose of hauled waste at either of the two locations. The City will obtain occasional audit samples of the liquids discharged at either facility, and will levy a discharge fee for disposal of trucked liquid waste at both locations.

Source Control Programs for the Sanitary Sewer System: An Overview

Mobile Food Vendor Program

Applications for mobile food vendors are submitted to this program for review. Applicants are asked to submit a discharge management plan for waste water that may be produced by their operation. The intent of this review is to ensure that any food wastes and/or fats, oils, and grease from the operation are being disposed of properly.

Septic Dump Program

A septic dump is a location where recreational vehicles are allowed to empty their sewage waste into the sanitary sewage system. There are an unknown number of septic dumps in the City; there is currently no monitoring and the frequency of use is unknown.

The known dump sites will be mapped and appropriate education and signage will be produced. Additional sites may be located and mapped during the development of the baseline discharge inventory. The City will work with the owners of these sites to ensure that only appropriate discharges are occurring.

Special Discharges Program

Businesses that wish to discharge an unusual substance to the sanitary sewer system for a limited period of time can apply to this program for discharge permit. Requirements will be determined via cooperation between program staff, collections system staff, and treatment facility staff.

Residential Education Program

Residential discharges represent the largest contribution, by volume, and are the most predictable, by composition, of all the discharges to the sanitary sewer system. It would be cost prohibitive to attempt to individually regulate residential dischargers, especially since each represents a relatively low level of risk.

Residential discharges will be addressed via education regarding appropriate use of the sanitary sewer system.

Current Issues

Currently, there are no compelling quality problems reported in either the treated effluent that is discharged to the river, or the biosolids that are spread on farmland. However there are ongoing issues in the collection system with accumulations of fats, oil and grease (FOG), and grit that cause maintenance problems. Increases in the amount of metals in the waste water entering the treatment plant have also been detected.

Source Control Programs for the Sanitary Sewer System: An Overview

The Fats, Oil and Grease Program and the Grit Program target current issues in the collection system. The education component of these programs can be rolled out under the current Sewer Use Bylaw, while enforcement will be addressed by the new Sewer Use Bylaw.

The FOG Program will impact approximately 800 restaurants in Saskatoon, and it is anticipated that compliance will involve education and cooperation with many businesses. This is the largest group of businesses that will be impacted by a single program.

The Grit program will impact any business in Saskatoon that has an overhead door with a floor drain. These businesses are not easy to categorize in relation to their business type and will be one of the most difficult groups to communicate with.

Since the FOG and Grit Programs will require the most communication effort, the educational component of these programs will be rolled out first, with information sessions planned for April 2015.

Table 1: Impacts of Source Control Programs

Source Control Program	Operation Type	Estimated Number
Limits and Prohibited Substances	Any business (industrial, commercial, institutional) that discharges a substance that is limited or prohibited by the bylaw	1600
Fats, Oil and Grease (FOG)	Restaurants	800
Grit	Businesses with an overhead vehicle door and floor drain	500
Surcharge	Businesses who discharge specific parameters in excess of the limits in the bylaw	5
Trucked Liquid Waste	Liquid waste haulers	20
Mobile Food Trucks	Mobile food trucks	5
Septic Dumps	Any business with a septic dump for recreational vehicles.	unknown
Residential Education	Not business-related	250,000

Source Control Programs for the Sanitary Sewer System: An Overview

Findings of the Baseline Inventory

Response to baseline inventory site visits has been positive. Approximately 580 businesses were approached by the end of 2014; the participation rate has been about 90%. Issues that have been identified during site visits will be addressed by educational materials and by enforcement provisions in the new sewer use bylaw. To date, issues include access to businesses for future inspections, language barriers, and non-compliance with the current and/or future bylaw. Approximately 70% of the current participants are already in compliance with the new approach to the sewer use bylaw.

Source control programs and supporting educational materials are being developed on the basis of these site visits in order to manage the actual risks represented by discharges to the sanitary sewer system. This approach ensures that the expectations of the new bylaw are reasonable and cost-effective for businesses.



STANDING POLICY COMMITTEE ON ENVIRONMENT, UTILITIES & CORPORATE SERVICES

Advanced Metering Infrastructure Project – Award of Contract with Elster Solutions Canada

Recommendation of the Committee

1. That a contract with Elster Solutions Canada Incorporated for the supply of electricity meters, water meter communication modules, and AMI software, data collectors and repeaters for the Advanced Metering Infrastructure project for a total fee of \$10,878,257.25 (including GST) be approved;
2. That the City Solicitor be requested to prepare the appropriate agreement and that His Worship the Mayor and the City Clerk be authorized to execute the agreement under the Corporate Seal; and,
3. That Purchasing Services be authorized to issue the necessary Purchase Orders to Elster Solutions Canada Incorporated for these purchases

History

At the March 9, 2015 Standing Policy Committee on Environment, Utilities & Corporate Services meeting, a report of the General Manager, Transportation and Utilities Department dated March 9, 2015 was considered.

Attachment

March 9, 2015 Report of the General Manager, Transportation and Utilities.

Advanced Metering Infrastructure Project - Award of Contract with Elster Solutions Canada

Recommendation

That the Standing Policy Committee on Environment, Utilities and Corporate Services recommend to City Council:

1. That a contract with Elster Solutions Canada Incorporated for the supply of electricity meters, water meter communication modules, and AMI software, data collectors and repeaters for the Advanced Metering Infrastructure project for a total fee of \$10,878,257.25 (including GST) be approved;
2. That the City Solicitor be requested to prepare the appropriate agreement and that His Worship the Mayor and the City Clerk be authorized to execute the agreement under the Corporate Seal; and,
3. That Purchasing Services be authorized to issue the necessary Purchase Orders to Elster Solutions Canada Incorporated for these purchases.

Topic and Purpose

That City Council approve a contract with Elster Solutions Canada Incorporated (Elster) for the supply of the necessary equipment for implementation of an Advanced Metering Infrastructure (AMI) system for both the electricity and water utilities to be operational in 2016. An AMI system is used to transmit electricity and water consumption data from the individual meters to the utilities.

Report Highlights

1. Saskatoon Light & Power (SL&P) has standardized on the use of Elster meters since 2008, and all water meters installed by Saskatoon Water since 1994 are compatible with Elster communication modules.
2. The total cost of electricity meters, water modules, and the AMI system is within budget estimates.
3. Elster has supplied meters, modules, and AMI systems for several other successful AMI projects implemented at utilities across Canada.

Strategic Goal

This report supports the long-term strategy to increase productivity by being more efficient in the way the City does business, and to leverage technology and emerging trends to reach City goals and service citizens, under the Strategic Goal of Continuous Improvement. This report also supports the long-term strategy to reduce lost revenues under the Strategic Goal of Asset and Financial Sustainability. By eliminating the need to read meters manually, greenhouse gas (GHG) emissions tied to City operations will also be reduced, under the Strategic Goal of Environmental Leadership.

Background

At its meeting on June 23, 2014, City Council directed Administration to negotiate pricing, terms and conditions with Elster for the supply of the electricity meters, water meter communication modules, and the AMI system (data collectors and repeaters, software, training and support), and to report back with the appropriate recommendations.

Report

Standardized use of Elster Meters and Modules

Metering manufacturers each use their own proprietary communication protocol for their AMI systems. In order to avoid the cost of buying and maintaining multiple AMI systems, it is financially advantageous to standardize the type of meters used by SL&P. As SL&P has already upgraded approximately 55% of its meters using the product supplied by Elster, it is recommended to continue this standard for the balance of the deployment. The 54,000 meters installed by Saskatoon Water since 1994 are compatible with Elster communication modules.

Costs are within Budget

Administration negotiated with Elster for the purchase of the balance of electricity meters (27,000) required to complete the deployment, 69,000 communication modules for the water meters, the AMI System (data collectors, repeaters and head-end system software), and an annual maintenance and support contract. The net cost of all equipment, professional services and support is \$10.36 million, and is within budget estimates.

Electricity Meters (quantity 27,000)	\$ 3,621,577.00
Water Modules (quantity 69,000)	5,561,230.00
Collectors (qty. 65) & Repeaters (qty. 252)	255,917.00
AMI System Software	388,224.00
Project Management Fees	435,223.00
Support & Maintenance Agreement (per year)	98,074.00
GST	<u>518,012.25</u>
Total Cost	\$10,878,257.25
Less GST Rebate	<u>(518,012.25)</u>
Net Cost to the City	<u>\$10,360,245.00</u>

The cost for the electricity meters listed above includes the purchase of an optional performance warranty, (at an additional cost of 4%, or approximately \$137,850), and provides remedy if more than 5% of the installed meters are non-conforming, or if any non-conforming meter gives rise to a public safety issue that could potentially result in property damage or fire. The remedy provides for repair or replacement of the non-conforming meters and extension of the warranty for an additional four years for the entire meter vintage.

A price adjustment clause has been included in the contract due to the extended implementation schedule and anticipated Canada/US exchange rate fluctuations during

this time. The cost estimates above are therefore based on current exchange rates in effect at the time of writing this report.

Elster has Deployed AMI Systems across Canada

Over the past several years, AMI systems have been deployed by electric, water, and natural gas utilities throughout North America, including most Canadian provinces.

Elster smart meters have been installed at many other utilities across Canada, including SaskPower, with major deployments in the provinces of Ontario and Alberta. Elster has been engineering and manufacturing meters for 125 years (beginning as Westinghouse in the United States), and now have over 8 million smart meters and 110 AMI/smart grid systems deployed worldwide. Elster meters are designed, manufactured, and guaranteed to operate in accordance with American National Standards Institute standards.

SL&P has been using Elster meters since 2008 in Saskatoon and has received no reports of meter-related fires.

Options to the Recommendation

The recommendations could be rejected and manual meter readings would continue. It should be noted that meter reading staff numbers have not increased in the past decade to keep pace with the growth of the City and a program review would be undertaken.

There is also an option to implement and operate two separate AMI systems. The one system would be supplied by Elster and would read the existing electricity meters. The second system would be tendered publicly and would read the new meters installed by SL&P, along with all water meters. The economic feasibility of this option was explored and is not recommended. The additional cost for this option is estimated to be between \$2.5 million and \$3.0 million.

Public and/or Stakeholder Involvement

Open houses were held on February 11 and 12, 2014 to provide information on AMI and answer questions. Online consultation was also facilitated through 'Shaping Saskatoon' between January 27 and March 14, 2014.

Communication Plan

A Communication Plan has been developed to inform stakeholders about smart meters, how they work, and the installation process. As the project progresses, significant milestones will continue to be communicated with citizens, the news media, on the City of Saskatoon website and through other appropriate communication channels.

Financial Implications

AMI System installation will begin in 2015, and the system will be operational in 2016 (these costs are shared 55% by SL&P, and 45% by Saskatoon Water). Electricity meter deployment will occur over three years, through the end of 2017. Water module

deployment will occur over five years, through the end of 2019 (although water modules will be purchased over three years to take advantage of volume pricing).

Adequate funding is available in approved capital project budgets, and proposed capital plans through the end of 2019, for SL&P Capital Project #724 – Electricity Meters, SL&P Capital Project #1250 – AMI Implementation, and Saskatoon Water Capital Project #1055 – AMR Infrastructure. The following table shows a breakdown of costs over this period.

Division	Capital Project	Expenditure
Saskatoon Light & Power	724 – Electricity Meters	\$1,207,192 (per year for 3 years)
	1250 – AMI Implementation	\$647,591 (55% of AMI system)
Saskatoon Water	1055 – AMR Infrastructure	\$529,846 (45% of AMI system)
	Water modules	\$1,853,744 (per year for 3 years)

Environmental Implications

The recommendation will have resource consumption and GHG emissions implications associated with replacing existing meters with smart meters. However, implementation of the new ‘smart’ meter technology will result in annual GHG emissions reductions associated with the ability to retrieve and verify meter data remotely, eliminating the requirement to operate fleet vehicles to read meters manually (estimated at 35 tonnes of CO2e per year). The recommendation is expected to have positive implications for water resources resulting from a reduction in losses of pumped water through the distribution system due to improved detection of leaks. The GHG emissions reductions created by the reduced water use are estimated at 3,300 tonnes CO2e, which is the equivalent of removing over 685 vehicles from the road each year.

Privacy Implications

The City of Saskatoon complies with the Province of Saskatchewan’s privacy legislation, and will apply the same privacy protection standards for the AMI system as are used for the current billing system. All consumption data collected is only used to ensure accurate billing. All data and meter identification information is encrypted and transmitted over a secure network, and does not include any personal information.

Other Considerations/Implications

There are no policy or CPTED implications or considerations.

Due Date for Follow-up and/or Project Completion

The AMI system is expected to be complete and operational in 2016, with all electricity meters installed by the end of 2017, and all water meter communication modules installed by the end of 2019.

Public Notice

Public Notice pursuant to Section 3 of Policy No. C91-021, Public Notice Policy, is not required.

Report Approval

Written by: Kevin Hudson, Metering & Sustainable Electricity Manager

Reviewed by: Trevor Bell, Director of Saskatoon Light & Power

Reid Corbett, Director of Saskatoon Water

Shelley Sutherland, Director of Corporate Revenue

Approved by: Jeff Jorgenson, General Manager Transportation & Utilities
Department

EUCS KH - AMI Project - Award of Contract with Elster Solutions Canada



EXECUTIVE COMMITTEE

Appointment – Public Art Advisory Committee

Recommendation of the Committee

That Barbara Stehwien be appointed to the Public Art Advisory Committee to the end of 2017.

History

One vacancy exists on the Public Art Advisory Committee. Executive Committee is recommending the appointment of Ms. Barbara Stehwien to the end of 2017.



EXECUTIVE COMMITTEE

P4G Regional Plan – Saskatoon North Partnership for Growth – 2014 Annual Report

Recommendation of the Committee

That the information be received.

History

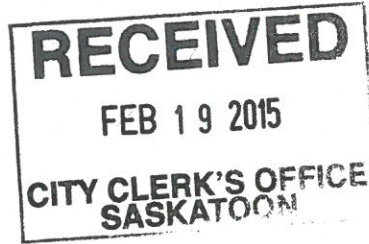
At the March 16, 2015 meeting of Executive Committee, the Committee considered a letter from Christine Gutmann, Project Manager, P4G Regional Plan, Saskatoon North Partnership for Growth dated February 19, 2015, submitting the P4G 2014 Annual Report.

Attachment

Letter - C. Gutmann dated February 19, 2015 and P4G Annual Report



4250-1



February 19, 2015

Ms. Joanne Sproule
City Clerk
City of Saskatoon
222 3rd Avenue North
Saskatoon, Saskatchewan S7K 0J5

Dear Ms. Sproule:

Re: Saskatoon North Partnership for Growth – 2014 Annual Report

At the February 12, 2015 meeting of the Regional Oversight Committee (ROC) for the Saskatoon North Partnership for Growth (P4G), the ROC passed a resolution as follows:

That the P4G 2014 Annual Report attached as Appendix I be forwarded to the Cities of Warman, Martensville and Saskatoon, the Town of Osler, and the Rural Municipality of Corman Park as well as the Ministry of Government Relations for information.

A copy of the P4G 2014 Annual Report has been attached for your information.

Thank you.

Christine Gutmann
Project Manager, P4G Regional Plan
Saskatoon North Partnership for Growth (P4G)
Phone: 306-986-9734
E-Mail: Christine.Gutmann@saskatoon.ca

Attachment: 2014 P4G Annual Report

cc. Randy Grauer, General Manager, Community Services Department, City of Saskatoon



**SASKATOON NORTH
PARTNERSHIP FOR GROWTH
(P4G)**

2014 Annual Report



www.partnershipforgrowth.ca

ABOUT THE SASKATOON NORTH PARTNERSHIP FOR GROWTH (P4G)

The Saskatoon North Partnership for Growth (P4G) is a collaborative which includes political and administrative representation from the partnering municipalities. The partnering municipalities are the Cities of Warman, Martensville and Saskatoon, the Rural Municipality of Corman Park and the Town of Osler, as well as an advisory representative from the Saskatoon Regional Economic Development Authority (SREDA).

The Work Plan for the P4G consists of the development of a Regional Plan by June 2016.

For information about the P4G, please contact: Christine Gutmann, Project Manager, Regional Plan at christine.gutmann@saskatoon.ca or by phone at (306) 986-9734.

P4G Membership

The P4G membership is comprised of two committees: a P4G Regional Oversight Committee (ROC) and a P4G Planning & Administration Committee (PAC).

The Regional Oversight Committee (ROC)

The ROC provides direction on matters of regional importance, particularly those involving a financial commitment and for setting priorities for the P4G. The ROC consists of political representatives and senior management from each of the P4G member municipalities.

The voting members of the ROC consist of three (3) Council members from each of the participating municipalities, one of which is Reeve or Mayor. The ROC operates as a simple majority with each participating municipality receiving one vote. As of December 2014, the voting members of the ROC, listed in alphabetical order by last name, were:

Mayor Donald Atchison (Saskatoon)	Reeve Judy Harwood (Corman Park)
Councillor Richard Beck (Warman)	Councillor Terry Kostyna (Martensville)
Councillor Bob Blackwell (Martensville)	Mayor Kent Muench (Martensville)
Councillor Susan Braun (Osler)	Councillor Eric Olauson (Saskatoon)
Mayor Ben Buhler (Osler)	Councillor Gary Philipchuk (Warman)
Councillor Randy Donauer (Saskatoon)	Councillor Abe Quiring (Osler)
Councillor Bas Froese-Kooijenga (Corman Park)	Mayor Sheryl Spence (Warman)
Councillor John Germs (Corman Park)	

The independent chair of the ROC is Mr. Alex Fallon, President and CEO, SREDA.

For the 2015 year, ROC meetings will be held on February 12, April 30, September 10 and November 19. Further information about these meetings is available on the Regional Plan project website at www.partnershipforgrowth.ca.

The Planning and Administration Committee (PAC)

With its focus on the growth and promotion of strong regional planning, the PAC is comprised of up to three (3) administration representatives from each of the participating municipalities, as well as a SREDA advisory representative. The PAC operates on a consensus basis. In the case where a consensus is not obtained, an item may be referred to the ROC for a decision. As of December 2014, the members of the PAC, listed in alphabetical order by last name, were:

Joe Doxey (Martensville)	Rebecca Row (Corman Park)
Bonnie Gorelitz (Martensville)	Brad Toth (Warman)
Laura Hartney (Saskatoon)	Kelby Unseth (Corman Park)
Dana Kripki (Saskatoon)	Nicole Vassos-Hustej (SREDA)
Sandra MacArthur (Osler)	

DEVELOPMENT OF A REGIONAL PLAN

Why a Regional Plan?

The latest projections show the Saskatoon region nearing a population of 500,000 in the next 20 years. Given the economic climate, we anticipate the Saskatoon region could achieve a population of one million in the next 60 years.

We want our region to be ready for growth, to enable economic prosperity for everyone, and support the quality of life that we enjoy. This has reinforced the need for a more coordinated approach to regional planning and servicing. To this end, the P4G partnering municipalities are developing a long term plan for land use and servicing that is regional in scope. The Regional Plan is anticipated to be complete by June 2016.

Project Overview

The Regional Plan will establish a coordinated approach to matters related to the physical, social, or economic circumstances of the Saskatoon region that may affect the development of the region as a whole, such as land use, population, transportation, utilities, services and finances.

On October 23, 2014, the P4G announced that O2 Planning + Design Inc. from Calgary, Alberta has been selected to complete the Regional Plan. The project will be completed in three phases:

Phase 1 – Vision Development and Background Report (November 2014 – April 2015)

This phase involves the development of a vision and guiding principles for the Regional Plan. A background report for the Region will also be completed during this phase.

Phase 2 – Interim Development Strategy, Draft Regional Plan (February 2015 – February 2016)

This phase involves the development of a concept for regional land use. An interim development strategy will provide guidance to municipalities on potential long-term land uses while the Regional Plan is in development. This strategy will be used as a basis for a more refined Regional Land Use Map and supporting policies in the draft Regional Plan. A Servicing Strategy will also be developed.

Phase 3 – Implementation Plan for Regional Growth Accommodation (January 2016 – June 2016)

During this phase, the draft Regional Plan will be refined based on feedback received and a strategy will be created to identify how the plan should be implemented and managed over the long term.

2014 ACHIEVEMENTS

The P4G has attained a number of major achievements during the 2014 year. These achievements included:

Endorsement of the P4G Foundational Documents on April 24, 2014

The ROC endorsed the P4G Foundational Documents on April 24th, 2014. The Foundational Documents set the foundation for P4G and provide the framework for the development of the Regional Plan for the Saskatoon region. The documents were subsequently endorsed by each of the five member municipal Councils in May and June 2014.

Consultant Selection for the Development of a Regional Plan and Hiring of a Dedicated Project Manager for P4G

On October 2, 2014, the ROC selected O2 Planning + Design Inc. for the development of the Regional Plan. A press conference announcing the hiring of O2 Planning + Design Inc. was held on October 23, 2014 at the RM of Corman Park Administrative Offices. In addition, in July 2014, the P4G hired a dedicated project manager for the development of the Regional Plan.

Regional Plan Visioning Workshop with O2 Planning + Design Inc. on December 17, 2014

On December 17, 2014, the P4G members participated in a Regional Plan Visioning Workshop with O2 Planning + Design Inc. The intent of the workshop was to develop a regional vision, guiding principles and objectives to guide the Regional Plan. The finalized vision and guiding principles will be available in February 2015.

ANTICIPATED MILESTONES FOR 2015

A number of major milestones are anticipated during the 2015 year including:

1. Finalized Regional Plan Vision and Guiding Principles – February 2015
2. Background Report – February / March 2015
3. Interim Development Strategy – April / May 2015
4. Draft Regional Land Use Map, Regional Servicing Strategy and Development Policies – November 2015

REGIONAL PLAN PROJECT FINANCIALS

PROJECT FUNDING

Funding for the development of the Regional Plan was endorsed by each of the partner municipalities as follows:

MUNICIPALITY	2014 FUNDING CONTRIBUTION	2015 FUNDING CONTRIBUTION	2016 FUNDING CONTRIBUTION	TOTAL FUNDING CONTRIBUTION
Saskatoon	\$206,000	\$60,000	\$30,000	\$296,000
Corman Park	\$100,000	\$50,000	\$50,000	\$200,000
Warman	\$50,000	\$75,000	\$75,000	\$200,000
Martensville	\$50,000	\$75,000	\$75,000	\$200,000
Osler	\$10,000	\$10,000	\$10,000	\$30,000
TOTAL	\$416,000	\$270,000	\$240,000	\$926,000

*Assumes no funding from Province of Saskatchewan

**Project funding provides for the Regional Plan Consultant and a dedicated Project Manager

PROJECT COSTS

Proposed Project Budget endorsed as part of Foundational Documents

ITEM	ESTIMATED TOTAL PROJECT COST
Consultant for the Development of the Regional Plan	\$686,000
Dedicated Project Manager	\$240,000
TOTAL	\$926,000

* Costs to not include any in-kind costs contributed by P4G or the participating municipalities.

O2 Planning + Design Inc. Project Pricing

ITEM	TIMELINE	COST
Project Management	November 2014 – June 2016	\$39,400
Phase 1	November 2014 – April 2015	\$125,120
Phase 2	February 2015 – February 2016	\$300,760
Phase 3	January 2016 – June 2016	\$125,540
Disbursements	November 2014 – June 2016	\$59,082
	TOTAL	\$649,902

2014 PROJECT COSTS

ITEM	COST
O2 Planning + Design Consulting Fees –December 2014	\$39,430.05
Project Manager	\$43,354.06
TOTAL	\$82,784.11

*Consulting Fees noted do not include GST



EXECUTIVE COMMITTEE

Notice – Councillor Donauer – Unpaid Leave of Absence – Federal Election

Recommendation of the Committee

That the information be received.

History

At the March 16, 2015 meeting of Executive Committee, a formal notice from Councillor Donauer dated February 5, 2015 was considered advising he will be taking an unpaid leave of absence for the period of the writ, during the Federal Election.



EXECUTIVE COMMITTEE

SUMA – 2015 Membership Fee

Recommendation of the Committee

1. That the 2015 membership fee in the Saskatchewan Urban Municipalities Association in the amount of \$110,244.79, be paid; and
2. That a formal letter of communication be sent to SUMA asking them to review the governance structure and population of their Executive Committee to ensure that Saskatoon and Regina be considered for permanent positions on the Committee.

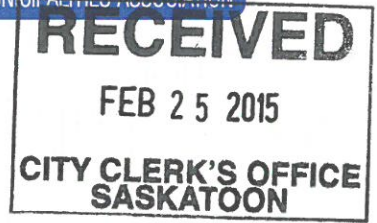
History

At the March 16, 2015 meeting of Executive Committee, an invoice for the City of Saskatoon's 2015 membership in the Saskatchewan Urban Municipalities Association was considered.

Your Committee is also recommending that SUMA be approached about reviewing their Executive Committee's membership to include representation from Saskatoon and Regina.

Attachment

Letter – D. Button, President, SUMA dated February 15, 2015 and Invoice - 2015 Membership Fee



February 15, 2015

City of Saskatoon
222 – 3rd Ave. N.
Saskatoon, SK S7K 0J5

Dear Mayor and Council,

SUMA is the Voice of Saskatchewan’s Urban Governments, and has been since 1905. Saskatchewan’s villages, towns, resort villages, cities, and northern municipalities have stood united and strong through membership in SUMA, and in turn we have promoted and defended your interests. We represent the collective strength of nearly 450 urban governments. Things have changed a lot since our inception more than a century ago, and SUMA’s work has continued to evolve. In 2015, what we do falls into three core functions.

Advocacy – We Represent Your Interests

SUMA serves as the collective unified voice of urban government, ensuring your interests are represented to the provincial and federal governments. In 2014, we promoted and defended your interests by participating in a number of new and ongoing initiatives regarding changes to the Local Government Elections Act, development of draft boundary alteration compensation guidelines; establishing effective alternative enforcement options for local governments and ensuring the Ministry of Justice submits to government a proposal to put in place a fine revenue distribution model based on the percentage of policing costs a municipality pays.

We are already hard at work on another year of serving our members and advancing your interests. SUMA will continue to protect the municipal revenue sharing program, focus on the implementation of a Multi-Material Recycling Program, communicating the concerns of members using fact based evidence on the cost of upgrading landfills to proposed Environmental Code standards, ensuring fair compensation rates from SGI for services provided by municipal fire services at motor vehicle accidents and exploring ways to expand the revenue sources available to urban governments.

“The Voice of Saskatchewan Cities, Towns and Villages”



SUMA staff and Board members also sit on a wide range of boards, committees, and working groups to represent the urban perspective. From the Municipal Employees' Pension Commission (more than half of the pension plan's employers are urban governments) to the Saskatchewan Assessment Management Agency, which determines the way you collect taxes.

When you're a member of SUMA, you have more than just us working on your behalf. We make partnerships wherever we can. SUMA works with like-minded organizations like the Saskatchewan Parks and Recreation Association and the Urban Municipal Administrators Association of Saskatchewan, and participate in programs like the Municipal Leadership Development Program and the Saskatchewan Municipal Awards. The Saskatchewan Seniors Mechanism is our newest partner and we look forward to working with them to improve public policy related to older adults and local governments.

Group Programs – *We Help You Save Money*

SUMA offers group benefits, insurance services, and purchasing programs that can reduce the costs of municipal government operations. Through the SUMA Advantage purchasing program, you have access to more than 25 pre-screened suppliers with guaranteed price advantages for you and financial support for SUMA. There was also a lot of work in 2014 on expanding your opportunities to save on products and services, as we established the Central Municipal Procurement Services project. This brings access to savings on things like paratransit vehicles and breathing apparatuses for firefighters. Chemicals for water treatment plans, line paint, and safety equipment are other products that may be available through this program as it grows.

You can also save on group benefits and insurance services when you are a SUMA member. There are health, dental and vision benefits, and an employee and family assistance plan. You have access to insurance programs for your employees, and for your volunteer firefighters, first responders, and ambulance crews. Getting these benefits through SUMA not only saves you money, but also time. We review and renegotiate your rates, manage the administration of your programs, and offer employee support services – leaving your employees free to focus on their many other important duties. Membership with SUMA also gives you access to SUMAssure – you can save money on municipal property and liability insurance, and as part owner of an insurance reciprocal, benefit from the company profits.

Capacity Building – We Give You Access to Resources

SUMA provides information, connections, training, and tools to make you more effective. We provide one of the largest conventions in the province, and coordinate regional meetings around the province. We've facilitated a policing forum, and built Canada's first Mayors Summer School. Our quarterly magazine, Urban Voice, and email newsletter, Urban Update, help you stay informed.

We are especially proud of our work on giving you access to resources in 2014, as we introduced SUMA's Legal Services program. Our Policy and Legal Advisor, Steven Dribnenki, provides resources to help you with legal issues and keep you up to date on decisions and trends in municipal law. You have access to a call-in service, and legal materials and resources.

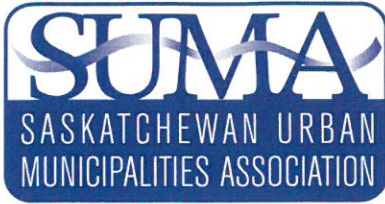
As you can see from the length of this letter, SUMA works hard with your membership dollars, and we appreciate your support. Should you have any questions or concerns about your membership with SUMA, contact our CEO, Laurent Mougeot, at ceo@suma.org or 306-525-3727.

Sincerely,



Mayor Debra Button
President

(Invoice and brochures enclosed)



200 - 2222 13th Avenue
 Regina, SK S4P 3M7
 Phone: (306) 525-3727
 Fax: (306) 525-4373
 E-mail: membership@suma.org

Invoice	
Number:	INV-000064673
Page:	1
Date:	01/01/2015
Customer #:	M SASKATOON

City of Saskatoon 2nd Floor, 222 - 3rd Avenue N. Saskatoon, SK S7K 0J5	FOR: 2015 Membership Fee
-------------------------------------------------------------------------------------	-------------------------------------------

2015 Membership Fee - January 1, 2015 to December 31, 2015

City of Saskatoon	POPULATION - 222189
	VOTING DELEGATES - 11
Description	Total Fee
Membership - \$508.03 per Voting Delegate	5,588.33
Membership - \$0.55 per Capita	55,000.00
Membership - \$0.275 per Capita Over 100,000	33,601.98
Advocacy - \$250.00 per Voting Delegate	2,750.00
Advocacy - \$0.05 per Capita	5,000.00
Advocacy - \$0.025 per Capita Over 100,000	3,054.73

Sub-Total 104,995.04
 GST#10795 6419 5,249.75
Total Membership Fee: \$110,244.79

PAYMENT DUE BY MARCH 31, 2015

IMPORTANT: Payment not received in full by March 31, 2015, may result in termination of coverage for group benefits, SUMAdvantage, SUMAssure and other programs offered with SUMA membership.

Please return this portion with payment to:

Sk.Urban Municipalities Assoc.
 200 - 2222 13th Ave
 Regina, SK S4P 3M7

City of Saskatoon

Customer ID: M SASKATOON
 Number: INV-000064673
 Date: 01/01/2015
 Amount Due: **110,244.79**

Invoice



EXECUTIVE COMMITTEE

Notice of Annual General Meetings – Saskatoon Centennial Auditorium & Convention Centre Corporation and Foundation

Recommendation of the Committee

1. That the City of Saskatoon, being a member of the Saskatoon Centennial Auditorium & Convention Centre Corporation Board of Directors, appoint Donald Atchison, or in his absence, Tiffany Paulsen or Ann Iwanchuk, of the City of Saskatoon, in the Province of Saskatchewan, as its proxy to vote for it on its behalf at the Annual General Meeting of the members of the Saskatoon Centennial Auditorium & Convention Centre Corporation, to be held on the 30th day of April, 2015, or at any adjournment or adjournments thereof; and
2. That the City of Saskatoon, being a member of the Saskatoon Centennial Auditorium Foundation Board of Directors, appoint Donald Atchison, or in his absence, Tiffany Paulsen or Ann Iwanchuk, of the City of Saskatoon, in the Province of Saskatchewan, as its proxy to vote for it on its behalf at the Annual General Meeting of the members of the Saskatoon Centennial Auditorium Foundation, to be held on the 30th day of April, 2015, or at any adjournment or adjournments thereof.

History

At the March 16, 2015 meeting of Executive Committee, a notice from the Director of Finance, TCU Place, was considered regarding the above.

Attachment

Notice from P. Kilgour, Director of Finance, TCU Place dated February 12, 2015



SASKATOON'S
ARTS & CONVENTION
CENTRE



February 12, 2015

To: City Council

Re: Notice of Meeting

The Annual General Meeting of the Saskatoon Centennial Auditorium & Convention Centre **Corporation** Membership will be held on Thursday April 30, 2015 at 12:00 noon at TCU Place.

The Annual General Meeting of the Saskatoon Centennial Auditorium **Foundation** Membership will be held on Thursday April 30, 2015 at 12:15 pm at TCU Place.

Sincerely,

Pam Kilgour

Director of Finance
TCU Place – Saskatoon's Arts & Convention Centre
pkilgour@tcuplace.com
306.975.7778



EXECUTIVE COMMITTEE

Notice of Annual Members' Meeting – Saskatchewan Place Association Inc.

Recommendation of the Committee

That the City of Saskatoon, being a member of the Saskatchewan Place Association Inc., appoint Donald Atchison, or in his absence, Councillors Davies or Hill, of the City of Saskatoon, in the Province of Saskatchewan, as its proxy to vote for it on its behalf at the Annual General Meeting of the members of the Saskatchewan Place Association Inc., to be held on the 6th day of May, 2015, or at any adjournment or adjournments thereof.

History

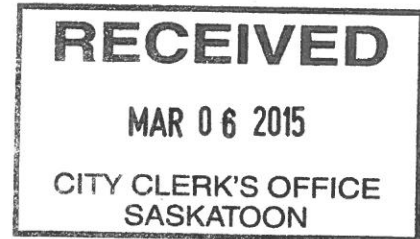
At the March 16, 2015 meeting of Executive Committee, a notice from the Recording Secretary, SaskTel Centre, was considered regarding the above.

Attachment

Notice from H. Hails, Recording Secretary, SaskTel Centre dated March 6, 2015



175-31



6 March 2015

*His Worship the Mayor & City Council
City Clerk's Office
City Hall
222 3rd Avenue North
Saskatoon SK S7K 0J5*

Dear Sirs/Mesdames:

***NOTICE OF ANNUAL MEMBER'S MEETING
SASKATCHEWAN PLACE ASSOCIATION INC.***

Please take note of the following meeting of the above-mentioned committee:

DATE: WEDNESDAY, MAY 6, 2015

TIME: 5:30 P.M.

LOCATION: SASKTEL CENTRE BOARDROOM

Please confirm your attendance with Heather Hails by email, phone, facsimile, or mail.

Thank you.

Best regards,

A handwritten signature consisting of three vertical lines with horizontal strokes at the top and bottom, resembling a stylized 'H' or 'HH'.

*Heather Hails, Recording Secretary
SaskTel Centre*

***Cc: Will Lofdahl, Chief Executive Officer
Sheryl McRorie, Director of Finance & Ticketing
Members of the Board of Directors, SaskTel Centre
Betty Harmon, Meyers Norris Penny***

***Enclosures: Agenda
Minutes of May 7, 2014 Annual General Meeting***

SASKATCHEWAN PLACE ASSOCIATION INC.

ANNUAL MEMBER'S MEETING

WEDNESDAY, MAY 6, 2015

5:30 P.M.

1. *Reading of the Notice of Meeting*
2. *Call to Order*
3. *Approval of Agenda*
4. *Proxies*
5. *Minutes of Previous Meeting*
6. *Business Arising*
7. *Chair's Report*
8. *Treasurer's Report*
9. *Approval of Auditor's Report*
10. *Resignation of Directors*
11. *Appointment of Directors for 2015*
12. *Appointment of Auditor*
13. *Appointment of Solicitor*
14. *Ratification of Board of Directors' Actions*
15. *Other Business*
16. *Motion for Adjournment*

ANNUAL GENERAL MEETING MINUTES

Present: Councillor Darren Hill, Proxy
Ian Sutherland
Trent Sereda
Candice Augustyn
Councillor Troy Davies
Gary Gullickson
Adele Buettner
Ron New
Will Lofdahl, Chief Executive Officer
Scott Ford, Executive Director
Sheryl McRorie, Director of Finance & Ticketing
John Howden, Director of Business Development
Heather Hails, Recording Secretary

Regrets: Mayor Don Atchison
Derek Bachman

1. The meeting was called to order at 6:00 p.m.
2. The reading of the notice of the annual member's meeting was moved and seconded and approved.
3. The approval of the agenda was moved and seconded and approved.
4. We did have to exercise the proxy for this meeting so Councillor Hill read it, moved acceptance of it, seconded it, and approved it.
5. The minutes of the May 1, 2013 meeting were moved and seconded and approved.
6. There is no business arising from the minutes.
7. The Board Chair's report was previously circulated. Councillor Hill moved that the report be received as information and, seconded, and approved it.
8. The Treasurer's report was previously circulated. Councillor Hill moved that the report be received as information and, seconded, and approved it.
9. The auditor's report was moved received as information, seconded, and approved.
10. There are no resignations or appointments of Directors.
11. The reappointment of MNP as Auditor was moved, seconded, and approved.
12. The reappointment of City Solicitor's as Solicitor for CUC was moved, seconded, and approved.
13. The ratification of the Board of Directors actions - moves that all actions taken be sanctioned, seconded, and approved.
14. Other Business (none)
15. Move to adjourn at 6:03 p.m.

Mayor Don Atchison, Chairperson
or his Proxy



EXECUTIVE COMMITTEE

SREDA Bonus Payment - 2014

Recommendation of the Committee

That a bonus payment in the amount of \$110,000 to the Saskatoon Regional Economic Development Authority Inc. be approved.

History

At the March 16, 2015 meeting of Executive Committee, a report of the General Manager, Asset and Financial Management Department was considered regarding the above.

Attachment

Report of the General Manager, Asset and Financial Management Department dated March 16, 2015

Admin Report - SREDA Bonus Payment 2014.docx

Recommendation

That the Executive Committee recommend to City Council that a bonus payment in the amount of \$110,000 to the Saskatoon Regional Economic Development Authority Inc. be approved.

Topic and Purpose

This report provides the results of the 2014 performance measures for the Saskatoon Regional Economic Development Authority Inc. (SREDA). This is consistent with the reporting requirements outlined in the Funding Agreement between the City of Saskatoon (City) and SREDA.

Report Highlights

1. Based on the performance measure targets, SREDA's bonus payment for 2014 is \$110,000.

Strategic Goal

As identified in the Funding Agreement, the services performed by SREDA are required to be consistent with both the City's Strategic Plan, in particular, the Strategic Goal of Economic Diversity and Prosperity, as well as SREDA's Strategic Goals.

Background

On October 7, 2013, City Council approved a revised Funding Agreement with SREDA and the performance measures and targets developed by SREDA.

In addition, SREDA shall report on its achievement of the agreed-upon performance measures. If the City and SREDA agree that SREDA has met the performance measures, a bonus payment shall be provided.

At its meeting on May 20, 2014, City Council adopted SREDA's 2014 Draft Performance Targets.

As per the Funding Agreement, SREDA will also table its annual report containing audited financial statements to City Council by no later than May 31.

Report

Attachment 1 is a copy of the 2014 SREDA Key Performance Indicators Scorecard which outlines the approved performance measures, targets, results, and ratings. The ratings are calculated by pro-rating the weighting based on actual results. The total for 2014 is 88%.

The Funding Agreement provides for a bonus payment of up to \$125,000 annually, based on the successful achievement of the agreed-upon annual performance measure

targets. Accordingly, the bonus payment to SREDA for 2014 is \$110,000 (88% of the maximum bonus). The funding source is from industrial property sale proceeds that reside within the Property Realized Reserve.

Options to the Recommendation

There are no options related to the bonus payment to SREDA, as this is outlined within the Funding Agreement.

Policy Implications

The recommendation is consistent with the Funding Agreement between the City and SREDA.

Financial Implications

Funding for the bonus payment exists within the Property Realized Reserve.

Other Considerations/Implications

There are no environmental, privacy, or CPTED implications or considerations. There is no public and or stakeholder involvement, and a communication plan is not required.

Due Date for Follow-up and/or Project Completion

There is no due date or follow-up required.

Public Notice

Public Notice pursuant to Section 3 of Policy No. C01-021, Public Notice Policy, is not required.

Attachment

1. SREDA 2014 Key Performance Indicators Scorecard

Report Approval

Written by: Kerry Tarasoff, CFO/General Manager, Asset & Financial Management
Department

Approved by: Jeff Jorgenson, Acting City Manager

2014 SREDA KEY PERFORMANCE INDICATORS SCORECARD

Strategic Goal	Objective	Measure	Target	Result	Adj. Rating %	Weighting	Final Score
Business Attraction - Create a sustainable economy for Saskatoon and region (40%)	Attract business and investment to the Saskatoon region (Direct SREDA Involvement)	# of businesses attracted to the Saskatoon region 434 in 2013	50 qualified leads	47	94%	20%	18.8
		Dollar value of investment	\$7,500,000	\$12,800,000	110%	20%	22
Business Retention & Expansion - Ensure opportunities to expand our business base are not missed (50%)	Actively support the business community with knowledge expertise and services to help them grow and expand	# of businesses expanded, utilizing the incentives/tax abatement program	3 new in 2014	1	33%	15%	5
		New building permits 5 year average: 918,009,400	0.3% growth over the 5 year average (920,763,428)	878,200,000	95%	5%	4.8
		# of business licences 1,328 in 2013	1% growth (1,341)	1,250	93%	15%	14
		Net jobs created	Target 8,000 in 2014	8,000	100%	15%	15
Organizational Effectiveness (10%)	Build support for SREDA's mandate through key stakeholders	Support the business community by representing SREDA at public forums and sector specific initiatives	55 formal requests/presentations	41	75%	5%	3.7
		Set yearly employee goals and objectives in individual performance plans	85% average completion rate on employee performance plans	80%	94%	5%	4.7

TOTAL: 88 / 100



EXECUTIVE COMMITTEE

Municipal Governance and Public Accountability

Recommendation of the Committee

1. That the information be received;
2. That the processes for in camera matters be amended as outlined in the report of the City Solicitor dated March 16, 2015;
3. That the City Solicitor provide any required bylaw amendments to Council for consideration;
4. That the explicit noting of items considered In Camera and when considered In Camera be reported out as part of the public agenda items;
5. That the Administration report back about the potential of releasing In Camera items after a defined period of time that were exempted under the permissive exemptions for release to the public; and
6. That a year over year comparison evaluation mechanism be developed.

History

At the March 16, 2015 meeting of Executive Committee, a report of the City Solicitor was considered regarding the above.

Attachment

Report of the City Solicitor dated March 16, 2015

Admin Report-Municipal Governance and Public Accountability.docx

Recommendation

That the information be received.
That the processes for *in camera* matters be amended as outlined in this report.
That the City Solicitor provide any required bylaw amendments to Council for consideration.

Topic and Purpose

This report discusses meetings of City Council, notice and *in camera* matters. It is also addresses the following inquiry made by Councillor Clark at the meeting of City Council held on December 15, 2014:

Would the Administration undertake a review of our current policies and practices, and current best practices for both determination of what items are discussed in camera vs. in public and how information pertaining to in camera discussion is released to the public.

Report Highlights

1. This report provides an explanation of the meaning of a “Meeting” of City Council.
2. This report discusses when notice of a meeting must be given and the process for providing notice.
3. This report discusses in what circumstances additional public notice requirements apply.
4. This report outlines when a meeting may or may not be held *in camera*, including the current process to determine whether a matter is to be considered *in camera* and recommends certain amendments to the process.
5. Finally, this report highlights the current process for reporting *in camera* meetings and items to members of the public and recommends amendments to this process.

Strategic Goal(s)

This report supports the Strategic Goal of Continuous Improvement because it recommends ways in which Council may increase its public transparency.

Report

Introduction

A fundamental principle of municipal government is that it conduct its business in public.

Municipalities are creatures of provincial statute. Municipalities have no independent constitutional standing.

Public accountability rules for cities in Saskatchewan are found within the provisions of *The Cities Act* (the “CA”).

The CA says an act or proceeding of City Council or a Council Committee is not effective unless adopted at a duly constituted public meeting. Everyone has the right to be present at Council and Council Committee meetings.

The CA says Council and Council Committee meetings are required to be conducted in public. A Council or Committee meeting may only be closed to the public if a specific exemption applies (see Attachment No. 1).

Issue #1 – What is a “Meeting” of City Council?

The CA does not define the term “meeting”.

The cases which have considered the issue tell us the following:

- a meeting is a gathering to which all members of Council or the Committee are invited;
OR
- a meeting is a gathering of the Mayor, Councillors and civic Administration;
AND
- a meeting takes place when Council/Committee discuss matters within Council’s/Committee’s jurisdiction;
- a meeting takes place when Council/Committee discuss, “in a structured way”, matters which would ordinarily be the subject of Council/Committee business; or
- a meeting takes place when Council/Committee discuss matters, in such a way, as to:
 - make decisions;
 - to materially move a matter along in the overall spectrum of Council’s/Committee’s decision making; or,
 - to decide the “heart of the matter”.

Therefore, a fair articulation of the definition of “meeting” is:

“A meeting takes place when Council/Committee is gathered together to discuss a matter within its jurisdiction and makes a decision or materially moves the decision-making along by giving direction or deciding ‘the heart of the matter’.”

Examples:

- regularly scheduled Council and Committee meetings;
- special Council and Committee meetings;
- City Council strategic or long-range planning sessions;
- City Council strategic or long-range planning sessions held with councils of other municipalities, other local authorities, or the like;
- Council or Committee briefing sessions held with civic Administration, boards of the City's controlled corporations, other civic boards or commissions, or other third party entities or boards.

Issue #2 – When Must Notice of a Meeting be Given?

The basic concept is that notice of regular and special meetings of Council and Committee must be given to all members of Council and to the public.

The CA says that Council and Committee may establish regular meetings on specified dates, times and places. Notice of regularly scheduled meetings need not be given. However, if the date, time or place of a regularly scheduled meeting changes, at least 24 hours' notice must be given to members of Council and to the public.

Members of Council and the public must be given at least 24 hours' notice of special meetings of City Council and Committees. The notice must include the purpose of the meeting and the date, time and place at which the meeting is to be held.

The exception is that for a special Council or Committee meeting, the 24 hours' notice may be dispensed with if all members of Council agree to do so, in writing, immediately before the beginning of the meeting. Written consent may be provided in an electronic format.

Process for Providing Notice

Notice for both scheduled public and *in camera* Council and Committee meetings is included on the City Page of the Star Phoenix (the Saturday edition prior to the meeting week and the Sunday edition).

Notice of any special meetings, either public or *in camera* is also included on the City Page of the Star Phoenix, if the special meeting has been determined well enough in advance to meet the newspaper submission deadlines.

Notices of ALL meetings are included on the City's website and posted on the public bulletin board in the main lobby of City Hall. While not required, every attempt is made to include those notices of meetings which are held with less than 24 hours' notice.

Notice of ALL meetings is emailed to members of Council and the Administration. Recently, the City Clerk's Office has also undertaken to send an email to all media

groups advising them of a special public meeting, if the meeting was not called in time to be advertised in the newspaper.

All public agendas are posted on the City's website in advance of the meeting.

Issue #3 – When do Additional Public Notice Requirements Apply?

There are additional public notice requirements for certain matters considered by City Council (see Attachment No. 2).

City Council has passed a Public Notice Policy, and for the matters listed in Attachment No. 2, additional public notice is provided in accordance with the City's Public Notice Policy.

Issue #4 – When May a Meeting be Held In Camera?

A Council/Committee may close all or part of the meeting if:

- the matter to be discussed is within an exemption listed in Part III of *The Local Authority Freedom of Information and Protection of Privacy Act* ("LAFOIPPA") (see Attachment No. 1);
- the Committee is a body established by Council for the sole purpose of hearing quasi-judicial appeals; or
- Council is meeting for the purpose of long-range or strategic planning – no business may be transacted.

When a meeting is closed to the public, no bylaws may be passed.

Current Process to Determine Whether a Matter is to be Considered *In Camera*

Currently, a set of guidelines for submitting reports to *in camera* meetings exists. The list has been formulated based on the exemptions in Part III of LAFOIPPA. It contains a summarized list of exemptions along with a description of each. The Administration chooses the applicable exemption from the list and identifies the exemption on the first page of its report intended for an *in camera* meeting.

At the beginning of each *in camera* Committee meeting, the Committee considers a motion to confirm that the matters included on the *in camera* agenda be dealt with *in camera*. If the Committee decides that it is not satisfied that the agenda item merits consideration *in camera*, the matter will be placed on the next public agenda of the Committee (or Council).

Recommended Amendments to Process

The application of exemptions by the "Head" when considering access requests under LAFOIPPA require an analysis of clear and identifiable harm versus the public's right to the information. This is a balancing test. In keeping with this general principle,

it is being recommended that the City Clerk's Office apply this balancing test and that the default will be that reports are submitted to a public meeting unless there is a clear and identifiable harm to the City when balanced with the public's right to the information and the City's duty to conduct its business in public. The anticipated harm must be genuine and conceivable; cause damage or detriment, not just be a hindrance or interference; and cannot be imaginary or contrived harm.

The following process is being proposed:

1. When Administration submits a report to the City Clerk for inclusion on an *in camera* agenda, it is reviewed by the City Clerk and if it is a matter that falls within one of the following exemptions, it will be considered *in camera*:
 - Solicitor/Client Privilege, Legal Advice (both oral and written) (Section 21 LAFOIPPA)
 - Labour/Personnel Matters (Section 16(1)(c) and (d) LAFOIPPA)
 - Negotiations (Section 16(1)(c) LAFOIPPA)
 - Land Sales (Section 17(1)(d) and (e) LAFOIPPA)
 - Personal Information (Section 16(1)(d) and 28 of LAFOIPPA)
 - Information from Other Governments Provided on a Confidential Basis (Section 13 LAFOIPPA)
 - Third Party Information (Section 18 LAFOIPPA)
2. The application of the above exemptions does not preclude the use of any other exemptions identified under LAFOIPPA. Other exemptions could still be applied; however, the general principle of a clear and identifiable harm to the City would still need to apply. For those matters not within an exemption outlined in paragraph 1 above, the City Clerk will perform the balancing test.
3. If the balancing test fails, the City Clerk will communicate with Administration to obtain any further clarification or justification as to why the matter was designated as *in camera*.
4. If, after consultation with the Administration, the City Clerk is of the opinion that the report passes the balancing test, it will be placed on the appropriate *in camera* agenda.
5. If the report does not pass the balancing test, it is returned to the Administration. The Administration may choose to resubmit the report to a public meeting.

Issue #5 – What are the Requirements for Reporting In Camera Meetings/Items to the Public?

Again, the rule is that no act or proceeding of Council/Committee is effective unless it is authorized or adopted by bylaw or resolution at a duly constituted public meeting.

So, while matters as described may be discussed *in camera*, no decision may be made or is effective unless considered and decided at a public meeting. Therefore, all matters discussed *in camera* under one exemption or another, which require a decision of Council or Committee, must be reported out, considered and decided upon at a public Council/Committee meeting.

There are a few matters which do not require a decision of Council and so are not ever made public. Examples include particulars of land purchase negotiations, collective bargaining mandates which instruct negotiations (the ultimate agreement reached is brought to Council for approval), performance reviews of the City Manager, City Clerk and City Solicitor, particulars of applications for municipal boards and commissions, legal advice, confidential information received from other levels of government and other “personal information” as defined by LAFOIPPA.

Current Process for Reporting Out of *In Camera* Meetings/Matters

Topics to be discussed at *in camera* meetings of Executive Committee and the Standing Policy Committee meetings are posted on the City’s website. In cases where the subject itself is confidential, the subject line is changed to be more generic. (For example, a subject regarding the possible purchase of an identified piece of property would be changed to “Possible Property Purchase”). Matters requiring a decision of Council or Committee are reported out at a public meeting of Council or Committee.

The processes for dealing with *in camera* matters in other cities is outlined in Attachment No. 3.

Recommended Amendments to Process

Matters discussed at an *in camera* meeting under one of the exemptions which require a decision of Council/Committee must still be reported out to a public meeting of Council/Committee.

It is recommended that a listing of those matters considered *in camera* and currently posted on the City’s website, form part of the public committee agenda (at the end of the agenda) and the required motion to consider the matters *in camera* be made during the public meeting of the Committee. If the Committee does not support any item being considered *in camera*, the item could be “pulled” from the *in camera* agenda and considered while still in a public forum. Both the Cities of Calgary and Edmonton undertake a similar process; however, the reporting out of any matters is done at the same meeting. In other words, during the public portion of the meeting, the Committee convenes in private for consideration of the private matters and then reconvenes publicly to consider and determine the matter(s) publicly.

Consideration of matters during an *in camera* session would have one of the following three outcomes:

1. the matter remains *in camera* and no further action is taken;
2. the matter is reported out to a subsequent public meeting of the Committee; or
3. that matter is reported out at the same meeting. The Committee would rise and report publicly during the same session.

Policy Implications

This report recommends changes to policy/process as outlined.

Public Notice

Public Notice pursuant to Section 3 of Policy No. C01-021, Public Notice Policy, is not required.

Attachment(s)

1. Attachment No. 1 – Mandatory and Permissive Exemptions under LAFOIPPA
2. Attachment No. 2 – Matters Which Require Additional Public Notice
3. Attachment No. 3 – Information From Other Cities, Consideration of In Camera Matters/Private Sessions
4. Attachment No. 4 – Council and Committee Reports Procedures, In Camera Headings and Descriptions

Report Approval

Written by: Patricia Warwick, City Solicitor
Joanne Sproule, City Clerk
Mike Jordan, Government Relations,
City Manager's Office

Approved by: Patricia Warwick, City Solicitor
Joanne Sproule, City Clerk

Mandatory and Permissive Exemptions under LAFOIPPA

Mandatory Exemptions:

- information contained in a record obtained in confidence from the Government of Canada or a province or territory or foreign government (s. 13(1));
- trade secrets of a third party (s. 18(1)(a));
- financial, commercial, scientific, technical or labour relations information that is supplied in confidence by a third party (s. 18(1)(b));
- information which could reasonably be expected to result in financial loss or gain to a third party (s. 18(1)(c)(i));
- information which could reasonably be expected to prejudice the competitive position of a third party (s. 18(1)(c)(ii));
- information which could reasonably be expected to interfere with the contractual or other negotiations of a third party (s. 18(1)(c)(iii));
- a statement of a financial account relating to a third party (s. 18(1)(d)); and
- personal information (s. 28) (not contained in Part III of LAFOIPPA, but City prohibited from disclosing).

Permissive Exemptions:

- information contained in a record obtained in confidence from another local authority or similar body in another province or territory (s. 13(2));
- a record which contains information which could prejudice the investigation or prosecution of an offence or terrorist activity; which could be injurious to the enforcement of a law (including a bylaw); which could be injurious to the local authority in the conduct of legal proceedings; which could reveal investigative techniques; which could reveal the identity of a confidential source, etc. (s. 14(1));

- a record which contains a draft resolution or bylaw or which discloses the agendas or deliberations of *in camera* meetings (s. 15(1)) unless the record has been in existence for 25 years or more;
- a record which contains advice or proposals developed for or by the local authority; which contains consultations or deliberations involving employees of the local authority; which contains positions, plans, procedures, etc. developed for the purpose of contractual or other negotiations; which contains plans that relate to the management of personnel or administration which have not been made public; and, which could be reasonably expected to result in disclosure of a pending policy or budgetary decision (s. 16(1));
- a record which could reasonably be expected to disclose trade secrets; financial, commercial, scientific, technical or other information in which the local authority has a proprietary interest or a right to use and has monetary value; information gained through research by an employee which may deprive the employee of priority of publication; which could reasonably be expected to interfere with contractual or other negotiations of the local authority; positions developed for the purpose of negotiations; prejudice the economic interest of the local authority; result in an undue benefit or loss to a person (s. 17(1));
- a record that contains information relating to testing or audit procedures or specific tests or audits if the disclosure could be expected to prejudice the use or results of the tests or audits (s. 19);
- a record if the disclosure could threaten the safety or the physical or mental health of an individual (s. 20); and
- a solicitor-client record or record which contains legal advice (s. 21).

Matters Which Require Additional Public Notice

In accordance with *The Cities Act*, *The Planning and Development Act, 2007*, and The City of Saskatoon's Public Notice Policy, additional notice is required when Council is considering the following matters:

- prohibiting or limiting the number of businesses of a particular type in an area of the City or specifying separation distances between businesses of a particular type;
- permanently closing or blocking off a street, lane or walkway;
- permanently modifying an intersection with the use of physical barriers;
- permanently closing or creating a median opening;
- borrowing money;
- lending money to a non-profit organization or to one of the City's controlled corporations or to a business improvement district established by the City, regardless whether the source or sources of money to be loaned is internal or external;
- guaranteeing the repayment of a loan between a lender and a non-profit organization or one of the City's controlled corporations or a business improvement district established by the City;
- moving capital moneys to an operating budget or reserve;
- imposing a special tax or determining the use to which excess revenue from a special tax is to be put;
- establishing an investment policy;
- selling or leasing land for less than fair market value and without a public offering;
- selling or leasing park lands and dedicated lands except where the land is covered by public notice provisions in *The Planning and Development Act, 2007*;
- establishing a purchasing policy;

- establishing a business improvement district;
- setting remuneration for Council or Committee members;
- increasing or decreasing the number of councillors on Council;
- appointing a wards commission and dividing the City into wards;
- amending or repealing a bylaw for which public notice was a requirement at the time the bylaw was passed;
- any matter where holding a public hearing is required under *The Cities Act* or any other Act except where the Act contains its own public notice provisions;
- discussing a matter at a public meeting held as a result of a petition signed by the required number of electors; and
- the amendment or repeal of a bylaw or resolution when the resolution or bylaw was passed as a result of a vote of the electors.
- the adoption, amendment or repeal of a bylaw for a development plan or zoning bylaw;
- an application for discretionary use approval or the amendment of a discretionary use approval;
- the adoption, amendment or repeal of a bylaw authorizing the sale of a buffer strip or municipal reserve;
- the voiding of a rezoning agreement;
- the adoption, amendment or repeal of an interim development control bylaw; and
- the passing of a resolution to adopt or amend a concept plan.

**Information From Other Cities
Consideration of In Camera Matters/Private Sessions**

City of Regina

1. Private Sessions are private meetings with the Administration present:
 - an agenda is prepared and minutes are kept;
 - the agenda/minutes are not made available to the public;
 - the agenda/minutes may be requested via LAFOIPPA; and
 - if a recommendation is made in a private session, an edited version of the report, with any confidential information excluded, is presented at a Council meeting for decision.

2. *In Camera*:
 - during a Council meeting, a councillor may request the meeting go *in camera*;
 - the meeting minutes will indicate that there was a request to move *in camera*, that the councillors left the room, what time they returned and what time the public meeting was reconvened; and
 - the report that was the subject of discussion when the request to go *in camera* was made is really the only information available - no explanation of the request to move *in camera* is required and the discussions during the *in camera* portion of the meeting are not recorded.

City of Calgary

1. “Drop In” sessions:
 - briefing sessions in which the City Manager and Leadership Team are available (usually prior to a Council meeting) to answer councillors’ questions; and
 - drop-in sessions are not viewed as meetings of Council because the Administration is driving the meeting. It does not appear that the sessions are recorded or that any of the discussions are reported upon.

2. *In Camera*:
 - during a Council meeting, Council may move into the Committee of the Whole, *in camera*;
 - the minutes of the Council meeting will note the motion to move into the Committee of the Whole, *in camera*, and the motion that the Committee of the Whole rise and report to Council; and
 - *in camera* portions of the meeting are not recorded.

City of Edmonton

General Procedure:

- during a Council meeting, a councillor may move that certain matters be discussed in private;
- the minutes of the meeting will indicate the meeting went in private. In private portions of the meeting are not recorded;
- any reports presented in private will remain private unless the motion to go in private specifies that the report will be made public at a specified time or after the matter is no longer of a sensitive nature;
- as much information as possible is included in the minutes of the meeting. For example, if a report contains confidential information in a schedule, the report is typically included with the minutes, but the schedule that includes the sensitive information is not; and
- there is no formal reporting of matters discussed in private.

City of Winnipeg

General Procedure:

- the City of Winnipeg has enacted the *In Camera Bylaw*. Under the bylaw, only the Executive Policy Committee, Standing Policy Committees, and other specified committees may consider matters *in camera*;
- the matters that may be considered *in camera* are as specified in the *In Camera Bylaw*, and include reports concerning personnel matters, contractual negotiations, solicitor-client privilege, and other information, the disclosure of which would violate *The Freedom of Information and Protection of Privacy Act*;
- provincial legislation mandates that the reason for considering a matter *in camera* must be recorded in the meeting minutes;
- generally, *in camera* discussions are not made public; and
- some *in camera* matters may become public if they exceed the delegated authority of a Standing Policy Committee or involve funds that are not already set aside for a given purpose (ie. expropriation of land having a value in excess of what the Standing Policy Committee is authorized to approve or where monies are not currently set aside will go to the Executive Policy Committee and Council as public matters).

City of Vancouver

General Procedure:

- holds *in camera* Council meetings;
- reports presented at *in camera* Council meetings include the rationale as to why the matter is to be heard *in camera* (ie. the report deals with personnel matters);
- decisions and supporting reports from *in camera* meetings are made public throughout the year when the information is determined no longer to be sensitive or confidential; and
- some reports may be redacted in accordance with legislation.



**COUNCIL AND COMMITTEE REPORTS PROCEDURES
IN CAMERA HEADINGS AND DESCRIPTIONS
March 2015**

Council/Committee may close all or part of its meeting to the public if the matter to be discussed is within one of the exemptions in Part III of *The Local Authority Freedom of Information and Protection of Privacy Act* (LAFOIPP). The default is that reports are submitted to a public meeting unless there is a clear and identifiable harm to the City. The anticipated harm must be genuine and conceivable; cause damage or detriment, not just be a hindrance or interference; and cannot be imaginary or contrived harm.

Council/Committee may hold meetings closed to the public for the purpose of long-range or strategic planning, but no business may be transacted at those meetings.

The following are instances where a report may be considered In Camera:

HEADINGS	DESCRIPTION
Solicitor/Client Privilege Legal Advice or Legal Services (Section 21 LAFOIPP)	May use for written and verbal reports and updates from the City Solicitor's Office
Economic/Financial –Land (Section 17(1)(d) and (e) LAFOIPP)	May use this if the report deals with purchase of lands or property matters.
Labour/Personnel Matters (Sections 16(1)(c) and (d) LAFOIPP)	Must use this if report deals with labour-relations matters, including negotiations. May use if report deals with plans relating to the management of personnel or the administration.
Negotiations (Section 16(1)(c) LAFOIPP)	May use this if report deals with contractual or other negotiations on behalf of the City.
Information From Other Governments (Section 13 of LAFOIPP)	Must use this if the report contains information that was obtained in confidence, implicitly or explicitly, from the Provincial or Federal Governments, or its agencies, Crown corporations or other institutions, unless the government or institution consents to the disclosure or makes the information public. May use this if the report contains information that was obtained in confidence, implicitly or explicitly, from another local authority or a similar body in another province or territory in Canada.
Personal Information (Section 28 and Section 16(1)(b) and (d) of LAFOIPP)	Must use this if the report contains personal information of identifiable individuals who are not employees of the City, and who have not given their consent for the release of the information. May be used for discussion and consideration of matters such as appointments to Boards and Committees

Third Party Information (Section 18 LAFOIPP)	Must use this if the report contains trade secrets of a third party; financial, commercial, scientific, technical or labour relations information that is supplied in implicit or explicit confidence from the third party; statement of a financial account relating to a third party with respect to the provision of routine services from the City; or information which, if disclosed could result in financial loss or gain, prejudice the competitive position of, or interfere with the contractual or other negotiations of a third party.
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The following exemptions set out in Part III of *The Local Authority Freedom of Information and Protection of Privacy Act (LAFOIPP)* are to be used *ONLY* when the consideration of the information publicly would result in clear and identifiable harm to the City

Audits and Tests (Section 19 LAFOIPP)	May use this for testing or auditing procedures or techniques, or details of specific tests or audits to be conducted, where disclosure could prejudice their use or results.
Danger to Health or Safety (Section 20 LAFOIPP)	May use this if the disclosure could threaten the safety or the physical or mental health of an individual.
Economic/Financial and Other Interests (Section 17 LAFOIPP)	May use this if the report contains information which, if disclosed could prejudice the economic interest of the City, or result in an undue benefit or loss to a person. It also includes reports relating to contractual or other negotiations on behalf of the City. Other uses: <ul style="list-style-type: none"> • Financial, commercial, scientific, technical or other information in which the City has a proprietary interest or a right of use, and that has monetary value or is likely to have monetary value; • Scientific or technical information obtained through research by a City employee, which if disclosed could deprive the employee or priority of publication.
Policy Options/Advice (Section 16(1)(a) LAFOIPP)	May use this if the report deals with advice, proposals, recommendations, analyses or policy options.
Budget Matters (Section 16(1)(e) LAFOIPP)	May use this if the report provides information regarding an upcoming budgetary decision. May not be used to debate budget decisions in private.
Draft Bylaw or Resolution (Section 15(1)(a) of LAFOIPP)	May use this if the report contains a draft of a resolution or bylaw. Would normally apply to a draft bylaw which Council is receiving legal advice about.
Consultations/Deliberations (Section 16(1)(b) of LAFOIPP)	May be used for review and determination of awards, grants, etc., such as for the Public Art Advisory Committee or for consultations with a Committee.
Law Enforcement or Investigation (Section 14 of LAFOIPP)	May use this if the report contains information, the release of which could prejudice, interfere with or adversely affect an investigation or prosecution of an offence; be injurious to the

	enforcement of a resolution or bylaw; be injurious in the conduct of existing or anticipated legal proceedings; or reveal investigative techniques or procedures or a security risk.

Save/Council and Committee Reports Procedures/In Camera Headings and Descriptions.doc



EXECUTIVE COMMITTEE

Nutana Slope Failure – Options Matrix

Recommendation of the Committee

1. That the information be received; and
2. That Option A as outlined in the report of the Executive Committee dated March 16, 2015, be accepted.

History

At the March 16, 2015 meeting of Executive Committee a report of the Executive Committee was considered regarding the above. The Committee supports Option A as outlined in the March 16, 2015 report.

Attachment

Executive Committee Report dated March 16, 2015



EXECUTIVE COMMITTEE

Committee Report - Nutana Slope Failure - Options Matrix.docx

Recommendation of the Committee

That Executive Committee consider the attached information and make a recommendation to City Council, for approval.

Topic and Purpose

The purpose of this report is to provide Executive Committee with a matrix of scenarios regarding the Nutana slope failure situation with consequences, commentary and impacts.

Report Highlights

1. A matrix of situational scenarios regarding the Nutana slope failure with consequences, commentary, and impacts is attached as Attachment 1.
2. The matrix is intended to assist the Committee in deciding which option to pursue.

Strategic Goal

The investment in monitoring the slope and site for safety concerns supports the Strategic Goal of Quality of Life.

Background

In June 2012, a slope failure occurred on the riverbank between 11th Street East and Saskatchewan Crescent East. Many residents of 11th Street had to be evacuated at the time because there was risk that the gas line located in the back alley might be compromised and cause explosion. The gas line was eventually relocated to the front area of the homes and the residents were permitted to return to their homes. Also, in response to the slope failure in 2012, the City of Saskatoon (City) retained Golder Associates to investigate, monitor and report about the slope failure. The investigation and monitoring was limited to the lane between the private properties. Monitoring of the lane continued on a monthly basis throughout 2012 and into the spring of 2013.

In June 2013, a new slide area to the east of the first location was reported. The City declared a voluntary evacuation and retained Golder Associates to conduct an extensive study of the entire slope failure area. This included analysis of the failure and evaluation of conceptual remediation options. Monitoring was expanded to include both the lane and private property.



EXECUTIVE COMMITTEE

Beginning in the spring of 2012, the City provided ongoing information and updates to affected property owners.

On February 11, 2015, Executive Committee considered the attached report of the General Manager of Transportation and Utilities (Attachment 2), providing an update on the Nutana Slope Stability. Following a presentation by a representative of the private property owners in the area, Executive Committee resolved that it receive a further report no later than March 16, 2015. The referenced report noted that there is a wide range of legal and associated risk consequences to the City related to this location. These matters were reported to Executive Committee *In Camera*, and are of the following nature:

1. Current approach, which is to monitor the site and provide detailed information to adjacent property owners and residents.
2. Offer mediation services, with or without participation by the City.
3. Become actively involved with property owners in the remediation approach.
4. Provide some level of grant or financial aid to property owners.

The Administration provided draft recommendations to Executive Committee. Executive Committee did not deal with the draft recommendations. Executive Committee decided to forward the matrix and options to its public agenda to be considered along with any public representation.

Report

Attached is a Nutana Slope Failure Scenario Matrix, which provides an assessment of a number of possible courses of action for this site.

Option A does not include financial participation by the City. Option A could include offering mediation services to homeowners. Option A is consistent with the City's past practice of not intervening on private property.

Options B through H include financial participation by the City in any remediation.

For Options B and C, a subjective value of \$240,000 per home was used to determine the City's potential financial participation. This represents the maximum value payable by the Province of Saskatchewan under the Provincial Disaster Assistance Program.

For Options D, E, F and H, the City's potential financial participation was determined based on the estimates provided by Golder Associates to remediate the site.



EXECUTIVE COMMITTEE

The Committee intends to receive a presentation from Administration outlining the options described in the matrix, along with Administration's recommendations.

Public Safety

Although a sudden and catastrophic failure is not predicted by the Geotechnical experts, a sudden and catastrophic failure is a distinct possibility and homeowners have been clearly advised of this. Selection of any option, in the short term, does not preclude this from happening. Your Committee recommends that the City continue to address public safety as it has in the past, which is through regular monitoring and reporting to residents. Your Committee further recommends that if an imminent hazard is observed, evacuation orders will be issued upon expert advice and as necessary.

Options

The options are outlined in the attached matrix.

Communications

Relevant property owners are being provided with a copy of this report on the date of release of this report.

Due Date for Follow-up and/or Project Completion

A report to Council with a recommendation from Committee is required.

Public Notice

Public Notice pursuant to Section 3 of Policy No. C01-021, Public Notice Policy, is not required.

Attachments

1. Slope Failure Scenario Matrix
2. Report of the General Manager, Transportation and Utilities Department dated February 11, 2015

Slope Failure Scenario Matrix

March 16, 2015

ORDERED BY TOTAL PROJECT COST TO COS										
		A	B	C	D	E	F	G	H	
		Continue to Monitor and Report	Continue to Monitor and Report + Provide Grant	COS & Owners "Shear Zone Remediation" Solution	COS "Groundwater Reduction" Solution	COS Redeveloped "Slope Remediation" Solution	COS Undeveloped "Slope Remediation" Solution	Acquire Affected Properties and Demolish	COS only "Shear Zone Remediation" Solution	
FINANCIAL CONSIDERATIONS										
101	Slope Remediation Project Costs	\$ -	\$ -	\$ 20,000,000	\$ 4,500,000	\$ 10,000,000	\$ 10,000,000		\$ 20,000,000	101
<i>Project Costs</i>										
102	COS Portion of Solution Cost*	\$ -	\$ 3,840,000	\$ 3,840,000	\$ 4,500,000	\$ 10,000,000	\$ 10,000,000	\$ 4,000,000	\$ 20,000,000	102
103	Acquired Property Costs **	\$ -	\$ -	\$ -	\$ -	\$ 6,400,000	\$ 6,400,000	\$ 13,000,000	\$ -	103
104	Estimated Demolition Costs	\$ 120,000	\$ 120,000	\$ -	\$ -	\$ 200,000	\$ 400,000	\$ 400,000	\$ -	104
105	Project Cost to COS	\$ 120,000	\$ 3,960,000	\$ 3,840,000	\$ 4,500,000	\$ 16,600,000	\$ 16,800,000	\$ 17,400,000	\$ 20,000,000	105
106	Estimated Land Sale Value Following Remediation (RM3 zoning)	\$ -	\$ -	\$ -	\$ -	\$ 1,800,000	\$ -	\$ -	\$ -	106
107	TOTAL PROJECT COST to COS	\$ 120,000	\$ 3,960,000	\$ 3,840,000	\$ 4,500,000	\$ 14,800,000	\$ 16,800,000	\$ 17,400,000	\$ 20,000,000	107
108	Total COS Cost per home (total of 16 homes affected)	\$ -	\$ 240,000	\$ 240,000	\$ 281,250	\$ 925,000	\$ 1,050,000	\$ 1,087,500	\$ 1,250,000	108
109	Homeowners' Project Cost	Unknown	Unknown	\$ 16,160,000	NONE	NONE	NONE	NONE	NONE	109
<i>Annual Ongoing Costs</i>										
110	ANNUAL Municipal Portion of Property Tax Loss (gain)	\$ 31,000	\$ 31,000	\$ -	\$ -	\$ (65,000)	\$ 31,000	\$ 57,000	\$ -	110
111	ANNUAL Continued Slope Monitoring Costs	\$ 80,000	\$ 80,000	\$ -	\$ 80,000	\$ -	\$ -	\$ 20,000	\$ -	111
112	ANNUAL COST	\$ 111,000	\$ 111,000	\$ -	\$ 80,000	\$ (65,000)	\$ 31,000	\$ 77,000	\$ -	112
113	FINANCIAL SUMMARY	LOWEST	LOW	LOW	LOW	HIGH	HIGH	HIGH	HIGHEST	113
ENGINEERING RISK CONSIDERATIONS										
114	Risk of Construction Cost Overruns for COS	NONE	NONE	Moderate/High	Moderate	Moderate	Moderate	Low	High	114
115	Risk of Failure During Remediation	NONE	NONE	High	Moderate	Low	Low	Low	High	115
116	Probability of Effective and Permanent Solution	Unknown/Low	Unknown/Low	Moderate	Low	High	Very High	High	Moderate	116
117	Precedent for Future Slope Failures	NONE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	117
118	ENIGNEERING RISK SUMMARY	NONE	NONE	HIGH	MODERATE	LOW	LOW	LOW	VERY HIGH	118
COMMUNITY CONSIDERATIONS										
119	Timing for Solution	Owner Dependant	Owner Dependant	Owner Dependant	2017	Timed w Purchases	Timed w Purchases	Timed w Purchases	2017	119
120	Property Owner Agreement Required	No	No	Yes	No	Yes	Yes	Yes	No	120
121	Possible Emergency Intervention	Ongoing	Ongoing	During Construction	Ongoing	Low	Low	Low then NONE	During Construction	121
122	Use of Funds for Damage Remediation	N/A	Moderate	Moderate	Poor	Very Poor	Very Poor	Very Poor	Very Poor	122
123	Impact of Precedent Set for Other Private Property Issues	NONE	Moderate	Moderate	Moderate	Very Poor	Very Poor	Very Poor	Very Poor	123

* For Option B and C, a subjective value of \$240,000 per home was used, which represents the maximum value payable by the Province of Saskatchewan under Provincial Disaster Assistance Program.

** Acquired property costs estimated using 2011 assessed value of properties plus 20%

Nutana Slope Stability Update

Recommendation

That the report of the General Manager, Transportation & Utilities Department dated February 11, 2015, be forwarded to City Council for information.

Topic and Purpose

This report is intended to present the results of the in-depth geotechnical investigation of the Nutana Slope Failure, including causes, potential remediation options and relative remediation costs. The report also provides an update on the current situation with the riverbank slope failure occurring in Nutana between 11th Street East & Saskatchewan Crescent East.

Report Highlights

1. The river bank slope between Saskatchewan Crescent East & 11th Street has moved as much as 2.7 meters over the past two and a half years.
2. An in-depth geotechnical investigation of the slope failure was conducted by Golder Associates including causes of failure and conceptual remediation options.
3. The extensive geotechnical investigation revealed that the cause of the failure was natural and due to three key geological features – geometry; geology; and groundwater.
4. Public safety remains a paramount focus of the City. The slope has been monitored regularly by appropriate civic staff as well as consultants, and information has been provided to residents on a regular basis.
5. There have been slope remediation projects conducted at different sites in Saskatoon where the failure is primarily on public property.

Strategic Goals

The investment in monitoring the slope and site for safety concerns supports the City's Quality of Life Strategic Goal.

Background

In June 2012, a slope failure occurred on the river bank between 11th Street East and Saskatchewan Crescent East. This failure directly impacted the backyards of two properties. This was known as the west slide area. A temporary evacuation was issued for these properties due to concerns with a gas line in the lane. This gas line has since been removed. In response to the slope failure, the City initiated an investigation and monitoring program within the lane (Cherry Lane) between the private properties. Golder Associates was retained to provide this geotechnical expertise and the investigation led to a report that recommended actions that could be taken to stabilize the slope. The scope of this study was contained to the lane. Monitoring of the lane continued on a monthly basis throughout 2012 and into the spring of 2013, showing

negligible movement of the slope. Following initial movement, the west slide area recorded approximately 140 millimeters of movement throughout 2012.

In June 2013, a new slide area to the east of the first location was reported. Monitoring was expanded, and throughout 2013 this new east slide area moved over 1200 millimeters, which is significant. The west slide also continued moving for a total of 500 millimeters in 2013. This situation prompted the City to declare a voluntary evacuation and initiate an extensive study with Golder Associates with the scope of the study involving a complete investigation of the entire slope area, analysis of the failure and evaluation of conceptual remediation options.

Report

Slope Movement

The Nutana slope failure is comprised of two distinct slide areas; west slide and east slide. These areas are represented in Attachment 1. Following the initial sudden movement reported in backyards in June 2012, the following table documents the recorded horizontal movement progression of the slope.

West Slide		East Slide	
Initial failure	<i>Not recorded</i>		
2012	140 millimeters		
2013	500 millimeters	2013	1,200 millimeters
2014	400 millimeters	2014	1,500 millimeters
TOTAL	1,040 millimeters (3' 5")	TOTAL	2,700 millimeters (8' 10")

Golder Associates Study

In the fall of 2013, the Administration received the final draft report from Golder Associates, outlining the causes of the failure and possible solutions for the remediation.

The extensive geotechnical investigation revealed that the cause of the failure was natural and due to three key geological features. The first is due to the geometry of the slope referring to its steepness and tendency to be pulled down. The second is due to the geology referring to weak soil formations existing deep within the slope that are not sufficient to hold the slope up. The third feature causing failure is groundwater. Water tables throughout Saskatoon have risen over the past decade due to unprecedented amounts of rainfall. This high water table leads to a buoyancy force within the slope that causes it to lift and facilitate movement.

This study identified two possible high level options for remediation. The first option is the removal of 8 - 10 homes along 11th Street East and Saskatchewan Crescent East and re-grading the slope including groundwater lowering. Once re-graded, this slope would not be developed again. The cost of this option would be in the order of \$10M plus the value of the homes and lots which could total another \$10M. Attachment 2 provides an overview of the affected area of Option 1. The second option would result

in the homes remaining intact by constructing a stabilization zone in the midpoint of the slope along the lane. This option would be complex and require specialized contractors. The initial conceptual costs for this would be in the order of \$20M. Attachment 3 provides an overview of the affected area of Option 2.

The Administration commissioned Clifton Associates to conduct a third-party review of this work. The Clifton Associates analysis presents a bleaker picture than the Golder Associates report, and suggests that soil shear strengths could be even lower. In either case, the severity of the situation and the options to remediate are of the same general nature.

The City provided the consulting reports to the residents affected, and has been providing weekly updates to residents during all but the winter months. These updates have repeatedly reminded homeowners that there is a voluntary evacuation notice in effect, and that it is their responsibility to consult with their own engineers on the stability of their property.

A copy of the Golder Associates Report is included as Attachment 4.

Public Safety

In this situation, safety is paramount for residents and anybody else that may be near this area. The approach that has and will continue to be taken includes monitoring, providing the monitoring information to residents, and regular evaluation of the site and situation. If at any point, the City's engineers or the Saskatoon Fire Department decide that safety is at an elevated risk, a mandatory evacuation notice will be issued. The Emergency Measures Organization has developed a response plan for catastrophic slope failure and will implement it if required. The City will continue to provide information to residents as it becomes available, and will continue to remind residents of the voluntary evacuation notice due to the known instability of the slope. A sudden failure could also occur at any time, and affected homeowners have been made aware of this risk.

On June 3, 2014, an evacuation alert was issued to three properties immediately affected by the slope movement. This was triggered by a rapid increase in movement rate as high as 40mm/day. On June 24, 2014, further movement prompted an expansion of the evacuation alert to include eight properties in total.

The evacuation alert was issued on the recommendation of the Saskatoon Emergency Measures Organization. The purpose of the alert was to warn affected residents of the risk of sudden property movement and failure including a recommendation to evacuate. The alert also drew attention to the necessity of each homeowner to be vigilant about the stability of their property, seek professional advice and make decisions regarding their own comfort level in their home.

Monitoring of the slope movement has occurred on a weekly, bi-weekly and monthly basis as required through the summer of 2014. Since late July, insignificant movement has been recorded. The situation has not reached a stable state and remains a critical

matter, but given the decreased movement and the onset of winter, the evacuation alert was rescinded on October 31, 2014. This recommendation was again made by the Saskatoon Emergency Measures Organization.

Ongoing Monitoring

A detailed monitoring program remains in place for the Nutana slope. Due to the lack of movement, the frequency of monitoring is currently scaled back and will be increased as movement resumes in the spring of 2015. This monitoring will provide residents with up-to-date information on the slope status. This will help enable them to make informed decisions about their own safety, and the information may be an input to remediation activities they choose to undertake to protect their properties.

Past Slope Remediation Projects

There have been three notable slope stability projects in the past 15 years:

1. Rotary Park at the Broadway Bridge south abutment;
2. Cosmopolitan Park near the University Bridge east abutment; and
3. 17th Street & Saskatchewan Crescent East.

Each of these failures occurred exclusively on public right of way. The City funded these repairs because the affected areas were on public right of way and because further failure would impact public infrastructure.

Next Steps

City Council may choose from a wide number of possible roles for the City at this site. They range from the current approach, which is to monitor the slope movement and provide information to residents, to participating in remediation and contributing financially. The City typically does not contribute financially to remediation or restitution on private property.

There is a wide range of legal and associated risk consequences to the City related to this location. These will be reported to Executive Committee In-Camera, and are of the following nature:

1. Current approach, which is to monitor the site and provide detailed information to adjacent property owners and residents.
2. Offer mediation services, with or without participation by the City.
3. Become actively involved with property owners in the remediation approach.
4. Provide some level of grant or financial aid to property owners.

Public and/or Stakeholder Involvement

Since the initial movement in June 2012, the residents affected have been kept fully informed on the status of the slope and its recorded movements. These updates have been delivered via print and email. Meetings with affected residents have been held in July 2013, May 2014, and June 2014 to discuss, in detail, the extent of the problem and the nature of the evacuation recommendations. Homeowners have also been corresponding with Administration in small groups and one-on-one. The City will continue to keep affected residents informed of the situation in this manner.

Communication Plan

Communication will continue with the residents by providing print and email updates of the monitoring results. Administration will also continue to provide City Council with similar updates as the residents receive them.

Financial Implications

This project and all East Riverbank Stabilization initiatives have been funded by the Storm Water Utility, Capital Project #1493 – TU East Riverbank Stabilization. To date, nearly \$700,000 has been spent on geotechnical engineering to install instrumentation, monitor and analyse the Nutana slope failure. It is anticipated that approximately \$80,000 per year will be required to fund the necessary monitoring for public safety as long as the slope is unstable and moving at the rates that have been seen in the previous two seasons.

Sufficient budget has been allocated in 2015 to manage this.

Due Date for Follow-up and/or Project Completion

Administration will continue its current course of action of monitoring slope movement and informing residents of new information as it is available. Further reports on the updated status of the slope situation will be presented to the Standing Policy Committee on Environment, Utilities and Corporate Services as required.

Public Notice

Public Notice pursuant to Section 3 of Policy No. C01-021, Public Notice Policy, is not required.

Attachments

1. Nutana Slope Failure Overview
2. Conceptual Area Affected by Re-Grading
3. Conceptual Area Affected by Shear Zone Modification
4. Golder Associates Report – Geotechnical Investigation and Evaluation of Conceptual Remedial Options

Report Approval

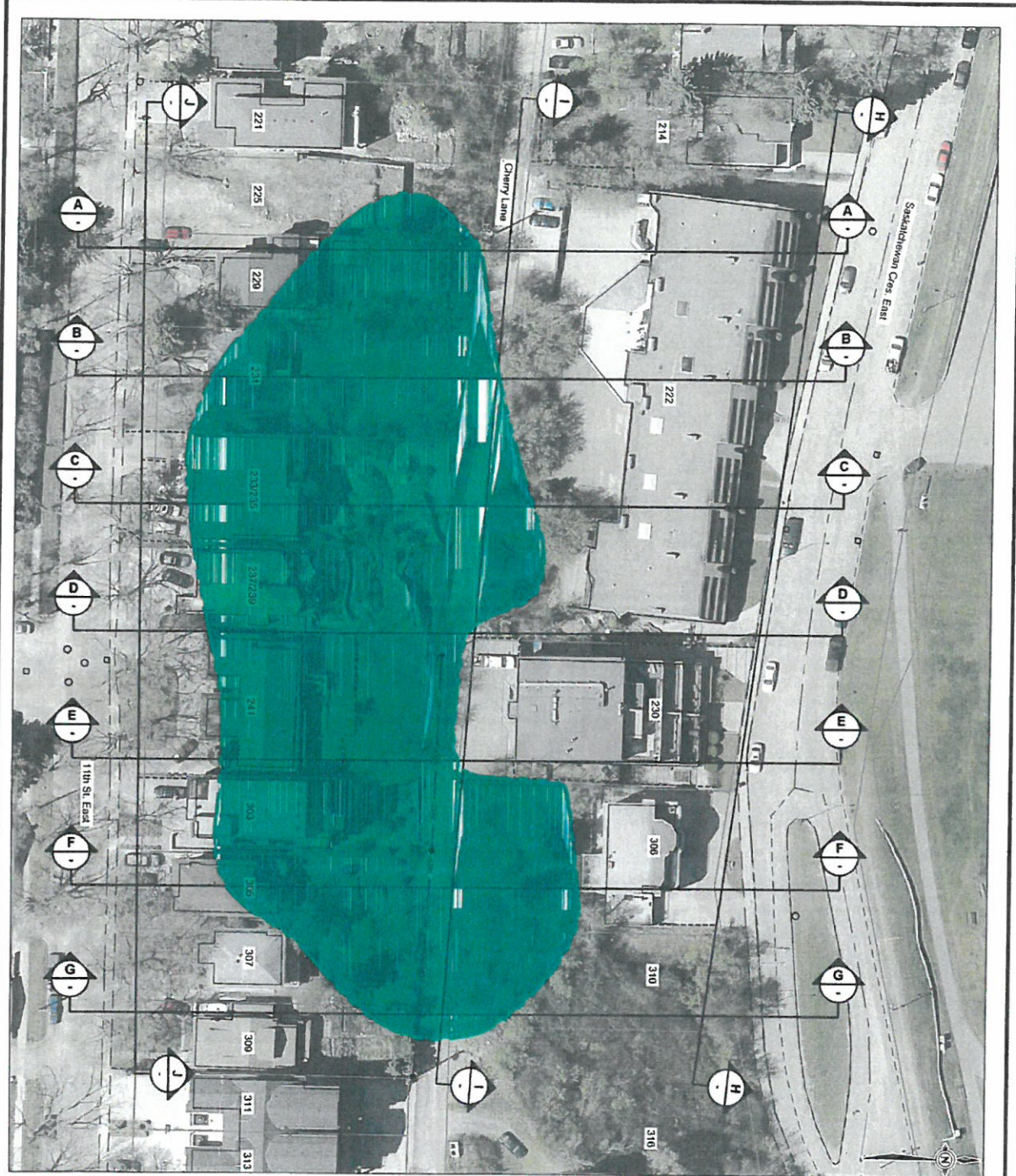
Written by: Andrew Hildebrandt, Director of Community Standards
Reviewed by: Mike Gutek, Director of Major Projects
Approved by: Jeff Jorgenson, General Manager, Transportation & Utilities
Department
Approved by: Murray Totland, City Manager

Exec AH - Nutana Slope Stability Update-Feb 11-15

Nutana Slope Failure Overview



G:\2011\1362\11-1362-0057 COS East Riverbank\Figures\Phase 5100 Cherry Lane Remediation\Task 6000:11-1362-0057 Remedial Options.dwg 11/13/2013 1:48 PM



LEGEND

- BENCHMARK LOCATION (OTHERS)
- ⊕ BENCHMARK LOCATION (GOLDER)
- ⊕ 2013 PANEL BENCHMARKS (GOLDER)
- ⊕ POWER POLE
- ⊕ CANCH BASIN
- MANHOLE
- OVERHEAD POWER LINE
- 303 LOT NUMBER

REFERENCE
AERIAL PHOTOGRAPH PROVIDED BY CITY OF SASKATOON, MAY 16, 2011
CITY OF SASKATOON/DATA/IM

DRAFT

10 0 10
SCALE: 1:600 METRES

PROJECT
City of Saskatoon
CHERRY LANE
SLOPE INSTABILITY

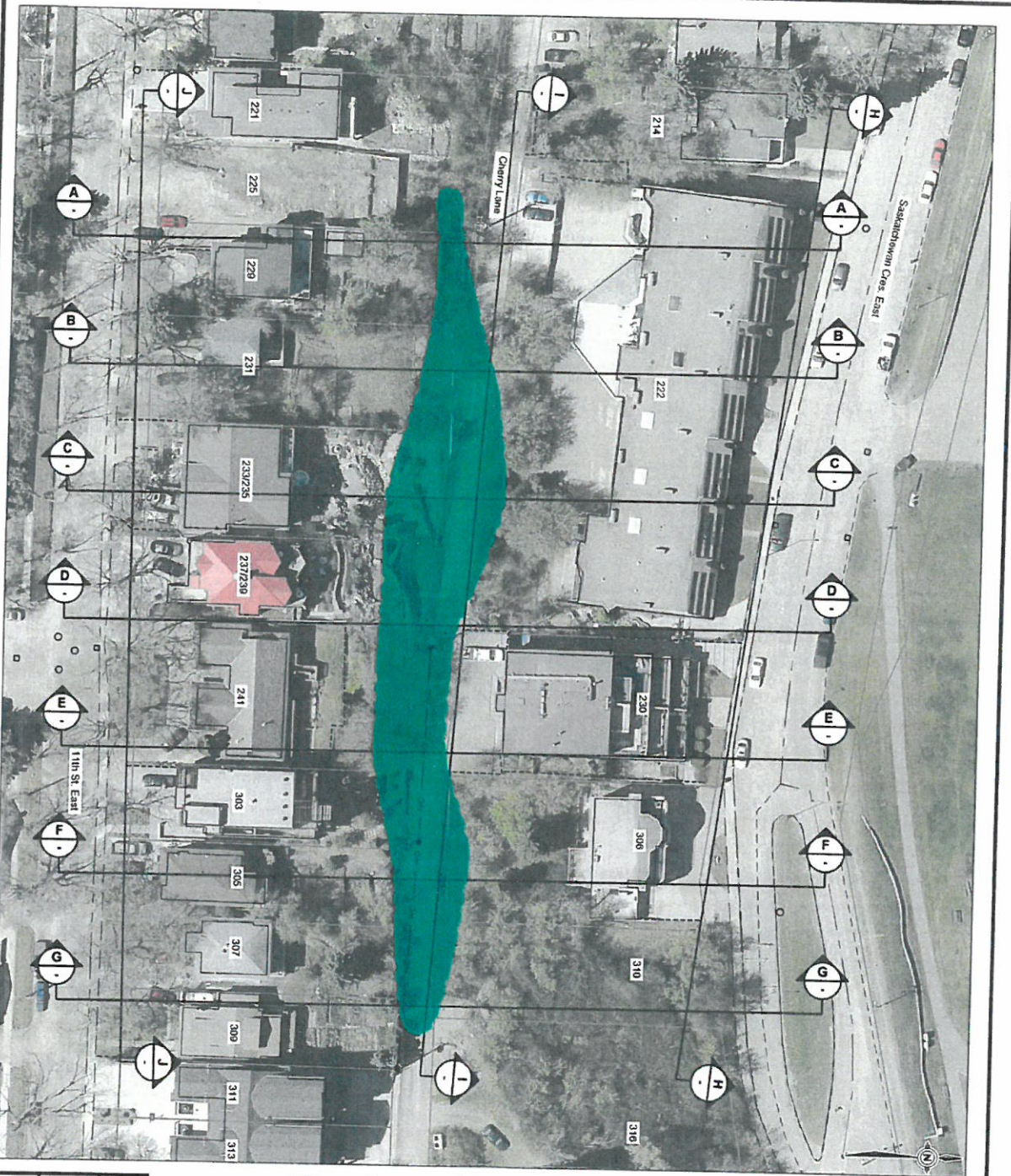
CONCEPTUAL AREA AFFECTED BY RE-GRADING

FIGURE: 1

PROJECT	11-1362-0057	DATE	05/27/2013
REVISION	001	DATE	05/27/2013
CHECKED		DATE	
APPROVED		DATE	

Golden Associates
CONSULTANTS

C:\2011\1562\11-1362-0057 CCS East Riverbank\Figures\Phase 5100 Cherry Lane Remediation\Task 6000\11-1362-0057 Remedial Options.dwg 11/13/2013 1:46 PM



LEGEND

- BOREHOLE LOCATION (OTHERS)
- BOREHOLE LOCATION (CO-CRIN)
- 2013 HAZEL BOREHOLE (S1 (OIL/URN))
- POWER POLE
- CATCH BASIN
- MANHOLE
- OVERHEAD POWERLINE
- 303 LOT NUMBERS

REFERENCE
 AERIAL PHOTOGRAPHS PROVIDED BY CITY OF SASKATOON, JAN 15, 2011
 CITY OF SASKATOON DATA

DRAFT

10
 0
 10
 SCALE 1:800
 METRES

City of Saskatchewan
 CHERRY LANE
 SLOPE INSTABILITY

CONCEPTUAL AREA AFFECTED BY SHEAR ZONE MODIFICATION

PROJECT	11-1362-0057	FILE NO.	0007 Remedial Op.
REVISION		DATE	20 SEP 2013
DESIGNER		SCALE	AS SHOWN
CHECKED		DATE	26 NOV 13
APPROVED			

FIGURE: 2



May 2014

CHERRY LANE SLOPE MOVEMENT, SASKATOON, SK

Geotechnical Investigation and Evaluation of Conceptual Remedial Options

Submitted to:

City of Saskatoon
Infrastructure Services
222 - 3rd Avenue North
Saskatoon, SK S7K 0J5

Attention: Mr. Andrew Hildebrandt

REPORT



Report Number: 11-1362-0057/5100

Distribution:

2 Copies - City of Saskatoon, Saskatoon, SK
2 Copies - Golder Associates Ltd., Saskatoon, SK





Executive Summary

Golder Associates Ltd. was retained by the City of Saskatoon to conduct a geotechnical investigation and evaluation of conceptual remedial options for the slope instability located in the area of Cherry Lane (back alley), the 200 to 300 blocks between the 11th Street East and the Saskatchewan Crescent East, Saskatoon (the Site).

Two slope failures recently occurred in this area, affecting approximately a 120 metre long section of Cherry Lane and the backyards of several houses and buildings. The first failure (referred to as the West Failure) occurred on June 20, 2012. The second failure (referred to as the East Failure) occurred sometime between June 20 and June 24, 2013. The West Failure impacted a slope area approximately 70 metre section of Cherry Lane and 40 metres from the head scarp to the toe; it was most pronounced in the backyards of 229, 231, 233/235 and 237/239 11th Street East, through Cherry Lane, and into the backyard of 222 Saskatchewan Crescent East. The West Failure resulted in the disruption and interference with the Electrical Utility Services, requiring repairs and adjustment, and disruption of the geometry and stability of the public right-of-way land, requiring closure of Cherry Lane. The East Failure affected a slope area approximately 30 metre section of Cherry Lane and 45 metres from the head scarp to the toe; it was most pronounced in the backyard of 303, 305 and 307 11th Street East, through Cherry Lane, and into the backyard of 306 Saskatchewan Crescent East. The West Failure and East Failure were separated by two residential houses/apartment building, 241 11th Street East and 230 Saskatchewan Crescent East. No obvious cracking or slope movement was observed in this slope section between the two failure areas to date (May 2014).

Soil investigation and instrumentation installation were carried out to determine stratigraphy, location of the failure plane, rate of landslide movement and groundwater conditions; which are required for the development of conceptual remedial option. Monitoring of slope movements has been conducted since the West Failure occurred. The slope failures along Cherry Lane are most likely a result of a combination of the geology of the area along the riverbank, the heavy and prolonged precipitation in the spring of 2012 and 2013 that resulted in increased groundwater levels, and changes to the geometry as a result of landscaping of the slope.

The following conceptual remedial options have been evaluated for the Site:

- Option 1: Do nothing option;
- Option 2: Installation of a sub-drainage system;
- Option 3: Slope flattening with the installation of a sub-drainage system; and
- Option 4: Modification of shear zone with installation of a sub-drainage system.

As this Site poses a high risk to the public, infrastructure, and property in the area; a minimum slope factor of safety of 1.5 is recommended as the criteria for the evaluation of conceptual remedial options.



CHERRY LANE GEOTECHNICAL INVESTIGATION AND EVALUATION

Based on the results of the option evaluation, Option 4 is recommended as a potential remedial option for the Site. The conceptual Option 4 involves the shear zone modification along Cherry Lane and the installation of a sub-drainage system (one section along 11th Street East and another along Cherry Lane). The approximate extent of the conceptual shear zone modification area is approximately 120 metres long and 4 to 13 metres wide. The construction cost estimate for this Option is in the range of 10 to 20 million dollars. While the conceptual cost of this option is estimated to be higher than the other three options, this option will result in the least disturbance to the surrounding properties (e.g., the majority of the remedial work can be confined to the area surrounding Cherry Lane), and can achieve the recommended minimum factor of safety of 1.5 for the remedial slope.



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APPENDIX B

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APPENDIX F

Monitoring Data

APPENDIX G

Laboratory Test Results

APPENDIX H

Cost Estimates for Conceptual Remediation Options



1.0 INTRODUCTION

Golder Associates Ltd. (Golder) was retained by the City of Saskatoon (the City) to conduct a geotechnical investigation and evaluation of conceptual remedial options for the slope instability located in the area of Cherry Lane (back alley), the 200 to 300 blocks between the 11th Street East and the Saskatchewan Crescent East, Saskatoon (the Site).

Two slope failures recently occurred in this area, affecting approximately a 120 metre (m) long section of Cherry Lane and the backyards of several houses and buildings. The first failure (referred to as the West Failure) occurred on June 20, 2012. The second failure (referred to as the East Failure) occurred sometime between June 20 and June 24, 2013. Site location, locations of the slope failures and civic addresses of residential properties are shown in Figure 1.

The West Failure impacted a slope area approximately 70 m section of Cherry Lane and 40 m from the head scarp to the toe; it was most pronounced in the backyards of 229, 231, 233/235 and 237/239 11th Street East, through Cherry lane, and into the backyard of 222 Saskatchewan Crescent East. The West Failure resulted in the disruption and interference with the Electrical Utility Services, requiring repairs and adjustment, and disruption of the geometry and stability of the public right-of-way (ROW) land, requiring closure of Cherry Lane. The East Failure affected a slope area approximately 30 m section of Cherry Lane and 45 m from the head scarp to the toe; it was most pronounced in the backyard of 303, 305 and 307 11th Street East, through Cherry Lane, and into the backyard of 306 Saskatchewan Crescent East. The West Failure and East Failure were separated by two residential houses/apartment building, 241 11th Street East and 230 Saskatchewan Crescent East. No obvious cracking or slope movement was observed in this slope section between the two failure areas.

This report presents a summary of field observations, the results of field investigation and monitoring program, assessment of slope stability conditions, and conceptual slope remediation options for the Site.

This report should be read in conjunction with “Information and Limitations of the Report”, included in Appendix A. The reader is specifically directed to this information as it is essential for the proper interpretation and usage of this report.



LEGEND

- CRACK LOCATION (APPROXIMATE)
- TOE OF SLUMP (APPROXIMATE)
- 303 LOT NUMBER

REFERENCE

AERIAL PHOTOGRAPH PROVIDED BY CITY OF SASKATOON, MAY 15, 2011



City of Saskatoon		CHERRY LANE SLOPE INSTABILITY	
TITLE SITE LOCATION PLAN			
Golder Associates <small>Saskatoon, Saskatchewan</small>		PROJECT 11-1362-0057 DESIGN LM 08/05/14 CADD BDS/JDS 08/05/14 CHECK HV 08/05/14 REVIEW PGB 08/05/14	FILE No. SCALE AS SHOWN REV.
			FIGURE: 1



2.0 OBJECTIVE AND SCOPE OF WORK

The objective of this work was to develop a conceptual remediation plan for the Site (i.e., the West Failure, the East Failure, and the section of Cherry Lane between the two existing failures).

The scope of work for this study, as presented in our work plan dated July 12, 2013 includes:

- project management and meetings;
- geotechnical information review and compilation;
- structural engineering support;
- installation of survey control network and topographic survey;
- development of soil investigation program and monitoring system;
- soil investigation and instrumentation installation;
- soil laboratory testing;
- field monitoring;
- geotechnical analysis;
- development and evaluation of conceptual remediation options; and
- preparation of this engineering report.

Site reconnaissance, slope movement monitoring, and meetings with the City began when the slope movement occurred in June 2012, as part of the emergency response to the slope movement. Prior to July 2013, site reconnaissance and monitoring conducted by Golder was restricted to a portion of the Site owned by the City (i.e., Cherry Lane). Recent site reconnaissance and monitoring have been conducted for the entire Site, which is partially-owned by the City and partially-owned properties of private landowners. These tasks have been continued to date (May 2014); the results of our field observations and monitoring program have been provided to the City following each monitoring visit.

3.0 BACKGROUND

3.1 Riverbank Instability History

The topography of Saskatoon is a generally level plain of low relief dissected by the valley of the South Saskatchewan River. The South Saskatchewan River within Saskatoon runs through glacial till underlying surficial stratified deposits (SSD) of lacustrine clays, silts, and sands. The river is a discharge receptor for many of the aquifer systems in this geographic region. Slope instability along the east riverbank in the City has been an ongoing problem since 1913 (Clifton et al. 1981). Clifton et al. (1981), Clifton (1985), Eckel et al. (2002) and Golder (2008a) provide a detailed review of the geology, hydrogeology, historical slope instability activities and remedial works for the east river bank.



There is an increasing level of slope instability along the riverbank in recent years. High annual precipitation and heavy and prolonged precipitation events occurring in the last few years have increased piezometric levels in soils and contributed to slope instability.

3.2 Historical Slope Stability Condition of the Site

Riverbank instability occurs as a result of shear failure within the soil mass. Slope stability conditions depend on the site stratigraphy, soil materials, slope geometry, groundwater conditions and time. Most of the slope failures occur as shear within the lacustrine clay of the SSD at the contact with the till. The stability of a slope can be negatively affected by a number of activities (Clifton 1985), including: i) adding weight to the slope (such as fills on the slope and snow dumps); ii) increase in the elevation of the water table (resulting from lawn watering, leaking water mains, sewers and storm water lines, surface runoff directed towards the slope, blockage of the zone of seepage by placed fill, and the reduction in evapotranspiration through removal of vegetation, covering the slope with a membrane, or covering the slope with gravel); iii) excavation of the slope face (e.g., for road cuts and basement excavations); iv) removing natural vegetation (e.g., mature trees that tend to stabilize the slope); v) erosion of toe of the slope; and vi) vibrations (e.g., pile driving and explosives).

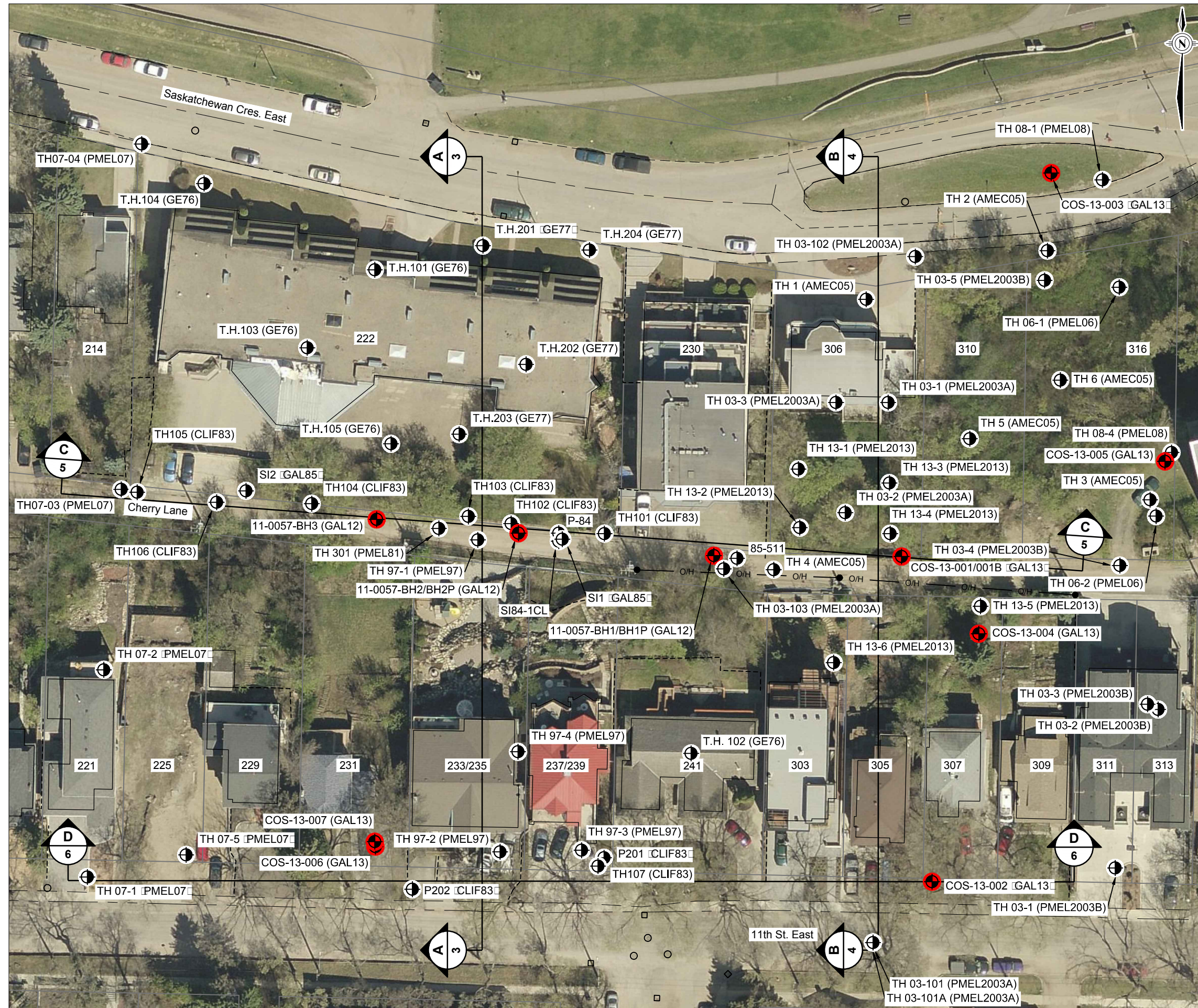
P. Machibroda Engineering Ltd. (PMEL) (1997) suggested the following primary mechanisms contributing to instability:

- prolonged periods of precipitation and/or spring snowmelt resulting in induced surface infiltration;
- toe erosion at the lower reach of the riverbank; and
- influences from upslope or down slope development including site grading, groundwater discharge or recharge and/or building development.

Clifton (1985) highlights the Cherry Lane area as an area where “existing landslides potentially threaten structures or improvements placed on or near the top of the slopes” and states that “the effects of movement can be seen on several parcels of private property and on several structures”. The report also states that new improvements would require detailed slope stability analysis with particular consideration to sites that “lie on a landform, such as the old head scarps landward from Cherry Lane, where shear strain, however slow, can be expected”.

Following the findings of the Clifton (1985) report, an agreement between Meewasin Valley Authority (MVA) and the City was signed on October 7, 1985 (City of Saskatoon 1985). This agreement outlined the responsibilities of each party in monitoring 17 inclinometers mentioned in the agreement, as well as any additional instrumentation that may be installed pursuant to the agreement. The 17 inclinometers that form the basis of the monitoring program were installed in 1984 and 1985. This agreement recommended monitoring the inclinometers in the spring and fall of each year, with more frequent monitoring during unusually heavy precipitation periods, and at locations where large displacements were observed.

Two inclinometers, designated as SI84-1CL and 85-511 with locations presented on Figure 2 were installed and monitored in Cherry Lane. However Inclinometer SI84-1CL was blocked in 2004 and inclinometer 85-511 was bent in 2006. Inclinometer SI-84 ICL recorded approximately 20 millimetres (mm) of total movement for the period from November 1992 to October 2001. Inclinometer 85-511 recorded approximately 32 mm of total movement for the period from August 1985 to October 2005.



REFERENCES

- GE76 - GOLDER ENGINEERING LTD. APR. 9, 1976. GEOTECHNICAL INVESTIGATION 216, 218 AND 220 SASKATCHEWAN CRESCENT
- GE77 - GOLDER ENGINEERING LTD. JULY 4, 1977. GEOTECHNICAL SITE INVESTIGATION PROPOSED HOUSING COMPLE, SASKATCHEWAN CRESCENT
- PMEL81 - P. MACHIBRODA ENGINEERING LTD. JUNE 17, 1981. GEOTECHNICAL INVESTIGATION PROPOSED APARTMENT BUILDING SASKATCHEWAN CRESCENT, SASKATOON, SASKATCHEWAN
- CLIF83 - CLIFTON ASSOCIATES LTD. AUG. 17, 1983. GEOTECHNICAL STUDIES PROPOSED PARK TERRACE CONDOMINIUMS 222 SASKATCHEWAN CRESCENT EAST SASKATOON, SK.
- GAL85 - GOLDER ASSOCIATES LTD. MAY 1985. PROGRESS REPORT NO. 1 SLOPE MONITORING PROGRAM, PARK TERRACE CONDOMINIUMS, 222 SASKATCHEWAN CRESCENT EAST, SASKATOON, SASKATCHEWAN
- PMEL97 - P. MACHIBRODA ENGINEERING LTD. SEPT. 15, 1997. GEOTECHNICAL INVESTIGATION AND SLOPE STABILITY STUDY PROPOSED RESIDENTIAL DEVELOPMENT, 237-11TH STREET EAST, SASKATOON, SASKATCHEWAN
- PMEL03A - P. MACHIBRODA ENGINEERING LTD. SEPTEMBER 11, 2003. GEOTECHNICAL INVESTIGATION AND SLOPE STABILITY STUDY PROPOSED GARAGE, 306 SASKATCHEWAN CRESCENT EAST, SASKATOON, SASKATCHEWAN, PMEL FILE NO. S03-4869
- PMEL03B - P. MACHIBRODA ENGINEERING LTD. OCTOBER 31, 2003. GEOTECHNICAL INVESTIGATION AND SLOPE STABILITY STUDY PROPOSED RESIDENCE, 313-11TH STREET EAST, SASKATOON, SASKATCHEWAN, PMEL FILE NO. S03-4925
- AMEC05 - AMEC EARTH & ENVIRONMENTAL. JULY 27, 2005. REVISED SLOPE STABILITY ASSESSMENT PROPOSED CONDOMINIUM DEVELOPMENT, 316 SASKATCHEWAN CRESCENT, SASKATOON, SASKATCHEWAN
- PMEL06 - P. MACHIBRODA ENGINEERING LTD. JULY 14, 2006. GEOTECHNICAL INVESTIGATION AND SLOPE STABILITY STUDY PROPOSED CONDOMINIUM 316 - SASKATCHEWAN CRESCENT EAST, SASKATOON, SK
- PMEL07 - P. MACHIBRODA ENGINEERING LTD. JUNE 12, 2007. GEOTECHNICAL INVESTIGATION AND SLOPE STABILITY STUDY PROPOSED RESIDENCES, 221 & 225 - 11TH STREET EAST, SASKATOON, SK
- PMEL08 - P. MACHIBRODA ENGINEERING LTD. JULY 8, 2008. PROPOSED COMMERCIAL/RESIDENTIAL DEVELOPMENT 328 SASKATCHEWAN CRESCENT EAST, SASKATOON, SK
- GAL12 - GOLDER ASSOCIATES LTD. MAY 2013. ASSESSMENT OF SLOPE INSTABILITY AT 200 BLOCK, 11TH STREET EAST.
- PMEL13 - P. MACHIBRODA ENGINEERING LTD. JULY 18, 2013. SLOPE INSTABILITY 230/306 SASKATCHEWAN CRESCENT SASKATOON, SK. DRAWING NO S13-8517-1 TO 7

LEGEND

- BOREHOLE LOCATION (OTHERS)
- BOREHOLE LOCATION (GOLDER)
- 2013 & 2012 BOREHOLES LOCATION (GOLDER)
- POWER POLE
- CATCH BASIN
- MANHOLE
- OVERHEAD POWER LINE
- LOT NUMBER

REFERENCE
 AERIAL PHOTOGRAPH PROVIDED BY CITY OF SASKATOON, MAY 15, 2011
 CITY OF SASKATOON DATUM



		CHERRY LANE SLOPE INSTABILITY	
BOREHOLE AND CROSS SECTION LOCATION PLAN			
PROJECT	11-1362-0057	FILE No.	
DESIGN	LM 08/05/14	SCALE	AS SHOWN REV. 0
CADD	JDS 08/05/14		
CHECK	HV 08/05/14		
REVIEW	PGB 08/05/14		
		FIGURE: 2	



As part of the City's site reconnaissance program for the east riverbank; site reconnaissance for Cherry Lane was conducted yearly by Golder since 2006. The 2012 site reconnaissance was conducted on April 26, 2012. As noted during these inspections, deflected curbs and fences, drops in the pavement and tension cracks were present; however, no noticeable slope movement was observed at the time of inspection.

The City noted that during surveys and inspections in 2012, there was no evidence of leaking water mains, storm drains or sewers in the vicinity of the study area.

3.3 Aerial Photos

Aerial photos covering the City area, including the Site were taken in 1939, 1958, 1961, 1970, 1974, 1977, 1987, 1997, 2001, 2006 and 2011 and are included Appendix B. The site is located in a meander bend of the South Saskatchewan River, where river erosion may affect the stability of the slope. Rotary Park and the fill area immediately north of Saskatchewan Crescent East were constructed in the 1960s. Apartment building 328 on Saskatchewan Crescent East was constructed before a portion of the river immediately north of Saskatchewan Crescent East (now Rotary Park) was filled in in the 1960s. Apartment buildings 222 and 230 on Saskatchewan Crescent East were constructed before 1987. Construction of 233/235 and 237/239 11th Street East and some landscaping work was completed before 2001. The landscaping in the backyards of 233/235 and 237/239 11th Street East was completed before 2006. Construction of 303 11th Street East and landscaping of this property was completed before 2011.

3.4 Previous Geotechnical Studies

A large amount of background information is available on the geology, hydrogeology, slope conditions and soil properties for the east riverbank within the City in general and at the Site. General background information related to slope stability assessment for the east riverbank includes various geologic and hydrogeologic data published in the physical environment of Saskatoon (Christiansen 1968, 1970, 1979, Sauer 1975, Haug et al. 1977, Clifton et al. 1981); riverbank instability study reports prepared for the MVA and the City (Clifton 1985, Golder 2008a, 2013a); and riverbank site reconnaissance and monitoring reports (Eckel et al. 2002, Golder 2013b, AMEC 2005a to 2010, 2013).

Available geotechnical information and documents for the area surrounding the Cherry Lane slope movement include geotechnical and riverbank assessment reports and aerial imagery provided by the City, the MVA and local landowners for the 200 to 300 block of 11th Street East and the 200 to 300 block of Saskatchewan Crescent East in Saskatoon. Table 1 shows a summary of the site specific reports for the Site. These reports were mainly prepared for residential development at various times.



CHERRY LANE GEOTECHNICAL INVESTIGATION AND EVALUATION

Table 1: Summary of Historical Reports Reviewed

Title (Abbreviation)	Author	Year	Location
Geotechnical Investigation 216, 218 and 220 Saskatchewan Crescent (GE76)	Ground Engineering Ltd.	Apr. 9, 1976	222 Saskatchewan Crescent East
Geotechnical Site Investigation Proposed Housing Complex, Saskatchewan Crescent (GE77)	Ground Engineering Ltd.	Jul. 4, 1977	222 Saskatchewan Crescent East
Geotechnical Investigation Proposed Apartment Building Saskatchewan Crescent, Saskatoon, Saskatchewan (PMEL81)	P. Machibroda Engineering Ltd.	Jun. 17, 1981	222 Saskatchewan Crescent East
Geotechnical Studies, Proposed Park Terrace Condominiums 222 Saskatchewan Crescent East Saskatoon, SK (CLIF83)	Clifton Associates Ltd.	Aug. 17, 1983	222 Saskatchewan Crescent East
Progress Report No. 1 Slope Monitoring Program, Park Terrace Condominiums, 222 Saskatchewan Crescent East, Saskatoon, Saskatchewan (GAL85)	Golder Associates Ltd.	May 1985	222 Saskatchewan Crescent East
Slope Instability Study, South Saskatchewan River Bank Saskatoon, Saskatchewan (CLIF85)	Clifton Associates Ltd.	Dec. 23, 1985	East Riverbank
Feasibility of Horizontal Drains for Slope Stabilization East Bank – South Saskatoon, Saskatchewan (GAL89)	Golder Associates Ltd.	Apr. 1989	East Riverbank
Geotechnical Investigation and Slope Stability Study, Proposed Residential Development, 237-11 th Street East, Saskatoon, Saskatchewan (PMEL97)	P. Machibroda Engineering Ltd.	Sept. 15, 1997	237 – 11 th Street East
Geotechnical Investigation and Slope Stability Study, Proposed Garage, 306 Saskatchewan Crescent East, Saskatoon, Saskatchewan, PMEL File No. S03-4869 (PMEL03A)	P. Machibroda Engineering Ltd.	Sept. 11, 2003	306 Saskatchewan Crescent East
Geotechnical Investigation and Slope Stability Study, Proposed Residence, 313-11 th Street East, Saskatoon, Saskatchewan, PMEL File No. S03-4925 (PMEL03B)	P. Machibroda Engineering Ltd.	Oct. 31, 2003	313 – 11 th Street East
Revised Slope Stability Assessment, Proposed Condominium Development, 316 Saskatchewan Crescent, Saskatoon, Saskatchewan (AMEC05)	AMEC Earth & Environmental	Jul. 27, 2005	316 Saskatchewan Crescent East
Geotechnical Investigation, Proposed Idylwyld Lift Station Saskatoon, Saskatchewan (GAL06)	Golder Associates Ltd.	Feb. 2006	East of Sid Buckwold Bridge
Geotechnical Investigation and Slope Stability Study, Proposed Condominium 316 - Saskatchewan Crescent East, Saskatoon, SK (PMEL06)	P. Machibroda Engineering Ltd.	Jul. 14, 2006	316 Saskatchewan Crescent East
Geotechnical Investigation and Slope Stability Study, Proposed Residences, 221 & 225 - 11 th Street East, Saskatoon, SK (PMEL07)	P. Machibroda Engineering Ltd.	Jun. 12, 2007	221 and 225 – 11 th Street East
Proposed Commercial/Residential Development, 328 Saskatchewan Crescent East, Saskatoon, SK (PMEL08)	P. Machibroda Engineering Ltd.	Jul. 8, 2008	328 Saskatchewan Crescent East
Storm Sewer Preservation, East River Bank Slope Stabilization, City of Saskatoon File No. PW 8250-4/IS 7821-3 (GAL08)	Golder Associates Ltd.	Jul. 28, 2008	East Riverbank
Supplementary Comments and Visual Review and Groundwater Monitoring Results, Proposed Condominium 316-Saskatchewan Crescent East Saskatoon, Saskatchewan, PMEL File No. S09-5722.1 (PMEL09)	P. Machibroda Engineering Ltd.	Nov. 16, 2009	316 Saskatchewan Crescent East
Assessment of Slope Instability at 200 to 300 block, 11 th Street East (GAL12)	Golder Associates Ltd.	May 2013a	200 to 300 block, 11 th Street East



In addition to the geotechnical reports listed above, Golder also reviewed building permit information provided by the City for 222 and 230 Saskatchewan Crescent East and 229, 233-236, 239, 241, and 303 – 11th Street East.

3.5 Summary of Existing Foundation Plans

Foundation plans provided to the City as part of the building permit process were reviewed to determine the type and depths of foundation for those buildings located near the Cherry Lane slope failure, and are summarized in Table 2. It is not known if the installed foundations match the proposed building plans provided for review.

Table 2: Summary of Building Foundations in Building Permits

Location	Foundation Type	Foundation Size
222 Saskatchewan Crescent East	cast-in-place concrete piles	23 – 305 mm diameter, 6 m long 88 – 406 mm diameter, 6 m to 14 m long 20 – 600 mm diameter, 10 m to 14 m long
	battered concrete piles	5 – 406 mm diameter, 8 m to 10 m long
230 Saskatchewan Crescent East	cast-in-place concrete piles	2 – 500 mm diameter, 7.6 m long 25 – 406 mm diameter, 6.1 m to 7.9 m long 17 – 406 mm diameter, 3.0 m to 5.8 m long 8 – 406 mm diameter, 0.6 m to 2.7 m long
306 Saskatchewan Crescent East	cast-in-place concrete piles	2 – 254 mm diameter, 3.0 m deep (garage) 1 – 203 mm diameter, 3.0 m deep (garage)
	concrete footings	610 mm square, 203 mm thick and 1,372 mm square, 229 mm thick, step down (ground floor)
229 – 11 th Street East	cast-in-place concrete piles	10 – 305 mm diameter, 6.1 m long
	concrete footings	610 mm square, 203 mm thick, step down, minimum 1.2 m deep
231 – 11 th Street East	Demolished	N/A
233/235 – 11 th Street East	cast-in-place concrete piles	5 – 305 mm diameter, 6.1 m long 15 – 406 mm diameter, 6.1 m to 9.1 m long 15 – 406 mm diameter, 10.7 m to 13.7 m long
237/239 – 11 th Street East	cast-in-place concrete piles	1 – 305 mm diameter, 6.1 m long 17 – 406 mm diameter, 7.6 m to 9.1 m long 14 – 406 mm diameter, 10.7 m to 12.2 m long
241 – 11 th Street East	concrete footings	610 mm strip, 305 mm thick
303 – 11 th Street East	cast-in-place concrete piles	44 – 305 mm diameter, 4.9 m to 5.8 m long 8 – 406 mm diameter, 5.8 m to 7.0 m long
305 – 11 th Street East	cast-in-place concrete piles	8 – 305 mm diameter, 3.7 m long (rear addition)
307 – 11 th Street East	cast-in-place concrete piles	10 – 254 mm diameter, 6.1 m long (back porch) 1 – 203 mm diameter, 2.4 m long (2 nd floor addition)
	concrete footings	610 mm square, 305 mm thick (front veranda)

mm = millimetre; m = metre

Buildings located along Saskatchewan Crescent East are founded on piles and/or strip footings. Foundation elevations of the buildings at 222 and 306 Saskatchewan Crescent East appeared to be below the till/clay contact (i.e., shear zone) and likely have an insignificant effect on the slope movement. The retaining wall and foundation system of 230 Saskatchewan Crescent East, which extended further upslope, appears to have a positive effect to the stability of the upper slope south of this building. However, it is unknown to what degree this retaining wall and foundation system can sustain slope movement.



3.6 Precipitation Data and Changes in Groundwater Table

Groundwater levels in the SSD, especially in the clay layer overlying till, have a significant influence on slope stability at the Site. Increases in groundwater elevation decrease the stability of the slope. In general, groundwater levels vary in response to the amount of water available at the ground surface and the amount of discharge or recharge potential of the soil profile, which are dependent on the variation of precipitation.

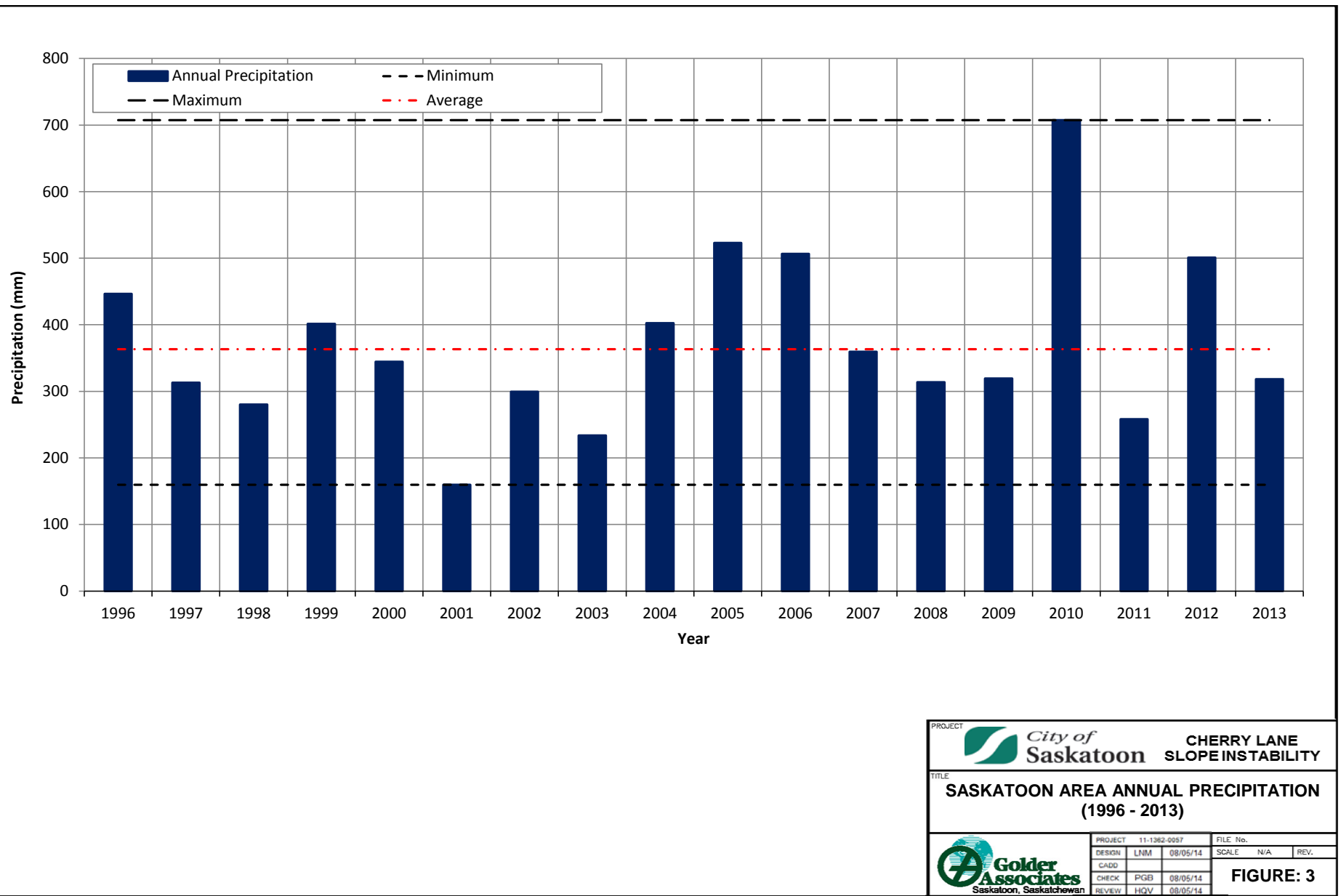
The 105 year daily total precipitation record for Saskatoon was analysed by Golder to determine the climatic conditions that may have influenced slope stability at the Site. The record was based on observations from the Environment Canada Reference Climate Station (EC 2013) for the years 1908 to 2007 and the Saskatchewan Research Council Climate Reference Station (SRC-CRS) (SRC 2013) from 2008 to present.

Saskatoon has experienced a wet cycle over the past ten years. Following a severe drought from 1997-2003, precipitation was above average between 2004 and 2006 (Figure 3) with 2005 and 2006 being the fourth and fifth wettest years on record, respectively. Although precipitation was below average between 2007 and 2009, the wettest year on record occurred in 2010 when 708 mm fell, almost double the historic average. High precipitation in 2010 created the antecedent conditions that led to flooding throughout the Prairie Provinces during 2011.

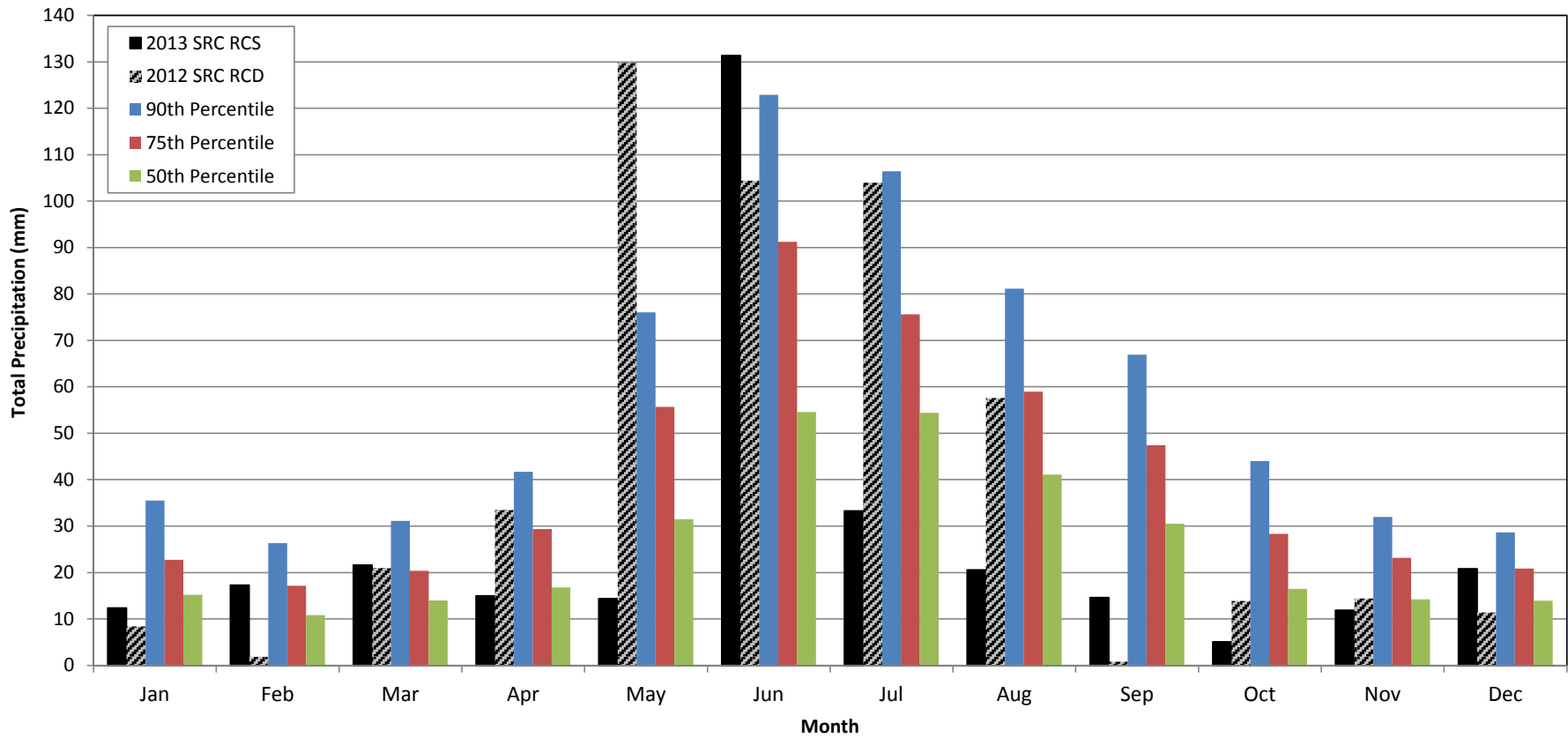
Although low through the winter of 2011-2012, precipitation was above normal during the spring and summer of 2012, particularly May and June (Figure 4). Several rain events between 10 and 25 mm led to a total precipitation of 129.8 mm in May 2012, making it the third wettest year observed between 1908 and 2012 and more than three times the median value of 31.5 mm: 69.6 mm of rain fell in the first week of May with 61.2 mm concentrated on May 5 and 6, 2012. On May 22 and 23, 2012, 33.6 mm of rain fell.

Rainfall in June 2012 was 104.4 mm, making it almost twice the median June precipitation of 54.6 mm (Figure 4). Sustained daily rainfall between June 9 and June 19, 2012 amounted to 81mm with 47.6 mm concentrated on June 9 and 10, 2012 (Figure 5). An additional 18.6 mm fell between June 24 and June 27, 2012.

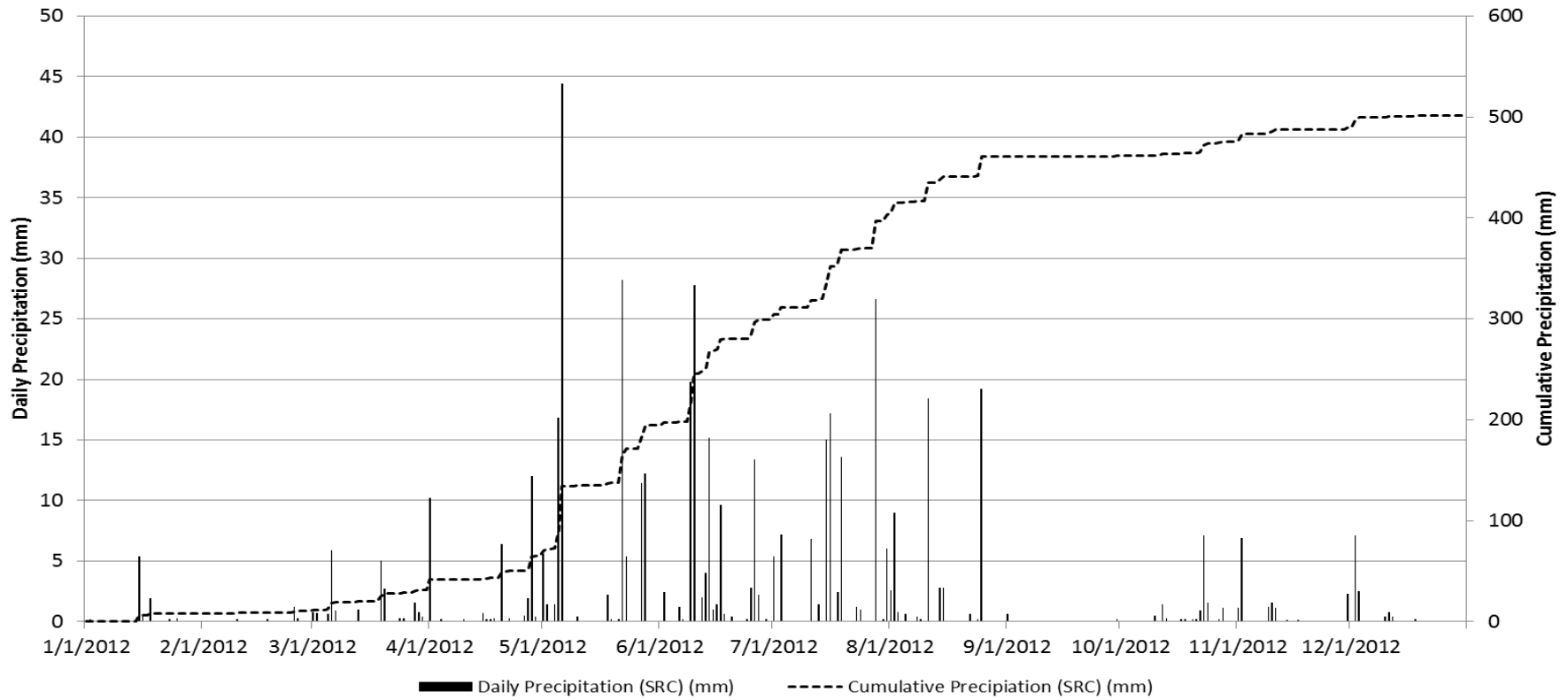
The 2012-2013 winter snowpack leading up to the spring runoff was high. Cumulative winter precipitation from November 1, 2012 to March 4, 2013 exceeded 200% of average in Saskatoon (WSA 2013). There was below normal precipitation during April and May of 2013 (Figure 5). However, total June precipitation was approximately twice the median with 131.4 mm total precipitation of which 101.6 mm fell between June 13, 2013 and June 23, 2013 (Figure 6).



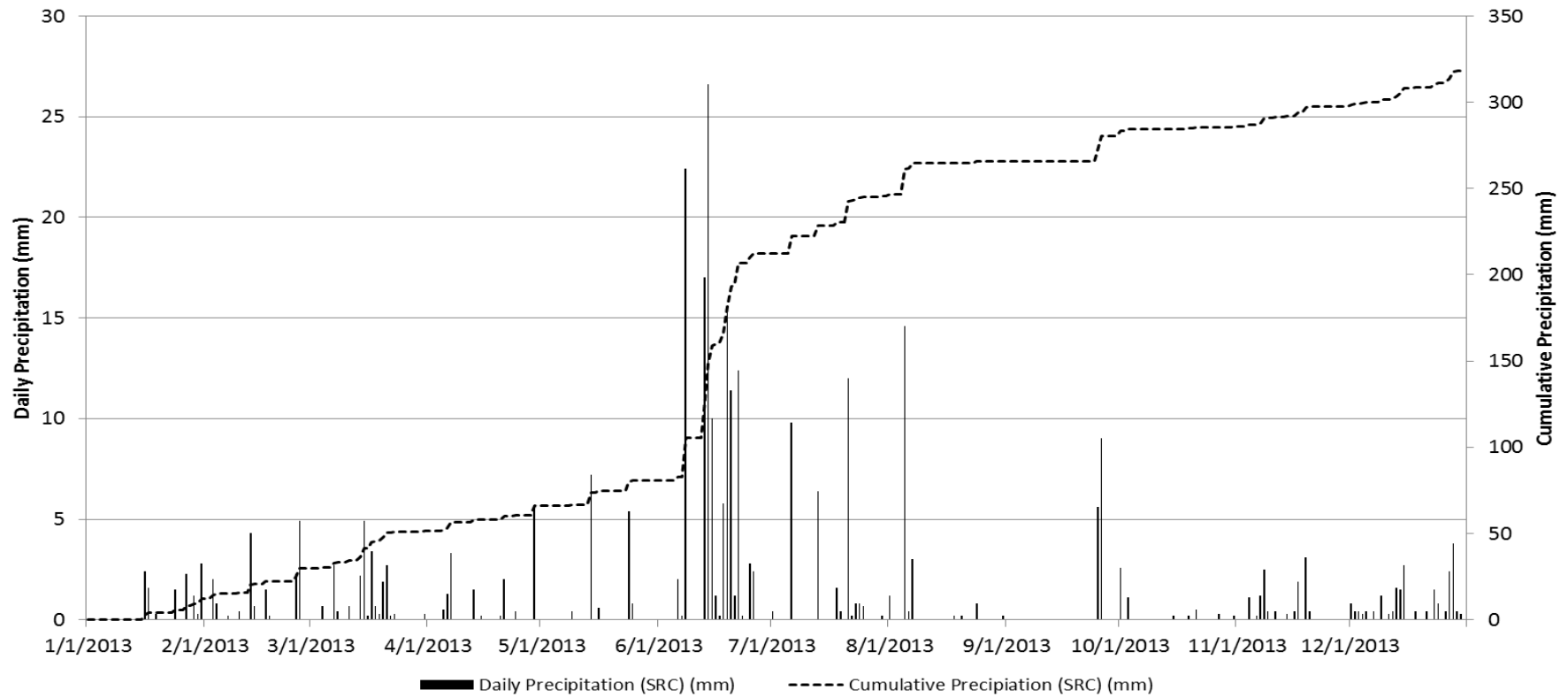
		CHERRY LANE SLOPE INSTABILITY	
TITLE SASKATOON AREA ANNUAL PRECIPITATION (1996 - 2013)			
		PROJECT 11-1362-0057 DESIGN LNM 08/05/14 CADD CHECK PGB 08/05/14 REVIEW HQV 08/05/14	FILE No. SCALE N/A REV.
			FIGURE: 3



		CHERRY LANE SLOPE INSTABILITY	
TITLE SASKATOON AREA TOTAL PRECIPITATION (1908 - 2013)			
		PROJECT 11-1362-0057 DESIGN LNM 08/05/14 CADD CHECK PGB 08/05/14 REVIEW HQV 08/05/14	FILE No. SCALE N/A REV.
FIGURE: 4			



		CHERRY LANE SLOPE INSTABILITY	
TITLE SASKATOON AREA DAILY AND CUMULATIVE PRECIPITATION (2012)			
	PROJECT 11-1362-0057 DESIGN LNM 08/05/14 CADD CHECK PGB 08/05/14 REVIEW HOV 08/05/14	FILE No. SCALE N/A REV.	FIGURE: 5



		CHERRY LANE SLOPE INSTABILITY	
TITLE SASKATOON AREA DAILY AND CUMULATIVE PRECIPITATION (2013)			
	PROJECT 11-1362-0057 DESIGN LNM 08/05/14 CADD CHECK PGB 08/05/14 REVIEW HQV 08/05/14	FILE No. SCALE N/A REV.	FIGURE: 6



4.0 SITE RECONNAISSANCE

Visual inspection of the Site has been conducted yearly since 2006; more frequent inspection was conducted after the West Slide Failure in June 2012. Observations during the inspections are presented in Golder (2008a, 2008b, 2009, 2010, 2011, 2013a, 2013b). A summary of key observations and events from visual monitoring across the site has been broken down into a timeline, as follows. Photographs taken during the inspections are presented in Appendix C:

■ 2006 to June 20, 2012

The site had experienced deformation and some movement prior to the West Failure event on June 20, 2012. During the annual site reconnaissance conducted by Golder, active land development (e.g., new house/building construction and landscaping work) was noted; deflected curbs and fences, drops in pavement and tension cracks were observed, as shown in Photos C.1, C.2, and C.3. However, no noticeable slope failure was observed. The toe of the upper slope, along Cherry Lane, prior to the West Failure event is shown in Photo C.4.

■ June 21, 2012

Golder was notified by the City that a slope failure (i.e., the West Failure) had occurred at Cherry Lane. During the site inspection conducted by Golder and the City, the following observations were noted:

- The failure was predominately in the backyards of 229, 231, 233/235 and 237/239 - 11th Street East, through Cherry Lane, and into the backyard of 222 Saskatchewan Crescent East.
- The head scarp of the slide crossed through the backyard of 233/235 - 11th Street East (Photo C.5).
- The toe of the slide crossed through the lane into the backyard of 222 Saskatchewan Crescent East (Photos C.6 and C.7).
- There was cracking behind and displacement of the bricks along the retaining wall in the backyard of 237/239 - 11th Street East (Photos C.8 and C.9).
- There was tension cracking along the lane, behind 237/239 - 11th Street East (Photo C.10).
- There was cracking along the head scarp of the East Failure location (behind 303 and 305 - 11th Street East, Photo C.11).

■ After June 21, 2012

Subsequent to the West Failure, the following activities and observations were made in the summer of 2012. Field inspection and slope monitoring was restricted to portion of the Site owned by the City (i.e., Cherry Lane).

- The SaskEnergy gas line that runs along Cherry Lane was shut off and relocated to reduce the public safety hazard.
- Subsequent to the West Failure event, Golder initiated a slope monitoring program along the lane. The monitoring program included the installation of slope movement and groundwater monitoring equipment.



- Homeowners affected by the slide were advised to seek independent geotechnical advice on their residences.
- Golder continued to conduct visual inspections approximately every other day throughout July 2012. The frequency of site inspections decreased as the rate of slope movement decreased in the fall and winter seasons.
- No significant slope movement was recorded east of 230 Saskatchewan Crescent East along Cherry Lane in 2012.

■ June 24, 2013

Golder was notified by the City that a second slide had occurred at Cherry Lane (i.e., the East Failure); predominantly in the backyards of 303 and 305 - 11th Street East, through Cherry Lane, and into the backyard of 306 Saskatchewan Crescent East. During the site inspection conducted by Golder and the City, the following observations were noted:

- The head scarp of the slide crossed through the backyards of 303 and 305 - 11th Street East; the ground surface had dropped approximately 0.6 m to 0.9 m (Photos C.12 and C.13).
- The toe of the slide was located in the backyard of 306 Saskatchewan Crescent East (Photo C.14).
- There was severe cracking along the lane behind 305 - 11th Street East; the ground surface had dropped approximately 0.5 m (Photo C.15).
- There was tension cracking along the lane behind 303 - 11th Street East (Photo C.16).
- Damage to the retaining wall in the backyard of 237/239 - 11th Street East, in the West Slide area, was also noted to be more extensive during the site inspection on June 24, 2013, compared to the observations noted on June 4 and 20, 2013 (Photos C.17, C.18, and C.19).

■ July to August 2013

Site reconnaissance and monitoring had been conducted for the entire Site. Subsequent to the East Failure, the following activities and observations were made in the summer of 2013.

- Golder conducted daily site inspections for the remainder of June 2013 and the majority of July 2013. Additional slope movement and groundwater monitoring equipment was installed in July and August 2013.
- Homeowners affected by the slide were advised to seek independent geotechnical advice on their residences.
- Cracking along Cherry Lane, between 303 and 305 - 11th Street East and 306 Saskatchewan Crescent East became more severe in the weeks following the East Failure. The drop in the pavement observed behind 305 - 11th Street East increased to approximately 0.5 m by June 4, 2013 (Photo C.20).
- On July 5 and 6, 2013, the City's Public Works was on site to seal tension cracking along the lane and re-grade the section of Cherry Lane behind 305 - 11th Street East (Photo C.21). That night there was a rainfall event that continued into the following morning. That afternoon (July 6, 2013), Golder and the City were notified by the owners of 306 Saskatchewan Crescent East that runoff was flowing from the



parking lot of the apartment building at 328 Saskatchewan Crescent East, along the lane and into the backyard of 306 Saskatchewan Crescent East. The runoff was causing erosion along the lane (Photo C.22) and washing the cold patch material that had been used to re-grade the section of the lane behind 305 - 11th Street East into the backyard of 306 Saskatchewan Crescent East. The City subsequently re-graded the eroded area and constructed a soil berm along the north edge of the lane, adjacent to the backyard of 306 Saskatchewan Crescent East (Photo C.23).

■ July 7, 2013

During the site inspection the following observations were noted:

- A trench was being excavated, by one of the residents, along the east side of the concrete retaining wall between 230 and 306 Saskatchewan Crescent East (Photo C.24). The retaining wall had been flexing and cracking under the loading of the adjacent soil on the lower slope (Photo C.25 and C.26).
- New tension cracks had appeared along the section of lane that had been re-graded, behind 305-11th Street East (Photo C.27). The City's Public Works returned to site to re-grade the lane and seal tension cracks again on July 12 and 21, 2013.

■ July 12, 2013

The City implemented a voluntary evacuation notice due to the accelerated rate of movement that was observed at that time.

■ July 17, 2013

It was noted that the trench that had been excavated along the east side of the concrete retaining wall between 230 and 306 Saskatchewan Crescent East had been partially backfilled with soil (Photo C.28).

■ August 18, 2013

The City Public Works constructed an asphalt berm on the north edge of Cherry Lane, between 303 and 305 - 11th Street East and 306 Saskatchewan Crescent East. A V-shaped berm was installed on the lane, behind 311 - 11th Street East to capture runoff from the parking lot of 328 - 11th Street East and direct the water to a 200 mm diameter pipe on the surface of the lane (Photo C.29).

■ Fall 2013

The frequency of site inspections decreased as slope movement decreased in the fall and winter seasons.



5.0 TOPOGRAPHIC SURVEY, GEOTECHNICAL INVESTIGATION AND INSTRUMENTATION INSTALLATION

5.1 Topographic Survey

Topographic survey was conducted for the West Failure by the City and Golder in 2012 (Golder 2013a) after the West Failure occurred, and then for the entire Site (including 219 to 313 – 11th Street East, 212 to 316 Saskatchewan Crescent East, and Cherry Lane) by Meridian Surveys Ltd. of Saskatoon during the period from July 16 to July 25, 2013, after the East Slide occurred. The survey included the property outlines, roads and landslide features surrounding Cherry Lane. An additional survey of installed instrumentation was completed on September 4, 2013. The surface feature elevations in 2013 were tied to the City Benchmark D1-008 (Orthometric Elevation 499.033 masl), located at the southwest abutment of the Broadway Bridge. The survey is referenced to the NAD 83 Universal Transverse Mercator coordinate system. Figure 7 shows the plan view of the survey area contours and survey features completed in 2013. Locations and co-ordinates of control points and Bench Mark used by Meridian Survey are shown in Appendix D.

5.2 Geotechnical Investigation and Instrumentation Installation

Geotechnical investigation and instrumentation installation for the slope failure study of the Site were completed in 2012 for the West Failure, and in 2013 for both the West Failure and East Failure area. The site investigation was conducted, to supplement the historical site investigation programs, to provide information for assessing soil stratigraphy, soil properties, groundwater, and slope stability conditions for the Site.

A representative of Golder was on site during the field investigation to monitor the borehole drilling, install instrumentation, and collect samples for further laboratory testing. Borehole locations were selected in advance of drilling to determine whether conflicts with utilities or site access existed. Boreholes were drilled through the pavement, surficial stratified deposits, and into glacial till to depths of up to 7.6 metres below ground surface (mbgs) during the 2012 drilling and up to 16.8 mbgs during the 2013 drilling.

Disturbed samples and Shelby Tube samples were collected from each borehole and returned to Golder's Saskatoon Laboratory for further testing and analysis. Disturbed samples were collected from the auger flights at the intervals noted on the Record of Borehole sheets. Shelby tube samples were collected to provide undisturbed samples for further testing. Groundwater conditions at the time of drilling were noted and the boreholes were backfilled with a bentonite-cement grout mixture to ground surface upon the completion of drilling.



LEGEND

- CONTOURS :MAJOR / MINOR
- 303 LOT NUMBER

REFERENCE

CONTOURS PROVIDED BY MERIDIAN SURVEYS, AUGUST 2013
 CONTOURS SHOWN AT 0.5m INTERVALS
 AERIAL PHOTOGRAPH PROVIDED BY CITY OF SASKATOON, MAY 15, 2011



City of Saskatoon		CHERRY LANE SLOPE INSTABILITY																				
TOPOGRAPHIC SURVEY PLAN (2013)																						
Golder Associates <small>Saskatoon, Saskatchewan</small>	<table border="1" style="width: 100%; border-collapse: collapse; font-size: 0.8em;"> <tr> <td colspan="2">PROJECT</td> <td>11-1362-0057</td> <td>FILE No.</td> </tr> <tr> <td>DESIGN</td> <td>LM</td> <td>08/05/14</td> <td>SCALE AS SHOWN</td> </tr> <tr> <td>CADD</td> <td>BDS/JDS</td> <td>08/05/14</td> <td>REV.</td> </tr> <tr> <td>CHECK</td> <td>HV</td> <td>08/05/14</td> <td></td> </tr> <tr> <td>REVIEW</td> <td>PGB</td> <td>08/05/14</td> <td></td> </tr> </table>	PROJECT		11-1362-0057	FILE No.	DESIGN	LM	08/05/14	SCALE AS SHOWN	CADD	BDS/JDS	08/05/14	REV.	CHECK	HV	08/05/14		REVIEW	PGB	08/05/14		FIGURE: 7
PROJECT		11-1362-0057	FILE No.																			
DESIGN	LM	08/05/14	SCALE AS SHOWN																			
CADD	BDS/JDS	08/05/14	REV.																			
CHECK	HV	08/05/14																				
REVIEW	PGB	08/05/14																				



CHERRY LANE GEOTECHNICAL INVESTIGATION AND EVALUATION

Downhole instrumentation included slope inclinometer to measure slope movement, and vibrating wire and/or standpipe piezometers to monitor pore water pressure. Vibrating wire piezometers were attached to the slope inclinometer casing or installed in a separate borehole, and the boreholes were backfilled with a bentonite-cement grout mixture to ground surface upon the completion of drilling. The standpipe piezometers installed by Golder consisted of a 50 mm (2 inch) polyvinyl chloride pipe with a 1.5 m (5 ft) slotted screen which were covered with commercial filter sand and then backfilled with a bentonite-cement grout mixture to ground surface. In general, a flush mount casing was installed over the piezometer/slope inclinometer location to protect it from damage. Borehole locations were located in the field by Golder in 2012 and by Meridian Surveys Ltd. in 2013.

A field log was prepared for the boreholes to record the description and relative position of the soil strata, the location of samples, and the instrumentation installation details, in addition to other drilling notes. The Record of Borehole sheets are included in Appendix E.

In addition, six boreholes were drilled and standpipe piezometers installed by PMEL in the area of the East Slide, these piezometers are designated as TH13-1 to TH13-6. A cone penetration test (CPT) was conducted by PMEL at TH13-1 location.

Table 3 provides a summary of installed downhole instrumentation, locations of boreholes are shown in Figure 2, and locations of installed instrumentation are shown in Figure 8. Borehole records and instrumentation installation details are provided in Appendix E.

A Health and Safety Plan was developed prior to the start of drilling activities. All workers involved in the field investigation conducted a daily field hazard level assessment and toolbox meeting prior to starting work in order to identify potential site hazards and to address health and safety concerns.

Table 3: Summary of Installed Downhole Instrumentation

Borehole No.	Slope Inclinometer	VW Piezometer	Standpipe Piezometer	Location	Date of Installation
11-0057-BH1	SI1	VW11192	---	behind 241-11 th Street East on Cherry Lane	23-Jun-12
11-0057-BH2	SI2	VW11200	---	behind 233/235-11 th Street East on Cherry Lane	23-Jun-12
11-0057-BH3	SI3	VW11984	---	behind 231-11 th Street East on Cherry Lane	23-Jun-12
COS-13-001B	COS-13-001B	VW25927	---	behind 305-11 th Street East on Cherry Lane	26-Jul-13
COS-13-002	COS-13-002	VW25400 VW25399	---	front yard of 307-11 th Street East	25-Jul-13
COS-13-003	---	---	COS-13-003	Saskatchewan Crescent East	26-Jul-13
COS-13-004	COS-13-004	VW26020 VW25397	---	backyard of 307-11 th Street East	19-Aug-13



CHERRY LANE GEOTECHNICAL INVESTIGATION AND EVALUATION

Table 3: Summary of Installed Downhole Instrumentation (continued)

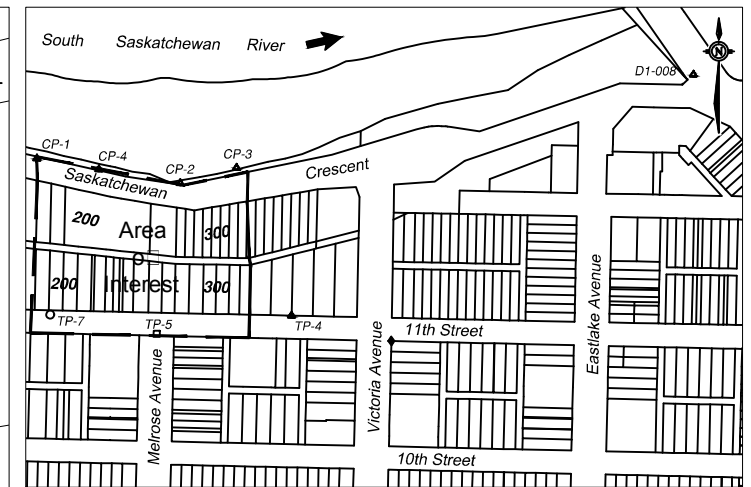
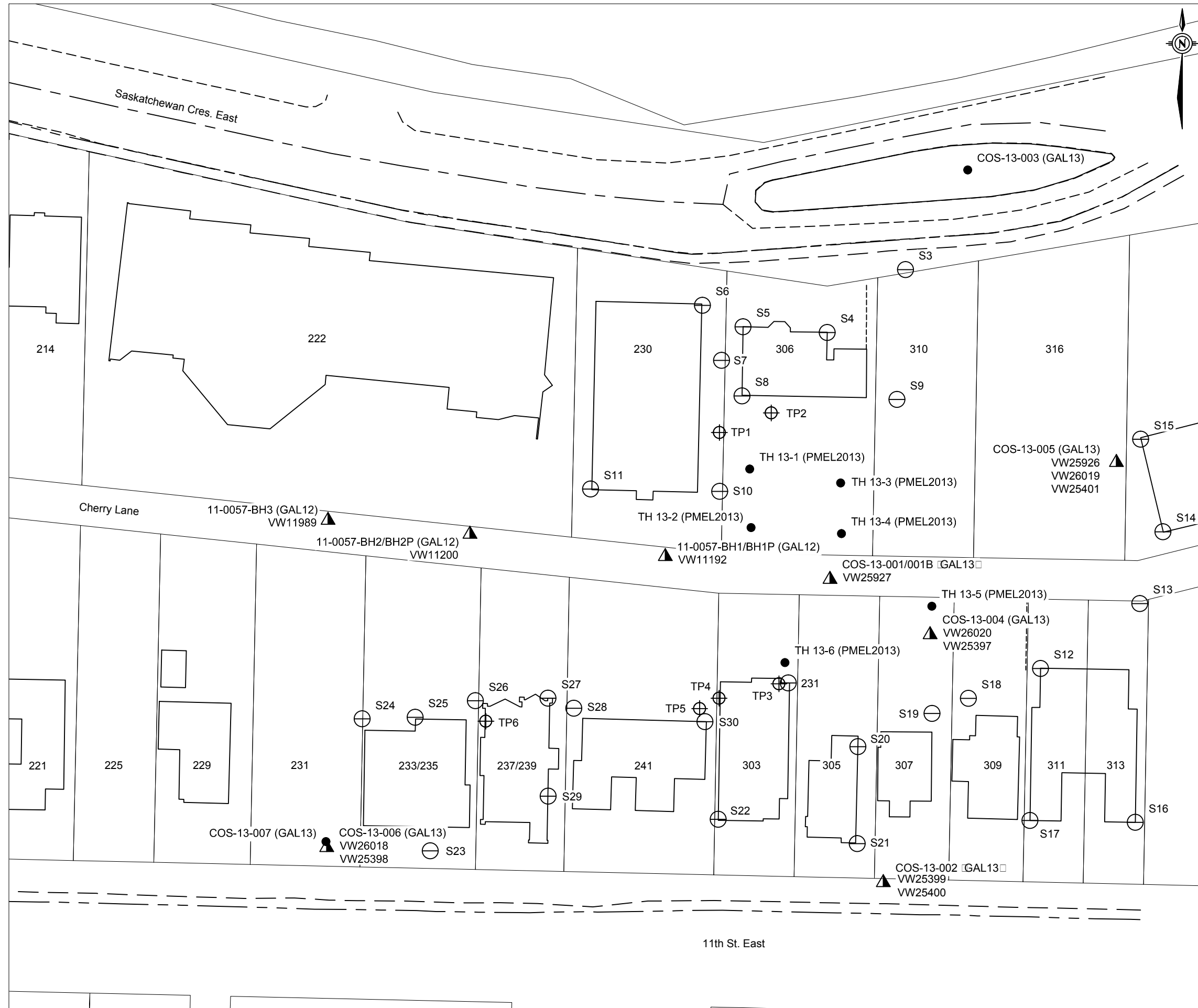
Borehole No.	Slope Inclinator	VW Piezometer	Standpipe Piezometer	Location	Date of Installation
COS-13-005	COS-13-005	VW25926 VW26019 VW25401	---	empty lot 316 Saskatchewan Crescent East	20-Aug-13
COS-13-006	COS-13-006	VW26018 VW25398	---	empty lot 231-11 th Street East	21-Aug-13
COS-13-007	---	---	COS-13-007	empty lot 231-11 th Street East	21-Aug-13
TH 13-1	---	---	TH 13-1	backyard of 306 Saskatchewan Crescent East	17-Jul-13
TH 13-2	---	---	TH 13-2	backyard of 306 Saskatchewan Crescent East	17-Jul-13
TH 13-3	---	---	TH 13-3	backyard of 306 Saskatchewan Crescent East	17-Jul-13
TH 13-4	---	---	TH 13-4	backyard of 306 Saskatchewan Crescent East	17-Jul-13
TH 13-5	---	---	TH 13-5	backyard of 307-11 th Street East	18-Jul-13
TH 13-6	---	---	TH 13-6	backyard of 30311 th Street East	18-Jul-13

VW = vibrating wire

The 2012 soil investigation and instrumentation installation program was completed on June 23, 2012. Boreholes were drilled on Cherry Lane using Solid Stem Augers through the pavement, surficial stratified deposits, and into glacial till. The drilling was conducted by Paddock Drilling Ltd. with Acker MP-5 drill rig and monitored by Golder. The 2012 field program consisted of five (5) boreholes drilled to the depth ranging between 3.4 to 7.6 mbgs; three (3) slope inclinometers (in boreholes 11-0057-BH1, 11-0057-BH2 and 11-0057-BH3); and three (3) vibrating wire piezometers (in boreholes 11-0057-BH1P, 11-0057-BH2P and 11-0057-BH3).

The 2013 soil investigation and instrumentation installation program was completed using hollow and solid stem augers. The 2013 drilling program consisted of three phases: 1) on July 25 and 26, 2013 with a CME75 truck mounted drill rig operated by Boss Drilling Ltd. of Saskatoon, SK; 2) on August 19, 2013 with an MC4T track mounted drill rig operated by Mobile Augers and Research Ltd. of Saskatoon, SK; and 3) on August 20 and 21, 2013 with an M10 truck mounted drill rig operated by Mobile Augers and Research Ltd. of Saskatoon, SK. The 2013 field program conducted by Golder consisted of eight (8) boreholes drilled to depths ranging between 9.1 m and 16.8 m below ground surface (mbgs); five (5) slope inclinometer casings were installed to depths ranging between 7.5 and 15.5 mbgs (in boreholes COS-13-001B, COS-13-002, and COS-13-004 to COS-13-006); ten (10) vibrating wire piezometers installed to depths ranging between 5.7 mbgs and 16.1 mbgs (in boreholes COS-13-001B, COS-13-002, and COS-13-004 to COS-13-006); and two (2) standpipe piezometers installed to depths of 7.6 mbgs and 4.1 mbgs (in boreholes COS-13-003 and COS 13-007). Six standpipe piezometers installed by PMEL in the area of the East Failure are designated as TH13-1 to TH13-6.

G:\2011\136211-1362-0057 COS East Riverbank\Figures\Phase 5100 Cherry Lane Remediation\Task 700011-1362-0057 Instrument Loc Plan.dwg 5/5/2014 4:31 PM



CONTROL POINTS				
COORDINATE TABLE NAD 83 (CSRS)			UTM ZONE 13	
POINT	NORTHING m	EASTING m	ORTHOMETRIC ELEVATION m HTv2.0	DESCRIPTION
CP-1	5,775,701.84	385,897.84	477.97	24" REBAR WITH PLASTIC CAP
CP-2	5,775,680.32	386,022.25	478.99	24" REBAR WITH PLASTIC CAP
CP-3	5,775,693.72	386,071.10	479.49	24" REBAR WITH PLASTIC CAP
CP-4	5,775,692.40	385,951.67	477.95	GPS CONTROL POINT
TP-4	5,775,565.50	386,118.76	499.32	IN CONCRETE
TP-5	5,775,549.79	386,001.87	498.05	IN NORTH RIM CATCH BASIN
TP-7	5,775,566.48	385,909.52	491.32	IN SOUTH RIM MANHOLE
TP-8	5,775,560.37	385,809.26	484.62	IN WEST RIM MANHOLE
D1-008	5,775,775.85	386,467.62	499.033	CONTROL TABLET

- LEGEND**
- SETTLEMENT POINT LOCATION
 - △ TELL-TALE CRACK LOCATION MONITOR
 - ⊕ TILT PLATE LOCATION
 - SI □ VIBRATING WIRE PIEZOMETER LOCATION
 - STANDPIPE PIEZOMETER LOCATION
 - 303 LOT NUMBER
- REFERENCE**
- LOT LOCATIONS PROVIDED BY CITY OF SASKATOON
CITY OF SASKATOON DATUM



PROJECT		11-1362-0057		FILE No.	
DESIGN		LM	08/05/14	SCALE AS SHOWN REV. 0	
CADD		JDS/BDS	08/05/14		
CHECK		HV	08/05/14		
REVIEW		PGB	08/05/14		

City of Saskatoon CHERRY LANE SLOPE INSTABILITY

INSTRUMENTATION LOCATION PLAN

Golder Associates Saskatoon, Saskatchewan

FIGURE: 8



5.3 Summary of Installed Instrumentation

In addition to the downhole instrumentation (e.g., slope inclinometers, vibrating wire piezometers and standpipe piezometers) other instrumentation was also installed on the ground surface (e.g., survey pins) to monitor ground surface movement, and on the house/building structures (e.g., tilt plate, settlement points, and tell-tale crack monitors) to monitor potential tilt, vertical movement and cracks of the structures.

The following sections summarize the instrumentation installed by Golder to investigate and evaluate slope stability conditions near Cherry Lane. Monitoring data for the instrumentation is included in Appendix F of this report.

5.3.1 Slope Inclinometers

Slope inclinometers are used to determine the magnitude, rate, direction, depth, and type of slope movement. Inclinometer casings were installed in boreholes, in 2012 and 2013, at depths shown in Table 4 to serve as an access tube to guide an inclinometer probe down the borehole. Slope inclinometers were installed 3 m or more into the till (i.e., below the expected zone of movement). The 70 mm diameter glue and snap inclinometer casings were supplied by RST Instruments.

Table 4: Slope Inclinometer Casing Summary Table

Borehole No.	Date of Base Reading	Ground Elevation (masl)	Clay/Till Contact Elevation (masl)
11-0057-BH1P	25-Jun-12	488.25	484.64
11-0057-BH2P	25-Jun-12	485.87	483
11-0057-BH3	25-Jun-12	484.06	N/A
COS-13-001B	27-Jul-13	489.34	482.79
COS-13-002	30-Jul-13	498.48	484.46
COS-13-004	28-Aug-13	491.74	483.05
COS-13-005	28-Aug-13	494.48	482.14
COS-13-006	28-Aug-13	494.77	484.25

masl = metres above sea level

5.3.2 Piezometers

Both vibrating wire type and standpipe type piezometers were installed. Vibrating wire piezometers consist of a pressure transducer, which outputs a frequency signal, and an integral thermistor, which measures the temperature of the transducer and its surroundings. The frequency output and temperature reading are used to calculate piezometric levels in the soil. The installed vibrating wire piezometers were supplied by RST Instruments. The vibrating wire piezometers were equipped with data loggers programmed to record measurements every eight hours. The data was downloaded periodically to evaluate fluctuations in pore-water conditions with time.

Standpipe piezometers consist of slotted and solid sections of polyvinyl chloride (PVC) pipe, and were installed to monitor groundwater elevations within the area. The area around the section of slotted PVC pipe (the intake zone) was backfilled with sand, allowing pore-water to flow into the standpipe. The groundwater elevation near the intake zone was determined by measuring the water elevation in the standpipe.



CHERRY LANE GEOTECHNICAL INVESTIGATION AND EVALUATION

Table 5 summarizes the piezometers installed near Cherry Lane by Golder in 2012 and 2013, including six standpipe piezometers installed by PMEL. The targeted piezometer completion depths were at the Clay/Till contact, in the SSD and in the Till. Locations of piezometers are shown in Figure 8.

Table 5: Piezometer Summary Table

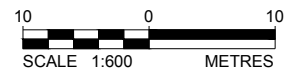
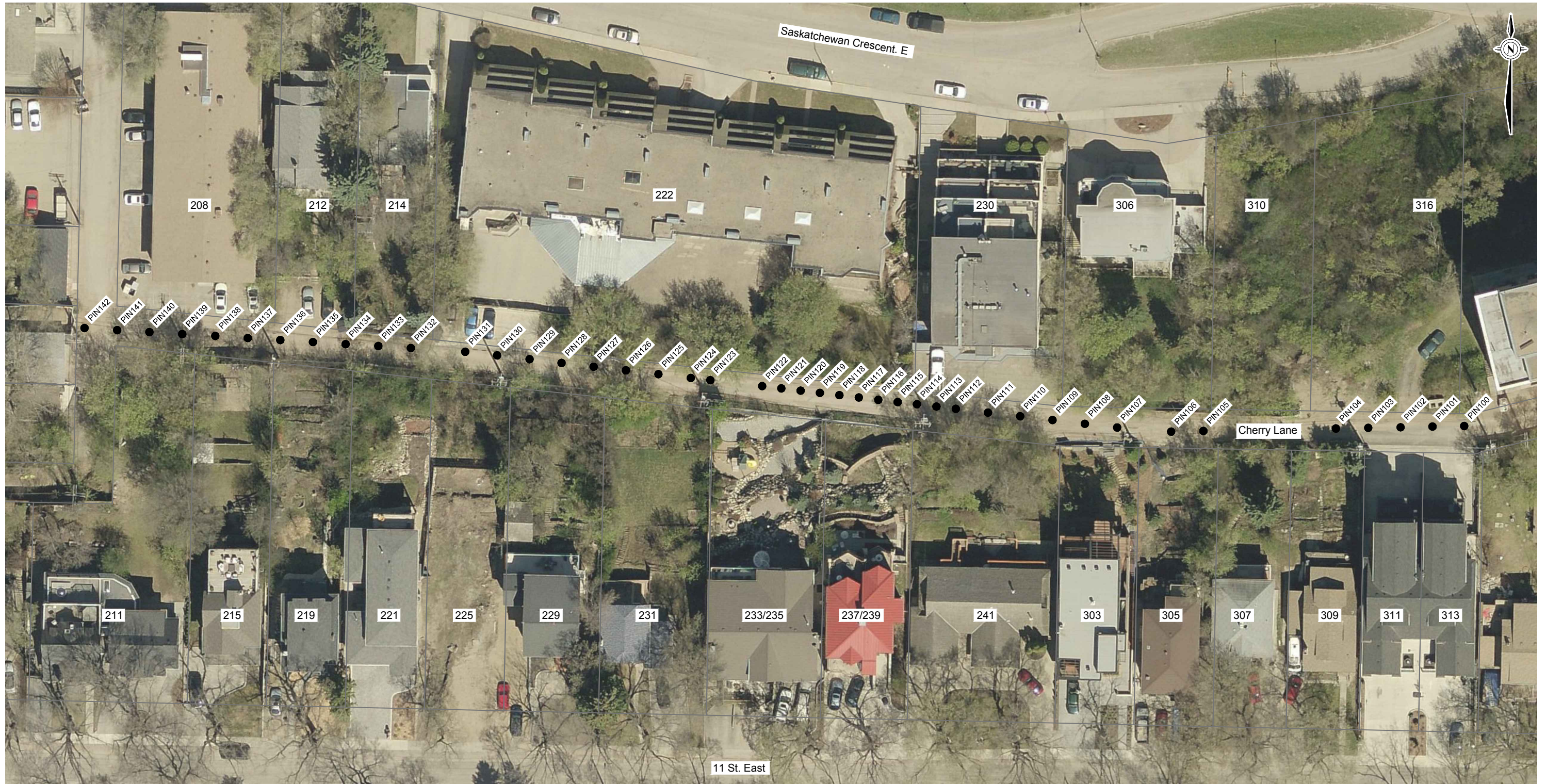
Piezometer Serial No.	Borehole No.	Type	Ground Elevation (masl)	Clay/Till Contact Elevation (masl)	Tip Elevation (masl)	Water Level (Oct 30)	Material at Tip Elevation
VW11192	11-0057-BH1P	VW	488.25	484.64	485.05	485.98	Clay
VW11200	11-0057-BH2P	VW	485.87	483.0	483.43	483.84	Clay
VW11984	11-0057-BH3	VW	484.06	-	482.84	dry	Clay
VW25927	COS-13-001B	VW	489.34	482.79	483.53	485.91	Clay
VW25400	COS-13-002	VW	498.48	484.46	485.38	490.80	Clay
VW25399	COS-13-002	VW	498.48	484.46	482.33	490.12	Till
-	COS-13-003	Standpipe	480.34	-	471.20	473.65	Gravel
VW26020	COS-13-004	VW	491.74	483.05	483.38	486.86	Clay
VW25397	COS-13-004	VW	491.74	483.05	481.50	485.08	Till
VW25926	COS-13-005	VW	494.48	482.14	487.30	dry	Sand
VW26019	COS-13-005	VW	494.48	482.14	482.73	485.93	Clay
VW25401	COS-13-005	VW	494.48	482.14	479.68	484.30	Till
VW26018	COS-13-006	VW	494.77	484.25	484.56	dry	Clay
VW25398	COS-13-006	VW	494.77	484.25	481.51	dry	Till
-	COS-13-007	Standpipe	494.80	-	489.21	dry	Clay
-	TH 13-1	Standpipe	486.55	483.5	482.7	482.73	Till
-	TH 13-2	Standpipe	487.84	484.0	482.0	483.53	Till
-	TH 13-3	Standpipe	487.85	482.8	482.0	483.07	Clay/Till
-	TH 13-4	Standpipe	488.60	483.3	482.2	483.59	Sand and Gravel/Till
-	TH 13-5	Standpipe	491.39	484.2	482.5	484.79	Till
-	TH 13-6	Standpipe	492.73	484.4	484.1	489.83	Clay/Till

masl = metres above sea level

5.3.3 Survey Pins

Three series of pins; 100, 200 and 300 series, were installed for monitoring of ground movement (primarily downslope, horizontal movement) along Cherry Lane. The pins were intended to be surveyed at regular intervals with reference to a reference line and a stable reference mark on Remai Arts Centre building. Pins were replaced in series over time as old pins were damaged or covered over, and to improve the monitoring accuracy. Survey markers were installed for the 300 series of survey pins. Figure 9, Figure 10 and Figure 11 show the location of survey pins of 100 series, 200 series, and 300 series installed by Golder along Cherry Lane, respectively. Survey pins consisted of nails driven into the surface of Cherry Lane. Survey markers consisted of square topped steel pins driven into the surface of Cherry Lane.

G:\2011\136211-1362-0057 COS East Riverbank\Figures\Phase 5100 Cherry Lane Remediation\Task 700011-1362-0057 2012 Series 100 Pins.dwg 5/8/2014 11:31 AM

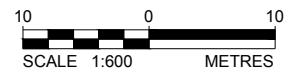
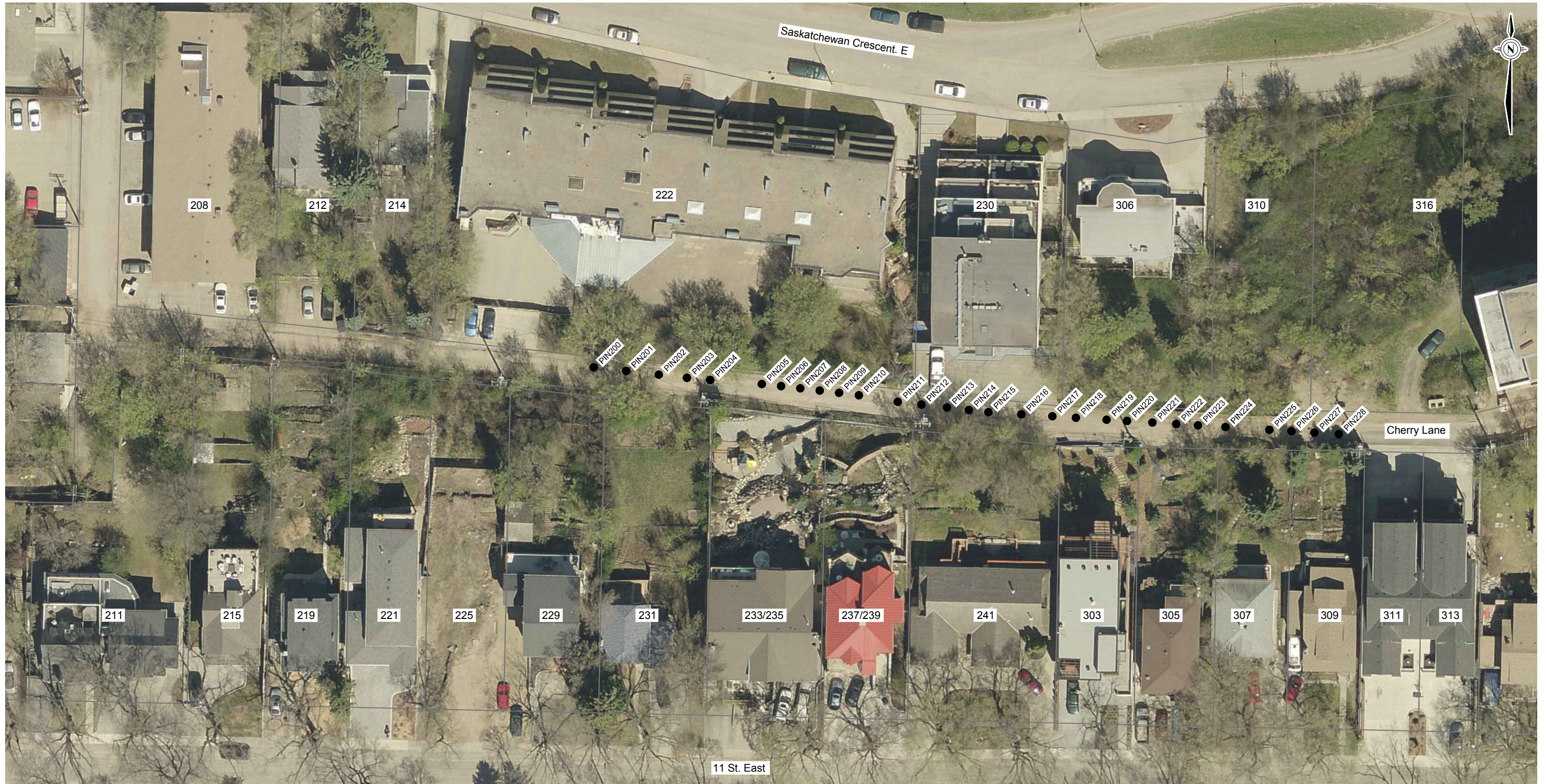


LEGEND
 ● PIN LOCATION
 303 LOT NUMBER

NOTE
 PINS 100-142 INSTALLED JUNE 28, 2012.

REFERENCE
 AERIAL PHOTOGRAPH PROVIDED BY CITY OF SASKATOON, MAY 15, 2011
 CITY OF SASKATOON DATUM

		CHERRY LANE SLOPE INSTABILITY	
CHERRY LANE SURVEY PIN LOCATION PLAN - 100 SERIES PINS (2012)			
	PROJECT	11-1362-0057	FILE No.
	DESIGN	LM 08/05/14	SCALE AS SHOWN REV. 0
	CADD	JDS 08/05/14	
	CHECK	HV 08/05/14	
	REVIEW	PGB 08/05/14	
			FIGURE: 9



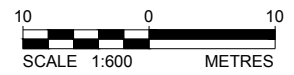
LEGEND
 ● PIN LOCATION
 303 LOT NUMBER

NOTE
 PINS 200-216 INSTALLED JUNE 4, 2013
 PINS 217-228 INSTALLED JUNE 25, 2013

REFERENCE
 AERIAL PHOTOGRAPH PROVIDED BY CITY OF SASKATOON, MAY 15, 2011
 CITY OF SASKATOON DATUM

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TITLE CHERRY LANE SURVEY PIN LOCATION PLAN - 200 SERIES PINS (2013)			
	DESIGN	LM	08/05/14
	CADD	JDS	08/05/14
	CHECK	HV	08/05/14
	REVIEW	PGB	08/05/14
	PROJECT 11-1362-0057 FILE No.		SCALE AS SHOWN
			FIGURE: 10

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LEGEND

- PIN LOCATION
- 303 LOT NUMBER

NOTE

PINS INSTALLED SEPTEMBER 13, 2013

REFERENCE

AERIAL PHOTOGRAPH PROVIDED BY CITY OF SASKATOON, MAY 15, 2011
CITY OF SASKATOON DATUM

		CHERRY LANE SLOPE INSTABILITY	
CHERRY LANE SURVEY PIN LOCATION PLAN - 300 SERIES PINS (2013)			
	PROJECT	11-1362-0057	FILE No.
	DESIGN	LM 08/05/14	SCALE AS SHOWN REV. 0
	CADD	BDS/JDS 08/05/14	
	CHECK	HV 08/05/14	
	REVIEW	PGB 08/05/14	
			FIGURE: 11



5.3.4 Tell-Tale Crack Monitors

Crack monitors were installed on selected retaining walls where there was an existing crack. The crack monitors consisted of two plates, which were installed to overlap for part of their length, and move relative to each other as a crack opened or closed. Standard Tell-Tale crack monitors were used on flat surfaces, to monitor movement across cracks in vertical and horizontal directions.

Crack monitors were installed at the following locations (Figure 8):

- north face of the retaining wall behind 306 Saskatchewan Crescent East;
- east face of the retaining wall between 230 and 306 Saskatchewan Crescent East; and
- west face of the retaining wall between 230 and 306 Saskatchewan Crescent East.

5.3.5 Tilt Plates

Stainless steel tilt plates were installed on selected external house foundations and retaining walls. Changes in the tilt of the structure were measured using a tilt meter, which allows the tilt of a structure to be monitored on a vertical plane. Measurements were taken periodically, and cover plates were placed on the tilt plates to protect them between readings.

Tilt plates were installed at the following locations (Figure 8):

- North-south retaining wall between 230 and 306 Saskatchewan Crescent East;
- East-west retaining wall at 306 Saskatchewan Crescent East;
- North side of house at 303 – 11th Street East;
- West side of house at 303 – 11th Street East;
- North side of house at 241 – 11th Street East; and
- West side of house at 237 – 11th Street East.

5.3.6 Settlement Points

Building settlement points were installed at selected locations to monitor long term vertical movement of the structure. The settlement points were monitored using precise leveling equipment. Point S14, installed in the southwest corner of 328 Saskatchewan Crescent East, is used as a local temporary bench mark for the settlement monitoring. Elevation of Point S14 has been referenced to the COS D1-008 benchmark elevation. The building settlement surveys are conducted by precise levelling method using Leica DN03 precise digital level equipment. Settlement points were installed at the locations shown on Figure 8.



6.0 TOPOGRAPHY AND STRATIGRAPHY

Borehole information from the various geotechnical reports listed in Section 3.3 was compiled to construct a physical model of the soils at the Site. The boreholes used to construct all cross-sections were obtained from many different studies, and have likely been located using various coordinate systems and survey datums. Efforts were made to reconcile the different elevation datums; however, there may still be some discrepancies in the elevation data due to the use of unknown or older elevation datums, or slope movement. Soil descriptions and laboratory test results were also reviewed and interpreted according to Golder's classification system to provide a more consistent classification of the soils. Two cross-sections, A-A' and B-B' were selected as representative cross-sections for the West Failure and East Failure, respectively. Stratigraphic cross-sections A-A' and B-B' are shown in Figure 12 and Figure 13, respectively. Soil stratigraphic conditions along Cherry Lane and 11th Street East are shown in Figure 14 (longitudinal stratigraphic section C-C') and Figure 15 (longitudinal stratigraphic section D-D'), respectively. Locations of cross sections and longitudinal sections are shown in Figure 2.

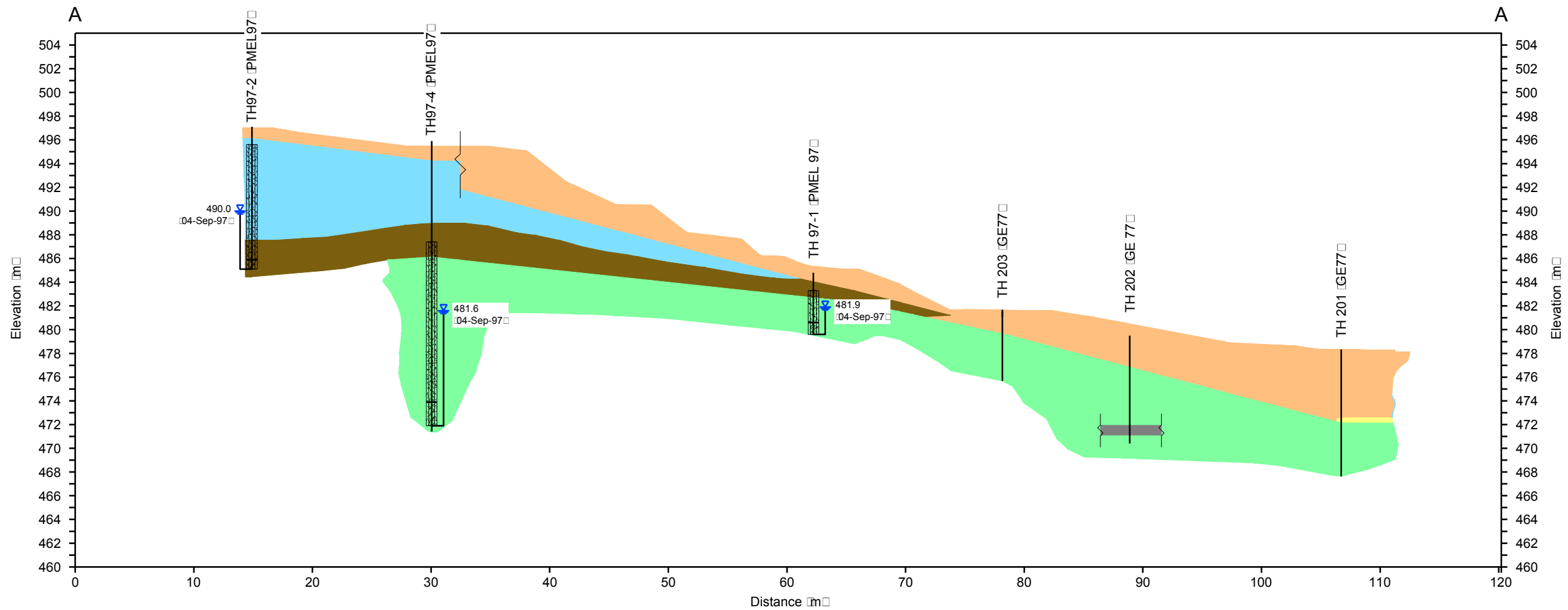
In general, the soil profile from 11th Street East to Saskatchewan Crescent East at this location consists of, in descending order: topsoil and/or fill, silty clay or clay of surficial stratified deposits (SSD), and glacial till. The ground elevation varies from approximately 496 m above sea level (masl) to 498 masl along 11th Street East, 481 to 486 masl along Cherry Lane and 474 to 479 masl along Saskatchewan Crescent East. The till/clay contact, at the failure area, is at elevation ranging from 482.8 to 484.6 masl. The silty clay and clay layer overlying till is up to 14 m thick. The topography of the area generally slopes downward to the northwest and the South Saskatchewan River. The river water elevation is at approximately 472 masl.

Topsoil thicknesses were generally less than 0.15 m at the borehole locations, and asphalt and fill up to 3 m deep were noted in various locations. The SSD at TH 97-3 location consist of less than 1 m of poorly graded sands and silty sands, less than 1 m of silt and clayey silt, 1 m to 2 m of poorly graded sands and silty sands, up to 2 m of silts and silty clay, and up to 5 m of highly plastic clay, in descending order.

The highly plastic clay unit is encountered above the till along the 11th Street East (Figure 14) and east portion of the Cherry Lane from TH101 (Figure 15). The contact between this highly plastic clay unit and till is at elevation approximately 485 masl along the 11th Street East, and at elevation approximately from 483 to 487 masl along the Cherry Lane. Extent of this highly plastic clay unit in the northwest portion of the West Failure was not known.

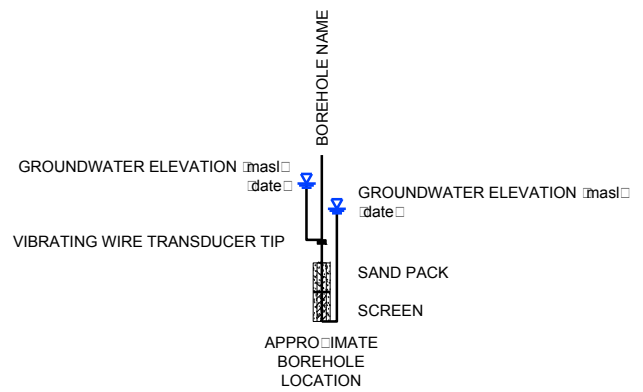
Much of the upper soil profile has been classified as fill in this report due to the unknown extent of slope modification and soil mixing caused by landscaping and slope movement. The layer thicknesses vary across the site, generally decreasing in thickness and daylighting in the lower slope between Cherry Lane and Saskatchewan Crescent East. The deposits of sand, silt and clay are present at the bottom of the slope, in addition to fill which was placed for landscaping and building construction.

The sand layers within the SSD were typically described as wet in the borehole logs reviewed. High sand content and layers of cobbles were noted in the silty clay till material at elevation approximately 467 masl below the SSD (at the TH 101 location).



A
2
CROSS SECTION A-A

LEGEND



STRATIGRAPHIC COLOUR LEGEND

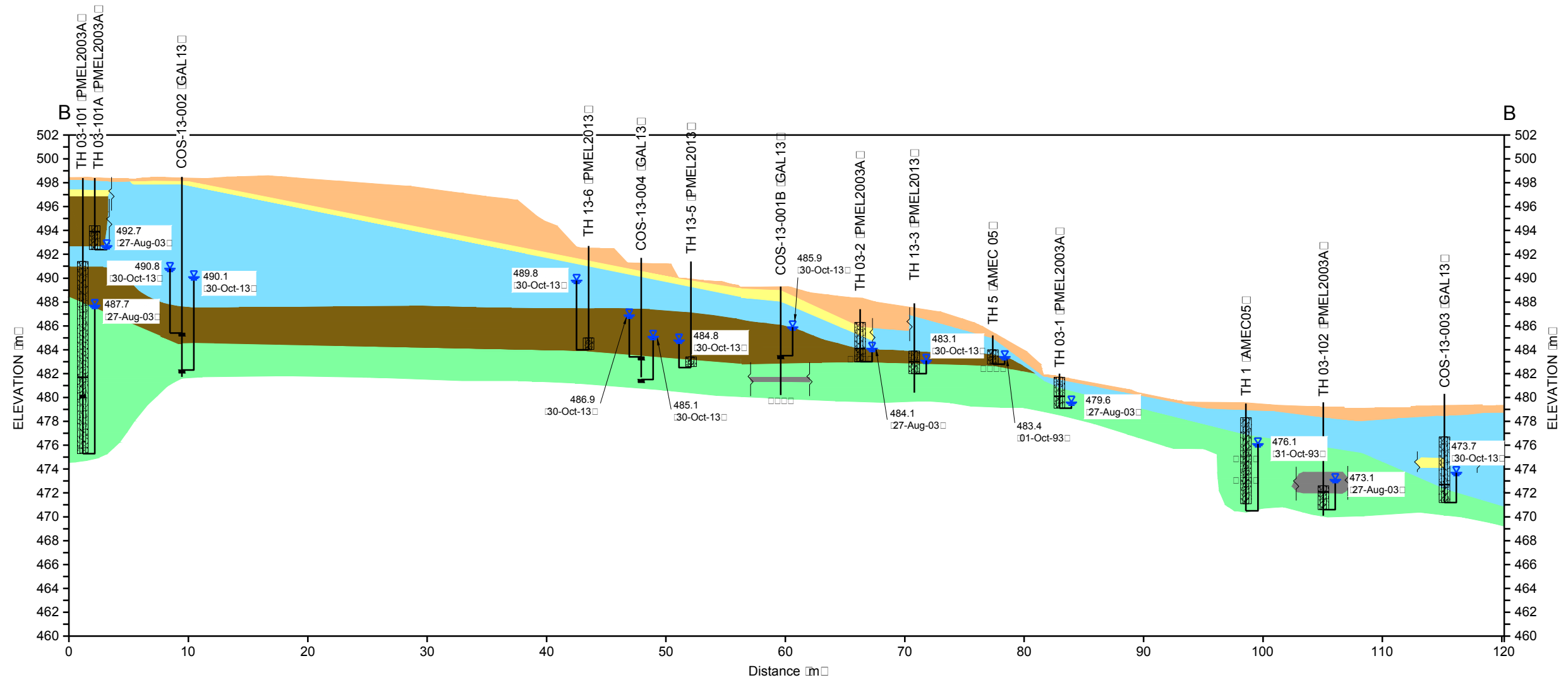
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- SURFICIAL STRATIFIED DEPOSITS :SSD: SILT, SAND, CLAY
- SURFICIAL STRATIFIED DEPOSITS :SSD: CLAY
- TILL
- GLACIAL SANDS AND GRAVELS
- COBBLE

REFERENCES

- GE77 - GROUND ENGINEERING LTD. JULY 4, 1977. GEOTECHNICAL SITE INVESTIGATION PROPOSED HOUSING COMPLE, SASKATCHEWAN CRESCENT
- PMEL97 - P. MACHIBRODA ENGINEERING LTD. SEPT. 15, 1997. GEOTECHNICAL INVESTIGATION AND SLOPE STABILITY STUDY PROPOSED RESIDENTIAL DEVELOPMENT, 237-11TH STREET EAST, SASKATOON, SASKATCHEWAN

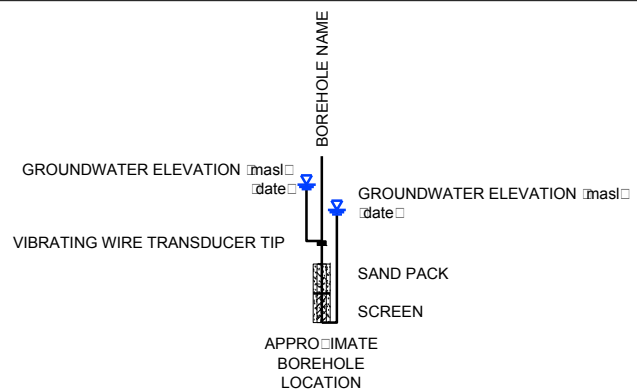


		CHERRY LANE SLOPE INSTABILITY	
CROSS SECTION A-A (WEST FAILURE)			
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CADD	BDS/JDS	08/05/14	
CHECK	HV	08/05/14	
REVIEW	PGB	08/05/14	
FIGURE: 12			



B
2 CROSS SECTION B-B

LEGEND

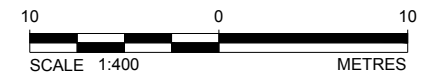


STRATIGRAPHIC COLOUR LEGEND

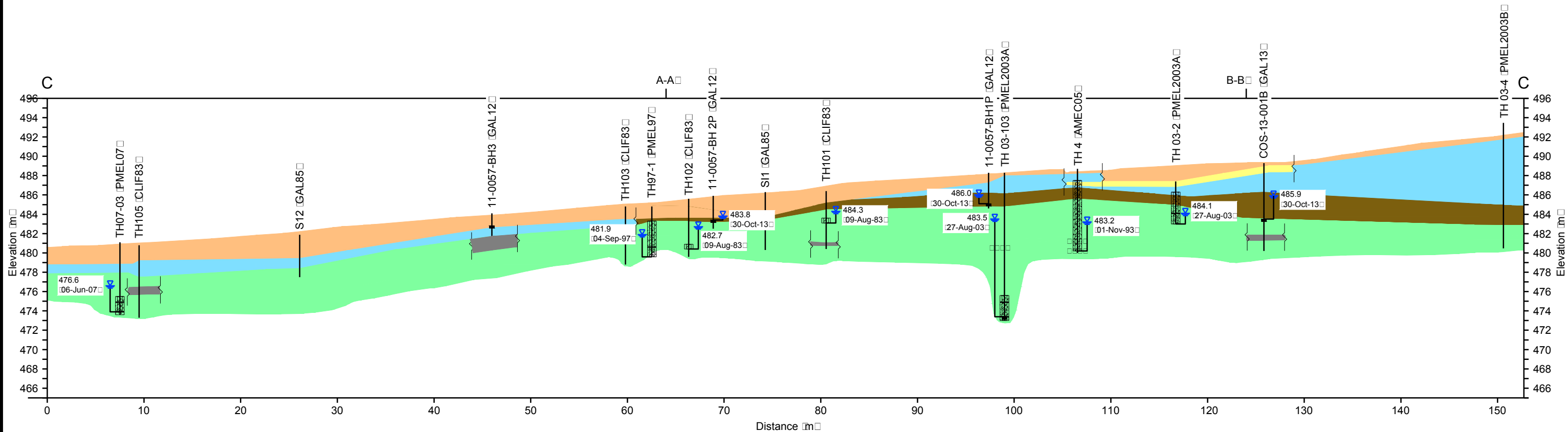
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- SURFICIAL STRATIFIED DEPOSITS, SAND AND GRAVEL
- SURFICIAL STRATIFIED DEPOSITS :SSD SILT, SAND, CLAY
- SURFICIAL STRATIFIED DEPOSITS :SSD CLAY
- TILL
- GLACIAL SANDS AND GRAVELS
- COBBLE

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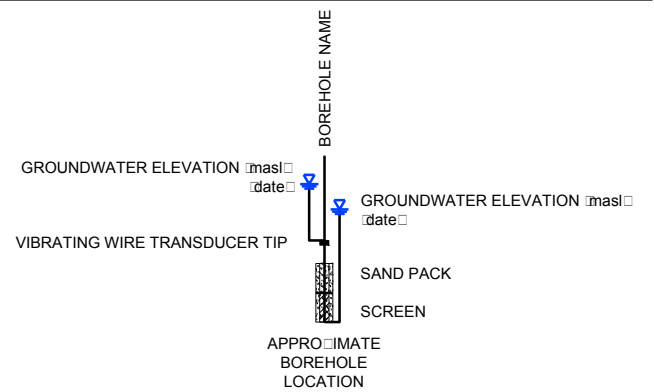


		CHERRY LANE SLOPE INSTABILITY	
CROSS SECTION B-B (EAST FAILURE)			
		PROJECT 11-1362-0057	FILE No.
DESIGN	LM	08/05/14	SCALE AS SHOWN REV. 0
CADD	BDS/JDS	08/05/14	
CHECK	HV	08/05/14	
REVIEW	PGB	08/05/14	
			FIGURE: 13



C
2
CROSS SECTION C-C

LEGEND

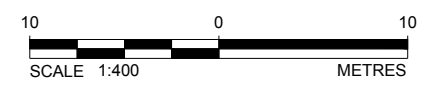


STRATIGRAPHIC COLOUR LEGEND

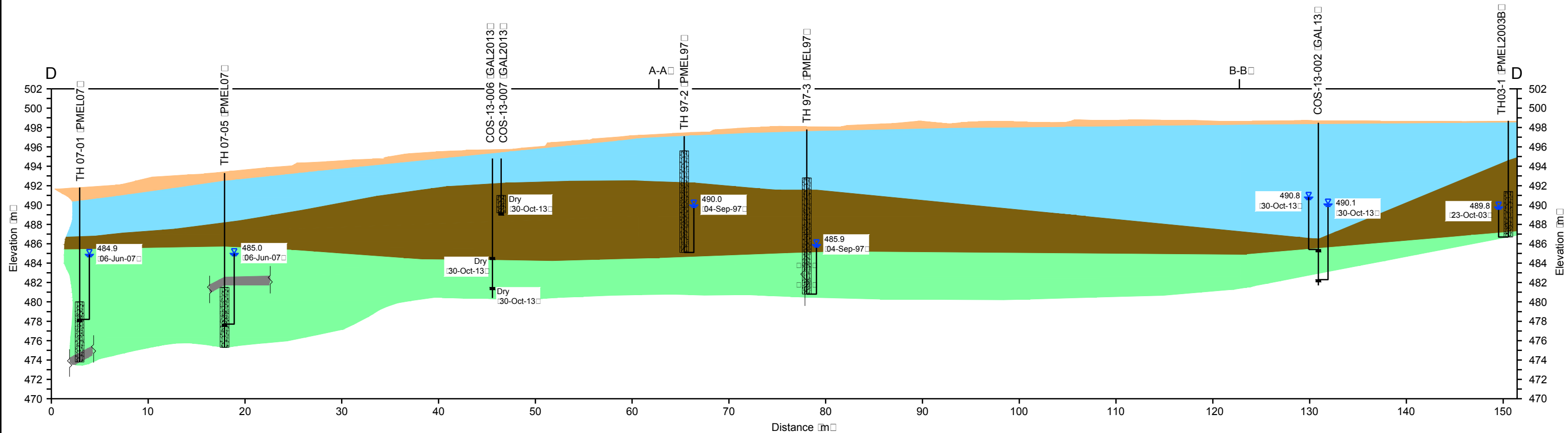
- UNDIFFERENTIATED FILL / SURFICIAL STRATIFIED DEPOSITS
- SURFICIAL STRATIFIED DEPOSITS, SAND AND GRAVEL
- SURFICIAL STRATIFIED DEPOSITS :SSD; SILT, SAND, CLAY
- SURFICIAL STRATIFIED DEPOSITS :SSD; CLAY
- TILL
- GLACIAL SANDS AND GRAVELS
- COBBLE

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- PMEL03B - P. MACHIBRODA ENGINEERING LTD. OCTOBER 31, 2003. GEOTECHNICAL INVESTIGATION AND SLOPE STABILITY STUDY PROPOSED RESIDENCE, 313-11TH STREET EAST, SASKATOON, SASKATCHEWAN, PMEL FILE NO. S03-4925
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- PMEL07 - P. MACHIBRODA ENGINEERING LTD. JUNE 12, 2007. GEOTECHNICAL INVESTIGATION AND SLOPE STABILITY STUDY PROPOSED RESIDENCES, 221 & 225 - 11TH STREET EAST, SASKATOON, SK
- GAL12 - GOLDR ASSOCIATES LTD. MAY 2013. ASSESSMENT OF SLOPE INSTABILITY AT 200 BLOCK, 11TH STREET EAST.

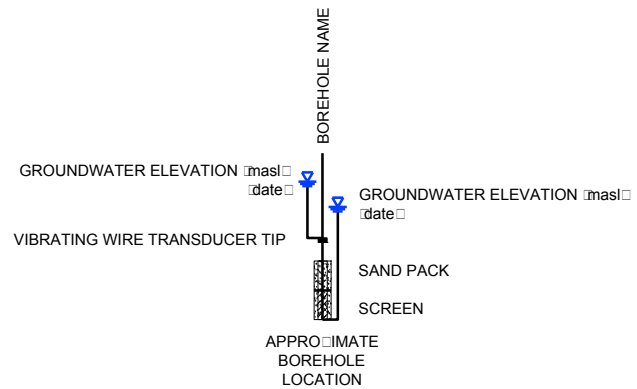


		CHERRY LANE SLOPE INSTABILITY	
LONGITUDINAL CROSS SECTION C-C (ALONG CHERRY LANE)			
	PROJECT 11-1362-0057	FILE No.	
	DESIGN LM 08/05/14	SCALE AS SHOWN	REV. 0
	CADD BDS/JDS 08/05/14		
	CHECK HV 08/05/14		
	REVIEW PGB 08/05/14		
			FIGURE: 14



D
2
CROSS SECTION D-D

LEGEND



STRATIGRAPHIC COLOUR LEGEND

- UNDIFFERENTIATED FILL / SURFICIAL STRATIFIED DEPOSITS
- SURFICIAL STRATIFIED DEPOSITS, SAND AND GRAVEL
- SURFICIAL STRATIFIED DEPOSITS (SSD) SILT, SAND, CLAY
- SURFICIAL STRATIFIED DEPOSITS (SSD) CLAY
- TILL
- GLACIAL SANDS AND GRAVELS
- COBBLE

REFERENCES

- PMEL97 - P. MACHIBRODA ENGINEERING LTD. SEPT. 15, 1997. GEOTECHNICAL INVESTIGATION AND SLOPE STABILITY STUDY PROPOSED RESIDENTIAL DEVELOPMENT, 237-11TH STREET EAST, SASKATOON, SASKATCHEWAN
- PMEL03B - P. MACHIBRODA ENGINEERING LTD. OCTOBER 31, 2003. GEOTECHNICAL INVESTIGATION AND SLOPE STABILITY STUDY PROPOSED RESIDENCE, 313-11TH STREET EAST, SASKATOON, SASKATCHEWAN, PMEL FILE NO. S03-4925
- PMEL07 - P. MACHIBRODA ENGINEERING LTD. JUNE 12, 2007. GEOTECHNICAL INVESTIGATION AND SLOPE STABILITY STUDY PROPOSED RESIDENCES, 221 & 225 - 11TH STREET EAST, SASKATOON, SK



		CHERRY LANE SLOPE INSTABILITY	
LONGITUDINAL CROSS SECTION D-D (ALONG 11TH STREET)			
		PROJECT 11-1362-0057	FILE No.
DESIGN	LM	08/05/14	SCALE AS SHOWN
CADD	BDS/JDS	08/05/14	REV. 0
CHECK	HV	08/05/14	FIGURE: 15
REVIEW	PGB	08/05/14	



7.0 GROUNDWATER CONDITION

Groundwater levels in the surficial stratified deposits (SSD), particularly in the clay above the till, and in the intertill sand and gravel have significant influence on slope stability in the east riverbank geologic setting. High water levels in the soil can be expected immediately following spring thaw, following intensive irrigation, or after prolonged precipitation. The minimum water table condition is reached during winter when there is minimum recharge. Most slope instability occurs following spring thaw, or after periods of prolonged precipitation (Clifton 1985).

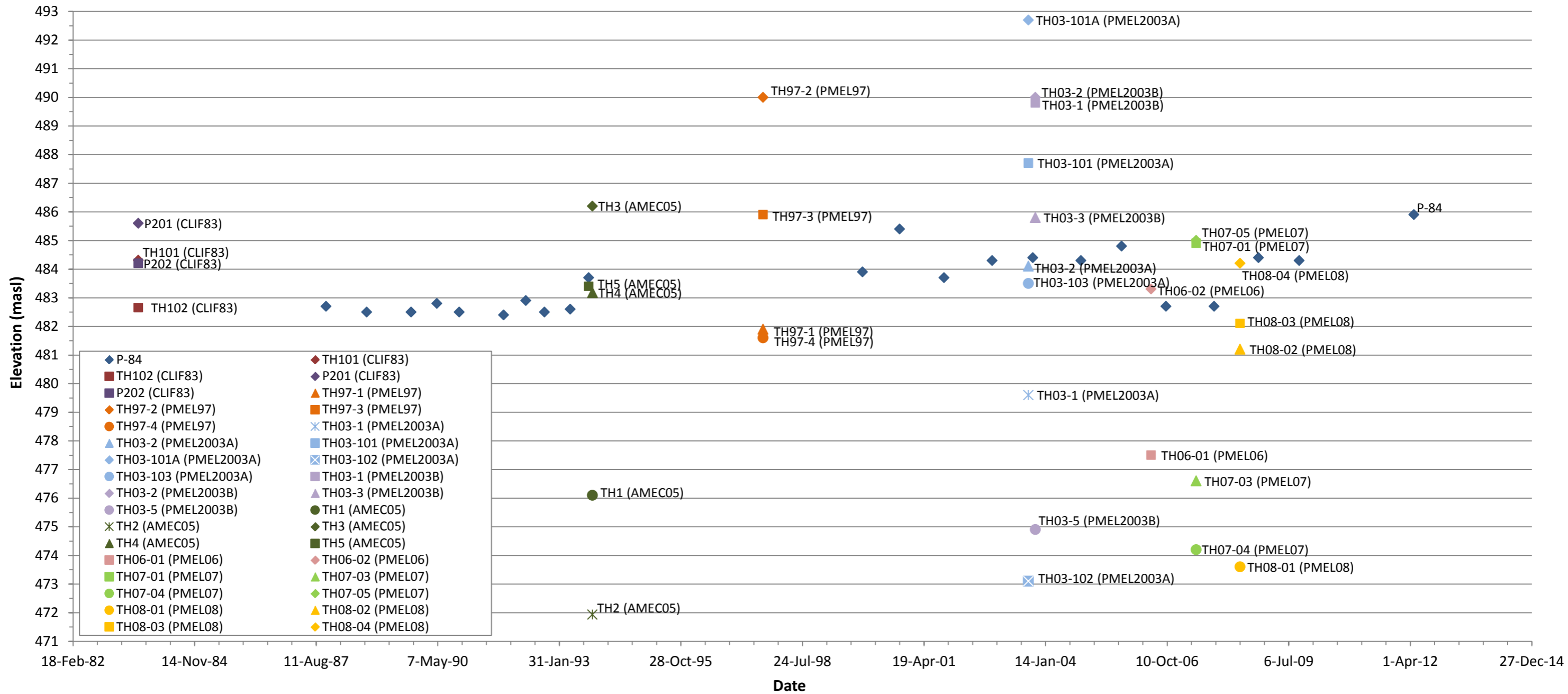
Hamilton and Tao (1977) reported the results of groundwater level measurements in SSD, spanning from six to fourteen years in three study areas in Saskatoon. Groundwater levels vary depending on annual weather cycles, the season of the year, and depending on rainfall and surface runoff conditions. It was reported that groundwater level rises of 6.1 m are reasonable, and 3.0 to 3.7 m might be considered average in clay soils for the typically semi-arid climatic conditions of Saskatoon. It was also reported that annual variation in groundwater levels can range from 0.6 m to more than 2.4 m, depending on many variables related to soil and weather conditions.

Historical groundwater levels (i.e., total head) in the area of Cherry Lane were compiled from data provided in the geotechnical reports reviewed and the East River Bank Monitoring Program reports provided by AMEC (2005b, 2009, 2013), PMEL (1994) and Ireland (2000) and are summarized in Figure 16. The groundwater table slopes downwards across the site from 11th Street to the river. Adjacent to 11th Street, the water table measured in September 1997 in TH07-2 was at about elevation 489.2, approximately 7 m below the ground surface. It should be noted that all groundwater elevations taken from the PMEL (1997) report have been converted from a local elevation presented in the report to be consistent with the surveyed elevations of the slope. It was noted that seepage was encountered during the August 5, 1997 investigation from sand layer at 490.3 masl in TH97-2, located in the front yard of 233/235 11th Street East.

With the exception of the data from piezometer P-84 (Figure 16), which was monitored on an annual basis from 1987 to 2012, there is insufficient data to interpret historical groundwater levels in this area. The highest groundwater elevation measured in P-84 was at 485.9 masl, or approximately 0.3 m below ground surface. It was recorded at this location in May 2012 prior to the occurrence of the West Failure. It should be noted that groundwater levels for this piezometer were generally monitored in fall or winter (October to December), when there is little recharge on ground surface and groundwater levels are expected to be at the lowest. High water table condition can be expected following spring thaw, or after heavy, prolonged precipitation during the summer.

During site walkovers immediately after the West Failure in 2012, water was observed in tension crack at the backyard of house 231 on June 21, 2012 which was approximately 0.5 mbgs. There was also seepage on the slope at the interface between Cherry Lane and Lot 231 immediately after the West Failure; the seepage was lessening since the West Failure occurred.

Groundwater levels recorded from the piezometers installed in 2012 and 2013 are presented and discussed in Section 9.2.



		CHERRY LANE SLOPE INSTABILITY	
HISTORICAL GROUNDWATER LEVELS			
	PROJECT 11-1362-0057 DESIGN LNM 08/05/14 CADD CHECK HQV 08/05/14 REVIEW PGB 08/05/14	FILE No. SCALE N/A REV.	FIGURE: 16



8.0 LABORATORY TESTING

Laboratory tests conducted on representative soil samples included visual classification, water content, Atterberg limits, unit weight, specific gravity, grain size analysis, and direct shear tests. The test results are presented in Appendix G.

Table 6 presents the results of water content tests and Atterberg limit tests for the selected samples. The samples were obtained from the field investigation conducted in 2012 and 2013 along Cherry Lane. Grain size analysis was completed using both the mechanical method (for cohesionless soils) and the hydrometer method (for cohesive soils) for soil classification.

Table 7 presents the results of grain-size analysis. Specific gravity and dry density tests were completed to assess the volume and density relationships of the soil. Dry density tests were completed on select undisturbed samples, the results of which are shown in Table 8.

Direct Shear tests were completed on select undisturbed samples to provide additional material property information for slope stability modelling, the results of which are shown in Table 9.

The silty clay was medium plastic. Measured water contents varied from 23 percent (%) to 35%. Atterberg limit tests for three samples of silty clay indicated that the plastic limit varied from 13% to 25%, liquid limit varied from 31% to 49%, and plasticity index varied from 12% to 29%. Dry density values of 1,371 and 1,306 kilograms per cubic metre (kg/m^3) were determined for sample BH1P-1 and COS-13-005-9, respectively.

The clay was high plastic. Measured water contents varied from 25% to 36%. Atterberg limit tests for four samples of clay indicated that the plastic limit varied from 18% to 27%, liquid limit varied from 50% to 74%, and plasticity index varied from 29% to 50%. Dry density values determined for BH1P-3 and BH2P-2 were $1,405 \text{ kg/m}^3$ and $1,415 \text{ kg/m}^3$, respectively.

The glacial till consisted of a silty clay matrix with some sand and gravel. Measured water contents varied from 8% to 16%. Atterberg limits for sample BH2-5 indicated the till was low plasticity with a plastic limit of 12%, liquid limit of 18% and plasticity index of 6%.



CHERRY LANE GEOTECHNICAL INVESTIGATION AND EVALUATION

Table 6: Atterberg Limit Test Results

Borehole	Material	Sample Number	Sample Elevation (masl)	Water Content (%)	Plastic Limit (%)	Liquid Limit (%)	Plastic Index
COS-13-005	Silty clay	005-5	488.9	23.2	20	49	29
COS-13-005	Silty clay	005-8	486.6	29.5	22	38	16
11-0057-BH1P	Silty clay	BH1P-1	486.4	34.6	21	43	22
11-0057-BH1	Silty clay	BH1-3	486.0	33.9	20	39	19
COS-13-006	Silty clay	006-10	486.0	29.5	13	41	28
COS-13-004	Silty clay	004-8	484.4	33.7	21	46	25
COS-13-005	Silty clay	005-12	483.5	28.7	21	33	12
11-0057-BH2	Silty Clay	BH2-4	483.3	30.4	25	48	23
COS-13-005	Silty clay	005-13	482.8	29.3	19	34	15
11-0057-BH3	Silty clay	BH3-2	482.7	24.3	17	31	14
COS-13-005	Silty clay	005-14	482.2	29.4	14	40	26
COS-13-005	Clayey sand	005-4	490.3	11.5	15	35	20
11-0057-BH3	Clayey sand	BH3-3	482.1	28.4	18	28	10
COS-13-005	Sandy, clayey silt	005-10	485.0	28.2	25	32	7
COS-13-006	Clay	006-3	492.9	25.3	22	65	43
COS-13-006	Clay	006-8	488.4	34.0	23	72	49
COS-13-004	Clay	004-5	487.2	33.6	24	74	50
11-0057-BH1P	Clay	BH1P-3	485.2	35.0	21	50	29
COS-13-002	Clay	002-17	485.2	32.7	21	69	48
COS-13-001	Clay	001-6	484.3	33.9	18	56	38
11-0057-BH1	Clay	BH1-5	484.7	36.3	22	62	40



CHERRY LANE GEOTECHNICAL INVESTIGATION AND EVALUATION

Table 6: Atterberg Limit Test Results (continued)

Borehole	Material	Sample Number	Sample Elevation (masl)	Water Content (%)	Plastic Limit (%)	Liquid Limit (%)	Plastic Index
11-0057-BH2P	Clay	BH2P-2	483.4	34.5	27	72	45
11-0057-BH2	Clay	BH2-2	484.5	31.8	24	55	31
COS-13-003	Clay	003-5	475.4	32.3	19	57	38
11-0057-BH2	Till	BH2-5	482.4	12.9	12	18	6
COS-13-001B	Till	001B-3	482.4	11.0	11	23	12
COS-13-004	Till	004-11	481.8	10.8	12	19	7

masl = metres above sea level; % = percent

Table 7: Grain-size Analysis Results

Borehole	Material	Sample Number	Sample Elevation (masl)	Percent Sand (%)	Percent Silt (%)	Percent Clay (%)
COS-13-004	Silty clay	004-2	491.3	1	68	31
COS-13-002	Silty clay	002-13	488.6	12	69	17
COS-13-005	Silty clay	005-8	486.6	1	72	25
11-0057-BH1P	Silty clay	BH1P-1	486.4	3	69	28
COS-13-006	Silty clay	006-10	486.0	1	66	33
COS-13-005	Silty clay	005-12	483.5	7	74	19
COS-13-005	Silty sand	005-1	494.3	66	23	11
COS-13-006	Silty sand	006-13	482.5	59	31	10
COS-13-001	Silty sand	001-9	481.3	51	41	8
COS-13-005	Sandy, clayey silt	005-10	485.0	14	68	18
COS-13-005	Sandy, clayey silt	005-11	484.3	12	73	15
11-0057-BH3	Clayey sand	BH3-3	482.1	39	47	14



CHERRY LANE GEOTECHNICAL INVESTIGATION AND EVALUATION

Table 7: Grain-size Analysis Results (continued)

Borehole	Material	Sample Number	Sample Elevation (masl)	Percent Sand (%)	Percent Silt (%)	Percent Clay (%)
11-0057-BH1P	Clay	BH1P-3	485.2	1	62	37
11-0057-BH1	Clay	BH1-5	484.7	3	62	35
COS-13-001	Clay	001-6	484.3	3	51	46
11-0057-BH2P	Clay	BH2P-2	483.4	1	47	52
COS-13-001B	Till	001B-3	482.4	44	36	18
COS-13-004	Till	004-11	481.8	49	36	12

masl = metres above sea level; % = percent

Table 8: Dry Density Test Results

Borehole	Material	Sample Number	Sample Elevation (masl)	Water Content (%)	Dry Density (kg/m ³)	Specific Gravity
11-0057-BH1P	Silty clay	BH1P-1	486.4	34.6	1,371	-
COS-13-004	Silty clay	004-7	485.8	30.1	1,699	2.61
COS-13-005	Silty clay	005-9	485.8	23.9	1,306	2.59
11-0057-BH1P	Clay	BH1P-3	485.2	35.0	1,405	-
COS-13-002	Clay	002-17	485.2	32.7	-	2.63
COS-13-001	Clay	001-6	484.3	33.9	-	2.63
11-0057-BH2P	Clay	BH2P-2	483.4	34.5	1,415	-
COS-13-001B	Till	001B-3	482.4	11.0	2,057	-

kg/m³ = kilogram per cubic metre; m = metre; % = percent



Table 9: Direct Shear Test Results

Borehole	Material	Sample Number	Sample Elevation (masl)	Peak		Residual	
				Friction Angle (°)	Cohesion (kPa)	Friction Angle (°)	Cohesion (kPa)
COS-13-004	Silty Clay	004-8	484.4	14.2	32	11.4	0
COS-13-005	Silty Clay	005-13	482.7	31.3	9	31.3	0
11-0057-BH2P	Clay	BH2P-2	483.4	23.7	18	22.0	0
11-0057-BH1P	Clay	BH1P-3	485.2	30.0	0	11.4	0
COS-13-001B	Clay	001B-1	483.8	26.6	12	21.7	0

mbgs = metres below ground surface; kPa = kiloPascal; ° = degrees; % = percent

9.0 INSTRUMENTATION MONITORING RESULTS

9.1 Slope inclinometer Results

The monitoring results for the slope inclinometers are included in Appendix F. Location of historical inclinometers (i.e., SI84-1CL and SI85-511) are shown in Figure 2. Location of inclinometers installed by Golder in 2012 and 2013 are shown on Figure 8.

SI84-1CL: This inclinometer was blocked in 2004. A cumulative movement of 20 mm was recorded between November 2, 1992 and October 12, 2001, approximately 15 mm of which occurred for the period from October 31, 2000 to October 12, 2001.

SI85-511: This inclinometer was bent and not in service since 2006. Approximately 32 mm of cumulative movement was recorded for the period from August 1985 to October 2005. This inclinometer shows a zone of movement at approximately 2.5 mbgs.

11-0057-BH1: Less than 5 mm of cumulative movement was measured between June 25, 2012 and October 30, 2013.

11-0057-BH2: This inclinometer sheared off in June, 2013. A cumulative movement of 30 mm was recorded between June 25 and June 26, 2012. An approximate movement rate of 22 mm/day was recorded before it sheared off. This inclinometer shows a zone of movement at the clay/till interface at approximately elevation 483 masl (about 3.7 mbgs).

11-0057-BH3: Approximately 10 mm of cumulative movement was recorded between June 25, 2012 and October 30, 2013.

COS-13-001B: This inclinometer sheared off sometime between August and October, 2013. A cumulative movement of approximately 65 mm was recorded between July 27 and August 28, 2013. This inclinometer shows a consistent zone of movement at the clay/till interface at approximately elevation 482.8 masl (about 6.5 mbgs).

COS-13-002: Less than 5 mm of movement was recorded between July 30 and October 30, 2013.

COS-13-004: Less than 5 mm of movement was measured in the inclinometer installed in borehole COS-13-004 between August 28 and November 1, 2013.



COS-13-005: Less than 5 mm of movement was recorded between August 28 and October 30, 2013.

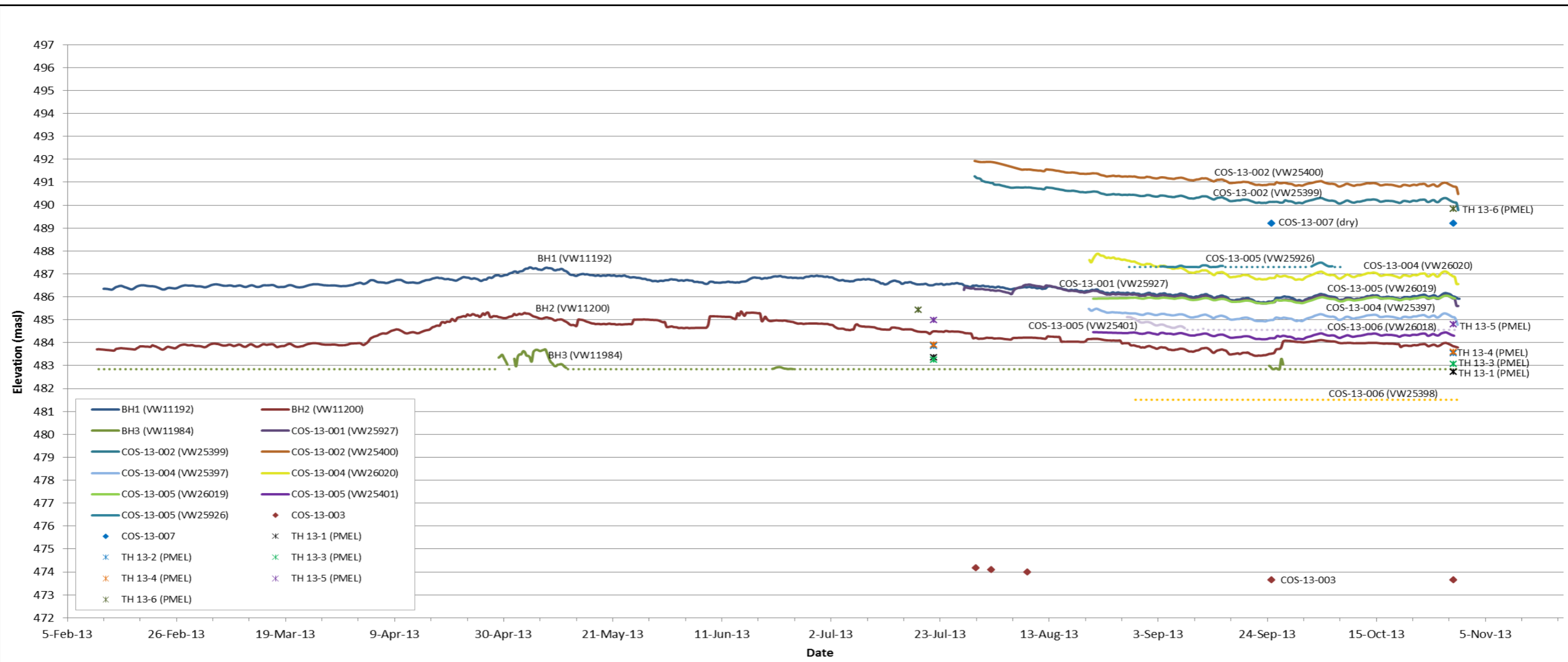
COS-13-006: Less than 5 mm of movement was recorded between August 28 and October 30, 2013.

9.2 Piezometers

The results of historical piezometer monitoring are presented and discussed in Section 7.0. Groundwater levels collected from the piezometers installed in 2012 and 2013 is included in Figure 17 for both types of piezometers (e.g., vibrating wire and standpipe). Piezometric levels recorded on October 30, 2013 are presented in Table 5, with the ground surface and till/clay contact elevation, and graphically presented in Figure 18, cross-sections A-A', B-B', and longitudinal sections C-C' and D-D'.

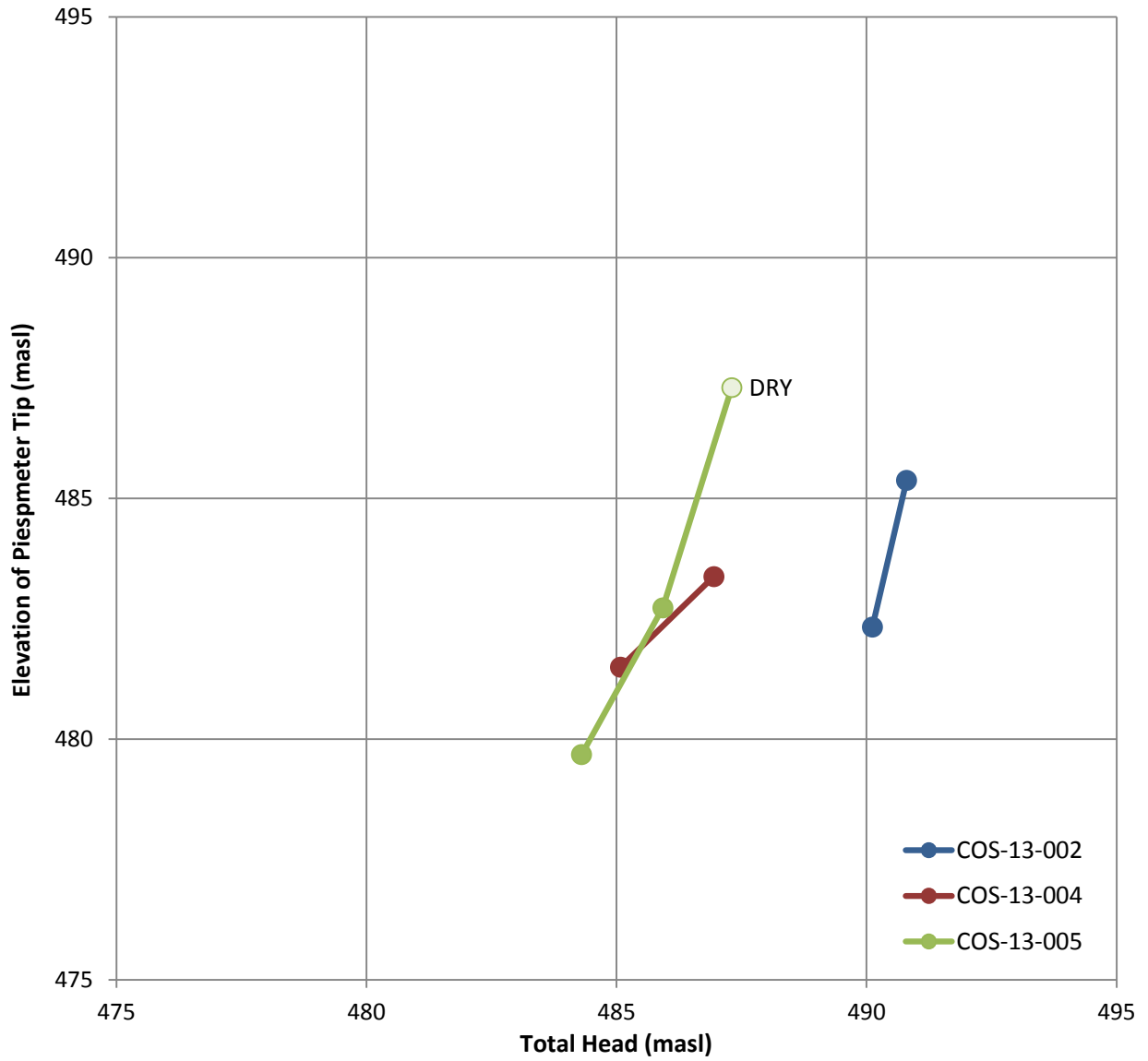
The vibrating wire piezometers installed in boreholes 11-1362-0057 BH1, BH2, and BH3 were installed during a period of high groundwater levels (June 2012); groundwater levels decreased approximately 0.5 m to 1.0 m during the fall and winter seasons. The trends in these vibrating wire piezometers throughout 2013 were as follows:



- Groundwater levels measured on October 30, 2013 show strong downward gradients at the piezometer nests, e.g., a gradient of 0.22 at COS-13-004, 0.53 at COS-13-005 and up to 0.95 at COS 13-004.
- Data collected from the vibrating wire piezometers revealed an increasing trend in groundwater levels starting around April 3, 2013 (at boreholes 11-1362-0057 BH1 and BH2).
- Measured annual variation in groundwater levels in 2013 was 0.86 m at 11-0057 BH3 and 1.93 m at 11-0057 BH2.
- The highest groundwater level recorded at borehole 11-1362-0057 BH1 was 487.3 masl (about 1.0 mbgs) on May 4, 2013.
- High groundwater levels recorded at borehole 11-1362-0057 BH2 were 485.3 masl (about 0.6 mbgs) and 485.4 masl (about 0.5 mbgs), recorded on April 27 and June 14, 2013, respectively.
- The highest groundwater level recorded in borehole 11-1362-0057 BH3 was 483.7 masl (about 0.4 mbgs) on May 8, 2013.
- Groundwater levels recorded at 11-0057 BH1 and BH2 started to decrease early in July 2013.



Notes:
 1) Dashed lines indicate negative pore water pressures.
 2) Piezometer TH13-1 to TH13-6 were installed by P.Machibroda Engineering Ltd. (PMEL) in July 2013.

		CHERRY LANE SLOPE INSTABILITY	
MONITORED PIEZOMETRIC LEVELS (2012-2013)			
	PROJECT	11-1362-0057	FILE No.
	DESIGN	LNK 08/05/14	SCALE N/A
	CADD		REV.
	CHECK	PGB 08/05/14	FIGURE: 17
REVIEW	HQV 08/05/14		



PROJECT		 City of Saskatoon		CHERRY LANE SLOPE INSTABILITY	
TITLE					
TOTAL HEAD MEASURED ON OCTOBER 30, 2013					
PROJECT		11-1362-0057		FILE No.	
DESIGN	LNLM	08/05/14	SCALE	N/A	REV.
CADD					
CHECK	PGB	08/05/14	FIGURE: 18		
REVIEW	HQV	08/05/14			
 Golder Associates Saskatoon, Saskatchewan					



9.3 Survey Pin Monitoring

9.3.1 June 21 to June 28, 2012

A network of survey pins was installed within the West Failure area and monitored daily for the period from June 21 to June 28, 2012, immediately after the West Failure occurred using a Total Station. Figure 19 presents locations of the survey pins installed for this monitoring period and horizontal movement vectors for selected survey pins. The horizontal movement vectors were determined for the period from June 22 to June 24, 2012. A summary of the results of ground movement monitoring for this period is as follows:

- Cherry Lane behind 233-11th Street East (Pin 18 location) moved 260 mm down slope and pushed up 0.05 m for the monitoring period from June 22 to 28. The rate of movement reduced from 110 mm/day from June 22 to June 23, to approximately 27 mm/day from June 24 to June 28, 2012.
- Cherry Lane behind 237-11th Street East (Pin 34) moved 220 mm down slope and dropped 30 mm for the monitoring period from June 22 to 28.
- The toe of the failure in the backyard of 222 Saskatchewan Crescent East (Pin 31) moved 150 mm from June 22 to June 24, 2012.

9.3.2 June 28, 2012 to Jun 4, 2013 (100 series pins)

Survey Pins 100 to 142 (Figure 9) were installed on June 28, 2012, along Cherry Lane at approximately 5 m intervals, to monitor the slope movement along the lane using a survey line. This series of pins was surveyed from July 4, 2012 to June 4, 2013. Horizontal movement of this series of survey pins was monitored every third day from June 28 to August 2, 2012; the rate of movement then reduced, and the frequency of monitoring was reduced to weekly. Cumulative horizontal movements and rates of movement between June 28, 2012 and June 4, 2013 are shown in Figure 20 and Figure 21, respectively.

A summary of the results of ground movement monitoring for this series of survey pins is as follows:

- Monitoring results show that a 45 m section of Cherry Lane, from Pin 112 to Pin 125, was impacted. No significant movement was measured east of Pin 112 or west of Pin 125.
- Total horizontal movement of 115 mm was measured behind 233/235 – 11th Street East (Pin 120 location) from June 28 to September 13, 2012.
- Recorded rate of movement reduced significantly from 12 mm/day at the start of monitoring (June 28, 2012) to less than 1 mm/day in early September 2012. Less than 5 mm of movement was monitored between February 4 and June 4, 2013

9.3.3 June 28, 2012 to June 28, 2013 (100 series pins)

Figure 22 presents the results of GPS survey of the 100 series pins between June 28, 2012 and June 27, 2013 for the Cherry Lane at the East Failure. The results show 765 mm of horizontal movement for Pin 106, 555 mm for Pin 107, and 366 mm for Pin 108. Most of these movements occurred in June 2013 because less than 5 mm of movement was measured by line survey for this location up to June 4, 2013 (Figure 20).

G:\2011\1362\11-1362-0057 COS East Riverbank\Figures\Phase 5100 Cherry Lane Remediation\Task 700011-1362-0057 Monitoring Pin Vectors.dwg 5/2/2014 2:38 PM



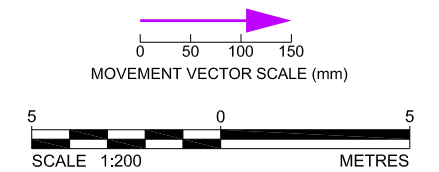
PIN MOVEMENT (BETWEEN JUNE 22-24, 2012)	
PIN NUMBER	RECORDED MOVEMENT (mm)
PIN13	20
PIN14	70
PIN15	91
PIN16	81
PIN17	90
PIN18	150
PIN19	76
PIN21	73
PIN22	91
PIN23	30
PIN29	112
PIN30	41
PIN31	150
PIN32	81
PIN33	89
PIN34	100
PIN35	110
PIN37	36

LEGEND

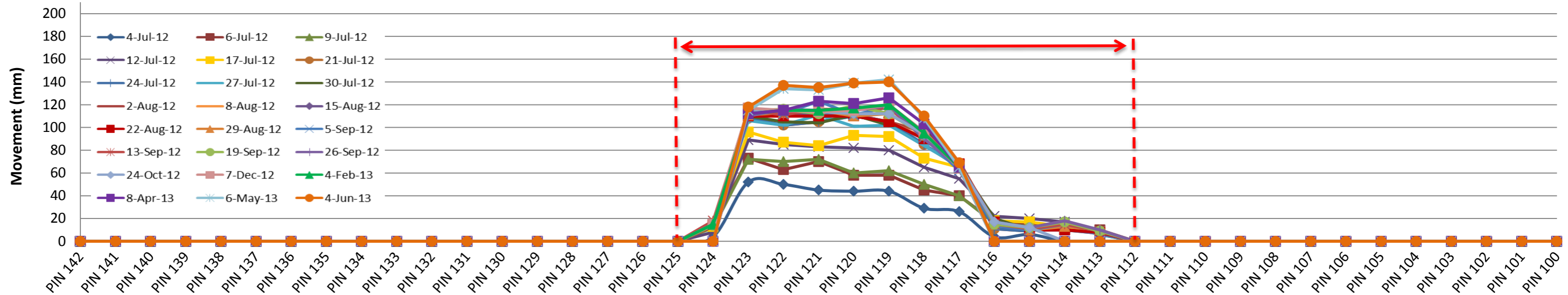
- PIN MOVEMENT VECTOR
- CRACK LOCATION
- TOE OF SLUMP

REFERENCE

AERIAL PHOTOGRAPH PROVIDED BY CITY OF SASKATOON

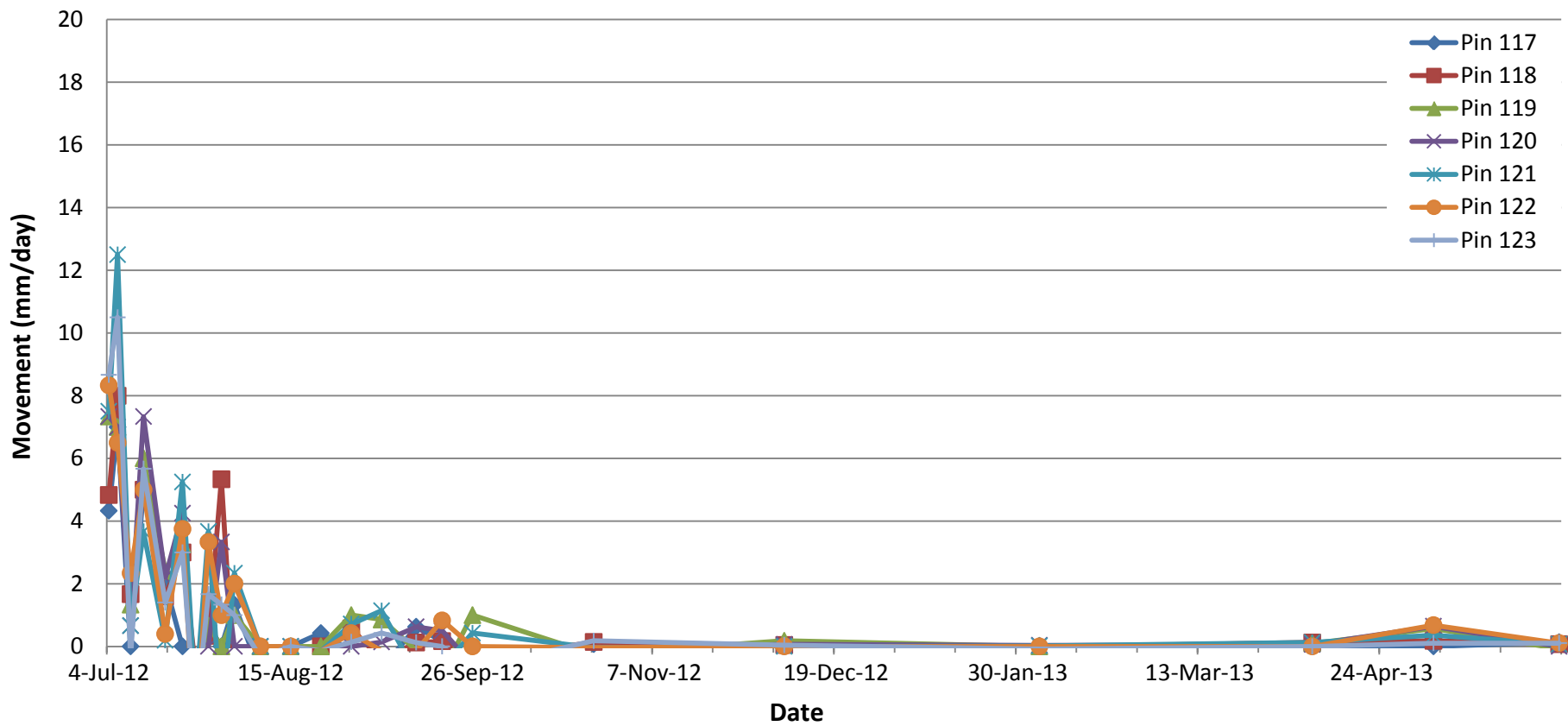


	<p>CHERRY LANE SLOPE INSTABILITY</p>																									
<p>MONITORING PIN LOCATION PLAN FOR THE PERIOD OF JUNE 22-24, 2012</p>																										
	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 15%;">PROJECT</td> <td style="width: 35%;">11-1362-0057</td> <td style="width: 15%;">FILE No.</td> <td style="width: 15%;"></td> <td style="width: 20%;"></td> </tr> <tr> <td>DESIGN</td> <td></td> <td>SCALE</td> <td>AS SHOWN</td> <td>REV.</td> </tr> <tr> <td>CADD</td> <td>JDS</td> <td>02/05/14</td> <td></td> <td></td> </tr> <tr> <td>CHECK</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>REVIEW</td> <td></td> <td></td> <td></td> <td></td> </tr> </table> <p style="text-align: right; font-weight: bold; font-size: 1.2em;">FIGURE: 19</p>	PROJECT	11-1362-0057	FILE No.			DESIGN		SCALE	AS SHOWN	REV.	CADD	JDS	02/05/14			CHECK					REVIEW				
PROJECT	11-1362-0057	FILE No.																								
DESIGN		SCALE	AS SHOWN	REV.																						
CADD	JDS	02/05/14																								
CHECK																										
REVIEW																										





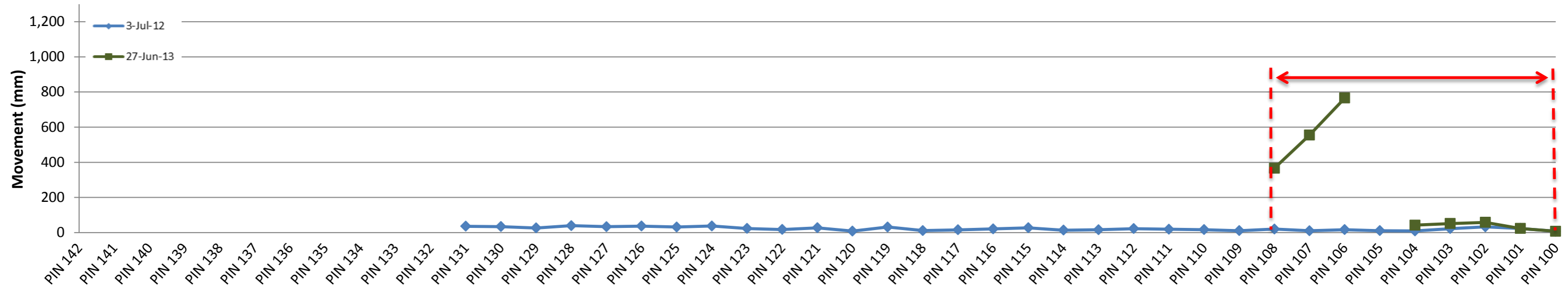
Notes:
 1) Positive values indicate down slope movement.
 2) Pins 100 to 142 were installed June 28, 2012.

		CHERRY LANE SLOPE INSTABILITY	
HORIZONTAL SLOPE MOVEMENT, 100 SERIES PINS (June 28, 2012 to June 4, 2013)			
	PROJECT	11-1362-0057	FILE No.
	DESIGN	LNK 08/05/14	SCALE N/A
	CADD		
	CHECK	HQV 08/05/14	
REVIEW	PGB 08/05/14		
			FIGURE: 20



Notes:
 1) Positive values indicate down slope movement.
 2) Pins 117 to 123 were installed June 28, 2012.

PROJECT		 CHERRY LANE SLOPE INSTABILITY	
TITLE			
RATE OF MOVEMENT vs TIME FOR SELECTED 100 SERIES PINS			
 Golder Associates Saskatoon, Saskatchewan	PROJECT	11-1362-0057	FILE No.
	DESIGN	LNLM	08/05/14
	CADD		
	CHECK	HQV	08/05/14
REVIEW	PGB	08/05/14	SCALE N/A REV.
			FIGURE: 21



Notes:
 1) Positive values indicate down slope movement.
 2) Pins 100 to 142 were installed June 28, 2012.

		CHERRY LANE SLOPE INSTABILITY	
HORIZONTAL SLOPE MOVEMENT, 100 SERIES PINS (June 28, 2012 to June 27, 2013)			
	PROJECT	11-1362-0057	FILE No.
	DESIGN	LNK 08/05/14	SCALE N/A
	CADD		REV.
	CHECK	HQV 08/05/14	
	REVIEW	PGB 08/05/14	
			FIGURE: 22

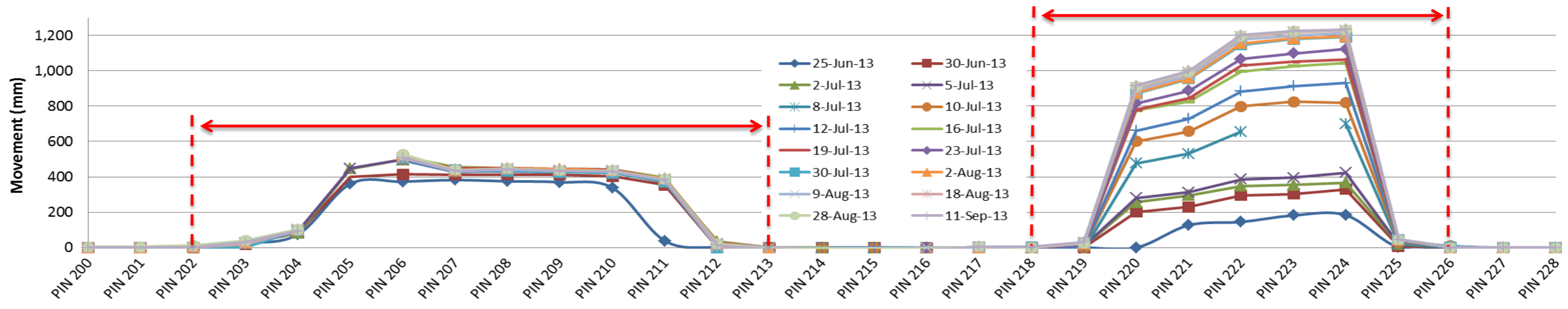


9.3.4 June 25, 2013 to September 11, 2013

The 100 series pins were replaced with Survey Pins 200 to 228 (Figure 10) to monitor horizontal slope movement along the Cherry Lane. This series of pins was surveyed from June 25 to September 11, 2013. Cumulative horizontal movements and rates of movement during this period are shown in Figure 23 and Figure 24, respectively. A summary of the ground movement monitoring for this series of survey pins is as follows:

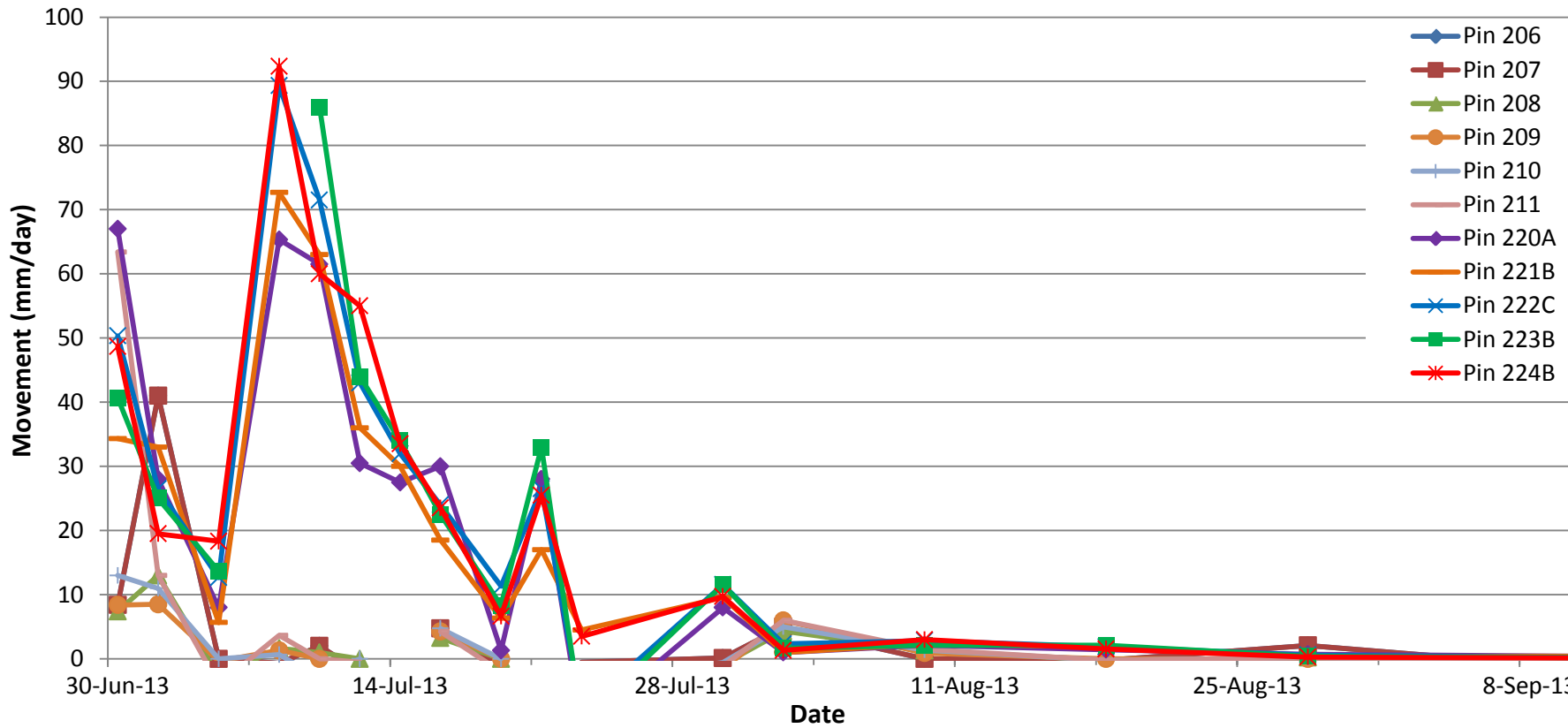
- Monitoring results show that a 45 m section of Cherry Lane, from Pin 202 to Pin 213, was impacted within the West Failure area and a 35 m section of Cherry Lane, from Pin 218 to Pin 226, was impacted within the East Failure area.
- West Failure:
 - Rate of movement of approximately 1.8 mm/day was measured behind 233/235 and 237/239 - 11th Street East (Pin 205 to 210 locations) between June 4 and 25, 2013.
 - Rate of movement of approximately 63 mm/day was measured behind 237/239 - 11th Street East (Pin 211 location) between June 25 and 30, 2013; the rate of movement at this location decreased to approximately 13 mm/day, between June 30 and July 2, 2013.
 - Rate of movement of approximately 41 mm/day measured behind 233/235 - 11th Street East (Pin 206 location) between June 30 and July 2, 2013.
 - Movement between zero and 7.5 mm/day was measured within the West Failure area between July 2 and September 11, 2013; except for behind 233/235 - 11th Street East (Pin 207 location) where a rate of movement of 12.5 mm/day was measured between July 12 and 14, 2013.
- East Failure:
 - Rate of movement measured behind 303, 305, and 307 - 11th Street East (Pin 220 to 224 location) was approximately 50 mm/day to 75 mm/day between June 25 and 30, 2013; the rate of movement at this location decreased to approximately 8 mm/day to 33 mm/day between June 30 and July 5, 2013; rate of movement at this location then increased to approximately 13 mm/day to 92 mm/day between July 5 and 8, 2013.
 - Rate of movement behind 305 - 11th Street East (Pin 223) increased from approximately 13 mm/day, during the June 5 to 8, 2013 monitoring period, to 195 mm/day, during the June 8 to 10, 2013 monitoring period.
 - Rate of movement generally decreased after July 10, 2013; movements between zero and 12 mm/day were measured after July 24, 2013.

The rate of movement for the 200 series of pins has been less than 5 mm since July 2013 at the West Failure and since August 2013 at the East Failure.





- Notes:
- 1) Positive values indicate down slope movement.
 - 2) Pins 200 to 216 were installed June 4, 2013.
 - 3) Pins 217 to 228 were installed June 25, 2013.

		CHERRY LANE SLOPE INSTABILITY	
HORIZONTAL SLOPE MOVEMENT, 200 SERIES PINS (June 25, 2013 to Sept. 11, 2013)			
	PROJECT	11-1362-0057	FILE No.
	DESIGN	LNLM 08/05/14	SCALE N/A
	CADD		REV.
	CHECK	HQV 08/05/14	FIGURE: 23
REVIEW	PGB 08/05/14		



Notes:
 1) Positive values indicate down slope movement.
 2) Pins 206 to 211 were installed June 4, 2013.

PROJECT		 CHERRY LANE SLOPE INSTABILITY	
TITLE			
RATE OF MOVEMENT vs TIME FOR SELECTED 200 SERIES PINS			
 Golder Associates Saskatoon, Saskatchewan	PROJECT	11-1362-0057	FILE No.
	DESIGN	LNLM	08/05/14
	CADD		SCALE N/A REV.
	CHECK	HQV	08/05/14
REVIEW	PGB	08/05/14	



9.3.5 September 11, 2013 to October 31, 2013 (300 series pins)

More permanent survey markers, numbered 303 to 327 were installed on September 13, 2013 to monitor slope movement along Cherry Lane, and will continue to be monitored over time. Locations of these survey markers are shown in Figure 11. The 300 series pins were surveyed on September 16, September 25 and October 31, 2013. Less than 5 mm of movements, which are in a range of measurement accuracy, were measured between September 13 and October 31, 2013.

9.4 Monitoring of Structures

9.4.1 Tell-Tale Crack Monitors

Tell-tale cracks monitors were monitored approximately every 10 days from August 7 to October 30, 2013. No noticeable crack developments were noticed for this monitoring period. Photographs of the crack monitors are included in Appendix F.

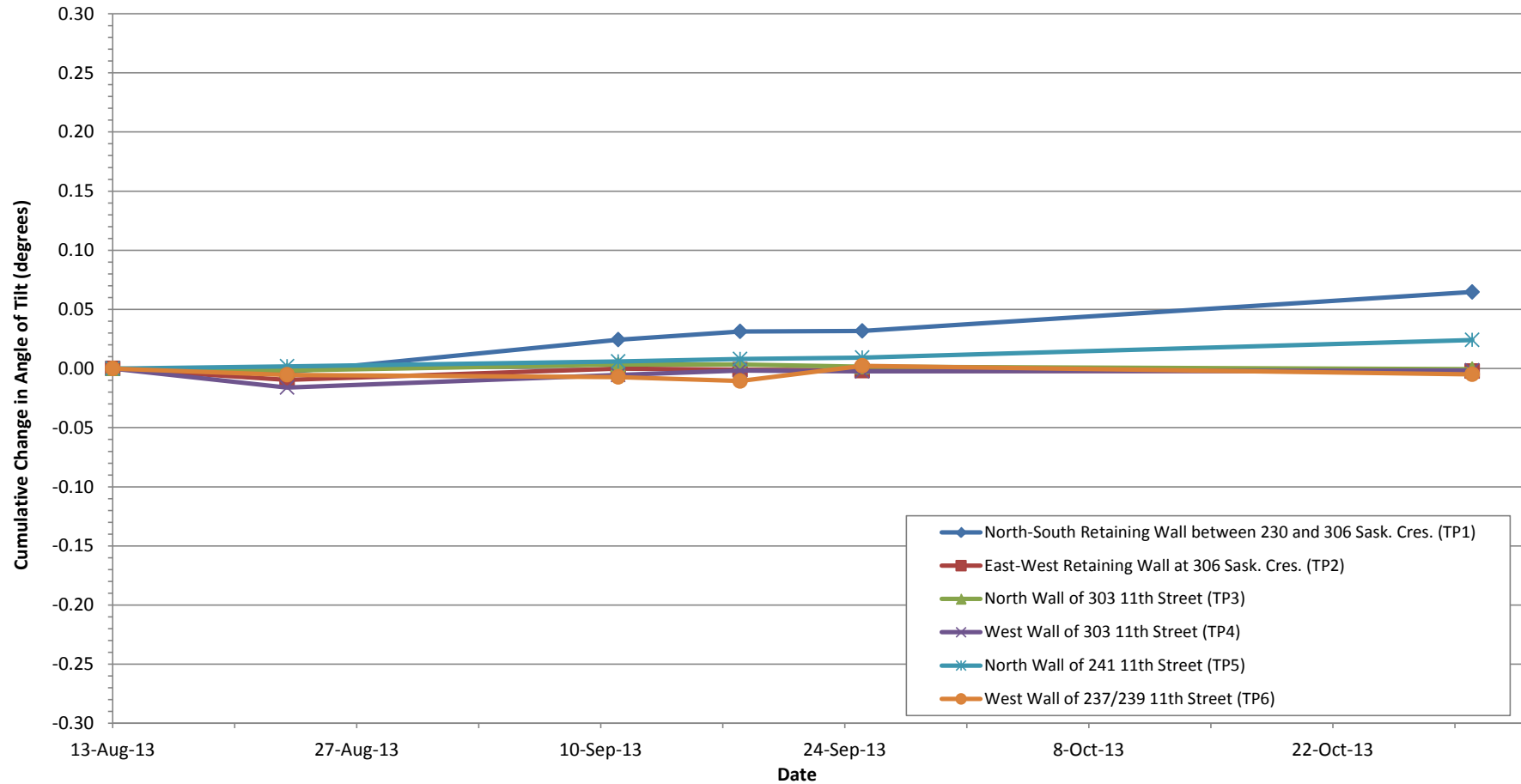
9.4.2 Tilt Plates

Tilt plates were monitored approximately every 10 days from August 13 to October 30, 2013. The results of tilt plate measurement are shown in Figure 25. During the monitoring period, a tilt of approximately 0.065 degrees towards the west direction was measured at the tilt plate located on the north-south retaining wall between 230 and 306 Saskatchewan Crescent East. The tilt plate located at 241 – 11th Street has measured a steady increase in tilt angle to 0.024 degrees; however total tilt is near the expected range of measurement accuracy and movement for this structure. Monitoring of the remaining tilt plates have measured variable results which were within the expected range of movement for most structures depending on time of day, weather and other factors.

A tilt plate was installed on the north side of the building at 1721 – 8th Street E. (Golder Associates Ltd.) to provide a check of the expected range of tilt of building due to climate and temperature changes. During the monitoring period, the angle of tilt at this location ranged from 0 to -0.009 degrees.

9.4.3 Settlement Points

Settlement Points were monitored on August 28 and 29, September 18, and November 28 and 29, 2013. The results of settlement monitoring from August 28 to November 29 are presented in Appendix F. The results of the settlement data analysis indicate that no noticeable differential settlement of the structures have been measured to date (November 2013).



Note: Positive changes in tilt indicate tilting toward the monitoring structure.

		CHERRY LANE SLOPE INSTABILITY			
RESULTS OF TILT MONITORING					
		PROJECT 11-1362-0057 DESIGN LNM 08/05/14 CADD CHECK PGB 08/05/14 REVIEW HQV 08/05/14	FILE No. SCALE N/A REV.01	FIGURE: 25	



10.0 SLOPE STABILITY ANALYSIS

10.1 General

Stability analyses of the Cherry Lane site were performed in order to identify failure mechanisms at the site and to evaluate conceptual remedial options.

The following information was used to model the riverbank slope at the Site:

- Ground surface topography was obtained from the topographic survey completed by Meridian in July 2013.
- Stratigraphy was inferred from review of available geotechnical reports and field investigations by Golder.
- Groundwater conditions were inferred from existing piezometric data.
- Geometry of the slip surface was inferred from observed landslide features, inclinometer data and site stratigraphy.
- Soil parameters used in this report were based on site specific laboratory test results, back-analysed values, or based on typical values reported in the literature.

10.2 Method of Analysis

The slope stability analysis was performed using the computer software SLOPE/W, marketed by Geo-Slope International Ltd. (2007). Two-dimensional analyses were conducted using the Morgenstern-Price limit equilibrium method.

10.3 Material Properties

Material properties for the slope stability analysis were selected based upon current and historical laboratory testing results for the Cherry Lane area and Saskatoon region. Table 10 shows the shear strength properties used for the slope stability analysis. Shear strength parameters for the shear zone are back-analyzed values. Effective cohesion value of 10 kiloPascals (kPa) was used for the silty clay, and clay materials to account for the contribution from soil suction to the unsaturated shear strength of these materials. Assumed material properties of fill or modified soils for several conceptual remediation options are also included, based on typical values.

Table 10: Shear Strength Parameters for the Preliminary Slope Stability Analysis

Material	Unit Weight (kN/m ³)	Effective Cohesion (kPa)	Effective Friction Angle (degrees)
Fill	19	5	22
Silty Clay	19	10	25
Clay	19	10	22
Shear Zone	19	0	12*
Till	impenetrable	-	-
Shear Zone Modification	20	0	30

*Back analysed value; kN/m³ = kiloNewtons per cubic metre; kPa = kiloPascal



10.4 Uncertainty of Input Parameters

There is uncertainty in the input data (e.g., till/clay contact, soil properties and piezometric conditions) for the analysis. A sensitivity analysis, where the influence of variations in each input variable is isolated, can be conducted to evaluate the implications of uncertainty in the results. A probabilistic analysis can be used for assessing the reliability of the slope stability conditions. Sensitivity analysis and probabilistic analysis were not conducted at this stage of the study where a conceptual remediation is being developed. Further soil investigation and laboratory tests, sensitivity analysis and probabilistic analysis may be recommended for detailed design if one of the remediation options is to be constructed.

10.5 Recommended Factor of Safety

The stability condition of the slope is evaluated in terms of a calculated factor of safety, which is the ratio of the resisting forces/moments to the driving forces/moments. The factor of safety of a slope can be calculated in terms of all the forces and moments acting on the slope. Based on the limit equilibrium analysis, a computed factor of safety of 1.0 means the available resisting forces (e.g., the available shear strength of the soil along the sliding plane) have been mobilized and a condition of equilibrium exists and failure occurs. A computed factor of safety of greater than 1.0 means that the resisting forces are more than are required for a condition of limiting equilibrium and the slope is in a stable condition.

Determination of a minimum acceptable factor of safety (FS) for a slope stability model depends on several factors, including: i) the assumptions necessary to complete the analysis; ii) the reliability of the input data, particularly shear strength and pore-water pressure conditions; and iii) the consequence of failure. For the Cherry Lane area, potential changes in the slope geometry, additional structural loads and piezometric conditions can occur through unknown future development and landscaping work, therefore these potential unknown changes should be considered.

The consequence of failure (or risk) is an important factor to take into consideration when determining an acceptable factor of safety for design purposes. A lower factors of safety would be accepted on a slope where movement would result in little property damage or pose little hazard to public safety. A higher FS is typically required when risk to public safety and economic loss are involved.

Golder reviewed existing geotechnical reports for the site, the MVA policy (MVA 2004), and policies of other municipalities or government agencies that have high risk slope development. Existing geotechnical reports for the area specified a minimum FS of 1.3 to 1.5 depending on the site studied. In a slope instability study of the east riverbank conducted for MVA, Clifton (1985) recommended a desirable FS of 1.5 for slope improvement involving substantial risk of economic loss and some public safety considerations; and a minimum FS of 1.3 with monitoring was recommended. The MVA policy does not specify a minimum FS, with the caveat that any construction should not increase the instability of the slope, before or after construction.

As this Site poses a high risk to the people and structures on the 200 to 300 blocks of 11th Street East and Saskatchewan Crescent East, difficulties in maintaining a monitoring program in the residential properties, and uncertainty associated with future development, a FS of 1.5 is recommended for the design criteria for the Site under consideration.



10.6 Back-Analysis of Failure Slope

As the slope has already failed, a stability back-analysis can be conducted. The back-analysis method models the geometry, soil, and groundwater conditions at failure, indicated by a factor of safety (FS) of 1.0. Back-analysis is shown in Figure 26 for the West Failure and Figure 27 for the East Failure.

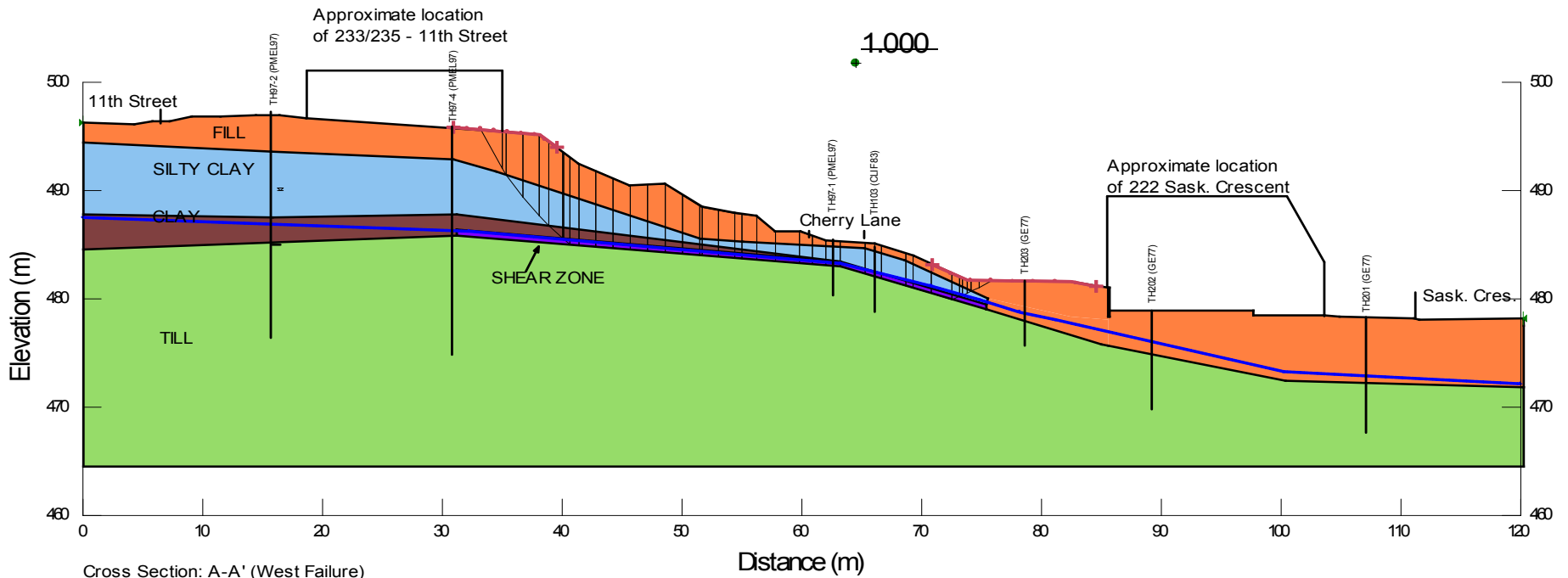
The condition modelled for back-analysis was for a time after the initial failure when the topography was surveyed, but when the slope was still actively moving. As such, groundwater levels shown in the model may be lower than those at the time of initial failure; but they are higher than those measured in the fall or winter months (Figure 17). Effective shear strength parameters of the clay at shear zone were expected to be near or at residual (i.e., having undergone movement).

Loading was not applied to any part of the slope within the stability analyses as it is understood that the houses within this area are founded on piles and therefore their associated vertical loads are distributed to a founding layer outside of the sliding mass. The retaining walls and large boulders present within the backyards of Lots 233/235 and 235/237 were modelled as soil within the stability analysis due to unknown geometries of these features. Retaining walls for the residences along Saskatchewan Crescent East were modelled as gravity walls and were based upon the geometry provided in the building permit plans. The slope stability analyses assume that the existing reinforced concrete wall and slab system of the basement structure of 222 Saskatchewan Crescent East (cross-section A-A'), and retaining wall behind 306 Saskatchewan Crescent East (cross-section B-B') were impenetrable. To date, no noticeable movements were observed at these two structures. The resistance of these structures against landslide activity in the future is currently unknown.

The slip surface of the sliding soil mass is in surficial stratified deposits at the contact between the clay and the underlying till. Therefore, a composite slope failure along a slip surface at the interface between the clay and till was considered in the analyses.

Cross-sections A-A and B-B were selected as the primary section for analysis for the West Failure and East Failure, respectively. The location of the cross-sections is shown on Figure 2. Figure 12 and Figure 13 show the inferred stratigraphic soil profiles along each cross-section. Both the West Failure and East Failure were back-analysed to determine the residual (or large strain) shear strength parameters corresponding to failure or a FS of 1.0.

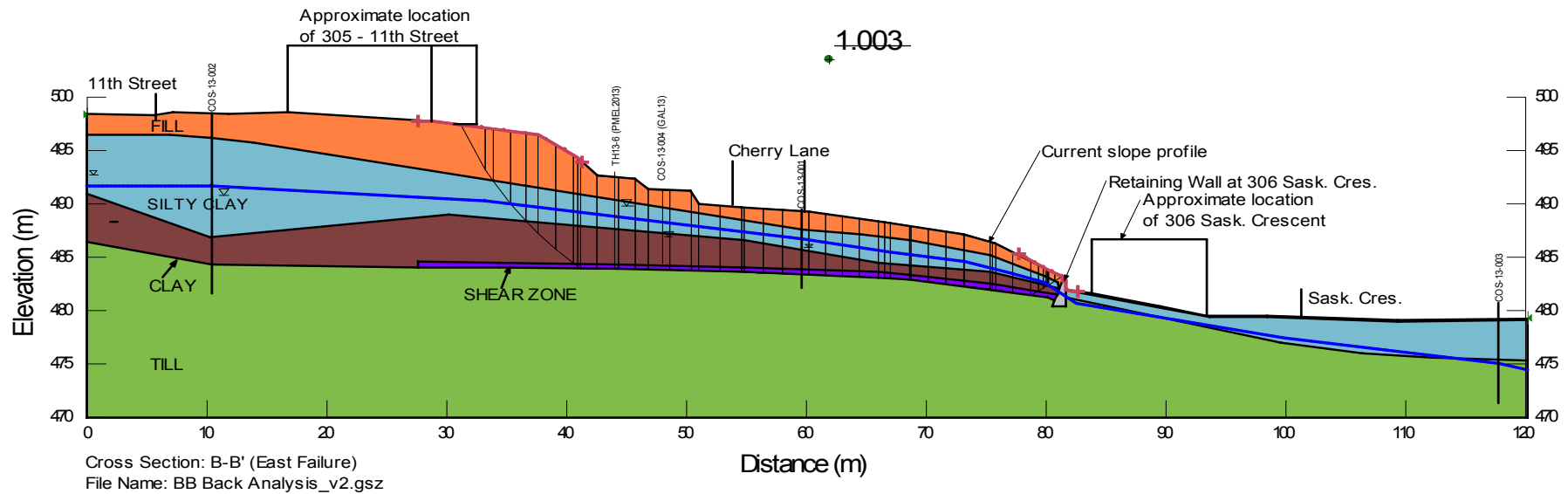
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 Name: Clay Unit Weight: 19 kN/m³ Cohesion: 10 kPa Phi: 22 °
 Name: Shear zone Unit Weight: 19 kN/m³ Cohesion: 0 kPa Phi: 12 °
 Name: Till



Cross Section: A-A' (West Failure)
 File Name: AA Back Analysis_v2.gsz

		CHERRY LANE SLOPE INSTABILITY	
BACK ANALYSIS - CROSS SECTION A-A' WEST FAILURE			
	PROJECT	11-1362-0057	FILE No.
	DESIGN	LNLM 08/05/14	SCALE N/A REV.
	CADD	HQV 08/05/14	FIGURE: 26
	CHECK	PGB 08/05/14	
REVIEW			

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 Name: Clay Unit Weight: 19 kN/m³ Cohesion: 10 kPa Phi: 22 °
 Name: Shear zone Unit Weight: 19 kN/m³ Cohesion: 0 kPa Phi: 12 °
 Name: Till
 Name: Retaining wall



		CHERRY LANE SLOPE INSTABILITY		
BACK ANALYSIS - CROSS SECTION B-B' EAST FAILURE				
	PROJECT	11-1362-0057		FILE No.
	DESIGN	LNLM	08/05/14	SCALE N/A
	CADD			REV.
	CHECK	PGB	08/05/14	FIGURE: 27
REVIEW	HQV	08/05/14		



10.7 Conceptual Remedial Options

A number of conceptual remedial options were considered for the remediation of the slope, including:

- do nothing;
- installation of sub-drainage system to lower groundwater tables;
- re-grading of existing slope; and
- modification of the shear zone to increase shear strength.

It was understood that the primary focus of the slope remediation was to preserve existing residences along 11th Street East and Saskatchewan Crescent East, and maintain vehicle access along Cherry Lane. As discussed in Section 10.5, the required slope factor of safety for the conceptual remedial options was at least 1.5. Constructability and cost effectiveness were also considered in the process of evaluating conceptual remedial options.

Options evaluated are conceptual in nature, meaning specific design details such as detailed geometry, method of construction, sourcing and supply of materials, coordination of activities, etc. have not been considered.

Table 11 summarizes the calculated factor of safety (FS) for a number of conceptual remedial options, which is discussed in detail in the following sections.

Table 11: Calculated Factor of Safety for Remedial Options

Analysed Scenarios	Cross-section	Calculated FS	Figure
Back analysis	A-A'	1.00	26
	B-B'	1.00	27
Option 1: Do nothing, low groundwater table	A-A'	1.03	28
	B-B'	1.09	29
Option 1: Do nothing, high groundwater table	A-A'	0.89	30
	B-B'	0.87	31
Option 2: Installation of sub-drainage system	A-A'	1.03	32
	B-B'	1.26	33
Option 3: Site regrading with sub-drainage system	A-A'	1.51	34
	B-B'	1.50	35
Option 4: Shear zone modification with sub-drainage system	A-A'	1.51	37
	B-B'	1.51	38

FS = Factor of Safety

10.7.1 Option 1 – Do Nothing

The first remedial option considered was leaving the slope in its existing condition. Based on the slope stability analysis conducted, it is likely that the slope at the East and West Failure locations will continue to move, likely on a seasonal basis with higher rates of movement in the spring when groundwater levels in the area are high. Rates of movement are expected to be low in the winter months and in dry years where the groundwater table is at or near the contact surface between the glacial till and surficial stratified deposits. As noted in Sections 3.6 and 7.0, groundwater level fluctuations of up to 2 m during a year and up to 6 m in the long term are measured.



Figure 28 and Figure 29 show the stability analyses for the do nothing option, with the piezometric levels approximately 1 m lower than those used on the back-analysis to represent slope instability conditions. The calculated factors of safety are 1.03 and 1.09 for cross-sections A-A' and B-B', respectively, for the case where nothing is done other than lowering the groundwater table.

Figure 30 and Figure 31 show the stability analyses for the do nothing option, with the piezometric level elevated approximately 1.5 m above those used in the back-analysis to represent slope instability. The calculated factor of safety is 0.89 for cross-section A-A' and 0.87 for cross-section B-B' when the raised groundwater level is used in the analysis. There is also a significant potential for additional sloughing of the material at the scarps of the failure areas, where there is up to 2 m of vertical drop. There is also a buildup of material at the toe and the slope has reached a flatter angle. Advancement of the failure toward 11th Street East will result in undermining of existing building foundations. Additionally, properties located below 11th Street East may experience damage from debris or additional soil loading as material collects at the toe of the sliding zone. It is expected that there will continue to be slope movement along Cherry Lane as the slope failure progresses, disrupting traffic access and power service along the lane.

10.7.2 Option 2 – Installation of Sub-Drainage System

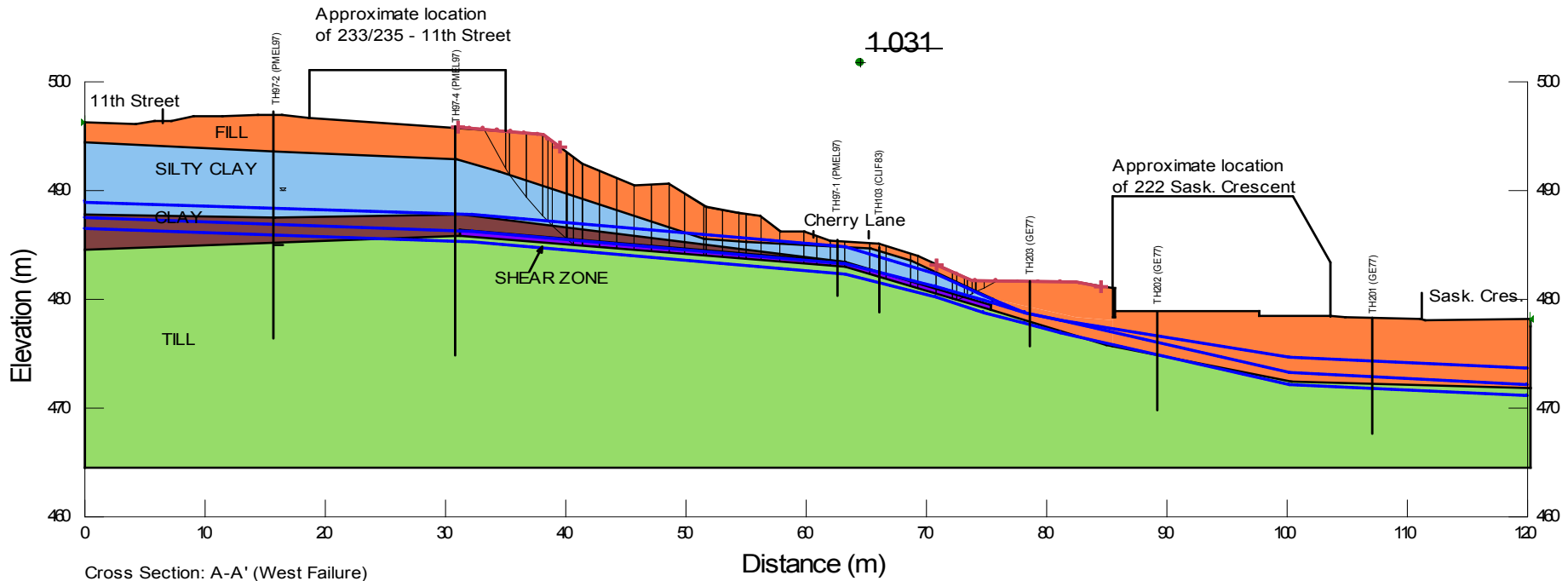
Pore-water pressures in surficial stratified deposits, especially in the highly plastic clay overlying the till, have significant influence on slope stability as indicated by the occurrence of the East and West Failures when groundwater levels were above average in both 2012 and 2013. Installation of sub-drainage system to lower groundwater levels and maintain it at low levels will result in an increase in the factor of safety of the slope and minimize the effect of seasonal and long term groundwater level variation.

Drainage systems installed in 11th Street East can be used to intercept groundwater prior to entering the slope, however the drains will not account for pore-water pressures that are generated from surface infiltration downslope of 11th Street East. A second or alternate drainage system could be installed along Cherry Lane to reduce the pore-water pressures near the middle of the slope. Drainage systems will have to be designed to reduce pore-water pressures over the entire area of potential slope instability to prevent mounding and increased instability between individual locations. Drainage systems would require regular maintenance to ensure that blockages do not occur, and to ensure that the system is effectively draining the slope.

For the slope stability analysis, groundwater conditions where drainage systems were installed along 11th Street East approximately 10 mbgs and along Cherry Lane between 3 mbgs and 8 mbgs were considered. Installation of drainage systems in both locations for the existing slope will be more effective than a single drainage system. For the West Failure (cross-section A-A'), the post-failure pore-water conditions along 11th Street East were already near the clay and till interface, resulting in marginal increase to FS when the level was lowered, however lowering the pore-water pressures along the East Failure (cross-section B-B') resulted in an approximate 20% increase in FS. It should be noted that this increase in slope FOS will not be achieved immediately after the sub-drainage system construction because pore-water pressure in clay slope may take several years to dissipate.

Figure 32 and Figure 33 show the stability analyses for this conceptual remedial option for the West Failure and East Failure, respectively. Installation of a drainage system in 11th Street East will require a minimum length of 135 m and a depth ranging between 8.6 m and 12.5 m. Installation of a drainage system in Cherry Lane will require a length of 135 m at a depth between 3.6 m and 8 m. Detailed design will refine the overall dimensions of this option.

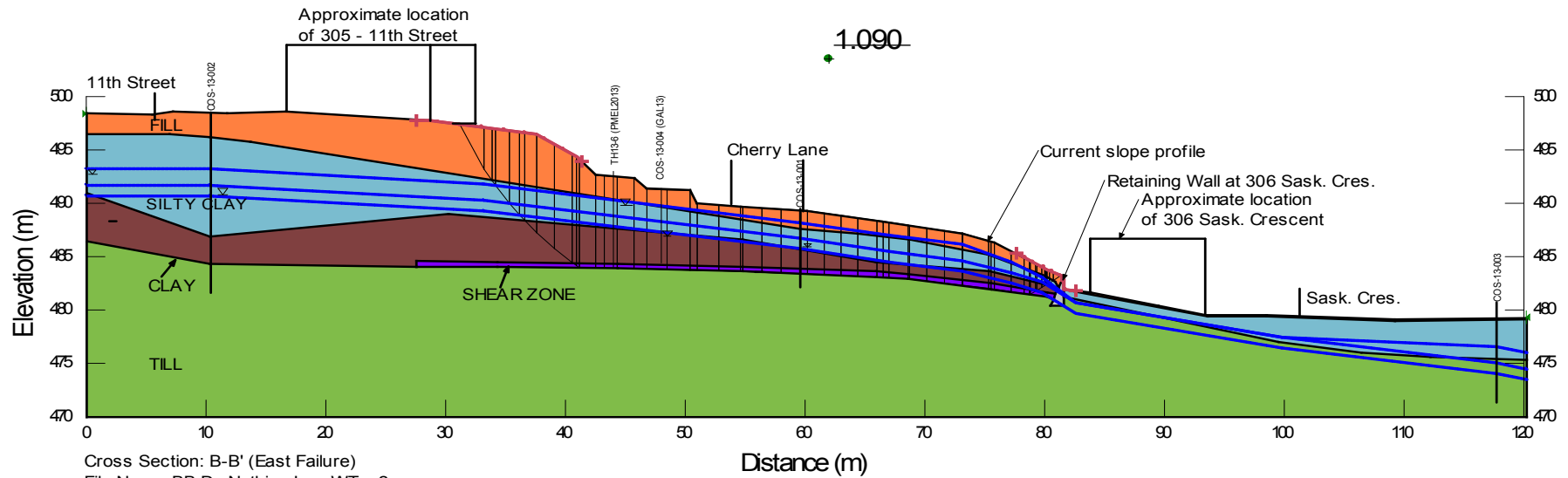
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 Name: Silty Clay Unit Weight: 19 kN/m³ Cohesion: 10 kPa Phi: 25 °
 Name: Clay Unit Weight: 19 kN/m³ Cohesion: 10 kPa Phi: 22 °
 Name: Shear zone Unit Weight: 19 kN/m³ Cohesion: 0 kPa Phi: 12 °
 Name: Till




Cross Section: A-A' (West Failure)
 File Name: AA Do Nothing Low WT_v2.gsz

		CHERRY LANE SLOPE INSTABILITY	
SLOPE STABILITY ANALYSIS CROSS SECTION A-A' DO NOTHING OPTION WITH LOW WATER TABLE			
	PROJECT	11-1362-0057	FILE No.
	DESIGN	LNLM 08/05/14	SCALE N/A REV.
	CADD	HQV 08/05/14	FIGURE: 28
	CHECK	PGB 08/05/14	

Name: Fill Unit Weight: 19 kN/m³ Cohesion: 5 kPa Phi: 22 °
 Name: Silty Clay Unit Weight: 19 kN/m³ Cohesion: 10 kPa Phi: 25 °
 Name: Clay Unit Weight: 19 kN/m³ Cohesion: 10 kPa Phi: 22 °
 Name: Shear zone Unit Weight: 19 kN/m³ Cohesion: 0 kPa Phi: 12 °
 Name: Till
 Name: Retaining wall

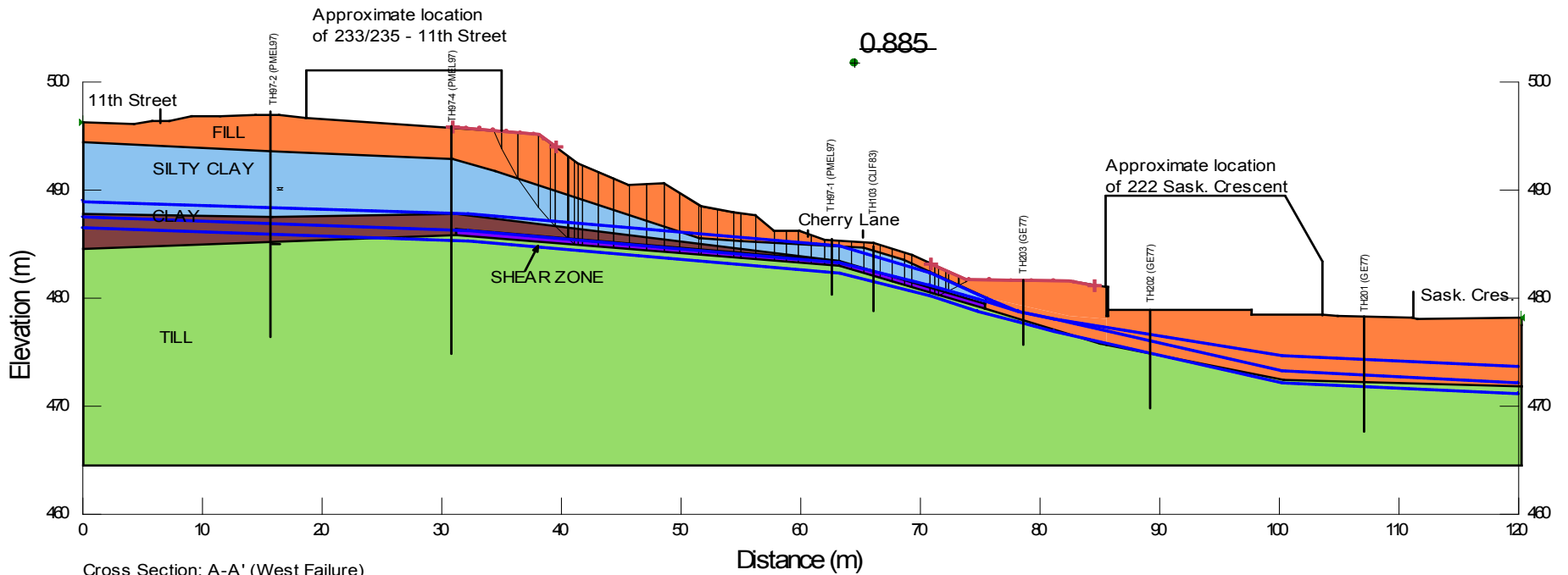


Cross Section: B-B' (East Failure)
File Name: BB Do Nothing Low WT_v2.gsz

PROJECT		 CHERRY LANE SLOPE INSTABILITY	
TITLE			
SLOPE STABILITY ANALYSIS CROSS SECTION B-B' DO NOTHING OPTION WITH LOW WATER TABLE			
PROJECT		FILE No.	
DESIGN	LNLM 08/05/14	SCALE	N/A REV.
CADD			
CHECK	PGB 08/05/14	FIGURE: 29	
REVIEW	HQV 08/05/14		

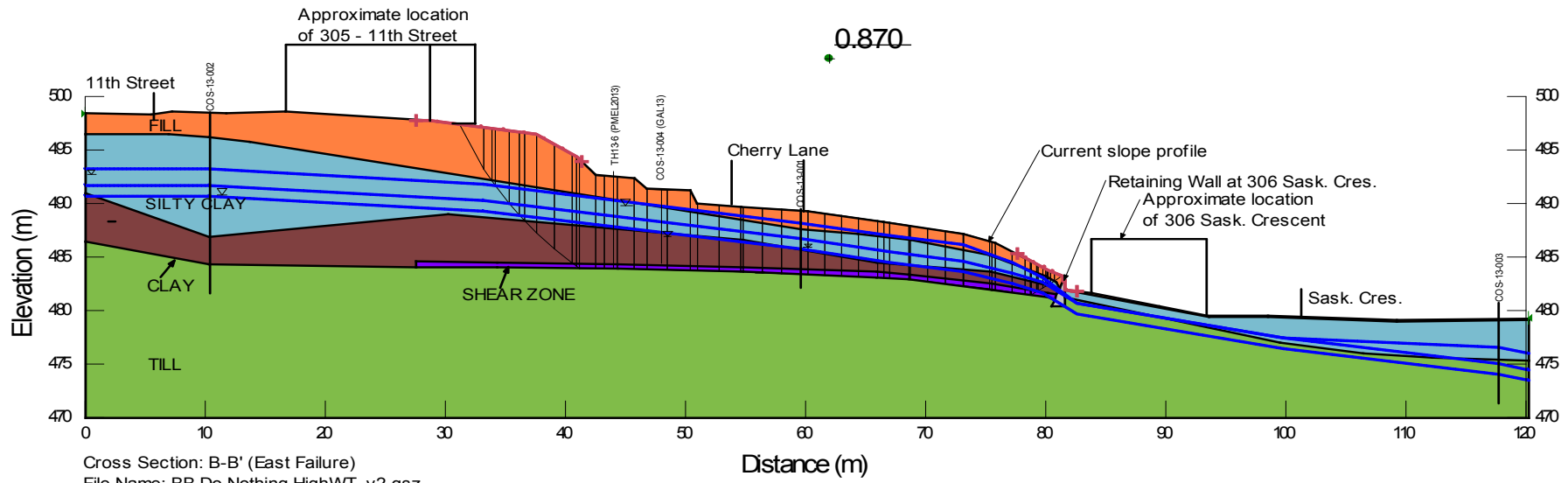


Name: Fill Unit Weight: 19 kN/m³ Cohesion: 5 kPa Phi: 22 °
 Name: Silty Clay Unit Weight: 19 kN/m³ Cohesion: 10 kPa Phi: 25 °
 Name: Clay Unit Weight: 19 kN/m³ Cohesion: 10 kPa Phi: 22 °
 Name: Shear zone Unit Weight: 19 kN/m³ Cohesion: 0 kPa Phi: 12 °
 Name: Till



		CHERRY LANE SLOPE INSTABILITY	
SLOPE STABILITY ANALYSIS CROSS SECTION A-A' DO NOTHING OPTION WITH HIGH WATER TABLE			
	PROJECT	11-1362-0057	FILE No.
	DESIGN	LNМ 08/05/14	SCALE N/A REV.
	CADD	HQV 08/05/14	FIGURE: 30
	CHECK	PGB 08/05/14	

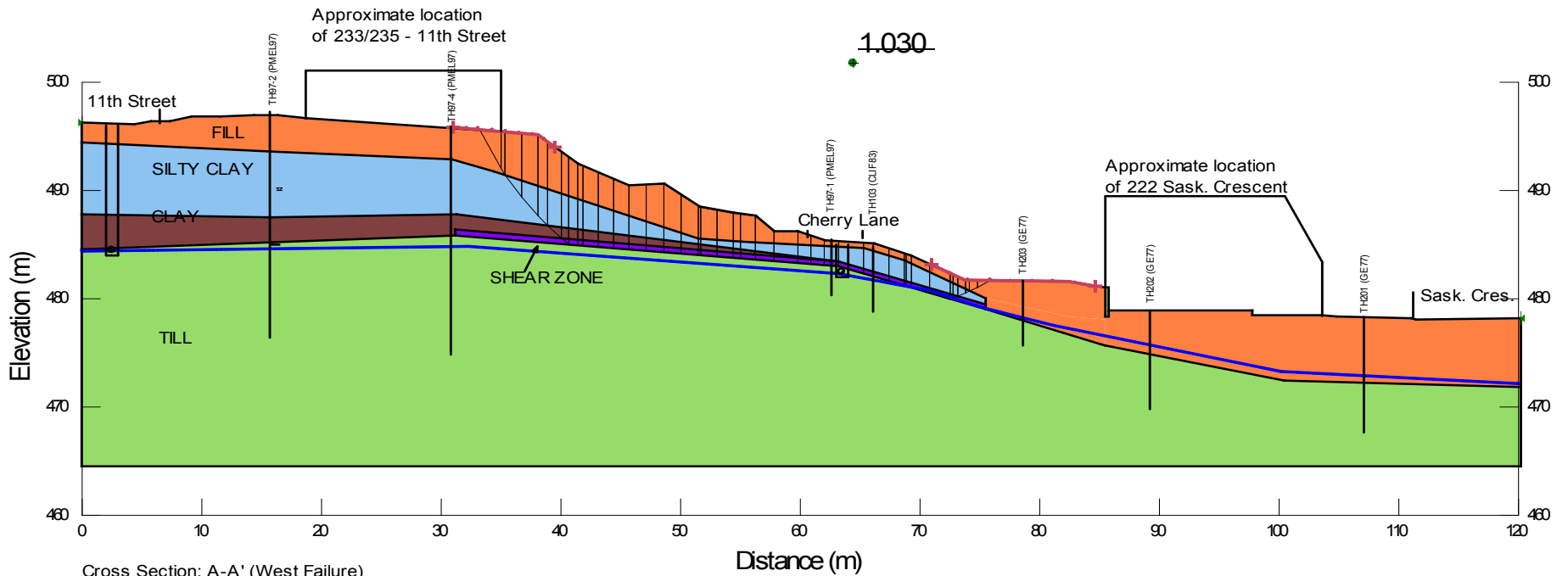
Name: Fill Unit Weight: 19 kN/m³ Cohesion: 5 kPa Phi: 22 °
 Name: Silty Clay Unit Weight: 19 kN/m³ Cohesion: 10 kPa Phi: 25 °
 Name: Clay Unit Weight: 19 kN/m³ Cohesion: 10 kPa Phi: 22 °
 Name: Shear zone Unit Weight: 19 kN/m³ Cohesion: 0 kPa Phi: 12 °
 Name: Till
 Name: Retaining wall



		CHERRY LANE SLOPE INSTABILITY		
SLOPE STABILITY ANALYSIS CROSS SECTION B-B' DO NOTHING OPTION WITH HIGH WATER TABLE				
PROJECT	11-1362-0057	FILE No.		
DESIGN	LNLM	08/05/14	SCALE	N/A
CADD				REV.
CHECK	PGB	08/05/14	FIGURE: 31	
REVIEW	HQV	08/05/14		

Saskatoon, Saskatchewan

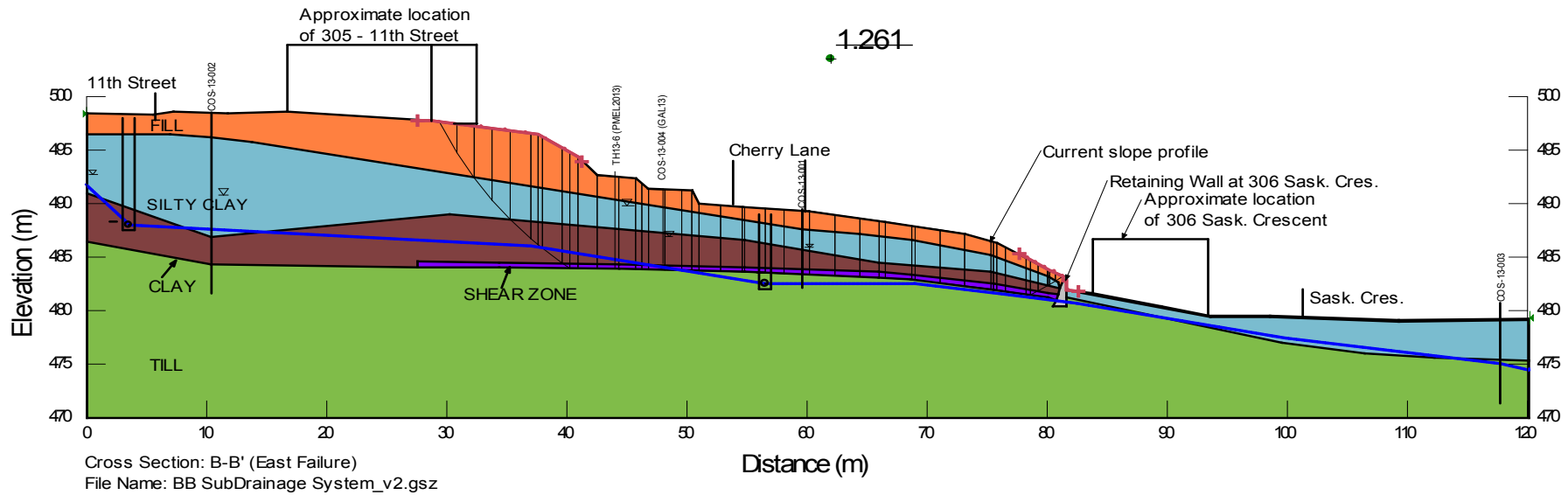
Name: Fill Unit Weight: 19 kN/m³ Cohesion: 5 kPa Phi: 22 °
 Name: Silty Clay Unit Weight: 19 kN/m³ Cohesion: 10 kPa Phi: 25 °
 Name: Clay Unit Weight: 19 kN/m³ Cohesion: 10 kPa Phi: 22 °
 Name: Shear zone Unit Weight: 19 kN/m³ Cohesion: 0 kPa Phi: 12 °
 Name: Till



Cross Section: A-A' (West Failure)
 File Name: AA SubDrainage System_v2.gsz

		CHERRY LANE SLOPE INSTABILITY	
SLOPE STABILITY ANALYSIS CROSS SECTION A-A' DRAINAGE OPTION			
	PROJECT	11-1362-0057	FILE No.
	DESIGN	LNLM	08/05/14
	CADD	HQV	08/05/14
	CHECK	PGB	08/05/14
		SCALE	N/A
		REV.	
			FIGURE: 32

Name: Fill Unit Weight: 19 kN/m³ Cohesion: 5 kPa Phi: 22 °
 Name: Silty Clay Unit Weight: 19 kN/m³ Cohesion: 10 kPa Phi: 25 °
 Name: Clay Unit Weight: 19 kN/m³ Cohesion: 10 kPa Phi: 22 °
 Name: Shear zone Unit Weight: 19 kN/m³ Cohesion: 0 kPa Phi: 12 °
 Name: Till
 Name: Retaining wall



		CHERRY LANE SLOPE INSTABILITY		
SLOPE STABILITY ANALYSIS CROSS SECTION B-B' DRAINAGE OPTION				
PROJECT	11-1362-0057	FILE No.		
DESIGN	LNLM	08/05/14	SCALE	N/A
CADD				REV.
CHECK	PGB	08/05/14	FIGURE: 33	
REVIEW	HQV	08/05/14		



Installation of a sub-drainage system would require disturbance to roadways (11th Street East and Cherry Lane) and underground utilities in the area, but would result in only localized disturbance to the residences in this area and pose little additional risk for slope instability during construction. Construction of the drainage outlet would require connection to the sewer system or construction of a new drainage outlet downslope.

10.7.3 Option 3 – Site Re-grading

Site re-grading (e.g., slope flattening) reduces material weight at the top of the slope and, in some cases, increases weight at the toe of the slope; therefore improves the slope stability condition.

Review of the upper slope topography shows that the current slope has an average slope of 2.5H:1V along cross-section A-A' (West Failure), and 1.9H:1V along cross-section B-B' (East Failure).

Slope stability analyses for cross-section A-A' and B-B' were conducted to determine the required level of slope flattening (conceptual slope geometry) of the site to obtain a minimum FS = 1.5, as shown in Table 12. It is assumed that installation of a drainage system along Cherry Lane will be required in conjunction with the slope re-grading in order to maintain pore-water pressures at or below the till contact.

Table 12: Average Slope Gradient for Conceptual Option 3 – Re-grading

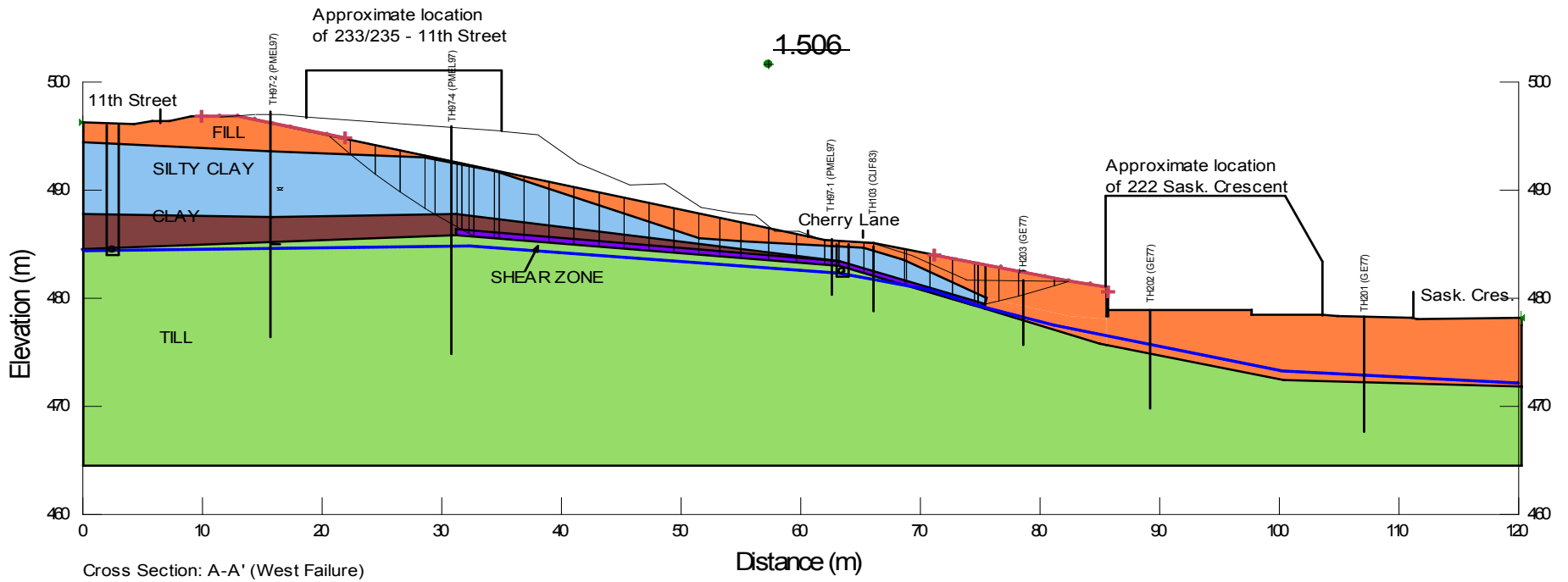
Cross Section	Average Slope Gradient	
	Upper Slope	Lower Slope
West Failure	4.4H:1V	4.8H:1V
East Failure	3.9H:1V	2.5H:1V

Figure 34 and Figure 35 show the stability analyses for this conceptual remedial slope flattening option. Figure 36 shows the plan view of the estimated extents of slope re-grading required to re-establish the slope to a minimum FS = 1.5. The approximate dimension of the conceptual slope re-grading is an area approximately 135 m long by 17 m to 67 m wide. Detailed design will refine the overall dimensions of this option.

Implementation of this option will cause significant disruption to residences along 11th Street East and Saskatchewan Crescent East, as well as the above ground power lines and landscaping in the area. Site access will be limited and large volumes of fill and debris will need to be hauled from site. Access to 11th Street East and Cherry Lane will be restricted during construction, but should not be affected in the long term.

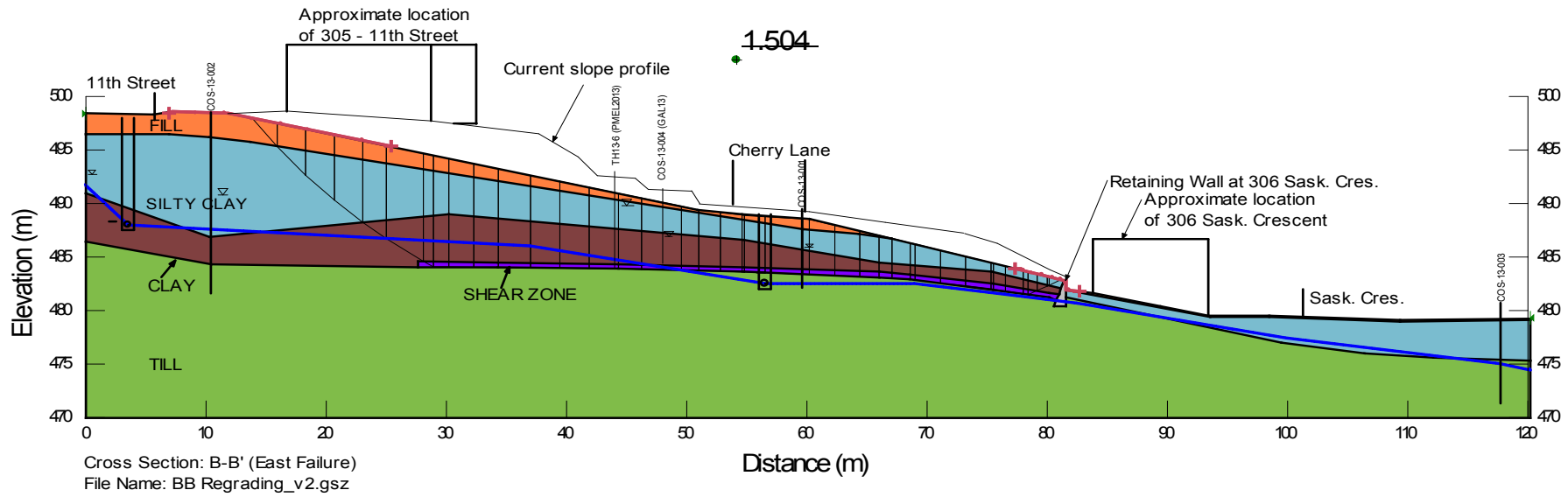
Installation of a drainage system will be required along 11th Street East and Cherry Lane in order to maintain long term stability of the slope with this option.


Name: Fill Unit Weight: 19 kN/m³ Cohesion: 5 kPa Phi: 22 °
 Name: Silty Clay Unit Weight: 19 kN/m³ Cohesion: 10 kPa Phi: 25 °
 Name: Clay Unit Weight: 19 kN/m³ Cohesion: 10 kPa Phi: 22 °
 Name: Shear zone Unit Weight: 19 kN/m³ Cohesion: 0 kPa Phi: 12 °
 Name: Till

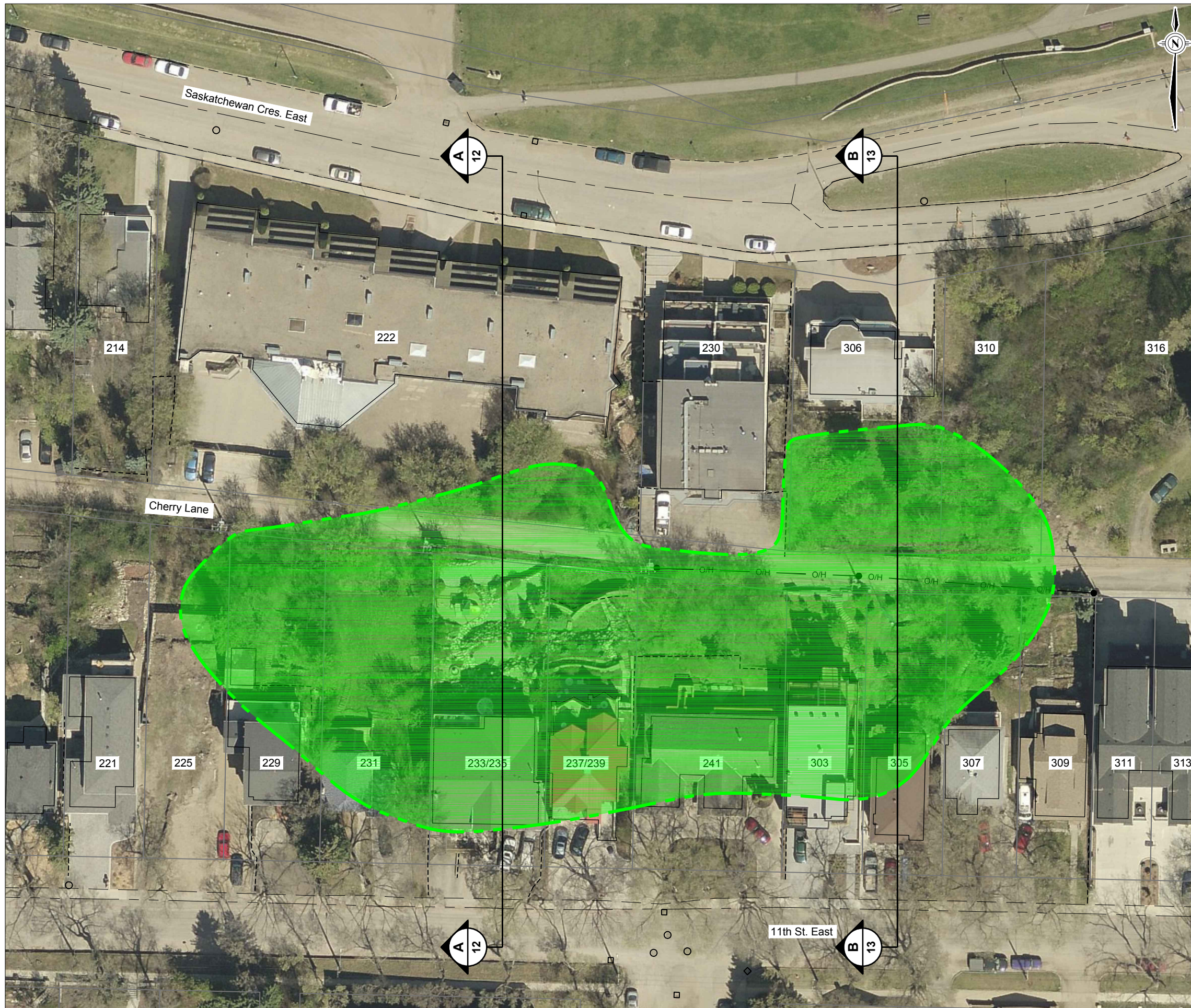


		CHERRY LANE SLOPE INSTABILITY	
SLOPE STABILITY ANALYSIS CROSS SECTION A-A' SITE REGRADING OPTION			
	PROJECT	11-1362-0057	FILE No.
	DESIGN	LNLM 08/05/14	SCALE N/A REV.
	CADD	HQV 08/05/14	FIGURE: 34
	CHECK	PGB 08/05/14	

Name: Fill Unit Weight: 19 kN/m³ Cohesion: 5 kPa Phi: 22 °
 Name: Silty Clay Unit Weight: 19 kN/m³ Cohesion: 10 kPa Phi: 25 °
 Name: Clay Unit Weight: 19 kN/m³ Cohesion: 10 kPa Phi: 22 °
 Name: Shear zone Unit Weight: 19 kN/m³ Cohesion: 0 kPa Phi: 12 °
 Name: Till
 Name: Retaining wall



PROJECT		 City of Saskatoon		CHERRY LANE SLOPE INSTABILITY	
TITLE					
SLOPE STABILITY ANALYSIS CROSS SECTION B-B' SITE REGRADING OPTION					
PROJECT		11-1362-0057		FILE No.	
DESIGN	LNLM	08/05/14	SCALE	N/A	REV.
CADD					
CHECK	PGB	08/05/14	FIGURE: 35		
REVIEW	HQV	08/05/14			



LEGEND

- POWER POLE
- CATCH BASIN
- MANHOLE
- O/H — OVERHEAD POWER LINE
- 303 LOT NUMBER

REFERENCE
 AERIAL PHOTOGRAPH PROVIDED BY CITY OF SASKATOON, MAY 15, 2011
 CITY OF SASKATOON DATUM



CHERRY LANE SLOPE INSTABILITY	
CONCEPTUAL AREA AFFECTED BY SITE RE-GRADING	
PROJECT 11-1326-0057 DESIGN LM 08/05/14 CADD BDS/JDS 08/05/14 CHECK HV 08/05/14 REVIEW PGB 08/05/14	FILE No. _____ SCALE AS SHOWN REV. 0 <div style="font-weight: bold; font-size: 1.2em; text-align: center;">FIGURE: 36</div>



10.7.4 Option 4 – Shear Zone Modification

Shear zone modification, such as the installation of shear key, stone column, concrete or steel piles, or using a cutter soil mixing (CSM) method, can be undertaken to improve the shear strength of the shear zone, thus improving slope stability conditions.

Slope stability analyses were conducted to evaluate the extent of the shear zone modification required to obtain a minimum FS = 1.5, as shown in Table 13. A material with an equivalent 30 degree effective friction angle and zero cohesion was assumed for the modified shear zone area. It is assumed that a dewatering system has been installed upslope of the shear zone modification in order to maintain the pore-water pressures at or below the till contact.

Table 13: Shear Zone Modification Dimensions for Conceptual Option 4

Cross Section	Shear Zone Dimensions		Comments
	Width (m)	Depth (mbgs)	
West Failure	13	7	Modification in Cherry Lane extending up and down slope
East Failure	4	7	Modification in Cherry Lane

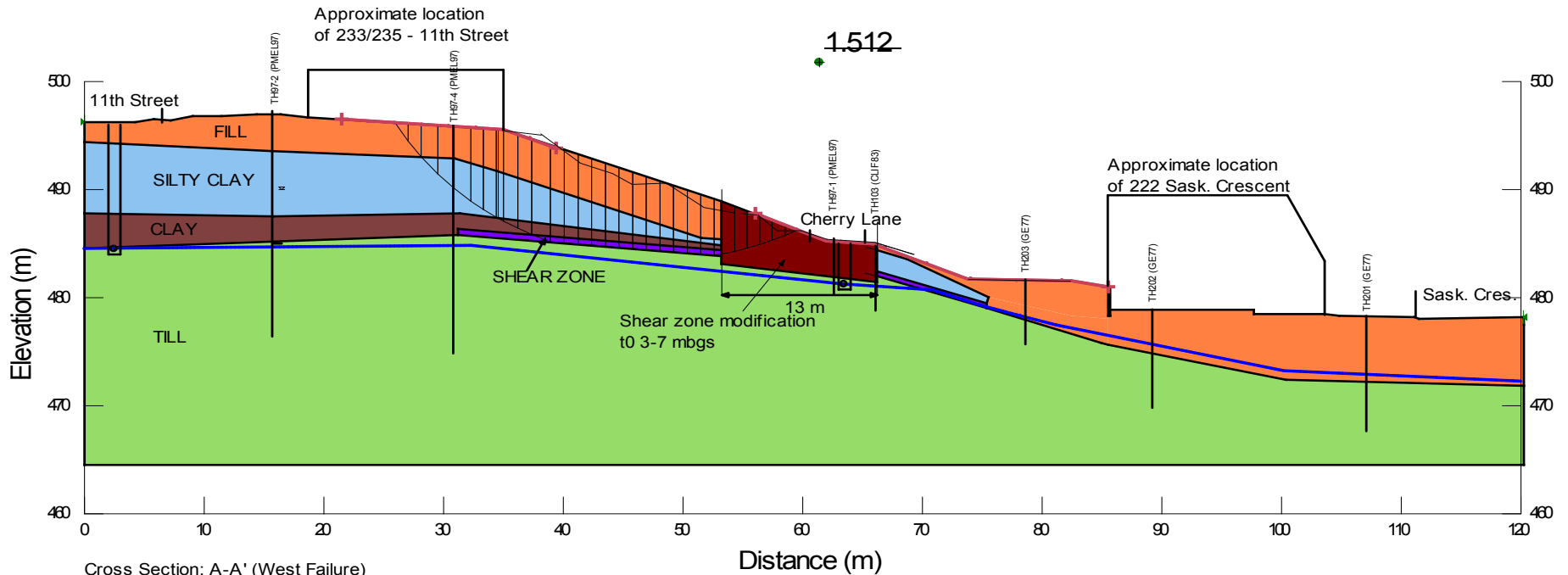
m = metre; mbgs = metres below ground surface

Figure 37 and Figure 38 show the stability analyses for this conceptual remedial option. Figure 39 shows the plan view of the estimated extent of shear zone modification required along Cherry Lane to achieve a minimum FS = 1.5. The approximate extent of the conceptual shear zone modification area is approximately 120 m long and 4 to 13 m wide. Detailed design will refine the overall dimensions of this option.

Implementation of this option will cause significant disruption to access and services along Cherry Lane, as well as the backyards of the residences along 11th Street East. Due to the unstable nature of this slope, the use of an open excavation method would not be acceptable. Construction methods where limited excavation is necessary would be required, such as stone columns, *in situ* cutter soil mixing, etc. Site access will be limited and large volumes of fill and debris will need to be hauled from site. Access to Cherry Lane will be restricted during construction.

Installation of a drainage system will be required along 11th Street East and Cherry Lane in order to maintain long term stability of the slope with this option.

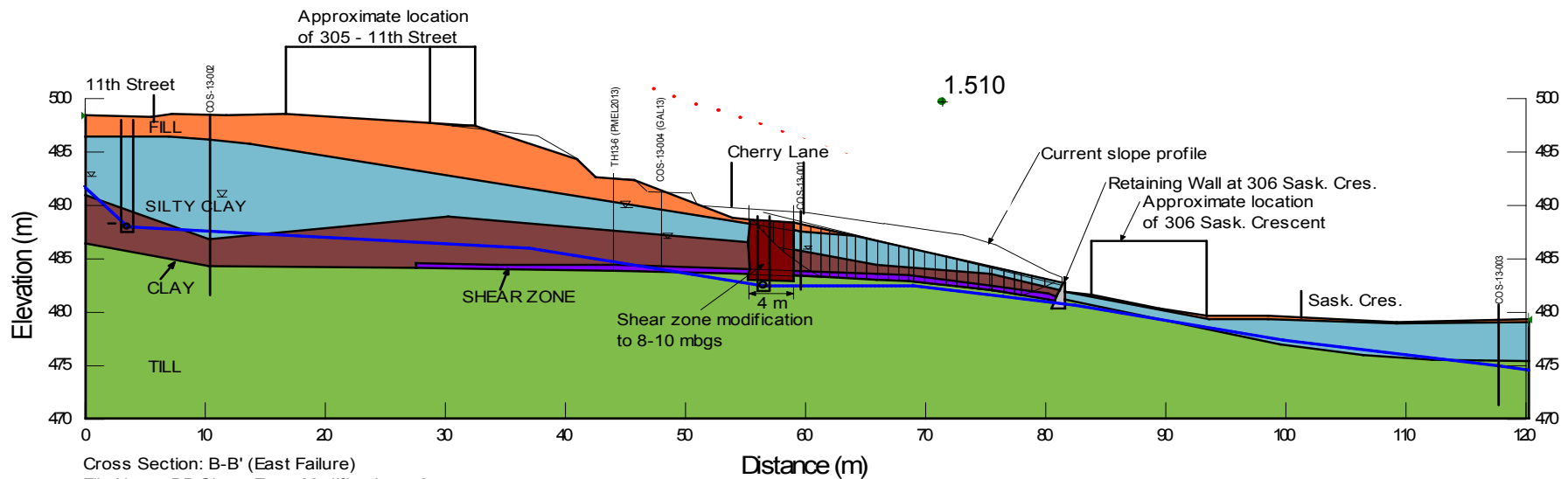
Name: Fill Unit Weight: 19 kN/m³ Cohesion: 5 kPa Phi: 22 °
 Name: Silty Clay Unit Weight: 19 kN/m³ Cohesion: 10 kPa Phi: 25 °
 Name: Clay Unit Weight: 19 kN/m³ Cohesion: 10 kPa Phi: 22 °
 Name: Shear zone Unit Weight: 19 kN/m³ Cohesion: 0 kPa Phi: 12 °
 Name: Till
 Name: Shear zone modification Unit Weight: 20 kN/m³ Cohesion: 0 kPa Phi: 30 °



Cross Section: A-A' (West Failure)
File Name: AA Shear Zone Modification_v2.gsz

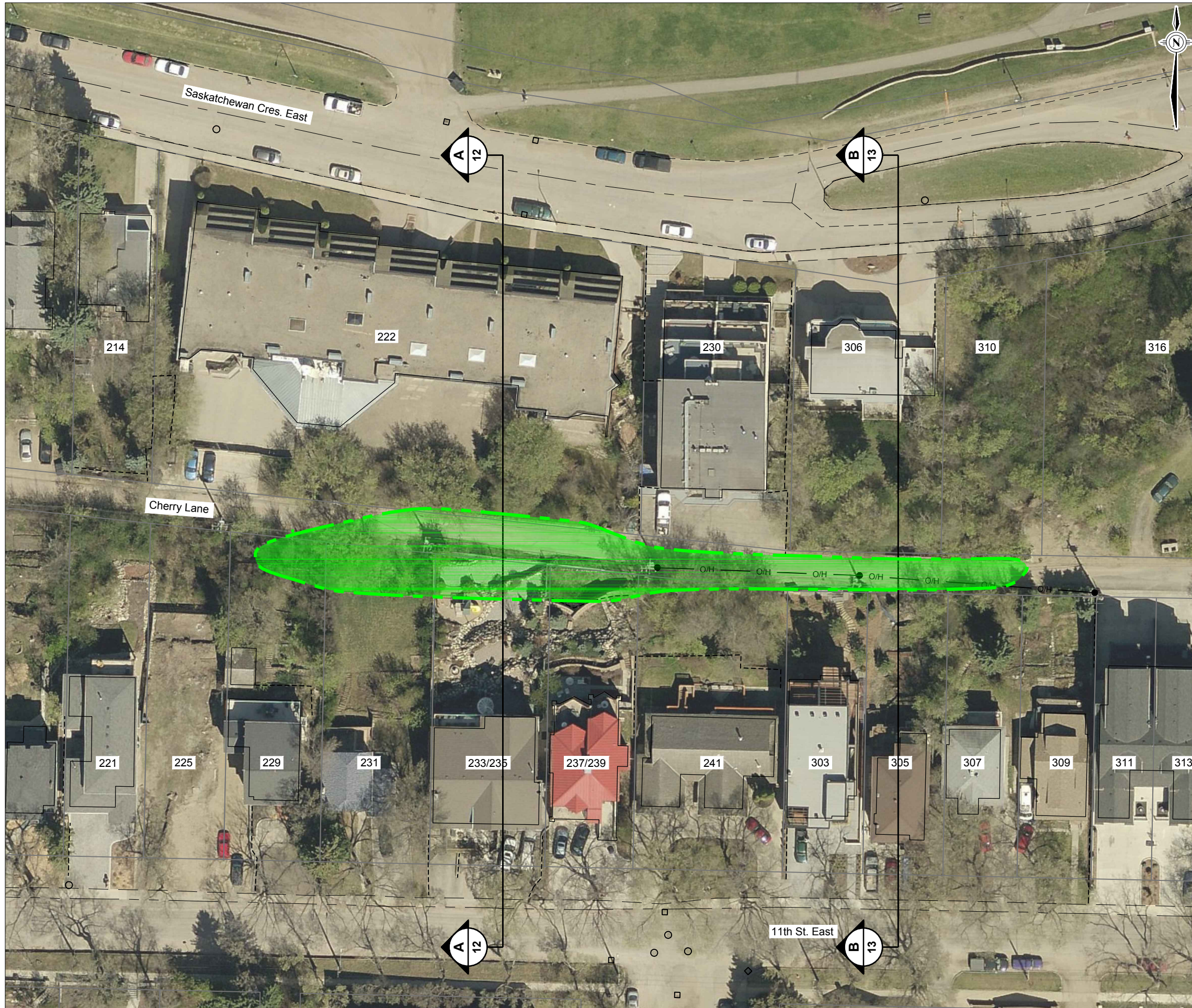
		CHERRY LANE SLOPE INSTABILITY		
SLOPE STABILITY ANALYSIS CROSS SECTION A-A' SHEAR ZONE MODIFICATION OPTION				
	PROJECT	11-1362-0057	FILE No.	
	DESIGN	LNLM	08/05/14	SCALE N/A REV.
	CADD			
	CHECK	HQV	08/05/14	FIGURE: 37
REVIEW	PGB	08/05/14		

Name: Fill Unit Weight: 19 kN/m³ Cohesion: 5 kPa Phi: 22 °
 Name: Silty Clay Unit Weight: 19 kN/m³ Cohesion: 10 kPa Phi: 25 °
 Name: Clay Unit Weight: 19 kN/m³ Cohesion: 10 kPa Phi: 22 °
 Name: Shear zone Unit Weight: 19 kN/m³ Cohesion: 0 kPa Phi: 12 °
 Name: Till
 Name: Shear zone modification Unit Weight: 20 kN/m³ Cohesion: 0 kPa Phi: 30 °
 Name: Retaining wall



Cross Section: B-B' (East Failure)
 File Name: BB Shear Zone Modification_v2.gsz

		CHERRY LANE SLOPE INSTABILITY		
SLOPE STABILITY ANALYSIS CROSS SECTION B-B' SHEAR ZONE MODIFICATION OPTION				
PROJECT	11-1362-0057	FILE No.		
DESIGN	LNLM	08/05/14	SCALE	N/A
CADD				REV.
CHECK	PGB	08/05/14	FIGURE: 38	
REVIEW	HQV	08/05/14		



LEGEND

- POWER POLE
- CATCH BASIN
- MANHOLE
- O/H — OVERHEAD POWER LINE
- 303 LOT NUMBER

REFERENCE

AERIAL PHOTOGRAPH PROVIDED BY CITY OF SASKATOON, MAY 15, 2011
CITY OF SASKATOON DATUM



PROJECT 	CHERRY LANE SLOPE INSTABILITY																		
TITLE CONCEPTUAL AREA AFFECTED BY SHEAR ZONE MODIFICATION																			
	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 15%;">PROJECT</td> <td style="width: 15%;">11-1326-0057</td> <td style="width: 15%;">FILE No.</td> <td style="width: 15%;"></td> </tr> <tr> <td>DESIGN</td> <td>LM 08/05/14</td> <td>SCALE</td> <td>AS SHOWN</td> </tr> <tr> <td>CADD</td> <td>BDS/JDS 08/05/14</td> <td>REV.</td> <td>0</td> </tr> <tr> <td>CHECK</td> <td>HV 08/05/14</td> <td colspan="2" rowspan="2" style="text-align: center; vertical-align: middle;">FIGURE: 39</td> </tr> <tr> <td>REVIEW</td> <td>PGB 08/05/14</td> </tr> </table>	PROJECT	11-1326-0057	FILE No.		DESIGN	LM 08/05/14	SCALE	AS SHOWN	CADD	BDS/JDS 08/05/14	REV.	0	CHECK	HV 08/05/14	FIGURE: 39		REVIEW	PGB 08/05/14
PROJECT	11-1326-0057	FILE No.																	
DESIGN	LM 08/05/14	SCALE	AS SHOWN																
CADD	BDS/JDS 08/05/14	REV.	0																
CHECK	HV 08/05/14	FIGURE: 39																	
REVIEW	PGB 08/05/14																		



11.0 SUMMARY

The slope failures along Cherry Lane are most likely the result of a combination of the natural geology of the soils along the riverbank, the heavy and prolonged precipitation in the spring of 2012 and 2013 that resulted in increased groundwater levels, and changes to the geometry and landscaping of the slope. As such, this section of the riverbank is at a high risk of continuing slope failure. Action should be taken to reduce the risk to the public, infrastructure, and property in the area.

Conceptual slope remediation options were developed for the Site. Table 14 provides a summary of cost estimates, risks, and benefits associated with each of the conceptual options.

The conceptual cost estimate, shown in Table 14, was prepared by comparing the conceptual remedial options to similar projects conducted in and around the City of Saskatoon and scaling the costs to suit the estimated size and scope of the remedial option. A contingency of 50% has been added to the estimated costs to account for variations that will be generated from a more detailed analysis of the conceptual options. Similar projects include: shear key construction at Cosmopolitan Park in 2011, lightweight fill placement at 17th Street and Saskatchewan Crescent in 2013; and typical rates for CSM construction provided by Golder Construction. Costs associated with contractor mobilization, engineering design and support, and construction monitoring have been included. A more detailed breakdown of the costs for the conceptual estimates is provided in Appendix H.

It is recommended that shear zone modification with the installation of a sub-drainage system be considered as a remedial option for the properties affected by the slope movement at the Site. While the conceptual cost of the shear zone modification with drainage option is higher than the other options considered, this option will result in the least permanent disturbance to the surrounding properties, depending on the specific method of shear zone modification selected, and will achieve the required factor of safety for the remedial slope. Additionally, depending on the method selected, the majority of the remedial work can be confined to the area surrounding Cherry Lane, increasing accessibility for construction.



CHERRY LANE GEOTECHNICAL INVESTIGATION AND EVALUATION

Table 14: Risk/Benefit Summary of Conceptual Remediation Options

Conceptual Remediation Option	Estimated Cost ^(a)	Benefit/Advantage	Risk/Disadvantage
Option 1 – Do nothing	<\$500,000	<ul style="list-style-type: none"> ■ Low cost 	<ul style="list-style-type: none"> ■ High risk of continued failure, additional sloughing of the material at the scarps of the failure areas, and for buildup of material at the toe until the slope has reached a flatter angle. ■ Failure likely to retrogress toward 11th Street East may affect building foundations along 11th Street East, and may cause movement of the structures. ■ Properties located below 11th Street East may experience damage from debris or additional soil loading as material collects at the toe of the failure. ■ Ongoing cracking and movement along Cherry Lane as the slope movement progress, disrupting traffic access and power service along the lane.
Option 2 – Installation of Sub- Drainage System	\$4,500,000	<ul style="list-style-type: none"> ■ The FS for the slope increases for the existing failure areas. ■ Decreasing and maintaining the pore-water pressures along the slope will decrease the risk of additional slope movement during high precipitation years. ■ Little additional risk for slope instability during construction. ■ Only localized disturbance to the residences in this area. 	<ul style="list-style-type: none"> ■ Does not improve the Factor of Safety for the slope to target 1.5. ■ It may take several years for the remediation to be effective because dissipation of pore-water pressure in clay takes time. ■ Installation of a drainage system will require disturbance to roadways (11th Street East and Cherry Lane) and underground utilities in the area. ■ Construction of the drainage outlet would require connection to the sewer system or construction of a new drainage outlet downslope which will affect properties along Saskatchewan Crescent East. ■ Cross drains connecting between 11th Street East and Cherry Lane may require some disturbance in the yards of the residences on the 200 to 300 block of 11th Street East. ■ Long term maintenance and monitoring of the drainage system is required.
Option 3- Slope Re-grading and Installation of Sub-Drainage System	\$6,500,000	<ul style="list-style-type: none"> ■ Target Factor of Safety of 1.5 for the slope in this area is achievable. ■ Reduced risk of shallow failures in the upper slope due to the flatter grade. ■ Decreasing and maintaining the pore-water pressures along the slope will decrease the risk of additional slope movement during high precipitation years. ■ Access to 11th Street East and Cherry Lane should not be affected in the long term. 	<ul style="list-style-type: none"> ■ Construction will cause significant disruption to residences along 11th Street East and Saskatchewan Crescent East, as well as the above ground power lines and landscaping in the area. ■ Site access will be limited and large volumes of fill and debris will need to be hauled from site. ■ Access to 11th Street East and Cherry Lane will be restricted during construction. ■ Installation of a drainage system will require disturbance to roadways (11th Street East and Cherry Lane) and underground utilities in the area. ■ Construction of the drainage outlet would require connection to the sewer system or construction of a new drainage outlet downslope which will affect properties along Saskatchewan Crescent East. ■ Cross drains connecting between 11th Street East and Cherry Lane may require some disturbance in the yards of the residences on the 200 to 300 block of 11th Street East. ■ Long term maintenance and monitoring of the drainage system is required.
Option 4 - Shear Zone Modification and Installation of Sub-Drainage System	\$10,500,000	<ul style="list-style-type: none"> ■ Target Factor of Safety of 1.5 for the slope in this area is achievable. ■ Majority of work can be confined to Cherry Lane, resulting in less disruption to residences along 11th Street East and Saskatchewan Crescent East. ■ Decreasing and maintaining the pore-water pressures along the slope will decrease the risk of additional slope movement during high precipitation years. ■ Access to 11th Street East and Cherry Lane should not be affected in the long term. 	<ul style="list-style-type: none"> ■ Construction will cause significant disruption to Cherry Lane and the backyards and power line along Cherry Lane. ■ Temporary slope stabilization methods will need to be installed above Cherry Lane to reduce the risk of instability during construction. ■ Access to 11th Street East and Cherry Lane will be restricted during construction. ■ Installation of a drainage system will require disturbance to roadways (11th Street East and Cherry Lane) and underground utilities in the area. ■ Construction of the drainage outlet would require connection to the sewer system or construction of a new drainage outlet downslope which will affect properties along Saskatchewan Crescent East. ■ Cross drains connecting between 11th Street East and Cherry Lane may require some disturbance in the yards of the residences on the 200 to 300 block of 11th Street East. ■ Long term maintenance and monitoring of the drainage system is required.

^(a) Costs for alterations to existing properties, including removal of debris and landscaping, removal of structures, property purchase, and changes to existing utilities have not been considered in this estimate. Costs have been rounded to the nearest \$500,000.



12.0 CLOSURE

The findings of this report are based upon the results of field and laboratory investigations conducted by Golder. If conditions encountered at the surface or at depth during construction appear to be different than indicated in the report, or if the stated assumptions are not consistent with design, this office should be notified for review and adjustment of recommendations, if necessary.

Soil conditions are, by nature, are highly variable across a construction site. The placement of fill and prior construction activities can contribute to variables in the near-surface conditions. A contingency should be included in any construction budget to allow for the possibility of variation of soil conditions that may result in modification of design and construction procedures.

This report was prepared for the City of Saskatoon for the proposed works described in the text. The data and recommendations should not be used for any other purpose, or by any other parties, without written consent from Golder Associates Ltd. The findings and recommendations of this report were prepared in accordance with generally accepted professional engineering principles and practice. No other warranty, expressed or implied, is given.



Report Signature Page

GOLDER ASSOCIATES LTD.



Laurie McEachern

Laurie McEachern, B.Sc.
Engineer in Training



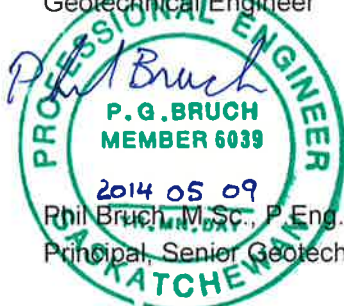
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Lisa Nehring, P.Eng.
Geotechnical Engineer



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Hung Vu, Ph.D., P.Eng.
Associate, Senior Geotechnical Engineer



Phil Bruch

Phil Bruch, M.Sc., P.Eng.
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Principal, Senior Geotechnical Engineer

LDN/GAM/HV/PB/DF/jlb/pls

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Association of Professional Engineers & Geoscientists of Saskatchewan		
CERTIFICATE OF AUTHORIZATION		
Golder Associates Ltd.		
Number C0230		
Permission to Consult held by:		
Discipline	Sk. Reg. No.	Signature
<i>Geotechnical</i>	<i>12797</i>	<i>[Signature]</i>



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CHERRY LANE GEOTECHNICAL INVESTIGATION AND EVALUATION

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APPENDIX A

Information and Limitations of this Report

IMPORTANT INFORMATION AND LIMITATIONS OF THIS REPORT

Standard of Care: Golder Associates Ltd. (Golder) has prepared this report in a manner consistent with that level of care and skill ordinarily exercised by members of the engineering and science professions currently practising under similar conditions in the jurisdiction in which the services are provided, subject to the time limits and physical constraints applicable to this report. No other warranty, expressed or implied is made.

Basis and Use of the Report: This report has been prepared for the specific site, design objective, development and purpose described to Golder by the Client. The factual data, interpretations and recommendations pertain to a specific project as described in this report and are not applicable to any other project or site location. Any change of site conditions, purpose, development plans or if the project is not initiated within eighteen months of the date of the report may alter the validity of the report. Golder can not be responsible for use of this report, or portions thereof, unless Golder is requested to review and, if necessary, revise the report.

The information, recommendations and opinions expressed in this report are for the sole benefit of the Client. No other party may use or rely on this report or any portion thereof without Golder's express written consent. If the report was prepared to be included for a specific permit application process, then upon the reasonable request of the client, Golder may authorize in writing the use of this report by the regulatory agency as an Approved User for the specific and identified purpose of the applicable permit review process. Any other use of this report by others is prohibited and is without responsibility to Golder. The report, all plans, data, drawings and other documents as well as all electronic media prepared by Golder are considered its professional work product and shall remain the copyright property of Golder, who authorizes only the Client and Approved Users to make copies of the report, but only in such quantities as are reasonably necessary for the use of the report by those parties. The Client and Approved Users may not give, lend, sell, or otherwise make available the report or any portion thereof to any other party without the express written permission of Golder. The Client acknowledges that electronic media is susceptible to unauthorized modification, deterioration and incompatibility and therefore the Client can not rely upon the electronic media versions of Golder's report or other work products.

The report is of a summary nature and is not intended to stand alone without reference to the instructions given to Golder by the Client, communications between Golder and the Client, and to any other reports prepared by Golder for the Client relative to the specific site described in the report. In order to properly understand the suggestions, recommendations and opinions expressed in this report, reference must be made to the whole of the report. Golder can not be responsible for use of portions of the report without reference to the entire report.

Unless otherwise stated, the suggestions, recommendations and opinions given in this report are intended only for the guidance of the Client in the design of the specific project. The extent and detail of investigations, including the number of test holes, necessary to determine all of the relevant conditions which may affect construction costs would normally be greater than has been carried out for design purposes. Contractors bidding on, or undertaking the work, should rely on their own investigations, as well as their own interpretations of the factual data presented in the report, as to how subsurface conditions may affect their work, including but not limited to proposed construction techniques, schedule, safety and equipment capabilities.

Soil, Rock and Groundwater Conditions: Classification and identification of soils, rocks, and geologic units have been based on commonly accepted methods employed in the practice of geotechnical engineering and related disciplines. Classification and identification of the type and condition of these materials or units involves judgment, and boundaries between different soil, rock or geologic types or units may be transitional rather than abrupt. Accordingly, Golder does not warrant or guarantee the exactness of the descriptions.

IMPORTANT INFORMATION AND LIMITATIONS OF THIS REPORT (cont'd)

Special risks occur whenever engineering or related disciplines are applied to identify subsurface conditions and even a comprehensive investigation, sampling and testing program may fail to detect all or certain subsurface conditions. The environmental, geologic, geotechnical, geochemical and hydrogeologic conditions that Golder interprets to exist between and beyond sampling points may differ from those that actually exist. In addition to soil variability, fill of variable physical and chemical composition can be present over portions of the site or on adjacent properties. **The professional services retained for this project include only the geotechnical aspects of the subsurface conditions at the site, unless otherwise specifically stated and identified in the report.** The presence or implication(s) of possible surface and/or subsurface contamination resulting from previous activities or uses of the site and/or resulting from the introduction onto the site of materials from off-site sources are outside the terms of reference for this project and have not been investigated or addressed.

Soil and groundwater conditions shown in the factual data and described in the report are the observed conditions at the time of their determination or measurement. Unless otherwise noted, those conditions form the basis of the recommendations in the report. Groundwater conditions may vary between and beyond reported locations and can be affected by annual, seasonal and meteorological conditions. The condition of the soil, rock and groundwater may be significantly altered by construction activities (traffic, excavation, groundwater level lowering, pile driving, blasting, etc.) on the site or on adjacent sites. Excavation may expose the soils to changes due to wetting, drying or frost. Unless otherwise indicated the soil must be protected from these changes during construction.

Sample Disposal: Golder will dispose of all uncontaminated soil and/or rock samples 90 days following issue of this report or, upon written request of the Client, will store uncontaminated samples and materials at the Client's expense. In the event that actual contaminated soils, fills or groundwater are encountered or are inferred to be present, all contaminated samples shall remain the property and responsibility of the Client for proper disposal.

Follow-Up and Construction Services: All details of the design were not known at the time of submission of Golder's report. Golder should be retained to review the final design, project plans and documents prior to construction, to confirm that they are consistent with the intent of Golder's report.

During construction, Golder should be retained to perform sufficient and timely observations of encountered conditions to confirm and document that the subsurface conditions do not materially differ from those interpreted conditions considered in the preparation of Golder's report and to confirm and document that construction activities do not adversely affect the suggestions, recommendations and opinions contained in Golder's report. Adequate field review, observation and testing during construction are necessary for Golder to be able to provide letters of assurance, in accordance with the requirements of many regulatory authorities. In cases where this recommendation is not followed, Golder's responsibility is limited to interpreting accurately the information encountered at the borehole locations, at the time of their initial determination or measurement during the preparation of the Report.

Changed Conditions and Drainage: Where conditions encountered at the site differ significantly from those anticipated in this report, either due to natural variability of subsurface conditions or construction activities, it is a condition of this report that Golder be notified of any changes and be provided with an opportunity to review or revise the recommendations within this report. Recognition of changed soil and rock conditions requires experience and it is recommended that Golder be employed to visit the site with sufficient frequency to detect if conditions have changed significantly.

Drainage of subsurface water is commonly required either for temporary or permanent installations for the project. Improper design or construction of drainage or dewatering can have serious consequences. Golder takes no responsibility for the effects of drainage unless specifically involved in the detailed design and construction monitoring of the system.



APPENDIX B

Aerial Photographs



APPENDIX B
Aerial Photographs



Figure B.1. Aerial Photograph, 1939



Figure B.2. Aerial Photograph, 1958



APPENDIX B
Aerial Photographs



Figure B.3. Aerial Photograph, 1961



Figure B.4. Aerial Photograph, 1970



APPENDIX B
Aerial Photographs



Figure B.5. Aerial Photograph, 1974



Figure B.6. Aerial Photograph, 1977



APPENDIX B
Aerial Photographs



Figure B.7. Aerial Photograph, 1987



Figure B.8. Aerial Photograph, 1997



APPENDIX B
Aerial Photographs



Figure B.9. Aerial Photograph, 2001

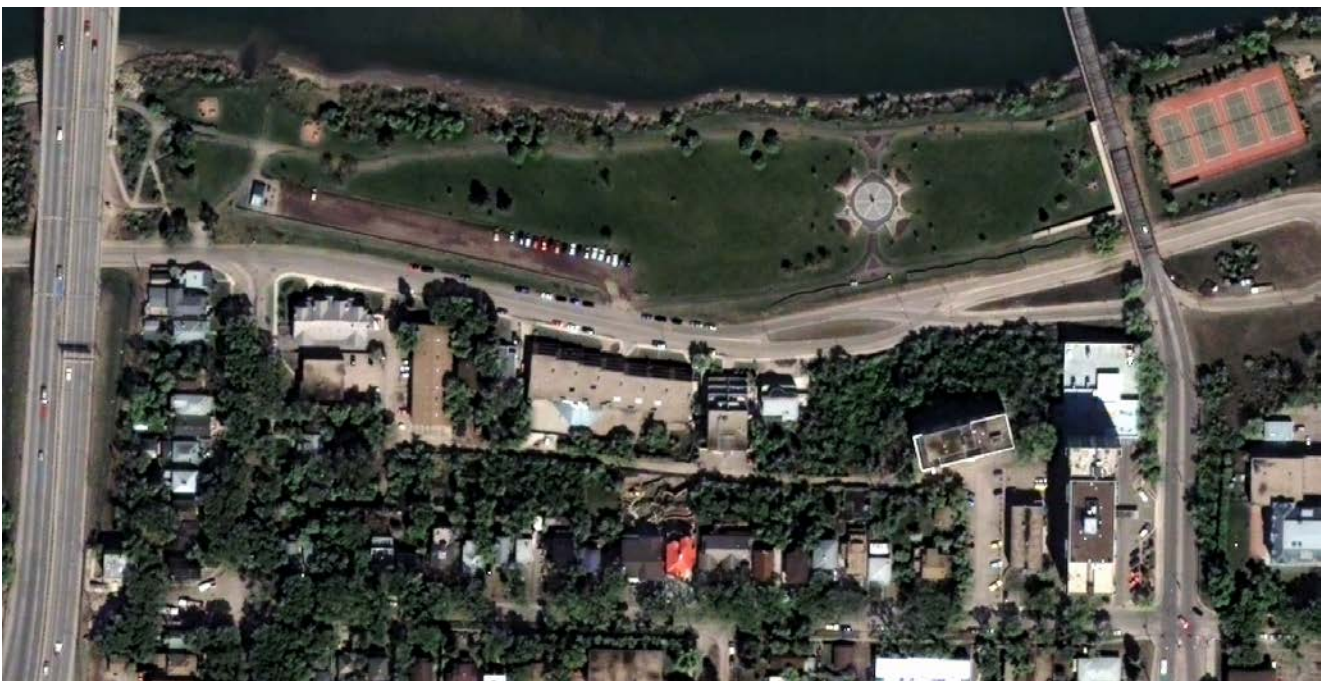


Figure B.10. Aerial Photograph, 2006



APPENDIX B
Aerial Photographs



Figure B.11. Aerial Photograph, 2011



APPENDIX C

Field Inspection Photographs



Photo C.1. Looking East at Deflection of Curb and Fence Line along Cherry Lane (Nov 5, 2006)



Photo C.2. Looking East at Deflection of Curb and Fence Line along Cherry Lane (May 27, 2010)



Photo C.3. Looking East at Deflection of Curb and Fence Line along Cherry Lane (April 26, 2012)



Photo C.4. Looking West at Toe of Upper Slope (April 26, 2012)



Photo C.5. Headscarp in the Backyard of 233-235 11th St. E. (June 21, 2012)



Photo C.6. Bulging Toe of Slide on Cherry Lane (June 21, 2012)



Photo C.7. Bulging Toe of Slide below Cherry Lane (June 21, 2012)



Photo C.8. Cracking Behind Retaining Wall in Backyard of 237-239 11th St. E. (June 21, 2012)



Photo C.9. Retaining Wall in Backyard of 237-239 11th St. E. (June 21, 2012)



Photo C.10. Looking East at Tension Cracking along Cherry Lane (June 21, 2013)

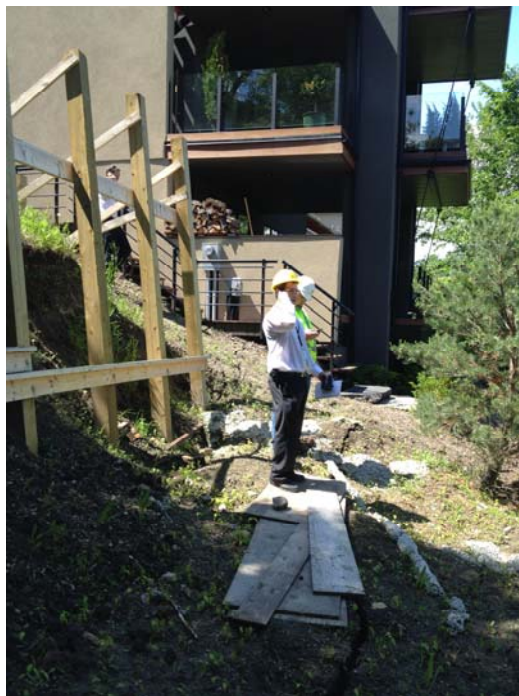


Photo C.11. Cracking along Headscarp of East Failure (June 21, 2012)



Photo C.12. Looking East at Headscarp of East Failure in Backyard of 305 11th St. E.; Approx. 90 cm Drop (June 24, 2013)



Photo C.13. Headscarp of East Failure in Backyard of 303 11th St. E.; Approx. 60 cm Drop (June 24, 2013)



Photo C.14. Looking East at Bulging Toe of Slide above Retaining Wall behind 306 Sask. Cres. E. (June 24, 2013)



Photo C.15. Looking East at Severe Cracking across Cherry Lane, Pavement; Approx. 50 cm Drop (June 24, 2013)



Photo C.16. Looking East at Scarp & Tension Cracking on Cherry Lane (June 24, 2013)



Photo C.17. Retaining Wall in Backyard of 237-239 11th St. E. (June 4, 2013)

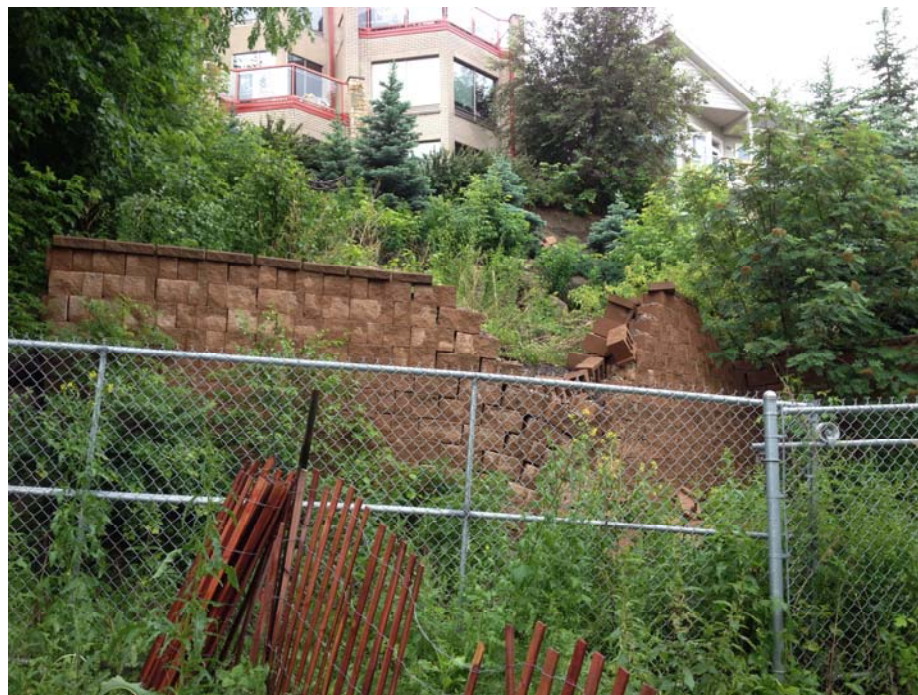


Photo C.18. Retaining Wall in Backyard of 237-239 11th St. E. (June 20, 2013)



Photo C.19. Retaining Wall in Backyard of 237-239 11th St. E. (June 24, 2013)



Photo C.20. Looking East at Drop in Pavement behind 305 11th St. E.; Approx 53 cm Drop (June 4, 2013)



Photo C.21. Looking East at Public Works Filling Cracks and Regrading Lane (June 5, 2013)



Photo C.22. Looking West at Erosion along Cherry Lane (June 6, 2013)



Photo C.23. Looking West at Berm Along North Edge of Cherry Lane, behind 306 Sask. Cres. E. (July 7, 2013)



Photo C.24. Looking Northeast at Trench being Excavated Adjacent to Wall between 230 & 306 Sask. Cres. E. (July 7, 2013)



Photo C.25. Looking Northeast at Concrete Retaining Wall between 230 & 306 Sask. Cres. E. (July 7, 2013)



Photo C.26. Looking North at Concrete Retaining Wall between 230 & 306 Sask. Cres. E. (July 7, 2013)



Photo C.27. Looking East at New Tension Cracking Forming on Regraded Lane (July 7, 2013)



Photo C.28. Looking North at Partially Filled Trench (July 17, 2013)

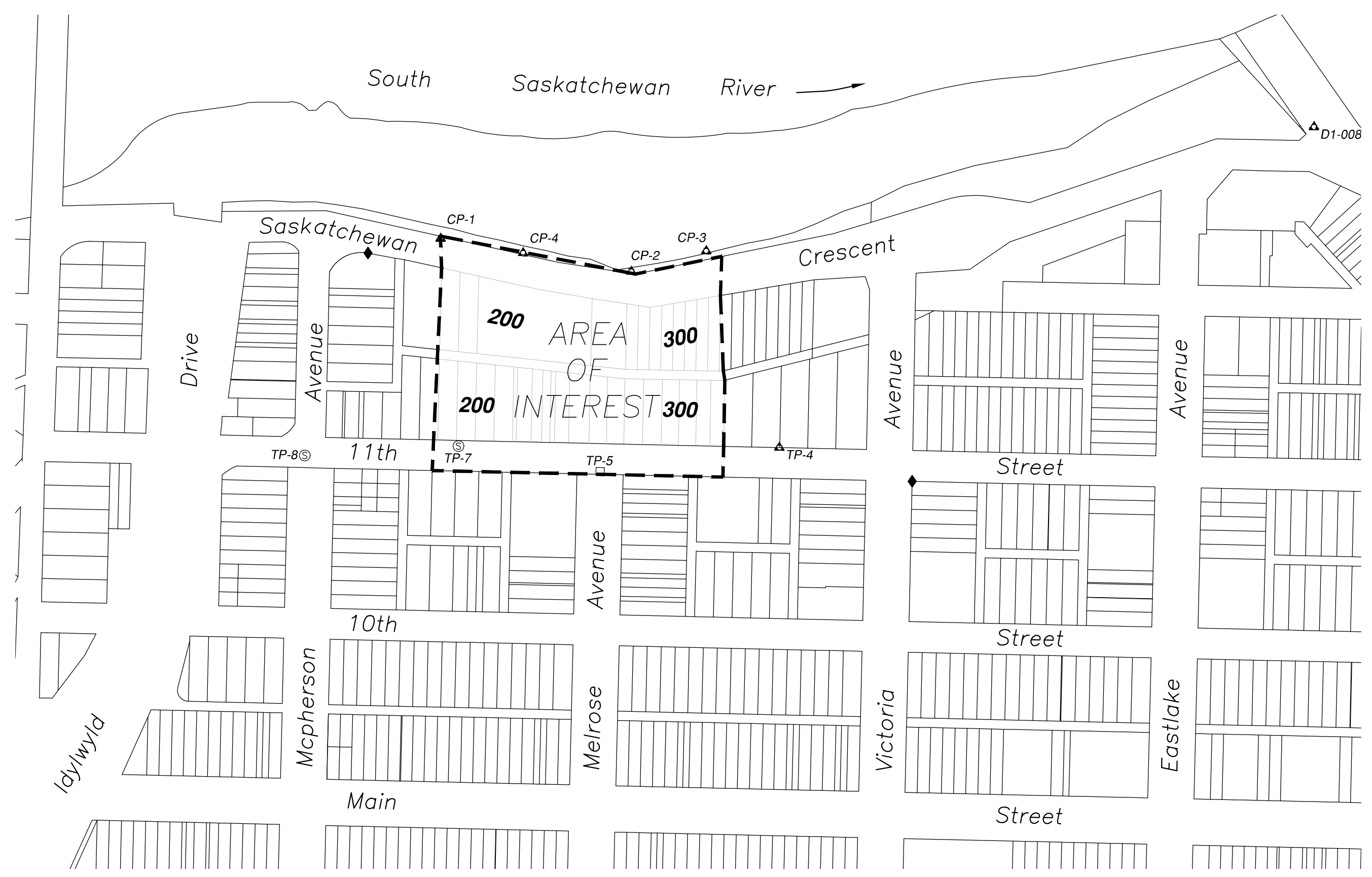


Photo C.29. Looking East at Above Ground Driantage System Installed on Cherry Lane (September 18, 2013)



APPENDIX D

Topographic Survey Plan



KEYPLAN
Scale: 1:2500

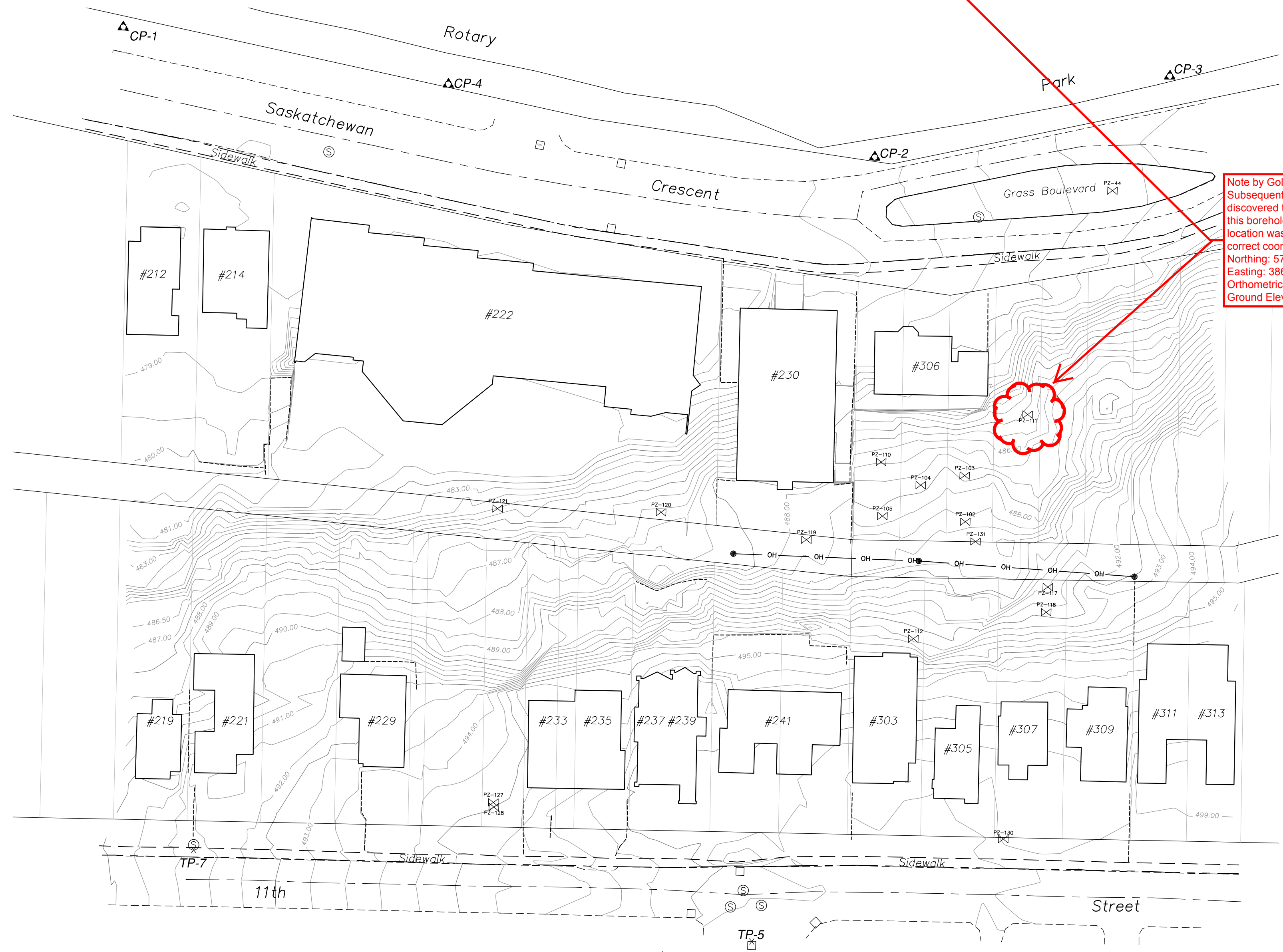
CONTROL POINTS				
POINT	NAD 83 (CSRS)		UTM ZONE 13	
	NORTHING (m)	EASTING (m)	ORTHOMETRIC ELEVATION (m) HTv2.0	DESCRIPTION
CP-1	5,775,701.84	385,897.84	477.97	24" REBAR WITH PLASTIC CAP
CP-2	5,775,680.32	386,022.25	478.99	24" REBAR WITH PLASTIC CAP
CP-3	5,775,693.72	386,071.10	479.49	24" REBAR WITH PLASTIC CAP
CP-4	5,775,692.40	385,951.67	477.95	GPS CONTROL POINT
TP-4	5,775,565.50	386,118.76	499.32	X IN CONCRETE
TP-5	5,775,549.79	386,001.87	498.05	X IN NORTH RIM CATCH BASIN
TP-7	5,775,566.48	385,909.52	491.32	X IN SOUTH RIM MANHOLE
TP-8	5,775,560.37	385,809.26	484.62	X IN WEST RIM MANHOLE
D1-008	5,775,775.85	386,467.62	499.033	CONTROL TABLET

STAND PIPES (PIEZOMETERS) and SLOPE INDICATORS					
POINT	NAD 83 (CSRS)		UTM ZONE 13		GROUND ELEVATION (m)
	NORTHING (m)	EASTING (m)	ORTHOMETRIC ELEVATION (m) HTv2.0	DESCRIPTION	
44	5,775,674.76	386,061.60	480.88	COS-13-003 (SP)	480.343
102	5,775,620.13	386,037.21	489.00	PIEZOMETER (SP)	488.597
103	5,775,627.80	386,037.09	488.65	PIEZOMETER (SP)	487.852
104	5,775,626.17	386,029.80	487.78	PIEZOMETER (SP)	487.340
105	5,775,621.04	386,023.51	488.17	PIEZOMETER (SP)	487.843
110	5,775,629.91	386,023.30	487.32	PIEZOMETER (SP)	486.554
111	5,775,637.71	386,047.56	486.00	COS-13-005 (SP)	485.408
112	5,775,600.60	386,028.65	493.75	PIEZOMETER (SP)	492.734
117	5,775,609.14	386,050.90	492.39	PIEZOMETER (SP)	491.388
127	5,775,573.48	385,959.11	495.34	COS-13-007 (SP)	494.799

STAND PIPES (PIEZOMETERS) and SLOPE INDICATORS					
POINT	NAD 83 (CSRS)		UTM ZONE 13		GROUND ELEVATION (m)
	NORTHING (m)	EASTING (m)	ORTHOMETRIC ELEVATION (m) HTv2.0	DESCRIPTION	
118	5,775,604.97	386,050.63	491.61	COS-13-004 (SI)	491.738
119	5,775,616.97	386,010.94	488.09	11-0057-BH1 (SI)	488.207
120*	5,775,621.52	385,986.89	486.16	11-0057-BH2 (SI)	486.157
121	5,775,622.14	385,959.83	483.97	11-0057-BH3 (SI)	484.035
128	5,775,572.72	385,959.21	494.62	COS-13-006 (SI)	494.767
130	5,775,567.41	386,043.54	498.37	COS-13-002 (SI)	498.483
131	5,775,616.67	386,038.94	489.23	COS-13-001 (SI)	489.339

* Could not locate PVC pipe in metal collar. Elevation to north rim of collar.

Elevations are to North Rim of PVC pipe and to typical ground beside said pipe.



Note by Golder:
Subsequent to this survey, Golder discovered that the surveyed location of this borehole was incorrect. The borehole location was resurveyed by Golder. The correct coordinates are:
Northing: 5775631.30 m
Easting: 386078.85 m
Orthometric Elevation: 494.39 masl
Ground Elevation: 494.48 masl

- NOTES**
- TOPOGRAPHIC SURVEY CONDUCTED TO PROVIDE THE OVERALL GEOMETRY OF THE SLOPE IN AREA OF INTEREST. SURVEY DOES NOT PURPORT TO ILLUSTRATE ALL SITE DETAIL. CERTAIN AREAS CONTAIN LESS TOPOGRAPHIC DETAIL DUE TO SCOPE LIMITATIONS OR SAFETY ISSUES OF WORKING IN PROXIMITY TO COMPROMISED STRUCTURES.
 - SPOT ELEVATIONS AND BREAKLINE INFORMATION RESIDE ON LAYERS "TOPO-ELEV" AND "TOPO-BREAKLINES" OF ASSOCIATED PROJECT CAD FILE.
 - MEASUREMENTS AND ELEVATIONS ARE IN METERS AND DECIMALS THEREOF.
 - ELEVATIONS ARE BASED ON COS BENCHMARK D1-008 (ORTHOMETRIC ELEV. 499.033).
 - HORIZONTAL COORDINATES ARE DERIVED FROM PRECISE POINT POSITIONING.
 - CONTOUR INTERVALS ARE 0.50 METERS.
 - BACKGROUND PARCEL INFORMATION IS DERIVED FROM THE GeoSask BASE.
 - DATA PICKUP BETWEEN HOUSES IS SPARSE AND CONTOURS ARE INTERPOLATED BASED ON DATA ACQUIRED.

LEGEND

- CONTROL POINTS ARE SHOWN THUS Δ
- STANDARD IRON POSTS ARE SHOWN THUS \blacklozenge
- PIEZOMETERS ARE SHOWN THUS PZ
- MANHOLES ARE SHOWN THUS M
- CATCHBASINS ARE SHOWN THUS \square
- BUILDINGS ARE SHOWN THUS ---
- OF ROAD IS SHOWN THUS ---
- EDGE OF ASPHALT ROAD IS SHOWN THUS ---
- EDGE OF SIDEWALK IS SHOWN THUS ---
- POWERLINES AND POWERPOLES ARE SHOWN THUS ---
- RETAINING WALLS ARE SHOWN THUS ---

TOPOGRAPHIC SURVEY
SHOWING Surface Features of the
200 & 300 Blocks of Saskatchewan Crescent & 11th Street
in
S.W. Sec. 28 Twp. 36 - Rge. 5 - W3rd Mer.
Saskatoon, Saskatchewan

Drawn By: kgb Date: July 31, 2013 Drawing Name: S13152Topo-UTM.dwg Scale: 1:500 Prepared by: Meridian Surveys Ltd.
Checked By: gar Date: July 31, 2013 File No.: S13152 Rev: 1

REVISIONS

NO.	DATE	REVISION	REV. BY	CHD. BY	DES. ENG.
1	Sept. 4, 2013	Added Piezometers and slope indicators.	kgb	mp	



APPENDIX E

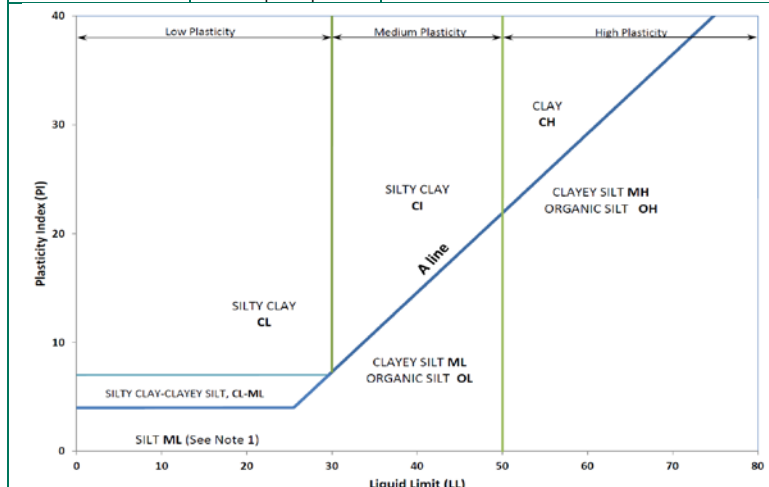
Records of Boreholes



METHOD OF SOIL CLASSIFICATION

The Golder Associates Ltd. Soil Classification System is based on the Unified Soil Classification System (USCS)

Organic or Inorganic	Soil Group	Type of Soil	Gradation or Plasticity	$Cu = \frac{D_{60}}{D_{10}}$	$Cc = \frac{(D_{30})^2}{D_{10} \times D_{60}}$	Organic Content	USCS Group Symbol	Group Name				
INORGANIC (Organic Content $\leq 30\%$ by mass)	COARSE-GRAINED SOILS ($>50\%$ by mass is larger than 0.075 mm)	GRAVELS ($>50\%$ by mass of coarse fraction is larger than 4.75 mm)	Poorly Graded	<4	≤ 1 or ≥ 3	$\leq 30\%$	GP	GRAVEL				
			Well Graded	≥ 4	1 to 3		GW	GRAVEL				
			Below A Line		n/a		GM	SILTY GRAVEL				
			Above A Line		n/a		GC	CLAYEY GRAVEL				
		SANDS ($\geq 50\%$ by mass of coarse fraction is smaller than 4.75 mm)	Poorly Graded	<6	≤ 1 or ≥ 3		SP	SAND				
			Well Graded	≥ 6	1 to 3		SW	SAND				
			Below A Line		n/a		SM	SILTY SAND				
			Above A Line		n/a		SC	CLAYEY SAND				
							Field Indicators			Organic Content	USCS Group Symbol	Primary Name
							Dilatancy	Dry Strength	Shine Test			
INORGANIC (Organic Content $\leq 30\%$ by mass)	FINE-GRAINED SOILS ($\geq 50\%$ by mass is smaller than 0.075 mm)	SILTS (Non-Plastic or PI and LL plot below A-Line on Plasticity Chart below)	Liquid Limit <50	Rapid	None	None	>6 mm	N/A (can't roll 3 mm thread)	$<5\%$	ML	SILT	
				Slow	None to Low	Dull	3mm to 6 mm	None to low	$<5\%$	ML	CLAYEY SILT	
			Liquid Limit ≥ 50	Slow to very slow	Low to medium	Dull to slight	3mm to 6 mm	Low	5% to 30%	OL	ORGANIC SILT	
				Slow to very slow	Low to medium	Slight	3mm to 6 mm	Low to medium	$<5\%$	MH	CLAYEY SILT	
		CLAYS (PI and LL plot above A-Line on Plasticity Chart below)	Liquid Limit <30	None	Low to medium	Slight to shiny	~ 3 mm	Low to medium	0% to 30% (see Note 2)	CL	SILTY CLAY	
				Liquid Limit 30 to 50	None	Medium to high	Slight to shiny	1 mm to 3 mm		Medium	CI	SILTY CLAY
			Liquid Limit ≥ 50	None	High	Shiny	<1 mm	High		CH	CLAY	
			Peat and mineral soil mixtures							30% to 75%	PT	SILTY PEAT, SANDY PEAT
				Predominantly peat, may contain some mineral soil, fibrous or amorphous peat								75% to 100%



Note 1 – Fine grained materials with PI and LL that plot in this area are named (ML) SILT with slight plasticity. Fine-grained materials which are non-plastic (i.e. a PL cannot be measured) are named SILT.
Note 2 – For soils with $<5\%$ organic content, include the descriptor “trace organics” for soils with between 5% and 30% organic content include the prefix “organic” before the Primary name.

Dual Symbol — A dual symbol is two symbols separated by a hyphen, for example, GP-GM, SW-SC and CL-ML. For non-cohesive soils, the dual symbols must be used when the soil has between 5% and 12% fines (i.e. to identify transitional material between “clean” and “dirty” sand or gravel. For cohesive soils, the dual symbol must be used when the liquid limit and plasticity index values plot in the CL-ML area of the plasticity chart (see Plasticity Chart at left).

Borderline Symbol — A borderline symbol is two symbols separated by a slash, for example, CL/CI, GM/SM, CL/ML. A borderline symbol should be used to indicate that the soil has been identified as having properties that are on the transition between similar materials. In addition, a borderline symbol may be used to indicate a range of similar soil types within a stratum.





ABBREVIATIONS AND TERMS USED ON RECORDS OF BOREHOLES AND TEST PITS

PARTICLE SIZES OF CONSTITUENTS

Soil Constituent	Particle Size Description	Millimetres	Inches (US Std. Sieve Size)
BOULDERS	Not Applicable	>300	>12
COBBLES	Not Applicable	75 to 300	3 to 12
GRAVEL	Coarse Fine	19 to 75 4.75 to 19	0.75 to 3 (4) to 0.75
SAND	Coarse Medium Fine	2.00 to 4.75 0.425 to 2.00 0.075 to 0.425	(10) to (4) (40) to (10) (200) to (40)
SILT/CLAY	Classified by plasticity	<0.075	< (200)

MODIFIERS FOR SECONDARY AND MINOR CONSTITUENTS

Percentage by Mass	Modifier
>35	Use 'and' to combine major constituents (i.e., SAND and GRAVEL, SAND and CLAY)
> 12 to 35	Primary soil name prefixed with "gravelly, sandy, SILTY, CLAYEY" as applicable
> 5 to 12	some
≤ 5	trace

PENETRATION RESISTANCE

Standard Penetration Resistance (SPT), N:

The number of blows by a 63.5 kg (140 lb) hammer dropped 760 mm (30 in.) required to drive a 50 mm (2 in.) split-spoon sampler for a distance of 300 mm (12 in.).

Cone Penetration Test (CPT)

An electronic cone penetrometer with a 60° conical tip and a project end area of 10 cm² pushed through ground at a penetration rate of 2 cm/s. Measurements of tip resistance (q_t), porewater pressure (u) and sleeve frictions are recorded electronically at 25 mm penetration intervals.

Dynamic Cone Penetration Resistance (DCPT); N_d:

The number of blows by a 63.5 kg (140 lb) hammer dropped 760 mm (30 in.) to drive uncased a 50 mm (2 in.) diameter, 60° cone attached to "A" size drill rods for a distance of 300 mm (12 in.).

- PH:** Sampler advanced by hydraulic pressure
PM: Sampler advanced by manual pressure
WH: Sampler advanced by static weight of hammer
WR: Sampler advanced by weight of sampler and rod

SAMPLES

AS	Auger sample
BS	Block sample
CS	Chunk sample
DO or DP	Seamless open ended, driven or pushed tube sampler – note size
DS	Denison type sample
FS	Foil sample
RC	Rock core
SC	Soil core
SS	Split spoon sampler – note size
ST	Slotted tube
TO	Thin-walled, open – note size
TP	Thin-walled, piston – note size
WS	Wash sample

SOIL TESTS

w	water content
PL, w _p	plastic limit
LL, w _L	liquid limit
C	consolidation (oedometer) test
CHEM	chemical analysis (refer to text)
CID	consolidated isotropically drained triaxial test ¹
CIU	consolidated isotropically undrained triaxial test with porewater pressure measurement ¹
D _r	relative density (specific gravity, G _s)
DS	direct shear test
GS	specific gravity
M	sieve analysis for particle size
MH	combined sieve and hydrometer (H) analysis
MPC	Modified Proctor compaction test
SPC	Standard Proctor compaction test
OC	organic content test
SO ₄	concentration of water-soluble sulphates
UC	unconfined compression test
UU	unconsolidated undrained triaxial test
V (FV)	field vane (LV-laboratory vane test)
γ	unit weight

1. Tests which are anisotropically consolidated prior to shear are shown as CAD, CAU.

NON-COHESIVE (COHESIONLESS) SOILS

Compactness²

Term	SPT 'N' (blows/0.3m) ¹
Very Loose	0 - 4
Loose	4 to 10
Compact	10 to 30
Dense	30 to 50
Very Dense	>50

1. SPT 'N' in accordance with ASTM D1586, uncorrected for overburden pressure effects.
 2. Definition of compactness descriptions based on SPT 'N' ranges from Terzaghi and Peck (1967) and correspond to typical average N₆₀ values.

Field Moisture Condition

Term	Description
Dry	Soil flows freely through fingers.
Moist	Soils are darker than in the dry condition and may feel cool.
Wet	As moist, but with free water forming on hands when handled.

COHESIVE SOILS

Consistency

Term	Undrained Shear Strength (kPa)	SPT 'N' ¹ (blows/0.3m)
Very Soft	<12	0 to 2
Soft	12 to 25	2 to 4
Firm	25 to 50	4 to 8
Stiff	50 to 100	8 to 15
Very Stiff	100 to 200	15 to 30
Hard	>200	>30

1. SPT 'N' in accordance with ASTM D1586, uncorrected for overburden pressure effects; approximate only.

Water Content

Term	Description
w < PL	Material is estimated to be drier than the Plastic Limit.
w ~ PL	Material is estimated to be close to the Plastic Limit.
w > PL	Material is estimated to be wetter than the Plastic Limit.



LIST OF SYMBOLS

Unless otherwise stated, the symbols employed in the report are as follows:

I. GENERAL

π	3.1416
$\ln x$	natural logarithm of x
$\log_{10} x$	x or log x, logarithm of x to base 10
g	acceleration due to gravity
t	time

II. STRESS AND STRAIN

γ	shear strain
Δ	change in, e.g. in stress: $\Delta \sigma$
ε	linear strain
ε_v	volumetric strain
η	coefficient of viscosity
ν	Poisson's ratio
σ	total stress
σ'	effective stress ($\sigma' = \sigma - u$)
σ'_{vo}	initial effective overburden stress
$\sigma_1, \sigma_2, \sigma_3$	principal stress (major, intermediate, minor)
σ_{oct}	mean stress or octahedral stress = $(\sigma_1 + \sigma_2 + \sigma_3)/3$
τ	shear stress
u	porewater pressure
E	modulus of deformation
G	shear modulus of deformation
K	bulk modulus of compressibility

III. SOIL PROPERTIES

(a) Index Properties

$\rho(\gamma)$	bulk density (bulk unit weight)*
$\rho_d(\gamma_d)$	dry density (dry unit weight)
$\rho_w(\gamma_w)$	density (unit weight) of water
$\rho_s(\gamma_s)$	density (unit weight) of solid particles
γ'	unit weight of submerged soil ($\gamma' = \gamma - \gamma_w$)
D_R	relative density (specific gravity) of solid particles ($D_R = \rho_s / \rho_w$) (formerly G_s)
e	void ratio
n	porosity
S	degree of saturation

(a) Index Properties (continued)

w	water content
w_l or LL	liquid limit
w_p or PL	plastic limit
I_p or PI	plasticity index = $(w_l - w_p)$
w_s	shrinkage limit
I_L	liquidity index = $(w - w_p) / I_p$
I_C	consistency index = $(w_l - w) / I_p$
e_{max}	void ratio in loosest state
e_{min}	void ratio in densest state
I_D	density index = $(e_{max} - e) / (e_{max} - e_{min})$ (formerly relative density)

(b) Hydraulic Properties

h	hydraulic head or potential
q	rate of flow
v	velocity of flow
i	hydraulic gradient
k	hydraulic conductivity (coefficient of permeability)
j	seepage force per unit volume

(c) Consolidation (one-dimensional)

C_c	compression index (normally consolidated range)
C_r	recompression index (over-consolidated range)
C_s	swelling index
C_α	secondary compression index
m_v	coefficient of volume change
C_v	coefficient of consolidation (vertical direction)
C_h	coefficient of consolidation (horizontal direction)
T_v	time factor (vertical direction)
U	degree of consolidation
σ'_p	pre-consolidation stress
OCR	over-consolidation ratio = σ'_p / σ'_{vo}

(d) Shear Strength

τ_p, τ_r	peak and residual shear strength
ϕ'	effective angle of internal friction
δ	angle of interface friction
μ	coefficient of friction = $\tan \delta$
c'	effective cohesion
c_u, s_u	undrained shear strength ($\phi = 0$ analysis)
p	mean total stress $(\sigma_1 + \sigma_3)/2$
p'	mean effective stress $(\sigma'_1 + \sigma'_3)/2$
q	$(\sigma_1 - \sigma_3)/2$ or $(\sigma'_1 - \sigma'_3)/2$
q_u	compressive strength $(\sigma_1 - \sigma_3)$
S_t	sensitivity

* Density symbol is ρ . Unit weight symbol is γ where $\gamma = \rho g$ (i.e. mass density multiplied by acceleration due to gravity)

Notes: 1
2

$$\tau = c' + \sigma' \tan \phi'$$

$$\text{shear strength} = (\text{compressive strength})/2$$



LITHOLOGICAL AND GEOTECHNICAL ROCK DESCRIPTION TERMINOLOGY

WEATHERINGS STATE

Fresh: no visible sign of weathering

Faintly weathered: weathering limited to the surface of major discontinuities.

Slightly weathered: penetrative weathering developed on open discontinuity surfaces but only slight weathering of rock material.

Moderately weathered: weathering extends throughout the rock mass but the rock material is not friable.

Highly weathered: weathering extends throughout rock mass and the rock material is partly friable.

Completely weathered: rock is wholly decomposed and in a friable condition but the rock and structure are preserved.

BEDDING THICKNESS

<u>Description</u>	<u>Bedding Plane Spacing</u>
Very thickly bedded	Greater than 2 m
Thickly bedded	0.6 m to 2 m
Medium bedded	0.2 m to 0.6 m
Thinly bedded	60 mm to 0.2 m
Very thinly bedded	20 mm to 60 mm
Laminated	6 mm to 20 mm
Thinly laminated	Less than 6 mm

JOINT OR FOLIATION SPACING

<u>Description</u>	<u>Spacing</u>
Very wide	Greater than 3 m
Wide	1 m to 3 m
Moderately close	0.3 m to 1 m
Close	50 mm to 300 mm
Very close	Less than 50 mm

GRAIN SIZE

<u>Term</u>	<u>Size*</u>
Very Coarse Grained	Greater than 60 mm
Coarse Grained	2 mm to 60 mm
Medium Grained	60 microns to 2 mm
Fine Grained	2 microns to 60 microns
Very Fine Grained	Less than 2 microns

Note: * Grains greater than 60 microns diameter are visible to the naked eye.

CORE CONDITION

Total Core Recovery (TCR)

The percentage of solid drill core recovered regardless of quality or length, measured relative to the length of the total core run.

Solid Core Recovery (SCR)

The percentage of solid drill core, regardless of length, recovered at full diameter, measured relative to the length of the total core run.

Rock Quality Designation (RQD)

The percentage of solid drill core, greater than 100 mm length, recovered at full diameter, measured relative to the length of the total core run. RQD varied from 0% for completely broken core to 100% for core in solid sticks.

DISCONTINUITY DATA

Fracture Index

A count of the number of discontinuities (physical separations) in the rock core, including both naturally occurring fractures and mechanically induced breaks caused by drilling.

Dip with Respect to Core Axis

The angle of the discontinuity relative to the axis (length) of the core. In a vertical borehole a discontinuity with a 90° angle is horizontal.

Description and Notes

An abbreviation description of the discontinuities, whether naturally occurring separations such as fractures, bedding planes and foliation planes or mechanically induced features caused by drilling such as ground or shattered core and mechanically separated bedding or foliation surfaces. Additional information concerning the nature of fracture surfaces and infillings are also noted.

Abbreviations

JN Joint	PL Planar
FLT Fault	CU Curved
SH Shear	UN Undulating
VN Vein	IR Irregular
FR Fracture	K Slickensided
SY Stylolite	PO Polished
BD Bedding	SM Smooth
FO Foliation	SR Slightly Rough
CO Contact	RO Rough
AXJ Axial Joint	VR Very Rough
KV Karstic Void	
MB Mechanical Break	



HISTORICAL BOREHOLE LOGS
TH 101, TH 101A, TH 102, TH103, TH 104, TH 105 (GE76)

Ground Engineering Ltd. Apr. 9, 1976. Geotechnical Investigation 216, 218 and 220 Saskatchewan Crescent

1/2 BH 101

JOB NO. GS-033
 LOCATION 216 - 220 Saskatchewan Crescent
SASKATOON, Saskatchewan
 TEST HOLE REFERENCE _____
 E LOGGED BY: _____ DATE _____
 SP. COND. WATER _____ mmhoes/cm. at _____ °C
 SP. COND. MUD _____ mmhoes/cm. at _____ °C
 SP _____ mv/cm. R _____ ohms/cm.

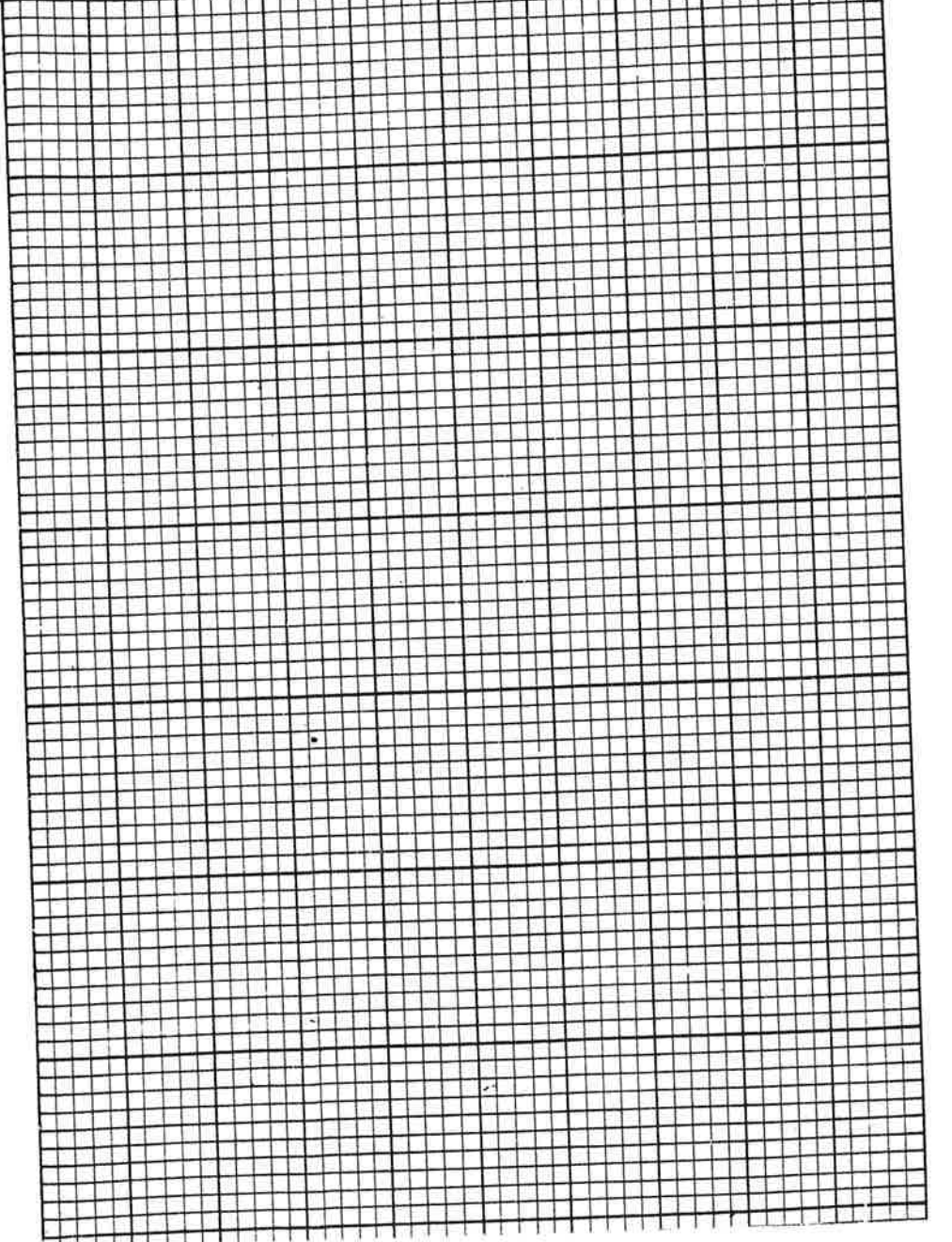
BOREHOLE NO. 101 DATE February 10, 1976
 SURFACE ELEVATION 1554.3 City Datum
 VERTICAL SCALE 1" = 20'
 DRILLED BY Hayter Drilling Co.
 DRILLER _____
 INTERPRETATION & SAMPLE DESCRIPTION BY:
GROUND ENGINEERING LTD.

GROUND ENGINEERING LTD.
 CIVIL AND GEOTECHNICAL ENGINEERS
 REGINA SASKATOON
BOREHOLE TEST REPORT

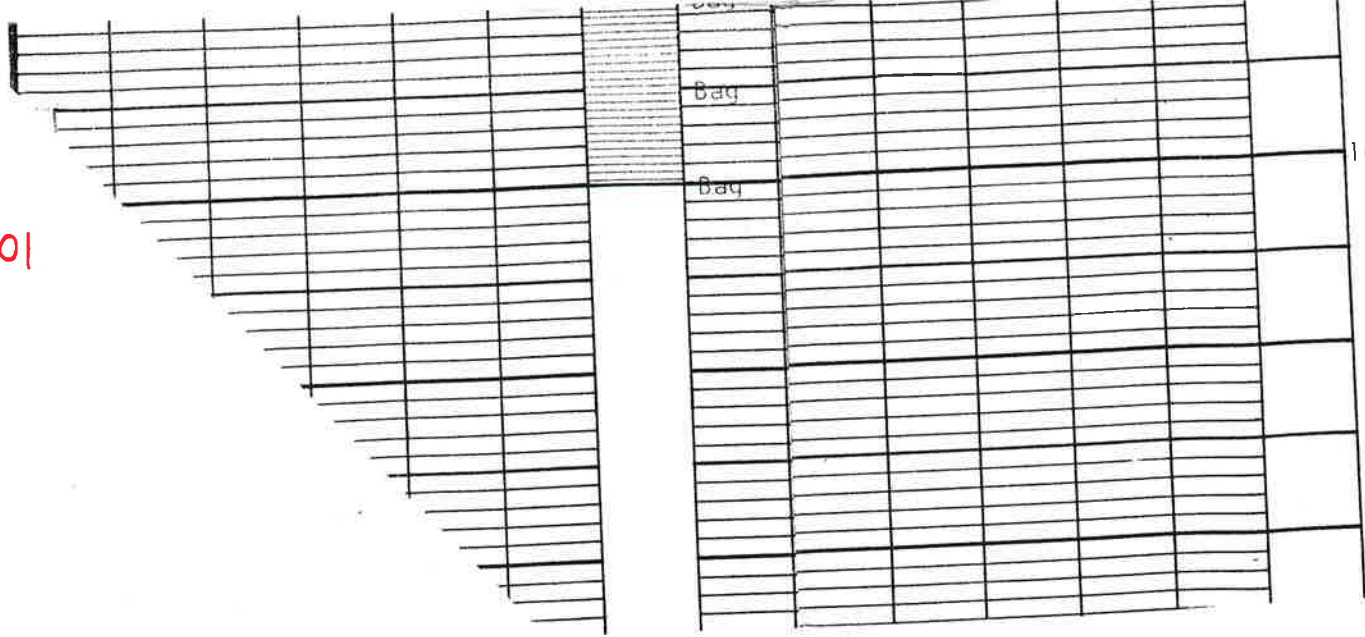
SHEET _____ OF _____

SHEAR STRENGTH K.S.F.		LAB VANE	
<input type="checkbox"/> POCKET PEN	<input type="checkbox"/> UNCONFINED	<input checked="" type="checkbox"/>	
1.0	2.0 3.0 4.0		
FIELD UNIT WEIGHT P.C.F.		MOISTURE CONTENT %	
80 85 90 95 100 105 110 115 120	70 80 90		
Nw	Pw	Lw	

ELEVATION	POTENTIAL	STRATIGRAPHIC SYMBOL	SAMPLE TYPE	RESISTIVITY	DEPTH	DESCRIPTION	P.I. & UNIFIED
			Bag			CLAY - silty, sandy - highly organic - becoming sandy @ 15'	
			Bag			- pale olive, oxidized	
			Bag			- massive, Fe stains	
			Bag		20'6"	- boulders @ 20'	
			Bag			SAND - coarse grained	
			Bag		26'0"	- well graded	
			Bag			TILL - clayey with fine sand lenses @ 58'	
			Bag			- grey	
			Bag			- unoxidized	
			Bag			- pebbles	
			Bag			- boulders @ 27', 38'6"	
			Bag			40'6", 60'6", 66'6"	
			Bag			and 72'0"	
			Bag			- hard	
			Bag			- massive	
			Bag				
			Bag				
			Bag				
			Bag				
			Bag		100'0"	GRAVEL - poorly graded	
			Bag		105'0"	- 1" diameter maximum size	
			Bag			CLAY SHALE - grey, unoxidized	
			Bag			- hard becoming softer with depth	
			Bag			- massive	
			Bag			- non calcareous	

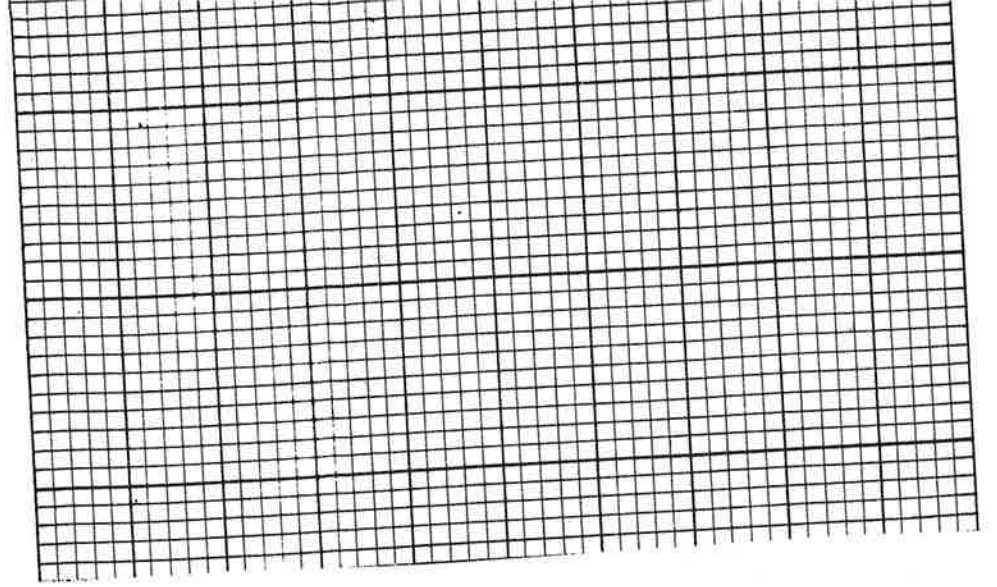


2/2
BH 701



160'0" END OF HOLE

NOTES: 4-3/4" diameter rotary
drill used.
Sloughing between 100 &
105'.
Bag samples taken from
S700 to S720 inclusive.



TEST HOLE LOG

DATE February 10, 1976

HOLE NO. 101A

SAMPLE DATA			SYMBOL
WEIGHT HAMMER			
HEIGHT DROP			
DEPTH ELEV.	NO TYPE	UNIF PI	
10' 44.3			
20' 34.3			
30' 24.3	S721 Sy	CL 15.2	
	S722 Sy		
40' 14.3	S723 Sy	CL 19.5	
	S724 Sy		
50' 04.3			
	S725 Sy		
60' 4.3	S726 Sy	CL 22.0	

ELEV. COLLAR
ELEV. GROUND 1554.3 (City Datum)
CO-ORD. LOCATION

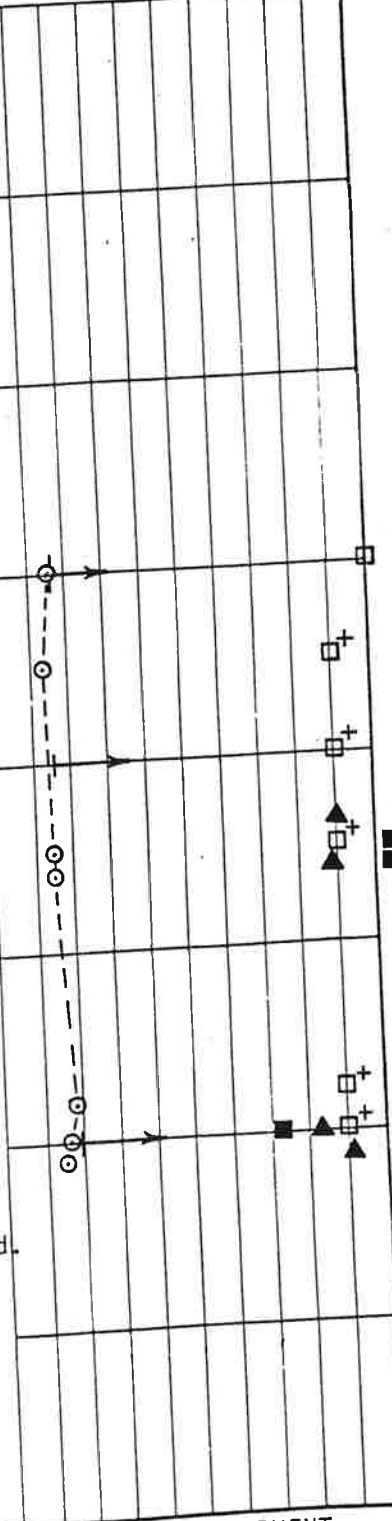
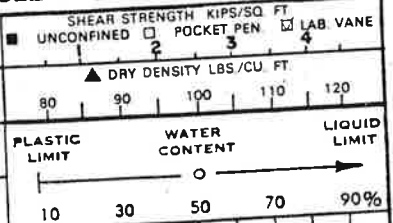
DESCRIPTION OF MATERIAL

CLAY - silty, sandy
 - highly organic becoming sandy @ 15'
 - pale olive
 - oxidized
 - massive
 - Fe stains
 - boulder @ 20'

20'6" SAND - coarse grained
 - well graded

26'0" TILL - clayey
 - unoxidized
 - hard & moist becoming extremely hard & dry @ 60'
 - pebbles
 - boulders encountered @ 30', 35' and 58'
 - massive

62'0" END OF HOLE



NOTES: 4-3/4" diameter rotary drill used.

GROUND ENGINEERING LTD.
 GEOTECHNICAL ENGINEERS/Soil Mechanics & Foundations

PROPOSED HOUSING DEVELOPMENT
 216 - 220 SASKATCHEWAN CRESCENT
 LOCATION
 SASKATOON, Saskatchewan

JOB NO. GS-033

LOCATION 216 - 220 Saskatchewan Crescent

SASKATOON, Saskatchewan

TEST HOLE REFERENCE

E LOGGED BY: DATE

SP. COND. WATER mmhoes/cm. at °C

SP. COND. MUD mmhoes/cm. at °C

SP 10 mv/cm. R 10 ohms/cm.

BOREHOLE NO. 102 DATE February 9, 1976

SURFACE ELEVATION 1615.3 City Datum

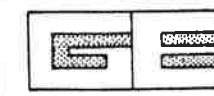
VERTICAL SCALE 1" = 20'

DRILLED BY Hayter Drilling Co.

DRILLER

INTERPRETATION & SAMPLE DESCRIPTION BY:

GROUND ENGINEERING LTD.



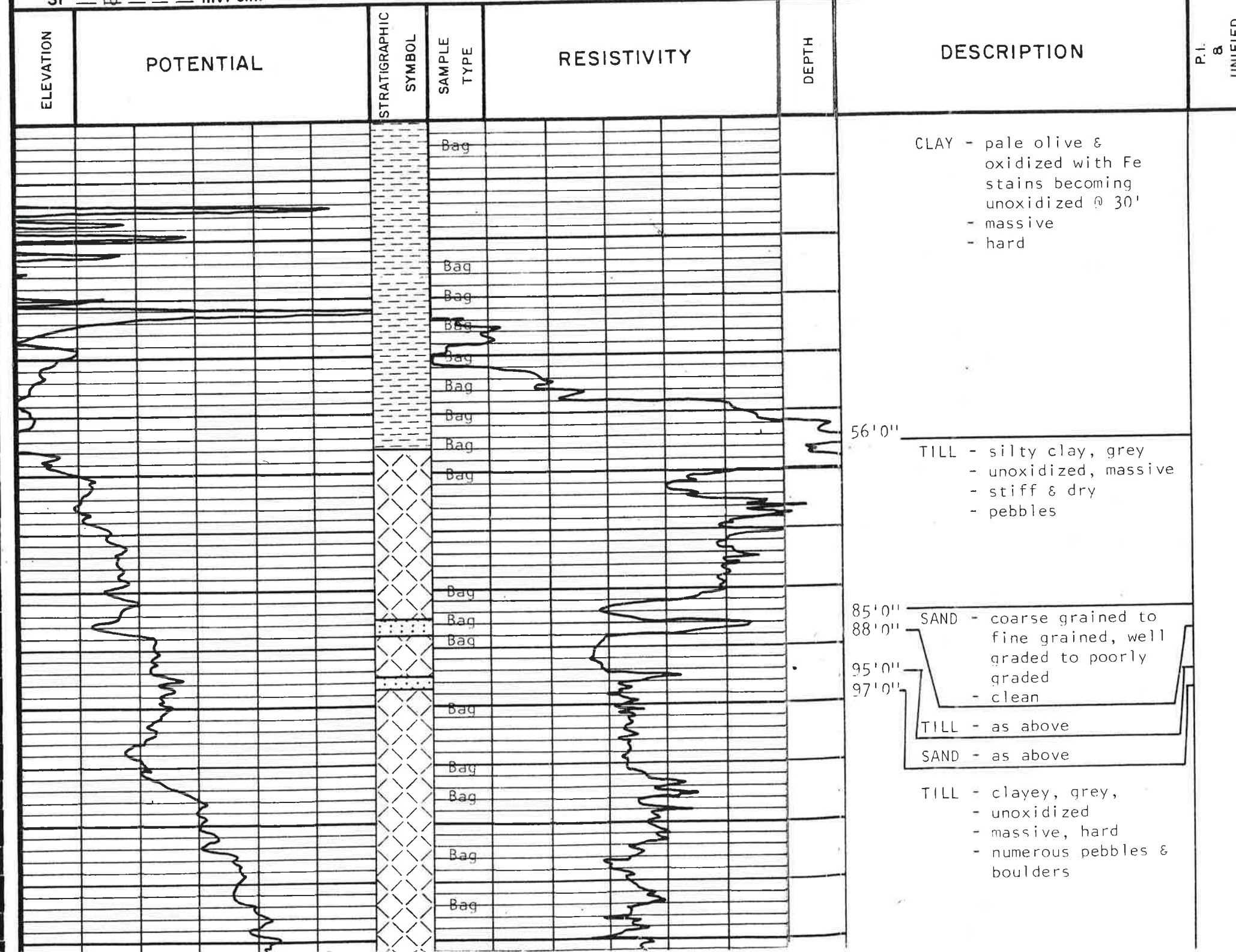
GROUND ENGINEERING LTD.

CIVIL AND GEOTECHNICAL ENGINEERS REGINA SASKATOON

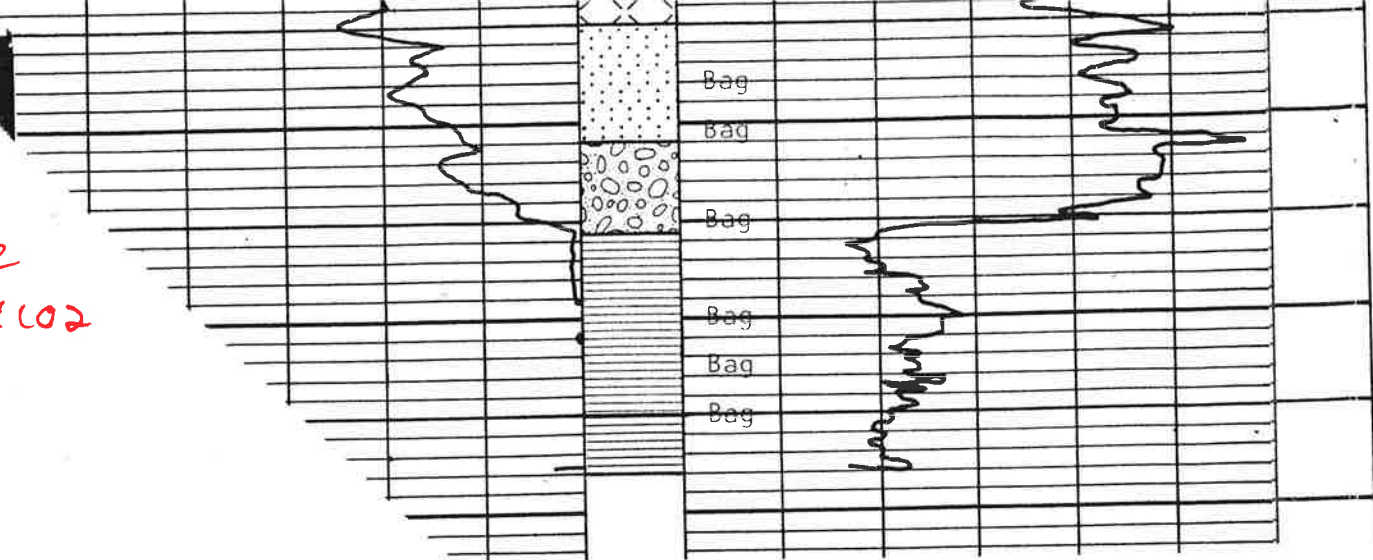
BOREHOLE TEST REPORT

SHEET OF

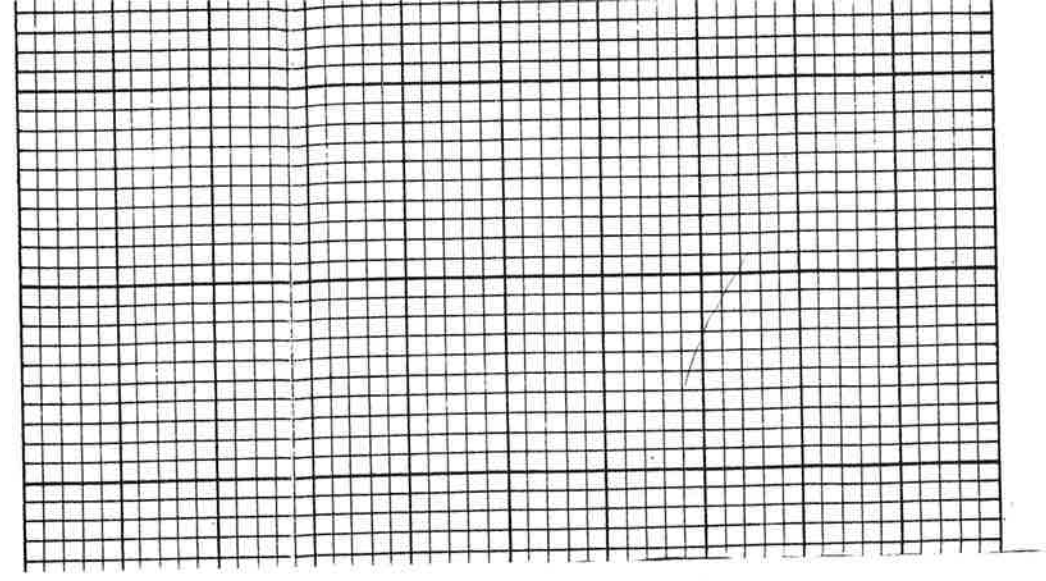
POCKET PEN		UNCONFINED		LAB VANE	
1.0	2.0	3.0	4.0		
FIELD UNIT WEIGHT P.C.F.			MOISTURE CONTENT %		
80	85	90	95	100	105
110	115	120			
Nw	Pw			Lw	
10	20	30	40	50	60



212
BH 102



150'0" SAND - medium to coarse grained
- poorly graded to medium graded,
- grey, unoxidized
162'0"
171'0" GRAVEL
CLAY SHALE - grey, unoxidized
- massive, hard
- non calcareous
196'0" END OF HOLE



TEST HOLE LOG

DATE February 9, 1976

HOLE NO. 103

SAMPLE DATA				SYMBOL	ELEV. COLLAR		SHEAR STRENGTH KIPS/SQ. FT.							
WEIGHT HAMMER					ELEV. GROUND 1554.7 (City Datum)		<input type="checkbox"/> UNCONFINED <input type="checkbox"/> POCKET PEN. <input type="checkbox"/> LAB. VANE ▲ DRY DENSITY LBS./CU. FT.							
HEIGHT DROP					CO-ORD. LOCATION		PLASTIC LIMIT	WATER CONTENT	LIQUID LIMIT					
DEPTH ELEV.	NO. TYPE	UNIF PI	RE-COVERY	DESCRIPTION OF MATERIAL					10	30	50	70	90%	
				0'6"	TOPSOIL									
				4'0"	CLAY - silty with some organic material									
				7'0"	SAND - silty - medium brown - oxidized - non-plastic - moist									
10'	S750	CL-ML												
44.7	Bag	6.9												
	S751			0.10	CLAY - silty and sandy - olive brown becoming olive grey @ 20' - oxidized - low plastic									
	Bag													
20'	S752	CL		0.04										
34.7	Bag	10.8												
	S753	CL												
	Bag	25.1												
30'	S754	CL		0.04										
24.7	Bag	17.3												
				22'0"										
				30'0"	TILL - silty clay - grey - oxidized becoming unoxidized @ 24' - very soft becoming stiff & moist @ 25' & very stiff @ 30' - pebbles									

NOTES: Hole terminated @ 30'0"
6" diameter continuous flight
auger used. Water seepage.

GROUND ENGINEERING LTD.
 GEOTECHNICAL ENGINEERS/Soil Mechanics & Foundations

PROJECT: PROPOSED HOUSING DEVELOPMENT
 216 - 220 SASKATCHEWAN CRESCENT
 LOCATION: SASKATOON, Saskatchewan

DATE February 9, 1976

TEST HOLE LOG

HOLE NO. 104

SAMPLE DATA				SYMBOL	ELEV. COLLAR	SHEAR STRENGTH KIPS/SQ. FT. UNCONFINED <input type="checkbox"/> POCKET PEN. <input type="checkbox"/> LAB. VANE <input type="checkbox"/>	
WEIGHT HAMMER					ELEV. GROUND 1553.2 (City Datum)	▲ DRY DENSITY LBS./CU. FT. 80 90 100 110 120	
HEIGHT DROP					CO-ORD. LOCATION 6'W & 6'S of NE lot corner	PLASTIC LIMIT	WATER CONTENT
DEPTH ELEV.	NO. TYPE	UNIF. PI	RE-COVERY	DESCRIPTION OF MATERIAL		10 30 50 70 90%	
	S755 Bag				1'0" TOPSOIL		
10'	S756 Bag				CLAY - silty and sandy with sand seams - olive brown - oxidized - dry becoming moist then soft & saturated @ 15'		
43.2	S757 Bag				- massive - Fe stains		
20'	S758 Bag				21'0" SAND - medium to coarse grained		
33.2	S759 Bag				23'0" - poorly to medium graded - pale olive - wet		
30'	S761 Bag	CL 17.0			30'0" TILL - clayey		
23.2	S761 Bag	CL 18.4			- grey - unoxidized - soft & wet becoming firm & moist @ 30' - pebbles		

NOTES: Hole terminated @ 30'0"
6" diameter continuous flight auger used.
Water seepage @ 14'
Water level @ 17'

GROUND ENGINEERING LTD.
GEOTECHNICAL ENGINEERS/Soil Mechanics & Foundations

PROPOSED HOUSING PROJECT
216 - 220 SASKATCHEWAN CRESCENT
LOCATION
SASKATOON, SASKATCHEWAN

TEST HOLE LOG

DATE February 9, 1976

HOLE NO. 105

SAMPLE DATA			SYMBOL	ELEV. COLLAR		SHEAR STRENGTH KIPS/SQ. FT.		
WEIGHT HAMMER				ELEV. GROUND 1556.3 (City Datum)		■ UNCONFINED	□ POCKET PEN	□ LAB. VANE
HEIGHT DROP				CO-ORD. LOCATION		▲ DRY DENSITY LBS./CU. FT.		
DEPTH ELEV.	NO. TYPE	UNIF. PI		DESCRIPTION OF MATERIAL		PLASTIC LIMIT	WATER CONTENT	LIQUID LIMIT
			10			30	50	70
	S762	CL-ML		1'0"	TOPSOIL			
	Bag	4.8			CLAY - silty with some organic material			
10'	S763				- pale olive becoming olive @ 10'			
46.3	Bag		0.10	11'0"	- oxidized			
	S764	CL			- dry			
	Bag	25.4	0.09		- massive			
	S765				- frost to 3'			
20'	S766	CL			TILL - silty clay			
36.3	Bag	20.0			- grey-brown becoming grey and unoxidized @ 20'			
	S767				- low plastic			
	Sy				- very stiff & moist becoming hard & dry @ 20' (Floral)			
	S768	CL		25'0"	- massive			
	Sy	20.4			- few pebbles			
					- Fe stains			
					- boulders @ 25'			
				<p>NOTES: Hole terminated @ 25'0" 6" diameter continuous flight auger used. Water level @ 19'</p>				

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PROJECT **PROPOSED HOUSING PROJECT**
 216 - 220 SASKATCHEWAN CRESCENT
 LOCATION **SASKATOON, Saskatchewan**



APPENDIX E
Record of Borehole Logs

HISTORICAL BOREHOLE LOGS
TH 201, TH 202, TH203, TH 204 (GE77)

Ground Engineering Ltd. July 4, 1977. Geotechnical Site Investigation Proposed Housing Complex,
Saskatchewan Crescent

TEST HOLE LOG

DATE 77/06/07

HOLE NO. 201

SAMPLE DATA				SYMBOL	ELEV. COLLAR	SHEAR STRENGTH KIPS SQ FT <input type="checkbox"/> UNCONFINED <input type="checkbox"/> POCKET PEN <input type="checkbox"/> LAB VANE 0.2 0.6 1.0 1.4 1.8				
WEIGHT HAMMER					ELEV. GROUND	DRY DENSITY LBS CU FT 80 90 100 110 120				
HEIGHT DROP					CO-ORD. LOCATION	PLASTIC LIMIT	WATER CONTENT	LIQUID LIMIT		
DEPTH ELEV.	NO TYPE	UNIF PI	% SO.	DESCRIPTION OF MATERIAL		10	30	50	70	90%
	S42			[Symbol]	2'6"	<p style="text-align: center;">TOPSOIL - clay, silty, organic</p> <hr/> <p>CLAY - low plasticity - very silty, organic to 10' - stratified, laminated - moist, firm, becoming stiff - light olive brown to olive grey, oxidized</p> <hr/> <p style="text-align: center;">13'0"</p> <p>SILT - trace of sand - well graded fine sand layer 13'-13½' - poorly graded fine, silty gravel layer 19-20½' - olive grey, oxidized - wet, soft, stratified - sloughing</p> <hr/> <p style="text-align: center;">20'6"</p> <p>TILL - clay, silty, fine gravel - dark olive grey, oxidized becoming very dark grey, unoxidized at 23' - wet, firm, becoming moist, hard - massive - shale fragments, Fe stains</p> <hr/> <p style="text-align: center;">END OF HOLE</p> <p style="text-align: center;">NOTES: - Mobile Model B52 continuous flight auger used, 6" diameter - sloughing at 16'</p>				
	Bag									
5	S43									
48	Bag									
	S44									
	Bag									
10	S45									
43	Bag									
	S46									
	Bag									
	S47			[Symbol]						
15	S48									
38	Bag									
	S49									
	Bag									
20	S50									
33	Bag									
	S51									
	Bag									
25	S52									
28	Bag									
	S53									
	Bag									
30	S54									
23	Bag									
	S55									
	Bag									
35	S56									
18	Bag									

GROUND ENGINEERING LTD.
 GEOTECHNICAL ENGINEERS/Soil Mechanics & Foundations
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PROJECT PROPOSED HOUSING PROJECT
 222 - 224 SASKATCHEWAN CRESCENT
 LOCATION SASKATOON, SASKATCHEWAN

DATE 77/06/07

TEST HOLE LOG

HOLE NO. 202

SAMPLE DATA				SYMBOL	ELEV. COLLAR	SHEAR STRENGTH KIPS/SO FT <input type="checkbox"/> UNCONFINED <input type="checkbox"/> POCKET PEN <input type="checkbox"/> LAB VANE		
WEIGHT HAMMER					ELEV. GROUND	DRY DENSITY LBS CU FT 80 90 100 110 120		
HEIGHT DROP					CO-ORD. LOCATION	PLASTIC LIMIT	WATER CONTENT	LIQUID LIMIT
DEPTH ELEV.	NO TYPE		% SO.		DESCRIPTION OF MATERIAL			
	S57 Bag			2'6"	TOPSOIL - clay, silty, organic			
5	S58 Bag				CLAY - very silty, low plasticity - light olive brown to olive, oxidized - stratified, laminated, soft, moist - organic to 10'			
50	S59 Bag	6						
10								
45								
				13'0"	TILL - clay, silty, frequent fine gravel, low plasticity			
15	S60 Sy				- olive brown to dark olive grey, oxidized, becoming very dark grey, unoxidized at 23' - massive, moist, stiff becoming very stiff - Fe stains, shale fragments below 23' - layer of fine, brown gravel, sandy 21'-23', saturated, sloughing			
40	S61 Bag							
20	S62 Bag	Bag						
35	S63 Sy	Sy						
25	S64 Bag							
30	S65 Bag							
30				30'0"	END OF HOLE			
25								

NOTES: - Mobile Model B52 Continuous Flight Auger used, 6" diameter
 - sloughing 21-23', water level at 18' 2 hours after completion

GROUND ENGINEERING LTD.

GEOTECHNICAL ENGINEERS/Soil Mechanics & Foundations
 Page 459

PROJECT PROPOSED HOUSING PROJECT
 222 - 224 SASKATCHEWAN CRESCENT

LOCATION SASKATOON, SASKATCHEWAN

TEST HOLE LOG

DATE 77/06/07

HOLE NO. 203

SAMPLE DATA				SYMBOL	ELEV. COLLAR		SHEAR STRENGTH KIPS SQ FT				
WEIGHT HAMMER					ELEV. GROUND <u>1557.4 City Datum</u>		<input type="checkbox"/> UNCONFINED <input type="checkbox"/> POCKET PEN <input type="checkbox"/> LAB VANE 0.2 0.6 1.0 1.4 1.8				
HEIGHT DROP					CO-ORD. LOCATION		▲ DRY DENSITY LBS CU FT 80 90 100 110 120				
DEPTH ELEV.	NO TYPE	UNIF PI	% SO.		DESCRIPTION OF MATERIAL		PLASTIC LIMIT WATER CONTENT LIQUID LIMIT 10 30 50 70 90%				
	S64			[Symbol]	TOPSOIL - clay, silty, organic						
5	S65			[Symbol]	2'0" CLAY - very silty, low plasticity, organic						
52	S66			[Symbol]	6'6" - stratified, dry, stiff - dark greyish brown, oxidized						
10	S67			[Symbol]	TILL - clay, silty, low plasticity frequent fine gravel						
47	S68			[Symbol]	11'0" - massive, nuggetty to 9' - dark greyish brown, oxidized becoming very dark grey, unoxidized at 11'						
15	S69			[Symbol]	- dry, stiff - shale stones from 11', Fe stains, gypsum						
42	S70			[Symbol]							
20	S71			[Symbol]	20'0" END OF HOLE						
37				[Symbol]							

NOTES: - Mobile Model B52 continuous flight auger used, 6" diameter
- hole dry

GROUND ENGINEERING LTD.

GEOTECHNICAL ENGINEERS/Soil Mechanics & Foundations
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PROJECT PROPOSED HOUSING PROJECT
222 - 224 SASKATCHEWAN CRESCENT

LOCATION
SASKATOON, SASKATCHEWAN

TEST HOLE LOG

DATE 77/06/07

HOLE NO. 204

SAMPLE DATA				SYMBOL	ELEV. COLLAR	SHEAR STRENGTH KIPS SQ FT <input checked="" type="checkbox"/> UNCONFINED <input type="checkbox"/> POCKET PEN <input checked="" type="checkbox"/> LAB VANE 0.2 0.5 1.0 1.4 1.8									
WEIGHT HAMMER					ELEV. GROUND	DRY DENSITY LBS CU FT 80 90 100 110 120									
HEIGHT DROP					CO-ORD. LOCATION	PLASTIC LIMIT	WATER CONTENT	LIQUID LIMIT							
DEPTH ELEV.	NO TYPE	UNIF PT	% SO.		DESCRIPTION OF MATERIAL					10	30	50	70	90%	
				1'0"	TOPSOIL - clay, organic CLAY - very silty, moist - sand layer at 13'; silty - water bearing sand layer @ 18', sloughing - olive grey, oxidized										
	S76														
5	S77														
49															
	S78														
10	S79														
44															
	S80														
15	S81														
39															
	S82														
20	S83			19'0"	TILL - clayey, silty, low plasticity frequent gravel. - 19 - 21½' gravel, fine, silty, water bearing - very dark grey, unoxidized - moist, stiff, massive										
34															
25	S84														
29															
	S85														
30	S86			30'0"	END OF HOLE NOTES: - Mobile Model B52 Continuous flight auger used, 6" diameter - sloughing to 17', water level at 16' on completion										
24															

GROUND ENGINEERING LTD.
 GEOTECHNICAL ENGINEERS/Soil Mechanics & Foundations
 Page 461

PROJECT PROPOSED HOUSING PROJECT
 222-224 SASKATCHEWAN CRESCENT
 LOCATION
 SASKATOON, Saskatchewan



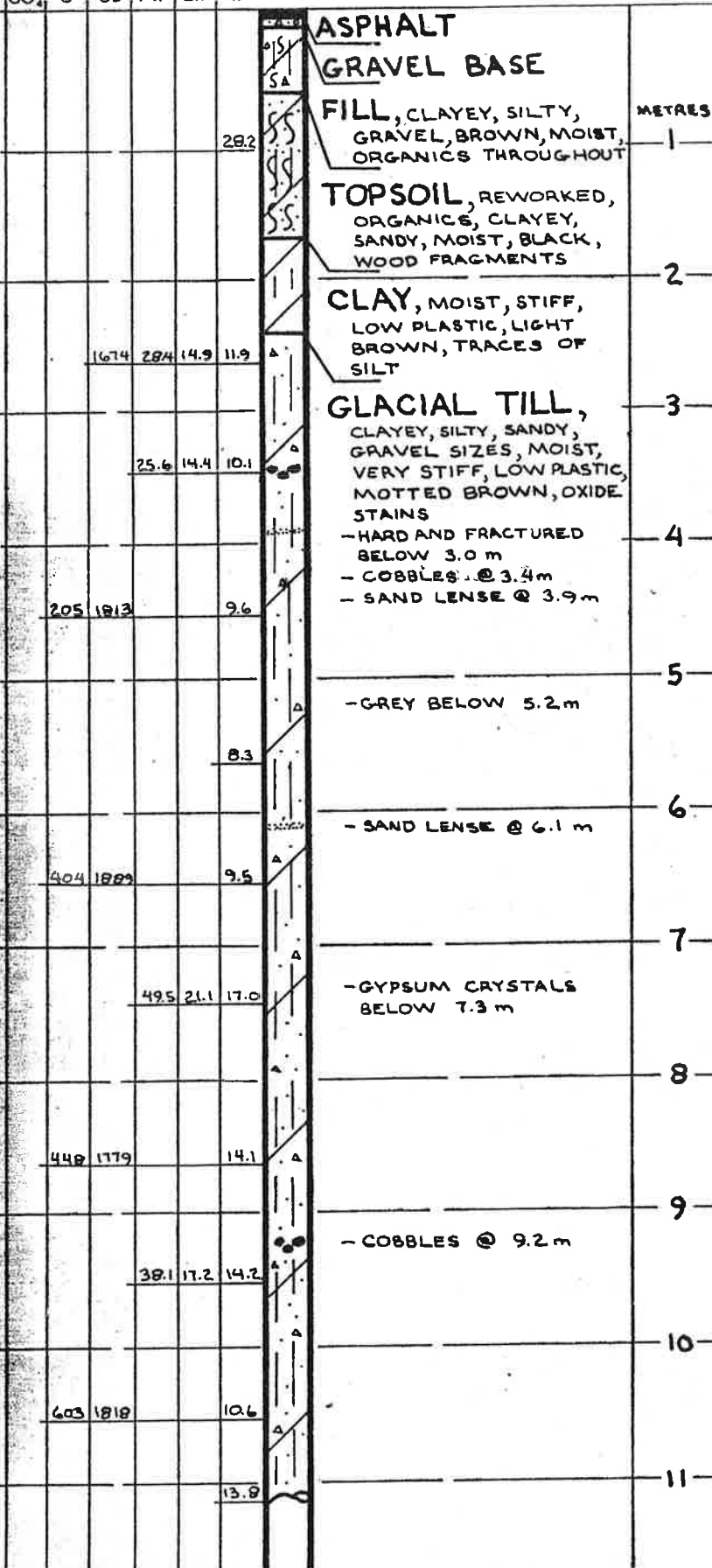
HISTORICAL BOREHOLE LOGS
TH 301 (PMEL81)

P. Machibroda Engineering Ltd. June 17, 1981. Geotechnical Investigation Proposed Apartment Building
Saskatchewan Crescent, Saskatoon, Saskatchewan

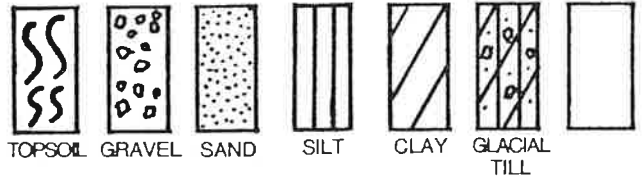
TEST HOLE 301

ELEV. 476.9 m (CITY DATUM)

SO, U, $\bar{\sigma}_d$, Pw, Lw, w



LEGEND:



COMBINATION OF ABOVE SHOWN WITH PREDOMINANT SOIL TYPE IN HEAVY LINE AND MODIFYING SOIL TYPE IN LIGHT LINE.

- $\bar{\sigma}_d$ DRY DENSITY (kg/m³)
- w WATER CONTENT (PERCENT OF DRY SOIL WT)
- Lw LIQUID LIMIT
- Pw PLASTIC LIMIT
- U UNCONFINED COMPRESSIVE STRENGTH (k Pa)
- SO* SULPHATE CONTENT (PERCENT OF DRY SOIL)
- TR TRACE
- * SULPHATE CONTENT WATER SAMPLE (PPM)
- v RECORDED WATER LEVEL
- N NUMBER OF BLOWS TO ADVANCE A 51 mm O.D. SPLIT SAMPLER 30 cm INTO THE SOIL USING A 63.5 kg HAMMER DROPPING FREELY A DISTANCE OF 76 cm (475 J PER BLOW).

LIMITATIONS:

THE FIELD DRILL LOG IS A SUMMARY OF FIELD CONDITIONS ENCOUNTERED AT A SPECIFIC TEST HOLE LOCATION AT THE TIME OF TEST DRILLING. SUBSURFACE CONDITIONS MAY VARY AT OTHER LOCATIONS OF THIS SITE AND, IN TIME, MAY CHANGE AT THE SPECIFIC LOCATION OF ANY TEST HOLE.

P. MACHIBRODA ENGINEERING LTD.



2331 MILLAR AVENUE
SASKATOON, SASK.

CONSULTING
ENGINEERS

FIELD DRILL LOGS AND SOIL TEST RESULTS

PROJECT:

PROPOSED APARTMENT BUILDING
SASKATOON, SASKATCHEWAN

LOCATION:

200 BLOCK SASKATCHEWAN CRES.
SASKATOON, SASKATCHEWAN

SCALE: 1:50

DRAWING NUMBER:

DATE: JUNE 17, 1991

581-335-2



HISTORICAL BOREHOLE LOGS
TH 101, TH102, TH 103, TH 104, TH 105, TH 106, TH 107, P201, P202
(CLIF83)

Clifton Associates Ltd. Aug. 17, 1983. Geotechnical Studies Proposed Park Terrace Condominiums 222 Saskatchewan Crescent East Saskatoon, SK.

TEST HOLE LOG

DATE <u>83/07/28</u>	GROUND ELEV. <u>486.36 m (Geodetic)</u>	TEST HOLE NO. <u>101</u>
DRILL <u>Brat 22</u>	LOCATION _____	SHEAR STRENGTH - kPa <input type="checkbox"/> UNCONF. <input type="checkbox"/> POCKET PEN. <input checked="" type="checkbox"/> LAB VANE
LOGGED BY <u>Dave Williamson</u>		PLASTIC LIMIT WATER CONTENT LIQUID LIMIT

DEPTH m	SYMBOL	DESCRIPTION OF MATERIALS	SAMPLE	USC	SHEAR STRENGTH - kPa PLASTIC LIMIT WATER CONTENT LIQUID LIMIT
1		CLAY - silty - some sand - olive (5y5/3), oxidized - very moist, soft - disturbed (Fill) - organic			
2		1.5 m CLAY - medium to highly plastic, silty - olive (5y5/3), oxidized - very moist, firm - salt stains			
3		2.2 m FILL - medium plastic silty clay matrix - olive (5y5/3), oxidized, very grey (5y3/1), unoxidized below 3.5 m - very moist, firm to stiff - Fe stains - highly plastic disturbed clay lamination from 2.25 to 2.3 m - saturated coarse gravel layer at 5.7 m			
4					
5					
6		5.7 m 6.0 m F.O.H.			

NOTES:
 1). Drilled using 125 mm diameter solid stem augers.
 2). Piezometer installed.

Clifton Associates Ltd.
 CONSULTING GEOTECHNICAL ENGINEERS
 REGINA SASKATOON

PROJECT PARK TERRACE CONDOMINIUMS
 LOCATION Saskatoon, Saskatchewan
 PROJECT NO. S145 PAGE NO. _____

TEST HOLE LOG

DATE <u>83/07/28</u>	GROUND ELEV. <u>485.57 m (Geodetic)</u>	TEST HOLE NO. <u>102</u>
DRILL <u>Brat 22</u>	LOCATION _____	SHEAR STRENGTH - kPa <input type="checkbox"/> UNCONF. <input type="checkbox"/> POCKET PEN. <input checked="" type="checkbox"/> LAB VANE 50 100 150 200
LOGGED BY <u>Dave Williamson</u>		

DEPTH m	SYMBOL	DESCRIPTION OF MATERIALS	SAMPLE	USC	SHEAR STRENGTH - kPa				
					PLASTIC LIMIT	WATER CONTENT		LIQUID LIMIT	
					10	30	50	70	90%
1	[Symbol]	CLAY - silty - black (10YR2/1) - very moist, very soft - organics - disturbed (Fill) 0.9 m TOPSOIL 1.0 m FILL - silty, sandy clay matrix - olive grey (5y4/2), oxidized - very moist, Fe stains	[Symbol]						
2	[Symbol]	1.5 m CLAY - highly plastic - olive (5y5/3), oxidized - very moist, firm - laminated, slickensided - trace organics	[Symbol]						
3	[Symbol]	2.4 m FILL - medium plastic, silty clay matrix - dark greyish brown (2.5y4/2), oxidized becoming dark grey (5y4/1), unoxidized below 3.1 m - stiff becoming very stiff and brittle below 3.1 m - saturated sandy silt layer from 3.9 to 4.2 m	[Symbol]						
4	[Symbol]		[Symbol]						
5	[Symbol]		[Symbol]						
6	[Symbol]	6.0 m E.O.H.	[Symbol]						

- NOTES:
- 1). Drilled using 125 mm diameter solid stem continuous flight augers.
 - 2). Bore hole sloughed to 5.1 m and water level measured 3.6 m, 3.5 hours after completion.
 - 3). Piezometer installed.

	Clifton Associates Ltd.	PROJECT <u>PARK TERRACE CONDOMINIUMS</u>
	CONSULTING GEOTECHNICAL ENGINEERS REGINA SASKATOON	LOCATION <u>Saskatoon, Saskatchewan</u>
		PROJECT NO. <u>S145</u> PAGE NO. _____

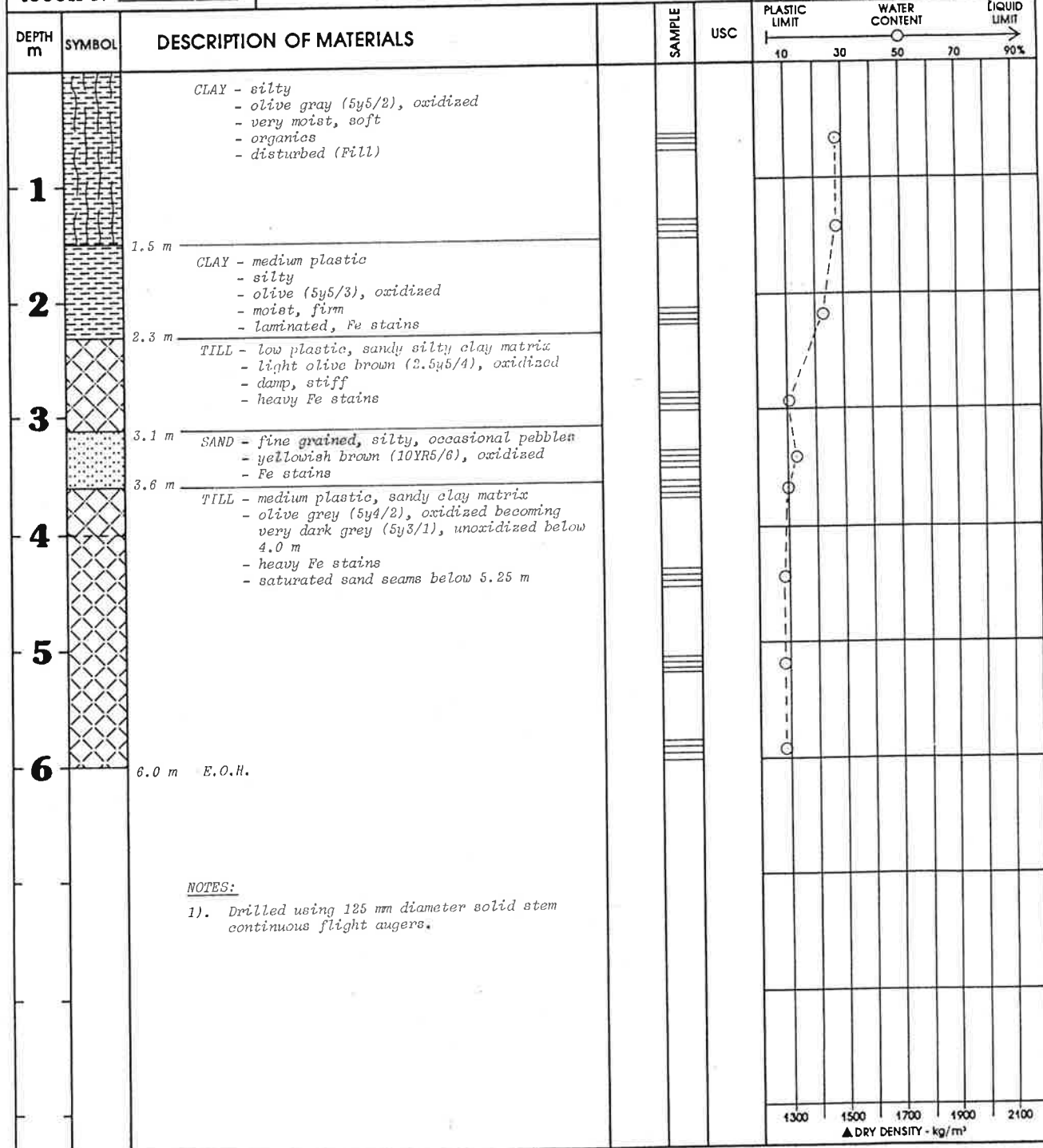
TEST HOLE LOG

DATE 83/07/28
 DRILL Brat 22
 LOGGED BY Dave Williamson

GROUND ELEV. 484.84 m (Geodetic)
 LOCATION _____

TEST HOLE NO. **103**

SHEAR STRENGTH - kPa
 UNCONF. 50 POCKET PEN. 100 LAB VANE 150 200



NOTES:
 1). Drilled using 125 mm diameter solid stem continuous flight augers.

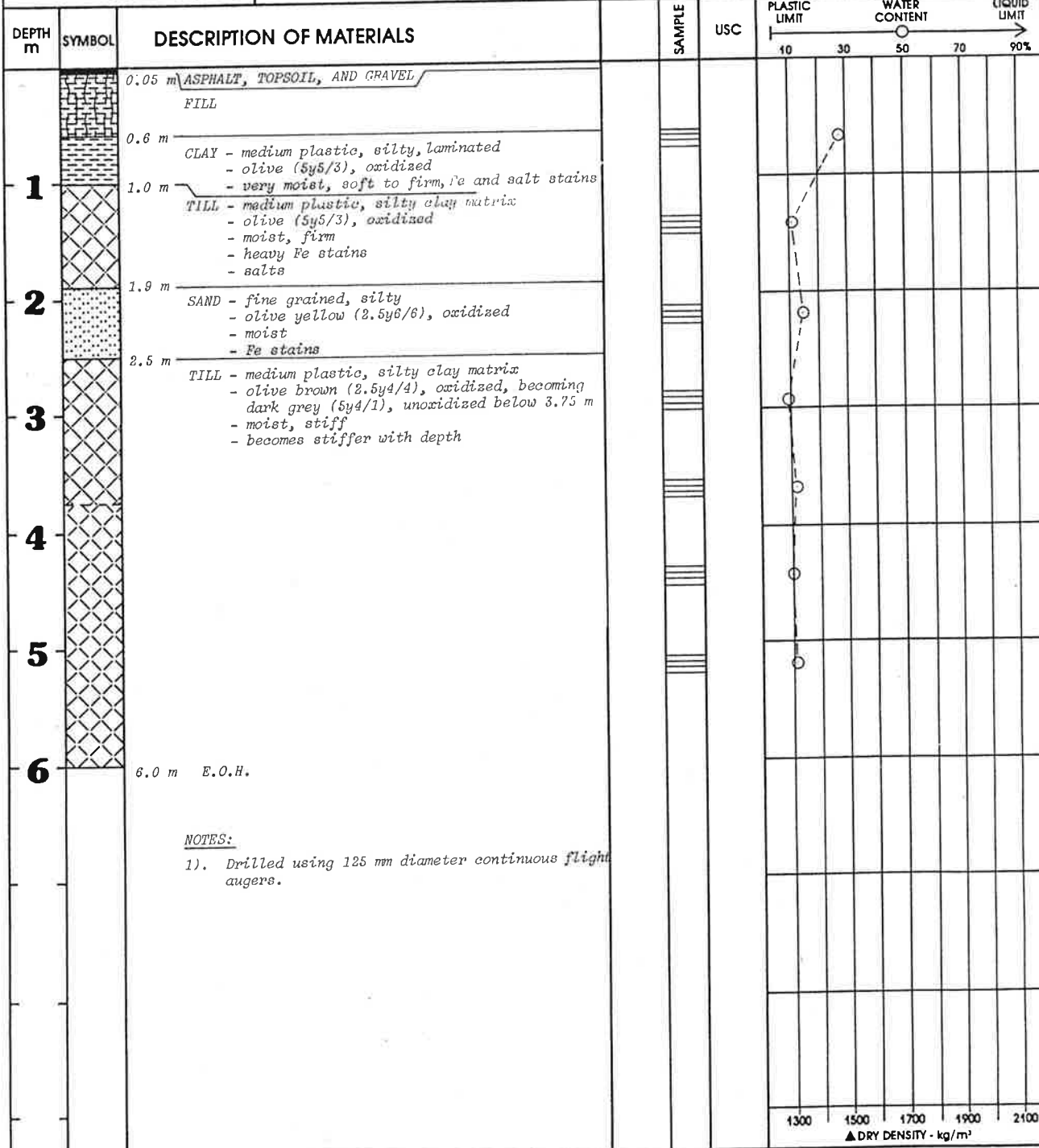


Clifton Associates Ltd.
 CONSULTING GEOTECHNICAL ENGINEERS
 REGINA SASKATOON

PROJECT PARK TERRACE CONDOMINIUMS
 LOCATION Saskatoon, Saskatchewan
 PROJECT NO. S145 PAGE NO. _____

TEST HOLE LOG

DATE <u>83/07/28</u>	GROUND ELEV. <u>483.62 (Geodetic)</u>	TEST HOLE NO. 104
DRILL <u>Brat 22</u>	LOCATION _____	SHEAR STRENGTH - kPa <input type="checkbox"/> UNCONF. <input type="checkbox"/> POCKET PEN. <input checked="" type="checkbox"/> LAB VANE <small>50 100 150 200</small>
LOGGED BY <u>Dave Williamson</u>		PLASTIC LIMIT WATER CONTENT LIQUID LIMIT <small>10 30 50 70 90%</small>



Clifton Associates Ltd.
 CONSULTING GEOTECHNICAL ENGINEERS
 REGINA SASKATOON

PROJECT PARK TERRACE CONDOMINIUMS
 LOCATION Saskatoon, Saskatchewan
 PROJECT NO. S145 PAGE NO. _____

TEST HOLE LOG

DATE 83/07/28

GROUND ELEV. 480.82 m (Geodetic)

TEST HOLE NO. **105**

DRILL Brat 22

LOCATION _____

LOGGED BY Dave Williamson

SHEAR STRENGTH - kPa
 UNCONF. POCKET PEN. LAB VANE

DEPTH m	SYMBOL	DESCRIPTION OF MATERIALS	SAMPLE	USC	SHEAR STRENGTH - kPa		
					PLASTIC LIMIT	WATER CONTENT	LIQUID LIMIT
1	[Symbol: Dotted with vertical lines]	SILT - with organics - black (10YR2/1), oxidized - moist, firm - wood chips - disturbed (Fill)	[Symbol: Horizontal lines]		40	30	50
		1.6 m					
2	[Symbol: Horizontal wavy lines]	CLAY - medium plastic, silty - dark greyish brown (2.5y4/2), oxidized - very moist, firm - laminated - Fe stains - trace organics - with silt and sand below 3.2 m	[Symbol: Horizontal lines]				
3	[Symbol: Horizontal wavy lines]		[Symbol: Horizontal lines]				
		3.5 m					
4	[Symbol: Cross-hatch]	TILL - medium plastic silty clay matrix - light olive brown (2.5y5/4), oxidized - moist, firm becoming stiffer with depth - Fe stains	[Symbol: Horizontal lines]				
		4.5 m					
5	[Symbol: Dotted]	SAND - medium grained, silty - dark yellowish brown (10YR4/4), oxidized - moist - heavy Fe stains - occasional till lumps	[Symbol: Horizontal lines]				
		5.4 m					
6	[Symbol: Cross-hatch]	TILL - medium plastic silty clay matrix - olive brown (2.5y4/4), oxidized, becoming dark olive grey (5y3/2), unoxidized below 6.3 m - damp, very stiff - brittle - heavy Fe stains	[Symbol: Horizontal lines]				
		6.3 m					
7	[Symbol: Cross-hatch]		[Symbol: Horizontal lines]				
		7.5 m					
8		E.O.H. NOTES: 1). Drilled using 125 mm diameter solid stem continuous flight augers.	[Symbol: Horizontal lines]				



Clifton Associates Ltd.
 CONSULTING GEOTECHNICAL ENGINEERS
 REGINA SASKATOON

PROJECT PARK TERRACE CONDOMINIUMS
 LOCATION Saskatoon, Saskatchewan
 PROJECT NO. S145 PAGE NO. _____

TEST HOLE LOG

DATE <u>83/07/28</u>	GROUND ELEV. <u>481.95 m (Geodetic)</u>	TEST HOLE NO. 106
DRILL <u>Brat 22</u>	LOCATION _____	
LOGGED BY <u>Dave Williamson</u>	SHEAR STRENGTH - kPa <input type="checkbox"/> UNCONF. <input type="checkbox"/> POCKET PEN. <input checked="" type="checkbox"/> LAB VANE 50 100 150 200	

DEPTH m	SYMBOL	DESCRIPTION OF MATERIALS	SAMPLE	USC	PLASTIC LIMIT	WATER CONTENT	LIQUID LIMIT		
1	[Cross-hatch symbol]	CLAY - silty, with organics - black (10YR2/1), oxidized - moist - disturbed (Fill)	[Sample symbol]		10	30	50		
1.4 m									
2	[Diagonal hatch symbol]	TILL - medium plastic silty sandy clay matrix - light olive brown (2.5y5/4), oxidized - becoming olive brown (2.5y4/4), with depth - moist - stiff to very stiff - brittle - heavy Fe stains	[Sample symbol]		10	30	50		
3	[Diagonal hatch symbol]		[Sample symbol]		10	30	50		
4	[Diagonal hatch symbol]		[Sample symbol]		10	30	50		
4.5 m E.O.H.									
5		NOTES: 1). Drilled using 125 mm diameter continuous flight, solid stem augers.							
					1300	1500	1700	1900	2100
					▲ DRY DENSITY - kg/m ³				

	Clifton Associates Ltd.	PROJECT <u>PARK TERRACE CONDOMINIUMS</u>
	CONSULTING GEOTECHNICAL ENGINEERS REGINA SASKATOON	LOCATION <u>Saskatoon, Saskatchewan</u>
		PROJECT NO. <u>S145</u> PAGE NO. _____

TEST HOLE LOG

DATE <u>83/07/28</u>	GROUND ELEV. <u>497.254 m (Geodetic)</u>	TEST HOLE NO. <u>107</u>
DRILL <u>Brat 22</u>	LOCATION _____	SHEAR STRENGTH - kPa <input type="checkbox"/> UNCONF. <input type="checkbox"/> POCKET PEN. <input checked="" type="checkbox"/> LAB VANE
LOGGED BY <u>Dave Williamson</u>		

DEPTH m	SYMBOL	DESCRIPTION OF MATERIALS	SAMPLE	USC	SHEAR STRENGTH - kPa					WATER CONTENT					(LIQUID LIMIT)					
					PLASTIC LIMIT	50	100	150	200	10	30	50	70	90%						
1	+	0.1 m TOFSOIL SILT - with silty clay lumps and fine sand - dark brown (10YR3/3), oxidized, becoming light grey (2.5y7/2) below 0.8 m - heavy organics to 0.8 m - damp																		
2	+																			
3	+																			
4	.	3.9 m SAND - fine grained, silty - light yellowish brown (2.5y6/4), oxidized - damp																		
5	~	4.8 m CLAY - highly plastic - olive (5y4/3), oxidized - moist, stiff - laminated - organic odour - Fe stains																		
6	-	6.0 m E.O.H. NOTES: 1). Drilled using 125 mm diameter, continuous flight, solid stem augers.																		



Clifton Associates Ltd.
 CONSULTING GEOTECHNICAL ENGINEERS
 REGINA SASKATOON

PROJECT PARK TERRACE CONDOMINIUMS
 LOCATION Saskatoon, Saskatchewan
 PROJECT NO. S145 PAGE NO. _____

PIEZOMETER CONSTRUCTION DETAILS

DEPTH m	PIEZOMETER DETAIL	SYMBOL	SOIL DESCRIPTION	ELEV. m	PIEZOMETER NO. <u>P101</u> TEST HOLE NO. <u>101</u>
0		④		486.44	LOCATION _____
1		③	CLAY - fill - silty	486.36	TOP PIPE ELEV. <u>486.44</u> GROUND ELEV. <u>486.36</u> BASE SCREEN ELEV. <u>483.05</u> PIPE TYPE <u>38 mm PVC Schedule 80</u> SCREEN <u>51 mm PVC Johnson 10 slot</u>
2		②	CLAY - medium to highly plastic	483.90	TEST HOLE DIA. <u>125 mm</u> INST. DATE <u>July 28, 1983</u> TECHNICIAN <u>D.W. Williamson</u> CONTRACTOR <u>Anderson Drilling</u> DRILL <u>Brat 22 Continuous Flight</u>
3		①	TILL - oxidized	483.26	WATER LEVELS DATE TIME DEPTH-m ELEV.-m UPON COMPLETION <u>83/07/28</u> <u>1545</u> - -
4			- unoxidized		ADDITIONAL READINGS <u>83/08/02</u> <u>0915</u> <u>2.04</u> <u>484.40</u> <u>83/08/09</u> <u>1355</u> <u>2.13</u> <u>484.31</u>
6			GRAVEL	480.36	REMARKS <u>Construction Materials</u> <u>1. Auger Cuttings</u> <u>2. 12-20 Silica Sand</u> <u>3. Bentonite Pellets</u> <u>4. Auger Cuttings</u> <u>All elevations referenced to Geodetic Datum.</u>
				DRAWN BY <u>GJB</u>	APPROVED BY



Clifton Associates Ltd.
CONSULTING GEOTECHNICAL ENGINEERS
REGINA SASKATOON

CLIENT Starport Investments Ltd.
PROJECT Park Terrace Condominiums
LOCATION Saskatoon, Saskatchewan
DATE 83/08/09 PROJECT NO. S145

PIEZOMETER CONSTRUCTION DETAILS

DEPTH m	PIEZOMETER DETAIL	SYMBOL	SOIL DESCRIPTION	ELEV. m	PIEZOMETER NO. <u>P102</u> TEST HOLE NO. <u>102</u>
				486.28	LOCATION _____
0	④	③	CLAY - fill - silty	485.57	TOP PIPE ELEV. <u>486.28 m</u>
			TOPSOIL		GROUND ELEV. <u>485.57 m</u>
1			TILL		BASE SCREEN ELEV. <u>480.35 m</u>
			CLAY - highly plastic		PIPE TYPE <u>38 mm PVC Schedule 80</u>
2			TILL - oxidized		SCREEN <u>51 mm PVC Johnson 10 slot</u>
			- unoxidized		TEST HOLE DIA. <u>125 mm</u>
3			- sandy silt from 3.9 to 4.2 m		INST. DATE <u>July 28, 1983</u>
					TECHNICIAN <u>D. W. Williamson</u>
4					CONTRACTOR <u>Anderson Drilling</u>
					DRILL <u>Brat 22 Continuous Flight</u>
5				481.20	WATER LEVELS
					DATE TIME DEPTH-m ELEV.-m
6				480.35	UPON COMPLETION
				480.28	<u>83/07/28</u> <u>1800</u> <u>3.37</u> <u>482.91</u>
					ADDITIONAL READINGS
					<u>83/08/02</u> <u>0920</u> <u>3.60</u> <u>482.68</u>
					<u>83/08/09</u> <u>1350</u> <u>3.63</u> <u>482.65</u>
					REMARKS <u>Construction Materials</u>
					<u>1. Auger Cuttings</u>
					<u>2. 12-20 Silica Sand</u>
					<u>3. Bentonite Pellets</u>
					<u>4. Auger Cuttings</u>
					<u>All elevations referenced to Geodetic Datum</u>
					DRAWN BY <u>GJB</u>
					APPROVED BY _____



Clifton Associates Ltd.

CONSULTING GEOTECHNICAL ENGINEERS
REGINA SASKATOON

CLIENT Starport Investments Ltd.

PROJECT Park Terrace Condominiums

LOCATION Saskatoon, Saskatchewan

DATE 83/08/09

PROJECT NO. S145

PIEZOMETER CONSTRUCTION DETAILS

DEPTH m	PIEZOMETER DETAIL	SYMBOL	SOIL DESCRIPTION	ELEV. m	PIEZOMETER NO. <u>P201</u> TEST HOLE NO. _____	
					LOCATION <u>237 - 11th Street East</u>	
0				497.21	TOP PIPE ELEV. <u>497.21 m</u>	
2					GROUND ELEV. <u>497.27 m</u>	
4						BASE SCREEN ELEV. <u>483.79 m</u>
6						PIPE TYPE <u>51 mm PVC Schedule 80</u>
8						SCREEN <u>51 mm PVC slotted with circular saw</u>
10						TEST HOLE DIA. <u>410 mm</u>
12					484.81	INST. DATE <u>July 22, 1983</u>
14					483.79	TECHNICIAN <u>Gerry Berube</u>
16					482.37	CONTRACTOR _____
						DRILL _____
					WATER LEVELS	
					DATE TIME DEPTH-m ELEV.-m	
					UPON COMPLETION	
					ADDITIONAL READINGS	
					83/07/25 1020 11.63 485.58	
					83/08/09 1610 11.65 485.56	
					REMARKS	
					<i>Construction Materials</i>	
					1. <i>Natural slough</i>	
					2. <i>Concrete Sand</i>	
					3. <i>Bentonite Pellets</i>	
					4. <i>Sand Bentonite (10% Bentonite) mixture</i>	
					5. <i>Cuttings</i>	
					<i>Water depths referenced to top of pipe.</i>	
					<i>Screen wrapped with filter cloth.</i>	
				DRAWN BY <u>GJB</u>	APPROVED BY	



Clifton Associates Ltd.

CONSULTING GEOTECHNICAL ENGINEERS
REGINA SASKATOON

CLIENT Starport Investments Ltd.

PROJECT PARK TERRACE CONDOMINIUMS

LOCATION Saskatoon, Saskatchewan

DATE 83/07/25

PROJECT NO. S145



APPENDIX E
Record of Borehole Logs

HISTORICAL BOREHOLE LOGS
SI1, SI2, SI3, P801G, P802G, P803G (GAL85)

Golder Associates Ltd. May 1985. Progress Report No. 1 Slope Monitoring Program, Park Terrace Condominiums, 222 Saskatchewan Crescent East, Saskatoon, Saskatchewan

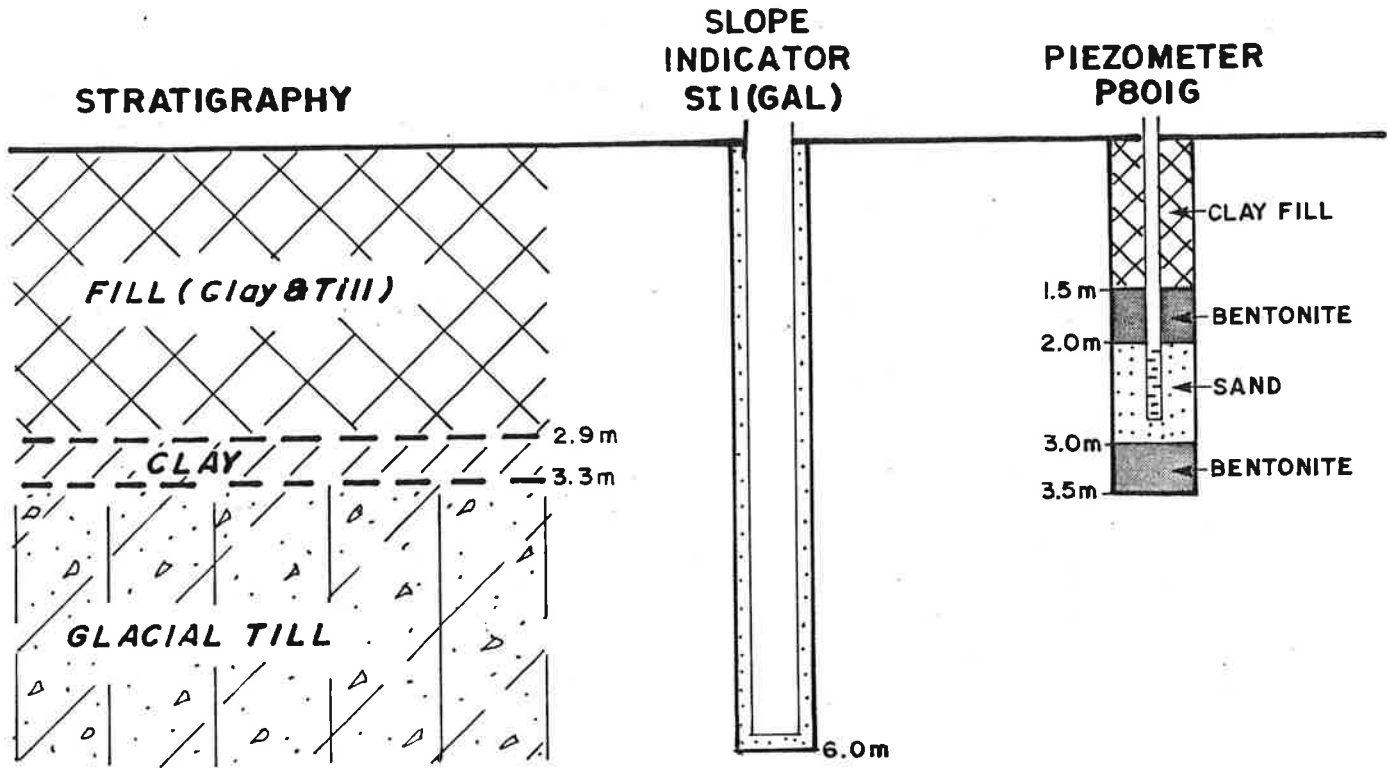
INSTRUMENTATION NEST NO. 1 SLOPE MONITORING PROGRAM

FIGURE SM 1

PARK TERRACE CONDOMINIUMS

SASKATOON, SASK.

LOCATION — IN CHERRY LANE NEAR EAST PROPERTY LINE. (SEE LOCATION PLAN.)



SCALE — 1 : 75

DATE OF INSTALLATION

SLOPE INDICATOR SI 1 — APRIL 2, 1985.

PIEZOMETER P801G — MAY 7, 1985.

Date MAY 16 / 85.
Project 852-6010

Golder Associates
Page 477

Drawn N.E.
Chkd [Signature]

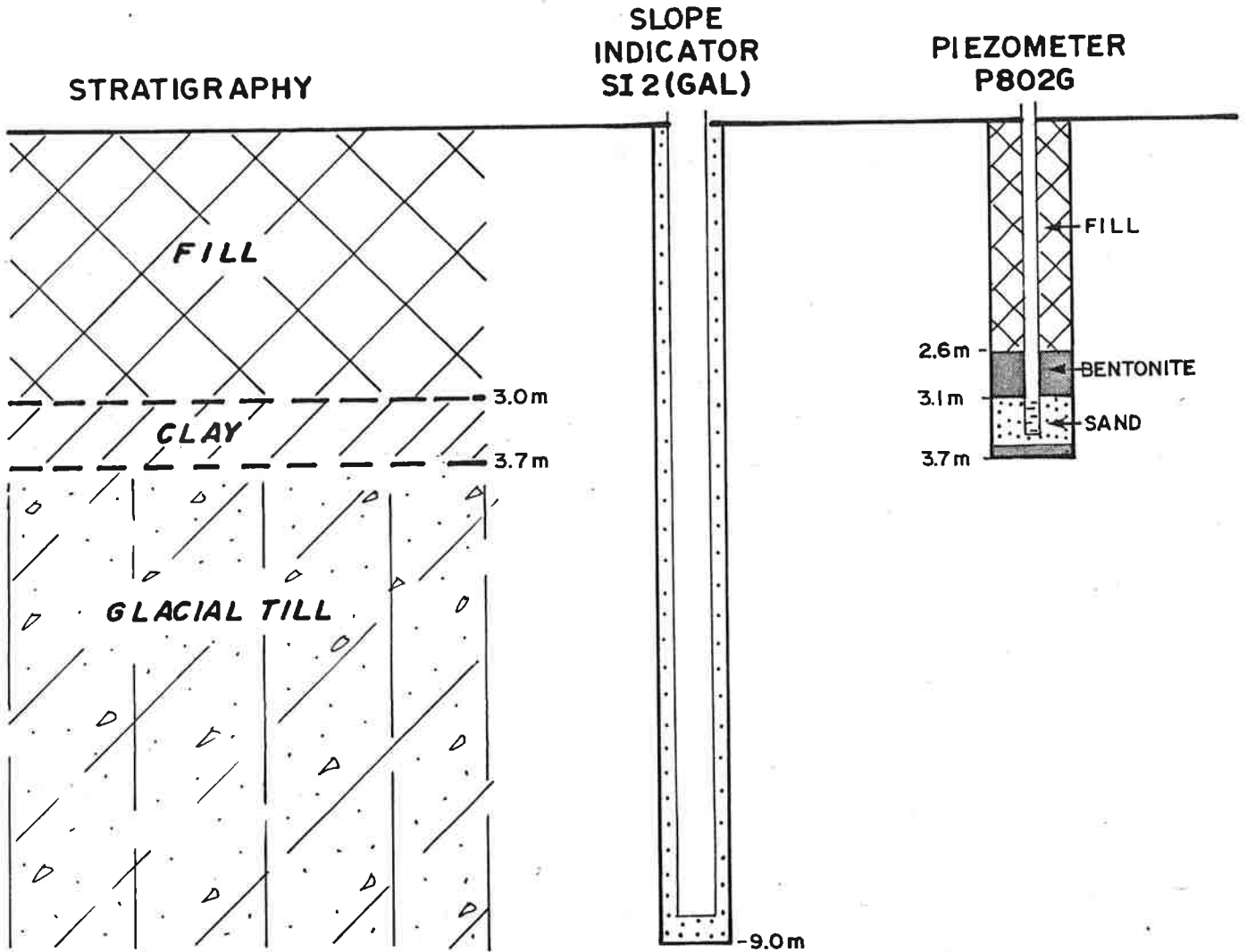
INSTRUMENTATION NEST NO. 2 SLOPE MONITORING PROGRAM

FIGURE SM 2

PARK TERRACE CONDOMINIUMS

SASKATOON, SASK.

LOCATION - CHERRY LANE NEAR WEST PROPERTY LINE (SEE LOCATION PLAN.)



SCALE - 1:75

DATE OF INSTALLATION

SLOPE INDICATOR SI 2 - APRIL 2, 1985.

PIEZOMETER P802G - MAY 7, 1985.

Date MAY 21/85.
Project 852-6010

Golden Associates
Page 4/8

Drawn N.E.
Chkd [Signature]

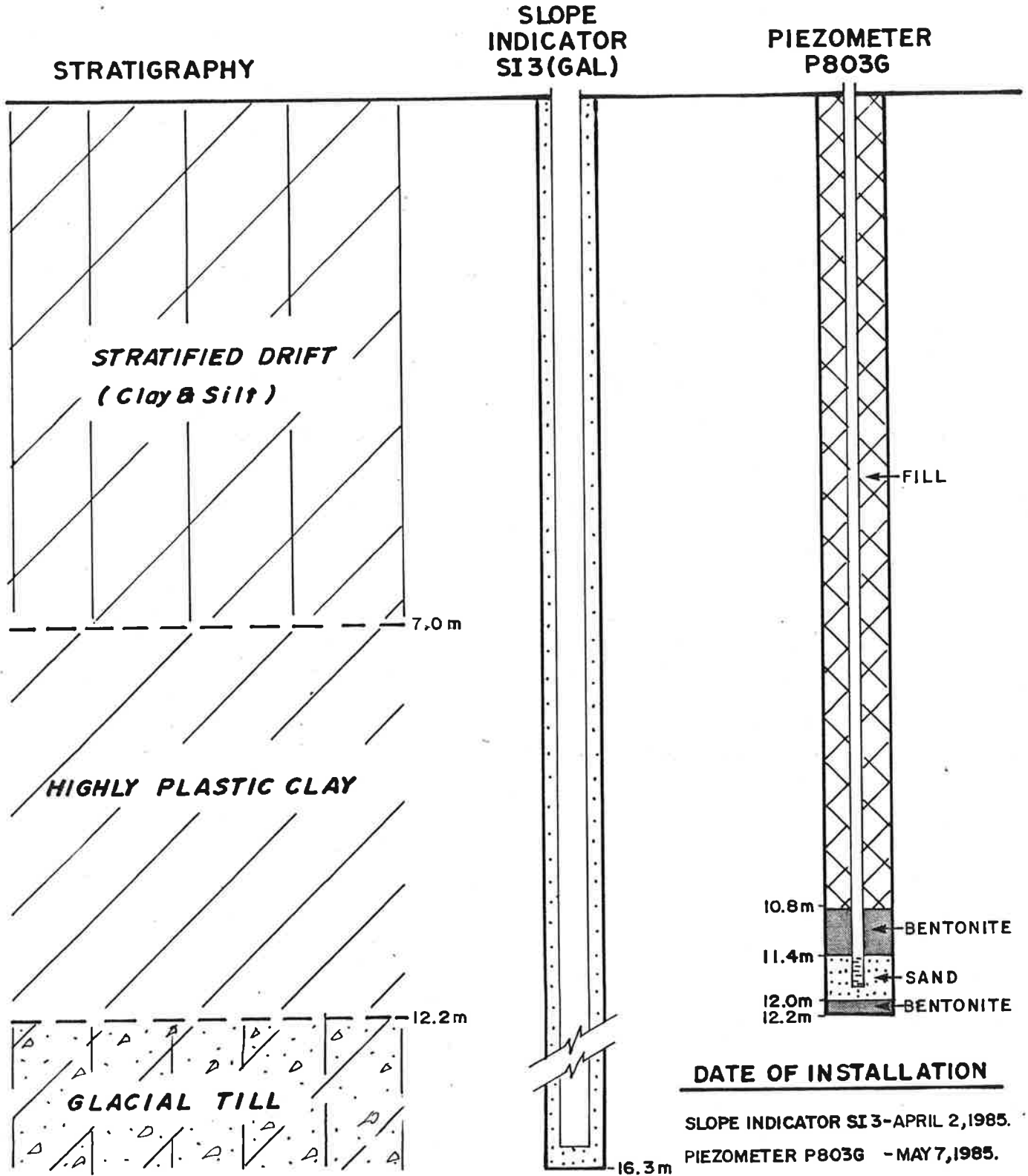
INSTRUMENTATION NEST NO. 3 SLOPE MONITORING PROGRAM

FIGURE **SM 3**

PARK TERRACE CONDOMINIUMS

SASKATOON, SASK.

LOCATION - TOP OF SLOPE NEAR ELEVENTH STREET.



DATE OF INSTALLATION

SLOPE INDICATOR SI 3-APRIL 2, 1985.

PIEZOMETER P803G - MAY 7, 1985.

SCALE - 1 : 75

Date MAY. 21/85
Project 852-6010

Golden Associates

Drawn N.E.
Chkd AM



HISTORICAL BOREHOLE LOGS
TH 97-01, TH 97-02, TH 97-03, TH 97-04 (PMEL97)

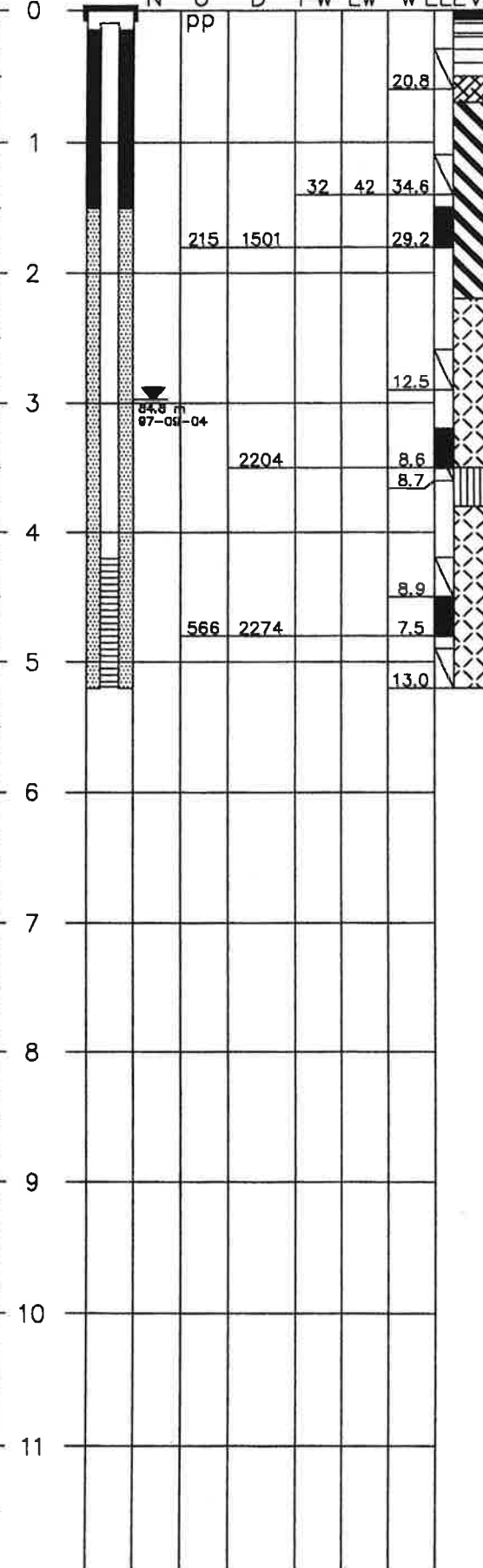
P. Machibroda Engineering Ltd. Sept. 15, 1997. Geotechnical Investigation and Slope Stability Study Proposed Residential Development, 237-11th Street East, Saskatoon, Saskatchewan

TEST HOLE 97-1

DEPTH (m)

PIEZO. ELEV. = 87.63 m

ELEV: 87.73 m



ASPHALT CONCRETE BASE COURSE
FILL, Clay, silty, some sand, firm, medium plastic, dark brown.
TOPSOIL- silty, moist, black, rootlets, organics.
CLAY, silty, firm, medium to highly plastic, moist, olive brown, oxidized, iron stained.

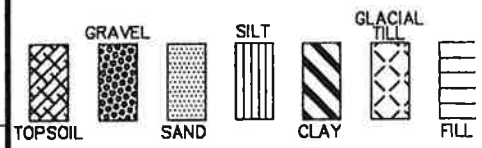
GLACIAL TILL- Clay, silty, some sand, trace gravel, firm to stiff, medium plastic, olive brown, oxidized, iron stained, gypsum crystals,
 -wet, sand lenses at 3.0 m.

SILT, some sand, non to low plastic, moist, grey.
GLACIAL TILL- Clay, silty, some sand, trace gravel, stiff, low plastic, moist, grey.

-boulder at 5.2 m.

NOTE:
 1) Auger refusal at 5.2 m.

LEGEND:



pp....POCKET PENETROMETER (kg/cm²)
 w.....WATER CONTENT (PERCENT OF DRY SOIL WEIGHT)
 Lw....LIQUID LIMIT
 Pw....PLASTIC LIMIT
 D.....DRY DENSITY (kg/m³)
 U.....UNCONFINED COMPRESSIVE STRENGTH (kPa)
 N.....STANDARD PENETRATION TEST
 SO....SULPHATE CONTENT (PERCENT OF DRY SOIL)
 TR....TRACE
 *.....SULPHATE CONTENT WATER SAMPL (ppm)
 ▼.....RECORDED WATER LEVEL



LIMITATIONS:THE FIELD DRILL LOG IS A SUMMARY OF THE FIELD CONDITIONS ENCOUNTERED AT A SPECIFIC TEST HOLE LOCATION AT THE TIME OF TEST DRILLING. SUBSURFACE CONDITIONS MAY VARY AT OTHER LOCATIONS OF THIS SITE AND IN TIME, MAY CHANGE AT THE SPECIFIC TEST HOLE LOCATION

P. MACHIBRODA ENGINEERING LTD.



FIELD DRILL LOG AND SOIL TEST RESULTS

PROJECT:
 SLOPE STABILITY STUDY
 237-11TH STREET EAST

LOCATION:
 SASKATOON, SK

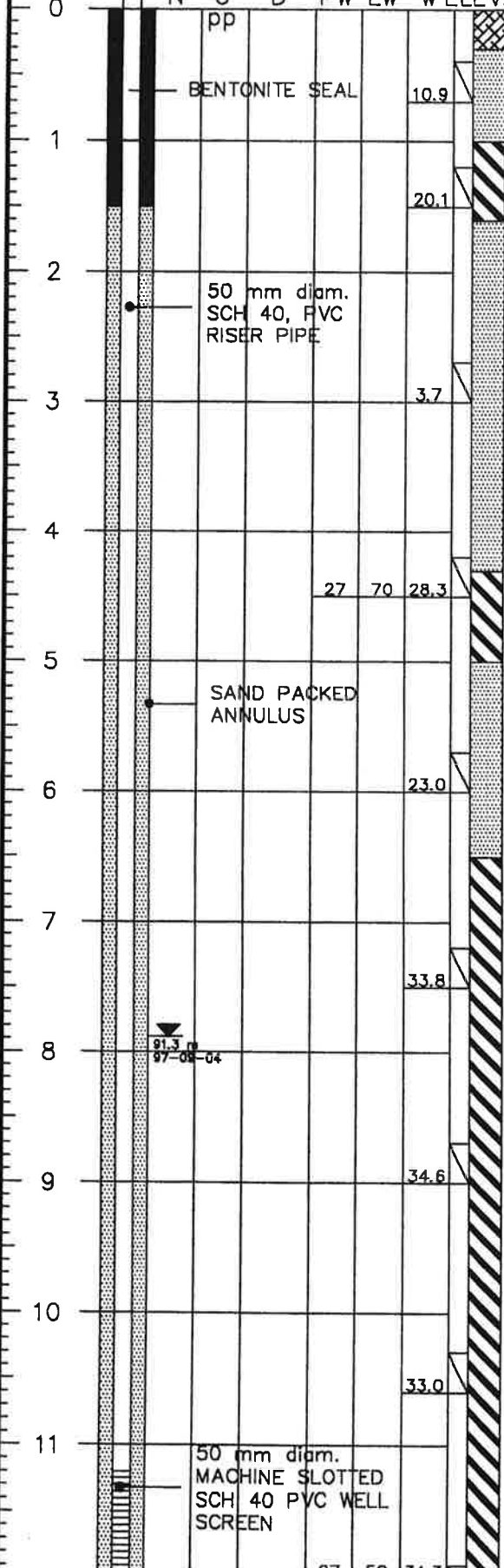
DATE DRILLED: AUG 5, 1997
DRAWING NUMBER: S97-2778-2

TEST HOLE 97-2

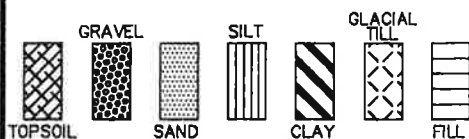
DEPTH (m)

PIEZO = 99.85 m

N U D Pw Lw w ELEV: 99.14 m



LEGEND:



pp....POCKET PENETROMETER (kg/cm²)

w.....WATER CONTENT (PERCENT OF DRY SOIL WEIGHT)

Lw....LIQUID LIMIT

Pw....PLASTIC LIMIT

D.....DRY DENSITY (kg/m³)

U.....UNCONFINED COMPRESSIVE STRENGTH (kPa)

N.....STANDARD PENETRATION TEST

SO....SULPHATE CONTENT (PERCENT OF DRY SOIL)

TR....TRACE

*.....SULPHATE CONTENT WATER SAMPLE (ppm)

▼.....RECORDED WATER LEVEL



LIMITATIONS: THE FIELD DRILL LOG IS A SUMMARY OF THE FIELD CONDITIONS ENCOUNTERED AT A SPECIFIC TEST HOLE LOCATION AT THE TIME OF TEST DRILLING. SUBSURFACE CONDITIONS MAY VARY AT OTHER LOCATIONS OF THIS SITE AND IN TIME, MAY CHANGE AT THE SPECIFIC TEST HOLE LOCATION.

P. MACHIBRODA ENGINEERING LTD.



FIELD DRILL LOG AND SOIL TEST RESULTS

PROJECT:
SLOPE STABILITY STUDY
237-11TH STREET EAST

LOCATION:
SASKATOON, SK

DATE DRILLED: AUG 5, 1997
DRAWING NUMBER: S97-2778-3

PIEZO. ELEV. = 100.09 m

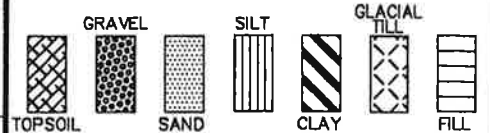
PAGE 1 OF 2

TEST HOLE 97-3

DEPTH (m)

N U D Pw Lw w ELEV: 99.33 m

LEGEND:



- pp....POCKET PENETROMETER (kg/cm²)
- w.....WATER CONTENT (PERCENT OF DRY SOIL WEIGHT)
- Lw....LIQUID LIMIT
- Pw....PLASTIC LIMIT
- D.....DRY DENSITY (kg/m³)
- U.....UNCONFINED COMPRESSIVE STRENGTH (kPa)
- N.....STANDARD PENETRATION TEST
- SO....SULPHATE CONTENT (PERCENT OF DRY SOIL)
- TR....TRACE
- *.....SULPHATE CONTENT WATER SAMPLE (ppm)
- ▼.....RECORDED WATER LEVEL
- SHELBY TUBE
- ⊠ SPLIT SPOON
- CUTTINGS

LIMITATIONS: THE FIELD DRILL LOG IS A SUMMARY OF THE FIELD CONDITIONS ENCOUNTERED AT A SPECIFIC TEST HOLE LOCATION AT THE TIME OF TEST DRILLING. SUBSURFACE CONDITIONS MAY VARY AT OTHER LOCATIONS OF THIS SITE AND IN TIME, MAY CHANGE AT THE SPECIFIC TEST HOLE LOCATION.

P. MACHIBRODA ENGINEERING LTD.

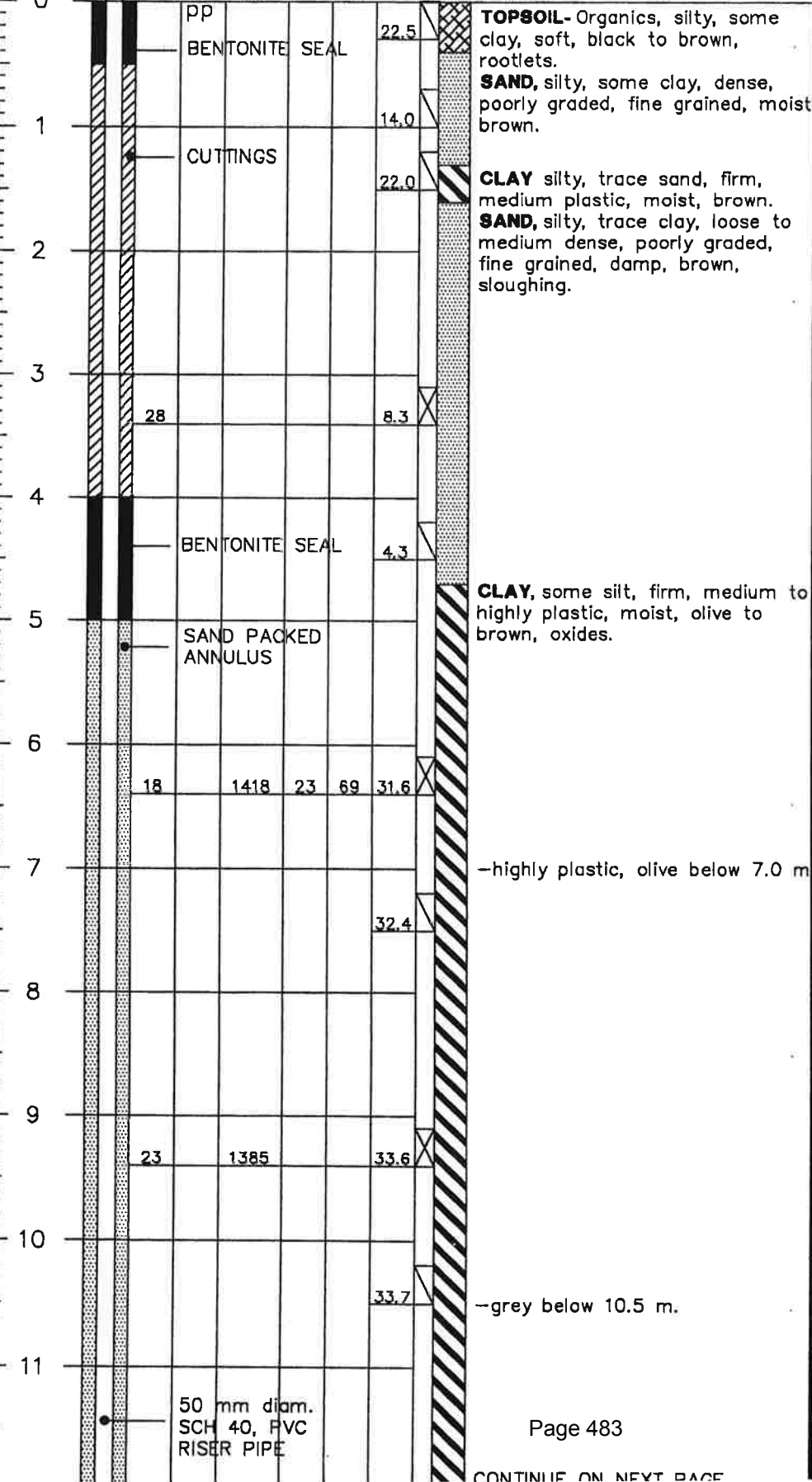


FIELD DRILL LOG AND SOIL TEST RESULTS

PROJECT:
SLOPE STABILITY STUDY
237-11TH STREET EAST

LOCATION:
SASKATOON, SK

DATE DRILLED: AUG 5, 1997
DRAWING NUMBER: S97-2778-4



TEST HOLE 97-3

DEPTH
(m)

DEPTH (m)	N	U	D	Pw	Lw	w
12		pp				
12.26			1454			30.3
12.88.8						
12.97-02-04						
13						
13.2						
14						
15						
15.3						
16						
15.8						
17						
18						
19						
20						
21						
22						
23						

CLAY, some silt, firm, highly plastic, moist, grey, oxides.

GLACIAL TILL- Clay, silty, some sand, trace gravel, firm, medium plastic, moist, grey, unoxidized.

SAND PACKED ANNULUS

50 mm diam. SCH 40, PVC RISER PIPE

50 mm diam. MACHINE SLOTTED SCH 40 PVC WELL SCREEN

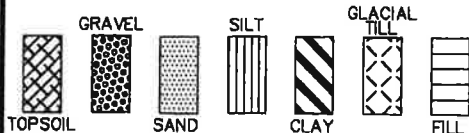
-sand silty, some clay below 14.9 m.
-seepage at 15.0 m.
-cobbles below 15.0 m.
-sloughed to 15.7 m immediately after drilling.

-cobbles/boulders at 17.0 m.

NOTE:

1. Auger refusal at 17.0 m.
2. Test Hole sloughed to 15.7 m immediately after drilling.

LEGEND:



pp....POCKET PENETROMETER (kg/cm²)

w.....WATER CONTENT (PERCENT OF DRY SOIL WEIGHT)

Lw....LIQUID LIMIT

Pw....PLASTIC LIMIT

D.....DRY DENSITY (kg/m³)

U.....UNCONFINED COMPRESSIVE STRENGTH (kPa)

N.....STANDARD PENETRATION TEST

SO....SULPHATE CONTENT (PERCENT OF DRY SOIL)

TR....TRACE

*.....SULPHATE CONTENT WATER SAMPLE (ppm)

▼.....RECORDED WATER LEVEL



LIMITATIONS: THE FIELD DRILL LOG IS A SUMMARY OF THE FIELD CONDITIONS ENCOUNTERED AT A SPECIFIC TEST HOLE LOCATION AT THE TIME OF TEST DRILLING. SUBSURFACE CONDITIONS MAY VARY AT OTHER LOCATIONS OF THIS SITE AND IN TIME, MAY CHANGE AT THE SPECIFIC TEST HOLE LOCATION.

P. MACHIBRODA ENGINEERING LTD.



FIELD DRILL LOG AND SOIL TEST RESULTS

PROJECT:
SLOPE STABILITY STUDY
237-11TH STREET EAST

LOCATION:
SASKATOON, SK

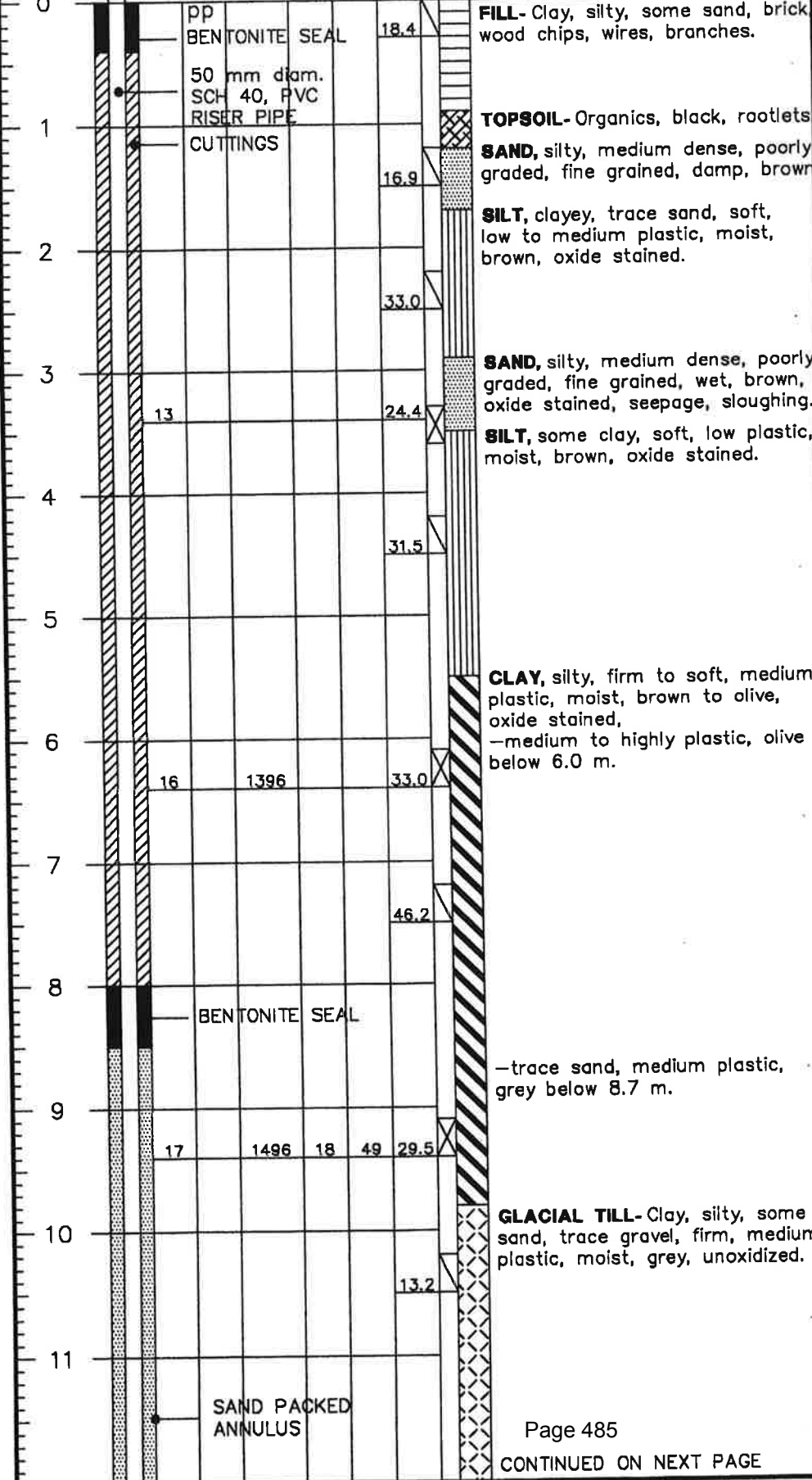
DATE DRILLED: AUG 5, 1997
DRAWING NUMBER: S97-2778-4A

TEST HOLE 97-4

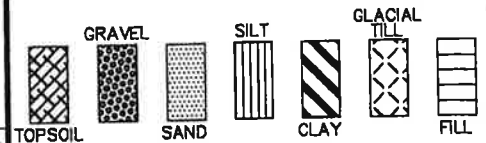
DEPTH (m)

PIEZO. ELEV. = 97.22 m

N U D Pw Lw w ELEV: 96.66 m



LEGEND:



pp....POCKET PENETROMETER (kg/cm²)

w.....WATER CONTENT (PERCENT OF DRY SOIL WEIGHT)

Lw....LIQUID LIMIT

Pw....PLASTIC LIMIT

D.....DRY DENSITY (kg/m³)

U.....UNCONFINED COMPRESSIVE STRENGTH (kPa)

N.....STANDARD PENETRATION TEST

SO....SULPHATE CONTENT (PERCENT OF DRY SOIL)

TR....TRACE

*.....SULPHATE CONTENT WATER SAMPLE (ppm)

▼.....RECORDED WATER LEVEL



LIMITATIONS: THE FIELD DRILL LOG IS A SUMMARY OF THE FIELD CONDITIONS ENCOUNTERED AT A SPECIFIC TEST HOLE LOCATION AT THE TIME OF TEST DRILLING. SUBSURFACE CONDITIONS MAY VARY AT OTHER LOCATIONS OF THIS SITE AND IN TIME, MAY CHANGE AT THE SPECIFIC TEST HOLE LOCATION.

P. MACHIBRODA ENGINEERING LTD.



FIELD DRILL LOG AND SOIL TEST RESULTS

PROJECT:
SLOPE STABILITY STUDY
237-11TH STREET EAST

LOCATION:
SASKATOON, SK

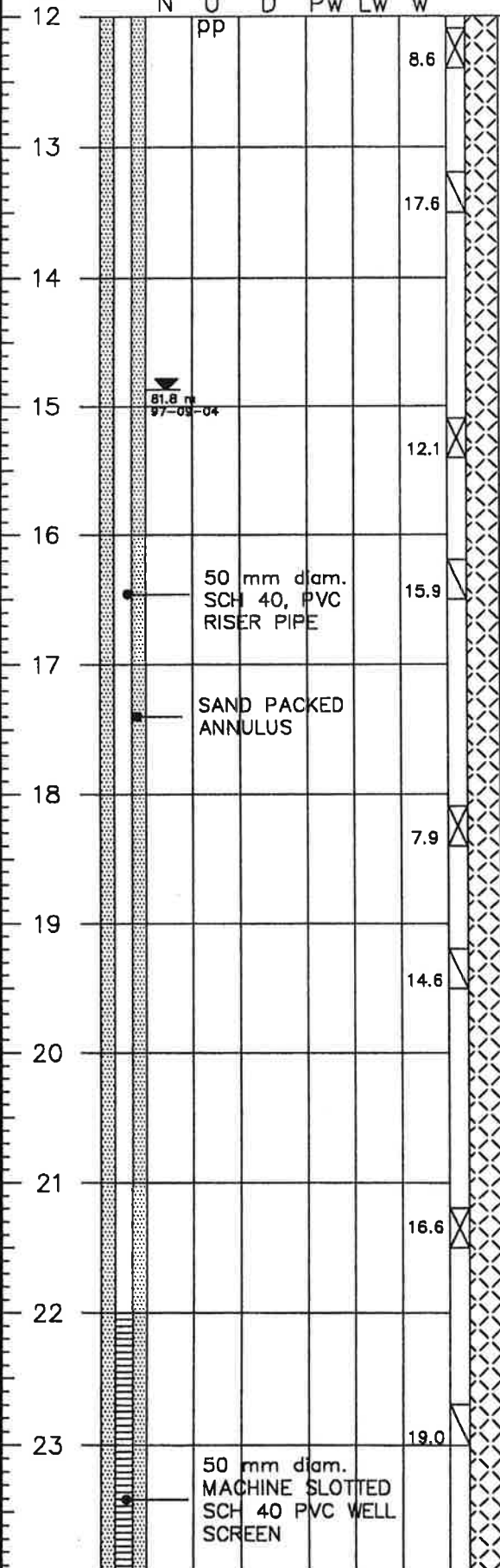
DATE DRILLED:
AUG 5, 1997

DRAWING NUMBER:
S97-2778-5

TEST HOLE 97-4

DEPTH (m)

N U D Pw Lw w



GLACIAL TILL-Clay, silty, some sand, trace gravel, stiff, low to medium plastic, moist, grey.
 -seepage at 12.0 m.
 -cobble below 12.5 m.
 -soft below 12.8 m.

-hard medium plastic below 13.5 m.

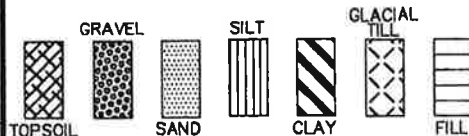
51.8 m
97-03-04

50 mm diam.
SCH 40, PVC
RISER PIPE

SAND PACKED
ANNULUS

50 mm diam.
MACHINE SLOTTED
SCH 40 PVC WELL
SCREEN

LEGEND:



pp....POCKET PENETROMETER (kg/cm²)

w.....WATER CONTENT (PERCENT OF DRY SOIL WEIGHT)

Lw....LIQUID LIMIT

Pw....PLASTIC LIMIT

D.....DRY DENSITY (kg/m³)

U.....UNCONFINED COMPRESSIVE STRENGTH (kPa)

N.....STANDARD PENETRATION TEST

SO....SULPHATE CONTENT (PERCENT OF DRY SOIL)

TR....TRACE

*.....SULPHATE CONTENT WATER SAMPL (ppm)

▼.....RECORDED WATER LEVEL



LIMITATIONS:THE FIELD DRILL LOG IS A SUMMARY OF THE FIELD CONDITIONS ENCOUNTERED AT A SPECIFIC TEST HOLE LOCATION AT THE TIME OF TEST DRILLING. SUBSURFACE CONDITIONS MAY VARY AT OTHER LOCATIONS OF THIS SITE AND IN TIME, MAY CHANGE AT THE SPECIFIC TEST HOLE LOCATION

P. MACHIBRODA ENGINEERING LTD.



FIELD DRILL LOG AND SOIL TEST RESULTS

PROJECT:
SLOPE STABILITY STUDY
237-11TH STREET EAST

LOCATION:
SASKATOON, SK

DATE DRILLED: AUG 5, 1997
DRAWING NUMBER: S97-2778-5A



HISTORICAL BOREHOLE LOGS
TH03-1, TH 03-2, TH 03-3, TH 03-101, TH 03-101A, TH 03-102, TH 03-103
(PMEL03A)

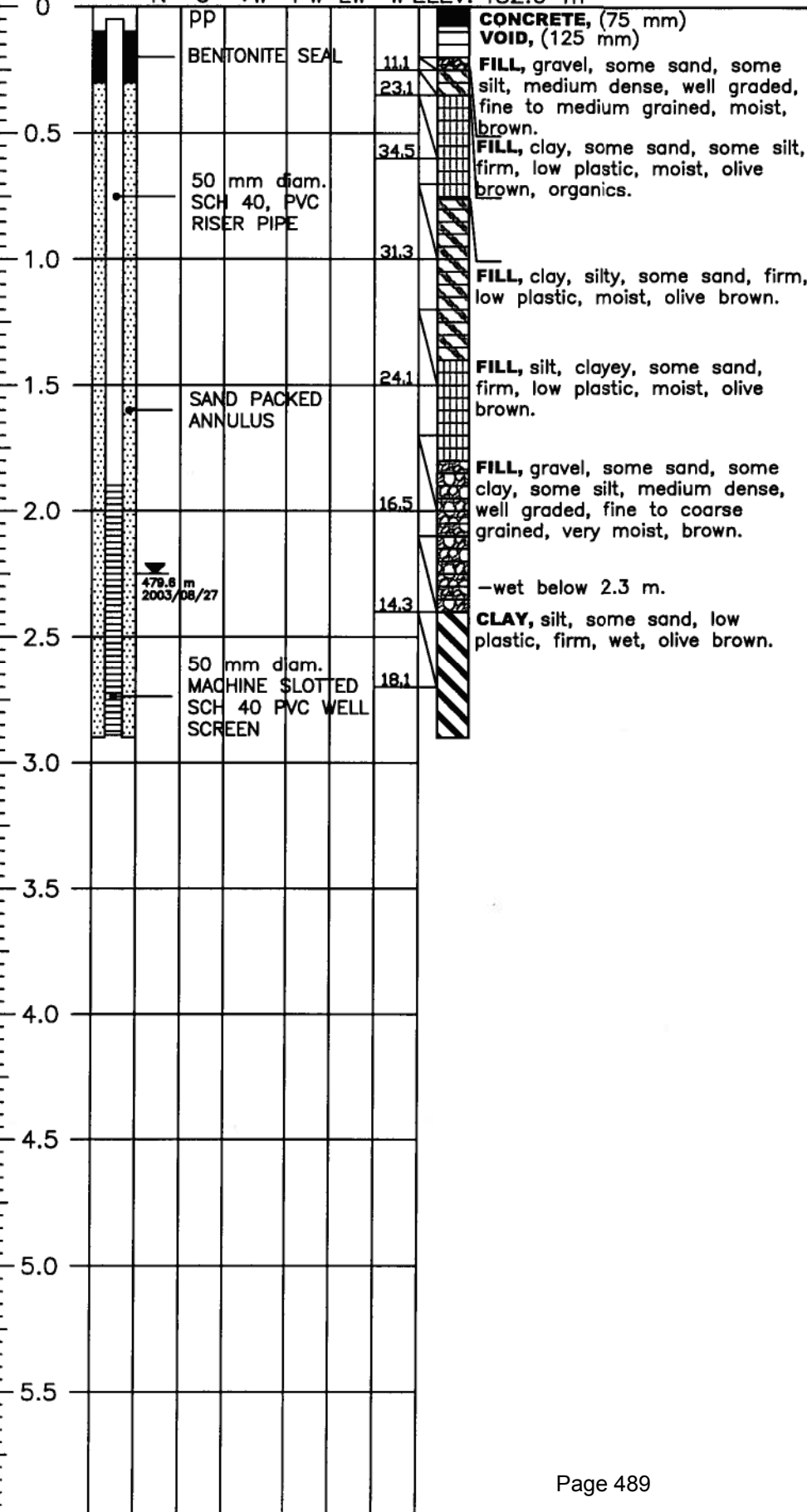
P. Machibroda Engineering Ltd. September 11, 2003. Geotechnical Investigation and Slope Stability Study
Proposed Garage, 306 Saskatchewan Crescent East, Saskatoon, Saskatchewan, PMEL File No. S03-4869

PIEZO. ELEV.= 481.9 m

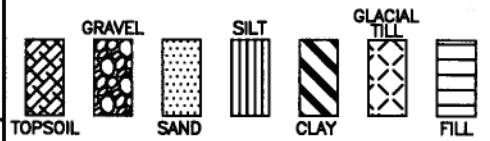
TEST HOLE 03-1

DEPTH (m)

N U γ_w Pw Lw w ELEV: 482.0 m



LEGEND:



pp....POCKET PENETROMETER (kg/cm²)

w.....WATER CONTENT (PERCENT OF DRY SOIL WEIGHT)

Lw....LIQUID LIMIT

Pw....PLASTIC LIMIT

γ_wWET UNIT WEIGHT (kN/m³)

U.....UNCONFINED COMPRESSIVE STRENGTH (kPa)

N.....STANDARD PENETRATION TEST

SO₄ ...SULPHATE CONTENT (PERCENT OF DRY SOIL)

I.A.D....IMMEDIATELY AFTER DRILLING

∇...RECORDED WATER LEVEL TEST HOLE (I.A.D.)

∇.....RECORDED WATER LEVEL (PIEZO)



LIMITATIONS: THE FIELD DRILL LOG IS A SUMMARY OF THE SUBSURFACE CONDITIONS ENCOUNTERED AT THE SPECIFIC TEST HOLE LOCATION AT THE TIME OF TEST DRILLING. SUBSURFACE CONDITIONS MAY VARY AT OTHER LOCATIONS OF THIS SITE AND, IN TIME, MAY CHANGE AT THIS SPECIFIC TEST HOLE LOCATION.

P. MACHIBRODA ENGINEERING LTD.



FIELD DRILL LOG AND SOIL TEST RESULTS

PROJECT:

306 SASK CRESCENT EAST

LOCATION:

SASKATOON, SK

DATE DRILLED:

JULY 3/03

DRAWING NUMBER:

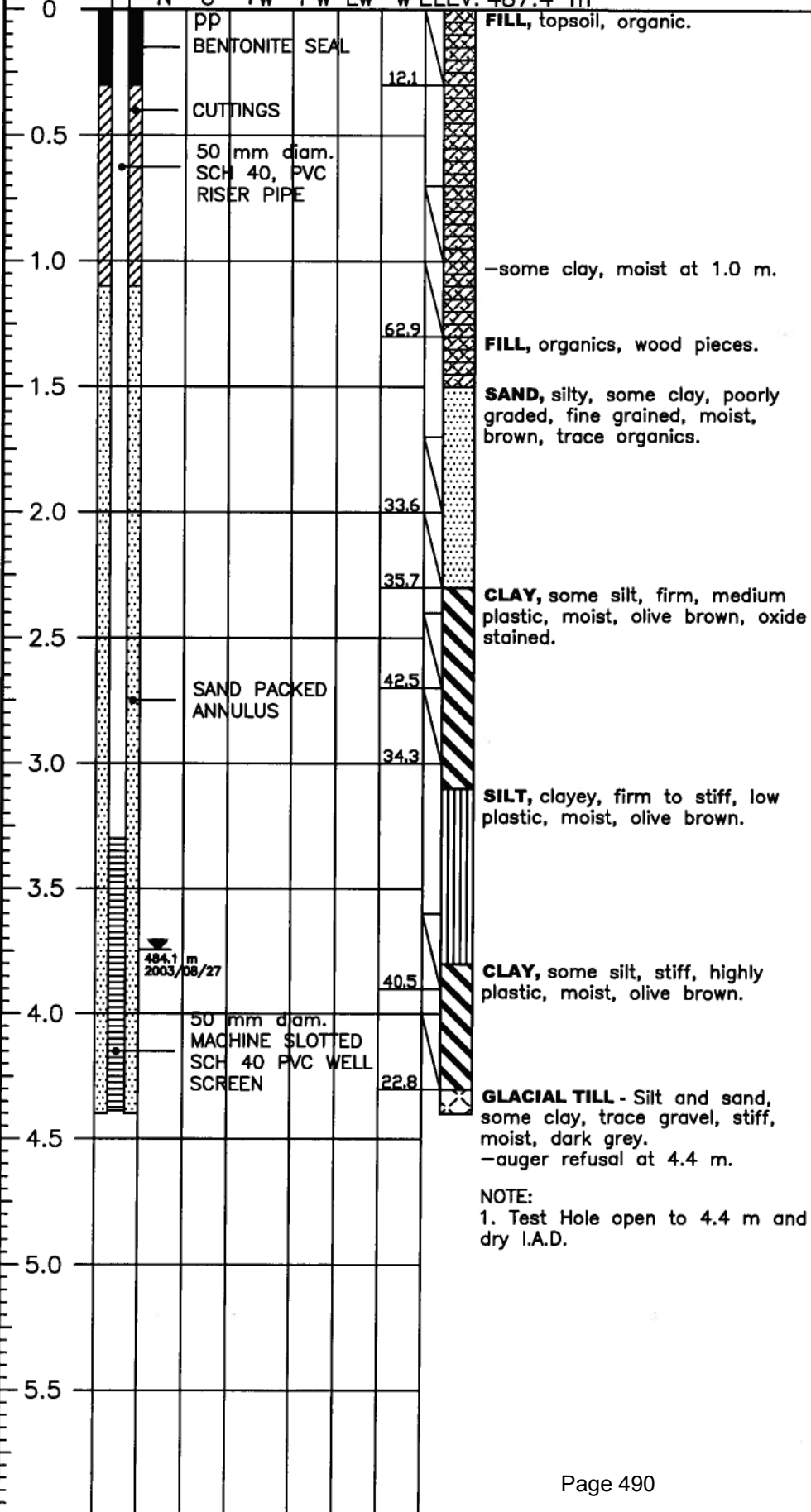
SO3-4869-2

PIEZO. ELEV.= 487.8 m

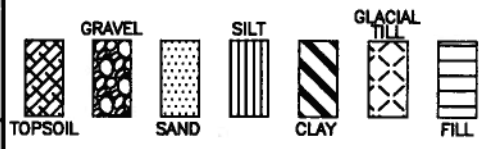
TEST HOLE 03-2

DEPTH (m)

N U γ_w Pw Lw w ELEV: 487.4 m



LEGEND:



pp....POCKET PENETROMETER (kg/cm²)
 w.....WATER CONTENT (PERCENT OF DRY SOIL WEIGHT)
 Lw....LIQUID LIMIT
 Pw....PLASTIC LIMIT
 γ_wWET UNIT WEIGHT (kN/m³)
 U.....UNCONFINED COMPRESSIVE STRENGTH (kPa)
 N.....STANDARD PENETRATION TEST
 SO₄...SULPHATE CONTENT (PERCENT OF DRY SOIL)
 I.A.D....IMMEDIATELY AFTER DRILLING
 ▽...RECORDED WATER LEVEL TEST HOLE (I.A.D.)
 ▽.....RECORDED WATER LEVEL (PIEZO)



LIMITATIONS: THE FIELD DRILL LOG IS A SUMMARY OF THE SUBSURFACE CONDITIONS ENCOUNTERED AT THE SPECIFIC TEST HOLE LOCATION AT THE TIME OF TEST DRILLING. SUBSURFACE CONDITIONS MAY VARY AT OTHER LOCATIONS OF THIS SITE AND, IN TIME, MAY CHANGE AT THIS SPECIFIC TEST HOLE LOCATION.

P. MACHIBRODA ENGINEERING LTD.



FIELD DRILL LOG AND SOIL TEST RESULTS

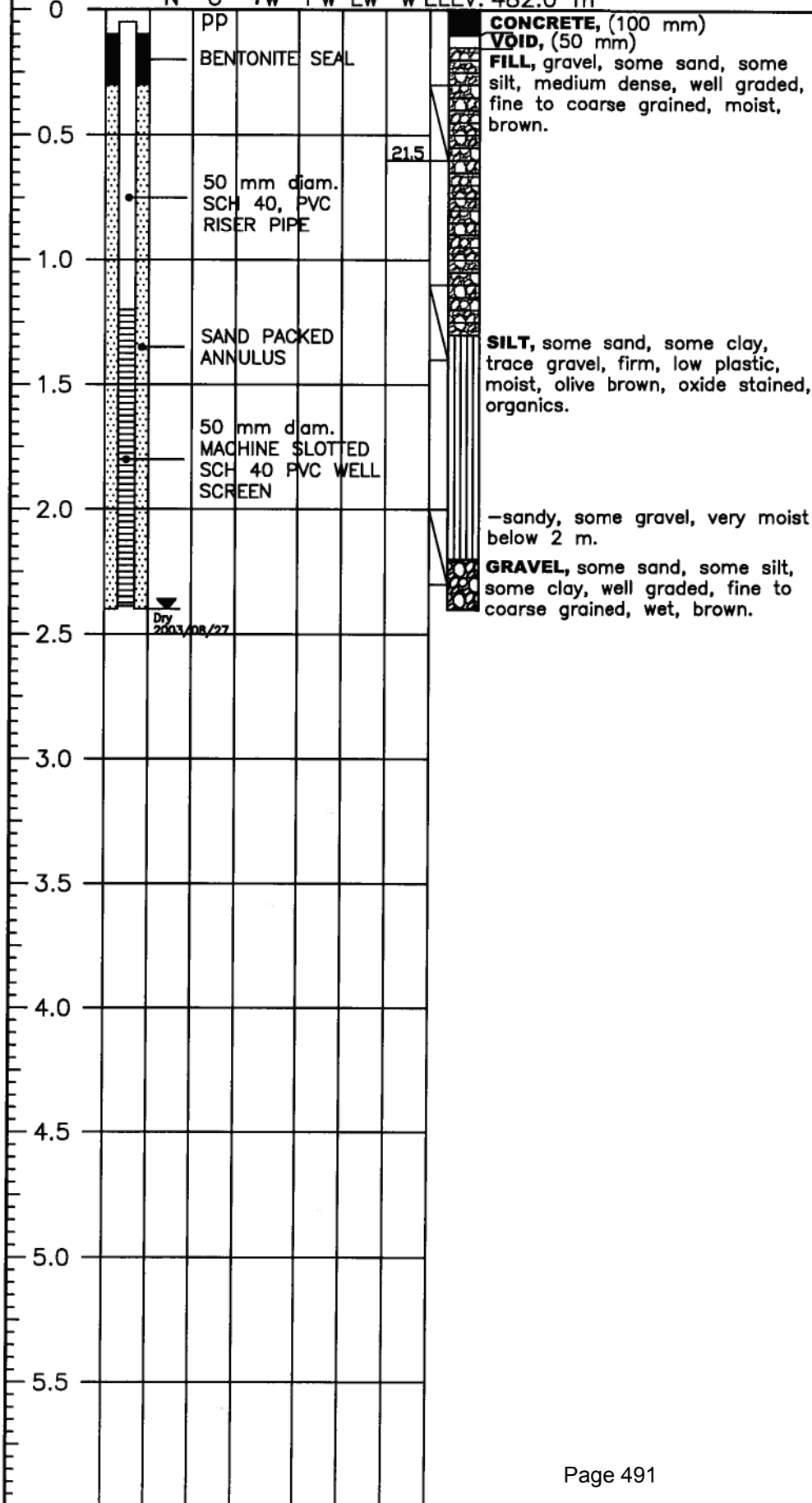
PROJECT:	
306 SASK CRESCENT EAST	
LOCATION:	
SASKATOON, SK	
DATE DRILLED:	DRAWING NUMBER:
JULY 3/03	S03-4869-3

PIEZO. ELEV.= 481.9 m

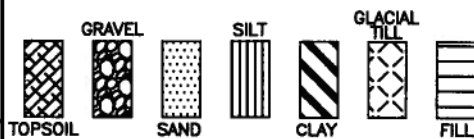
TEST HOLE 03-3

DEPTH (m)

N U γ_w Pw Lw w ELEV: 482.0 m



LEGEND:



- pp....POCKET PENETROMETER (kg/cm²)
- w.....WATER CONTENT (PERCENT OF DRY SOIL WEIGHT)
- Lw....LIQUID LIMIT
- Pw....PLASTIC LIMIT
- γ_wWET UNIT WEIGHT (kN/m³)
- U.....UNCONFINED COMPRESSIVE STRENGTH (kPa)
- N.....STANDARD PENETRATION TEST
- SO₄...SULPHATE CONTENT (PERCENT OF DRY SOIL)
- I.A.D....IMMEDIATELY AFTER DRILLING
- ▽...RECORDED WATER LEVEL TEST HOLE (I.A.D.)
- ▼.....RECORDED WATER LEVEL (PIEZO)



LIMITATIONS: THE FIELD DRILL LOG IS A SUMMARY OF THE SUBSURFACE CONDITIONS ENCOUNTERED AT THE SPECIFIC TEST HOLE LOCATION AT THE TIME OF TEST DRILLING. SUBSURFACE CONDITIONS MAY VARY AT OTHER LOCATIONS OF THIS SITE AND, IN TIME, MAY CHANGE AT THIS SPECIFIC TEST HOLE LOCATION.

P. MACHIBRODA ENGINEERING LTD.



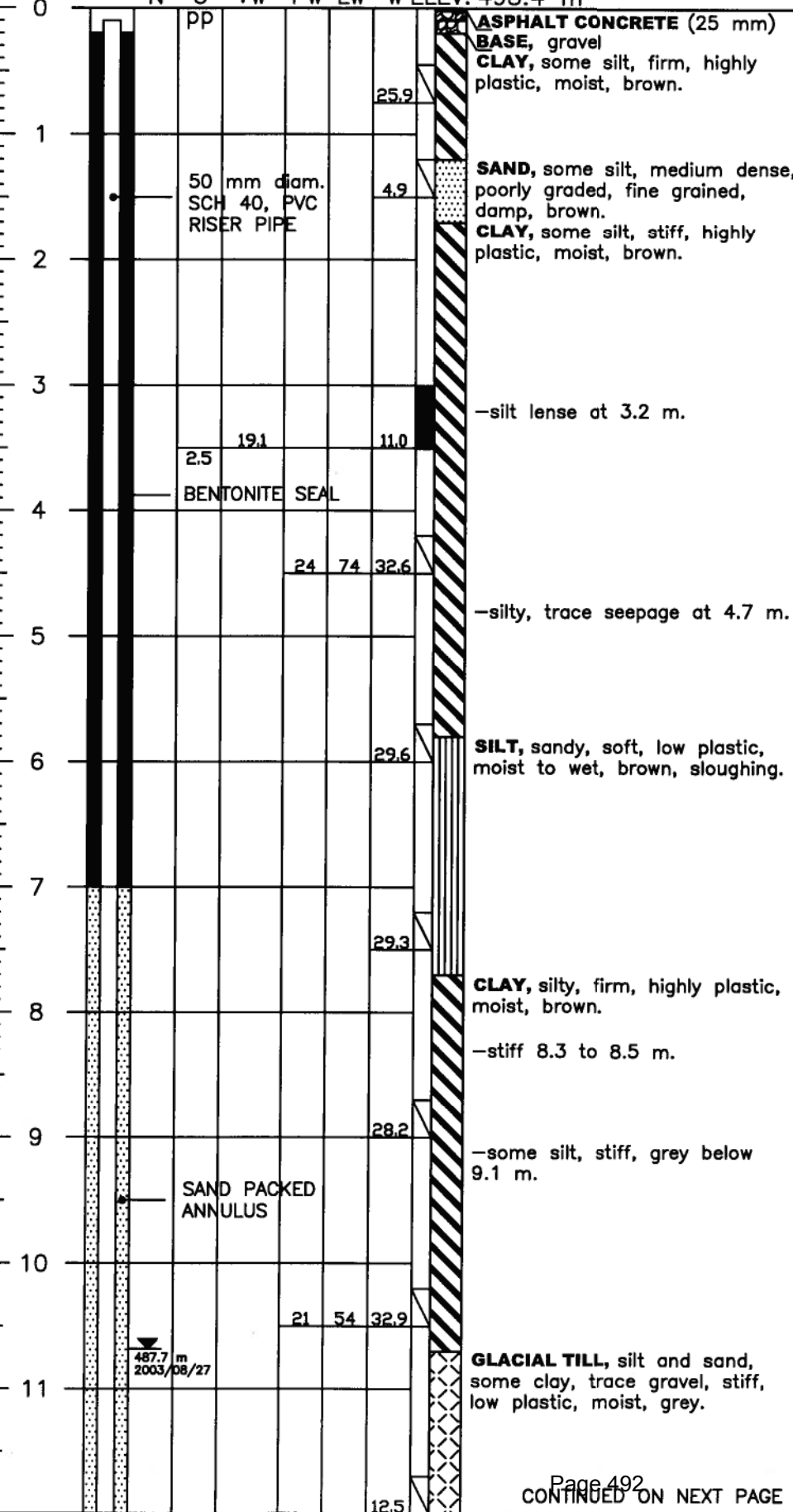
FIELD DRILL LOG AND SOIL TEST RESULTS

PROJECT: 306 SASK CRESCENT EAST	
LOCATION: SASKATOON, SK	
DATE DRILLED: JULY 3/03	DRAWING NUMBER: S03-4869-4

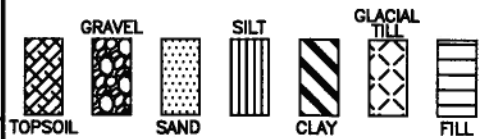
TEST HOLE 03-101

DEPTH (m)

N U γ_w Pw Lw w ELEV: 498.4 m



LEGEND:



- pp....POCKET PENETROMETER (kg/cm²)
- w.....WATER CONTENT (PERCENT OF DRY SOIL WEIGHT)
- Lw....LIQUID LIMIT
- Pw....PLASTIC LIMIT
- γ_wWET UNIT WEIGHT (kN/m³)
- U.....UNCONFINED COMPRESSIVE STRENGTH (kPa)
- N.....STANDARD PENETRATION TEST
- SO₄...SULPHATE CONTENT (PERCENT OF DRY SOIL)
- I.A.D....IMMEDIATELY AFTER DRILLING
- ▽...RECORDED WATER LEVEL TEST HOLE (I.A.D.)
- ▼.....RECORDED WATER LEVEL (PIEZO)



LIMITATIONS: THE FIELD DRILL LOG IS A SUMMARY OF THE SUBSURFACE CONDITIONS ENCOUNTERED AT THE SPECIFIC TEST HOLE LOCATION AT THE TIME OF TEST DRILLING. SUBSURFACE CONDITIONS MAY VARY AT OTHER LOCATIONS OF THIS SITE AND, IN TIME, MAY CHANGE AT THIS SPECIFIC TEST HOLE LOCATION.

P. MACHIBRODA ENGINEERING LTD.



FIELD DRILL LOG AND SOIL TEST RESULTS

PROJECT:
PROPOSED GARAGE
306 SASKATCHEWAN CRESCENT

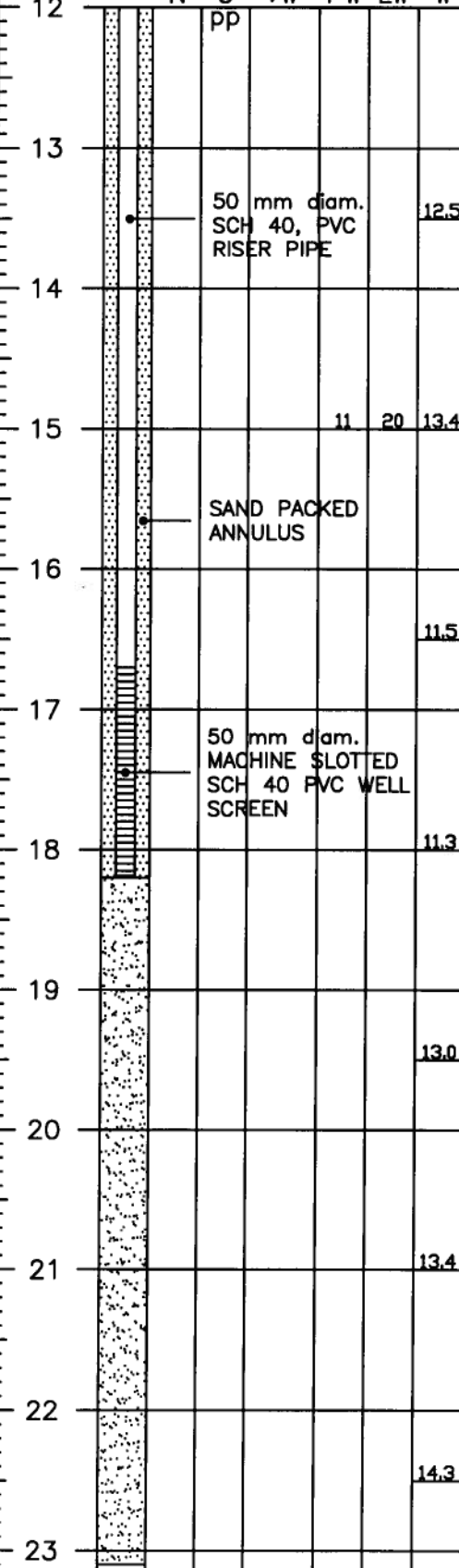
LOCATION:
SASKATOON, SK

DATE DRILLED: AUG 14/03
DRAWING NUMBER: S03-4869-5

TEST HOLE 03-101

DEPTH
(m)

N U γ_w Pw Lw w ELEV: 498.4 m



GLACIAL TILL, silt and sand, some clay, trace gravel, stiff, low plastic, moist, grey.

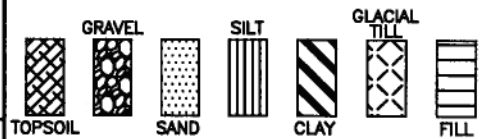
-very stiff below 12.8 m.

-hard below 13.8 m.

-broke auger at 23.1 m.

NOTE:
1. Test Hole sloughed to 5.2 m I.A.D. Page 493

LEGEND:



pp....POCKET PENETROMETER (kg/cm²)

w.....WATER CONTENT (PERCENT OF DRY SOIL WEIGHT)

Lw....LIQUID LIMIT

Pw....PLASTIC LIMIT

γ_wWET UNIT WEIGHT (kN/m³)

U.....UNCONFINED COMPRESSIVE STRENGTH (kPa)

N.....STANDARD PENETRATION TEST

SO₄...SULPHATE CONTENT (PERCENT OF DRY SOIL)

I.A.D....IMMEDIATELY AFTER DRILLING

▽...RECORDED WATER LEVEL TEST HOLE (I.A.D.)

▽.....RECORDED WATER LEVEL (PIEZO)



SHELBY TUBE



SPLIT SPOON



CUTTINGS

LIMITATIONS: THE FIELD DRILL LOG IS A SUMMARY OF THE SUBSURFACE CONDITIONS ENCOUNTERED AT THE SPECIFIC TEST HOLE LOCATION AT THE TIME OF TEST DRILLING. SUBSURFACE CONDITIONS MAY VARY AT OTHER LOCATIONS OF THIS SITE AND, IN TIME, MAY CHANGE AT THIS SPECIFIC TEST HOLE LOCATION.

P. MACHIBRODA ENGINEERING LTD.



FIELD DRILL LOG AND SOIL TEST RESULTS

PROJECT:
PROPOSED GARAGE
306 SASKATCHEWAN CRESCENT

LOCATION:
SASKATOON, SK

DATE DRILLED:
AUG 14/03

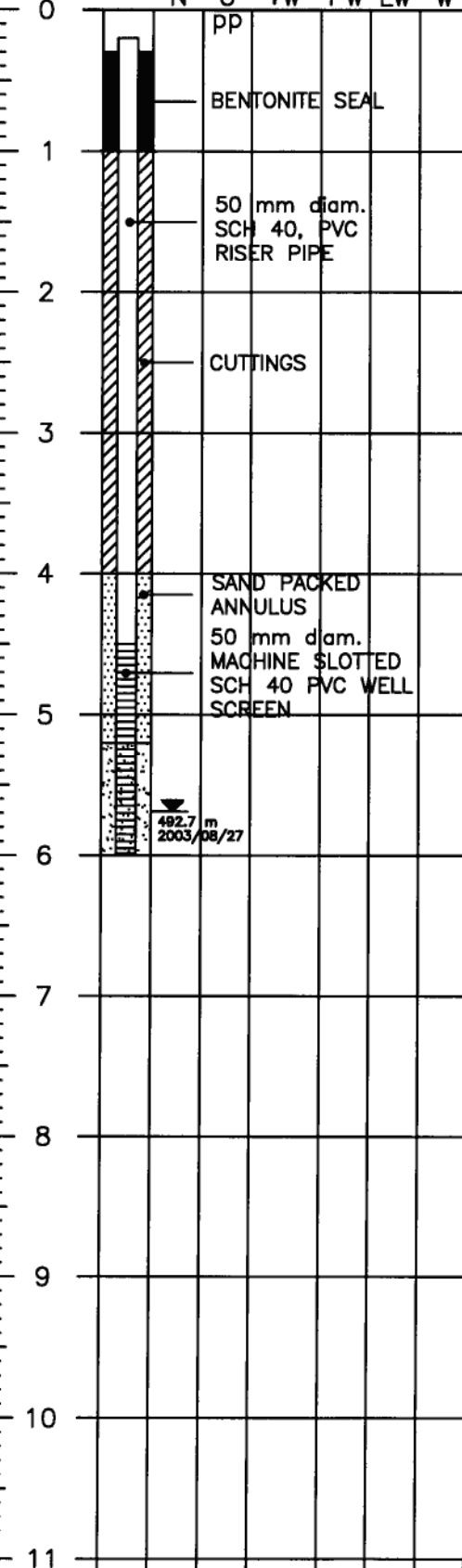
DRAWING NUMBER:
S03-4869-5A

PIEZO. ELEV.= 498.2 m

TEST HOLE 03-101A

DEPTH (m)

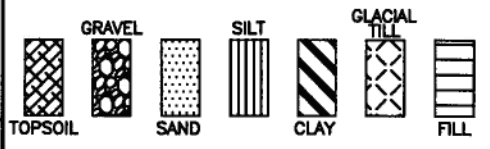
N U γ_w Pw Lw w ELEV: 498.4 m



ASPHALT CONCRETE (25 mm) FILL, gravel and sand, some silt, moist, brown.
CLAY, some silt, firm, highly plastic, moist, brown.
SAND, some silt, medium dense, poorly graded, fine grained, moist, brown.
CLAY, some silt, stiff, highly plastic, moist, brown.
 -silt lense 3.2 m.
 -silty, trace seepage, sloughing below 4.7 m.
SILT, sandy, soft, low plastic, wet, brown, seepage, sloughing.

NOTE:
 1. Test Hole sloughed to 5.2 m I.A.D.

LEGEND:



pp....POCKET PENETROMETER (kg/cm²)
 w.....WATER CONTENT (PERCENT OF DRY SOIL WEIGHT)
 Lw....LIQUID LIMIT
 Pw....PLASTIC LIMIT
 γ_wWET UNIT WEIGHT (kN/m³)
 U.....UNCONFINED COMPRESSIVE STRENGTH (kPa)
 N.....STANDARD PENETRATION TEST
 SO₄...SULPHATE CONTENT (PERCENT OF DRY SOIL)
 I.A.D....IMMEDIATELY AFTER DRILLING
 ▽...RECORDED WATER LEVEL TEST HOLE (I.A.D.)
 ▽.....RECORDED WATER LEVEL (PIEZO)



LIMITATIONS: THE FIELD DRILL LOG IS A SUMMARY OF THE SUBSURFACE CONDITIONS ENCOUNTERED AT THE SPECIFIC TEST HOLE LOCATION AT THE TIME OF TEST DRILLING. SUBSURFACE CONDITIONS MAY VARY AT OTHER LOCATIONS OF THIS SITE AND, IN TIME, MAY CHANGE AT THIS SPECIFIC TEST HOLE LOCATION.

P. MACHIBRODA ENGINEERING LTD.



FIELD DRILL LOG AND SOIL TEST RESULTS

PROJECT:
 PROPOSED GARAGE
 306 SASKATCHEWAN CRESCENT

LOCATION:
 SASKATOON, SK

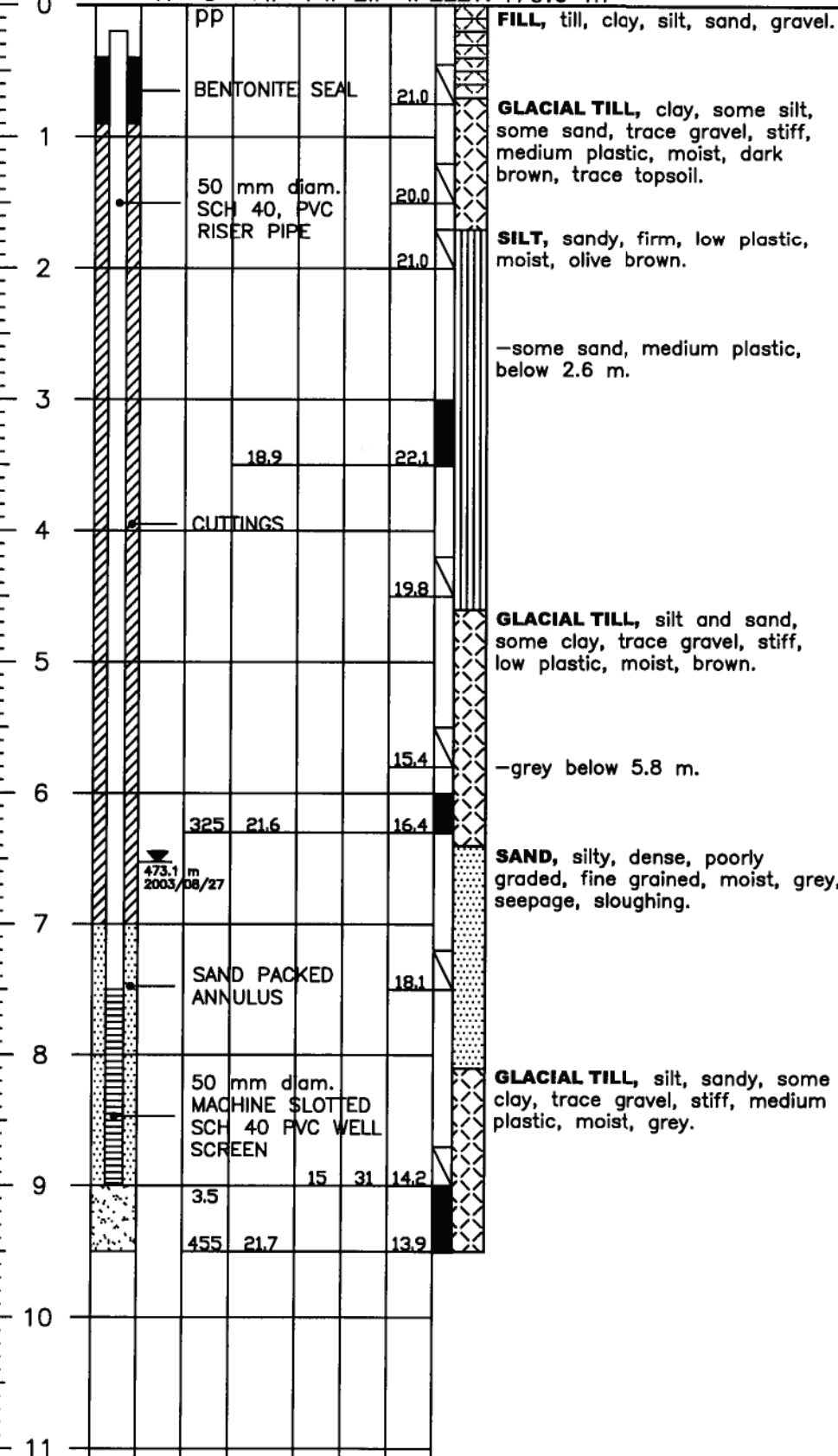
DATE DRILLED: AUG 14/03
DRAWING NUMBER: S03-4869-6

PIEZO. ELEV.= 479.4 m

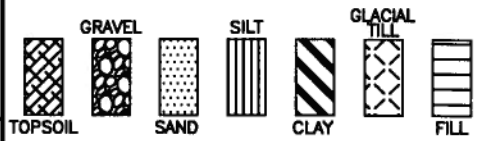
TEST HOLE 03-102

DEPTH (m)

N U γ_w Pw Lw w ELEV: 479.6 m



LEGEND:



pp....POCKET PENETROMETER (kg/cm²)

w.....WATER CONTENT (PERCENT OF DRY SOIL WEIGHT)

Lw....LIQUID LIMIT

Pw....PLASTIC LIMIT

γ_wWET UNIT WEIGHT (kN/m³)

U.....UNCONFINED COMPRESSIVE STRENGTH (kPa)

N.....STANDARD PENETRATION TEST

SO₄...SULPHATE CONTENT (PERCENT OF DRY SOIL)

I.A.D....IMMEDIATELY AFTER DRILLING

▽...RECORDED WATER LEVEL TEST HOLE (I.A.D.)

▼.....RECORDED WATER LEVEL (PIEZO)



LIMITATIONS: THE FIELD DRILL LOG IS A SUMMARY OF THE SUBSURFACE CONDITIONS ENCOUNTERED AT THE SPECIFIC TEST HOLE LOCATION AT THE TIME OF TEST DRILLING. SUBSURFACE CONDITIONS MAY VARY AT OTHER LOCATIONS OF THIS SITE AND, IN TIME, MAY CHANGE AT THIS SPECIFIC TEST HOLE LOCATION.

P. MACHIBRODA ENGINEERING LTD.



FIELD DRILL LOG AND SOIL TEST RESULTS

PROJECT:
PROPOSED GARAGE
306 SASKATCHEWAN CRESCENT

LOCATION:
SASKATOON, SK

DATE DRILLED:
AUG 15/03

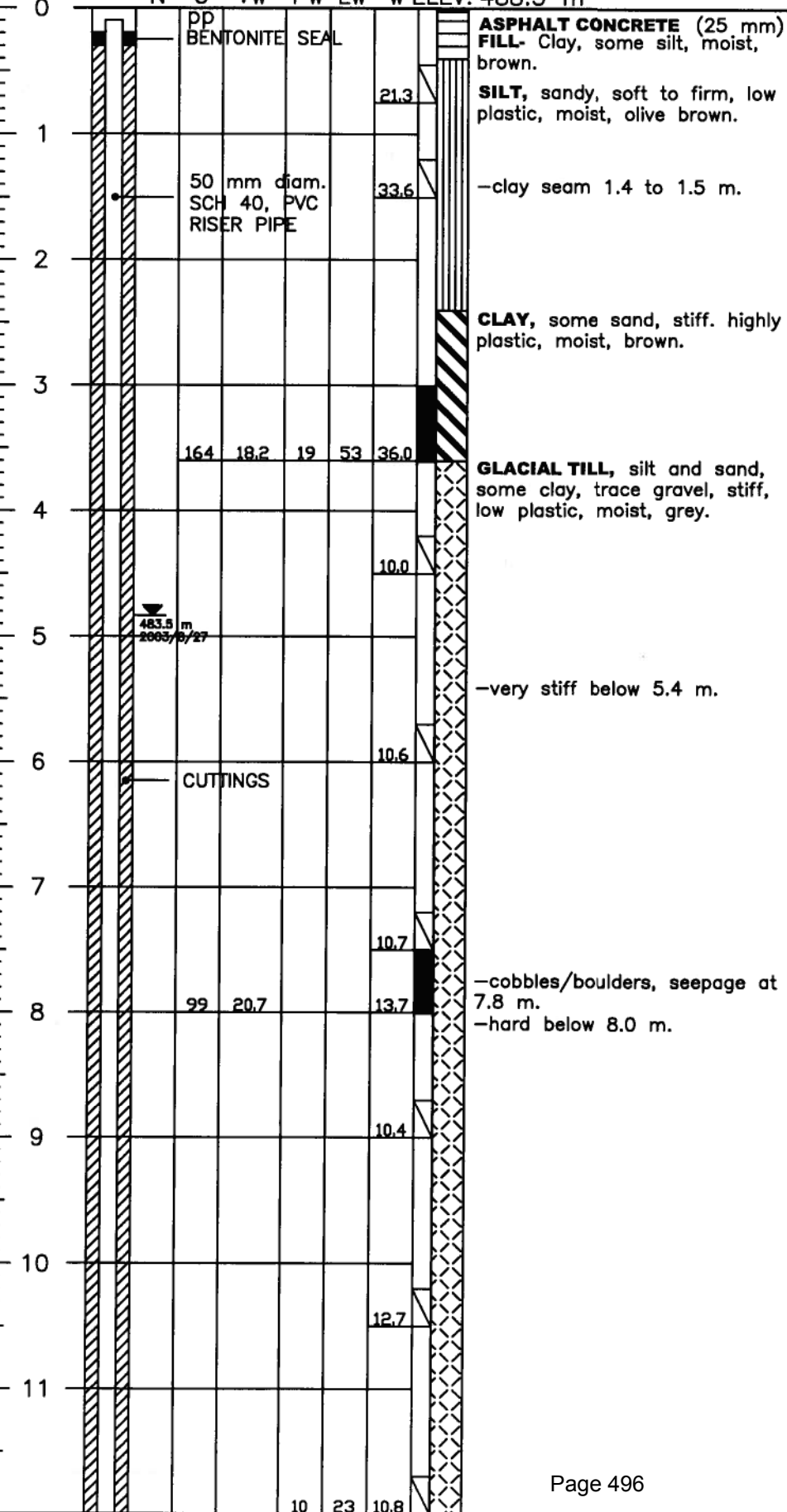
DRAWING NUMBER:
S03-4869-7

PIEZO. ELEV.= 488.1 m

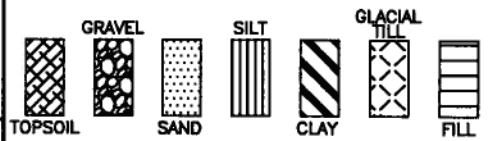
TEST HOLE 03-103

DEPTH (m)

N U γ_w Pw Lw w ELEV: 488.3 m



LEGEND:



- pp....POCKET PENETROMETER (kg/cm²)
- w.....WATER CONTENT (PERCENT OF DRY SOIL WEIGHT)
- Lw....LIQUID LIMIT
- Pw....PLASTIC LIMIT
- γ_wWET UNIT WEIGHT (kN/m³)
- U.....UNCONFINED COMPRESSIVE STRENGTH (kPa)
- N.....STANDARD PENETRATION TEST
- SO₄...SULPHATE CONTENT (PERCENT OF DRY SOIL)
- I.A.D....IMMEDIATELY AFTER DRILLING
- ▽...RECORDED WATER LEVEL TEST HOLE (I.A.D.)
- ▼.....RECORDED WATER LEVEL (PIEZO)



LIMITATIONS: THE FIELD DRILL LOG IS A SUMMARY OF THE SUBSURFACE CONDITIONS ENCOUNTERED AT THE SPECIFIC TEST HOLE LOCATION AT THE TIME OF TEST DRILLING. SUBSURFACE CONDITIONS MAY VARY AT OTHER LOCATIONS OF THIS SITE AND, IN TIME, MAY CHANGE AT THIS SPECIFIC TEST HOLE LOCATION.

P. MACHIBRODA ENGINEERING LTD.



FIELD DRILL LOG AND SOIL TEST RESULTS

PROJECT:
PROPOSED GARAGE
306 SASKATCHEWAN CRESCENT

LOCATION:
SASKATOON, SK

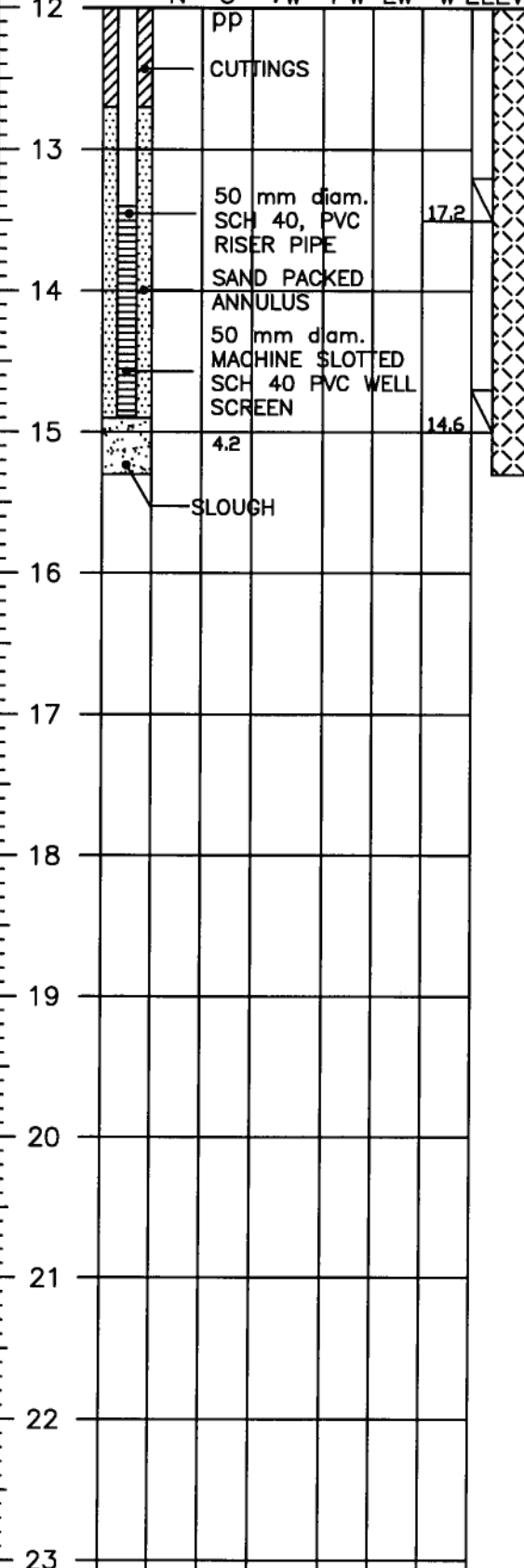
DATE DRILLED: AUG 15/03
DRAWING NUMBER: S03-4869-8

PIEZO. ELEV.= 488.1 m

TEST HOLE 03-103

DEPTH (m)

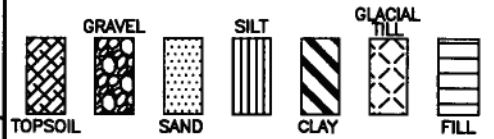
N U γ_w Pw Lw w ELEV: 488.3 m



GLACIAL TILL, silt and sand, some clay, trace gravel, hard, low plastic, moist, grey.

NOTE:
1. Test Hole open to 15.3 m I.A.D.

LEGEND:



pp....POCKET PENETROMETER (kg/cm²)

w.....WATER CONTENT (PERCENT OF DRY SOIL WEIGHT)

Lw....LIQUID LIMIT

Pw....PLASTIC LIMIT

γ_wWET UNIT WEIGHT (kN/m³)

U.....UNCONFINED COMPRESSIVE STRENGTH (kPa)

N.....STANDARD PENETRATION TEST

SO₄...SULPHATE CONTENT (PERCENT OF DRY SOIL)

I.A.D....IMMEDIATELY AFTER DRILLING

▽...RECORDED WATER LEVEL TEST HOLE (I.A.D.)

▼.....RECORDED WATER LEVEL (PIEZO)



LIMITATIONS: THE FIELD DRILL LOG IS A SUMMARY OF THE SUBSURFACE CONDITIONS ENCOUNTERED AT THE SPECIFIC TEST HOLE LOCATION AT THE TIME OF TEST DRILLING. SUBSURFACE CONDITIONS MAY VARY AT OTHER LOCATIONS OF THIS SITE AND, IN TIME, MAY CHANGE AT THIS SPECIFIC TEST HOLE LOCATION.

P. MACHIBRODA ENGINEERING LTD.



FIELD DRILL LOG AND SOIL TEST RESULTS

PROJECT:
PROPOSED GARAGE
306 SASKATCHEWAN CRESCENT

LOCATION:
SASKATOON, SK

DATE DRILLED: AUG 15/03
DRAWING NUMBER: S03-4869-8A



HISTORICAL BOREHOLE LOGS
TH03-1, TH 03-2, TH 03-3, TH 03-4, TH 03-5 (PMEL03B)

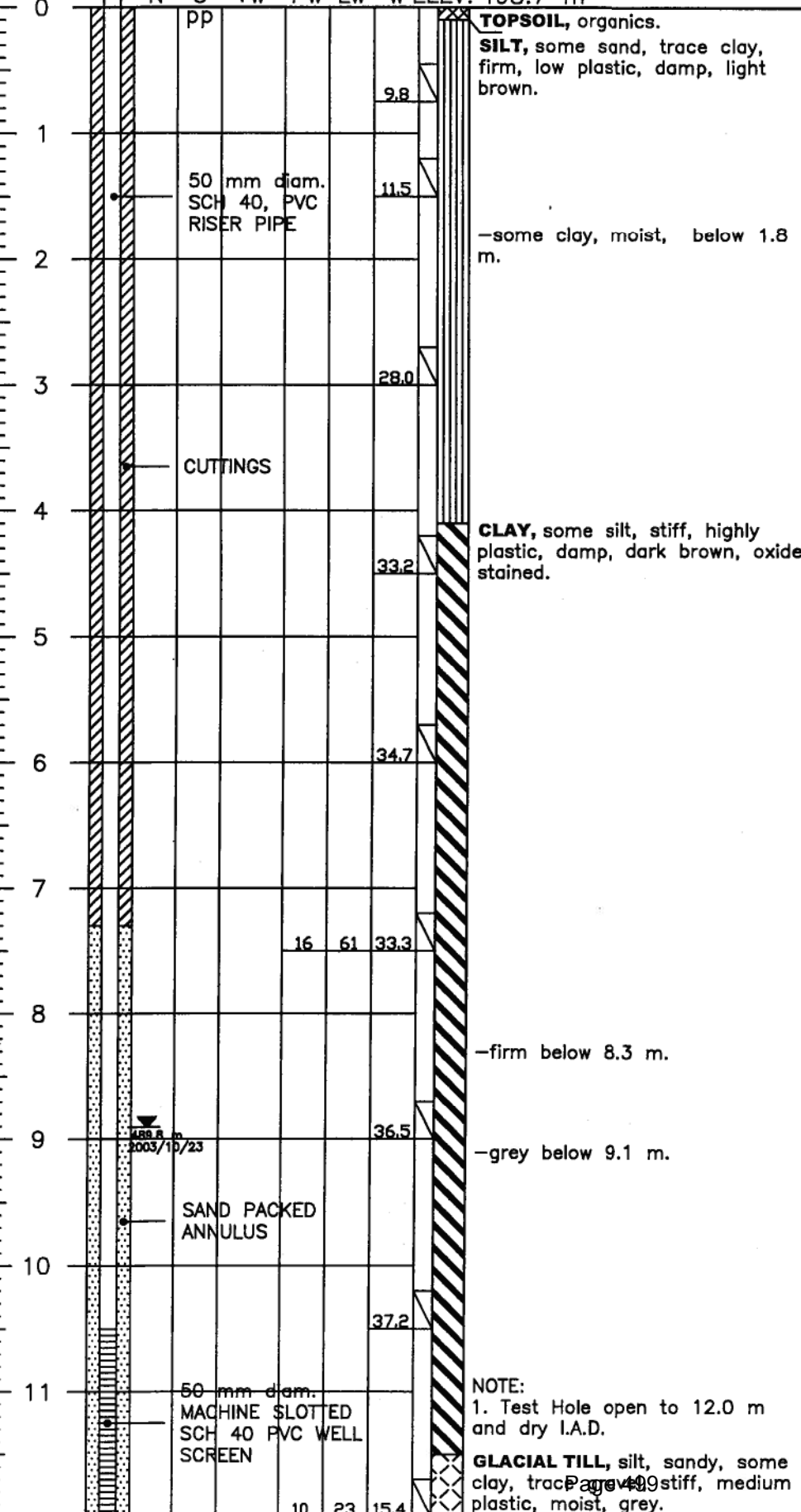
P. Machibroda Engineering Ltd. October 31, 2003. Geotechnical Investigation and Slope Stability Study
Proposed Residence, 313-11th Street East, Saskatoon, Saskatchewan, PMEL File No. S03-4925

PIEZO. ELEV.= 499.6 m

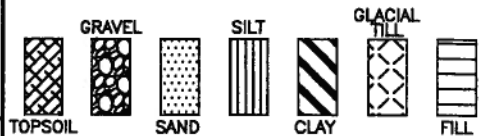
TEST HOLE 03-1

DEPTH (m)

N U γ_w Pw Lw w ELEV: 498.7 m



LEGEND:



pp....POCKET PENETROMETER (kg/cm²)

w.....WATER CONTENT (PERCENT OF DRY SOIL WEIGHT)

Lw....LIQUID LIMIT

Pw....PLASTIC LIMIT

γ_wWET UNIT WEIGHT (kN/m³)

U.....UNCONFINED COMPRESSIVE STRENGTH (kPa)

N.....STANDARD PENETRATION TEST

SO₄...SULPHATE CONTENT (PERCENT OF DRY SOIL)

I.A.D....IMMEDIATELY AFTER DRILLING

▽...RECORDED WATER LEVEL TEST HOLE (I.A.D.)

▼.....RECORDED WATER LEVEL (PIEZO)



LIMITATIONS: THE FIELD DRILL LOG IS A SUMMARY OF THE SUBSURFACE CONDITIONS ENCOUNTERED AT THE SPECIFIC TEST HOLE LOCATION AT THE TIME OF TEST DRILLING. SUBSURFACE CONDITIONS MAY VARY AT OTHER LOCATIONS OF THIS SITE AND, IN TIME, MAY CHANGE AT THIS SPECIFIC TEST HOLE LOCATION.

P. MACHIBRODA ENGINEERING LTD.



FIELD DRILL LOG AND SOIL TEST RESULTS

PROJECT:

SLOPE STABILITY STUDY

LOCATION:

313 - 11TH STREET, SASKATOON, SK

DATE DRILLED:

OCTOBER 7/03

DRAWING NUMBER:

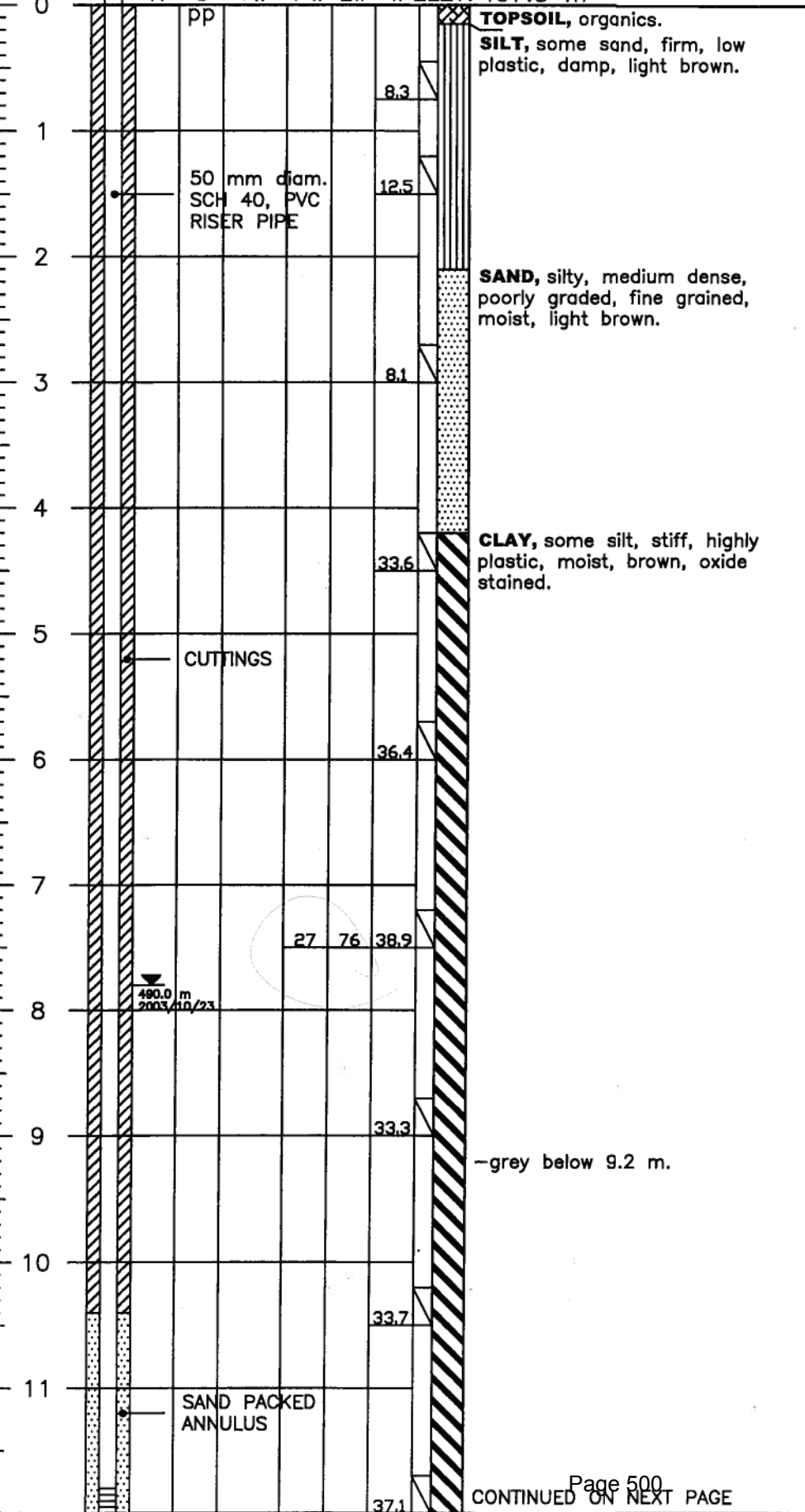
S03-4925-2

NOTE: 1. Test Hole open to 12.0 m and dry I.A.D.
GLACIAL TILL, silt, sandy, some clay, trace gravel, stiff, medium plastic, moist, grey.

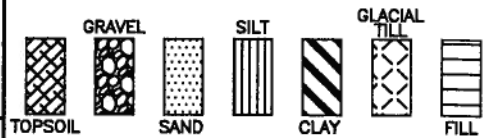
TEST HOLE 03-2

DEPTH (m)

N U γ_w Pw Lw w ELEV: 497.8 m



LEGEND:



pp....POCKET PENETROMETER (kg/cm²)

w.....WATER CONTENT (PERCENT OF DRY SOIL WEIGHT)

Lw....LIQUID LIMIT

Pw....PLASTIC LIMIT

γ_wWET UNIT WEIGHT (kN/m³)

U.....UNCONFINED COMPRESSIVE STRENGTH (kPa)

N.....STANDARD PENETRATION TEST

SO₄...SULPHATE CONTENT (PERCENT OF DRY SOIL)

I.A.D....IMMEDIATELY AFTER DRILLING

▽...RECORDED WATER LEVEL TEST HOLE (I.A.D.)

▼.....RECORDED WATER LEVEL (PIEZO)



LIMITATIONS: THE FIELD DRILL LOG IS A SUMMARY OF THE SUBSURFACE CONDITIONS ENCOUNTERED AT THE SPECIFIC TEST HOLE LOCATION AT THE TIME OF TEST DRILLING. SUBSURFACE CONDITIONS MAY VARY AT OTHER LOCATIONS OF THIS SITE AND, IN TIME, MAY CHANGE AT THIS SPECIFIC TEST HOLE LOCATION.

P. MACHIBRODA ENGINEERING LTD.



FIELD DRILL LOG AND SOIL TEST RESULTS

PROJECT:

SLOPE STABILITY STUDY

LOCATION:

313 - 11TH STREET, SASKATOON, SK

DATE DRILLED:

OCTOBER 7/03

DRAWING NUMBER:

S03-4925-3

TEST HOLE 03-2

DEPTH (m)

N U γ_w Pw Lw w ELEV: 497.8 m

12								
13								
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								

PP
50 mm diam.
MACHINE SLOTTED
SCH 40 PVC WELL
SCREEN

SAND PACKED
ANNULUS

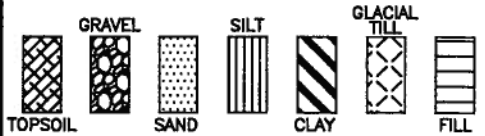
18 22 13.1

CLAY, some silt, stiff, highly plastic, moist, grey, gypsum crystals, oxide stained.

GLACIAL TILL, silt, sandy, some clay, trace gravel, stiff, low plastic, moist, grey.

NOTE:
1. Test Hole open to 13.5 m and dry I.A.D.

LEGEND:



- pp....POCKET PENETROMETER (kg/cm²)
- w.....WATER CONTENT (PERCENT OF DRY SOIL WEIGHT)
- Lw....LIQUID LIMIT
- Pw....PLASTIC LIMIT
- γ_wWET UNIT WEIGHT (kN/m³)
- U.....UNCONFINED COMPRESSIVE STRENGTH (kPa)
- N.....STANDARD PENETRATION TEST
- SO₄...SULPHATE CONTENT (PERCENT OF DRY SOIL)
- I.A.D....IMMEDIATELY AFTER DRILLING
- ∇...RECORDED WATER LEVEL TEST HOLE (I.A.D.)
- ∇.....RECORDED WATER LEVEL (PIEZO)



LIMITATIONS: THE FIELD DRILL LOG IS A SUMMARY OF THE SUBSURFACE CONDITIONS ENCOUNTERED AT THE SPECIFIC TEST HOLE LOCATION AT THE TIME OF TEST DRILLING. SUBSURFACE CONDITIONS MAY VARY AT OTHER LOCATIONS OF THIS SITE AND, IN TIME, MAY CHANGE AT THIS SPECIFIC TEST HOLE LOCATION.

P. MACHIBRODA ENGINEERING LTD.



FIELD DRILL LOG AND SOIL TEST RESULTS

PROJECT:
SLOPE STABILITY STUDY

LOCATION:
313 - 11TH STREET, SASKATOON, SK

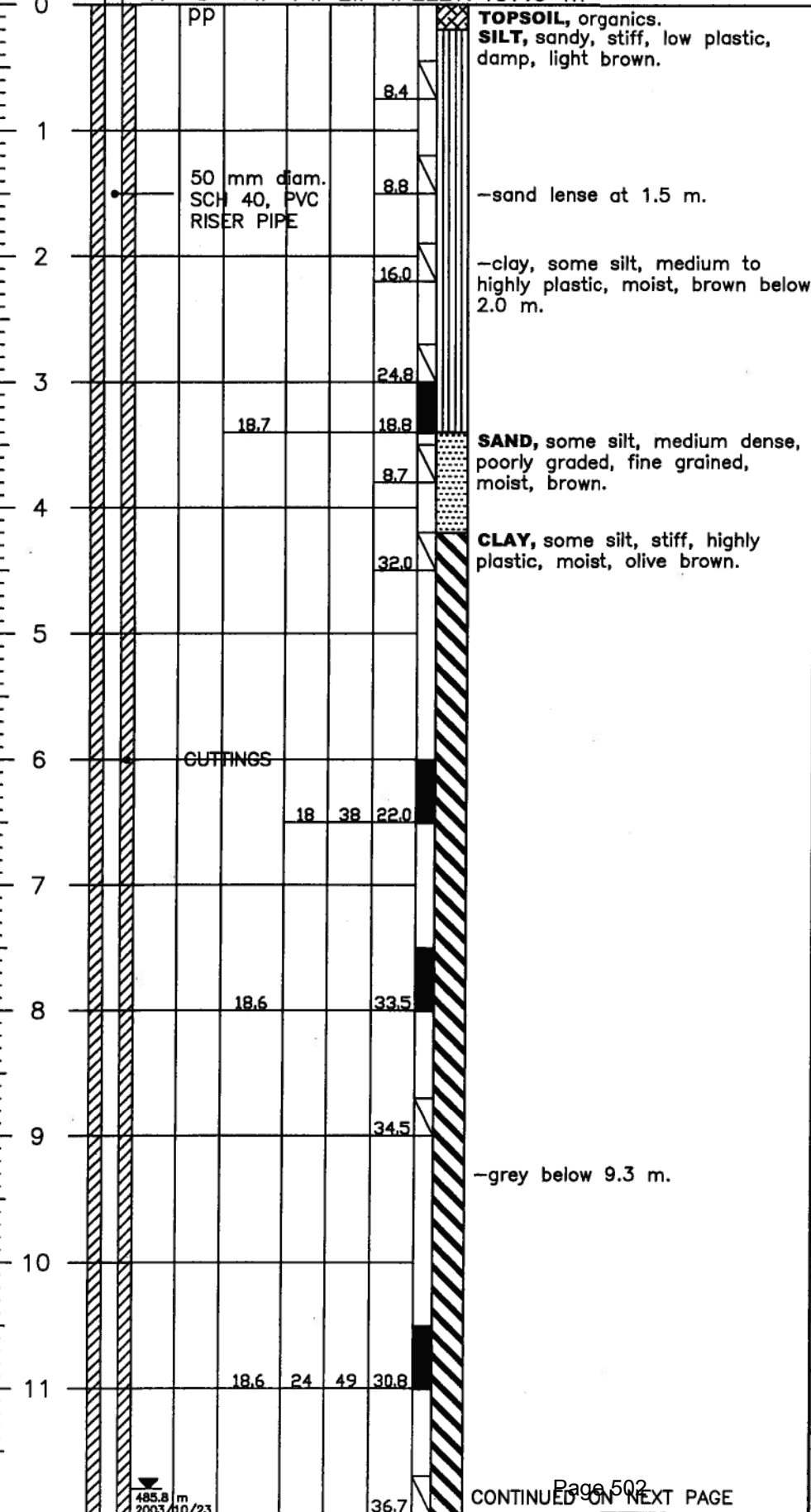
DATE DRILLED:
OCTOBER 7/03

DRAWING NUMBER:
S03-4925-3A

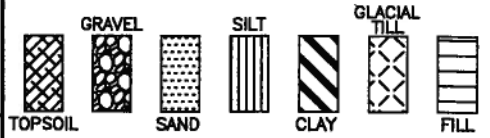
TEST HOLE 03-3

DEPTH (m)

N U γ_w Pw Lw w ELEV: 497.6 m



LEGEND:



pp....POCKET PENETROMETER (kg/cm²)

w.....WATER CONTENT (PERCENT OF DRY SOIL WEIGHT)

Lw....LIQUID LIMIT

Pw....PLASTIC LIMIT

γ_wWET UNIT WEIGHT (kN/m³)

U.....UNCONFINED COMPRESSIVE STRENGTH (kPa)

N.....STANDARD PENETRATION TEST

SO₄...SULPHATE CONTENT (PERCENT OF DRY SOIL)

I.A.D....IMMEDIATELY AFTER DRILLING

∇...RECORDED WATER LEVEL TEST HOLE (I.A.D.)

∇.....RECORDED WATER LEVEL (PIEZO)



LIMITATIONS: THE FIELD DRILL LOG IS A SUMMARY OF THE SUBSURFACE CONDITIONS ENCOUNTERED AT THE SPECIFIC TEST HOLE LOCATION AT THE TIME OF TEST DRILLING. SUBSURFACE CONDITIONS MAY VARY AT OTHER LOCATIONS OF THIS SITE AND, IN TIME, MAY CHANGE AT THIS SPECIFIC TEST HOLE LOCATION.

P. MACHIBRODA ENGINEERING LTD.



FIELD DRILL LOG AND SOIL TEST RESULTS

PROJECT:

SLOPE STABILITY STUDY

LOCATION:

313 - 11TH STREET, SASKATOON, SK

DATE DRILLED:

OCTOBER 7/03

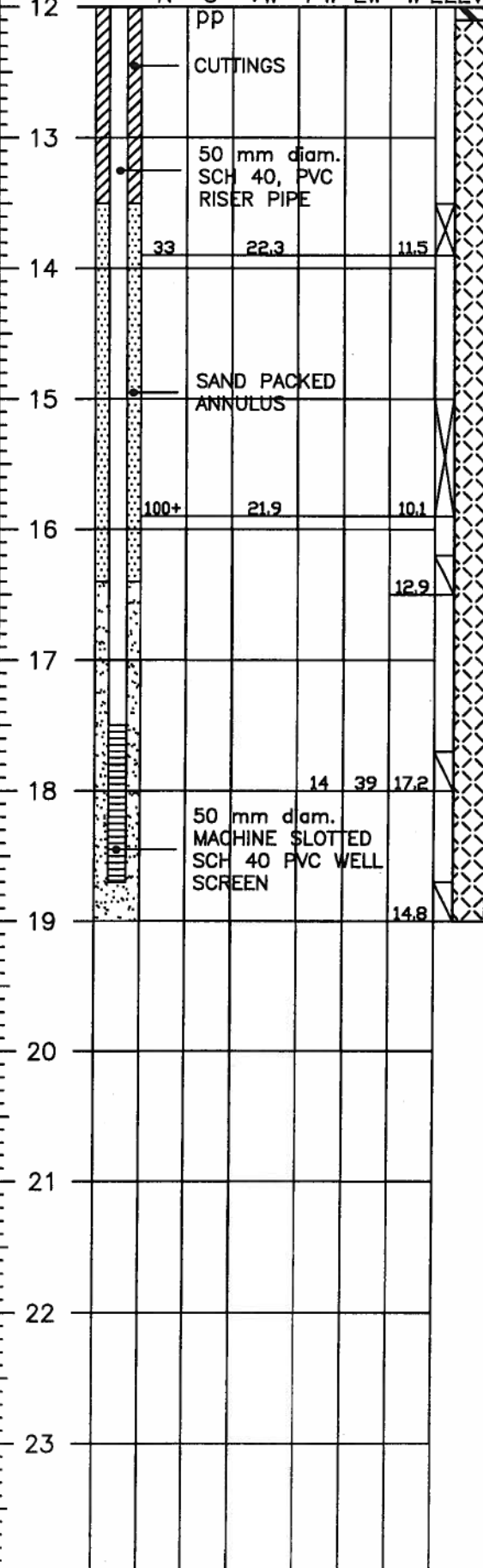
DRAWING NUMBER:

S03-4925-4

TEST HOLE 03-3

DEPTH (m)

N U γ_w Pw Lw w ELEV: 497.6 m



CLAY, some silt, stiff, highly plastic, moist, olive brown.

GLACIAL TILL, silt, sandy, some clay, trace gravel, stiff, medium plastic, moist, grey.

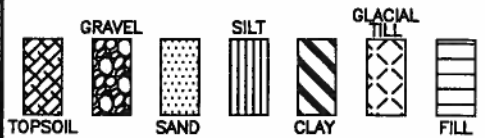
-very stiff to hard below 14.3 m.

-trace seepage at 15.5 m.

-hard below 16.0 m.

NOTE:
 1. Auger refusal at 19.0 m on boulder.
 2. Test Hole sloughed to 16.4 m I.A.D.

LEGEND:



pp....POCKET PENETROMETER (kg/cm²)

w.....WATER CONTENT (PERCENT OF DRY SOIL WEIGHT)

Lw....LIQUID LIMIT

Pw....PLASTIC LIMIT

γ_wWET UNIT WEIGHT (kN/m³)

U.....UNCONFINED COMPRESSIVE STRENGTH (kPa)

N.....STANDARD PENETRATION TEST

SO₄...SULPHATE CONTENT (PERCENT OF DRY SOIL)

I.A.D....IMMEDIATELY AFTER DRILLING

▽...RECORDED WATER LEVEL TEST HOLE (I.A.D.)

▼.....RECORDED WATER LEVEL (PIEZO)



LIMITATIONS: THE FIELD DRILL LOG IS A SUMMARY OF THE SUBSURFACE CONDITIONS ENCOUNTERED AT THE SPECIFIC TEST HOLE LOCATION AT THE TIME OF TEST DRILLING. SUBSURFACE CONDITIONS MAY VARY AT OTHER LOCATIONS OF THIS SITE AND, IN TIME, MAY CHANGE AT THIS SPECIFIC TEST HOLE LOCATION.

P. MACHIBRODA ENGINEERING LTD.



FIELD DRILL LOG AND SOIL TEST RESULTS

PROJECT:

SLOPE STABILITY STUDY

LOCATION:

313 - 11TH STREET, SASKATOON, SK

DATE DRILLED:

OCTOBER 7/03

DRAWING NUMBER:

S03-4925-4A

TEST HOLE 03-4

DEPTH (m)

N U γ_w Pw Lw w ELEV: 493.4 m

DEPTH (m)	N	U	γ_w	Pw	Lw	w	Notes
0		pp					
17.3							FILL, sand, gravelly, some silt, trace clay, dense, well graded, fine to coarse grained, damp, brown.
26.6							CLAY, silty, stiff, low to medium plastic, moist, brown. -highly plastic below 650 mm. -silt lense at 1.3 m.
16.3							SILT, some clay, trace sand, stiff, low plastic, moist, light olive brown.
16.9							
14.4							
19 30 27.3							-soft, wet, seepage, sloughing below 7.3 m.
31.7							CLAY, silty, firm, low to medium plastic, moist, olive brown. -highly plastic, stiff, grey below 9.1 m.
19 69 30.8							
10.2							GLACIAL TILL, silt, sandy, some clay, trace gravel, very stiff, medium plastic, moist, grey. -cobbles/boulders at 12.0 m.

FILL, sand, gravelly, some silt, trace clay, dense, well graded, fine to coarse grained, damp, brown.

CLAY, silty, stiff, low to medium plastic, moist, brown.
-highly plastic below 650 mm.
-silt lense at 1.3 m.

SILT, some clay, trace sand, stiff, low plastic, moist, light olive brown.

-soft, wet, seepage, sloughing below 7.3 m.

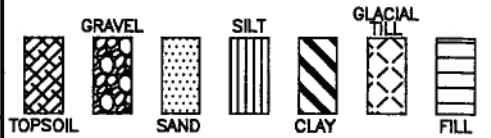
CLAY, silty, firm, low to medium plastic, moist, olive brown.
-highly plastic, stiff, grey below 9.1 m.

NOTE:
1. Test Hole sloughed to 11.8 m and dry I.A.D.

GLACIAL TILL, silt, sandy, some clay, trace gravel, very stiff, medium plastic, moist, grey.

-cobbles/boulders at 12.0 m.

LEGEND:



pp....POCKET PENETROMETER (kg/cm²)

w.....WATER CONTENT (PERCENT OF DRY SOIL WEIGHT)

Lw....LIQUID LIMIT

Pw....PLASTIC LIMIT

γ_wWET UNIT WEIGHT (kN/m³)

U.....UNCONFINED COMPRESSIVE STRENGTH (kPa)

N.....STANDARD PENETRATION TEST

SO₄ ...SULPHATE CONTENT (PERCENT OF DRY SOIL)

I.A.D....IMMEDIATELY AFTER DRILLING

▽...RECORDED WATER LEVEL TEST HOLE (I.A.D.)

▼.....RECORDED WATER LEVEL (PIEZO)



LIMITATIONS: THE FIELD DRILL LOG IS A SUMMARY OF THE SUBSURFACE CONDITIONS ENCOUNTERED AT THE SPECIFIC TEST HOLE LOCATION AT THE TIME OF TEST DRILLING. SUBSURFACE CONDITIONS MAY VARY AT OTHER LOCATIONS OF THIS SITE AND, IN TIME, MAY CHANGE AT THIS SPECIFIC TEST HOLE LOCATION.

P. MACHIBRODA ENGINEERING LTD.



FIELD DRILL LOG AND SOIL TEST RESULTS

PROJECT:

SLOPE STABILITY STUDY

LOCATION:

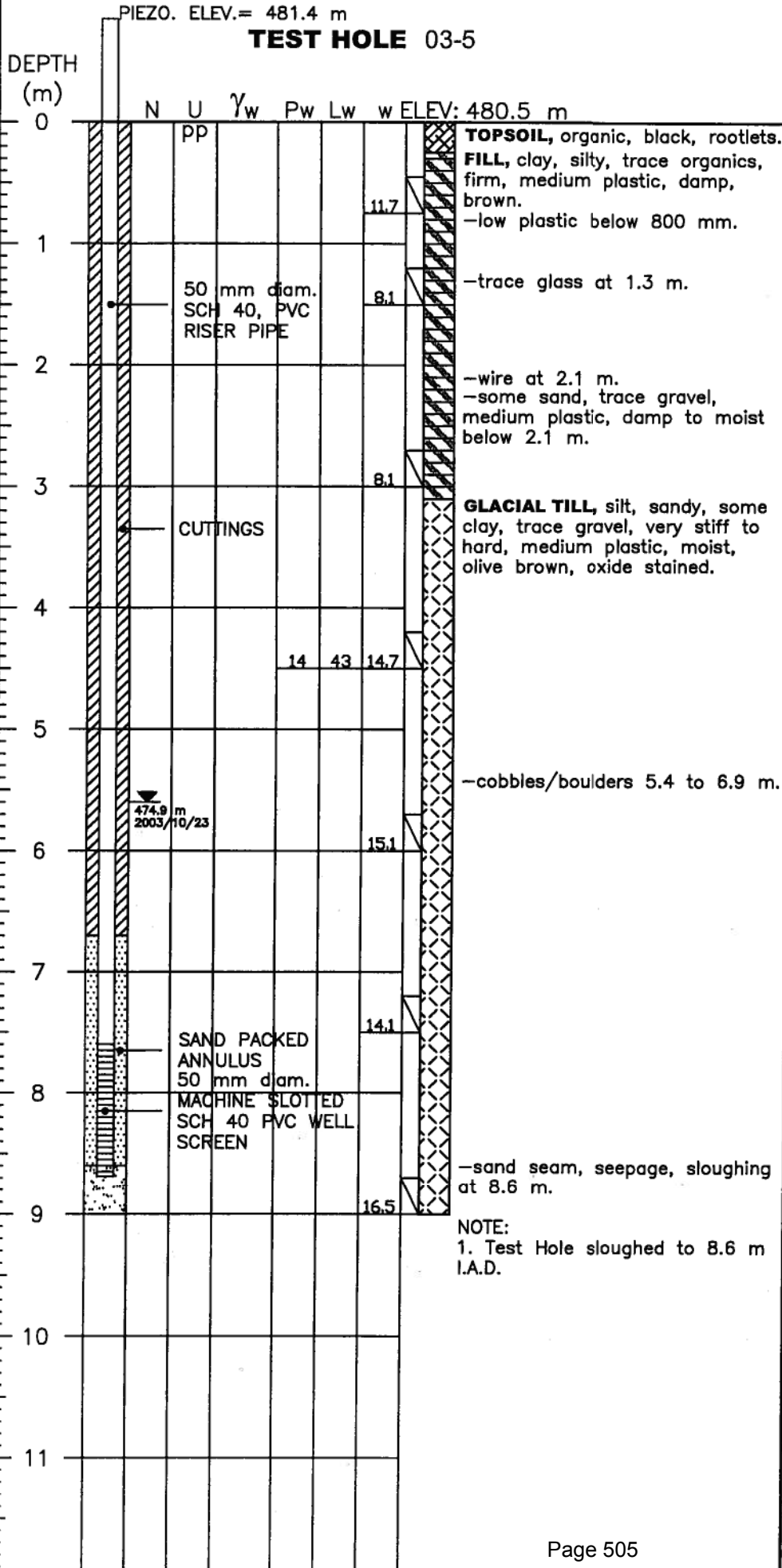
313 - 11TH STREET, SASKATOON, SK

DATE DRILLED:

OCTOBER 7/03

DRAWING NUMBER:

S03-4925-5



LEGEND:

TOPSOIL	GRAVEL	SAND	SILT	CLAY	GLACIAL TILL	FILL

- pp....POCKET PENETROMETER (kg/cm²)
 - w.....WATER CONTENT (PERCENT OF DRY SOIL WEIGHT)
 - Lw....LIQUID LIMIT
 - Pw....PLASTIC LIMIT
 - γ_wWET UNIT WEIGHT (kN/m³)
 - U.....UNCONFINED COMPRESSIVE STRENGTH (kPa)
 - N.....STANDARD PENETRATION TEST
 - SO₄...SULPHATE CONTENT (PERCENT OF DRY SOIL)
 - I.A.D....IMMEDIATELY AFTER DRILLING
 - ▽...RECORDED WATER LEVEL TEST HOLE (I.A.D.)
 - ▼.....RECORDED WATER LEVEL (PIEZO)
- | | | |
|-------------|-------------|----------|
| | | |
| SHELBY TUBE | SPLIT SPOON | CUTTINGS |

LIMITATIONS: THE FIELD DRILL LOG IS A SUMMARY OF THE SUBSURFACE CONDITIONS ENCOUNTERED AT THE SPECIFIC TEST HOLE LOCATION AT THE TIME OF TEST DRILLING. SUBSURFACE CONDITIONS MAY VARY AT OTHER LOCATIONS OF THIS SITE AND, IN TIME, MAY CHANGE AT THIS SPECIFIC TEST HOLE LOCATION.

P. MACHIBRODA ENGINEERING LTD.



FIELD DRILL LOG AND SOIL TEST RESULTS

PROJECT:
 SLOPE STABILITY STUDY

LOCATION:
 313 - 11TH STREET, SASKATOON, SK

DATE DRILLED: OCTOBER 7/03	DRAWING NUMBER: S03-4925-6
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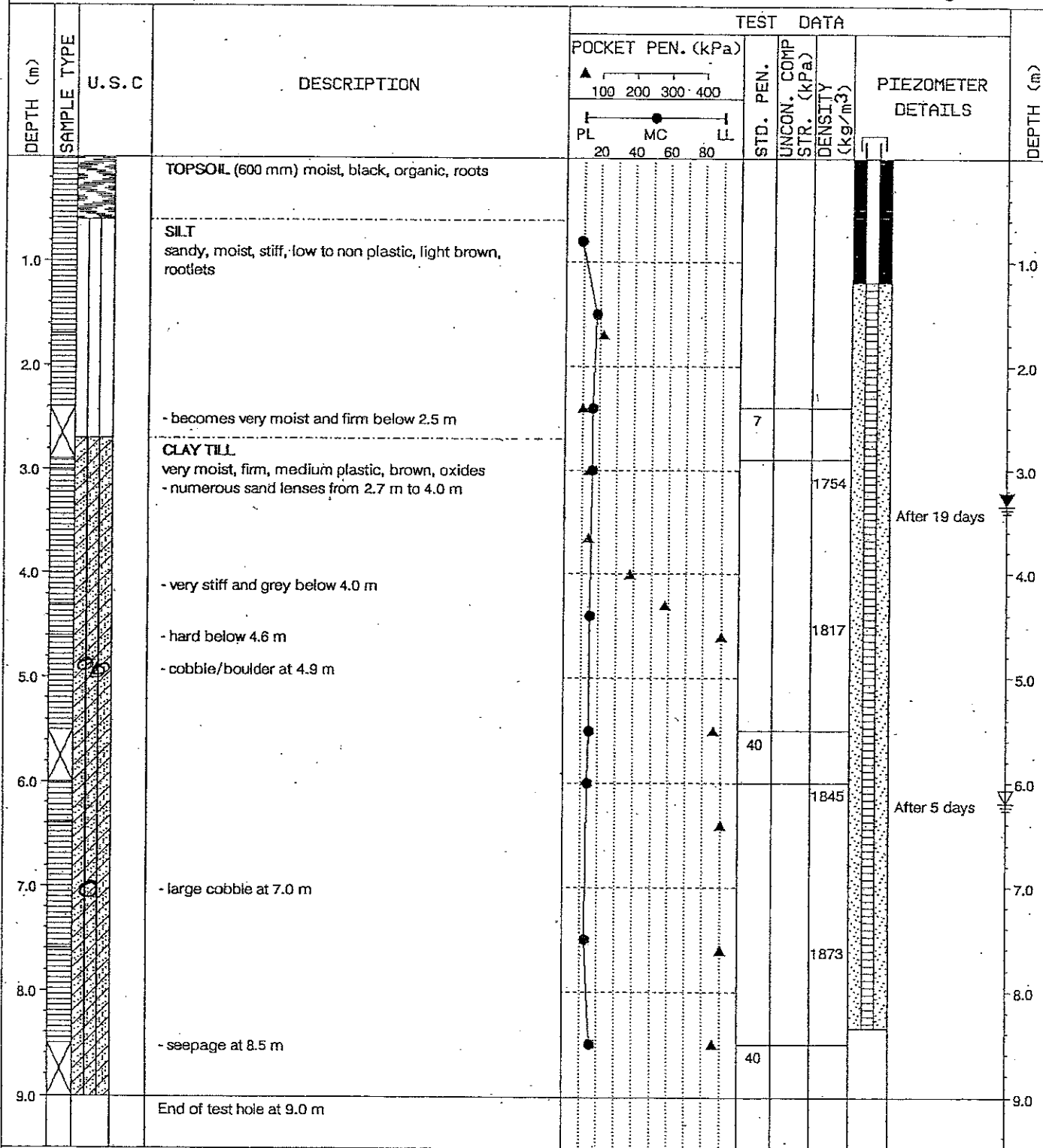


HISTORICAL BOREHOLE LOGS
TH 1, TH 2, TH 3, TH 4, TH 5, TH 6 (AMEC05)

AMEC Earth & Environmental. July 27, 2005. Revised Slope Stability Assessment Proposed Condominium Development, 316 Saskatchewan Crescent, Saskatoon, Saskatchewan

Project: PROPOSED CONDOMINIUM DEVELOPMENT
306 SASKATCHEWAN CRESCENT
SASKATOON, SASKATCHEWAN

Elevation(m): 479.50
Date Drilled: 12/10/93
Drill Method: CME 75 cont. hollow stem auger



Sample Type:

☐ DISTURBED
■ SHELBY

⊗ SPT SAMPLE
▨ CONT.SAMPLER

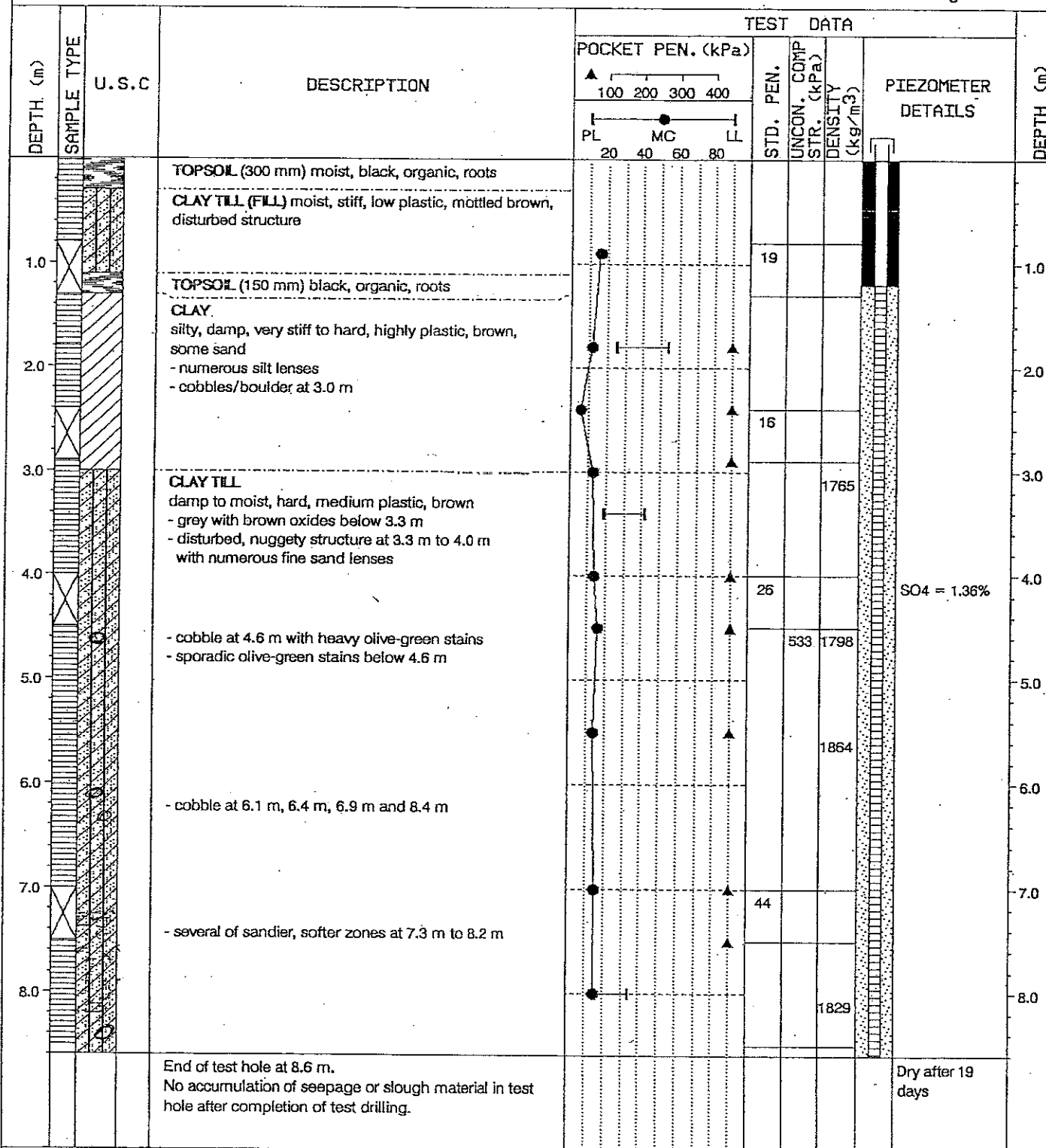
▩ CORE
▤ NO RECOVERY

FIGURE A4

Sheet 1 of 1

Project: PROPOSED CONDOMINIUM DEVELOPMENT
306 SASKATCHEWAN CRESCENT
SASKATOON, SASKATCHEWAN

Elevation(m): 480.53
Date Drilled: 12/10/93
Drill Method: CME 75 cont. hollow stem auger



Sample Type:

☐ DISTURBED
■ SHELBY

⊗ SPT SAMPLE
▨ CONT. SAMPLER

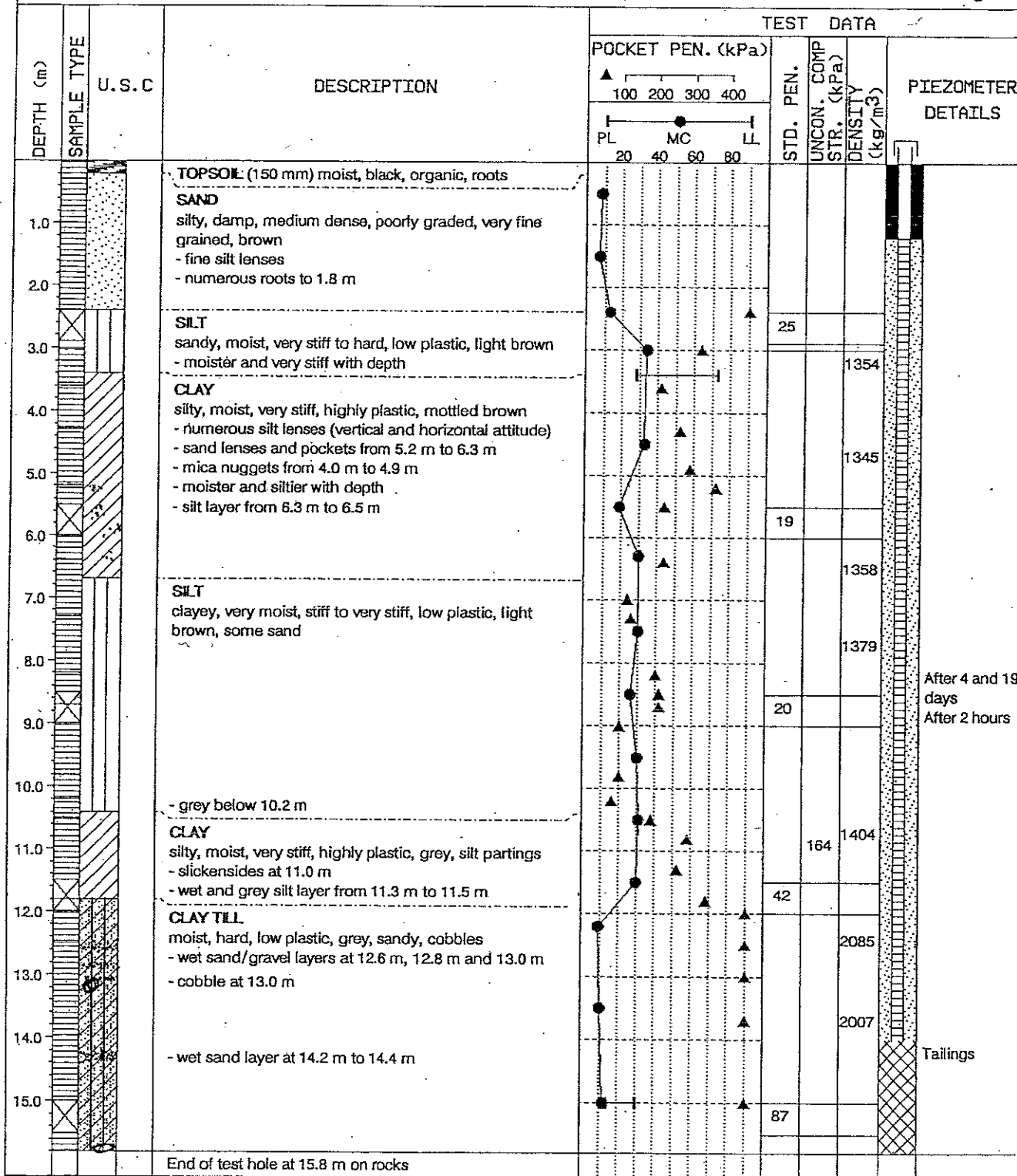
▩ CORE
▤ NO RECOVERY

FIGURE A5

Sheet 1 of 1

Project: PROPOSED CONDOMINIUM DEVELOPMENT
 306 SASKATCHEWAN CRESCENT
 SASKATOON, SASKATCHEWAN

Elevation(m): 494.36
 Date Drilled: 12/10/93
 Drill Method: CME 75 cont. hollow stem auger



Sample Type:

- DISTURBED
- SPT SAMPLE
- CORE
- SHELBY
- CONT. SAMPLER
- NO RECOVERY

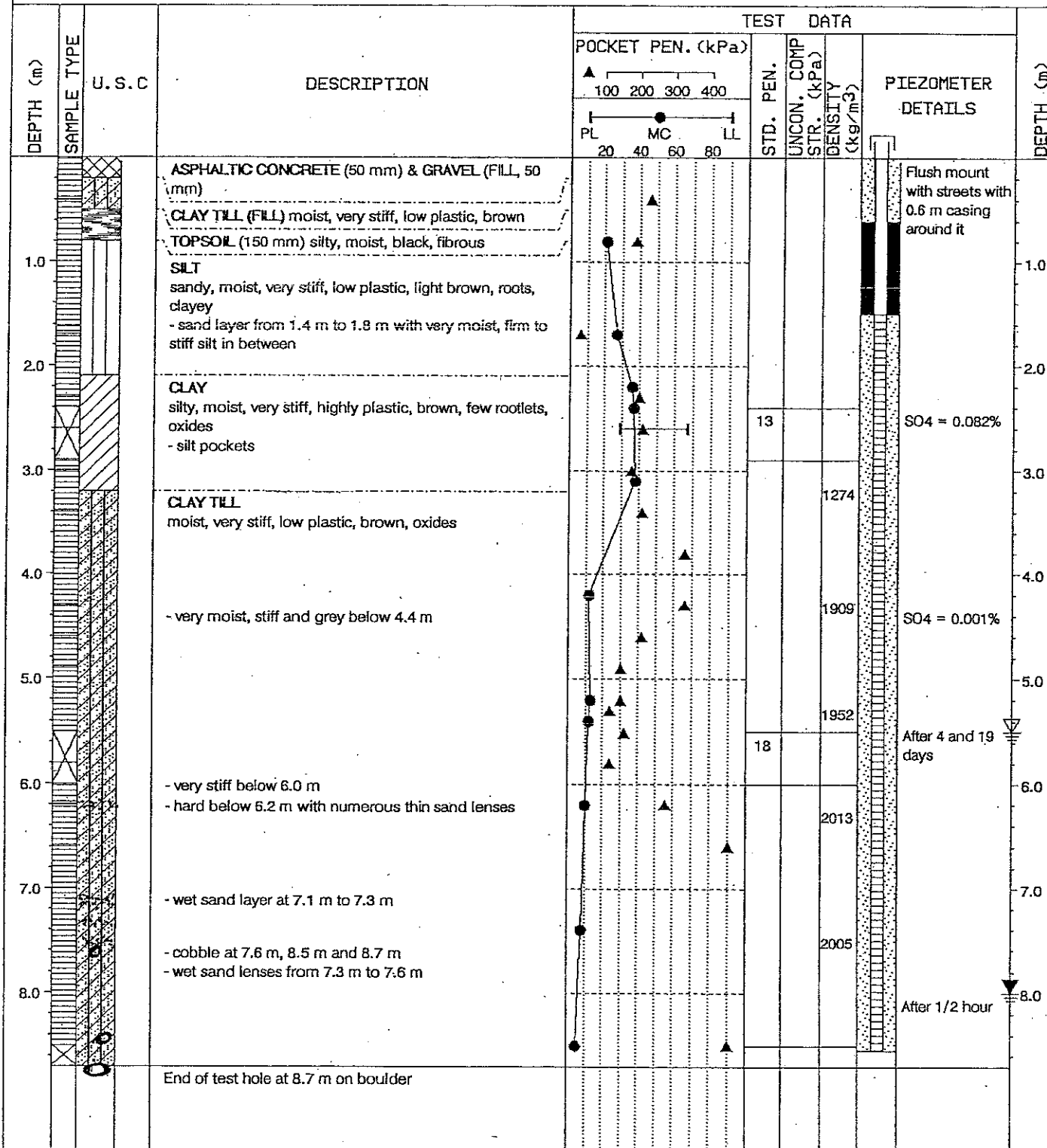
FIGURE A6

Project: PROPOSED CONDOMINIUM DEVELOPMENT
 306 SASKATCHEWAN CRESCENT
 SASKATOON, SASKATCHEWAN

Elevation(m): 488.67

Date Drilled: 13/10/93

Drill Method: CME 75 cont. hollow stem auger



Sample Type:

▨ DISTURBED

▨ SPT SAMPLE

▨ CORE

▨ SHELBY

▨ CONT.SAMPLER

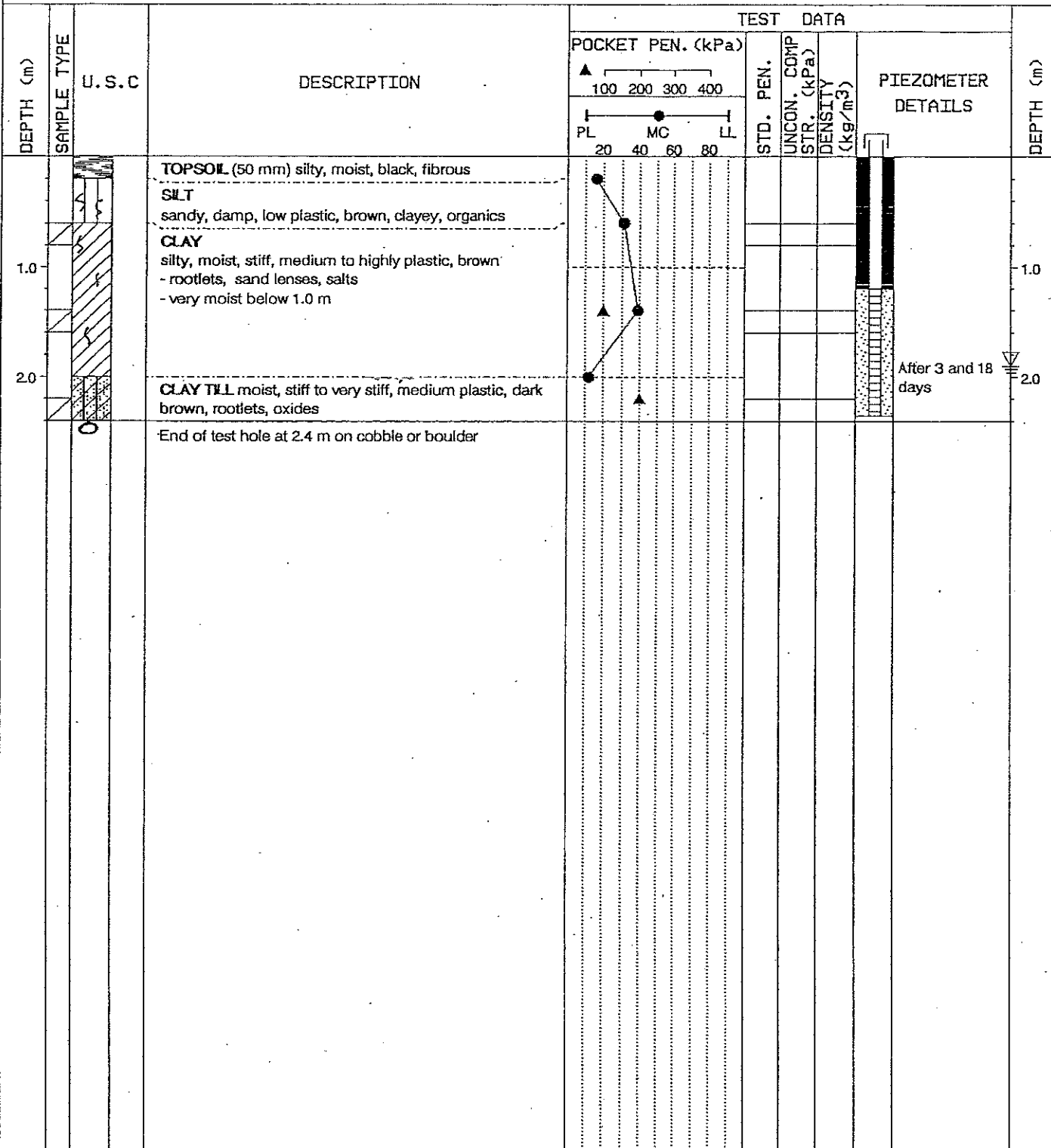
▨ NO RECOVERY

FIGURE A7

Sheet 1 of 1

Project: PROPOSED CONDOMINIUM DEVELOPMENT
306 SASKATCHEWAN CRESCENT
SASKATOON, SASKATCHEWAN

Elevation(m): 485.18
Date Drilled: 14/10/93
Drill Method: Hand auger



Sample Type:

- DISTURBED
- SPT SAMPLE
- CORE
- SHELBY
- CONT.SAMPLER
- NO RECOVERY

FIGURE A8

Project: PROPOSED CONDOMINIUM DEVELOPMENT
 306 SASKATCHEWAN CRESCENT
 SASKATOON, SASKATCHEWAN

Elevation(m): 486.23
 Date Drilled: 14/10/93
 Drill Method: Hand auger

DEPTH (m)	SAMPLE TYPE	U. S. C	DESCRIPTION	TEST DATA				OTHER TESTS
				POCKET PEN. (kPa)	STD. PEN.	UNCON. COMP STR. (kPa)	DENSITY (kg/m ³)	
0.0 - 0.19			TOPSOIL (190 mm) silty, moist, black, fibrous					
0.19 - 0.5			SILT sandy, damp, low plastic, light brown, clayey, organics					
0.5 - 1.5			CLAY TILL damp, low plastic, brown, oxides, few rootlets					
1.5 - 1.5			End of test hole at 1.5 m on cobble or boulder					

Sample Type:

DISTURBED
 SHELBY

SPT SAMPLE
 CONT.SAMPLER

CORE
 NO RECOVERY

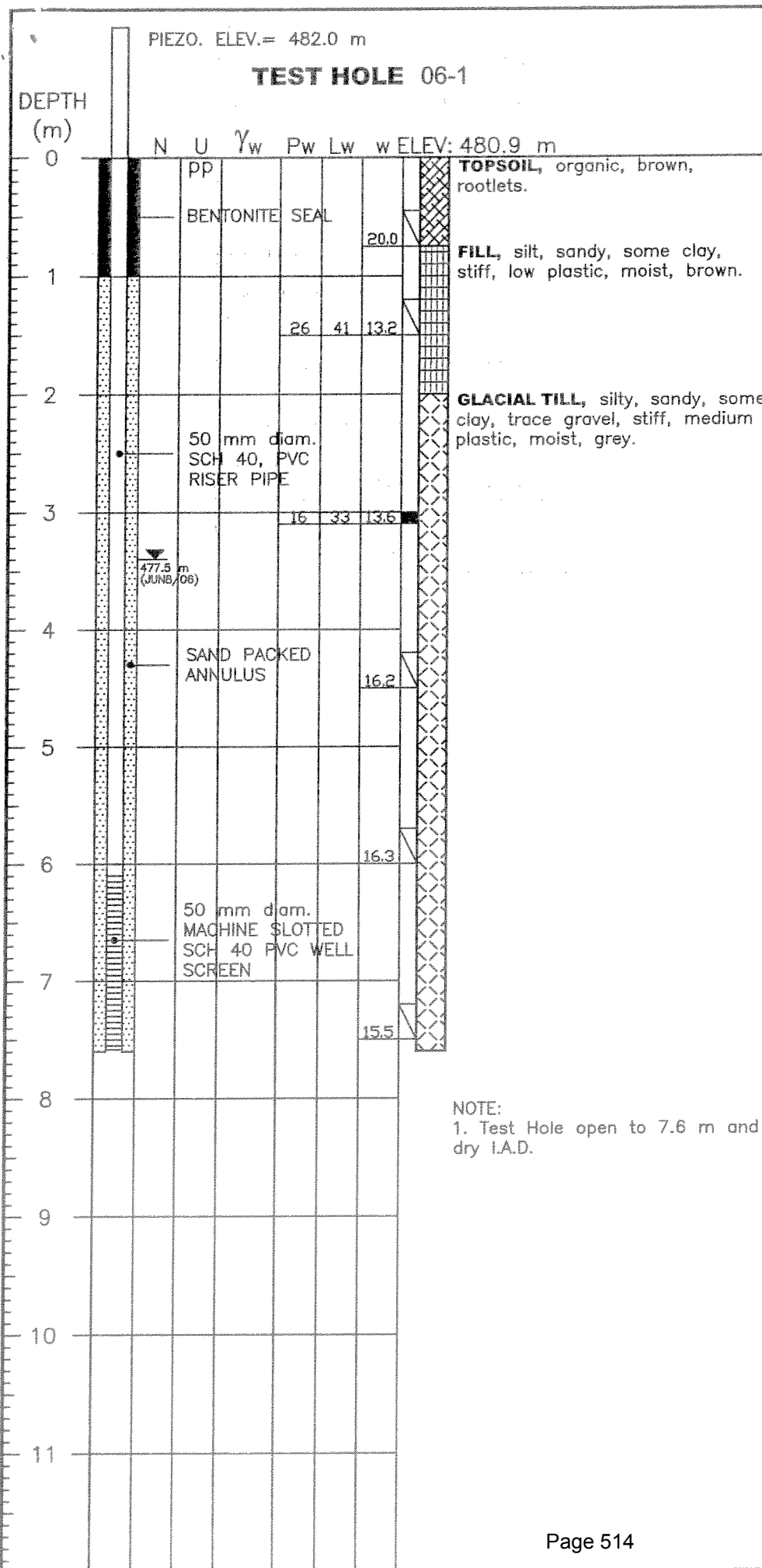
FIGURE A9

Sheet 1 of 1



HISTORICAL BOREHOLE LOGS
TH 06-1, TH 06-2 (PMEL06)

P. Machibroda Engineering Ltd. July 14, 2006. Geotechnical Investigation and Slope Stability Study Proposed Condominium 316 - Saskatchewan Crescent East, Saskatoon, SK



LEGEND:

TOPSOIL	GRAVEL	SAND	SILT	CLAY	GLACIAL TILL	FILL

w.....WATER CONTENT (PERCENT OF DRY SOIL WEIGHT)
 Lw...LIQUID LIMIT
 Pw...PLASTIC LIMIT
 γ_w ...WET UNIT WEIGHT (kN/m³)
 U.....UNCONFINED COMPRESSIVE STRENGTH (kPa)
 pp...POCKET PENETROMETER (kg/cm²)
 N.....STANDARD PENETRATION TEST (ROPE-CATHEAD & DONUT HAMMER) (50/125mm = BLOWS/SAMPLER PENETRATION)
 SO₄.....SULPHATE CONTENT (PERCENT OF DRY SOIL WEIGHT)
 P200...% PASSING No. 200 SIEVE
 I.A.D.....IMMEDIATELY AFTER DRILLING
 ▽...RECORDED WATER LEVEL TEST HOLE (I.A.D.)
 ▼...RECORDED WATER LEVEL (PIEZO)

SHELBY TUBE
 SPLIT SPOON
 CUTTINGS

LIMITATIONS: THE FIELD DRILL LOG IS A SUMMARY OF THE SUBSURFACE CONDITIONS ENCOUNTERED AT THE SPECIFIC TEST HOLE LOCATION AT THE TIME OF TEST DRILLING. SUBSURFACE CONDITIONS MAY VARY AT OTHER LOCATIONS OF THIS SITE AND, IN TIME, MAY CHANGE AT THIS SPECIFIC TEST HOLE LOCATION.

P. MACHIBRODA ENGINEERING LTD.

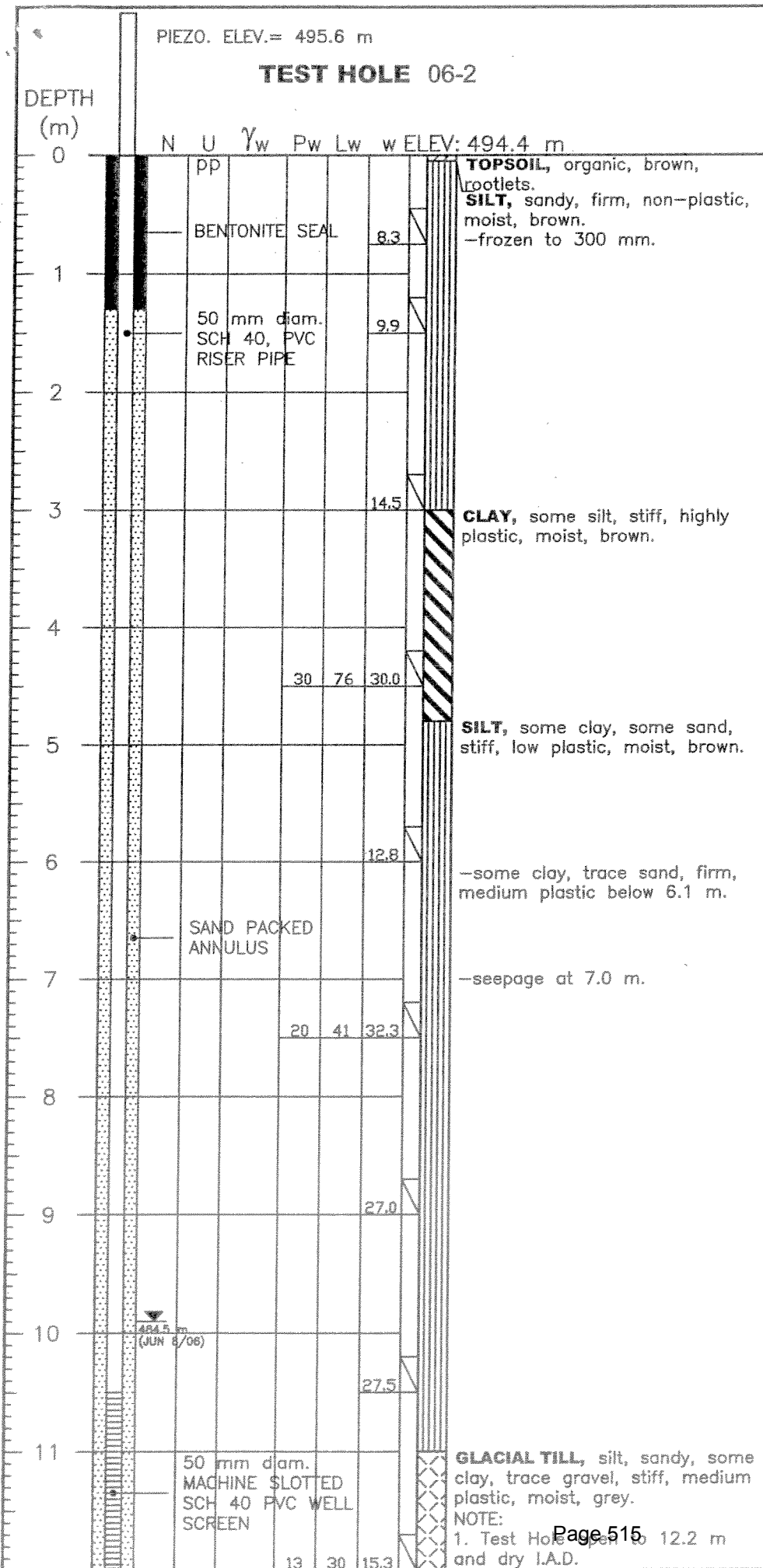
FIELD DRILL LOG AND SOIL TEST RESULTS

PROJECT: PROPOSED CONDOMINIUM DEVELOPMENT

LOCATION: SASKATOON, SK

DATE DRILLED: MAR 17/06 **DRAWING NUMBER:** S06-5722-3

NOTE:
 1. Test Hole open to 7.6 m and dry I.A.D.



LEGEND:

TOPSOIL
 GRAVEL
 SAND
 CLAY
 GLACIAL TILL
 FILL

w.....WATER CONTENT (PERCENT OF DRY SOIL WEIGHT)
 Lw...LIQUID LIMIT
 Pw...PLASTIC LIMIT
 γ_w ...WET UNIT WEIGHT (kN/m³)
 U.....UNCONFINED COMPRESSIVE STRENGTH (kPa)
 pp...POCKET PENETROMETER (kg/cm²)
 N.....STANDARD PENETRATION TEST (ROPE-CATHEAD & DONUT HAMMER) (50/125mm = BLOWS/SAMPLER PENETRATION)
 SO₄.....SULPHATE CONTENT (PERCENT OF DRY SOIL WEIGHT)
 P200...% PASSING No. 200 SIEVE
 I.A.D.....IMMEDIATELY AFTER DRILLING
 ▽...RECORDED WATER LEVEL TEST HOLE (I.A.D.)
 ▼...RECORDED WATER LEVEL (PIEZO)

SHELBY TUBE
 SPLIT SPOON
 CUTTINGS

LIMITATIONS: THE FIELD DRILL LOG IS A SUMMARY OF THE SUBSURFACE CONDITIONS ENCOUNTERED AT THE SPECIFIC TEST HOLE LOCATION AT THE TIME OF TEST DRILLING. SUBSURFACE CONDITIONS MAY VARY AT OTHER LOCATIONS OF THIS SITE AND, IN TIME, MAY CHANGE AT THIS SPECIFIC TEST HOLE LOCATION.

P. MACHIBRODA ENGINEERING LTD.

FIELD DRILL LOG AND SOIL TEST RESULTS

PROJECT: PROPOSED CONDOMINIUM DEVELOPMENT

LOCATION: SASKATOON, SK

DATE DRILLED: MAR 17/06

DRAWING NUMBER: S06-5722-4



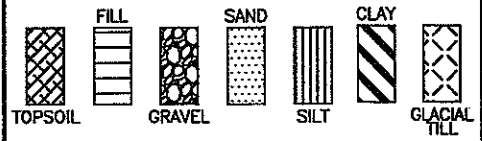
APPENDIX E
Record of Borehole Logs

HISTORICAL BOREHOLE LOGS
TH07-01, TH 07-02, TH 07-03, TH 07-04, TH 07-5 (PMEL07)

P. Machibroda Engineering Ltd. June 12, 2007. Geotechnical Investigation and Slope Stability Study Proposed Residences, 221 & 225 - 11th Street East, Saskatoon, SK

TEST HOLE 07-1

LEGEND:



- w.....WATER CONTENT (PERCENT OF DRY SOIL WEIGHT)
- Lw...LIQUID LIMIT
- Pw...PLASTIC LIMIT
- γ_w ...WET UNIT WEIGHT (kN/m³)
- U.....UNCONFINED COMPRESSIVE STRENGTH (kPa)
- pp...POCKET PENETROMETER (kg/cm²)
- N.....STANDARD PENETRATION TEST (ROPE-CATHEAD & DONUT HAMMER) (50/125 = BLOWS/SAMPLER PENETRATION [mm])
- SO₄.....SULPHATE CONTENT (PERCENT OF DRY SOIL WEIGHT)
- P200...% PASSING No. 200 SIEVE
- I.A.D.....IMMEDIATELY AFTER DRILLING
- ▽...RECORDED WATER LEVEL (TEST HOLE I.A.D.)
- ▼...RECORDED WATER LEVEL (PIEZO)



LIMITATIONS: THE FIELD DRILL LOG IS A SUMMARY OF THE SUBSURFACE CONDITIONS ENCOUNTERED AT THE SPECIFIC TEST HOLE LOCATION AT THE TIME OF TEST DRILLING. SUBSURFACE CONDITIONS MAY VARY AT OTHER LOCATIONS OF THIS SITE AND, IN TIME, MAY CHANGE AT THIS SPECIFIC TEST HOLE LOCATION.



P. MACHIBRODA ENGINEERING LTD.

FIELD DRILL LOG AND SOIL TEST RESULTS

PROJECT:

PROPOSED RESIDENCE

LOCATION:

221 & 225 - 11th STREET EAST
SASKATOON, SK

NORTHING:

EASTING:

DATE DRILLED:

MAY 1/07

DRAWING NUMBER:

S07-6078-2

DEPTH (m)

ROADBOX

N U γ_w Pw Lw w ELEV: 491.8 m

pp

BENTONITE SEAL

CUTTINGS

35

50 mm diam. SCH 40 PVC RISER PIPE

44

20.2

484.9 m JUN 6/07

78

21.4

SAND PACKED ANNULUS

27.2

27.6

22.2

24.8

19.0

28.0

15.0

9.9

12.7

TOPSOIL, organic, brown, rootlets.

FILL, clay, some silt, some sand, trace gravel, stiff, medium plastic, moist, olive, oxide stained.

SILT, some clay, trace sand, stiff, medium plastic, moist, brown, trace gypsum crystals.

CLAY, some silt, stiff, highly plastic, moist, grey, trace seepage.

GLACIAL TILL, clay, some silt, some sand, trace gravel, very stiff, medium plastic, moist, grey.

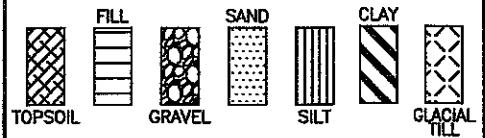
-hard below 9.0 m.

-sand lense, wet, seepage, sloughing at 10.0 m.

11th STREET

CONTINUED ON NEXT PAGE

LEGEND:



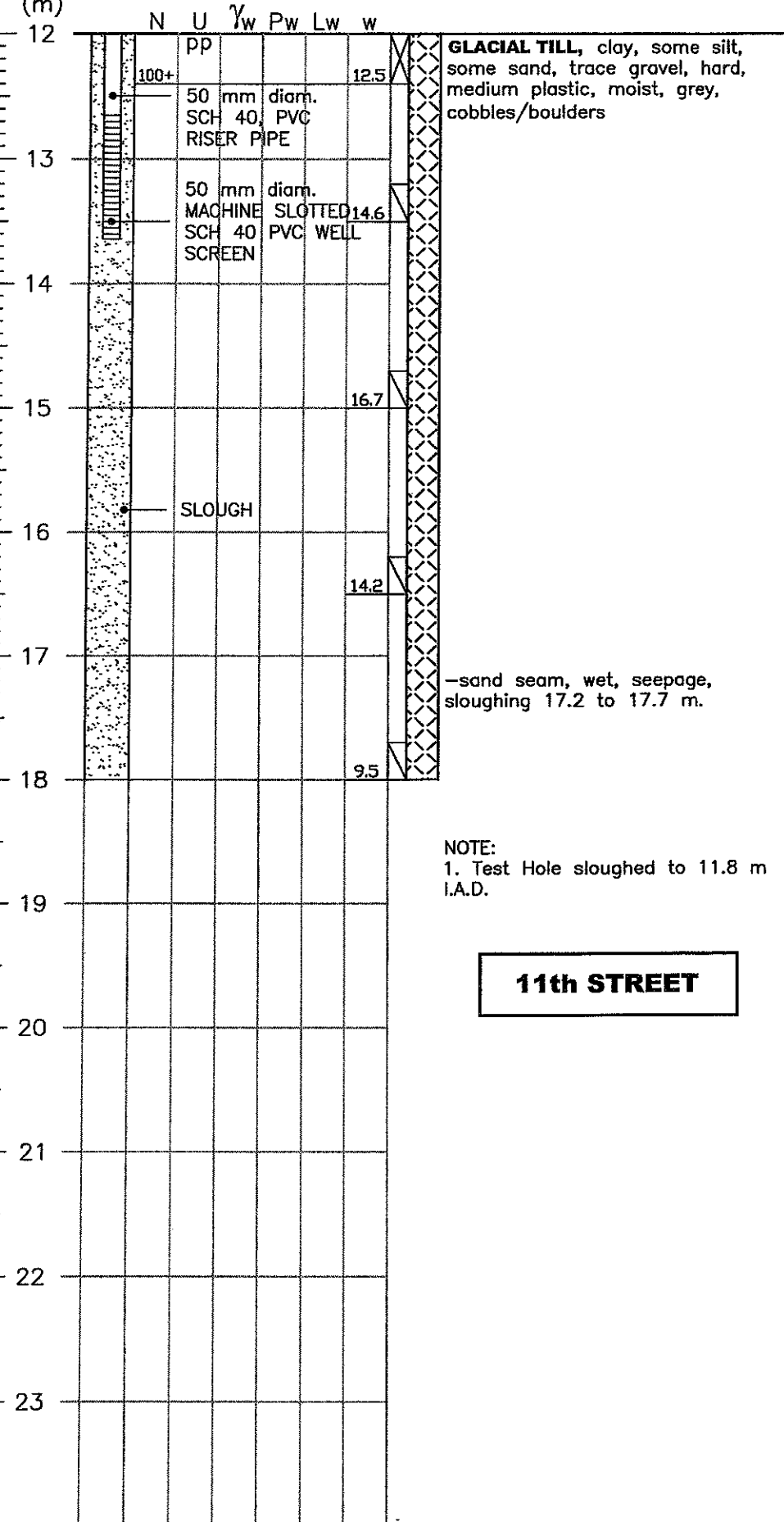
- w.....WATER CONTENT (PERCENT OF DRY SOIL WEIGHT)
- Lw...LIQUID LIMIT
- Pw...PLASTIC LIMIT
- γ_w ...WET UNIT WEIGHT (kN/m³)
- U.....UNCONFINED COMPRESSIVE STRENGTH (kPa)
- pp...POCKET PENETROMETER (kg/cm²)
- N.....STANDARD PENETRATION TEST (ROPE-CATHEAD & DONUT HAMMER) (50/125 = BLOWS/SAMPLER PENETRATION [mm])
- SO₄SULPHATE CONTENT (PERCENT OF DRY SOIL WEIGHT)
- P200...% PASSING No. 200 SIEVE
- I.A.D.....IMMEDIATELY AFTER DRILLING
- ∇...RECORDED WATER LEVEL (TEST HOLE I.A.D.)
- ▼...RECORDED WATER LEVEL (PIEZO)



LIMITATIONS: THE FIELD DRILL LOG IS A SUMMARY OF THE SUBSURFACE CONDITIONS ENCOUNTERED AT THE SPECIFIC TEST HOLE LOCATION AT THE TIME OF TEST DRILLING. SUBSURFACE CONDITIONS MAY VARY AT OTHER LOCATIONS OF THIS SITE AND, IN TIME, MAY CHANGE AT THIS SPECIFIC TEST HOLE LOCATION.

TEST HOLE 07-1

DEPTH (m)



NOTE:
1. Test Hole sloughed to 11.8 m I.A.D.

11th STREET



P. MACHIBRODA ENGINEERING LTD.

FIELD DRILL LOG AND SOIL TEST RESULTS

PROJECT:

PROPOSED RESIDENCE

LOCATION:

221 & 225 - 11th STREET EAST
SASKATOON, SK

NORTHING:

EASTING:

DATE DRILLED:

MAY 1/07

DRAWING NUMBER:

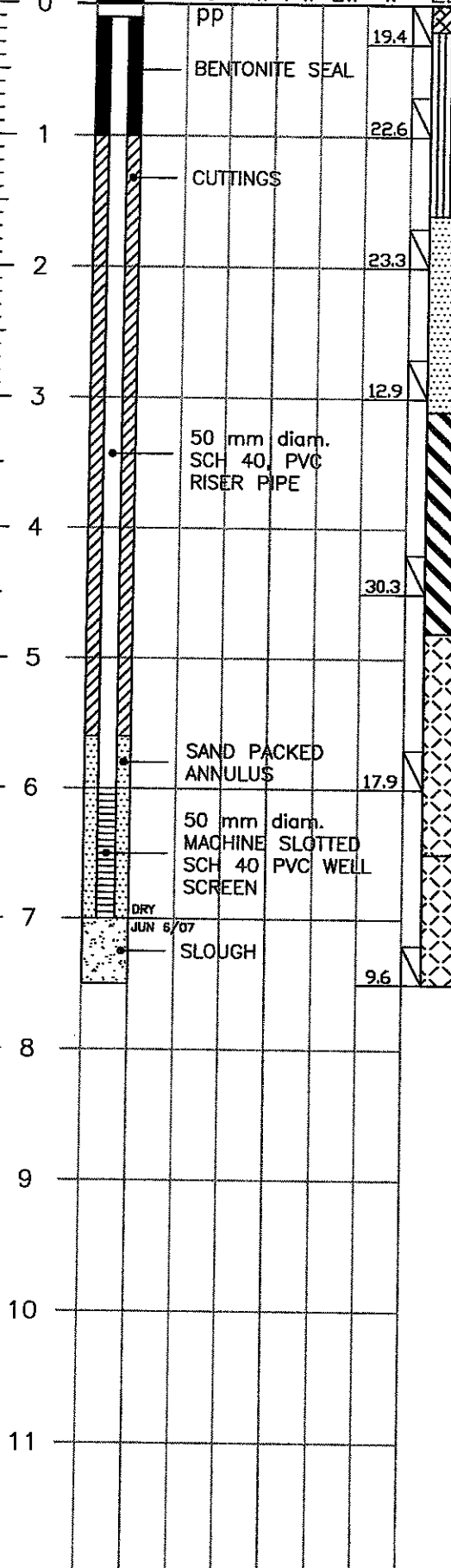
S07-6078-2A

TEST HOLE 07-2

DEPTH (m)

ROADBOX

N U γ_w Pw Lw w ELEV: 489.4 m



TOPSOIL, organic, brown, rootlets.
SILT, some clay, firm, low to medium plastic, moist, brown.

SAND, silty, compact, poorly graded, fine grained, moist, brown.

-trace seepage, sloughing below 2.6 m.

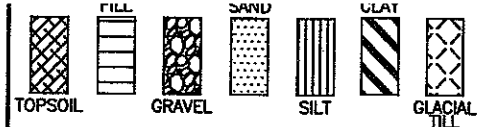
CLAY, some silt, stiff, medium plastic, moist, brown, oxide stained.

GLACIAL TILL, clay, silty, some sand, trace gravel, stiff, medium plastic, moist, brown, oxide stained, gypsum crystals.

GLACIAL TILL, sand, silty, some clay, trace gravel, dense, poorly graded, fine to medium grained, moist, brown, oxide stained.

NOTE:
 1. Test Hole sloughed to 7.1 m and dry I.A.D.

11th STREET



- w.....WATER CONTENT (PERCENT OF DRY SOIL WEIGHT)
- Lw...LIQUID LIMIT
- Pw...PLASTIC LIMIT
- γ_w ...WET UNIT WEIGHT (kN/m³)
- U.....UNCONFINED COMPRESSIVE STRENGTH (kPa)
- pp...POCKET PENETROMETER (kg/cm²)
- N.....STANDARD PENETRATION TEST (ROPE-CATHEAD & DONUT HAMMER) (50/125 = BLOWS/SAMPLER PENETRATION [mm])
- SO₄.....SULPHATE CONTENT (PERCENT OF DRY SOIL WEIGHT)
- P200...% PASSING No. 200 SIEVE
- I.A.D.....IMMEDIATELY AFTER DRILLING
- ▽...RECORDED WATER LEVEL (TEST HOLE I.A.D.)
- ▼...RECORDED WATER LEVEL (PIEZO)
- SHELBY TUBE
- ⊠ SPLIT SPOON
- ◻ CUTTINGS

LIMITATIONS: THE FIELD DRILL LOG IS A SUMMARY OF THE SUBSURFACE CONDITIONS ENCOUNTERED AT THE SPECIFIC TEST HOLE LOCATION AT THE TIME OF TEST DRILLING. SUBSURFACE CONDITIONS MAY VARY AT OTHER LOCATIONS OF THIS SITE AND, IN TIME, MAY CHANGE AT THIS SPECIFIC TEST HOLE LOCATION.



P. MACHIBRODA ENGINEERING LTD.

FIELD DRILL LOG AND SOIL TEST RESULTS

PROJECT:
 PROPOSED RESIDENCE

LOCATION:
 221 & 225 - 11th STREET EAST
 SASKATOON, SK

NORTHING: **EASTING:**

DATE DRILLED: **DRAWING NUMBER:**
 MAY 3/07 S07-6078-3

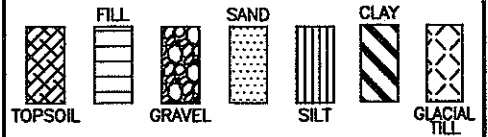
PIEZO. ELEV.= 481.0 m

TEST HOLE 07-3

DEPTH
(m)

N U γ_w Pw Lw w ELEV: 481.1 m

LEGEND:



- w.....WATER CONTENT
(PERCENT OF DRY SOIL WEIGHT)
- Lw...LIQUID LIMIT
- Pw...PLASTIC LIMIT
- γ_w ...WET UNIT WEIGHT (kN/m³)
- U.....UNCONFINED COMPRESSIVE
STRENGTH (kPa)
- pp...POCKET PENETROMETER (kg/cm²)
- N.....STANDARD PENETRATION TEST
(ROPE-CATHEAD & DONUT HAMMER)
(50/125 = BLOWS/SAMPLER
PENETRATION [mm])
- SO₄SULPHATE CONTENT
(PERCENT OF DRY SOIL WEIGHT)
- P200...% PASSING No. 200 SIEVE
- I.A.D.....IMMEDIATELY AFTER DRILLING
- ▽...RECORDED WATER LEVEL
(TEST HOLE I.A.D.)
- ▼...RECORDED WATER LEVEL (PIEZO)
- SHELBY TUBE
- ⊠ SPLIT SPOON
- ◻ CUTTINGS

LIMITATIONS: THE FIELD DRILL LOG IS A SUMMARY OF THE SUBSURFACE CONDITIONS ENCOUNTERED AT THE SPECIFIC TEST HOLE LOCATION AT THE TIME OF TEST DRILLING. SUBSURFACE CONDITIONS MAY VARY AT OTHER LOCATIONS OF THIS SITE AND, IN TIME, MAY CHANGE AT THIS SPECIFIC TEST HOLE LOCATION.



**P. MACHIBRODA
ENGINEERING
LTD.**

**FIELD DRILL LOG
AND
SOIL TEST RESULTS**

PROJECT:

PROPOSED RESIDENCE

LOCATION:

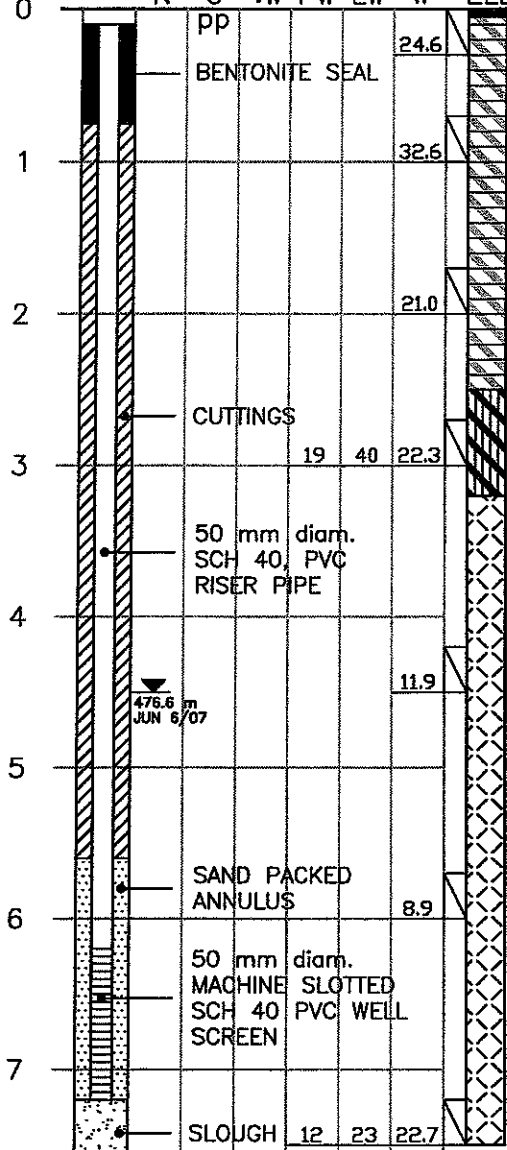
221 & 225 - 11th STREET EAST
SASKATOON, SK

NORTHING:

EASTING:

DATE DRILLED:
MAY 10/07

DRAWING NUMBER:
S07-6078-4



**ASPHALT CONCRETE, (50 mm).
FILL, clay, silty, some sand, trace gravel, firm, medium plastic, moist, black, organics.**

CLAY AND SILT, firm to stiff, medium plastic, moist, brown.

GLACIAL TILL, clay, silty, some sand, trace gravel, very stiff, medium plastic, moist, brown, oxide stained.

very stiff to hard below 5.9 m.

grey below 6.5 m.

NOTE:
1. Test Hole sloughed to 7.2 m and dry I.A.D.

CHERRY LANE

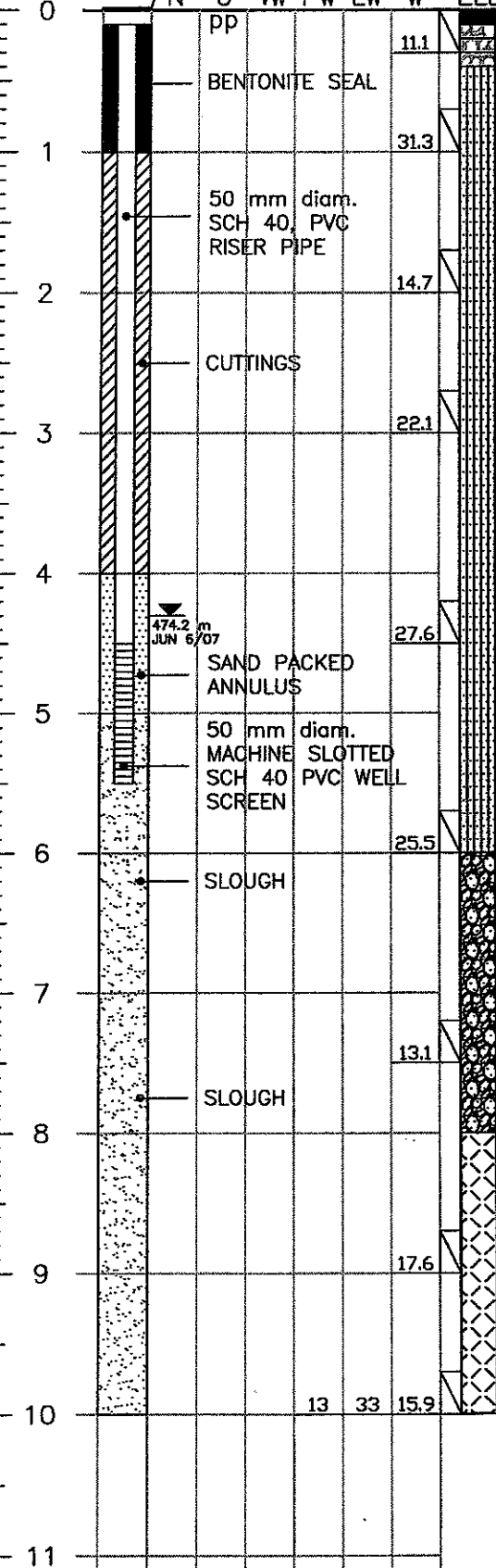
PIEZO. ELEV.= 478.4 m

TEST HOLE 07-4

DEPTH (m)

ROADBOX

N U γ_w Pw Lw w ELEV: 478.5 m



ASPHALT CONCRETE, (100 mm).
 FILL, gravel, sandy, some silt, dense, well graded, fine to coarse grained, moist, brown.

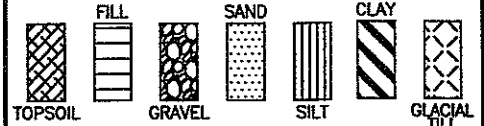
SAND AND SILT, compact to dense, poorly graded, fine grained, moist, brown.

—some silt below 2.7 m.
 —wet, seepage, sloughing below 3.0 m.

SAND AND GRAVEL, some silt, dense, well graded, fine to coarse grained, wet, brown, seepage, sloughing.

GLACIAL TILL, clay, some silt, some sand, trace gravel, hard, medium plastic, moist, grey.

LEGEND:



w.....WATER CONTENT (PERCENT OF DRY SOIL WEIGHT)

Lw...LIQUID LIMIT

Pw...PLASTIC LIMIT

γ_w ...WET UNIT WEIGHT (kN/m³)

U.....UNCONFINED COMPRESSIVE STRENGTH (kPa)

pp...POCKET PENETROMETER (kg/cm²)

N.....STANDARD PENETRATION TEST (ROPE-CATHEAD & DONUT HAMMER) (50/125 = BLOWS/SAMPLER PENETRATION [mm])

SO₄.....SULPHATE CONTENT (PERCENT OF DRY SOIL WEIGHT)

P200...% PASSING No. 200 SIEVE

I.A.D.....IMMEDIATELY AFTER DRILLING

▽...RECORDED WATER LEVEL (TEST HOLE I.A.D.)

▼...RECORDED WATER LEVEL (PIEZO)



LIMITATIONS: THE FIELD DRILL LOG IS A SUMMARY OF THE SUBSURFACE CONDITIONS ENCOUNTERED AT THE SPECIFIC TEST HOLE LOCATION AT THE TIME OF TEST DRILLING. SUBSURFACE CONDITIONS MAY VARY AT OTHER LOCATIONS OF THIS SITE AND, IN TIME, MAY CHANGE AT THIS SPECIFIC TEST HOLE LOCATION.



P. MACHIBRODA ENGINEERING LTD.

FIELD DRILL LOG AND SOIL TEST RESULTS

PROJECT:

PROPOSED RESIDENCE

LOCATION:

221 & 225 - 11th STREET EAST SASKATOON, SK

NORTHING:

EASTING:

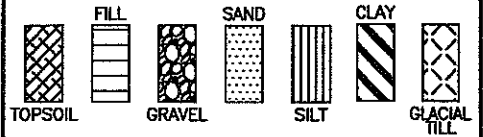
DATE DRILLED:
MAY 3/07

DRAWING NUMBER:
S07-6078-5

NOTE:
1. Test Hole sloughed to 5.0 m I.A.D.

SASKATCHEWAN CRESCENT

LEGEND:

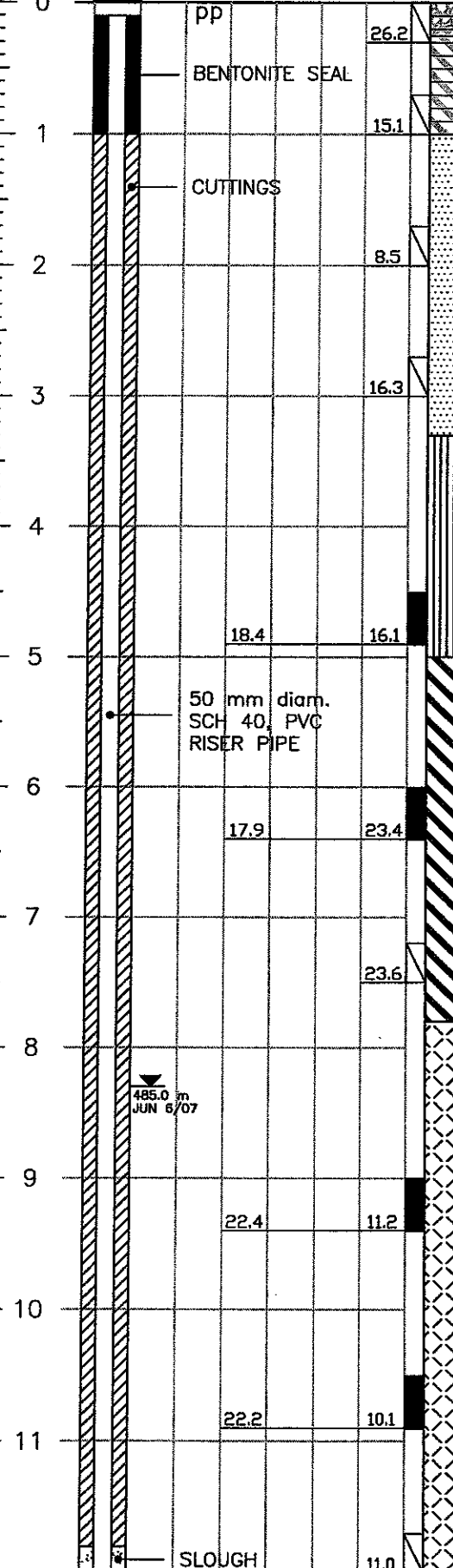


TEST HOLE 07-5

DEPTH (m)

ROADBOX

N U γ_w Pw Lw w ELEV: 493.3 m



FILL, gravel, sandy, dense, well graded, fine to coarse grained, moist, brown.
FILL, clay, some silt, some sand, some gravel, stiff, medium plastic, moist, brown, oxide stained.
SAND, some silt, compact, poorly graded, fine grained, moist, brown.
 -silty below 2.5 m.
SILT, clayey, some sand, firm, medium plastic, moist, brown.
CLAY, silty, stiff, medium plastic, moist, brown.
GLACIAL TILL, clay, some silt, some sand, trace gravel, very stiff, medium plastic, moist, grey.
 -hard below 9.5 m.
 -sand layer, wet, , seepage, sloughing 11.0 to 11.8 m.

w....WATER CONTENT (PERCENT OF DRY SOIL WEIGHT)
 Lw...LIQUID LIMIT
 Pw...PLASTIC LIMIT
 γ_w ...WET UNIT WEIGHT (kN/m³)
 U.....UNCONFINED COMPRESSIVE STRENGTH (kPa)
 pp...POCKET PENETROMETER (kg/cm²)
 N.....STANDARD PENETRATION TEST (ROPE-CATHEAD & DONUT HAMMER) (50/125 = BLOWS/SAMPLER PENETRATION [mm])
 SO₄SULPHATE CONTENT (PERCENT OF DRY SOIL WEIGHT)
 P200...% PASSING No. 200 SIEVE
 I.A.D.....IMMEDIATELY AFTER DRILLING
 ▽...RECORDED WATER LEVEL (TEST HOLE I.A.D.)
 ▼...RECORDED WATER LEVEL (PIEZO)



LIMITATIONS: THE FIELD DRILL LOG IS A SUMMARY OF THE SUBSURFACE CONDITIONS ENCOUNTERED AT THE SPECIFIC TEST HOLE LOCATION AT THE TIME OF TEST DRILLING. SUBSURFACE CONDITIONS MAY VARY AT OTHER LOCATIONS OF THIS SITE AND, IN TIME, MAY CHANGE AT THIS SPECIFIC TEST HOLE LOCATION.



FIELD DRILL LOG AND SOIL TEST RESULTS

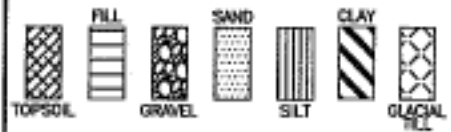
PROJECT: PROPOSED RESIDENCE	
LOCATION: 221 & 225 - 11th STREET EAST SASKATOON, SK	
NORTHING:	EASTING:
DATE DRILLED: MAY 2/07	DRAWING NUMBER: S07-6078-6

11th STREET

CONTINUED ON NEXT PAGE

TEST HOLE 07-5

LEGEND:



- w.....WATER CONTENT
(PERCENT OF DRY SOIL WEIGHT)
- Lw...LIQUID LIMIT
- Pw...PLASTIC LIMIT
- γ_w ...WET UNIT WEIGHT (kN/m³)
- U.....UNCONFINED COMPRESSIVE
STRENGTH (kPa)
- pp...POCKET PENETROMETER (kg/cm²)
- N.....STANDARD PENETRATION TEST
(ROPE-CATHEAD & DONUT HAMMER)
(50/125 = BLOWS/SAMPLER
PENETRATION [mm])
- SO₄.....SULPHATE CONTENT
(PERCENT OF DRY SOIL WEIGHT)
- P200...% PASSING No. 200 SIEVE
- I.A.D.....IMMEDIATELY AFTER DRILLING
- ▽...RECORDED WATER LEVEL
(TEST HOLE I.A.D.)
- ▼...RECORDED WATER LEVEL (PIEZO)
- SHELBY TUBE
- SPLIT SPOON
- CUTTINGS

LIMITATIONS: THE FIELD DRILL LOG IS A SUMMARY OF THE SUBSURFACE CONDITIONS ENCOUNTERED AT THE SPECIFIC TEST HOLE LOCATION AT THE TIME OF TEST DRILLING. SUBSURFACE CONDITIONS MAY VARY AT OTHER LOCATIONS OF THIS SITE AND, IN TIME, MAY CHANGE AT THIS SPECIFIC TEST HOLE LOCATION.



**P. MACHIBRODA
ENGINEERING
LTD.**

**FIELD DRILL LOG
AND
SOIL TEST RESULTS**

PROJECT:
PROPOSED RESIDENCE

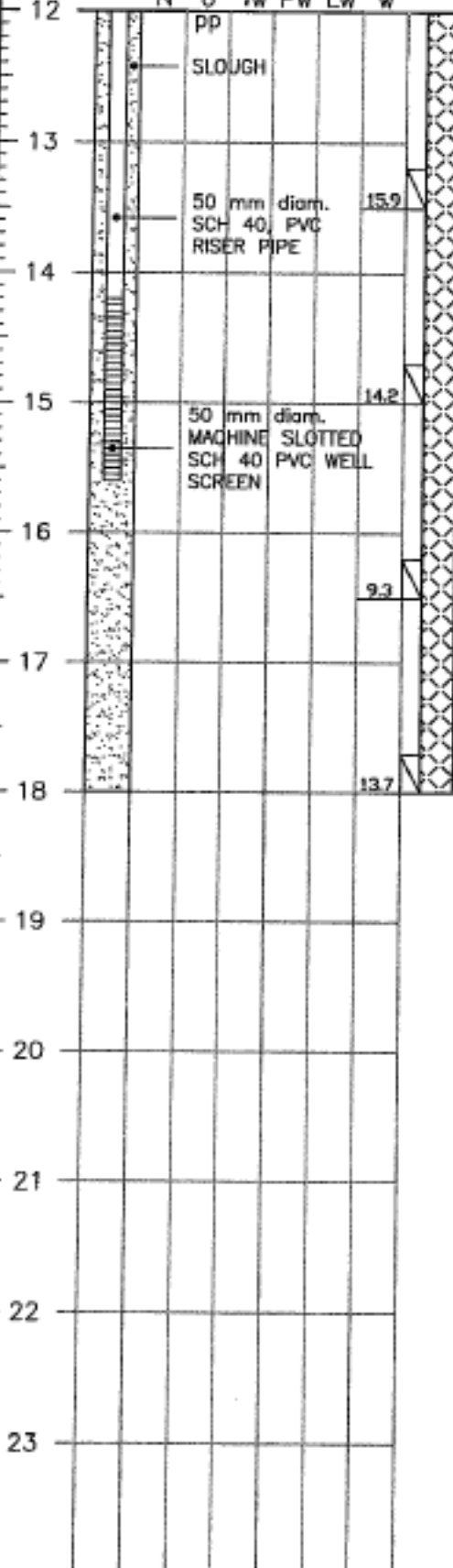
LOCATION:
221 & 225 - 11th STREET EAST
SASKATOON, SK

NORTHING: **EASTING:**

DATE DRILLED: **DRAWING NUMBER:**
MAY 2/07 S07-6078-6A

DEPTH
(m)

N U γ_w Pw Lw w



GLACIAL TILL, clay, some silt, some sand, trace gravel, hard, medium plastic, moist, grey.

NOTE:
1. Test Hole sloughed to 11.8 m I.A.D.

11th STREET



APPENDIX E
Record of Borehole Logs

HISTORICAL BOREHOLE LOGS
TH08-01, TH 08-02, TH 08-03, TH 08-04 (PMEL08)

P. Machibroda Engineering Ltd. July 8, 2008. Proposed Commercial/Residential Development 328 Saskatchewan Crescent East, Saskatoon, SK

PIEZO. ELEV.= 480.4 m

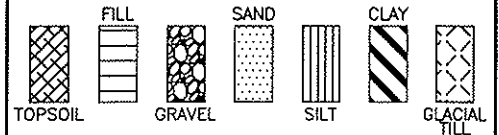
TEST HOLE 08-1

DEPTH (m)

ROAD BOX

N U γ_w Pw Lw w ELEV: 480.4 m

LEGEND:



w.....WATER CONTENT (PERCENT OF DRY SOIL WEIGHT)

Lw...LIQUID LIMIT

Pw...PLASTIC LIMIT

γ_w ...WET UNIT WEIGHT (kN/m³)

U.....UNCONFINED COMPRESSIVE STRENGTH (kPa)

pp...POCKET PENETROMETER (kg/cm²)

N.....STANDARD PENETRATION TEST (SAFETY HAMMER w/AUTOMATIC TRIP) (50/125 = BLOWS/SAMPLER PENETRATION [mm])

SO₄SULPHATE CONTENT (PERCENT OF DRY SOIL WEIGHT)

P200...% PASSING No. 200 SIEVE

I.A.D.....IMMEDIATELY AFTER DRILLING

▽...RECORDED WATER LEVEL (TEST HOLE I.A.D.)

▼...RECORDED WATER LEVEL (PIEZO)



LIMITATIONS: THE FIELD DRILL LOG IS A SUMMARY OF THE SUBSURFACE CONDITIONS ENCOUNTERED AT THE SPECIFIC TEST HOLE LOCATION AT THE TIME OF TEST DRILLING. SUBSURFACE CONDITIONS MAY VARY AT OTHER LOCATIONS OF THIS SITE AND, IN TIME, MAY CHANGE AT THIS SPECIFIC TEST HOLE LOCATION.



P. MACHIBRODA ENGINEERING LTD.

FIELD DRILL LOG AND SOIL TEST RESULTS

PROJECT:

PROPOSED COMMERCIAL / RESIDENTIAL DEVELOPMENT

LOCATION:

328 SASKATCHEWAN CRESCENT SASKATOON, SK

NORTHING:

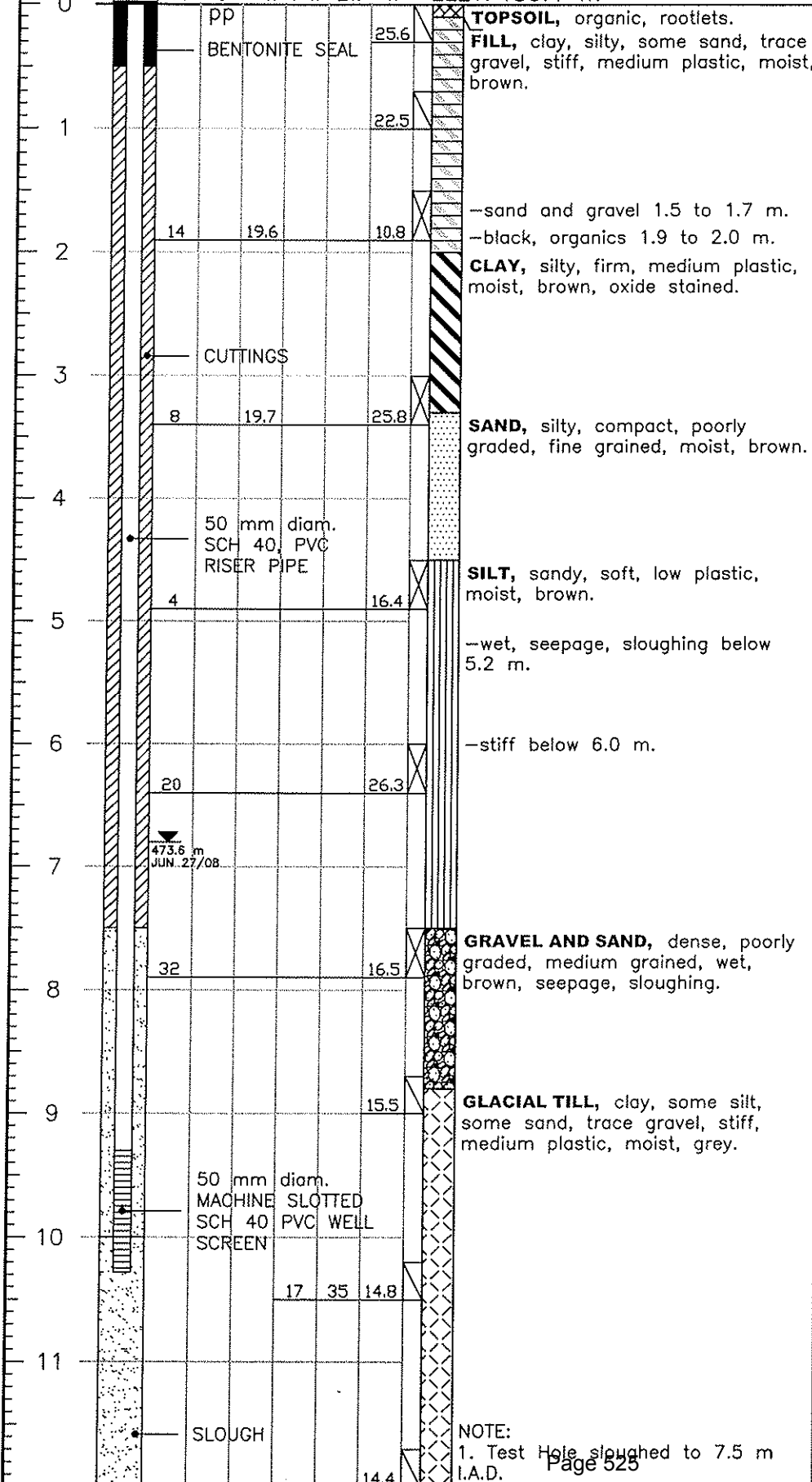
EASTING:

DATE DRILLED:

MAY 26/08

DRAWING NUMBER:

S08-6500-2

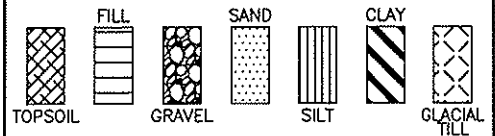


NOTE:
1. Test Hole sloughed to 7.5 m I.A.D.

PIEZO. ELEV.= 485.9 m

TEST HOLE 08-2

LEGEND:

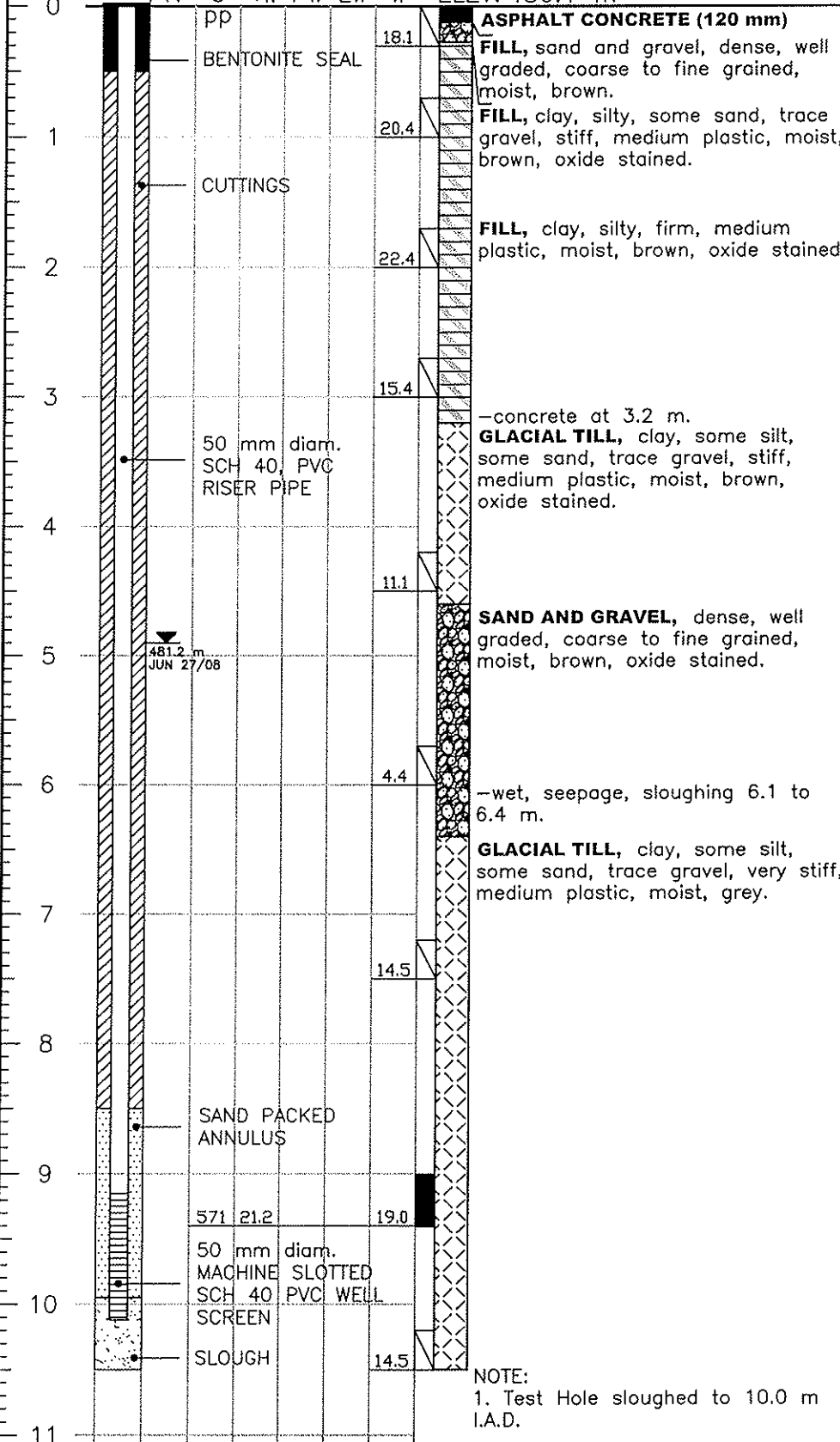


DEPTH (m)

ROAD BOX

N U γ_w Pw Lw w

ELEV: 486.1 m



- w.....WATER CONTENT (PERCENT OF DRY SOIL WEIGHT)
- Lw...LIQUID LIMIT
- Pw...PLASTIC LIMIT
- γ_w ...WET UNIT WEIGHT (kN/m³)
- U.....UNCONFINED COMPRESSIVE STRENGTH (kPa)
- pp...POCKET PENETROMETER (kg/cm²)
- N.....STANDARD PENETRATION TEST (SAFETY HAMMER w/AUTOMATIC TRIP) (50/125 = BLOWS/SAMPLER PENETRATION [mm])
- SO₄.....SULPHATE CONTENT (PERCENT OF DRY SOIL WEIGHT)
- P200...% PASSING No. 200 SIEVE
- I.A.D.....IMMEDIATELY AFTER DRILLING
- ▽...RECORDED WATER LEVEL (TEST HOLE I.A.D.)
- ▼...RECORDED WATER LEVEL (PIEZO)
- SHELBY TUBE
- ⊠ SPLIT SPOON
- CUTTINGS

LIMITATIONS: THE FIELD DRILL LOG IS A SUMMARY OF THE SUBSURFACE CONDITIONS ENCOUNTERED AT THE SPECIFIC TEST HOLE LOCATION AT THE TIME OF TEST DRILLING. SUBSURFACE CONDITIONS MAY VARY AT OTHER LOCATIONS OF THIS SITE AND, IN TIME, MAY CHANGE AT THIS SPECIFIC TEST HOLE LOCATION.



P. MACHIBRODA ENGINEERING LTD.

FIELD DRILL LOG AND SOIL TEST RESULTS

PROJECT:
PROPOSED COMMERCIAL / RESIDENTIAL DEVELOPMENT

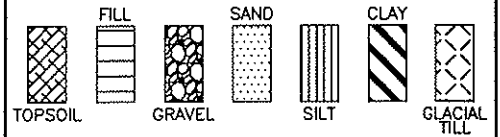
LOCATION:
328 SASKATCHEWAN CRESCENT SASKATOON, SK

NORTHING: EASTING:
DATE DRILLED: MAY 23/08 **DRAWING NUMBER:** S08-6500-3

NOTE:
1. Test Hole sloughed to 10.0 m I.A.D.

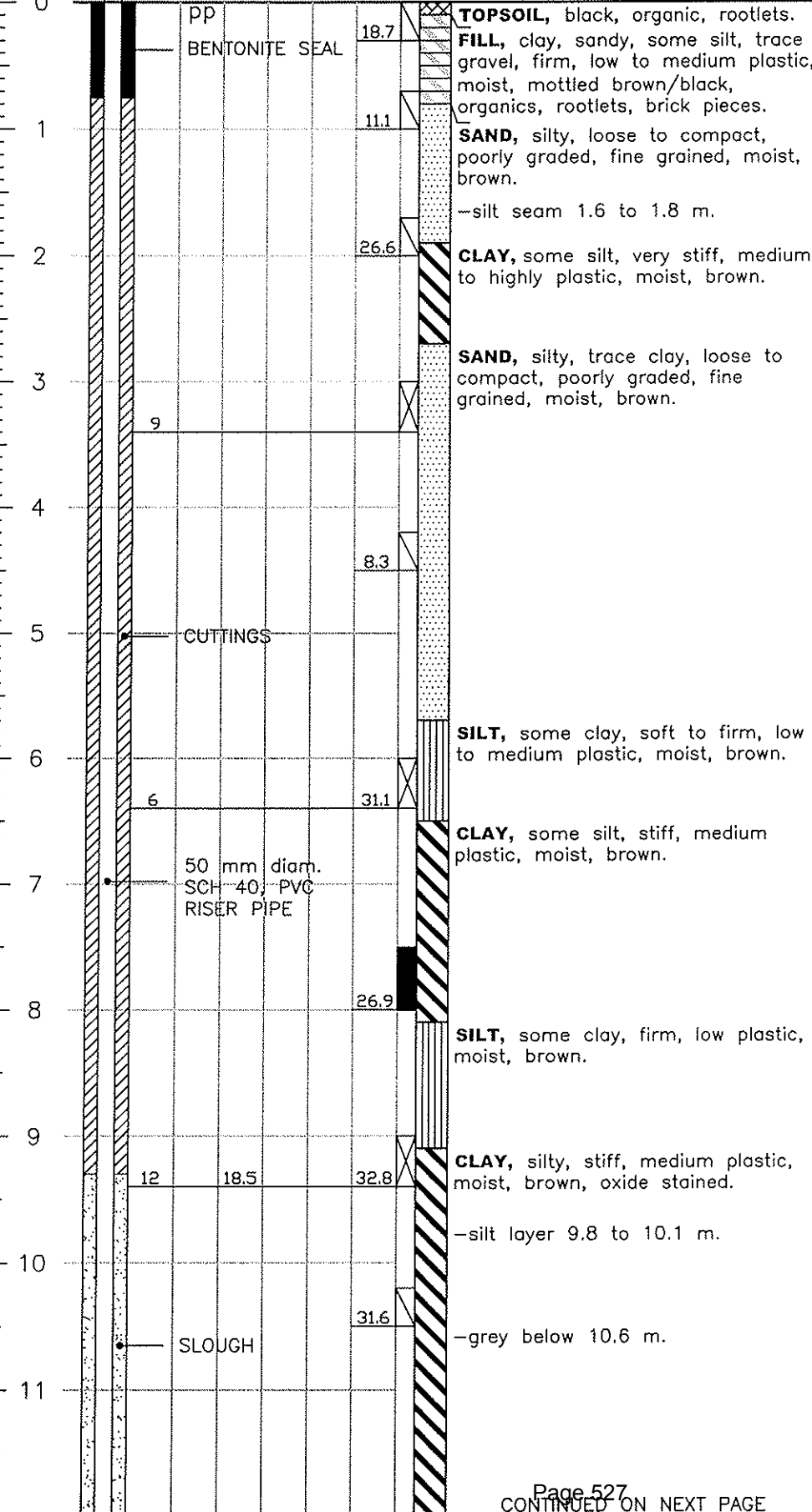
TEST HOLE 08-3

LEGEND:



DEPTH (m)

N U γ_w Pw Lw w ELEV: 497.4 m



w....WATER CONTENT (PERCENT OF DRY SOIL WEIGHT)
 Lw...LIQUID LIMIT
 Pw...PLASTIC LIMIT
 γ_w ...WET UNIT WEIGHT (kN/m³)
 U.....UNCONFINED COMPRESSIVE STRENGTH (kPa)
 pp...POCKET PENETROMETER (kg/cm²)
 N.....STANDARD PENETRATION TEST (SAFETY HAMMER w/AUTOMATIC TRIP) (50/125 = BLOWS/SAMPLER PENETRATION [mm])
 SO₄.....SULPHATE CONTENT (PERCENT OF DRY SOIL WEIGHT)
 P200...% PASSING No. 200 SIEVE
 I.A.D.....IMMEDIATELY AFTER DRILLING
 ▽...RECORDED WATER LEVEL (TEST HOLE I.A.D.)
 ▼...RECORDED WATER LEVEL (PIEZO)
 ■ SHELBY TUBE
 ⊠ SPLIT SPOON
 □ CUTTINGS

LIMITATIONS: THE FIELD DRILL LOG IS A SUMMARY OF THE SUBSURFACE CONDITIONS ENCOUNTERED AT THE SPECIFIC TEST HOLE LOCATION AT THE TIME OF TEST DRILLING. SUBSURFACE CONDITIONS MAY VARY AT OTHER LOCATIONS OF THIS SITE AND, IN TIME, MAY CHANGE AT THIS SPECIFIC TEST HOLE LOCATION.



P. MACHIBRODA ENGINEERING LTD.

FIELD DRILL LOG AND SOIL TEST RESULTS

PROJECT:
 PROPOSED COMMERCIAL / RESIDENTIAL DEVELOPMENT

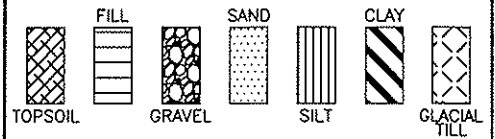
LOCATION:
 325 SASKATCHEWAN CRESCENT SASKATOON, SK

NORTHING: **EASTING:**

DATE DRILLED: **DRAWING NUMBER:**
 MAY 22/08 S08-6500-4

TEST HOLE 08-3

LEGEND:



- w.....WATER CONTENT (PERCENT OF DRY SOIL WEIGHT)
- Lw...LIQUID LIMIT
- Pw...PLASTIC LIMIT
- γ_w ...WET UNIT WEIGHT (kN/m³)
- U.....UNCONFINED COMPRESSIVE STRENGTH (kPa)
- pp...POCKET PENETROMETER (kg/cm²)
- N.....STANDARD PENETRATION TEST (SAFETY HAMMER w/AUTOMATIC TRIP) (50/125 = BLOWS/SAMPLER PENETRATION [mm])
- SO₄SULPHATE CONTENT (PERCENT OF DRY SOIL WEIGHT)
- P200...% PASSING No. 200 SIEVE
- I.A.D.....IMMEDIATELY AFTER DRILLING
- ▽...RECORDED WATER LEVEL (TEST HOLE I.A.D.)
- ▼...RECORDED WATER LEVEL (PIEZO)
- SHELBY TUBE
- ⊠ SPLIT SPOON
- ◻ CUTTINGS

LIMITATIONS: THE FIELD DRILL LOG IS A SUMMARY OF THE SUBSURFACE CONDITIONS ENCOUNTERED AT THE SPECIFIC TEST HOLE LOCATION AT THE TIME OF TEST DRILLING. SUBSURFACE CONDITIONS MAY VARY AT OTHER LOCATIONS OF THIS SITE AND, IN TIME, MAY CHANGE AT THIS SPECIFIC TEST HOLE LOCATION.



P. MACHIBRODA ENGINEERING LTD.

FIELD DRILL LOG AND SOIL TEST RESULTS

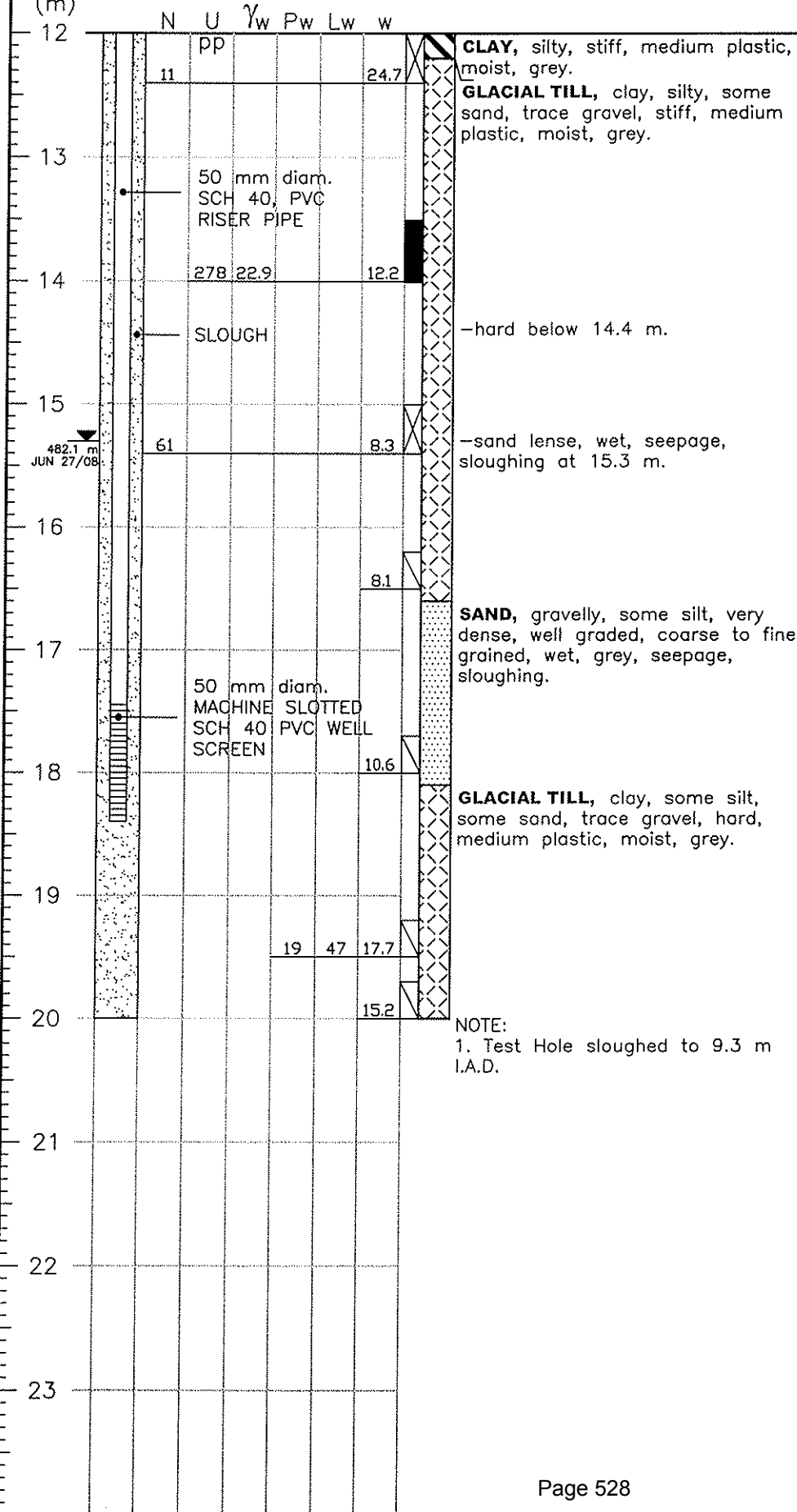
PROJECT:
PROPOSED COMMERCIAL / RESIDENTIAL DEVELOPMENT

LOCATION:
328 SASKATCHEWAN CRESCENT
SASKATOON, SK

NORTHING: **EASTING:**

DATE DRILLED: **DRAWING NUMBER:**
MAY 22/08 S08-6500-4A

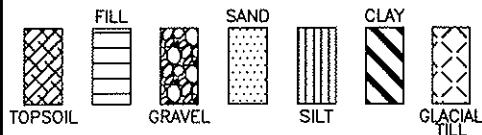
DEPTH (m)



NOTE:
1. Test Hole sloughed to 9.3 m I.A.D.

TEST HOLE 08-4

LEGEND:



DEPTH (m)

N U γ_w Pw Lw w ELEV: 494.4 m

w.....WATER CONTENT (PERCENT OF DRY SOIL WEIGHT)

Lw...LIQUID LIMIT

Pw...PLASTIC LIMIT

γ_w ...WET UNIT WEIGHT (kN/m³)

U.....UNCONFINED COMPRESSIVE STRENGTH (kPa)

pp...POCKET PENETROMETER (kg/cm²)

N.....STANDARD PENETRATION TEST (SAFETY HAMMER w/AUTOMATIC TRIP) (50/125 = BLOWS/SAMPLER PENETRATION [mm])

SO₄SULPHATE CONTENT (PERCENT OF DRY SOIL WEIGHT)

P200...% PASSING No. 200 SIEVE

I.A.D.....IMMEDIATELY AFTER DRILLING

▽...RECORDED WATER LEVEL (TEST HOLE I.A.D.)

▼...RECORDED WATER LEVEL (PIEZO)



LIMITATIONS: THE FIELD DRILL LOG IS A SUMMARY OF THE SUBSURFACE CONDITIONS ENCOUNTERED AT THE SPECIFIC TEST HOLE LOCATION AT THE TIME OF TEST DRILLING. SUBSURFACE CONDITIONS MAY VARY AT OTHER LOCATIONS OF THIS SITE AND, IN TIME, MAY CHANGE AT THIS SPECIFIC TEST HOLE LOCATION.



P. MACHIBRODA ENGINEERING LTD.

FIELD DRILL LOG AND SOIL TEST RESULTS

PROJECT:

PROPOSED COMMERCIAL / RESIDENTIAL DEVELOPMENT

LOCATION:

328 SASKATCHEWAN CRESCENT SASKATOON, SK

NORTHING:

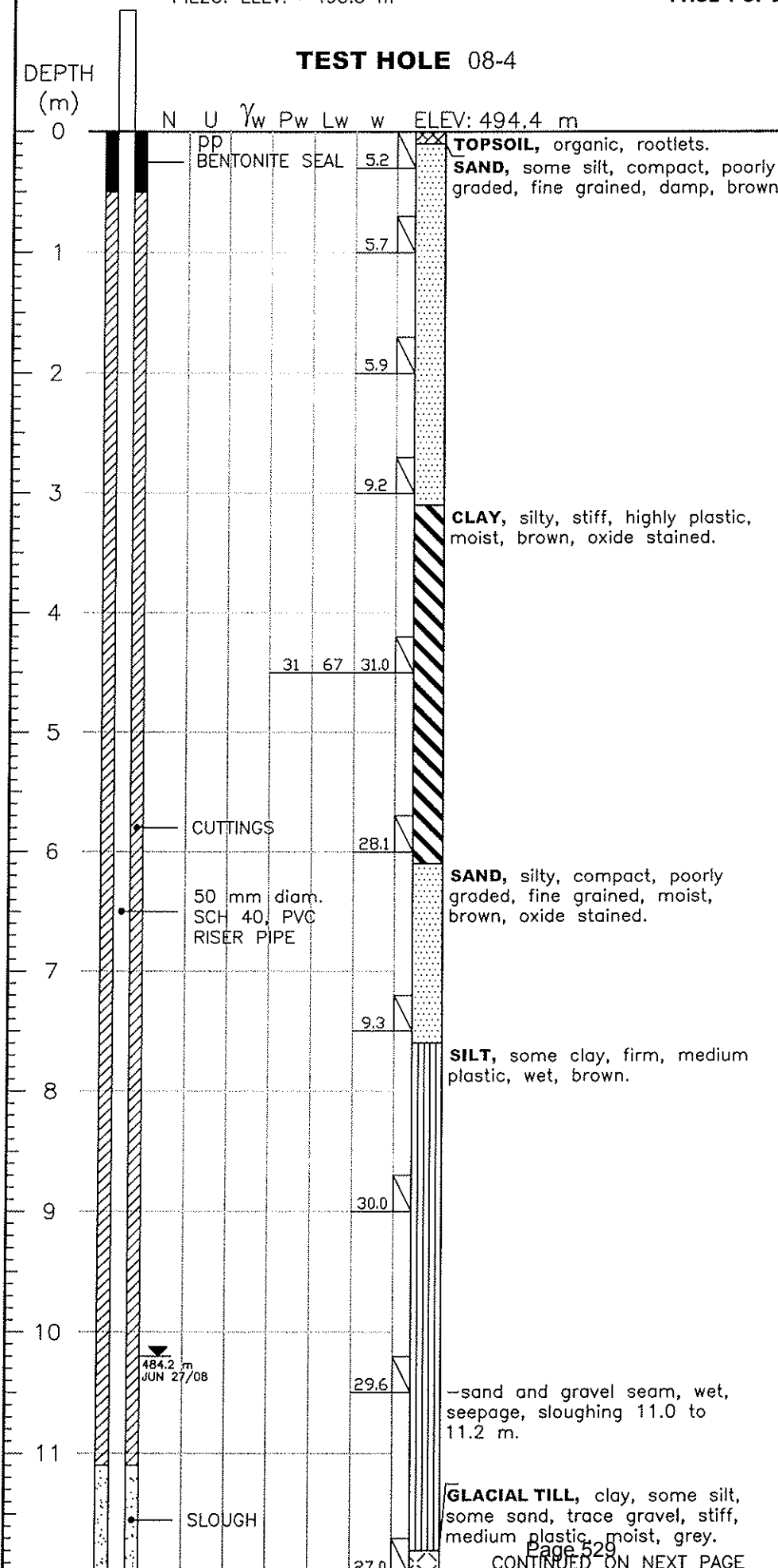
EASTING:

DATE DRILLED:

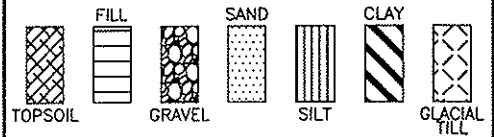
MAY 26/08

DRAWING NUMBER:

S08-6500-5



LEGEND:



- w.....WATER CONTENT (PERCENT OF DRY SOIL WEIGHT)
- Lw...LIQUID LIMIT
- Pw...PLASTIC LIMIT
- γ_w ...WET UNIT WEIGHT (kN/m³)
- U.....UNCONFINED COMPRESSIVE STRENGTH (kPa)
- pp...POCKET PENETROMETER (kg/cm²)
- N.....STANDARD PENETRATION TEST (SAFETY HAMMER w/AUTOMATIC TRIP) (50/125 = BLOWS/SAMPLER PENETRATION [mm])
- SO₄SULPHATE CONTENT (PERCENT OF DRY SOIL WEIGHT)
- P200...% PASSING No. 200 SIEVE
- I.A.D.....IMMEDIATELY AFTER DRILLING
- ▽...RECORDED WATER LEVEL (TEST HOLE I.A.D.)
- ▼...RECORDED WATER LEVEL (PIEZO)
- SHELBY TUBE
- ⊠ SPLIT SPOON
- ◻ CUTTINGS

LIMITATIONS: THE FIELD DRILL LOG IS A SUMMARY OF THE SUBSURFACE CONDITIONS ENCOUNTERED AT THE SPECIFIC TEST HOLE LOCATION AT THE TIME OF TEST DRILLING. SUBSURFACE CONDITIONS MAY VARY AT OTHER LOCATIONS OF THIS SITE AND, IN TIME, MAY CHANGE AT THIS SPECIFIC TEST HOLE LOCATION.



**P. MACHIBRODA
ENGINEERING
LTD.**

**FIELD DRILL LOG
AND
SOIL TEST RESULTS**

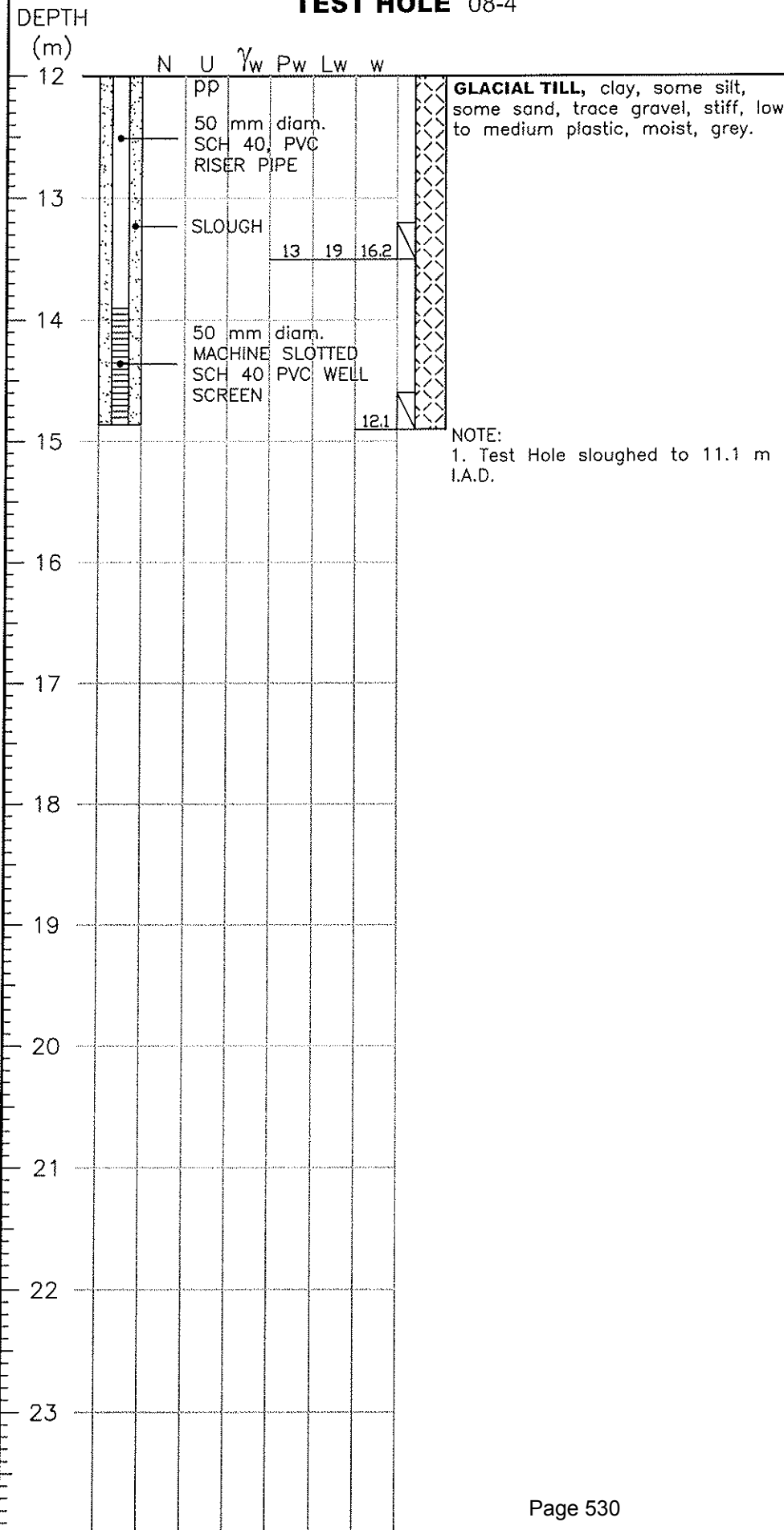
PROJECT:
PROPOSED COMMERCIAL /
RESIDENTIAL DEVELOPMENT

LOCATION:
328 SASKATCHEWAN CRESCENT
SASKATOON, SK

NORTHING: **EASTING:**

DATE DRILLED: **DRAWING NUMBER:**
MAY 26/08 S08-6500-5A

TEST HOLE 08-4





HISTORICAL BOREHOLE LOGS
11-0057-BH1, 11-0057-BH2, 11-0057-BH3 (GAL12)

Golder Associates Ltd. May 2013. Assessment of Slope Instability at 200 Block, 11th Street East.

PROJECT: 11-1362-0057.5000

RECORD OF BOREHOLE: 11-0057-BH1

SHEET 1 OF 1

LOCATION: Cherry Lane N 5775616.80 E 386010.50

BORING DATE: 23/6/12

DATUM: City Datum

DRILL RIG: Acker MP-5

DRILLING CONTRACTOR: Paddock Drilling Ltd.

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE		SAMPLES		DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m				HYDRAULIC CONDUCTIVITY, k, cm/s				ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION AND GROUNDWATER OBSERVATIONS		
		DESCRIPTION	STRATA PLOT	ELEV. DEPTH (m)	NUMBER	TYPE	BLOWS/0.3m										
								SHEAR STRENGTH Cu, kPa		nat V. rem V.		Q - U				WATER CONTENT PERCENT	
0	Acker MP-5 Power Auger Boring Solid Stem Augers	GROUND SURFACE		488.30											Flushmount Slope Indicator in Grout Slough		
		ASPHALT PAVEMENT		488.10													
		SAND and GRAVEL, well graded, angular, some silt, medium brown, dry (GRANULAR BASE)		487.84													
		(ML) CLAYEY SILT, trace fine sand, medium brown, (FILL), w>PL, soft		487.08	1-1	AS								PP= 0.25			
1		(CI) SILTY CLAY, medium brown, w>PL, soft to firm		487.08	1-2	AS								PP= 0.5			
2		(CH) CLAY, medium brown, w>PL, firm		485.86	1-3	AS								PP= 1.0			
3		(CI) SILTY CLAY, some sand and gravel, medium brown, (TILL), w~PL, stiff - medium grey		484.64	1-5	AS								PP= 0.75 MH			
4		(ML) sandy SILT, some fine gravel, medium grey, (TILL), w<PL, very stiff		481.90	1-6	AS								PP= 1.25			
5		(SM) SILTY SAND, fine grained, medium brown, wet		481.29	1-7	AS								PP= 1.25			
6		END OF BOREHOLE = 7.62m		480.68	1-8	AS								PP= 3.0			

BOREHOLE 11-1362-0057-5000-BOREHOLES.GPJ GAL-SASK.GDT 1/10/12

DEPTH SCALE

1 : 50



LOGGED: CSF

CHECKED: HV

PROJECT: 11-1362-0057.5000

RECORD OF BOREHOLE: 11-0057-BH1P

SHEET 1 OF 1

LOCATION: Cherry Lane N 5775616.80 E 386010.50

BORING DATE: 23/6/12

DATUM: City Datum

DRILL RIG: Acker MP-5

DRILLING CONTRACTOR: Paddock Drilling Ltd.

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE		SAMPLES		DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m				HYDRAULIC CONDUCTIVITY, k, cm/s				ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION AND GROUNDWATER OBSERVATIONS		
		DESCRIPTION	STRATA PLOT	ELEV. DEPTH (m)	NUMBER	TYPE	BLOWS/0.3m	SHEAR STRENGTH				WATER CONTENT PERCENT					
								20 40 60 80		nat V. + Q - rem V. ⊕ U - ⊙		10 ⁻⁶ 10 ⁻⁵ 10 ⁻⁴ 10 ⁻³				Wp W WI	
0	Acker MP-5 Power Auger Boring Solid Stem Augers	GROUND SURFACE		488.30													
		ASPHALT PAVEMENT		488.10													
		SAND and GRAVEL, well graded, angular, some silt, medium brown, dry (GRANULAR BASE)		487.84													
		(ML) CLAYEY SILT, trace fine sand, medium brown, (FILL), w>PL, soft		487.08													
1		(CI) SILTY CLAY, medium brown, w>PL, soft to firm		485.86	1.22	1P-1	TO								Grout		
2		(CH) CLAY, medium brown, w>PL, firm		484.64	2.44	1P-2	TO										
3				484.64	3.66	1P-3	TO										
4	END OF BOREHOLE = 3.66m																
5	NOTE: Borehole was drilled 0.3m west of borehole 11-0057-BH1. Soil description derived from the adjacent borehole.																
6																	
7																	
8																	
9																	
10																	

BOREHOLE 11-1362-0057-5000-BOREHOLES.GPJ GAL-SASK.GDT 1/10/12

DEPTH SCALE

1 : 50

LOGGED: CSF

CHECKED: HV

PROJECT: 11-1362-0057.5000

RECORD OF BOREHOLE: 11-0057-BH2

SHEET 1 OF 1

LOCATION: Cherry Lane N 5775620.20 E 385980.90

BORING DATE: 23/6/12

DATUM: City Datum

DRILL RIG: Acker MP-5

DRILLING CONTRACTOR: Paddock Drilling Ltd.

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE		SAMPLES		DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m				HYDRAULIC CONDUCTIVITY, k, cm/s				ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION AND GROUNDWATER OBSERVATIONS		
		DESCRIPTION	STRATA PLOT	ELEV. DEPTH (m)	NUMBER	TYPE	BLOWS/0.3m	SHEAR STRENGTH				WATER CONTENT PERCENT					
								20 40 60 80		nat V. + Q - rem V. ⊕ U - ⊙		10 ⁻⁶ 10 ⁻⁵ 10 ⁻⁴ 10 ⁻³				Wp ----- W ----- Wi	
0	Acker MP-5 Power Auger Boring Solid Stem Augers	GROUND SURFACE		485.90													
		ASPHALT PAVEMENT		485.67												Flushmount Slope Indicator in Grout	
		ORGANIC SILT, black, wet, soft		485.23													
1		(CI) SILTY CLAY, trace fine sand, medium brown, w>PL, firm		485.14													
		- stiff		0.76	2-1	AS									PP= 0.5		
					2-2	AS									PP= 0.75		
2					2-3	AS									PP= 1.5		
		(CH) CLAY, medium brown, w>PL, firm		483.46													
				2.44	2-4	AS									PP= 0.5		
3		(CI) SILTY CLAY, some sand and gravel, medium brown, (TILL), w~PL, very stiff		483.00													
			2.90	2-5	AS									PP= 3.0			
4	(ML) sandy SILT, some fine gravel, medium brown, (TILL), w<PL, very stiff		482.24														
	- grey		3.66	2-6	AS									PP= 3.0			
5				2-7	AS												
	END OF BOREHOLE = 5.21m		480.69														
			5.21														

BOREHOLE 11-1362-0057-5000-BOREHOLES.GPJ GAL-SASK.GDT 1/10/12

DEPTH SCALE

1 : 50



LOGGED: CSF

CHECKED: HV

PROJECT: 11-1362-0057.5000

RECORD OF BOREHOLE: 11-0057-BH2P

SHEET 1 OF 1

LOCATION: Cherry Lane N 5775620.20 E 385980.90

BORING DATE: 23/6/12

DATUM: City Datum

DRILL RIG: Acker MP-5

DRILLING CONTRACTOR: Paddock Drilling Ltd.

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE		SAMPLES		DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m				HYDRAULIC CONDUCTIVITY, k, cm/s				ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION AND GROUNDWATER OBSERVATIONS	
		DESCRIPTION	STRATA PLOT	ELEV. DEPTH (m)	NUMBER	TYPE	SHEAR STRENGTH				WATER CONTENT PERCENT					
							20 40 60 80		nat V. + Q - rem V. ⊕ U - ⊙		10 ⁻⁶ 10 ⁻⁵ 10 ⁻⁴ 10 ⁻³		Wp W WI			
0	Acker MP-5 Power Auger Boring Solid Stem Augers	GROUND SURFACE		485.90												
		ASPHALT PAVEMENT		0.00												
		ORGANIC SILT, black, wet, soft		0.23												
1		(CI) SILTY CLAY, trace fine sand, medium brown, w>PL, firm		0.76												
2		- stiff				2P-1	TO									
		(CH) CLAY, medium brown, w>PL, firm		2.44		2P-2	TO									
3	(CI) SILTY CLAY, some sand and gravel, medium brown, (TILL), w~PL, very stiff		2.90		2P-3	TO										
	END OF BOREHOLE = 3.45m		3.45													
4	NOTE: Borehole was drilled 0.3m west of borehole 11-0057-BH2. Soil description derived from the adjacent borehole.															
5	DRAFT															
6																
7																
8																
9																
10																

BOREHOLE 11-1362-0057-5000-BOREHOLES.GPJ GAL-SASK.GDT 1/10/12

DEPTH SCALE

1 : 50



LOGGED: CSF

CHECKED: HV

PROJECT: 11-1362-0057.5000

RECORD OF BOREHOLE: 11-0057-BH3

SHEET 1 OF 1

LOCATION: Cherry Lane N 5775622.30 E 385959.40

BORING DATE: 23/6/12

DATUM: City Datum

DRILL RIG: Acker MP-5

DRILLING CONTRACTOR: Paddock Drilling Ltd.

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE		SAMPLES			DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m				HYDRAULIC CONDUCTIVITY, k, cm/s				ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION AND GROUNDWATER OBSERVATIONS	
		DESCRIPTION	STRATA PLOT	ELEV. DEPTH (m)	NUMBER	TYPE	BLOWS/0.3m	SHEAR STRENGTH				WATER CONTENT PERCENT					
								20 40 60 80		nat V. + Q - ● rem V. ⊕ U - ○		20 40 60 80		10 ⁻⁶ 10 ⁻⁵ 10 ⁻⁴ 10 ⁻³			
0	Acker MP-5 Power Auger Boring Solid Stem Augers	GROUND SURFACE		484.10													
		ASPHALT PAVEMENT		0.08													
		SAND and GRAVEL, well graded, angular, some silt, medium brown, moist (GRANULAR BASE)		0.13													
1		(CL) sandy SILTY CLAY, some gravel, medium brown, (Possibly FILL), w>PL			3-1	AS											Flushmount
		(SC) CLAYEY SAND, fine grained, some silt, medium brown, moist		482.58	1.52												GROUT
2					3-2	AS											VW11984
				3-3	AS											Slope Indicator in Grout	
3		(SM) SILTY SAND, fine grained, some to trace gravel, light brown, very moist		481.66	2.44												
				3-4	AS												
4		END OF BOREHOLE = 3.81m		480.29	3.81												
				3-5	AS												

BOREHOLE 11-1362-0057-5000-BOREHOLES.GPJ GAL-SASK.GDT 1/10/12



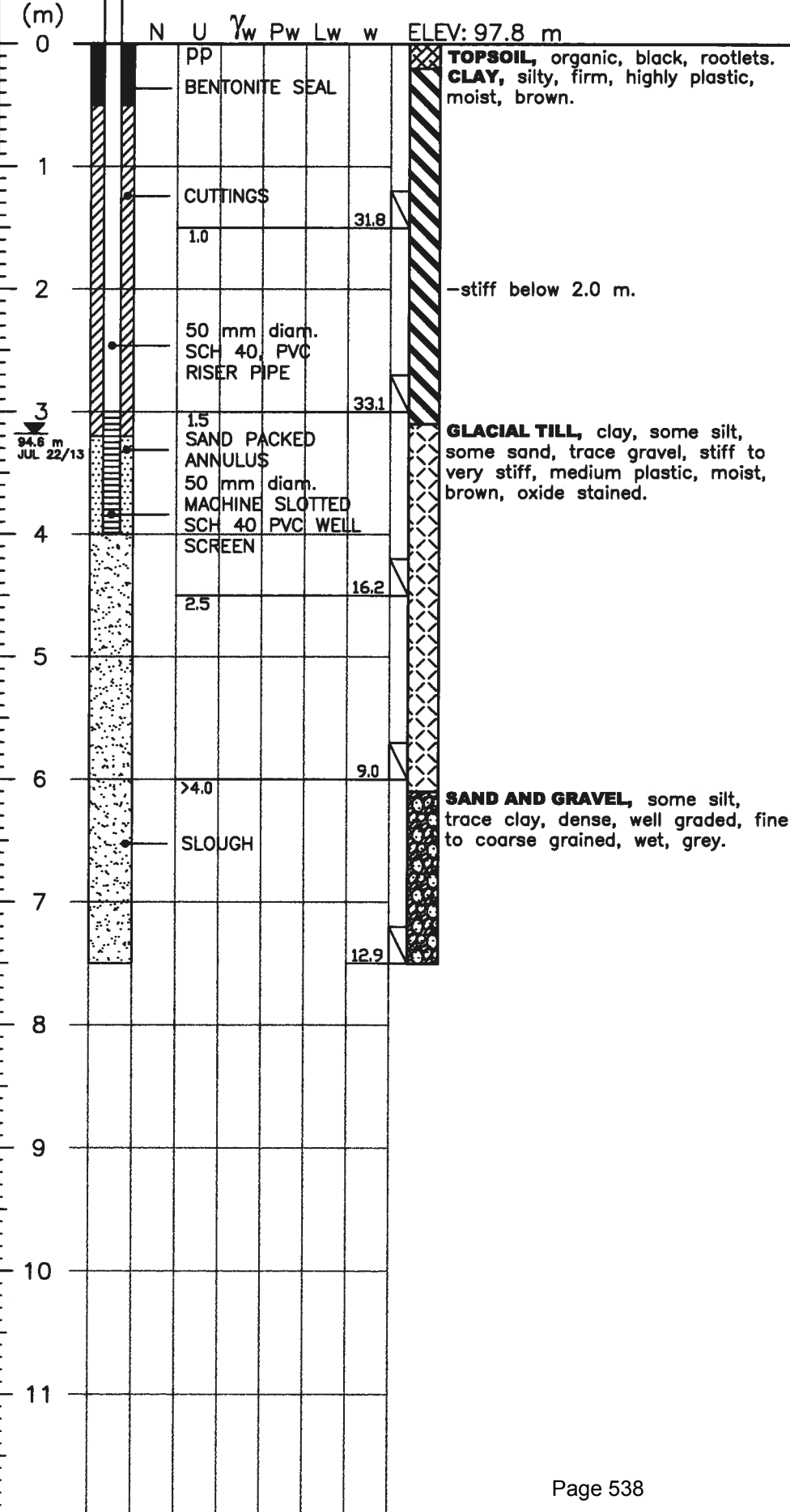
HISTORICAL BOREHOLE LOGS
TH 13-1, 13-2, 13-3, 13-4, 13-5, 13-6 AND CPT 13-1 (PMEL13)

P. Machibroda Engineering Ltd. July 18, 2013. Slope Instability 230/306 Saskatchewan Crescent Saskatoon, SK. Drawing No S13-8517-1 to 7,

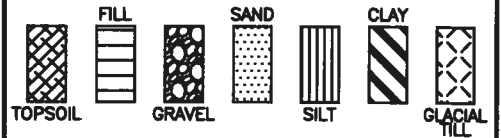
PIEZO. ELEV.= 99.0 m

TEST HOLE 13-1

DEPTH (m)



LEGEND:



- w.....WATER CONTENT (PERCENT OF DRY SOIL WEIGHT)
- Lw...LIQUID LIMIT
- Pw...PLASTIC LIMIT
- γ_w ...WET UNIT WEIGHT (kN/m³)
- U.....UNCONFINED COMPRESSIVE STRENGTH (kPa)
- pp...POCKET PENETROMETER (kg/cm²)
- N.....STANDARD PENETRATION TEST (SAFETY HAMMER w/AUTOMATIC TRIP) (50/125 = BLOWS/SAMPLER PENETRATION [mm])
- SO₄SULPHATE CONTENT (PERCENT OF DRY SOIL WEIGHT)
- P200...% PASSING No. 200 SIEVE
- I.A.D.....IMMEDIATELY AFTER DRILLING
- ∇...RECORDED WATER LEVEL (TEST HOLE I.A.D.)
- ∇...RECORDED WATER LEVEL (PIEZO)



LIMITATIONS: THE FIELD DRILL LOG IS A SUMMARY OF THE SUBSURFACE CONDITIONS ENCOUNTERED AT THE SPECIFIC TEST HOLE LOCATION AT THE TIME OF TEST DRILLING. SUBSURFACE CONDITIONS MAY VARY AT OTHER LOCATIONS OF THIS SITE AND, IN TIME, MAY CHANGE AT THIS SPECIFIC TEST HOLE LOCATION.



P. MACHIBRODA ENGINEERING LTD.

FIELD DRILL LOG AND SOIL TEST RESULTS

PROJECT:
SLOPE INSTABILITY

LOCATION:
230/306 SASKATCHEWAN CRESCENT
SASKATOON, SK

NORTHING: **EASTING:**

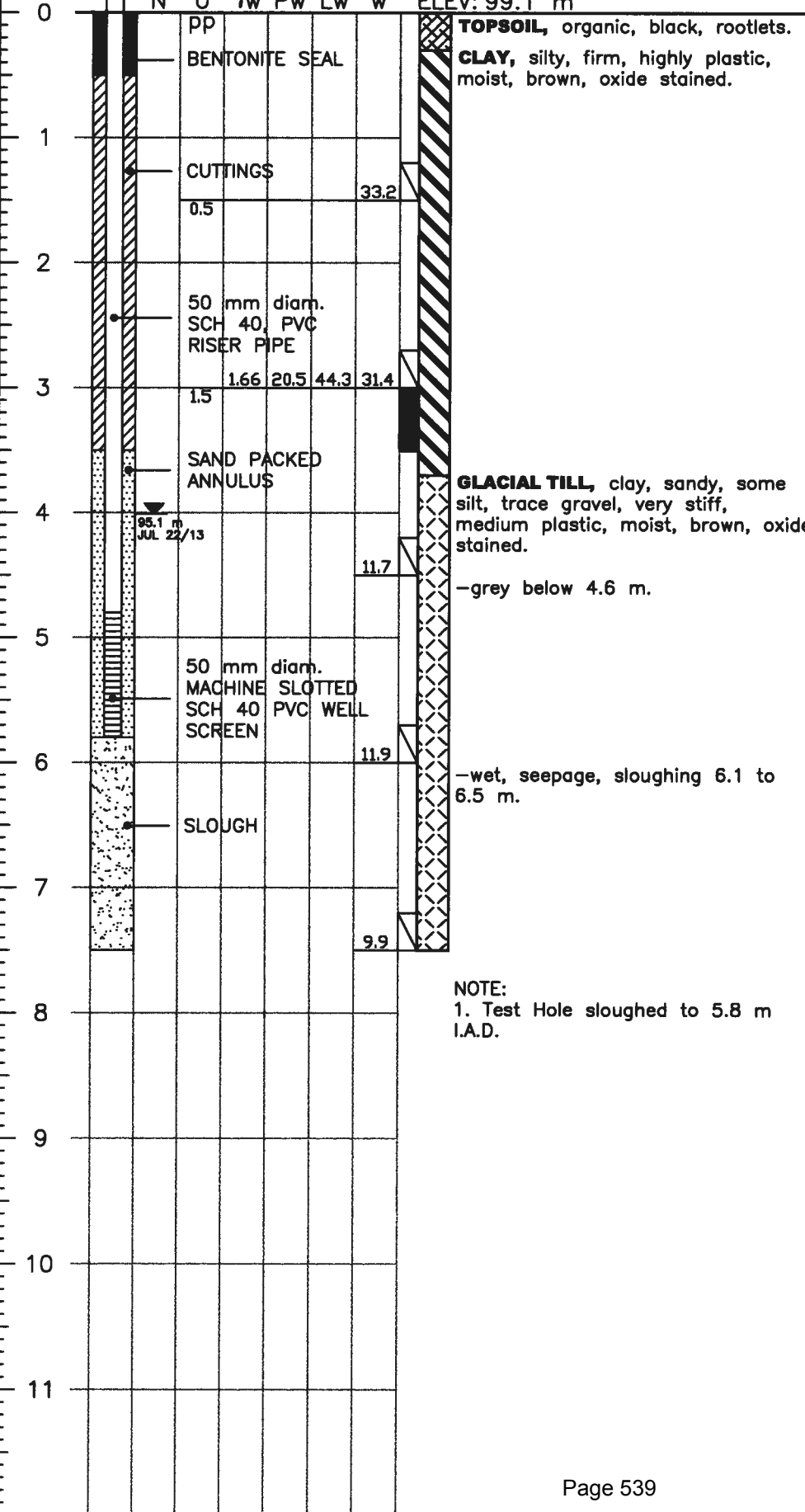
DATE DRILLED:
JUL 17/13

DRAWING NUMBER:
S13-8517-2

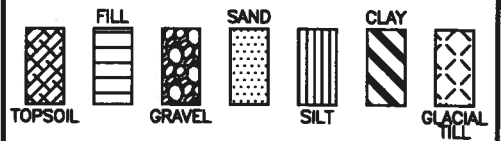
PIEZO. ELEV.= 99.5 m

TEST HOLE 13-2

DEPTH (m)



LEGEND:



- w.....WATER CONTENT (PERCENT OF DRY SOIL WEIGHT)
- Lw...LIQUID LIMIT
- Pw...PLASTIC LIMIT
- γ_w ...WET UNIT WEIGHT (kN/m³)
- U.....UNCONFINED COMPRESSIVE STRENGTH (kPa)
- pp...POCKET PENETROMETER (kg/cm²)
- N.....STANDARD PENETRATION TEST (SAFETY HAMMER w/AUTOMATIC TRIP) (50/125 = BLOWS/SAMPLER PENETRATION [mm])
- SO₄SULPHATE CONTENT (PERCENT OF DRY SOIL WEIGHT)
- P200...% PASSING No. 200 SIEVE
- I.A.D.....IMMEDIATELY AFTER DRILLING
- ▽...RECORDED WATER LEVEL (TEST HOLE I.A.D.)
- ▼...RECORDED WATER LEVEL (PIEZO)



LIMITATIONS: THE FIELD DRILL LOG IS A SUMMARY OF THE SUBSURFACE CONDITIONS ENCOUNTERED AT THE SPECIFIC TEST HOLE LOCATION AT THE TIME OF TEST DRILLING. SUBSURFACE CONDITIONS MAY VARY AT OTHER LOCATIONS OF THIS SITE AND, IN TIME, MAY CHANGE AT THIS SPECIFIC TEST HOLE LOCATION.

NOTE:
1. Test Hole sloughed to 5.8 m I.A.D.



P. MACHIBRODA ENGINEERING LTD.

FIELD DRILL LOG AND SOIL TEST RESULTS

PROJECT:

SLOPE INSTABILITY

LOCATION:

230/306 SASKATCHEWAN CRESCENT SASKATOON, SK

NORTHING:

EASTING:

DATE DRILLED:

JUL 17/13

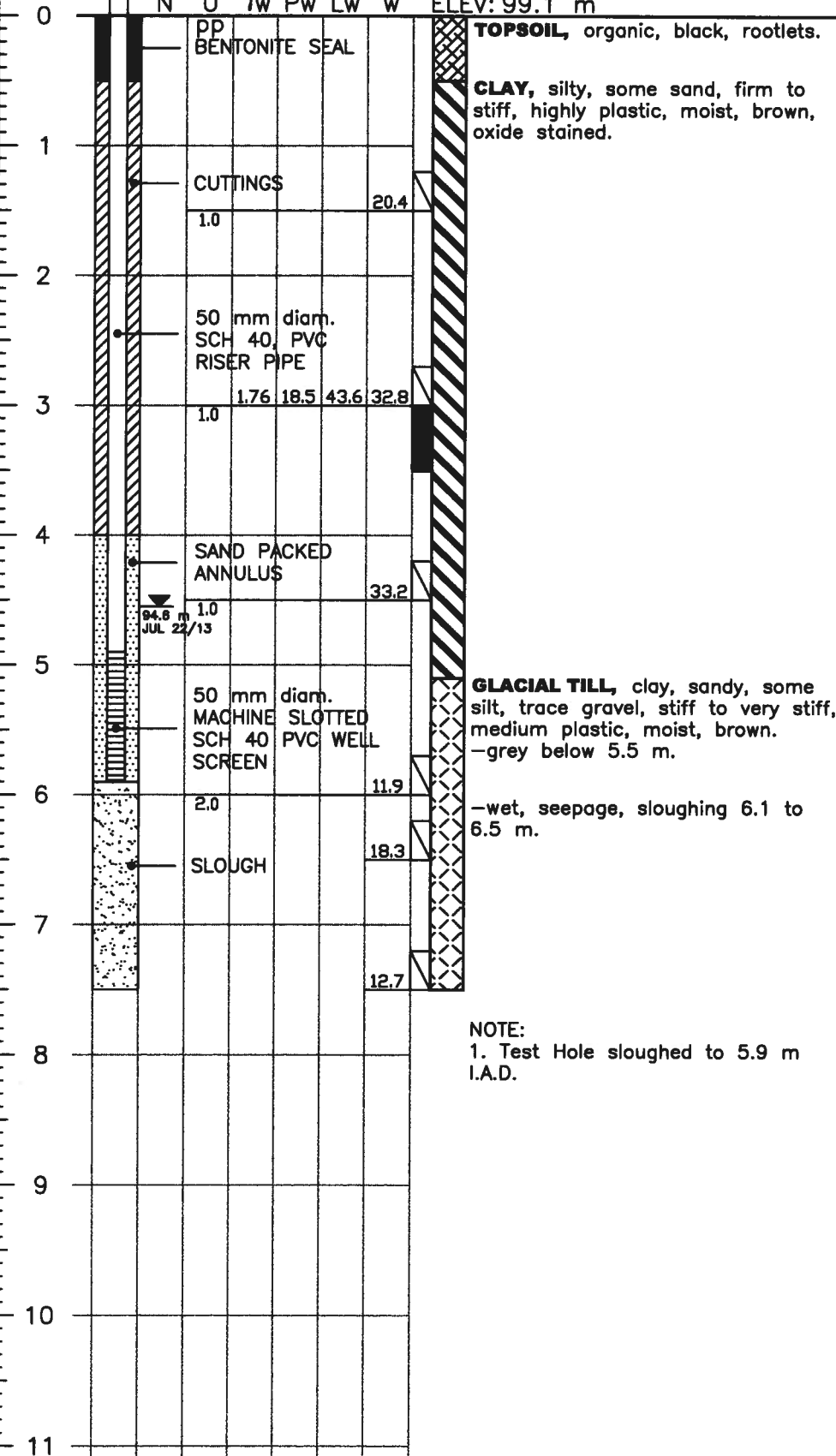
DRAWING NUMBER:

S13-8517-3

PIEZO. ELEV.= 99.9 m

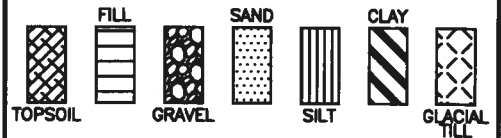
TEST HOLE 13-3

DEPTH (m)



NOTE:
1. Test Hole sloughed to 5.9 m I.A.D.

LEGEND:



- w.....WATER CONTENT (PERCENT OF DRY SOIL WEIGHT)
- Lw...LIQUID LIMIT
- Pw...PLASTIC LIMIT
- γ_w ...WET UNIT WEIGHT (kN/m³)
- U.....UNCONFINED COMPRESSIVE STRENGTH (kPa)
- pp...POCKET PENETROMETER (kg/cm²)
- N.....STANDARD PENETRATION TEST (SAFETY HAMMER w/AUTOMATIC TRIP) (50/125 = BLOWS/SAMPLER PENETRATION [mm])
- SO₄SULPHATE CONTENT (PERCENT OF DRY SOIL WEIGHT)
- P200...% PASSING No. 200 SIEVE
- I.A.D.....IMMEDIATELY AFTER DRILLING
- ∇...RECORDED WATER LEVEL (TEST HOLE I.A.D.)
- ∇...RECORDED WATER LEVEL (PIEZO)



LIMITATIONS: THE FIELD DRILL LOG IS A SUMMARY OF THE SUBSURFACE CONDITIONS ENCOUNTERED AT THE SPECIFIC TEST HOLE LOCATION AT THE TIME OF TEST DRILLING. SUBSURFACE CONDITIONS MAY VARY AT OTHER LOCATIONS OF THIS SITE AND, IN TIME, MAY CHANGE AT THIS SPECIFIC TEST HOLE LOCATION.



P. MACHIBRODA ENGINEERING LTD.

FIELD DRILL LOG AND SOIL TEST RESULTS

PROJECT:
SLOPE INSTABILITY

LOCATION:
230/306 SASKATCHEWAN CRESCENT
SASKATOON, SK

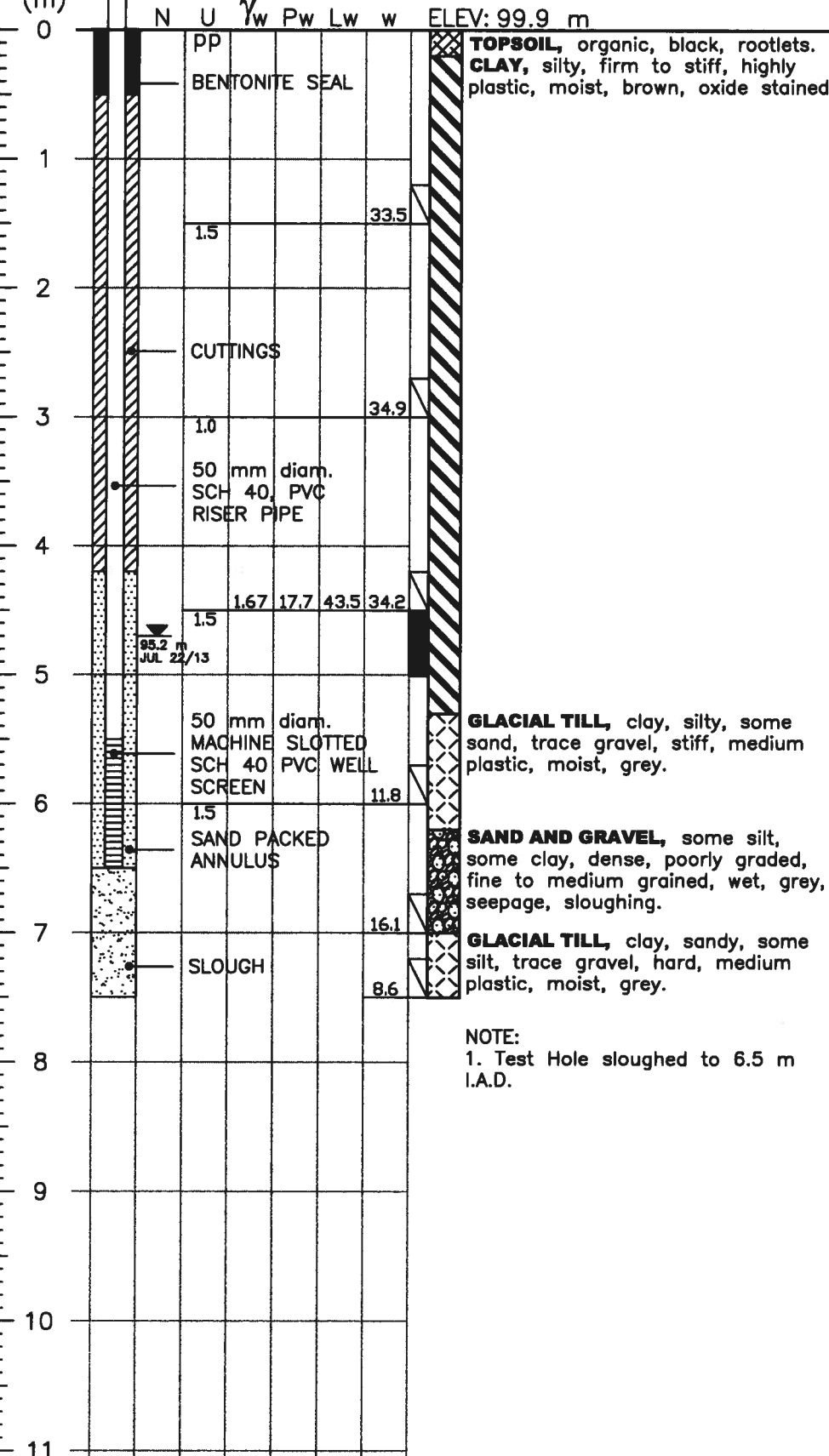
NORTHING: **EASTING:**

DATE DRILLED: JUL 17/13 **DRAWING NUMBER:** S13-8517-4

PIEZO. ELEV.= 100.3 m

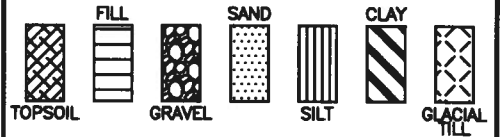
TEST HOLE 13-4

DEPTH (m)



NOTE:
1. Test Hole sloughed to 6.5 m I.A.D.

LEGEND:



- w.....WATER CONTENT (PERCENT OF DRY SOIL WEIGHT)
- Lw...LIQUID LIMIT
- Pw...PLASTIC LIMIT
- γ_w ...WET UNIT WEIGHT (kN/m³)
- U.....UNCONFINED COMPRESSIVE STRENGTH (kPa)
- pp...POCKET PENETROMETER (kg/cm²)
- N.....STANDARD PENETRATION TEST (SAFETY HAMMER w/AUTOMATIC TRIP) (50/125 = BLOWS/SAMPLER PENETRATION [mm])
- SO₄SULPHATE CONTENT (PERCENT OF DRY SOIL WEIGHT)
- P200...% PASSING No. 200 SIEVE
- I.A.D.....IMMEDIATELY AFTER DRILLING
- ▽...RECORDED WATER LEVEL (TEST HOLE I.A.D.)
- ▼...RECORDED WATER LEVEL (PIEZO)



LIMITATIONS: THE FIELD DRILL LOG IS A SUMMARY OF THE SUBSURFACE CONDITIONS ENCOUNTERED AT THE SPECIFIC TEST HOLE LOCATION AT THE TIME OF TEST DRILLING. SUBSURFACE CONDITIONS MAY VARY AT OTHER LOCATIONS OF THIS SITE AND, IN TIME, MAY CHANGE AT THIS SPECIFIC TEST HOLE LOCATION.



P. MACHIBRODA ENGINEERING LTD.

FIELD DRILL LOG AND SOIL TEST RESULTS

PROJECT:

SLOPE INSTABILITY

LOCATION:

230/306 SASKATCHEWAN CRESCENT SASKATOON, SK

NORTHING:

EASTING:

DATE DRILLED:

JUL 17/13

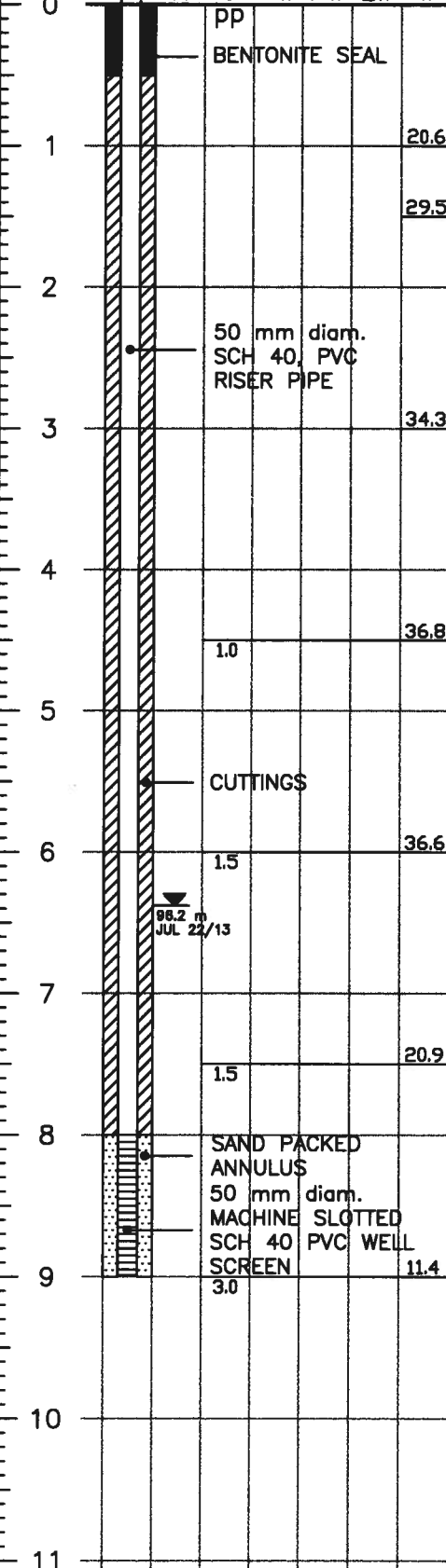
DRAWING NUMBER:

S13-8517-5

PIEZO. ELEV.= 103.6 m

TEST HOLE 13-5

DEPTH (m)

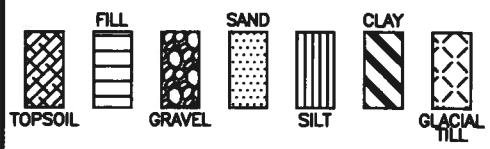


TOPSOIL, organic, black, rootlets.
FILL, clay, sandy, some silt, trace gravel, firm, medium plastic, moist, brown.

CLAY, silty, trace sand, firm, highly plastic, moist, brown, oxide stained.

GLACIAL TILL, clay, some silt, some sand, trace gravel, stiff, medium plastic, moist, grey.

LEGEND:



- w.....WATER CONTENT (PERCENT OF DRY SOIL WEIGHT)
- Lw...LIQUID LIMIT
- Pw...PLASTIC LIMIT
- γ_w ...WET UNIT WEIGHT (kN/m³)
- U.....UNCONFINED COMPRESSIVE STRENGTH (kPa)
- pp...POCKET PENETROMETER (kg/cm²)
- N.....STANDARD PENETRATION TEST (SAFETY HAMMER w/AUTOMATIC TRIP) (50/125 = BLOWS/SAMPLER PENETRATION [mm])
- SO₄SULPHATE CONTENT (PERCENT OF DRY SOIL WEIGHT)
- P200...% PASSING No. 200 SIEVE
- I.A.D.....IMMEDIATELY AFTER DRILLING
- ▽...RECORDED WATER LEVEL (TEST HOLE I.A.D.)
- ▼...RECORDED WATER LEVEL (PIEZO)



LIMITATIONS: THE FIELD DRILL LOG IS A SUMMARY OF THE SUBSURFACE CONDITIONS ENCOUNTERED AT THE SPECIFIC TEST HOLE LOCATION AT THE TIME OF TEST DRILLING. SUBSURFACE CONDITIONS MAY VARY AT OTHER LOCATIONS OF THIS SITE AND, IN TIME, MAY CHANGE AT THIS SPECIFIC TEST HOLE LOCATION.



P. MACHIBRODA ENGINEERING LTD.

FIELD DRILL LOG AND SOIL TEST RESULTS

PROJECT:
SLOPE INSTABILITY

LOCATION:
230/306 SASKATCHEWAN CRESCENT
SASKATOON, SK

NORTHING: **EASTING:**

DATE DRILLED:
JUL 18/13

DRAWING NUMBER:
S13-8517-6

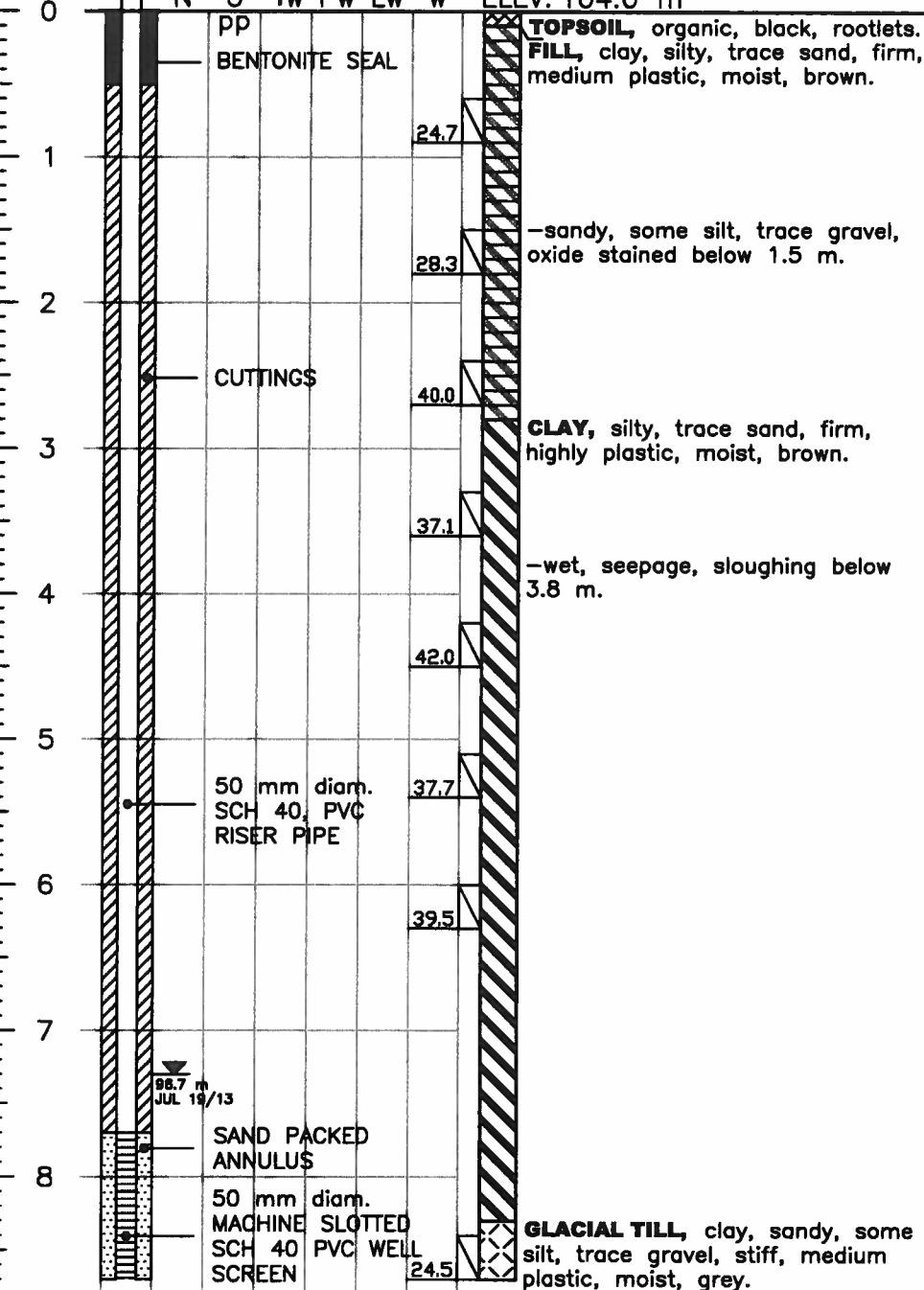
NOTE:
1. Test Hole open to 9.0 m and dry I.A.D.

PIEZO. ELEV.= 104.9 m

TEST HOLE 13-6

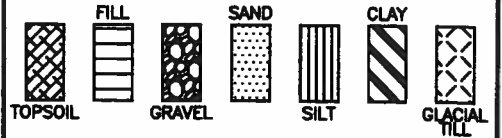
DEPTH (m)

N U γ_w Pw Lw w ELEV: 104.0 m



NOTE:
1. Test Hole open to 8.7 m I.A.D.

LEGEND:



w.....WATER CONTENT (PERCENT OF DRY SOIL WEIGHT)
 Lw...LIQUID LIMIT
 Pw...PLASTIC LIMIT
 γ_w ...WET UNIT WEIGHT (kN/m³)
 U.....UNCONFINED COMPRESSIVE STRENGTH (kPa)
 pp...POCKET PENETROMETER (kg/cm²)
 N.....STANDARD PENETRATION TEST (SAFETY HAMMER w/AUTOMATIC TRIP) (50/125 = BLOWS/SAMPLER PENETRATION [mm])
 SO₄SULPHATE CONTENT (PERCENT OF DRY SOIL WEIGHT)
 P200...% PASSING No. 200 SIEVE
 I.A.D.....IMMEDIATELY AFTER DRILLING
 ▽...RECORDED WATER LEVEL (TEST HOLE I.A.D.)
 ▽...RECORDED WATER LEVEL (PIEZO)



LIMITATIONS: THE FIELD DRILL LOG IS A SUMMARY OF THE SUBSURFACE CONDITIONS ENCOUNTERED AT THE SPECIFIC TEST HOLE LOCATION AT THE TIME OF TEST DRILLING. SUBSURFACE CONDITIONS MAY VARY AT OTHER LOCATIONS OF THIS SITE AND, IN TIME, MAY CHANGE AT THIS SPECIFIC TEST HOLE LOCATION.



P. MACHIBRODA ENGINEERING LTD.

FIELD DRILL LOG AND SOIL TEST RESULTS

PROJECT:
SLOPE INSTABILITY

LOCATION:
230/306 SASKATCHEWAN CRESCENT
SASKATOON, SK

NORTHING: **EASTING:**

DATE DRILLED:
JUL 18/13

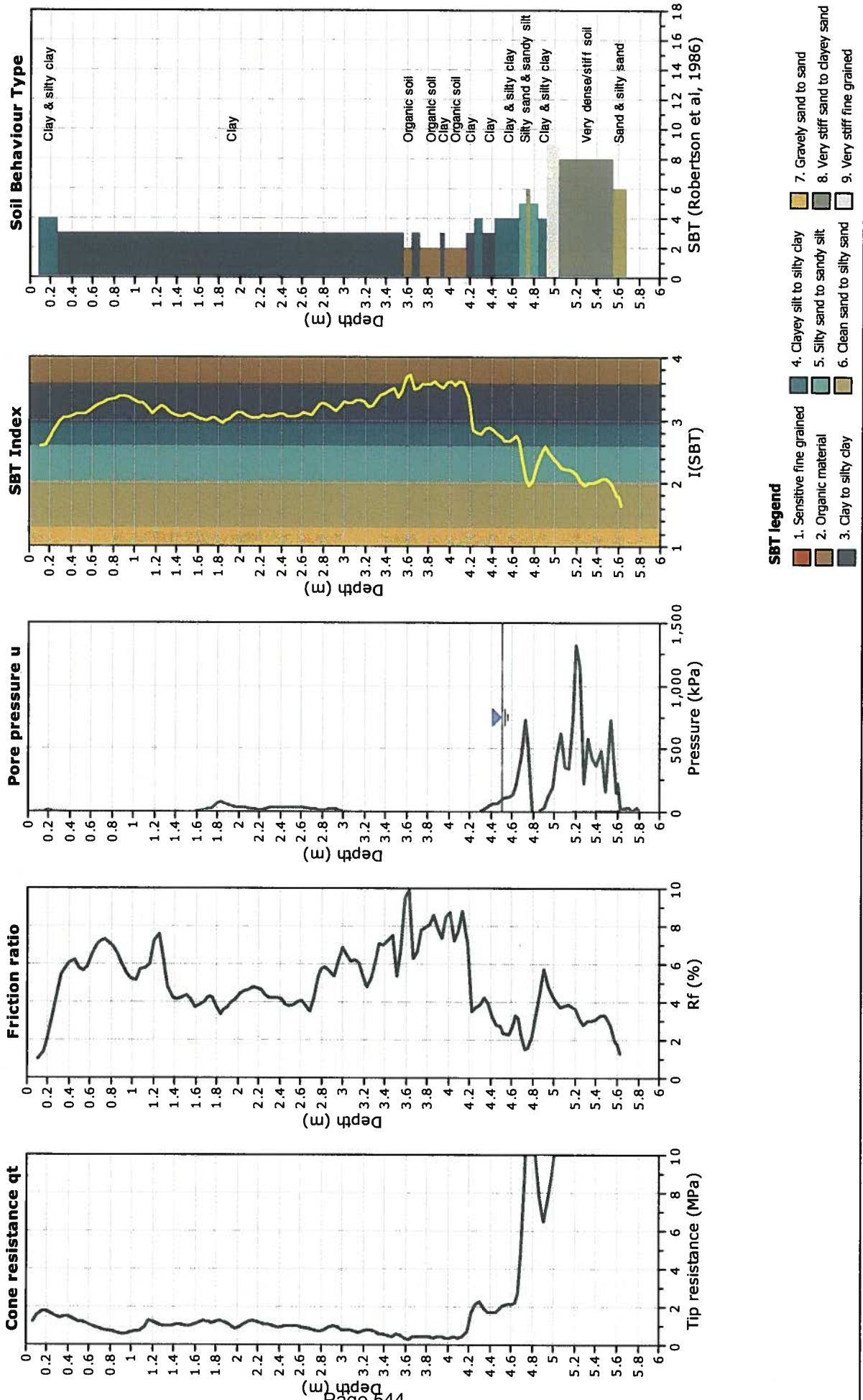
DRAWING NUMBER:
S13-8517-7



P. Machibroda Engineering Ltd.
 806-48th Street East
 Saskatoon, Saskatchewan S7K 4A2
 www.machibroda.com

CPT: 13-1
 Total depth: 5.81 m, Date: 18/07/2013
 Surface Elevation: 0.00 m
 Coords: X:0.00, Y:0.00
 Cone Type: 15 cm^2
 Cone Operator: PMEL

Project: Slope Stability Assessment
Location: 230/306 Saskatchewan Crescent East, Saskatoon, Saskatchewan





APPENDIX E
Record of Borehole Logs

2013 BOREHOLE LOGS

**COS-13-001, COS-13-001B, COS-13-002, COS-13-003, COS-13-004,
COS 13-005, COS-13-006, COS-13-007 (GAL13)**

PROJECT: Cherry Lane Slope Remediation

RECORD OF BOREHOLE: COS-13-001

SHEET 1 OF 1

LOCATION: N 5775616.7 E 386038.9

BORING DATE: 07/26/13

DATUM: NAD83

DRILL RIG: CME

DRILLING CONTRACTOR: Boss Drilling

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE		SAMPLES			DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m				HYDRAULIC CONDUCTIVITY, k, cm/s				ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION AND GROUNDWATER OBSERVATIONS	
		DESCRIPTION	STRATA PLOT	ELEV. DEPTH (m)	NUMBER	TYPE	BLOWS/0.3m	SHEAR STRENGTH				WATER CONTENT PERCENT					
								20 40 60 80		nat V. + Q - rem V. ⊕ U - ○		10 ⁻⁶ 10 ⁻⁵ 10 ⁻⁴ 10 ⁻³		Wp ----- W ----- WI			
0		GROUND SURFACE		489.34													
		ASPHALT		489.03													
		(ML) CLAYEY SILT, some fine grained sand, brown, some black mottling, w>PL, very soft		0.30	001-1	AS									PP>0		
1				488.12													
		(CL) SILTY CLAY, low plasticity, trace fine grained gravel, brown/black, trace iron staining, trace gypsum/weathered gypsum, some organics, w>PL, soft to firm		1.22	001-2	AS											
2		-plasticity increases with depth															
				486.29													
3		(CI) SILTY CLAY, medium-high plasticity, trace fine grained gravel, brown, trace gypsum		3.05											PP=0.75		
					001-4	AS											
4																	
				484.46													
5		(CH) CLAY, high plasticity, some silt, brown, trace sand, trace gypsum, w>PL, soft to very soft		4.88	001-6	AS									SG MH		
6					001-7	AS									FP=0.75-1		
				482.79													
7		(CL) SILTY CLAY, some fine grained gravel, grey, (TILL), w~PL, stiff to very stiff		6.55	001-8	AS									PP=1.5		
8		(SM) SILTY SAND, trace gravel, fine to medium grained, grey, wet		7.92	001-9	AS									MH		
		(CL) SILTY CLAY, some sand, some gravel, fine to coarse grained, grey, (TILL), w~PL		8.23													
					001-10	AS											
9		END OF BOREHOLE = 9.4m															
		Notes: 1. Upon completion of drilling, the borehole was backfilled with bentonite chips to the ground surface.		479.89													
10				9.45													

SK SOIL 11-1362-0057-5100 BOREHOLES.GPJ GAL-SASK.GDT 05/05/14

07/26/13

DEPTH SCALE
1 : 50



LOGGED: LM
CHECKED: LDN

PROJECT: Cherry Lane Slope Remediation

RECORD OF BOREHOLE: COS-13-001B

SHEET 1 OF 1

LOCATION: N 5775616.7 E 386038.9

BORING DATE: 07/26/13

DATUM: NAD83

DRILL RIG: CME

DRILLING CONTRACTOR: Boss Drilling

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE		SAMPLES			DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m				HYDRAULIC CONDUCTIVITY, k, cm/s				ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION AND GROUNDWATER OBSERVATIONS	
		DESCRIPTION	STRATA PLOT	ELEV. DEPTH (m)	NUMBER	TYPE	BLOWS/0.3m	SHEAR STRENGTH Cu, kPa				WATER CONTENT PERCENT					
								20	40	60	80	nat V. rem V.	+ Q - U	Wp			W
0	150mm Dia. Solid Stem Auger Continuous Flight	GROUND SURFACE		489.34													
		No Classification		0.00													
1																	
2																	
3																	
4																	
5																	
5.18			(CH) CLAY, high plasticity, some silt, brown, trace gypsum, w>PL, firm to soft		484.16	5.18	001B-1	TO									
6							001B-2	TO									
6.55			(CL) SILTY CLAY and SAND, fine to coarse, some fine grained gravel, grey, (TILL), w~PL, stiff		482.79	6.55	001B-3	TO									
7		No Classification		482.18	7.16												
8																	
9.14		END OF BOREHOLE = 9.1m		480.20	9.14												
10		Notes: 1. Additional Lab testing * indicates Dry Density in kg/m ³															

SK SOIL 11-1362-0057-5100 BOREHOLES.GPJ GAL-SASK.GDT 05/05/14

DEPTH SCALE

1 : 50



LOGGED: LM

CHECKED: LDN

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE		SAMPLES		DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m				HYDRAULIC CONDUCTIVITY, k, cm/s				ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION AND GROUNDWATER OBSERVATIONS		
		DESCRIPTION	STRATA PLOT	ELEV. DEPTH (m)	NUMBER	TYPE	BLOWS/0.3m	SHEAR STRENGTH				WATER CONTENT PERCENT					
								20 40 60 80		nat V. rem V.		10 ⁻⁶ 10 ⁻⁵ 10 ⁻⁴ 10 ⁻³				Wp	
0		GROUND SURFACE		498.48													
		TOPSOIL		498.33	002-1	AS											
		FILL, (SC) CLAYEY SILT, fine, dark brown, some organics, non-cohesive, dry (SM) SILTY SAND, fine, some clay, low plasticity, brown, some organics, non-cohesive, dry (CL) SILTY CLAY, low plastic, brown, some iron staining, some white staining, cohesive, w~PL, hard		498.18	002-2	AS											
				0.30	002-3	AS											
				497.87													
				0.61													
1					002-4	AS								PP=4.5			
					002-5	AS								PP=1.5			
2																	
		-some fine grained sand at approximately 2.4m -becomes stiff at approximately 2.4m			002-6	AS											
3				495.44													
		(Cl) SILTY CLAY, medium plastic, trace sand, fine, trace/some iron staining, trace/some white staining, cohesive, w>PL, stiff to very stiff		3.05	002-7	AS								PP=3			
					002-8	AS											
4																	
					002-9	AS											
5																	
					002-10	AS								PP=0.25			
6																	
					002-11	AS											
7																	
					002-12	AS											
8																	
9																	
10				488.73													
		(CL) sandy, SILTY CLAY, fine grained, brown, wet, very soft		9.75	002-13	AS								PP=0			

CONTINUED NEXT PAGE

SK SOIL 11-1362-0057-5100 BOREHOLES.GPJ GAL-SASK.GDT 05/05/14

PROJECT: Cherry Lane Slope Remediation

RECORD OF BOREHOLE: COS-13-002

SHEET 2 OF 2

LOCATION: N 5775616.7 E 386038.9

BORING DATE: 07/25/13

DATUM: NAD83

DRILL RIG: CME

DRILLING CONTRACTOR: Boss Drilling

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE		SAMPLES		DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m				HYDRAULIC CONDUCTIVITY, k, cm/s				ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION AND GROUNDWATER OBSERVATIONS	
		DESCRIPTION	STRATA PLOT	ELEV. DEPTH (m)	NUMBER	TYPE	BLOWS/0.3m				WATER CONTENT PERCENT					
							SHEAR STRENGTH Cu, kPa				WATER CONTENT PERCENT					
						20	40	60	80	10 ⁻⁶	10 ⁻⁵	10 ⁻⁴	10 ⁻³			
						nat V. + Q - ● rem V. ⊕ U - ○				Wp -----○----- W ----- WI						
						50	100	150	200	20	40	60	80			
10	150mm Dia. Solid Stem Auger Continuous Flight	CONTINUED FROM PREVIOUS PAGE (CL) sandy, SILTY CLAY, fine grained, brown, wet, very soft (continued)		488.12												
		(CL) SILTY CLAY, low plasticity, some sand, fine, brown, cohesive, w>PL, soft to very soft		10.36	002-14	AS						○			PP=0.5	
11				487.21											PP=1.0	
		(CI) SILTY CLAY, medium plastic, brown, cohesive, w>PL, firm to stiff		11.28	002-15	AS						○			PP=1.5	
12												○			PP=1	
			-becomes grey at approximately 12m									○				
13		(CH) CLAY, some silt, high plasticity, grey, cohesive, w>PL, stiff		485.38												
				13.11	002-17	AS						○		PP=2 SG	VW25400 Slope Indicator in Grout	
14		(CL) SILTY CLAY, some gravel, fine-coarse, grey, (TILL), cohesive, w>PL, stiff		484.46												
				14.02	002-18	AS					○			PP=1		
15																
16																
											○			PP=2.5	VW25399	
17		END OF BOREHOLE = 16.8m		481.72												
				16.76												

SK SOIL 11-1362-0057-5100 BOREHOLES.GPJ GAL-SASK.GDT 05/05/14

DEPTH SCALE

1 : 50



LOGGED: LM

CHECKED: LDN

PROJECT: Cherry Lane Slope Remediation

RECORD OF BOREHOLE: COS-13-003

SHEET 1 OF 1

LOCATION: N 5775674.7 E 386061.6

BORING DATE: 07/26/13

DATUM: NAD83

DRILL RIG: CME

DRILLING CONTRACTOR: Boss Drilling

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE		SAMPLES		DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m		HYDRAULIC CONDUCTIVITY, k, cm/s		ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION AND GROUNDWATER OBSERVATIONS	
		DESCRIPTION	STRATA PLOT	ELEV. DEPTH (m)	NUMBER	TYPE	SHEAR STRENGTH Cu, kPa		WATER CONTENT PERCENT			
							20	40	60			80
0	150mm Dia. Solid Stem Auger Continuous Flight	GROUND SURFACE		480.34							TOC=0.5mags	
		FILL, (CL) SILTY CLAY and SAND, well graded, some gravel, fine to coarse grained, black, w-PL, stiff to very stiff		0.00	003-1	AS						
1		(CL) SILTY CLAY, low plasticity, some gravel, fine to coarse grained, brown, trace iron staining, trace gypsum and weathered gypsum, trace petrified wood, trace coal, w-PL, stiff to very stiff		479.43	003-2	AS					PP=2	
		(GW) GRAVEL, dry		478.82								
		(CL) SILTY CLAY, low plasticity, some gravel, fine to coarse grained, brown, trace iron staining, trace gypsum and weathered gypsum, trace petrified wood, trace coal, w-PL, stiff to very stiff		478.67								Bentonite
				1.68	003-3	AS						
2												
3												
4												
5			(CH) CLAY, high plasticity, trace gravel, fine to coarse grained, brown, trace iron staining, some weathered gypsum, some coal, w-PL, stiff to very stiff		475.47	003-5	AS					
		(SM) SILTY SAND, brown, trace iron staining, wet		474.86	003-6	AS					Sand	
6				5.49	003-7	TO						
7												
8		(GW) GRAVEL, well graded, fine to coarse grained, brown, very wet		473.03	003-8	AS					07/26/13	
9		(CL) SILTY CLAY, some gravel, fine grained, (TILL), w>PL, firm to stiff		471.50	003-9	AS					Screen	
		END OF BOREHOLE = 9.1m		471.20								
10				9.14								

SK SOIL 11-1362-0057-5100 BOREHOLES.GPJ GAL-SASK.GDT 05/05/14

DEPTH SCALE

1 : 50



LOGGED: LM

CHECKED: LDN

PROJECT: Cherry Lane Slope Remediation

RECORD OF BOREHOLE: COS-13-004

SHEET 1 OF 2

LOCATION: N 5775605.0 E 386050.6

BORING DATE: 08/19/13

DATUM: NAD83

DRILL RIG: M4CT

DRILLING CONTRACTOR: Mobile Augers and Research Ltd.

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE		SAMPLES		DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m				HYDRAULIC CONDUCTIVITY, k, cm/s				ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION AND GROUNDWATER OBSERVATIONS	
		DESCRIPTION	STRATA PLOT	ELEV. DEPTH (m)	NUMBER	TYPE	BLOWS/0.3m				WATER CONTENT PERCENT					
							SHEAR STRENGTH Cu, kPa				WATER CONTENT PERCENT					
						20	40	60	80	10 ⁻⁶	10 ⁻⁵	10 ⁻⁴	10 ⁻³			
						nat V. + Q - ● rem V. ⊕ U - ○				Wp ----- W ----- WI						
						50	100	150	200	20	40	60	80			
0	150mm Dia. Solid Stem Auger Continuous Flight	GROUND SURFACE		491.74												
		TOPSOIL, clayey, some fine-medium grained sand, some fine gravel, some organics, dark brown/black			0.00	004-1	AS									
		(CL) SILTY CLAY, low plasticity, trace fine grained sand, light brown, some rust staining, some organics, trace weathered gypsum, cohesive, w>PL, very soft to soft			491.43											
					0.30	004-2	AS									MH
1																
						004-3	DO									
2																
3																
						004-4	DO									
4																
5		(CH) CLAY, high plasticity, some silt, brown/black mottling, some rust staining, cohesive, w>PL, stiff		487.32												
				4.42	004-5	DO										
6		(CI) SILTY CLAY, medium plastic, brown, cohesive, w>PL, stiff		486.56												
				5.18	004-6	AS										
7																
					004-7	TO			+						SG PP=1.5	
8																
					004-8	TO			+						DS PP=2.5	
9		(CL-ML) SILTY CLAY/CLAYEY SILT and fine to medium grained sand, some gravel, trace cobbles, grey, cohesive, (TILL), w~PL, very stiff		483.05												
				8.69	004-9	TO			+						PP=3.5	
10																
					004-10	AS										
					004-11	AS									MH	

CONTINUED NEXT PAGE

SK SOIL 11-1362-0057-5100 BOREHOLES.GPJ GAL-SASK.GDT 05/05/14



08/19/13

VW26020

PROJECT: Cherry Lane Slope Remediation

RECORD OF BOREHOLE: COS-13-004

SHEET 2 OF 2

LOCATION: N 5775605.0 E 386050.6

BORING DATE: 08/19/13

DATUM: NAD83

DRILL RIG: M4CT

DRILLING CONTRACTOR: Mobile Augers and Research Ltd.

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE		SAMPLES		DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m				HYDRAULIC CONDUCTIVITY, k, cm/s				ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION AND GROUNDWATER OBSERVATIONS		
		DESCRIPTION	STRATA PLOT	ELEV. DEPTH (m)	NUMBER	TYPE	BLOWS/0.3m	SHEAR STRENGTH				WATER CONTENT PERCENT					
								Cu, kPa		nat V. rem V.		+				Q - U -	
10	Continuous Flight	CONTINUED FROM PREVIOUS PAGE (CL-ML) SILTY CLAY/CLAYEY SILT and fine to medium grained sand, some gravel, trace cobbles, grey, cohesive, (TILL), w~PL, very stiff (continued)		480.71											VW25397		
11		END OF BOREHOLE = 11.02m		11.02											Slope Indicator in Grout		
12																	
13																	
14																	
15																	
16																	
17																	
18																	
19																	
20																	

SK SOIL 11-1362-0057-5100 BOREHOLES.GPJ GAL-SASK.GDT 05/05/14

DEPTH SCALE

1 : 50



LOGGED: LM

CHECKED: LDN

PROJECT: Cherry Lane Slope Remediation

RECORD OF BOREHOLE: COS-13-005

SHEET 1 OF 2

LOCATION: N 5775637.7 E 386047.6

BORING DATE: 08/20/13

DATUM: NAD83

DRILL RIG: M10

DRILLING CONTRACTOR: Mobile Augers and Research Ltd.

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE		SAMPLES		DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m				HYDRAULIC CONDUCTIVITY, k, cm/s				ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION AND GROUNDWATER OBSERVATIONS	
		DESCRIPTION	STRATA PLOT	ELEV. DEPTH (m)	NUMBER	TYPE	SHEAR STRENGTH Cu, kPa				WATER CONTENT PERCENT					
							20	40	60	80	nat V. +	rem V. ⊕	Q - ●			U - ○
0		GROUND SURFACE		494.48												
0.00		(SM) SILTY SAND, fine grained, light brown, trace organics, non-cohesive, moist, loose		0.00	005-1	AS									MH	
1.2																
1.2					005-2	DO										
1.9																
1.9					005-3	DO										
3.66																
3.66		(SC) CLAYEY SAND, fine grained, light brown with black and white seams, cohesive, dry, compact		490.82	005-4	DO										
5.49																
5.49		(CI) SILTY CLAY, sand seams, brown, w~PL		488.99	005-5	TO		+						PP=3.75		
6.71																
6.71					005-6	TO								PP>4.5		
7.62																
7.62		(SM) SILTY SAND, some clay, light brown, cohesive, dry-moist, compact		487.77	005-7	TO									VW25926	
7.62																
7.62		(CI) SILTY CLAY, medium plastic, trace sand, brown, cohesive, w~PL		486.86	005-8	TO									MH	
9.14																
9.14					005-9	TO									SG	
9.14		(ML) SANDY, CLAYEY SILT, fine grained, brown, moist, compact		485.34	005-10	TO									MH	
9.14																
9.14					005-11	TO										

CONTINUED NEXT PAGE

SK SOIL 11-1362-0057-5100 BOREHOLES.GPJ GAL-SASK.GDT 05/05/14

DEPTH SCALE

1 : 50



LOGGED: LM

CHECKED: LDN

PROJECT: Cherry Lane Slope Remediation

RECORD OF BOREHOLE: COS-13-005

SHEET 2 OF 2

LOCATION: N 5775637.7 E 386047.6

BORING DATE: 08/20/13

DATUM: NAD83

DRILL RIG: M10

DRILLING CONTRACTOR: Mobile Augers and Research Ltd.

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE		SAMPLES		DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m				HYDRAULIC CONDUCTIVITY, k, cm/s				ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION AND GROUNDWATER OBSERVATIONS	
		DESCRIPTION	STRATA PLOT	ELEV. DEPTH (m)	NUMBER	TYPE	BLOWS/0.3m	SHEAR STRENGTH Cu, kPa		WATER CONTENT PERCENT		Wp	W			Wi
								20	40	60	80					
10	150mm Dia. Solid Stem Auger Continuous Flight	<i>CONTINUED FROM PREVIOUS PAGE</i> (ML) SANDY, CLAYEY SILT, fine grained, brown, moist, compact <i>(continued)</i>														
				483.81	005-11	TO										
				10.67	005-12	TO										
11			(CI) SILTY CLAY, medium plastic, fine grained, grey and brown laminated, w~PL, very stiff													
					005-13	TO										
12			482.14	005-14	TO											
			12.34													
13		(CI) SILTY CLAY, medium plastic, some sand, grey, w>PL, (TILL)														
14				005-15	DO	64										
15			479.16													
			15.32													
16		END OF BOREHOLE = 15.32m														
17																
18																
19																
20																

SK SOIL 11-1362-0057-5100 BOREHOLES.GPJ GAL-SASK.GDT 05/05/14

DEPTH SCALE

1 : 50



LOGGED: LM

CHECKED: LDN

PROJECT: Cherry Lane Slope Remediation

RECORD OF BOREHOLE: COS-13-006

SHEET 1 OF 2

LOCATION: N 5775572.7 E 385959.2

BORING DATE: 08/21/13

DATUM: NAD83

DRILL RIG: M10

DRILLING CONTRACTOR: Mobile Augers and Research Ltd.

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE		SAMPLES		DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m				HYDRAULIC CONDUCTIVITY, k, cm/s				ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION AND GROUNDWATER OBSERVATIONS
		DESCRIPTION	STRATA PLOT	ELEV. DEPTH (m)	NUMBER	TYPE	BLOWS/0.3m	SHEAR STRENGTH Cu, kPa		WATER CONTENT PERCENT		WATER CONTENT PERCENT			
								20	40	60	80	10 ⁻⁶	10 ⁻⁵		
0		GROUND SURFACE		494.77											
		FILL (CL) SILTY CLAY, low plasticity, sandy, some organics, black and brown, cohesive, w<PL		0.00											
		(CI-CL) SILTY CLAY, low to medium plastic, trace sand, brown, some white staining, some iron staining, cohesive, w~PL, very soft to stiff		494.46	006-1	AS									
				0.30											
1					006-2	AS									
2		(CH) CLAY, high plasticity, brown, some iron staining, cohesive, w~PL, very stiff		492.94	006-3	AS									
				1.83	006-4	AS									
3					006-5	AS									
4		-some white staining and gypsum crystals below 3.4m													
5					006-6	AS									
6					006-7	AS									
7					006-8	AS									
8					006-9	AS									
9		(CI) SILTY CLAY, medium plasticity, trace sand, cohesive, w>PL, firm to stiff		486.23	006-10	AS									MH
				8.53											
10															

CONTINUED NEXT PAGE

SK SOIL 11-1362-0057-5100 BOREHOLES.GPJ GAL-SASK.GDT 05/05/14

DEPTH SCALE

1 : 50



LOGGED: LM

CHECKED: LDN

PROJECT: Cherry Lane Slope Remediation

RECORD OF BOREHOLE: COS-13-006

SHEET 2 OF 2

LOCATION: N 5775572.7 E 385959.2

BORING DATE: 08/21/13

DATUM: NAD83

DRILL RIG: M10

DRILLING CONTRACTOR: Mobile Augers and Research Ltd.

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE		SAMPLES		DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m				HYDRAULIC CONDUCTIVITY, k, cm/s				ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION AND GROUNDWATER OBSERVATIONS		
		DESCRIPTION	STRATA PLOT	ELEV. DEPTH (m)	NUMBER	TYPE	BLOWS/0.3m	SHEAR STRENGTH				WATER CONTENT PERCENT					
								20 40 60 80		nat V. + Q - rem V. ⊕ U - ○		10 ⁻⁶ 10 ⁻⁵ 10 ⁻⁴ 10 ⁻³				Wp ----- W ----- Wi	
10	150mm Dia. Solid Stem Auger Continuous Flight	<i>CONTINUED FROM PREVIOUS PAGE</i>															
		(CI) SILTY CLAY, medium plasticity, trace sand, cohesive, w>PL, firm to stiff (continued)		484.25	10.52	006-11	AS									VW26018	
11		(CL) SILTY CLAY, low plasticity, some fine gravel and sand, trace coarse gravel, grey, (TILL), cohesive, w~PL, stiff															
						006-12	AS									Slope Indicator in Grout	
12				482.57												08/21/13	
		(SM) SILTY SAND, some fine grained gravel, grey, non-cohesive, wet		482.42	12.34	006-13	AS									MH	
		(CL) SILTY CLAY, low plasticity, some fine gravel and sand, trace coarse gravel, grey, (TILL), cohesive, w~PL, stiff															
13			(SM) SILTY SAND, some fine grained gravel, grey, non-cohesive, wet		481.66	13.11	006-14	AS									
			(CL) SILTY CLAY, low plasticity, some fine gravel and sand, trace coarse gravel, grey, (TILL), cohesive, w~PL, stiff		481.36	13.41											
14			END OF BOREHOLE = 14.33m		480.44	14.33										VW25398	

SK SOIL 11-1362-0057-5100 BOREHOLES.GPJ GAL-SASK.GDT 05/05/14

DEPTH SCALE

1 : 50

LOGGED: LM

CHECKED: LDN

PROJECT: Cherry Lane Slope Remediation

RECORD OF BOREHOLE: COS-13-007

SHEET 1 OF 1

LOCATION: N 5775573.5 E 385959.1

BORING DATE: 08/21/13

DATUM: NAD83

DRILL RIG: M10

DRILLING CONTRACTOR: Mobile Augers and Research Ltd.

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE		SAMPLES			DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m				HYDRAULIC CONDUCTIVITY, k, cm/s				ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION AND GROUNDWATER OBSERVATIONS	
		DESCRIPTION	STRATA PLOT	ELEV. DEPTH (m)	NUMBER	TYPE	BLOWS/0.3m	SHEAR STRENGTH Cu, kPa				WATER CONTENT PERCENT					
								20 40 60 80		nat V. + Q - rem V. ⊕ U - ⊙		10 ⁻⁶ 10 ⁻⁵ 10 ⁻⁴ 10 ⁻³		Wp ----- W ----- WI			
0	150mm Dia. Solid Stem Auger Continuous Flight	GROUND SURFACE		494.80													
		FILL (CL) SILTY CLAY, low plasticity, sandy, some organics, black and brown, w<PL		0.00													
		(CI-CL) SILTY CLAY, low to medium plasticity, trace sand, brown, some white staining, some iron staining, cohesive, w~PL, very soft to stiff		0.30													
2		(CH) CLAY, high plasticity, brown, some iron staining, cohesive, w~PL, very stiff with some soft spots		1.83												Bentonite	
4		-some white staining and gypsum crystals below 3.4m														Sand	
5.59		END OF BOREHOLE = 5.59m		489.21	5.59										Screen		

SK SOIL 11-1362-0057-5100 BOREHOLES.GPJ GAL-SASK.GDT 05/05/14

DEPTH SCALE

1 : 50

LOGGED: LM

CHECKED: LDN



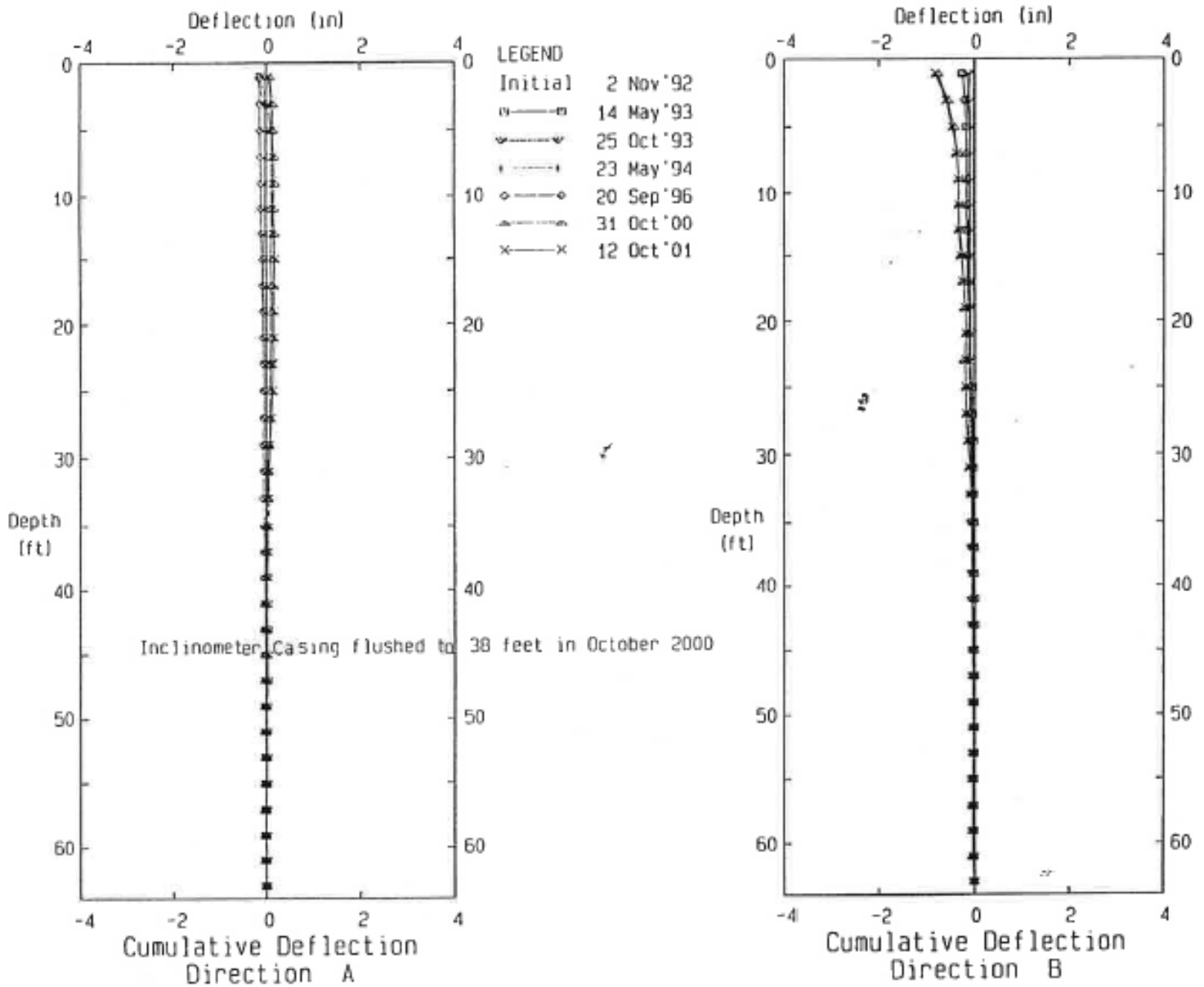
APPENDIX F

Monitoring Data



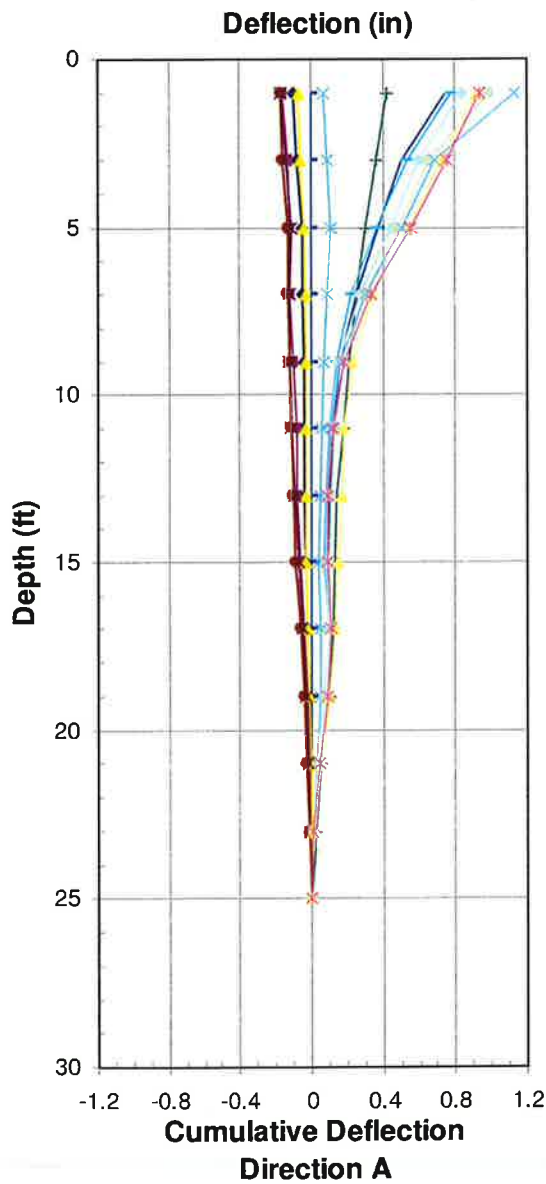
F.1. SLOPE INCLINOMETER PLOTS

AGRA Earth & Environmental Limited - Saskatoon, SK



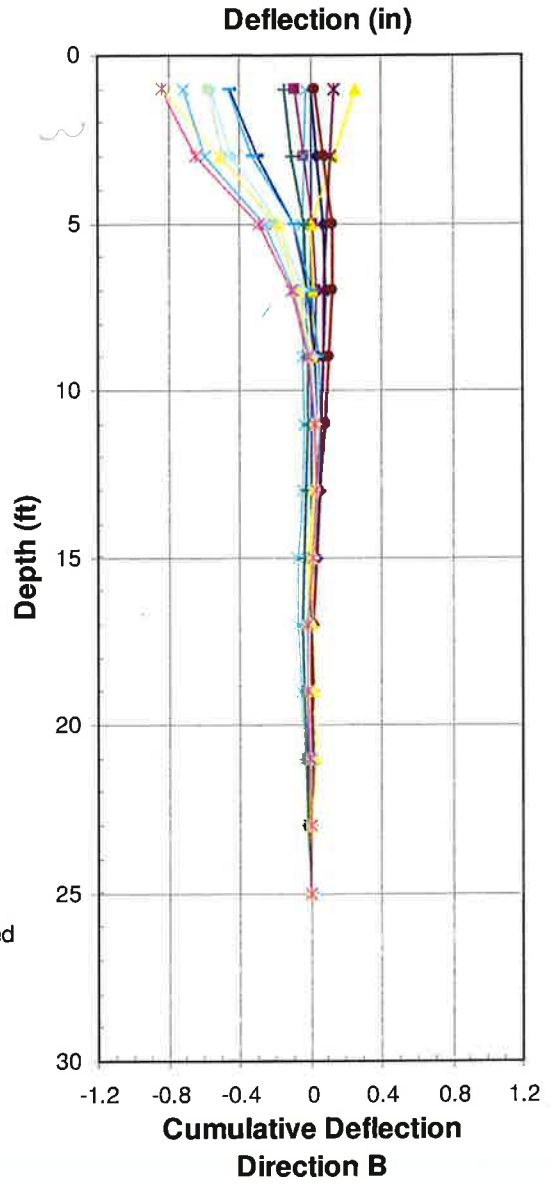
COS#12 - EAST RIVER BANK, Inclinometer SI-84ICL
Cherry Lane (West Casing)

AMEC Earth & Environmental - Saskatoon, SK



- 22-Aug-85
- 29-Oct-86
- 3-Nov-87
- 19-Oct-87
- 11-Oct-89
- 16-Nov-90
- 21-Nov-91
- 25-May-92
- 30-Nov-99
- 27-Oct-00
- 12-Oct-01
- 24-Oct-02
- 10-Oct-03
- 19-Nov-04
- 13-Oct-05

Note: Casing in need of repair since 2005



COS #11 - EAST RIVER BANK, Inclinometer 85-511 Cherry Lane (East Casing)



Earth & Environmental
A Division of AMEC Americas Limited

COS#11 – EAST RIVER BANK – 85-511
CUMULATIVE DEFLECTION

SOUTH SASKATCHEWAN RIVER
SASKATOON, SASKATCHEWAN

CITY OF SASKATOON
2008 EAST RIVER BANK MONITORING PROGRAM

Drawn: EM

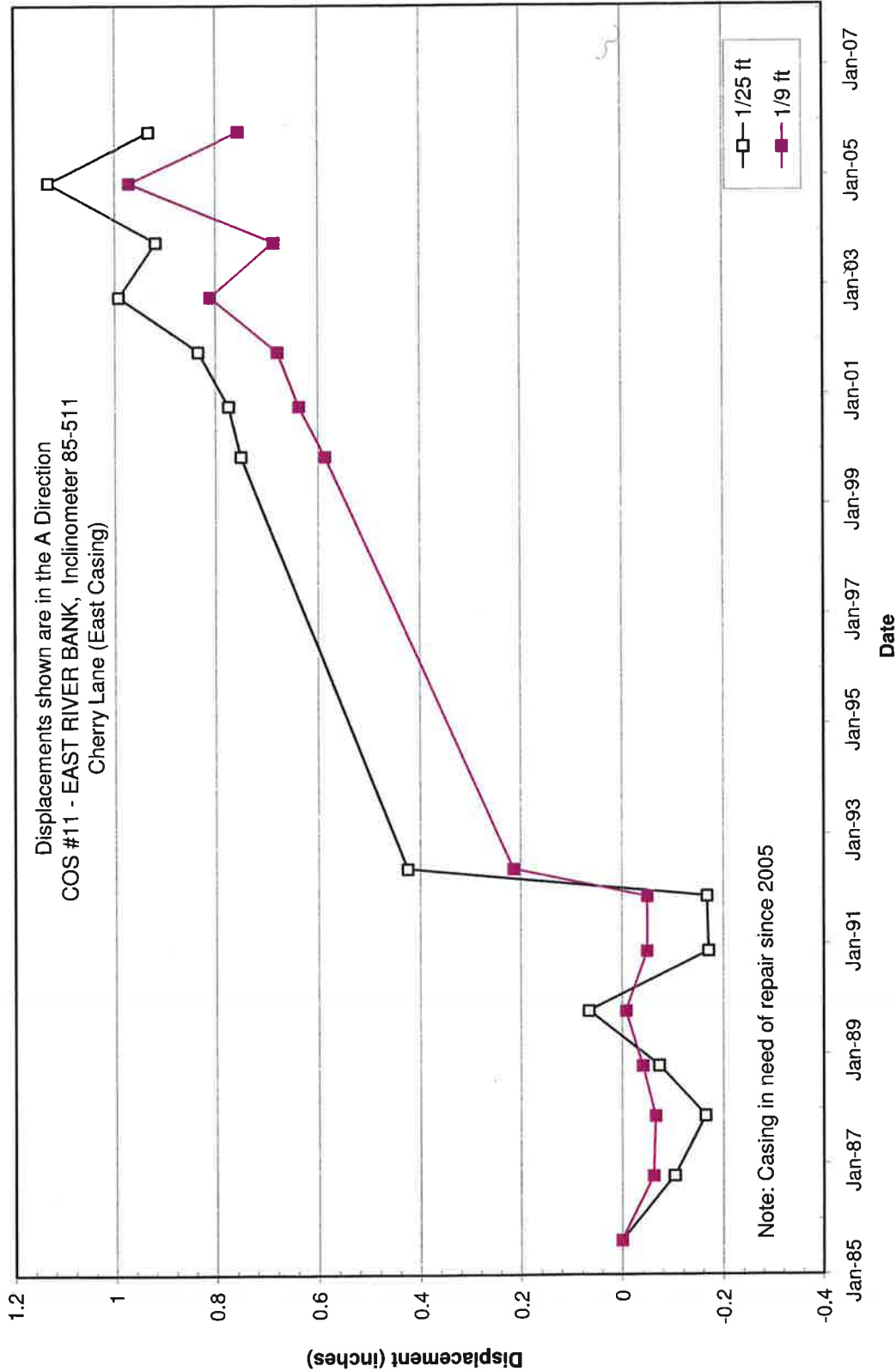
Scale: As Shown

Date: Nov/08

Proj. No: SX0258510

Figure: 33

AMEC Earth & Environmental - Saskatoon, SK



Earth & Environmental
 A Division of AMEC Americas Limited

Drawn by: EM Scale: As Shown

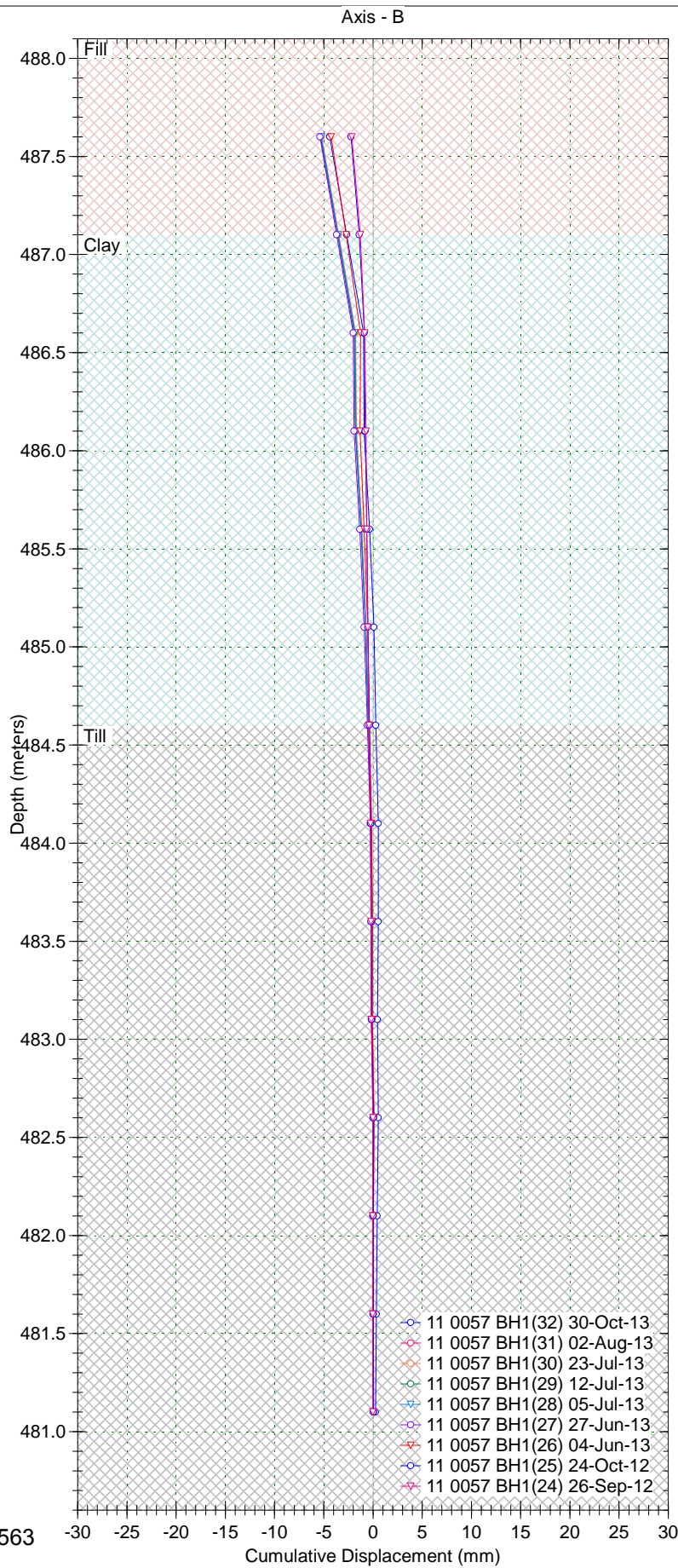
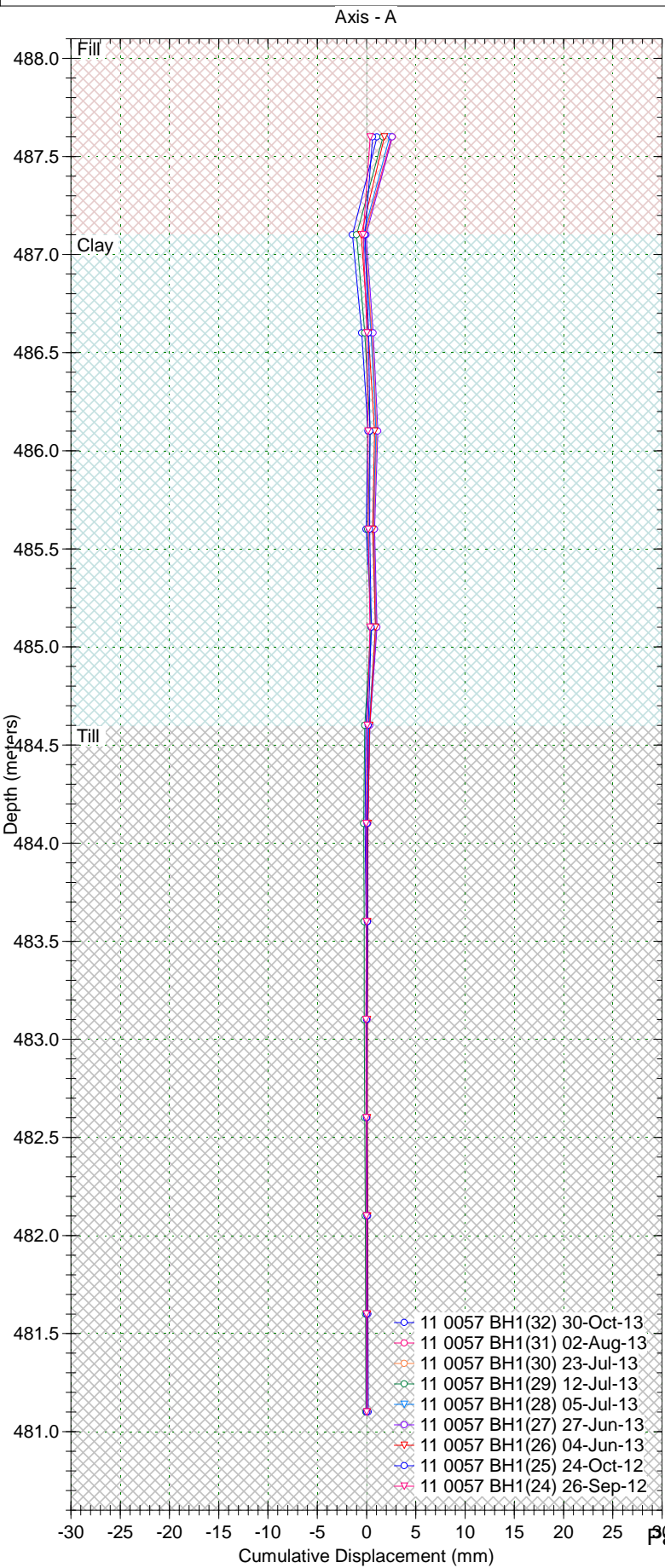
CITY OF SASKATOON
2008 EAST RIVER BANK MONITORING PROGRAM

Date: Nov/08 Proj. No: SX0258510 Figure: 34

COS#11 - EAST RIVER BANK - 85-511
DISPLACEMENT TIME - A-DIRECTION
SOUTH SASKATCHEWAN RIVER
SASKATOON, SASKATCHEWAN

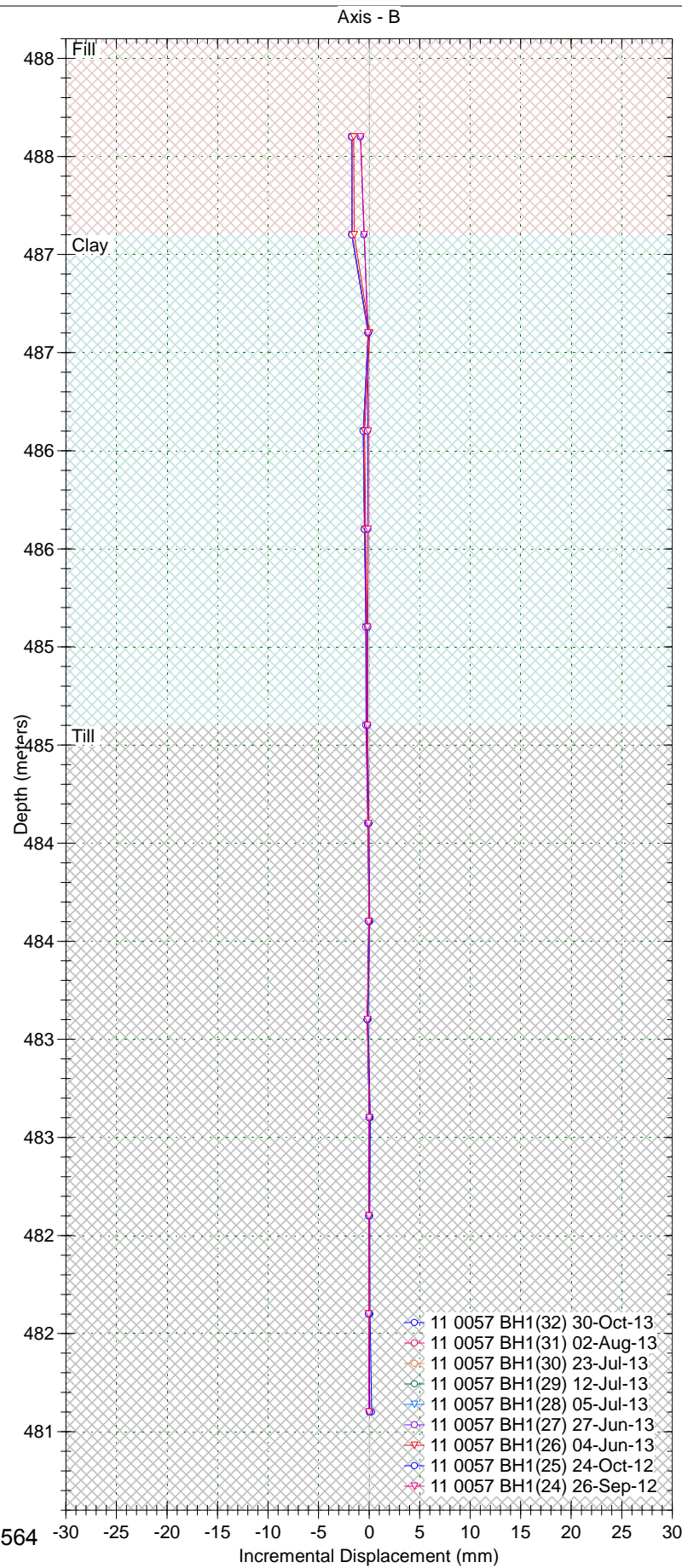
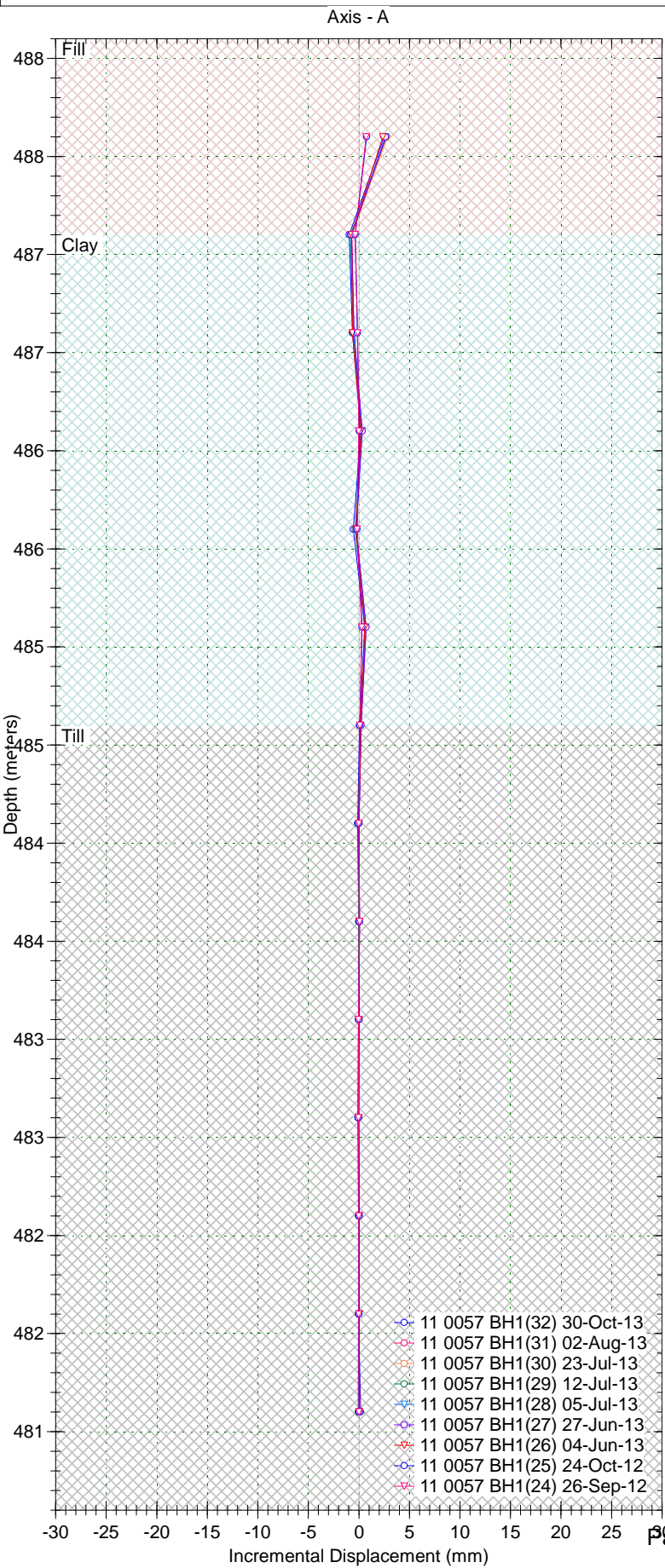
Borehole : BH1
Project : 11-1362-0057 Cherry Lane
Location : Lane - 241 11th St E
Northing : 5775616.8
Easting : 386010.5
Collar :

Spiral Correction : N/A
Collar Elevation : 488.1 meters
Borehole Total Depth : 7.0 meters
A+ Groove Azimuth :
Base Reading : 2012 Jun 25 08:55
Applied Azimuth : 0.0 degrees



Borehole : BH1
Project : 11-1362-0057 Cherry Lane
Location : Lane - 241 11th St E
Northing : 5775616.8
Easting : 386010.5
Collar :

Spiral Correction : N/A
Collar Elevation : 488.1 meters
Borehole Total Depth : 7.0 meters
A+ Groove Azimuth :
Base Reading : 2012 Jun 25 08:55
Applied Azimuth : 0.0 degrees

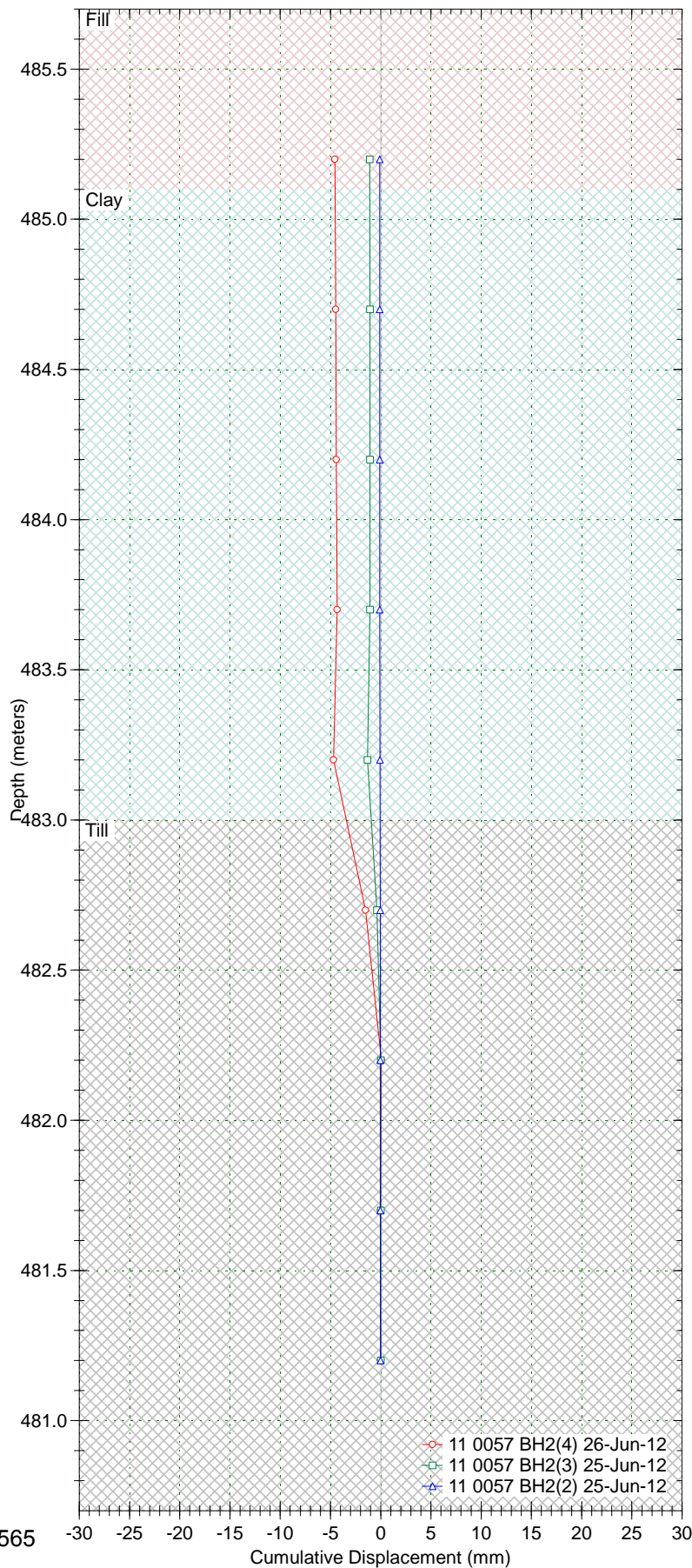
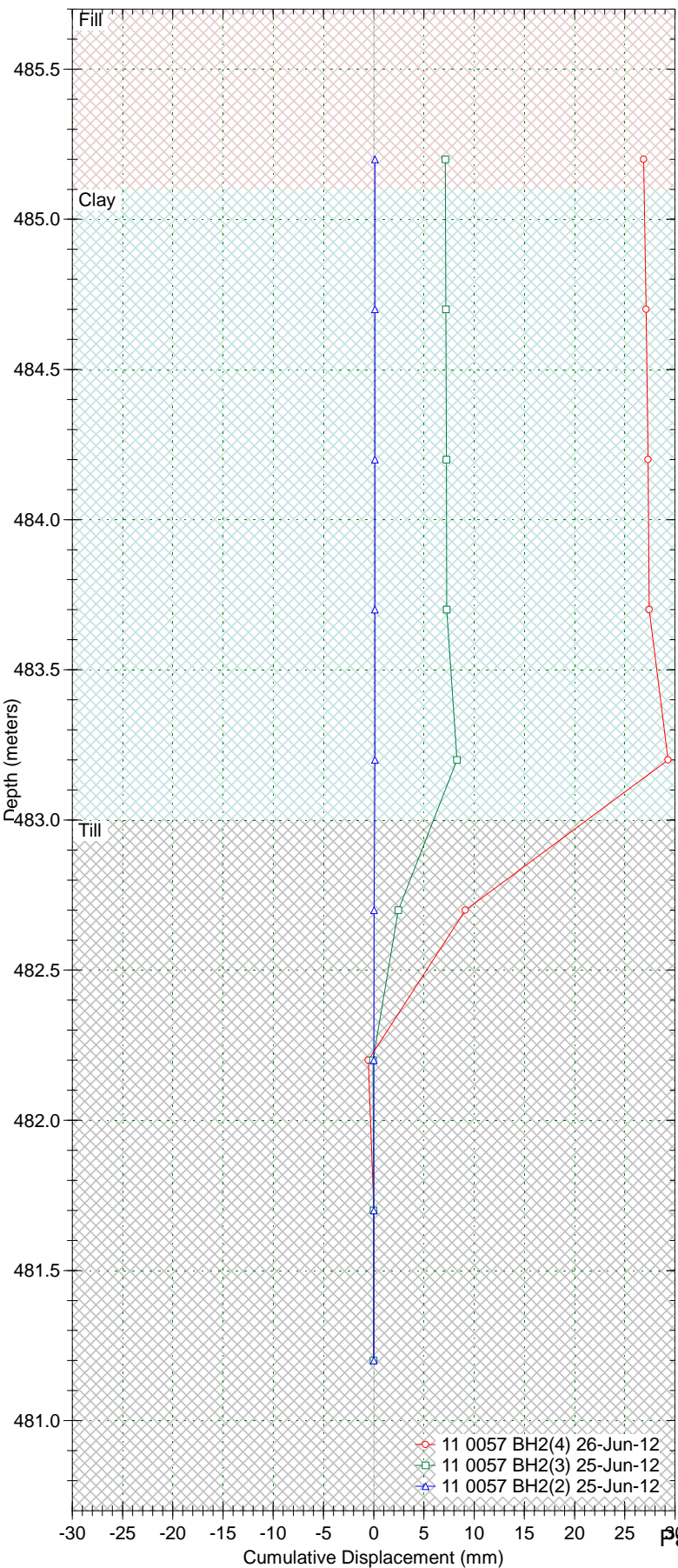


Borehole : BH 2
Project : 11-1362-0057 Cherry Lane
Location : Lane - 233 11th St E.
Northing : 5775623.7
Easting : 385980.0
Collar :

Spiral Correction : N/A
Collar Elevation : 485.7 meters
Borehole Total Depth : 4.5 meters
A+ Groove Azimuth :
Base Reading : 2012 Jun 25 09:39
Applied Azimuth : 0.0 degrees

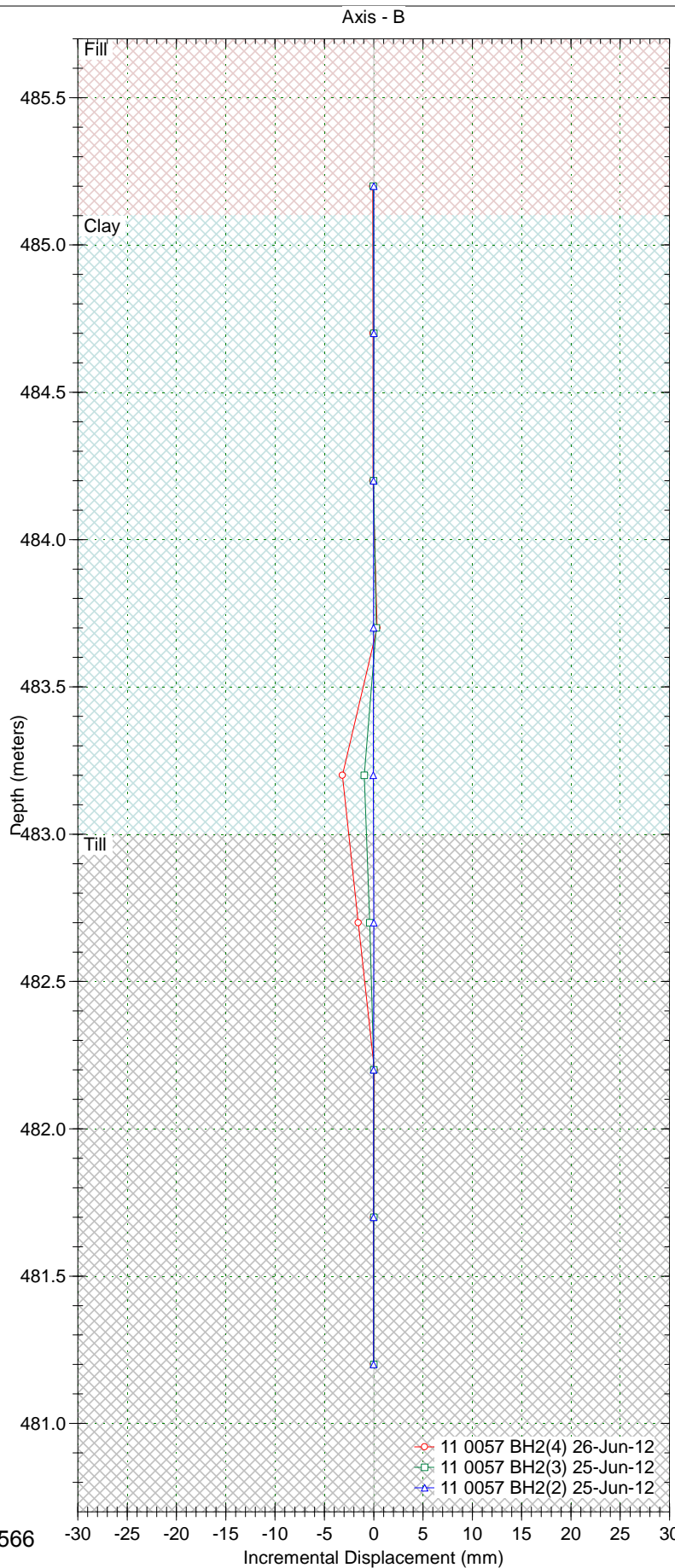
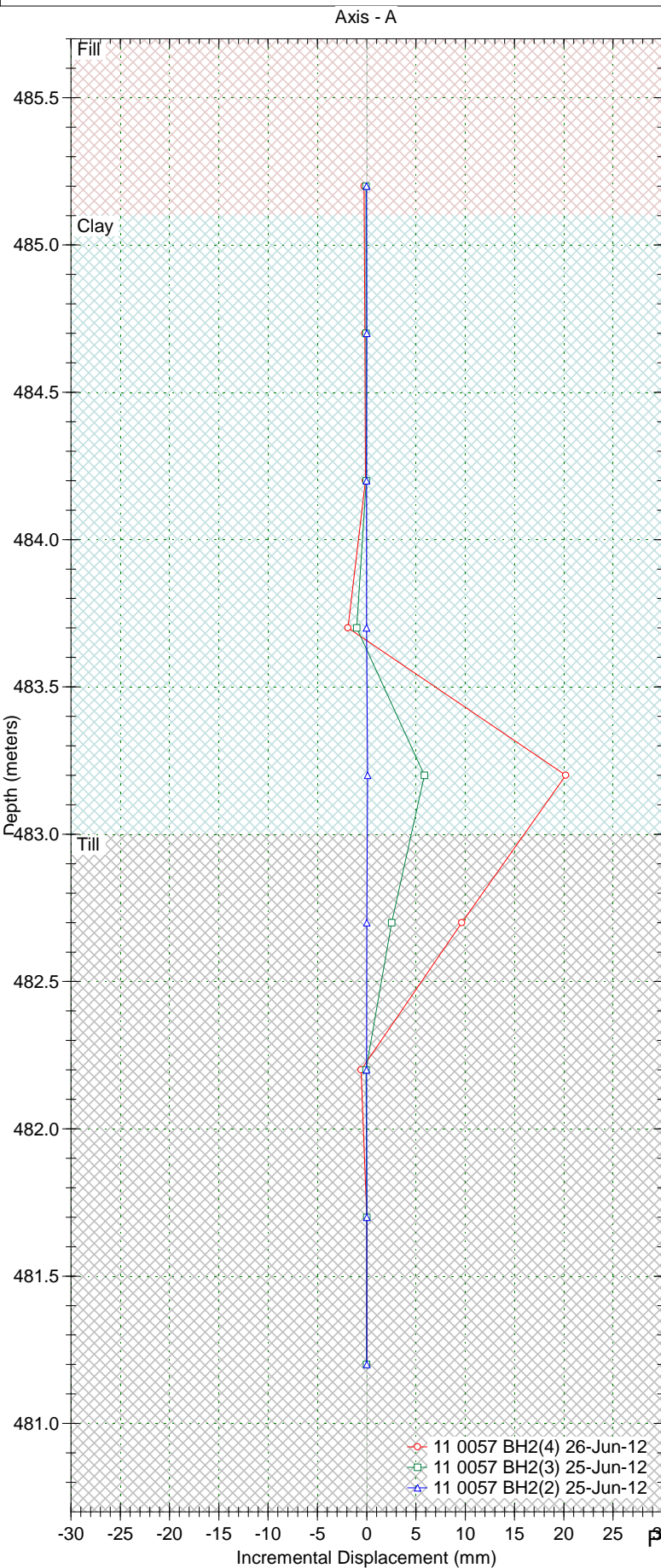
Axis - A

Axis - B



Borehole : BH 2
Project : 11-1362-0057 Cherry Lane
Location : Lane - 233 11th St E.
Northing : 5775623.7
Easting : 385980.0
Collar :

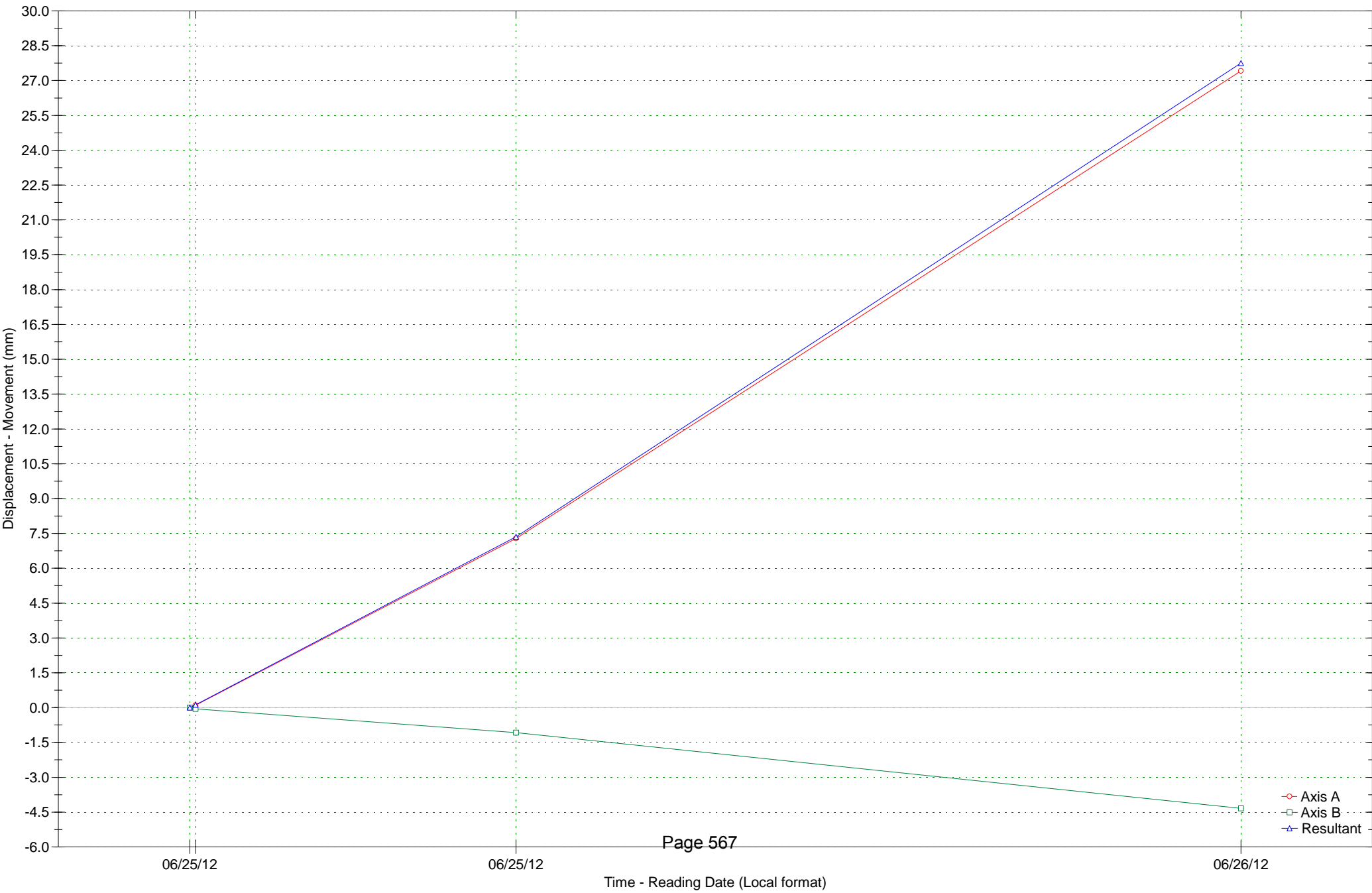
Spiral Correction : N/A
Collar Elevation : 485.7 meters
Borehole Total Depth : 4.5 meters
A+ Groove Azimuth :
Base Reading : 2012 Jun 25 09:39
Applied Azimuth : 0.0 degrees



Borehole : BH 2
Project : 11-1362-0057 Cherry Lane
Location : Lane - 233 11th St E.
Northing : 5775623.7
Easting : 385980.0
Collar :
Collar Elev : 485.7 meters

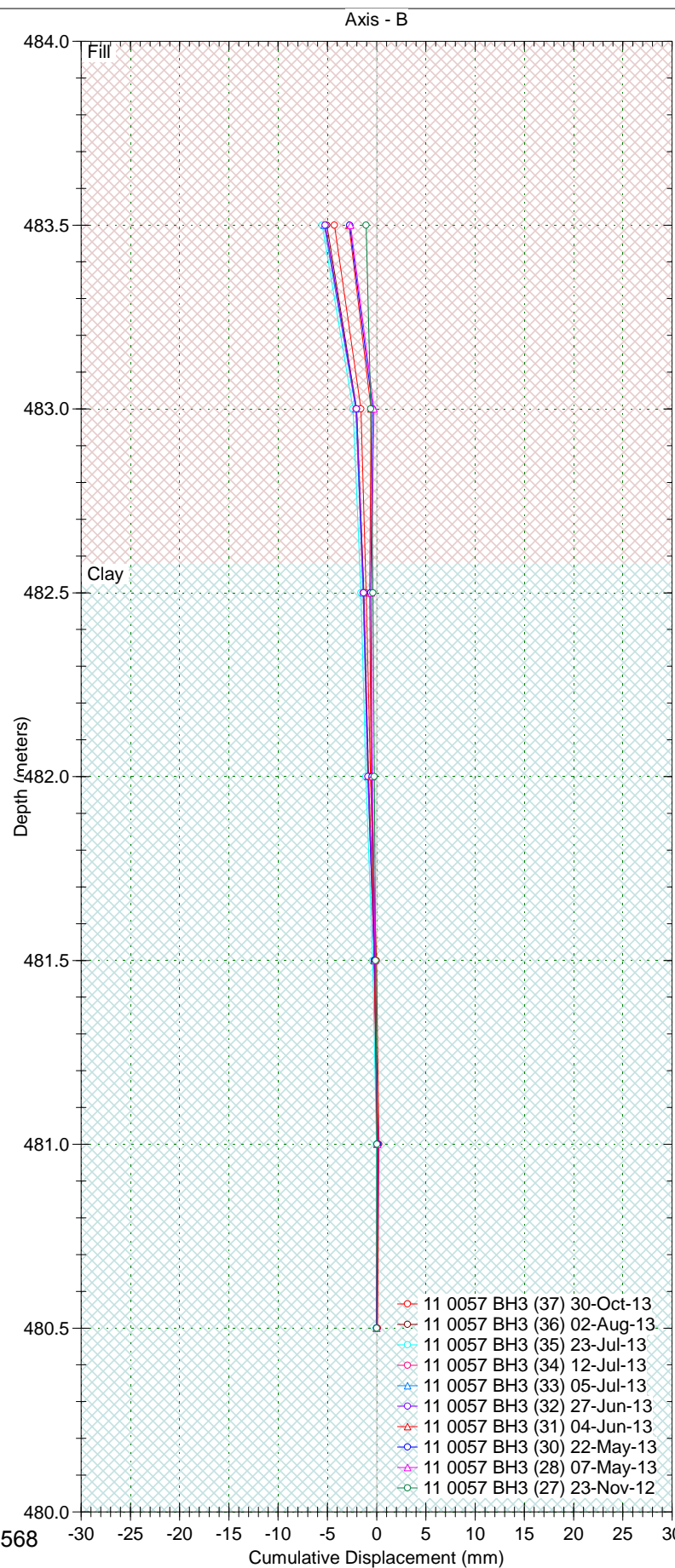
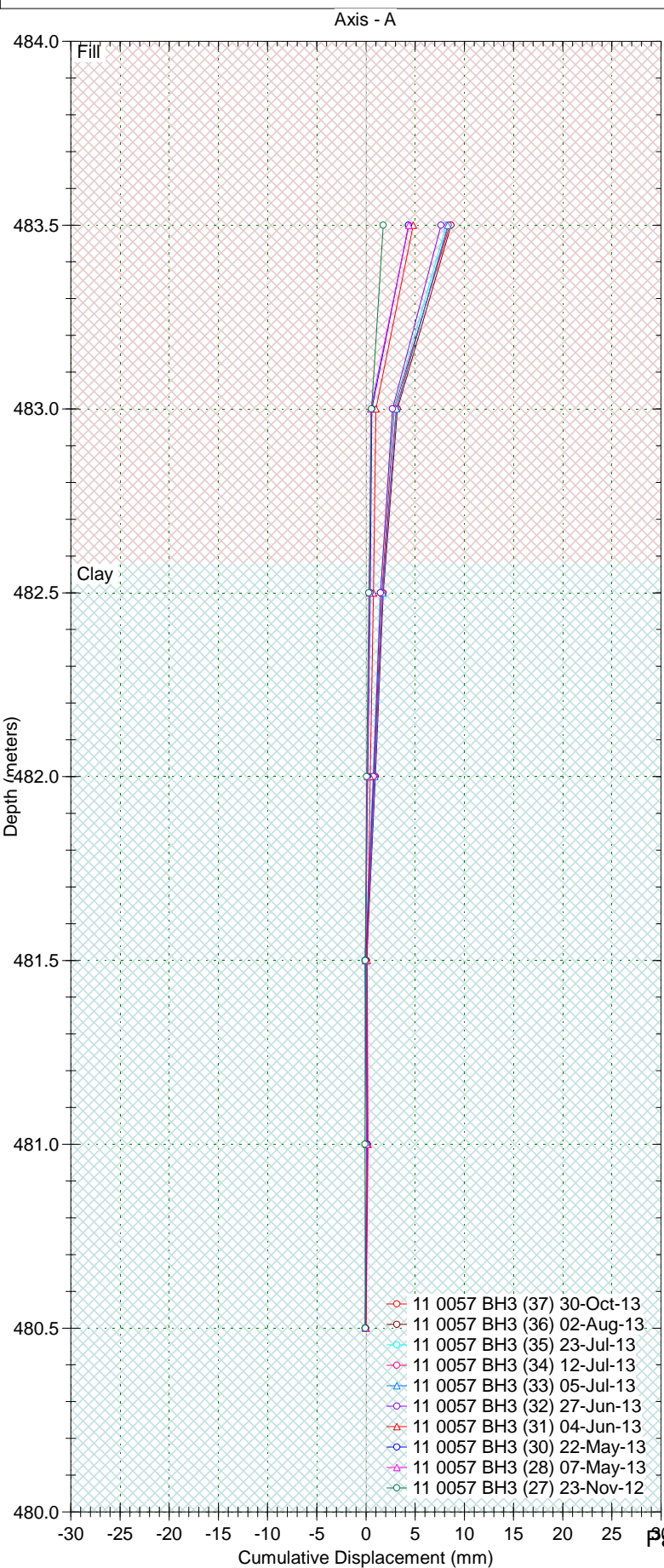
Spiral Correction : N/A
Movement Depth : 2.0 - 3.5 meters
Borehole Total Depth : 4.5 meters
A+ Groove Azimuth :
Latest Reading : 2012 Jun 26 09:02
Initial Reading : 2012 Jun 25 09:39
Applied Azimuth : 0.0 degrees

Time Plot : 2.0 - 3.5 meters



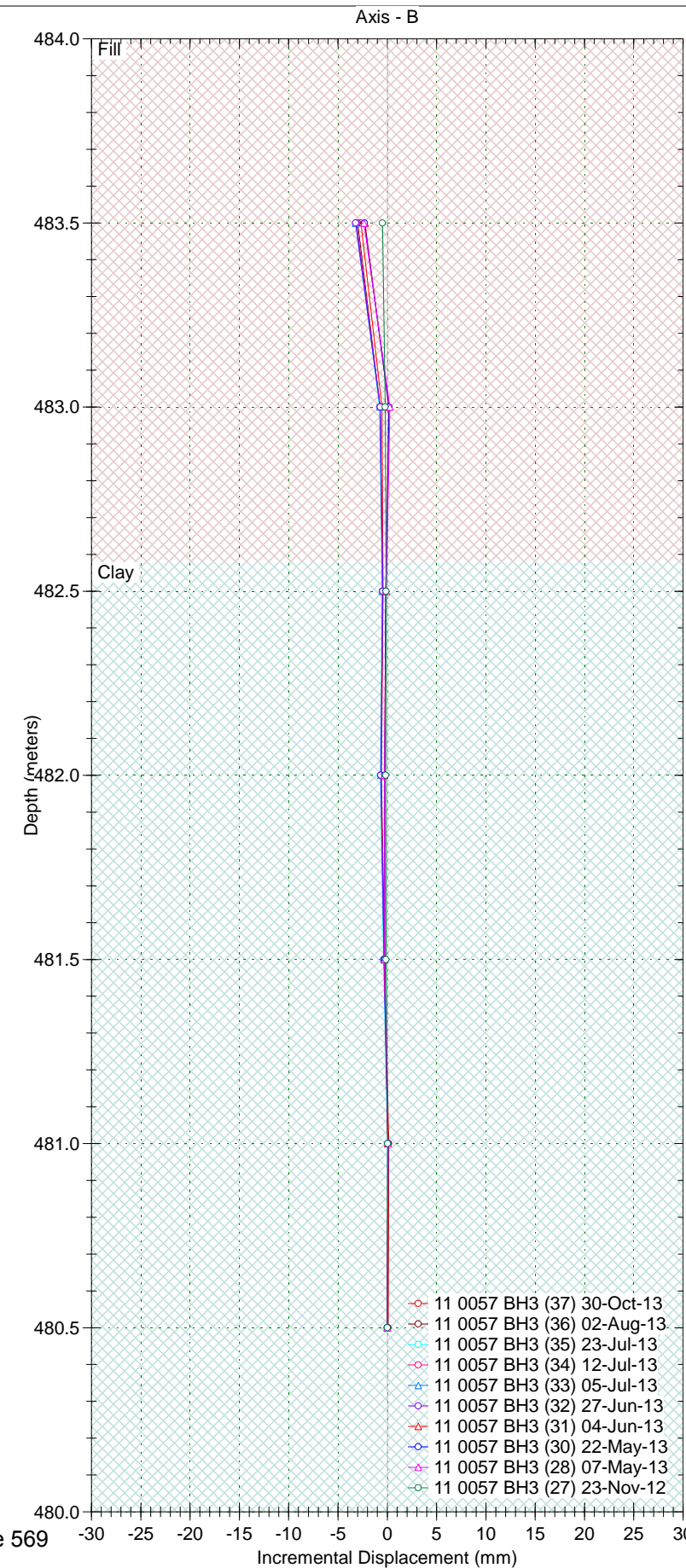
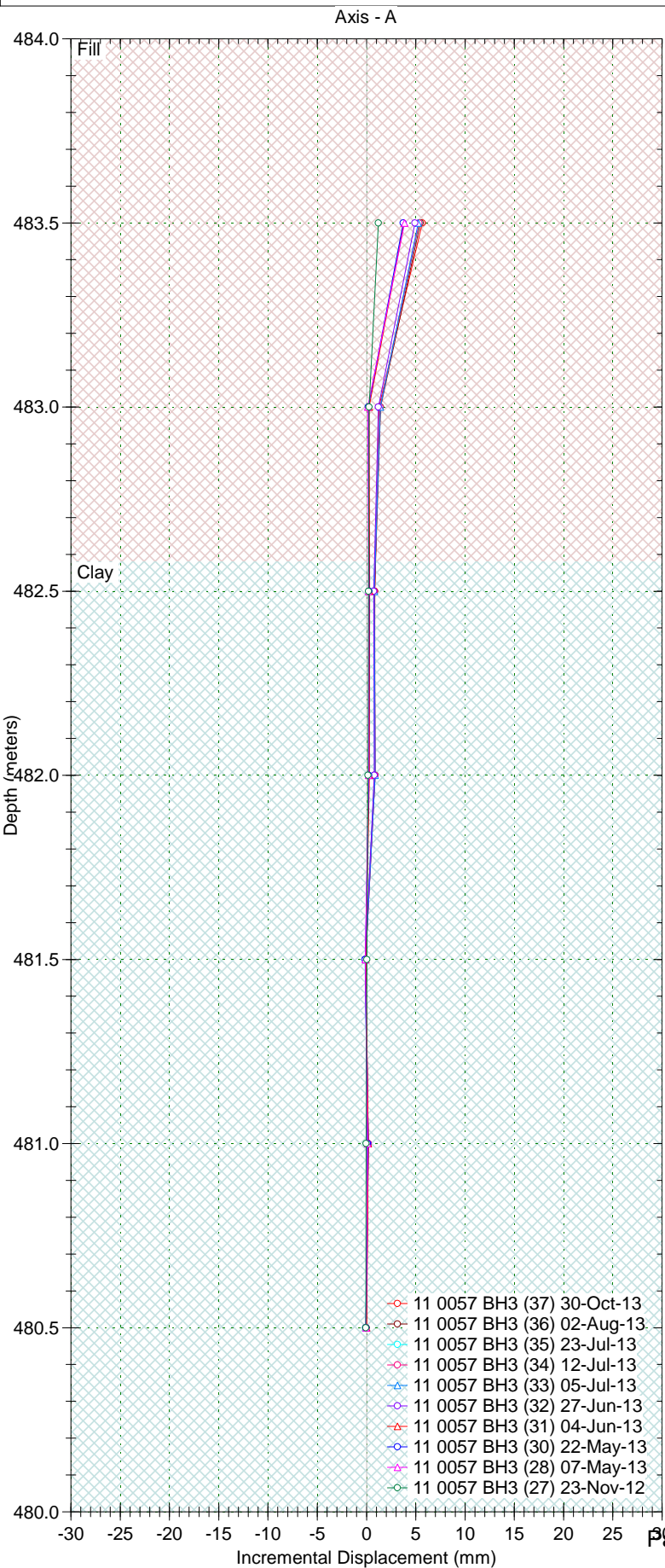
Borehole : BH 3
Project : 11-1362-0057 Cherry Lane
Location : Lane - 231 11th St E.
Northing : 5775623.7
Easting : 385980.0
Collar :

Spiral Correction : N/A
Collar Elevation : 484.0 meters
Borehole Total Depth : 3.5 meters
A+ Groove Azimuth :
Base Reading : 2012 Jun 25 10:17
Applied Azimuth : 0.0 degrees



Borehole : BH 3
Project : 11-1362-0057 Cherry Lane
Location : Lane - 231 11th St E.
Northing : 5775623.7
Easting : 385980.0
Collar :

Spiral Correction : N/A
Collar Elevation : 484.0 meters
Borehole Total Depth : 3.5 meters
A+ Groove Azimuth :
Base Reading : 2012 Jun 25 10:17
Applied Azimuth : 0.0 degrees



Borehole : BH 3
Project : 11-1362-0057 Cherry Lane
Location : Lane - 231 11th St E.
Northing : 5775623.7
Easting : 385980.0
Collar :
Collar Elev : 484.0 meters

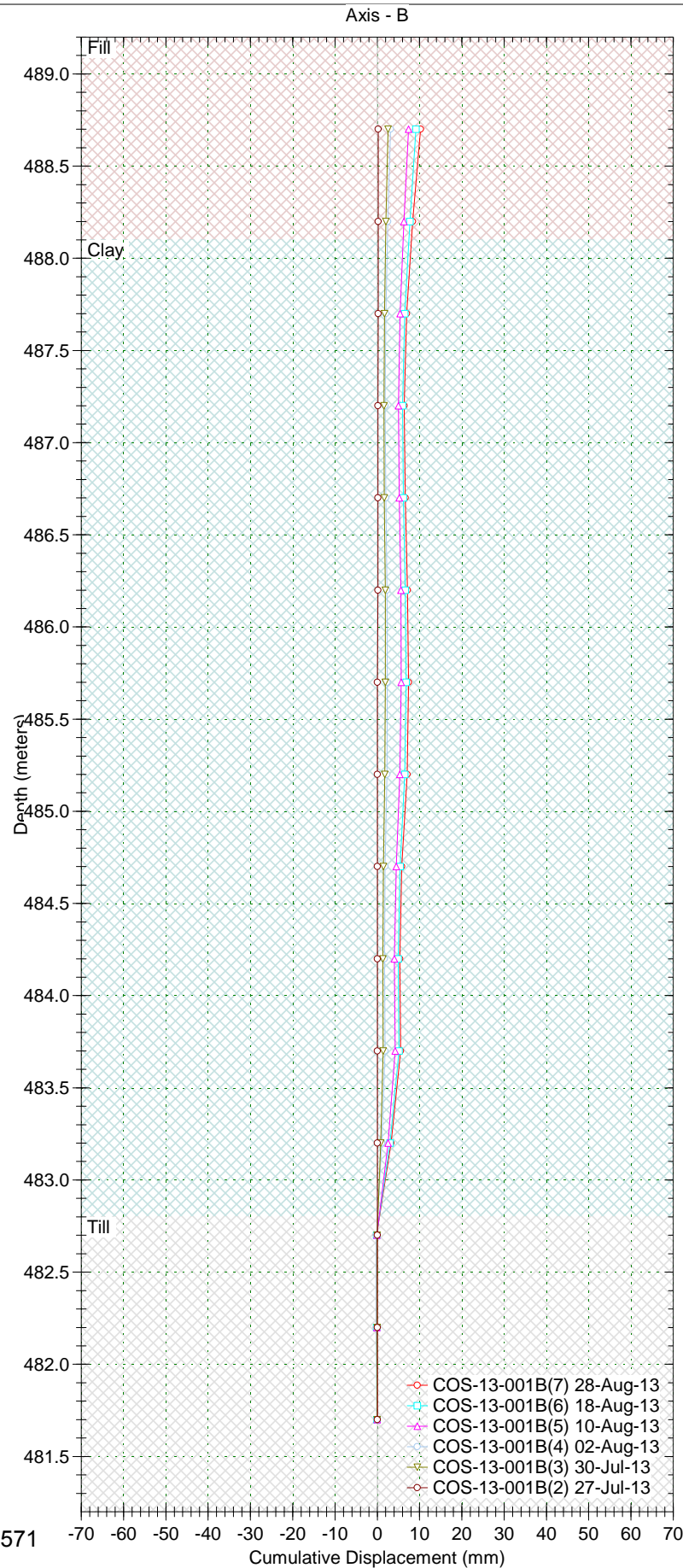
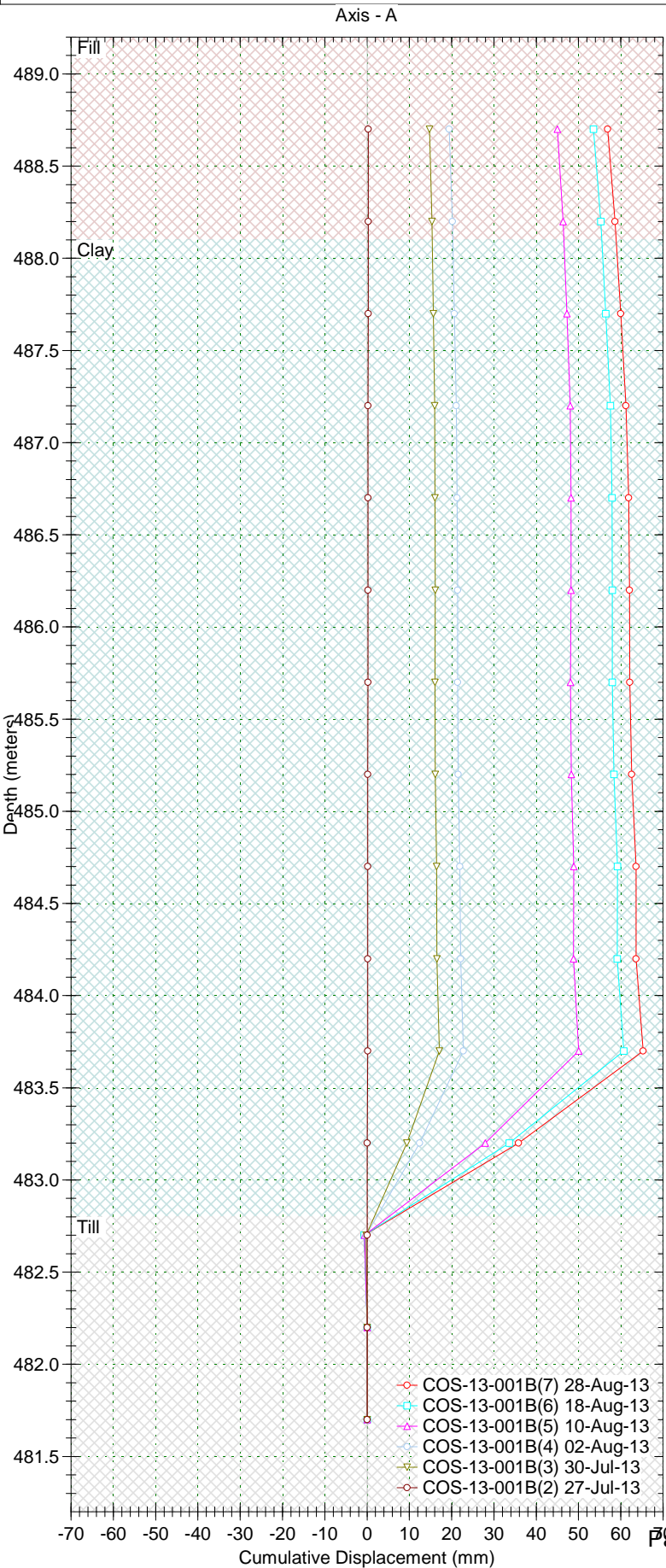
Spiral Correction : N/A
Movement Depth : 0.5 - 1.5 meters
Borehole Total Depth : 3.5 meters
A+ Groove Azimuth :
Latest Reading : 2013 Oct 30 10:49
Initial Reading : 2012 Jun 25 10:17
Applied Azimuth : 0.0 degrees

Time Plot : 0.5 - 1.5 meters



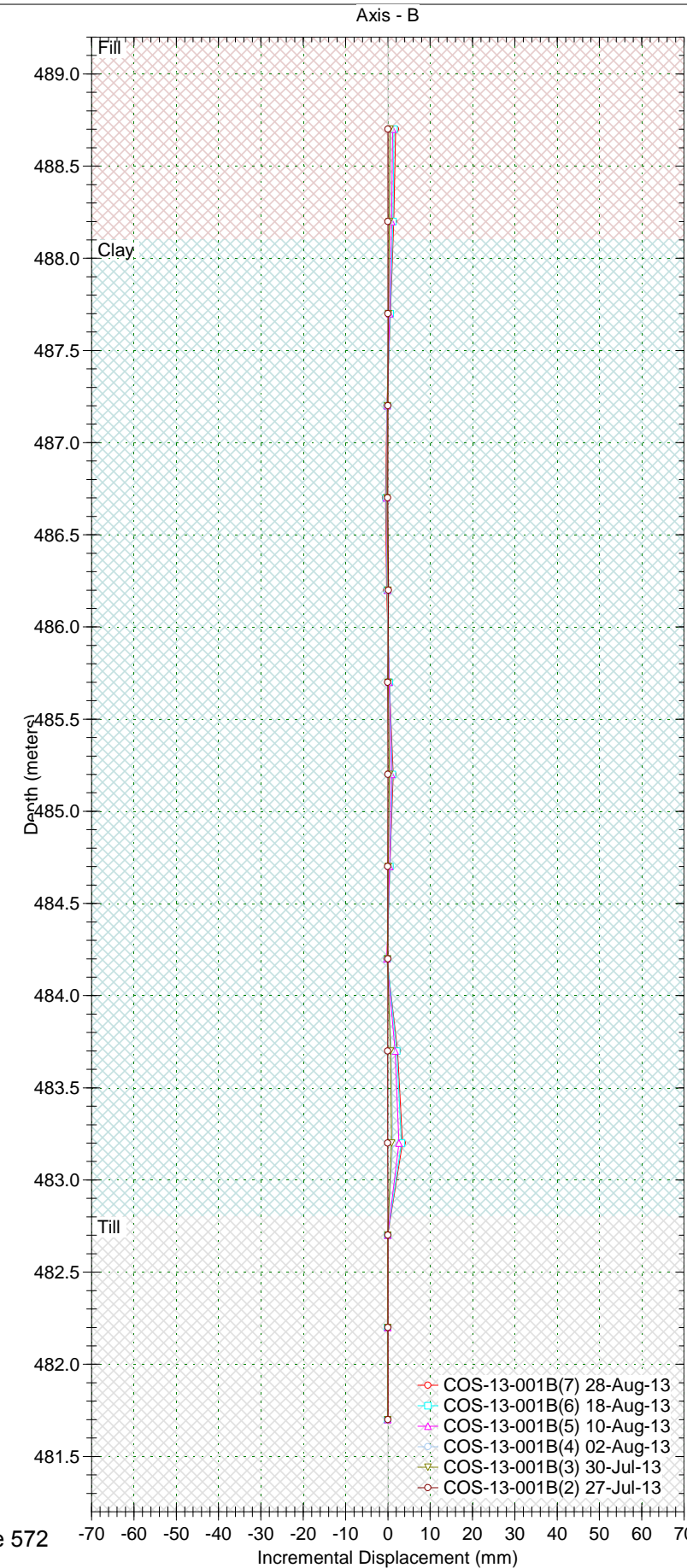
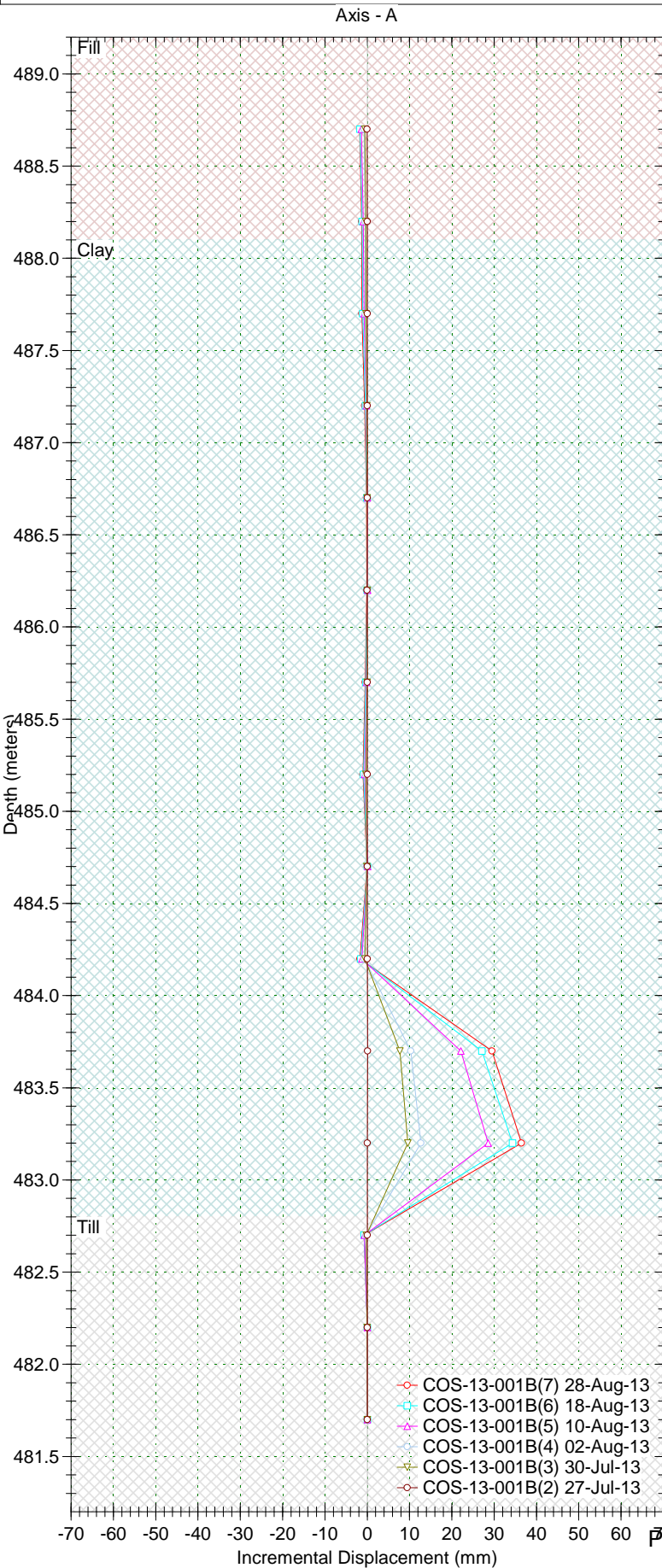
Borehole : COS-13-001B
Project : 11-1362-0057 Cherry Lane
Location : Lane - 306 SK. Cres. E.
Northing : 5775616.67
Easting : 386038.94
Collar : -0.109

Spiral Correction : N/A
Collar Elevation : 489.2 meters
Borehole Total Depth : 7.5 meters
A+ Groove Azimuth :
Base Reading : 2013 Jul 27 15:17
Applied Azimuth : 0.0 degrees



Borehole : COS-13-001B
Project : 11-1362-0057 Cherry Lane
Location : Lane - 306 SK. Cres. E.
Northing : 5775616.67
Easting : 386038.94
Collar : -0.109

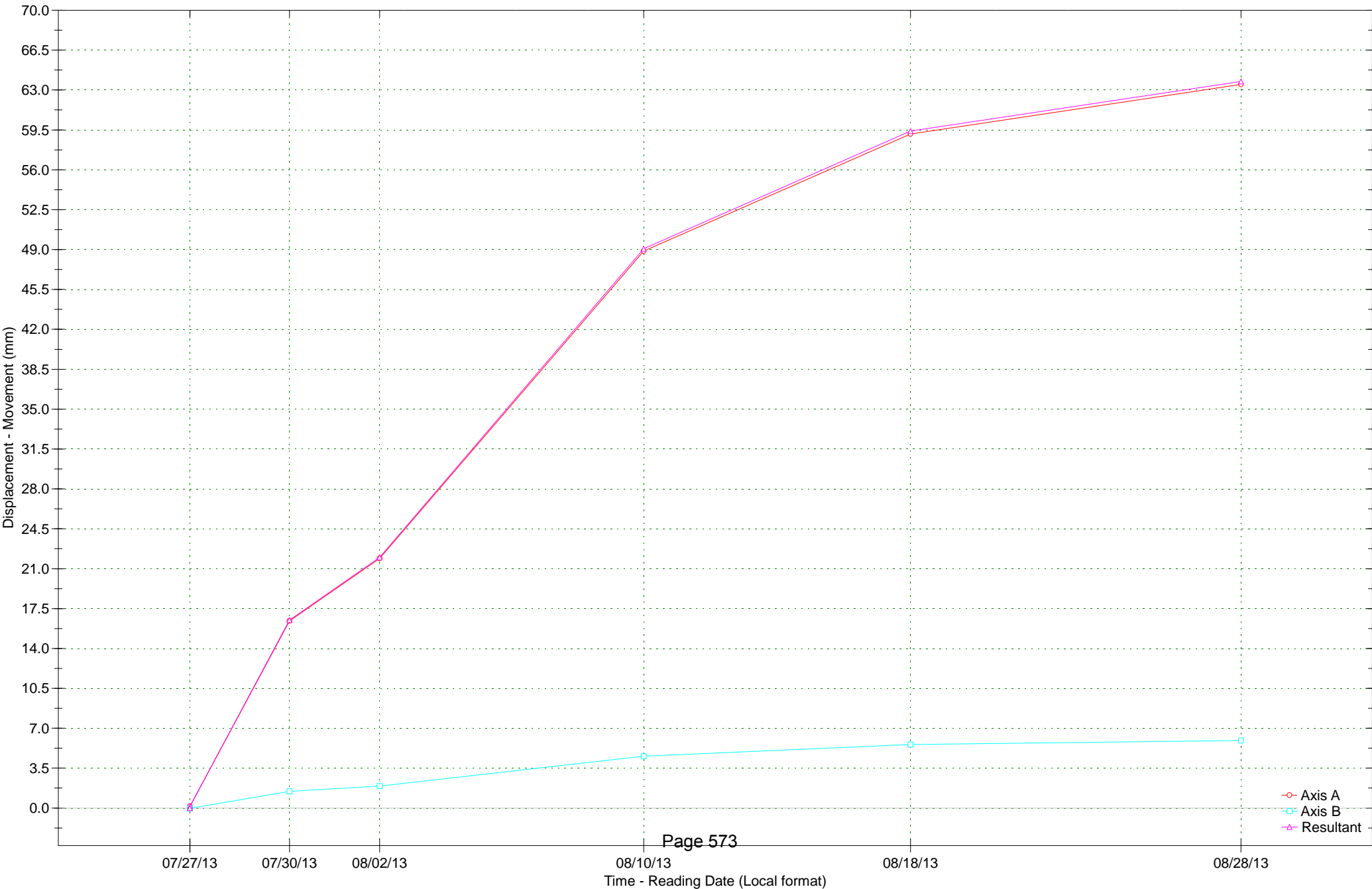
Spiral Correction : N/A
Collar Elevation : 489.2 meters
Borehole Total Depth : 7.5 meters
A+ Groove Azimuth :
Base Reading : 2013 Jul 27 15:17
Applied Azimuth : 0.0 degrees



Borehole : COS-13-001B
Project : 11-1362-0057 Cherry Lane
Location : Lane - 306 SK. Cres. E.
Northing : 5775616.67
Easting : 386038.94
Collar : -0.109
Collar Elev : 489.2 meters

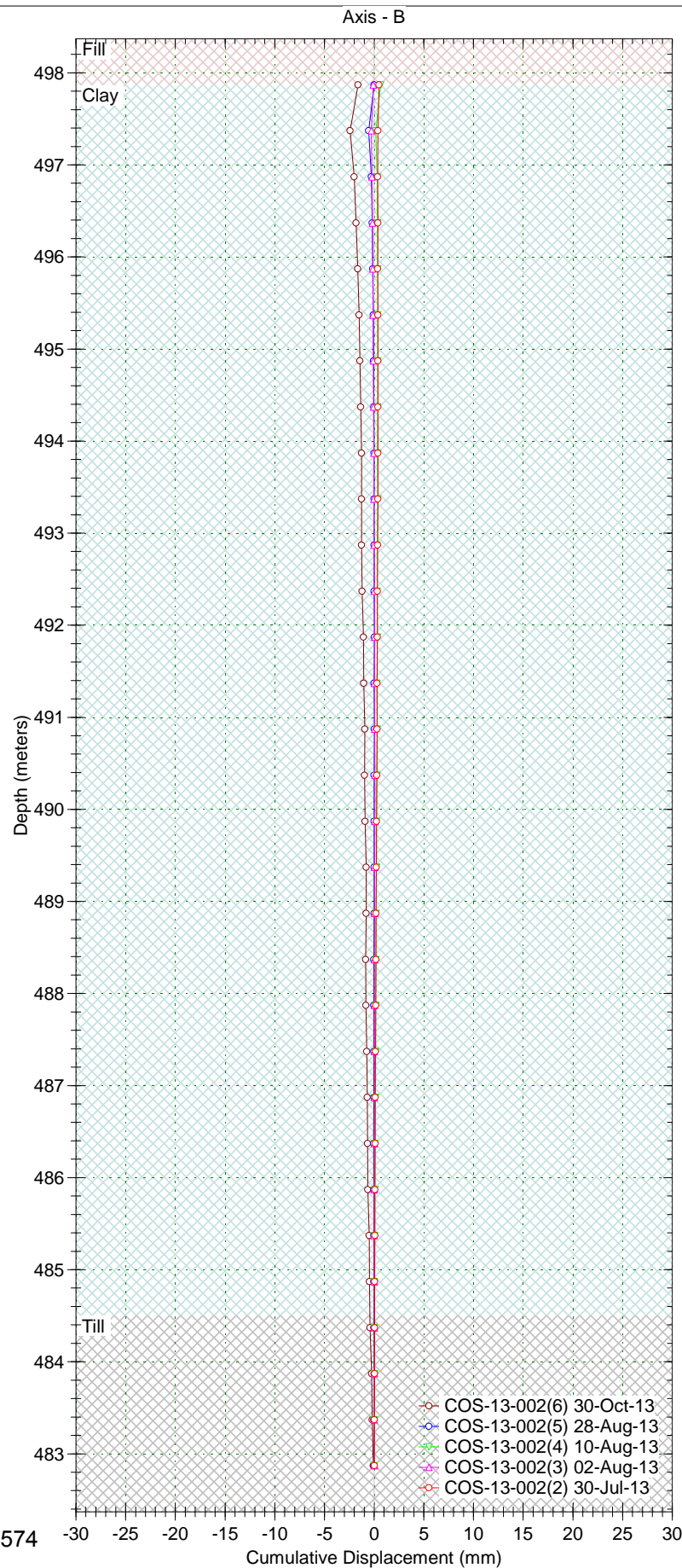
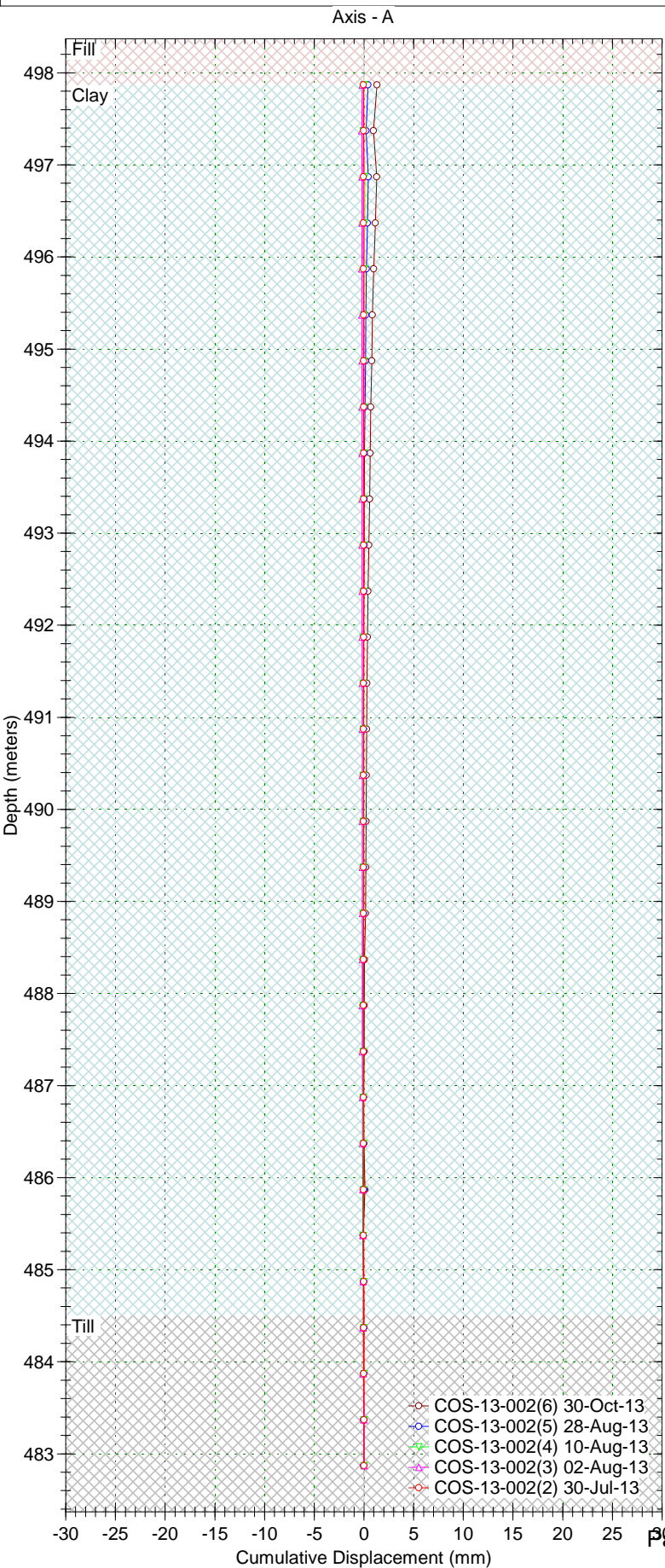
Spiral Correction : N/A
Movement Depth : 4.5 - 6.5 meters
Borehole Total Depth : 7.5 meters
A+ Groove Azimuth :
Latest Reading : 2013 Aug 28 08:05
Initial Reading : 2013 Jul 27 15:17
Applied Azimuth : 0.0 degrees

Time Plot : 4.5 - 6.5 meters



Borehole : COS-13-002
Project : 11-1362-0057 Cherry Lane
Location : 307 11th St. E. (Front)
Northing : 5775567.41
Easting : 386043.54
Collar : -0.113

Spiral Correction : N/A
Collar Elevation : 498.4 meters
Borehole Total Depth : 15.5 meters
A+ Groove Azimuth :
Base Reading : 2013 Jul 30 16:18
Applied Azimuth : 0.0 degrees

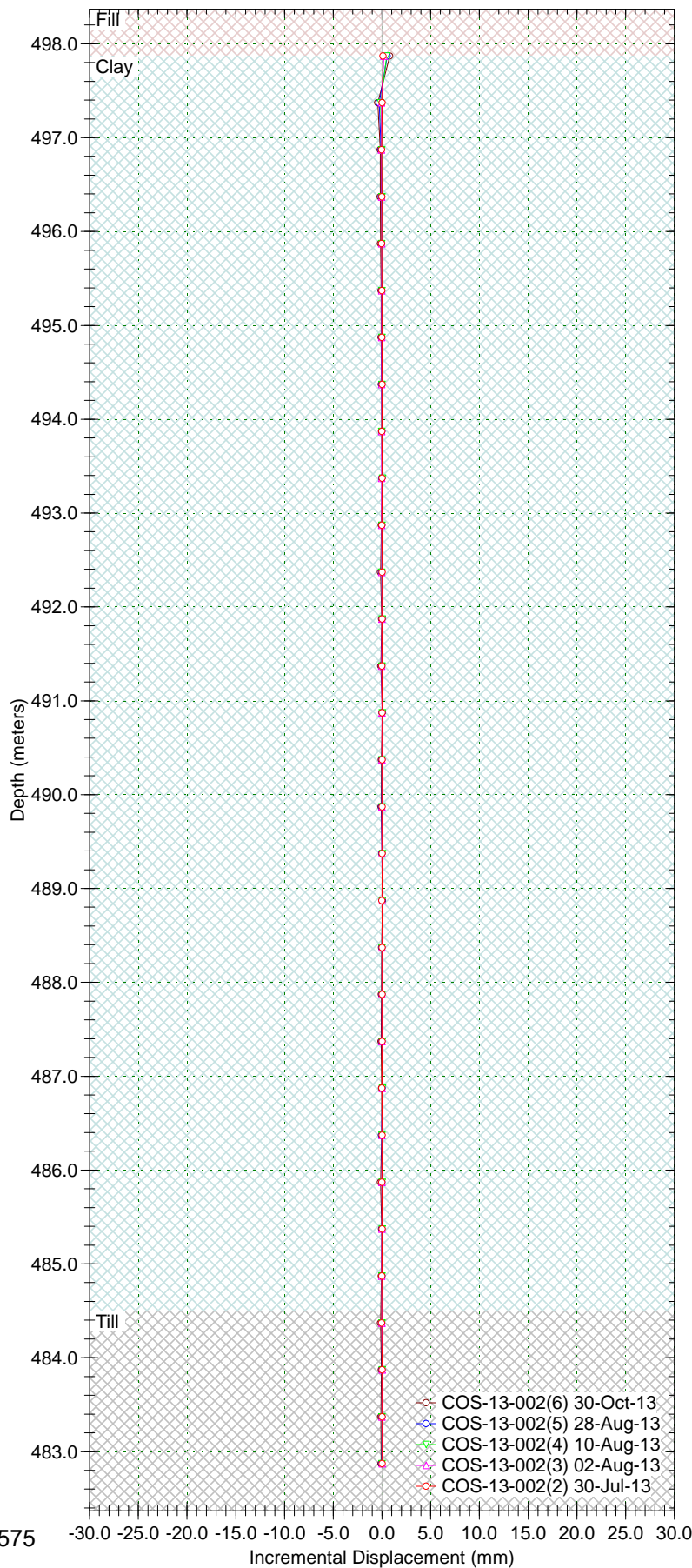
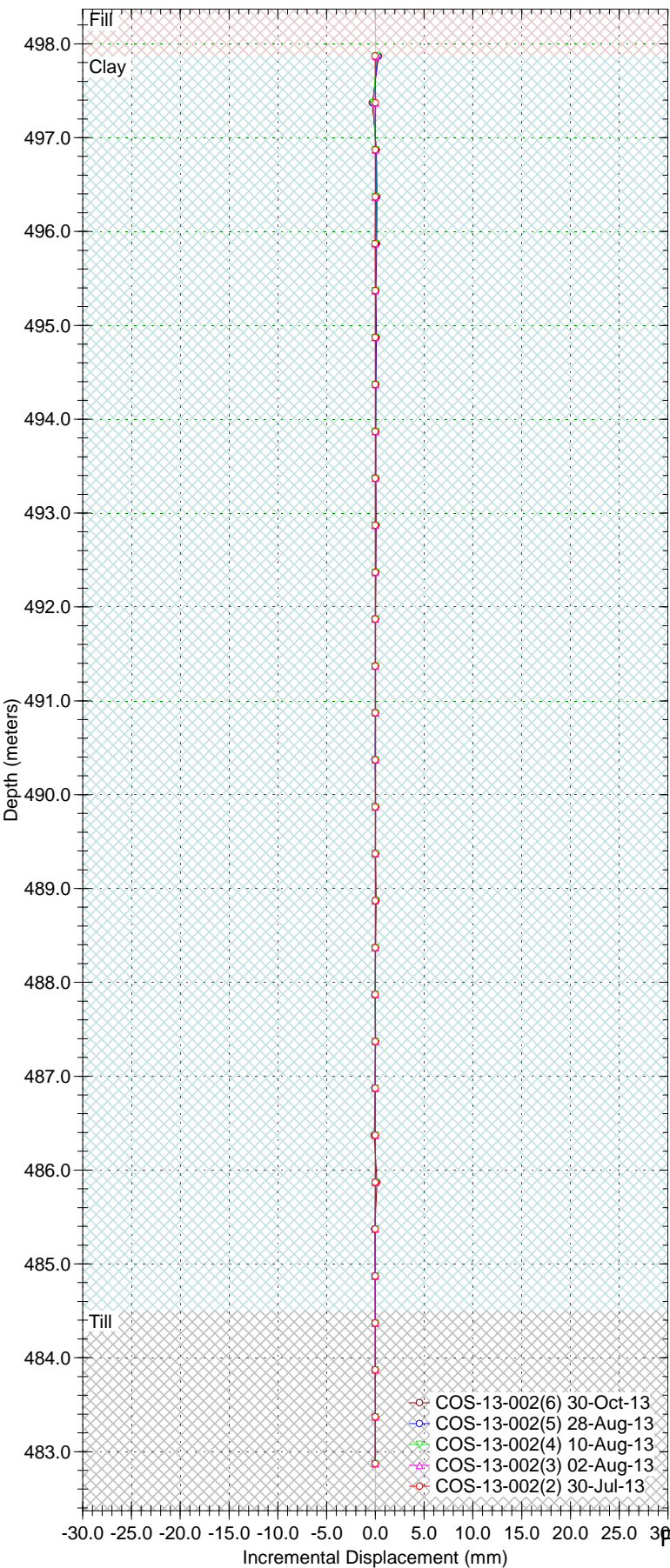


Borehole : COS-13-002
Project : 11-1362-0057 Cherry Lane
Location : 307 11th St. E. (Front)
Northing : 5775567.41
Easting : 386043.54
Collar : -0.113

Spiral Correction : N/A
Collar Elevation : 498.4 meters
Borehole Total Depth : 15.5 meters
A+ Groove Azimuth :
Base Reading : 2013 Jul 30 16:18
Applied Azimuth : 0.0 degrees

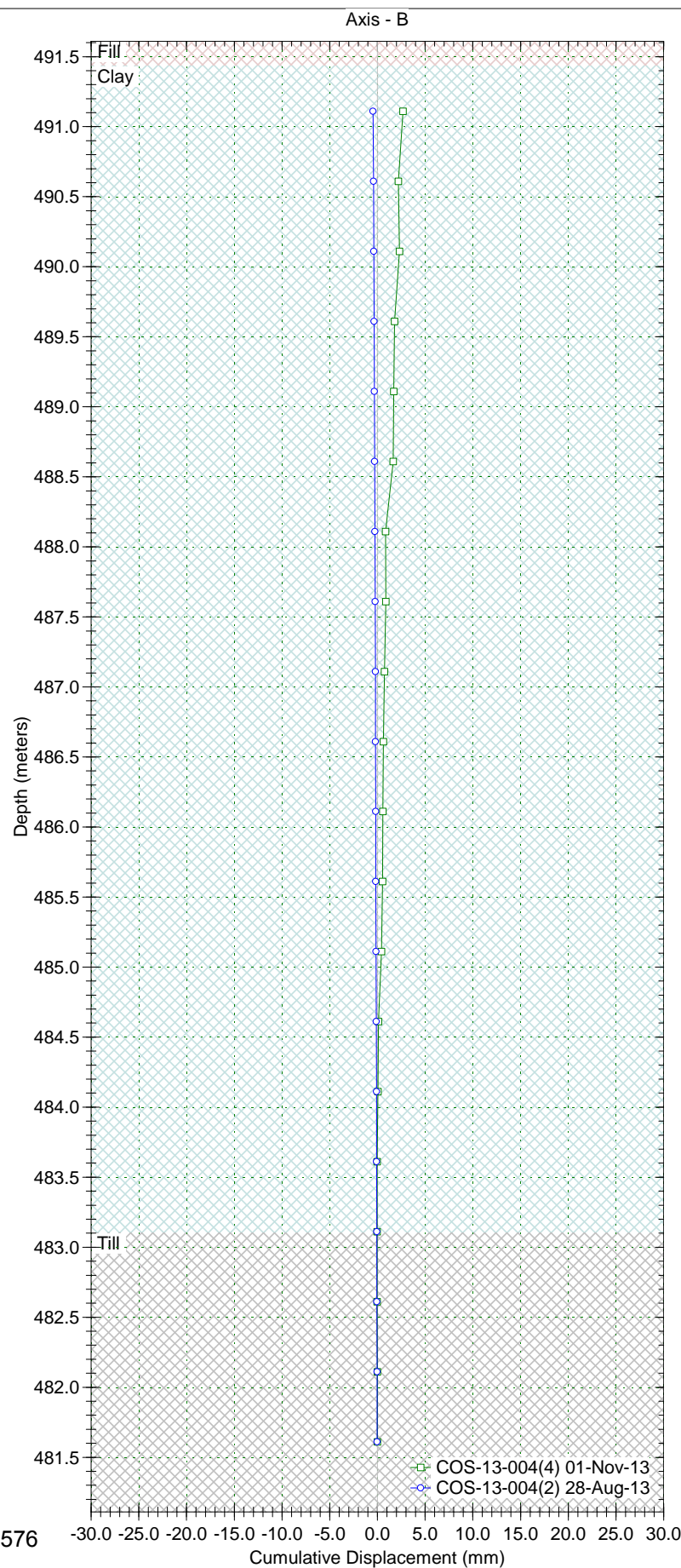
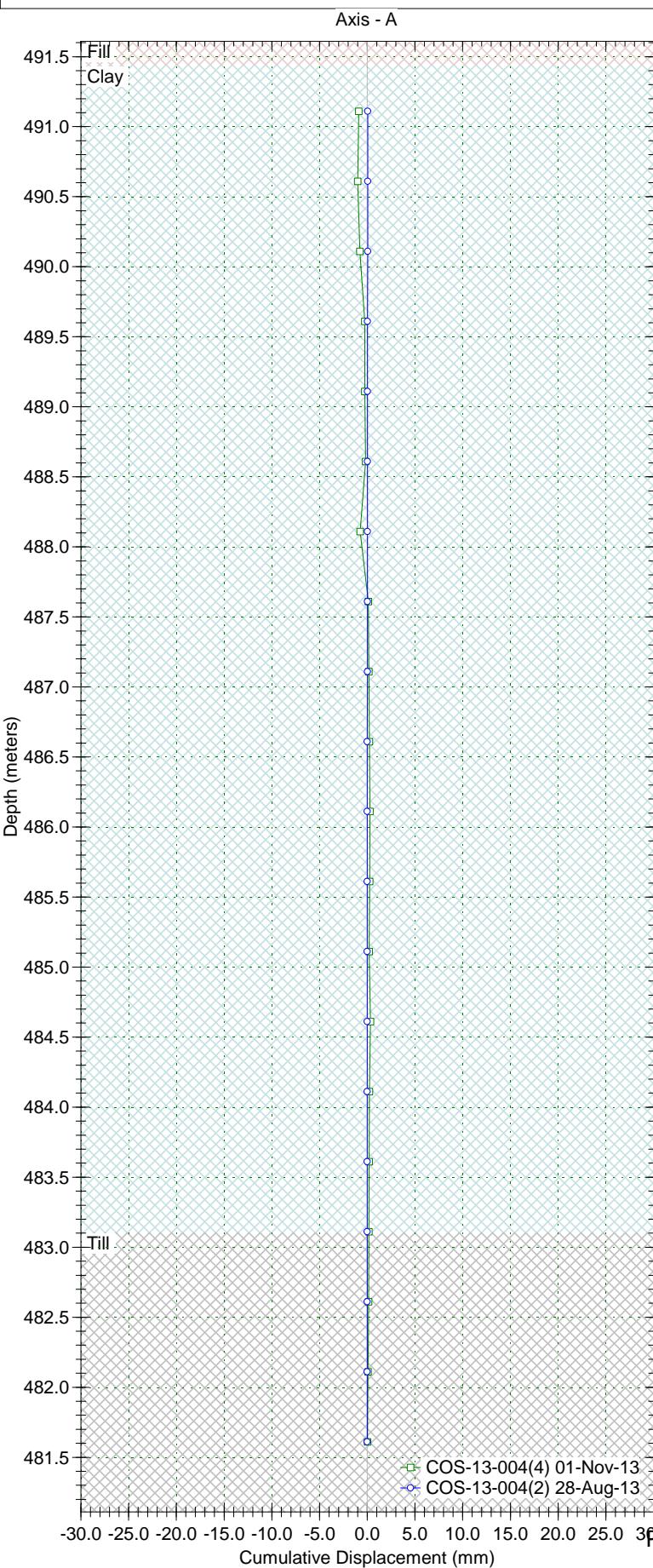
Axis - A

Axis - B



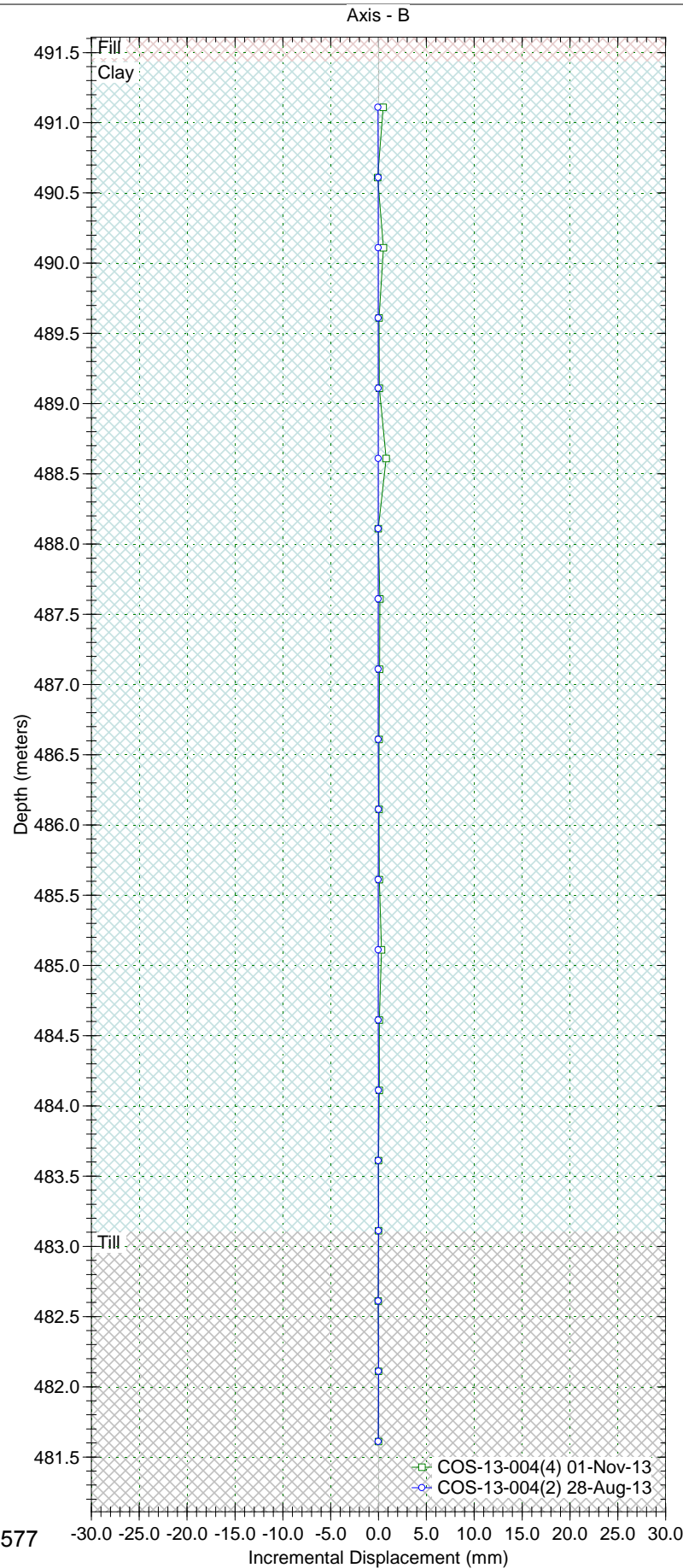
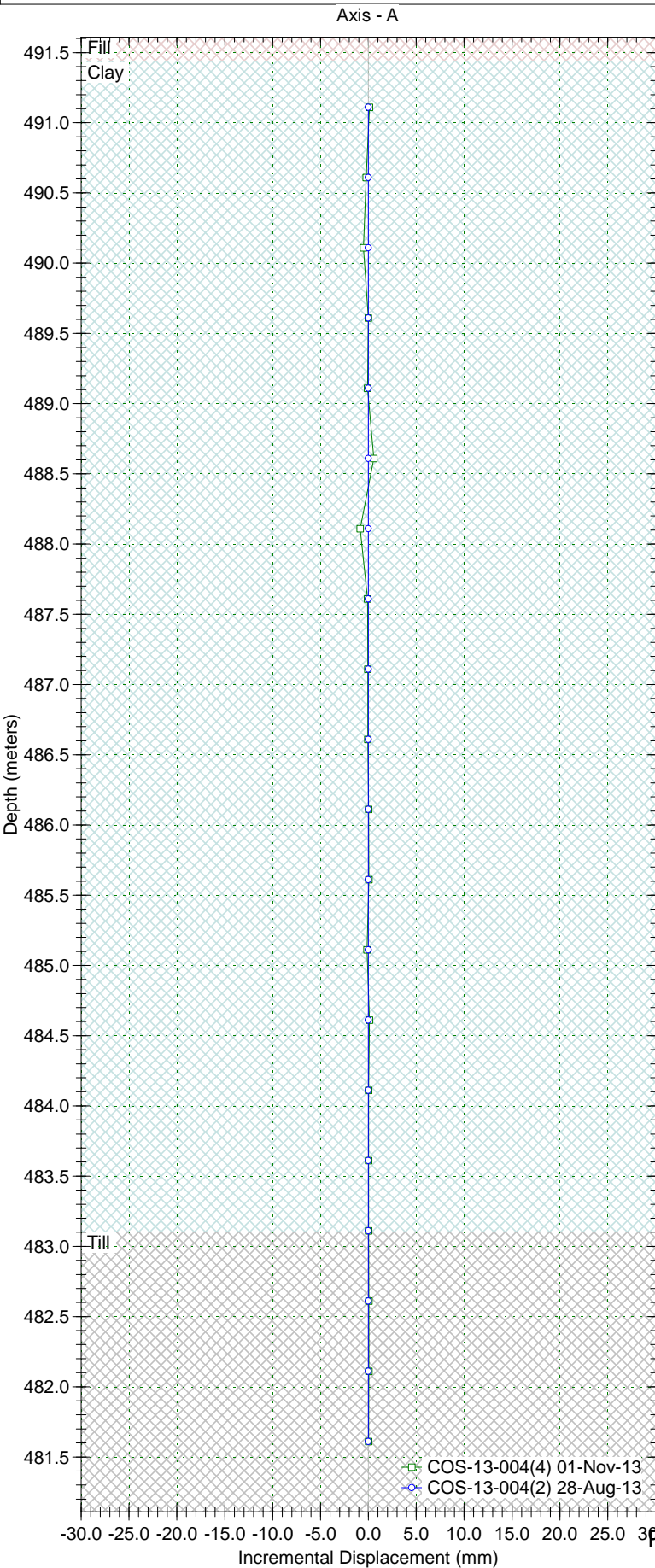
Borehole : COS-13-004
Project : 11-1362-0057 Cherry Lane
Location : 307 11th. St. E. (back)
Northing : 5775604.97
Easting : 386050.63
Collar : -0.677

Spiral Correction : N/A
Collar Elevation : 491.6 meters
Borehole Total Depth : 10.0 meters
A+ Groove Azimuth :
Base Reading : 2013 Aug 28 08:30
Applied Azimuth : 0.0 degrees



Borehole : COS-13-004
Project : 11-1362-0057 Cherry Lane
Location : 307 11th. St. E. (back)
Northing : 5775604.97
Easting : 386050.63
Collar : -0.677

Spiral Correction : N/A
Collar Elevation : 491.6 meters
Borehole Total Depth : 10.0 meters
A+ Groove Azimuth :
Base Reading : 2013 Aug 28 08:30
Applied Azimuth : 0.0 degrees

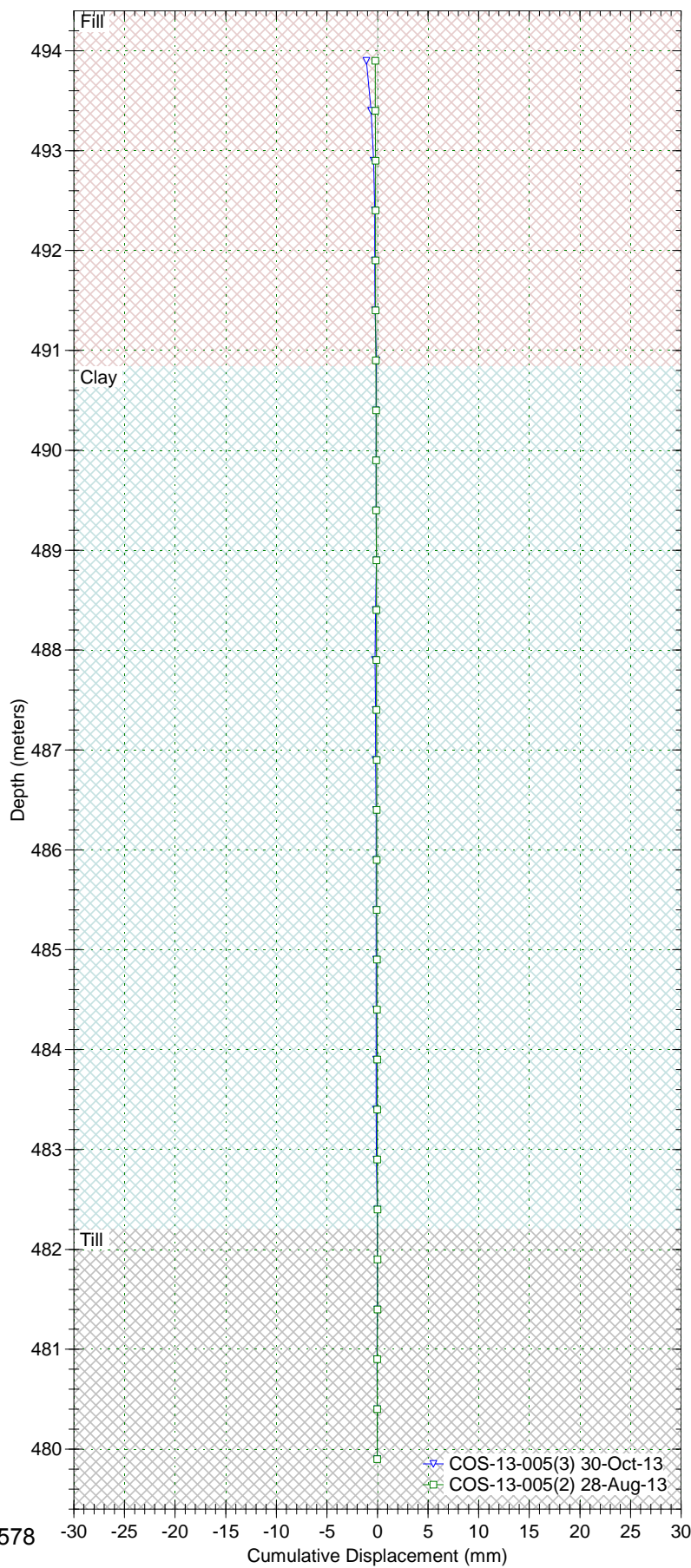
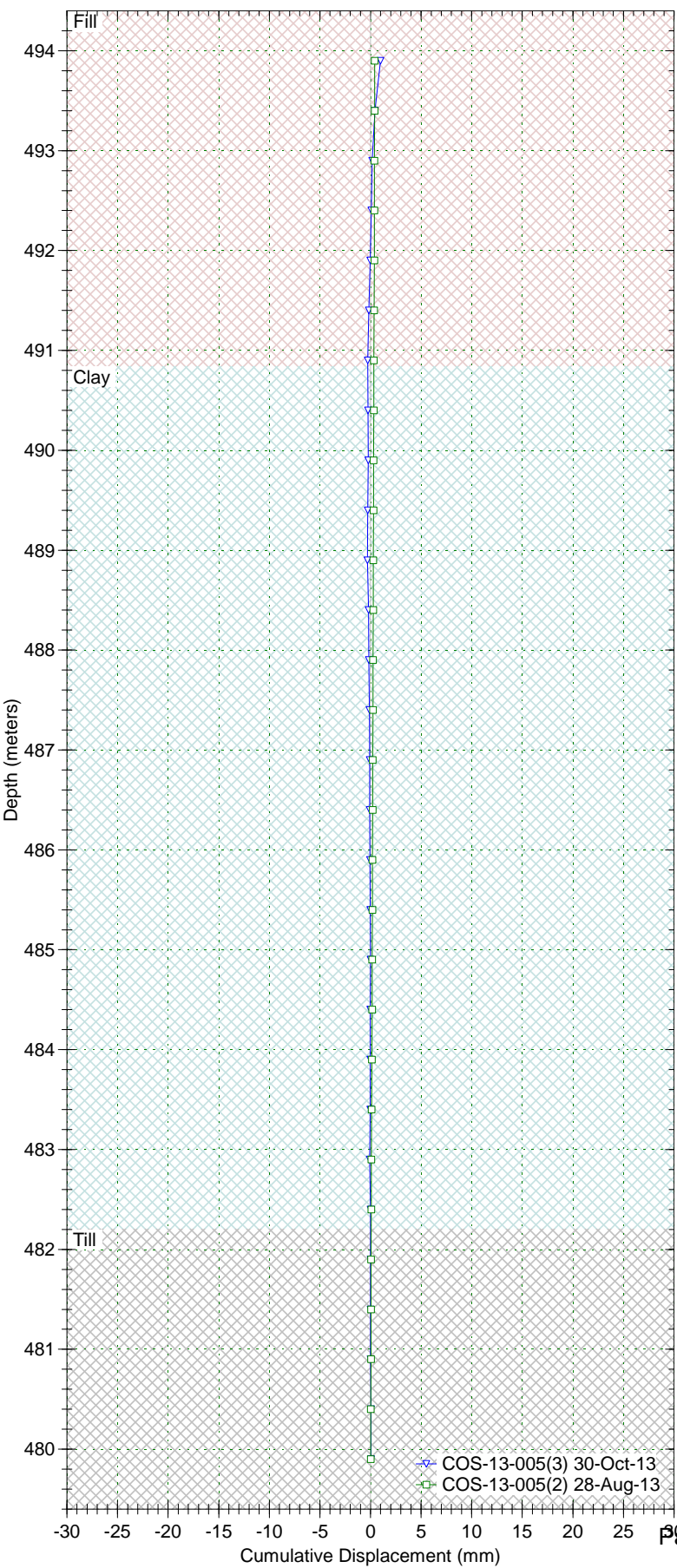


Borehole : COS-13-005
Project : 11-1362-0057 Cherry Lane
Location : 316 Sask. Cres. E.
Northing : 5775631.299
Easting : 386078.8467
Collar : -0.1

Spiral Correction : N/A
Collar Elevation : 494.4 meters
Borehole Total Depth : 14.5 meters
A+ Groove Azimuth :
Base Reading : 2013 Aug 28 09:11
Applied Azimuth : 0.0 degrees

Axis - A

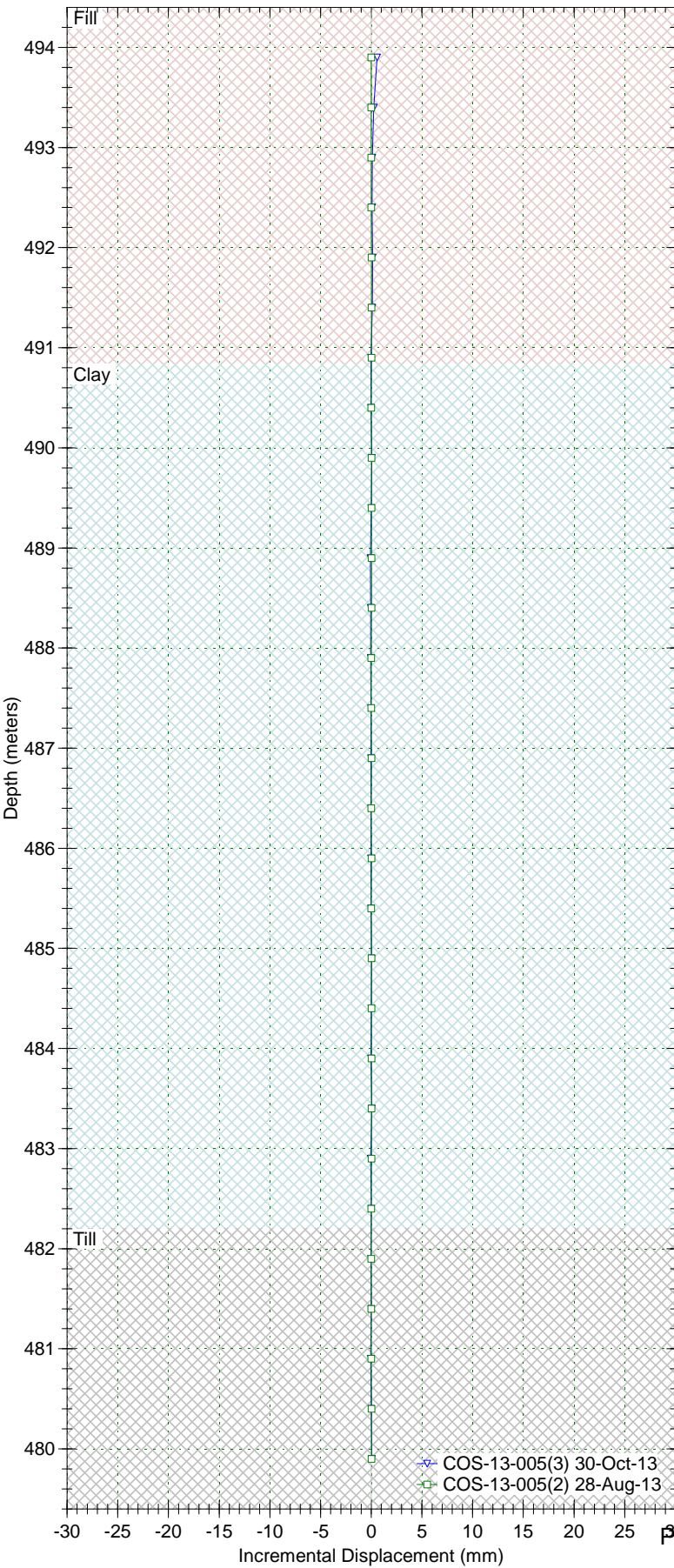
Axis - B



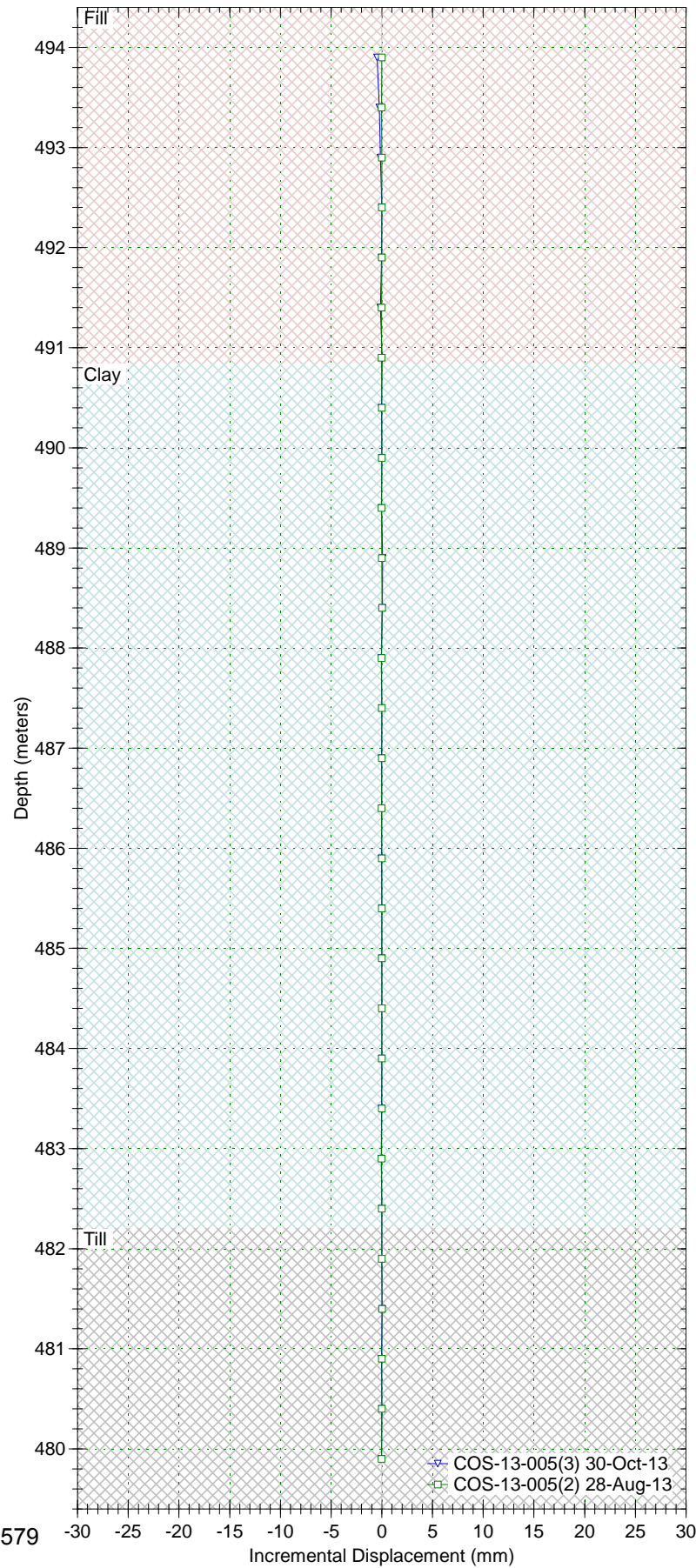
Borehole : COS-13-005
Project : 11-1362-0057 Cherry Lane
Location : 316 Sask. Cres. E.
Northing : 5775631.299
Easting : 386078.8467
Collar : -0.1

Spiral Correction : N/A
Collar Elevation : 494.4 meters
Borehole Total Depth : 14.5 meters
A+ Groove Azimuth :
Base Reading : 2013 Aug 28 09:11
Applied Azimuth : 0.0 degrees

Axis - A

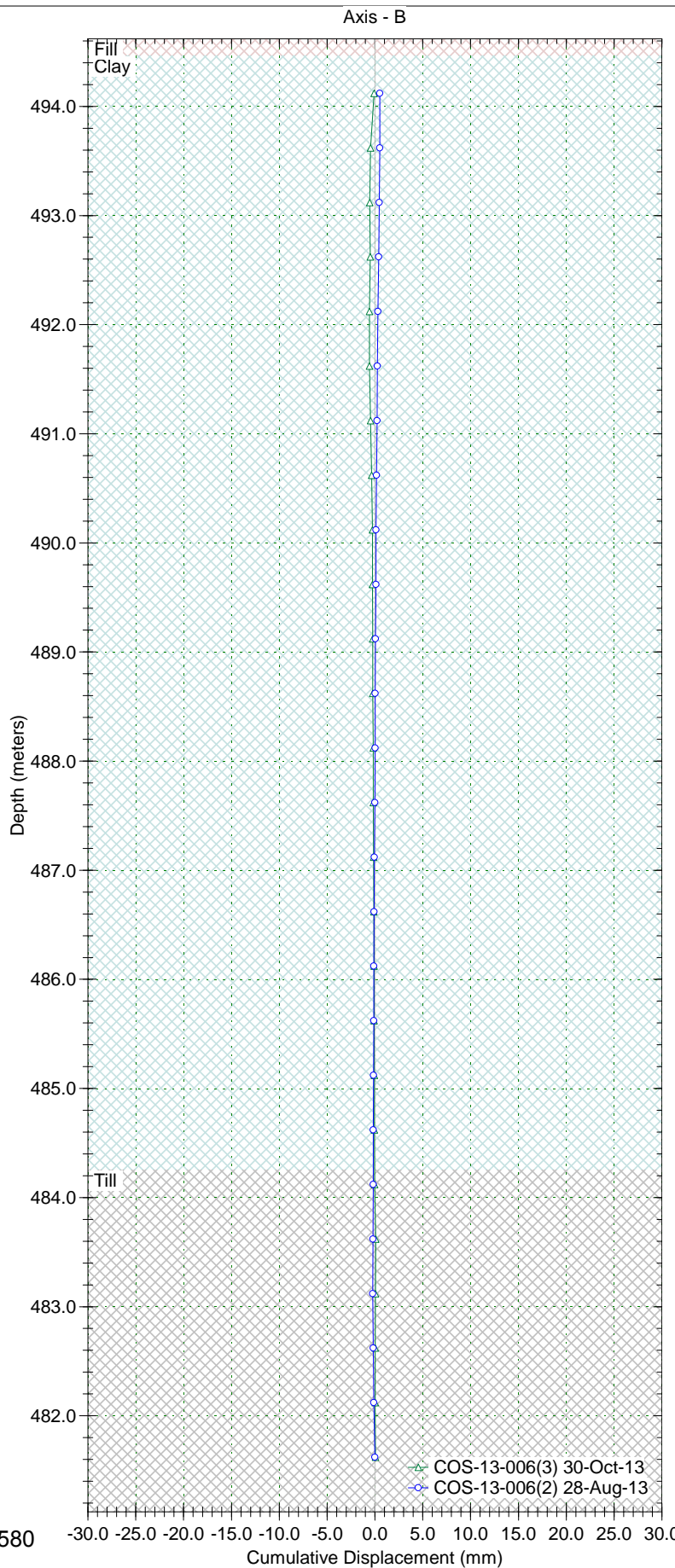
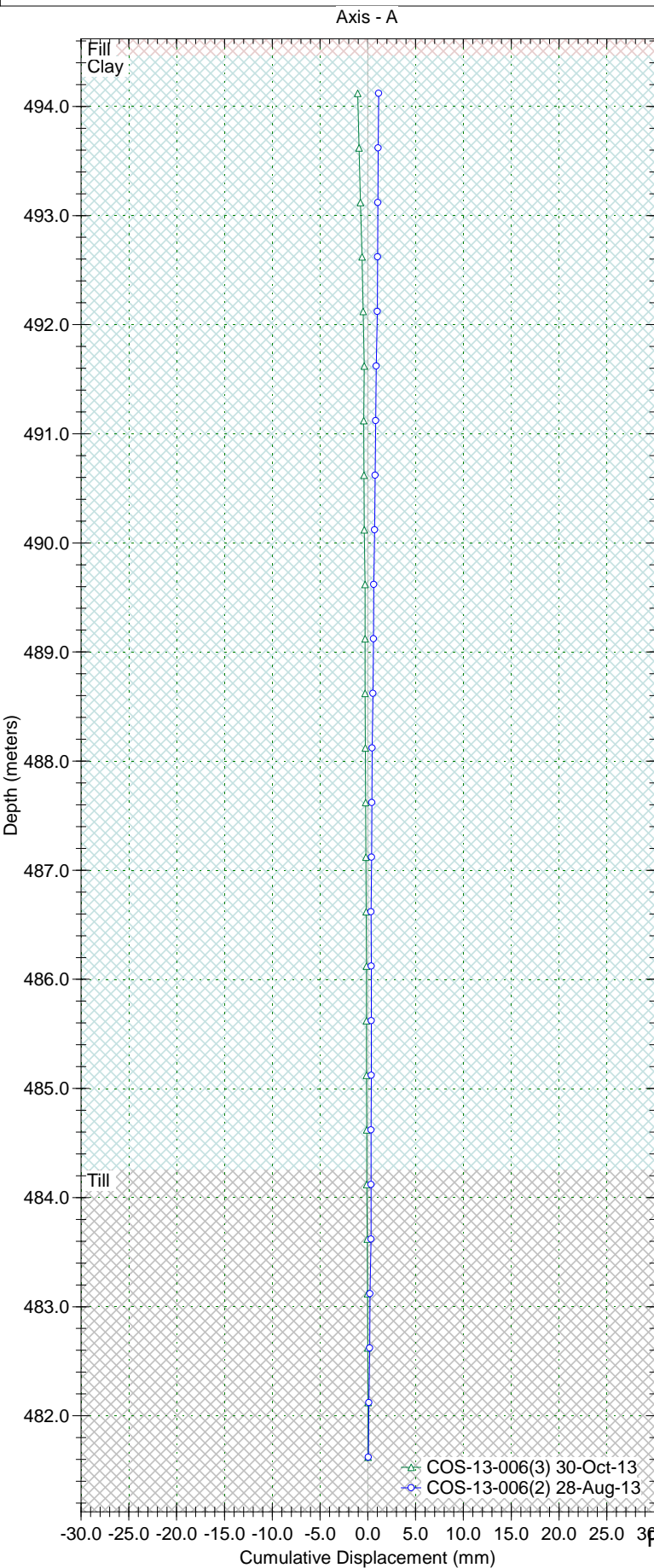


Axis - B



Borehole : COS-13-006
Project : 11-1362-0057 Cherry Lane
Location : 231 11th St. E.
Northing : 5775572.72
Easting : 385959.21
Collar : -0.147

Spiral Correction : N/A
Collar Elevation : 494.6 meters
Borehole Total Depth : 13.0 meters
A+ Groove Azimuth :
Base Reading : 2013 Aug 28 13:13
Applied Azimuth : 0.0 degrees

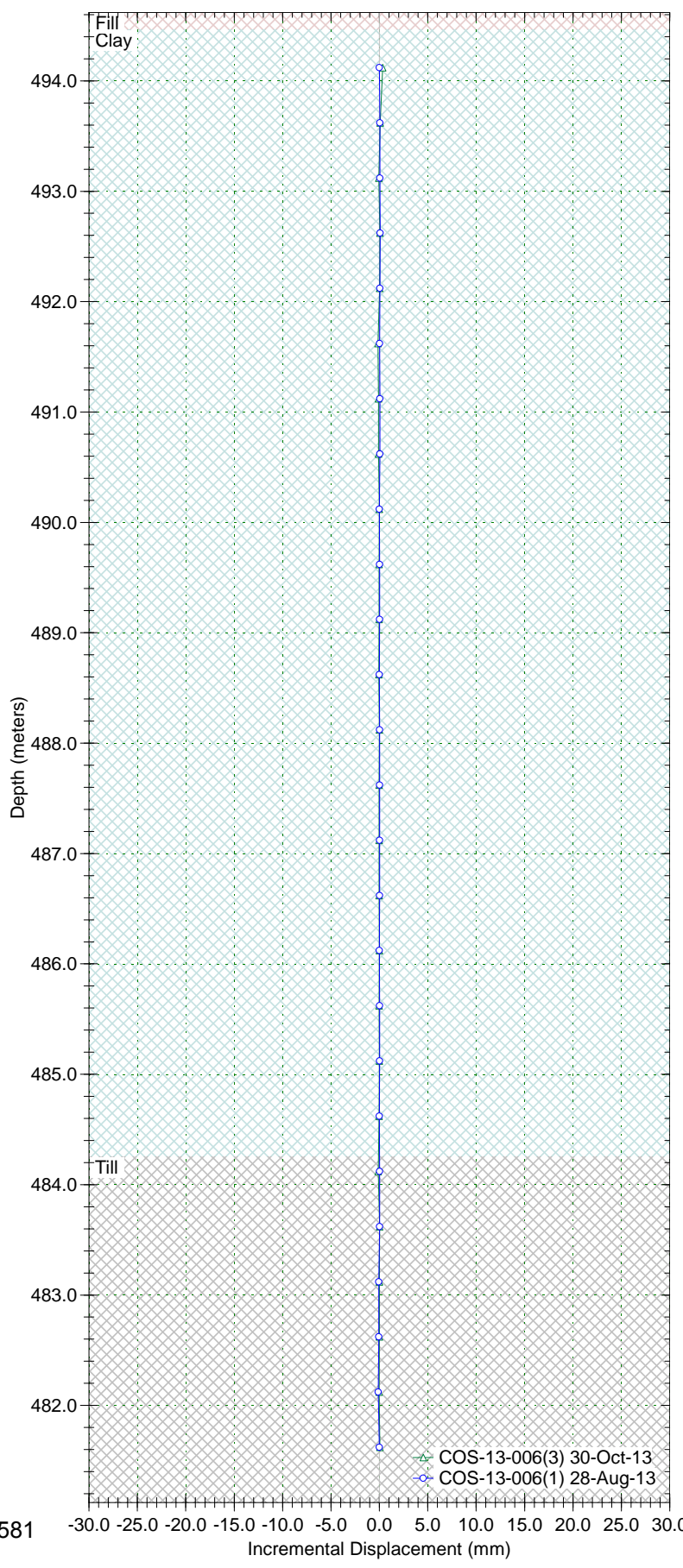
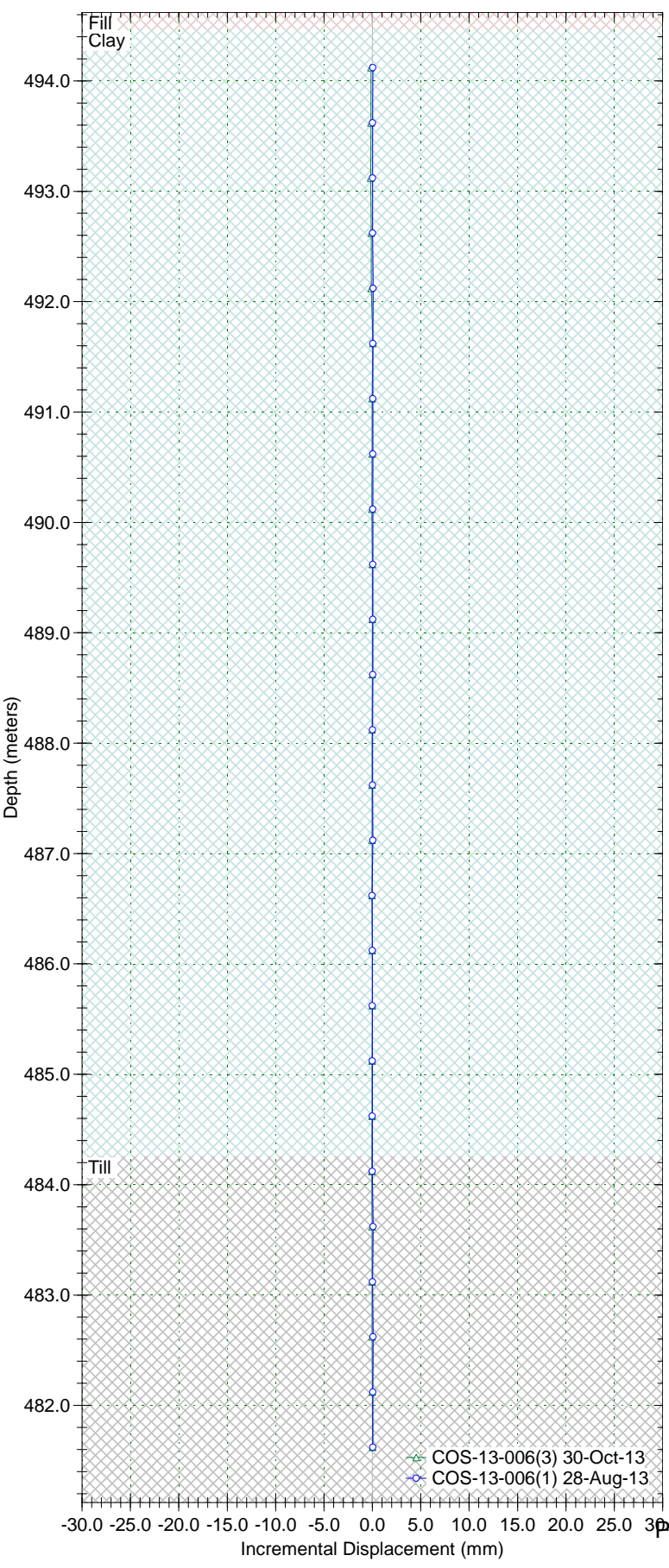


Borehole : COS-13-006
Project : 11-1362-0057 Cherry Lane
Location : 231 11th St. E.
Northing : 5775572.72
Easting : 385959.21
Collar : -0.147

Spiral Correction : N/A
Collar Elevation : 494.6 meters
Borehole Total Depth : 13.0 meters
A+ Groove Azimuth :
Base Reading : 2013 Aug 28 13:13
Applied Azimuth : 0.0 degrees

Axis - A

Axis - B





F.2. TELL-TALE CRACK MONITORS PHOTOS

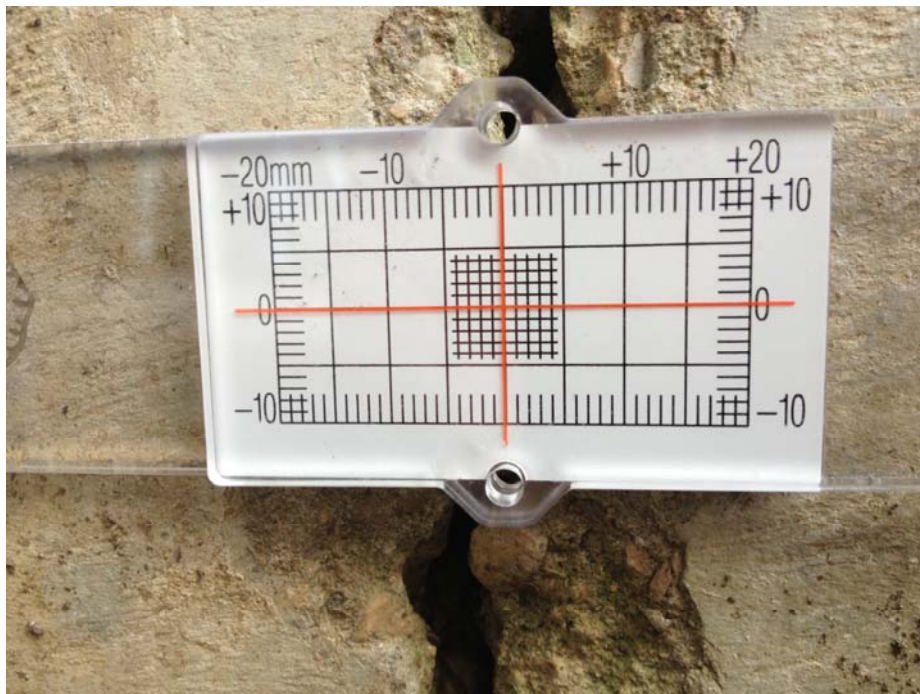


Photo F.1: Crack Meter Located on the Retaining Wall Behind 306 Sask. Cres. E. (CM1) (Aug 12, 2013)



Photo F.2: Crack Meter Located on the Retaining Wall Behind 306 Sask. Cres. E. (CM1) (Sept 18, 2013)



Photo F.3: Crack Meter Located on the East Face of the Retaining Wall Between 230 & 306 Sask. Cres. E. (CM2) (Aug 12, 2013)



Photo F.4: Crack Meter Located on the East Face of the Retaining Wall Between 230 & 306 Sask. Cres. E. (CM2) (Sept 18, 2013)



Photo F.5: Crack Meter Located on the West Face of the Retaining Wall Between 230 & 306 Sask. Cres. E. (CM3) (Aug 12, 2013)



Photo F.6: Crack Meter Located on the West Face of the Retaining Wall Between 230 & 306 Sask. Cres. E. (CM3) (Sept 18, 2013)



F.3. SETTLEMENT POINT DATA

Cherry Lane - Settlement Point Data

Point ID	Description	Elevation (masl)			Settlement (mm)	
		29-Aug-13	18-Sep-13	28-Nov-13	18-Sep-13	28-Nov-13
PT03	BM2 - Sask. Cres./sidewalk	480.12	480.12	480.12	-2.15	-5.98
PT04	306 Sask. Cres. (NE corner)	479.95	479.95	479.95	-0.50	-3.17
PT05	306 Sask. Cres. (NW corner)	479.52	479.52	479.52	-0.35	-3.27
PT06	230 Sask. Cres. (NE corner)	479.60	479.60	479.60	-0.60	-4.26
PT07	230 Sask. Cres. (E side)	479.71	479.71	479.71	-1.24	-4.33
PT08	306 Sask. Cres. (SW corner)	481.70	481.70	481.69	-1.47	-5.71
PT09	306 Sask. Cres. (SE corner)	482.40	482.39	482.39	-1.01	-3.99
PT10	230 Sask. Cres. (SE corner)	487.62	487.62	487.62	-0.38	-3.99
PT11	230 Sask. Cres. (SW corner)	487.85	487.85	487.85	-0.22	-2.77
PT12	311/313 - 11th St. (NW corner)	494.82	494.82	494.82	0.07	-0.55
PT13	311/313 - 11th St. (drive-way)	495.48	495.48	495.48	-0.36	-1.47
PT14	BM3 - Apt. 328 Sask. Cres. (SW corner)	496.41	496.41	496.41	0.00	0.00
PT15	Apt. 328 Sask. Cres. (NW corner)	494.56	494.56	494.56	0.03	0.20
PT16	311/313 - 11th St. (SE corner)	499.14	499.14	499.14	-1.62	-0.56
PT17	311/313 - 11th St. (SW corner)	499.19	499.19	499.19	-1.85	-1.19
PT18	309 - 11th St. (NW corner)	496.60	496.60	496.60	-0.63	-0.19
PT19	307 - 11th St. (back deck)	496.72	496.72	496.72	-0.46	0.53
PT20	305 - 11th St. (NE corner)	497.06	497.06	497.06	-0.50	-0.54
PT21	305 - 11th St. (SE corner)	498.84	498.84	498.84	-0.31	4.00
PT22	303 - 11th St. (SW corner)	498.28	498.28	498.28	1.38	0.02
PT23	233/235 - 11th St. (drive-way)	497.13	497.13	497.12	-0.61	-3.80
PT24	233/235 - 11th St. (NW corner)	492.74	492.74	492.74	0.01	-1.86
PT25	233/235 - 11th St. (N side)	492.80	492.80	492.80	1.48	-0.43
PT26	237/239 - 11th St. (NW side)	494.85	494.85	494.85	0.74	-1.21
PT27	237/239 - 11th St. (NE side)	494.89	494.89	494.89	1.90	0.71
PT28	241 - 11th St. (NW corner)	495.83	495.84	495.83	1.87	1.44
PT29	237/239 - 11th St. (E side)	497.83	497.84	497.84	1.47	0.76
PT30	241 - 11th St. (NE corner)	495.41	495.41	495.41	2.14	0.53
PT31	303 - 11th St. (NE corner)	494.42	494.42	494.42	1.77	1.08



APPENDIX G

Laboratory Test Results

GENERAL TESTING RESULTS

Project #: 11-1362-0057

Phase : 5000

Short Title: COS East Riverbank / Cherry Lane - Geotech Investigation / Saskatoon, SK

Tested by: S.H.

Date: July 4, 2012

Sample Identification				Laboratory Test Results									
Borehole #	Sample #	Depth (m)	Sample Type	Water Content (%)	Plastic Limit	Liquid Limit	Plasticity Index	% Passing #200	SHT Group Index	ASTM Group Index	Dry Density (Kg/m ³)	Pocket Penetrometer (kPa)	Lab Vane (kPa)
11-0057-BH1	BH1-1	0.61-0.91	AS	36.2									
11-0057-BH1	BH1-2	1.22-1.52	AS	37.0									
11-0057-BH1	BH1-3	2.13-2.44	AS	33.9	20	39	19						
11-0057-BH1	BH1-4	2.44-2.74	AS	36.1									
11-0057-BH1	BH1-5	3.35-3.66	AS	36.3	22	62	40						
11-0057-BH1	BH1-6	3.96-4.27	AS	14.5									
11-0057-BH1	BH1-7	4.88-5.18	AS	15.7									
11-0057-BH1	BH1-8	6.40-6.71	AS	8.3									
11-0057-BH1P	BH1P-1	1.52-2.13	TO	34.6	21	43	22				1371		
11-0057-BH1P	BH1P-2	2.44-3.05	TO	31.1									
11-0057-BH1P	BH1P-3	3.05	TO	35.0	21	50	29				1405		
11-0057-BH2	BH2-1	0.91-1.22	AS	33.0									
11-0057-BH2	BH2-2	1.22-1.52	AS	31.8	24	55	31						
11-0057-BH2	BH2-3	1.83-2.13	AS	31.7									
11-0057-BH2	BH2-4	2.44-2.74	AS	30.4	25	48	23						
11-0057-BH2	BH2-5	3.35-3.66	AS	12.9	12	18	6						
11-0057-BH2	BH2-6	3.66-3.96	AS	9.1									
11-0057-BH2	BH2-7	4.57-4.88	AS	14.9									
11-0057-BH2P	BH2P-1	1.52-2.13	TO	34.9									
11-0057-BH2P	BH2P-2	2.44	TO	34.5	27	72	45				1415		
11-0057-BH2P	BH2P-3	2.74-3.35	TO	10.9									
11-0057-BH3	BH3-1	0.61-0.91	AS	22.2									
11-0057-BH3	BH3-2	1.22-1.52	AS	24.3	17	31	14						
11-0057-BH3	BH3-3	1.83-2.13	AS	28.4	18	28	10						
11-0057-BH3	BH3-4	2.44-3.05	AS	15.9									
11-0057-BH3	BH3-5	3.66-3.96	AS	13.6									

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GRAIN SIZE ANALYSIS - ASTM D422
(Mechanical & Hydrometer)

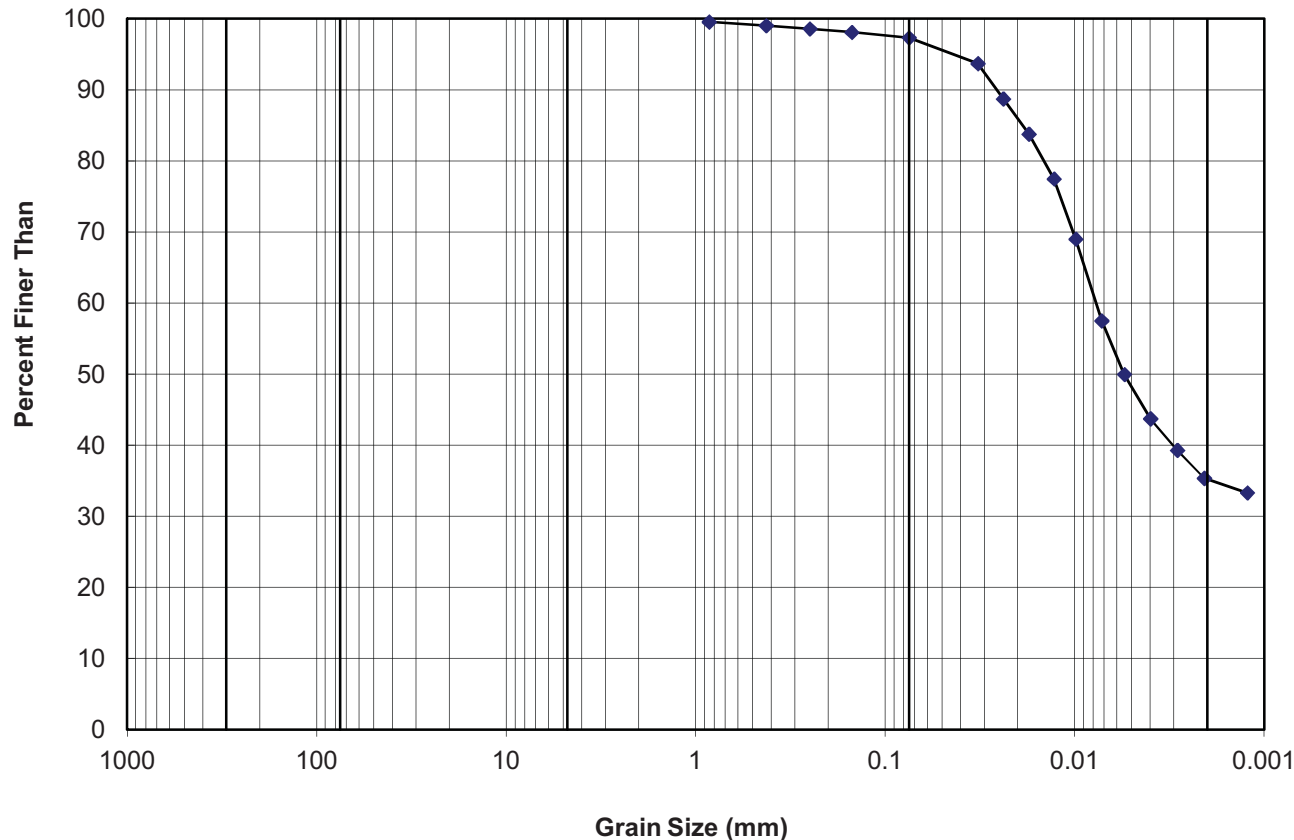
Project #: 11-1362-0057
 Short Title: COS East Riverbank / Cherry Lane - Geotech Investigation / Saskatoon, SK
 Tested by: S.B. / P.E.
 Borehole #: 11-0057-BH1 Sample #: BH1-5
 Source:
 Date Sample Received: June 25, 2012

Phase: 5000
 Date: July 3, 2012

Grain Size Analysis Results:

Opening (mm)	Percent Passing (%)
152	100
76	100
38	100
19	100
9.5	100
4.75	100
2.00	100
0.850	100
0.425	99
0.250	99
0.150	98
0.075	97
0.032	94
0.024	89
0.017	84
0.013	77
0.010	69
0.007	58
0.005	50
0.004	44
0.003	39
0.002	35
0.001	33

Graphical Analysis



BOULDERS	COBBLES	GRAVEL		SAND			SILT / CLAY
		Coarse	Fine	Coarse	Medium	Fine	

Comments:

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GRAIN SIZE ANALYSIS - ASTM D422
(Mechanical & Hydrometer)

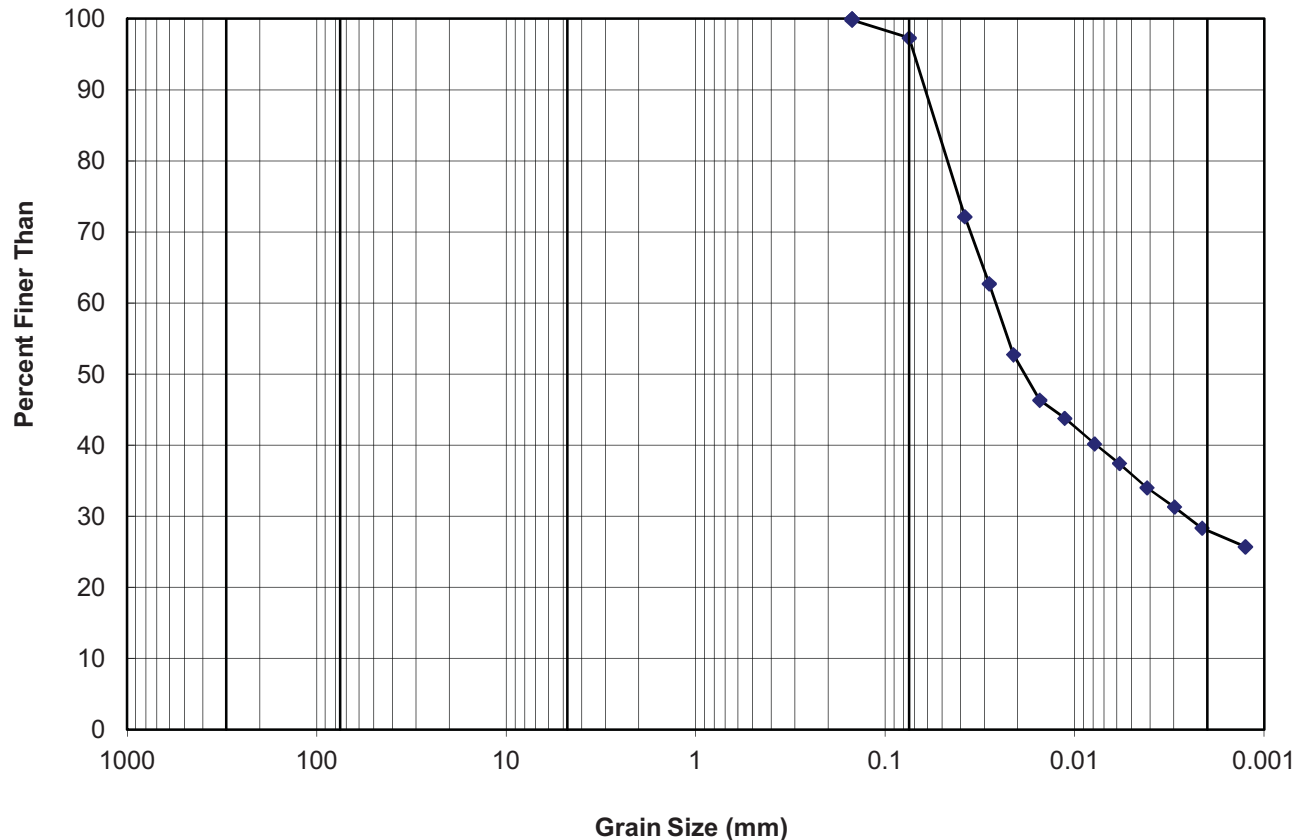
Project #: 11-1362-0057
 Short Title: COS East Riverbank / Cherry Lane - Geotech Investigation / Saskatoon, SK
 Tested by: S.B. / P.E.
 Borehole #: 11-0057-BH1P Sample #: BH1P-1
 Source:
 Date Sample Received: June 25, 2012

Phase: 5000
 Date: July 3, 2012

Grain Size Analysis Results:

Opening (mm)	Percent Passing (%)
152	100
76	100
38	100
19	100
9.5	100
4.75	100
2.00	100
0.850	100
0.425	100
0.250	100
0.150	100
0.075	97
0.038	72
0.028	63
0.021	53
0.015	46
0.011	44
0.008	40
0.006	37
0.004	34
0.003	31
0.002	28
0.001	26

Graphical Analysis



BOULDERS	COBBLES	GRAVEL		SAND			SILT / CLAY
		Coarse	Fine	Coarse	Medium	Fine	

Comments:

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GRAIN SIZE ANALYSIS - ASTM D422
(Mechanical & Hydrometer)

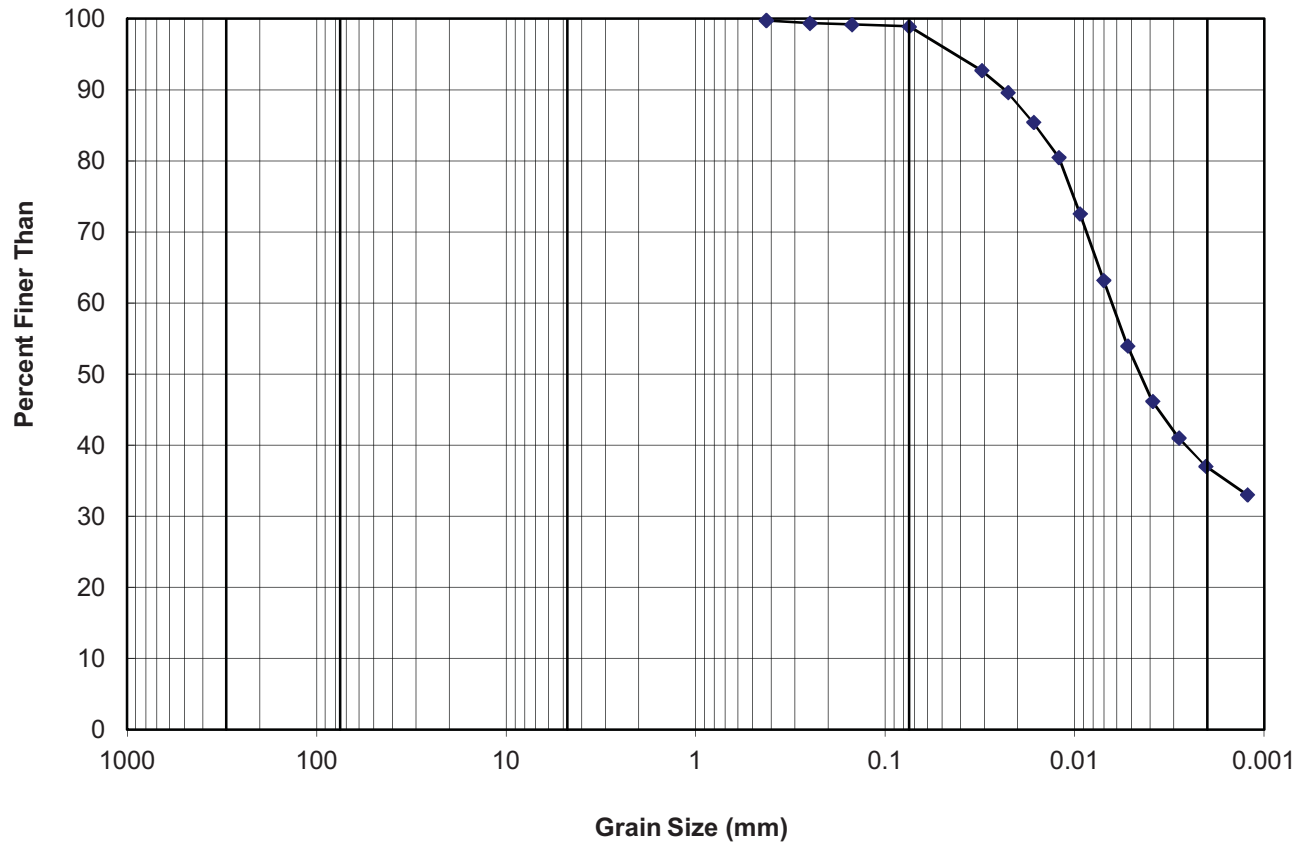
Project #: 11-1362-0057
 Short Title: COS East Riverbank / Cherry Lane - Geotech Investigation / Saskatoon, SK
 Tested by: S.B. / P.E.
 Borehole #: 11-0057-BH1P Sample #: BH1P-3
 Source:
 Date Sample Received: June 25, 2012

Phase: 5000
 Date: July 3, 2012

Grain Size Analysis Results:

Opening (mm)	Percent Passing (%)
152	100
76	100
38	100
19	100
9.5	100
4.75	100
2.00	100
0.850	100
0.425	100
0.250	99
0.150	99
0.075	99
0.031	93
0.023	90
0.016	85
0.012	80
0.009	73
0.007	63
0.005	54
0.004	46
0.003	41
0.002	37
0.001	33

Graphical Analysis



BOULDERS	COBBLES	GRAVEL		SAND			SILT / CLAY
		Coarse	Fine	Coarse	Medium	Fine	

Comments:

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GRAIN SIZE ANALYSIS - ASTM D422
(Mechanical & Hydrometer)

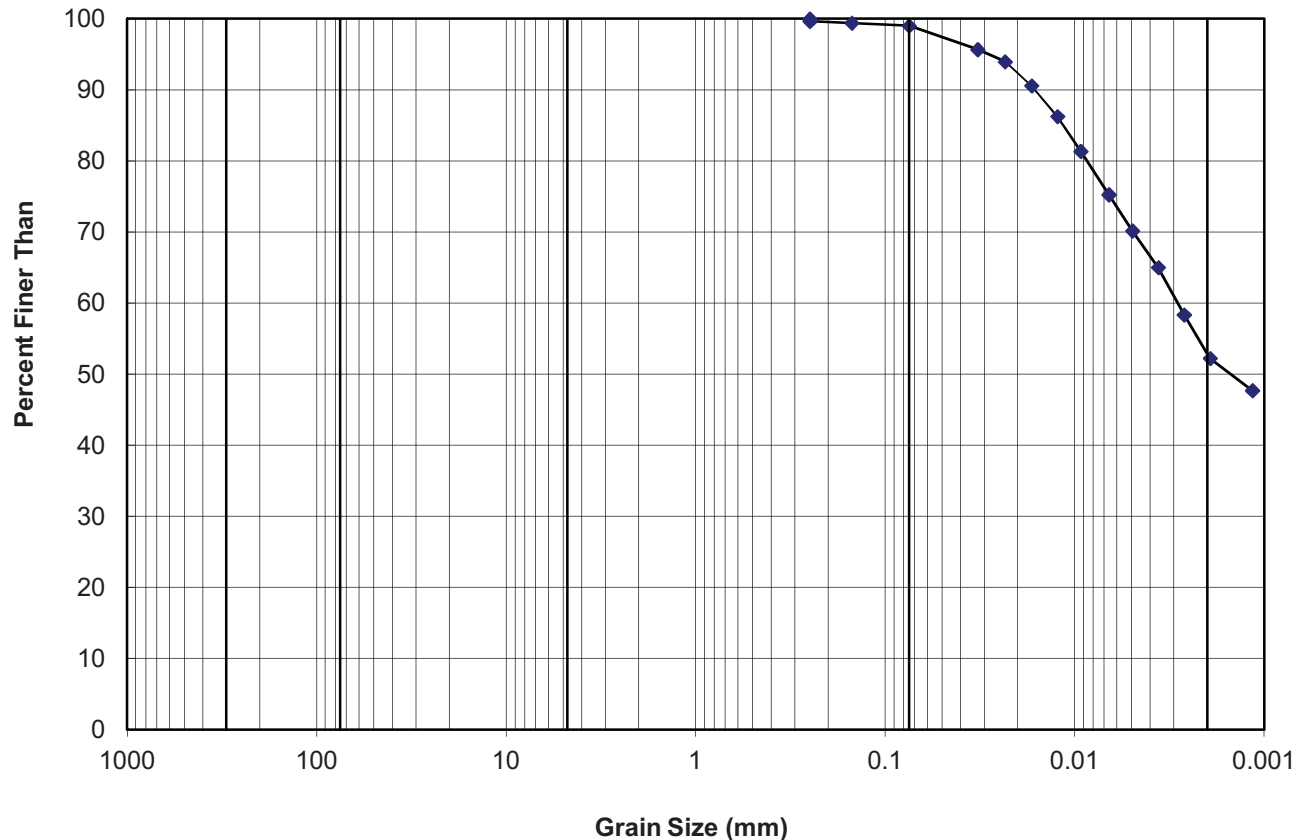
Project #: 11-1362-0057
 Short Title: COS East Riverbank / Cherry Lane - Geotech Investigation / Saskatoon, SK
 Tested by: S.B. / P.E.
 Borehole #: 11-0057-BH2P Sample #: BH2P-2
 Source:
 Date Sample Received: June 25, 2012

Phase: 5000
 Date: July 3, 2012

Grain Size Analysis Results:

Opening (mm)	Percent Passing (%)
152	100
76	100
38	100
19	100
9.5	100
4.75	100
2.00	100
0.850	100
0.425	100
0.250	100
0.150	99
0.075	99
0.033	96
0.023	94
0.017	91
0.012	86
0.009	81
0.007	75
0.005	70
0.004	65
0.003	58
0.002	52
0.001	48

Graphical Analysis



BOULDERS	COBBLES	GRAVEL		SAND			SILT / CLAY
		Coarse	Fine	Coarse	Medium	Fine	

Comments:

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GRAIN SIZE ANALYSIS - ASTM D422
(Mechanical & Hydrometer)

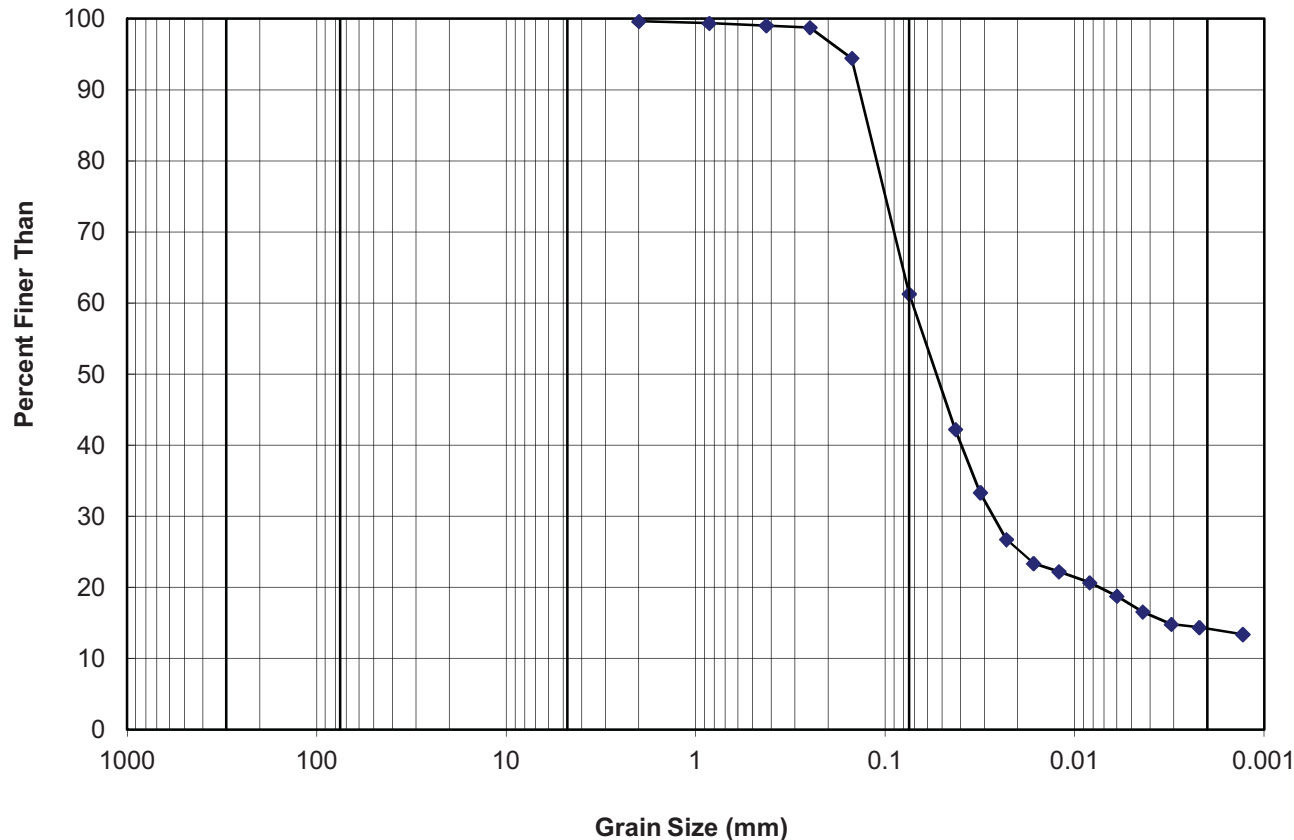
Project #: 11-1362-0057
 Short Title: COS East Riverbank / Cherry Lane - Geotech Investigation / Saskatoon, SK
 Tested by: S.B. / P.E.
 Borehole #: 11-0057-BH3 Sample #: BH3-3
 Source:
 Date Sample Received: June 25, 2012

Phase: 5000
 Date: July 3, 2012

Grain Size Analysis Results:

Opening (mm)	Percent Passing (%)
152	100
76	100
38	100
19	100
9.5	100
4.75	100
2.00	100
0.850	99
0.425	99
0.250	99
0.150	94
0.075	61
0.043	42
0.032	33
0.023	27
0.017	23
0.012	22
0.008	21
0.006	19
0.004	17
0.003	15
0.002	14
0.001	13

Graphical Analysis



BOULDERS	COBBLES	GRAVEL		SAND			SILT / CLAY
		Coarse	Fine	Coarse	Medium	Fine	

Comments:

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CONSOLIDATED DRAINED DIRECT SHEAR TEST-SUMMARY

Project #: 11-1362-0057

Phase: 5000

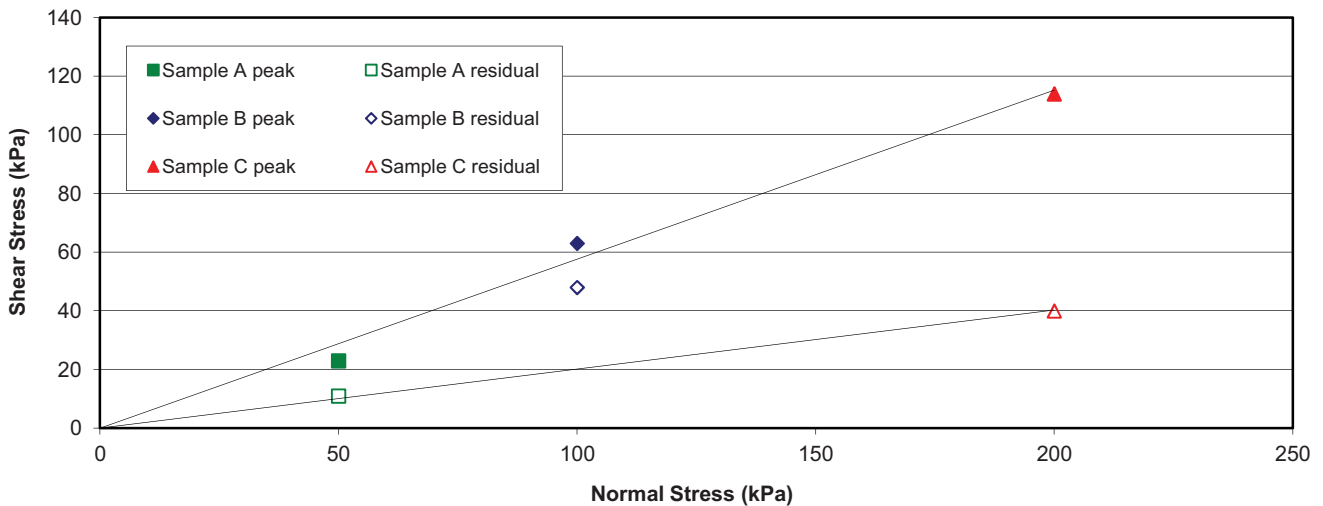
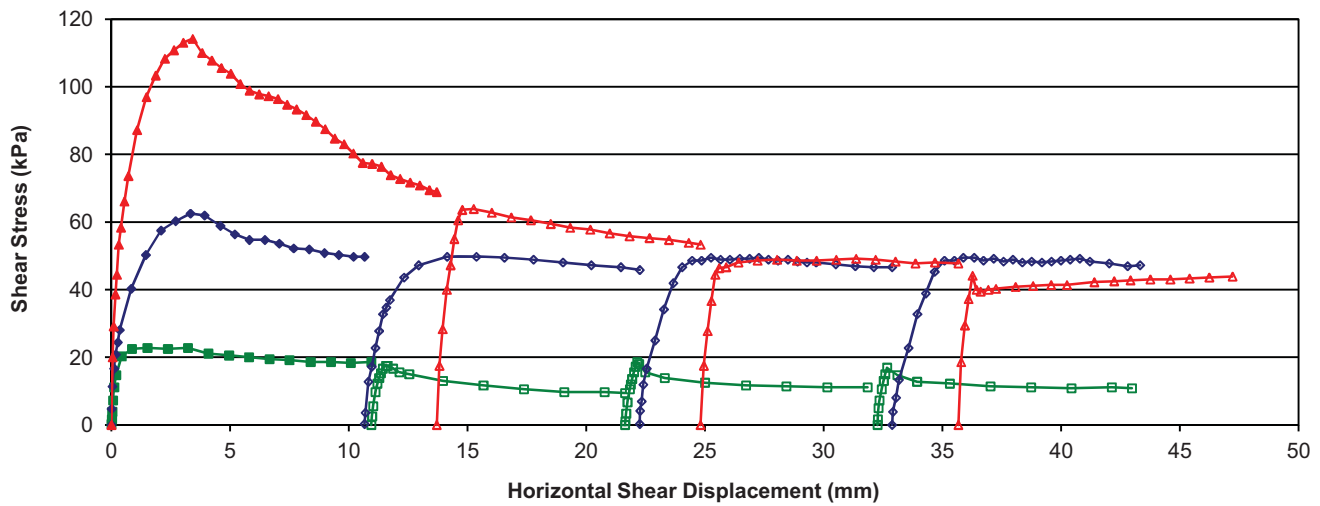
Short Title: COS East Riverbank / Cherry Lane - Geotech Investigation / Saskatoon, SK

Tested By: D.B.

Date: July 24, 2012

Sample	Normal Stress		
	(kPa)	Peak Shear Stress (kPa)	Residual Shear Stress (kPa)
11-0057-BH1P BH1P-3	50	23	11
	100	63	48
	200	114	40

Friction angle (degrees):	Peak 30.0	Residual 11.4
cohesion (kPa):	0	0



Comments:

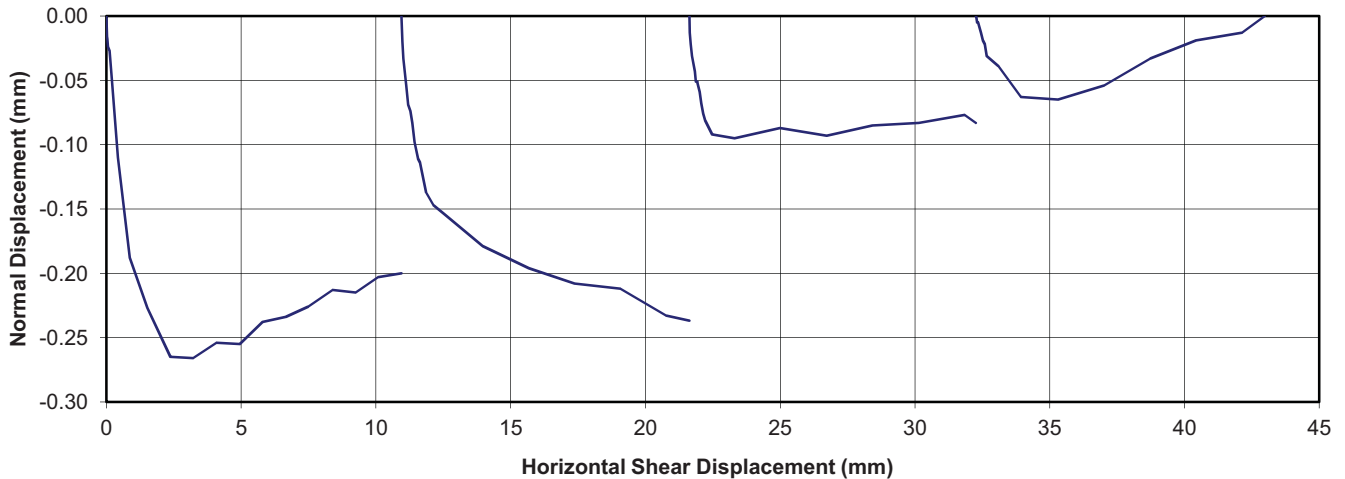
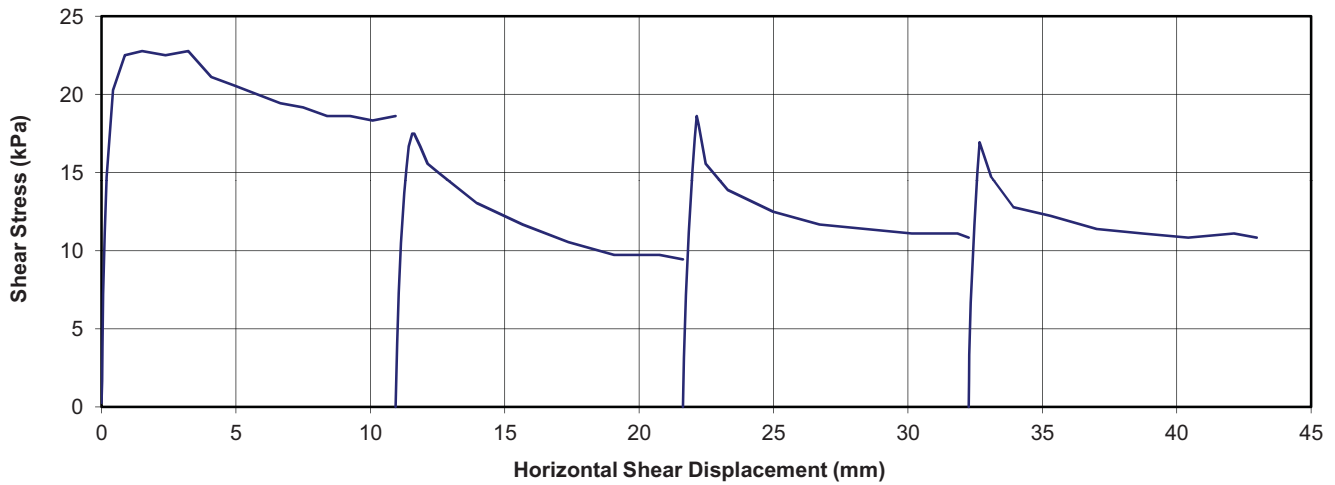
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CONSOLIDATED DRAINED DIRECT SHEAR TEST

Project #: 11-1362-0057 Phase: 5000
 Short Title: COS East Riverbank / Cherry Lane - Geotech Investigation / Saskatoon, SK
 Tested By: D.B. Date: July 24, 2012
 Sample: 11-0057-BH1P BH1P-3

Effective Stress:	50	kPa	Peak Shear Stress:	23	kPa
			Residual Shear Stress	11	kPa
Sample Data:			Comments:		
Sample Length:	60.0	mm			
Initial Height:	20.0	mm			
Initial Water Content:	33.7	%			
Initial Dry Density:	1372	kg/m ³			
Final Water Content:	42.7	%			



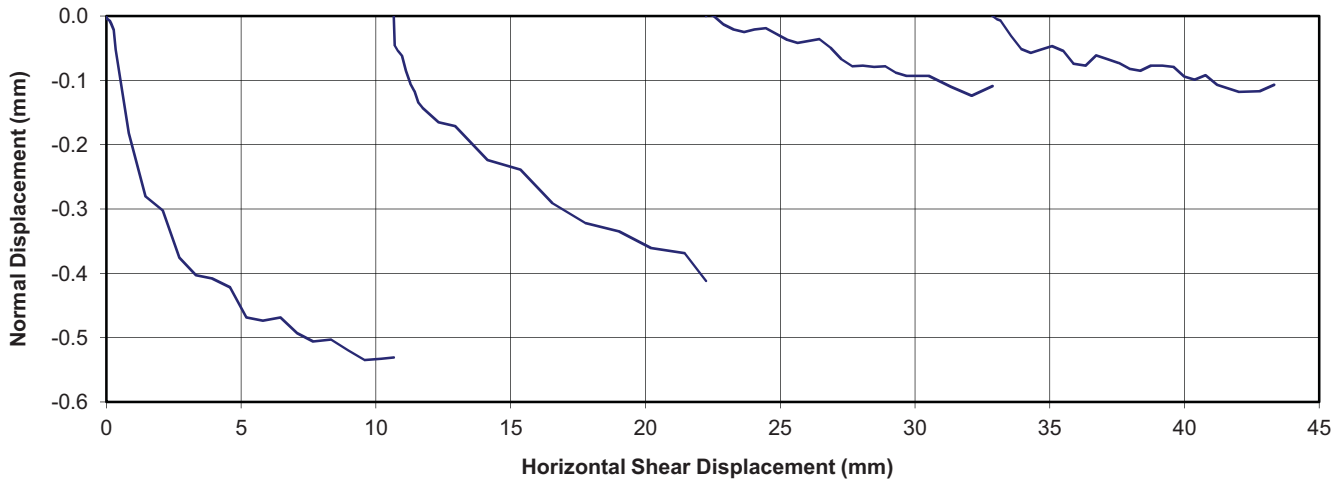
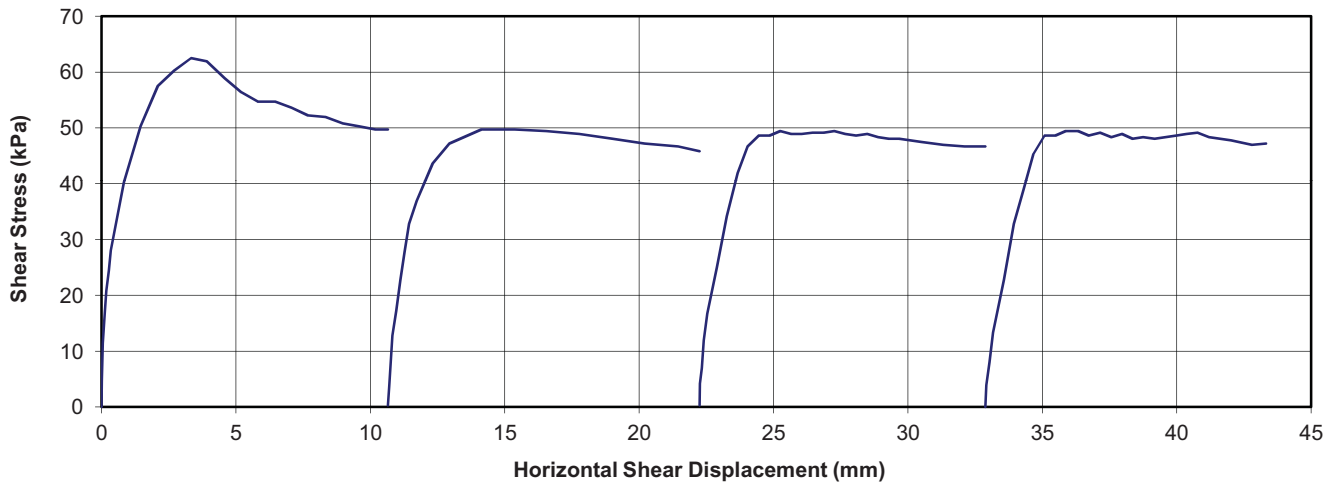
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CONSOLIDATED DRAINED DIRECT SHEAR TEST

Project #: 11-1362-0057	Phase: 5000
Short Title: COS East Riverbank / Cherry Lane - Geotech Investigation / Saskatoon, SK	
Tested By: D.B.	Date: July 24, 2012
Sample: 11-0057-BH1P BH1P-3	

Effective Stress: 100 kPa	Peak Shear Stress: 63 kPa
	Residual Shear Stress: 48 kPa
Sample Data:	Comments:
Sample Length: 60.0 mm	
Initial Height: 20.0 mm	
Initial Water Content: 34.4 %	
Initial Dry Density: 1416 kg/m ³	
Final Water Content: 34.2 %	



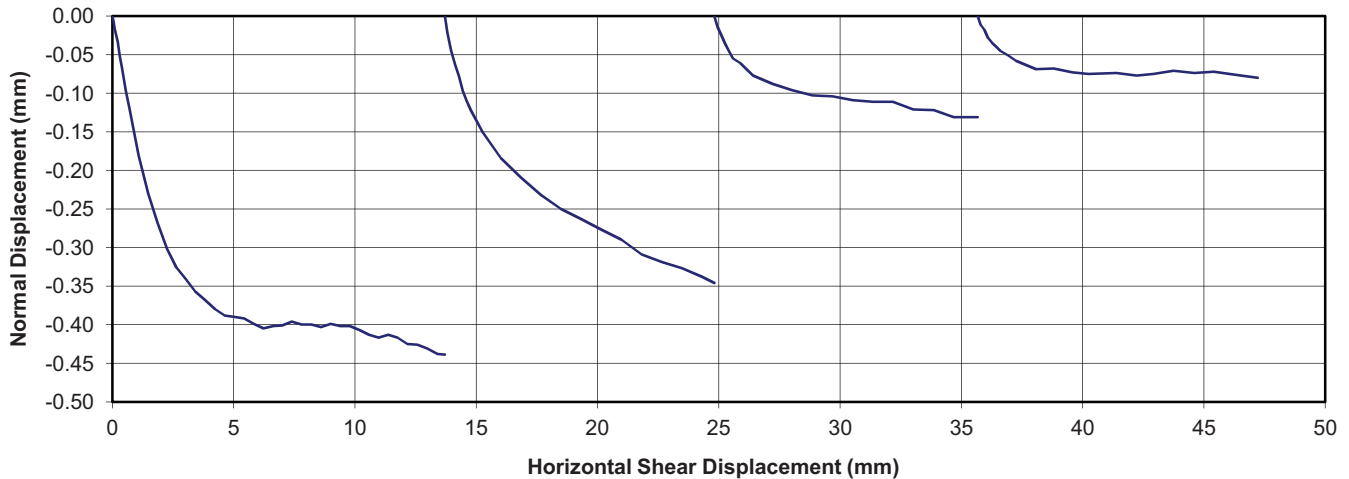
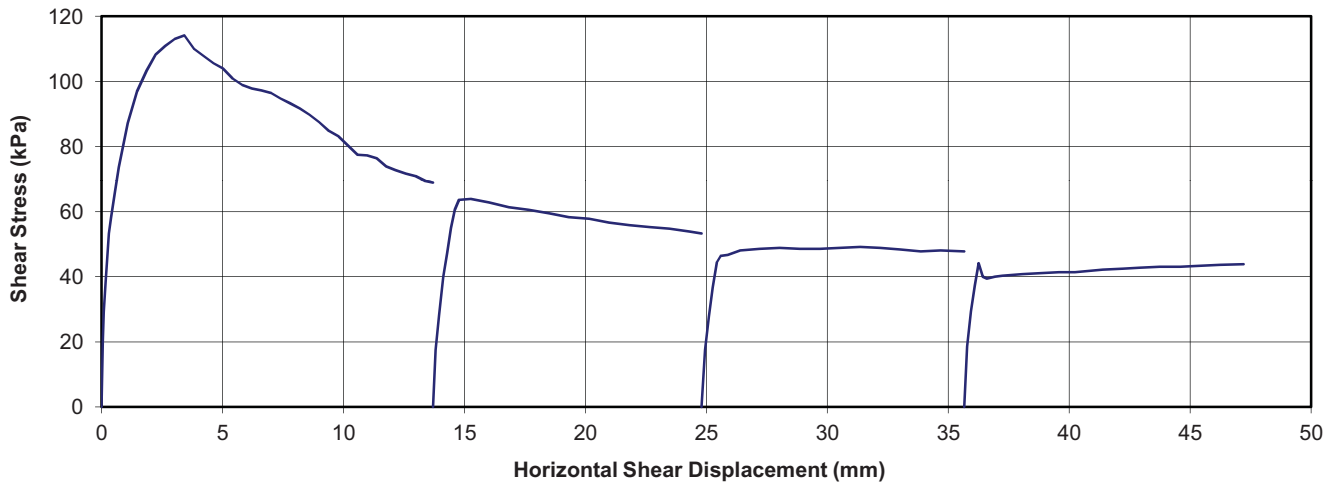
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CONSOLIDATED DRAINED DIRECT SHEAR TEST

Project #: 11-1362-0057	Phase: 5000
Short Title: COS East Riverbank / Cherry Lane - Geotech Investigation / Saskatoon, SK	
Tested By: D.B.	Date: July 24, 2012
Sample: 11-0057-BH1P BH1P-3	

Effective Stress: 200 kPa	Peak Shear Stress: 114 kPa
	Residual Shear Stress: 40 kPa
Sample Data:	Comments:
Sample Length: 60.0 mm	
Initial Height: 20.0 mm	
Initial Water Content: 33.2 %	
Initial Dry Density: 1386 kg/m ³	
Final Water Content: 35.8 %	



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CONSOLIDATED DRAINED DIRECT SHEAR TEST-SUMMARY

Project #: 11-1362-0057

Phase: 5000

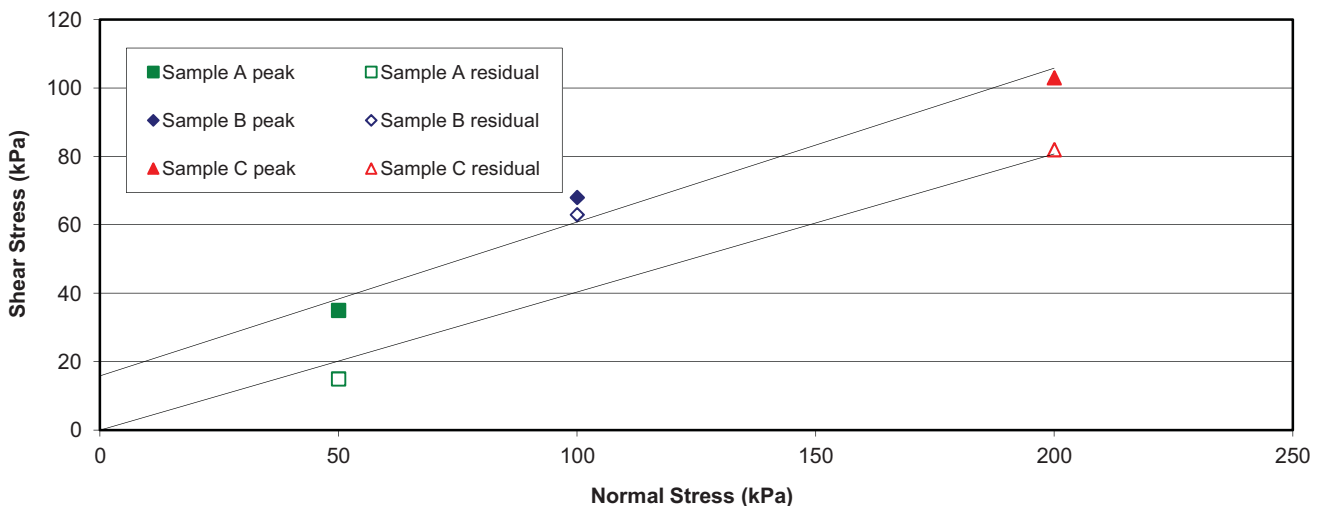
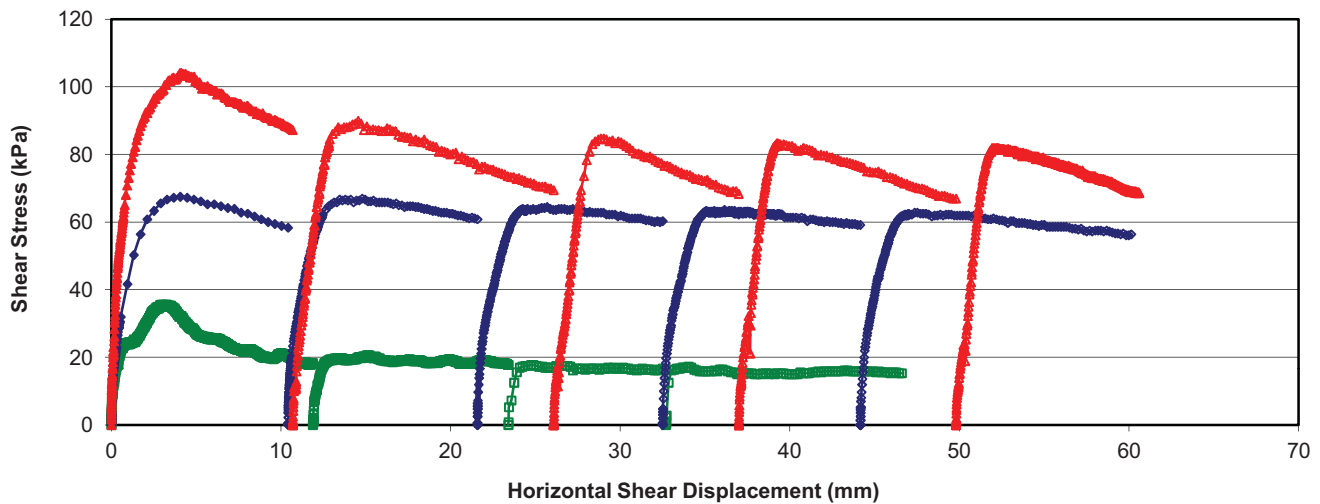
Short Title: COS East Riverbank / Cherry Lane - Geotech Investigation / Saskatoon, SK

Tested By: D.B.

Date: July 12, 2012

Sample	Normal Stress	Shear Stress	
	(kPa)	Peak (kPa)	Residual (kPa)
11-0057-BH2P BH2P-2	50	35	15
	100	68	63
	200	103	82

	Peak	Residual
Friction angle (degrees):	23.7	22.0
cohesion (kPa):	18	0



Comments:

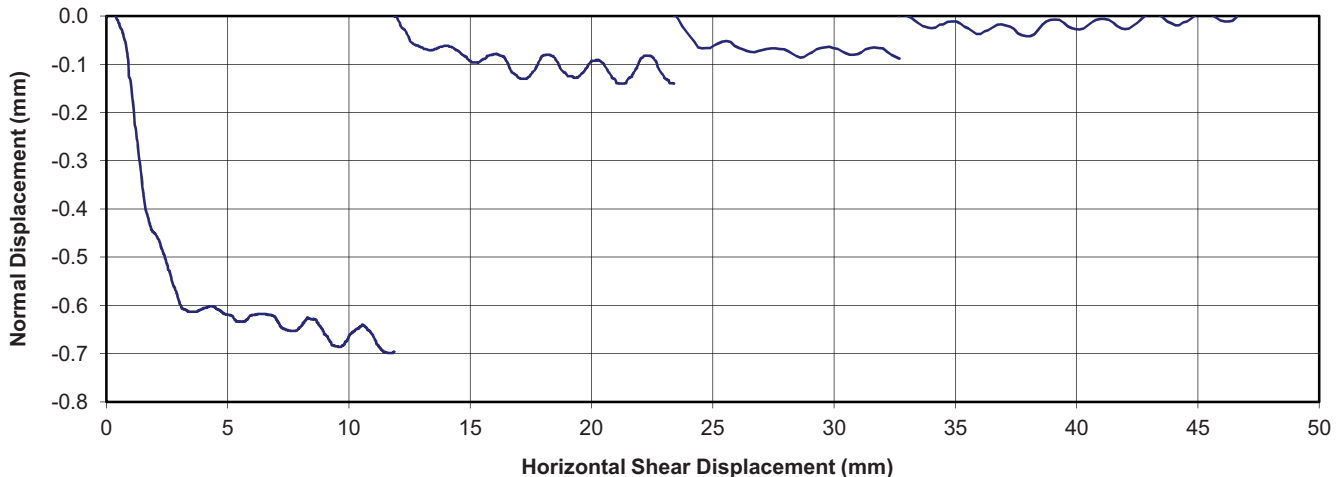
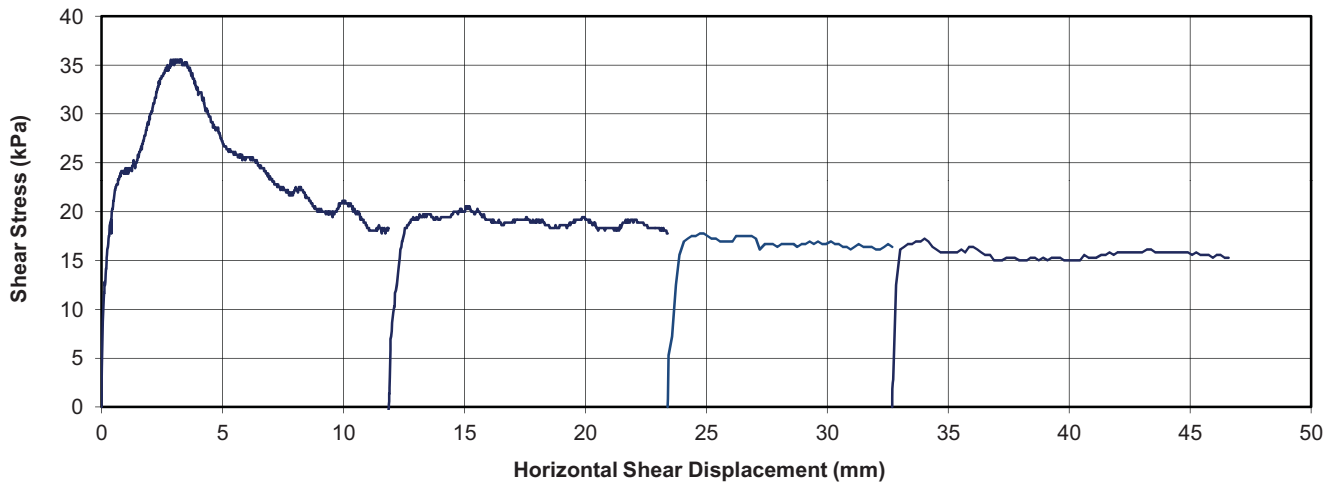
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CONSOLIDATED DRAINED DIRECT SHEAR TEST

Project #: 11-1362-0057	Phase: 5000
Short Title: COS East Riverbank / Cherry Lane - Geotech Investigation / Saskatoon, SK	
Tested By: D.B.	Date: July 12, 2012
Sample: 11-0057-BH2P BH2P-2	

Effective Stress: 50 kPa	Peak Shear Stress: 35 kPa
	Residual Shear Stress: 15 kPa
Sample Data:	Comments:
Sample Length: 60.0 mm	
Initial Height: 20.0 mm	
Initial Water Content: 34.8 %	
Initial Dry Density: 1346 kg/m ³	
Final Water Content: 40.3 %	



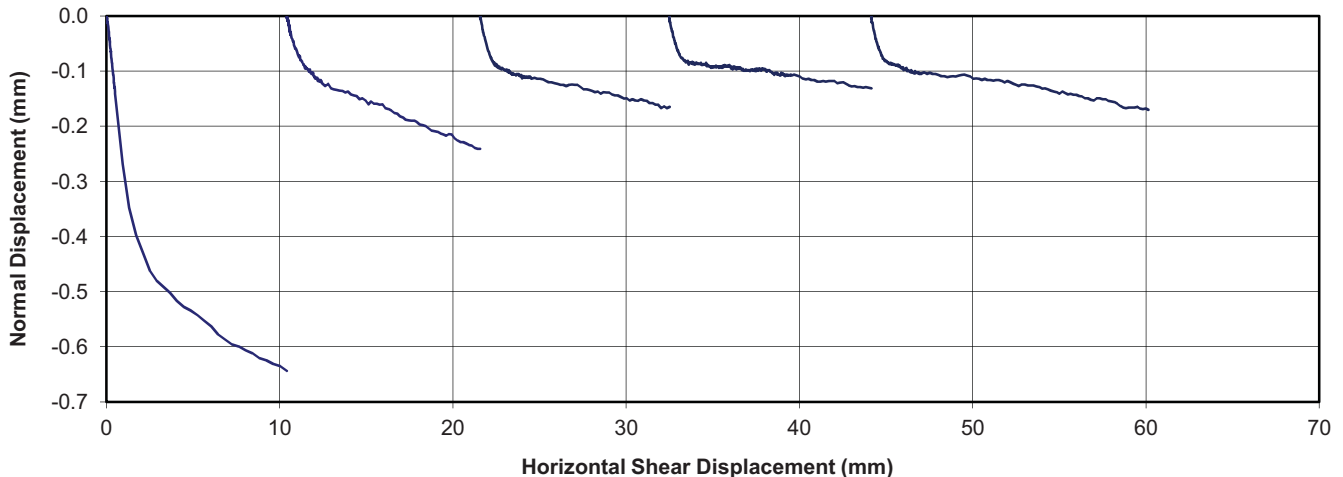
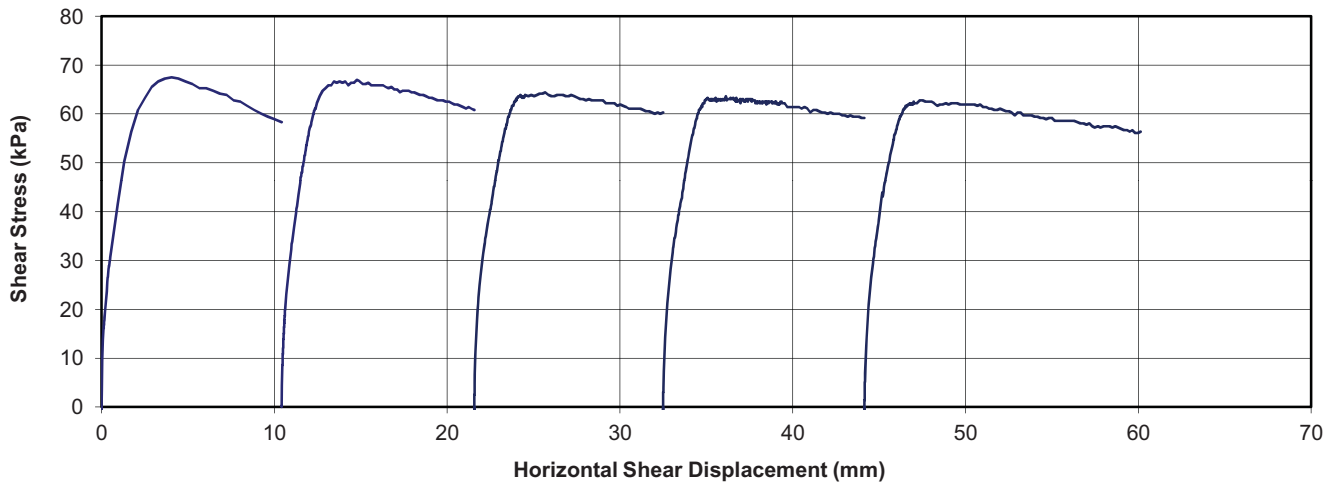
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CONSOLIDATED DRAINED DIRECT SHEAR TEST

Project #: 11-1362-0057	Phase: 5000
Short Title: COS East Riverbank / Cherry Lane - Geotech Investigation / Saskatoon, SK	
Tested By: D.B.	Date: July 12, 2012
Sample: 11-0057-BH2P BH2P-2	

Effective Stress: 100 kPa	Peak Shear Stress: 68 kPa
	Residual Shear Stress: 63 kPa
Sample Data:	Comments:
Sample Length: 60.0 mm	
Initial Height: 20.0 mm	
Initial Water Content: 36.6 %	
Initial Dry Density: 1336 kg/m ³	
Final Water Content: 38.3 %	



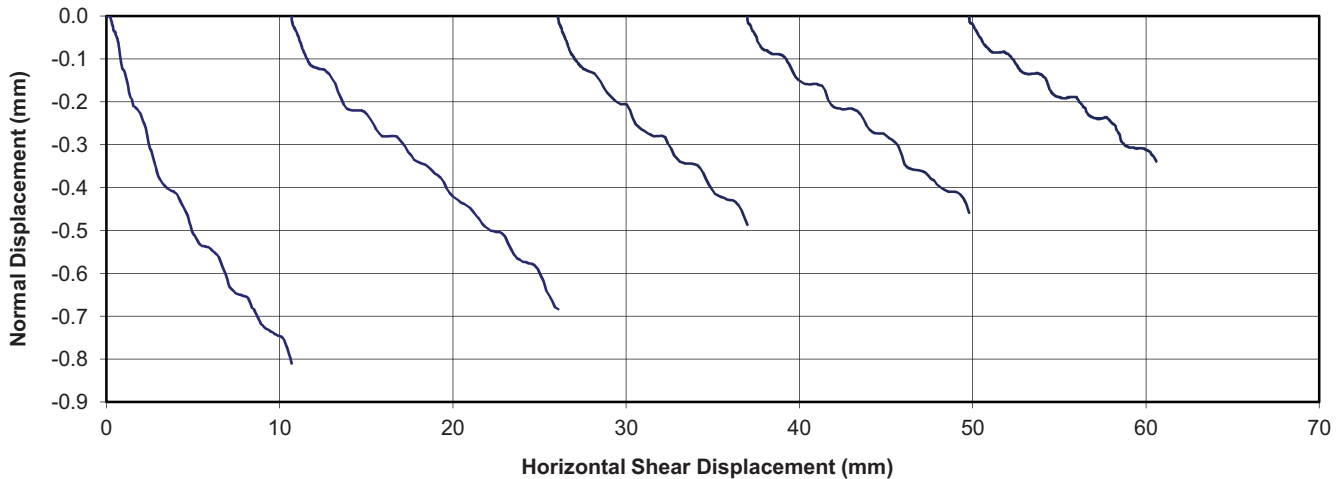
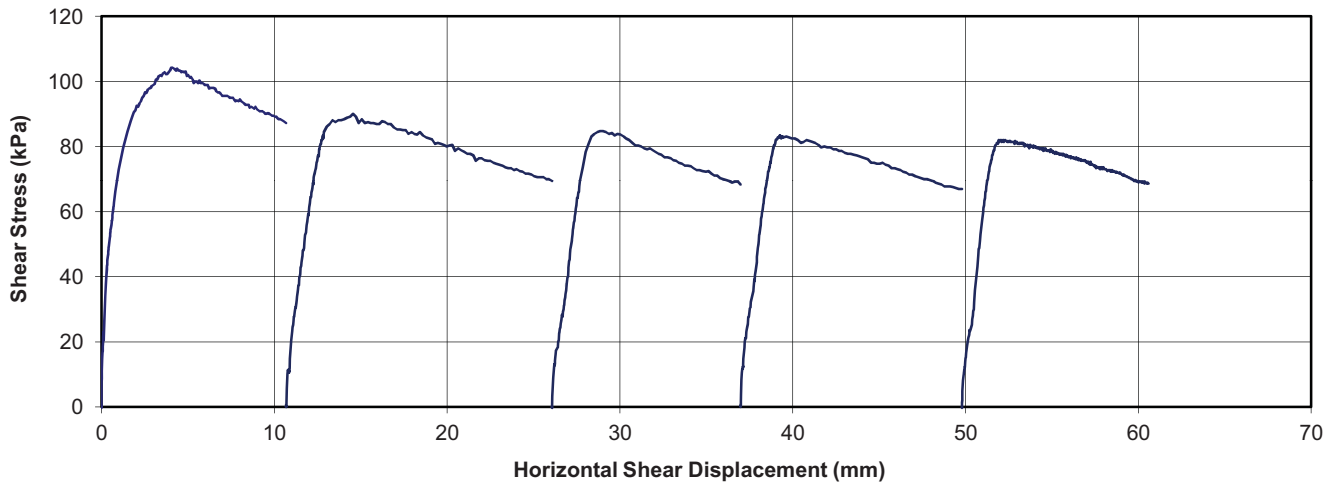
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CONSOLIDATED DRAINED DIRECT SHEAR TEST

Project #: 11-1362-0057	Phase: 5000
Short Title: COS East Riverbank / Cherry Lane - Geotech Investigation / Saskatoon, SK	
Tested By: D.B.	Date: July 12, 2012
Sample: 11-0057-BH2P BH2P-2	

Effective Stress: 200 kPa	Peak Shear Stress: 103 kPa
	Residual Shear Stress: 82 kPa
Sample Data:	Comments:
Sample Length: 60.0 mm	
Initial Height: 20.0 mm	
Initial Water Content: 34.4 %	
Initial Dry Density: 1359 kg/m ³	
Final Water Content: 36.3 %	



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GENERAL TESTING RESULTS

Project #: 11-1362-0057

Phase: 5100

Short Title: COS East Riverbank / Cherry Lane - Geotech Investigation / Saskatoon, SK

Tested by: S.E. / J.F. / S.J.B.

Date: August 15, 2013

Sample Identification				Laboratory Test Results									
Borehole #	Sample #	Depth (m)	Sample Type	Water Content (%)	Plastic Limit	Liquid Limit	Plasticity Index	% Passing #200	ASTM Group Index	Specific Gravity	Dry Density (Kg/m ³)	Pocket Penetrometer (kPa)	Lab Vane (kPa)
COS-13-001	001-1	0.61-0.91	AS	27.9									
COS-13-001	001-2	1.22-1.52	AS	37.4									
COS-13-001	001-3	2.44-2.74	AS	37.5									
COS-13-001	001-4	3.66-3.96	AS	34.7									
COS-13-001	001-5	4.27-4.57	AS	36.0									
COS-13-001	001-6	4.88-5.18	AS	33.9	18	56	38			2.63			
COS-13-001	001-7	5.79-6.10	AS	37.6									
COS-13-001	001-8	6.71-7.01	AS	12.1									
COS-13-001	001-9	7.92-8.23	AS	14.8									
COS-13-001	001-10	8.53-8.84	AS	9.7									
COS-13-001B	001B-1	5.18-5.87	TO	35.0									
COS-13-001B	001B-2	5.87-6.55	TO	32.1									
COS-13-001B	001B-3	6.55-7.24	TO	11.0	11	23	12				2057		
COS-13-002	002-1	0.00-0.15	AS	15.3									
COS-13-002	002-2	0.15-0.30	AS	14.0									
COS-13-002	002-3	0.30-0.61	AS	14.2									
COS-13-002	002-4	0.91-1.22	AS	25.9									
COS-13-002	002-5	1.52-1.83	AS	23.1									
COS-13-002	002-6	2.44-2.74	AS	30.1									
COS-13-002	002-7	3.35-3.66	AS	31.3									
COS-13-002	002-8	4.27-4.57	AS	32.2									
COS-13-002	002-9	5.49-5.79	AS	30.7									
COS-13-002	002-10	6.71-7.01	AS	32.1									
COS-13-002	002-11	7.62-7.92	AS	33.0									
COS-13-002	002-12	8.53-8.84	AS	30.2									
COS-13-002	002-13	9.75-10.06	AS	27.8									
COS-13-002	002-14	10.36-10.67	AS	32.5									
COS-13-002	002-15	11.58-11.89	AS	30.8									
COS-13-002	002-16	12.19-12.50	AS	33.7									
COS-13-002	002-17	13.11-13.41	AS	32.7	21	69	48			2.63			
COS-13-002	002-18	14.33-14.63	AS	15.4									
COS-13-002	002-19	16.15-16.46	AS	12.0									
COS-13-003	003-1	0.46-0.61	AS	18.4									
COS-13-003	003-2	0.91-1.22	AS	26.3									
COS-13-003	003-3	2.13-2.44	AS	20.7									
COS-13-003	003-4	3.96-4.27	AS	25.8									

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GENERAL TESTING RESULTS

Project #: 11-1362-0057

Phase: 5100

Short Title: COS East Riverbank / Cherry Lane - Geotech Investigation / Saskatoon, SK

Tested by: S.E. / J.F. / S.J.B.

Date: August 15, 2013

Sample Identification				Laboratory Test Results									
Borehole #	Sample #	Depth (m)	Sample Type	Water Content (%)	Plastic Limit	Liquid Limit	Plasticity Index	% Passing #200	ASTM Group Index	Specific Gravity	Dry Density (Kg/m ³)	Pocket Penetrometer (kPa)	Lab Vane (kPa)
COS-13-003	003-5	4.88-5.03	AS	32.3	19	57	38						
COS-13-003	003-6	5.49-5.79	AS	24.0									
COS-13-003	003-7	5.79-6.48	TO	24.2									
COS-13-003	003-8	7.32-7.62	AS	14.5									
COS-13-003	003-9	8.84-9.14	AS	17.7									

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GENERAL TESTING RESULTS

Project #: 11-1362-0057

Phase: 5100 / 4000

Short Title: COS East Riverbank / Cherry Lane - Geotech Investigation / Saskatoon, SK

Tested by: S.E. / W.C.

Date: September 6, 2013

Sample Identification				Laboratory Test Results									
Borehole #	Sample #	Depth (m)	Sample Type	Water Content (%)	Plastic Limit	Liquid Limit	Plasticity Index	% Passing #200	ASTM Group Index	Specific Gravity	Dry Density (Kg/m ³)	Pocket Penetrometer (kPa)	Lab Vane (kPa)
COS-13-004	004-1	0.00-0.15	AS	11.2									
COS-13-004	004-2	0.30-0.61	AS	32.5									
COS-13-004	004-3	1.22-1.37	DO	33.4									
COS-13-004	004-4	2.59-2.90	DO	33.4									
COS-13-004	004-5	4.42-4.72	DO	33.6	24	74	50						
COS-13-004	004-6	5.18-5.49	AS	31.6									
COS-13-004	004-7	5.79-6.10	TO	30.1						2.61	1699	72	80
COS-13-004	004-8	7.01-7.62	TO	33.7	21	46	25					120	99
COS-13-004	004-9	8.53-9.14	TO	27.2								168	188
COS-13-004	004-10	9.30-9.60	AS	10.2									
COS-13-004	004-11	9.75-10.06	AS	10.8	12	19	7						
COS-13-005	005-1	0.00-0.30	AS	8.9									
COS-13-005	005-2	1.07-1.22	DO	8.2									
COS-13-005	005-3	2.59-2.74	DO	7.5									
COS-13-005	005-4	4.11-4.27	DO	11.5	15	35	20						
COS-13-005	005-5	5.33-5.94	TO	23.2	20	49	29					180	91
COS-13-005	005-6	6.10-6.71	TO	8.4								>200	203
COS-13-005	005-7	6.86-7.47	TO	8.0									
COS-13-005	005-8	7.62-8.23	TO	29.5	22	38	16						
COS-13-005	005-9	8.38-8.99	TO	23.9						2.59	1306		
COS-13-005	005-10	9.14-9.75	TO	28.2	25	32	7						
COS-13-005	005-11	9.91-10.52	TO	33.0									
COS-13-005	005-12	10.67-11.28	TO	28.7	21	33	12						
COS-13-005	005-13	11.43-12.04	TO	29.3	19	34	15						
COS-13-005	005-14	12.19-12.34	TO	29.4	14	40	26						
COS-13-005	005-15	13.72-14.02	DO	9.0									
COS-13-006	006-1	0.15-0.30	AS	17.2									
COS-13-006	006-2	1.07-1.22	AS	28.7									
COS-13-006	006-3	1.83-1.98	AS	25.3	22	65	43						
COS-13-006	006-4	2.29-2.44	AS	24.6									
COS-13-006	006-5	2.90-3.05	AS	30.6									
COS-13-006	006-6	4.72-4.88	AS	29.6									
COS-13-006	006-7	5.33-5.49	AS	29.1									
COS-13-006	006-8	6.25-6.40	AS	34.0	23	72	49						
COS-13-006	006-9	7.62-7.77	AS	33.8									
COS-13-006	006-10	8.69-8.84	AS	29.5	13	41	28						

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GENERAL TESTING RESULTS

Project #: 11-1362-0057

Phase: 5100 / 4000

Short Title: COS East Riverbank / Cherry Lane - Geotech Investigation / Saskatoon, SK

Tested by: S.E. / W.C.

Date: September 6, 2013

Sample Identification				Laboratory Test Results									
Borehole #	Sample #	Depth (m)	Sample Type	Water Content (%)	Plastic Limit	Liquid Limit	Plasticity Index	% Passing #200	ASTM Group Index	Specific Gravity	Dry Density (Kg/m ³)	Pocket Penetrometer (kPa)	Lab Vane (kPa)
COS-13-006	006-11	10.06-10.21	AS	34.8									
COS-13-006	006-12	11.58-11.73	AS	13.0									
COS-13-006	006-13	12.19-12.34	AS	11.8									
COS-13-006	006-14	13.11-13.26	AS	10.3									

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GRAIN SIZE ANALYSIS - ASTM D422
(Mechanical & Hydrometer)

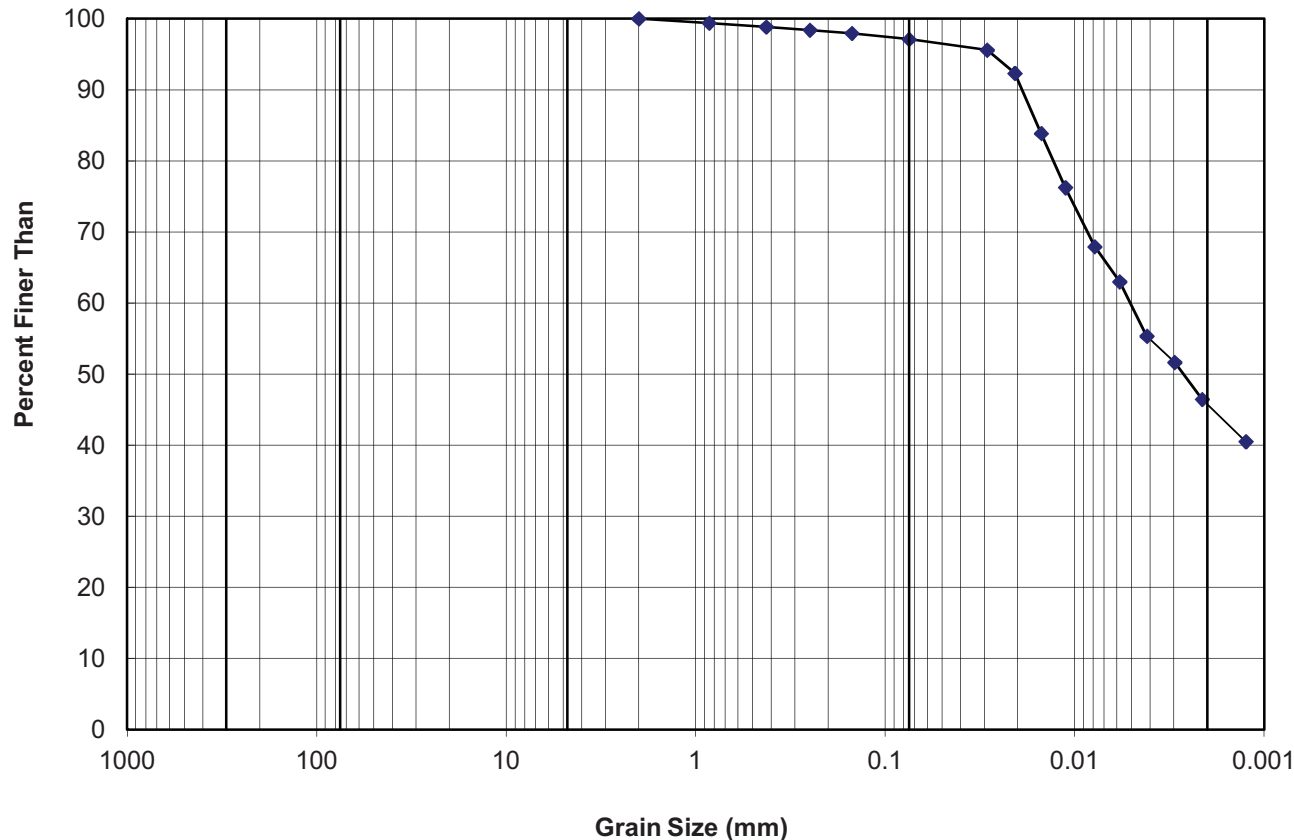
Project #: 11-1362-0057
 Short Title: COS East Riverbank / Cherry Lane - Geotech Investigation / Saskatoon, :
 Tested by: S.H. / S.B.
 Borehole #: COS-13-001 Sample #: 001-6
 Source:
 Date Sample Received: July 29, 2013

Phase: 5100
 Date: August 9, 2013

Grain Size Analysis Results:

Opening (mm)	Percent Passing (%)
152	100
76	100
38	100
19	100
9.5	100
4.75	100
2.00	100
0.850	99
0.425	99
0.250	98
0.150	98
0.075	97
0.029	96
0.021	92
0.015	84
0.011	76
0.008	68
0.006	63
0.004	55
0.003	52
0.002	46
0.001	41

Graphical Analysis



BOULDERS	COBBLES	GRAVEL		SAND			SILT / CLAY
		Coarse	Fine	Coarse	Medium	Fine	

Comments:

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GRAIN SIZE ANALYSIS - ASTM D422
(Mechanical & Hydrometer)

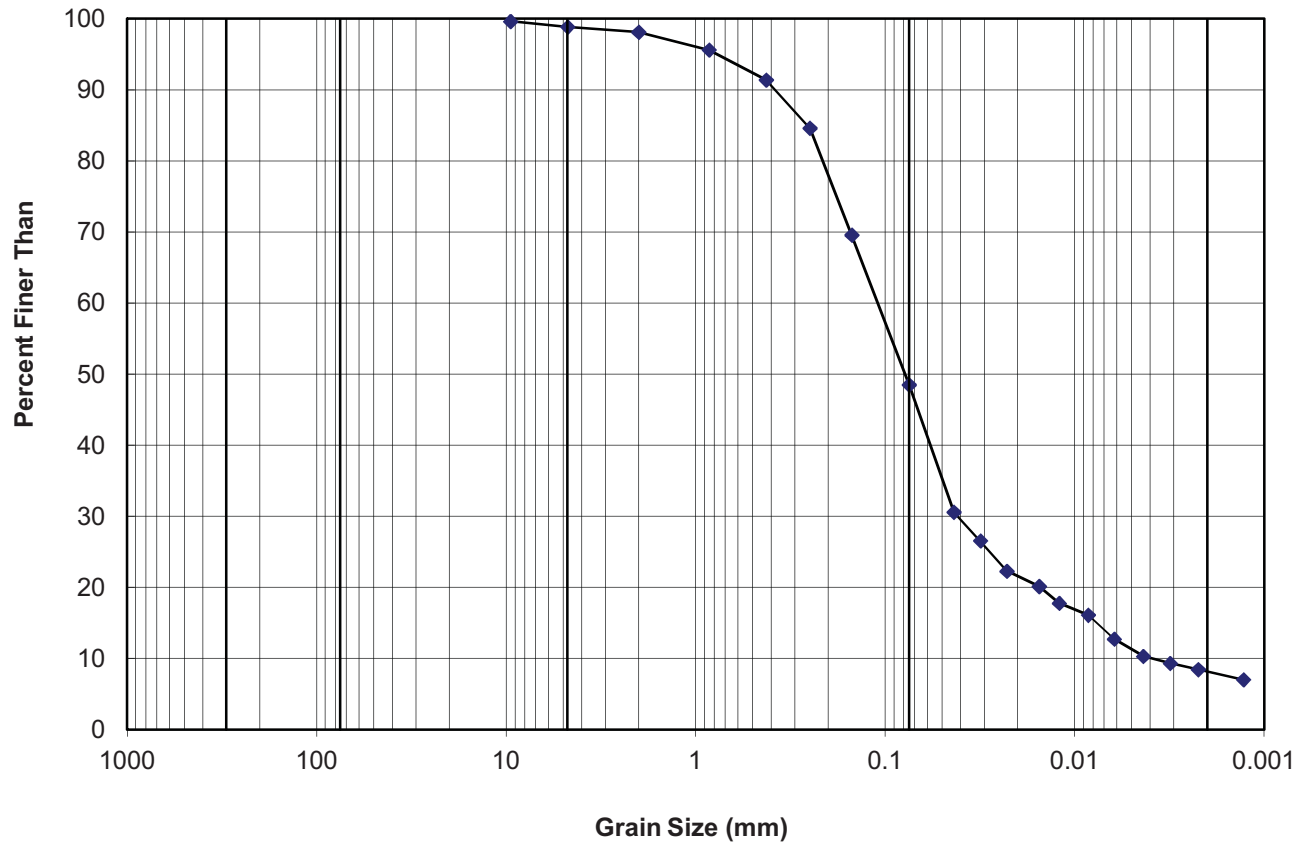
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 Short Title: COS East Riverbank / Cherry Lane - Geotech Investigation / Saskatoon, :
 Tested by: S.H. / S.B.
 Borehole #: COS-13-001 Sample #: 001-9
 Source:
 Date Sample Received: July 29, 2013

Phase: 5100
 Date: August 9, 2013

Grain Size Analysis Results:

Opening (mm)	Percent Passing (%)
152	100
76	100
38	100
19	100
9.5	100
4.75	99
2.00	98
0.850	96
0.425	91
0.250	85
0.150	70
0.075	49
0.043	31
0.031	27
0.023	22
0.015	20
0.012	18
0.008	16
0.006	13
0.004	10
0.003	9.3
0.002	8.5
0.001	7.1

Graphical Analysis



BOULDERS	COBBLES	GRAVEL		SAND			SILT / CLAY
		Coarse	Fine	Coarse	Medium	Fine	

Comments:

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GRAIN SIZE ANALYSIS - ASTM D422
(Mechanical & Hydrometer)

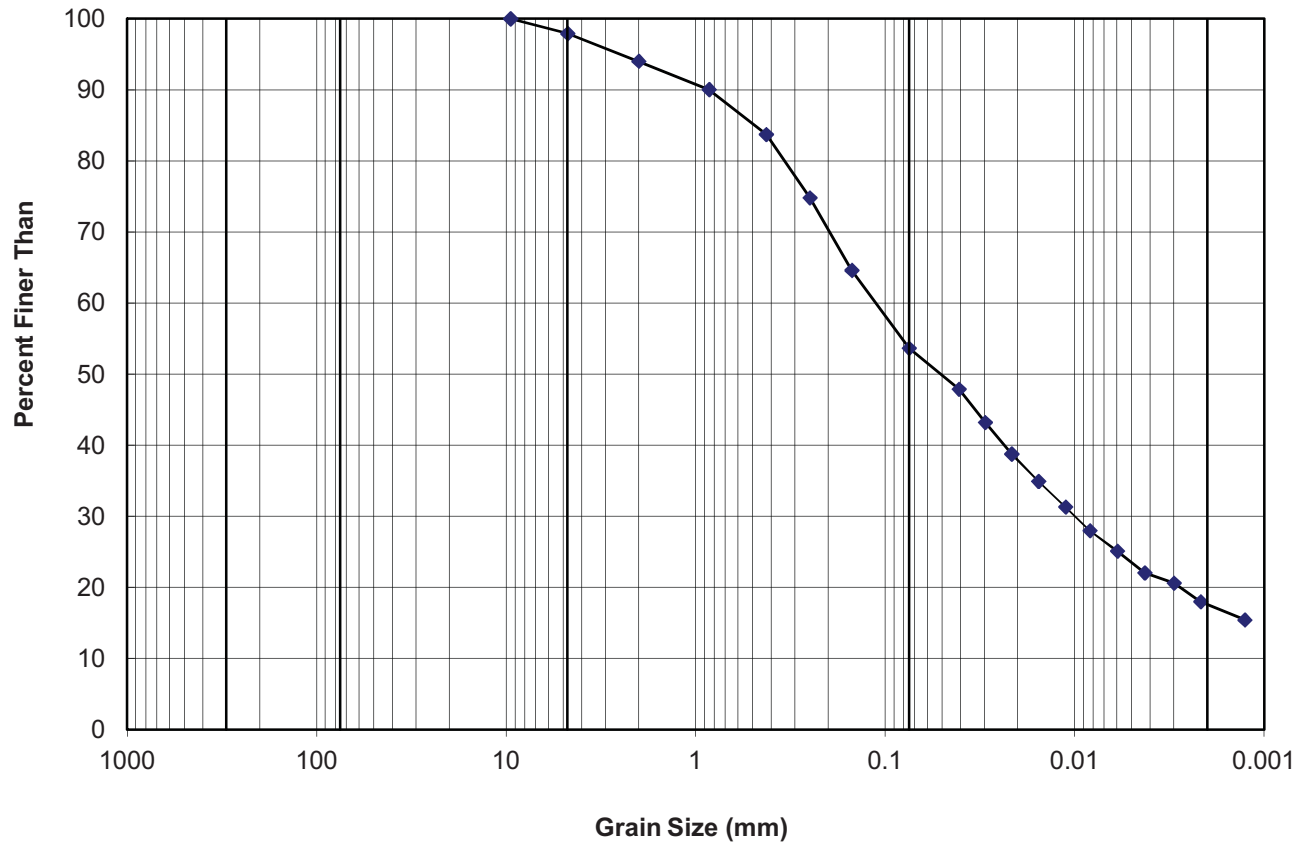
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 Short Title: COS East Riverbank / Cherry Lane - Geotech Investigation / Saskatoon, :
 Tested by: S.J.B. / S.B.
 Borehole #: CP-13-001B Sample #: 001B-3
 Source:
 Date Sample Received: July 29, 2013

Phase: 5100
 Date: August 10, 2013

Grain Size Analysis Results:

Opening (mm)	Percent Passing (%)
152	100
76	100
38	100
19	100
9.5	100
4.75	98
2.00	94
0.850	90
0.425	84
0.250	75
0.150	65
0.075	54
0.041	48
0.030	43
0.022	39
0.016	35
0.011	31
0.008	28
0.006	25
0.004	22
0.003	21
0.002	18
0.001	15

Graphical Analysis



BOULDERS	COBBLES	GRAVEL		SAND			SILT / CLAY
		Coarse	Fine	Coarse	Medium	Fine	

Comments:

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GRAIN SIZE ANALYSIS - ASTM D422
(Mechanical & Hydrometer)

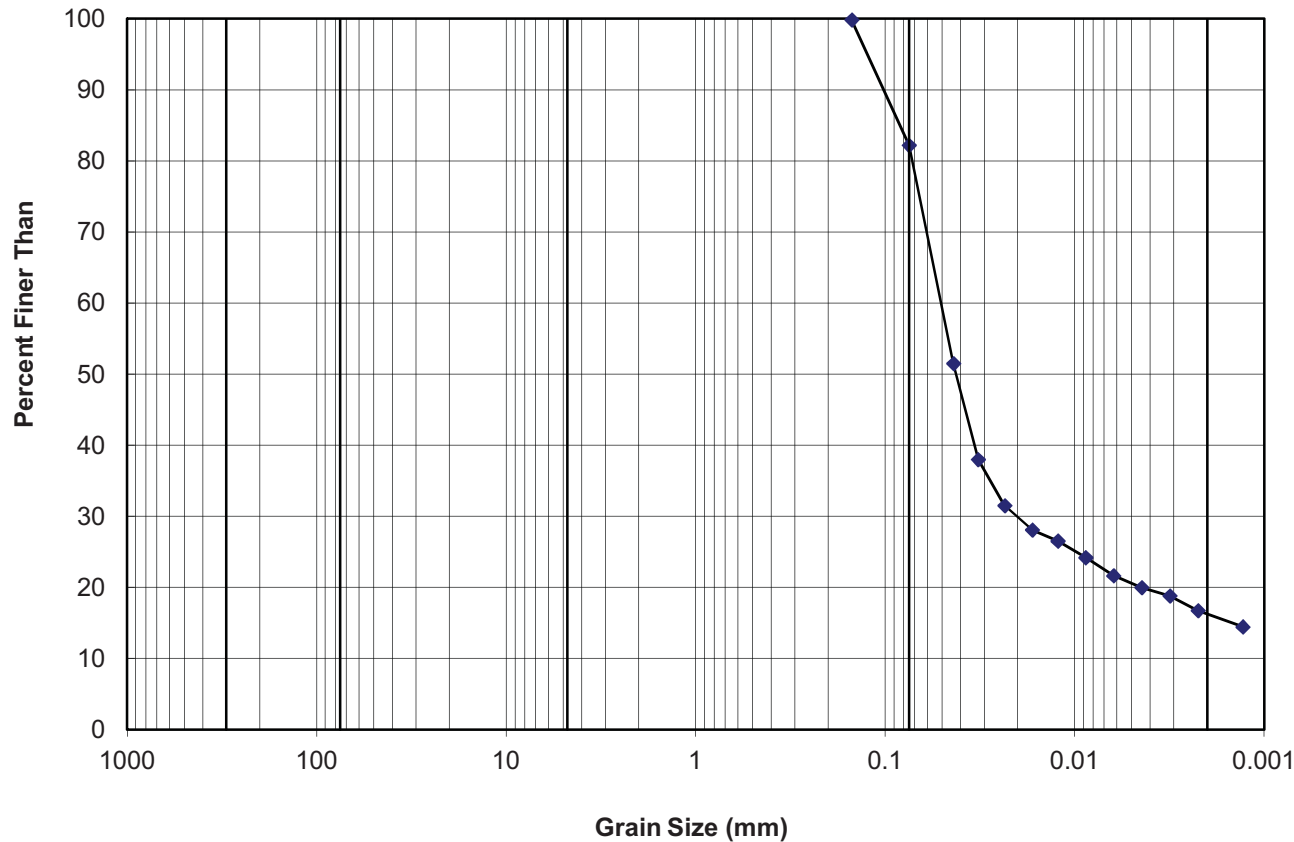
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 Short Title: COS East Riverbank / Cherry Lane - Geotech Investigation / Saskatoon, :
 Tested by: S.J.B. / S.B.
 Borehole #: COS-13-002 Sample #: 002-13
 Source:
 Date Sample Received: July 29, 2013

Phase: 5100
 Date: August 10, 2013

Grain Size Analysis Results:

Opening (mm)	Percent Passing (%)
152	100
76	100
38	100
19	100
9.5	100
4.75	100
2.00	100
0.850	100
0.425	100
0.250	100
0.150	100
0.075	82
0.044	52
0.032	38
0.023	32
0.017	28
0.012	27
0.009	24
0.006	22
0.004	20
0.003	19
0.002	17
0.001	14

Graphical Analysis



BOULDERS	COBBLES	GRAVEL		SAND			SILT / CLAY
		Coarse	Fine	Coarse	Medium	Fine	

Comments:

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GRAIN SIZE ANALYSIS - ASTM D422
(Mechanical & Hydrometer)

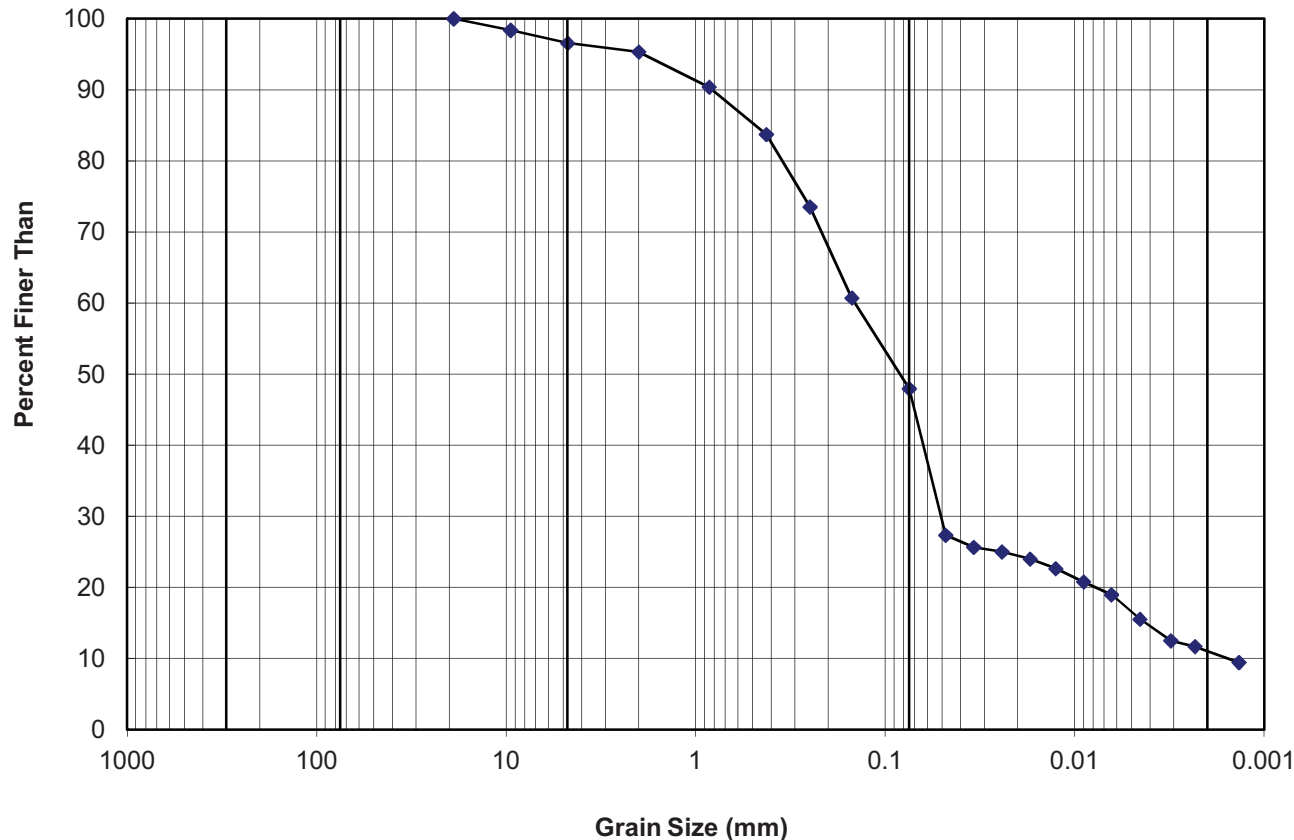
Project #: 11-1362-0057
 Short Title: COS East Riverbank / Cherry Lane - Geotech Investigation / Saskatoon, SK
 Tested by: S.E.
 Borehole #: COS-13-004 Sample #: 004-11
 Source:
 Date Sample Received: September 3, 2013

Phase: 5100 / 4000
 Date: September 16, 2013

Grain Size Analysis Results:

Opening (mm)	Percent Passing (%)
152	100
76	100
38	100
19	100
9.5	98
4.75	97
2.00	95
0.850	90
0.425	84
0.250	74
0.150	61
0.075	48
0.048	27
0.034	26
0.024	25
0.017	24
0.013	23
0.009	21
0.006	19
0.005	16
0.003	13
0.002	12
0.001	9.5

Graphical Analysis



BOULDERS	COBBLES	GRAVEL		SAND			SILT / CLAY
		Coarse	Fine	Coarse	Medium	Fine	

Comments:

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GRAIN SIZE ANALYSIS - ASTM D422
(Mechanical & Hydrometer)

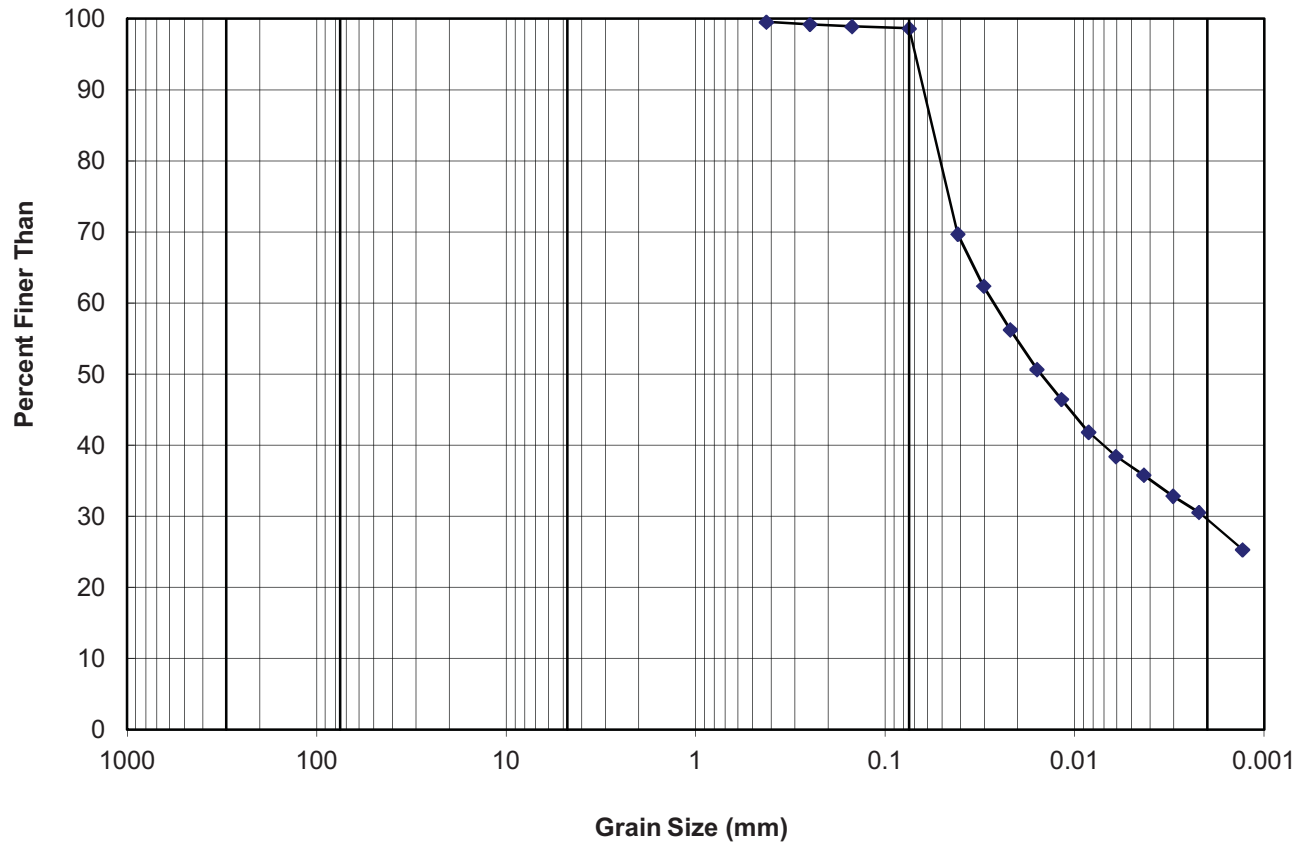
Project #: 11-1362-0057
 Short Title: COS East Riverbank / Cherry Lane - Geotech Investigation / Saskatoon, SK
 Tested by: S.E.
 Borehole #: COS-13-004 Sample #: 004-2
 Source:
 Date Sample Received: September 3, 2013

Phase: 5100 / 4000
 Date: September 16, 2013

Grain Size Analysis Results:

Opening (mm)	Percent Passing (%)
152	100
76	100
38	100
19	100
9.5	100
4.75	100
2.00	100
0.850	100
0.425	100
0.250	99
0.150	99
0.075	99
0.042	70
0.030	62
0.022	56
0.016	51
0.012	46
0.008	42
0.006	38
0.004	36
0.003	33
0.002	31
0.001	25

Graphical Analysis



BOULDERS	COBBLES	GRAVEL		SAND			SILT / CLAY
		Coarse	Fine	Coarse	Medium	Fine	

Comments:

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GRAIN SIZE ANALYSIS - ASTM D422
(Mechanical & Hydrometer)

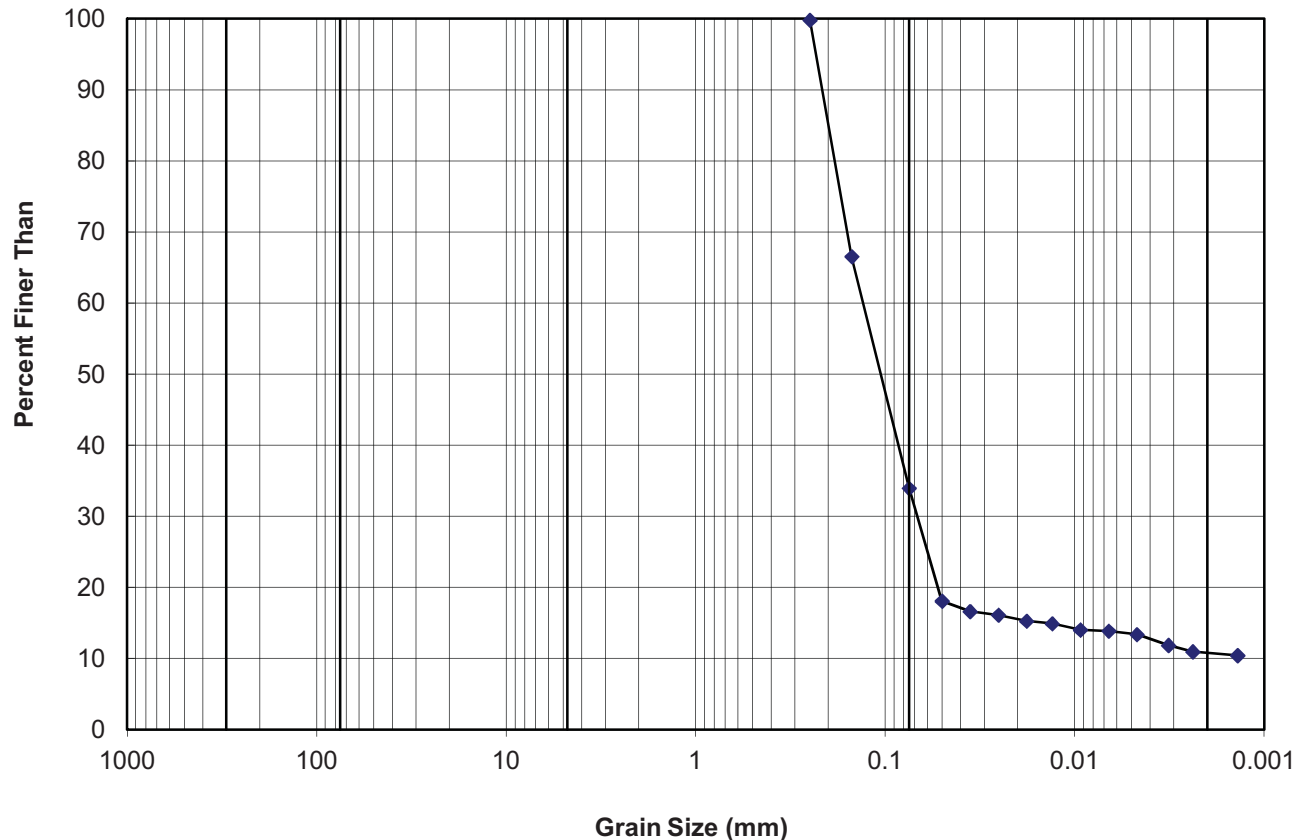
Project #: 11-1362-0057
 Short Title: COS East Riverbank / Cherry Lane - Geotech Investigation / Saskatoon, SK
 Tested by: S.E.
 Borehole #: COS-13-005 Sample #: 005-1
 Source:
 Date Sample Received: September 3, 2013

Phase: 5100 / 4000
 Date: September 16, 2013

Grain Size Analysis Results:

Opening (mm)	Percent Passing (%)
152	100
76	100
38	100
19	100
9.5	100
4.75	100
2.00	100
0.850	100
0.425	100
0.250	100
0.150	67
0.075	34
0.050	18
0.036	17
0.025	16
0.018	15
0.013	15
0.009	14
0.007	14
0.005	13
0.003	12
0.002	11
0.001	10

Graphical Analysis



BOULDERS	COBBLES	GRAVEL		SAND			SILT / CLAY
		Coarse	Fine	Coarse	Medium	Fine	

Comments:

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GRAIN SIZE ANALYSIS - ASTM D422
(Mechanical & Hydrometer)

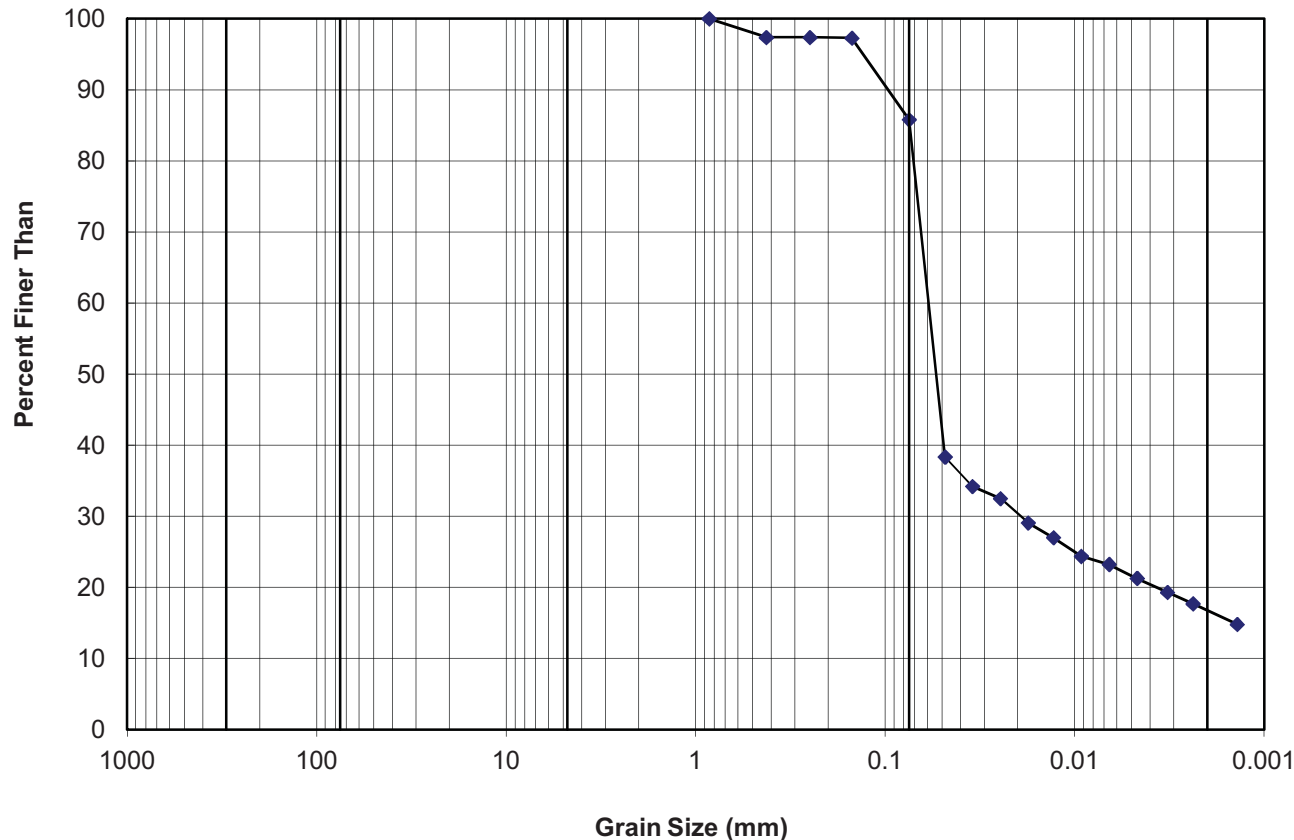
Project #: 11-1362-0057
 Short Title: COS East Riverbank / Cherry Lane - Geotech Investigation / Saskatoon, SK
 Tested by: S.E.
 Borehole #: COS-13-005 Sample #: 005-10
 Source:
 Date Sample Received: September 3, 2013

Phase: 5100 / 4000
 Date: September 16, 2013

Grain Size Analysis Results:

Opening (mm)	Percent Passing (%)
152	100
76	100
38	100
19	100
9.5	100
4.75	100
2.00	100
0.850	100
0.425	97
0.250	97
0.150	97
0.075	86
0.048	38
0.035	34
0.025	33
0.018	29
0.013	27
0.009	24
0.007	23
0.005	21
0.003	19
0.002	18
0.001	15

Graphical Analysis



BOULDERS	COBBLES	GRAVEL		SAND			SILT / CLAY
		Coarse	Fine	Coarse	Medium	Fine	

Comments:

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GRAIN SIZE ANALYSIS - ASTM D422
(Mechanical & Hydrometer)

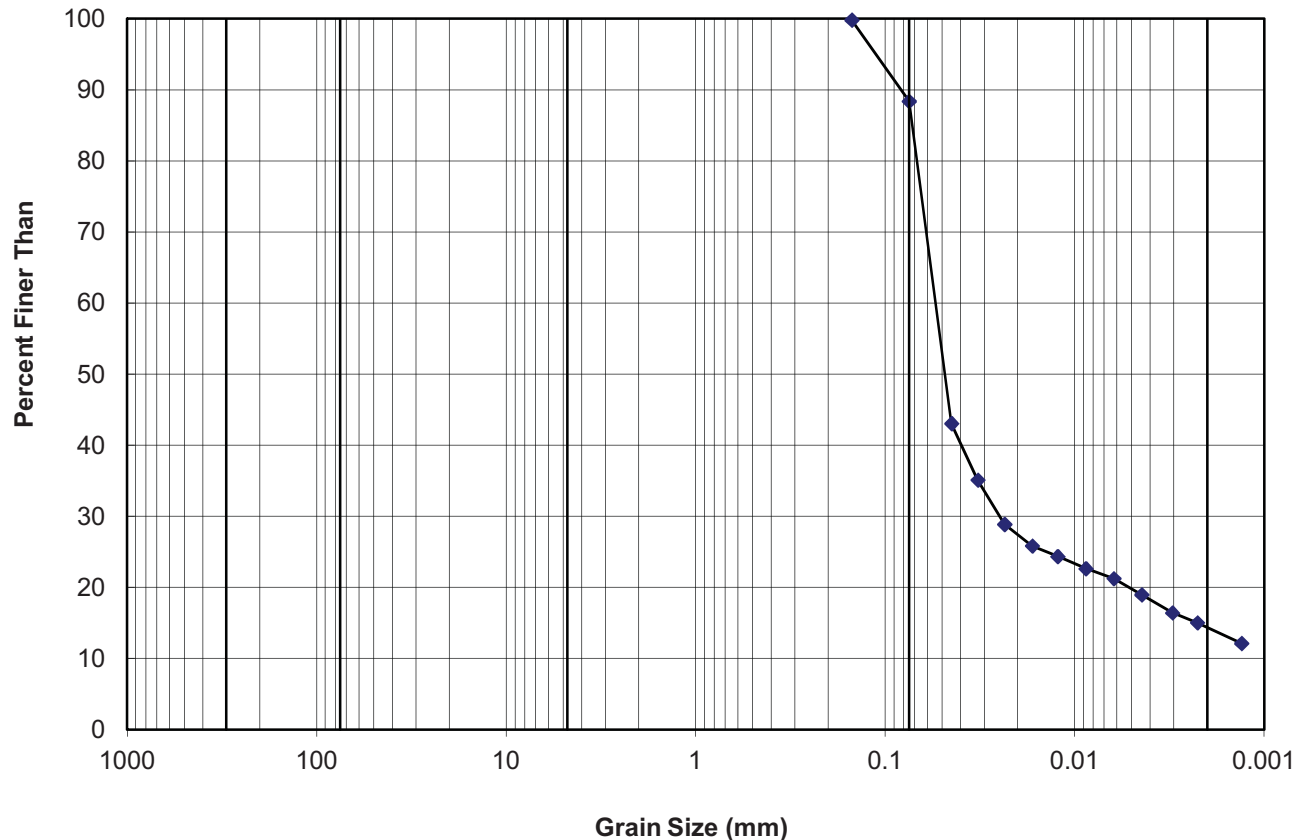
Project #: 11-1362-0057
 Short Title: COS East Riverbank / Cherry Lane - Geotech Investigation / Saskatoon, SK
 Tested by: S.E.
 Borehole #: COS-13-005 Sample #: 005-11
 Source:
 Date Sample Received: September 3, 2013

Phase: 5100 / 4000
 Date: September 16, 2013

Grain Size Analysis Results:

Opening (mm)	Percent Passing (%)
152	100
76	100
38	100
19	100
9.5	100
4.75	100
2.00	100
0.850	100
0.425	100
0.250	100
0.150	100
0.075	88
0.045	43
0.032	35
0.023	29
0.017	26
0.012	24
0.009	23
0.006	21
0.004	19
0.003	16
0.002	15
0.001	12

Graphical Analysis



BOULDERS	COBBLES	GRAVEL		SAND			SILT / CLAY
		Coarse	Fine	Coarse	Medium	Fine	

Comments:

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GRAIN SIZE ANALYSIS - ASTM D422
(Mechanical & Hydrometer)

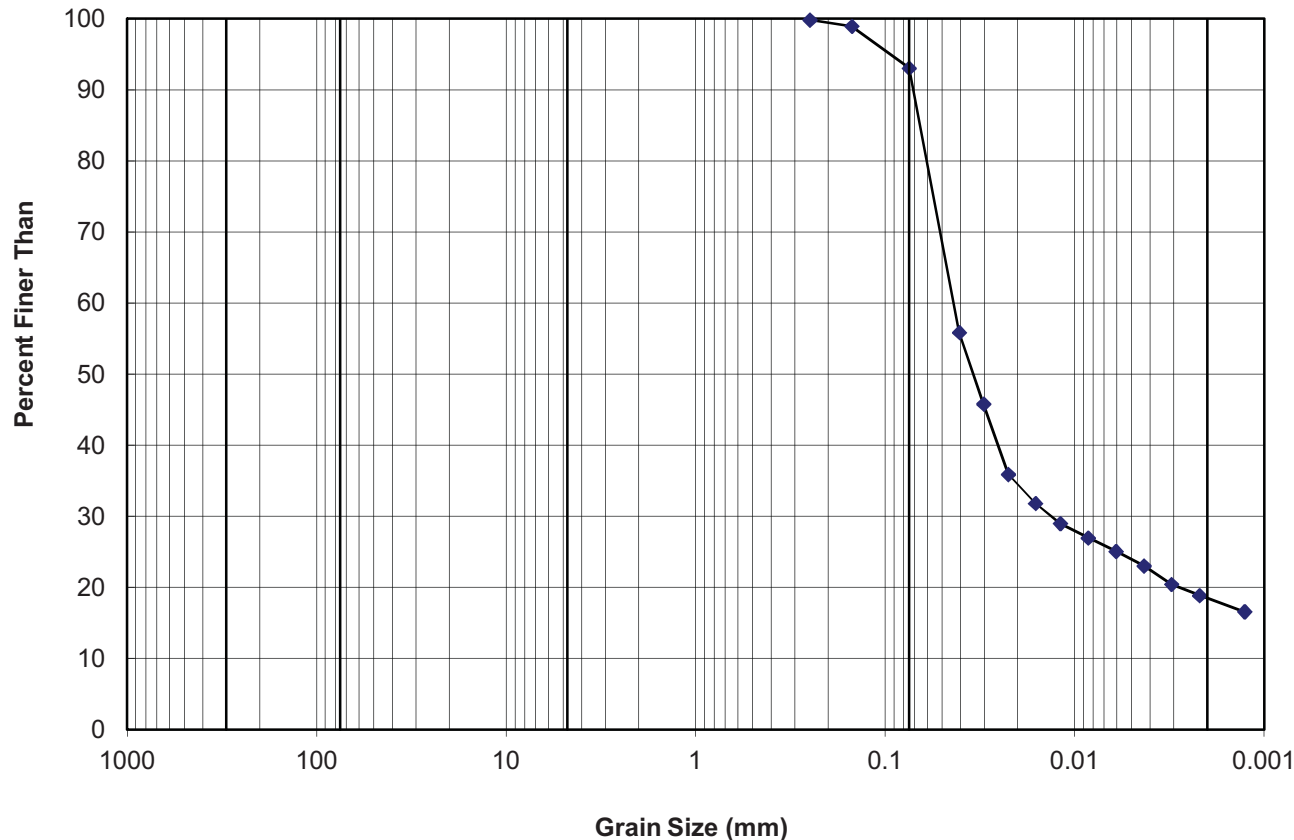
Project #: 11-1362-0057
 Short Title: COS East Riverbank / Cherry Lane - Geotech Investigation / Saskatoon, SK
 Tested by: S.E.
 Borehole #: COS-13-005 Sample #: 005-12
 Source:
 Date Sample Received: September 3, 2013

Phase: 5100 / 4000
 Date: September 16, 2013

Grain Size Analysis Results:

Opening (mm)	Percent Passing (%)
152	100
76	100
38	100
19	100
9.5	100
4.75	100
2.00	100
0.850	100
0.425	100
0.250	100
0.150	99
0.075	93
0.041	56
0.030	46
0.022	36
0.016	32
0.012	29
0.009	27
0.006	25
0.004	23
0.003	20
0.002	19
0.001	17

Graphical Analysis



BOULDERS	COBBLES	GRAVEL		SAND			SILT / CLAY
		Coarse	Fine	Coarse	Medium	Fine	

Comments:

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GRAIN SIZE ANALYSIS - ASTM D422
(Mechanical & Hydrometer)

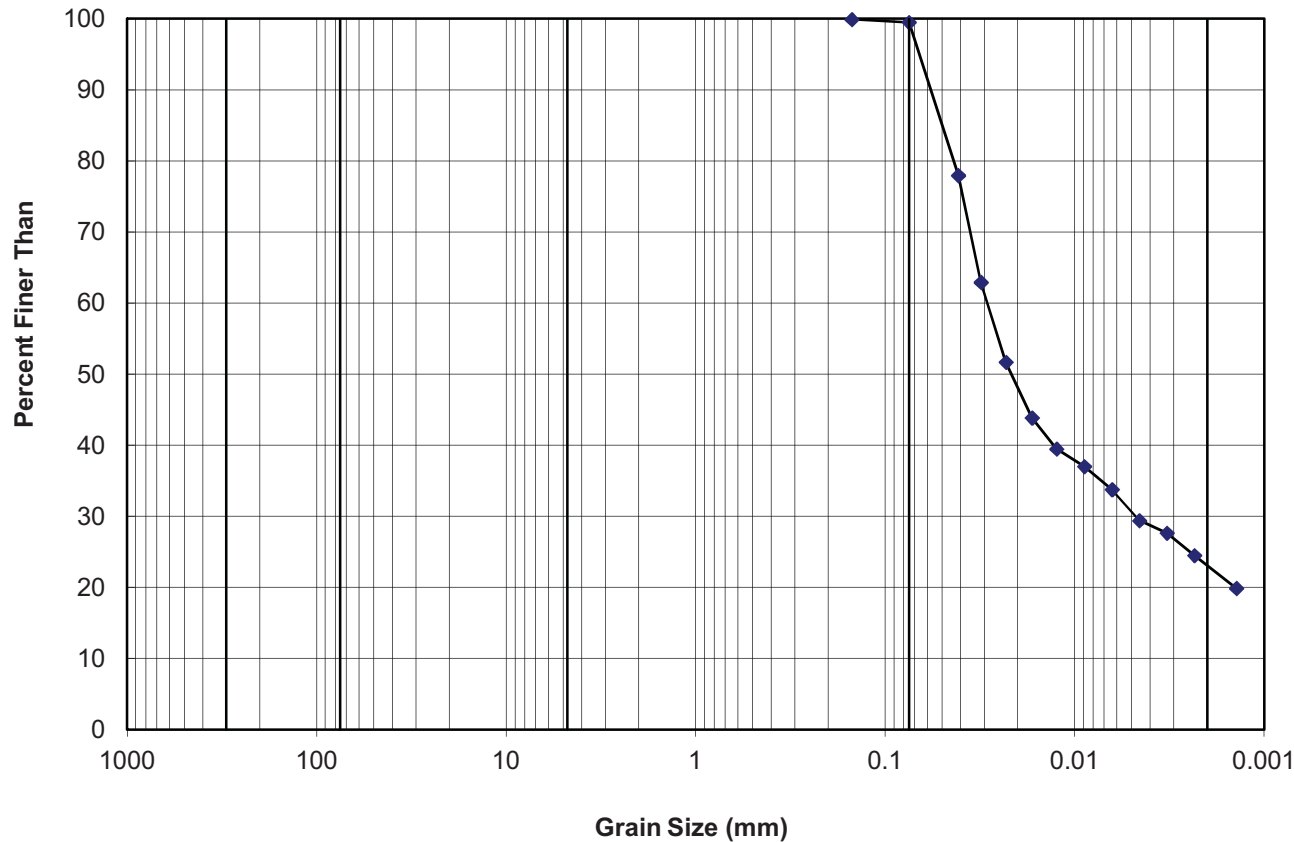
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 Short Title: COS East Riverbank / Cherry Lane - Geotech Investigation / Saskatoon, SK
 Tested by: S.E.
 Borehole #: COS-13-005 Sample #: 005-8
 Source:
 Date Sample Received: September 3, 2013

Phase: 5100 / 4000
 Date: September 16, 2013

Grain Size Analysis Results:

Opening (mm)	Percent Passing (%)
152	100
76	100
38	100
19	100
9.5	100
4.75	100
2.00	100
0.850	100
0.425	100
0.250	100
0.150	100
0.075	99
0.041	78
0.031	63
0.023	52
0.017	44
0.012	39
0.009	37
0.006	34
0.005	29
0.003	28
0.002	25
0.001	20

Graphical Analysis



BOULDERS	COBBLES	GRAVEL		SAND			SILT / CLAY
		Coarse	Fine	Coarse	Medium	Fine	

Comments:

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GRAIN SIZE ANALYSIS - ASTM D422
(Mechanical & Hydrometer)

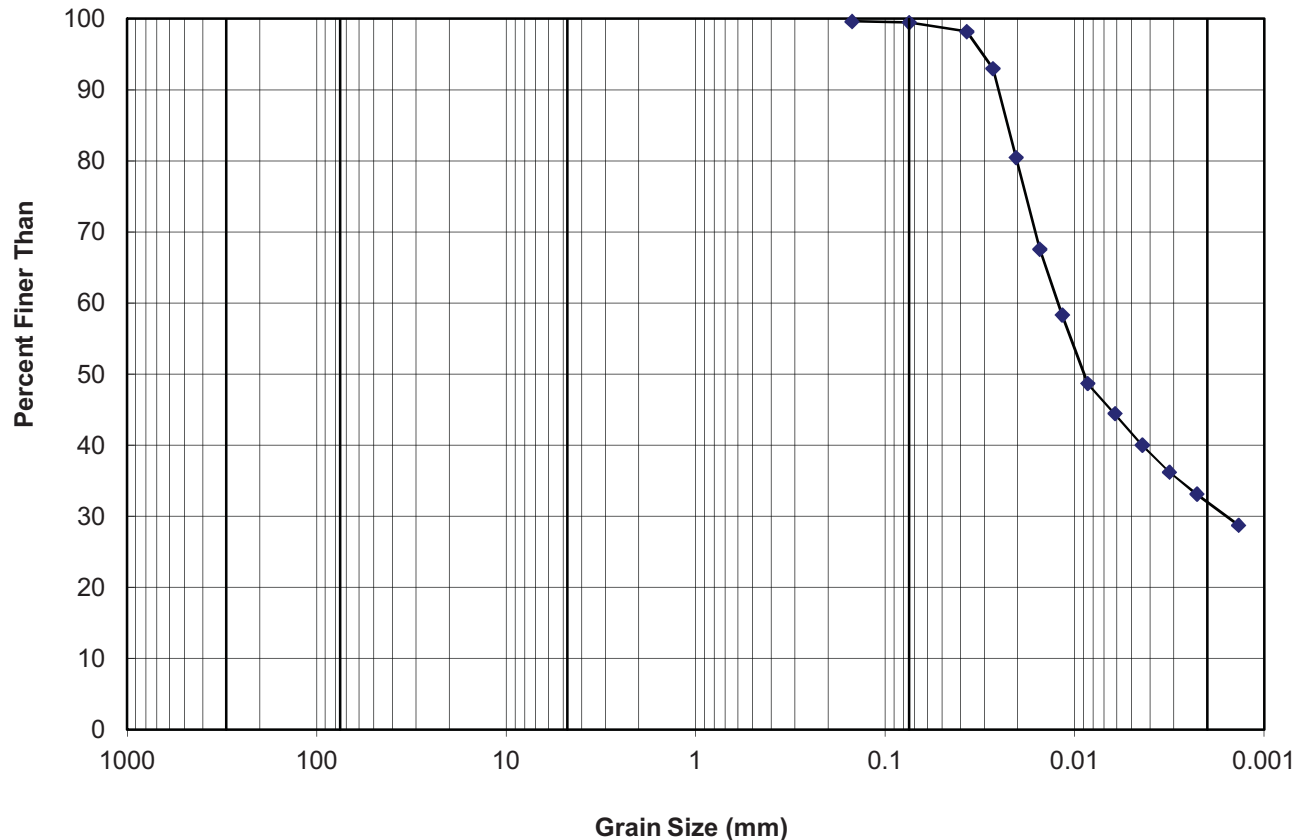
Project #: 11-1362-0057
 Short Title: COS East Riverbank / Cherry Lane - Geotech Investigation / Saskatoon, SK
 Tested by: S.E.
 Borehole #: COS-13-006 Sample #: 006-10
 Source:
 Date Sample Received: September 3, 2013

Phase: 5100 / 4000
 Date: September 16, 2013

Grain Size Analysis Results:

Opening (mm)	Percent Passing (%)
152	100
76	100
38	100
19	100
9.5	100
4.75	100
2.00	100
0.850	100
0.425	100
0.250	100
0.150	100
0.075	99
0.037	98
0.027	93
0.020	80
0.015	68
0.012	58
0.009	49
0.006	44
0.004	40
0.003	36
0.002	33
0.001	29

Graphical Analysis



BOULDERS	COBBLES	GRAVEL		SAND			SILT / CLAY
		Coarse	Fine	Coarse	Medium	Fine	

Comments:

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GRAIN SIZE ANALYSIS - ASTM D422
(Mechanical & Hydrometer)

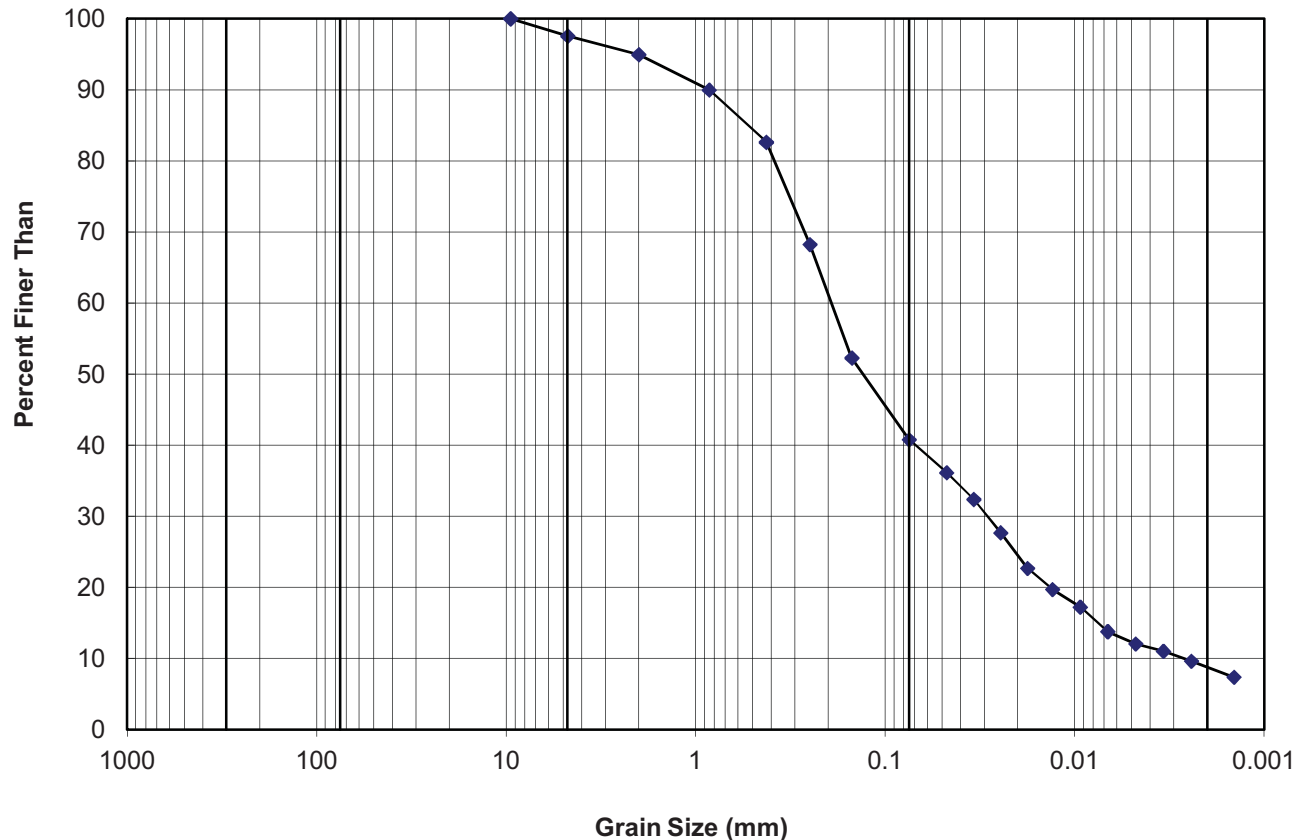
Project #: 11-1362-0057
 Short Title: COS East Riverbank / Cherry Lane - Geotech Investigation / Saskatoon, SK
 Tested by: S.E.
 Borehole #: COS-13-006 Sample #: 006-13
 Source:
 Date Sample Received: September 3, 2013

Phase: 5100 / 4000
 Date: September 16, 2013

Grain Size Analysis Results:

Opening (mm)	Percent Passing (%)
152	100
76	100
38	100
19	100
9.5	100
4.75	98
2.00	95
0.850	90
0.425	83
0.250	68
0.150	52
0.075	41
0.047	36
0.034	32
0.025	28
0.018	23
0.013	20
0.009	17
0.007	14
0.005	12
0.003	11
0.002	9.6
0.001	7.4

Graphical Analysis



BOULDERS	COBBLES	GRAVEL		SAND			SILT / CLAY
		Coarse	Fine	Coarse	Medium	Fine	

Comments:

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Project #: 11-1362-0057

Phase: 5100

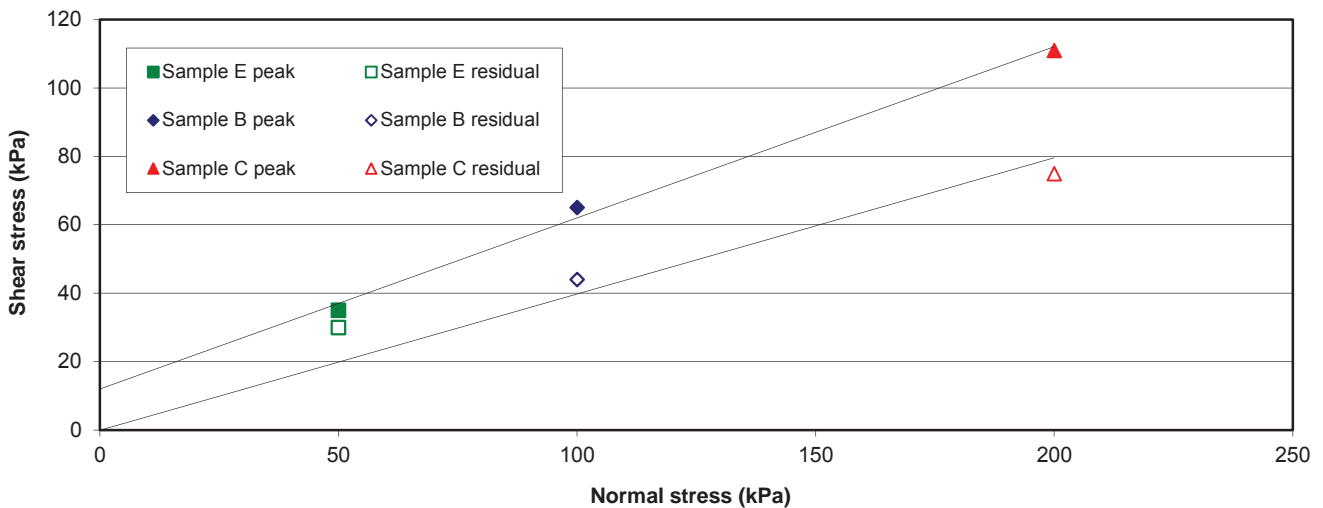
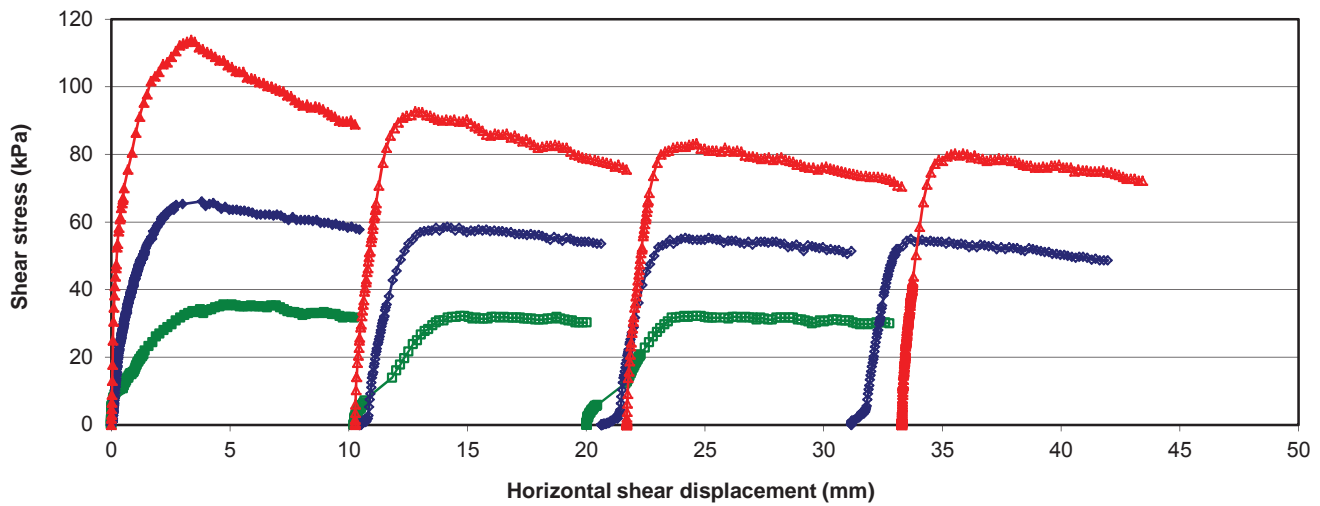
Short Title: COS East Riverbank / Cherry Lane - Geotech Investigation Saskatoon, SK

Tested By: B.Y. / D.B.

Date: August 29, 2013

Sample	Normal Stress		
	(kPa)	Peak (kPa)	Residual (kPa)
COS-13-001B 001B-1	50	35	30
	100	65	44
	200	111	75

	Peak	Residual
Friction angle (degrees):	26.6	21.7
cohesion (kPa):	12	0



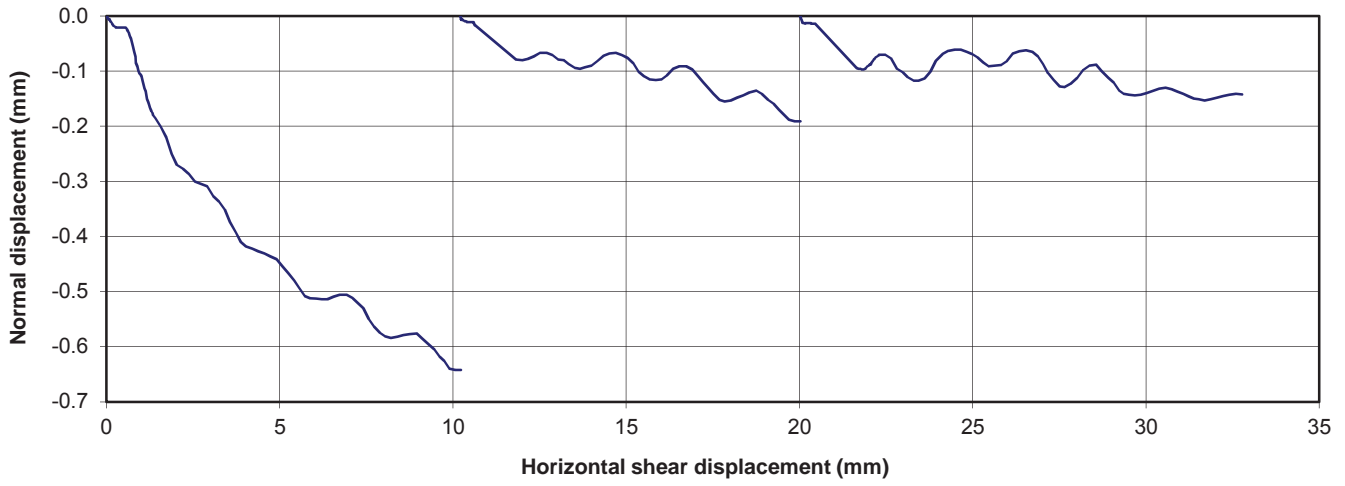
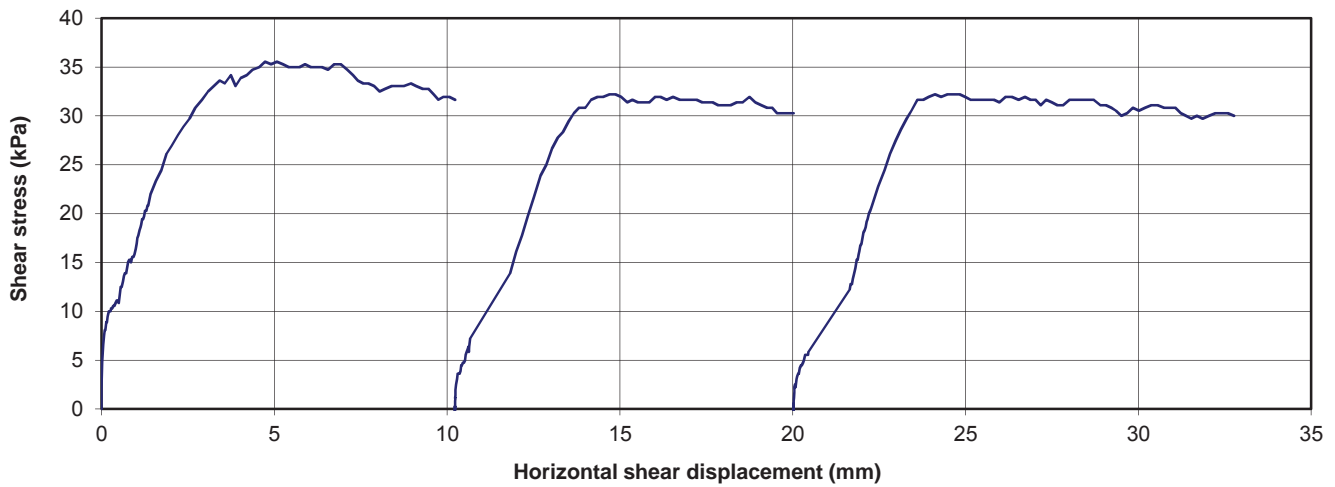
Comments:



CONSOLIDATED DRAINED DIRECT SHEAR TEST

Project #: 11-1362-0057 Phase: 5100
 Short Title: COS East Riverbank / Cherry Lane - Geotech Investigation Saskatoon, SK
 Tested By: B.Y. / D.B. Date: August 29, 2013
 Sample: COS-13-001B 001B-1 (REDO#2)

Effective Stress:	50	kPa	Peak Shear Stress:	35	kPa
			Residual Shear Stress	30	kPa
Sample Data:			Comments:		
Sample Length:	60.0	mm			
Initial Height:	20.0	mm			
Initial Water Content:	35.4	%			
Initial Dry Density:	1319	kg/m ³			
Final Water Content:	42.6	%			



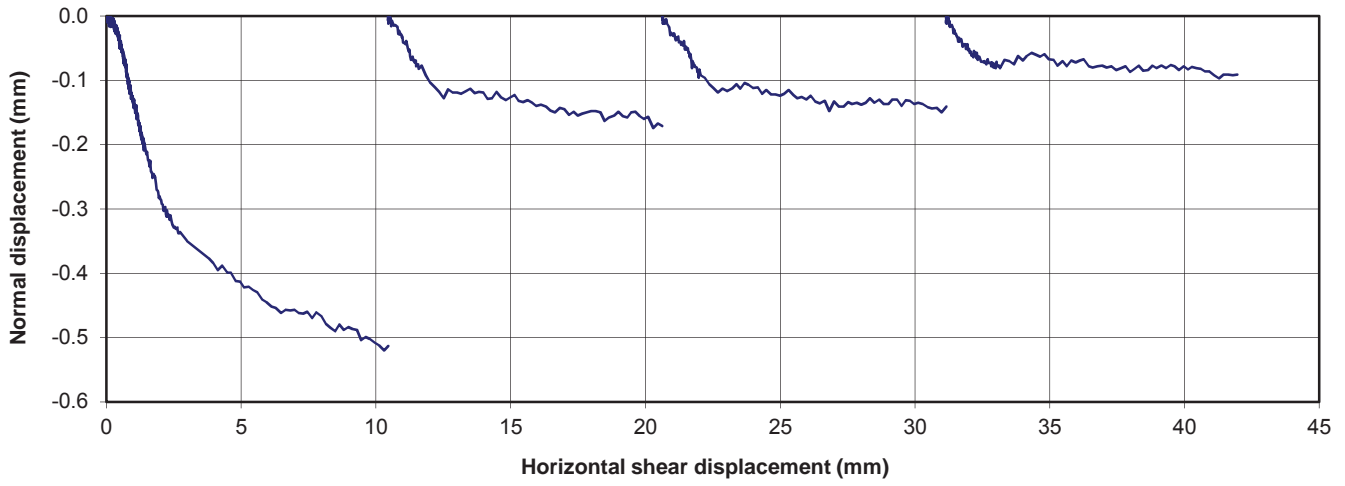
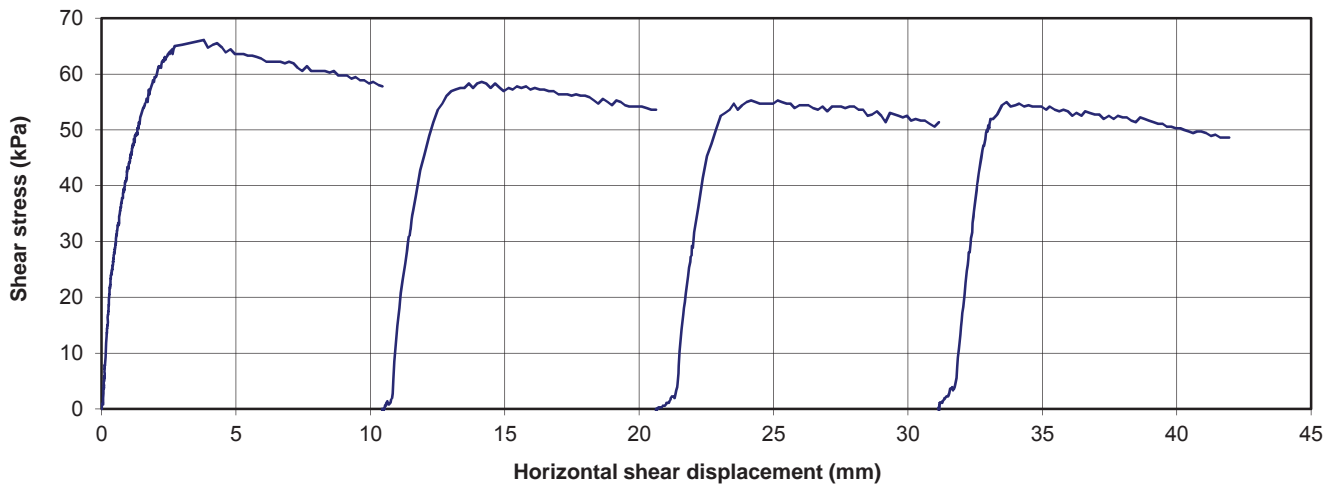
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CONSOLIDATED DRAINED DIRECT SHEAR TEST

Project #: 11-1362-0057 Phase: 5100
 Short Title: COS East Riverbank / Cherry Lane - Geotech Investigation Saskatoon, SK
 Tested By: B.Y. / D.B. Date: August 29, 2013
 Sample: COS-13-001B 001B-1

Effective Stress:	100	kPa	Peak Shear Stress:	65	kPa
			Residual Shear Stress	44	kPa
Sample Data:	Comments:				
Sample Length:	60.0	mm			
Initial Height:	20.0	mm			
Initial Water Content:	35.0	%			
Initial Dry Density:	1349	kg/m ³			
Final Water Content:	40.5	%			



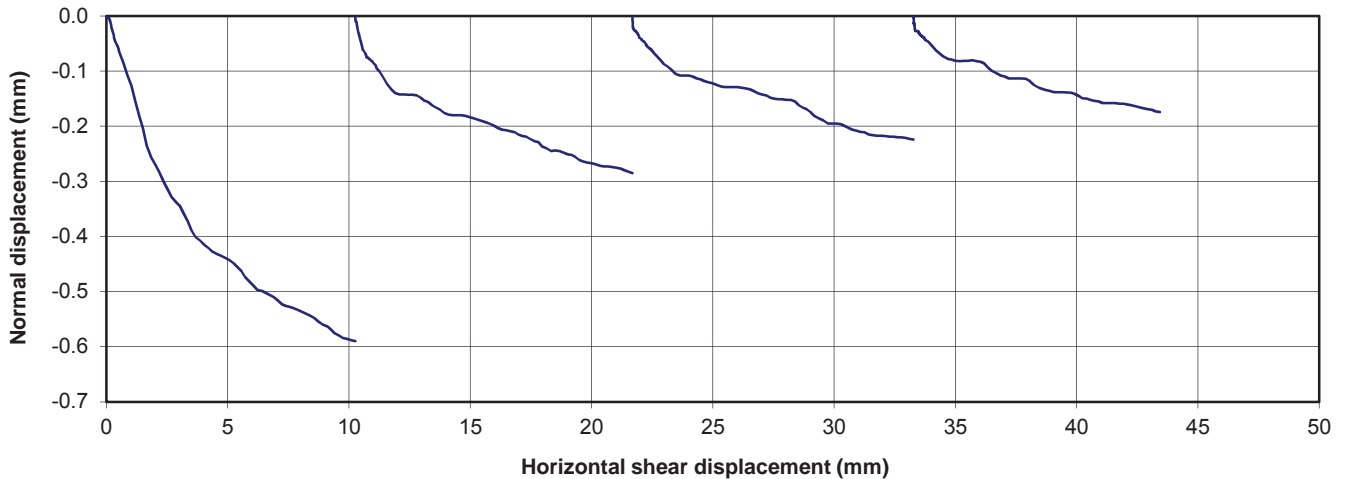
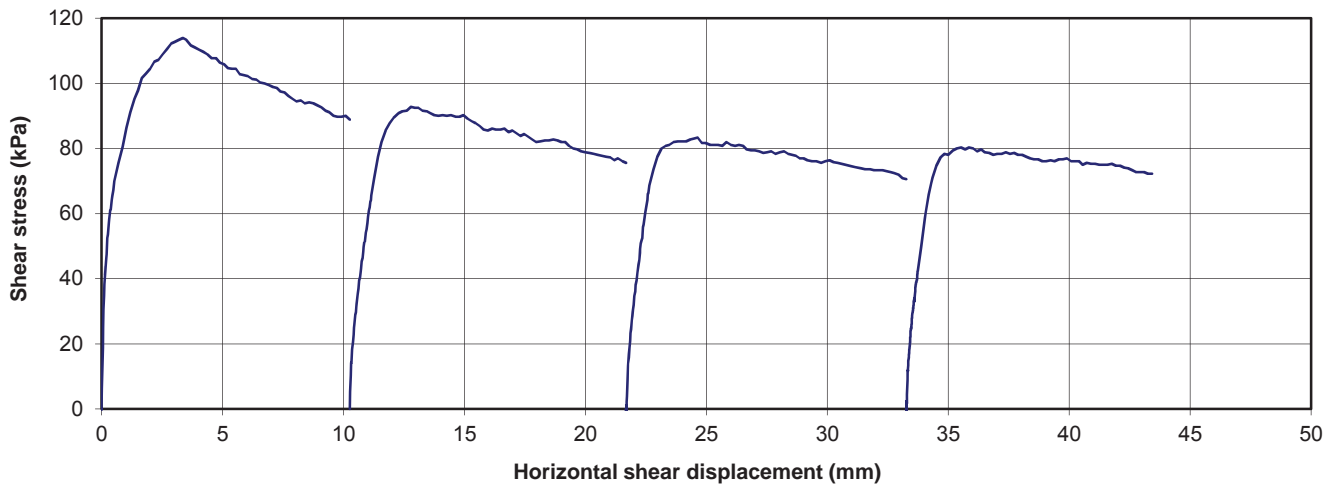
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CONSOLIDATED DRAINED DIRECT SHEAR TEST

Project #: 11-1362-0057 Phase: 5100
 Short Title: COS East Riverbank / Cherry Lane - Geotech Investigation Saskatoon, SK
 Tested By: B.Y. / D.B. Date: August 29, 2013
 Sample: COS-13-001B 001B-1

Effective Stress:	200	kPa	Peak Shear Stress:	111	kPa
			Residual Shear Stress	75	kPa
Sample Data:			Comments:		
Sample Length:	60.0	mm			
Initial Height:	20.0	mm			
Initial Water Content:	36.4	%			
Initial Dry Density:	1337	kg/m ³			
Final Water Content:	35.0	%			



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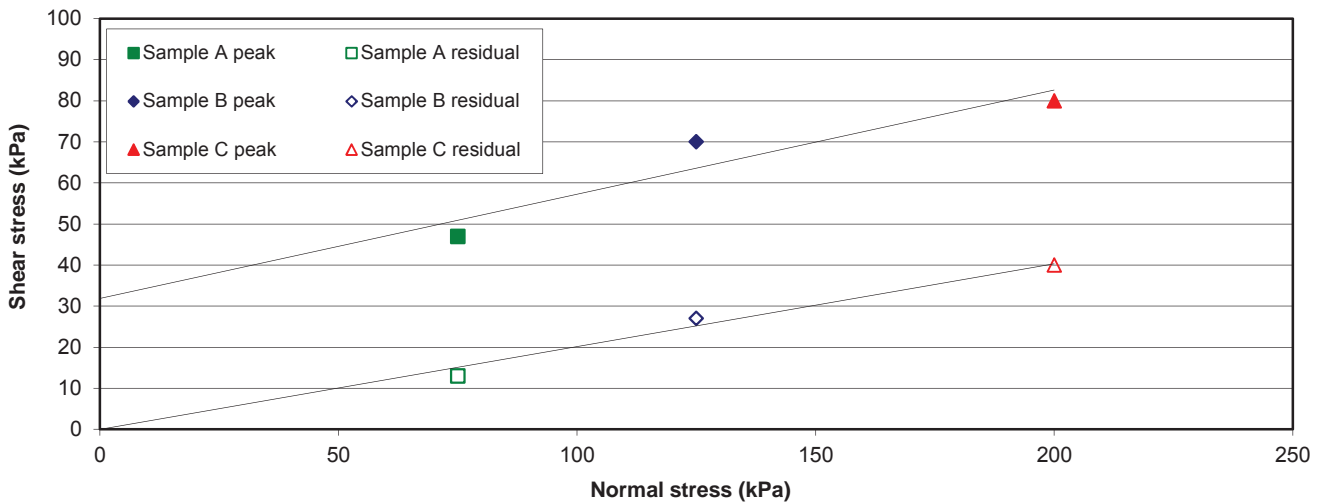
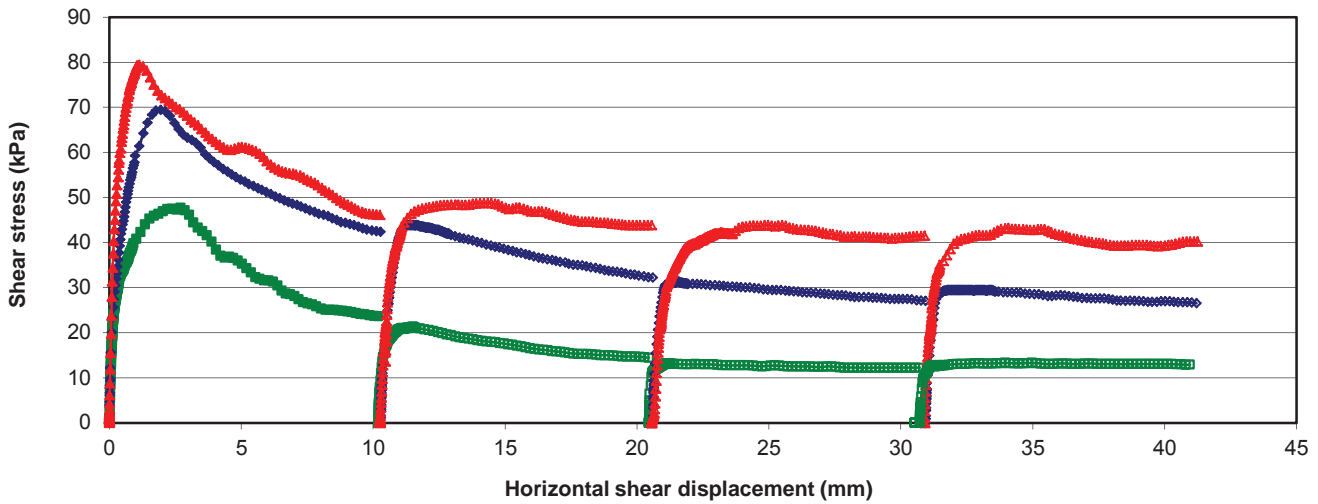


CONSOLIDATED DRAINED DIRECT SHEAR TEST-SUMMARY

Project #: 11-1362-0057 Phase: 5100 / 4000
 Short Title: COS East Riverbank / Cherry Lane - Geotech Investigation / Saskatoon, SK
 Tested By: B.Y. / D.B. Date: November 10, 2013

Sample	Normal Stress	Shear Stress	
	(kPa)	Peak (kPa)	Residual (kPa)
COS-13-004 004-8 7.01-7.62 m depth	75	47	13
	125	70	27
	200	80	40

	Peak	Residual
Friction angle (degrees):	14.2	11.4
cohesion (kPa):	32	0



Comments:

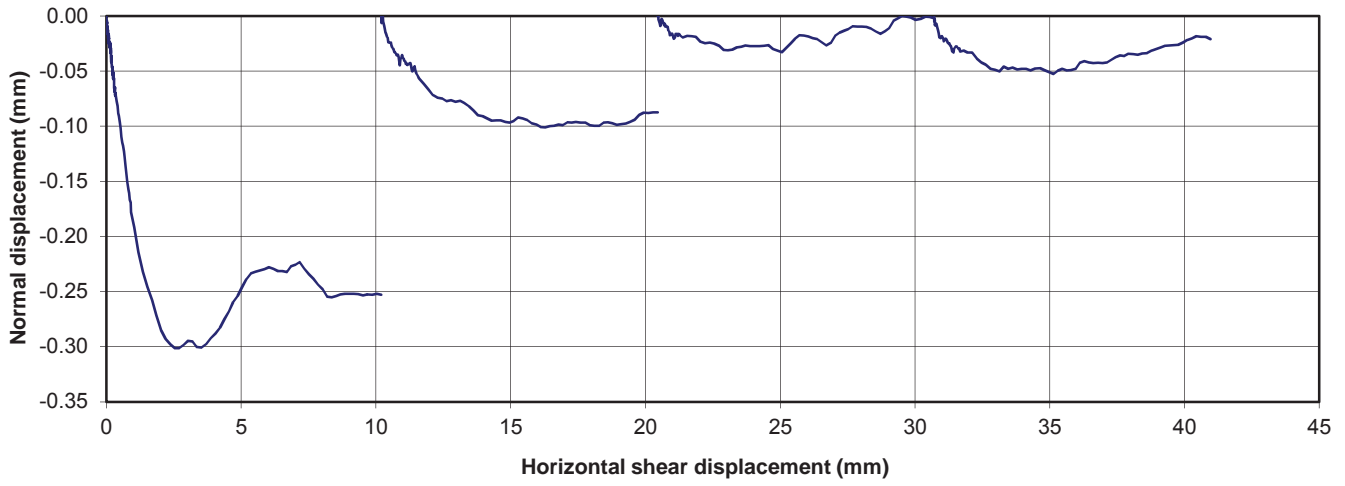
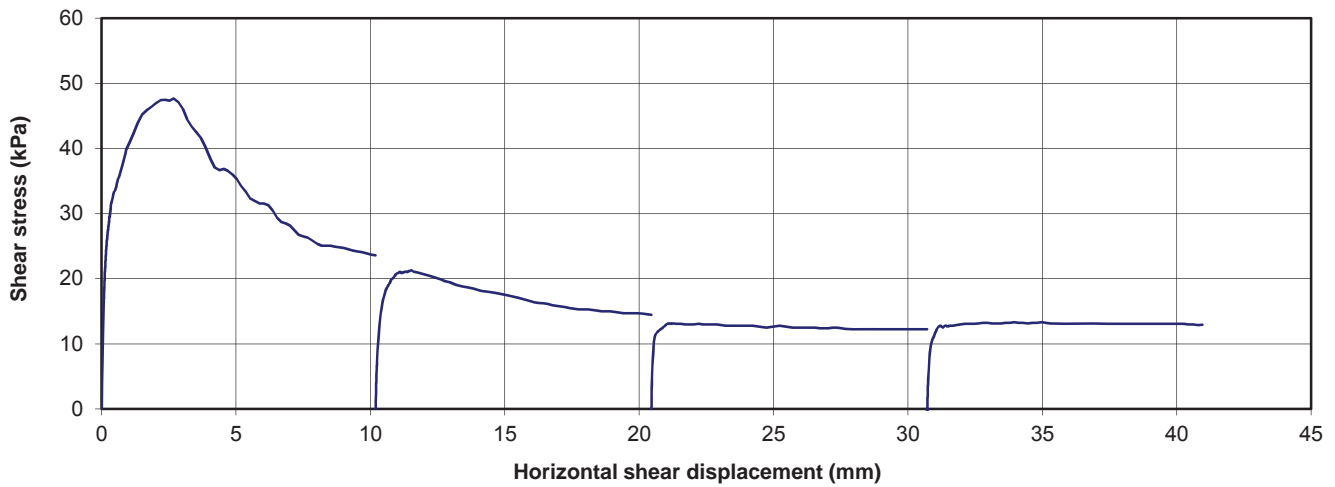
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CONSOLIDATED DRAINED DIRECT SHEAR TEST

Project #: 11-1362-0057 Phase: 5100 / 4000
 Short Title: COS East Riverbank / Cherry Lane - Geotech Investigation / Saskatoon, SK
 Tested By: B.Y. / D.B. Date: November 10, 2013
 Sample: COS-13-004 004-8 7.01-7.62 m depth

Effective Stress:	75	kPa	Peak Shear Stress:	47	kPa
			Residual Shear Stress	13	kPa
Sample Data:			Comments:		
Sample Length:	60.0	mm			
Initial Height:	20.0	mm			
Initial Water Content:	36.8	%			
Initial Dry Density:	1329	kg/m ³			
Final Water Content:	43.6	%			



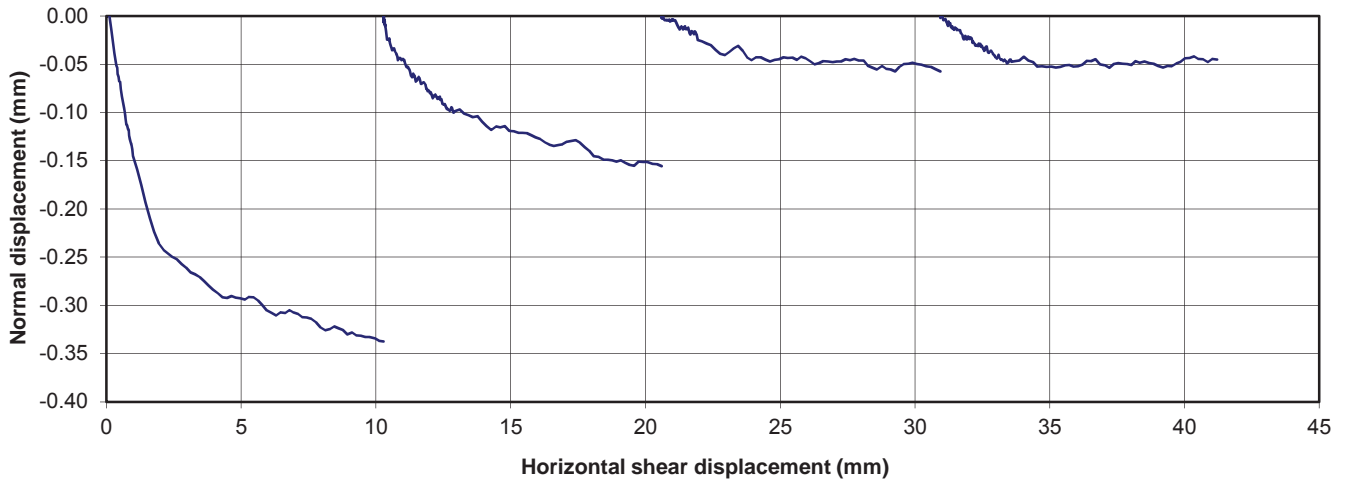
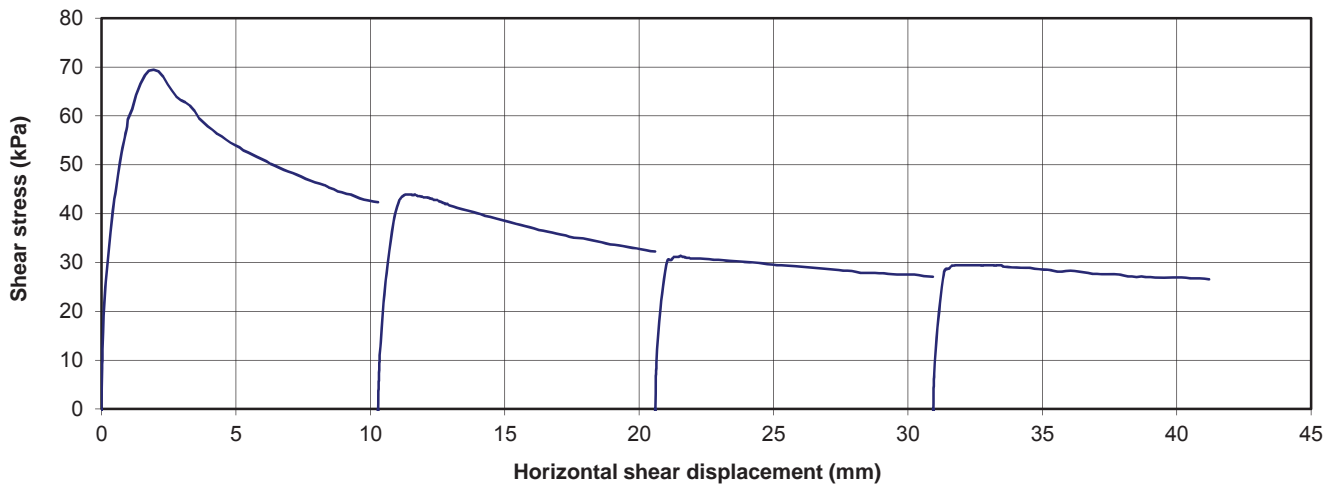
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CONSOLIDATED DRAINED DIRECT SHEAR TEST

Project #: 11-1362-0057 Phase: 5100 / 4000
 Short Title: COS East Riverbank / Cherry Lane - Geotech Investigation / Saskatoon, SK
 Tested By: B.Y. / D.B. Date: November 10, 2013
 Sample: COS-13-004 004-8 7.01-7.62 m depth

Effective Stress:	125	kPa	Peak Shear Stress:	70	kPa
			Residual Shear Stress	27	kPa
Sample Data:			Comments:		
Sample Length:	60.0	mm			
Initial Height:	20.0	mm			
Initial Water Content:	35.0	%			
Initial Dry Density:	1368	kg/m ³			
Final Water Content:	38.6	%			



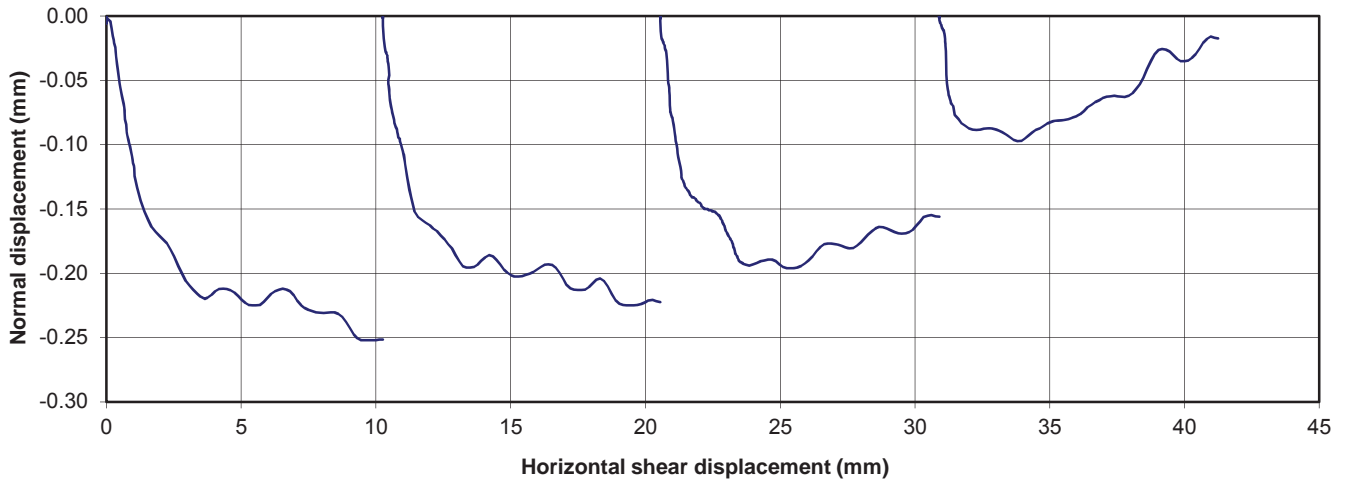
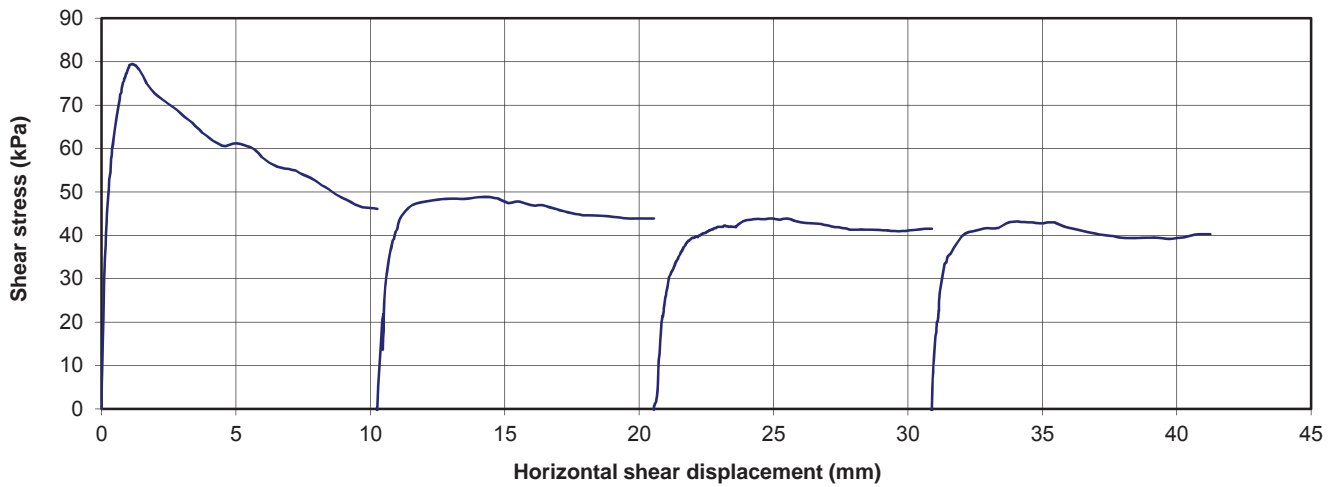
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CONSOLIDATED DRAINED DIRECT SHEAR TEST

Project #: 11-1362-0057	Phase: 5100 / 4000
Short Title: COS East Riverbank / Cherry Lane - Geotech Investigation / Saskatoon, SK	
Tested By: B.Y. / D.B.	Date: November 10, 2013
Sample: COS-13-004 004-8 7.01-7.62 m depth	

Effective Stress: 200 kPa	Peak Shear Stress: 80 kPa
	Residual Shear Stress: 40 kPa
Sample Data:	Comments:
Sample Length: 60.0 mm	
Initial Height: 20.0 mm	
Initial Water Content: 36.8 %	
Initial Dry Density: 1356 kg/m ³	
Final Water Content: 39.0 %	



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CONSOLIDATED DRAINED DIRECT SHEAR TEST-SUMMARY

Project #: 11-1362-0057

Phase: 5100 / 4000

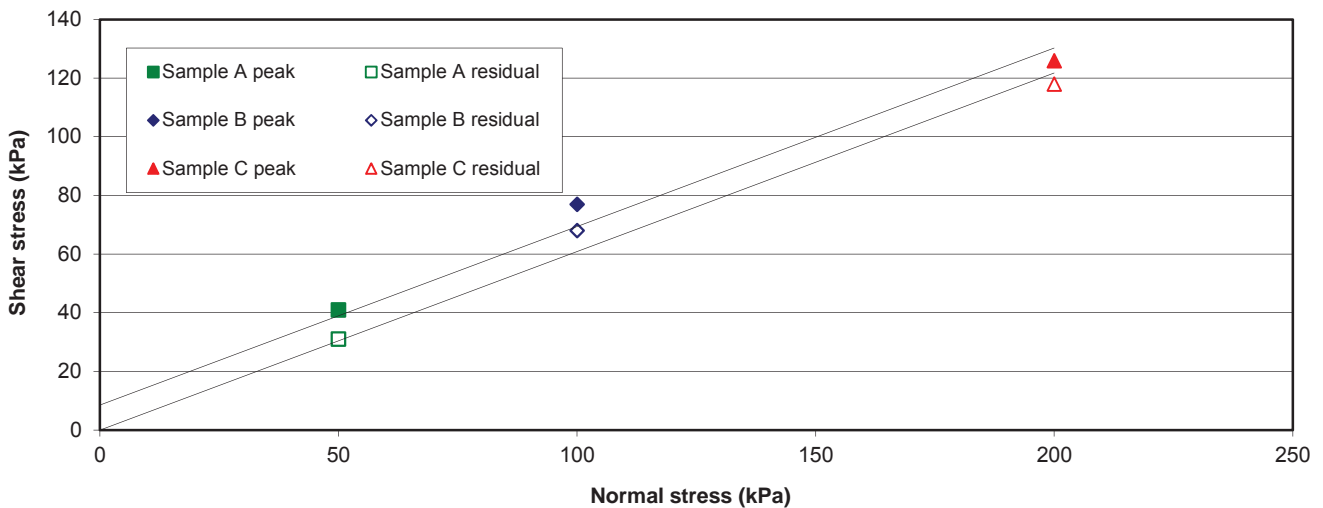
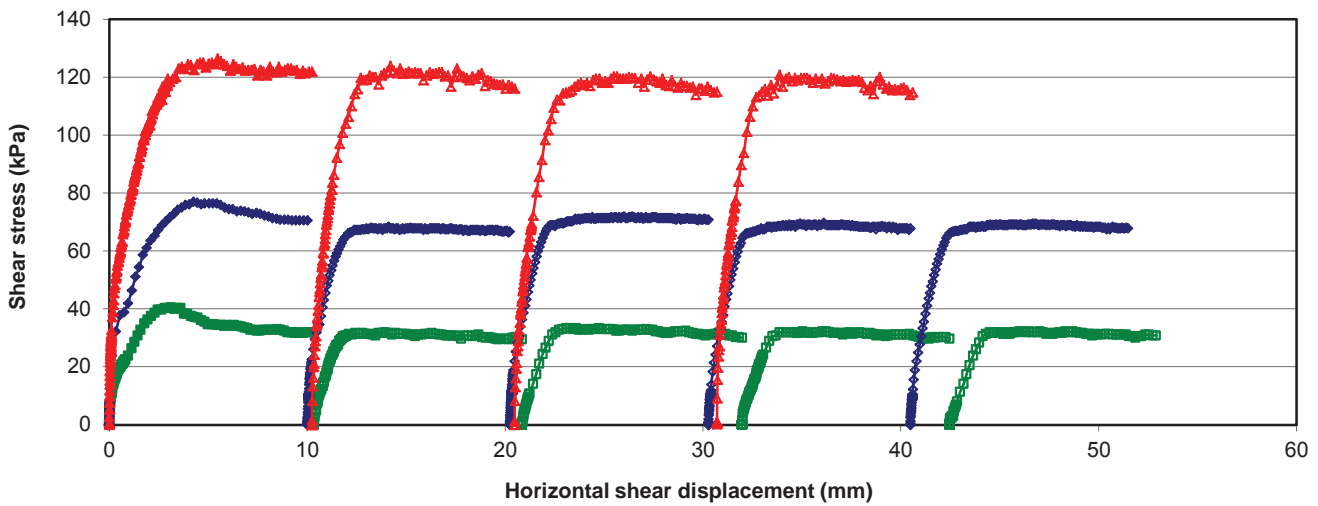
Short Title: COS East Riverbank / Cherry Lane - Geotech Investigation / Saskatoon, SK

Tested By: B.Y. / D.B.

Date: October 22, 2013

Sample	Normal Stress	Shear Stress	
	(kPa)	Peak (kPa)	Residual (kPa)
COS-13-005 005-13 11.43-12.04 m depth	50	41	31
	100	77	68
	200	126	118

	Peak	Residual
Friction angle (degrees):	31.3	31.3
cohesion (kPa):	9	0



Comments:

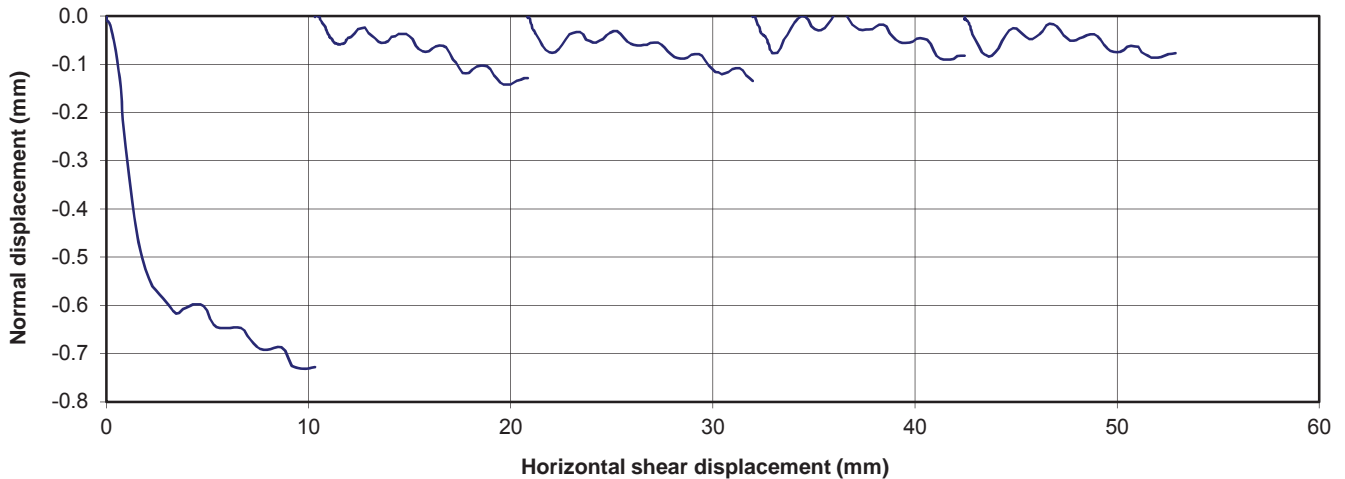
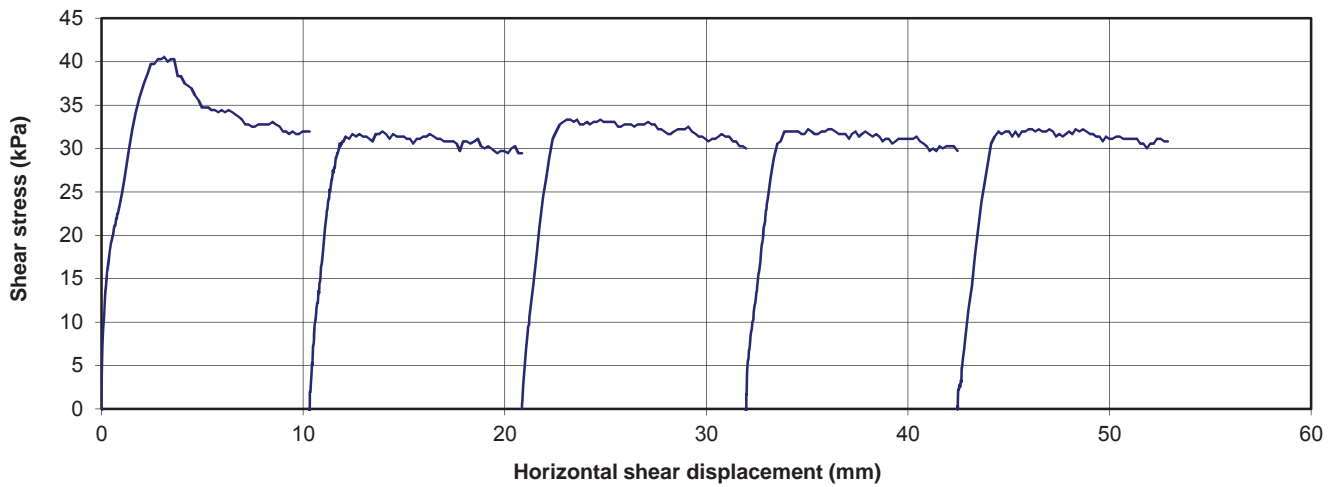
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CONSOLIDATED DRAINED DIRECT SHEAR TEST

Project #: 11-1362-0057 Phase: 5100 / 4000
 Short Title: COS East Riverbank / Cherry Lane - Geotech Investigation / Saskatoon, SK
 Tested By: B.Y. / D.B. Date: October 22, 2013
 Sample: COS-13-005 005-13 11.43-12.04 m depth

Effective Stress:	50	kPa	Peak Shear Stress:	41	kPa
			Residual Shear Stress	31	kPa
Sample Data:			Comments:		
Sample Length:	60.0	mm			
Initial Height:	20.0	mm			
Initial Water Content:	26.2	%			
Initial Dry Density:	1512	kg/m ³			
Final Water Content:	30.9	%			



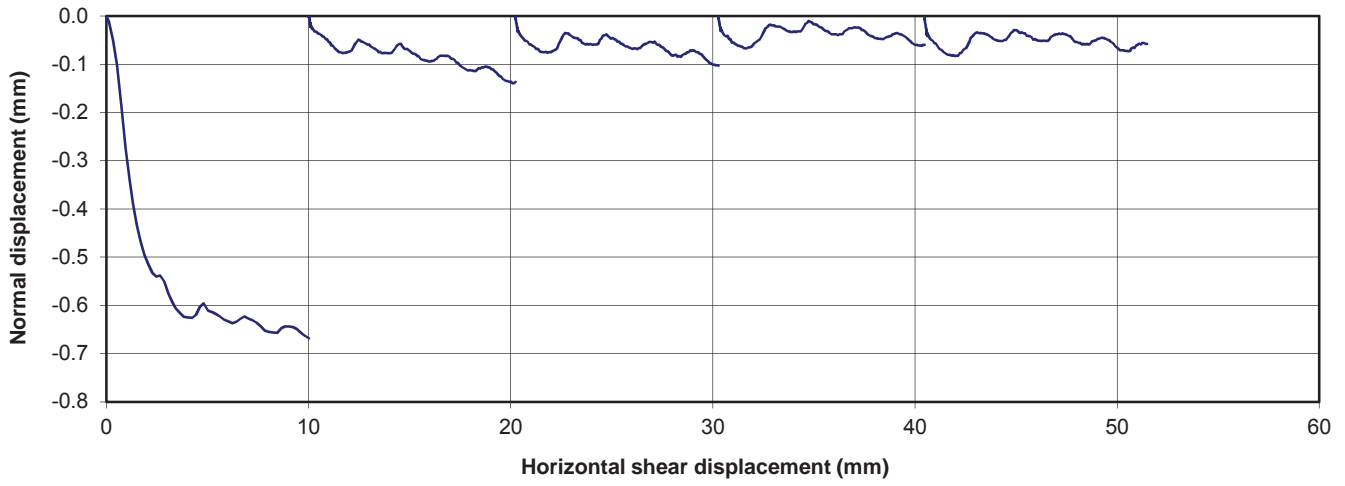
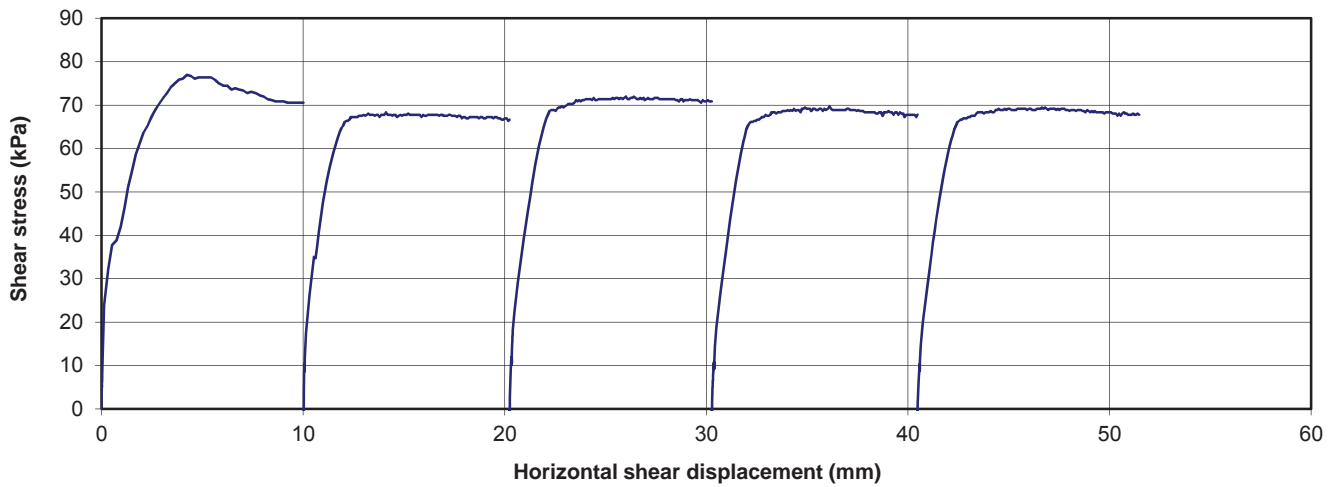
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CONSOLIDATED DRAINED DIRECT SHEAR TEST

Project #: 11-1362-0057 Phase: 5100 / 4000
 Short Title: COS East Riverbank / Cherry Lane - Geotech Investigation / Saskatoon, SK
 Tested By: B.Y. / D.B. Date: October 22, 2013
 Sample: COS-13-005 005-13 11.43-12.04 m depth

Effective Stress:	100	kPa	Peak Shear Stress:	77	kPa
			Residual Shear Stress	68	kPa
Sample Data:			Comments:		
Sample Length:	60.0	mm			
Initial Height:	20.0	mm			
Initial Water Content:	27.2	%			
Initial Dry Density:	1507	kg/m ³			
Final Water Content:	30.2	%			



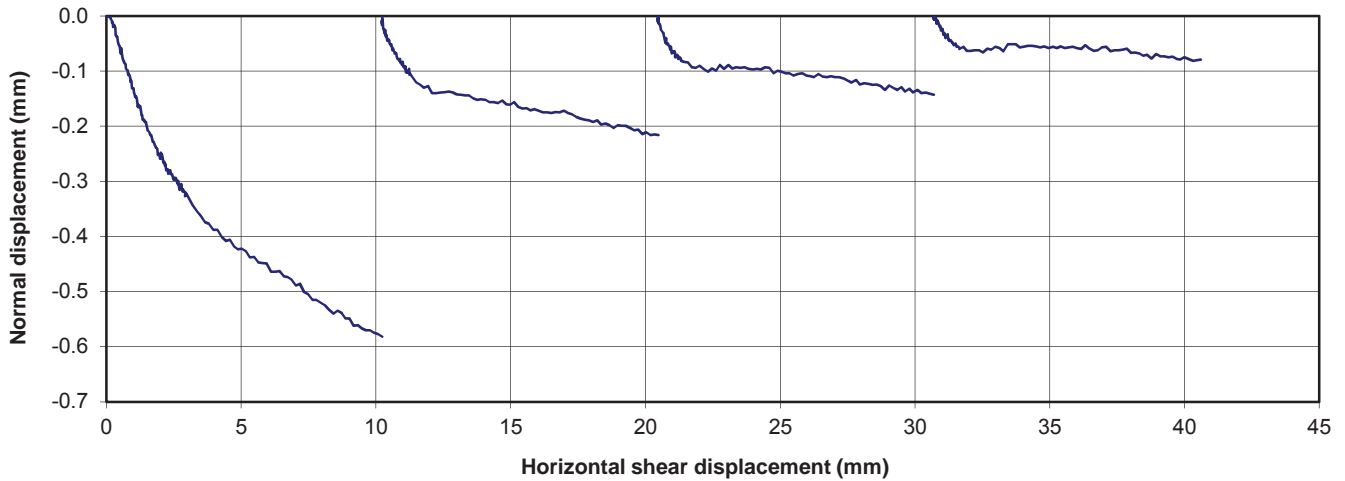
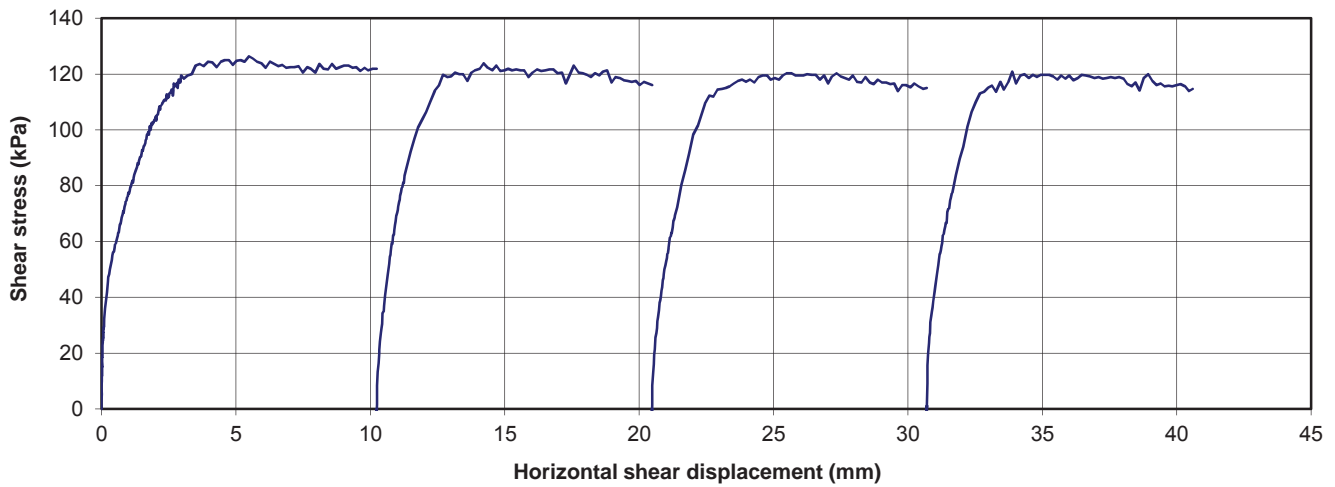
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CONSOLIDATED DRAINED DIRECT SHEAR TEST

Project #: 11-1362-0057 Phase: 5100 / 4000
 Short Title: COS East Riverbank / Cherry Lane - Geotech Investigation / Saskatoon, SK
 Tested By: B.Y. / D.B. Date: October 22, 2013
 Sample: COS-13-005 005-13 11.43-12.04 m depth

Effective Stress:	200	kPa	Peak Shear Stress:	126	kPa
			Residual Shear Stress	118	kPa
Sample Data:			Comments:		
Sample Length:	60.0	mm			
Initial Height:	20.0	mm			
Initial Water Content:	26.4	%			
Initial Dry Density:	1507	kg/m ³			
Final Water Content:	28.5	%			



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APPENDIX H

Cost Estimates for Conceptual Remediation Options

Conceptual Option	Description	Estimated Cost	Engineering (5-10%)	Monitoring (5%)	Contingency (50%)	Estimated Total Cost	Estimate Assumption (Average Dimensions)	Estimate Basis
1	Do Nothing							
2A	Dewatering - 11th St	\$ 1,760,000	\$ 180,000	\$ 90,000	\$ 880,000	\$ 2,910,000	150 m long x 10 m deep	COS 17th Street (2013) ~\$325K for drainage trench and street repairs, 80 m long x 4 m deep
2B	Dewatering - Cherry Lane	\$ 880,000	\$ 90,000	\$ 50,000	\$ 440,000	\$ 1,460,000	150 m long x 5 m deep	COS 17th Street (2013) ~\$325K for drainage trench and street repairs, 80 m long x 4 m deep
3	Slope Re-grading w/ drainage	\$ 4,000,000	\$ 200,000	\$ 200,000	\$ 2,000,000	\$ 6,400,000	135 m long x 40 m ²	COS 17th Street (2013) ~\$880K for selective site demolition, 2 drainage trenches, landscaping, excavation, 80 m long x 4 m deep x 15 m wide. Does not include purchase or demolition of residential property
4A	Shear Zone Modification - CSM w/ drainage	\$ 5,810,000	\$ 300,000	\$ 300,000	\$ 2,905,000	\$ 9,315,000	10 m long x 6 m deep x 4 m wide; 50 m long x 5 m deep x 13 m wide; 60 m long x 7 m deep x 4 m wide	CSM Slurry Wall ~\$250/m ² or \$2.5M/km (0.9 m wide trench), assume cement cost is 1.8:1 for bentonite, not including platform construction. COS 17th Street (2013) ~\$580K selective site demo, drainage systems and landscaping.
4B	Shear Zone Modification - Shear Key w/drainage	\$ 6,520,000	\$ 330,000	\$ 330,000	\$ 3,260,000	\$ 10,440,000	10 m long x 6 m deep x 4 m wide; 50 m long x 5 m deep x 13 m wide; 60 m long x 7 m deep x 4 m wide	Cosmo Park (2009) ~\$2M for shear key construction, 150 m long x 5 m deep x 6 m wide, assume 7% inflation. COS 17th Street (2013) ~\$500K for 2 drainage systems. Assume \$1.35M for temporary shoring

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EXECUTIVE COMMITTEE

Appointment – Municipal Heritage Advisory Committee

Recommendation of the Committee

That James Scott be appointed to the Municipal Heritage Advisory Committee as a representative of the 33rd Street Business Improvement District to the end of 2016.

History

At the March 16, 2015 meeting of Executive Committee, the appointment of a representative of the 33rd Street BID to the Municipal Heritage Advisory Committee was considered.



EXECUTIVE COMMITTEE

Appointment – Mendel Art Gallery & Civic Conservatory; Remai Modern Art Gallery of Saskatchewan – Appointment to Board of Trustees

Recommendation of the Committee

That the City's representative be instructed to vote the City's proxy at the Annual General Meetings of The Saskatoon Gallery and Conservatory Corporation and The Art Gallery of Saskatchewan Inc. for the appointment of John Gormley to the Board of Trustees for each, throughout a term expiring at the conclusion of the 2017 Annual General Meeting.

History

At the March 16, 2015 meeting of Executive Committee, the appointment of a member to the Boards of Trustees of the Mendel Art Gallery & Conservatory and the Remai Modern Art Gallery of Saskatchewan was considered.

2015 Tag Days

Recommendation

That the applications for the 2015 Tag Days be approved.

Topic and Purpose

The purpose of this report is to request City Council's approval of 12 applications for 2015 Tag Days.

Approval of Tag Days is a delegated authority of the Standing Policy Committee on Finance. However, as the March 2, 2015, Standing Policy Committee on Finance meeting was cancelled, the Administration is requesting City Council's approval of the applications, as the first Tag Day event is scheduled prior to the Standing Policy Committee on Finance's meeting of April 13, 2015.

Report Highlights

1. The Tag Days Policy ensures that soliciting of donations for public purposes is carried out in a coordinated manner that benefits the community as a whole.

Strategic Goal

The recommendation in this report supports the Strategic Goal of Quality of Life by supporting local organizations for charitable purposes.

Background

Council Policy C02-010 defines a Tag Day as a day set aside for solicitation of donations from the public by a particular organization for charitable purposes. The charitable purposes can be any benevolent, philanthropic, patriotic, artistic, athletic, recreational, or civil purpose, and any purpose that has an objective of promoting or providing a public service.

Report

The following organizations have all been approved for Tag Days in previous years, and are requesting approval for a 2015 Tag Day. All requirements of Council Policy C02-010 are met.

Organization	Date(s) Requested
702 Lynx Royal Canadian Air Cadet Squadrons	Apr. 11 and Oct. 3
Navy League of Canada – Saskatoon Branch	Apr. 18 and Sept. 19
107 Spitfire Royal Canadian Air Cadet Squadrons	Apr. 25 and Oct. 17
Special Olympics Saskatchewan – Saskatoon	May 2
2293 & 3071 & 328 Royal Canadian Army Cadets Corps	May 9
AIDS Saskatoon Inc.	June 27
Klink Kindness for Kids	Sept. 5

2015 Tag Days

Organization	Date(s) Requested
Saskatoon Professional Firefighters Union Local 80 – Boot Drive	Sept. 12
Canadian Cystic Fibrosis Foundation - Shinerama Saskatoon	Sept. 17
Kiwanis Club of Saskatoon	Sept. 26
Royal Canadian Legion & Anavets Poppy Campaign Fund	Oct. 31
Borden/Saskatoon Lions Clubs	Nov. 14

Options to the Recommendation

Non-approval of the recommendation would not allow these organizations to proceed with their Tag Day initiative.

Communication Plan

Communication is directly with the Tag Day applicants.

Other Considerations/Implications

There are no policy, financial, environmental, privacy, or CPTED implications or considerations, and public and/or stakeholder involvement is not required.

Due Date for Follow-up and/or Project Completion

Tag Day initiatives will be completed by November 15, 2015.

Public Notice

Public Notice pursuant to Section 3 of Policy No. C01-021, Public Notice Policy, is not required.

Report Approval

Written by: Joy Bunes, Revenue Collections Manager

Reviewed by: Shelley Sutherland, Director of Corporate Revenue

Approved by: Kerry Tarasoff, CFO/General Manager, Asset & Financial Management Department

Tag Days 2015.docx

University Bridge Rehabilitation Transportation Planning

Recommendation

That the information be received.

Topic and Purpose

The purpose of this report is to provide information regarding the transportation planning completed in support of the rehabilitation of the University Bridge Project planned for 2015.

Report Highlights

1. Traffic Impact Assessment outlines the anticipated changes in traffic patterns at various intersections throughout the city.
2. Travel time comparisons between normal bridge operations and full closure have been completed for various routes.
3. A Project Transportation Plan has been developed to minimize delays and provide alternatives for travel.
4. Authorized vehicles will be permitted to use one lane of the bridge during the project. Access protocol has been developed to coordinate these operations.
5. Advanced warning signage will be placed at various locations throughout the city.

Strategic Goals

This report supports the Strategic Goal of Asset and Financial Sustainability by preserving and maintaining the City's bridges and structures. The transportation planning that will be in place to support the project supports the Strategic Goal of Moving Around.

Background

City Council at its meeting held on February 23, 2015, resolved, in part:

- “2. That the Administration proceed with the award process of the University Bridge Rehabilitation Contract utilizing the base bid of maintaining a single lane open for traffic; and
3. That the single lane open for traffic during rehabilitation be solely dedicated to two way traffic accommodation for only emergency vehicles, Saskatoon Transit buses, Saskatoon Health Region authorized vehicles, and school buses contracted by the Saskatoon School Boards.”

Report

The closure of the University Bridge to the general public will require drivers to adjust their travel behaviour during the course of the rehabilitation project. Also, the access to be provided to the identified organizations requires planning and communication. Subsequently, a traffic impact assessment, the impact to driving commuting times, a

University Bridge Rehabilitation Transportation Planning

Project Transportation Plan, a protocol for accessing the bridge by authorized vehicles, and a plan for advanced signage are outlined below.

Technical Traffic Impact Assessment

A Traffic Impact Assessment was completed (Attachment 1) that examined the expected delays at 26 intersections throughout the city. The results of the assessment are indicated in the following table.

Intersection	Estimated increase in time to pass through intersection (seconds)	
	AM	PM
Clarence Avenue & College Drive	n/a	n/a
Royal University Hospital & College Drive	-55.1	-8.3
Wiggins Avenue & College Drive	-32.9	-18.2
Cumberland Avenue & College Drive	-30.7	-37.3
Preston Avenue & College Drive	-73.4	-32.8
Circle Drive NB Ramps & College Drive	-0.4	+0.9
Circle Drive SB Ramps & College Drive	+0.1	-1.0
Broadway Avenue & 12 th Street	+26.7	-2.0
Clarence Avenue & 12 th Street	+27.3	+17.6
Lorne Avenue & 8 th Street	+0.4	-11.5
Broadway Avenue & 8 th Street	-6.6	-13.0
Preston Avenue & 8 th Street	+0.5	-1.3
Circle Drive NB Ramps & 8 th Street	-0.1	+31.2
Circle Drive SB Ramps & 8 th Street	+2.5	+24.1
4 th Avenue & 25 th Street	-184.2	-171.2
4 th Avenue & 22 nd Street	+1.7	-4.0
4 th Avenue & 20 th Street	+24.1	-3.4
4 th Avenue & 19 th Street	+0.7	+4.4
2 nd Avenue & 25 th Street	-19.8	-15.4
1 st Avenue & 19 th Street	+0.4	+4.0
Idylwyld Drive & 25 th Street	-5.0	+2.5
Idylwyld Drive & 22 nd Street	-1.5	+4.0
Idylwyld Drive & 20 th Street	-2.4	-12.5
Warman Road & 33 rd Street	+4.4	+18.2
Warman Road & Circle Drive WB Ramps	-28.2	-57.7
Warman Road & Circle Drive EB Ramps	+2.3	+20.6

Observations and clarification on the assessment results presented in the table are as follows:

- Negative values indicate a reduction in the average time to pass through the intersection. For example, at the Royal University Hospital Access and College Drive it is expected that the average delay will shorten as there will be significantly less through traffic on College Drive.
- Positive values indicate an increase in the average time to pass through the intersection. For example, at the intersection of Warman Road and 33rd Street it

University Bridge Rehabilitation Transportation Planning

will take longer, on average, to pass through the intersection by approximately 18.2 seconds during the PM peak hour.

Commuting Impacts

Using the City's VISUM Transportation Model, a travel time comparison was made between the baseline condition (normal bridge operations) and with a full closure of the bridge. The results are as follows:

Destination: From/To	AM/PM	Normal Bridge Conditions	Full Bridge Closure
Erindale to Downtown	AM	Currently approximately 16 minutes via University Bridge	Increase to 20 minutes 30 seconds via Broadway Bridge during the project
Downtown to Erindale	PM	Currently approximately 20 minutes via University Bridge	Increase to 25 minutes via Circle Drive North Bridge during the project
Ashworth Holmes area of Caswell Hill to the U of S Main Campus	AM	Currently approximately 14 minutes via University Bridge	Increase to 16 minutes via Circle Drive North during the project
U of S Main Campus to the Ashworth Holmes area of Caswell Hill	PM	Currently approximately 13 minutes via University Bridge and 25 th Street	Increase to 19 minutes via Wiggins Avenue, 8 th Street East, and Senator Sid Buckwold Bridge during the project

The above travel times are not absolute, but are only used to provide a general sense of expected delays during the project.

Project Transportation Plan

A Project Transportation Plan (Attachment 2) was developed using results of the Traffic Impact Assessment, a review of the Commuting Impacts, and input from Major Projects, Saskatoon Transit, Communications and Transportation. The transportation strategy and information presented in the plan proposes a combination of altering a commuter's route, promoting other modes of travel and reducing the peak hour demand. Details in the plan include:

- Traffic signal timing to allow for a more efficient commute.
- Maps indicating lane closures and traffic flow.
- Reroute your commute. Senator Sid Buckwold Bridge and Circle Drive South Bridge have additional capacity that will help alleviate congestion on the Broadway Bridge, and should be considered as a more efficient alternative. Specific routing suggestions include:
 - From the southwest to the University (use Circle Drive South to Circle Drive to College Drive)
 - From the northwest to the University (use Circle Drive North to Preston)
 - From the northeast to the downtown (use Circle Drive North to Warman Road)

- From the southeast to the downtown (use Circle Drive South to Idylwyld Drive)
- The core neighbourhoods (use Broadway Bridge)
- Options for alternate modes of transportation (i.e. walk, bike, or transit).
- Travel demand management strategies that employees and employers can use to reduce the peak hour demand such as (i.e. altering the work day hours, carpooling, etc.)

Upon closure of the bridge, traffic patterns will be closely monitored and adjustments will be made as necessary. It is expected that commuters will need some time to adjust to new routes and for traffic patterns to become normalized once the bridge is closed. Adequate time will be allowed for this normalization, so that modifications to the traffic plan are not made only based on the initial impacts of the closure.

Bridge Access Control Protocol

On February 20, 2015, the Administration met with representatives from the Saskatoon Police Service, Saskatoon Fire Department, Saskatoon Transit, MD Ambulance, First Student, Greater Catholic School Board, and Saskatoon Health Region to discuss specific details of accessing the bridge during the rehabilitation. The results determined an agreement to protocol for managing access to the University Bridge during the rehabilitation. The protocol (Attachment 3) outlines and confirms the following details:

- Organizations that can access the bridge
- Time periods when the contractor may close the bridge
- Method of traffic control
- Communication information

Advanced Warning Signage

There will be advanced signage warning drivers of the bridge closure placed strategically at locations throughout the city such as for westbound drivers on College Drive approaching Circle Drive east of the river, or eastbound drivers on 22nd Street approaching Circle Drive west of the river.

Public and/or Stakeholder Involvement

The Administration has been working with internal and external stakeholders during the planning stages and will continue to do so throughout the project. Internal stakeholders attended an information meeting on December 19, 2014 to ensure an understanding of potential construction impacts.

External stakeholders were invited to attend meetings on January 22 and 28, 2015, to learn more about the project, ask questions and discuss concerns and solutions. A further stakeholder meeting was held on February 20, 2015 to determine the protocol for use of the bridge by authorized vehicles.

The Administration has also met with individual stakeholders as requested.

Communication Plan

A detailed communications plan has been developed to prepare for the upcoming University Bridge Rehabilitation. The communications plan will be implemented in stages, to educate the public and stakeholders about the necessity of bridge rehabilitation, communicate project details and impact, and inform drivers of alternate routes. Communications will occur prior to the project commencing, throughout construction and once the project is complete. Communication tools have and may include news releases, social media messaging, advertisements, City website, and signage along traffic routes. Communications for this project will also integrate into the overall Building Better Roads initiative.

Other Considerations/Implications

There are no options, policy, financial, environmental, privacy, or CPTED considerations or implications.

Due Date for Follow-up and/or Project Completion

The rehabilitation project is estimated to be completed by August 30, 2015.

Public Notice

Public Notice pursuant to Section 3 of Policy No. C01-021, Public Notice Policy, is not required.

Attachments

1. Traffic Impact Assessment
2. Project Transportation Plan
3. Bridge Access Protocol

Report Approval

Written by: Jay Magus, Engineering Manager
Reviewed by: Angela Gardiner, Director of Transportation
Approved by: Jeff Jorgenson, General Manager, Transportation & Utilities
Department

Council JM – University Bridge Rehabilitation Transportation Plan.docx

City of Saskatoon

University Bridge Rehabilitation Traffic Impact Assessment

March 10, 2015

Transportation & Utilities Department

City of Saskatoon

University Bridge Rehabilitation Traffic Impact Assessment

March 10, 2015

Transportation Division

222 – 3rd Avenue North

Saskatoon, SK S7K 0J5

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Project # 0000

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1.0 INTRODUCTION

The University Bridge requires rehabilitation to the bridge deck and supporting structure. At its meeting of February 23, 2015 City Council approved the recommendation to maintaining one lane of traffic from 6 AM to 8 PM, with the bridge otherwise closed. Subsequently the bridge rehabilitation project was awarded to Horseshoe Hill Construction Ltd. (Contractor). At key times in the construction project, a complete closure of the bridge will be required to support concrete pours. Although the contract specifically states that the Contractor has the ability to close the bridge each night from 8PM to 6AM, it has been indicated to the City of Saskatoon (City) that the Contractor will keep the single lane open.

The Contractor has access to the bridge starting on May 1, 2015, and a planned completion date of September 15, 2015.

The project will significantly disrupt driving behaviour and patterns over the course of the project. In order to plan to accommodate this disruption the Engineering Section within the Transportation division completed this Traffic Impact Assessment (TIA).

This report presents the TIA assumptions, methodology, analysis, and conclusions.

2.0 SCOPE OF THE ASSESSMENT

The primary purpose for completing the assessment was to analyze intersection operating conditions for the following scenarios:

- Existing: Using historical or current traffic counts at the analyzed intersections.
- May 1, 2015: The existing traffic re-assigned once the University Bridge is closed.

The weekday AM and PM peak hour operating conditions for the above scenarios were analyzed for the following intersections:

- Clarence Avenue / College Drive
- Royal University Hospital Access / College Drive
- Wiggins Avenue / College Drive
- Cumberland Avenue / College Drive
- Preston Avenue / College Drive
- Circle Drive NB Ramp / College Drive
- Circle Drive SB Ramp / College Drive
- Broadway Avenue / 12th Street
- Clarence Avenue / 12th Street
- Lorne Avenue / 8th Street
- Broadway Avenue / 8th Street
- Preston Avenue / 8th Street
- Circle Drive NB Ramp / 8th Street
- Circle Drive SB Ramp / 8th Street
- 4th Avenue / 25th Street
- 4th Avenue / 22nd Street
- 4th Avenue / 20th Street
- 4th Avenue / 19th Street
- 2nd Avenue / 25th Street
- 1st Avenue / 19th Street
- Idylwyld Drive / 25th Street
- Idylwyld Drive / 22nd Street
- Idylwyld Drive / 20th Street
- Warman Road / 33rd Street
- Warman Road / Circle Drive WB Ramp
- Warman Road / Circle Drive EB Ramp

3.0 STUDY METHODOLOGY

The Traffic Impact Assessment was completed using the following methodology:

- Gather existing traffic counts at the studied intersections either from the City's historical database or new intersection traffic counts.
- Analyze existing intersection capacity and determine existing level of service and intersection delays.
- Using the City's VISUM Transportation Model determine how the traffic will be re-assigned to other routes once the University Bridge is closed.
- Analyze the May 1, 2015 scenario (bridge is closed) to determine the expected intersection capacity in terms of level of service and expected intersection delays.
- Identify the required signal timings to best mitigate the increased delay at impacted intersections.
- Identify high-level strategies to mitigate the impact of the bridge closure.

4.0 TRAFFIC ANALYSIS METHODOLOGY

Traffic analysis for the weekday AM and PM peak hours operating conditions at the identified intersections was carried out using the Synchro / SimTraffic software package. Synchro / SimTraffic software is based upon the methodology outlined in the Highway Capacity Manual (HCM).

In the HCM methodology, Level-of-Service (LOS) is the primary evaluation criteria for operating conditions. For unsignalized intersections, the LOS is based on the computed delays. LOS 'A' represents minimal delays to minor street traffic movements, and LOS 'F' represents a scenario with an insufficient number of gaps on the major street for minor street motorists to complete their movements without significant delays. For signalized intersections the methodology considers the intersection geometry, traffic volumes and composition, the traffic signal / timing plan, and pedestrian volumes. The average delay for each lane group is calculated, as well as the average delay for the overall intersection.

Also, for signalized intersections, the 'volume-to-capacity' (v/c) ratio is used as an indicator of the extent to which a particular movement's capacity is being utilized.

The HCM intersection capacity evaluation criteria for both unsignalized and signalized intersections are summarized in **Table 4-1**.

Table 4-1: Level of Service Criteria

Level of Service (LOS)	Average Delay for UNSIGNALIZED Intersection Movements	Average Delay for SIGNALIZED Intersection Movements
A	0 – 10 sec. per vehicle	0 – 10 sec. per vehicle
B	> 10 – 15 sec. per vehicle	> 10 – 20 sec. per vehicle
C	> 15 – 25 sec. per vehicle	> 20 – 35 sec. per vehicle
D	> 25 – 35 sec. per vehicle	> 35 – 55 sec. per vehicle
E	> 35 – 50 sec. per vehicle	> 55 – 80 sec. per vehicle
F	> 50 sec. per vehicle	> 80 sec. per vehicle

5.0 ANALYSIS

5.1 Methodology

The analysis was completed in three steps:

- **Step 1:** Operating conditions at the studied intersections were assessed based on the existing traffic volumes. Traffic counts at the studied intersections were collected during the periods of 6:00 – 8:00 AM and 4:00 – 6:00 PM. The analysis reflected the existing road network and lane configurations.
- **Step 2:** The City maintains a VISUM Transportation Model. This model includes a baseline condition, which provides traffic forecasts on road segments throughout the City for the AM and PM Peak Hours. In the model 'turning off' road segments such as specific lanes on University Bridge, or restricted turns at the intersection of College Drive and Clarence Avenue was completed. Accordingly the lanes on University Bridge were turned off and the model was re-run with new traffic forecasts being projected. The re-assignment, or 'shifting' of traffic to other road segments was examined.
- **Step 3:** The Synchro model was also adjusted to reflect the following:
 - At the intersection of College Drive and Clarence Avenue, westbound through movements and northbound left turns would not be permitted, but westbound left turns would be permitted.
 - At the intersection of Spadina Crescent and 25th Street, eastbound through movements and northbound right turns would not be permitted
- **Step 4:** The studied intersections were analyzed a second time, with the additional traffic re-assigned to that intersection as a result of the closed University Bridge.
- **Step 5:** The studied intersections were analyzed a third time, with the traffic signal timings improved to provide the optimum LOS and shortest delay.

5.2 Results

Operating conditions at the studied intersections were assessed as described in the methodology. The analysis results are shown in Table 5-1.

Table 5-1: Analysis Summary

Intersection	AM Peak Hour				PM Peak Hour			
	Do Nothing		After Re-Timing		Do Nothing		After Re-timing	
	LOS Change	Delay Change (s)	LOS Change	Delay Change (s)	LOS Change	Delay Change (s)	LOS Change	Delay Change (s)
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)
Clarence Avenue & College Drive	E → F	+43.3	See Note		E → F	+110.3	See Note	
RUH & College Drive	E → C	-46.5	E → B	-55.1	C → C	+7.6	C → B	-8.3
Wiggins Avenue & College Drive	E → F	+67.1	E → D	-32.9	D → F	+265.1	D → C	-18.2
Cumberland Avenue & College Drive	D → B	-23.9	D → A	-30.7	E → D	-30.8	E → D	-37.3
Preston Avenue & College Drive	F → F	-38.8	F → D	-73.4	F → D	-32.8	F → D	-32.8
Circle Drive NB Ramps & College Drive	A → A	-0.4	A → A	-0.4	A → A	+0.9	A → A	+0.9
Circle Drive SB Ramps & College Drive	A → A	+0.1	A → A	+0.1	B → B	-3.2	B → B	-1.0
Broadway Avenue & 12th Street	B → C	+11.7	B → D	+26.7	D → E	+11.6	D → D	-2.0
Clarence Avenue & 12th Street	C → F	+433.9	C → D	+27.3	B → F	+116.5	B → C	+17.6
Lorne Avenue & 8th Street	C → D	+13.0	C → C	+0.4	E → F	+121.9	E → D	-11.5
Broadway Avenue & 8th Street	D → D	+4.6	D → C	-6.6	E → F	+66.1	E → D	-13.0

Table 5-1 Continued

Intersection	AM Peak Hour				PM Peak Hour			
	Do Nothing		After Re-Timing		Do Nothing		After Re-timing	
	LOS Change	Delay Change (s)	LOS Change	Delay Change (s)	LOS Change	Delay Change (s)	LOS Change	Delay Change (s)
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)
Preston Avenue & 8th Street	B → B	+0.0	B → B	+0.5	D → F	+28.2	D → D	-1.3
Circle Drive NB Ramps & 8th Street	A → A	-0.2	A → A	-0.1	C → D	+22.4	C → D	+31.2
Circle Drive SB Ramps & 8th Street	B → B	+0.0	B → B	+2.5	C → C	-2.4	C → D	+24.1
4th Avenue & 25th Street	F → B	-183.2	F → B	-184.2	F → B	-183.8	F → C	-171.2
4th Avenue & 22nd Street	B → B	+1.9	B → B	+1.7	B → B	-0.9	B → A	-4.0
4th Avenue & 20th Street	B → E	+55.7	B → D	+24.1	D → D	-4.2	D → D	-3.4
4th Avenue & 19th Street	A → B	+4.1	A → A	+0.7	A → B	+4.4	A → B	+4.4
2nd Avenue & 25th Street	D → E	+28.3	D → C	-19.8	E → F	+42.7	E → E	-15.4
1st Avenue & 19th Street	B → B	-0.4	B → B	+0.4	C → C	+6.6	C → C	+4.0
Idylwyld Drive & 25th Street	D → D	+3.5	D → D	-5.0	D → D	+0.5	D → D	+2.5
Idylwyld Drive & 22nd Street	D → D	+0.2	D → D	-1.5	D → E	+5.6	D → E	+4.0
Idylwyld Drive & 20th Street	C → B	-2.6	C → B	-2.4	D → D	-6.1	D → D	-12.5

Table 5-1 Continued

Intersection	AM Peak Hour				PM Peak Hour			
	Do Nothing		After Re-Timing		Do Nothing		After Re-timing	
	LOS Change	Delay Change (s)	LOS Change	Delay Change (s)	LOS Change	Delay Change (s)	LOS Change	Delay Change (s)
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)
Warman Rd & 33rd Street	D → C	-4.0	D → D	+4.4	C → D	+4.8	C → D	+18.2
Warman Rd & Circle Drive WB Ramps	F → F	+22.4	F → F	-28.2	F → F	+69.7	F → F	-57.7
Warman Rd & Circle Drive EB Ramps	A → B	+4.7	A → B	+2.3	D → F	+129.2	D → E	+20.6

Comments on the table are as follows:

- Column (A) illustrates the change in the Level-of-Service at a specific intersection if nothing is done to the signal timings or intersection operation. For example at the 2nd Avenue / 25th Street intersection, in the AM peak hour, the LOC will move from a 'D' to an 'E'.
- Column (B) illustrates the change in the average delay, in seconds, at a specific intersection if nothing is done to the signal timings or intersection operation. For example at the 2nd Avenue / 25th Street intersection, in the AM peak hour, the average delay will increase by 28.3 seconds.
- Column (C) illustrates the change in the Level-of-Service at a specific intersection if changes are made to the signal timings (adjusting splits (green time) and in some cases cycle length). For example at the 2nd Avenue / 25th Street intersection, in the AM peak hour, the LOC will move from a 'D' to a 'C'.
- Column (D) illustrates the change in the average delay at a specific intersection if changes are made to the signal timings (adjusting splits (green time) and in some cases cycle length). For example at 2nd Avenue / 25th Street intersection, in the AM peak hour, the average delay will be reduced by 19.8 seconds.

- Column (E) to Column (H) presents the information for the PM peak hour.

During the full closure of the University Bridge, some signalized intersections are expected to operate at improved levels of service with reduced average delay. This improvement results from the “unloading” of the intersection. Along with the reduced delay, shortened queues should also appear.

Unfortunately, during the full closure of the University Bridge, some signalized intersections are expected to experience significantly down-graded levels of service, increased delay and significantly lengthened queues.

The following strategies will be employed at intersections forecast to experience significantly increased delays:

- Use critical movement analysis to re-time existing traffic signals (fundamentally, the amount of time in an hour is fixed, two vehicles or a vehicle and pedestrian cannot safely occupy the same space at the same time) – this technique identifies the movements that cannot be timed concurrently and require the most amount of time to serve demand;
- Changing cycle length and green-time allocations to promote traffic flow;
- Lengthening both the all-red and yellow times to improve safety during the detour;
- Changing from conventional single left-turn lanes using protected / permitted movements to dual, fully-protected left-turn movements where appropriate;
- Along major corridors, improving coordination and progression;
- No permanent physical changes will be proposed (no new detectors, no new turn bays, and no new traffic signals); temporary placement of additional signal heads and detectors may be selectively considered.

6.0 RECOMMENDATIONS

Based on the analysis the following recommendations are provided:

1. Clarence Avenue & College Drive
 - To accommodate a single-lane on the bridge with two-way emergency vehicle and transit use, the traffic signal will be completely retimed;
 - The westbound dual left-turn should remain; the northbound right-turn can be maintained at single lane.

2. Hospital Drive (RUH) & College Drive
 - With much reduced eastbound traffic volumes, reduce cycle length and serve the southbound left turn from Royal University Hospital more frequently.

3. Wiggins Avenue & College Drive
 - With much reduced eastbound traffic volumes, reduce cycle length and serve the southbound left turn from the University of Saskatchewan more frequently.

4. Cumberland Avenue & College Drive
 - With reduced eastbound and westbound traffic volumes, reduce cycle length and place more green time on eastbound flows to accommodate the eastbound right turn.

5. Preston Avenue & College Drive
 - With reduced eastbound and westbound traffic volumes, reduce cycle length and/or place more green time on northbound and southbound flows.

6. Circle Drive northbound ramps & College Drive
 - No changes recommended at this time;
 - Consider shortening cycle length to reduce left-turn delays.

7. Circle Drive southbound ramps & College Drive

- No changes recommended at this time;
- Consider shortening cycle length to reduce left-turn delays.

8. Broadway Avenue & 12th Street

- No changes recommended at this time.

9. Clarence Avenue & 12th Street

- Allocate more green time to east- and westbound traffic;
- Evaluate progression after first two weeks.

10. Lorne Avenue & 8th Street

- Retain cycle length and allocate more green time to the Idylwyld Drive southbound through and left-turn movements.

11. Broadway Avenue & 8th Street

- Retain cycle length; allocate more green time to the 8th Street east- and westbound flows;
- Monitor southbound left-turns and westbound right-turns during peak periods and consider re-allocating green time to shorten queues if needed;
- Evaluate progression after first two weeks

12. Preston Avenue & 8th Street

- Retain cycle length; allocate more green time to the 8th Street east- and westbound flows;
- Evaluate progression after first two weeks.

13. Circle Drive northbound ramps & 8th Street

- Retain cycle length; allocate more green time to the 8th Street eastbound and westbound flows;
- Evaluate progression after first two weeks.

14. Circle Drive southbound ramps & 8th Street

- Retain cycle length; allocate more green time to the 8th Street eastbound and westbound flows;
- Re-evaluate southbound demand after first two weeks for additional green time, if Circle Drive volumes are significantly increased;
- Evaluate progression after first two weeks.

15. 4th Avenue & 25th Street

- Shorten cycle length; re-allocate green time to northbound left turn.

16. 4th Avenue & 22nd Street

- Retain cycle length; re-allocate green time to southbound and northbound flows;
- Monitor eastbound right-turns for congestion and queue length;
- Evaluate southbound progression after first two weeks.

17. 4th Avenue & 20th Street

- Retain cycle length; re-allocate green time to southbound and northbound flows;
- Monitor eastbound right-turns for congestion;
- Evaluate southbound progression after first two weeks.

18. 4th Avenue & 19th Street

- Retain cycle length; re-allocate green time to eastbound and westbound flows along 4th Avenue and Broadway Bridge;
- Monitor eastbound right-turns for congestion;
- Evaluate southbound progression after first two weeks.

19. 2nd Avenue & 25th Street

- Retain cycle length; re-allocate green time to northbound and southbound flows;
- Consider increasing cycle length after first two weeks if southbound volumes and queues are significant.

20. 1st Avenue & 19th Street

- Retain cycle length; re-allocate green time to southbound flows (especially in PM);
- Monitor eastbound right-turns for congestion and queue length;
- Evaluate southbound progression along 1st Avenue after first two weeks.

21. Idylwyld Drive & 25th Street

- Retain cycle length; re-allocate green time to westbound left-turns;
- Evaluate progression along Idylwyld Drive after first two weeks.

22. Idylwyld Drive & 22nd Street

- Retain cycle length; re-allocate green time to eastbound and westbound flows;
- Monitor eastbound right-turns for congestion and queue length;
- After first two weeks, evaluate progression along Idylwyld Drive, and along 22nd Street after first two weeks – will have to favour the movement needing most improvement.

23. Idylwyld Drive & 20th Street

- Retain cycle length; balance allocation of green time to east/westbound and north/southbound flows;
- Monitor eastbound right-turns for congestion and queue length;
- After first two weeks, evaluate progression along Idylwyld Drive, and along 20th Street after first two weeks – will have to favour the movement needing most improvement.

24. Warman Road & 33rd Street

- No changes recommended at this time.

25. Warman Road & Circle Drive westbound ramps

- Retain cycle length; allocate additional green time to westbound left-turns.
- Monitor westbound queue lengths for congestion.

26. Warman Road & Circle Drive eastbound ramps

- No changes recommended at this time.

27. 25th Street and 6th Avenue

- This should be re-configured to permit the cross-over for emergency and transit vehicle access to the University Bridge;
- 25th Street between 6th Avenue and Spadina Crescent should be posted as “Local Traffic Only”.



University Bridge Rehabilitation Project Bridge Access Protocol

1. *Approved Organizations*

The following organizations have approval to access the University Bridge as granted by City Council:

- Saskatoon Police Service
- Saskatoon Fire Department
- Saskatoon Transit
- MD Ambulance
- Saskatoon Health Region (SHR) authorized vehicles which are limited to:
 - SHR Shuttle Van
 - Gamma Dynacare
 - Ambulances from rural municipalities moving patients to Royal University Hospital
- School Buses contracted by the Saskatoon School Boards

The general public will have access to walk across the bridge on at least one sidewalk at all times.

2. *Bridge Crossing Control*

All general vehicular traffic is to be detoured and will not have access to the bridge. A separate lane to access the bridge will be provided for vehicles from the above approved list of organizations. The separate lane will be appropriately signed and will appear to be 'closed' to general vehicular traffic. The separate lanes at either end of the bridge will be wide enough to allow an active emergency vehicle to pass, upon a green light, queued vehicles waiting to enter the bridge.

Traffic signals at either end of the bridge will control the single lane of traffic. The cycle lengths will be pre-timed and coordinated between the sets of traffic signals at either end of the bridge. The cycle length will not be sensitive to authorized vehicles arriving at a bridge end and triggering a green light.

3. *Permitting, Enforcement, Education*

No written permit, placard, decal, etc. will be provided. Vehicles not clearly marked as from one of the approved organization could be subject to enforcement.

Saskatoon Police Service will provide enforcement when the bridge closes, and will monitor and adjust the level of enforcement as required.

Education to the public will be provided via detour signage restricting access to "Authorized Vehicles Only", through the project communication strategy, and the project transportation plan.

4. *Communication*

a) Complete Bridge Closures:

- A seven-day notice for complete bridge closure will be provided by the contractor to Major Projects.
- Major Projects will send out a distribution email to each organization notifying them of the upcoming complete bridge closure.

b) General inquiries:

- Contact Transportation between 8 AM and 5 PM.

University Bridge Rehabilitation Project Bridge Access Protocol

- c) Emergency on the bridge that is effectively closing the one lane:
- During working hours contact Transportation:
 - Transportation will send out a distribution email to each organization.
 - Transportation will call Public Works Customer Service Centre (CSC).
 - Public Works CSC will notify the emergency organizations and Transit.
 - If required, Transportation will send out staff to temporarily close the access and alter the traffic signals and / or detour.
 - If required, Transportation will call a towing company on retainer to remove the vehicle.
 - Outside of working hours contact Public Works CSC:
 - Public Works CSC will notify the emergency organizations, Transit, and the Transportation on-call staff.
 - Transportation will notify the non-emergency organizations first thing on the next working day morning.
 - If required, the Transportation on-call staff will temporarily close the access and alter the traffic signals and / or detour.
 - If applicable, Transportation on-call staff or Public Works CSC will call a towing company on retainer to remove the vehicle.
- d) Changes to Protocol
- Requests to change this protocol must be submitted in writing to Major Projects.
 - Major Projects will consider the request, and if applicable, re-issue the protocol to reflect any changes.

e) Organizational Contacts:

Emergency during working hours, general inquires:

Transportation	name	phone	email
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Emergency outside of working hours:

Public Works Customer Service Centre	name	phone	email
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City Project Manager

Major Projects	name	phone	email
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Main Point of Contact for Approved Organizations:

Saskatoon Police Service	name	phone	email
Saskatoon Fire Department	name	phone	email
Saskatoon Transit	name	phone	email
MD Ambulance	name	phone	email
First Student Bussing	name	phone	email
Catholic School Board	name	phone	email
Public School Board	name	phone	email
Saskatoon Health Region	name	phone	email

NOTE: PERSONAL INFORMATION HAS BEEN REMOVED FOR PURPOSES OF THIS REPORT.

*** For general inquires the Transportation and City Project Manager will have an internal 'call-tree' for which to contact to get answers for specific questions, i.e. detouring, traffic signals, construction noise, etc.

Capital Project #2407 – IS North Commuter Parkway and Traffic Bridge – Traffic Bridge Pier Locations

Recommendation

That the Proponents of the Public-Private-Partnership Request for Proposals be permitted to relocate the new piers for the Traffic Bridge up to a maximum of 10 meters along the centreline alignment of the bridge, provided that all relocated piers are moved the same distance in the same direction.

Topic and Purpose

The purpose of this report is to allow the Proponents of the Request for Proposals (RFP) flexibility to relocate the piers for the new Traffic Bridge up to a maximum of 10 meters from their current position.

Report Highlights

1. Through the RFP process, the PPP Canada has requested the City consider allowing the piers for the new Traffic Bridge to be relocated from their current position.
2. Permitting a relocation of the piers would result in a change to the span lengths of the new bridge as opposed to the existing bridge.
3. Allowing Proponents the flexibility to potentially slightly relocate the bridge piers may result in a more cost effective solution to construction of the bridge, though Proponents may elect to keep the piers in their existing positions.

Strategic Goal

The construction of the North Commuter Parkway and Traffic Bridge supports the Strategic Goal of Moving Around as it will optimize the flow of people and goods in and around the city.

Background

At its meeting held December 6, 2010, City Council considered a report of the General Manager, Infrastructure Services Department, dated November 17, 2010, regarding the Traffic Bridge Needs Assessment and Functional Planning Study Final Report and resolved, in part, “that the existing Traffic Bridge be replaced with a modern steel truss bridge as outlined in the report of the General Manager, Infrastructure Services Department dated November 17, 2010”. The extension of the recommendation within the Executive Summary of the report stated: “The Administration is recommending that a modern steel truss bridge be constructed to replace the existing Traffic Bridge, on refurbished existing piers”.

At its meeting held June 27, 2011, City Council considered a report regarding several items relating to the design features of the replacement for the Traffic Bridge and

resolved, in part “that the existing Traffic Bridge be replaced with a similar five-span arrangement”.

City Council, at its meeting held on May 21, 2013, during consideration of Clause 2, Report No. 10-2013 of the Executive Committee, regarding the North Commuter Parkway project, adopted the following recommendations:

- “1) that the Administration proceed with the North Commuter Parkway project based on the bridge and arterial roadway configuration recommendations of the Functional Planning Study;
- 2) that the Traffic Bridge Replacement project be combined with the North Commuter Parkway project; and
- 3) that the Administration continue to pursue available funding for this project from the Federal and Provincial Governments.”

At its meeting on March 31, 2014, City Council approved that the North Commuter Parkway and Traffic Bridge Replacement project use a P3 delivery model, subject to the City’s approval of a funding application to PPP Canada, and that upon receiving funding approval from PPP Canada, and before the procurement process commences, the Administration report further on the final funding plan.

At its meeting on June 9, 2014, City Council approved the funding plan for the project and that Administration may proceed with the Request for Qualifications stage of procurement.

The Request for Qualifications was issued on July 21, 2014 and closed on September 10, 2014. Three Proponents were shortlisted for the RFP stage on October 3, 2014. The RFP was issued to the shortlisted proponents on December 23, 2014.

Report

Through the RFP process, the PPP Canada has requested the City consider allowing the piers for the new Traffic Bridge to be relocated from their current position. In this case, the existing piers would be demolished and new piers constructed on undisturbed soils located adjacent to the existing piers.

A relocation of the piers of no more than 10 meters from their current position has been reviewed by Administration. The resulting change in the configuration of the bridge spans is shown in Attachment 1.

Allowing Proponents the flexibility to potentially slightly relocate the bridge piers may result in a more cost effective or risk averse solution to construction of the bridge, though Proponents may elect to keep the piers in their existing positions.

Administration is recommending that Proponents be permitted to relocate the new piers for the Traffic Bridge up to a maximum of 10 meters north or south of the existing piers, provided that all relocated piers are moved the same distance in the same direction.

This would result in a span arrangement similar to that shown as Option 1 in Attachment 1.

Financial Implications

There may be potential cost efficiencies associated with the recommendation.

Public and/or Stakeholder Involvement

Stakeholder involvement will be required at various stages of the project. Community events will be planned in order to engage and educate the citizens. The Administration will coordinate with applicable stakeholders as necessary.

Communication Plan

A communications agency has been retained through the Technical Advisor for the project, and a phased-in communications plan has been developed for the life of the project. Webpages for the North Commuter Parkway and Traffic Bridge have been updated and an educational video has been developed. Various community events will be planned in order to engage and educate the citizens. Regular project updates will be provided to City Council by the Project Manager, and more broadly to the general public, through the media.

Safety/Crime Prevention Through Environmental Design (CPTED)

A preliminary CPTED review was completed at the Committee’s September 5, 2013, meeting. Additional CPTED reviews will be undertaken on staged design submissions during the detailed design period.

Due Date for Follow-up and/or Project Completion

The Administration is currently operating on a realistic target completion date for the North Commuter Parkway project of October 2018.

Public Notice

Public Notice pursuant to Section 3 of Policy No. C01-021, Public Notice Policy, is not required.

Attachment

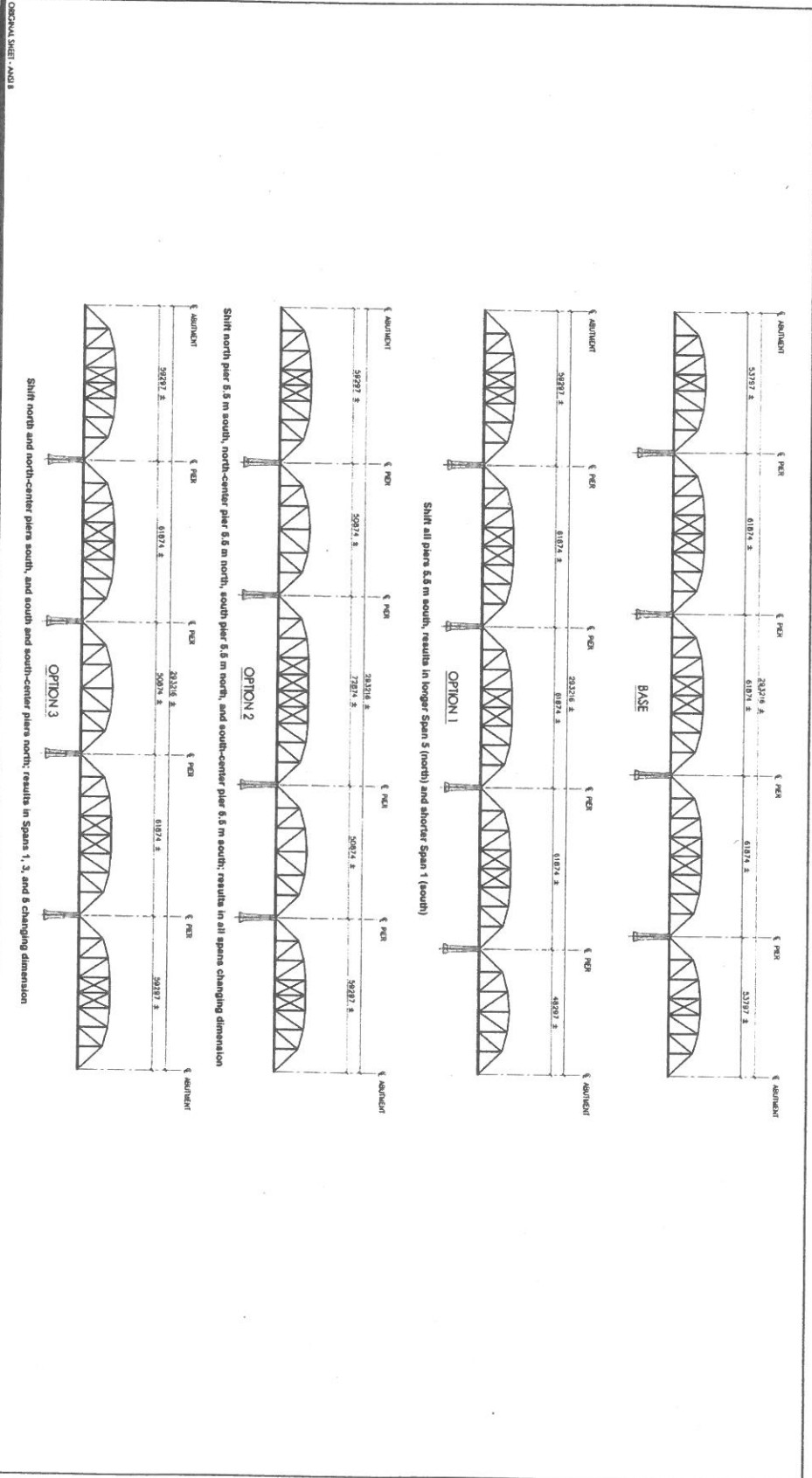
- 1. Pier Configuration Options

Report Approval

Written by: Dan Willems, Special Projects Manager, Major Projects
Reviewed by: Mike Gutek, Director of Major Projects
Approved by: Jeff Jorgenson, General Manager, Transportation & Utilities Department

Revised - Council DW – IS NCP and Traffic Bridge – Traffic Bridge Pier Locations-Mar 2015

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 2015/02/23 4:12 PM By: Hovdebo, Jordan



Notes:
 - Abutment positions cannot be relocated. Existing abutment locations maintained.
 - Pier relocations for the above options based on a minimum movement of 6.5 m to allow one clear footing width plus an allowance for shoring to avoid secondary disturbed areas from the original pier construction.

Drawn/checked: _____
 Date: _____
 PIER CONFIGURATION OPTIONS

Municipal Review Commission: Code of Conduct, Conduct of Municipal Elections, Total Compensation for Members of Council

Recommendation

That City Council consider Bylaw No. 9273, *The Saskatoon Municipal Review Commission Amendment Bylaw, 2015*.

Topic and Purpose

The purpose of this report is to provide City Council with Bylaw No. 9273, *The Saskatoon Municipal Review Commission Amendment Bylaw, 2015*, for consideration.

The Saskatoon Municipal Review Commission Amendment Bylaw, 2015 sets the time within which each Committee must complete its work. Currently, the Bylaw provides that the work of the Committees must commence by March 1, 2015, and be completed by May 31, 2015. The proposed Bylaw provides that the work of the Committees must commence by April 15, 2015, and be completed by July 31, 2015. Also, the proposed Bylaw contains a housekeeping amendment.

Report

It was anticipated that appointments to the Municipal Review Commission would occur prior to the end of February, 2015. Given that the appointment of the members of the Municipal Review Commission is expected to occur at the City Council meeting on March 23, 2015, the time frames for completion of the Committees' work requires amendment.

The proposed Bylaw provides that the Committees must convene on or before April 15, 2015 (amended from March 1, 2015), and extends the time in which each Committee must submit its first report to City Council to July 31, 2015 (amended from May 31, 2015). Also, the proposed Bylaw contains a small housekeeping amendment.

Public Notice

Public Notice pursuant to Section 3 of Policy No. C01-021, Public Notice Policy, is not required.

Attachment

1. Proposed Bylaw No. 9273, *The Saskatoon Municipal Review Commission Amendment Bylaw, 2015*.

Report Approval

Written and Approved by: Patricia Warwick, City Solicitor

Admin Report – Municipal Review Commission.docx
(File No. 102.0422)

ROUTING: City Solicitor - City Council
March 23, 2015 – File No. CK. 255-18
Page 1 of 1

DELEGATION: P. Warwick

cc: City Manager

BYLAW NO. 9273

The Saskatoon Municipal Review Commission Amendment Bylaw, 2015

The Council of The City of Saskatoon enacts:

Short Title

1. This Bylaw may be cited as *The Saskatoon Municipal Review Commission Amendment Bylaw, 2015*.

Purpose

2. The purpose of this Bylaw is to amend *The Saskatoon Municipal Review Commission Bylaw, 2014* to extend the time in which each of The Municipal Elections Committee, The Code of Conduct Committee and The Remuneration Committee, as established by The Saskatoon Municipal Review Commission, must first convene and submit a report to Council and to make a housekeeping amendment.

Subsection 12(2) Amended

3. Subsection 12(2) is amended by:
 - (a) striking out “March 1, 2015” and substituting “April 15, 2015”; and
 - (b) striking out “May 31, 2015” and substituting “July 31, 2015”.

Subsection 13(2) Amended

4. Subsection 13(2) is amended by:
 - (a) striking out “March 1, 2015” and substituting “April 15, 2015”; and
 - (b) striking out “May 31, 2015” and substituting “July 31, 2015”.

Subsection 14(3) Amended

- 5. Subsection 14(3) is amended by:
 - (a) striking out “March 1, 2015” and substituting “April 15, 2015”; and
 - (b) striking out “May 31, 2015” and substituting “July 31, 2015”.

Subsection 14(5) Amended

- 6. Subsection 14(5) is amended by:
 - (a) striking out “(2)” and substituting “(3)” wherever it appears.

Coming Into Force

- 7. This Bylaw shall come into force on the day of its final passing.

Read a first time this	day of	, 2015.
Read a second time this	day of	, 2015.
Read a third time and passed this	day of	, 2015.

Mayor

City Clerk

The Low-Income Seniors Property Tax Deferral Amendment Bylaw, 2015

Recommendation

That City Council consider Bylaw No. 9271, *The Low-Income Seniors Property Tax Deferral Amendment Bylaw, 2015*.

Topic and Purpose

The proposed Bylaw contains amendments which allow for tax deferral options for low-income seniors.

Report

On October 27, 2014, City Council resolved that a number of amendments should be made to Bylaw No. 9022, *The Low-Income Seniors Property Tax Deferral Bylaw, 2012*. The amendments were to provide low-income seniors with a menu of property tax deferral options.

The enclosed Bylaw addresses these amendments.

Attachment

1. Proposed Bylaw No. 9271, *The Low-Income Seniors Property Tax Deferral Amendment Bylaw, 2015*.

Report Approval

Written by: Blair Bleakney, Solicitor
Approved by: Patricia Warwick, City Solicitor

227-1534-bpb-3.docx

BYLAW NO. 9271

The Low-Income Seniors Property Tax Deferral Amendment Bylaw, 2015

The Council of The City of Saskatoon enacts:

Short Title

1. This Bylaw may be cited as *The Low-Income Seniors Property Tax Deferral Amendment Bylaw, 2015*.

Purpose

2. The purpose of this Bylaw is to amend Bylaw No. 9022, *The Low-Income Seniors Property Tax Deferral Bylaw, 2012*, to provide low-income seniors an opportunity to defer the municipal and library board portion of the property taxes on their principal residence.

Bylaw No. 9022 Amended

3. Bylaw No. 9022 is amended in the manner set forth in this Bylaw.

Section 5 Amended

4. Section 5 is amended by the adding the following after subsection (2):
 - “(3) In addition to the tax deferral provided in subsection (1), a taxpayer may select to defer the municipal and library board portion of the property taxes for any taxable property approved under the Program in accordance with the following options:
 - (a) \$600.00 annually;
 - (b) \$1,200.00 annually; or
 - (c) the full amount of the municipal and library board portion of the property taxes.

- (4) The total amount of property taxes deferred plus fees and interest may not exceed 50% of the assessed value of the taxable property.”.

Section 9 Amended

5. Section 9 is amended:

- (a) by striking clause (1)(b) and substituting the following:

“(b) the sale or transfer of the property, whichever occurs first.”; and

- (b) by adding the following after subsection (2):

“(3) With respect to the tax deferral options outlined in subsection 5(3), the deferred property taxes to be repaid shall include an interest charge of 4% annually, which interest shall be payable in accordance with this section.”.

Coming Into Force

6. This Bylaw comes into force on the day of its final passing.

Read a first time this _____ day of _____, 2015.

Read a second time this _____ day of _____, 2015.

Read a third time and passed this _____ day of _____, 2015.

Mayor

City Clerk



STANDING POLICY COMMITTEE ON ENVIRONMENT, UTILITIES & CORPORATE SERVICES

2015 Compost Depot Operations

Recommendation of the Committee

1. That the operating hours at the compost depots be approved as follows:
 - a) East Depot: five days per week, 11:00 a.m. to 5:00 p.m.
 - b) West Depot: seven days per week, 9:00 a.m. to 6:00 p.m.;
2. That the new East Compost Depot (transfer station) accept material from residents and small commercial loads only; and
3. That large commercial loads be directed to the West Compost Depot.

History

At the March 9, 2015 Standing Policy Committee on Environment, Utilities & Corporate Services meeting, a report of the General Manager, Transportation and Utilities Department dated March 9, 2015 was considered.

Your Committee requested that consideration be given to changing the days closed of the East Depot from Monday/Tuesday to Tuesday/Wednesday.

The Administration will provide information on any impact of changing those dates at the meeting.

Attachment

March 9, 2015 Report of the General Manager, Transportation and Utilities.

2015 Compost Depot Operations

Recommendation

That the Standing Policy Committee on Environment, Utilities, and Corporate Services recommend to City Council:

1. That the operating hours at the compost depots be approved as follows:
 - a) East Depot: five days per week, 11:00 a.m. to 5:00 p.m. (closed Monday and Tuesday);
 - b) West Depot: seven days per week, 9:00 a.m. to 6:00 p.m.;
2. That the new East Compost Depot (transfer station) accept material from residents and small commercial loads only; and
3. That large commercial loads be directed to the West Compost Depot.

Topic and Purpose

This report provides options for the compost depot hours of operation and commercial hauler requirements for the 2015 compost operating season.

Report Highlights

1. A new, temporary East Compost Depot will be developed near Highway 5 and Zimmerman Road. Cost savings will be realized by operating this depot as a transfer station and hauling all material to the West Compost Depot for processing.
2. The success of the compost depots in 2014 contributed to a 50% overage in operating expenses. To more closely align with the 2015 operating budget, the Administration is recommending that the East Compost Depot operate at reduced hours, 5 days per week; with minimal changes to the West Compost Depot hours of operation.
3. Hauling costs to transfer the material can be reduced by limiting the use at the East Compost Depot to residential customers and small commercial loads only. Large commercial loads will be directed to the West Compost Depot.
4. An increase to the commercial hauler permit fee is not recommended for 2015.

Strategic Goals

The recommendations in this report support the Strategic Goal of Environmental Leadership. Composting operations respond directly to the four-year priorities to promote and facilitate city-wide composting and recycling and eliminate the need for a new Landfill by diverting waste for re-use.

Background

In June 2013, the Administration & Finance Committee received a report on Composting Program Fees for 2014. The report recommended increasing the commercial hauler permit fee to \$200 for the first vehicle and \$50 for each additional vehicle (up from \$150 and \$25 respectively).

2015 Compost Depot Operations

On May 5, 2014, City Council approved funding to develop an east-side alternative to the McOrmond Road Compost Depot as it was closing later that year.

In November 2014, City Council approved a four year lease agreement with Dream Asset Management Corporation for the City to develop a temporary compost depot near Highway 5 and Zimmerman Road.

The Administration will be bringing forward a subsequent report to the April 14, 2015 Standing Policy Committee on Environment, Utilities and Corporate Services meeting, which will provide a comprehensive update to the Compost Program.

Report

New East Compost Depot – Transfer Station

The McOrmond Road Compost Depot was permanently closed to the public in late 2014 to accommodate development of the Holmwood neighbourhood. To minimize impacts to residents on the east side of the city, a new, temporary compost drop-off site is being constructed near Highway 5 and Zimmerman Road. Capital cost savings of approximately \$125,000 will be realized by developing the new East Compost Depot as a transfer station and not a full composting site. Operational cost savings and efficiencies will also be achieved by hauling all materials from the East Compost Depot to the West (Highway 7) Compost Depot for processing at one location.

Proposed Changes to Hours of Operation

Use of the compost depots reached a record high with nearly 40,000 vehicle visits made by residents in 2014. Attachment 1 is a sample of the number of vehicles that accessed the compost depots on a typical day. Compost depots have always been and are proposed to continue to be free for residents.

An unforeseen impact from the success of these sites was that the 2014 operating costs came in at 50% over budget. In order to reduce contracted staffing costs and more closely align with the 2015 budget, Administration recommends a reduction to the operating hours at both depots. Site safety and traffic management considerations do not allow for a reduction in the number of site attendants required.

Three options for operating hours and anticipated staffing costs are identified below:

	Location	Days of Week	Hours of Operation	Cost
Option 1	East Depot	5 days/week (closed Mon & Tues)	11:00 a.m. to 5:00 p.m.	\$125,000
	West Depot	7 days/week	9:00 a.m. to 6:00 p.m.	
Option 2	Both Depots	7 days/week	9:00 a.m. to 6:00 p.m.	\$185,000
Option 3	East Depot	7 days/week	9:00 a.m. to 6:00 p.m.	\$200,000
	West Depot	Mon to Thurs	9:00 a.m. to 8:00 p.m.	
		Fri, Sat, Sun	9:00 a.m. to 6:00 p.m.	

- Option 1 was developed based on an analysis of traffic usage patterns in 2014 and reflects the least impact to residents;

- Option 2 would provide the same level of service at both locations; and
- Option 3 reflects the same level of service that was provided in 2014.

Administration is recommending Option 1 as it is anticipated to achieve savings of \$75,000 compared to last year's level of service and will more closely align to the available funds in the 2015 operating budget. Option 1 will also provide customers with two drop-off options at peak hours and accessibility for both sites on weekends.

Extended hours between 6:00 and 8:00 p.m. are not recommended as depot usage during this time is low. In 2014, the East Compost Depot did not offer extended hours whereas the West Compost Depot saw an average of only seven vehicle visits per hour. In 2013, extended hours were offered at both depots on Thursday evenings and averaged six vehicle visits per hour. Extended hours were not offered prior to 2013.

Commercial Haulers

In 2014, over 150 commercial haulers (i.e. landscaping companies) brought in 9,500 loads to both depots. This accounted for 30% of the material brought to the depots. In comparison, revenue from the sale of commercial hauler permits offset only 4% of the total operating costs.

To help reduce operating costs of hauling materials from the East Compost Depot to the West Compost Depot in 2015, Administration recommends that commercial haulers be required to deliver large loads to the West Compost Depot only and that the East Compost Depot be made available only to residents and small commercial loads (half ton trucks and small trailers). Depending on the reduction in materials received at the East Compost Depot, anticipated savings from reduced hauling costs could be up to \$60,000. To reduce the impact on commercial haulers and due to operating cost reductions through the revised hours of operation, Administration does not recommend an increase to the commercial hauler permit fee at this time.

Options to the Recommendation

Options to the recommendation include allowing large commercial loads at the East Compost Depot and/or increasing the commercial hauler permit fee to help offset the costs of hauling and processing the large volume of materials brought in by commercial haulers. Accepting large loads at the East Compost Depot will result in an increase to the operating costs.

Public and/or Stakeholder Involvement

Administration is initiating discussions with the larger commercial permit holders to determine the impact of changes to where they can haul their compost. Individual negotiating could evolve to flexibility and case-by-case considerations where there is minimal expense to the City.

Communication Plan

New East Compost Depot Location and Hours of Operation:

On-site signage was posted during the last few weeks of operation in 2014 at the McOrmond Compost Depot advising visitors of the location change for Spring 2015 (Attachment 2). In addition, on-site staff provided information about the location change to visitors and it was publicised through reports and discussions at City Council.

It is expected that infrequent and new site users may not learn about the change of location until they attempt to access the former site. Signs will be posted at common access points en route to the former site, with directions to the new site and hours of operation.

With the recent overhaul of the City's website, residents can easily find hours of operation and location of both compost depots. In addition, information and updates to the composting program will be shared with residents through City social media channels, Compost Depot Service Alerts, PSAs and signage located at both sites.

Commercial Permit Holders:

Following the decision by City Council regarding the restriction to hours of operation and access to the site, Administration will inform current permit holders of the freeze on the cost of annual permits for this year, the location of the new East Compost Depot and the changes to hours of operation. Individual one-on-one conversations will continue with the larger commercial haulers to ensure a mutually beneficial solution is determined.

Financial Implications

The Compost Depot Operating Budget is partly funded through the Landfill Operating Budget. Any over-expenditure in compost operations negatively impacts the Landfill budget. The options in this report are anticipated to reduce operating costs in staffing, transfer of materials and site operations for 2015. However, given that the East Compost Depot will be in its first year of operation, the volume of material that will be received is estimated, and therefore transfer costs have been estimated. Option 1 is the most closely aligned to the 2015 approved operating budget for the Compost Depot program.

Environmental Implications

Composting operations divert approximately 20,000 tonnes of organic material from the landfill every year. This equates to a reduction of 4,600 tonnes of CO₂e annually, extends the life of the Landfill, and provides a nutrient-rich product that can be used in City parks and community gardens.

Other Considerations/Implications

There are no policy, privacy or CPTED implications or considerations.

Due Date for Follow-up and/or Project Completion

A follow-up report is not required.

Public Notice

Public Notice pursuant to Section 3 of Policy No. C01-021, Public Notice Policy, is not required.

Attachments

1. Traffic Usage Data 2014
2. City Compost Sign

Report Approval

Written by: Michelle Jelinski, Environmental Operations Manager
Reviewed by: Pat Hyde, Director of Public Works
Approved by: Jeff Jorgenson, General Manager, Transportation & Utilities
Department

EUCS MJ - 2015 Compost Depot Operations

Vehicle Visits by Day and Hour

East Compost Depot 2014 Data

Hour	Mon	Tues	Wed	Thurs	Fri	Sat	Sun	Average
9:00	10	12	11	12	12	15	11	12
10:00	12	13	14	13	13	18	14	14
11:00	14	14	14	15	16	22	19	16
12:00	13	14	13	15	14	25	20	16
1:00	14	18	18	15	16	28	23	19
2:00	16	19	17	16	19	29	24	20
3:00	17	20	20	18	15	34	23	21
4:00	15	18	17	15	14	25	19	18
5:00	10	14	12	11	9	12	9	11
Total	121	142	136	130	128	208	162	

Vehicle Visits by Hour

West Compost Depot 2014 Data

Hour	# of vehicle visits
9:00	25
10:00	27
11:00	33
12:00	33
1:00	36
2:00	38
3:00	38
4:00	33
5:00	21
6:00	7
7:00	6





STANDING POLICY COMMITTEE ON TRANSPORTATION

Bicycle Program Update – Feasibility of Protected Bike Lanes

Recommendation of the Committee

1. That the protected bike lanes be installed on 23rd Street (from Spadina Crescent to Idylwyld Drive) as a demonstration project in 2015; and
2. That the curb parking be installed on the north side of 24th Street between Ontario Avenue and Idylwyld Drive.

History

At the March 9, 2015 Standing Policy Committee on Transportation meeting, a report of the General Manager, Community Services Department dated March 9, 2015 was considered.

Your Committee also received a presentation from a representative of Saskatoon Cycles in support of the protective bike lanes in the downtown area.

Discussion followed regarding the maintenance plan for the bike lanes during the winter months; the collection of cycling data; as well as a cost breakdown for what portion of the estimated \$225,000 is for the proposed 23rd Street project, and what portion is for the proposed 4th Avenue project. The Administration undertook to provide this information at the time the report is before City Council.

It should be noted that a motion that protected bike lanes be installed on 4th Avenue (from 19th Street to 24th Street) as a demonstration project in 2016 was defeated.

Attachments

1. March 9, 2015 Report of the General Manager, Community Services
2. March 3, 2015 Letter from Brent Penner, Executive Director, The Partnership
3. March 5, 2015 Letter from Everett J. Kearley, Waldegrave Properties Limited
4. March 6, 2015 Email from Cathy Watts, Saskatoon Cycles

Bicycle Program Update – Feasibility of Protected Bike Lanes

Recommendation

That the Standing Policy Committee on Transportation recommend to City Council:

- 1) That protected bike lanes be installed on 23rd Street (from Spadina Crescent to Idylwyld Drive) and 4th Avenue (from 19th Street to 24th Street) as a demonstration project;
- 2) That implementation be phased over two years with 23rd Street installed in 2015, and 4th Avenue in 2016; and
- 3) That curb parking be installed on the north side of 24th Street between Ontario Avenue and Idylwyld Drive.

Topic and Purpose

This report provides a description of a proposed demonstration project for the installation of protected bike lanes in the Downtown. The demonstration project is intended to assess the feasibility of installing permanent protected bike lanes in the Downtown as proposed in the City Centre Plan (City Centre Plan) and by Saskatoon Cycles through the Better Bike Lanes initiative.

Report Highlights

1. The best location for providing a demonstration project within the Downtown would be two segments on 23rd Street and 4th Avenue.
2. With the addition of parking on 24th Street, between Ontario Avenue and Idylwyld Drive, the net street parking impact of this project is a loss of six parking spaces.
3. Traffic flow can be maintained on both 4th Avenue and 23rd Street with the proposed lane reconfigurations that result from the introduction of protected bike lanes.
4. Extensive engagement with stakeholders and the public was undertaken, which resulted in general support for the project and the identification of key issues.
5. The demonstration period should be a minimum of 18 months in duration with the 23rd Street project implemented in 2015, and the 4th Avenue project added in 2016.

Strategic Goal

Improving the comfort and attractiveness of cycling in the Downtown supports the City of Saskatoon's (City) Strategic Goal of Moving Around by creating a more cycling-friendly Downtown and promoting active transportation. The City Centre Plan identified the need for improved facilities for cycling within the City Centre, which includes the Downtown.

Bicycle Program Update – Feasibility of Protected Bike Lanes

Background

During its January 20, 2014 City Council meeting, a petition for the installation of separated bike lanes in Downtown Saskatoon (i.e. 4th Avenue and 24th Street) as a demonstration project was presented by Saskatoon Cycles representatives, an organization that advocates for a city in which cycling is a viable, year-round mode of transportation that is safe and convenient for all ages. City Council requested a report outlining the feasibility of installing separated bike lanes as a pilot project for the upcoming cycling season.

At its May 20, 2014 City Council meeting, a feasibility report was presented recommending the use of unidirectional bike lanes on 24th Street (from Spadina Crescent to Idylwyld Drive) and 4th Avenue (from 19th Street to 24th Street) as a demonstration project. The following motions were requested to be addressed:

1. That an open house be held by September 30, 2014, where the detailed design of the pilot project can be taken out to stakeholders;
2. That the Administration report back with options (short-term and long-term) for mitigating on-street parking loss resulting from the pilot project, including:
 - expanding angle parking along 23rd Street between 3rd Avenue and Spadina Crescent;
 - incentives for the construction of parking structures; and
 - the development of an application which identifies available parking capacity Downtown in real time.
3. That the Administration provide further information regarding the traffic flows along 4th Avenue, and the anticipated performance of changing from two lanes, in either direction, to one lane, in either direction, with a turning lane; and
4. That a parking study be conducted at the same time.

Report

The City's Strategic Plan and the City Centre Plan have identified the need to improve cycling as a strategy to increase the attractiveness of, and access to, the Downtown for businesses, residents, visitors, employers, and their employees. A vibrant and healthy Downtown benefits the entire city and region. The Protected Bike Lane Demonstration Project has been planned to achieve this goal. A background summary of protected bike lanes can be found in Attachment 1.

Protected bike lanes should provide an opportunity for people riding bikes to reach destinations in the heart of downtown in a comfortable and safe manner.

Project Location

The feasibility study considered all east-west and north-south streets as potential candidate locations for the project. After extensive review and consultation with stakeholders and the community, the Administration's preferred street pair for the

Bicycle Program Update – Feasibility of Protected Bike Lanes

project is recommended to be two segments on 23rd Street between Idylwyld Drive and Spadina Crescent and 4th Avenue between 19th Street and 24th Street.

These streets provide the best opportunity for protected bike lanes within the Downtown; bring people on bikes directly to the centre of Downtown; and connect to existing, well-used cycling routes without detrimentally impacting traffic movement, transit service, or street parking.

Both streets have adequate width to accommodate protected bike lanes, accommodate transit operation, maintain street parking and bring people to the centre of Downtown. 4th Avenue provides a direct connection to the Broadway Bridge. On the north end of 4th Avenue, the project will extend past 23rd Street for one additional block to allow the protected bike lanes to transition back to street cycling. 23rd Street connects well to the Blairmore Bikeway on the west end and to Spadina Crescent and promenade, Meewasin Valley Authority trail, and University Bridge on the east end. The selection criteria and summary of the location review appears in Attachment 2.

Transit Terminal

It is recognized that the downtown transit terminal is located on 23rd Street and this provides an interruption to through bicycle traffic. People riding bicycles will not be allowed to ride through the transit terminal either on the traffic lanes or sidewalk and platform areas as is currently prohibited. Walking bikes on the sidewalks is allowed and available for bicycle traffic. It should be noted that the transit terminal is in the centre of downtown and protected bike lanes that extend all the way to the edges of downtown affords people riding bikes to get to the centre of downtown on their bikes before departing from these bike lanes to their final destinations. Through bike traffic can either walk through the transit terminal or use any of the downtown streets as an alternate route.

As a result of the transit terminal, the 23rd Street route is being recommended as two separate segments. Each segment provides dedicated infrastructure, which is long and safe to help cyclists reach their destinations in the downtown. The City Administration will continue to work on options to assist cyclists who wish to ride around the transit terminal, including the east-west lane between 22nd and 23rd Streets as a potential shortcut.

While each street offered favorable characteristics, the overall combination of 4th Avenue and 23rd Street provides the best opportunity to fully meet the desirable project criteria. The proposed location is illustrated in the figure on Attachment 3.

Street Parking

Street parking availability continues to be a key Downtown and community concern. It was not desirable to reduce the amount of street parking spaces. The following table summarizes the parking space inventory along the project streets and illustrates effects of added parking to 24th Street in order to mitigate the parking space impacts.

Bicycle Program Update – Feasibility of Protected Bike Lanes

Street Location	Existing Parking Spaces	Proposed Parking Spaces	Change in Parking Spaces	Total Change in Parking Spaces
4 th Avenue: 19 th Street to 24 th Street	133	114	-19	-6
23 rd Street: Idylwyld Drive to Spadina Crescent	112	102	-10	
24 th Street: Idylwyld Drive to Ontario Avenue (north side only)	0	23	+23	

Protected bike lanes on 4th Avenue and on 23rd Street result in 29 parking spaces lost. In order to mitigate the amount of parking spaces lost, it was identified that 23 parking spaces could be added on the north side of 24th Street between Idylwyld Drive and Ontario Avenue. With these added parking spaces, the net change is a loss of six parking spaces. Although this design results in an overall loss of parking spaces, data from the parking utilization study indicate that unoccupied parking spaces are available in the study area even during the busiest times (see Attachment 4).

In June 2014, an additional 76 public off-street parking spaces were created on the corner of 4th Avenue and 23rd Street on the former Saskatoon Police Service site. These parking spaces are publicly available for hourly to daily use. This use is temporary until such time that the property is redeveloped.

The Comprehensive Downtown Parking Strategy is currently underway. This project includes the mandate of incorporating information technologies to improve the customer parking experience.

Traffic Flow

Traffic conditions for the proposed design were assessed and compared to the existing traffic conditions. The proposed traffic conditions resulted in an overall intersection level of service (LOS) B* (or better) on 4th Avenue and an overall LOS B* ¹(or better) on 23rd Street in the a.m. and p.m. peak hours. An increase in travel time of 14 seconds in the a.m. peak hour and 10 seconds in the p.m. peak hours were identified on 4th Avenue. These average travel time increases are relatively minor given that the average trip length during peak periods is 10 to 15 minutes. There was no difference in travel time on 23rd Street. A more detailed summary of traffic flow analysis by intersection appears in Attachment 5.

Overall, traffic flow can be maintained on both 4th Avenue and 23rd Street with the proposed lane reconfigurations that result from the introduction of protected bike lanes.

A similar traffic flow analysis was undertaken for 24th Street between Idylwyld Drive and Ontario Avenue to understand the impact of converting a travel lane to a parking lane.

¹ *LOS is a term used to qualitatively describe the operating conditions of a roadway based on factors, such as speed, travel time, manoeuvrability, delay, and safety. The level of service of a facility is designated with a letter A to F, with A representing the best operating conditions and F the worst.

Bicycle Program Update – Feasibility of Protected Bike Lanes

An overall intersection LOS B was able to be maintained at Idylwyld Drive with the proposed addition of on-street parking.

Given the relatively modest impacts on traffic movement, it is not anticipated that existing traffic will seek alternate routes in the Downtown; and therefore, it is not anticipated that the project will affect traffic conditions on other Downtown streets.

Identification of Key Issues

1. Winter Use and Maintenance

Concern has been expressed that the protected bike lanes would not be cleared well in the winter and that cycling usage would be low because of winter conditions.

It is expected that following a snow fall, sidewalk snow would be cleared into the bike lanes. This snow would be plowed (using the pathway plows) towards the centre of the road into the parking lane. Graders would pull all the snow towards the roadway centre to form a windrow to be removed. Some of the plastic delineation posts along the edge of the bike lane would be removed prior to the first snow fall to allow for improved snow clearing efficiency; however, some would remain in order to provide guidance to motorists parking their vehicles.

This project would represent a new challenge for snow and ice operations, and the precise effort and procedure is not known. The Public Works Division, along with the Transportation Division, has committed to clearing the bike lanes and taking a collaborative approach to problem solving.

2. Conflict with Buses and Transit Customers

For the duration of this demonstration project, the transit terminal will be in place; and therefore, people riding bikes will need to abide by the current restrictions that are in place:

- a) only transit and emergency vehicles are allowed through the transit terminal; and
- b) cycling is not allowed on the sidewalks or platforms through the terminal.

These rules exist today for the safety of pedestrians, transit customers, and people riding bikes. While it is not an ideal situation for either people riding bicycles or transit service to lead the protected bicycle lanes to the transit terminal, using 23rd Street as demonstration location is preferred over all other east-west options. The Growing Forward project calls for the removal of the transit terminal. Discussions are underway with regards to timing and logistics around its removal.

Transit stops will be designed to allow buses to stop at the curb (as they do today), effectively blocking the bike lane. Buses do not dwell at any of the stops within the project. This design is required to ensure that transit passengers can easily and safely board and exit the transit vehicle without conflict with people riding bikes.

The Administration will work with Transit and Cyclists throughout the demonstration on ways to minimize buses stopping within the bikelane, including the construction of temporary ramps to allow transit customers to board busses conveniently and safely

This project has been discussed with Saskatoon Transit, who stress that the safety and convenience of their customers and the general public is of paramount importance during this demonstration project.

3. Economic Impact

Previous discussion of this matter included some concern about the economic impact that the bike lanes might have on the Downtown, and the economic impact that a loss of street parking might have.

The studies and research that has been undertaken has indicated a range of values depending on the type of street and adjacent property uses, and the changes made to accommodate bike lanes. A brief summary of four studies appears in Attachment 6. Generally, the studies found a positive relationship between bike lanes and economic activity if the introduction of bike lanes increased the number of people accessing the street. Where the introduction of bike lanes eliminated a large number of parking spaces or dramatically reduced mobility for motor vehicle traffic or pedestrians, economic activity decreased.

Overall, protected bike lanes on 4th Avenue and 23rd Street consist of a design that will fully protect bicyclists, result in only six parking spaces lost, result in a minimal increase in travel times on 4th Avenue and 23rd Street, and provide a facility for people riding bikes to get to and destinations within the Downtown.

Demonstration Duration and Implementation Timing

It is recommended that a minimum trial period of 18 months be considered in order to evaluate the operation of the street during all seasons, especially winter. Community Services and Transportation & Utilities staff have been assigned to work with property owners, businesses, Saskatoon Transit, Public Works, and emergency service providers to identify and resolve conflicts, hazards, and operational issues in an expedient manner during implementation and throughout the duration of the demonstration project.

Bicycle Program Update – Feasibility of Protected Bike Lanes

It is further recommended that two protected bike lane segments be installed on 23rd Street in 2015, with 4th Avenue added in 2016 as a result of the University Bridge closure/restriction in 2015.

Options to the Recommendation

An extensive consideration of a variety of streets and bike lane styles was undertaken as a part of this project. The resultant recommendation is the product of this review and engagement process.

City Council may wish to consider 24th Street as the east-west connection. Two options have been explored utilizing 24th Street for the protected bike lanes.

A continuous protected bike lane for the entire length of 24th Street would require the loss of 47 on-street parking spaces including all street parking from 4th Avenue to Spadina Crescent. This option was presented in the original feasibility report to City Council in May 2014.

A revised design for 24th Street was presented at the October 21st, 2014, open house event. This design provided for a protected bike lane through the centre of downtown (1st Avenue to 4th Avenue) with “Green Lane” connections beyond that to connect the project to the larger cycling network. These “Green Lanes” required people riding bikes to ride in the centre of the traffic lane with motor vehicle traffic in the same way that traffic lanes marked with sharrows reinforce that bicycle riding is allowed on streets. This option was not received well by the community as it was seen to severely limit the ability of people riding bikes to comfortably get to the demonstration project on their bikes.

Both of these options were considered by the Administration as being inferior solutions to the recommendation.

Public and/or Stakeholder Involvement

A combination of meetings with key stakeholders, interest groups, and an open house event formed the basis of engagement for this project. From this engagement, the following themes emerged:

- i. **General Support from Stakeholders and the Public**
There was general support that protected bike lanes would make the Downtown more attractive and accessible to people riding bikes, which would positively contribute to the continued success of the Downtown.
- ii. **Separation Preferred**
Most participants favour protected bike lanes over green lanes or sharrows. Safety was the key reason given for this preference. It was generally expressed that requiring cyclists to share the road with motor vehicles would not attract the target group who say that they would like to bike to the Downtown if they could feel safe doing so.

iii. **Connectivity and Access**

A key concern among public and stakeholder participants is how bikes will connect to and access the Broadway Bridge from 4th Avenue. Providing improved access to the Broadway Bridge was examined as a part of this project. Improvements are being included in the design.

iv. **Parking/Business Access**

There was no appetite at all for any proposals that resulted in any loss of street parking spaces. This was a key consideration in choosing 23rd Street for the project as it resulted in only a few spaces to be removed and allowed for parking to be reintroduced on portions of 24th Street.

A summary of all of the engagement activities is shown in Attachment 7.

To conclude the consultation and community engagement for this project, a comprehensive meeting of community stakeholder groups and civic divisions was held on February 24, 2015. This meeting facilitated the discussion of the overall project goals, project process, technical considerations, and recommendation for implementation. It provided an opportunity for stakeholders and civic divisions to openly discuss the benefits and challenges that the project had for the community and their respective organizations. It was broadly recognized that this project had strong potential to benefit the vitality of downtown and to improve access to the downtown for people riding bikes without compromising current accessibility.

It was also recognized that the existence of the transit terminal on 23rd Street prevents a less-than-perfect continuous bike lane demonstration; however, it was still better than the options that were considered for 24th Street. It was also recognized that much inter-division/agency collaboration will be required prior to and during implementation for the safety benefit of all street users during the demonstration period

Communication Plan

As protected bike lanes move toward implementation, stakeholders will continue to be involved in the demonstration project. Communication activities to inform the public will include print media, information on the City's website, and social media. Direct mailing and notice delivery to property owners and business along 23rd Street and 4th Avenue would be undertaken prior to physical work being undertaken along the streets. A static display of information panels will be on display in the lobby of City Hall for four weeks. Strong, effective signage will be installed at key locations at the onset of the project to aid cyclists, pedestrians, transit and motorists in understanding the bikeway.

Financial Implications

It is estimated that the cost of undertaking this trial project will be \$225,000. This would include the costs for materials and installation of road painting, flexible posts, and signage. The cost estimate also includes a public awareness/educational campaign to help motorists, cyclists, and pedestrians to use the facilities appropriately and safely.

Bicycle Program Update – Feasibility of Protected Bike Lanes

This project will be accommodated within the \$375,000 budget available for cycling infrastructure construction in the 2014 Capital Budget.

Snow removal and street sweeping operations will be evaluated during the demonstration project. These streets are currently swept and cleared but the operation with protected bike lanes will be different, and therefore, there will be an incremental cost. That incremental cost has not been calculated as a part of this feasibility study.

Durable markings were installed on three blocks of 4th Avenue in 2013 during street resurfacing. Those markings would need to be removed in order to reallocate street space for protected bike lanes. The removal of those markings has been included in the implementation cost; however, the “lost investment” of the durable markings has not.

Environmental Implications

Cycling has been recognized to have a positive impact towards reducing energy consumption and greenhouse gas production. The initiatives proposed contribute to increasing the ability of people to use their bicycles for practical purposes, thereby substituting automobile trips for bicycle trips. Although not quantified for this report, the net benefit to the environment would be positive.

Other Considerations/Implications

There are no policy, privacy, or CPTED implications or considerations.

Due Date for Follow-up and/or Project Completion

The evaluation period will conclude at the end of 2016. At that time, a report will be prepared to recommend next steps.

Public Notice

Public Notice, pursuant to Section 3 of Public Notice Policy No. C01-021, is not required.

Attachments

1. Protected Bike Lane Basics
2. Project Location Summary
3. Protected Bike Lane Demonstration Project
4. Parking Utilization Study
5. Traffic Flow Analysis
6. Economic Impact Studies
7. Engagement Study

Report Approval

Written by: Don Cook, Manager, Long Range Planning
Reviewed by: Alan Wallace, Director of Planning and Development
Reviewed by: Angela Gardiner, Director of Transportation
Approved by: Lynne Lacroix, Acting General Manager, Community Services Department
Approved by: Jeff Jorgenson, Acting City Manager

S/Reports/CP/2015/TRANSPORTATION – Bicycle Program Update – Feasibility of Protected Bike Lanes/ks

Protected Bike Lane Basics

Protected bike lanes provide a dedicated marked lane, 1.5 meters wide (minimum) for bicyclists, that is to the right of the traffic lane or street parking (if provided) and is “protected” from moving traffic by street parking and a 1.0 meter wide (minimum) painted buffer or physical barrier. This places the bicyclists directly adjacent to the boulevard and sidewalk. Protected bike lanes require more street space than conventional bike lanes and may impact the amount of parking and/or number of traffic lanes.

What are Protected Bike Lanes?

Protected bike lanes physically separate people riding bikes from drivers. Protected bike lanes make this transportation option more attractive by increasing the comfort level and feeling of safety by “protecting” cyclists from traffic and opening of car doors. The lanes also benefit drivers, as separate space for cyclists increases the predictability and comfort of driving. It also reduces “sidewalk riding”, which is beneficial for pedestrians.

Photo Examples from Other Cities



Photo Credit: Cycle Toronto & ActiveTrans

Who Would Use Protected Bike Lanes?

Protected bike lanes are intended to be used by all people riding bikes; however, they are most attractive to cyclists who self-identify as “Interested but Concerned”. Based on studies in other North American cities, this group makes up the largest proportion of residents and holds the greatest opportunity for increasing cycling in the Downtown.

Cyclist Type	Description	Typical Proportion of Residents
Strong and Fearless	Very comfortable without bike lanes	3%
Enthusied and Confident	Very comfortable with bike lanes	7%
Interested But Concerned	Not very comfortable but interested in biking more	60%
No Way - No How	Physically unable, very uncomfortable, or not interested	30%

Why Are Protected Bike Lanes Important for the Downtown?

The City of Saskatoon Strategic Plan and the City Centre Plan have identified the need to improve cycling as a strategy to increase the attractiveness of, and access to, the Downtown for businesses, residents, visitors, employers, and their employees. A vibrant and healthy Downtown benefits the entire city and region. The Protected Bike Lane Demonstration Project has been planned to achieve this goal.

Have Similar Bike Lanes Been Successful in Other Cities?

The use of protected bike lanes began 25 years ago in cities in North America and within the last ten years has become a successful method of creating cycling facilities for all ages in strategically important locations. Permanent protected bike lanes have been built in Canada's largest cities, including Toronto, Montreal, Vancouver, Ottawa, and Calgary. Demonstration projects are currently underway in Edmonton and Winnipeg.

The most recent research throughout the United States from the National Institute for Transportation and Communities indicate that protected bike lanes have increased ridership and do not have a negative impact on retail sales.

Project Location Summary

Each street within the Downtown was reviewed on selection criteria developed based on the overall project objectives:

- 1) a continuous protected bike lane route through the Downtown;
- 2) good connections at either end to existing well-used cycling facilities,
- 3) leads cyclists to the centre of the Downtown; and
- 4) adequate street width to allow traffic movement, transit, parking, and bike lanes.

East-West Streets

Street	Favorable Characteristics	Unsuitable Characteristics
19 th Street	Could provide a continuous route; connects directly to Broadway Bridge; adequate street width.	Does not connect to a cycling facility to the west of Downtown, along the edge of Downtown.
20 th Street	Could provide a continuous route; connect indirectly to Broadway Bridge; connect to Spadina bike lanes and Meewasin Valley Authority (MVA) Trail; close to the centre of Downtown; adequate street width.	Does not connect to a cycling facility to the west of Downtown.
21 st Street	Connects to Spadina bike lanes; located in the centre of Downtown; adequate street width.	Does not span the Downtown, does not connect to other cycling facilities.
22 nd Street	Could provide a continuous route; connects to Spadina bike lanes and MVA Trail; located in the centre of Downtown.	Does not connect to a cycling facility to the west of Downtown; inadequate street width.
23 rd Street	Could provide a continuous route (with the exception of the transit terminal); connects to the Blairmore Bikeway; Spadina bike lanes and MVA Trail; located in the centre of Downtown; adequate street width.	Cyclist must walk bikes through transit terminal.
24 th Street	Could provide a continuous route; connects to Spadina bike lanes and MVA Trail; located close to the centre of Downtown.	Does not connect to a cycling facility to the west of Downtown; inadequate street width.

North-South Streets

Street	Favorable Characteristics	Unsuitable Characteristics
1 st Avenue	Could provide a continuous route; located close to the centre of Downtown; adequate street width.	Does not connect to a cycling facility at either end.
2 nd Avenue	Could provide a continuous route; connects to Riverlanding; located in the centre of Downtown.	Does not connect to a cycling facility to the north of Downtown; inadequate street width with angle parking.
3 rd Avenue	Could provide a continuous route; connects to Riverlanding and MVA Trail; located in the centre of Downtown.	Does not connect to a cycling facility to the north of Downtown; inadequate street width to support traffic, bike lanes, parking, and transit.
4 th Avenue	Could provide a continuous route; connects directly to Broadway Bridge; adequate street width; located in the centre of Downtown.	Does not connect to a cycling facility to the north of Downtown.
Spadina Crescent	Could provide a continuous route; connects directly to University Bridge.	Does not connect to a cycling facility to the south of Downtown; located on the edge of Downtown; inadequate street width to retain parking lane.

Protected Bike Lane Demonstration Project

Protected Bike Lane Demonstration Project

Where Will the Demonstration Project Be?



Building on the current major access points for people riding bikes to the downtown, a north-south and east-west street pair was determined based on an in-depth examination of downtown streets and how they connect to the larger city.

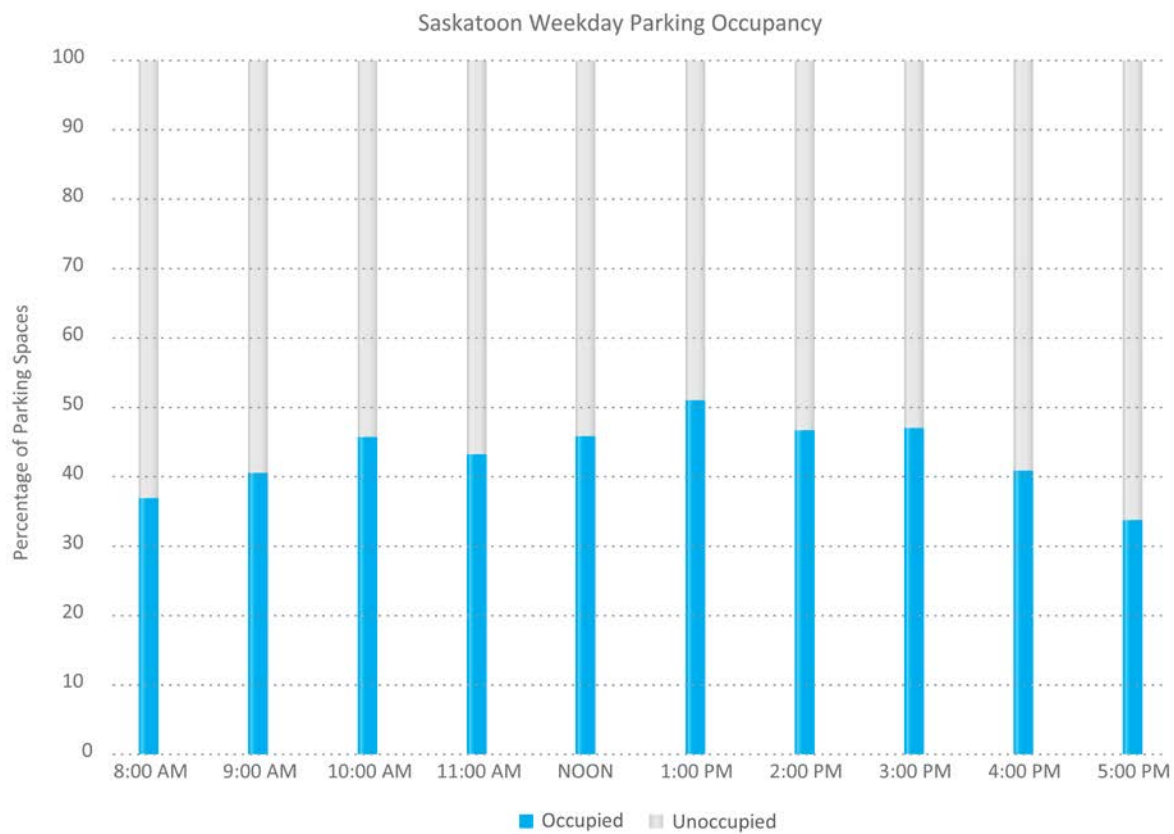
- Protected Bike Lane
- Transit Terminal
- Main Cycling Connection



Parking Utilization Study

A parking utilization study was conducted by ME2 Transportation Data Corp. in July 2014 to determine the street parking supply and utilization on, and around, 4th Avenue and 24th Street. Figure 1 presents the weekday percentage of occupied and unoccupied parking spaces in the study area from 7 a.m. to 5 p.m. The data indicated that at peak daytime parking demand, 50% of the existing parking spaces provided are unoccupied. Noon to 1 p.m. was identified as the peak hour with the highest percentage of occupied parking spaces.

Figure 1: Weekday Parking Occupancy



Traffic Flow Analysis

The existing and proposed level of services for the designs on 4th Avenue, 24th Street, and 23rd Street are outlined in Table 1. Protected bike lanes on 4th Avenue result in an overall LOS C (or better) in the a.m. and p.m. peak hours. The design on 23rd Street results in an overall LOS D (or better) in the a.m. and p.m. peak hours.

Table 1: Intersection Level of Service Summary

Street	Existing LOS		LOS with Protected Bike Lanes	
	a.m.	p.m.	a.m.	p.m.
	Peak Hour	Peak Hour	Peak Hour	Peak Hour
4 th Avenue	B or better	B or better	B or better	B or better
23 rd Street	B or better	B or better	B or better	B or better

Table 2 presents the existing and proposed travel times for the designs on 4th Avenue, and 23rd Street. Protected bike lanes on 4th Avenue result in an additional 14 second and 10 second travel time in the a.m. and p.m. peak hours, respectively. There is a minimal difference in travel time for either designs on 24th Street and for the 23rd Street design.

Table 2: Peak Hour Travel Times Summary

Street	Existing Travel Time (s)		Travel Time with Bike Lanes (s)		Change in Travel Time (s)	
	a.m.	p.m.	a.m.	p.m.	a.m.	p.m.
4 th Avenue	49	58	63	68	+14	+10
23 rd Street	64	76	66	77	+3	+1

Tables 3 and 4 provide a listing of all intersections along 4th Avenue and 23rd Street and indicated the operating conditions for each traffic movement at each intersection. As well, an overall intersection LOS is provided.

Table 3: Traffic Conditions on 4th Avenue with Protected Bike Lanes

Intersection with 4 th Avenue	Movement		Operating Conditions							
			a.m. Peak Hour				p.m. Peak Hour			
			v/c ratio	Delay(s)	LOS	Queue (m)	v/c ratio	Delay(s)	LOS	Queue (m)
20 th Street	EB	Left/Thru/Right	0.47	7.2	A	14.7	0.47	7.6	A	15.8
	WB	Left/Thru	0.24	13.0	B	19.1	0.59	20.5	C	41.3
		Right	0.06	3.8	A	3.5	0.04	2.3	A	2.1
	NB	Left	0.40	14.2	B	25.9	0.49	21.3	C	21.4
		Thru/Right	0.81	23.6	C	113.7 [†]	0.57	14.9	B	57.9
	SB	Left/Thru/Right	0.27	8.4	A	15.7	0.58	13.7	B	47.6
Intersection Summary		0.81 (max)	14.3	B		0.59 (max)	13.5	B		
21 st Street	EB	Left/Thru/Right	0.17	10.2	B	11.7	0.27	9.9	A	15.7
	WB	Left/Thru/Right	0.30	13.1	B	20.4	0.43	16.3	B	30.0
	NB	Left	0.09	8.4	A	6.4	0.20	11.8	B	7.4
		Thru/Right	0.78	20.5	C	116.0 [†]	0.51	12.5	B	57.1
	SB	Left	0.13	11.2	B	5.2*	0.12	9.9	A	6.2*
		Thru/Right	0.43	11.8	B	46.1	0.88	25.2	C	151.0 [†]
Intersection Summary		0.78 (max)	16.2	B		0.88 (max)	18.7	B		
22 nd Street	EB	Left	0.35	20.4	C	23.9	0.36	21.0	C	23.3
		Thru	0.36	18.7	B	36.5	0.29	17.8	B	30.2
		Right	0.51	7.6	A	15.4	0.34	5.4	A	11.5
	WB	Left	0.12	16.6	B	8.5	0.16	16.9	B	12.6
		Thru/Right	0.23	15.0	B	21.6	0.39	17.6	B	35.2
	NB	Left	0.42	8.7	A	11.4*	0.57	14.4	B	16.8
		Thru/Right	0.60	8.4	A	29.7*	0.48	8.7	A	28.7
	SB	Left	0.08	7.3	A	2.9*	0.03	6.5	A	1.0*
		Thru/Right	0.41	7.5	A	25.8	0.57	8.3	A	30.8
Intersection Summary		0.60 (max)	10.7	B		0.58 (max)	11.7	B		
23 rd Street	EB	Left/Thru	0.06	13.8	B	6.4	0.06	13.8	B	6.1
		Right	0.13	4.8	A	6.8	0.05	3.6	A	2.8
	WB	Left/Thru/Right	0.14	11.0	B	8.3	0.12	10.4	B	7.5
	NB	Left	0.14	12.0	B	7.0*	0.15	12.0	B	8.9*
		Thru/Right	0.61	15.5	B	53.1	0.56	14.8	B	56.1
	SB	Left	0.11	10.5	B	6.9	0.07	9.9	A	5.1
		Thru/Right	0.50	13.8	B	54.5	0.59	15.7	B	68.6
Intersection Summary		0.61 (max)	13.4	B		0.59 (max)	14.1	B		

* Note: Volume for 95th percentile queue is metered by upstream signal

[†] Note: 95th percentile volume exceeds capacity, queue may be longer

Table 4: Traffic Conditions on 23rd Street with Protected Bike Lanes

Intersection with 23 rd Street	Movement		Operating Conditions							
			AM Peak Hour				PM Peak Hour			
			v/c ratio	Delay (s)	LOS	Queue (m)	v/c ratio	Delay (s)	LOS	Queue (m)
Idylwyld Drive	EB	Left/Thru/Right	0.58	38.3	D	31.4	0.70	39.7	D	35.8
	WB	Left/Thru/Right	0.24	21.5	C	11.0	0.73	28.9	C	35.5
	NB	Left/Thru/Right	0.48	6.5	A	48.0	0.42	7.6	A	43.0
	SB	Left/Thru	0.35	5.6	A	24.9	0.52	8.5	A	52.5
		Right	0.08	1.4	A	4.3	0.13	1.6	A	6.6
	Intersection Summary		0.58 (max)	9.4	A		0.73 (max)	13.0	B	
Pacific Avenue	EB	Left/Thru/Right	0.34	11.7	B	16.3	0.41	13.4	B	20.4
	WB	Left/Thru/Right	0.25	11.6	B	11.8	0.45	14.6	B	21.3
	NB	Left/Thru/Right	0.10	4.5	A	6.5	0.41	7.5	A	22.3
	SB	Left/Thru/Right	0.07	5.5	A	6.1	0.18	5.0	A	10.1
	Intersection Summary		0.34 (max)	10.2	B		0.45 (max)	11.3	B	
1 st Avenue	EB	Left/Thru/Right	0.29	10.0	A	13.7	0.59	13.5	B	28.3
	WB	Left/Thru/Right	0.17	10.7	B	11.0	0.33	12.5	B	18.5
	NB	Left	0.16	10.7	B	9.1	0.22	12.5	B	9.1
		Thru/Right	0.47	10.7	B	28.8	0.47	11.1	B	29.7
	SB	Left	0.09	10.1	B	5.1	0.05	9.5	A	3.4
		Thru/Right	0.28	8.1	A	15.4	0.55	12.4	B	36.3
	Intersection Summary		0.47 (max)	9.9	A		0.59 (max)	12.3	B	

* Note: Volume for 95th percentile queue is metered by upstream signal

Table 4 Continued

Intersection with 23rd Street	Movement		Operating Conditions								
			AM Peak Hour				PM Peak Hour				
			v/c ratio	Delay (s)	LOS	Queue (m)	v/c ratio	Delay (s)	LOS	Queue (m)	
2nd Avenue	EB	Left	0.31	12.5	B	17.5	0.66	19.6	B	47.9 [†]	
		Thru/Right	0.14	6.0	A	6.0*	0.29	4.4	A	7.5*	
	WB	Left/Thru/Right		0.11	12.3	B	8.7	0.09	10.4	B	6.3*
		NB	Left	0.07	9.8	A	4.8	0.14	11.7	B	7.4
	Thru/Right		0.51	14.7	B	41.8	0.61	17.5	B	50.7	
	SB	Left	0.02	9.5	A	1.7	0.03	10.5	B	1.8	
		Through	0.37	12.5	B	28.6	0.59	17.1	B	47.9	
		Right	0.20	3.6	A	7.2	0.28	3.9	A	9.0	
	Intersection Summary			0.51 (max)	11.7	B		0.66 (max)	14.6	B	
	3rd Avenue	EB	Left/Thru/Right		0.08	2.0	A	0.0	0.10	13.2	B
WB			Left/Thru	0.10	11.2	B	7.1	0.16	12.0	B	9.4
		Right	0.09	3.8	A	3.8	0.20	4.8	A	6.6	
NB		Left	0.03	9.4	A	1.8	0.03	9.5	A	1.7	
		Thru/Right	0.24	8.4	A	13.4	0.36	10.0	B	21	
SB		Left	0.07	9.6	A	5.0	0.16	11.0	B	8.3	
		Thru/Right	0.24	9.4	A	14.3	0.40	11.3	B	24.9	
Intersection Summary			0.24 (max)	8.6	A		0.40 (max)	10.4	B		
4th Avenue	EB	Left/Thru	0.10	15.3	B	11.4	0.13	18.1	B	14.8	
		Right	0.00	0.0	A	0.0	0.06	4.8	A	3.5	
	WB	Left/Thru/Right		0.07	11.6	B	5.7	0.21	13.6	B	13.5
		NB	Left	0.09	10.9	B	7.2	0.15	11.1	B	9.8
	Thru/Right		0.68	19.0	B	83.2	0.58	15.9	B	74.4	
	SB	Left	0.17	12.6	B	9.6	0.08	10.1	B	5.5	
		Thru/Right	0.53	15.4	B	60.7	0.59	16.1	B	76.1	
	Intersection Summary			0.68 (max)	16.6	B		0.59 (max)	15.3	B	

* Note: Volume for 95th percentile queue is metered by upstream signal

[†] Note: 95th percentile volume exceeds capacity, queue may be longer

Economic Impact Studies

Reference #1: “Bike Lanes, On-Street Parking and Business: A Study of Bloor Street in Toronto’s Annex Neighbourhood” (Clean Air Partnership, 2009)

Summary-

The purpose of the study was to understand and estimate the importance of on-street parking to business.

This study concluded that, the spending habits of cyclists and pedestrians, their relatively high travel mode share, and the minimal impact on parking all demonstrate that merchants in this area are unlikely to be negatively affected by reallocating on-street parking space to a bike lane. Rather, this change will likely increase commercial activity.

Reference #2: “Lessons From The Green Lanes: Evaluating Protected Bike Lanes In The U.S.” (Monsere et al., 2014)

Summary

The report examines protected bike lanes in five cities (i.e., Austin, Texas; Chicago, Illinois; Portland, Oregon; San Francisco, California; and, Washington, District of Columbia).

Overall, nearly three times as many residents felt that the protected bike lanes had led to an increase in the desirability of living in their neighbourhood (42%), as opposed to a decrease in desirability (14%). The remainder stated there had been no change in desirability.

Approximately 19% of intercepted bicyclists and 20% of residents who bicycled on the street stated that how often they stop at shops and businesses increased after the installation of the protected bike lanes. Few respondents indicated their frequency decreased (1% of bicyclists and 6% of residents). Most indicated no change.

Similarly, approximately 12% of the residents stated that they are more likely to visit a business on the corridor since the protected bike lanes were built. 9% indicated they were less likely. Most self-reported no change.

Reference #3: “The Economic Benefits of Sustainable Streets” (New York City DOT)

Summary

New York City Department of Transportation (DOT) determined the economic impacts of the installation of protected bike lanes at two project locations in Manhattan – on Columbus Avenue and on 9th Avenue.

The change in sales for locally-based businesses within the improvement sites before and after project implementation was compared to changes in the same period for the comparison sites as well as the respective borough as a whole.

The first project location was Columbia Avenue. After the construction of a protected bike lane on Columbus Avenue, local businesses saw a 20% increase in retail sales compared to the 9% increase on the section of Columbus Avenue where no changes were made. The results show that Columbus Avenue did grow substantially compared to similar nearby sites in each quarter. However, it did not outperform sales growth in Manhattan as a whole.

The second project location was 9th Avenue. The results showed that protected bike lanes had a significant positive impact on local business strength. After the construction of a protected bike lane on 9th Avenue, local businesses saw a 49% increase in retail sales. In comparison, local businesses throughout Manhattan only saw a 3% increase in retail sales.

Reference #4: “Vancouver Separated Bike Lane Business Impact Study” (Stantec, 2011)

Summary

Two separated two-way bike lane trial projects were constructed in Vancouver’s downtown in 2010. To construct the separated bike lanes, road space was reallocated and a total of 172 parking spaces were removed (156 from Hornby St. and 16 from Dunsmuir St.). Some loading zones were moved and turn restrictions were introduced in five locations to reduce the risk of bicycle collisions, some parking was removed, the illegal use of some loading areas was eliminated, and pedestrians at some locations had to cross the bike lanes.

The study collected basic business economic data on rents, sales, vacancy and lease rates that would indicate the impact of the separated bike lanes, as well as data on the frequency of shopping visits by downtown or Metro Vancouver customers after the implementation of the separated bike lanes.

Based on a grade-level business survey, the financial impact of the bike lanes had been a loss of sales and a loss of profit. The total loss in sales is estimated at \$2.4 million over a year and the total loss in profit is estimated at \$480,000 over a year (assuming profit is approximately 20% of sales). These impacts were primarily attributed to the decrease in the number of on-street parking spots, increase in traffic congestion and decrease in accessibility for motor vehicle and pedestrian traffic that the project introduced.

References

1. Clean Air Partnership. Bike Lanes, On-Street Parking, and Business: A Study of Bloor Street in Toronto’s Annex Neighbourhood. February 2009. Available at bit.ly/1kjDfC0. Accessed February 19, 2015.
2. Monsere, C., J. Dill, N. McNeil, K. Clifton, N. Foster, T. Goddard, M. Berkow, J. Gilpin, K. Voros, D. van Hengel, and J. Parks. Lessons From The Green Lanes: Evaluating Protected Bike Lanes In The U.S. Final Report, June 2014. Available

at http://ppms.otrec.us/media/project_files/NITC-RR583_ProtectedLanes_FinalReport.pdf. Accessed February 19, 2015.

3. New York City DOT. The Economic Benefits of Sustainable Streets. Available at <http://www.nyc.gov/html/dot/downloads/pdf/dot-economic-benefits-of-sustainable-streets.pdf>. Accessed February 19, 2015.
4. Stantec Consulting Ltd, Site Economics, and Mustel Group Market Research. Vancouver Separated Bike Lane Business Impact Study. Prepared for the Vancouver Economic Development Commission, City of Vancouver, Downtown Vancouver Association, Downtown Vancouver Business Improvement Association, The Vancouver Board of Trade, 2011.

Engagement Summary

The Administration has undertaken extensive and thorough engagement with stakeholder groups, internal civic divisions, and the general public. The following is a listing of all the formal engagement efforts for the project (does not include communications by telephone and email) since June 2014.

Stakeholder: The Partnership (Downtown Business Improvement District)
Meeting Dates: August 28, September 16, January 16.

Stakeholder: Saskatoon Cycles
Meeting Dates: August 29, September 16, January 16.

Stakeholder: Cycling Advisory Group
Monthly (six in total)

Interest Group: Tourism Saskatoon
Meeting: October 7

Interest Group: Combined Business Group
Meeting: November 20

Business and Property Owners: 4th Avenue and 24th Street
Open House: October 21

Business and Property Owners: 23rd Street
Meeting: January 23

General Public:
Open House: October 21
Shaping Saskatoon Online Engagement Tool – Fall 2014

October 21st -- Open House Event Summary

On October 21, 2014, the City hosted two open houses, inviting people to learn more about the protected bike lane concept and to provide feedback about the proposed 18-month demonstration project. Protected bike lanes on 4th Avenue and a combination of protected bike lanes and green lanes on 24th Street was presented. The open houses were facilitated by Doug Fast of Fast Consulting.

Approximately 70 people attended each of the open houses, which were held on the route of the proposed bike lane at Le Relais in Downtown Saskatoon. Twelve comment forms were received from stakeholders or businesses attending the stakeholder open house in the afternoon, and 43 participants at the public open house in the evening. The *Shaping Saskatoon* online forum generated another 15 comments, and a survey posted on the website was completed by 482 respondents.

It was found that the public and stakeholders are generally supportive of the Protected Bike Lane Project – 95% believe it will increase comfort for people riding bikes, 85%

believe it will improve the accessibility of Downtown, and 84% believe it will improve the attractiveness of Downtown.

February 24, 2015 – Comprehensive Stakeholder Meeting

On February 24, 2015, the City hosted a comprehensive meeting of community stakeholder groups and civic divisions. This meeting was facilitated by civic staff and attended by the following agencies and civic divisions:

- Cycling Advisory Group
- Saskatoon Tourism
- Partnership
- Riversdale BID
- Broadway BID
- Saskatoon Cycles
- Meewasin Valley Authority
- Saskatoon Chamber of Commerce
- North Saskatoon Business Association

- Fire Department
- Public Works Division
- Transportation Division
- Saskatoon Transit Services
- Saskatoon Police Service
- Community Services Department

This meeting provided an opportunity for stakeholders to and civic divisions to openly discuss the benefits and challenges that the project had for the community and their respective organizations. It was broadly recognized that this project had strong potential to benefit the vitality of downtown and to improve access to the downtown for people riding bikes without compromising current accessibility.



Protected Bike Lane Demonstration Project Stakeholder & Community Champion Meeting Summary February 24, 2015

Project Description

The Protected Bike Lane Demonstration Project is intended to demonstrate to the general public and stakeholders how protected bike lanes would look and feel for cyclists, pedestrians, and drivers in the downtown area.

Protected Bike Lanes physically separate people riding bikes from drivers, making this transportation option more attractive by increasing the comfort level and feeling of safety by 'protecting' cyclists from traffic. The lanes benefit drivers, as separate space for cyclists increases the predictability and comfort of driving. Protected lanes also reduce 'sidewalk riding' which is beneficial for pedestrian safety.

Engagement Strategy and Outcomes

The Protected Bike Lane Demonstration began as a community-initiated project to introduce protected bike lanes, to improve cycling as a strategy, and to create a vibrant and healthy downtown. A Stakeholder and Community Champion Meeting was held on February 24, 2015, to provide an opportunity for continued involvement of stakeholders and community champions throughout the process. This meeting is in addition to the previous two Open Houses held in October 2014; online engagement; a survey; and ongoing meetings with stakeholder groups.

The meeting began with a brief overview of the process to date; technical and design considerations; route options; and the meeting purpose. Attendees participated in a facilitated discussion about issues, possible solutions, and areas of shared agreement. City staff were in attendance to hear concerns, answer questions, provide input for possible solutions, and record the discussion.

Attendees were made aware that a summary of the discussion would be included as part of a report to be presented at the Standing Policy Committee on Transportation on March 9, 2015 and the March 23rd, 2015 Council Meeting. In addition to the discussion, attendees were welcomed to provide written feedback after the meeting.



Participants discussed concerns with the project, primarily the issue of a proposed route adjoining the Transit mall. As the conversation continued, the participants identified potential solutions to manage the Transit mall issue in the short-term, for the long-term benefit of demonstrating protected bike lanes. It was identified that joining bike lanes to a transit hub could also be seen as a beneficial connection. The meeting concluded with participants discussing how to show support for the project through the next steps in the process.

Stakeholder Engagement Summary

Representatives from organizations with an interest in Saskatoon's city centre and/or the cycling strategy were identified as stakeholders and potential community champions. These groups were sent email invitations with follow-up phone calls to ensure the invitation was received and to clarify the purpose of meeting.

Representatives from the following organizations were in attendance:

- Saskatoon Cycles
- Cycling Advisory Group
- The Partnership
- Riversdale Business Improvement District
- Broadway Business Improvement District
- Meewasin Valley Authority
- Saskatoon Tourism
- North Saskatoon Business Association

The following internal stakeholders were also in attendance:

- Transportation
- Roadways
- Fire
- Transit
- Police
- Active Transportation Plan
- Parking

The discussion began with addressing concerns, identifying potential solutions, and identifying points of shared agreement and support for the project. The following themes arose throughout the discussion:

1. Route Locations
2. Transit Mall
3. Infrastructure and Facilities
4. Success Factors



1. Route Locations

Route options previously proposed along 4th Avenue and 24th Street were reviewed in the presentation, with an explanation of the new proposal for 23rd Street and postponing 4th Avenue due to the University Bridge construction and closure.

A concern was raised among some participants that because of the Transit mall, cyclists might choose to use 24th or other routes to bike through downtown, limiting the number of cyclists using the protected lane during the demonstration. It was suggested that a combination of quantitative and qualitative measures could be used as indicators of success.

It was pointed out that 23rd Street would be a better route for people wanting to bike to the downtown as a destination point. A link to the Meewasin trails would also serve recreational cyclists who would be more comfortable cycling on paths and separated bike lanes. There was understanding among participants that although in the short-term 23rd Street has limitations as a through-way for those cycling through the downtown along this route; it would be in the best interest to support this location choice in order to move forward with the demonstration and cycling strategy in the long-term.

2. Transit Mall

The Transit mall was identified as a potential barrier to cyclists using the protected lane. However, it was also pointed out that for those biking downtown as a destination it may not be an issue compared to those cycling through downtown.

Participants discussed issues and solutions for managing the pedestrian/cyclist/vehicle interactions when transitioning from a protected bike lane to a transit mall. Suggested solutions included adding signage and related infrastructure to ensure bikes would be walked through the mall, and education and monitoring to ensure rules were followed. It was generally agreed that, while the Transit mall poses potential issues in the short-term, these can be overcome.

3. Infrastructure and Facilities

Addressing infrastructure needs, especially at the Transit mall location, was of importance to the group. Suggestions were made for adequate signage, use of fencing, and ongoing maintenance of the new infrastructure. It was recommended that more facilities would need to be provided for parking bikes if we expected more people to be biking downtown. Consideration for accessibility needs and safety was discussed. There was discussion about maintenance of the lanes, especially clearing of snow, with the recommendation that maintenance be contracted for the duration of the pilot.



4. Success Factors

Questions arose about what indicators would be used to measure project success. There was some discussion about possible indicators, including number of users, increase in number of bikes downtown, perception of safety while using the protected lanes, and increased perception of visiting downtown as a destination.

Participants identified the need for raising awareness and education for pedestrians, cyclists, and drivers as an important element. As well, participants asked if there would be monitoring and response to issues throughout the demonstration. A link between the demonstration project and the Active Transportation Plan was identified as a potential benefit.

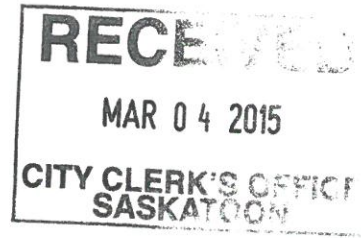
Next Steps

Stakeholders at the meeting voiced their overall support for the project and asked how they could demonstrate their support beyond this meeting. They were informed of the committee and council process and dates that the project report would be presented.

If the project is approved, an engagement and communications plan will be prepared, for implementation throughout the demonstration period. Administration will continue to work with stakeholders and community champions, ensuring that there is flexibility and responsiveness to issues that may arise during the pilot.

Administration will invite stakeholders to participate in determining the key measures and success indicators. Stakeholders offered to share information to raise awareness, educate users, and promote the demonstration of protected bike lanes. Regular updates to Council, stakeholder groups, and the general public will be provided.

Prepared by:
Arin Jorgenson, Community Engagement Consultant
Communications Division
March 2, 2015



March 3, 2015

His Worship the Mayor and Members of City Council
 Office of the City Clerk
 City of Saskatoon
 2nd Floor, City Hall
 222 3rd Avenue North
 Saskatoon, SK S7K 0J5

His Worship the Mayor and Members of Council:

Re: Proposed Bike Demonstration Project on 23rd Street

The Board of Management for the Downtown Business Improvement District has endorsed a set of principles for bike lanes:

1. Urban Connectivity - Bike Lanes are a great opportunity to build links between urban districts.
2. Suburban Connectivity - Bike lanes must connect the urban centre to the suburbs and encourage visits to the urban centre.
3. Car Convenience – Cars remain an important mode of transportation. Bike lane design should minimize any negative effect on parking and congestion.
4. Safety – Design must focus on creating safe environments for riders to attract new cyclists and also ensure the safety of non-cyclists.
5. Destination Driven – Bike lanes should take riders past major destination businesses within a district to encourage people to stop and enjoy the area. Bike racks and other amenities must be in place to support cyclists and encourage them to visit businesses.

The Board is interested to watch the demonstration project and learn what impact it may have on businesses along the actual route in terms of overall sales and visits to businesses.

In addition, information from the City in terms of overall monitoring of the project will be important to consider. We would ask that the City study the following items when looking at

the overall project and its impact on downtown: bike counts, traffic counts, pedestrian counts, traffic pattern shifts, travel times and speeds, business satisfaction and benefits, community satisfaction, winter and summer maintenance efficiency, transit, overall safety, intersection interaction, and laneway interaction.

The Downtown BID believes data collection and measurement tools are fundamental to the evaluation of the bike lane demonstration project. We will assist the City of Saskatoon as required during the demonstration project.

Sincerely,

A handwritten signature in blue ink, appearing to read 'Brent Penner', with a long horizontal flourish extending to the right.

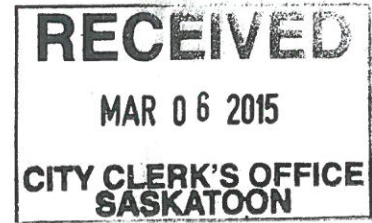
Brent Penner
Executive Director

cc: Mr. Dave Denny, Chair

6000-5

Waldegrave Properties Limited

A Member of the Millennium III Group of Companies



March 5, 2015

Standing Policy Committee on Transportation
c/o City Clerk's Office
222 3rd Avenue N
Saskatoon SK S7K 0J5

Dear Sirs and Mesdames:

**Re: Agenda Item 7.2.1
Bicycle Program Update – Feasibility of Protected Bike Lanes**

We have become aware as of today's date that the agenda for your Standing Policy Committee on Transportation includes consideration of and referral to Council for direction of a proposal to institute a bike lane demonstration project in the downtown area of Saskatoon. In particular, this project includes an allowance for a bike lane on 23rd Street East, immediately adjacent to our property, the Midtown Medical Centre, located at 39, 23rd Street East, with a legal description of Lots 7-12, Block 2, Plan F4570.

Waldegrave Properties Limited is a member of the Millennium III Group of Companies which has ownership interest in a number of commercial properties throughout the City of Saskatoon, some of which we have been involved with for over 30 years. During those years, through various property holding companies, the Millennium III Group of Companies has had many dealings with the City of Saskatoon in matters of development, zoning, municipal services including roadways, parking, etc., and other matters that come under municipal jurisdiction. We have always found City Council, administration and staff to be very considerate and cooperative in resolving issues that arise from time to time and that they take our interests into consideration along with the general good of the City of Saskatoon.

We are pleased that Council has undertaken many new planning initiatives to make the City more habitable, functional and enjoyable and has vastly improved many aspects of City life. The undersigned has been a resident here since 1978 and has seen the remarkable growth and expansion of our City through the stewardship of many wise Councils. On occasion, however, there have been instances where, in our role as a promoter and developer of commercial business in the City, we have felt that Council's policies may not be in accord with what we see as being beneficial to the interests of the City as a whole. In the above referenced matter, then, the proposed bike lane demonstration project, several issues come to mind.

1. Climate

Biking is a very enjoyable and utilitarian activity from both an exercise and transportation point of view. All of us have used our bikes to get around on many occasions and enjoy the exercise and mobility that these provide. In our opinion, however, as a regular means of transportation in heavy motorized traffic areas, biking at temperatures below freezing is not a comfortable, convenient or safe means of travel. In icy or snowy conditions, bikes with only two wheels are largely uncontrollable and present a hazard to the cyclist, surrounding traffic and pedestrians. Snow removal in these bike lanes has not yet been addressed in the public sphere as well. Is the City planning on purchasing specialized equipment and adding more labour costs to our already overtaxed infrastructure services in order to clear these lanes and provide a safe travel path?

A look at the attached temperature graph for the City of Saskatoon shows that average monthly temperatures for this City are below 0°C for a full five months of the year. We also know that sporadic winter-like conditions can be experienced on either side of these five months. A summer demonstration bike lane project might be appropriate, with temporary control devices for bike traffic. Disruption of the City's main automotive traffic patterns by installing bike lanes in months when cycling is used as a means of transportation for only an extremely small fraction of the population, however, hardly seems like a worthwhile project for City resources. With the convenience and comfort of the automobile or public transit in cold weather, it is unlikely that the group dedicated to cycling all winter long is likely to grow significantly.

2. Inconvenience to business

Parking is already limited in the downtown area and no matter how you cut it, these proposed bike lanes will interfere with and diminish this resource. This can have a very negative effect on downtown businesses, which, incidentally, pay a very large portion of the property taxes that support the operations of the City.

3. Medical Issues

In the case of our property, the Midtown Medical Centre, which is most affected by the proposed demonstration bike lane, the majority of the tenants therein are medical specialists or associated services that draw patients from throughout the City and much of the surrounding area in the northern half of the province. Many of these patients are seniors and/or have mobility challenges and the parking spots on the streets around our building are vitally important for these people to ambulate with supporting devices (canes, wheelchairs and walkers) or be transported safely into our building. The bike lane project as presently proposed will take away two of these parking spaces that these physically challenged people now use for egress from and access to motor vehicles.

As well, many people arrive from northern or rural areas at the Bus Depot across the street from our property in order to attend on their medical specialists and, again, many have mobility issues or are otherwise physically challenged. Installation of a further barrier i.e., a bike lane, in the area where they cross 23rd Street to access our building will certainly not enhance or make convenient that transit. There is, in fact, the potential for

bike/pedestrian collisions at the proposed bike lane where visibility is inhibited by vehicles parked along the street. This is especially so where bikers feel they have “free passage” along the bike lane even where it intersects with crossing points for these mobility challenged people.

4. Alternatives

a. Onsite Parking

Under then existing City bylaws, the original developers of the Midtown Medical Centre received a permit to develop the property with the amount of parking that still exists today. This parking frequently becomes occupied early in the day, leaving little room for visiting patients. There also are only a limited number of "handicapped" stalls. Hence, closing 2 parking stalls parallel to this building, will remove a large portion of our convenient access for autoborne, physically challenged patients.

b. Midtown Plaza Parking Lot

A casual observer would conclude that there is lots of parking in the area of the Midtown Medical Centre provided by this parking facility. The following, however, must be taken into consideration:

- i. We do not own that parking lot. It can be, and frequently is, fully utilized by others, especially by patrons of the Mall and other significant entertainment venues in the area. We cannot guarantee our medical tenants parking there for their patients.
- ii. We have attempted to obtain a dedicated, month to month, block of parking spaces in the area of our building from Midtown Mall management without success. We, of course, offered to pay going rates for this.
- iii. As well as being across busy Pacific Avenue from our building, this parking facility also is surrounded by a 300mm high concrete curb which is inimical to the easy transit of wheelchairs or walkers. Breaks in this curb are either remote from the area closest to our building or can be rendered inaccessible by vehicles parked in dedicated parking stalls. In actual practice, very few of the regular patients at Midtown Medical Centre make use of the Midtown Mall parking lot because of the uncertainty as to its availability or the barriers to mobility which its use entails.

5. Conclusion and Recommendations

- a. While provision for biking certainly is a desirable addition to Saskatoon's amenities, its seasonality is questionable, the cost benefit to taxpayers suspect and weight must be given to the interests of motor vehicle traffic, parking and the effect on businesses and their patrons adjacent to biking facilities.

- b. In the case of Midtown Medical Centre, if the City is determined to proceed with a bike lane along 23rd Street, provision should be made in the design thereof not to require, or interfere with, the limited parking facilities that exist along the curb line on the street sides of the building, which are vital to the transit of the many patients with impaired mobility and other physically disabilities that access our building daily.

Yours truly,



Everett J. Kearley, P. Eng.
President of Waldegrave Properties Limited
Chairman of the Millennium III Group of Companies

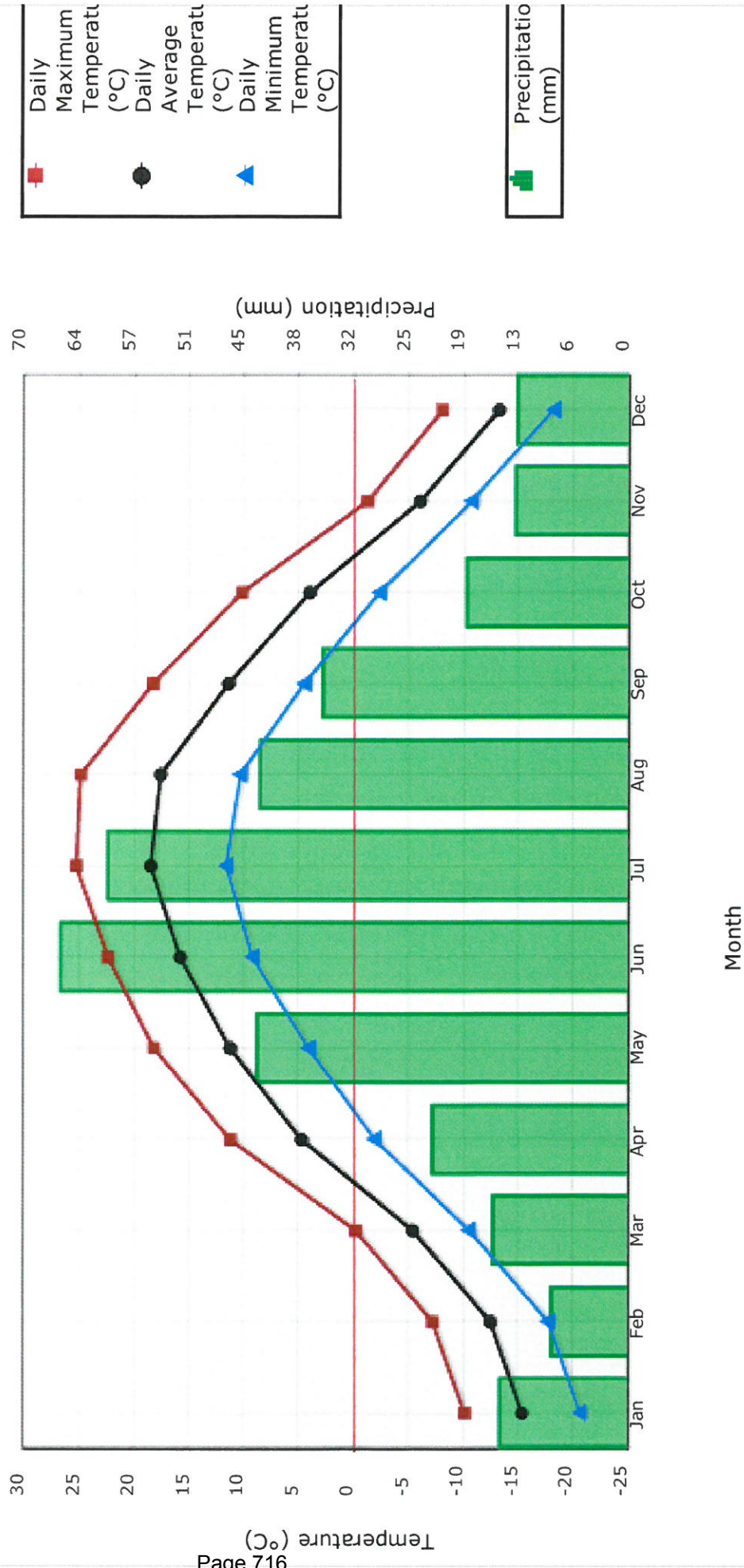
Encl.



Canadian Climate Normals 1981-2010 Station Data

Temperature and Precipitation Charts | Normals Data | Station / Element Metadata | Calculation Information

Temperature and Precipitation Chart for 1981 to 2010 Canadian Climate Normals SASKATOON DIEFENBAKER INT'L A



6000-5

From: Cathy Watts <ctwatts@sasktel.net>
Sent: March 06, 2015 11:34 AM
To: Web E-mail - City Clerks
Subject: Fwd: presentation to Transportation committee meeting

RECEIVED
MAR 06 2015
CITY CLERK'S OFFICE
SASKATOON

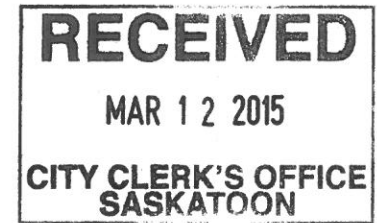
Begin forwarded message:

From: Cathy Watts <ctwatts@sasktel.net>
Subject: presentation to Transportation committee meeting
Date: March 6, 2015 at 11:31:17 AM CST
To: city.clerks@saskatoon.ca

Hello,
I would like to be sure that Saskatoon Cycles is in the line up to make a short presentation to the Transportation committee meeting at 9 am on March 9. I believe that Sean Shaw was going to register us. Hilary Gough or myself will be making the presentation.
Please confirm that we are registered.
Thanks very much.
Take care.
Cathy Watts
Co-Chair Saskatoon Cycles

1136 Temperance Street
Saskatoon, Sk.
S7N 0N8

From: Web NoReply
Sent: Thursday, March 12, 2015 1:50 PM
To: City Council
Subject: Form submission from: Write a Letter to Council



Submitted on Thursday, March 12, 2015 - 13:49
Submitted by anonymous user: 69.11.54.58
Submitted values are:

Date: Thursday, March 12, 2015
To: His Worship the Mayor and Members of City Council
First Name: Paula
Last Name: McKechney
Address: 2772 Eastview
City: Saskatoon
Province: Saskatchewan
Postal Code: S7J3H5
Email: tpmckechney@hotmail.com

Comments: I would like to commend the Mayor as a voice of reason in the dedicated bike lane debate. Is this another example of a very vocal minority driving policy change? It makes no sense to me to allocate money to this issue in the downtown area. What is the % of individuals who ride bikes to work vs those who either drive, ride the bus or walk? Focus on bike lanes in areas like the Univesity and look to ensuring that all new developments have a dedicated bike lane. Maybe also focus a little more on traffic enforcement for both bikes and other vehicles in the downtown area and maintaining the bike lanes that already exist along the river.

The results of this submission may be viewed at:
<https://www.saskatoon.ca/node/398/submission/8387>

6000-5.

From: Web NoReply
Sent: March 13, 2015 3:44 PM
To: Web E-mail - City Clerks
Subject: segregated bike lanes



Submitted on Friday, March 13, 2015 - 15:43
Submitted by anonymous user: 71.17.40.135
Submitted values are:

First Name: anne
Last Name: hanson
Email: anneh@sasktel.net
Confirm Email: anneh@sasktel.net
Phone Number: (306) 978-1363

*391 McCormack Road
Saskatoon, sk.
S7M 4T1*

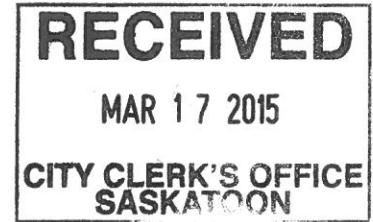
==Your Message==

Service category: City Council, Boards & Committees
Subject: segregated bike lanes

Message: The mayor and city council have to step up and be positive about segregated bike lanes. To have the mayor say that they wouldn't be used is absolutely ludicrous. I talk to MANY MANY people who say they don't cycle because it is too dangerous. WAKE UP, PEOPLE!! And if we can't have the segregated paths, then we should be allowed to cycle on the sidewalks, as in Portland. Ticket the reckless cyclists and leave the careful ones alone. The people of Saskatoon need an advocate and you are it. Please help us!!!!

The results of this submission may be viewed at:
<https://www.saskatoon.ca/node/405/submission/8838>

From: Web NoReply
Sent: Monday, March 16, 2015 10:22 PM
To: City Council
Subject: Form submission from: Write a Letter to Council



Submitted on Monday, March 16, 2015 - 22:22
Submitted by anonymous user: 71.17.212.33
Submitted values are:

Date: Monday, March 16, 2015
To: His Worship the Mayor and Members of City Council
First Name: Jake
Last Name: Buhler
Address: 836 Main st
City: Saskatoon
Province: Saskatchewan
Postal Code: S7H0K3
Email: jakelouisebuhler@sasktel.net

Comments: I trust, your worship, that you and all enlightened councillors will vote yes to the demonstration bike lane project on March 23. For a city our size and for the international flavor we are becoming, it would show we are progressive and forward looking. Jake Buhler

The results of this submission may be viewed at:
<https://www.saskatoon.ca/node/398/submission/9405>

From: Web NoReply
Sent: March 17, 2015 11:22 AM
To: City Council
Subject: Form submission from: Write a Letter to Council



Submitted on Tuesday, March 17, 2015 - 11:21
Submitted by anonymous user: 128.233.4.245
Submitted values are:

Date: Tuesday, March 17, 2015
To: His Worship the Mayor and Members of City Council
First Name: Philip
Last Name: Chilibeck
Address: 802 8th Ave. N.
City: Saskatoon
Province: Saskatchewan
Postal Code: S7K 2X2
Email: phil.chilibeck@usask.ca

Comments:
Dear City Councillors:

I am sending you this message because I want you to vote YES on the separated bike lane demonstration project in our downtown on March 23rd!

I ride downtown with my 3 kids (aged 7, 10, and 12) very often as they have activities at the YMCA. The proposed bike lanes would make our trips much safer.

Please vote for these bike lanes.

Sincerely,

Phil Chilibeck

802 8th Ave. N.
Saskatoon
S7K 2X2
phone: 306-343-6577

The results of this submission may be viewed at:
<https://www.saskatoon.ca/node/398/submission/9502>



EXECUTIVE COMMITTEE

Appointments – Saskatoon Municipal Review Commission

Recommendation of the Committee

1. That the following be appointed to the Saskatoon Municipal Review Commission to the end of 2018:
Mr. Paul Jaspar
Ms. Jennifer Lester
Ms. Linda Moulin
Professor Charles Smith
Ms. Joan White
Honorable Merri-Ellen Wright Q.C.; and
2. That the per diem rate be \$400/day.

History

On December 15, 2014, City Council passed Bylaw No. 9242, *The Saskatoon Municipal Review Commission Bylaw, 2014* establishing an independent commission to inquire into and make recommendations to City Council with respect to:

- The conduct of municipal elections including the disclosure of election expenses and contributions and campaign spending limits;
- The Code of Conduct for members of Council; and
- The remuneration and benefits and the reimbursement or allowances for expenses of members of Council.

The Commission is empowered to create three committees: Municipal Elections Committee, Code of Conduct Committee and the Remuneration Committee.

Your Committee has now considered the applications and recommends the above-noted individuals for appointment to the end of 2018. Your Committee is also recommending a per diem rate of \$400/day.



EXECUTIVE COMMITTEE

Remai Modern Business Plan: 2015-2019

Recommendation of the Committee

1. That the Remai Modern Business Plan: 2015 to 2019 be received as information; and
2. That the approval and phased implementation of The Remai Modern Business Plan: 2015 to 2019 occur on an annual basis through the Corporate Business Plan and Budget review process.

History

At the March 16, 2015 meeting of Executive Committee, the Committee considered a report and presentation of the Executive Director/CEO, AGS (Remai Modern) regarding the above.

Attachment

Report of the Executive Director/CEO, AGS (Remai Modern) dated March 9, 2015.

TO: Executive Committee; City Council
FROM: Executive Director/CEO, AGS (Remai Modern)
DATE: March 9, 2015
SUBJECT: Remai Modern – Business Plan 2015 -2019

RECOMMENDATION: 1) that the Remai Modern Business Plan: 2015 to 2019 be received as information;
2) that the approval and phased implementation of The Remai Modern Business Plan: 2015 to 2019 occur on an annual basis through the Corporate Business Plan and Budget review process;

Introduction

In March of 2014, MNP LLP (“MNP”) was engaged by Remai Modern to work with staff to complete a revision and update of its business plan to ensure valid and updated financial and operating assumptions, which incorporate the Gallery’s brand and vision, are articulated in one document. The MNP plan was delivered in May 2014. The Gallery then went through a rigorous process of checking figures in the budgets, with the aim of finding significant cost reductions, driven partly by pressures in the City’s proposed funding plan for the years 2015 to 2018. More than \$3,000,000 of savings was made over the 2015 – 2016 operating budgets from the MNP plan. Our budget projections now align with the City’s proposed funding plan. The Board of Remai Modern approved the Business Plan and financial projections at its September, 2014 meeting. The 2015 Remai Modern budget was approved by City Council in December 2014.

The attached Business Plan incorporates the MNP report and is solely focused on the operations of Remai Modern. It does not include the cost of operating the Mendel Art Gallery in 2015, the year when the accounts for Remai Modern and Mendel Art Gallery were split. The total City contribution to funding both Mendel Art Gallery and Remai Modern is \$3,661,099 in 2015 and \$5,038,800 in 2016.

REMAI MODERN is becoming... Business Plan 2015 -2019

“The Remai Modern Art Gallery of Saskatchewan will help shape the destiny of this fine city and play a definitive role in the province’s image and character. This impressive facility will be a flagship in our cultural tourism assets and I am certain widespread benefits will be realized.”

– Mary Taylor-Ash, CEO, Tourism Saskatchewan

Remai Modern is becoming...

- the civic heart of a revitalized River Landing
- a reflection of a vibrant, modern Canadian city
- a driver of increased economic activity, improved quality of life and enhanced community engagement

The Remail Modern brand was officially launched in June 2014. As the brand and related vision impact all operational aspects of the Gallery, a new business plan that both reflects the brand promise and articulates its impacts was required. In March of 2014 MNP LLP (“MNP”) was engaged to complete a revision of the business plan to ensure valid and updated assumptions, which incorporate the Gallery’s brand and vision, are articulated in one document. A critical factor in their assessment was the scale of Remail Modern, at close to 5 times the size of the Mendel Art Gallery, and its relation to running costs. The Remail Modern Business Plan is based on extensive research and is a comprehensive and fully integrated 5-year plan based on principles of best business practice.

Key Points

1. The plan has been developed to maximize revenues, while providing sufficient operating funds to ensure success. Through investment in staff and promotion of the gallery and its programs from 2015, Remail Modern is expected to raise 42% of its annual operating costs from fundraising and earned revenues by 2019, up from 23% in 2015
2. All budgets in the MNP approved Business Plan were rigorously checked by the gallery CEO and Director of Finance, with a view to reducing costs. Importantly the forecast City contribution reduces in percentage terms of annual budget to 58% by 2019. This compares favourably with 2015, where the City contribution is 77% of annual budget
3. MNP were tasked with researching and independently validating all assumptions, costs and revenues in the plan. As part of the process they undertook a Human Resources audit, to determine appropriate staffing levels and costs. Where possible new staff positions were deferred, so that the recommended 49.55 FTE staff count is not reached until 2018. The projected FTE count at opening is 46.55
4. The Remail Modern staffing and organizational structure recommendations have been developed through a conservative approach, both respecting the realities of publically funded organizations and ensuring that recommended staff levels can deliver the Remail Modern vision. The resulting staffing proposal is a reflection of what is required at a base level to operate the Remail Modern as outlined in the Business Plan. Compared to other galleries the projected salaries, as a percentage of operating budget, are conservative, being 36% for the Remail Modern as opposed to 45.6% average for similar galleries in Canada
5. With the support of the Marketing department self-generated revenue, increases from \$526,000 in 2014 by six times to \$3,000,000 in 2019. The

majority of these projected revenues will result from the establishment of an ongoing Development Department. The increase has been validated by MNP and results from food services, events and admission revenue, donor programs, legacy gifts, sponsorships, memberships and grants

6. It is important that Remai Modern generates revenues to support and sustain operations and a modest admission charge to parts of the Gallery supports this goal. The charge compares favorably to other facility charges in Saskatoon and other galleries across Canada. In addition to generating revenue, an admission charge also drives other important initiatives for Remai Modern. For example, an admission charge will provide a quantifiable and tangible reason for Saskatoon individuals and families to purchase an annual membership to Remai Modern. An admission charge also provides Remai Modern with a valuable marketing tool, especially related to children's attendance, and will be a key component to drive sponsorships and build links between the gallery, business, and the community. An admission charge indicates a quantifiable value that can be linked to many tourism initiatives. National and international tour-operators work on the basis of charging a percentage of the admission cost to venues. As this is an important component of their revenues they do not organize tours to free facilities
7. Free admission will be provided to the entire ground floor, including atrium, large ground floor exhibition gallery, store, restaurant, washrooms, patio and sculpture garden. The ground floor will also provide access to the Parkade and Persephone Theatre
8. \$645,000 of 2019 revenues are projected to come from general admission charges based on a framework as follows:
 - (a) Securing sponsorships to provide free admission to exhibitions for children less than 13 years of age and free admission to exhibitions one evening a week for everyone.
 - (b) A general admission charge of \$12 and \$10 for students and seniors
9. While MNP have projected an annual attendance of 220,000 visitors to Remai Modern, the general charge will only apply to 30,000 visitors. It is important to note that the percentage of visitors who will be charged general admission is only 13.6%. The rest are covered through free admission, memberships, and facility users who will pay by other means, such as event bookings and attendance at concerts, lectures and classes.
10. Anticipated operating hours at Remai Modern are 10 a.m. – 6 p.m. Sunday, Tuesday and Thursday and 11:00 a.m. – 8:00 p.m. Wednesday, Friday and Saturday. When compared against Canadian galleries, Remai Modern will be open more hours per week than the average.

Remai Modern Brand Plan.

Remai Modern, through its brand, will deliver an exceptional and unprecedented level of service to the Saskatoon community and will add significantly to the brand capital of Saskatoon and Saskatchewan. The Gallery will be recognized as one of the top art galleries in Canada and will be a major driver of the Saskatoon tourism market and as such a catalyst for economic growth in the city.

The business plan identifies Tourism Saskatoon and Tourism Saskatchewan as major partners. Tourists are expected to contribute significantly to earned revenues, therefore a strong marketing plan and effective execution of the plan will be key success factors for the new Gallery. By 2019 the Marketing budget as a percentage of total annual expenses is projected to be 7.5%. As MNP note this “is in alignment with marketing budgets of other facilities of this stature across the country.” Such facilities include the Art Gallery of Ontario – 7%; Winnipeg Art Gallery – 8%; Vancouver Art Gallery – 19% and Toronto Zoo – 7%.

The Remai Modern is slated to be the largest new tourism product to launch in Canada in 2016, according to the Canadian Tourism Commission. Promoting the Gallery across Saskatoon, Saskatchewan, Canada, and broader tourism markets will be a necessary exercise to ensure a wide audience is aware of the opening of the Remai Modern. The Gallery can expect to get a once-in-a-lifetime substantial national and international media exposure during the opening period. It is, therefore, vital that the marketing plan is executed well in advance of opening in order to capitalize on this unique opportunity.

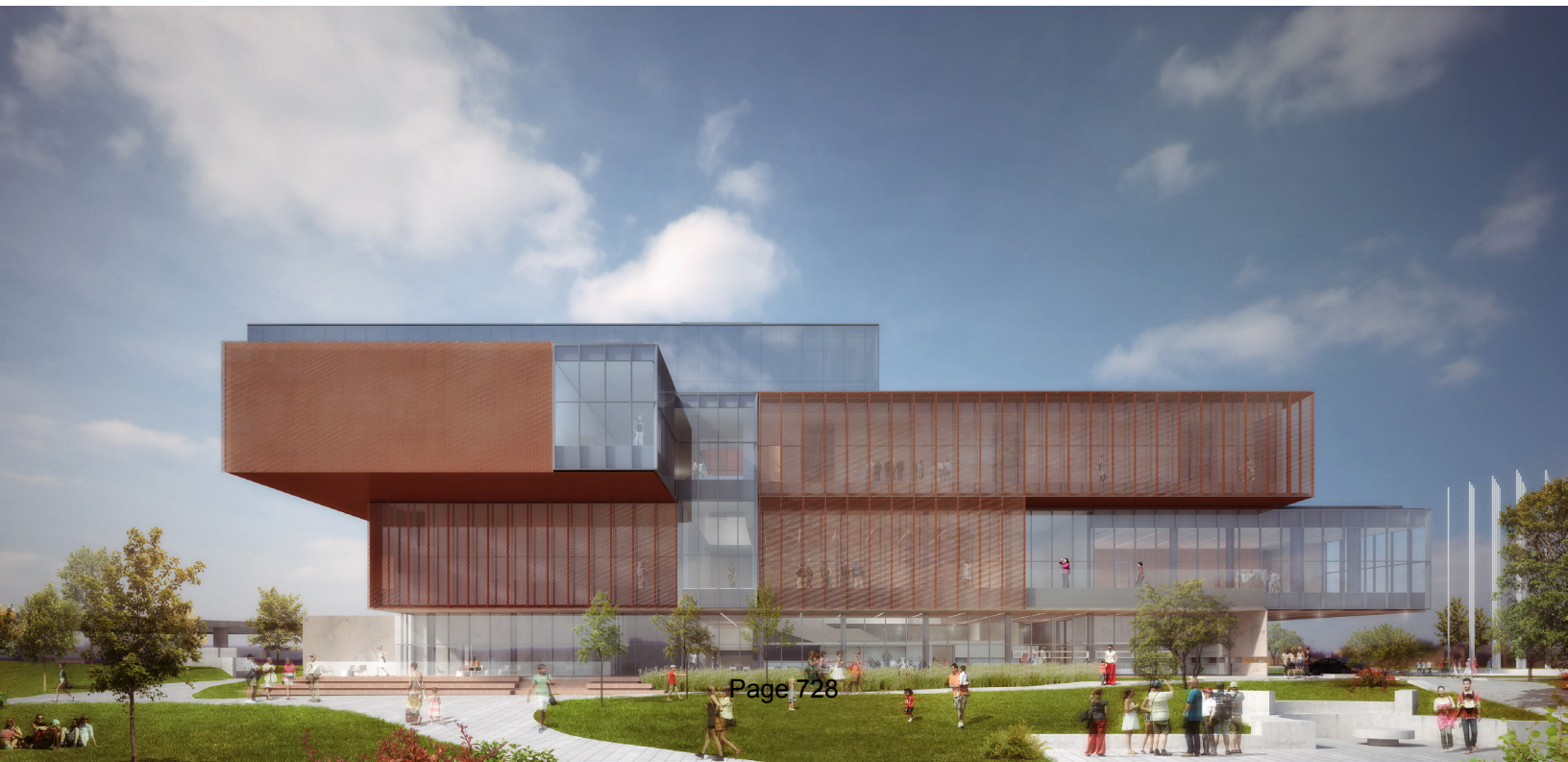
The Gallery will market itself “THE” place to visit in Saskatoon. The linkages to other City amenities are endless – River Landing, the University of Saskatchewan, the Forestry Farm Park and Zoo, and others. No visit to the City will be complete without a day or an afternoon at the Gallery. The Remai Modern will be marketed as more than an art gallery. The Remai Modern will be a gathering place for major life events; it will be the place to have dinner before an evening of live theatre, the symphony and concerts and a place to meet friends for coffee or lunch. It will be a prominent education venue for all ages. The retail store will support marketing efforts and will carry Remai Modern branded items as well as publications developed to support exhibitions.

Supporters and donors are expecting “big things” from the Gallery and this promise must be delivered. This is of critical importance to the Gallery. There is momentum around economic growth and “pride of place” in the City of Saskatoon at this time and this will be used to drive the new brand forward with key return on investment (ROI) metrics for stakeholders. This energy will be leveraged to position the Remai Modern as the face of the new Saskatoon.

REMAI MODERN

ART GALLERY OF SASKATCHEWAN
is becoming...

Business and Operations Plan
(2015 – 2019)



LETTER OF INTRODUCTION:



The following Remai Modern Business and Operations Plan 2015 – 2019 was developed in 2014, with the support of chartered accountancy and business advisory firm MNP LLP (“MNP”). The business and operational projections in this plan are subject to revision and will be updated annually.

The plan follows an intensive strategic brand development process that was launched in 2013 with the contract support of ReBoot Consulting Group. Following the delivery of the strategic brand development report, in March of 2014 we engaged MNP to complete a revision and update of our business plan to ensure valid and updated assumptions, which incorporate the Gallery’s brand and vision, are articulated in one document. MNP undertook substantial research and jurisdictional analysis to validate the assumptions and projections in the plan. As part of that and feeding into their report MNP provided a human resources report and plan developed through in-depth analysis and reference to primary and secondary research findings.

Following delivery of their final report in May 2014, Remai Modern management rigorously analyzed the findings and recommendations. A final set of financial projections that aligned with the City of Saskatoon long-term funding plan was approved by the Remai Modern board in September 2014. From September to December 2014 further work was undertaken by Remai Modern management to further refine operational and financial projections. These refinements do not deviate from the resource principles outlined in the MNP report.

On behalf of the Remai Modern board and staff, we look forward to bringing this business plan to a reality.

A handwritten signature in black ink, appearing to read 'G. Burke', with a long, sweeping horizontal line extending to the right.

*Gregory Burke
Executive Director and CEO
Remai Modern*

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1. EXECUTIVE SUMMARY

As part of the City of Saskatoon's plans to revitalize its south downtown, in 2009 civic leaders approved plans to build a new art gallery on the riverfront of the South Saskatchewan. Rемаi Modern Art Gallery of Saskatchewan ("Remai Modern" or "the Gallery") will open at River Landing in Saskatoon's south downtown in 2016.

An initial business plan for the project was completed in March 2012. Rемаi Modern has now developed a strong strategic brand and vision for the new Gallery, which was not reflected in the initial business plan and other studies. Rемаi Modern, through its brand, will be recognized across Canada as a bold direction-setting museum and one of the top art galleries in Canada. Principal patron Ellen Rемаi, who gave \$30 million toward construction and international program support and who further donated the world's most comprehensive collection of Picasso linocuts, set a foundation for the vision. Writing in *Artforum*, the world's leading art magazine, Maxwell Anderson, the Director of the Dallas Museum of Art, described the donation of the Picasso linocuts as "transformative", and as "a gift substantial enough to bring [Remai Modern] to the attention of the international art world".

The Rемаi Modern brand and vision will add significantly to the brand capital of both Saskatoon and Saskatchewan. The Gallery is anticipated to be a major driver of the Saskatoon tourism market and as such will be a catalyst for economic growth in the city. As the brand and vision impact all operational aspects of the Gallery, a new business plan that reflects the brand promise and articulates its impacts was required. In March of 2014, MNP was engaged by Rемаi Modern to complete a revision and update of its business plan to ensure valid and updated assumptions, which incorporate the Gallery's brand and vision, are articulated in one document. The business plan outlines a responsible and sustainable approach to managing the Gallery based on the concept that was initially conceived by Rемаi Modern's board and management and approved by the City of Saskatoon.

The Rемаi Modern business plan is solely focused on the operations of the new Gallery. It is based on the assumption that the accounts for Rемаi Modern and Mendel Art Gallery will be split from 2015 onward. As a result, a separate plan has been prepared for the Mendel Art Gallery as it winds down operations.

Supporters and donors are expecting “big things” from the Gallery and this promise must be delivered. This is of critical importance to the Gallery. There is momentum around economic growth and “pride of place” in the city of Saskatoon at this time and this will be used to drive the new brand forward with key return on investment metrics for stakeholders. With this momentum, there is interest in Saskatoon for new ventures, gathering places, and the River Landing project. This energy will be leveraged and Remai Modern will be the “face” of the new “2.0 Saskatoon”.

Remai Modern has undertaken an intensive strategic brand development process, which has led to the development of a revised vision statement for Remai Modern:

Remai Modern Art Gallery of Saskatchewan

Remai Modern is a thought leader and direction setting modern art gallery that boldly develops, collects, presents and interprets the art of our time.

Our mandate is to provide transformative experiences by connecting art with local and global communities.

This brand promise and vision will inform and guide many of the consumer-facing decisions for the Gallery. It should influence all decisions for the art and design store, restaurant, marketing and communications, programs and exhibitions, events and catering, and community outreach. If the initiatives do not ladder up to the vision, they should not be launched. The vision and brand promise provide a simple and disciplined framework for building this new legacy brand for the city, province and also the country.

The human resources plan and proposed staffing components required to operate Remai Modern were developed through in-depth analysis and discussions about primary and secondary research findings. The goal was to obtain best practice information, and to better understand how various galleries structure their organization. As well, the research and analysis was undertaken to provide additional insight into the staffing requirements of art galleries – positions required, levels of management etc. It is important to note that it is not the intention of Remai Modern to simply replicate the organizational structure or staffing levels of any individual gallery, rather it was a learning process to see how other established galleries have structured their successful operations.

The Remai Modern staffing and organizational structure recommendations have been developed through a conservative approach, both respecting the realities of publically funded organizations and ensuring that the recommended staff levels can deliver the Remai Modern vision. The resulting budget for staffing is a reflection of what is required at a base level to operate Remai Modern as outlined in the business plan and brand plan. Compared to three other galleries (two of which have asked for their information to remain confidential) the projected salaries as a percentage of operating budget (as of 2019, full-established operations) are conservative in comparison:

	Remai Modern	Art Gallery of Alberta¹	Confidential Gallery "A"²	Confidential Gallery "B"³
Staffing Costs as a Percentage of Operating Budget	36%	42%	45%	50%

The Remai Modern human resource plan has been developed with an overarching goal of ensuring a responsible, practical budget while ensuring the ability to successfully implement the bold vision of the gallery.

Remai Modern's purpose and core public commitment incorporates an integrated, three-pillar approach that links exhibitions, public and outreach programs, and the development of its permanent collection. Remai Modern will present and interpret modern and contemporary art from both an international and local perspective. Programming activities will provide visitors with access to major international exhibitions while establishing a balance between relevance to Saskatchewan and situating the art making of the region in a national and international context.

A strong marketing plan and effective execution of the plan are key success factors for the new Gallery. Remai Modern is slated to be the largest new tourism product to launch in Canada in 2016. Communication of the Gallery across Saskatoon, Saskatchewan, Canada, and broader tourism markets is a necessary exercise to ensure a wide audience hears of the opening of Remai Modern. The Gallery will market itself "THE" place to visit in Saskatoon. The linkages to other Saskatoon amenities are endless – River Landing, the University of Saskatchewan, the Forestry Farm Park and Zoo, and others. No visit to the city will be complete without a day or an afternoon at the Gallery.

Remai Modern will be marketed as more than an art gallery. Remai Modern will be a gathering place for major life events; it will be the place to have dinner before an evening of live theatre. The art and design store will support these various marketing efforts and will carry Remai Modern branded items as well as publications developed to support exhibitions.

¹ <http://issuu.com/your-aga/docs/aga-annualreport-2013>

² MNP Primary Research

³ MNP Primary Research

Remai Modern will be the key attraction in Saskatoon. Along with the River Landing development, the Gallery will be a destination for locals and tourists alike. A marketing strategy has been developed by Remai Modern management in partnership with ReBoot (who also led the brand development process), and is designed to support and drive attendance projections. The expected annual visitation for Remai Modern is 220,000. The breakdown of projected visitation by 2019 is as follows:

Remai Modern Destination or Reason for Visiting	Annual Visitation
General admission (adults, students and seniors)	30,000
Sponsored free admission (children under 12 & one evening per month for all ages)	40,000
Member visitation – free admission with membership	15,000
Ground floor and Yuel Gallery – no admission charge	30,000
Sculpture garden – no admission charge	30,000
Retail store	15,000
Private events and facility rentals	30,000
Restaurant visitors	30,000
TOTAL Annual Visitation	220,000

It is important to note that while annual Remai Modern visitation is projected to be 220,000 visitors, the percentage of visitors charged general admission is only 13.6%; the majority of visitation to the Gallery will be through free admission, admission via private events and facility rentals, or via membership admission.

It is important that Remai Modern generate revenues to support and sustain operations into the future. As such a decision has been made to implement a modest admission charge to the Gallery. In addition to generating revenue, an admission charge also drives a number of important initiatives for Remai Modern. For example, an admission charge will provide a quantifiable and tangible reason for Saskatoon individuals and families to purchase an annual membership to Remai Modern. An admission charge also provides Remai Modern with a valuable marketing tool, especially related to children’s attendance, and will be a key component to drive sponsorships. An admission charge also indicates a quantifiable value that can be linked to many tourism initiatives.

The admission structure for the Gallery is as follows:

Admission Category	General Admission	Special Exhibitions Admission
General/Adult (13 years and over)	\$12.00	\$16.00
Students and seniors	\$10.00	\$14.00
Children 12 and under	Free	Free

Membership levels are projected to grow as Remai Modern entrenches itself into the city of Saskatoon. It is anticipated that the implementation of an admission fee will provide additional incentive for Saskatoon residents to become members of Remai Modern. As such it is projected that by 2019 Remai Modern will have 2,200 members annually.

Remai Modern will self generate a significant amount of revenue annually to support the operations of the Gallery. This will occur through a variety of revenue streams with the key items including general admissions, event admissions, memberships, retail sales, event partnerships, facility rentals, and food services commissions. In addition significant annual revenue is projected from fundraising, sponsorship and government grants.

Annual projected revenue, from these various streams is as follows:

	2015	2016	2017	2018	2019
Self-Generated Revenue					
Admissions - Annual	\$0	\$150,000	\$330,000	\$330,000	\$330,000
Admissions - Special Exhibitions	\$0	\$40,000	\$80,000	\$80,000	\$80,000
Annual Donation Box	\$0	\$1,000	\$2,000	\$2,000	\$2,000
Program Revenue	\$18,500	\$39,000	\$54,000	\$54,000	\$54,000
Private Functions & Rentals	\$0	\$86,750	\$260,000	\$260,000	\$255,050
Food Services Commission	\$0	\$52,800	\$143,280	\$143,280	\$143,280
Remai Modern Gift Shop Sales	\$0	\$390,000	\$650,000	\$650,000	\$650,000
River Landing Rental Fee	\$0	\$73,333	\$220,000	\$220,000	\$220,000
	\$18,500	\$832,883	\$1,739,280	\$1,739,280	\$1,734,330
Development Revenue					
Annual Fundraising/Development	\$0	\$340,000	\$755,000	\$970,000	\$1,185,000
Annual Memberships	\$0	\$60,000	\$108,500	\$139,500	\$170,500
Federal Annual Funding	\$0	\$160,000	\$160,000	\$160,000	\$160,000
Provincial Annual Funding	\$0	\$418,500	\$418,500	\$418,500	\$418,500
Other Grants/Funding	\$0	\$170,394	\$42,180	\$69,056	\$89,057
	\$0	\$1,148,894	\$1,484,180	\$1,757,056	\$2,023,057
Restricted Funding					
	\$0	\$542,655	\$787,655	\$787,657	\$787,655
City of Saskatoon Operating Subsidy					
	\$2,196,051	\$4,631,937	\$5,490,700	\$6,082,600	\$6,476,900
Total Revenue	\$2,214,551	\$7,156,369	\$9,501,815	\$10,366,593	\$11,021,942

A snap shot of projected annual operating expenses outlines an annual operating budget of \$11.02 million annually by 2019.

	2015	2016	2017	2018	2019
Operating Expenses					
Salaries & Benefits	\$1,320,915	\$3,087,246	\$3,627,856	\$3,892,027	\$3,933,127
Facilities & Equipment	\$42,245	\$1,081,520	\$2,230,521	\$2,233,321	\$2,233,321
General Exhibitions	\$42,999	\$615,158	\$678,922	\$766,704	\$877,500
Administration	\$273,567	\$402,100	\$362,200	\$410,800	\$430,900
Marketing & Communications	\$350,000	\$656,700	\$615,400	\$660,700	\$680,700
Public Programs	\$65,900	\$181,100	\$278,400	\$288,400	\$318,400
Staffing Expenditures	\$41,300	\$65,000	\$65,000	\$66,000	\$71,000
Fundraising	\$62,500	\$105,600	\$117,600	\$132,100	\$146,100
Gift Shop	\$1,500	\$15,910	\$20,850	\$20,850	\$20,850
Gift Shop - Cost of Goods Sold and Freight	\$0	\$223,080	\$371,800	\$371,800	\$371,800
Collection Maintenance	\$0	\$41,250	\$39,250	\$39,250	\$48,657
Board & Committees	\$5,625	\$14,050	\$14,100	\$14,150	\$14,150
Library	\$8,000	\$8,000	\$8,000	\$8,000	\$8,000
Facility Rentals & Catering Loan Expense	\$0	\$0	\$172,261	\$172,261	\$172,261
Admissions Computer Expense	\$0	\$2,000	\$2,000	\$2,000	\$2,000
	\$2,214,551	\$6,498,714	\$8,604,160	\$9,078,362	\$9,328,766
Transfers					
Transfer to Capital Replacement Reserve	\$0	\$0	\$0	\$370,574	\$522,226
Transfer to Equipment Replacement Reserve	\$0	\$70,000	\$65,000	\$65,000	\$100,000
Transfer to Facility/Catering Capital Reserve	\$0	\$0	\$0	\$0	\$218,295
Transfer to Permanent Collection Fund	\$0	\$87,655	\$87,655	\$107,655	\$107,655
Transfer to Remai Exhibition Fund	\$0	\$500,000	\$500,000	\$500,000	\$500,000
Transfer to Museums Assistance Program	\$0	\$0	\$245,000	\$245,002	\$245,000
	\$0	\$657,655	\$897,655	\$1,288,231	\$1,693,176
Total Expenses and Transfers	\$2,214,551	\$7,156,369	\$9,501,815	\$10,366,593	\$11,021,942
	99.16%	64.72%	57.79%	58.68%	58.76%

The business plan outlines the human resource requirements, budget and supports that will be required to implement the Remai Modern vision. The implementation of this vision, as outlined is required to ensure a successful and sustainable art gallery for Saskatoon and Saskatchewan's future generations.

2. PROJECT INTRODUCTION

As part of the City of Saskatoon's plans to revitalize its south downtown, civic leaders approved plans to build a new art gallery on the riverfront of the South Saskatchewan. Rемаi Modern Art Gallery of Saskatchewan ("Remai Modern" or "the Gallery") will open at River Landing in Saskatoon's south downtown in 2016. An initial business plan for the project was completed in March 2012. Rемаi Modern has now developed a strong brand and vision for the new Gallery, which was not reflected in the initial business plan and other studies. In addition, earlier studies were completed before the extraordinarily important donation by Mrs. Rемаi of the Picasso linocuts. Writing in *Artforum*, the world's leading art magazine, Maxwell Anderson, the Director of the Dallas Museum of Art, described the donation of the Picasso linocuts as "transformative", and as "a gift substantial enough to bring the... [Remai Modern] to the attention of the international art world". This donation has helped to set the aspirations for the development of a new brand and a new vision.

Remai Modern, through its brand, will be recognized across Canada as one of the top art galleries in the country. The Rемаi Modern brand and vision will add significantly to the brand capital of both Saskatoon and Saskatchewan. The Gallery is anticipated to be a major driver of the Saskatoon tourism market and as such will be a catalyst for economic growth in the city. As the brand and vision impact all operational aspects of the Gallery, a new business plan that reflects the brand promise and articulates its impacts was required. In March of 2014 MNP LLP ("MNP") was engaged by Rемаi Modern to complete a revision and update of its business plan to ensure valid and updated assumptions, which incorporate the Gallery's brand and vision are articulated in one document. Following this process, Rемаi Modern management worked rigorously with the City of Saskatoon to refine financial projections and the human resource plan. This document is the result of that research, analysis and collaboration.

2.1 PROJECT HISTORY AND BACKGROUND

The Saskatoon Art Gallery and Civic Conservatory, more commonly referred to as the Mendel Art Gallery (the legal name of the Mendel Art Gallery is the Saskatoon Art Gallery and Civic Conservatory) officially opened on October 16, 1964. It was built on the initiative of the Saskatoon Arts Centre and Fred Mendel who initially contributed \$175,000 towards the construction of the Gallery. The following year, Mr. Mendel and his family donated

13 paintings including works by the Group of Seven, which today form a significant part of the Mendel Art Gallery's permanent collection. In 1967, the City of Saskatoon assumed ownership and responsibility for the Gallery, providing it with operational funding.

During the 1960s and 1970s, the Mendel Art Gallery established itself as a gathering place for Saskatoon's art community: visual artists and artisans exhibited their work; the Camera Club met at the Gallery regularly; classical, jazz, and pop musicians performed; readings were held; films were shown; and since 1964, more than 450,000 school students from Saskatoon and Saskatchewan have participated in Gallery programs. Over the past half-century the Gallery has earned an exceptional reputation, locally and nationally, for its high level of engagement with its community, excellence in exhibitions, significant permanent collection, and notable level of public programming. With over 160,000 visitors in 2011, the Mendel has enjoyed some of the highest per capita attendance rates in Canada.

In 2006, market research conducted by Saskatoon-based Fast Consulting showed a majority of key stakeholders viewed the Gallery as a prime tourist attraction, but felt it was not positioned or promoted as such. The majority of residents felt the Gallery should expand if it wanted to attract more people. Internally, staff and the board of trustees recognized the current facility was not large enough to accommodate significant national and international exhibitions, impeding the Gallery's presentation mandate and its ability to enhance public understanding and appreciation of art. The Gallery's permanent collection had grown to a size where offsite storage was required, space for public programs was limited, preparation areas for exhibitions were inadequate, and administrative space was extremely tight.

Initially, renovations to the existing facility were investigated and a \$21.5M expansion was proposed. While the City and Province made financial commitments to the project, further support was tepid with the quiet phase of a capital campaign raising less than \$1M of a \$6M target. No funding was forthcoming from the Federal Government.

In early 2009, the Gallery's Board Chair and CEO/Executive Director initiated discussions with City leaders about exploring a River Landing location for the Gallery. On April 3, 2009, the Art Gallery of Saskatchewan gained momentum when Saskatoon's City Council announced that, with commitments from the Federal and Provincial Governments, it intended to build a purpose-built gallery that would also serve as a destination centre in the city's south downtown, at River Landing. Some controversy around the relocation of the Gallery and the loss of the Mendel name followed the announcement. Since this initial reaction concerns have been addressed and the controversy has subsided.

On April 26, 2010, the functional program plan for the Gallery was approved by City Council. The schematic design concept for (Remai Modern) Art Gallery of Saskatchewan, designed by KPMB Architects of Toronto in association with Smith Carter Architects and Engineers of Winnipeg, was approved May 30, 2011, by City Council. Under the Building Canada Infrastructure Program, the three levels of government have committed a total of \$51 million for construction of the new Gallery. The remainder of capital costs are being raised through a private sector fundraising campaign.

On June 3, 2011, Saskatoon philanthropist Ellen Rемаi announced a donation of \$30 million to the Art Gallery of Saskatchewan on behalf of the Frank and Ellen Rемаi Foundation. The gift provides for \$15 million toward the construction costs of Rемаi Modern, and \$500,000 annually for 30 years for enhanced exhibition programming.

The arrival of Rемаi Modern alongside Persephone Theatre at River Landing will make the site a centre of arts and culture that defines the City's identity for the future.

3. BUSINESS PLAN OVERVIEW AND KEY ASSUMPTIONS

The 2012 business plan for Remail Modern was based on research studies conducted specifically to validate assumptions and provide recommendations for the plan. Since that time a number of changes have occurred including design, scale, and staffing. As such, this revised business plan has re-evaluated these studies and has validated or updated the assumptions as appropriate. The original studies were developed with support from the City of Saskatoon and included the following reports: (Copies of the reports are available by request)

- Fast Consulting – Market Assessment
- fsSTRATEGY – Food and Beverage Opportunity Assessment and Management Strategy
- DCG Philanthropic Services Inc. – Annual Fundraising Strategy
- Professional Computer Services – IT Study

Since the 2012 report additional studies have been conducted to support the development of Remail Modern. These studies have included:

- fsSTRATEGY – Retail Food & Beverage Options Analysis
- TCI Management Consultants – Remail Art Gallery of Saskatchewan Admission Fee Study
- Concentric Risk and Security Management Inc. – Security Requirement Study
- ReBoot – Remail Modern Art Gallery Brand Development
- Human Resources Study – MNP LLP

This updated business plan has been developed based on best-practice research and has been based on findings from specialized business planning experts, plus insights from an experienced management team. Further details related to the determination and validation of these key assumptions are included within the report. This section provides the reader with a basis of understanding related to the planned operations of Remail Modern.

3.1 MENDEL ART GALLERY

The Remai Modern Business Plan is solely focused on the operations of the new Gallery. The financial accounts for Remai Modern and Mendel Art Gallery will be split from 2015 onward. As a result, a separate plan has been prepared for the Mendel Art Gallery as it winds down operations.

Allocations of staff time have been estimated and allocated between the two galleries and costs related to the Mendel Art Gallery are listed in the separate plan, as are costs for the remaining operations, programs, and services of the Mendel Art Gallery. This business plan also includes details of one-off, non-operational project costs to cover transition to the new Gallery.

3.2 OPERATING HOURS

The operating hours for Remai Modern are anticipated to be:

- 10 a.m. – 6 p.m. on Sunday, Tuesday, and Thursday
- 11 a.m. – 8 p.m. on Wednesday, Friday, and Saturday

The Gallery will be closed on Mondays and December 25. The Remai Modern store will be open the same hours as the Gallery. The operating hours will be reviewed in future years and may be adjusted as required based on demand.

3.3 SELF-GENERATED REVENUE

Remai Modern will self generate a significant amount of revenue annually to support the operations of the Gallery. This will occur through a variety of revenue streams with the key items including admissions, memberships, retail sales, facility rentals, and food services commissions. Remai Modern will begin operations in 2015, generating Remai Modern specific operating expenses; however, the Gallery doors will not be open until 2016. Self-generated revenues have been projected accordingly as follows.

	2015	2016	2017	2018	2019
Admissions - Annual	\$0	\$150,000	\$330,000	\$330,000	\$330,000
Admissions - Special Exhibitions	\$0	\$40,000	\$80,000	\$80,000	\$80,000
Annual Donation Box	\$0	\$1,000	\$2,000	\$2,000	\$2,000
Program Revenue	\$18,500	\$39,000	\$54,000	\$54,000	\$54,000
Private Functions & Rentals	\$0	\$86,750	\$260,000	\$260,000	\$255,050
Food Services Commission*	\$0	\$52,800	\$143,280	\$143,280	\$143,280
Remai Modern Gift Shop Sales	\$0	\$390,000	\$650,000	\$650,000	\$650,000
River Landing Rental Fee	\$0	\$73,333	\$220,000	\$220,000	\$220,000
	\$18,500	\$832,883	\$1,739,280	\$1,739,280	\$1,734,330

Note: Food services commission includes revenue generated by the restaurant commission and catering commissions.

3.4 ATTENDANCE

Remai Modern will be the key attraction in Saskatoon. Along with the River Landing development, the Gallery will be a destination for locals and tourists alike. The marketing strategy was developed in partnership ReBoot, and is designed to support and drive the attendance projections. The expected annual visitation for Remai Modern is 220,000. The breakdown of visitation by 2019 is as follows:

Remai Modern Destination or Reason for Visiting	Annual Visitation
General admission (adults, students and seniors)	30,000
Sponsored free admission (children under 12 & one evening per month for all ages)	40,000
Member visitation – free admission with membership	15,000
Ground floor and Yuel Gallery – no admission charge	30,000
Sculpture garden – no admission charge	30,000
Retail store	15,000
Private events and facility rentals	30,000
Restaurant visitors	30,000
TOTAL Annual Visitation	220,000

Assuming Remai Modern is open approximately 300 days per year (less Mondays, holidays, and other closings), the Gallery will host an average of 730 visitors per day for the various uses of the facility. Among these 730 daily visitors will be 100 general admission visitors. The assumed daily visitation does not account for seasonality and will increase and decrease depending on a number of influences. However, the amount provides some clarity on the potential demand for the full Remai Modern facility.

It is important to note that while annual Remai Modern visitation is projected to be 220,000 visitors, the percentage of visitors charged general admission is only 13.6%; the majority of visitation to the Gallery will be through free admission, or via membership admission.

3.5 ADMISSION CHARGE

It is important that Remai Modern generate revenues to support and sustain operations into the future. As such a decision has been made to implement a modest admission charge to the Gallery. In addition to generating revenue, an admission charge also drives a number of important initiatives for Remai Modern. For example, an admission charge will provide a quantifiable and tangible reason for Saskatoon individuals and families to purchase an annual membership to Remai Modern. An admission charge also provides Remai Modern with a valuable marketing tool, especially related to children’s attendance, and will be a key component to drive sponsorships. An admission charge also indicates a quantifiable value that can be linked to many tourism initiatives. For example, the current Tourism Saskatoon “Saskatoon Experience Pass” is available at 20 Saskatoon hotels. The pass allows guests staying at one of the hotels to choose from a number of “experiences”, which include attending an event (e.g. Eight food and beverage tokens to Taste of Saskatchewan) or an attraction (e.g. One family pass to Wanuskewin Heritage Park and a \$15 gift card to the Park’s restaurant). All of the events and attractions included in the promotion have admission fees which allow for the stated value. This partnership and cross promotion will be important for Remai Modern in tourist attraction efforts. Without an admission charge the Gallery would not be included.

The admission structure for the Gallery is as follows:

Admission Category	General Admission	Special Exhibitions Admission
General/Adult (13 years and over)	\$12.00	\$16.00
Students and seniors	\$10.00	\$14.00
Children 12 and under	Free	Free

The business plan has not proposed a family admission category as it is anticipated that children under 12 will be a free sponsored admission.

3.6 MEMBERSHIPS

Membership levels are projected to grow as Remai Modern entrenches itself into the city of Saskatoon. The pricing for annual memberships is assumed to be as follows:

Membership Category	Annual Membership Fee
Individual	\$65
Dual / Family	\$90

The total number of members is projected to grow each year:

	2015	2016	2017	2018	2019
Membership	0	1,000	1,400	1,800	2,200

4. GOVERNANCE

Remai Modern was incorporated as a living trust in 2012 before the development of the strategic brand and vision. This resulted from the need to be able to issue tax receipts for the first phase of the fundraising campaign.

Remai Modern is a new organization and as such a governance review is required. The Remai Modern governance structure needs to follow best practices for like galleries and ensure that it is well placed to support the revenue generating and operational needs of Remai Modern. In association with the governance structure it is anticipated that the Mendel Foundation will be wound up and that a new foundation that supports the fundraising goals of Remai Modern be established. Accountabilities of this new foundation to Remai Modern will need to be established. Accordingly, the Remai Modern board has resolved that a governance review will take place in 2015 and will include:

1. Review of the current governance model;
2. Jurisdictional research on best practice governance models for similar galleries;
3. Liaison with the CEO and board as to governance issues relevant to the governance model;
4. Liaison with the City of Saskatoon as to governance issues relevant to the governance model;
5. Recommendation of a governance model to the Remai Modern board;
6. Recommendation of a foundation governance model to the Remai Modern board;
7. Recommendation of a governance model to the City of Saskatoon; and
8. Recommendation to ensure the Remai Modern governance model meets best practice and has the tools and resources to ensure the Remai Modern vision is implemented and supported.

5. BRAND PLAN

5.1 WHY THE ARTS ARE VITAL TO A COMMUNITY

The following is a summary of the key findings and recommendations that were developed by Canadian Brand Strategist Kerry Harris for Remai Modern. A full copy of the brand plan is available by request.

Arts and cultural activities are at the heart of communities – they make communities more attractive places to live, they help bring a community to life, they define a community's unique characteristics, they attract tourists and they help communities compete economically around the world.

- The Canada Council for the Arts

Public-private partnerships are well developed in the arts and culture sector. Public sector support of the arts leverages private sector support in many instances. The direct benefits are generated through ticket sales, concessions, employment, etc. The indirect benefits have the potential to generate even higher returns through the economic impact they generate through tourism, for example.

Initial public support can decrease over time as the organizations mature. There can be a shift from public funding to private support as the facility entrenches itself in the community and as the organization matures and is able to generate its own source revenue.

Arts and cultural activities can draw crowds from within and around the community. Increasing the number of visitors, as well as enhancing resident participation helps build economic and social capital. Community planners can make deliberate connections between the arts and culture sector and other sectors, such as tourism and manufacturing, to improve economic outcomes by capitalizing on local assets. Arts & Economic Prosperity IV demonstrated that America's arts industry is not only resilient in times of economic uncertainty, but is also a key component to economic recovery and future prosperity. Across the United States, the industry generated \$135.2 billion of economic activity—\$61.1 billion by non-profit arts and culture organizations in addition to \$74.1 billion in event-related expenditures by their audiences. The arts support 4.1 million full-time jobs in the United States.⁴

⁴ Remai Modern Brand Plan, ReBoot 2014

The typical arts attendee spends \$24.60 per person⁵, per event, beyond the cost of admission. A community that draws cultural tourists experiences an additional boost of economic activity. Arts tourists stay longer and spend more than the average traveler.

The message is clear: a vibrant arts community not only keeps residents and their discretionary spending close to home, but it also attracts visitors who spend money and help local businesses thrive.

5.2 THE BRAND DEVELOPMENT PROCESS

Formal brand planning for the new Remai Modern was introduced in August of 2013 with a presentation to the board of a two-phase, comprehensive proposal and work plan created by Canadian brand strategist Kerry Harris. Phase one consisted of the discovery phase (extensive consultation with government at all levels, the community at large, key influencers, artists, and other stakeholders in the city and also at the provincial level).

This was followed by phase two, which included the creation of the marketing plans for pre-launch, launch, and post launch of the new Gallery.

The board accepted the brand strategy proposal and work commenced in September with a comprehensive series of workshops and meetings held in Saskatoon, Regina, and Toronto. The critical questions discussed at these workshops and meetings were: “What is the new Gallery’s brand promise?” and “What does the Gallery have to ‘be’ in order to ensure its success now and into the future?” In order to determine the answers to these questions, a 360 degree look at the brand possibilities was conducted.

Phase one took the process through to the end of November; the findings were consistent and also supported by independent research in the areas of: category/competition/ company/customer (potential sponsors and partners) and consumer (visitors and users of the Gallery). Phase one findings were presented to the board in early January 2014.

⁵ Remai Modern Brand Plan, ReBoot 2014

One overwhelming theme was noted throughout the process and is best articulated by Peter Stoicheff, Remai Modern board member and the Dean, Arts & Science at the University of Saskatchewan:

“The city is on the edge of a monumental shift in thinking and perception and Remai Modern will be the physical manifestation of that movement forward”

- Peter Stoicheff

Additional factors supported the direction of the brand planning. These factors also figured largely into the creation of the new brand building blocks and should be considered the fundamental “framework” for the Gallery in regards to all marketing and communication activities going forward.

As a result of the discovery work conducted in Phase one, a vision for the new Gallery was struck, and the brand building blocks were created. One other key decision was also made by the board and has been endorsed by the City and Mrs. Remai: to create a new brand name for the Gallery – Remai Modern.

5.3 REMAI MODERN BRAND PROMISE

The Remai Modern brand promise is to provide an “OMG” moment in a stunning setting, on the river, in a city that is redefining what it means to be “on the Prairies”.

This brand promise will inform and guide many of the consumer-facing decisions for the Gallery. It should influence all decisions for the gift shop, restaurant, marketing and communications, programs and exhibits, events and catering, and community outreach. If the initiatives do not ladder up to the vision, they should not be launched. The vision and brand promise provide a simple and disciplined framework for building this new legacy brand for the city, province and also the country.

5.4 THE REMAI MODERN BRAND

Supporters and donors are expecting “big things” from the Gallery and the brand promise must be delivered. This is of critical importance to the Gallery. There is momentum around economic growth and “pride of place” in the city of Saskatoon at this time and this will be used to drive the new brand forward with key return on investment metrics for stakeholders.

With this momentum, there is interest in Saskatoon for new ventures, gathering places, and the River Landing project. This energy will be leveraged and Remai Modern will be the “face” of the new “2.0 Saskatoon”.

Remai Modern will be the largest tourism product launch in Canada in 2015-2016 and this opportunity must be marketed throughout Saskatchewan, Canada, and internationally.

There are many early adopters in Saskatoon and they can be leveraged into effective and efficient brand ambassadors. The key is to ensure that the messaging architecture is consistent, innovative, and authentic.

5.5 BRAND BUILDING BLOCKS

5.5.1 UNIQUE SELLING PROPOSITION

It is important to communicate the Unique Selling Proposition (USP) that Remai Modern embodies. In other words, communications should outline and confirm what Remai Modern does better than anyone else:

- Remai Modern collects, curates, interprets, engages with, and exhibits dynamic modern and contemporary world art from a Saskatchewan point of view
- That point of view encompasses our prairie roots and “small town” way of life within an expanding international mindset – providing an experience that is subjective, disruptive, and highly personal in a disconnected world
- Trades on the new macro trend of “glocalisation” – global vision layered over informed, authentic local category interpretation

5.5.2 CONSUMER VALUE PROPOSITION

The Consumer Value Proposition (CVP) must communicate what the consumer/visitor receives from Remai Modern, both functionally and emotionally.

- Functionally: leading edge exhibitions and programs in a well-managed, beautiful, modern, well constructed, yet “of the river” setting
- Emotionally: an “OMG” moment – that experience that leaves you wanting more, yet a bit overwhelmed by the subject matter, content, and setting – a “must tell/must share” experience

5.6 REMAI MODERN VISION STATEMENT

The brand development process led to the development of a revised vision statement for Rемаi Modern:

Remai Modern Art Gallery of Saskatchewan

Remai Modern is a thought leader and direction setting modern art gallery that boldly develops, collects, presents and interprets the art of our time.

Our mandate is to provide transformative experiences by connecting art with local and global communities.

5.7 ORGANIZATIONAL PRIORITIES

Remai Modern's organizational priorities are, in essence, its strategic focus and the underpinning of its strategic plan. These priorities help shape the various programs, tactics and the Gallery's overall service plan.

Remai Modern's organizational priorities include:

- **Advocating Art** – Art plays a powerful role in society and everything we do is to elevate the importance of art and create understanding both locally and globally
- **Exceptional Customer Service** – Our artists, visitors, members, donors, partners and stakeholders are the focus of our efforts
- **Responsible Financial Management** – We demonstrate a solid return on investment from our funding partners and focus on sustainable, strong self-generated revenues
- **Engaged, High-performing Employees** – We provide rewarding opportunities, an exciting workplace and a respectful environment for a talented and committed team

5.8 BRAND VALUES

Brand values help build and direct an organization's brand strategy and provide a focus for its look, feel, actions and behaviours.

Remai Modern's brand values include:

- **Live:** Remai Modern has a lively pulse and pace. We offer access to the most dynamic, stimulating and important art and art experiences. You can have a unique experience each time because it's not the same place twice.
- **Current:** Remai Modern is "of the now" and future-oriented. We seek to answer tomorrow's questions. Everything has flow. Your visit should be fully charged.
- **Multi-Dimensional:** Remai Modern is expansive and is engaging in every sense. We push beyond. Your visit should broaden your perspective and change your outlook on life - even if just by a little.
- **Intimate / Interactive:** Remai Modern offers large experiences in a small city. We get to know our visitors and deliver customized and unexpected service. Each experience is carefully crafted and should have an impact on you.

5.9 PERFORMANCE MEASURES

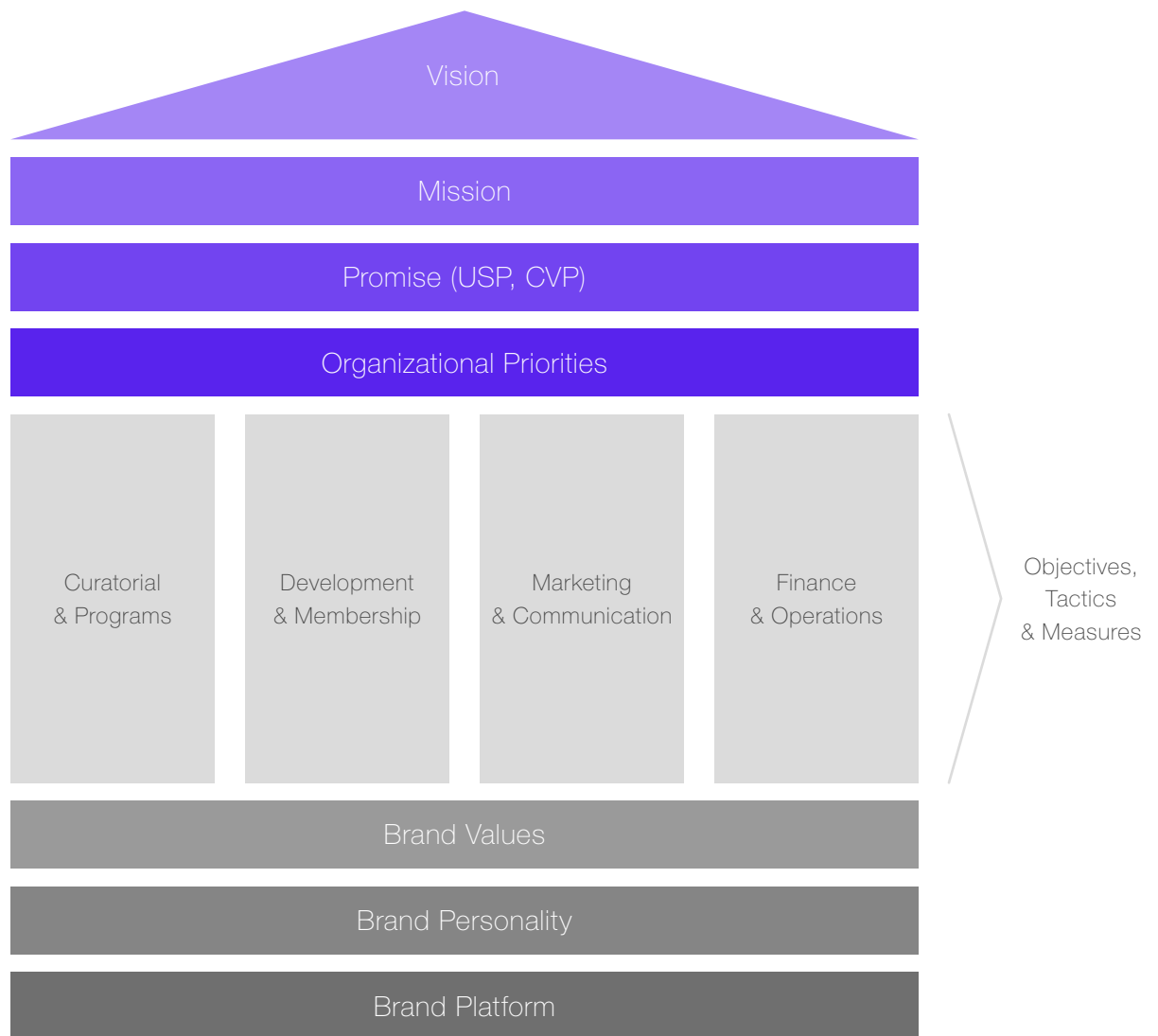
To determine the success of the brand development, the following key performance measures were identified. These measures will be tracked and reported on as the Gallery opens and operates into the future. The statements identify how the Gallery will determine its success in its efforts to implement a brand awareness campaign:

- Remai Modern will be recognized by our peers and critics as thought leaders in terms of the future of galleries internationally.
- Remai Modern will be recognized for the vision, innovation, and excellence of our programs.
- Remai Modern will be recognized as one of the world's leading "off center" galleries by our peers.
- Remai Modern will be recognized for our ability to connect local and global influencers.
- Remai Modern will be recognized by local, national, and international media as presenting a bold new vision for the visual arts in Canada.
- Remai Modern will be compared favorably by international media with the most forward-thinking galleries in the world.
- Remai Modern will have received an 85% overall satisfaction rating from our visitors and stakeholders.
- In the first two years, 60% of the population of Saskatoon will have visited Remai Modern.

- Rемаi Modern will be recognized across Saskatchewan for our significant cultural, economic, and community impact.
- Rемаi Modern will be noted in the local community as a bold, exciting, challenging, engaging institution that is future focused.

5.10 STRATEGIC TEMPLE

Our vision, mission, promise and priorities set the overall direction for each business unit's objectives, tactics and measures. Our brand values, personality and platform (currently in development), help to define our character, look, feel and differentiation strategy.



6. REMAI MODERN PROGRAMS

6.1 CORE PROGRAMS

Remai Modern's purpose and core public commitment incorporates an integrated, three-pillar approach that links exhibitions, public and outreach programs, and the development of the permanent collection. Remai Modern will present and interpret modern and contemporary art from both an international and local perspective. Programming activities will provide visitors with access to major international exhibitions, while establishing a balance between relevance to Saskatchewan and situating the art making of the region in a national and international context.

Remai Modern intends to provide programming in an immersive environment, where people of diverse backgrounds can connect with visual art through a multitude of activities and resources that are sensitive to a broad range of engagement approaches and learning styles. Facilitated learning programs will be offered to a wide range of school children, while hands on learning programs will be offered to small groups of adults and children. Free-guided tours will be held every Sunday, while private guided tours can be arranged any time for any group size. The Gallery will also offer a regular schedule of public lectures, artists' talks, symposia, and a variety of family and kid-friendly hands-on educational programs. Research conducted to inform the 2012 business plan found that almost one quarter (24%) of Saskatoon residents, who were surveyed, say they will participate in programs offered at the Gallery, and three out of ten (30%) residents say they would be willing to pay for an art class or workshop at the Gallery.

Free admission will be offered on the ground floor, to both the atrium and ground floor gallery. This gallery program titled "Connect" will center around a flexible and dynamic space that will provide a platform for a wide range of activities, including exhibitions, performances, talks, and artist residencies. The atrium will also be programmed and feature commissioned artworks, performances, and concerts. Potential partners include the Saskatoon Symphony Orchestra, Saskatoon Opera, and others. This "Live" programming will intersect with programs in the ground floor gallery, as well as other spaces in the building including the theatre. Partnerships will also be formed with arts and educational institutions to ensure that the theatre is programmed on a frequent basis.

The second floor collection gallery will present and interpret highlights from the collection from a variety of perspectives. It is envisaged that the gallery will be switched out in sections with the full gallery completing a change cycle over the course of one year. The third floor will feature the Picasso gallery focused on the presentation of the Picasso linocuts and ceramics collections and their interpretation. Adjacent to the Picasso gallery, the Feature Gallery will host feature exhibitions that will include large multidisciplinary installations, solo artist exhibitions and group thematic exhibitions, some of which will relate to international modernism and its history

The third floor will also feature a large temporary exhibitions gallery, known as the Marquee Gallery. This gallery will present three to four curated group exhibitions focusing on topical themes in the visual arts. Many of these will be touring exhibitions assembled by other national and international museums. Many of the exhibitions organized in house will also be made available for tour.

At least one major international special exhibition will be presented each year. With the unprecedented and generous support of the Frank and Ellen Remai Foundation, Remai Modern will receive a \$500,000 contribution annually for 30 years to enhance the Gallery's programs of national and international significance. This enhanced programming and consequent special exhibitions would not be possible without this support. The exhibitions are intended to be of a calibre the Mendel Art Gallery has not been able to attract due to physical limitations and/or lack of financial capacity.

The summer has been determined as the best time to present these special exhibitions, so as to attract the greatest number of tourists. In addition, research conducted to inform the business plan found that 73% of Saskatoon residents surveyed would visit Remai Modern if there were more exhibitions of the Gallery's collection and 71% would visit if there were more touring exhibitions.

In addition to these galleries, there will be significant amounts of internal transitional space available for programming and smaller exhibits. There will also be an external sculpture garden with a changing display.

Remai Modern will also initiate programs to engage with multiple groups and communities beyond its walls. Programs will be web-based, as well as offsite. Examples include the "Art Caravan", schools and university based programs, offsite seniors programs, and programs within Aboriginal communities. The Gallery will develop strategic partnerships with other organizations in the community, regionally and internationally, to create a meaningful dialogue amongst citizens of all backgrounds.

6.2 SPECIAL EVENTS (FOR FEE)

Remai Modern will present a lively range of additional charged events annually. These will include:

- Art workshops
- Fundraising galas and dinners
- Lectures
- Performances
- Concerts
- Packaged events for businesses and community groups
- Occasional themed dinners and “club nights”

6.3 OTHER EVENTS

A range of other events will be offered that will not be directly charged for, but will be focused on offering hospitality as a benefit for corporate and donor support. Such events will include member’s openings, VIP openings for donors and sponsors, and donor recognition events.

7. MARKETING PLAN

A strong marketing plan and effective execution of the plan will be key success factors for the new Gallery. Remai Modern is slated to be the largest new tourism product in Canada in 2016. Communication of the Gallery across Saskatoon, Saskatchewan, Canada, and broader tourism markets will be a necessary exercise to ensure a wide audience hears of the opening of Remai Modern. The Gallery will market itself “THE” place to visit in Saskatoon. The linkages to other city amenities are endless – River Landing, the University of Saskatchewan, the Forestry Farm Park and Zoo, and others. No visit to the city will be complete without a day or an afternoon at the Gallery.

Remai Modern will be marketed as more than an art gallery. Remai Modern will be a gathering place for major life events; it will be the place to have dinner before an evening of live theatre. The retail store will support these various marketing efforts and will carry Remai Modern branded items as well as publications developed to support exhibitions.

To properly market Remai Modern, a Director of Marketing position has been established to ensure the plan is developed and ready to implement ahead of opening. Relationship building, communication, and raising the profile of Remai Modern will be key tasks of this position.

7.1 BRAND STRATEGY LINKAGES

The following insights were generated during the brand strategy process and have a direct bearing on the development of the strategic implementation plan (marketing plan) for Remai Modern.

These insights factor into the tactical overview for the pre-launch/launch and post launch phases of the Gallery and have provided the critical thinking/rationale for key tactics, as well as the narrative for the brand building blocks and subsequent messaging architecture.

Key insights:

- Globally, art galleries have moved from being places for the “elite” to inclusive gathering places for individuals and families.
- If the early adopters in the community embrace the Gallery, studies show that the rest of the community will follow.
- There is a disconnect from a perception point of view, in that consumers generally do not know what they do not know; trial is the best method of ensuring consumer/ community engagement on a long-term basis.
- “Pride of place” will override most issues that non-users have with the Gallery – i.e. they will take visitors to the most popular venue even if they do not embrace it themselves.
- The category is vibrant and fluid and the lines between contemporary art, modern art, old and new are constantly shifting and changing.
- The impact of a vibrant arts and culture scene to a city is immense – from economic growth, to “pride of place”, to city “brand” building, the contribution cannot be ignored.
- The descriptors given of the new Remai Modern by multiple stakeholder groups are consistent and all describe a dynamic, disruptive, innovative, beautiful, controversial, and thought-provoking contemporary art gallery.
- The competitive set is limited in the city and province and there is ample room for the Gallery to establish itself as the leading brand in the arts and culture scene.
- The competitive set for Remai Modern nationally and internationally is well populated and well established with very high standards. There are many options for the gallery enthusiast to visit and many of them are sophisticated marketers who understand the demand drivers of this target audience.
- The competition demonstrates a high level of sophistication when it comes to brand building and marketing programs. Best practices are very evident in much of the marketing material reviewed.
- There are multiple stakeholder groups that must be cultivated in order for the brand to grow and flourish. They range from brand ambassadors in the government (all levels) to existing and potential donors.
- Tourism Saskatchewan is undergoing a major brand makeover during the next 12 months providing an opportunity for a once in a lifetime partnership, with the timing perfectly coinciding with the launch of Remai Modern.
- For the most part, the community as a whole, including many key influencers, are very excited about the new brand.

7.2 THE SASKATOON TOURISM MARKET

Data provided by Tourism Saskatoon indicates that the average visitor to Saskatoon stays for approximately 2.8 days, visits two to three sites in the city and dines at a restaurant at least once. Saskatoon visitors are usually here to visit friends or family, or are in town for a conference or business-related purpose. Saskatoon hosts approximately 1.9 million visitors per year, of which 60% are from within the Province, 15% are from Alberta and Manitoba and another 8% are from the United States and other international locations.

Given the data from Tourism Saskatoon, if half of the total projected visitors to Rемаi Modern (110,000 visitors) were from places outside of Saskatoon, the Gallery would only be capturing less than 6% of the annual tourism market that visits Saskatoon. There is significant potential in attracting additional visits from this tourist market. To enable this, the marketing for Rемаi Modern must be high caliber, bold, different, and attract the attention of visitors who are only here for a short time.

Rемаi Modern will be an attraction that will enable tourism marketers – Tourism Saskatoon and Tourism Saskatchewan – to encourage visitors to add another day to their planned visit. The Gallery will partner with Tourism Saskatoon on initiatives such as the “Saskatoon Experience Pass”; this will directly link Rемаi Modern with potential visitors to the city. A key component of the “Saskatoon Experience Pass” is the value that visitors receive for the pass; facilities that offer free admission are not included in this pass. As a result, free admission facilities are also not included in the specific marketing efforts that are part of this initiative (ex. hotel websites). The “Saskatoon Experience Pass” was a new program as of 2013. In this first year 450 summer passes and 735 winter passes were obtained by visitors to the city. In addition to the “Saskatoon Experience Pass”, Rемаi Modern will have many other cross-marketing opportunities available to it as a result of its admission charge.

7.3 MARKETING ASSUMPTIONS

As part of the brand development process, a number of marketing assumptions were developed for Rемаi Modern. A Director of Marketing for Rемаi Modern has been hired and it will be the responsibility of this person to implement the plan as developed.

Key assumptions include:

- The visual identity for Rемаi Modern is fully developed by mid 2015.
- There is agreement across all departments to utilize the graphics standards in all

stakeholder touch points, no exceptions.

- The marketing toolbox is fully created and functional by mid 2015 and includes, at minimum, a robust website, brand film, persuasive presentation, and corporate brochure.
- There are committed resources and staff to administer all marketing programs during the pre-launch phase and beyond.
- There is agreement that all marketing activities flow through the Director of Marketing who also owns the balance sheet in this area.
- Marketing will function as an “in-house agency” or shared service for the rest of the organization and report to the CEO.
- Marketing also controls the café, gift shop, membership services, and sales and catering marketing needs.
- Marketing will align with and support the stated benchmarks noted in the interim timeline with regards to the closure of the Mendel and the launch of Remai Modern brand.
- Marketing will not support the Mendel brand but rather focus on the pre-launch and launch of the new Remai Modern brand.

7.4 MARKETING BUDGET

The annual marketing activities budget was developed in conjunction with Kerry Harris and other marketing professionals. The budget, included in the financial projections which can be reviewed in Appendix A following this report, is in alignment with marketing budgets of other facilities of this stature across the country. A review of the marketing budgets of other facilities indicated the following:

Organization	Marketing \$ as % of total expenses
Remai Modern	6.2% (As of 2019)
Art Gallery of Ontario	7%
Royal Ontario Museum	7%
Art Gallery of Nova Scotia	6%
Vancouver Art Gallery	19%
Winnipeg Art Gallery	8%
Toronto Zoo	7%

The budget presents what is required to implement the brand plan and vision for Remai Modern.

8. OPERATIONS PLAN

8.1 OPERATING HOURS

The operating hours for Remai Modern are anticipated to be:

- 10 a.m. – 6 p.m. on Sunday, Tuesday, and Thursday
- 11 a.m. – 8 p.m. on Wednesday, Friday, and Saturday

The Gallery will be closed on Mondays, and annual statutory holidays. The Remai Modern store will be open the same hours as the main gallery.

The initial operating hours are based on an understanding of art gallery visitation patterns and the anticipated course of action from the “typical” gallery visitor. The 51 hours of operation per week are more than what is typically offered by other galleries operating across Canada and the United States. Some examples of this from Canadian galleries are provided in the table below.

Hours of Operation	Vancouver Art Gallery	Art Gallery of Greater Victoria	National Gallery of Canada	Art Gallery of Ontario	Winnipeg Art Gallery
Monday	10 a.m. – 5 p.m.	Closed (during winter)	Closed (during winter)	Closed	Closed
Tuesday	10 a.m. – 9 p.m.	10 a.m. – 5 p.m.	10 a.m. – 5 p.m.	10 a.m. – 5:30 p.m.	11 a.m. – 5 p.m.
Wednesday	10 a.m. – 5 p.m.	10 a.m. – 5 p.m.	10 a.m. – 5 p.m.	10 a.m. – 8:30 p.m.	11 a.m. – 5 p.m.
Thursday	10 a.m. – 5 p.m.	10 a.m. – 9 p.m.	10 a.m. – 8 p.m.	10 a.m. – 5:30 p.m.	11 a.m. – 5 p.m.
Friday	10 a.m. – 5 p.m.	10 a.m. – 5 p.m.	10 a.m. – 5 p.m.	10 a.m. – 5:30 p.m.	11 a.m. – 9 p.m.
Saturday	10 a.m. – 5 p.m.	10 a.m. – 5 p.m.	10 a.m. – 5 p.m.	10 a.m. – 5:30 p.m.	11 a.m. – 5 p.m.
Sunday	10 a.m. – 5 p.m.	12 p.m. – 5 p.m.	10 a.m. – 5 p.m.	10 a.m. – 5:30 p.m.	11 a.m. – 5 p.m.
Holidays		12 p.m. – 5 p.m.			
Total	53	44	45	48	40

The operating hours are fewer than those of the Mendel Gallery, but more than other galleries in order to address demand from the Saskatoon market. The management team will monitor demand and visitation patterns closely upon opening to ensure that the hours of operation are meeting the needs of the community. The operating hours will be reviewed in future years and may be adjusted as required based on demand. There will also be the opportunity to extend hours based on special exhibits and seasonal needs. However, for the purposes of this business plan the standard hours have been utilized throughout the analysis.

8.2 REMAI MODERN ADMISSIONS AND ATTENDANCE

8.2.1 BENCHMARK DATA

There are a number of factors that impact and influence attendance for an art gallery. Through reviewing the Council for Business and the Arts in Canada (CBAC) survey data for 2009-2010, a few highlights were noted.

The data confirms that there are substantial differences between galleries across Canada and as such there is not one clear best practice or direction to follow. There are many variables that influence a gallery's operation and results including years of operation, quality of exhibitions, location in the community, size of the community, etc. This has meant that there is no one industry best practice or benchmark that can be used for determination of projected attendance. As such, the analysis considered all information, including previous prepared studies, to arrive at the projected attendance levels.

8.2.2 ADMISSION FEE ANALYSIS

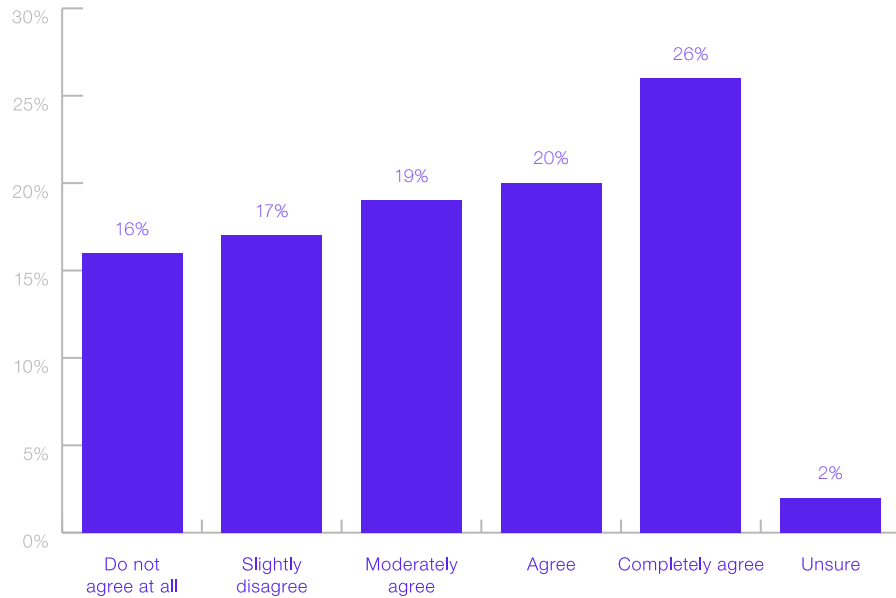
Over the years, there have been many discussions regarding the potential charging of admission for Remai Modern. The board and management have decided that it is important for the Gallery to be as self sufficient as possible and as such a modest admission charge is required. The charging of an admission fee for the Gallery is an important mechanism – both as a revenue generator and as a marketing tool. An admission fee should also result in an increase in the number of memberships purchased for Remai Modern. The admission charge provides substantial incentive to purchase a membership that allows individuals or families the ability to visit Remai Modern at a fixed one-time annual charge, multiple times per year.

A study was completed in 2011 by Fast Consulting on potential admission for the new Gallery. Some residents who were surveyed as part of the study stated that they would be in favour of an admission charge. It is important to note that this study was completed at a point in time where the public was unaware of “what” Remai Modern would be and before the donation of the Picasso exhibit by Mrs. Remai. As the Gallery plans have evolved and the Saskatoon constituency has learned more about Remai Modern, the acceptance of a general admission charge has likely grown as well.

A key finding from the Fast Consulting report was the desire of Saskatoon residents to see the Gallery become as self sufficient as possible. As part of this important goal, a modest admission fee will be implemented.

Under the topic of admissions, the Fast Consulting Study asked respondents:

Q. *Do you agree the gallery should continue to offer free admission to the public for all exhibitions at all times?*



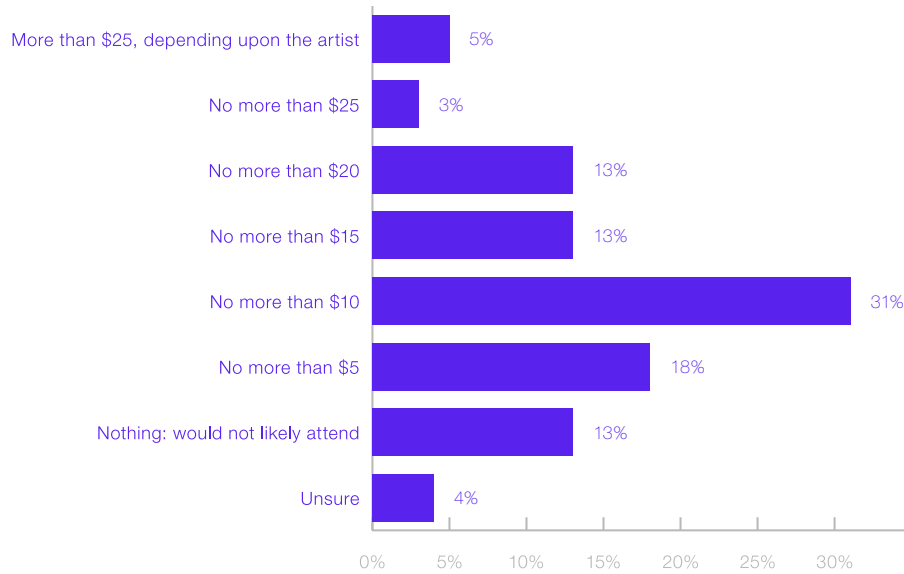
Source: *Remai Art Gallery of Saskatchewan Public Opinion Survey Report, November 2011 – Fast Consulting*

Based on the responses 33% of those surveyed did not agree that the new Gallery should continue to offer free admission. Furthermore, 52% of respondents only moderately agreed, slightly disagreed, or did not agree at all with the continuance of free admission. This indicates that there is an appreciation for the value that Remai Modern will provide to the visitor and that value can be realized through an admission fee.

In light of the current plan for Remai Modern and the donation of the Picasso linocuts, the study's results for the following question confirm support for an admission fee that is in line with what is actually being implemented.

Even if access to the permanent collection is free, there may be occasions when a major special exhibition of an artist(s) of international renown (e.g., Picasso) or national stature (e.g., Group of Seven) needs to charge a special admission fee in order to cover the costs of bringing the exhibition to Saskatoon.

Q. What is the maximum you would be willing to pay for an individual adult admission to the gallery in such a scenario (assuming the artist was of great interest to you)?



Source: Remai Art Gallery of Saskatchewan Public Opinion Survey Report, November 2011 – Fast Consulting

An affordable admission rate of \$12 for general (adult) admission and \$10 for students and seniors is well within the stated “acceptable” range for an admission fee.

A comparison to other Saskatoon facilities confirms that the proposed admission charge is a reasonable amount for the facility:

	Western Development Museum	Saskatoon Facility Day Pass	Forestry Farm and Zoo	Wanuskewin Heritage Park	Ukrainian Museum
Adult admission	\$9.00	\$9.30	\$9.50	\$8.50	\$4.00
Younger child admission	Free	Free	Free	Free	Free
Older child admission	\$2.50	\$5.60	\$5.75	\$4.00	\$2.00
Family admission	\$20.00	\$18.60	\$19.00	\$21.00	\$10.00

In comparison to the admission charged at many Canadian galleries, Remai Modern's admission charge is very reasonable. Some examples are shown below:

	Vancouver Art Gallery	Art Gallery of Greater Victoria	National Gallery of Canada	Art Gallery of Ontario	Winnipeg Art Gallery
Adult Admission	\$20.00	\$13.00	\$12.00	\$19.50	\$12.00
Senior	\$15.00	\$11.00	\$10.00	\$16.00	\$8.00
Student	\$15.00	\$11.00	\$10.00	\$11.00	\$8.00
Youth	\$6.00	\$2.50	\$6.00	\$11.00	\$8.00
Child	Free	Free	Free	Free	Free
Family	\$50.00	\$28.00	\$24.00	\$49.00	\$25.00

To further analyze the potential impacts a charged admission would have on Remai Modern, a study was prepared by TCI Management Consultants in 2011. The study reviewed a number of different admission fee scenarios and the impact on attendance. Each scenario was developed using a baseline of 200,000 annual visitors to the new Gallery. The TCI study indicated that if an admission charge was implemented, a 47% to 53% reduction in visitation levels may occur.

The original business plan developed a base case for attendance analysis using the information provided in the TCI study:

- Year 1 – 300,000
- Year 2 – 250,000
- Year 3 – 200,000

The TCI study stated that as a result of the advantages of the new Gallery, it was reasonable to expect a new level of attendance compared to what the average Mendel Art Gallery visitation was in the past. It is important to note that the Mendel Art Gallery visitation numbers have been based on external door counters. These counters do not count or track what area a visitor accessed – the Civic Conservatory, the retail store, the coffee shop, or the Gallery itself.

Therefore, adjusting the visitation projection based on charging an admission fee is likely a more conservative process. As the Fast Consulting study indicated that an admission charge may decrease visitation to the areas of the Gallery that are fee for admission, the revised admission fee revenue assumptions are as follows. They have been developed in consideration of the previous work, the benchmark data, and management's estimates:

Admission Category	Price per Admission
General (13 years and over)	\$12.00
Students and seniors	\$10.00
Special exhibitions	\$4.00
Children 12 and under	Free

It is assumed that in the first fiscal year of operations, which will only be half a year, the number of paid general, student, and senior admissions will be 20,000. This is greater than half the annual projected attendance as a result of the excitement and interest there will be to first experience Remai Modern. In the second year (the first full year of operations), the paid attendance will be 30,000. The projection has conservatively kept this attendance level for future years. This will generate approximately \$220,000 in the first year, and \$330,000 in year two and subsequent years. The special exhibitions in full operating years are expected to attract 20,000 visitors each year. This will generate \$80,000 per year in special exhibit revenue.

8.2.3 ATTENDANCE

Using the data compiled in previous studies for the 2012 business plan, as well as management experience and expertise, the following assumptions regarding Remai Modern attendance have been developed. The visitation estimate shows attendance based on the area of Remai Modern the person is actually there to see – gallery, sculpture garden, restaurant, etc. The marketing strategy developed with gallery management and ReBoot is designed to support and drive the attendance projections. The expected annual visitation for Remai Modern is 220,000. The breakdown of visitation by 2019 is as follows:

Remai Modern Destination or Reason for Visiting	Annual Visitation
General admission (adults, students and seniors)	30,000
Sponsored free admission (children under 12 & one evening per month for all ages)	40,000
Member visitation – free admission with membership	15,000
Ground floor and Yuel Gallery – no admission charge	30,000
Sculpture garden – no admission charge	30,000
Retail store	15,000
Private events and facility rentals	30,000
Restaurant visitors	30,000
TOTAL Annual Visitation	220,000

A 2009-2010 Council for Business and the Arts Canada study indicated an average of 4.13 visitors per square foot of exhibition space when analyzing visitation for 39 public art galleries across Canada. In comparison to this benchmark data, Remai Modern visitation (calculated using Gallery space including the Atrium space and 115,000 annual Remai Modern gallery-specific visitors) shows a visitor per square foot of exhibition space ratio of 4.32, which aligns with the study's average.

8.3 MEMBERSHIP

The admission charge will increase the appeal of obtaining a membership to Remai Modern. Memberships are an important way of engaging the public to support and maintain buy in for galleries. As such, the attraction of members is more than simply a revenue generator. Additional benefits beyond admission are anticipated to include a discount at the retail store, reciprocal benefits at selected Canadian art museums, and invitations to special exhibit openings and others. The full membership program is in development and will be aligned to the overall brand and vision. A Remai Modern membership will be considered an essential membership for Saskatoon and area.

The anticipated pricing for memberships is projected to be \$65 for an individual annual membership and \$90 for a dual/family membership. This compares closely to the previous pricing structure of the Mendel Art Gallery and the pricing structures of other facilities in Saskatoon which range from \$40 to \$70 for individual and family memberships respectively. The membership level is projected to increase in each year of operations. It is the Gallery's goal to grow the membership to 3,000 members.

	2015	2016	2017	2018	2019
Membership	0	1,000	1,400	1,800	2,200

A key driver for memberships will be the admission charge. Without a general admission charge the incentive to purchase a membership is limited.

8.4 REMAI MODERN STORE

Remai Modern will operate a retail store to complement the Gallery's core mandate. The store will support the Gallery's vision and commitment to modern art by developing and distributing unique products created with artists and designers, exposing a broad

audience to new and exciting work from the modern art world. Proceeds from the retail store sales will support exhibitions, programs, and ongoing collection development.

The store will support the overall brand of the Gallery and be a self-sustaining operation within the overall Gallery organization. To support a successful launch of the new retail space within Remai Modern, MNP, as part of their work on the business plan, reviewed the practices of a number of successful gallery stores throughout the world, including:

- Museum of Contemporary Art Store (<http://mocastore.org>)
- Museum of Modern Art Store (<http://www.momastore.org>)
- Museum of Contemporary Art Australia (<http://store.mca.com.au>)
- Los Angeles County Museum of Art Store (<http://thelacmastore.org>)
- Museum of Contemporary Art Chicago Store (<http://www.mcachicagostore.org>)
- Tate (<http://shop.tate.org.uk>)
- Walker Shop (<http://shop.walkerart.org>)
- Guggenheim Store (<http://www.guggenheimstore.org>)

Each store was contacted individually for further discussion and where possible questionnaires were emailed. One interview was held with Michele Tobin from the Walker Art Center.

In addition to the interview and store reviews, the Museum Store Association's 2009 Retail Industry Report was obtained and key findings and applicable metrics were used to support any assumptions.

The Museum Store Association (MSA) is a nonprofit, international organization dedicated to advancing the success of cultural commerce and the professionals engaged in it, by encouraging high standards of professional competence and conduct. To further benefit and assist this specialized community, MSA undertakes a retail industry study every few years to provide insightful and valued information used to benchmark store performance including financial, operations, and salary information, as well as recommended marketing and growth strategies to help readers make sound business decisions.⁶

The information that was shared through data collection, research, and the interview can be considered key success factors from galleries who have "been there, done that". As the final design and inventory selection is completed for the Remai Modern store it is recommended that the following considerations be reviewed as part of the decision making process.

⁶ 2009 MSA Retail Industry Report

8.4.1 KEY CONSIDERATIONS AND SUCCESS FACTORS

It is not uncommon in the industry for a smaller museum or gallery store to operate at a loss. The function of the store is to support the brand of the gallery. The scale of the store relative to the gallery dictates many choices, especially in the not-for-profit sector. However, galleries are beginning to revisit retail operations and are making changes in an attempt to have a profitable operation to support the galleries.

A gallery retail shop or store is no different from any other retail operation – there is seasonality to the business. This must be understood and planned for in the business model. Key drivers of sales include special exhibitions (blockbusters) and Christmas. As with traditional retail operations, labour costs are a significant portion of the operational expenses. The gallery's opening hours will impact the sales of the retail operation; when special exhibitions are on and hours are extended, the retail hours may need to be extended as well. Special events such as cocktail opening receptions, etc. may require the Retail Modern shop to be open hours outside the normal operations. This creates the need for a significant amount of part-time labour. It is important for the gallery store to operate as lean as possible staff wise to support a successful operation.

It is going to take time to fully understand the interest, needs, and desires of the customer. It will be important to analyze sales in terms of price point, products, and items of interest to the customer in the first three years. As there will be a learning curve for the first years, and initial spikes in sales compared to sales that the Mendel Art Gallery store generated, it will be important to manage inventory and ordering.

The physical design of the store is of critical importance. The space must be functional, fluid, and designed in a way to support the needs of the Gallery and the retail store. A modular design is ideal in that it can be changed over and over to suit the needs of the store through various seasons and exhibitions. Flexible counter and cabinet space will allow the store manager to find creative ways to display product or store items within the retail space rather than in the small office/storage area that has been allocated for the retail operation. The lighting design will also impact sales. Movable lighting that can highlight higher-end products, such as jewelry, entices customers to buy. The lighting helps catch visitors' attention and draws people to the items. A beautiful display space with accent lighting will support and help grow sales. Lack of attention to these details will hinder sales.

8.4.2 BEST PRACTICES

An article published by the Guardian in 2012 listed advice and best practices for operating a retail museum shop.⁷ The tips were shared by a panel of museum retail experts, which included Sara Ley, Baltic Centre for Contemporary Art; Jeremy Ensor, Ashmolean Museum; Sara Sevier, Victoria and Albert Museum; Sue Shave, Chiltern Open Air Museum; and Meghan Cole, Shakespeare's Globe. These concepts should be considered for implementation as the Remai Modern retail shop is designed and operated.

- Promote retail offerings throughout the facility. For example, have prints in the restaurant and homeware in the cafe. It is important to explore all options and remind visitors throughout their visit that the retail shop exists.
- Place products to tap into human behaviour. Ensure the products near the entrance to the shop reference the current exhibitions. Depending on the season, Christmas for example, ensure related products are in a prime location. Consider staging products for children in the centre of the store to entice families in.
- The sales counter is an ideal location for smaller pick-up items and gift books.
- Engage with the customers – the shop sales will give Remai Modern the best indication of what works and what visitors expect. Ensure there is continued communications with customers as the Gallery matures to define who the customers are and where they come from. This can be executed through exit and online surveys and customer focus groups.
- A strong social media presence is a key tool for customer engagement – Twitter, Instagram, Facebook, etc. are all important tools to share information about products, sales, etc.
- Track data internally to be able to know how many families, school parties, older adults, etc. visit the store. This data can be used to assist the store manager with product selections.
- Tourism visitors and others will want to purchase items that remind them of their visit (to Saskatoon and Remai Modern). From there, price structure needs to be thought of to ensure the store has products at price points that appeal to each audience.
- The standard of customer service will be vitally important as it is likely that the last interaction the visitor has will be with a member of the Gallery staff. This interaction may be their lasting impression of Remai Modern. Smiling, enquiring if visitors enjoyed their time at the Gallery, asking what their favourite part of the Gallery was, etc. are all things that staff can do to help this process and leave a positive memory. Training of staff will be a key success factor for the retail operation.
- Plan for the next season of sale through internal data analysis. Base inventory and

⁷ <http://www.theguardian.com/culture-professionals-network/culture-professionals-blog/2012/oct/18/top-tips-museum-shop-retail>

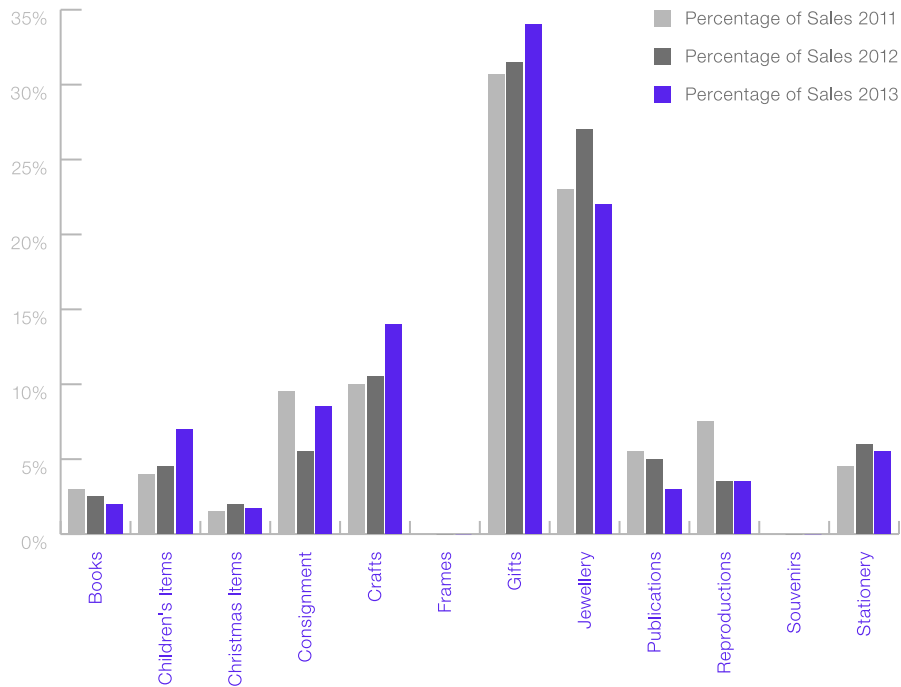
purchase decisions on previous sales data to avoid being swayed by lower prices of products in unrealistic quantities.

- Museum shops are part of the whole visitor experience and should be treated as such. The store manager will need to ensure the products in the store relate to the uniqueness of the Gallery collection and help to promote the Gallery.
- Invest in full-time staff members – understand that the sales team should be an important part of the overall Remail Modern staff complement. The sales team should be highly trained and have knowledge not only about what they are selling, but about the site and surroundings. If volunteers are to be used to support the sales staff, understand that a considerable investment in time may need to be made to keep a volunteer up to speed with an ever-changing product file.

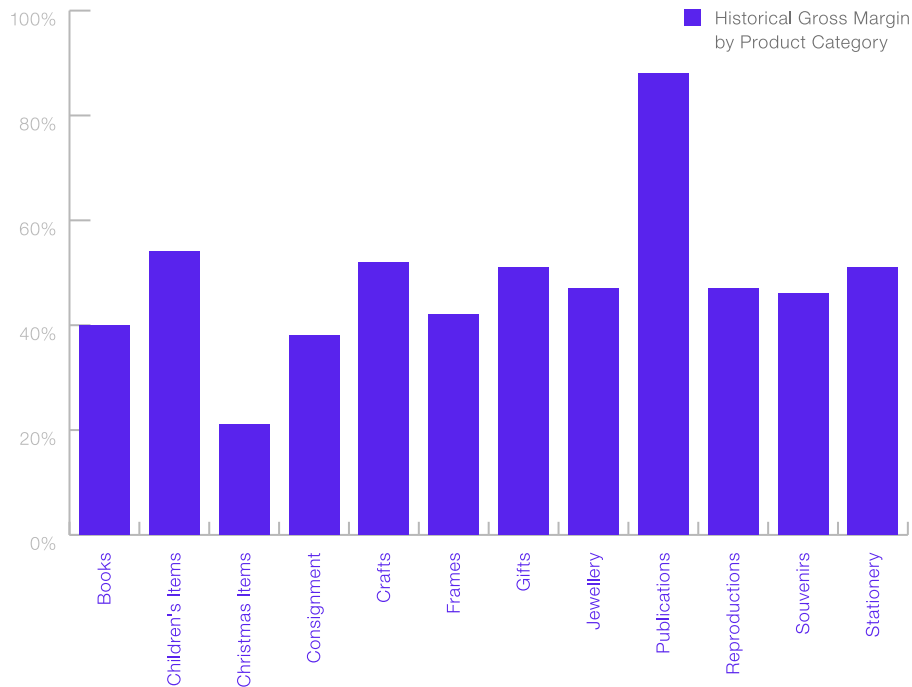
8.4.3 PRODUCT MIX AND INVENTORY

As the store will be a small store, it will be important to manage inventory. Turnover and product mix relative to price must be closely monitored to ensure products are not sitting for too long. The Mendel Art Gallery store was not as aggressively marketed as the Remail Modern store will be; however, the buying patterns are a reasonable starting point for the development of the product mix plan.

The following graph confirms that the buying patterns over the past three years at the Mendel Art Gallery store have been fairly consistent as it relates to product purchases:



Items classified as gifts and jewelry have cumulatively accounted for over 50% of the sales volume consistently over the past three years, with gift items being the top seller in the store. Review of the Mendel Art Gallery store indicates that a varied approach has been taken; some products generate higher return than others.



One category that likely will not follow the previous sales trends are the products related to souvenirs. Initial high sales for Remai Modern in this category will likely be experienced, but this will drop over the first few years and level off as Gallery matures.

8.4.4 ONLINE SALES

The intention is to offer online retail shopping. This decision has been made as an effort to increase gift shop sales and to support the marketing efforts of the Gallery. Management of the website and online orders will be a key role for the store manager. As the Remai Modern store establishes itself in the marketplace, increased demand may require the need for additional dedicated e-commerce staff.

The online presence must also support the brand and vision. The web design and products that are showcased must align to the brand.

8.4.5 PROJECTED DEMAND

The November 2011 Fast Consulting report surveyed Saskatoon residents about the potential interest in a new gift store at the Gallery. The study found that approximately 45% of Mendel Art Gallery visitors make a purchase in the gift shop on at least one visit a year, including 29% who make a purchase once or twice a year and 15% who make a purchase three to five times a year. The Remai Modern store will have vastly different product offerings from the Mendel Art Gallery store; however, this data provides initial baseline benchmarks to use as a predictor of visitor sales.

Roughly four out of every ten Saskatoon residents (42%) say they would purchase items from a gift shop located at the Remai Modern. These residents would like to see a variety of items in the Gallery gift shop, including high quality craft products, art reproductions, art-related products aimed at children, handcrafted jewellery, art-related books, giftware and designer giftware, and stationery.⁸

Spend per Visit (Low)		
15% Spend less than \$25	\$5	\$11,250
30% Spend between \$25 – \$49	\$25	\$112,500
32% Spend between \$50 – \$99	\$50	\$240,000
10% Spend \$100 or more	\$100	\$150,000
Annual Remai Modern Store Sales (Low Projection)		\$513,750

⁸ Remai Art Gallery of Saskatchewan Public Opinion Survey Report, Fast Consulting, November 2011

Spend per Visit (Median)		
15% Spend less than \$25	\$15	\$33,750
30% Spend between \$25 – \$49	\$37	\$166,500
32% Spend between \$50 – \$99	\$74.50	\$357,600
10% Spend \$100 or more	\$150	\$225,000
Annual Remail Modern Store Sales (Mid Projection)		\$782,850

Spend per Visit (High)		
15% Spend less than \$25	\$25	\$56,250
30% Spend between \$25 – \$49	\$49	\$220,500
32% Spend between \$50 – \$99	\$99	\$475,200
10% Spend \$100 or more	\$200	\$300,000
Annual Remail Modern Store Sales (High Projection)		\$1,051,950

Among those who indicated that they would purchase items from the Remail Modern store, 32% think they would spend between \$50–\$99 on a typical visit, 30% think they would spend between \$25–\$49, and 10% think they would spend \$100 or more on a visit to the Remail Modern store.

If it is assumed that the 15,000 per year store-specific visitors followed this pattern of spending, the annual sales for these visitors would be:

	Overall Total	Less than \$35,000	\$35,000 – \$89,999	\$90,000 – \$199,999	\$200,000 – \$499,999	\$500,000 or More
Median Number of Hours Store is Open per Week ⁹	46.0	35.0	41.5	45.0	47.0	50.5

Applying the Fast Consulting survey findings to the visitation projections for the Remail Modern store indicates the potential for significant store sales. This analysis does not include potential purchases made by visitors to other areas of the Gallery, which is likely going to increase sales.

The MSA Retail Industry report indicated that there is an unsurprisingly positive correlation between the number of hours a store is open per week and gross store sales. As the number of hours a store is open increases, so does the amount of gross sales.¹⁰

The Remail Modern store will be open 51 hours per week, not including special sale events. These operating hours should support annual gross sales of over \$500,000 per year. The MSA report also provided the following metrics for a store with annual gross sales of over \$500,000 per year (the median values of the study have been used where applicable):

⁹ 2009 MSA Retail Industry Report

¹⁰ Ibid.

- 23% of the stores with annual gross sales of over \$500,000 per year are between 900 – 1,599 square feet
- 67% of the stores with annual gross sales of over \$500,000 per year are 1,600 square feet or more
- 42% offer a discount to select store customers of 16% - 20%
- 94% offer admission-free access to the store
- Annual visitation to the art galleries surveyed is 300,000 (median value)
- Median Net Sales (Gross Sales Less Returns and Allowances) \$1,145,355
- Median Cost of Goods Sold 47%

The Remail Modern store will create additional sales floor space by placing movable racks and shelving into the atrium areas. This increased sales floor space should translate into greater sales based on the findings of the MSA Retail Industry report.

Based on this analysis completed for the purposes of this business plan, the projected annual sales for the Remail Modern store are as follows:

	2015	2016	2017	2018	2019
Annual Sales	\$0	\$390,000	\$650,000	\$650,000	\$650,000

As the Remail Modern store will open in 2016, a portion of annual projected sales was used for 2016. There is an expectation of increased demand in this first year of operations for special “Opening of Remail Modern” products. The projected annual sales have been determined using the data from Fast Consulting and are supported by the MSA report.

8.5 FOOD SERVICES

Remail Modern’s location will be a destination not only for those wanting to experience the art and exhibitions, but also for those looking for a dining destination. In 2013, fsSTRATEGY developed an updated Retail Food & Beverage Options Analysis study for Remail Modern. This study analyzed a number of food services options. The full report is available upon request. Based on the findings, a larger food service outlet with a full kitchen (supported by the second floor main kitchen) and licensed seating outside the security perimeter of the Gallery (so that it is capable of being operated after regular Gallery hours) was the preferred business model for food services.

Food service operations will be subcontracted and the Gallery will provide the equipment

necessary for the food service provider to begin operations. In turn, the Gallery will collect a commission of the provider's gross revenues. For the purposes of the projection, base levels of \$92,580 for restaurant commissions and \$50,700 for catering commissions (facility rental functions) have been used. These amounts, including the commission, may change depending on the arrangement made with the food service provider, who at this time is unknown.

As part of the contract, the third-party provider will ensure that the restaurant offerings – food, atmosphere, and service – all align with Remai Modern's brand.

8.6 FACILITY RENTALS

In 2011, fsSTRATEGY Inc. prepared the Mendel Art Gallery Food and Beverage Opportunity Assessment and Management Strategy report. This study reviewed the demand and market for event rental spaces in Saskatoon and assessed the potential revenue that could be generated for Remai Modern. The findings of this study have been carried forward in this updated business plan as they remain relevant and appropriate for the Remai Modern operations plan. A full copy of the report is available by request.

Six spaces at the Gallery are appropriate for catered events:

- Multipurpose Room – 3,046 square foot
- Boardroom – 904 square foot
- Meeting Room – 323 square foot
- Roof Top Terrace (seasonal) – 1,500 square foot
- Lecture Theatre – 150 seats, 1,830 square foot
- Atrium – 4,090 square feet

The three primary rental spaces at Remai Modern (the 3,046 square foot Multipurpose Room, the 323 square foot Meeting Room and the 904 square foot Boardroom) will offer unique views of the South Saskatchewan River. Few other Saskatoon venues have the ability to provide event space with this appealing view. This will help ensure that the facility rental spaces are considered top tier or premium locations for events in Saskatoon. In addition, these three Gallery event spaces are expected to be relatively well appointed.

As such, these spaces should be able to command a premium, as well as be in relatively high demand, especially by groups that do not require hotel rooms for their events or do not

desire to have the guest rooms and meeting rooms in one facility.

The 1,830 square foot, 150-seat Lecture Theatre will be a relatively unique events space as it will have graded, fixed seating. This events space will cater to a limited number of potential events including film screening and community events. In addition, the Gallery will be able to accommodate events for 70 to 80 people on the Rooftop Terrace. The 4,090 square foot Atrium, with the Gallery and Persephone Theatre, will comprise the “destination centre”. Although this area will not generally be available for rent to the general public, this space will be used for municipal or other government events.

The coordination and booking of the Remail Modern spaces will be facilitated by an “in-house” staff member in coordination with the third-party food service provider. This will ensure consistent service levels and adequate onsite staff coordination as required (i.e. security).

Based on the market analysis prepared by fsSTRATEGY, the following room rental rates have been assumed for Remail Modern:

- Multipurpose Room - \$1,000
- Boardroom - \$250
- Meeting Room - \$150
- Roof Top Terrace - \$1,000
- Lecture Theatre - \$250

The rental rate per square foot for the Multipurpose Room is \$0.33; this is consistent with the average rental rate for comparable ballroom facilities in Saskatoon. Rental rates for the Meeting Room and Boardroom are also consistent with comparable venues in Saskatoon.

It is anticipated that the rental of these spaces will generate annual revenue of approximately \$260,000, using the base case scenario developed by fsStrategy (an average of \$5,000 per week of bookings; combination of all Remail Modern rental options available). In the first year of operations, this amount will be reduced by approximately by two thirds - \$86,750 is projected for year one rental revenue as Remail Modern will be open for less than the full year and it is not expected that the full demand for bookings will take place until the Gallery has been open for a few months.

8.7 DEVELOPMENT (FUNDRAISING)

In 2013, the board recommitted to the sustainable development of the fundraising program at Remai Modern. This recommitment was focused on fulfilling the promise of the initial campaign and developing ongoing annual fundraising programs designed to meet annual operating costs.

The fundraising program is focused on developing three core business areas: development infrastructure, stakeholder engagement, and financial investment. Together, these three core business areas and their attending strategies and tactics constitute an integrated and comprehensive approach to development activity that supports both capital and ongoing operational requirements of Remai Modern over the life of the business plan.

All three core-business areas will be actively developed in each phase of the brand launch. It is crucial that investment in the development plan begins now - in the pre-launch phase - and continues through the launch and post-launch phases in order to achieve the revenue targets identified in the plan. This means that the development department team's resources will not be focused solely on the deferred items within the campaign. Considerable effort will be given to donor relations, stewardship activities, and solicitation to secure investment when the Gallery opens in 2016 and beyond.

8.7.1 SUCCESS FACTORS

Success for this area is defined by more than the dollars raised for Remai Modern, the development activities that define success will include:

- Research-based strategy for campaign and development revenue goals.
- Implement and maintain new software program for improved fundraising management.
- Develop a strategic prospect and donor management (SPDM) system focused on the ongoing identification, cultivation, solicitation, and stewardship of new and existing prospects and donors.
- Develop a compelling case for support document that is consistent with the Remai Modern brand, supports the updated business plan, and is approved by the board.
- Create Remai Modern branded marketing materials and an updated interim website.
- Achieve a strong reputation and profile of Remai Modern on local, national, and international levels through marketing and communications activities.
- Develop a donor recognition program that is approved by the board.

- Increase levels of board and staff participation in fund development work, such as giving, cultivation of donors, solicitations, and project ambassadorship.
- Foster a collaborative and integrated relationship between the various departments and program areas of the Gallery, including marketing and communications and public programming.
- Foster a culture of giving and philanthropy among all of the Remail Modern staff and board.

8.7.2 DEVELOPMENT RESULTS

The additional staff and focus on development activities for Remail Modern are expected to result in annual revenues of:

	2015	2016	2017	2018	2019
Annual Development Revenue	\$0	\$1,148,894	\$1,484,180	\$1,757,056	\$2,023,057

8.8 SECURITY

The security of the building and the art exhibited throughout Remail Modern is a critical day-to-day operational detail. To ensure adequate security was planned for, a study was prepared by Concentric Risk and Security Management Inc., which examined the following:

- Specific requirements to create, implement, and manage a safe and secure environment for Remail Modern.
- Primary and secondary programs which define the Security Master Plan. The primary program addresses day-to-day security operation. The Secondary programs define and address the security required for special events.
- Physical/procedural security for standard operation, events, and emergency conditions.
- Emergency, crisis, and disaster management programs.
- Contingency planning and preparation.

A full copy of the report is available by request.

The implementation of the Security Master Plan will be the responsibility of the Security and Facilities Manager, in coordination with the Remai Modern CEO.

A third-party security company will be contracted to provide the onsite security staff as required. This staff will work under the direction of the Security and Facilities Manager.

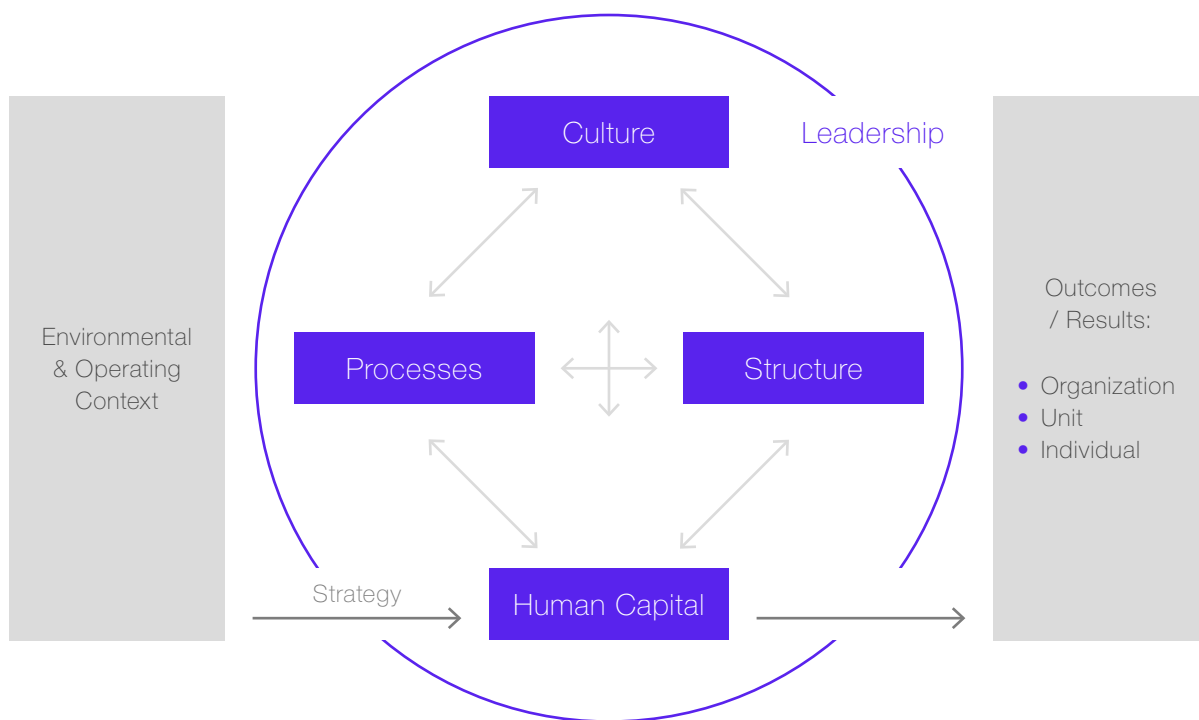
The annual expenditure related to security is projected to be \$521,966 annually. This will ensure 24-7 security onsite in the following capacity:

- 5 daytime security officers (Gallery opening hours)
- 1 afterhours security officer

9. HUMAN RESOURCES PLAN

9.1 APPROACH

A Human Resource Staffing Plan Report was developed by MNP as part of the business planning process. The industry research and interviews conducted by the MNP project team had multiple purposes. This included obtaining best practice information in order to better understand how various galleries structure their organization. As well, the research and analysis provided additional insight into the staffing requirements of successful art galleries including positions required, hierarchy, levels of management, reporting structure, staffing levels, etc.



The Gallery does not plan to replicate the organizational structure or staffing levels of any individual gallery, rather it was a learning process to gain an understanding of how other established and successful galleries have structured their operations.

The staffing and organizational structure recommendations have been developed using a conservative approach respecting the realities of publicly funded organizations, and

ensuring that the recommended staffing levels can deliver the vision. The resulting budget for staffing is a reflection of what is required at a base level to operate Remai Modern as outlined in the business plan and brand studies. In comparison to three other galleries (two which have asked for their information to remain confidential) the projected salaries for Remai Modern as a percentage of operating budget are conservative:¹¹

	Remai Modern	Art Gallery of Alberta¹²	Confidential Gallery "A"¹³	Confidential Gallery "B"¹⁴
Staffing Costs as a Percentage of Operating Budget	36%	42%	45%	50%

The Remai Modern Human Resource Plan has been developed with an overarching goal of ensuring a responsible, practical budget while ensuring the ability to successfully implement the bold vision of the gallery.

The overarching goal of the report is to define the staffing needs of the Gallery to ensure effective operations. Key components of the project included:

- Confirm the current state of the Gallery including positions, structure, practices, funding model and other relevant information.
- Confirm the future state service delivery model of the Gallery including the high-level vision, supporting business units and key strategic goals.
- Identify organization structure recommendations and optimal staffing levels based on the desired future state, industry research and human resource best practice.
- Provide associated staffing cost estimates in consideration of the relationship to the City of Saskatoon, human resource policies and procedures and the unionized environment.

The purpose of defining staffing levels through the appropriate organizational structure is to ensure that the key components of the organization are operating effectively and efficiently and are aligned with the strategic objectives of the organization.

The approach encompassed multiple elements:

- Accountability – understanding clear delineation of roles and responsibilities in achieving results;

¹¹ As of 2019, fully established operations

¹² <http://issuu.com/your-aga/docs/aga-annualreport-2013>

¹³ MNP Primary Research

¹⁴ MNP Primary Research

- Effectiveness – the extent to which the business units attain their goals and objectives to support the overall strategic imperatives of the organization;
- Efficiency & Value – whether the output and quality of results meets expectations given the available resources, target service levels and quality, and reflects improved methods of service delivery; and
- Stakeholder Focus – ensuring that services and programs are responsive to stakeholder needs and expectations.

9.2 BACKGROUND DATA

9.2.1 MANAGEMENT INTERVIEWS

As part of the human resources planning, MNP conducted interviews with the Executive Director/CEO and the Director of Finance and Operations to confirm human resources assumptions and gather current and future state organizational design and structure data. Research findings from management interviews were used to support the identification of the design principles and resulting organizational structure.

The Remai Modern vision and mandate is critical to the success of the new Gallery. To be recognized provincially, nationally and internationally the Gallery will require dedicated staff who are committed to delivering on the brand and customer promise each time, every time. This will require a focused effort on the attraction, orientation, development and retention of staff, ensuring each employee is accountable for providing their best to ensure the objectives of the Gallery are met. Clear lines of authority, communication and performance management, as well as a supportive workplace culture are key success factors in achieving the Remai Modern's vision. The customer service expectation of all Gallery staff will increase to ensure staff are there to provide a world-class experience for the customer.

Specifically, to support the success of Remai Modern's new organizational structure, the following functional areas were viewed as critical:

- Retail - Gift shop
- Administration
- Visitor Services / Admissions
- Financial
- Building Operations
- Curatorial

- Public Programs and Education
- Conservation
- Marketing
- Theatre Programming
- Public Programming
- Human Resources
- Collections Development
- Registration
- Exhibitions
- Development (fundraising, grants, sponsorship)
- Membership
- Facility Rentals (event services)
- Food and Services (contract)
- Security (contract)
- Information Technology (contract)
- Preparator (Prepping art work and installations)

In addition to the functional areas mentioned above, the following should be taken into consideration when developing the organizational structure:

- Effective and efficient design of the administrative team (which includes the Executive Office, Finance and Operations, Security, IT) is required. Currently there can be gaps in the amount of administrative support provided to the Executive Director/CEO as the Executive Assistant position also manages volunteer services. When the Executive Assistant is away, there is no other administrative support within the Gallery.
- The Remail Modern brand is paramount to the Gallery's success and as such the decision has been made to bring all marketing in-house. This will allow Remail Modern to control its brand and ensure its image is effectively communicated.
- The scale of event bookings and management will be new to the Gallery. The organizational structure must be able to support both bookings and event management during business hours and after hours. Special events and rentals will be a revenue generator for the Gallery.
- The Gallery will be open to the general public six days a week for 51 hours.
- A comprehensive public programming strategy will be developed within the next six months, which may affect staffing levels.
- Art galleries commonly encounter challenges with the funding of positions; it is imperative positions have clear lines of authority and role clarity.

9.2.2 INDUSTRY RESEARCH

The intent of the industry research was to provide additional insight into the staffing requirements of art galleries. Primary research was compiled from galleries through an organizational structure and design market survey. Based on the limited number of survey participants, secondary data was sourced from an additional seven galleries. MNP worked with Remai Modern to identify comparable galleries for the industry research. Galleries identified to be included within the research included:

- Armand Hammer Museum of Art and Culture Center – Los Angeles
- Art Gallery of Alberta
- Art Gallery of Hamilton
- Art Gallery of Ontario
- Montréal Museum of Fine Arts
- Museum of Contemporary Art – Los Angeles
- Museum of Contemporary Art – Chicago
- National Gallery of Canada – Ottawa
- Vancouver Art Gallery
- Whitney Museum of American Art – New York
- Winnipeg Art Gallery

The survey format was designed to collect information based on the project objectives and included:

- Organization name
- Contact information
- Number of employees
- Organizational chart
- Total operating budget
- Revenues
- Funding arrangements
- Salary information
- Contractor services
- Organizational structure effectiveness

From the primary and secondary research, it was observed that each gallery is unique in its operations; therefore, standardized staffing levels and metrics were not apparent. Operating budgets, revenue targets, staffing levels, the percentage of salaries as a portion of the

operating budget and the quantity of volunteers varied among galleries. In addition, when considering detail such as gallery exhibition square footage per staff count, total building square footage per staff count, number of collections per curatorial staff and average number of marketing and development staff, standardized ratios could not be calculated as each gallery utilizes its space and collections differently. As a result, it is difficult to identify specific ratios upon which to base staffing levels.

Notwithstanding the above, there appears to be a consistent breakdown of functional areas which are grouped into specific departments:

- Administration
- Marketing / Communications
- Development / Fundraising / Capital Campaigns / Membership
- Programming
- Curatorial / Registration / Conservation / Preparation
- Gallery Store
- Guest Services (typically within Development or Marketing)
- Volunteer Services (typically additional duties of a position)

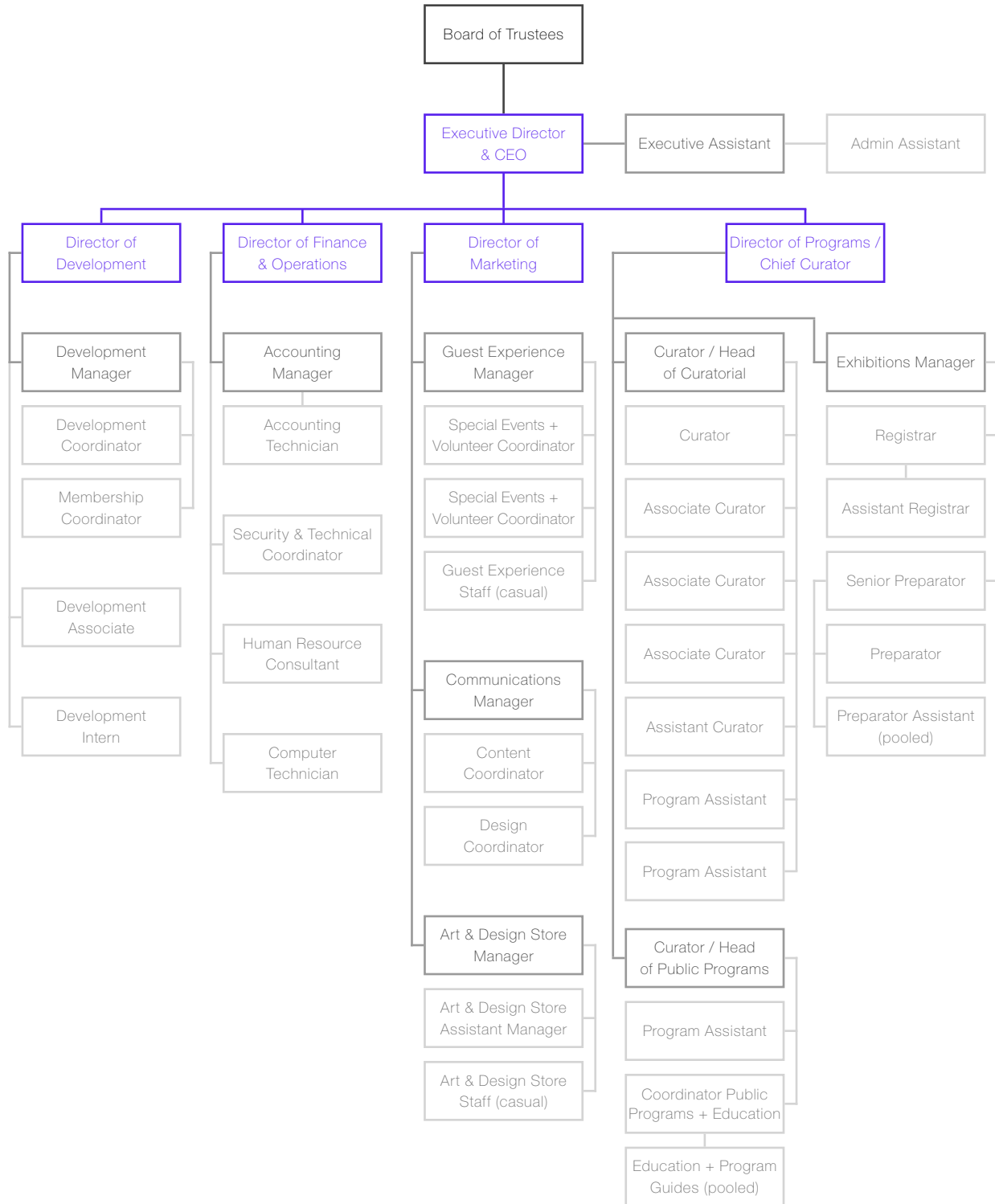
It was also observed within gallery annual reports that volunteers play a key role in the success of galleries and may support any and all aspects of a gallery.

9.3 ORGANIZATIONAL STRUCTURE

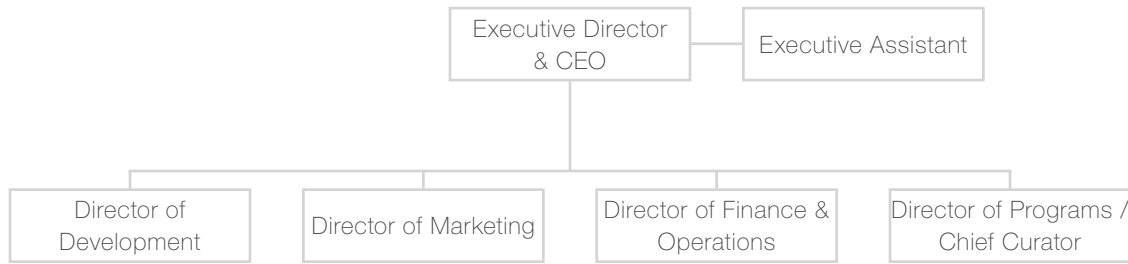
Based on the information collected through the primary and secondary research activities and taking into consideration best practice research, a number of organizational design principles were identified. The identified principles indicated that the organizational structure must:

- Align with and contribute to the organization's vision and core objectives;
- Be flexible and have the ability to quickly adapt to change;
- Encourage teamwork and reinforce collaboration;
- Provide for clear lines of accountability;
- Make use of multi-skilled jobs (wide range of activities or entire work processes);
- Provide opportunities for employee growth, upward mobility and empowerment;
- Focus on client service, rather than process and procedure; and
- Allow for the appropriate span of control.

The graphic below outlines the proposed organizational chart for Remai Modern Art Gallery of Saskatchewan followed by the rationale for the development of each department.

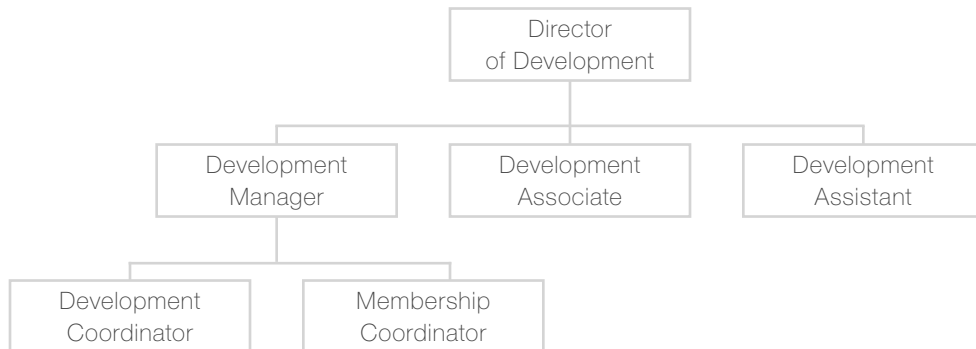


SENIOR MANAGEMENT TEAM



A skilled Senior Management Team is required to make strategic decisions in guiding the Gallery towards its vision. The CEO and the Board of Trustees require dedicated senior-level administrative support to handle private and sensitive matters and ensure efficient operations, while the directors and their departments require an intermediate level of administrative support to ensure efficient operations. It was identified that a gap existed in coverage for the Executive Assistant and succession planning was a concern for the role.

DEVELOPMENT TEAM



Expectations are high for Remai Modern to generate funds and revenue through membership and donations / giving / fundraising initiatives and efforts. In alignment with the recommendations of the DCG Future Development Report and the Remai Modern Development Plan 2015 – 2016, the Gallery has begun a robust development and fundraising campaign, which will further intensify in 2015. Remai Modern must generate both short-term and long-term funds for the Gallery including a focused \$10-million campaign to generate additional operating funds.

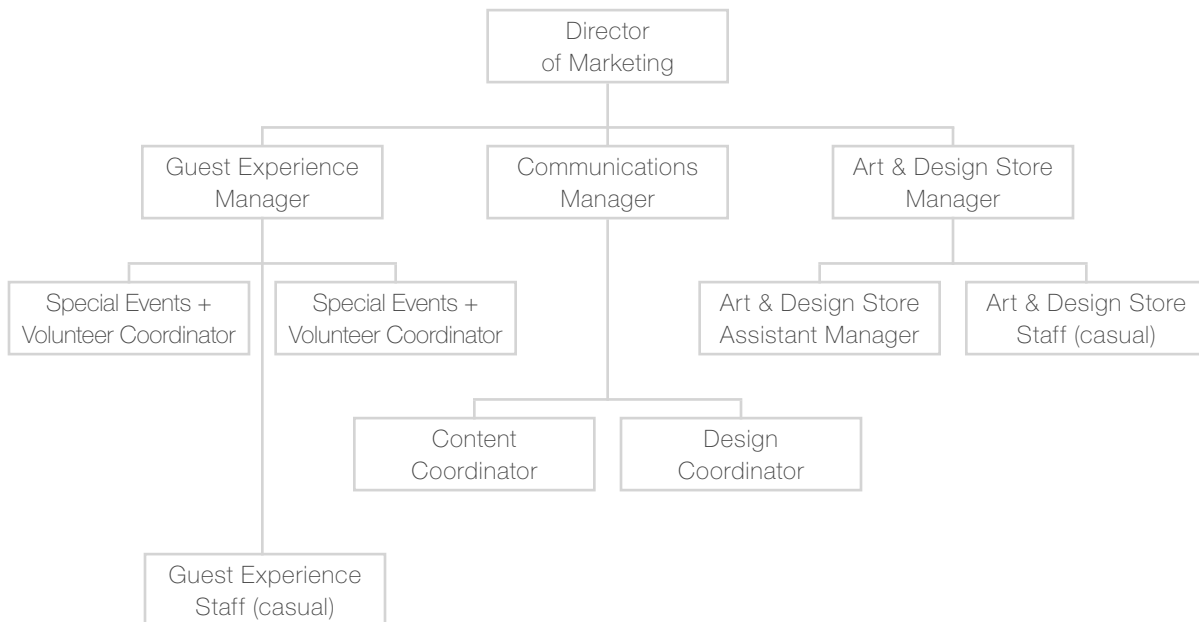
For the development team to be successful it requires:

- Senior leadership to set strategy and court philanthropists;
- Senior-level decision makers within business and key political and community figures; and
- Intermediary staff to support the courting process, attend key events, plan and attend a series of Gallery events aimed at raising funds and ensure donor and membership information is captured and maximized within the proposed Raisers Edge fundraising database.

The team is also responsible for executing donor and member benefits, which may take place during or outside of regularly scheduled business hours.

The Gallery will be placing a large focus on selling memberships and the resulting benefits to individuals and families as a source of revenue generation. Conservatively, the Gallery is targeting the sale of 1,000 memberships in 2016 with that target increasing to 2,200 members in 2019.

MARKETING AND COMMUNICATIONS TEAM



To achieve the Remail Modern's vision, and align with the Reboot marketing presentation, Remail Modern has made the decision to produce the majority of its marketing and promotion materials in-house to control and drive the Gallery's brand and image. In doing

so, the Gallery requires technical writing, social media, media and public relations, marketing and web and graphic design competencies. Initial marketing resources will be leveraged to further refine and implement the marketing strategy and develop the overall branding collateral for the Gallery. Once complete, ongoing marketing activities will be driven for all areas of the Gallery to ensure programming, exhibitions, development, the Remail Modern store and general marketing initiatives are being tied to the brand and are communicated as per the strategy.

Remail Modern will accept rental bookings for six different venues within the Gallery and will coordinate the delivery of events by ensuring the venues are prepared for specific events. Private functions and rentals/bookings have been identified as a source of revenue generation in the amount of \$260,000 by 2017 not including catering costs. Given that the Gallery will accept bookings during and outside of regular visiting hours, flexibility is required to both accept bookings and coordinate events. As the Remail Modern is keen on controlling and driving its brand, a Remail Modern staff member will be present at each event to ensure the logistics of the event run seamlessly, further driving the Gallery's reputation and subsequently increasing the potential for future bookings.

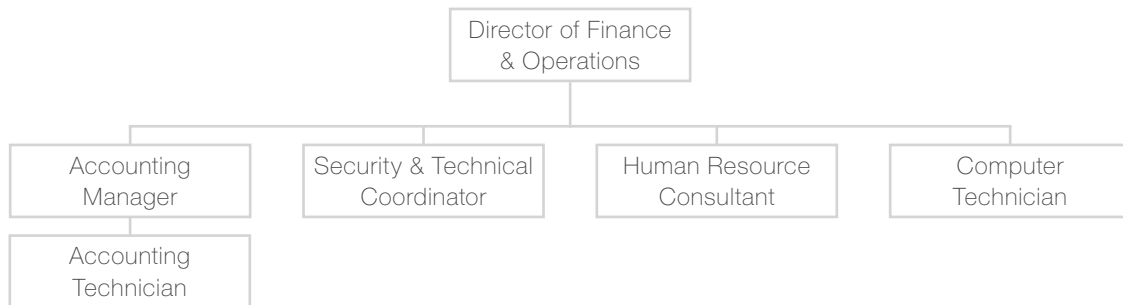
The Gallery is contracting a third-party vendor to operate the food and beverage services unit. As recommended in the fsSTRATEGY Food and Beverage Services Report, a Remail Modern staff member is required to liaise between the third-party vendor and the Gallery to ensure effective operations.

The Gallery will rely on the efforts of dedicated volunteers to successfully manage events and programming put on by the Gallery. To align events and programming to the capacity requirements of volunteers, the decision has been made to have guest services manage the logistics surrounding volunteerism.

The Gallery will own and operate a retail store with the strategy of generating revenue and increasing and reinforcing the brand awareness of the Gallery. The store will be open during visitor hours, which are 51 hours per week. For the store to be successful, it is imperative that it stocks items for purchase that are either exclusive to the Gallery or aligned to the brand or exhibit offerings (i.e. Picasso scarves). This requires resources to continuously be evaluating merchandise offerings and procuring new items for purchase. In addition to operating a physical store location, the Gallery will also operate an online store.

Annual sales of \$650,000 are anticipated from the store. According to the MSA (Museum Store Association) Retail Industry Report 2009, the majority of stores (77%) with sales of \$500,000 or greater staff a Retail Store Manager and a Buyer. Art Museum stores also reported a median of six full-time, year round staff and five part-time, year round staff. Management stressed that the success of the store is tied to its ability to earn a profit and has requested the store be staffed as lean as possible.

FINANCE AND OPERATIONS TEAM



The finance and operations team will be tasked with ensuring effective and efficient operations of the Gallery. Areas falling under finance and operations include accounting, security, information technology and database management and human resources.

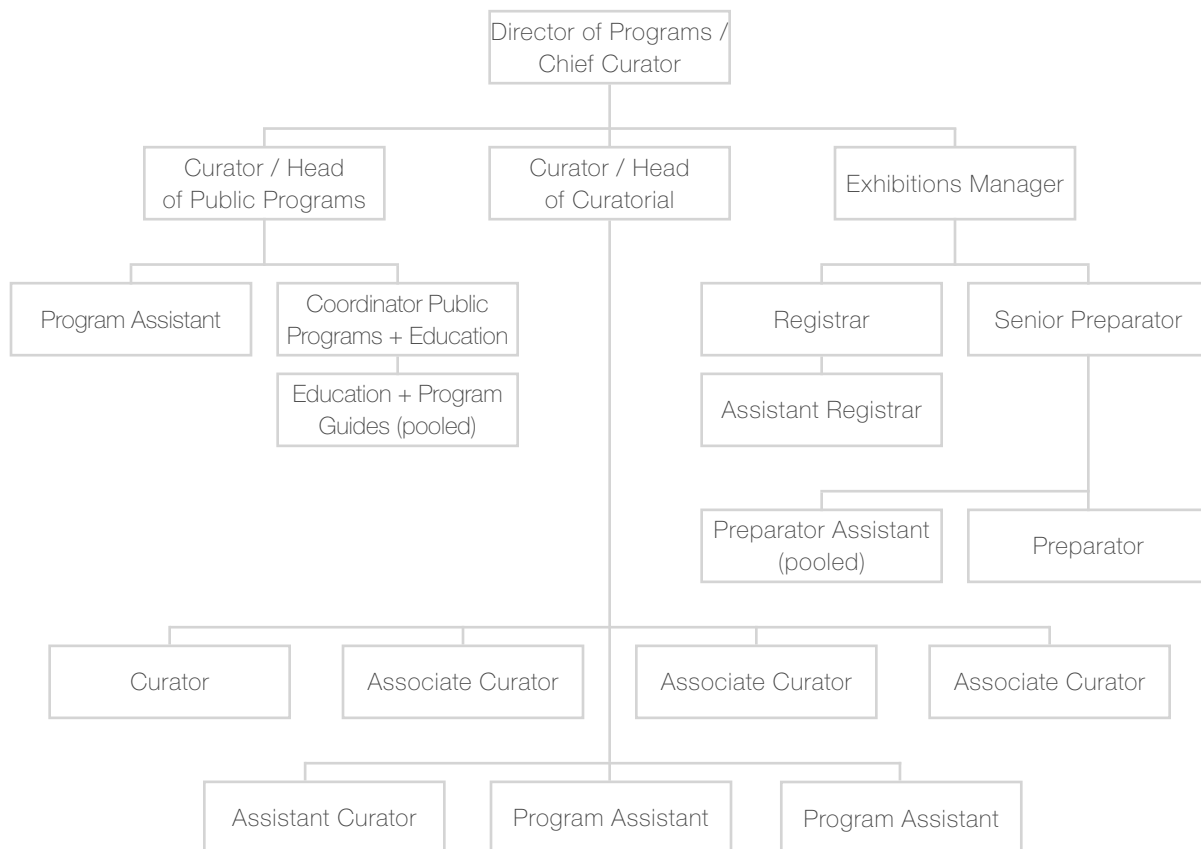
Responsible financial management is paramount. With many new funding sources and self-generated revenue opportunities, the complexity of Gallery operations will increase. The accounting area will provide direction to all areas of the Gallery related to financial planning, budgeting, accountability, processes and systems to ensure fiscal responsibility.

Based on the assumptions within the Security Report – Final Report, a security coordinator is required to ensure Remai Modern is secure from threats and to liaise with the third-party security vendor. In addition to building security, the security coordinator will ensure security is entrenched into all information technology endeavors.

Although the Gallery contracts out day-to-day computer maintenance, it does require an onsite professional to troubleshoot on-the-spot basic computer, technology, audio and visual issues. All technology needs to function seamlessly, whether it be visual and audio at events, database management or audio and visual within the Gallery's exhibit space to deliver an exceptional customer and visitor experience.

The effectiveness of the Remai Modern human resources function will be critical to the success of the Gallery. To achieve the vision the Gallery will need to effectively manage employee performance, time and attendance; ensure all staff are held accountable to both technical and behavioral accountabilities; ensure the attraction, on-boarding and retention of top talent; and create a client-centric environment. The City of Saskatoon has human resources policies to support the management of this function; however, Remai Modern has a unique culture separate from the City. Therefore, to achieve the Gallery's vision and become an employer of choice, a focused approach must be taken to Gallery human resource management.

PROGRAMMING AND CURATORIAL TEAM



The planning, preparation, delivery and evaluation of gallery and exhibition space, coupled with programming, is at the core of a gallery's success. Based on discussions with management, the Gallery will have an active and transient gallery/exhibit space that is anticipated to turnover once a year. The Gallery will also hold three to four large-scale, temporary exhibitions a year, which will require planning up to three years in advance. As both the permanent collection and temporary collection of the Gallery is increasing,

additional workload is placed on curatorial, preparation, registration, conservation, interpretive, exhibition and programming staff to manage these pieces and spaces (in and outside of the Gallery).

Remai Modern will provide immersive programming where people of diverse backgrounds can connect with visual art through a broad range of active ties and resources. Art education will be offered to small groups of adults and children. Free-guided tours and private guided tours can be arranged any time for any group size. The Gallery will offer a regular schedule of public lectures, artists' talks, symposia and a variety of family and kid-friendly hands-on educational programs. In addition, Remai Modern will manage and program a 150-seat theater, which can be used for film screening and community events.

Although specific programming strategies and plans will be established over the next six months, management provided an estimate of the resources required to successfully deliver programming. Specifically, the Head of Public Programs/Education position is based on the assumption Remai Modern will continue to provide and manage public programming during 2015 and develop a public programming strategy for the future in an increased gallery space and with a larger presence within the community. The senior curator function will support and manage all aspects of curatorial and preparator services, and will work closely with the Director of Programs/Chief Curator to implement the Gallery's strategy.

9.4 SALARY COST ESTIMATES

The Human Resource Staffing Plan Draft Report estimated salary costs over the next five years (2015 – 2019). Based on the organizational chart and staffing assumptions defined through the organizational design process, MNP conducted research on annual base salaries for all management and in-scope positions.

Secondary research was the primary method of collecting salary information. Research sources and background data collection activities were identified in consultation with the Gallery's senior management. This allowed the project team to determine what information was readily available and in what format to ensure the data collection tools developed identified appropriate information. Through this process the Following data sources were identified:

- Association of Art Museum Directors Salary Survey 2013
- Economic Research Institute Salary Assessor

- CUPE 59 Collective Bargaining Agreement – Pay Grade 2013 – 2016
- Memorandum of Agreement Between the City of Saskatoon and Saskatoon Exempt Staff, Inc. (Pay Grades 2010 – 2012)

MNP developed a database format to manage the collection and tabulation of annual base salary. The format was designed to document information in a consistent manner for comparison.

MNP consolidated the information and prepared our analysis and assumptions. Market data were combined using a weighted average calculation based upon the number of contributing organizations and data were aged to 2014 using Conference Board of Canada actual salary budget increases to 2013 and projected increases to 2014 where necessary.

9.4.1 COMPENSATION PHILOSOPHY

Based on direction from the Executive Director/CEO it is assumed the Gallery's philosophy on pay practices will include wage rates set at market rates, or the 50th percentile of market survey data.

9.4.2 DATA CONSIDERATIONS

The following should be considered when reviewing the data provided within the report:

- Economic Research Institute salary data:
 - › Management salaries are based on Canadian data – all industries
 - › In-scope positions are based on Saskatchewan data – art industry
- Base salary information should not be considered in isolation of other types of compensation as organizations use several different direct and indirect total rewards to attract and retain individuals. Incentives such as bonuses, expanded benefits packages and indirect benefits such as flexible hours of work, developmental opportunities and supportive work environments can increase competitiveness in the external market.
- Market data provides information to support external equity but does not address issues related to internal equity. Internal equity refers to employees' perception of their responsibilities, conditions, and compensation compared to other employees in similar positions in the same organization. The most effective compensation programs strive to ensure fairness in comparison to the internal and external market.

- MNP, with the assistance of the Executive Director/CEO and the Director of Finance and Operations, placed all new positions within the existing City of Saskatoon and CUPE 56 pay grades; however, all new positions require evaluation from the City of Saskatoon's job evaluation process to determine internal equity.
 - › Note: The Gallery should consider conducting a job evaluation or job classification process once all positions have been finalized to ensure internal equity.

9.4.3 KEY ASSUMPTIONS

Salary cost estimates assume the following:

- All salary information is based on 2014 levels and inflation is not projected into subsequent year salary figures
- 2014 salaries of current Mendel Art Gallery positions with similar job titles and job functions to those positions identified within the Remai Modern staffing plan will be used
- The classification level, salaries and scope (unionized or management) of positions will be approved as is for implementation
- Positions requiring reclassification will have a 5% reclassification increase applied to their 2015 salaries
- Management positions will receive an annual increment of 5% a year until the maximum of the salary range is reached
- In-scope positions will progress through the three step increments as defined in the collective bargaining agreement
- All new positions will be filled at the salary range minimums

10. FINANCIAL PLAN

Revenue for Remail Modern is anticipated to be generated by four distinct revenue streams – self generated revenue, development revenue, restricted funds (directed grants) and grant(s) required to cover the operating shortfall as required annually.

A key component or principle that has been discussed in reference to the new Gallery for many years is the desire for the new Gallery to generate its own source revenues and funds. This will occur through the following revenue sources:

- Admissions
- Memberships
- Facility rentals
- Food service commissions
- Retail shop sales
- Development

10.1 ADMISSIONS

The admission charge assumption for the business plan assumes a general admission charge of \$12 and a student/senior admission charge of \$10. It is assumed that Remail Modern will attract over 200,000 visitors each year. These visitors will be a combination of general admissions, members, retail shop visits, and facility rental users.

For the purposes of the financial analysis, an average admission rate of \$11 per paying visitor (those who would have paid a general admission fee) was used. It is anticipated that in the first years of operations Remail Modern will generate the following in admission revenues. It is important to note that 2016 only represents six months, assuming Remail Modern opens its doors 2016.

	2016	2017	2018	2019
Special exhibition revenue (Base on an average rate of \$11)	\$150,000	\$330,000	\$330,000	\$330,000
Annual number of paid general admission visits	16,636	30,000	30,000	30,000

Remai Modern will also curate eight (8) special exhibits each year. These blockbuster exhibitions require significant resources to develop and show; as such, an additional \$4 will be added to the price of admission during these special exhibitions, bringing the total admission fee with the special exhibit to \$16 for adults. The gross annual revenues anticipated to be generated via these special exhibitions are as follows:

	2016	2017	2018	2019
Special exhibition revenue	\$40,000	\$80,000	\$80,000	\$80,000
Annual number of special exhibition admission visits	10,000	20,000	20,000	20,000

10.2 REMAI MODERN STORE

As outlined in section 8.4 the Remai Modern store has projected annual sales based on the data from Fast Consulting, which are supported by the MSA report. The Remai Modern store will be operated by a Retail Store Manager (1 FTE) and be supported by a Retail Store Assistant Manager (0.80 FTE) and Retail Store Clerks (1.5 FTE). The resulting projected financial performance for the Remai Modern store is as follows:

	2015	2016	2017	2018	2019
Remai Modern shop Sales	\$0	\$390,000	\$650,000	\$650,000	\$650,000
Less:					
Cost of Goods Sold (55% of Sales)	\$0	\$214,500	\$357,500	\$357,500	\$357,500
Freight (4% of CSG)	\$0	\$8,580	\$14,300	\$14,300	\$14,300
Gross profit	\$0	\$166,920	\$278,200	\$278,200	\$278,200
Less Expenses:					
Wages and Benefits	\$0	\$161,300	\$224,434	\$228,976	\$233,746
Credit card charges (1.9% of sales)	\$0	\$7,410	\$12,350	\$12,350	\$12,350
Purchasing related travel	\$0	\$4,500	\$4,500	\$4,500	\$4,500
Shop Supplies	\$0	\$4,000	\$4,000	\$4,000	\$4,000
Annual Gift Shop Expenses	\$0	\$177,210	\$245,284	\$249,826	\$254,596
Net Profit (Loss)	\$0	(\$10,290)	\$32,916	\$28,374	\$23,604

10.3 FACILITY RENTALS

Based on the market analysis prepared by fsSTRATEGY the following room rental rates have been assumed for Remail Modern:

- Multipurpose Room - \$1,000
- Boardroom - \$250
- Meeting Room - \$150
- Roof Top Terrace - \$1,000
- Lecture Theatre - \$250

It is anticipated that the rental of these spaces will generate annual revenue of approximately \$260,000, using the base case scenario developed by fsStrategy (an average of \$5,000 per week of bookings; combination of all Remail Modern rental options available). In the first year of operations, this amount will be reduced by approximately by two thirds - \$86,750 is projected for year one rental revenue as Remail Modern will be open for less than the full year and it is not expected that the full demand for bookings will take place until the Gallery has been open for a few months. The facility rentals will be managed by the Guest Services Manager (1 FTE) and will be supported by the Special Events and Volunteer Coordinators (2 FTE).

	2015	2016	2017	2018	2019
Facility Rentals	\$0	\$86,750	\$260,000	\$260,000	\$255,050

10.4 FOOD SERVICE COMMISSIONS

Remail Modern will collect a commission of gross revenues from the food services provider. The commission may change depending on the arrangement made with the food service provider, who at this time is unknown.

There are no direct expenses related to this function, as the third-party provider will be responsible for all activities related to operating food services. When a private event requires catering, it will be coordinated by the Special Events and Volunteer Coordinator in conjunction with the third-party provider. The wage costs associated with the Special Events and Volunteer Coordinator position have been allocated to the facility rentals business unit.

	2015	2016	2017	2018	2019
Restaurant Revenue	\$0	\$40,000	\$92,580	\$92,580	\$92,580
Private event Commissions	\$0	\$12,800	\$50,700	\$50,700	\$50,700
Net Profit (Loss)	\$0	\$52,800	\$143,280	\$143,280	\$143,280

10.5 DEVELOPMENT

The following budget was created to support the development plan outlined in this business plan. The projected financial results specific to development activities are as follows:

	2015	2016	2017	2018	2019
Development Revenue					
Annual Fundraising/Development	\$0	\$340,000	\$755,000	\$970,000	\$1,185,000
Annual Memberships	\$0	\$60,000	\$108,500	\$139,500	\$170,500
Federal Annual Funding	\$0	\$160,000	\$160,000	\$160,000	\$160,000
Provincial Annual Funding	\$0	\$418,500	\$418,500	\$418,500	\$418,500
Other Grants/Funding	\$0	\$170,394	\$42,180	\$69,056	\$89,057
Annual Development Revenue	\$0	\$1,148,894	\$1,484,180	\$1,757,056	\$2,023,057
Less Expenses:					
Salaries and Benefits	\$0	\$422,924	\$473,398	\$473,398	\$473,398
Professional Development	\$16,000	\$7,000	\$7,000	\$10,000	\$10,000
Stewardship	\$15,000	\$25,000	\$33,000	\$38,000	\$45,000
Printing	\$25,000	\$30,000	\$13,000	\$13,000	\$19,000
Special Events	\$0	\$25,000	\$31,000	\$32,000	\$32,000
Memberships	\$6,000	\$8,000	\$15,000	\$16,000	\$17,000
Donor Programs	\$0	\$10,000	\$18,000	\$22,500	\$22,500
Supplies	\$500	\$600	\$600	\$600	\$600
Annual Development Expenses	\$62,500	\$528,524	\$590,998	\$605,498	\$619,498
Net Profit (Loss)	(\$62,500)	\$620,370	\$893,182	\$1,151,558	\$1,403,559

10.5.1 MEMBERSHIP REVENUE CALCULATION

It is projected that Remai Modern will maintain a similar level of memberships that the Mendel Art Gallery attracted in the first year of operations and continually grow and build the membership base as Remai Modern grows in popularity in the city. The anticipated membership levels have been projected as follows:

	2015	2016	2017	2018	2019
# of memberships	0	1,000	1,400	1,800	2,200
Average revenue per membership	\$77.50	\$77.50	\$77.50	\$77.50	\$77.50
Annual membership revenue	\$0	\$77,500	\$108,500	\$139,500	\$170,500

10.6 PUBLIC PROGRAMMING

Annual public programming revenues and related expenses have been projected based on the 2012 business plan and discussions with management as the programming of Remai Modern is still in development.

Annual program revenue generated from circulation fees, Art Caravan fees, and other public/professional program fees are projected as follows:

	2015	2016	2017	2018	2019
Public Programs Revenue					
Art Caravan Revenue	\$1,000	\$2,000	\$2,000	\$2,000	\$2,000
Art studio program revenue	\$8,500	\$17,000	\$17,000	\$17,000	\$17,000
Tours and workshops	\$2,000	\$5,000	\$5,000	\$5,000	\$5,000
Public/professional program	\$7,000	\$15,000	\$30,000	\$30,000	\$30,000
Annual public Program Revenue	\$18,500	\$39,000	\$54,000	\$54,000	\$54,000
Less Expenses:					
Presentation	\$12,500	\$25,000	\$32,300	\$32,300	\$32,300
Program Costs	\$50,000	\$105,000	\$140,000	\$150,000	\$180,000
Research	\$3,400	\$6,100	\$6,100	\$6,100	\$6,100
Theatre Programming Costs	\$0	\$45,000	\$100,000	\$100,000	\$100,000
Annual Public Program Expenses	\$65,900	\$181,100	\$278,400	\$288,400	\$318,400
Net Profit (Loss)	(\$47,400)	(\$142,100)	(\$224,400)	(\$234,400)	(\$264,400)

10.7 RIVER LANDING RENTAL FEE

The City of Saskatoon will have office space in Remail Modern for the management of River Landing. An annual rent of \$220,000 is projected to be paid to Remail Modern for this space.

10.8 CITY OF SASKATOON OPERATING CONTRIBUTION (PROJECTED)

The annual operating shortfall that remains to be funded for Remail Modern has been calculated to as follow:

	2015	2016	2017	2018	2019
City of Saskatoon Operating	\$2,196,051	\$4,631,937	\$5,490,700	\$6,082,600	\$6,476,900
% of Total Revenue/Income	99.16%	64.72%	57.79%	58.68%	58.76%

This amount is the City's projected contribution which has been balanced with City Finance to the City's long-term funding plan. This business plan has outlined what is required in terms of human resources and other inputs to deliver on the brand promise and vision of Remail Modern.

10.9 NO ADMISSION FEE ANALYSIS

As discussed Remail Modern's intention to charge a general admission fee is a key assumption throughout this business plan. If an admission fee is not charged there are many impacts. There will be significant decreases to membership levels, sponsorships and other development activities, resulting in a significant increase to the annual support required by the City of Saskatoon. The anticipated impacts include:

- Reducing membership level to 800 per year
- Reducing membership dues to \$40 per member
- Reducing sponsorships by \$100,000 per year
- Eliminating admissions revenue – both general and special exhibit
- Increased donation box revenues, increasing to \$5,000 annually

	2015	2016	2017	2018	2019
No Admission Charge					
City of Saskatoon Operating Subsidy	\$2,196,051	\$4,969,937	\$6,074,200	\$6,697,100	\$7,122,400
Percentage of Total Revenue/Income	99.16%	69.45%	63.93%	64.60%	64.62%

In comparison to when an admission is charged:

	2015	2016	2017	2018	2019
With an Admission Charge					
City of Saskatoon Operating Subsidy	\$2,196,051	\$4,631,937	\$5,490,700	\$6,082,600	\$6,476,900
Percentage of Total Revenue/Income	99.16%	64.72%	57.79%	58.68%	58.76%

It is projected that if no admission fee is charged the overall impact to revenue would be as follows:

	2015	2016	2017	2018	2019
Self-Generated Revenue					
Admissions - Annual	\$0	\$0	\$0	\$0	\$0
Admissions - Special Exhibitions	\$0	\$0	\$0	\$0	\$0
Annual donation box	\$0	\$5,000	\$5,000	\$5,000	\$5,000
Program revenue	\$18,500	\$39,000	\$54,000	\$54,000	\$54,000
Private Functions & Rentals	\$0	\$86,750	\$260,000	\$260,000	\$255,050
Food Services Commission	\$0	\$52,800	\$143,280	\$143,280	\$143,280
Remai Modern Gift Shop Sales	\$0	\$390,000	\$650,000	\$650,000	\$650,000
River Landing Rental Fee	\$0	\$73,333	\$220,000	\$220,000	\$220,000
	\$18,500	\$646,883	\$1,332,280	\$1,332,280	\$1,327,330
Development Revenue					
Annual Fundraising/Development	\$0	\$240,000	\$655,000	\$870,000	\$1,085,000
Annual Memberships	\$0	\$8,000	\$32,000	\$32,000	\$32,000
Federal Annual Funding	\$0	\$160,000	\$160,000	\$160,000	\$160,000
Provincial Annual Funding	\$0	\$418,500	\$418,500	\$418,500	\$418,500
Other Grants/Funding	\$0	\$170,394	\$42,180	\$69,056	\$89,057
	\$0	\$996,894	\$1,307,680	\$1,549,556	\$1,784,557
Restricted Funding					
	\$0	\$542,655	\$787,655	\$787,657	\$787,655
City of Saskatoon Operating Grant					
	\$2,196,051	\$4,969,937	\$6,074,200	\$6,697,100	\$7,122,400
Total Revenue	\$2,214,551	\$7,156,369	\$9,501,815	\$10,366,593	\$11,021,942

Operating Expenses

Salaries & Benefits	\$1,320,915	\$3,087,246	\$3,627,856	\$3,892,027	\$3,933,127
Facilities & Equipment	\$42,245	\$1,081,520	\$2,230,521	\$2,233,321	\$2,233,321
General Exhibitions	\$42,999	\$615,158	\$678,922	\$766,704	\$877,500

Administration	\$273,567	\$402,100	\$362,200	\$410,800	\$430,900
Marketing & Communications	\$350,000	\$656,700	\$615,400	\$660,700	\$680,700
Public Programs	\$65,900	\$181,100	\$278,400	\$288,400	\$318,400
Staffing Expenditures	\$41,300	\$65,000	\$65,000	\$66,000	\$71,000
Fundraising	\$62,500	\$105,600	\$117,600	\$132,100	\$146,100
Gift Shop	\$1,500	\$15,910	\$20,850	\$20,850	\$20,850
Gift Shop - CGS & Freight	\$0	\$223,080	\$371,800	\$371,800	\$371,800
Collection Maintenance	\$0	\$41,250	\$39,250	\$39,250	\$48,657
Board & Committees	\$5,625	\$14,050	\$14,100	\$14,150	\$14,150
Library	\$8,000	\$8,000	\$8,000	\$8,000	\$8,000
Facility Rentals & Catering loan expense	\$0	\$0	\$172,261	\$172,261	\$172,261
Admissions computer expense	\$0	\$2,000	\$2,000	\$2,000	\$2,000
	\$2,214,551	\$6,498,714	\$8,604,160	\$9,078,362	\$9,328,766

Transfers to:

Capital Replacement Reserve	\$0	\$0	\$0	\$370,574	\$522,226
Equipment Replacement Reserve	\$0	\$70,000	\$65,000	\$65,000	\$100,000
Facility/Catering Capital Reserve	\$0	\$0	\$0	\$0	\$218,295
Permanent Collection Fund	\$0	\$87,655	\$87,655	\$107,655	\$107,655
Remai Exhibition Fund	\$0	\$500,000	\$500,000	\$500,000	\$500,000
Museums Assistance Program	\$0	\$0	\$245,000	\$245,002	\$245,000
	\$0	\$657,655	\$897,655	\$1,288,231	\$1,693,176

Total Expenses/Transfers	\$2,214,551	\$7,156,369	\$9,501,815	\$10,366,593	\$11,021,942
	99.16%	69.45%	63.93%	64.60%	64.62%

A key finding from the Fast Consulting report was the desire of Saskatoon residents to see Remai Modern become as self sufficient as possible. The implementation of an admission fee is an important tool, not only to meet this goal of self-sufficiency, but also it is also an important element to assist in the ongoing, long-term sustainability of the Gallery.

11. CONCLUSION

The business plan has outlined the human resource requirements, budget and marketing supports that will be required to implement the Remail Modern vision. The implementation of this vision, as outlined, is required to ensure a successful and sustainable art gallery for Saskatoon and Saskatchewan's future generations.

The introduction of a modest admission fee structure will highlight for potential funders (government and/or industry) that Remail Modern understands the value of money and has taken a "business-like" and pragmatic approach to operations without alienating the public with an admission fee that is not affordable. It is this balance that must be maintained as Remail Modern is established in Saskatoon. As it has been stated, the vision and brand promise provide a simple and disciplined framework for building this new legacy brand - Remail Modern - for the city, province and also the country.

The Gallery supporters and early donors are expecting "big things" and the brand promise must be delivered. Currently, there is momentum around economic growth and "pride of place" in the City of Saskatoon and this will be used to drive the new brand forward with key Return on Investment metrics for stakeholders. With this momentum there is interest in Saskatoon for new ventures, gathering places, and the River Landing project. This energy will be leveraged and Remail Modern will be the "face" of the new "2.0 Saskatoon".

Remail Modern will be the largest tourism product launch in Canada in 2015-2016. This opportunity must be marketed throughout Saskatchewan, Canada, and internationally. Without committed funding to support the marketing, staffing and vision, it will be not be possible to implement the plan to the projected levels of success promised to the community.

Remai Modern is becoming...

- a thought leader and direction-setting modern art gallery.
- the civic heart of a revitalized River Landing.
- a stage on which globally circulating knowledge is infused with locally relevant perspectives.
- an architectural landmark, organic in design & environmental in operation.
- a reflection of a vibrant, modern Canadian city.
- home to an enviable permanent collection, including the most comprehensive collection of Picasso linocuts.
- a centre of discourse for the Canadian perspective on global art movements.
- a home for internationally-renowned exhibitions of contemporary art.
- accessible, unexpected, challenging and disruptive.
- a platform for rethinking the role of a 21st century art museum.
- an engine for exploring new art territories and their role in shaping the future of art and society.
- a venue with a modern art & design store and an outstanding restaurant.
- a driver of increased economic activity, improved quality of life and enhanced community engagement.
- a hub for live and interdisciplinary programs that respond to transformational developments in art and culture.
- a leader in developing new models for sharing knowledge and engaging diverse communities.
- a base for programmes that embrace schools, children, youth, families, adults and seniors.
- defined by architectural excellence in a stunning riverside locale.
- social and inclusive.
- a setting for breathtaking indoor and open air events.
- a museum interpreting the idea of 'modern' - from multiple cultural, historical and contemporary perspectives.
- a forum for affirming the powerful role that art and artists play in questioning, interpreting and defining the modern era.
- a gallery that respects Canada's First Nations and reflects their cultures.

REMAI MODERN
ART GALLERY OF SASKATCHEWAN
is becoming...

Opening 2016

APPENDIX A: FINANCIAL PROJECTIONS

Remai Modern Art Gallery of Saskatchewan
Five Year Financial Projection
For the Years Ending December 31, 2015 - 2019

	2015	2016	2017	2018	2019
Self-Generated Revenue (Note 3)					
Admissions - Annual	\$0	\$150,000	\$330,000	\$330,000	\$330,000
Admissions - Special Exhibitions	\$0	\$40,000	\$80,000	\$80,000	\$80,000
Annual donation box	\$0	\$1,000	\$2,000	\$2,000	\$2,000
Program revenue	\$18,500	\$39,000	\$54,000	\$54,000	\$54,000
Private Functions & Rentals	\$0	\$86,750	\$260,000	\$260,000	\$255,050
Food Services Commission	\$0	\$52,800	\$143,280	\$143,280	\$143,280
Remai Modern Gift Shop Sales	\$0	\$390,000	\$650,000	\$650,000	\$650,000
River Landing Rental Fee	\$0	\$73,333	\$220,000	\$220,000	\$220,000
	\$18,500	\$832,883	\$1,739,280	\$1,739,280	\$1,734,330
Development Revenue (Note 4)					
Annual Fundraising/Development	\$0	\$340,000	\$755,000	\$970,000	\$1,185,000
Annual Memberships	\$0	\$60,000	\$108,500	\$139,500	\$170,500
Federal Annual Funding	\$0	\$160,000	\$160,000	\$160,000	\$160,000
Provincial Annual Funding	\$0	\$418,500	\$418,500	\$418,500	\$418,500
Other Grants/Funding	\$0	\$170,394	\$42,180	\$69,056	\$89,057
	\$0	\$1,148,894	\$1,484,180	\$1,757,056	\$2,023,057
Restricted Funding (Note 5)	\$0	\$542,655	\$787,655	\$787,657	\$787,655
City of Saskatoon Operating Subsidy (Note 6)	\$2,196,051	\$4,631,937	\$5,490,700	\$6,082,600	\$6,476,900
Total Revenue	\$2,214,551	\$7,156,369	\$9,501,815	\$10,366,593	\$11,021,942
Remai Modern Gift Shop					
Cost of Goods Sold (Note 7)	\$0	\$214,500	\$357,500	\$357,500	\$357,500
Freight	\$0	\$8,580	\$14,300	\$14,300	\$14,300
	\$0	\$223,080	\$371,800	\$371,800	\$371,800
Operating Expenses (Note 8)					
Salaries & Benefits	\$1,320,915	\$3,087,246	\$3,627,856	\$3,892,027	\$3,933,127
Facilities & Equipment	\$42,245	\$1,081,520	\$2,230,521	\$2,233,321	\$2,233,321
General Exhibitions	\$42,999	\$615,158	\$678,922	\$766,704	\$877,500

Administration	\$273,567	\$402,100	\$362,200	\$410,800	\$430,900
Marketing & Communications	\$350,000	\$656,700	\$615,400	\$660,700	\$680,700
Public Programs	\$65,900	\$181,100	\$278,400	\$288,400	\$318,400
Staffing Expenditures	\$41,300	\$65,000	\$65,000	\$66,000	\$71,000
Fundraising	\$62,500	\$105,600	\$117,600	\$132,100	\$146,100
Remai Modern Gift Shop	\$1,500	\$15,910	\$20,850	\$20,850	\$20,850
Collection Maintenance	\$0	\$41,250	\$39,250	\$39,250	\$48,657
Board & Committees	\$5,625	\$14,050	\$14,100	\$14,150	\$14,150
Library	\$8,000	\$8,000	\$8,000	\$8,000	\$8,000
Facility Rentals & Catering loan	\$0	\$0	\$172,261	\$172,261	\$172,261
Admissions computer	\$0	\$2,000	\$2,000	\$2,000	\$2,000
	\$2,214,551	\$6,275,634	\$8,232,360	\$8,706,562	\$8,956,966

Transfers (Note 9)

Capital Replacement Reserve	\$0	\$0	\$0	\$370,574	\$522,226
Equipment Replacement Reserve	\$0	\$70,000	\$65,000	\$65,000	\$100,000
Facility/Catering Capital Reserve	\$0	\$0	\$0	\$0	\$218,295
Permanent Collection Fund	\$0	\$87,655	\$87,655	\$107,655	\$107,655
Remai Exhibition Fund	\$0	\$500,000	\$500,000	\$500,000	\$500,000
Museums Assistance Program	\$0	\$0	\$245,000	\$245,002	\$245,000
	\$0	\$657,655	\$897,655	\$1,288,231	\$1,693,176

Total COGS, Expenses & Transfers	\$2,214,551	\$7,156,369	\$9,501,815	\$10,366,593	\$11,021,942
	99.16%	64.72%	57.79%	58.68%	58.76%

1. NATURE OF PRESENTATION

This financial projection presents, to the best of management's knowledge and belief, Rемаi Modern Art Gallery of Saskatchewan's (Remai Modern) expected results of operation for the projected years. Accordingly, the projection reflects management's judgment, as of May 1, 2014 of the expected conditions and their expected course of action.

2. HYPOTHESIS

The accompanying projection assumes that Rемаi Modern begins operations as a separate entity in 2015. Rемаi Modern will begin to incur expenses in 2015 as the Mendel Art Gallery winds down operations and Rемаi Modern ramps up. Rемаi Modern will begin full operations in 2016, as such revenue and expenses have been projected assuming a half year of operations. The Mendel Art Gallery Transition Plan outlines the transition of activities to Rемаi Modern, including details regarding expense and revenue allocation. The 2017 year will be the first full year of operations for Rемаi Modern.

Any assets and liabilities associated with Rемаi Modern are not presented in this projection.

3. SELF-GENERATED REVENUE

Revenues have been established on management's best estimates and attendance and admissions studies prepared for Rемаi Modern.

	2015	2016	2017	2018	2019
General Admission					
Number of visitors	0	13,636	30,000	30,000	30,000
Average admission charge (\$)	\$11.00	\$11.00	\$11.00	\$11.00	\$11.00
Annual General Admission (\$)	\$0	\$150,000	\$330,000	\$330,000	\$330,000
Admissions - Average Special Exhibitions					
Number of visitors	0	10,000	20,000	20,000	20,000
Special admission charge (\$)	\$4.00	\$4.00	\$4.00	\$4.00	\$4.00
Special Exhibitions Admission (\$)	\$0	\$40,000	\$80,000	\$80,000	\$80,000
Donation Box					
Annual donation box	\$0	\$1,000	\$2,000	\$2,000	\$2,000
Public Programs Revenue					

Art Caravan Revenue	\$1,000	\$2,000	\$2,000	\$2,000	\$2,000
Art studio program revenue	\$8,500	\$17,000	\$17,000	\$17,000	\$17,000
Tours and workshops	\$2,000	\$5,000	\$5,000	\$5,000	\$5,000
Public/professional program	\$7,000	\$15,000	\$30,000	\$30,000	\$30,000
Annual public Program	\$18,500	\$39,000	\$54,000	\$54,000	\$54,000
Private Functions & Rentals					
Average based on the fs Strategy Report	\$0	\$0	\$0	\$0	\$0
Private functions and rentals	\$0	\$86,750	\$260,000	\$260,000	\$255,050
Food Service Commission					
Annual payment based on the fs Strategy Report	\$0	\$0	\$0	\$0	\$0
Restaurant Revenue	\$0	\$40,000	\$92,580	\$92,580	\$92,580
Private event Commissions	\$0	\$12,800	\$50,700	\$50,700	\$50,700
Food Service Commission	\$0	\$52,800	\$143,280	\$143,280	\$143,280
Remai Modern Gift Shop Sales					
Annual Instore sales	\$0	\$273,000	\$455,000	\$455,000	\$455,000
Annual Online sales	\$0	\$117,000	\$195,000	\$195,000	\$195,000
	\$0	\$390,000	\$650,000	\$650,000	\$650,000
Annual River Landing Rental Fee					
Annual River landing Office	\$0	\$73,333	\$220,000	\$220,000	\$220,000
	\$18,500	\$832,883	\$1,739,280	\$1,739,280	\$1,734,330

4. DEVELOPMENT REVENUE

Development Revenue encompasses all annual fundraising efforts which include annual government grants and funding. The revenue is based on anticipated need and has been developed based on the new organization and new organizational structure. Revenues related to donations have been projected based on development studies prepared for Remai Modern. This also includes restricted funding that has been allocated to specific gallery initiatives, all income related to restricted funding must to directly allocated to the expense it was proved for, and therefore cannot be used for general operations or development activities. These amounts have been expensed in the transfers below, as outlined in Note 9.

	2015	2016	2017	2018	2019
Development Revenue					
Individual Donations	\$0	\$20,000	\$40,000	\$67,500	\$95,000
Corporate Donations	\$0	\$10,000	\$15,000	\$17,500	\$20,000
Major Gifts	\$0	\$150,000	\$300,000	\$450,000	\$600,000
Sponsorships - Programs, Spaces, Exhibitions	\$0	\$100,000	\$300,000	\$325,000	\$350,000
Special Events	\$0	\$60,000	\$100,000	\$110,000	\$120,000
Annual Fundraising Development	\$0	\$340,000	\$755,000	\$970,000	\$1,185,000
Memberships					
# of memberships	0	774	1,400	1,800	2,200
average revenue per membership \$	\$0	\$78	\$78	\$78	\$78
Annual membership \$	\$0	\$60,000	\$108,500	\$139,500	\$170,500
Province of Saskatchewan					
Saskatchewan Arts Board	\$0	\$250,000	\$250,000	\$250,000	\$250,000
Sask Lotteries	\$0	\$168,500	\$168,500	\$168,500	\$168,500
Grants/Foundations	\$0	\$170,394	\$42,180	\$69,056	\$89,057
Federal Government					
Canada Council for the Arts	\$0	\$160,000	\$160,000	\$160,000	\$160,000
Federal annual funding	\$0	\$613,500	\$623,500	\$638,500	\$658,500
Total Fundraising Revenue	\$0	\$1,148,894	\$1,487,180	\$1,757,056	\$2,023,057

5. RESTRICTED FUNDS REVENUE

Restricted funding revenues are funds that have been raised for a specific purpose ie. Exhibition, as such these revenues are not part of general operational funding and are fully expended each fiscal year.

	2015	2016	2017	2018	2019
Canada Council - Art Acquisitions Grant	\$0	\$30,000	\$30,000	\$30,000	\$30,000
Permanent Collection Fundraising	\$0	\$12,655	\$12,655	\$12,655	\$12,655
Remai Foundation Exhibition Grant	\$0	\$500,000	\$500,000	\$500,000	\$500,000
Museums Assistance Program Grant	\$0	\$0	\$245,000	\$245,000	\$245,000
Restricted Funds Revenue	\$0	\$542,655	\$787,655	\$787,655	\$787,655

6. CITY OF SASKATOON SUBSIDY

The City Subsidy is funding provided by the City of Saskatoon to cover basic operating costs. The City and the gallery have worked towards alignment of funding that is available

from the City to match the operational needs required by the gallery.

	2015	2016	2017	2018	2019
City of Saskatoon Operating	\$2,196,051	\$4,631,937	\$5,490,700	\$6,082,600	\$6,476,900

7. REMAI MODERN STORE COST OF GOODS SOLD

Average cost of sales have been projected based on the average cost of sales for the previously experienced with the Mendel Gallery gift shop and management's best estimates in conjunction with the relevant Statistics Canada Small Business Profiles. As the actual costs of goods sold will vary by product category an average of 55% has been used for the purposes of this projection. Freight costs, 4% of costs of goods sold have been projected based on historical results for the Mendel Art Gallery retail store.

	2015	2016	2017	2018	2019
Cost of Goods Sold (55% of Sales)	\$0	\$214,500	\$357,500	\$357,500	\$357,500
Freight (4% of CSG)	\$0	\$8,580	\$14,300	\$14,300	\$14,300
Gross profit	\$0	\$223,080	\$371,800	\$371,800	\$371,800

8. OPERATING EXPENSES

Expenses have been projected based on management's best estimates, estimates provided by building constructors and other reports and studies as appropriate.

8.1. FACILITIES & EQUIPMENT

Appropriate facilities and equipment have been projected for 2015 and 2016 based on the Mendel Art Gallery transition plan.

	2015	2016	2017	2018	2019
Insurance - Building	\$0	\$17,764	\$35,528	\$38,328	\$38,328
Insurance - Equipment	\$2,745	\$2,800	\$2,800	\$2,800	\$2,800
Maintenance Agreement Fee	\$0	\$784,873	\$1,605,127	\$1,605,127	\$1,605,127
Small Equipment Purchases	\$6,200	\$12,500	\$12,500	\$12,500	\$12,500
Repairs	\$5,300	\$10,600	\$10,600	\$10,600	\$10,600
Server/Computer Maintenance Agreement	\$28,000	\$42,000	\$42,000	\$42,000	\$42,000
Guard Contract Fees	\$0	\$210,983	\$521,966	\$521,966	\$521,966
Total Facilities & Equipment Expenditures	\$42,245	\$1,081,520	\$2,230,521	\$2,233,321	\$2,233,321

8.2. ADMISSIONS COMPUTERS/SUPPLIES

To support the charging of an admission fee the Remai Modern will require equipment and supplies including a POS and tickets.

	2015	2016	2017	2018	2019
Admissions Computer/Supplies	\$0	\$2,000	\$2,000	\$2,000	\$2,000

8.3. GENERAL EXHIBITIONS

	2015	2016	2017	2018	2019
Exhibition Circulation	\$0	\$20,000	\$35,000	\$39,000	\$42,500
Presentation	\$0	\$380,000	\$390,000	\$438,782	\$480,000
Publication	\$22,999	\$105,000	\$123,922	\$135,000	\$180,000
Public/Professional	\$0	\$85,000	\$105,000	\$123,922	\$140,000
Research	\$20,000	\$25,158	\$25,000	\$30,000	\$35,000
General Exhibitions	\$42,999	\$615,158	\$678,922	\$766,704	\$877,500

8.4. PUBLIC PROGRAMS

	2015	2016	2017	2018	2019
Presentation	\$12,500	\$25,000	\$32,300	\$32,300	\$32,300
Program Costs	\$50,000	\$105,000	\$140,000	\$150,000	\$180,000
Research	\$3,400	\$6,100	\$6,100	\$6,100	\$6,100
Theatre Programming Costs	\$0	\$45,000	\$100,000	\$100,000	\$100,000
Public Programs	\$65,900	\$181,100	\$278,400	\$288,400	\$318,400

8.5. ADMINISTRATION

Administrative expenditures related to Remai Modern are projected to begin in 2015. As per the Mendel Art Gallery Transition plan, a portion (50%) of the annual expenditures, except where noted, related to these activities is anticipated to be incurred by Remai Modern in 2015. It is anticipated that 80% of the Director's annual expenditures will be allocated to Remai Modern in 2015. The Research expenditures will be fully allocated to Remai Modern in 2015.

	2015	2016	2017	2018	2019
Director's Expenditures	\$24,480	\$32,600	\$32,700	\$34,700	\$34,700
Research Expenditures	\$31,700	\$31,700	\$20,000	\$20,000	\$20,000
Courier	\$4,700	\$9,500	\$9,500	\$10,000	\$10,000
Car Allowance	\$5,200	\$6,500	\$6,500	\$6,500	\$6,500
Parking Costs	\$0	\$10,000	\$15,000	\$15,000	\$15,000
Meeting Costs	\$500	\$1,000	\$1,000	\$1,500	\$1,500
Photocopying	\$5,000	\$10,000	\$10,500	\$16,000	\$16,000
Postage	\$10,200	\$25,400	\$25,500	\$46,000	\$46,000
Printing	\$2,050	\$4,100	\$4,200	\$6,300	\$6,400
Software	\$10,350	\$32,000	\$34,000	\$51,000	\$56,000
Supplies	\$6,150	\$12,500	\$12,500	\$13,000	\$13,000
Telephone & Fax	\$16,250	\$49,000	\$60,000	\$60,000	\$60,000
Affiliation/membership Fees	\$7,500	\$18,000	\$25,000	\$25,000	\$25,000
Audit Fees	\$22,500	\$45,000	\$45,000	\$45,000	\$45,000
Bank Charges	\$2,750	\$6,500	\$7,500	\$7,500	\$7,500
Legal Fees	\$36,100	\$37,300	\$2,300	\$2,300	\$2,300
Strategic Planning	\$25,000	\$15,000	\$20,000	\$20,000	\$35,000
Business Planning	\$25,000	\$15,000	\$25,000	\$25,000	\$25,000
Professional Services Fees	\$38,137	\$41,000	\$6,000	\$6,000	\$6,000
Administration	\$273,567	\$402,100	\$362,200	\$410,800	\$430,900

8.6. COLLECTIONS MAINTENANCE

It is not anticipated that any expenditures related to collections maintenance will be incurred by Remai Modern in 2015.

	2015	2016	2017	2018	2019
Fee & Honoraria	\$0	\$1,000	\$1,000	\$1,000	\$1,000
Insurance	\$0	\$15,000	\$15,000	\$15,000	\$15,000
Restoration Fees	\$0	\$9,000	\$8,000	\$8,000	\$13,907
Inventory Count Fees	\$0	\$1,000	\$1,000	\$1,000	\$1,000
Supplies	\$0	\$15,000	\$14,000	\$14,000	\$17,500
Photography	\$0	\$250	\$250	\$250	\$250
Total Collection Maintenance Expenditures	\$0	\$41,250	\$39,250	\$39,250	\$48,657

8.7. LIBRARY

It is projected that Remai Modern will begin developing library resources in 2015.

	2015	2016	2017	2018	2019
Supplies	\$8,000	\$8,000	\$8,000	\$8,000	\$8,000
Library	\$8,000	\$8,000	\$8,000	\$8,000	\$8,000

8.8. BOARD AND VOLUNTEERS

It is projected that Remai Modern Board and committees will begin activities in 2015.

	2015	2016	2017	2018	2019
Supplies and printing	\$500	\$1,050	\$1,000	\$1,050	\$1,050
Meeting Costs/Hosting	\$3,375	\$6,800	\$6,800	\$6,800	\$6,800
Travel/Board retreat	\$1,750	\$4,200	\$4,300	\$4,300	\$4,300
Board and Committees	\$5,250	\$11,300	\$11,400	\$11,400	\$11,400

8.9. VOLUNTEERS

It is projected that volunteer related expenses and activities will begin in 2016.

	2015	2016	2017	2018	2019
Hosting	\$0	\$2,000	\$2,000	\$2,000	\$2,000
Volunteers	\$0	\$2,000	\$2,000	\$2,000	\$2,000

8.10. DEVELOPMENT/FUNDRAISING

It is projected that Remai Modern development programs will be established by 2015 and will be ongoing.

	2015	2016	2017	2018	2019
Professional Development	\$16,000	\$7,000	\$7,000	\$10,000	\$10,000
Stewardship	\$15,000	\$25,000	\$33,000	\$38,000	\$45,000
Printing	\$25,000	\$30,000	\$13,000	\$13,000	\$19,000
Special Events	\$0	\$25,000	\$31,000	\$32,000	\$32,000
Memberships	\$6,000	\$8,000	\$15,000	\$16,000	\$17,000
Donor Programs	\$0	\$10,000	\$18,000	\$22,500	\$22,500
Supplies	\$500	\$600	\$600	\$600	\$600
Development/Fundraising	\$62,500	\$105,600	\$117,600	\$132,100	\$146,100

8.11. MARKETING

Marketing expenses have been projected based on information provided by Kerry Harris and management's best estimate. Advertising includes all activities related to promoting Remai Modern and its facilities including exhibitions, programs, tours, facility rentals, retail store, etc.

	2015	2016	2017	2018	2019
Advertising	\$200,000	\$620,000	\$515,000	\$520,000	\$525,000
Hosting	\$0	\$8,000	\$1,500	\$1,500	\$1,500
Photography	\$0	\$2,000	\$2,200	\$27,500	\$27,500
Printing	\$150,000	\$25,000	\$85,000	\$100,000	\$115,000
Supplies	\$0	\$1,700	\$1,700	\$1,700	\$1,700
Website	\$0	\$0	\$10,000	\$10,000	\$10,000
Marketing	\$350,000	\$656,700	\$615,400	\$660,700	\$680,700

8.12. REMAI MODERN RETAIL

It is projected that Remai Modern Store will open when the full gallery opens in 2016. Applicable expenditures have been projected as a percentage of sales as noted below.

	2015	2016	2017	2018	2019
Credit card charges (1.9% of sales)	\$0	\$7,410	\$12,350	\$12,350	\$12,350
Purchasing related travel	\$1,500	\$4,500	\$4,500	\$4,500	\$4,500
Shop Supplies	\$0	\$4,000	\$4,000	\$4,000	\$4,000
Annual Gift Shop Expenses	\$1,500	\$15,910	\$20,850	\$20,850	\$20,850

8.13. FOOD SERVICES LOAN REPAYMENT

As food services will be the responsibility of a third party provider there are not operational expenses other than salaries related to the delivery of food services or facility rentals at Remai Modern, with the exception of the repayment of a five year loan to the City of Saskatoon for the purchase of the commercial kitchen equipment. The amount listed reflects the annual interest and principle repayment. The loan will be repaid over five years beginning in 2017 with an interest rate of 4.5%.

	2015	2016	2017	2018	2019
Food Service Repayment Loan	\$0	\$0	\$172,261	\$172,261	\$172,261

8.14. STAFFING EXPENDITURES

It is projected that gallery staff will have expenditures related to professional development and recruitment in 2015 as these functions transition from the Mendel Gallery to Remai Modern.

	2015	2016	2017	2018	2019
Registration/Course Fees	\$5,150	\$11,000	\$11,000	\$11,000	\$11,000
Travel	\$1,350	\$2,700	\$2,700	\$2,700	\$2,700
Staff Safety	\$0	\$1,500	\$1,500	\$1,500	\$1,500
Training	\$30,000	\$45,000	\$45,000	\$45,000	\$50,000
Meeting Costs	\$1,000	\$1,000	\$1,000	\$2,000	\$2,000
Travel	\$3,800	\$3,800	\$3,800	\$3,800	\$3,800
Staffing Expenditures	\$41,300	\$65,000	\$65,000	\$66,000	\$71,000

8.15. SALARIES AND BENEFITS

Salaries and benefits have been estimated based on the current Collective Bargaining Agreement (CBA) and the Human Resource study that was developed by MNP for Remail Modern. The positions and annual total salaries and benefits are as follows:

Executive Director and CEO
 Executive Assistant
 Administrative Assistant
 Director Of Development
 Development Manager
 Development Associate
 Development Coordinator
 Development Intern
 Membership Coordinator
 Director Of Marketing
 Communications Manager
 Content Coordinator
 Design Coordinator
 Guest Experience Manager
 Special Events & Volunteer Coordinator
 Special Events & Volunteer Coordinator
 Guest Experience Staff (2.75)
 Art & Design Store Manager
 Art & Design Store Assistant Manager
 Art & Design Store Staff (casual)
 Director, Finance & Operations
 Human Resource Consultant
 Security and Technical Coordinator
 Accounting Manager
 Accounting Technician
 Computer Technician
 Director of Programs / Chief Curator
 Curator / Head of Curatorial
 Exhibitions Manager
 Curator / Head Of Public Programs

Curator
 Associate Curator
 Associate Curator
 Associate Curator
 Public Programs And Education Coordinator
 Program Assistant Education Guides (Pooled)
 Assistant Curator
 Program Assistant
 Program Assistant (2)
 Registrar
 Assistant Registrar
 Senior Preparator
 Preparator
 Preparator Assistants (Pooled)

	2015	2016	2017	2018	2019
Salaries	\$1,130,920	\$2,643,190	\$3,106,041	\$3,332,215	\$3,367,403
Benefits	\$189,995	\$444,056	\$521,815	\$559,812	\$565,724
Salaries and Benefits	\$1,320,915	\$3,087,246	\$3,627,856	\$3,892,027	\$3,933,127

9. TRANSFERS

Transfers have been calculated as per agreement with the City Manager and Remail Modern policies regarding sustainability planning. The City of Saskatoon loan repayment is a \$770,000 loan towards kitchen equipment and is repayable to the City of Saskatoon at 4.5% over 5 years.

	2015	2016	2017	2018	2019
Transfer to:					
Capital Replacement Reserve	\$0	\$0	\$0	\$370,574	\$522,226
Equipment Replacement Reserve	\$0	\$70,000	\$65,000	\$65,000	\$100,000
Facility/Catering Capital Reserve	\$0	\$0	\$0	\$0	\$218,295
Permanent Collection Fund	\$0	\$87,655	\$87,655	\$107,655	\$107,655
Remail Exhibition Fund	\$0	\$500,000	\$500,000	\$500,000	\$500,000
Museums Assistance Program	\$0	\$0	\$245,000	\$245,002	\$245,000
Transfers	\$0	\$657,655	\$897,655	\$1,288,231	\$1,693,176

10. INFLATION

Inflation has not been considered in this projection.



EXECUTIVE COMMITTEE

The Adult Services Licensing Bylaw, 2012 – Implications of Criminal Code Amendments

Recommendation of the Committee

1. That *The Adult Services Licensing Bylaw, 2012* be amended by:
 - a) inserting a “whereas” clause at the commencement of The Adult Services Licensing Bylaw, 2012; and
 - b) amending the definition of “adult service agency” to remove any reference to advertising; and
2. That City Council consider Bylaw No. 9274.

History

At the March 16, 2015 meeting of Executive Committee, a report of the City Solicitor was considered regarding the above. The Committee supports the recommendations as submitted above.

In this regard, Bylaw No. 9274, *The Adult Services Licensing Amendment Bylaw, 2015* is attached for City Council’s consideration.

Attachments

1. Report of the City Solicitor dated March 16, 2015
2. Bylaw No. 9274, *The Adult Services Licensing Amendment Bylaw, 2015*

The Adult Services Licensing Bylaw, 2012 – Implications of Criminal Code Amendments

Recommendation

That the Committee recommend to City Council that *The Adult Services Licensing Bylaw, 2012* be amended by:

1. inserting a “whereas” clause at the commencement of *The Adult Services Licensing Bylaw, 2012*; and
2. amending the definition of “adult service agency” to remove any reference to advertising.

Topic and Purpose

The purpose of this Report is to provide to Executive Committee:

- (a) information regarding recent amendments to the *Criminal Code* which affect the licensing of adult services as required by *The Adult Services Licensing Bylaw, 2012* (the “Bylaw”); and
- (b) a recommendation regarding amendments to the Bylaw required as a result of the changes to the *Criminal Code*.

Report Highlights

1. Identify the recent amendments to the *Criminal Code* which affect the City’s adult services licensing scheme as provided for in the Bylaw.
2. Identify the necessary amendments to the Bylaw resulting from the *Criminal Code* amendments.

Strategic Goal

This Report is brought under the Strategic Goal of Quality of Life.

Background

At its meeting held on January 19, 2015, Executive Committee considered a report from our Office advising that the prostitution provisions of the *Criminal Code* had recently been amended and that such amendments could have an impact on the City’s licensing of adult services. Our Office has undertaken a more thorough review of the *Criminal Code* amendments and the Bylaw. The purpose of this Report is to identify the

implications of the *Criminal Code* amendments on the Bylaw and make a recommendation for changes to the Bylaw to ensure that the City's licensing scheme is not offside the criminal legislation.

Representatives of our Office participated in consultations with the City's Planning & Development Division, the Saskatoon Police Service and Public Prosecutions prior to preparation of this Report. In the meantime, the City suspended the issuance of all licenses under the Bylaw to ensure that it was not licensing illegal activity.

Report

Recent Amendments to the *Criminal Code*

As previously reported, there are a number of recent amendments to the *Criminal Code* which have changed how prostitution is regulated. A number of those amendments either do or have the potential to affect the licensing scheme for adult services provided for in the Bylaw.

The term "prostitution" no longer appears in the *Criminal Code*. Offences now relate to "offering, providing or obtaining sexual services for consideration". The term "sexual services" is not defined.

One of the most significant amendments makes it an offence, in any place, to purchase or attempt to purchase sexual services. By virtue of this amendment, prostitution is illegal for the first time in Canadian history.

Also brand new is an offence for knowingly advertising an offer to provide sexual services for consideration. However, no person shall be prosecuted for advertising their own sexual services.

Finally, as a result of the amendments, anyone who receives a financial or other material benefit, knowing that it is obtained or derived directly or indirectly from the sale of sexual services, is guilty of an offence. The *Criminal Code* does provide for exceptions. No offence will be found to have been committed where the person receiving the benefit:

- (a) is the person engaged in the sale of their own sexual services;
- (b) is in a "legitimate living arrangement" with the person providing the sexual services;
- (c) is receiving the benefit as a result of a legal or moral obligation owed by the person providing the sexual services;
- (d) also offers the good or service for which the benefit is being received to the general public; and
- (e) also informally, offers the good or services for fair value.

The purpose of this amendment is to allow the person who is offering the sexual services to enter into legitimate family, business and other relationships without those with whom those relationships are entered into being accused of "living off the avails of

prostitution”. In other words, legitimate family relationships and legitimate business relationships with accountants, receptionists, body guards and the like who receive a benefit from the sale of sexual services from the provider of those services are protected from prosecution under the exceptions.

However, those entitled to rely on the exceptions become disentitled where violence is used, threatened or attempted, where the relationship involves an abuse of power or trust, where intoxicating substances are used to encourage the sale of sexual services, where there is conduct that amounts to procuring the sale of sexual services, or where the benefit is received in the context of a commercial enterprise.

In summary, the amendments to the *Criminal Code* do not prohibit individuals from the sale of their own sexual services or from advertising their own sexual services. However, it is now an offence for others to advertise sexual services or, with limited exceptions, to receive a financial or other material benefit from the sale of sexual services.

Proposed Amendments to *The Adult Services Licensing Bylaw, 2012*

Sexual Services

There is the potential that “adult services” as defined in the Bylaw and “sexual services” as defined in the *Criminal Code* may overlap, and therefore the Bylaw could potentially provide for the licensure of persons to participate in activities that are contrary to the *Criminal Code*. However, prostitution was previously defined by reference to the performance of sexual services and therefore we anticipate that the same activities that the Court has concluded constitute prostitution would also constitute “sexual services” under the new provisions. Accordingly, although there may be some overlap, we expect such overlap would not be any more so than the previous overlap between “adult services” and prostitution and therefore we do not recommend amending the definition of “adult services” at this time.

However, in order to make the City’s intention not to regulate “sexual services” as contemplated by the *Criminal Code* clearer, we would recommend inserting a “whereas” clause at the commencement of the Bylaw.

Adult Service Agencies

In its current form, the Bylaw requires persons to obtain licenses prior to engaging in the operation of an adult service agency; an independent adult service agency; or carrying on business as an adult service performer, transient adult service performer or adult service worker. By definition, the concept of an adult service agency contemplates the agency advertising on behalf of its performers and could therefore be considered contrary to the *Criminal Code*. While it might be argued that “sexual services” are not being advertised, we would recommend changes to the definition which can be done without compromising the licensing scheme for adult service agencies. Advertising is not contemplated in the definition of any other group licensed under the Bylaw.

The Adult Services Licensing Bylaw, 2012 – Implications of Criminal Code Amendments

The remainder of the City's licensing scheme with respect to independent adult service agencies, adult service performers, transient adult service performers and adult service workers would remain acceptable and unchanged unless and until the Court defines "sexual services" as an activity outside the scope of what we anticipate. At that time, further analysis and recommendations would be forthcoming.

Once the proposed amendments are approved by City Council, licensing activity under the Bylaw will resume.

Other Considerations/Implications

There are no options to the recommendation, and no policy, financial, environmental, Privacy, or CPTED implications or considerations.

Due Date for Follow-up and/or Project Completion

Our Office will undertake the required amendments promptly upon receiving instructions from City Council to proceed. Should Executive Committee wish the amendments discussed in this Report to come forward for consideration at the March 23, 2015 City Council meeting, our Office would undertake to provide the Bylaw amendments with this Executive Committee Report for City Council's March 23, 2015 meeting.

Public Notice

Public Notice pursuant to Section 3 of Policy No. C01-021, Public Notice Policy, is not required.

Report Approval

Written by: Christine G. Bogad, Solicitor, Director of Administrative Law
Approved by: Patricia Warwick, City Solicitor

191-1546-cgb-2.docx

BYLAW NO. 9274

The Adult Services Licensing Amendment Bylaw, 2015

The Council of The City of Saskatoon enacts as follows:

Short Title

1. This Bylaw may be cited as *The Adult Services Licensing Amendment Bylaw, 2015*.

Purpose

2. The purpose of this Bylaw is to amend *The Adult Services Licensing Bylaw, 2012* to reflect changes to the City's adult services licensing scheme necessary as a result of recent amendments to the prostitution provisions of the *Criminal Code*.

Bylaw No. 9011 Amended

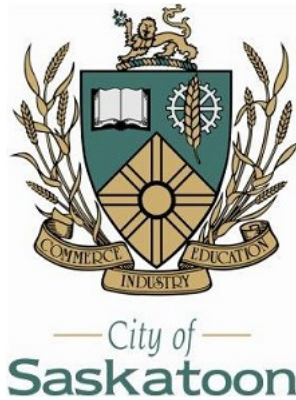
3. *The Adult Services Licensing Bylaw, 2012* is amended in the manner set forth in this Bylaw.

"Whereas" Clauses Added

4. The following "whereas" clauses are added after "And whereas The City of Saskatoon desires to pass a bylaw to license persons engaged in the business of supplying adult services":

" And whereas The City of Saskatoon recognizes Parliament's jurisdiction to regulate in the field of Criminal Law and that the City has limited jurisdiction to deal with such matters;

And whereas The City of Saskatoon has no intention to abrogate or license any activity intended to be a "sexual service" under the *Criminal Code*;"



AGENDA
PUBLIC HEARING MEETING OF CITY COUNCIL

Monday, March 23, 2015, 6:00 p.m.
Council Chamber, City Hall

Pages

- 1. CALL TO ORDER**
- 2. CONFIRMATION OF AGENDA**
- 3. DECLARATION OF PECUNIARY INTEREST**
- 4. ADOPTION OF MINUTES**
 - 4.1 Minutes of Public Hearing Meeting of City Council held on February 23, 2015**

5. PUBLIC HEARINGS

5.1 Land Use, etc.

The following is a report of the City Solicitor dated March 18, 2015:

"City Council at its meeting held on December 15, 2014, resolved that the City Solicitor bring forward a bylaw to designate the property at 803 - 9th Avenue North as Municipal Heritage Property under *The Heritage Property Act*.

In this regard we enclose prepared Bylaw No. 9262, *The 803 9th Avenue North Heritage Designation Bylaw, 2015*. *The Heritage Act* requires that a Notice of Intention to Designate be served on the Registrar of Heritage Property and all persons with an interest in the property. As well, the Notice of Intention must be registered against the title to the property and advertised in at least one issue of a newspaper in general circulation in the municipality. The date advertised in the Notice of Intention to Designate for consideration of this Bylaw by Council is March 23, 2015.

The Heritage Property Act further provides that anyone wishing to object to the proposed designation must serve City Council with an objection stating the reason for the objection and providing the relevant facts. The objection must be served at least three days prior to the City Council meeting at which the Bylaw is to be considered.

If an objection is received, City Council shall either refer the matter to a review board constituted under Section 14 of the *Act* or withdraw the proposed bylaw."

Attached are copies of the following:

- Proposed Bylaw No. 9262, *The 803 9th Avenue North Heritage Designation Bylaw, 2015*;
- Excerpt from the minutes of the Regular Business Meeting of City Council held on December 15, 2014 and related reports;
- and
- Notice which appeared in the local press on February 14 and 15, 2015.

Recommendation

That City Council consider Bylaw No. 9262.

The following is a report of the City Solicitor dated March 18, 2015:

"City Council at its meeting held on December 15, 2014, resolved that the City Solicitor bring forward a bylaw to designate the property at 1102 Spadina Crescent East as Municipal Heritage Property under *The Heritage Property Act*.

In this regard we enclose prepared Bylaw No. 9261, *The 1102 Spadina Crescent East Heritage Designation Bylaw, 2015*. *The Heritage Act* requires that a Notice of Intention to Designate be served on the Registrar of Heritage Property and all persons with an interest in the property. As well, the Notice of Intention must be registered against the title to the property and advertised in at least one issue of a newspaper in general circulation in the municipality. The date advertised in the Notice of Intention to Designate for consideration of this Bylaw by Council is March 23, 2015.

The Heritage Property Act further provides that anyone wishing to object to the proposed designation must serve City Council with an objection stating the reason for the objection and providing the relevant facts. The objection must be served at least three days prior to the City Council meeting at which the Bylaw is to be considered.

If an objection is received, City Council shall either refer the matter to a review board constituted under Section 14 of the *Act* or withdraw the proposed bylaw."

Attached are copies of the following:

- Proposed Bylaw No. 9261, *The 1102 Spadina Crescent East Heritage Designation Bylaw, 2015*;
- Excerpt from the minutes of the Regular Business Meeting of City Council held on December 15, 2014 and related reports;
- and
- Notice which appeared in the local press on February 14 and 15, 2015.

Recommendation

That City Council consider Bylaw No. 9261.

5.1.3 Neighbourhood Level Infill Development Strategy - Proposed Zoning Bylaw Text Amendment - Development Standards for Primary Dwellings in Established Neighbourhoods (File No. CK. 4350-63)

35 - 88

Attached are copies of the following:

- Letter from the Committee Assistant, Municipal Planning Commission dated December 10, 2014;
- Report of the General Manager, Community Services Department dated December 9, 2014;
- Further report of the General Manager, Community Services Department dated March 2, 2015, providing additional information as requested by the Standing Policy Committee on Planning, Development and Community Services;
- Notice published in the local press March 7 and 8, 2015;
- Proposed Bylaw No. 9249, *The Zoning Amendment Bylaw, 2015 (No. 2)*; and
- Letter submitting comments from Sean Sass dated March 2, 2015.

Recommendation

That City Council consider Bylaw No. 9249.

5.1.4 Neighbourhood Level Infill Development Strategy - Proposed Zoning Bylaw Text Amendment - Garden and Garage Suites Accessory to a One-Unit Dwelling - Regulations (File No. CK. 4350-63)

89 - 91

Attached are copies of the following:

- Letter from the Committee Assistant, Municipal Planning Commission dated December 10, 2014 (see attachment 5.1.3);
- Report of the General Manager, Community Services Department dated December 9, 2014 (see attachment 5.1.3);
- Further report of the General Manager, Community Services Department dated March 2, 2015, providing additional information as requested by the Standing Policy Committee on Planning, Development and Community Services (see attachment 5.1.3);
- Notice published in the local press March 7 and 8, 2015;
- Proposed Bylaw No. 9250, *The Zoning Amendment Bylaw, 2015 (No. 3)*; and
- Letter submitting comments from Sean Sass dated March 2, 2015 (see attachment 5.1.3).

Recommendation

That City Council consider Bylaw No. 9250.

- 5.1.5 Proposed Official Community Plan Amendment - Downtown Land Use Map - City Centre Plan Implementation (File No. CK. 4350-015-001)** 92 - 104

Attached are copies of the following:

- Letter from the Committee Assistant, Municipal Planning Commission dated March 5, 2015;
- Report of the General Manager, Community Services Department dated February 24, 2015;
- Notice published in the local press March 7 and 8, 2015; and
- Proposed Bylaw No. 9265, *The Official Community Plan Amendment Bylaw, 2015 (No. 3)*.

Recommendation

That City Council consider Bylaw No. 9265.

- 5.1.6 Proposed Official Community Plan Amendment - Development Standards and Design Guidelines for the Downtown - City Centre Implementation (File No. CK. 4350-015-001 x 4130-1)** 105 - 107

Attached are copies of the following:

- Letter from the Committee Assistant, Municipal Planning Commission dated March 5, 2015 (see attachment 5.1.5);
- Report of the General Manager, Community Services Department dated February 24, 2015 (see attachment 5.1.5);
- Notice published in the local press March 7 and 8, 2015; and
- Proposed Bylaw No. 9266, *The Official Community Plan Amendment Bylaw, 2015 (No. 4)*.

Recommendation

That City Council consider Bylaw No. 9266.

- 5.1.7 Proposed Zoning Bylaw Text Amendment - Development Standards and Design Guidelines for the Downtown - City Centre Plan Implementation (File No. CK. 4350-015-001 x 4130-1)** 108 - 112

Attached are copies of the following:

- Letter from the Committee Assistant, Municipal Planning Commission dated March 5, 2015 (see attachment 5.1.5);
- Report of the General Manager, Community Services Department dated February 24, 2015 (see attachment 5.1.5);
- Notice published in the local press March 7 and 8, 2015; and
- Proposed Bylaw No. 9267, *The Zoning Amendment Bylaw, 2015 (No. 9)*.

Recommendation

That City Council consider Bylaw No. 9267.

- 5.1.8 Proposed Zoning Bylaw Amendment - Rezoning from R1A to RM3 - Stonebridge Common (File No. CK. 4351-015-003)** 113 - 121

Attached are copies of the following:

- Letter from the Committee Assistant, Municipal Planning Commission dated March 3, 2015;
- Report of the General Manager, Community Services Department dated February 24, 2015;
- Notice published in the local press March 7 and 8, 2015; and
- Proposed Bylaw No. 9268, *The Zoning Amendment Bylaw, 2015 (No. 10)*.

Recommendation

That City Council consider Bylaw No. 9268.

- 5.1.9 Proposed Zoning Bylaw Amendment - Rezoning from FUD to B4(H) and RMTN(H) - McOrmond Drive and Highway 5 - Brighton Neighbourhood (File No. CK. 4351-015-002)** 122 - 132

Attached are copies of the following:

- Letter from the Committee Assistant, Municipal Planning Commission dated March 3, 2015;
- Report of the General Manager, Community Services Department dated February 24, 2015;
- Notice published in the local press March 7 and 8, 2015; and
- Proposed Bylaw No. 9269, *The Zoning Amendment Bylaw, 2015 (No. 11)*.

Recommendation

That City Council consider Bylaw No. 9269.

5.2 Public Notice Matters

- 5.2.1 **Contribution Agreement with the Ministry of Education and the Provision of Sites for New Schools (File No. CK. 4020-2 x 4225-1)** 133 - 149

Recommendation

1. That the proposed Contribution Agreement with the Province of Saskatchewan, represented by the Ministry of Education, as outlined in the report of the General Manager, Community Services Department dated March 23, 2015, be approved;
2. That the proposed Lease Agreements with the Greater Saskatoon Catholic School Board and the Saskatoon Public School Board, as outlined in this report, be approved, subject to concluding a memorandum of agreement for the use of the community centre and joint use space to be located in the schools;
3. That His Worship the Mayor and the City Clerk be authorized to execute the agreements under the Corporate Seal; and
4. That up to \$950,000 be allocated from the Community Centre Levy Reserve to fund down payments for the acquisition of the school sites and miscellaneous costs incurred to prepare the school sites for lease.

- 5.2.2 **Proposed Closure of Right-of-Way, North-South Lane between 12th Street West and Garfield Street and East-West Lane between Avenue R and Avenue P - West Industrial (File No. CK. 6295-015-004)** 150 - 157

Recommendation

1. That the entire north-south lane between 12th Street West and Garfield Street and the entire east-west lane between Avenue R and Avenue P be closed;
2. That portions of the proposed closure are to be sold to Lazer Autobody Inc. for \$12,430.43 plus GST and Ironwood III Assets Inc. for \$20,987.18 plus GST. The remaining portion is to be consolidated with adjacent City of Saskatoon property;
3. That all land costs associated with the closure be paid for by the applicants, and all Solicitor's fees and disbursements will be shared equally among the applicants; and
4. That City Council consider Bylaw No.9264, The Street Closing Bylaw, 2015 (No. 3).

6. PROCLAMATIONS AND FLAG RAISINGS

6.1 Flag Raising Requests

- 6.1.1 **HMCS UNICORN - April 27 - May 4, 2015 (File No. CK. 205-1)** 158

Recommendation

That the request to fly the Canadian Naval Jack at City Hall from April 27 to May 4, 2015, be approved subject to any administrative conditions.

- 6.1.2 **Saskatoon Diversity Network - June 8-14, 2015 (File No. CK. 205-1)** 159

Recommendation

That the request to fly the Pride flag at City Hall from June 8-14, 2015, be approved subject to administrative conditions.

6.2 Proclamation Requests

Recommendation

1. That City Council approve all proclamations as set out in Section 6.2; and
2. That the City Clerk be authorized to sign the proclamations, in the standard form, on behalf of City Council.

- 6.2.1 **Saskatchewan Federation of Labour - March 20, 2015 - 'Shift Work Recognition Day' (File No. CK. 205-5)** 160

* for information only - conditional approval previously granted

- 6.2.2 **City of Calgary / UNESCO - March 21, 2015 - 'World Poetry Day' and Month of April 2015 - 'National Poetry Month' (File No. CK. 205-5)** 161 - 162

- 6.2.3 **Autism Services of Saskatoon - Month of April 2015 - 'Autism Awareness Month' (File No. CK. 205-5)** 163

- 6.2.4 **D. Van't Hof - April 15, 2015 - 'Financial Literacy Day' (File No. CK. 205-5)** 164

- 6.2.5 **Operation Lifesaver - April 27 - May 3, 2015 - 'Public - Rail Safety Week' (File No. CK. 205-5)** 165 - 166

- 6.2.6 **Saskatoon & District Labour Council - April 28, 2015 - 'Annual Day of Mourning' (File No. CK. 205-5)** 167

- | | | |
|--------|----------------------------------------------------------------------------------------------------------------------------------------|-----------|
| 6.2.7 | J. Bain, Leave a Legacy Committee - Month of May 2015 - 'Leave a Legacy Month' (File No. CK. 205-5) | 168 |
| 6.2.8 | Institute of Internal Auditors Saskatchewan Chapter Inc. - Month of May 2015 - 'Internal Auditor Awareness Month' (File No. CK. 205-5) | 169 - 170 |
| 6.2.9 | i2i Intergenerational Society - June 1, 2015 - 'Intergenerational Day Canada' (File No. CK. 205-5) | 171 - 172 |
| 6.2.10 | Saskatoon Diversity Network - June 8-14, 2015 - 'Saskatoon Pride Week' (File No. CK. 205-5) | |

* see attachment 6.1.2

7. URGENT BUSINESS

8. ADJOURNMENT

BYLAW NO. 9262

The 803 9th Avenue North Heritage Designation Bylaw, 2015

The Council of The City of Saskatoon enacts:

Short Title

1. This Bylaw may be cited as *The 803 9th Avenue North Heritage Designation Bylaw, 2015*.

Purpose

2. The purpose of this Bylaw is to designate as Municipal Heritage Property the real property and building located at 803 9th Avenue North, Saskatoon, Saskatchewan.

Designation

3. The real property described as:

Surface Parcel Number: 120279696
Legal Land Description: Lot 33, Blk/Par 5, Plan No. 99SA06423
Extension 0
As described on Certificate of Title
99SA06423DX

including the building located thereon, the civic address of which is 803 9th Avenue North, Saskatoon, Saskatchewan, S7K 2Z1, is hereby designated as Municipal Heritage Property under *The Heritage Property Act*, S.S. 1979-80, Chapter H-2.2, as amended.

Reasons for Designation

4. The property is designated for the following reasons:
 - (a) The dwelling was one home to two prominent citizens in Saskatoon: Andrew N. Boyd and Dr. Lorne McConnell;

The following is an excerpt from the minutes of the **Regular Business Meeting of City Council** held on **December 15, 2014**:

8.9. Standing Policy Committee on Planning, Development And Community Services

8.9.1. Application for Municipal Heritage Property Designation 803 9th Avenue North [Files CK 710-63 and PL 907-1]

Moved By: Councillor Hill

Seconded By: Councillor Jeffries

1. That the City Solicitor be requested to prepare and bring forward a bylaw to designate the property at 803 9th Avenue North as a Municipal Heritage Property under the provision of The Heritage Property Act, with such designation limited to the exterior of the building (excluding the addition completed in 2012);
2. That the General Manager, Community Services Department, be requested to prepare the required notices for advertising the proposed designation; and
3. That \$2,500 be allocated from the Heritage Reserve Fund for supply and installation of a recognition plaque for the property.

CARRIED



STANDING POLICY COMMITTEE ON PLANNING, DEVELOPMENT AND COMMUNITY SERVICES

Application for Municipal Heritage Property Designation 803 9th Avenue North

Recommendation of the Committee

That the following recommendations regarding the proposed Municipal Heritage Designation be considered by City Council:

1. That the City Solicitor be requested to prepare and bring forward a bylaw to designate the property at 803 9th Avenue North as a Municipal Heritage Property under the provision of The Heritage Property Act, with such designation limited to the exterior of the building (excluding the addition completed in 2012);
2. That the General Manager, Community Services Department, be requested to prepare the required notices for advertising the proposed designation; and
3. That \$2,500 be allocated from the Heritage Reserve Fund for supply and installation of a recognition plaque for the property.

History

At the December 1, 2014 Standing Policy Committee on Planning, Development and Community Services meeting, a report of the General Manager, Community Services Department dated November 5, 2014, regarding the above matter, was considered. The recommendations have also been reviewed and supported by the Municipal Heritage Advisory Committee.

Attachment

November 5, 2014 Report of the General Manager, Community Services, Files CK 710-63 and PL 907-1.

Application for Municipal Heritage Property Designation – 803 9th Avenue North

Recommendation

That a report be forwarded to the Standing Policy Committee on Planning, Development and Community Services with a recommendation to City Council:

1. That the City Solicitor be requested to prepare and bring forward a bylaw to designate the property at 803 9th Avenue North as a Municipal Heritage Property under the provision of *The Heritage Property Act*, with such designation limited to the exterior of the building (excluding the addition completed in 2012);
2. That the General Manager, Community Services Department, be requested to prepare the required notices for advertising the proposed designation; and
3. That \$2,500 be allocated from the Heritage Reserve Fund for supply and installation of a recognition plaque for the property.

Topic and Purpose

The purpose of this report is to consider an application by the property owner requesting 803 9th Avenue North be designated as a Municipal Heritage Property.

Report Highlights

1. This property is eligible for designation as a Municipal Heritage Property. It is an excellent example of Tudor-style architecture. The property was once home to Andrew N. Boyd, an auto dealership owner and prominent member of the Knox United Church and Dr. Lorne McConnell, a pioneer in the field of neurosurgery in Western Canada and former Chief of Surgery at Saskatoon City Hospital.

Strategic Goal

The report supports the City of Saskatoon's (City) Strategic Goal of Quality of Life. As a community, we find new and creative ways to showcase our city's built, natural, and cultural heritage.

Background

The two-story dwelling located in City Park at 803 9th Avenue North was built in 1929. The Tudor-style dwelling was originally home to Andrew N. Boyd, who founded the auto dealership Boyd Bros. (located at the corner of 24th Street and 2nd Avenue). Mr. Boyd came to Saskatoon from Radisson and North Battleford in 1922 and was a prominent figure in the Knox United Church and past president of the Saskatoon Club from 1930 to 1931.

The home was later purchased by Dr. Lorne McConnell who began his medical practice in Saskatoon in 1912. Mr. McConnell had served with the British Army Medical Corps during World War I, and in the early 1930's studied at McGill University's Neurological Institute before continuing his studies at the Mayo Clinic in Rochester, Minnesota. Mr. McConnell

Application for Municipal Heritage Property Designation – 803 9th Avenue North

was a pioneer in the field of neurosurgery in Western Canada and before his retirement in 1967 served as Chief of Surgery at Saskatoon City Hospital for a number of years.

The dwelling continues to be used as a private residence and the owner of the property has requested designation as a Municipal Heritage Property.

Report

The Administration conducted a formal evaluation of the exterior of the building and is of the opinion that the property is eligible for designation as a Municipal Heritage Property for the following reasons:

1. The dwelling was once home to two prominent citizens in Saskatoon: Andrew N. Boyd and Dr. Lorne McConnell.
2. The dwelling is an excellent example of a traditional 1920's Tudor-style home, which is a relatively unique style of architecture in Saskatoon. Architectural elements featured on this home's exterior, and those of which are characteristic of the Tudor-style, include a steeply pitched roof with a projecting front-gabled extension, brick exterior with stucco cladding on the upper level, an arched front doorway with stone trim, and a large brick chimney (with decorative chimney pots). The bricks used on the exterior of the building appear to be similar to those on other brick buildings built during this era.
3. The dwelling is in excellent condition, and all features of the Tudor architectural style have been retained. An addition to the rear of the property was completed in 2012; however, all materials used were chosen to compliment the exterior finishes and is sympathetic to the existing architecture.

The Administration is recommending that only the exterior original structure be designated as a Municipal Heritage Property. Once the property is designated it will be eligible for funding under the Heritage Conservation Program. The applicant is not applying for funding at this time; however, restoration work will likely be required in the future in order to make repairs to the roof, along with replacement of the shingles and windows. Any future funding requests under the Heritage Conservation Program would not apply to the recent addition completed in 2012.

Options to the Recommendation

City Council has the option of not designating this building as a Municipal Heritage Property.

Public and/or Stakeholder Involvement

Public and/or stakeholder consultations are not required.

Communication Plan

All municipal heritage properties are marked with a bronze plaque on site that describes the heritage significance of the property. If designation is approved, the property will also be added to the Heritage Registry.

Application for Municipal Heritage Property Designation – 803 9th Avenue North

Policy Implications

The proposal complies with Civic Heritage Policy No. C10-020.

Financial Implications

The amount of \$2,500 from the Heritage Reserve Fund would be allocated for the fabrication of the bronze plaque and installation on the property.

Other Considerations/Implications

There are no environmental, privacy, or CPTED implications or considerations.

Due Date for Follow-up and/or Project Completion

If City Council recommends the site designation, a date for a public hearing will be set. This date will be set in accordance with the provisions in *The Heritage Property Act*.

Public Notice

Public Notice, pursuant to Section 3 of Public Notice Policy No. C01-021, is not required.

If designation as a Municipal Heritage Property is recommended, the designation will be advertised in accordance with the provisions in *The Heritage Property Act*, which requires that the Notice of Intention to Designate be advertised at least 30 days prior to the public hearing.

Attachments

1. Location Plan
2. Heritage Evaluation Summary
3. Photographs of Subject Property

Report Approval

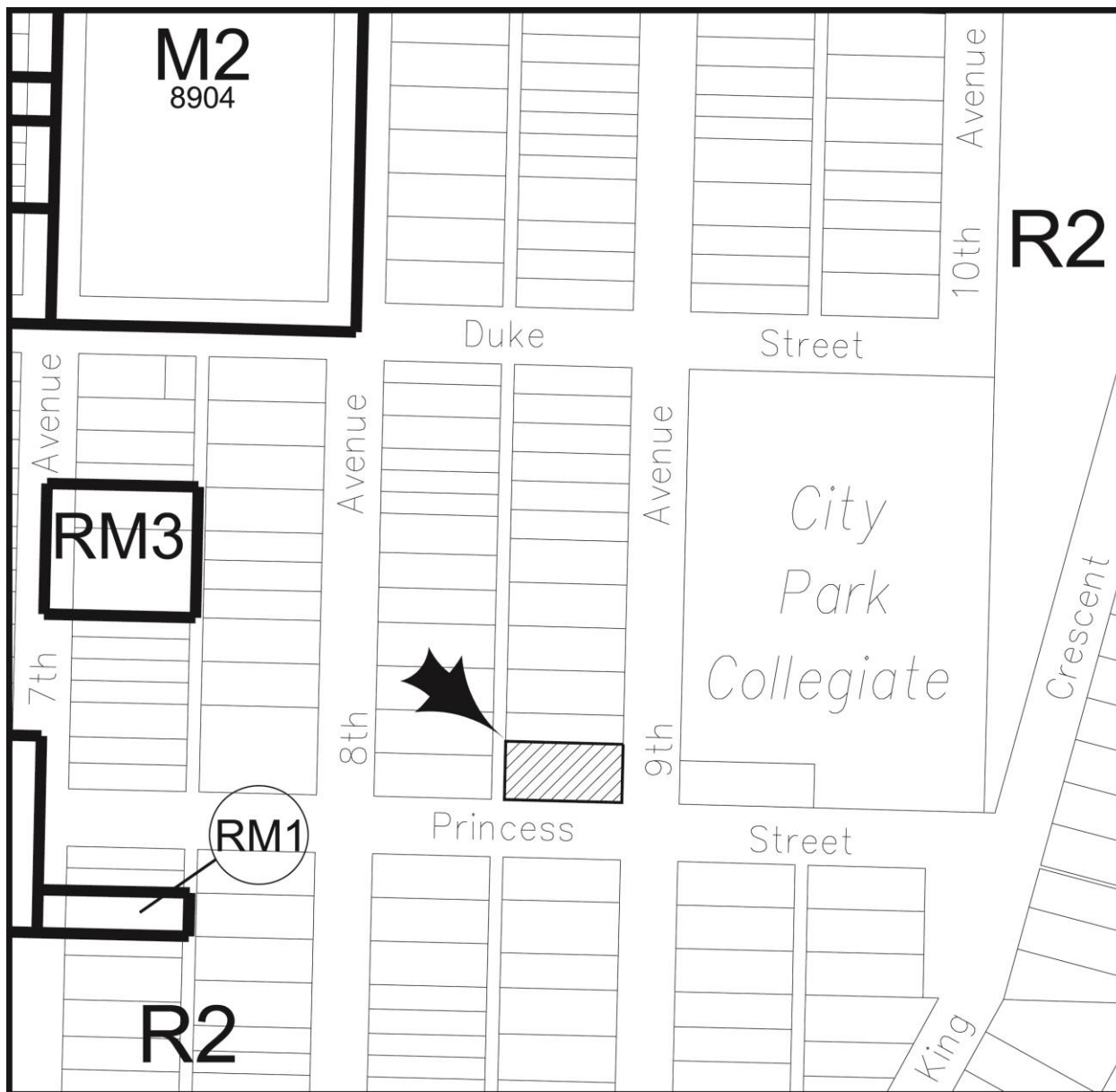
Written by: Catherine Kambeitz, Heritage and Design Coordinator, Planning and Development

Reviewed by: Alan Wallace, Director of Planning and Development

Approved by: Randy Grauer, General Manager, Community Services Department

S:\Reports\DS\2014\MHAC – Application for Municipal Property Designation – 803 9th Avenue North\kt

Location Plan



MUNICIPAL HERITAGE PROPERTY

803 9th Avenue North



N:\Planning\MAPPING\Requests\Internal\Heritage\Heritage Site 803 9th Ave N.dwg

Heritage Evaluation Summary

Resource Name: 803 9th Avenue North

Resource Address: 803 9th Avenue North

Neighbourhood: City Park

Year Built: 1929

Use Type: Residence

Heritage Significance

Architectural Style

Tudor

Architectural Design

The property exhibits these distinct features:

- steeply pitched roof;
- projecting front-gabled extension;
- tall narrow windows with small window panes;
- grouping of windows;
- arched doorways with decorative trim;
- use of brick on the first story and stucco cladding on upper level; and
- large brick chimney with decorative chimney pots.

Construction

Material used includes dark brown/red brown bricks, stucco, concrete and stone for trim/accents. Cedar shingles and wood framed windows.

A fence, presumed to be the original, is located on the entire perimeter of the property and incorporates the same brick and stone work visible on the home.

Significant Persons/Institutions

Person: Andrew N. Boyd (Auto Dealership Owner and Prominent figure in the Knox United Church)

Person: Lorne McConnell (Neurosurgeon and Chief of Surgery at Saskatoon City Hospital; WWI Veteran - Army Medical Corps)

Integrity

All features of the Tudor architectural style have been retained. Kitchen addition on rear of property was completed in 2012 - materials used were chosen to be sympathetic to the existing architecture of the building.

Photographs of Subject Property



Source: Local History, Saskatoon Public Library. PH-96-163-4 (Created by Saskatoon Real Estate Board, 1989).



Brick Exterior with Tall Narrow Windows (2014)



Front Door with Decorative Trim (2014)



Chimney with Decorative Chimney Pots (2014)



Steeply Pitched Roof (2014)

THE STARPHOENIX, SATURDAY, FEBRUARY 14, 2015 and
SUNDAY PHOENIX, FEBRUARY 15, 2015

NOTICE
THE CITY OF SASKATOON
NOTICE OF INTENTION TO DESIGNATE
MUNICIPAL HERITAGE PROPERTY

Notice is hereby given that the Council of The City of Saskatoon intends to pass a Bylaw, pursuant to the provisions of The Heritage Property Act, S.S. 1979-80, Chapter H-2.2 as amended, to designate as Municipal Heritage Property the following real property, namely:

Surface Parcel Number: 120279696

Legal Land Description: Lot 33, Blk/Par 5, Plan No. 99SA06423 Extension 0 As described on Certificate of Title 99SA06423DX

which real property includes the building situated on the property. The civic address of the property is 803 9th Avenue North, Saskatoon, Saskatchewan, S7K 2Z1.

The designation will be made subject to the following condition:

1. The designation shall be limited to the exterior, original structure, of the building. Renovations to the interior of the building shall not require the approval of the City.

The reasons for the proposed designation are as follows:

1. The dwelling was once home to two prominent citizens in Saskatoon: Andrew N. Boyd and Dr. Lorne McConnell;
2. The dwelling is an excellent example of a traditional 1920's Tudor-style home, which is a relatively unique style of architecture in Saskatoon. Architectural elements featured on this home's exterior, and those of which are characteristic of the Tudor-style, include a steeply pitched roof with a projecting front-gabled extension, brick exterior with stucco cladding on the upper level, an arched front doorway with stone trim, and a large brick chimney (with decorative chimney pots). The brick used on the exterior of the building appear to be similar to those on other brick buildings built during this era; and
3. The dwelling is in excellent condition, and all features of the Tudor architectural style have been retained. An addition to the rear of the property was completed in 2012; however, all materials used were chosen to compliment the exterior finishes and is sympathetic to the existing structure.

And take notice that the said Bylaw will be considered at a meeting of the Council to be held on **Monday, the 23rd day of March, 2015, at 6:00 p.m., in the Council Chambers at City Hall, Saskatoon, Saskatchewan.**

Any person wishing to object to the proposed designation must serve on the Council a Notice of Objection, in writing, stating the reason for the objection and all relevant facts, delivering the same to and leaving the same with the City Clerk at City Hall, Saskatoon, Saskatchewan, **on or before the 20th day of March, 2015.**

Dated at the City of Saskatoon
In the Province of Saskatchewan,
This 10th day of February 2015
Joanne Sproule, City Clerk

BYLAW NO. 9261

The 1102 Spadina Crescent East Heritage Designation Bylaw, 2015

The Council of The City of Saskatoon enacts:

Short Title

1. This Bylaw may be cited as *The 1102 Spadina Crescent East Heritage Designation Bylaw, 2015*.

Purpose

2. The purpose of this Bylaw is to designate as Municipal Heritage Property the real property and building located at 1102 Spadina Crescent East, Saskatoon, Saskatchewan.

Designation

3. The real property described as:

Surface Parcel Number: 120280003
Legal Land Description: Lot 42 Blk/Par 4 Plan No. 99SA06423
Extension 0
As described on Certificate of Title 02SA0078

including the building located thereon, the civic address of which is 1102 Spadina Crescent East, Saskatoon, Saskatchewan, S7K 3H7, is hereby designated as Municipal Heritage Property under *The Heritage Property Act*, S.S. 1979-80, Chapter H-2.2, as amended.

Reasons for Designation

4. The property is designated for the following reasons:
 - (a) The dwelling was home to several prominent citizens, including Dr. Richard Wilson, the Mowat Family, Rupert David Ramsey and Issac P. Friesen;

The following is an excerpt from the minutes of the **Regular Business Meeting of City Council** held on **December 15, 2014**:

8.9. Standing Policy Committee on Planning, Development and Community Services

8.9.2. Application for Municipal Heritage Designation and Tax Abatement Funding Under the Heritage Conservation Program - 1102 Spadina Crescent East [Files CK 710-62 and PL 907-1]

****Request to Speak – Richard and Elaine Maj**

Mr. Richard Maj, owner of the property at 1102 Spadina Crescent, spoke in support of the application.

Moved By: Councillor Hill

Seconded By: Councillor Davies

1. That the following recommendations regarding the proposed Municipal Heritage Designation be approved:
 - a. That the City Solicitor be requested to prepare and bring forward a bylaw to designate the property at 1102 Spadina Crescent East as a Municipal Heritage Property, under the provision of The Heritage Property Act with such designation limited to the exterior of the building;
 - b. That the General Manager, Community Services Department, be requested to prepare the required notices for advertising the proposed designation;
 - c. That \$2,500 be allocated from the Heritage Reserve Fund for supply and installation of a recognition plaque for the property; and
 - d. That the City Solicitor be requested to prepare the appropriate agreement and that His Worship the Mayor and the City Clerk be authorized to execute the agreements, under the Corporate Seal; and
2. That the following recommendation regarding the proposed tax abatement and funding under the Heritage Conservation Program be approved, subject to designation:

That the owners of 1102 Spadina Crescent East receive a tax abatement, to a maximum of \$84,400 and a refund of the building permit fee of \$289.11, commencing in the year following satisfactory completion of the rehabilitation project.

CARRIED



STANDING POLICY COMMITTEE ON PLANNING, DEVELOPMENT AND COMMUNITY SERVICES

Application for Municipal Heritage Designation and Tax Abatement Funding Under the Heritage Conservation Program - 1102 Spadina Crescent East

Recommendation of the Committee

1. That the following recommendations regarding the proposed Municipal Heritage Designation be considered by City Council:
 - a. That the City Solicitor be requested to prepare and bring forward a bylaw to designate the property at 1102 Spadina Crescent East as a Municipal Heritage Property, under the provision of The Heritage Property Act with such designation limited to the exterior of the building;
 - b. That the General Manager, Community Services Department, be requested to prepare the required notices for advertising the proposed designation;
 - c. That \$2,500 be allocated from the Heritage Reserve Fund for supply and installation of a recognition plaque for the property; and
 - d. That the City Solicitor be requested to prepare the appropriate agreement and that his Worship the Mayor and the City Clerk be authorized to execute the agreements, under the Corporate Seal; and
2. That the following recommendation regarding the proposed tax abatement and funding under the Heritage Conservation Program be considered by City Council:

That the owners of 1102 Spadina Crescent East receive a tax abatement, to a maximum of \$84,400 and a refund of the building permit fee of \$289.11, commencing in the year following satisfactory completion of the rehabilitation project.

History

At the December 1, 2014 Standing Policy Committee on Planning, Development and Community Services meeting, a report of the General Manager, Community Services Department dated November 5, 2014, regarding the above matter, was considered. The recommendations have also been reviewed and supported by the Municipal Heritage Advisory Committee. The Committee has also received a presentation from Mr. Don Greer opposing the proposed tax abatement for the property.



STANDING POLICY COMMITTEE ON PLANNING, DEVELOPMENT AND COMMUNITY SERVICES

Attachment

November 5, 2014 Report of the General Manager, Community Services, Files CK 710-62 and PL 907-1.

Application for Municipal Heritage Designation and Tax Abatement Funding Under the Heritage Conservation Program – 1102 Spadina Crescent East

Recommendations

That a report be forwarded to the Standing Policy Committee on Planning, Development and Community Services with a recommendation to City Council:

1. That the City Solicitor be requested to prepare and bring forward a bylaw to designate the property at 1102 Spadina Crescent East as a Municipal Heritage Property, under the provision of *The Heritage Property Act* with such designation limited to the exterior of the building;
2. That the General Manager, Community Services Department, be requested to prepare the required notices for advertising the proposed designation;
3. That \$2,500 be allocated from the Heritage Reserve Fund for supply and installation of a recognition plaque for the property;
4. That the owners of 1102 Spadina Crescent East receive a tax abatement, to a maximum of \$84,400 and a refund of the building permit fee of \$289.11, commencing in the year following satisfactory completion of the rehabilitation project; and
5. That the City Solicitor be requested to prepare the appropriate agreement and that his Worship the Mayor and the City Clerk be authorized to execute the agreements, under the Corporate Seal.

Topic and Purpose

The purpose of this report is to consider an application by the property owner requesting 1102 Spadina Crescent East be designated as a Municipal Heritage Property and to approve the request for funding for a project to rehabilitate the exterior of the property, under the Heritage Conservation Program.

Report Highlights

1. This property is eligible for designation as a Municipal Heritage Property. It is a one and a half-story house that exhibits typical characteristics of homes built during the boomtime period, and has been home to several prominent people, including Dr. Richard A. Wilson and Angus McGill Mowat. The property owner is undertaking a rehabilitation project to the exterior of the dwelling.

Strategic Goal

This report supports the City of Saskatoon's (City) Strategic Goal of Quality of Life. As a community, we find new and creative ways to showcase our city's built, natural, and cultural heritage.

Application for Municipal Heritage Designation and Tax Abatement Funding Under the Heritage Conservation Program – 1102 Spadina Crescent East

Background

The one and a half-story dwelling, located in City Park at 1102 Spadina Crescent East, was built in 1914. It has been home to several prominent Saskatoon citizens, including Dr. Richard A. Wilson, the Mowat Family, Rupert David Ramsey, and Issac P. Friesen (see Attachment 2).

The dwelling continues to be used as a private residence, and the owner of the property has requested designation as a Municipal Heritage Property.

Report

Municipal Heritage Designation

The Administration conducted a formal evaluation of heritage significance, and is of the opinion that the property's exterior is eligible for designation as a Municipal Heritage Property for the following reasons:

1. The dwelling was home to several prominent citizens, including Dr. Richard Wilson, the Mowat Family, Rupert David Ramsey, and Issac P. Friesen.
2. The dwelling exhibits typical characteristics of homes built during the boomtime period. The dwelling is one and a half stories with a large sunroom. The exterior of the house is stucco with wood accents.
3. The dwelling remains relatively unaltered and is on its original site. The property owner is committed to a large rehabilitation project.

The Administration is recommending that only the exterior building be designated as a Municipal Heritage Property. Once the property is designated, it is eligible for funding under the Heritage Conservation Program.

Heritage Conservation Program for Designated Municipal Heritage Properties

Financial assistance for designated Municipal Heritage Properties includes a property tax abatement of up to 50% of costs related to the restoration of architectural elements and renovations to meet building code requirements where it affects the character defining elements of the building. Additional assistance includes a refund of 50% of the building and development permit fees. Heritage home owners may also choose to receive funding as a grant, rather than tax abatement, if the application for funding is less than \$10,000.

The Heritage Conservation Program provides funding for up to 50% of costs related to restoration of the heritage elements of the property. For this project, the owner qualifies for a maximum of \$84,400, in the form of a tax abatement amortized over a ten-year period. Should the approved tax abatement be greater than the property taxes, a grant will also be issued to the property owner for the difference over the amortization period. The final amount of the tax abatement will be determined once the approved work has been completed and the associated receipts submitted.

Application for Municipal Heritage Designation and Tax Abatement Funding Under the Heritage Conservation Program – 1102 Spadina Crescent East

Based on the estimates provided by the property owner, the following elements of the project are eligible:

Roof	\$ 20,000
Exterior Finish	\$ 48,200
Windows and Frames	\$ 36,700
Foundation Repairs	\$ 46,400
Side Entrance Stair Repair	\$ 17,500
TOTAL	\$168,800
Tax Abatement Available	\$ 84,400

Options to the Recommendation

City Council has the option of not designating the site as a Municipal Heritage Property or approving the funding request.

Communication Plan

All municipal heritage properties are marked with a bronze plaque on site that describes the heritage significance of the property. If designation is approved, the property will also be added to the Heritage Registry.

Policy Implications

This proposal complies with Civic Heritage Policy No. C10-020 (Policy).

Financial Implications

The total estimated cost of the eligible expenses of this project is \$168,800 and under the Policy, the project would qualify for 50% of eligible costs. A tax abatement, to a maximum amount of \$84,400, would be amortized over a ten-year period and will begin in the year following the completion of the project.

The applicant is also eligible for a refund of \$298.11 for the building permit fees of the project.

The source of funding is the Heritage Reserve Fund. The current balance is \$199,609.06. Funding of this project will not impact the ability of the Heritage Reserve Fund to continue funding existing property tax abatements or other previously approved programs. The Heritage Reserve Fund receives an annual transfer of \$57,600.

The amount of \$2,500 from the Heritage Reserve Fund would be allocated for the fabrication of the bronze plaque and installation on the property.

Other Considerations/Implications

There are no environmental, privacy, or CPTED implications or considerations.

Application for Municipal Heritage Designation and Tax Abatement Funding Under the Heritage Conservation Program – 1102 Spadina Crescent East

Due Date for Follow-up and/or Project Completion

If City Council recommends the site designation, a date for a public hearing will be set. This date will be set in accordance with the provisions in *The Heritage Property Act*.

Public Notice

Public Notice, pursuant to Section 3 of Public Notice Policy No. C01-021, is not required.

If designation as a Municipal Heritage Property is recommended, the designation will be advertised in accordance with the provisions in *The Heritage Property Act*, which requires that the Notice of Intention to Designate be advertised at least 30 days prior to the public hearing.

Attachments

1. Location Plan
2. Heritage Evaluation Summary
3. Photographs of Subject Property

Report Approval

Written by: Catherine Kambeitz, Heritage and Design Coordinator, Planning and Development Division

Reviewed by: Alan Wallace, Director of Planning and Development

Approved by: Randy Grauer, General Manager, Community Services Department

S:\Reports\DS\2014\PDCCS – Application for Municipal Heritage Designation and Tax Abatement Funding Under the Heritage Conservation Program – 1102 Spadina Crescent East\kt

Location Plan



PROPOSED MUNICIPAL HERITAGE PROPERTY

1102 Spadina Crescent East



N:\Planning\MAPPING\Requests\Internal\Heritage\Heritage Site - 1102 Spadina Crescent East.dwg

Resource Name: 1102 Spadina Crescent East

Resource Address: 1102 Spadina Crescent East

Neighbourhood: City Park

Year Built: 1914

Use Type: Residence

Heritage Significance

Architectural Style

Vernacular with Craftsman Influences

Architectural Design

The property exhibits these features:

- Two low-pitched front-facing gables with multiple roof planes;
- Stucco wall cladding with half-timbered detailing;
- Wide, enclosed eave overhang; and
- Groupings of windows (i.e. ribbon windows) located on front and rear façade.

Construction

Material used includes stucco and wood for trim/accents. North side of the predominant roof was reshingled approximately ten years ago. Cedar shakes cover the remaining portions of the roof. Most of the wood framed windows are not considered original and were presumably replaced sometime in the 1960's.

Significant Persons/Institutions

Person: Richard A. Wilson (English Professor and Head of English Department from 1915 to 1940, University of Saskatchewan)

Person(s): Angus McGill Mowat (Head Librarian at Saskatoon Public Library from 1932 to 1937); Farley Mowat (Canadian Author – "Owls in the Family" set in Saskatoon)

Person: Rupert David Ramsey (Professor of Agriculture; Director, Extension Division, University of Saskatchewan)

Person: Issac P. Friesen (Minister in the Mennonite Church; Author; Missionary)

Integrity

Features of the original home have for the most part been retained. Windows, shingles, and stucco have been replaced/redone.

Photographs of Subject Property



Front Exterior (2014)



Back Exterior (2014)



Side Entrance Stairs (2014)



Roof / Shingles (2014)

THE STARPHOENIX, SATURDAY, FEBRUARY 14, 2015 and
SUNDAY PHOENIX, FEBRUARY 15, 2015

NOTICE
THE CITY OF SASKATOON

**NOTICE OF INTENTION TO DESIGNATE
MUNICIPAL HERITAGE PROPERTY**

Notice is hereby given that the Council of The City of Saskatoon intends to pass a Bylaw, pursuant to the provisions of The Heritage Property Act, S.S. 1979-80, Chapter H-2.2 as amended, to designate as Municipal Heritage Property the following real property, namely:

Surface Parcel Number: 120280003
Legal Land Description: Lot 42, Blk/Par 4, Plan No. 99SA06423 Extension 0
As described on Certificate of Title 02SA00788

which real property includes the building situated on the property. The civic address of the property is 1102 Spadina Crescent East, Saskatoon, Saskatchewan, S7K 3H7.

The designation will be made subject to the following condition:

1. The designation shall be limited to the exterior of the building. Renovations to the interior of the building shall not require the approval of the City.

The reasons for the proposed designation are as follows:

1. The dwelling was home to several prominent citizens, including Dr. Richard Wilson, the Mowat Family, Rupert David Ramsey and Issac P. Friesen;
 2. The dwelling exhibits typical characteristics of homes built during the boomtime period. The dwelling is one and a half stories with a large sunroom. The exterior of the house is stucco with wood accents; and
 3. The dwelling remains on its original site.
- The property owner is committed to a large rehabilitation project.

And take notice that the said Bylaw will be considered at a meeting of the Council to be held on **Monday, the 23rd day of March, 2015, at 6:00 p.m., in the Council Chambers at City Hall, Saskatoon, Saskatchewan.**

Any person wishing to object to the proposed designation must serve on the Council a Notice of Objection, in writing, stating the reason for the objection and all relevant facts, delivering the same to and leaving the same with the City Clerk at City Hall, Saskatoon, Saskatchewan, **on or before the 20th day of March, 2015.**

Dated at the City of Saskatoon
In the Province of Saskatchewan,
This 10th day of February, 2015
Joanne Sproule, City Clerk

December 10, 2014

City Clerk

Dear City Clerk:

**Re: Municipal Planning Commission Report for Public Hearing
Neighbourhood Level Infill Development Strategy – Zoning Bylaw Text
Amendment to Amend the Development Standards for Primary Dwellings in
Established Neighbourhoods
(Files CK 4350-63 and PL 4350-Z26/14)**

The Municipal Planning Commission considered a report of the General Manager, Community Services Department, dated December 9, 2014, on the above application and supports the following recommendations of the Community Services Department:

That proposed Zoning Bylaw No. 8770 amendments to provide development standards for infill development, as outlined in the report of the General Manager, Community Services Department, dated December 9, 2014, be approved.

The Commission respectfully requests that the above report be considered by City Council at the time of the public hearing with respect to the above proposed amendment.

Yours truly,



Penny Walter, Committee Assistant
Municipal Planning Commission

PW:sj

Attachment

Neighbourhood Level Infill Development Strategy – Zoning Bylaw Text Amendment to Amend the Development Standards for Primary Dwellings in Established Neighbourhoods

Recommendation

That a copy of this report be forwarded to City Council recommending:

1. That at the time of the public hearing, City Council be asked to consider the Administration's recommendation that proposed Zoning Bylaw No. 8770 amendments to provide development standards for infill development, as outlined in this report, be approved.

Topic and Purpose

The purpose of this report is to consider amendments to Zoning Bylaw No. 8770 that will provide development standards for infill development for primary dwellings in the established neighbourhoods as part of the Neighbourhood Level Infill Development Strategy. This report also recommends amendments to Sidewalks - Private Crossings Over Bylaw No. 4785 to prohibit driveway crossings (curb cuts) in Category 1 neighbourhoods.

Report Highlights

1. The Administration is recommending amendments to Zoning Bylaw No. 8770 that will implement development standards with the goal of balancing demand for contemporary housing with the existing built form in Established Neighbourhoods, as identified in the Neighbourhood Level Infill Development Strategy.
2. The Administration is recommending that Sidewalks - Private Crossings Over Bylaw No. 4785 be amended to prohibit driveway crossings (curb cuts) in Category 1 neighbourhoods to preserve the unique street character of Saskatoon's oldest neighbourhoods.

Strategic Goal

This report supports the City of Saskatoon's (City) Strategic Goal of Sustainable Growth by ensuring that infill development is compatible with the existing built form. Developing design guidelines to promote infill development in existing neighbourhoods is specifically identified as a four-year strategy.

Background

The Neighbourhood Level Infill Development Strategy (Strategy) was endorsed by City Council on December 16, 2013. The Strategy outlined best practices, design guidelines, and regulations, which will provide design flexibility and minimize the impact on neighbouring property owners.

A report was considered by the Planning and Operations Committee on March 25, 2014, which included an overall implementation plan for the Strategy.

During its May 20, 2014 meeting, City Council resolved to approve the advertising for amendments to Zoning Bylaw No. 8770 regarding infill development. At that time, the Administration was prepared to implement amendments that would regulate neighbourhood level infill. However, stakeholders, which included homebuilders, expressed concerns that the regulations were too restrictive and may not accommodate conventional house design or common construction methods. Civic staff held additional meetings with these stakeholders to discuss concerns and provide clarity to the regulations. Their input was considered and incorporated into the regulations where appropriate.

Report

Zoning Bylaw No. 8770 Amendments

The Strategy recommended that the existing development standards, in particular those that regulate building height and massing, be amended to ensure that new infill development does not detract from the character of an existing neighbourhood. In this regard, the Administration is proposing amendments to the development standards for one- and two-unit dwellings, and semi-detached dwellings in the low-density residential zoning districts in established neighbourhoods.

Category 1 and 2 Neighbourhoods

As identified in the Strategy, the established neighbourhoods are divided into two categories. Category 1 neighbourhoods include City Park, Caswell Hill, Westmount, Riversdale, Pleasant Hill, King George, Nutana, Varsity View, Buena Vista, North Park, Haultain, and Exhibition. These neighbourhoods are generally Saskatoon's oldest, characterized by a grid design with narrow residential streets, rear lanes, and large mature trees. Category 2 neighbourhoods are the remainder of the established neighbourhoods (see Attachment 1).

Details of the proposed amendments are outlined and illustrated in Attachment 2. The key amendments proposed for primary dwellings include the following:

- 1) allowable sidewall area, which is determined by a calculation of building height and building wall length;
- 2) regulations specific to flat-roof structures;
- 3) revisions to current site width requirements;
- 4) height of front door; and
- 5) permitting porches to extend into the required front yard.

The Administration has received information from a group of homebuilders regarding the proposed bylaw changes. It is evident that some are not in agreement with the regulations, which will limit the size of dwellings. There is a concern that homes will no longer be able to be built to the maximum site coverage of 40%. This group has proposed that the length of the first floor (or storey) not be limited and that the building length of upper floors be limited to 14 metres. The Administration has aimed to balance the concerns heard during the public input phase of this project.

Amendments to Sidewalks - Private Crossings Over Bylaw No. 4785

The Administration recommends that Sidewalks - Private Crossings Over Bylaw No. 4785 be amended to prohibit front yard driveways or curb cuts, and prohibit expanding existing curb cuts where rear lanes exist for Category 1 neighbourhoods. There was strong support shown for this amendment to preserve street character.

Housekeeping Amendments for Garden and Garage Suites

Zoning Bylaw No. 8770 was amended in May 2014 to allow for the development of garden and garage suites. Following further stakeholder input, minor amendments are proposed to clarify the height in Category 1 neighbourhoods, add Exhibition to the list of Category 1 neighbourhoods, and remove two-storey suites in Category 2 neighbourhoods (refer to Attachment 2).

Options to the Recommendation

City Council has the option of not approving the bylaw amendments. In this case, further direction to the Administration would be required.

Public and/or Stakeholder Involvement

A Community Advisory Committee (Committee), comprised of civic staff, homebuilders, and interested members of the public, was assembled to provide direction and oversee implementation of the Strategy. The Committee provided input into the development standards contained in this report.

Zoning Bylaw amendments were proposed in May 2014; however, many homebuilders expressed concerns with the proposed development standards. Since that time, the Administration has held additional meetings with homebuilders and other stakeholders to discuss concerns and consider feedback. Further revisions were made to the infill guidelines.

A public information meeting was held on October 30, 2014, to present the proposed regulations. The meeting was attended by approximately 75 people. Planning and Development presented the proposed bylaw amendments and a question and answer period followed. Comments were submitted that supported the proposed infill regulations. Comments were also received that opposed the regulations, in particular those that would limit building area. A summary of comments is included as Attachment 3.

Communication Plan

If the amendments are approved, marketing materials will be produced that include the new regulations and design guidelines for primary dwellings. The information will be available on the City's website and will be distributed to the Saskatoon and Region Home Builders' Association.

Policy Implications

Amendments to Zoning Bylaw No. 8770 are outlined in this report.

Other Considerations/Implications

There are no environmental, financial, privacy, or CPTED implications.

Due Date for Follow-up and/or Project Completion

Should the amendments be approved, the Administration will monitor the impacts of the new regulations. Staff time required and permit fees to process infill development applications will also be monitored and evaluated. The Administration will provide City Council with a report after the regulations have been in effect for approximately one year.

Public Notice

The Zoning Bylaw amendment will be advertised in accordance with Public Notice Policy No. C01-021, and a date for a public hearing will be set. A notice will be placed in The StarPhoenix two weeks prior to the public hearing.

Attachments

1. Category 1 and Category 2 Neighbourhoods
2. Proposed Changes to Existing Development Standards
3. Community Engagement Summary

Report Approval

Written by: Paula Kotasek-Toth, Senior Planner, Planning and Development
Reviewed by: Alan Wallace, Director of Planning and Development
Approved by: Randy Grauer, General Manager, Community Services Department

S/Reports/DS/2014/MPC – Neighbourhood Level Infill Dev. Strategy – Zoning Bylaw Text Amend. To Amend the Dev. Standards for Primary Dwellings in Est. Neighbourhoods/ks

Proposed Changes To Existing Development Standards

The Neighbourhood Level Infill Development Strategy (Strategy) recommended that the existing development standards, in particular those that regulate building height and massing, be amended to ensure that new infill development does not detract from the character of an existing neighbourhood. In this regard, the Administration is proposing amendments to the development standards for one- and two-unit dwellings, and semi-detached dwellings in the R1 – Large Lot One-Unit Residential District, R1A – One-Unit Residential District, and R2 One- and Two-Unit Residential District in the established neighbourhoods.

Category 1 and 2 Neighbourhoods

1. Category 1 neighbourhoods include City Park, Caswell Hill, Westmount, Riversdale, Pleasant Hill, King George, Nutana, Varsity View, Buena Vista, North Park, Haultain, and Exhibition. These neighbourhoods are generally characterized by a grid design with narrow residential streets and large mature trees.
2. Category 2 neighbourhoods are the remainder of the established neighbourhoods and include Hudson Bay, Mayfair, Kelsey-Woodlawn, Richmond Heights, Sutherland, Forest Grove, Greystone Heights, Grosvenor, Brevoort Park, Nutana S.C., Eastview, Nutana Park, Adelaide/Churchill, Queen Elizabeth, Avalon, Holiday Park, Montgomery Place, Mount Royal, and Meadowgreen.

Amendments that Pertain to Both Category 1 and 2 Neighbourhoods

Allowable Sidewall Area

To provide for dwellings that do not overwhelm the character of adjacent dwellings, it is proposed that the building height and length be used to calculate an allowable building area. This allows for flexibility in design, while limiting the mass of the sidewall.

Development Standard	Existing	Proposed	Rationale
Allowable Sidewall Area.	No regulation.	<ol style="list-style-type: none"> 1. Determine the building height (using the angular plane). See diagram on page 3. 2. Determine the maximum building length. See diagram on page 4. 3. Allowable sidewall area is calculated using building height and wall length. <p>The sidewall of the building shall not exceed this area. Sidewall area is all areas, located under eaves and facing the same direction.</p> <p>The maximum height standard of the building remains at 8.5 metres to the highest point of a flat roof, the deck line of a mansard roof, and to the mean height level between the ridge for a gable, hip, or gambrel roof.</p>	<p>Decrease the overall building mass of dwelling to mitigate shading and increase privacy of neighbouring properties.</p> <p>The sidewall calculation is intended to limit the overall mass of the sidewall.</p>

Allowable Sidewall Area Diagrams

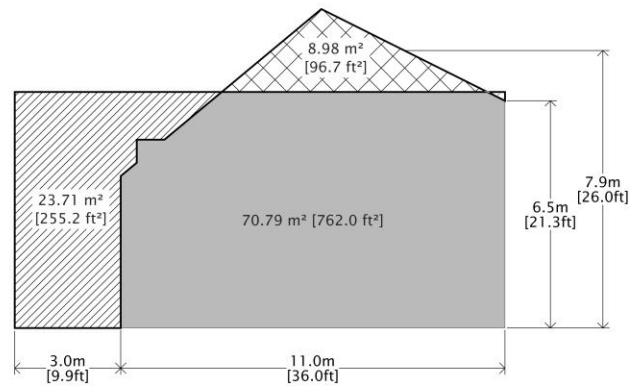
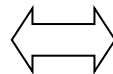
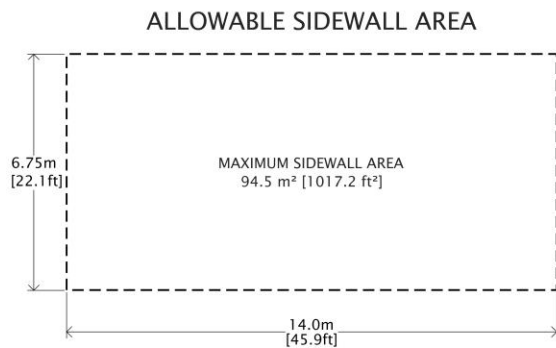
The diagrams below illustrate how the allowable sidewall calculation is applied. In this example, the allowable wall area is 94.5 m², which is shown on the left. The diagrams on the right show how the area can be applied. Allowable sidewall area is determined by the building wall height and building wall length calculations on pages 3 and 4.

Example: Modified Two Storey




1



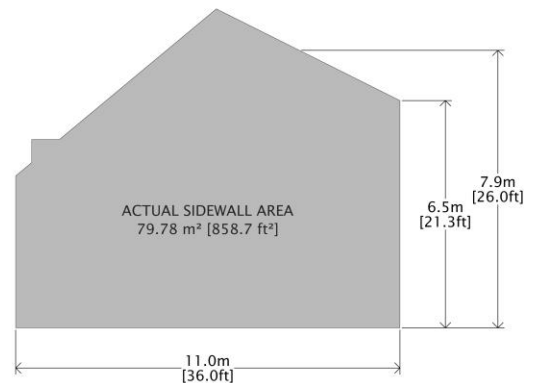
2



Total Sidewall Area = 79.8m²

-  SIDEWALL AREA WITHIN ALLOWABLE BOUNDARY
-  REMAINING SIDEWALL AREA
-  RELOCATED SIDEWALL AREA

3



Modified Two Storey

Allowable Sidewall Area: 94.5 m²

Actual Sidewall Area: 79.78 m²

This example complies with the allowable sidewall area.

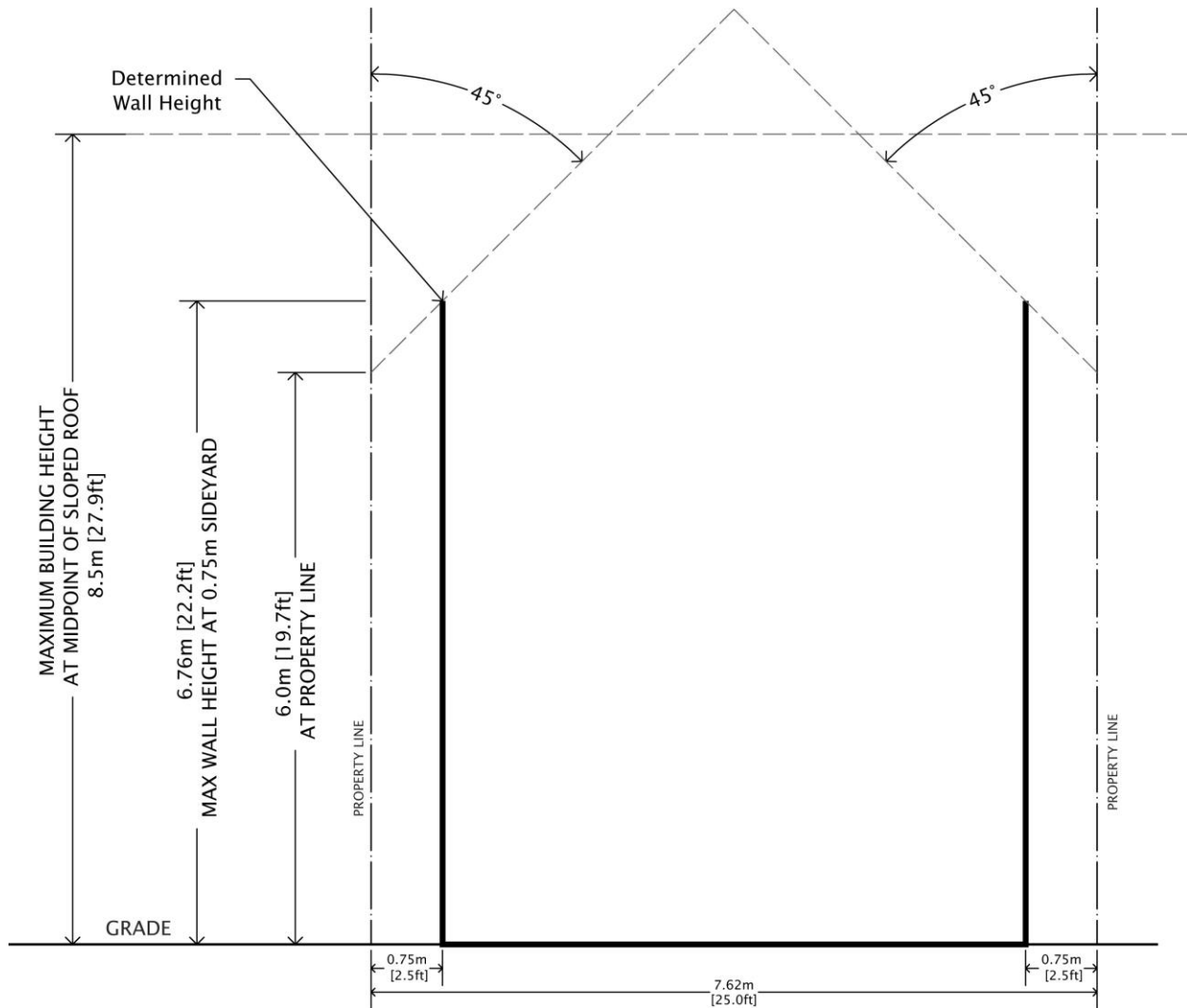
Building Wall Height Calculation for Allowable Sidewall Area

The Strategy proposes a “building envelope” or angular plane to regulate massing of a dwelling. It is recommended that this tool be implemented to determine a building wall height to be used in conjunction with a building wall length to calculate allowable sidewall area.

Proposed

The wall height would be determined by a 45 degree angular plane, measured from a height of 6 metres, projecting vertically from the side property line. The allowable wall height is determined where the wall intersects the 45 degree angular plane.

By increasing side yard, the allowable wall height would be increased.



Building Wall Length Calculation for the Allowable Sidewall Area

There are currently no restrictions for the length of a wall of one- and two-unit dwellings or a semi-detached dwelling. This may result in a sidewall of an infill development extending further into the rear yard, beyond the adjacent dwellings.

It is recommended that a building wall length to be used in conjunction with building wall height to calculate allowable sidewall area.

Proposed

The building wall length shall be:

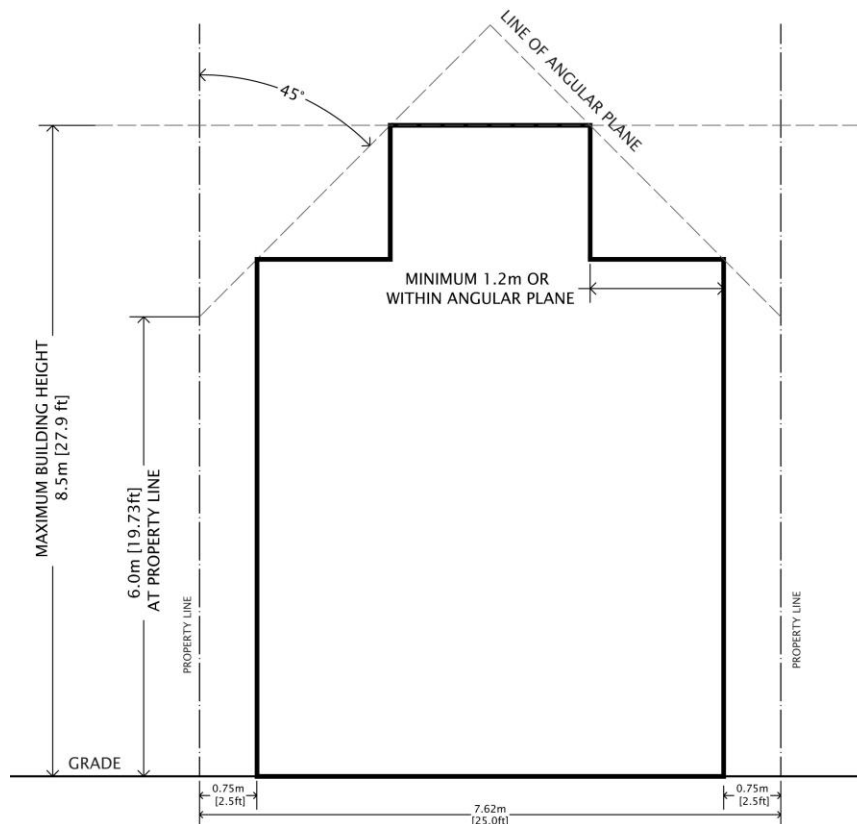
- a) For sites less than 40 metres in depth, the maximum is 14 metres; and
- b) For sites greater than 40 metres in depth, the wall length is determined by: Site depth x 50% - Front yard setback.

Example: calculation for sites longer than 14 metres in depth
 $42.67 \text{ metres} \times 50\% = 21.335 - 6 \text{ metre front yard setback} = 15.335 \text{ metres}$
 $140 \text{ feet} \times 50\% = 70 \text{ feet} - 20 \text{ foot front yard setback} = 50 \text{ feet}$

Flat-Roofed Structures

The angular plane will be applied to determine the building height of flat-roofed structures. An upper storey or penthouse may be included provided that it is setback from the building walls.

Development Standard	Existing	Proposed	Rationale
<p>Building massing for one-unit, two-unit, and semi-detached dwellings.</p> <p>Flat-roofed structures</p>	<p>8.5 metres.</p>	<p>The wall height would be determined by a 45 degree angular plane, measured from a height of 6 metres, projecting vertically from the side property line. The maximum wall height is determined where the wall intersects the 45 degree angular plane. Wall height would be measured as an average of the lowest and highest points of the wall. The resulting wall height would be able to be increased provided that the dwelling is setback further from the side property line.</p> <p>Any portion of sidewalls above the maximum height must have a minimum setback of 1.2 metres from the sidewall of the dwelling and be located within the angular plane.</p> <p>The allowable sidewall areas apply to flat-roofed structures.</p>	<p>Decrease the overall building mass of dwelling to mitigate shading and increase privacy of neighbouring properties.</p> <p>The calculation is intended to limit the overall mass of the sidewall.</p>



Site Width for One-Unit Dwellings

The current development standard for minimum site width for one-unit dwellings is 15 metres in the R1 District, 12 metres in the R1A District, and 7.5 meters in the R2 District. The site width for the construction of new one-unit dwellings in established neighbourhoods shall be at least 70% of the average site width for one-unit dwelling sites fronting on the subject block face and the opposite block face. The intent of this provision is to ensure that lots have consistent widths along a block face; however, this has inadvertently resulted in the development of an over-abundance of semi-detached dwellings.

It is proposed to remove this provision in Category 1 neighbourhoods and provide a site width as stated in the zoning district.

For Category 2 neighbourhoods, the Administration is recommending that the 70% rule be changed to 60% of the average lot width. The provision will increase the number of lots available for one-unit dwellings and maintain the character of blocks with wider lots.

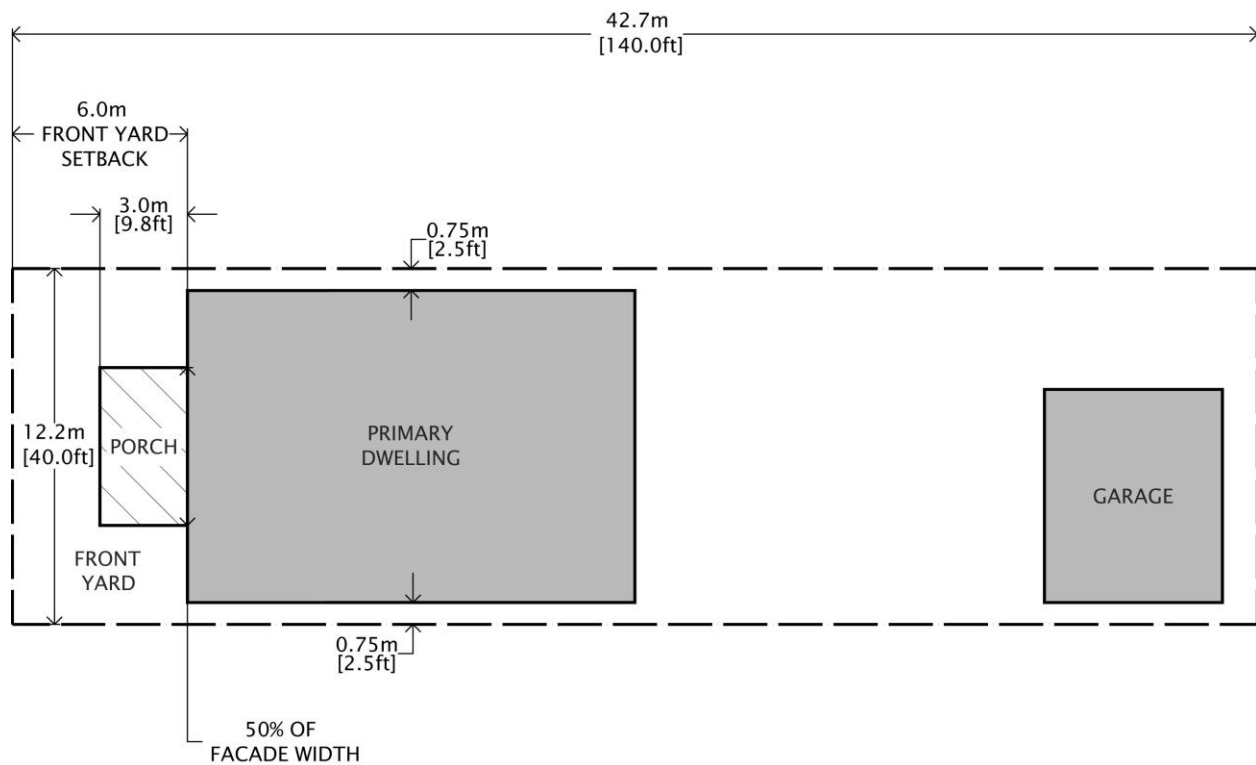
Site Width for Saskatchewan Crescent West and Poplar Crescent West - It has been identified that a portion of the Nutana neighbourhood, which is described as the 100 to 300 blocks of Saskatchewan Crescent West and Poplar Crescent West, will be included into Category 2 to ensure the character of the area is maintained. This area contains wide lots with estate homes, and there has been little subdivision. Further consultation with the property owners will be undertaken.

Note: In Montgomery Place, the minimum site width is 18.25 metres. This minimum site width is not proposed to be changed and will not be impacted by the proposed amendments.

Development Standard	Existing	Proposed	Rationale
Site width for one-unit dwellings in Category 1 areas.	Minimum R1 – 15 metres* R1A – 12 metres* R2 – 7.5 metres* *70% rule applies.	Minimum site width to remain unchanged. The provision, which requires that the site will be 70% of the average, will be removed. 100 - 300 blocks of Saskatchewan Crescent West and Poplar Crescent will be treated as Category 2.	The result of the provision had been construction of two-unit and semi-detached dwellings. The unintended result of the 70% rule is an abundance of two-unit and semi-detached dwellings. In Category 1 areas, the development of detached one-unit dwellings is more compatible with the existing character.
Site width for one-unit dwellings in Category 2 areas.	Minimum R1 – 15 metres* R1A – 12 metres* R2 – 7.5 metres* *70% rule applies.	Minimum site width to remain unchanged. Note: Minimum site width in Montgomery neighbourhood remains unchanged. The site width for the construction of new one-unit dwellings in Category 2 neighbourhoods shall be at least 60% of the average site width for one-unit dwelling sites fronting on the subject block face and the opposite block face, but in no case shall the site width be less than minimum standard metres.	The reduction in the provision will allow for additional sites for one-unit dwellings, while ensuring that lot width along the block face remains consistent.

Amendments that Pertain to Category 1 Neighbourhoods Only

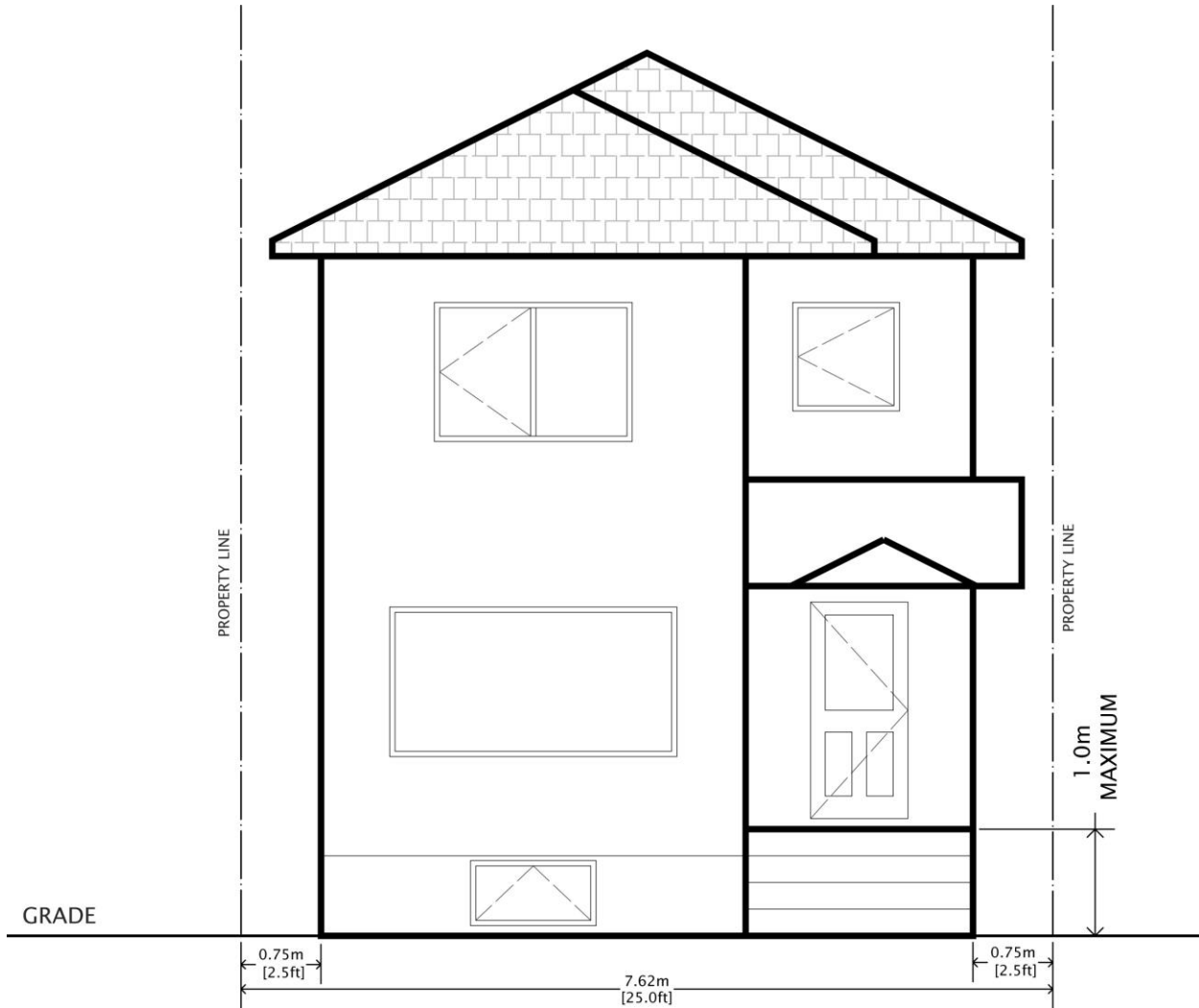
Front Porch Encroachment			
The current Zoning Bylaw No. 8770 (Zoning Bylaw) regulations do not allow a front porch to extend into the required front yard, as it is considered part of the dwelling. In Category 1 neighbourhoods, the proposed amendments will allow front porches to encroach, provided that they do not extend more than 50% of the width of the dwelling and do not encroach more than 3 metres into the required front yard.			
Development Standard	Existing	Proposed	Rationale
Front porch encroachment for one-unit, two-unit, and semi-detached dwellings.	Not permitted to encroach into required front yard.	A portion of the front facade of the dwelling may encroach up to 3 metres into the required front yard provided that the width does not exceed 50% of the width of the facade. The front porch must contain a front door.	The Strategy identified that a front porch was a desirable design feature in Category 1 neighbourhoods. Many of the traditional building styles contain front porches.



Height of Front Door

The height of the main floor of dwellings should have a maximum finished floor height or front door elevation threshold of 1.0 metre above finished grade. The intent of this requirement is to maintain the pedestrian-scaled relationship to the street.

Development Standard	Existing	Proposed	Rationale
Height of front door.	No restriction.	The bottom of the front door shall not be located more than 1.0 metre above the finished grade.	To maintain a pedestrian-scaled relationship with the street.



Amendments to Sidewalks - Private Crossings Over Bylaw No. 4785

Sidewalks - Private Crossings Over Bylaw No. 4785 (Sidewalk Crossing Bylaw) allows for the installation of private crossings across a sidewalk, curb, or boulevard for vehicular access to the front yard of the property.

To protect the street character of Category 1 neighbourhoods, the Strategy identified that on-site parking should be provided in the rear yard and accessed from the rear lane, where rear lanes exist. To implement this, the Administration recommends that the Sidewalk Crossing Bylaw be amended to prohibit front yard driveways or curb cuts and prohibit expanding existing curb cuts where rear lanes exist for Category 1 neighbourhoods.

Development Standard	Existing	Proposed	Rationale
Restrict vehicular access to front yards (driveway access/curb cuts).	No restriction	Amend the bylaw to prohibit driveway crossings into front yards on sites where a rear lane exists.	The addition of front yard driveway and/or garages does not fit into the character of the Category 1 neighbourhoods. Traditional building forms do not have front garages or driveways.

Housekeeping Amendments for Garden and Garage Suites

The Zoning Bylaw was amended in May 2014 to allow for the development of garden and garage suites. It has been identified that the following provisions were not consistent with the recommendations in the Strategy, and it is recommended that the Zoning Bylaw be amended:

Development Standard	Existing	Proposed	Rationale
Provision to allow for a two-storey garage suite on corner lots in Category 2 neighbourhoods.	On corner lots in Category 2 areas, the maximum height to the peak of the roof is 5.0 metres, and the maximum wall height is 4.0 metres. On corners sites, the building may have 2 stories provided that maximum height is not exceeded.	Remove the provision that allows for 2 stories for buildings on corner sites.	
The maximum roof height for garden and garage suites in Category 1 neighbourhoods.	The maximum height of garden and garage suites in Category 2 is 6 metres and is currently measured to the peak of the roof.	It is proposed that the maximum height provision be amended to measure the maximum height to the mid-point of a peaked roof.	It has been identified by stakeholders that the provision encourages the development of flat roofs, rather than peaked roof structures.
List of Category 1 neighbourhoods.		Add Exhibition neighbourhood.	This neighbourhood has the same characteristics of the other Category 1 neighbourhoods.

COMMUNITY ENGAGEMENT SUMMARY

NEIGHBOURHOOD LEVEL INFILL STRATEGY PROPOSED REGULATIONS FOR PRIMARY DWELLINGS

Summary of Community Engagement for the Infill Development Strategy

Development of Infill Development Strategy (Brook McIlroy and skarc)

- December 4, 2012 – Public Workshop #1
- December 13, 2012 – Online Survey was launched
- March 14, 2013 – Public Workshop #2

Implementation of Infill Development Strategy – City of Saskatoon

- March 4, 2014 – Public Open House - Proposed Regulations for Garden and Garage Suites
- May 7, 2014 – Public Open House – Proposed Regulations for Primary Dwellings and Small Multiple Unit Dwellings on Corner Sites.

This public open house was held to present the proposed amendment for low-density residential development (one-unit, two-unit, and semi-detached dwellings). Following that meeting, concerns were expressed by homebuilders that the regulations were not feasible or implementable. Planning and Development undertook additional analysis and consultation with homebuilders and designers to develop the current proposal.

- October 30, 2014 - Public Open House – Proposed Regulations for Primary Dwellings

Community Engagement Strategy – October 30, 2014 Public Open House

Purpose

To inform. Planning and Development provided two presentations of the proposed regulations. Each presentation was followed by a question and answer period.

Form of Community Engagement Used

Public Information Meeting – Stakeholders were provided an opportunity to review a series of display boards and handouts were provided. Planning and Development provided two presentations of the proposed regulations. Each presentation was followed by a question and answer period.

Level of Input or Decision Making Required from the Public

Those in attendance were given the opportunity to provide comments.

Who was Involved

External stakeholders: Planning and Development has compiled a list of stakeholders and interested members of the public during the Infill Strategy project who were notified of the meeting. Other methods of notification used included an advertisement in The StarPhoenix, Public Service Announcements, and notices on the City's social media. Several councillors attended including: Councillors Lorje, Clark, Iwanchuk, Loewen, Olauson, Hill, and Jeffries.

Feedback Summary of October 30, 2014 Public Open House

The meeting was attended by 74 people. The following summarizes the feedback received:

- i. Not in favour of the proposed amendments where they will have an effect on the site coverage that can be achieved. The ability to build up to 40% site coverage should not be impacted. (10 similar comments received).
- ii. Current regulations have resulted in large incompatible infill development that creates problems with access to sunlight, drainage, privacy, loss of greenspace, and parking;
- iii. A maximum building length should be applied as very large buildings could be built on deep lots;
- iv. Driveway crossings should be allowed;
- v. Character of older neighbourhoods is compromised by infill;
- vi. Support elimination of 70% rule as it encourages semi-detached dwellings;
- vii. No such thing as a character neighbourhood, do not support any changes;
- viii. Infill increases the value of homes in older neighbourhoods;
- ix. The City needs to regulate how lots are graded and how it affects neighbouring properties;
- x. Developers should be liable for any damages to other properties during infill projects;
- xi. The infill developments that are currently underway are not affordable;
- xii. Not in favour of the rule to limit the height of the front door;
- xiii. Regarding solar access, it appears that only upper floors are an issue, therefore, just the length of the main floor should be restricted;
- xiv. Concern that the regulations will be in place before the Mayfair Local Area Plan is completed;
- xv. Should be restricting front garages (driveway crossings) in Category 2 areas as well;
- xvi. The semi-detached homes that have been built are not keeping within the character of the area;
- xvii. The current and proposed regulations allow for very large homes to be built in Montgomery;
- xviii. Front porches and stairs are a nice feature but may impact access to light;
- xix. Concerns that two-unit dwellings (duplexes) are being used as fourplexes; and
- xx. Drainage and run-off are issues.

Next Steps

ACTION	ANTICIPATED TIMING
Planning and Development Division prepares and presents to Municipal Planning Commission (MPC). MPC reviews proposal and recommends approval or denial to City Council.	December 9, 2014
Planning and Development Division prepares and presents to the Standing Policy Committee (SPC) on Planning, Development and Community Services (PDCS) for approval to advertise the amendments to the Zoning Bylaw. SPC on PDCS can approve or deny the request to advertise the amendments.	January 5, 2015
Public Notice - Advertisements prepared and placed in <u>The StarPhoenix</u> , City Page (as per the City's Public Notice Policy), and stakeholders will be notified.	January 10 to 15, 2015
Public Hearing – Public Hearing conducted by City Council, with opportunity provided to interested persons or groups to present. Proposal considered together with the reports of the Planning and Development Division, MPC, and any written or verbal submissions received by City Council.	January 26, 2015
Council Decision - may approve or deny proposal.	January 26, 2015

Prepared by:

Paula Kotasek-Toth, Senior Planner
Planning and Development Division
November 10, 2014

Neighbourhood Level Infill Development Strategy – Zoning Bylaw Text Amendment to Amend the Development Standards for Primary Dwellings in Established Neighbourhoods – Approval for Advertising

Recommendations

1. That the advertising, in respect to the proposed text amendment to Zoning Bylaw No. 8770, be approved;
2. That the General Manager, Community Services Department, be requested to prepare the required notices for advertising the proposed amendment to Zoning Bylaw No. 8770;
3. That the City Solicitor be requested to prepare the required bylaws to amend Zoning Bylaw No. 8770; and
4. That the Standing Policy Committee on Planning, Development and Community Services recommend that this report be forwarded to City Council requesting that the City Solicitor be requested to prepare the required bylaws to amend Sidewalks - Private Crossings Over Bylaw No. 4785.

Topic and Purpose

The purpose of this report is to consider additional information requested by the Standing Policy Committee (SPC) on Planning, Development and Community Services (PDCS) and to request advertising approval for the amendment to Zoning Bylaw No. 8770 (Zoning Bylaw) to provide development standards for infill development for primary dwellings in the established neighbourhoods as part of the Neighbourhood Level Infill Development Strategy. This report also recommends amendments to Sidewalks - Private Crossings Over Bylaw No. 4785 to prohibit driveway crossings (curb cuts) in Category 1 neighbourhoods.

Report Highlights

1. The Administration is recommending amendments to the Zoning Bylaw that will implement development standards with the goal of balancing demand for contemporary housing with the existing built form in Established Neighbourhoods, as identified in the Neighbourhood Level Infill Development Strategy.
2. The Administration is recommending that Sidewalks - Private Crossings Over Bylaw No. 4785 be amended to prohibit driveway crossings (curb cuts) in Category 1 neighbourhoods to preserve the unique street character of Saskatoon's oldest neighbourhoods.
3. The Administration is providing modelling drawings that illustrate the implications on house size as a result of the proposed Zoning Bylaw amendments for primary dwellings.

Strategic Goal

This report supports the City of Saskatoon’s (City) Strategic Goal of Sustainable Growth by ensuring that infill development is compatible with the existing built form. Developing design guidelines to promote infill development in existing neighbourhoods is specifically identified as a four-year priority.

Background

The Neighbourhood Level Infill Development Strategy (Strategy) was endorsed by City Council on December 16, 2013. The Strategy outlined best practices, design guidelines, and regulations, which will provide design flexibility and minimize the impact on neighbouring property owners. A report was considered by the Planning and Operations Committee on March 25, 2014, which included an overall implementation plan for the Strategy.

During its May 20, 2014 meeting, City Council resolved to approve the advertising for amendments to the Zoning Bylaw regarding infill development. At that time, the Administration was prepared to implement amendments that would regulate neighbourhood level infill. However, stakeholders, which included homebuilders, expressed concerns that the regulations were too restrictive and may not accommodate conventional house design or common construction methods. Civic staff held additional meetings with these stakeholders to discuss concerns and provide clarity to the regulations. Their input was considered and incorporated into the regulations where appropriate.

At its January 5, 2015 meeting, the SPC on PDCS considered a report by the General Manager of the Community Services Department requesting to approve the advertising of the Zoning Bylaw text amendments with respect to standards for Primary Dwellings in Established Neighbourhoods. Three individuals made presentations in regard to the proposed bylaw amendments. Two of the speakers expressed concerns that the proposed amendments would excessively reduce the house size that could be built.

The SPC on PDCS did not support recommendations for advertising approval of the proposed amendments and resolved, in part, that the Administration report back to the SPC on PDCS regarding the following:

- “2. That the Administration report back to the Committee in the spring of 2017 regarding the proposed Neighbourhood Level Infill Development Strategy Zoning Bylaw amendments;
3. That the Administration report back on the possibility of a simplified process that could be used, rather than the appeal process, for those who may wish to build a new basement for their existing character homes in terms of door height and building height restrictions;

Nbhd Level Infill Dev. Strategy – Zoning Bylaw Text Amendment to Amend the Dev. Standards for Primary Dwellings in Established Nbhds – Approval for Advertising

4. That the Administration report on measures that need to be implemented to prohibit the use of front porches as permanent sleeping quarters;
5. That the Administration report back to the SPC on PDCS on the following:
 - a) Implications on implementing interim development controls in Category 1 and Category 2 neighbourhoods;
 - b) Possibility of having requests for driveways in Category 1 neighbourhoods being subject to discretionary use approval by City Council;
 - c) Impact of freezing development of secondary suites in areas with surface drainage or no sidewalks and addressing drainage issues arising from infill development;
 - d) Implications of implementing a maximum allowable site coverage as a percent of the lot, to include the primary building and all secondary structures;
 - e) Addressing maximum site depth for development;
 - f) Possibility of implementing a lower building height allowable in Category 2 neighbourhoods; and
 - g) Addressing with developers any damage caused to the lane and surrounding area with redevelopment.
6. That the Committee recommend to City Council that a letter be sent to the Provincial Government detailing the specific problems with Architectural Districts and specific solutions required in legislation to deal with the concerns.
7. That Administration provide a report to the SPC on PDCS, with three options for building length, including the proposed 50% of lot length, 52.5% of lot length and 55% of lot length, with associated modeling that shows the square footage impact of the options.”

Resolution Nos. 2, 3, 5a), 5b), 5d), 5e), 5f), and 7 are addressed in this report and remaining Resolution Nos. 4, 5c), 5g), and 6 will be addressed in subsequent reports to the SPC on PDCS.

Report

Zoning Bylaw Amendments

The Strategy recommended that the existing development standards, in particular those that regulate building height and massing, be amended to ensure that new infill development does not detract from the character of an existing neighbourhood. In this regard, the Administration is proposing amendments to the development standards for one- and two-unit dwellings, and semi-detached dwellings in the low-density residential zoning districts in established neighbourhoods.

Category 1 and 2 Neighbourhoods

As identified in the Strategy, the established neighbourhoods are divided into two categories. Category 1 neighbourhoods include City Park, Caswell Hill, Westmount,

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Riversdale, Pleasant Hill, King George, Nutana, Varsity View, Buena Vista, North Park, Haultain, and Exhibition. These neighbourhoods are generally Saskatoon's oldest, characterized by a grid design with narrow residential streets, rear lanes, and large mature trees. Category 2 neighbourhoods are the remainder of the established neighbourhoods (see Attachment 1).

Details of the proposed amendments are outlined and illustrated in Attachment 2. The key amendments proposed for primary dwellings include the following:

- 1) allowable sidewall area, which is determined by a calculation of building height and building wall length;
- 2) regulations specific to flat-roof structures;
- 3) revisions to current site width requirements;
- 4) height of front door; and
- 5) permitting porches to extend into the required front yard.

The Administration has received information from a group of homebuilders regarding the proposed bylaw changes. It is evident that some are not in agreement with the regulations, which will limit the size of dwellings. There is a concern that homes will no longer be able to be built to the maximum site coverage of 40%. This group has proposed that the length of the first floor (or storey) not be limited and that the building length of upper floors be limited to 14 metres. **The Administration has aimed to balance the concerns heard during the public input phase of this project.**

Amendments to Sidewalks - Private Crossings Over Bylaw No. 4785

The Administration recommends that Sidewalks - Private Crossings Over Bylaw No. 4785 be amended to prohibit front yard driveways or curb cuts, and prohibit expanding existing curb cuts where rear lanes exist for Category 1 neighbourhoods. There was strong support shown for this amendment to preserve street character.

Housekeeping Amendments for Garden and Garage Suites

The Zoning Bylaw was amended in May 2014 to allow for the development of garden and garage suites. Following further stakeholder input, minor amendments are proposed to clarify the height in Category 1 neighbourhoods, add Exhibition to the list of Category 1 neighbourhoods, and remove two-storey suites in Category 2 neighbourhoods (refer to Attachment 2).

Resolutions Made by the SPC on PDCS at the January 5, 2015 Meeting:

Resolution No. 2 - That the Administration report back to the Committee in the spring 2017 regarding the proposed Neighbourhood Level Infill Development Strategy Zoning Bylaw amendments.

Should the amendments be approved by City Council, the Administration will monitor the impacts of the new regulations. Staff time required for review and permit fees to process infill development applications, will also be monitored and evaluated. The Administration will provide City Council with a report in Spring 2017 after the regulations have been in effect for approximately two years.

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Resolution No. 3 - That the Administration report back on the possibility of a simplified process that could be used, rather than the appeal process, for those who may wish to build a new basement for their existing character homes in terms of door height and building height restrictions.

A development that does not meet Zoning Bylaw provisions cannot be approved by the Administration, and the applicant may appeal the denial to the Development Appeals Board. Approximately two basements have been replaced annually since 2008 in the established neighbourhoods, and all have met the bylaw requirements. Options exist for basement replacements to be constructed within the Zoning Bylaw regulations. For non-conforming structures (i.e. an existing dwelling that currently exceeds the maximum height requirement of 8.5 metres), the basement could be replaced, provided the height of the dwelling is not increased. The Administration does not recommend further action be taken on this item as this occurrence would be very rare, and the issue could be resolved through the Development Appeal process.

Resolution No. 5a) - That the Administration report back to the SPC on PDCS on the implications on implementing interim development controls in Category 1 and 2 neighbourhoods.

The Planning and Development Act, 2007 (Act) provides City Council with the authority to enact an Interim Development Control Bylaw to control development of land for an area that may be affected by:

- (a) a proposed official community plan or zoning bylaw;
- (b) an amendment being prepared by City Council to an existing official community plan or zoning bylaw; or
- (c) a study of a land use planning matter being undertaken by City Council.

An Interim Development Control Bylaw allows City Council to review and approve or refuse all development proposals in the area being studied while it prepares and adopts a new or amended official community plan and a zoning bylaw. Implementation would require review, consultation, and adoption of a bylaw by City Council.

The Administration does not recommend adopting an Interim Development Control Bylaw as this would impact all development in the established neighbourhoods, not just primary dwellings. Furthermore, a thorough review of the Strategy has been completed, and proposed amendments to the Zoning Bylaw have been submitted for City Council's consideration.

Resolution No. 5b) - That the Administration report back to the SPC on PDCS on the possibility of having requests for driveways in Category 1 neighbourhoods being subject to discretionary use approval by City Council.

The amendments to Sidewalks – Private Crossings Over Bylaw No. 4785 could be amended to include a provision that City Council be able to approve driveway crossings

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in Category 1 neighbourhoods. The Strategy recommended that driveway crossings be prohibited in Category 1 neighbourhoods for primary dwellings where rear lanes exist. Driveway crossings interrupt continuous street tree planting and continuous pedestrian access along the length of local streets. This initiative was supported by stakeholders during consultation of this project. The Administration does not recommend that driveway crossings be considered at the discretion of City Council.

Resolution No. 5d) - That the Administration report back to the SPC on PDCS on the implications of implementing a maximum allowable site coverage as a percent of the lot, to include the primary building and all secondary structures.

The Zoning Bylaw regulates the site coverage, which is currently calculated using only the primary dwelling for residential sites. The maximum site coverage for primary dwellings, in residential zoning districts is 40% of the site. Separate regulations determine the amount of rear yard that can be covered by an accessory building. An accessory building may cover 30% to 50% of the area of the rear yard depending on the size of the site. These provisions have been in place for many years and provide for appropriate open space on residential sites. Furthermore, combining primary dwellings and accessory buildings in the site coverage calculation would decrease overall site coverage and reduce the opportunities for site development. The Administration feels that the current approach facilitates the needs of homeowners and provides for flexibility in site design.

Resolution No. 5e) - That the Administration report back to the SPC on PDCS on addressing maximum site depth for development.

The proposed regulations address building massing through the allowable sidewall calculation. Restrictions on maximum site depth for buildings was considered during review of infill development, but it was determined that it would be too prescriptive and limit design options. The Administration does not recommend that further action be taken on this item.

Resolution No. 5f) - That the Administration report back to the SPC on PDCS on the possibility of implementing a lower building height allowable in Category 2 neighbourhoods.

When a new Zoning Bylaw was implemented in 1999, as part of the Plan Saskatoon project, the maximum height of primary dwellings was decreased from 11 metres and 2.5 storeys to 8.5 metres. To adapt to housing trends in new neighbourhoods, the Zoning Bylaw was amended in 2007 to increase maximum building height in the R1A, R1B, R2, and RMTN zoning districts from 8.5 metres to 10 metres in areas outside the established neighbourhoods. The building height was not increased in the established neighbourhoods because in many instances, new or substantial additions to dwellings may be larger in terms of both scale and massing to the existing housing stock. The Strategy did not recommend reducing the maximum height. A maximum height of 8.5 metres allows for the construction of two-storey dwellings. This standard is similar

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to other Western Canadian cities, including Regina (11 metres), Edmonton (8.6 metres or 2.5 storeys) and Calgary (8.6 metres). The Administration does not recommend that maximum building height be decreased in Category 2 neighbourhoods.

Resolution No. 5g) - That the Administration report back to the SPC on PDCS on addressing with developers any damage caused to the lane and surrounding area with redevelopment.

This issue is currently under review by the Community Services and Transportation and Utility Services Departments. The SPC on PDCS will receive a report later this quarter.

Resolution No. 7 - That Administration provide a report to the SPC on PDCS, with three options for building length, including the proposed 50% of lot length, 52.5% of lot length, and 55% of lot length, with associated modelling that shows the square footage impact of the options.

The allowable sidewall calculation was done using 50%, 52.5%, and 55% as an input for building length. Comparisons of the floor area achieved are included in Attachment 3.

As requested by the SPC on PDCS, the Administration has provided modelling diagrams that illustrate the existing, the proposed regulations, and the proposal presented by Mr. Cam Skoropat from the Saskatoon and Region Home Builders' Association (SRHBA). Diagrams have been done for three common lot sizes and illustrate the impacts of the proposed regulations. Information regarding the square footage impact of the proposed regulations and modelling diagrams is included in Attachment 3.

Options to the Recommendation

The SPC on PDCS has the option of not approving the advertising for the proposed bylaws. Further direction would be requested.

Public and/or Stakeholder Involvement

A Community Advisory Committee (Committee), comprised of civic staff, homebuilders, and interested members of the public, was assembled to provide direction and oversee implementation of the Strategy. The Committee provided input into the development standards contained in this report.

Zoning Bylaw amendments were proposed in May 2014; however, many homebuilders expressed concerns with the proposed development standards. Since that time, the Administration has held additional meetings with homebuilders and other stakeholders to discuss concerns and consider feedback. Further revisions were made to the infill guidelines.

A public information meeting was held on October 30, 2014, to present the proposed regulations. The meeting was attended by approximately 75 people. Planning and

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Development presented the proposed bylaw amendments, and a question and answer period followed. Comments were submitted that supported the proposed infill regulations. Comments were also received that opposed the regulations, in particular those that would limit building area.

The Administration has conducted substantial consultation and met with several stakeholders during the review process to discuss bylaw amendments. A full list of all consultation has been provided in Attachment 4.

Communication Plan

If the amendments are approved, marketing materials will be produced that include the new regulations and design guidelines for primary dwellings. The information will be available on the City's website and will be distributed to the SRHBA.

Policy Implications

Amendments to the Zoning Bylaw are outlined in this report.

Other Considerations/Implications

There are no environmental, financial, privacy, or CPTED implications.

Due Date for Follow-up and/or Project Completion

Should the amendments be approved, the Administration will monitor the impacts of the new regulations. Staff time required, as well as permit fees to process infill development applications, will also be monitored and evaluated. The Administration will provide City Council with a report after the regulations have been in effect for approximately two years.

Public Notice

Once the SPC on PDCS has granted advertising approval for this application, it will be advertised in accordance with Public Notice Policy No. C01-021, and a date for a public hearing will be set. A notice will be placed in The StarPhoenix two weeks prior to the public hearing.

Attachments

1. Category 1 and Category 2 Neighbourhoods
2. Proposed Changes to Existing Development Standards
3. Modelling Diagrams, February 2015
4. Community Engagement Summary

Report Approval

Written by: Paula Kotasek-Toth, Senior Planner, Planning and Development
Reviewed by: Alan Wallace, Director of Planning and Development
Approved by: Randy Grauer, General Manager, Community Services Department

S/Reports/DS/2015/PDCS – Nbhd Level Infill Dev Strategy – Zoning Bylaw Text Amend to Amend the Dev Standards for Primary Dwellings in Est. Nbhds – Approval for Advertising/ks
BF004-15

Proposed Changes To Existing Development Standards

The Neighbourhood Level Infill Development Strategy (Strategy) recommended that the existing development standards, in particular those that regulate building height and massing, be amended to ensure that new infill development does not detract from the character of an existing neighbourhood. In this regard, the Administration is proposing amendments to the development standards for one- and two-unit dwellings, and semi-detached dwellings in the R1 – Large Lot One-Unit Residential District, R1A – One-Unit Residential District, and R2 One- and Two-Unit Residential District in the established neighbourhoods.

Category 1 and 2 Neighbourhoods

1. Category 1 neighbourhoods include City Park, Caswell Hill, Westmount, Riversdale, Pleasant Hill, King George, Nutana, Varsity View, Buena Vista, North Park, Haultain, and Exhibition. These neighbourhoods are generally characterized by a grid design with narrow residential streets and large mature trees.
2. Category 2 neighbourhoods are the remainder of the established neighbourhoods and include Hudson Bay, Mayfair, Kelsey-Woodlawn, Richmond Heights, Sutherland, Forest Grove, Greystone Heights, Grosvenor, Brevoort Park, Nutana S.C., Eastview, Nutana Park, Adelaide/Churchill, Queen Elizabeth, Avalon, Holiday Park, Montgomery Place, Mount Royal, and Meadowgreen.

Amendments that Pertain to Both Category 1 and 2 Neighbourhoods

Allowable Sidewall Area

To provide for dwellings that do not overwhelm the character of adjacent dwellings, it is proposed that the building height and length be used to calculate an allowable building area. This allows for flexibility in design, while limiting the mass of the sidewall.

Development Standard	Existing	Proposed	Rationale
Allowable sidewall area.	No regulation.	<ol style="list-style-type: none"> 1. Determine the building height (using the angular plane). See diagram on page 3. 2. Determine the maximum building length. See page 4. 3. Allowable sidewall area is calculated using building height and wall length. <p>The sidewall of the building shall not exceed this area. Sidewall area is all areas, located under eaves and facing the same direction.</p> <p>The maximum height standard of the building remains at 8.5 metres to the highest point of a flat roof, the deck line of a mansard roof, and to the mean height level between the ridge for a gable, hip, or gambrel roof.</p>	<p>Decrease the overall building mass of dwelling to mitigate shading and increase privacy of neighbouring properties.</p> <p>The sidewall calculation is intended to limit the overall mass of the sidewall.</p>

Allowable Sidewall Area Diagrams

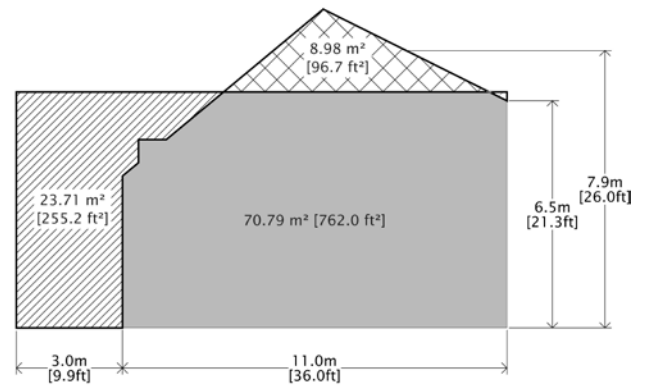
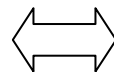
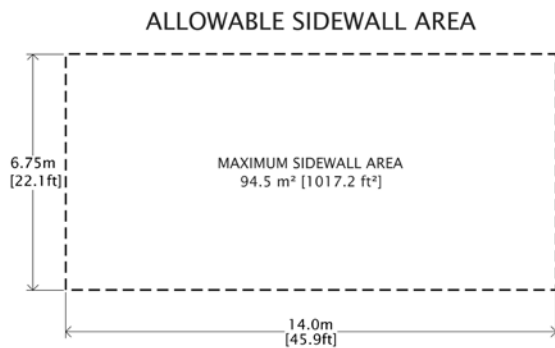
The diagrams below illustrate how the allowable sidewall calculation is applied. In this example, the allowable wall area is 94.5 m², which is shown on the left. The diagrams on the right show how the area can be applied. Allowable sidewall area is determined by the building wall height and building wall length calculations on pages 3 and 4.




Example: Modified Two Storey

1

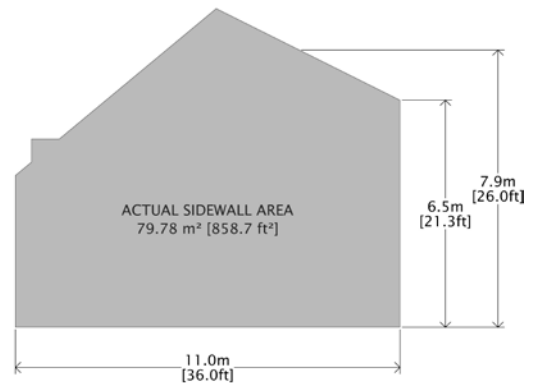


2



-  SIDEWALL AREA WITHIN ALLOWABLE BOUNDARY
-  REMAINING SIDEWALL AREA
-  RELOCATED SIDEWALL AREA

3



Modified Two Storey

Allowable Sidewall Area: 94.5 m²

Actual Sidewall Area: 79.78 m²

This example complies with the allowable sidewall area.

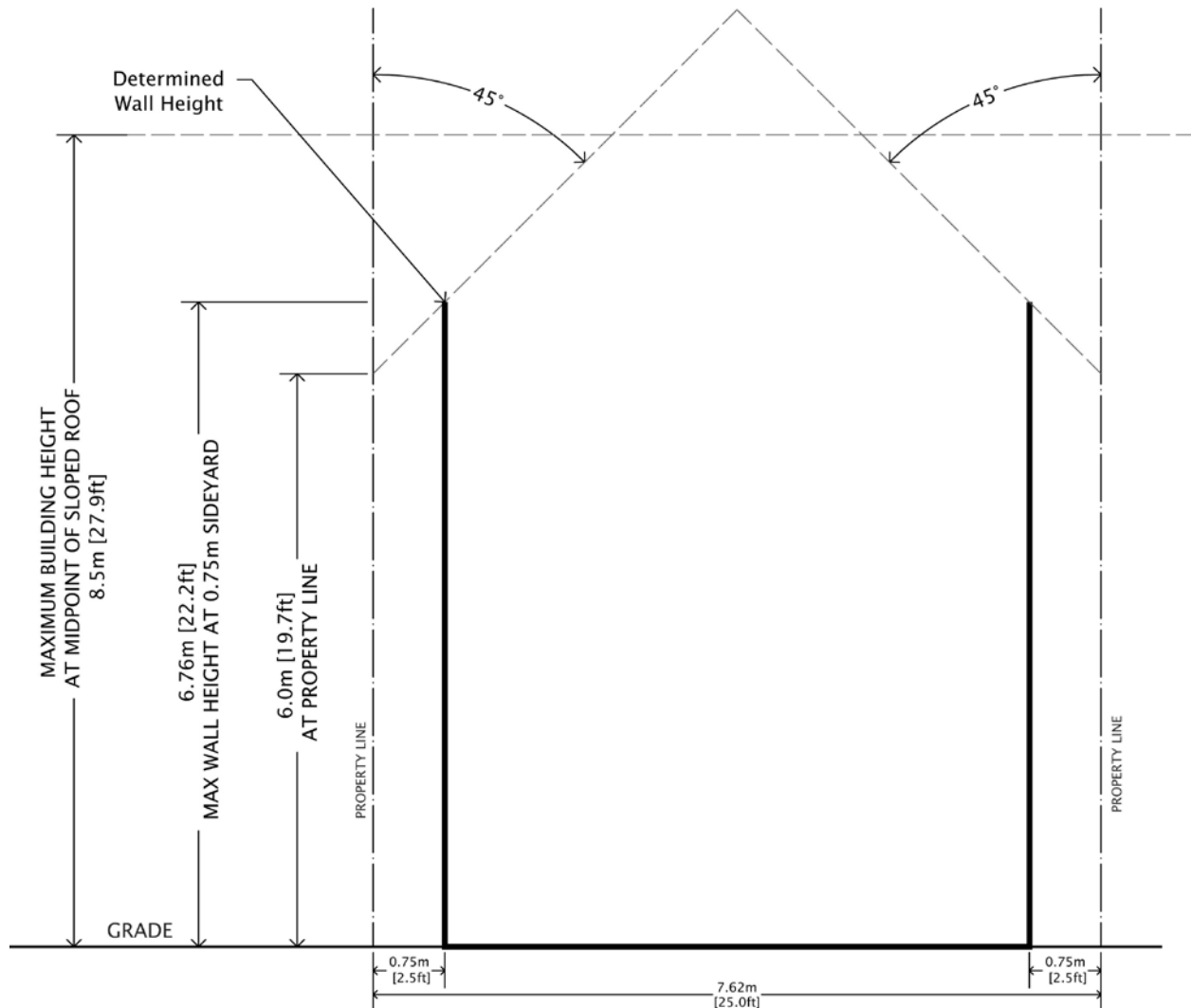
Building Wall Height Calculation for Allowable Sidewall Area

The Strategy proposes a “building envelope” or angular plane to regulate massing of a dwelling. It is recommended that this tool be implemented to determine a building wall height to be used in conjunction with a building wall length to calculate allowable sidewall area.

Proposed

The wall height would be determined by a 45 degree angular plane, measured from a height of 6 metres, projecting vertically from the side property line. The allowable wall height is determined where the wall intersects the 45 degree angular plane.

By increasing side yard, the allowable wall height would be increased.



Building Wall Length Calculation for the Allowable Sidewall Area

There are currently no restrictions for the length of a wall of one- and two-unit dwellings or a semi-detached dwelling. This may result in a sidewall of an infill development extending further into the rear yard, beyond the adjacent dwellings.

It is recommended that a building wall length to be used in conjunction with building wall height to calculate allowable sidewall area.

Proposed

The building wall length shall be:

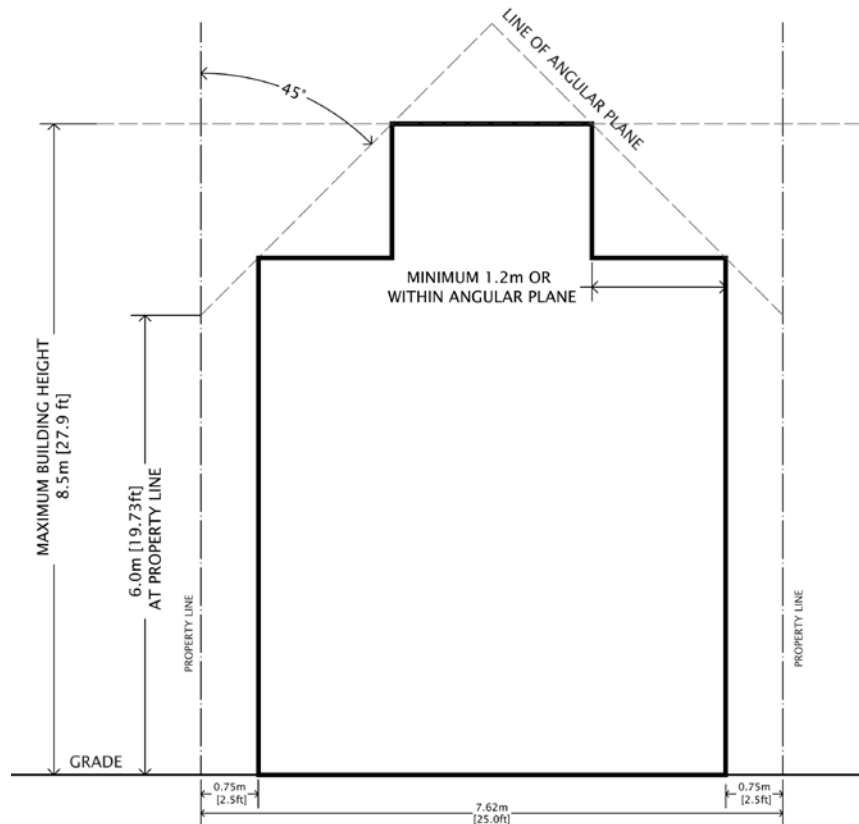
- a) For sites less than 40 metres in depth, the maximum is 14 metres; and
- b) For sites greater than 40 metres in depth, the wall length is determined by: Site depth x 50% - Front yard setback.

Example: calculation for sites longer than 40 metres in depth
 42.67 metres x 50% = 21.335 – 6 metre front yard setback = 15.353 metres
 140 feet x 50% = 70 feet - 20 foot front yard setback = 50 feet

Flat-Roofed Structures

The angular plane will be applied to determine the building height of flat-roofed structures. An upper storey or penthouse may be included provided that it is setback from the building walls.

Development Standard	Existing	Proposed	Rationale
Building massing for one-unit, two-unit, and semi-detached dwellings. Flat-roofed structures	8.5 metres.	<p>The wall height would be determined by a 45 degree angular plane, measured from a height of 6 metres, projecting vertically from the side property line. The maximum wall height is determined where the wall intersects the 45 degree angular plane. Wall height would be measured as an average of the lowest and highest points of the wall. The resulting wall height would be able to be increased provided that the dwelling is setback further from the side property line.</p> <p>Any portion of sidewalls above the maximum height must have a minimum setback of 1.2 metres from the sidewall of the dwelling and be located within the angular plane.</p> <p>The allowable sidewall areas apply to flat-roofed structures.</p>	<p>Decrease the overall building mass of dwelling to mitigate shading and increase privacy of neighbouring properties.</p> <p>The calculation is intended to limit the overall mass of the sidewall.</p>



Site Width for One-Unit Dwellings

The current development standard for minimum site width for one-unit dwellings is 15 metres in the R1 District, 12 metres in the R1A District, and 7.5 meters in the R2 District. The site width for the construction of new one-unit dwellings in established neighbourhoods shall be at least 70% of the average site width for one-unit dwelling sites fronting on the subject block face and the opposite block face. The intent of this provision is to ensure that lots have consistent widths along a block face; however, this has inadvertently resulted in the development of an over-abundance of semi-detached dwellings.

It is proposed to remove this provision in Category 1 neighbourhoods and provide a site width as stated in the zoning district.

For Category 2 neighbourhoods, the Administration is recommending that the 70% rule be changed to 60% of the average lot width. The provision will increase the number of lots available for one-unit dwellings and maintain the character of blocks with wider lots.

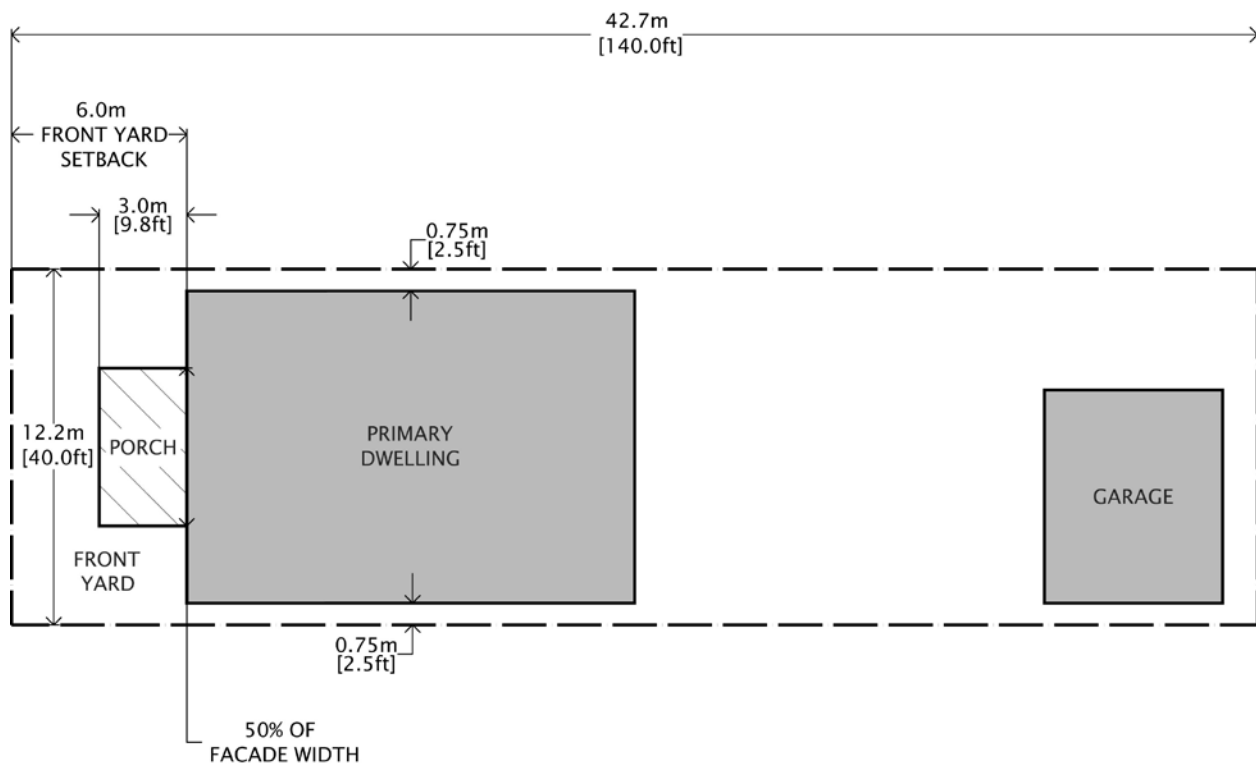
Site Width for Saskatchewan Crescent West and Poplar Crescent West - It has been identified that a portion of the Nutana neighbourhood, which is described as the 100 to 300 blocks of Saskatchewan Crescent West and Poplar Crescent West, will be included into Category 2 to ensure the character of the area is maintained. This area contains wide lots with estate homes, and there has been little subdivision. Further consultation with the property owners will be undertaken.

Note: In Montgomery Place, the minimum site width is 18.25 metres. This minimum site width is not proposed to be changed and will not be impacted by the proposed amendments.

Development Standard	Existing	Proposed	Rationale
Site width for one-unit dwellings in Category 1 areas.	Minimum R1 – 15 metres* R1A – 12 metres* R2 – 7.5 metres* *70% rule applies.	Minimum site width to remain unchanged. The provision, which requires that the site will be 70% of the average, will be removed. 100 - 300 blocks of Saskatchewan Crescent West and Poplar Crescent will be treated as Category 2.	The result of the provision had been construction of two-unit and semi-detached dwellings. The unintended result of the 70% rule is an abundance of two-unit and semi-detached dwellings. In Category 1 areas, the development of detached one-unit dwellings is more compatible with the existing character.
Site width for one-unit dwellings in Category 2 areas.	Minimum R1 – 15 metres* R1A – 12 metres* R2 – 7.5 metres* *70% rule applies.	Minimum site width to remain unchanged. Note: Minimum site width in Montgomery neighbourhood remains unchanged. The site width for the construction of new one-unit dwellings in Category 2 neighbourhoods shall be at least 60% of the average site width for one-unit dwelling sites fronting on the subject block face and the opposite block face, but in no case shall the site width be less than minimum standard metres.	The reduction in the provision will allow for additional sites for one-unit dwellings, while ensuring that lot width along the block face remains consistent.

Amendments that Pertain to Category 1 Neighbourhoods Only

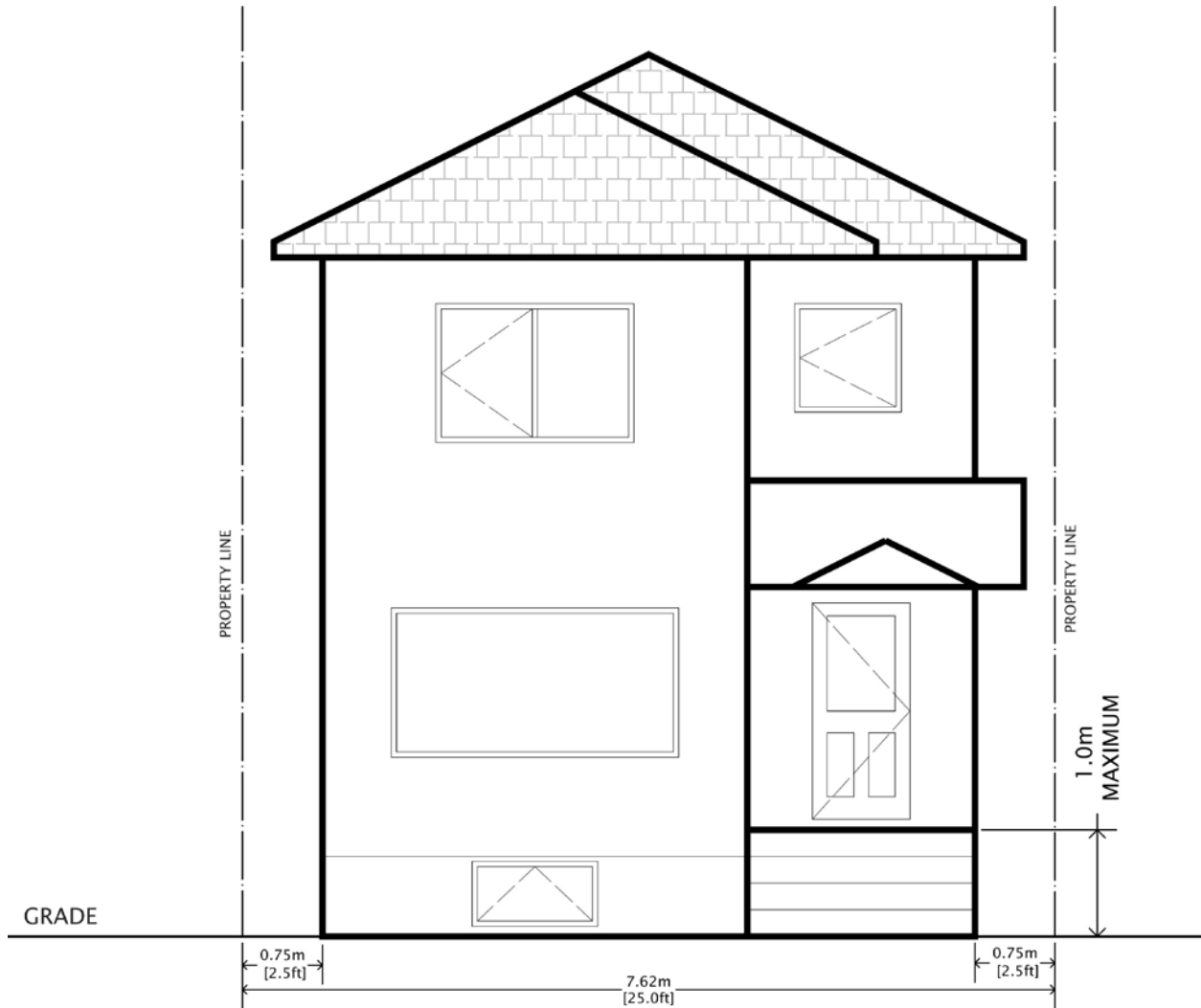
Front Porch Encroachment			
The current Zoning Bylaw No. 8770 (Zoning Bylaw) regulations do not allow a front porch to extend into the required front yard, as it is considered part of the dwelling. In Category 1 neighbourhoods, the proposed amendments will allow front porches to encroach, provided that they do not extend more than 50% of the width of the dwelling and do not encroach more than 3 metres into the required front yard.			
Development Standard	Existing	Proposed	Rationale
Front porch encroachment for one-unit, two-unit, and semi-detached dwellings.	Not permitted to encroach into required front yard.	A portion of the front facade of the dwelling may encroach up to 3 metres into the required front yard provided that the width does not exceed 50% of the width of the facade. The front porch must contain a front door.	The Strategy identified that a front porch was a desirable design feature in Category 1 neighbourhoods. Many of the traditional building styles contain front porches.



Height of Front Door

The height of the main floor of dwellings should have a maximum finished floor height or front door elevation threshold of 1.0 metre above finished grade. The intent of this requirement is to maintain the pedestrian-scaled relationship to the street.

Development Standard	Existing	Proposed	Rationale
Height of front door.	No restriction.	The bottom of the front door shall not be located more than 1.0 metre above the finished grade.	To maintain a pedestrian-scaled relationship with the street.



Amendments to Sidewalks - Private Crossings Over Bylaw No. 4785

Sidewalks - Private Crossings Over Bylaw No. 4785 (Sidewalk Crossing Bylaw) allows for the installation of private crossings across a sidewalk, curb, or boulevard for vehicular access to the front yard of the property.

To protect the street character of Category 1 neighbourhoods, the Strategy identified that on-site parking should be provided in the rear yard and accessed from the rear lane, where rear lanes exist. To implement this, the Administration recommends that the Sidewalk Crossing Bylaw be amended to prohibit front yard driveways or curb cuts and prohibit expanding existing curb cuts where rear lanes exist for Category 1 neighbourhoods.

Development Standard	Existing	Proposed	Rationale
Restrict vehicular access to front yards (driveway access/curb cuts).	No restriction	Amend the bylaw to prohibit driveway crossings into front yards on sites where a rear lane exists.	The addition of front yard driveway and/or garages does not fit into the character of the Category 1 neighbourhoods. Traditional building forms do not have front garages or driveways.

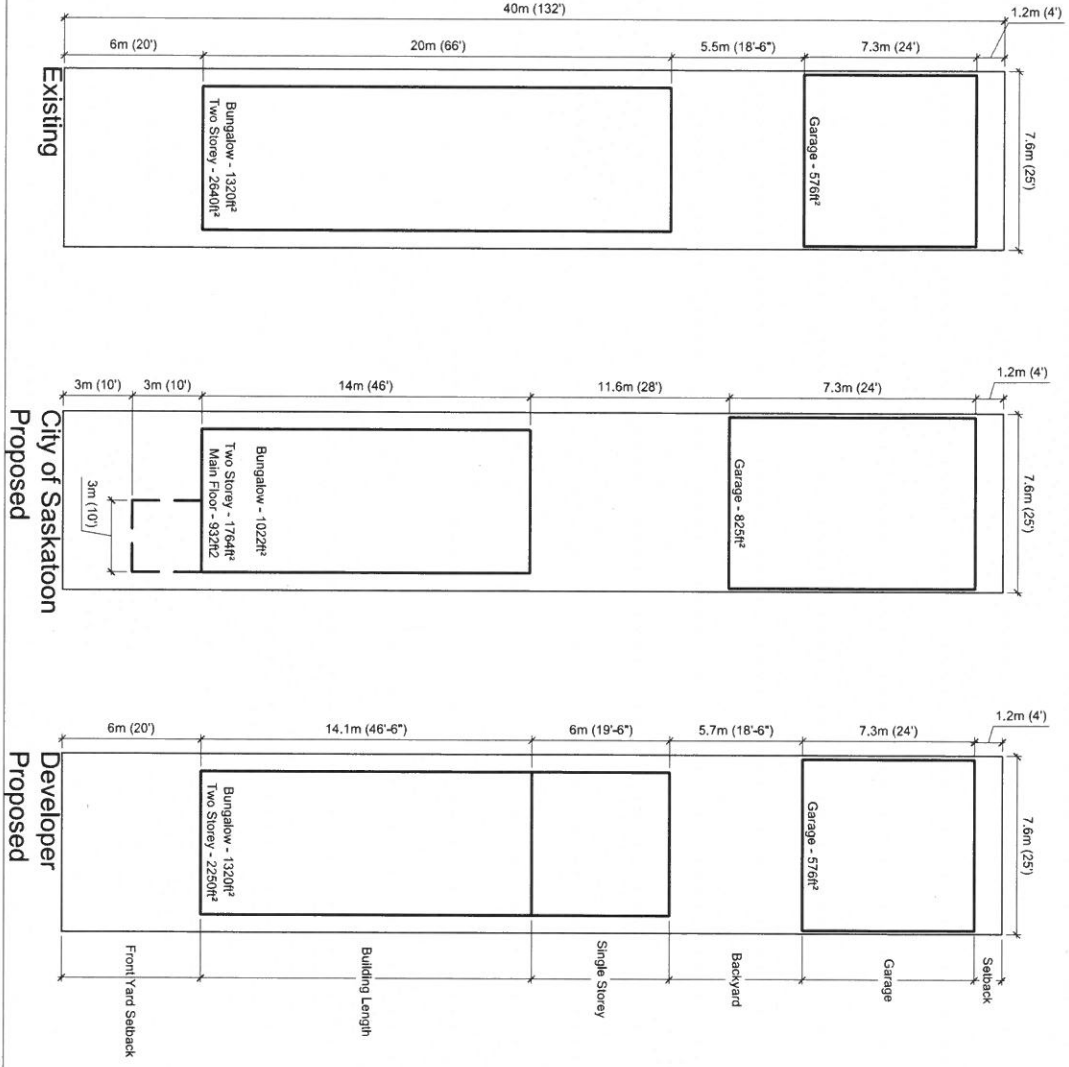
Housekeeping Amendments for Garden and Garage Suites

The Zoning Bylaw was amended in May 2014 to allow for the development of garden and garage suites. It has been identified that the following provisions were not consistent with the recommendations in the Strategy, and it is recommended that the Zoning Bylaw be amended:

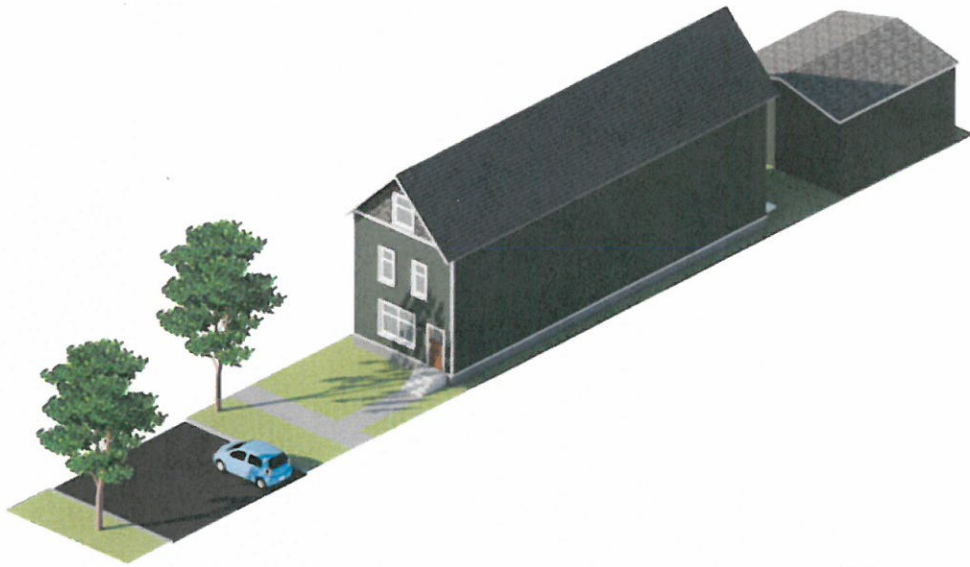
Development Standard	Existing	Proposed	Rationale
Provision to allow for a two-storey garage suite on corner lots in Category 2 neighbourhoods.	On corner lots in Category 2 areas, the maximum height to the peak of the roof is 5.0 metres, and the maximum wall height is 4.0 metres. On corners sites, the building may have 2 stories provided that maximum height is not exceeded.	Remove the provision that allows for 2 stories for buildings on corner sites.	
The maximum roof height for garden and garage suites in Category 1 neighbourhoods.	The maximum height of garden and garage suites in Category 2 is 6 metres and is currently measured to the peak of the roof.	It is proposed that the maximum height provision be amended to measure the maximum height to the mid-point of a peaked roof.	It has been identified by stakeholders that the provision encourages the development of flat roofs, rather than peaked roof structures.
List of Category 1 neighbourhoods.		Add Exhibition neighbourhood.	This neighbourhood has the same characteristics of the other Category 1 neighbourhoods.

City of Saskatoon Infill Regulations
Saskatoon SK

Site Plan
Small Site
(25' x 132') 7.62m x 40.23m

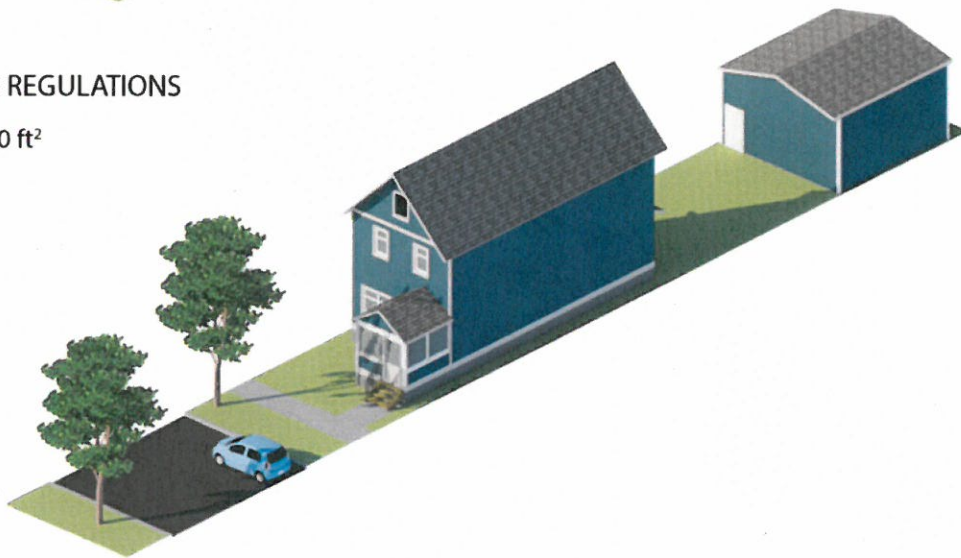


	Site Coverage (%)		
	Existing	Proposed	Developer
One Unit Dwellings (OUD)	40	31	40
Accessory Building	18	25	18
Total	58	56	58



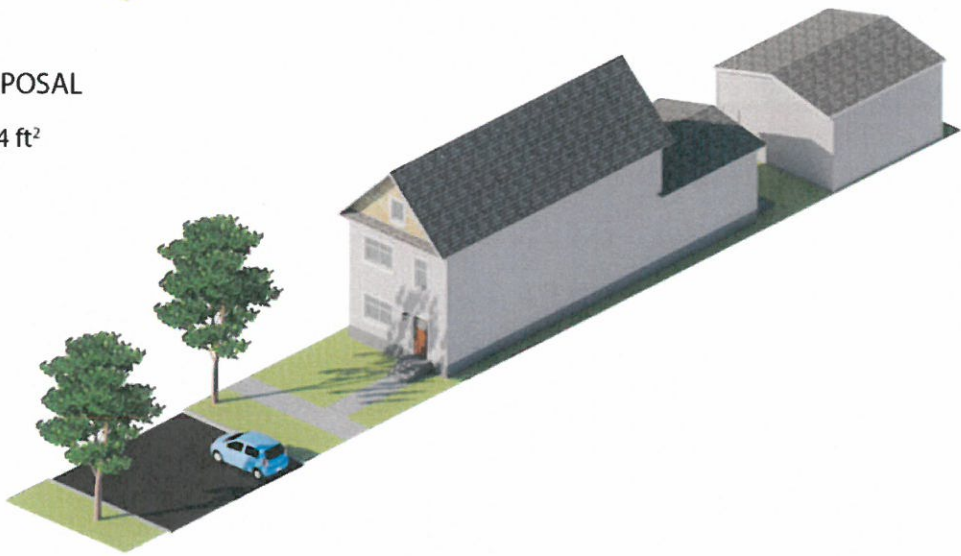
EXISTING REGULATIONS

AREA: 2640 ft²



CITY PROPOSAL

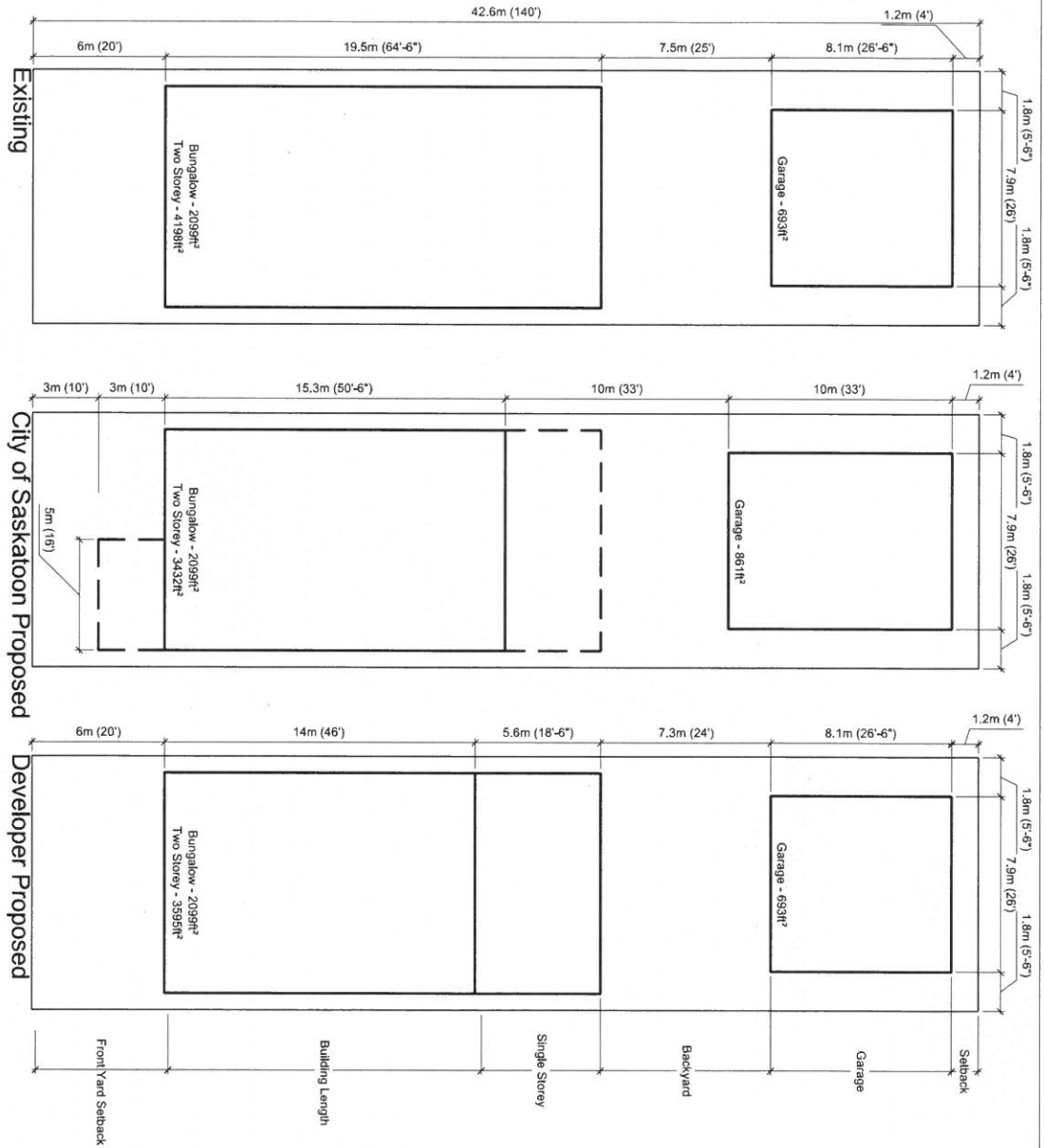
AREA: 1764 ft²



DEVELOPER PROPOSAL

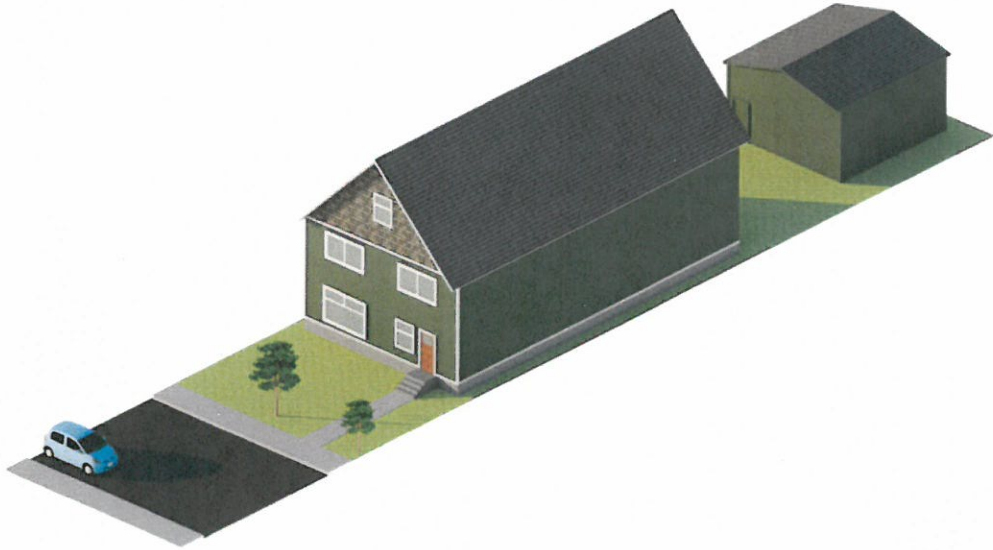
AREA: 2250 ft²

Site Plan
Medium Site
(37.5' x 140') 11.43m x 42.67m



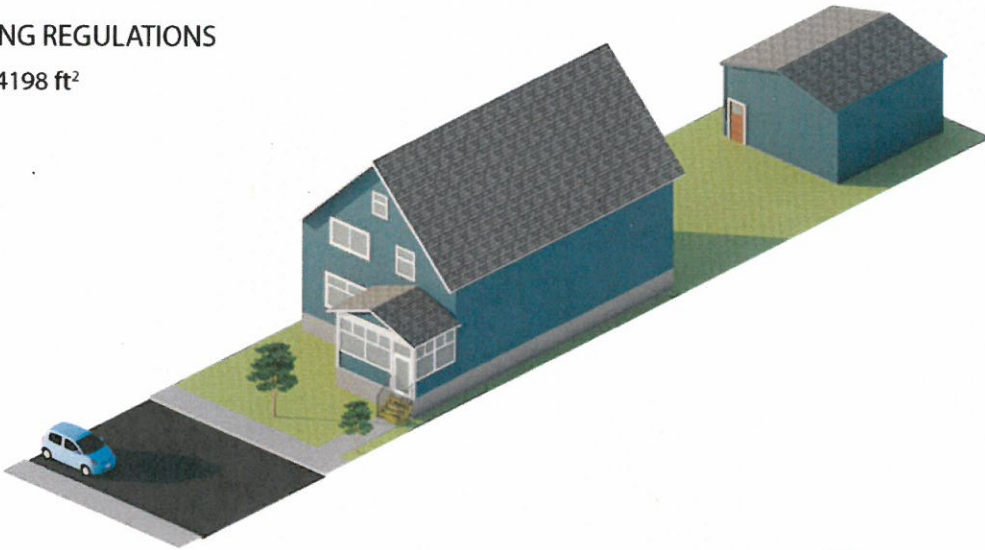
City of Saskatoon Infill Regulations
Saskatoon SK

	Site Coverage (%)		
	Existing	Proposed	Developer
One Unit Dwellings (OUD)	40	34	40
Accessory Building	13	17	13
Total	53	51	53



EXISTING REGULATIONS

AREA: 4198 ft²



CITY PROPOSAL

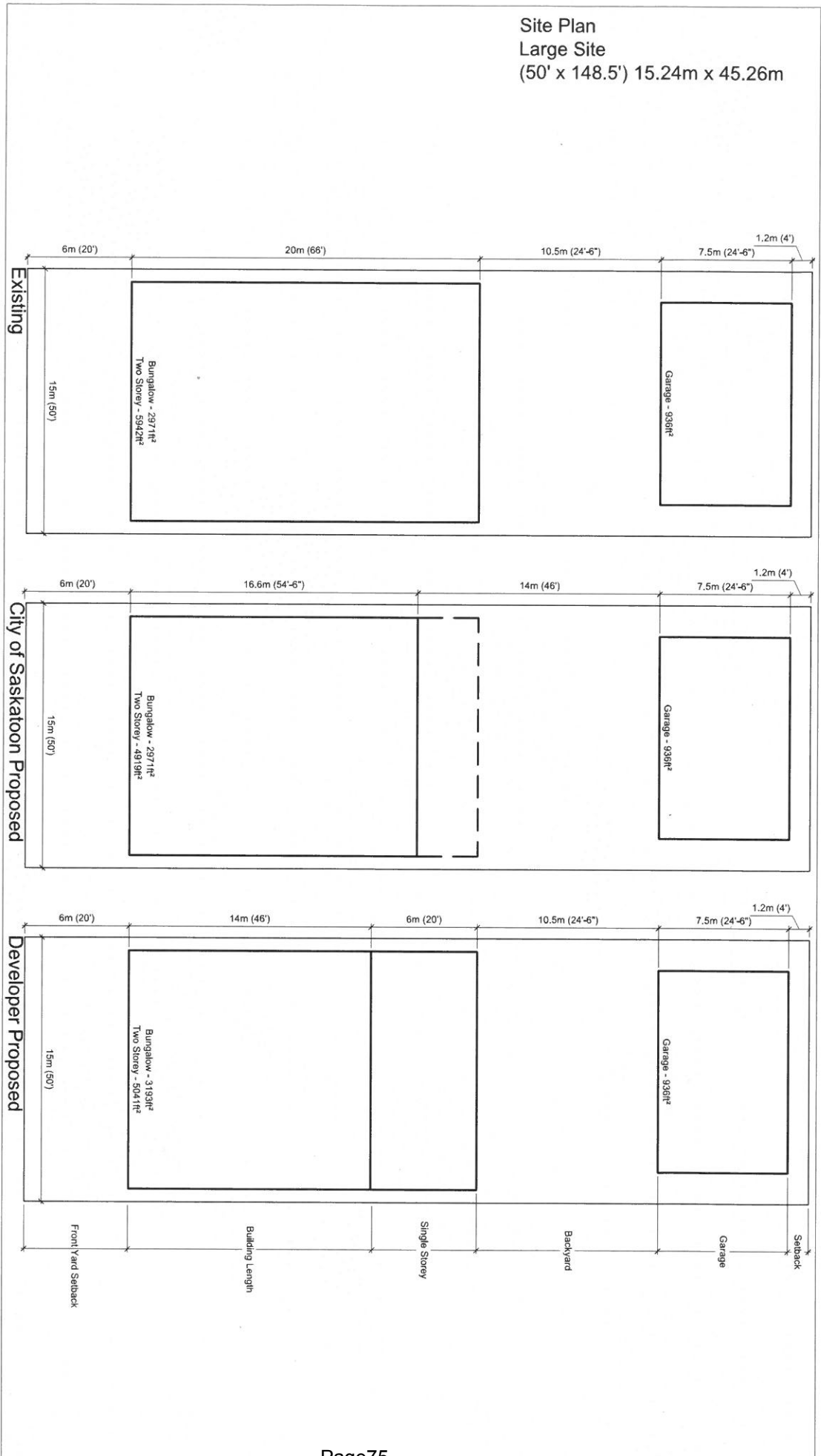
AREA: 3432 ft²



DEVELOPER PROPOSAL

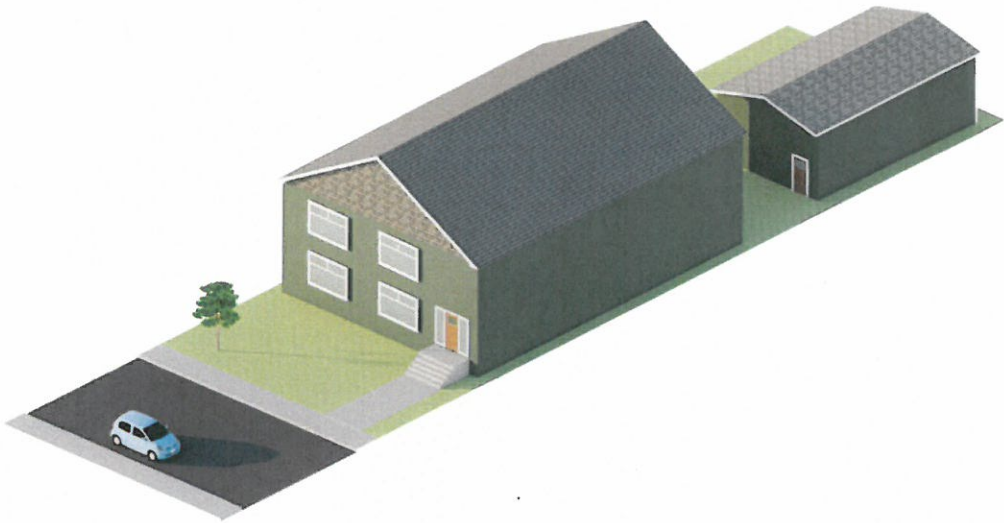
AREA: 3595 ft²

Site Plan
Large Site
(50' x 148.5') 15.24m x 45.26m



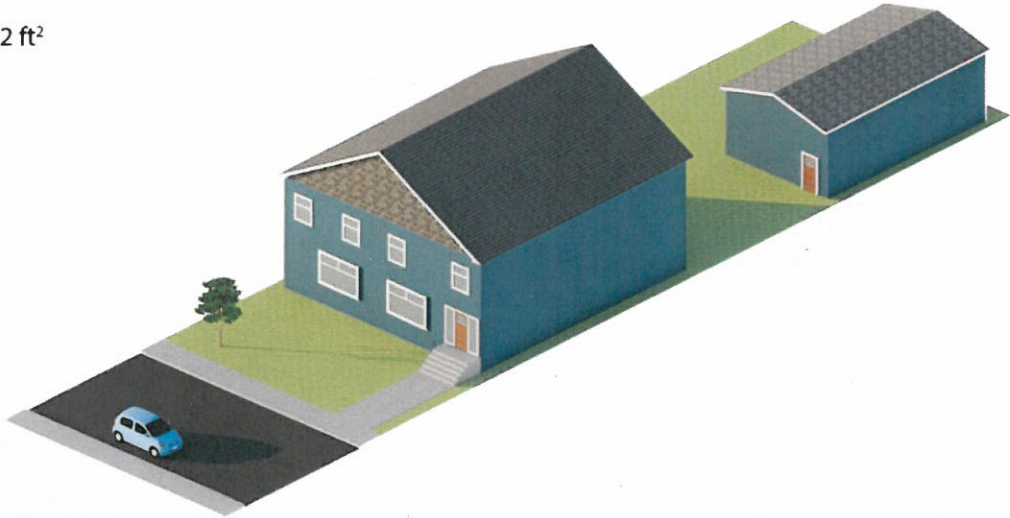
City of Saskatoon Infill Regulations
Saskatoon SK

	Site Coverage (%)		
	Existing	Proposed	Developer
One Unit Dwellings (OUD)	40	36	40
Accessory Building	13	13	13
Total	53	49	53



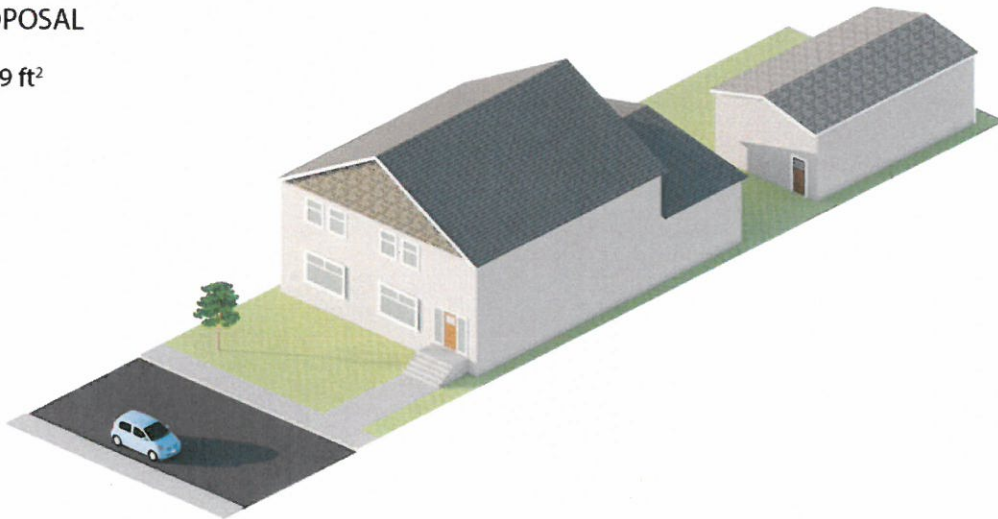
EXISTING REGULATIONS

AREA: 5942 ft²



CITY PROPOSAL

AREA: 4919 ft²



DEVELOPER PROPOSAL

AREA 5041 ft²

Square Footage Calculations for Primary Dwellings Maximum Built-out

50%, 52.5% and 55% for the maximum building length in step 2, in the Allowable Side Area Calculation:

1. Determine the building height (using the angular plane).
2. Determine the maximum building length.
 - a) For sites less than 40 metres in depth, the maximum is 14 metres; and
 - b) For sites greater than 40 metres in depth, the wall length is determined by: Site depth x 50% - Front yard setback
3. Allowable sidewall area is calculated using building height and wall length.

Table 1 Imperial (square feet)

		Small	Medium	Large
	Site Dimensions	25' x 132'	37.5' x 140'	50' by 148.5'
Current Regulations	building footprint (main floor)	1,320	2,099	2,971
	total floor area on 2 stories	2,640	4,198	5,942
Proposed at 50%* or 45.93 feet	building footprint (main floor)	932	1,712	2,460
	total floor area on 2 stories	1,764	3,423	4,919
Proposed at 52.5%*	building footprint (main floor)	986	1,739	2,608
	total floor area on 2 stories	1,972	3,478	5,217
Proposed at 55%*	floor area - storey	1,052	1,853	2,775
	total floor area on 2 stories	2,104	3,705	5,551

Table 2 Metric (square metres)

		Small	Medium	Large
	Site Dimensions	7.62 m x 40.23 m	11.43 m x 42.67 m	15.24 X by 45.40 m
Current Regulations	building footprint (main floor)	123	195	277
	total floor area on 2 stories	245	390	554
Proposed at 50%* or 14 metres	building footprint (main floor)	87	159	229
	total floor area on 2 stories	174	318	459
Proposed at 52.5%*	building footprint (main floor)	93	163	245
	total floor area on 2 stories	185	326	490
Proposed at 55%*	main floor area	99	173	261
	total floor area on 2 stories	197	347	521

COMMUNITY ENGAGEMENT SUMMARY

NEIGHBOURHOOD LEVEL INFILL STRATEGY PROPOSED REGULATIONS FOR PRIMARY DWELLINGS

Summary of Community Engagement for the Infill Development Strategy

Development of Infill Development Strategy (Brook McIlroy and skarc)

- December 4, 2012 – Public Workshop #1
- December 13, 2012 – Online Survey was launched
- March 14, 2013 – Public Workshop #2
- Several Community Advisory Committee meetings between December 2012 and December 2013

Key Dates for Implementation

- December 16, 2013 - City Council endorsed Infill Development Strategy
- March 25, 2014 – Implementation Plan approved by Planning and Operations Committee
- May 5, 2014 - City Council approves Garden and Garage Suites
- May 20, 2014 – Advertising for Proposed Regulations for Primary Dwellings and Small Multiple Unit Dwellings on Corner Sites was approved by City Council

Implementation of Infill Development Strategy – City of Saskatoon

Public Open Houses:

- March 4, 2014 – Proposed Regulations for Garden and Garage Suites
- May 7, 2014 – Proposed Regulations for Primary Dwellings and Small Multiple Unit Dwellings on Corner Sites.

This public open house was held to present the proposed amendment for low-density residential development (one-unit, two-unit, and semi-detached dwellings). Following that meeting, concerns were expressed by homebuilders that the regulations were not feasible or implementable. Planning and Development undertook additional analysis and consultation with homebuilders and designers to develop the current proposal.

- October 30, 2014 - Proposed Regulations for Primary Dwellings

Meetings with Community Advisory Committee (2014)

- January 9
- February 27
- April 9
- June 16
- September 30
- October 9

Meetings between May 2014 and December 2014

- June 6 – Alan Wallace, Darryl Dawson, and Paula Kotasek-Toth met with Patrick Wolfe, Mark Bobyn, Jim Seimens, and Councillor Clark
- June 23 – Alan Wallace, Darryl Dawson, and Paula Kotasek-Toth met with Patrick Wolfe, Mark Bobyn, Jim Seimens, and Councillor Clark
- June 24 – Alan Wallace met with Tim Ryan and Patrick Wolfe
- June 25 – Alan Wallace, Darryl Dawson, and Paula Kotasek-Toth met with Mark Bobyn, Patrick Wolfe, Councillor Charlie Clark, and others

- June 25 - Call to Cal Brook to clarify intent of recommendations in the report
- July 23 - Alan Wallace, Darryl Dawson, and Paula Kotasek-Toth met with Mark Bobyn, Patrick Wolfe, Councillor Charlie Clark, and others
- August 20 - Darryl Dawson and Paula Kotasek-Toth met with Councillor Paulsen and Heather Ryan
- September 9 – Alan Wallace updated City Council by email
- September 17- Alan Wallace had a phone conversation with Patrick Wolfe
- September 18 – Patrick Wolfe, Brett Johnson, and Robert Lessard
- September 23 – Darryl Dawson and Paula Kotasek-Toth met with Patrick Wolfe and Brett Johnson
- October 10 - Alan Wallace updated City Council by email
- October 30 – Darryl Dawson and Paula Kotasek-Toth met with Karl Miller
- November 20 – Alan Wallace and Darryl Dawson at Saskatoon Region Association of Realtors.

Community Engagement Strategy – October 30, 2014 Public Open House

Purpose

To inform. Planning and Development provided two presentations of the proposed regulations. Each presentation was followed by a question and answer period.

Form of Community Engagement Used

Public Information Meeting – Stakeholders were provided an opportunity to review a series of display boards and handouts were provided. Planning and Development provided two presentations of the proposed regulations. Each presentation was followed by a question and answer period.

Level of Input or Decision Making Required from the Public

Those in attendance were given the opportunity to provide comments.

Who was Involved

External stakeholders: Planning and Development has compiled a list of stakeholders and interested members of the public during the Infill Strategy project who were notified of the meeting. Other methods of notification used included an advertisement in The StarPhoenix, Public Service Announcements, and notices on the City's social media. Several councillors attended including: Councillors Lorje, Clark, Iwanchuk, Loewen, Olauson, Hill, and Jeffries.

Feedback Summary of October 30, 2014 Public Open House

The meeting was attended by 74 people. The following summarizes the feedback received:

- i. Not in favour of the proposed amendments where they will have an effect on the site coverage that can be achieved. The ability to build up to 40% site coverage should not be impacted. (10 similar comments received).
- ii. Current regulations have resulted in large incompatible infill development that creates problems with access to sunlight, drainage, privacy, loss of greenspace, and parking;
- iii. A maximum building length should be applied as very large buildings could be built on deep lots;
- iv. Driveway crossings should be allowed;
- v. Character of older neighbourhoods is compromised by infill;
- vi. Support elimination of 70% rule as it encourages semi-detached dwellings;
- vii. No such thing as a character neighbourhood, do not support any changes;
- viii. Infill increases the value of homes in older neighbourhoods;

- ix. The City needs to regulate how lots are graded and how it affects neighbouring properties;
- x. Developers should be liable for any damages to other properties during infill projects;
- xi. The infill developments that are currently underway are not affordable;
- xii. Not in favour of the rule to limit the height of the front door;
- xiii. Regarding solar access, it appears that only upper floors are an issue, therefore, just the length of the main floor should be restricted;
- xiv. Concern that the regulations will be in place before the Mayfair Local Area Plan is completed;
- xv. Should be restricting front garages (driveway crossings) in Category 2 areas as well;
- xvi. The semi-detached homes that have been built are not keeping within the character of the area;
- xvii. The current and proposed regulations allow for very large homes to be built in Montgomery;
- xviii. Front porches and stairs are a nice feature but may impact access to light;
- xix. Concerns that two-unit dwellings (duplexes) are being used as fourplexes; and
- xx. Drainage and run-off are issues.

Next Steps

ACTION	ANTICIPATED TIMING
Planning and Development Division prepares and presents to Municipal Planning Commission (MPC). MPC reviews proposal and recommends approval or denial to City Council.	December 9, 2014
Planning and Development Division prepares and presents to the Standing Policy Committee (SPC) on Planning, Development and Community Services (PDCS) for approval to advertise the amendments to the Zoning Bylaw. SPC on PDCS can approve or deny the request to advertise the amendments.	January 5, 2015
Public Notice - Advertisements prepared and placed in <u>The StarPhoenix</u> , City Page (as per the City's Public Notice Policy), and stakeholders will be notified.	January 10 to 15, 2015
Public Hearing – Public Hearing conducted by City Council, with opportunity provided to interested persons or groups to present. Proposal considered together with the reports of the Planning and Development Division, MPC, and any written or verbal submissions received by City Council.	January 26, 2015
Council Decision - may approve or deny proposal.	January 26, 2015

Prepared by:

Paula Kotasek-Toth, Senior Planner
 Planning and Development Division
 November 10, 2014

THE STARPHOENIX, SATURDAY, MARCH 7, 2015 and
SUNDAY PHOENIX, MARCH 8, 2015

ZONING NOTICE

PROPOSED ZONING BYLAW TEXT

AMENDMENT – BYLAW NO. 9249

Development Standards for Primary Dwellings in the Established Neighbourhoods

Saskatoon City Council will consider an amendment to the City's Zoning Bylaw (No. 8770). By way of Bylaw No. 9249, The Zoning Amendment Bylaw, 2015 (No. 2) will amend development standards for primary dwellings (one-unit, two-unit and semi-detached dwellings) in the Established Neighbourhoods as part of the Neighbourhood Level Infill Development Strategy.

The Established Neighbourhoods are further defined as Category 1 and Category 2 Neighbourhoods. Category 1 Neighbourhoods include City Park, Caswell Hill, Westmount, Riversdale, Pleasant Hill, King George, Nutana, Varsity View, Buena Vista, North Park, and Haultin. Category 2 Neighbourhoods are the remainder of the established neighbourhoods.

The proposed amendments to the Zoning Bylaw are as follows:

Section 2.0 Definitions – add definitions for flat roofs, front porch and primary dwelling and define Category 1 and Category 2 Neighbourhoods.

Section 5.0 General Provisions – add new section to address general development standards for all primary dwellings in the established neighbourhoods, including:

- Regulations for the allowable sidewall area of a primary dwelling to address overall building mass;
- Regulations for flat roof dwellings;
- Provide for a front porch to extend 3 metres into the required front yard in Category 1 Neighbourhoods ; and
- Limit the height of the sill of the front door.

Section 8.1 R1 – Large Lot One Unit Residential District:

- Clarify that the minimum site width for one unit dwellings in Category 1 Neighbourhoods shall be 15 metres; and,
- Allow the minimum site width for one unit dwellings in Category 2 Neighbourhoods to be 60% of the average site width for one-unit dwelling sites fronting on the subject block face and the opposite block face, but in no case shall the site width be less than 15 metres.
- Apply the provisions contained in Section 5.0 for Primary Dwellings in the Established Neighbourhoods.

Section 8.2 R1A One Unit Residential District:

- Clarify that the minimum site width for one unit dwellings in Category 1 Neighbourhoods shall be 12 metres; and,
- Allow the minimum site width for one unit dwellings in Category 2 Neighbourhoods to be 60% of the average site width for one-unit dwelling sites fronting on the subject block face and the opposite block face, but in no case shall the site width be less than 12 metres.
- Apply the provisions contained in Section 5.0 for Primary Dwellings in the Established Neighbourhoods.

Section 8.4 R2 One and Two-Unit Residential District:

- Clarify that the minimum site width for one unit dwellings in Category 1 Neighbourhoods shall be 7.5 metres;
- Allow the minimum site width for one unit dwellings in Category 2 Neighbourhoods to be 60% of the average site width for one-unit dwelling sites fronting on the subject block face and the opposite block face, but in no case shall the site width be less than 7.5 metres; and,
- Sites in the 100-300 blocks of Saskatchewan Crescent West and Poplar Crescent shall have a minimum site width for the construction of new one-unit dwellings that are at least 60% of the average site width for one unit dwelling sites fronting on the on the subject block face and opposite block face.
- Apply the provisions contained in Section 5.0 for Primary Dwellings in the Established Neighbourhoods.

REASON FOR THE AMENDMENT – The amendments are being proposed with the goal of balancing demand for new housing with the existing built form in Established Neighbourhoods. The proposed amendments, which are based on the Neighbourhood Level Infill Development Strategy, will regulate building height and massing and other building elements of primary dwellings (one-unit, two-unit and semi-detached dwellings) to ensure that new infill development does not detract from the character of an existing neighbourhood.

INFORMATION – Questions regarding the proposed amendment or requests to view the proposed amending Bylaw, the City of Saskatoon Zoning Bylaw and Zoning Map may be directed to the following without charge: Community Services Department, Planning and Development Division
Phone: 306-975-7621 (Paula Kotasek-Toth)

PUBLIC HEARING – City Council will hear all submissions on the proposed amendment and all persons who are present at the Council meeting and wish to speak on **Monday, March 23, 2015 at 6:00 p.m. in Council Chamber, City Hall, Saskatoon, Saskatchewan.**

All written submissions for City Council's consideration must be forwarded to:

His Worship the Mayor and Members of City Council
c/o City Clerk's Office, City Hall
222 Third Avenue North, Saskatoon, SK S7K 0J5.

All submissions received by the City Clerk by **10:00 a.m. on Monday, March 23, 2015**, will be forwarded to City Council. City Council will also hear all persons who are present and wish to speak to the proposed Bylaw.

BYLAW NO. 9249

The Zoning Amendment Bylaw, 2015 (No. 2)

The Council of The City of Saskatoon enacts:

Short Title

1. This Bylaw may be cited as *The Zoning Amendment Bylaw, 2015 (No. 2)*.

Purpose

2. The purpose of this Bylaw is to amend Bylaw No. 8770, *The Zoning Bylaw*, to provide for revised development standards for primary dwellings in established neighbourhoods.

Bylaw No. 8770 Amended

3. Bylaw No. 8770 is amended in the manner set forth in this Bylaw.

Section 2.0 Amended

4. Section 2.0 is amended:
 - (a) by repealing the definition of “category 2 neighbourhood” and substituting the following:

“**category 2 neighbourhood** means:

 - (i) for the purposes of the regulations governing garden and garage suites, a neighbourhood other than a category 1 neighbourhood; and
 - (ii) for the purposes of the regulations governing primary dwellings, an established neighbourhood other than a category 1 neighbourhood.”;

- (b) by adding the following after the definition of “flanking”:

“**flat roof** means a roof which has a pitch of less than 2:12;

front porch means a structure attached to the front of a primary dwelling which is enclosed by a roof, solid walls or windows and containing the entrance to the primary dwelling.”; and,

- (c) by adding the following after the definition of “pre-school”:

“**primary dwelling** means a one-unit, two-unit or semi-detached dwelling located in an established neighbourhood.”.

Subsection 5.8(2) Amended

5. Subsection 5.8(2) is amended by adding the following after clause (f):

“(g) a front porch on a primary dwelling in a category 1 neighbourhood shall be a maximum of 50% of the width of the front of the dwelling and may encroach up to 3.0 metres into a required front yard.”.

New Section 5.44

6. The following Section is added after Section 5.43:

“5.44 Primary Dwellings in Established Neighbourhoods

- (1) The allowable sidewall area for a primary dwelling includes all portions of a sidewall located under eaves which faces the same direction. The allowable sidewall area must not exceed the area determined by the following calculations:
- (a) building wall height calculations: the wall height is determined by a 45 degree angular plane, measured from a height of 6 metres, projecting vertically from the side property line. The allowable wall height is determined where the building setback intersects the 45 degree angular plane;
 - (b) building wall length calculation:
 - (i) for sites 40 metres or less in depth, the maximum is 14 metres; and
 - (ii) for sites greater than 40 metres in depth, the wall length is determined by: site depth x 50% - front yard setback;
 - (c) allowable sidewall area is calculated by multiplying building height and wall length.
- (2) Flat roof primary dwellings:
- (a) the wall height for flat roof primary dwellings is determined by a 45 degree angular plane, measured from a height of 6

metres, projecting vertically from the side property line. The maximum wall height is determined where the building setback intersects the 45 degree angular plane. Wall height is measured as an average of the lowest and highest points of the wall. The resulting wall height may be increased provided that the dwelling is setback further from the side property line;

- (b) any portion of sidewalls above the maximum height must have a minimum stepback of 1.2 metres from the sidewall of the dwelling and shall not exceed a maximum height of 8.5 metres; and
 - (c) the allowable sidewall area provisions apply to flat roofed primary dwellings.
- (3) The bottom or sill of an entrance facing the front yard of a primary dwelling in category 1 neighbourhood shall not be located more than 1.0 metres above the finished grade.

Figure 5.44(a)

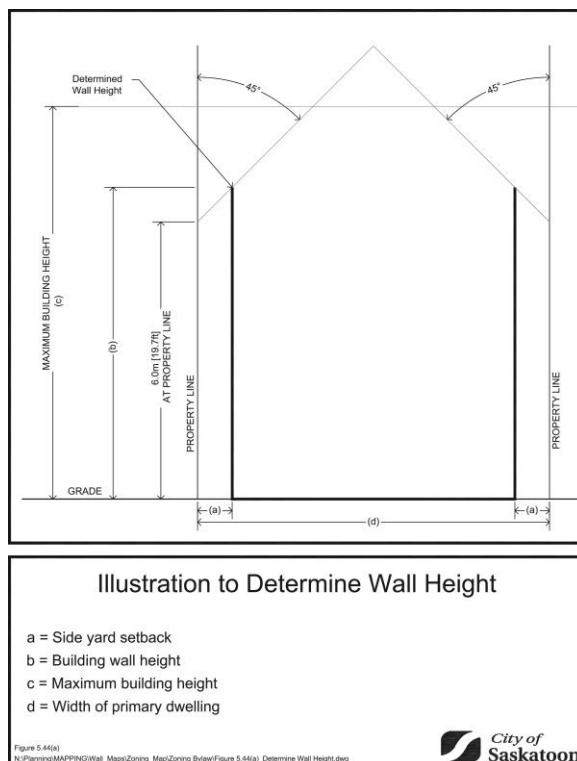


Figure 5.44(b)

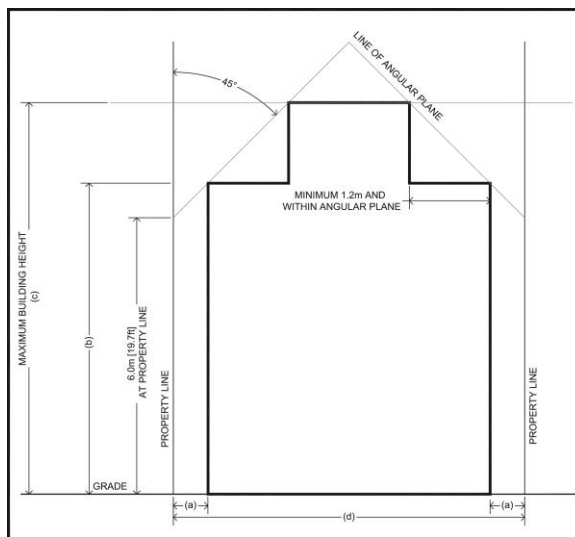


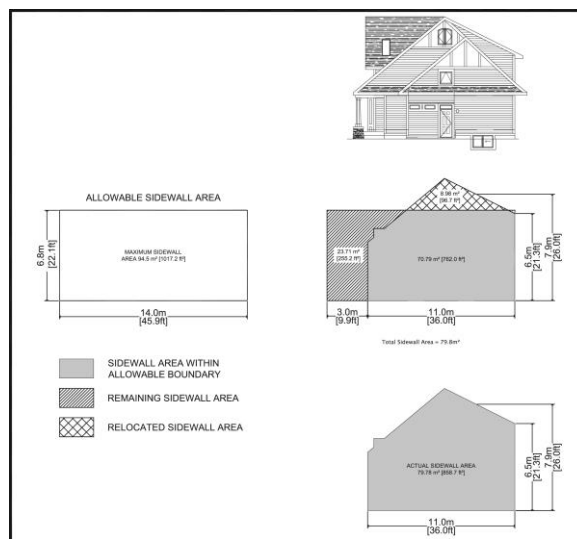
Illustration of Flat Roof Primary Dwelling

- a = Side yard setback
- b = Building wall height
- c = Maximum building height
- d = Width of primary dwelling

Figure 5.44(b)
N:\Planning\MAPPING\Wall_Maps\Zoning_Map\Zoning Bylaw\Figure 5.44(b)_Flat Roof Primary Dwelling.dwg



Figure 5.44(c)



Example of Allowable Sidewall Area

	Modified Two Storey	
Site length: 40 m	Allowable Sidewall Area:	Actual Sidewall Area:
Side yard width: 0.75 m	6.7 m x 14 m = 94.5 m ²	79.78 m ²

Figure 5.44(c)
N:\Planning\MAPPING\Wall_Maps\Zoning_Map\Zoning Bylaw\Figure 5.44(c)_Example of Allowable Sidewall Area.dwg



Section 8.1.2 Amended

7. The chart contained in Section 8.1.2 is amended by adding the footnote “6” after “(1) One-unit dwellings (OUD)”.

Section 8.1.4 Amended

8. Section 8.1.4 is amended:

- (a) by adding “category 2” after “one-unit dwellings in” in note 2;
- (b) by striking out “70%” in note 2 and substituting “60%”; and
- (c) by adding the following after note 5:

“6 For one-unit dwellings in established neighbourhoods the provisions of Section 5.44 apply.”.

Section 8.2.2 Amended

9. The chart contained in Section 8.2.2 is amended by adding the footnote “8” after “(1) One-unit dwellings (OUD)”.

Section 8.2.4 Amended

10. Section 8.2.4 is amended:

- (a) by adding “category 2” after “one-unit dwellings in” in note 2;
- (b) by striking out “70%” in note 2 and substituting “60%”; and
- (c) by adding the following after note 7:

“8 For one-unit dwellings in established neighbourhoods the provisions of Section 5.44 apply.”.

Section 8.4.2 Amended

11. The chart contained in Section 8.4.2 is amended by adding the footnote “9” after each of “(1) One-unit dwellings (OUD)”, “(2) Two-unit dwellings (TUD)” and “(3) Semi-detached dwellings (SDD)”.

Section 8.4.4 Amended

12. Section 8.4.4 is amended:

- (a) by adding “category 2” after “one-unit dwellings in” in note 2;
- (b) by striking out “70%” in note 2 and substituting “60%”; and
- (c) by adding the following after note 7:

“8 For sites in the 100 - 300 blocks of each of Saskatchewan Crescent West and Poplar Crescent, the minimum site width for new one-unit dwellings shall be at least 60% of the average site width for one and two-unit dwellings fronting on the subject block face and the opposite block face.

9 For sites located in established neighbourhoods the provisions of Section 5.44 apply.”.

Coming into Force

13. This Bylaw shall come into force on the day of its final passing.

Read a first time this _____ day of _____, 2015.

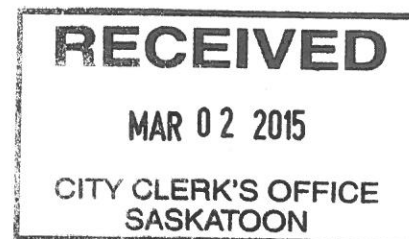
Read a second time this _____ day of _____, 2015.

Read a third time and passed this _____ day of _____, 2015.

Mayor

City Clerk

From: Web NoReply
Sent: March 02, 2015 9:34 AM
To: City Council
Subject: Form submission from: Write a Letter to Council



Submitted on Monday, March 2, 2015 - 09:33
Submitted by anonymous user: 199.212.215.11
Submitted values are:

Date: Monday, March 02, 2015
To: His Worship the Mayor and Members of City Council
First Name: Sean
Last Name: Sass
Address: 214-3rd St. E.
City: Saskatoon
Province: Saskatchewan
Postal Code: S7H 1L3
Email: seanojsass@yahoo.ca
Comments:
To: Standing Policy Committee on Planning: Re: Infill Guidelines

Hello. I wanted to contribute my opinion as a long-time resident in the Buena Vista area. I have grown up in this area and lived in and around this area for more than 35 years. In the last 10 years there has been a dramatic transition in the area with rampant infill development and former single houses on double sized lots turned into very large semi-detached housing units, duplexes and 4-plexes in some cases. There has been significant impact on the area in terms of traffic, parking, and the historic look. However, the most seriously felt impact has clearly been the impact on the neighbouring houses to these very large infill units. I and the community are not adverse to an increase in population density if done properly - meaning with some regulated development that accounts not primarily for the profit-motive self-interest of developers but also considers the interests of area residents. Infill development restrictions/guidelines have been required for many years and City

Council has been absent on this issue. Developers have managed to delay implementation of any guidelines that would restrict the largesse of their projects in any manner. The communities that have been impacted by the failure of Council to enact guidelines have suffered irreparably. Having said that, regulations are still required as the damage will get worse if not hastened and properly addressed. The proposed guidelines are very much a compromise - favouring developers at the expense of residents, but they are better than nothing. The developers continue to want to call the shots on how the City moves forward with infill and other development - although the interests of developers should be considered, it should not take precedent or priority over residents whose primary interests remain the long-term live-ability of their communities and not profit at any cost. Please consider enacting the proposed guidelines for infill development without watering down the proposed restrictions to infill development as proposed by developers.

Thank you,
Sean Sass

THE STARPHOENIX, SATURDAY, MARCH 7, 2015 and
SUNDAY PHOENIX, MARCH 8, 2015

ZONING NOTICE

PROPOSED ZONING BYLAW TEXT

AMENDMENT – BYLAW NO. 9250

Garden and Garage Suites Accessory to a One-Unit Dwelling

Saskatoon City Council will consider an amendment to the City's Zoning Bylaw (No. 8770). By way of Bylaw No. 9250, The Zoning Amendment Bylaw, 2015 (No.3) will amend the regulations for garden and garage suites.

The proposed amendments to the Zoning Bylaw are as follows:

Section 2.0, as amended, would amend the definition of: "Category 1 Neighbourhoods"

- Exhibition Neighbourhood will be added to the list of Category 1 Neighbourhoods. Category 1 Neighbourhoods are generally characterized by a grid design with narrow residential lots and large mature trees and vegetation. Much of the original development in this area occurred prior to 1945.

Section 5.43, will be amended as follows:

- Remove the provision to allow for a two-storey garden and garage suite on corner lots in Category 2 neighbourhoods.
- The maximum roof height for garden and garage suites in Category 1 neighbourhoods be amended to clarify that the maximum height is measured to the mid-point of a peaked roof.

REASON FOR THE AMENDMENT – The minor amendments are a result of further stakeholder input received since the initial implementation of zoning bylaw amendments that provide for the development of garden and garage suites that are accessory to a one-unit dwelling.

INFORMATION – Questions regarding the proposed amendment or requests to view the proposed amending Bylaw, the City of Saskatoon Zoning Bylaw and Zoning Map may be directed to the following without charge:

Community Services Department,
Planning and Development Division
Phone: 306-975-7621 (Paula Kotasek-Toth)

PUBLIC HEARING – City Council will hear all submissions on the proposed amendment and all persons who are present at the Council meeting and wish to speak on **Monday, March 23, 2015 at 6:00 p.m. in Council Chamber, City Hall, Saskatoon, Saskatchewan.**

All written submissions for City Council's consideration must be forwarded to:

His Worship the Mayor and Members of City Council
c/o City Clerk's Office, City Hall
222 Third Avenue North, Saskatoon, SK S7K 0J5.

All submissions received by the City Clerk by **10:00 a.m. on Monday, March 23, 2015**, will be forwarded to City Council. City Council will also hear all persons who are present and wish to speak to the proposed Bylaw.

BYLAW NO. 9250

The Zoning Amendment Bylaw, 2015 (No. 3)

The Council of The City of Saskatoon enacts:

Short Title

1. This Bylaw may be cited as *The Zoning Amendment Bylaw, 2015 (No. 3)*.

Purpose

2. The purpose of this Bylaw is to amend Bylaw No. 8770, *The Zoning Bylaw* to make certain changes to the regulations governing garden and garage suites.

Bylaw No. 8770 Amended

3. Bylaw No. 8770 is amended in the manner set forth in this Bylaw.

Section 2.0 Amended

4. Section 2.0 is amended by striking out “and Haultain” in the definition of **Category 1 neighbourhood** and substituting “, Haultain and Exhibition”.

Section 5.43 Amended

5. Section 5.43 is amended:
 - (a) by repealing subsection (20);
 - (b) by repealing Note 3 in subsection (21) and substituting the following:

“3 The maximum building height can be increased to 6.0 metres to the mean height level between eaves and ridge on buildings with a gable, hip or gambrel roof which are located in category 1 neighbourhoods.”

March 5, 2015

City Clerk

Dear City Clerk:

**Re: Development Standards for Structured Parking and Design Guidelines
for the Downtown – City Centre Plan Implementation
(Files CK. 4350-015-001 X 4130-1 and PL. 4130-22-3)**

The Municipal Planning Commission considered a report of the General Manager, Community Services Department, dated February 24, 2015, on the above application and supports the following recommendation of the Community Services Department:

That the proposed amendments to Official Community Plan Bylaw No. 8769 and Zoning Bylaw No. 8770, as outlined in the report of the General Manager, Community Services Department, dated February 24, 2015, be approved.

The Commission respectfully requests that the report of the General Manager, Community Services Department, dated February 24, 2015, be considered by City Council at the time of the public hearing with respect to the above proposed application.

Yours truly,



Penny Walter, Committee Assistant
Municipal Planning Commission

PW:aam

Attachment

Development Standards for Structured Parking and Design Guidelines for the Downtown - City Centre Plan Implementation

Recommendation

That a copy of this report be submitted to City Council recommending that at the time of the public hearing, City Council consider the Administration's recommendation that the proposed amendments to Official Community Plan Bylaw No. 8769 and Zoning Bylaw No. 8770, as outlined in this report, be approved.

Topic and Purpose

The purpose of this report is to propose amendments to Official Community Plan (OCP) Bylaw No. 8769 and Zoning Bylaw No. 8770 to provide development standards related to parking structures and design guidelines for the Downtown.

Report Highlights

1. The Administration recommends OCP Bylaw No. 8769 be amended to include a new subsection for "Active Frontages", which will outline the goals of the design guidelines, as well as an adjustment to the boundary of the OCP Downtown Land Use Map to recognize the 25th Street extension.
2. The Administration recommends that the development standards relating to parking structures be applied to the M4, B5B, B5C, B6, and RA1 Zoning Districts, and that design guidelines for the Downtown apply in the M4 and B6 Zoning Districts.

Strategic Goal

This initiative supports the City of Saskatoon's (City) Strategic Goal of Sustainable Growth by establishing development standards and design guidelines that will increase the quality and character of the Downtown area.

Background

At its January 20, 2014 meeting, City Council received a report entitled "City Centre Plan - Items for Immediate Implementation" (Immediate Implementation Report). At that meeting, City Council provided authorization to proceed with bylaw amendments that would establish design guidelines for the Downtown. The Administration prepared the design guidelines; however, some details presented in the Immediate Implementation Report have been modified. For this reason, the Administration has prepared this report to present the design guidelines and highlight the modifications (see Attachment 1).

Report

The City Centre Plan introduced a set of design guidelines for the Downtown. The design guidelines outline the construction and design goals for Downtown developments to support the overall vision of the City Centre. The guidelines are intended to be flexible enough to encourage development and allow for creative building

Development Standards for Structured Parking and Design Guidelines for the Downtown – City Center Plan Implementation

design, yet provide for a built environment that is attractive, safe, and sensitive to the pedestrian.

Amendments to OCP Bylaw No. 8769

The proposed amendments to OCP Bylaw No. 8769 include a new subsection named “Active Frontages.” Active frontages create a relationship between the building and the street, which will improve safety and lead to animation and vibrancy in the Downtown (see Attachment 2).

The proposed amendments also include an adjustment to the boundary of the OCP Downtown Land Use Map to align the northern boundary of the Downtown with the new 25th Street extension (see Attachment 3).

Amendments to Zoning Bylaw No. 8770

The proposed amendments to Zoning Bylaw No. 8770 are divided into two sections:

- i) development standards related to parking structures, which includes design criteria; and
- ii) design guidelines for the Downtown.

The amendments related to parking structures will affect the following Zoning Districts:

- i) M4 (Core Area Institutional Service District);
- ii) B5B (Broadway Commercial District);
- iii) B5C (Riversdale Commercial District);
- iv) B6 (Downtown Commercial District); and
- v) RA1 (Reinvestment District 1).

The proposed design guidelines for the Downtown affect the M4 (Core Area Institutional Service) and B6 (Downtown Commercial) Zoning Districts. These design guidelines relate to setbacks, wind mitigation, wall relief, and façade standards. Attachment 2 provides details of the proposed amendments to Zoning Bylaw No. 8770. Please note that the design guidelines will not apply to the B3 (Medium-Density Arterial Commercial) areas in the Downtown as these lands are being studied under the Growing Forward project. A definition for public use will also be added to Zoning Bylaw No. 8770 to identify the potential uses on the ground floor frontages for parking structures.

Options to the Recommendation

City Council has the option to:

- 1) deny the proposed amendments to OCP Bylaw No. 8769 and Zoning Bylaw No. 8770; or
- 2) request revisions to the design guidelines and development standards.

Public and/or Stakeholder Involvement

The proposed design guidelines were discussed by the City Centre Plan Steering Committee, with stakeholder consultation held in the spring of 2013, where the design guidelines were presented to the community. The principles of the design guidelines were presented to City Council at its January 20, 2014 meeting, as part of the

Development Standards for Structured Parking and Design Guidelines for the Downtown – City Center Plan Implementation

Immediate Implementation Report. The Administration has also vetted the proposed design guidelines through four teams of private sector architects and developers.

Communication Plan

If this proposal is approved, the three core Business Improvement Districts (BIDs) will be notified, in writing, of the amendments. As well, developers of any known Downtown projects currently in the design stages will be notified. The Sutherland BID and 33rd Street BID were not included in this study as they are outside of the City Centre Plan boundary. The Administration will work with these BIDs if they are interested in exploring similar design guidelines and development standards for their area.

Policy Implications

The implementation of the design guidelines detailed in this report requires amendments to OCP Bylaw No. 8769 and Zoning Bylaw No. 8770.

Other Considerations/Implications

There are no environmental, financial, CPTED, or privacy implications or considerations.

Due Date for Follow-up and/or Project Completion

This project will be complete upon the public hearing.

Public Notice

The design guidelines will be advertised in accordance with Public Notice Policy No. C01-021, and a date for the public hearing will be set. A notice will be placed in The StarPhoenix two weeks prior to the public hearing.

Attachments

1. Modifications to the Design Guidelines for the Downtown
2. Proposed Design Guidelines for the Downtown
3. Proposed Official Community Plan Downtown Land Use Map

Report Approval

Written by: Paul Whitenect, Senior Planner, Neighbourhood Planning
Reviewed by: Alan Wallace, Director of Planning and Development
Approved by: Randy Grauer, General Manager, Community Services Department

S/Reports/CP/2015/MPC – Dev. Standards for Structured Parking and Design Guidelines for the DT – CCP Implementation/ks

Modifications to the Design Guidelines for the Downtown

The design guidelines outlined in the “City Centre Plan – Items for Immediate Implementation” report (Immediate Implementation Report), dated December 19, 2013, summarized the general design principles presented in the City Centre Plan. In some cases, when the guidelines were being built-out, policies were modified from what was originally proposed. The key modifications are detailed below.

1. Setbacks

The Immediate Implementation Report required 75% of the front façade of buildings to be placed within 0.5 metres of the front property line. The revised guidelines do not dictate building setbacks, but instead will specify what is permitted in the setback area. This will provide flexibility for building placement on the site, and ensure that all setback areas are dedicated to public uses, including drop-off areas, bicycle parking, restaurant/dining uses, landscaping, or a public space, such as a plaza or public art space.

2. Step Backs

The City Centre Plan proposed that buildings over 25 metres in height have a minimum 2 metre step back between 10 metres and 25 metres. The purpose was to redirect winds away from the sidewalk and to reduce the visual scale of the building. The revised guidelines will address these two considerations separately. It is proposed that any building over 15 metres in height will require a wind mitigation study that will identify all efforts to minimize wind at the grade level, and a Development Officer will need to be satisfied with these results before approving the development permit.

To address the scale of the building, buildings over 25 metres in height will need to provide a step back, as was previously proposed, or will need to provide an architectural feature to disrupt the wall relief to address the scale of the building.

3. Façade Guidelines

The City Centre Plan called for buildings to maintain a distinctive base, middle, and top portion. This requirement will be maintained; however, vertical articulation or a similar change in material will be permitted, in lieu of a distinctive bottom or top portion.

The Immediate Implementation Report required a minimum of 40% of the ground floor street facing wall to be transparent and 30% above the ground floor. The revised provision maintains the 40% transparent opening at the ground floor but does not have requirements above the ground floor. The reason for the change is to provide greater flexibility for building design and architectural elements and to help buildings achieve green building standards.

4. Parking Placement and Structures

The design guidelines relating to parking placement and structures will not be amended from what was originally outlined, with two minor additions. At-grade parking will require the 7.0 metre setback as originally proposed, and parking structures will require architectural treatments. However, parking structures will be required to maintain a minimum of 50% of the ground floor frontage dedicated to public uses adjacent to a public street. As well, the regulations will clarify that parking structures must be screened on all sides that can be viewed from a public street, regardless of setback. Façade treatments will not be required for the ground floor of parking structures that abut a rear lane; however, upper floors that may be seen from a public street will require façade treatments to the satisfaction of the Development Officer.

Proposed Design Guidelines for the Downtown

The following design guidelines are proposed for Official Community Plan (OCP) Bylaw No. 8769 and Zoning Bylaw No. 8770. The design guidelines were first proposed in the City Centre Plan and will be applied to OCP Bylaw No. 8769 and relevant zoning districts as detailed below.

A. Proposed Amendments to OCP Bylaw No. 8769

1. Section 6.1.2.7: Active Frontages

An Active Frontage refers to building frontages that face and open onto a public sidewalk and are designed to promote animation, vibrancy, and interest, as well as an element of comfort to the public realm. The goal of Active Frontages is to create a relationship between the building and the street and can be achieved by incorporating the following principles:

- a) frequent door and transparent window openings;
- b) no blank walls, continuous garage doors, or high fences;
- c) interesting building façades along the street frontage;
- d) building façades that vary along the block face;
- e) building façades may be articulated or contain projections, including but not limited to, bays and porches to provide visual interest;
- f) where a building is setback from the property line, the space created should be dedicated to pedestrian activities, including plazas, seating areas, landscaping, or other uses that are active or provide visual interest;
- g) public uses, including but not limited to retail uses, should be located on the ground floor where possible; and
- h) internal uses should be visible from the sidewalk or may continue onto the sidewalk.

B. Proposed Amendments to Zoning Bylaw No. 8770 - Development Standards Related to Parking Structures

The proposed amendments to Zoning Bylaw No. 8770 will provide development standards for parking structures within the Downtown and will apply to the following Zoning Districts:

- i) Section 9.4: M4 – Core Area Institutional Service District
- ii) Section 10.8A: B5B - Broadway Commercial District
- iii) Section 10.8B: B5C – Riversdale Commercial District
- iv) Section 10.9: B6 - Downtown Commercial District
- v) Section 12.6: RA1 - Reinvestment District 1

1. **Parking Structures:** Parking structures must be screened with architectural treatments on all street-facing façades, as well as those

façades that can be viewed from a public street, regardless of setback distance, to the satisfaction of the Development Officer. Architectural treatments may include architectural screening or cladding resembling a building façade.

2. **Parking Structures to Contain Public Uses At-Grade:** Parking structures are required to have active frontages and must provide public uses for a minimum of 50% of the ground floor frontage along the building's street-facing frontage where immediately adjacent to a public street. Public uses include all uses where the public may freely enter, including, but not limited to, retail uses, office uses, and bike parking facilities. The ground floor of parking structures are encouraged to be retail-ready as a means to accommodate public uses at-grade.
3. **Parking Placement:** At-grade parking areas associated with a building development that are not suitably screened with architectural treatments are required to maintain a minimum 7.0 metre setback from the front property line; and if there is no building within the setback area, the area must be landscaped in accordance with Section 7.0.

On corner lots, the side yard must be suitably screened with a fence to the satisfaction of the Development Officer.

C. Proposed Amendments to Zoning Bylaw No. 8770 – Design Guidelines for the Downtown

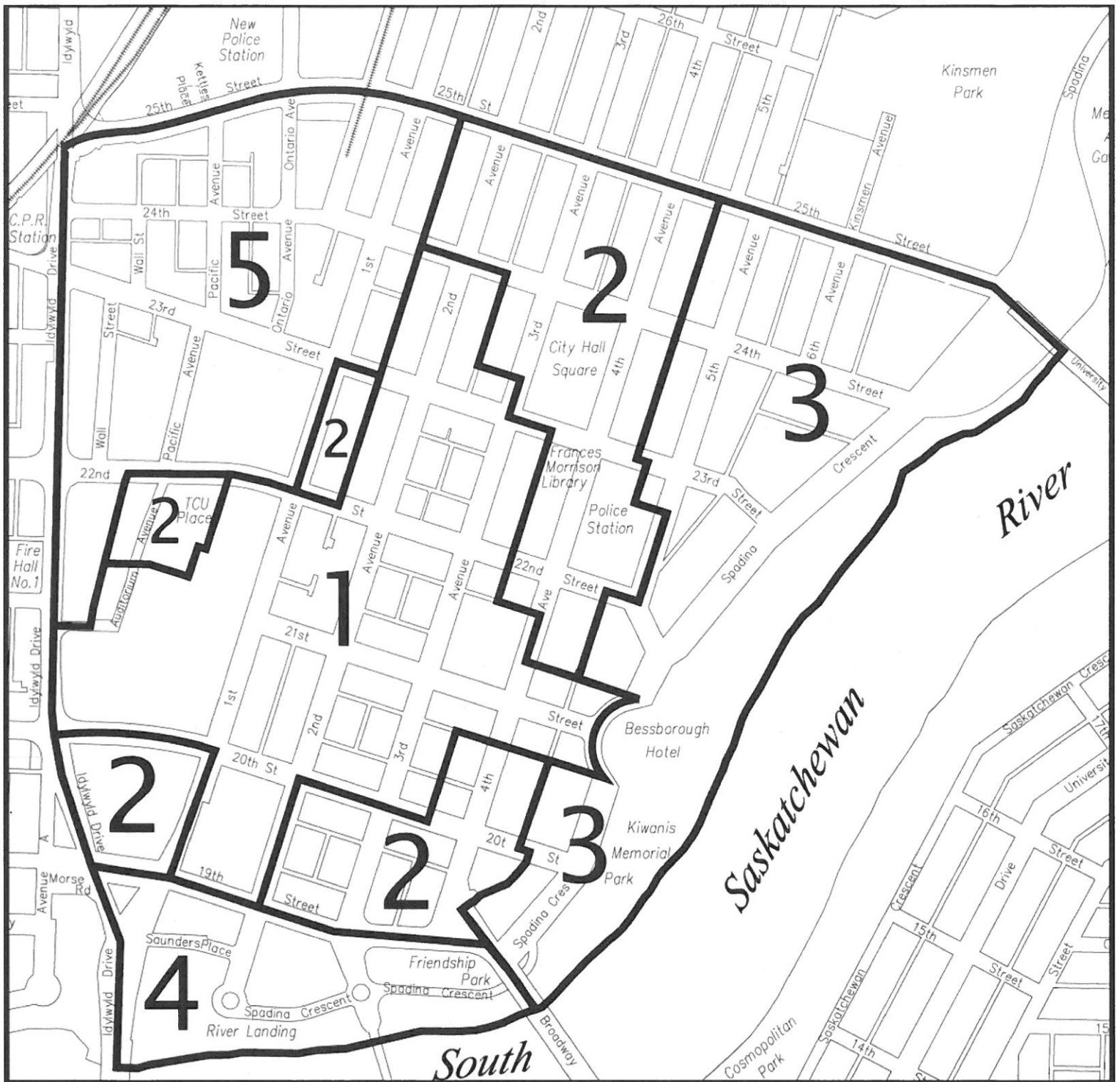
The proposed amendments to Zoning Bylaw No. 8770 will provide development standards relating to Design Guidelines within the Downtown and will apply to the following Zoning Districts:

- i) Section 9.4: M4 – Core Area Institutional Service District
- ii) Section 10.9: B6 - Downtown Commercial District

1. **Setbacks:** Any area that is setback from the street-facing property line must be used for:
 - a) drop-off area;
 - b) bicycle parking;
 - c) restaurant or dining uses;
 - d) landscaping; or
 - e) public space, including but not limited to a plaza, public art, or seating area.
2. **Wind Mitigation:** Any building that exceeds 15 metres in height will require a wind mitigation study from a qualified engineer or architect that demonstrates methods and features that will minimize wind at grade level to the satisfaction of the Development Officer. Wind mitigating features

may include, but are not limited to, building step backs, building articulation, or canopies.

3. **Facade Guidelines:** A minimum of 40% of the surface area of the ground floor of all street-facing façades of a building is to contain transparent openings.
4. **Divisions of the Facade:** A façade must maintain distinctive architectural elements for the base, middle, and top portions of the building. Vertical articulation of the façade or change in material may be provided, in lieu of a distinctive bottom or top portion.
5. **Wall Relief:** For buildings over 25 metres in height, a step back or related feature that disrupts the wall relief, is to be provided on all street-facing façades between 10 metres to 25 metres in height.
6. **Materials:** Materials associated with low-cost construction, such as vinyl siding and standard grades of cement block, as well as darkly tinted glass, are discouraged on façades that face a public right-of-way.



OFFICIAL COMMUNITY PLAN Downtown Land Use Map

- 1. RETAIL CORE AREA
- 2. MIXED-USE COMMERCIAL AREA
- 3. RESIDENTIAL/OFFICE AREA
- 4. SOUTH DOWNTOWN AREA (DCD1)
- 5. WAREHOUSE/SERVICE AREA

THE STARPHOENIX, SATURDAY, MARCH 7, 2015 and
SUNDAY PHOENIX, MARCH 8, 2015

OFFICIAL COMMUNITY PLAN NOTICE
DOWNTOWN NEIGHBOURHOOD

PROPOSED AMENDMENT TO THE OFFICIAL COMMUNITY PLAN
– DOWNTOWN LAND USE MAP – BYLAW NO. 9265

Saskatoon City Council will consider an amendment to the Official Community Plan, Bylaw No. 8769. Through Bylaw No. 9265, The Official Community Plan Amendment Bylaw, 2015 (No. 3) the map below will replace the existing Downtown Land Use Map in Section 6.1 to reflect the realigned 25th Street.



OFFICIAL COMMUNITY PLAN
Downtown Land Use Map

1. RETAIL CORE AREA
2. MIXED-USE COMMERCIAL AREA
3. RESIDENTIAL/OFFICE AREA
4. SOUTH DOWNTOWN AREA (DCD1)
5. WAREHOUSE/SERVICE AREA



REASON FOR THE AMENDMENT – The purpose is to amend the Downtown Land Use Map to adjust the northern boundary to align with the recent 25th Street extension.

INFORMATION - Questions regarding the proposed amendment or requests to view the proposed amending Bylaw, the City of Saskatoon Official Community Plan may be directed to the following without charge:
Community Services Department, Planning and Development
Phone: 306-975-7697 (Paul Whitenect)

PUBLIC HEARING - City Council will hear all submissions on the proposed amendment, and all persons who are present at the City Council meeting and wish to speak on **Monday, March 23, 2015, at 6:00 p.m. in City Council Chamber, City Hall, Saskatoon, Saskatchewan.**

All written submissions for City Council's consideration must be forwarded to:
His Worship the Mayor and Members of City Council
c/o City Clerk's Office, City Hall
222 Third Avenue North, Saskatoon SK S7K 0J5

All submissions received by the City Clerk by **10:00 a.m. on Monday, March 23, 2015**, will be forwarded to City Council. City Council will also hear all persons who are present and wish to speak to the proposed Bylaw.

BYLAW NO. 9265

The Official Community Plan Amendment Bylaw, 2015 (No.3)

The Council of The City of Saskatoon enacts:

Short Title

1. This Bylaw may be cited as *The Official Community Plan Amendment Bylaw, 2015 (No.3)*.

Purpose

2. The purpose of this Bylaw is to amend Bylaw No. 8769, *The Official Community Plan Bylaw, 2009*, to adjust the boundary of the Downtown Land Use Map.

Official Community Plan Amended

3. The Official Community Plan, being Schedule "A" to Bylaw No. 8769 and forming part of the Bylaw, is amended in the manner set forth in this Bylaw.

Downtown Land Use Map Amended

4. The Downtown Land Use Map referred to in Clause 6.1.2.1 is repealed and replaced with the Downtown Land Use Map attached to this Bylaw as Appendix A, identifying the realignment of the northern boundary of the Downtown with the new 25th Street extension.

Coming into Force

5. This Bylaw shall come into force upon receiving the approval of the Minister of Government Relations.

Read a first time this _____ day of _____, 2015.

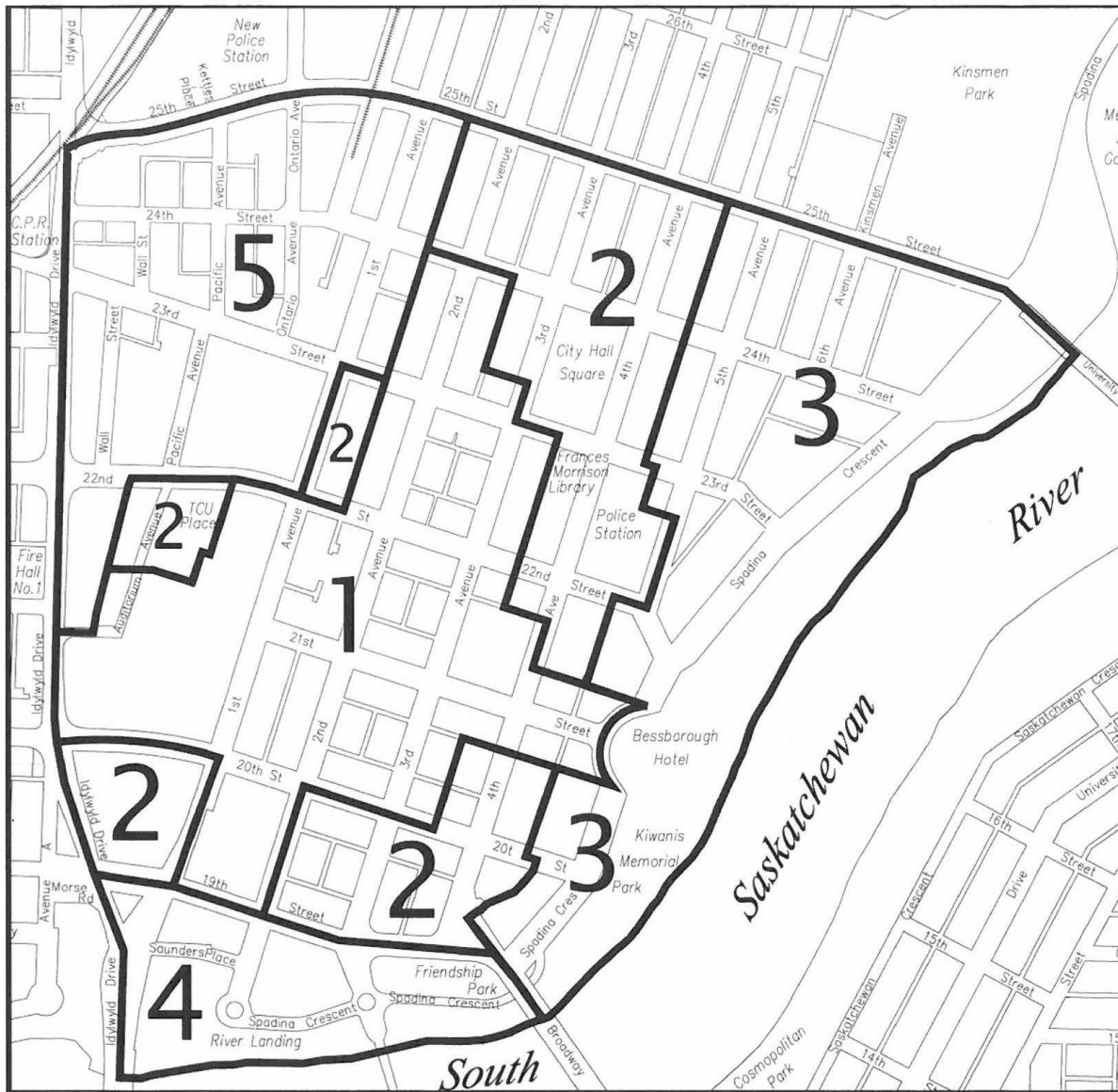
Read a second time this _____ day of _____, 2015.

Read a third time and passed this _____ day of _____, 2015.

Mayor

City Clerk

Appendix A



OFFICIAL COMMUNITY PLAN Downtown Land Use Map

- 1. RETAIL CORE AREA
- 2. MIXED-USE COMMERCIAL AREA
- 3. RESIDENTIAL/OFFICE AREA
- 4. SOUTH DOWNTOWN AREA (DCD1)
- 5. WAREHOUSE/SERVICE AREA



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**OFFICIAL COMMUNITY PLAN
NOTICE**

**PROPOSED AMENDMENT TO THE OFFICIAL
COMMUNITY PLAN – BYLAW NO. 9266**

Saskatoon City Council will consider an amendment to the Official Community Plan, Bylaw No. 8769. Through Bylaw No. 9266, The Official Community Plan Amendment Bylaw, 2015 (No. 4), will amend Section 6.1.2 to provide a clause about "Active Frontages".

An Active Frontage refers to building frontages that face and open onto a public sidewalk and are designed to promote animation, vibrancy and interest, as well as an element of comfort to the public realm. The goal of Active Frontages is to create a relationship between the building and the street and can be achieved by incorporating the following principles:

- frequent door and transparent window openings;
- no blank walls, continuous garage doors, or high fences;
- interesting building façades along the street frontage;
- building façades that vary along the block face;
- building façades may be articulated or contain projections, including but not limited to, bays and porches to provide visual interest;
- where a building is setback from the property line, the space created should be dedicated to pedestrian activities, including plazas, seating areas, landscaping, or other uses that are active or provide visual interest;
- public uses, including but not limited to retail uses, should be located on the ground floor where possible; and
- internal uses should be visible from the sidewalk or may continue onto the sidewalk.

REASON FOR THE AMENDMENT – The proposed amendment establishes the goal of the Downtown Design Guidelines, which is to create animation and vibrancy in the Downtown.

INFORMATION - Questions regarding the proposed amendment or requests to view the proposed amending Bylaw, the City of Saskatoon Official Community Plan, Bylaw No. 8769, may be directed to the following without charge:

Community Services Department,
Planning and Development
Phone: 306-975-7697 (Paul Whitenect)

PUBLIC HEARING - City Council will hear all submissions on the proposed amendment, and all persons who are present at the City Council meeting and wish to speak on **Monday, March 23, 2015, at 6:00 p.m. in City Council Chamber, City Hall, Saskatoon, Saskatchewan.**

All written submissions for City Council's consideration must be forwarded to:

His Worship the Mayor and Members of City Council
c/o City Clerk's Office, City Hall
222 Third Avenue North, Saskatoon SK S7K 0J5

All submissions received by the City Clerk by **10:00 a.m. on Monday, March 23, 2015**, will be forwarded to City Council. City Council will also hear all persons who are present and wish to speak to the proposed Bylaw.

BYLAW NO. 9266

The Official Community Plan Amendment Bylaw, 2015 (No.4)

The Council of The City of Saskatoon enacts:

Short Title

1. This Bylaw may be cited as *The Official Community Plan Amendment Bylaw, 2015 (No.4)*.

Purpose

2. The purpose of this Bylaw is to amend the provisions of Bylaw No. 8769, *The Official Community Plan Bylaw, 2009*, to include design guidelines for building frontages in the Downtown area.

Official Community Plan Amended

3. The Official Community Plan, being Schedule "A" to Bylaw No. 8769 and forming part of the Bylaw, is amended in the manner set forth in this Bylaw.

New Subsection 6.1.2.10

4. The following is added after subsection 6.1.2.9:

"6.1.2.10 Active Frontages

- (a) An Active Frontage refers to building frontages that face and open onto a public sidewalk and are designed to promote animation, vibrancy and interest, as well as an element of comfort to the public realm. The goal of Active Frontages is to create a relationship between the building and the street and can be achieved by incorporating the following principles:
 - (i) Frequent door and transparent window openings.
 - (ii) No blank walls, continuous garage doors or high fences.
 - (iii) Interesting building facades along the street frontages.

ZONING NOTICE
PROPOSED ZONING BYLAW TEXT
AMENDMENT – BYLAW NO. 9267
Design Guidelines for the Downtown

Saskatoon City Council will consider an amendment to the City's Zoning Bylaw (No. 8770). By way of Bylaw No. 9267, The Zoning Amendment Bylaw, 2015 (No. 9) to provide a set of comprehensive Design Guidelines for the Downtown, as outlined in the City Centre Plan.

The proposed Zoning Bylaw amendments below will apply to the M4 (Core Area Institutional Service), B5B (Broadway Commercial), B5C (Riversdale Commercial), B6 (Downtown Commercial) and RA1 (Reinvestment District 1) Zoning Districts.

- Require parking structures to be screened with architectural treatments on all street facing facades, as well as those facades that can be viewed from a public street regardless of setback distance.
- Require parking structures to have active frontages and public uses for a minimum of 50% of the ground floor frontage along the building's street facing frontage where immediately adjacent to a public street.
- Require at-grade parking areas associated with a building development that are not suitably screened with architectural treatments to maintain a minimum 7.0 metre setback from the front property line; and if there is no building within the setback area, the area must be landscaped in accordance with Section 7.0 of the Zoning Bylaw No. 8770. The side yard of corner lots must be suitably screened with a fence to the satisfaction of the Development Officer.

The proposed Zoning Bylaw amendments below will apply to the M4 (Core Area Institutional Service) and B6 (Downtown Commercial) Zoning Districts:

- Any area that is set back from the street facing property line must be used for:
 - i. drop-off area;
 - ii. bicycle parking;
 - iii. restaurant or dining uses;
 - iv. landscaping; or
 - v. public space, including but not limited to a plaza, public art, or seating area.
- Any building that exceeds 15 metres in height, will require a wind mitigation study from a qualified Engineer or Architect, that demonstrates methods and features that will minimize wind at grade level. Wind mitigating features may include but are not limited to, building step backs, building articulation or canopies.
- A minimum of 40% of the surface area of the ground floor of all street facing facades of a building is to contain transparent openings.
- All building façades must maintain distinctive architectural elements for the base, middle and top portions of the building. Vertical articulation of the façade or change in material may be provided in lieu of a distinctive bottom or top portion.
- For buildings over 25 metres in height, a step back or related feature that disrupts the wall relief is to be provided on all street facing facades between 10 metres to 25 metres in height.
- Materials associated with low-cost construction, such as vinyl siding and standard grades of cement block, as well as darkly tinted glass, are discouraged on façades that face a public right-of-way.

REASON FOR THE AMENDMENT – The purpose of the Design Guidelines is to outline the construction and design goals for Downtown developments to support the overall vision of the City Centre Plan. The Design Guidelines are intended to provide for creative building design, and lead to a built environment that is safe and sensitive to the pedestrian.

INFORMATION - Questions regarding the proposed amendment or requests to view the proposed amending Bylaw, the City of Saskatoon Zoning Bylaw may be directed to the following without charge:
Community Services Department,
Planning and Development
Phone: 306-975-7697 (Paul Whitenect)

PUBLIC HEARING - City Council will hear all submissions on the proposed amendment and all persons who are present at the Council meeting and wish to speak on **Monday, March 23, 2015 at 6:00 p.m. in Council Chamber, City Hall, Saskatoon, Saskatchewan.**

All written submissions for City Council's consideration must be forwarded to:

His Worship the Mayor and Members of City Council
c/o City Clerk's Office, City Hall
222 Third Avenue North, Saskatoon, SK S7K 0J5

All submissions received by the City Clerk by **10:00 a.m. on Monday, March 23, 2015**, will be forwarded to City Council.

BYLAW NO. 9267

The Zoning Amendment Bylaw, 2015 (No. 9)

The Council of The City of Saskatoon enacts:

Short Title

1. This Bylaw may be cited as *The Zoning Amendment Bylaw, 2015 (No. 9)*.

Purpose

2. The purpose of this Bylaw is to amend Bylaw No. 8770, *The Zoning Bylaw* to add definitions for “parking structure” and “public use within parking structures” along with applicable design features in certain zoning districts; and provide design guidelines for construction in certain zoning districts.

Bylaw No. 8770 Amended

3. Bylaw No. 8770 is amended in the manner set forth in this Bylaw.

Section 2.0 Amended

4. Section 2.0 is amended by:

- (a) adding the following after the definition of “parking station”:

“**parking structure**” means a structure used for parking, which may include parking at, below or above grade, and may be a stand-alone use or part of a building containing other uses.”; and

- (b) adding the following after the definition of “public library”:

“**public use within parking structures**” means space at grade level, that is open to the public and not restricted to employees, including but not limited to retail stores, restaurants, offices or related uses.”.

New Section 6.6

5. The following is added after Section 6.5:

6.6 Parking Structures

- (1) Parking structures must be screened with architectural treatments on all street-facing facades, and those facades that can be viewed from a public street, regardless of setback distance. Architectural

treatments may include architectural screening or cladding resembling a building façade and are subject to the satisfaction of the Development Officer.

- (2) Parking structures are required to have active frontages and must provide public uses for a minimum of 50% of the ground floor frontage along the building’s street-facing frontage where immediately adjacent to a public street. The ground floor of parking structures are encouraged to be retail-ready as a means to accommodate public uses at-grade.”.

Subsection 9.4.2 Amended

- 6. The chart contained in Section 9.4.2 is amended by adding the following after “Keeping of three care home residents in each unit of a TUD or SDD”:

“

(63) Parking structures	Refer to Section 6.0
-------------------------	----------------------

”

New Section 9.4.10

- 7. The following is added after Section 9.4.9:

“9.4.10 Design Guidelines for the Downtown

- (1) Any area that is setback from the street-facing property line must be used for:
 - (a) drop-off area;
 - (b) bicycle parking;
 - (c) restaurant or dining uses;
 - (d) landscaping; or
 - (e) public space, including but not limited to a plaza, public art, or seating area.
- (2) Buildings that exceed 15 metres in height will require a wind mitigation study from a qualified engineer or architect that demonstrates methods and features that will minimize wind at grade level to the satisfaction of the Development Officer. Wind mitigation features may include, but are not limited to, building step backs, building articulation, or canopies.
- (3) A minimum of 40% of the surface area of the ground floor of all street-facing facades of a building is to contain transparent openings.
- (4) A façade must maintain distinctive architectural elements for the base, middle and top portions of the building. Vertical

articulation of the façade or change in material may be provided in lieu of a distinctive bottom or top portion.

- (5) For buildings over 25 metres in height, a step back or related feature that disrupts the wall relief is to be provided on all street-facing facades between 10 metres to 25 metres in height.
- (6) Materials associated with low-cost construction, such as vinyl siding and standard grades of cement block, as well as darkly tinted glass, are discouraged on facades that face public rights-of-way.”.

Subsection 10.8A.2 Amended

- 8. The chart contained in Section 10.8.A.2 is amended by adding the following after “Accessory buildings and uses”:

“

(42) Parking structures	Refer to Section 6.0
-------------------------	----------------------

”

Subsection 10.8B.2 Amended

- 9. The chart contained in Section 10.8B.2 is amended by adding the following after “Accessory buildings and uses”:

“

(46) Parking structures	Refer to Section 6.0
-------------------------	----------------------

”

New Section 10.9.12

- 10. The following is added after Section 10.9.11:

“10.9.12 Design Guidelines for the Downtown

- (1) Any area that is setback from the street-facing property line must be used for:
 - (a) drop-off area;
 - (b) bicycle parking;
 - (c) restaurant or dining uses;
 - (d) landscaping; or
 - (e) public space, including but not limited to a plaza, public art, or seating area.
- (2) Buildings that exceed 15 metres in height will require a wind mitigation study from a qualified engineer or architect that

March 3, 2015

City Clerk

Dear City Clerk:

**Re: Proposed Rezoning from R1A to RM3 – Stonebridge Common –
Stonebridge Neighbourhood
(Files CK. 4351-015-003 and PL. 4350 – Z23/14)**

The Municipal Planning Commission considered a report of the General Manager, Community Services Department, dated February 24, 2015, on the above application and supports the following recommendation of the Community Services Department:

That the proposed amendment to Zoning Bylaw No. 8770 to rezone the properties identified in Attachment 1 of the report of the General Manager, Community Services Department, dated February 24, 2015, from R1A – One-Unit Residential District to RM3 – Medium-Density Multiple-Unit Dwelling District, be approved.

The Commission respectfully requests that the report of the General Manager, Community Services Department, dated February 24, 2015, be considered by City Council at the time of the public hearing with respect to the above proposed application.

Yours truly,



Penny Walter, Committee Assistant
Municipal Planning Commission

PW:aam

Attachment

Proposed Rezoning from R1A to RM3 – Stonebridge Common – Stonebridge Neighbourhood

Recommendation

That at the time of the public hearing, City Council consider the Administration's recommendation that the proposed amendment to Zoning Bylaw No. 8770 to rezone the properties identified in the attached map from R1A – One-Unit Residential District to RM3-Medium-Density Multiple-Unit Dwelling District, be approved.

Topic and Purpose

An application has been submitted by Dream Asset Management Corporation requesting to rezone land in the Stonebridge neighbourhood from R1A – One-Unit Residential District to RM3 – Medium-Density Multiple-Unit Dwelling District (RM3 District) (see Attachment 1). The rezoning will facilitate medium-density residential development of the property, consistent with the Stonebridge Neighbourhood Concept Plan (Concept Plan).

Report Highlights

1. This application is consistent with the Concept Plan.
2. No issues or concerns were raised through the administrative review process.

Strategic Goal

Under the City of Saskatoon's (City) Strategic Goal of Sustainable Growth, providing a mix of housing types and densities within our neighbourhoods supports the priority to create "complete community" neighbourhoods.

Background

The Concept Plan, originally approved by City Council in June 2005, identifies this parcel for medium-density residential development. In 2014, an amendment to the Concept Plan was approved to provide a rectangular site for the proposed joint-use elementary schools. To accommodate this, a through road in front of the school site was created and the park feature with an encircling roadway was eliminated. This prompted a reconfiguration of the size and shape of the parcel that is the subject of this report, which shrank slightly from 1.88 acres to 1.87 acres.

Report

Concept Plan

A rezoning of the subject property to RM3 District is consistent with the designation of this property as medium-density residential on the Concept Plan.

Zoning Bylaw

Development of the subject property will be required to comply with the requirements of the RM3 District.

Proposed Rezoning from R1A to RM3 – Stonebridge Common – Stonebridge Neighbourhood

The purpose of the RM3 District is to provide for a variety of residential developments in a medium-density form, as well as related community uses.

Comments from Other Divisions

No concerns were identified through the administrative referral process that precludes this application from proceeding to the public hearing. Please refer to Attachment 3 for complete comments.

Options to the Recommendation

City Council could choose to deny this application. This option is not recommended as it is consistent with the Concept Plan.

Public and/or Stakeholder Involvement

Extensive public consultation was conducted in conjunction with the development of the Concept Plan. As this application is consistent with the Concept Plan, a public information meeting was not held.

Other Considerations/Implications

There are no policy, financial, environmental, privacy, or CPTED implications or considerations. A communication plan is not required at this time.

Due Date for Follow-up and/or Project Completion

No follow-up is required.

Public Notice

Public Notice is required for consideration of this matter, pursuant to Section 11 (a) of Public Notice Policy No. C01-021.

Once this application has been considered by the Municipal Planning Commission, it will be advertised in accordance with Public Notice Policy No. C01-021 and a date for a public hearing will be set. The Planning and Development Division will notify all property owners within a 75 metre (246 feet) buffer of the proposed site of the public hearing date by letter. A notice will be placed in The StarPhoenix two weeks prior to the public hearing.

Attachments

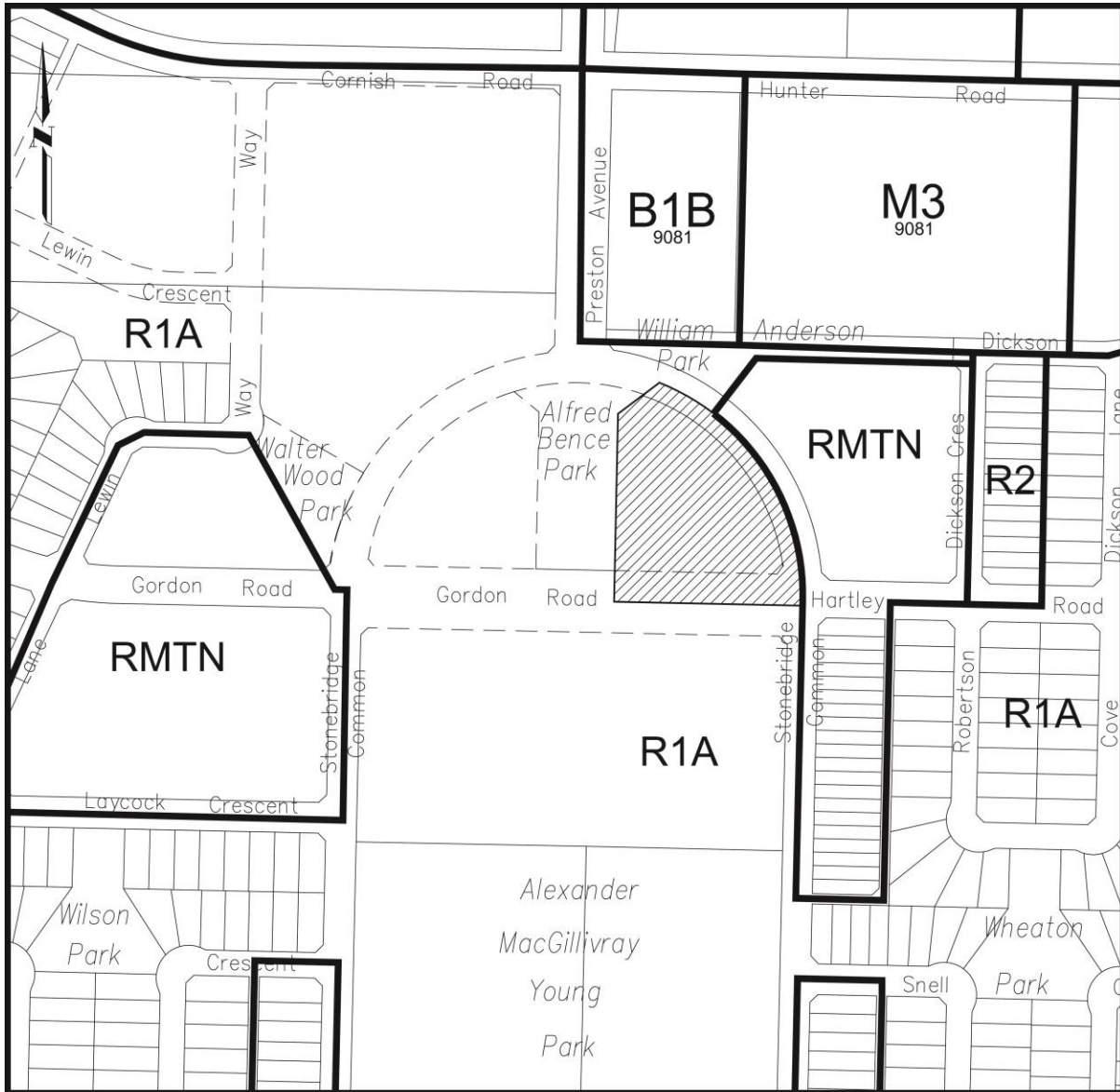
1. Location Map
2. Stonebridge Neighbourhood Concept Plan
3. Comments from Other Divisions

Report Approval

Written by: Brent McAdam, Planner, Planning and Development
Reviewed by: Don Cook, Acting Director of Planning and Development
Approved by: Randy Grauer, General Manager, Community Services Department

S:\Reports\DS\2015\MPC – Proposed Rezoning from R1A to RM3 – Stonebridge Common – Stonebridge Neighbourhood\kt

Location Map

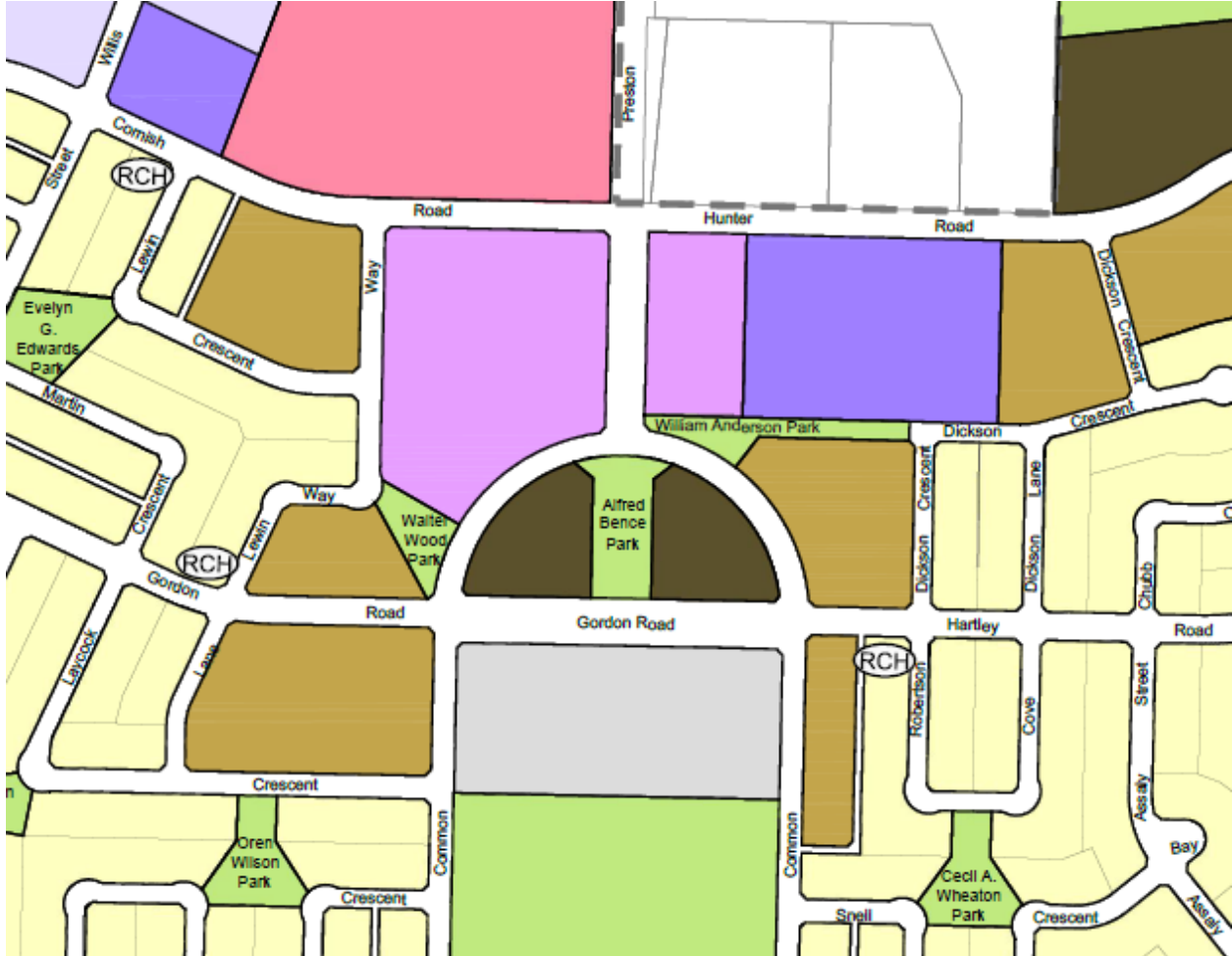



ZONING AMENDMENT

 From R1A to RM3



Stonebridge Neighbourhood Concept Plan
(excerpt)



 MEDIUM DENSITY RESIDENTIAL (65 units/ha±)

Comments From Other Divisions

Transportation and Utilities Department

The proposed Zoning Bylaw No. 8770 amendment, as noted in the report, is acceptable to the Transportation and Utilities Department, subject to the following comment:

1. One Stonebridge Common access will be approved. More than one access from this site on Stonebridge Common is not desirable.

Should the multi-unit parcel across Stonebridge Common require access, it is preferred that the major driveway be located on Dickson Crescent. Additional access from Stonebridge Common aligning with this new crossing may be approved.

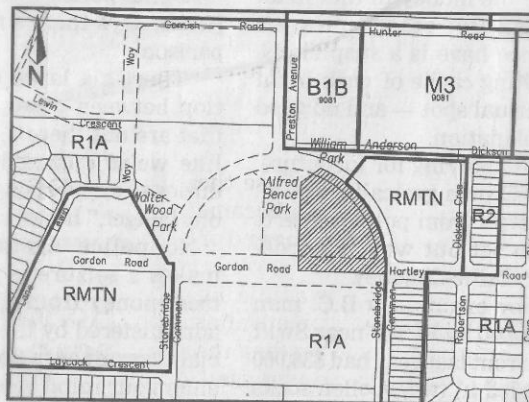
Planning and Development Comment: The applicant has been made aware of this comment for their consideration in site design of this parcel.

THE STARPHOENIX, SATURDAY, MARCH 7, 2015 and
SUNDAY PHOENIX, MARCH 8, 2015


ZONING NOTICE
STONEBRIDGE NEIGHBOURHOOD
PROPOSED ZONING BYLAW AMENDMENT –
BYLAW NO. 9268

Saskatoon City Council will consider an amendment to the City's Zoning Bylaw (No. 8770). By way of Bylaw No. 9268, The Zoning Amendment Bylaw, 2015 (No. 10), land in the Stonebridge neighbourhood will be rezoned from R1A – One-Unit Residential District to RM3 – Medium Density Multiple-Unit Dwelling District as shown in the map below.

LEGAL DESCRIPTION – Part of Parcel H, Plan No. 101923477.



PROPOSED ZONING AMENDMENT

 From R1A to RM3

File No. RZ43-2014

REASON FOR THE AMENDMENT – The proposed rezoning will allow medium density multiple-unit residential development, consistent with the Stonebridge Neighbourhood Concept Plan.

INFORMATION – Questions regarding the proposed amendment or requests to view the proposed amending Bylaw, the City of Saskatoon Zoning Bylaw and Zoning Map may be directed to the following without charge:
Community Services Department,
Planning and Development Division
Phone: 306-986-0902 (Brent McAdam)

PUBLIC HEARING – City Council will hear all submissions on the proposed amendment, and all persons who are present at the City Council meeting and wish to speak on **Monday, March 23, 2015 at 6:00 p.m. in City Council Chamber, City Hall, Saskatoon, Saskatchewan.**

All written submissions for City Council's consideration must be forwarded to:

His Worship the Mayor and Members of City Council
c/o City Clerk's Office, City Hall
222 Third Avenue North, Saskatoon SK S7K 0J5.

All submissions received by the City Clerk by **10:00 a.m. on Monday, March 23, 2015** will be forwarded to City Council. City Council will also hear all persons who are present and wish to speak to the proposed Bylaw.

BYLAW NO. 9268

The Zoning Amendment Bylaw, 2015 (No. 10)

The Council of The City of Saskatoon enacts:

Short Title

1. This Bylaw may be cited as *The Zoning Amendment Bylaw, 2015 (No. 10)*.


Purpose

2. The purpose of this Bylaw is to amend Bylaw No. 8770, *The Zoning Bylaw*, to rezone the lands described in the Bylaw from an R1A District to an RM3 District.

Bylaw No. 8770 Amended

3. Bylaw No. 8770 is amended in the manner set forth in this Bylaw.

R1A District to RM3 District

4. The Zoning Map, which forms part of Bylaw No. 8770, is amended by rezoning the lands described in this Section and shown  on Appendix "A" to this Bylaw from an R1A District to an RM3 District:

- (a) Portion of Surface Parcel No. 202964889,
Legal Land Description: Blk/Par H-Plan 101923477 Ext 17

Coming Into Force

5. This Bylaw shall come into force on the day of its final passing.

Read a first time this _____ day of _____, 2015.

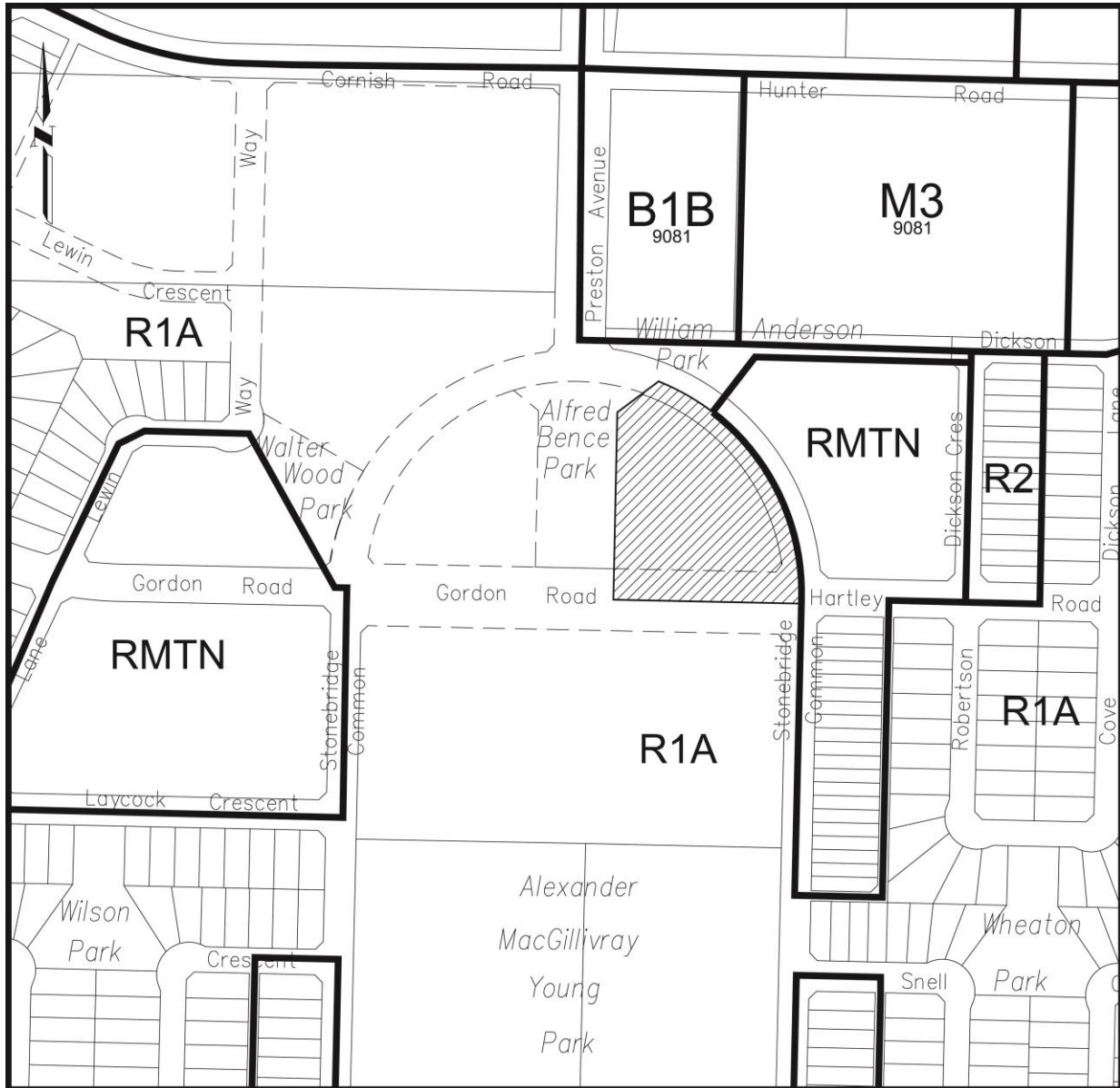
Read a second time this _____ day of _____, 2015.

Read a third time and passed this _____ day of _____, 2015.

Mayor

City Clerk

Appendix "A"



ZONING AMENDMENT



From R1A to RM3

March 3, 2015

City Clerk

Dear City Clerk:

Re: Proposed Rezoning from FUD to B4(H) and RMTN(H) – McOrmond Drive and Highway 5 – Brighton Neighbourhood (Files CK. 4351-015-002 X 4110-46 and PL. 4350 – Z41/14)

The Municipal Planning Commission considered a report of the General Manager, Community Services Department, dated February 24, 2015, on the above application and supports the following recommendation of the Community Services Department:

That the proposed amendment to Zoning Bylaw No. 8770 to rezone the properties identified in Attachment 1 of the report of the General Manager, Community Services Department, dated February 24, 2015, from FUD – Future Urban Development District to B4(H) – Arterial and Suburban Commercial District, with the Holding Symbol “H”, be approved.

The Commission respectfully requests that the report of the General Manager, Community Services Department, dated February 24, 2015, be considered by City Council at the time of the public hearing with respect to the above proposed application.

Yours truly,



Penny Walter, Committee Assistant
Municipal Planning Commission

PW:aam

Attachment

Proposed Rezoning from FUD to B4(H) and RMTN(H) – McOrmond Drive and Highway 5 – Brighton Neighbourhood

Recommendation

That at the time of the public hearing, City Council consider the Administration's recommendation that the proposed amendment to Zoning Bylaw No. 8770 to rezone the properties identified in the attached map from FUD – Future Urban Development District to B4(H) – Arterial and Suburban Commercial District, with the Holding Symbol "H," and RMTN(H) – Townhouse Residential District, with the Holding Symbol "H," be approved.

Topic and Purpose

An application has been submitted by Dream Asset Management Corporation (Dream) requesting to rezone land in the Brighton neighbourhood, as shown in Attachment 1, from FUD – Future Urban Development District to B4 – Arterial and Suburban Commercial District and RMTN – Townhouse Residential District. The Holding Symbol "H" is proposed to be applied in conjunction with the proposed zoning districts to ensure that servicing and access requirements are provided to the area prior to development commencing. The rezoning will allow the subdivision of land to proceed in order to exchange land for ownership purposes in advance of future development.

Report Highlights

1. Proposed zoning amendments will allow the subdivision of land to proceed in this area of Brighton, in accordance with the Brighton Neighbourhood Concept Plan (Concept Plan). The rezoning will allow the subdivision of land to proceed in order to exchange land for ownership purposes in advance of future development.
2. The application of the Holding Symbol "H" will restrict development until servicing and access requirements are provided for the area.
3. Future zoning amendments to remove the Holding Symbol "H" and to rezone lands to their appropriate zoning district, consistent with Concept Plan, will be required.

Strategic Goal

This rezoning supports the Strategic Goal of Sustainable Growth. Brighton, a neighbourhood in the early stages of development, was designed to align with the objectives of the Growing Forward! Shaping Saskatoon: Growth Plan to Half a Million, which is expected to be provided to City Council for consideration in 2016.

Background

The Concept Plan was approved by City Council on May 20, 2014 (see Attachment 2). At that time, lands within Brighton were rezoned from their previous zoning designations under the Saskatoon Planning District Zoning Bylaw to FUD – Future Urban

Proposed Rezoning from FUD to B4(H) and RMTN(H) – McOrmond Drive and Highway 5 – Brighton Neighbourhood

Development District under the City of Saskatoon Zoning Bylaw No. 8770. Dream has applied to rezone a portion of these lands, as discussed in this report, in preparation for urban development.

Report

Concept Plan

The Concept Plan identifies lands within the area to be rezoned for development as retail, mixed-use, medium-density residential, street townhouse, and single-unit residential land use.

Zoning Bylaw Amendment

Lands identified in Attachment 1 are proposed to be rezoned from FUD – Future Urban Development District to B4(H) – Arterial and Suburban Commercial District, with the Holding Symbol “H,” and RMTN – Townhouse Residential District, with the Holding Symbol “H.”

The area identified to be rezoned to RMTN(H) will, in the future, accommodate a variety of land uses consistent with the Concept Plan. The proposed zoning designation of RMTN(H) will allow the subdivision of land to proceed in order to exchange land for ownership purposes, and is an appropriate placeholder designation as much of the land within this area will ultimately remain RMTN and be developed as townhouse residential. Future zoning amendments to rezone land in this area not identified for townhouse development on the Concept Plan will be required.

Holding Symbol

As per Official Community Plan Bylaw No. 8769, City Council may use the Holding Symbol “H”, in conjunction with any other use designation in the Zoning Bylaw, to specify the use to which lands shall be put at some time in the future, but which are now considered premature or inappropriate for immediate development.

Application of the Holding Symbol “H” is necessary to ensure that the provision of required services to the Brighton neighbourhood, including adequate vehicle access, are in place prior to development commencing.

Future zoning amendments to remove the Holding Symbol “H” will be undertaken at such time that these required services are provided, which will allow development under the underlying zoning district to commence. Future zoning amendments, in conjunction with the removal of the Holding Symbol “H,” will be required for certain lands currently proposed to be zoned RMTN(H) to rezone them to a designation consistent with the Concept Plan.

Comments from Other Divisions

No concerns were identified through the administrative referral process that precludes this application from proceeding to the public hearing. Please refer to Attachment 3 for complete comments.

Proposed Rezoning from FUD to B4(H) and RMTN(H) – McOrmond Drive and Highway 5 – Brighton Neighbourhood

Options to the Recommendation

City Council could choose to deny this application. This option is not recommended as this application facilitates the initial stages of the implementation of the Concept Plan.

Public and/or Stakeholder Involvement

Extensive public consultation was undertaken during the development of the Concept Plan. As this application relates to the implementation of the Concept Plan, no further consultation was conducted.

Other Considerations/Implications

There are no policy, financial, environmental, privacy, or CPTED implications or considerations. A communication plan is not required at this time.

Due Date for Follow-up and/or Project Completion

Future reports will address the removal of the Holding Symbol “H” and rezoning of lands within this area to align with the Concept Plan.

Public Notice

Public Notice is required for consideration of this matter, pursuant to Section 11(a) of Public Notice Policy No. C01-021.

Once this application has been considered by the Municipal Planning Commission, it will be advertised in accordance with Public Notice Policy No. C01-021, and a date for a public hearing will be set. The Planning and Development Division will notify all property owners within a 75 metre (246 feet) buffer of the proposed site of the public hearing date by letter. A notice will be placed in The StarPhoenix two weeks prior to the public hearing.

Attachments

1. Location Map
2. Brighton Neighbourhood Concept Plan
3. Comments from Other Divisions

Report Approval

Written by: Brent McAdam, Planner, Planning and Development
Reviewed by: Don Cook, Acting Director of Planning and Development
Approved by: Randy Grauer, General Manager, Community Services Department

S/Reports/DS/2015/MPC – Proposed Rezoning from FUD to B4(H) and RMTN(H) – McOrmond Drive and Highway 5 – Brighton Neighbourhood/ks

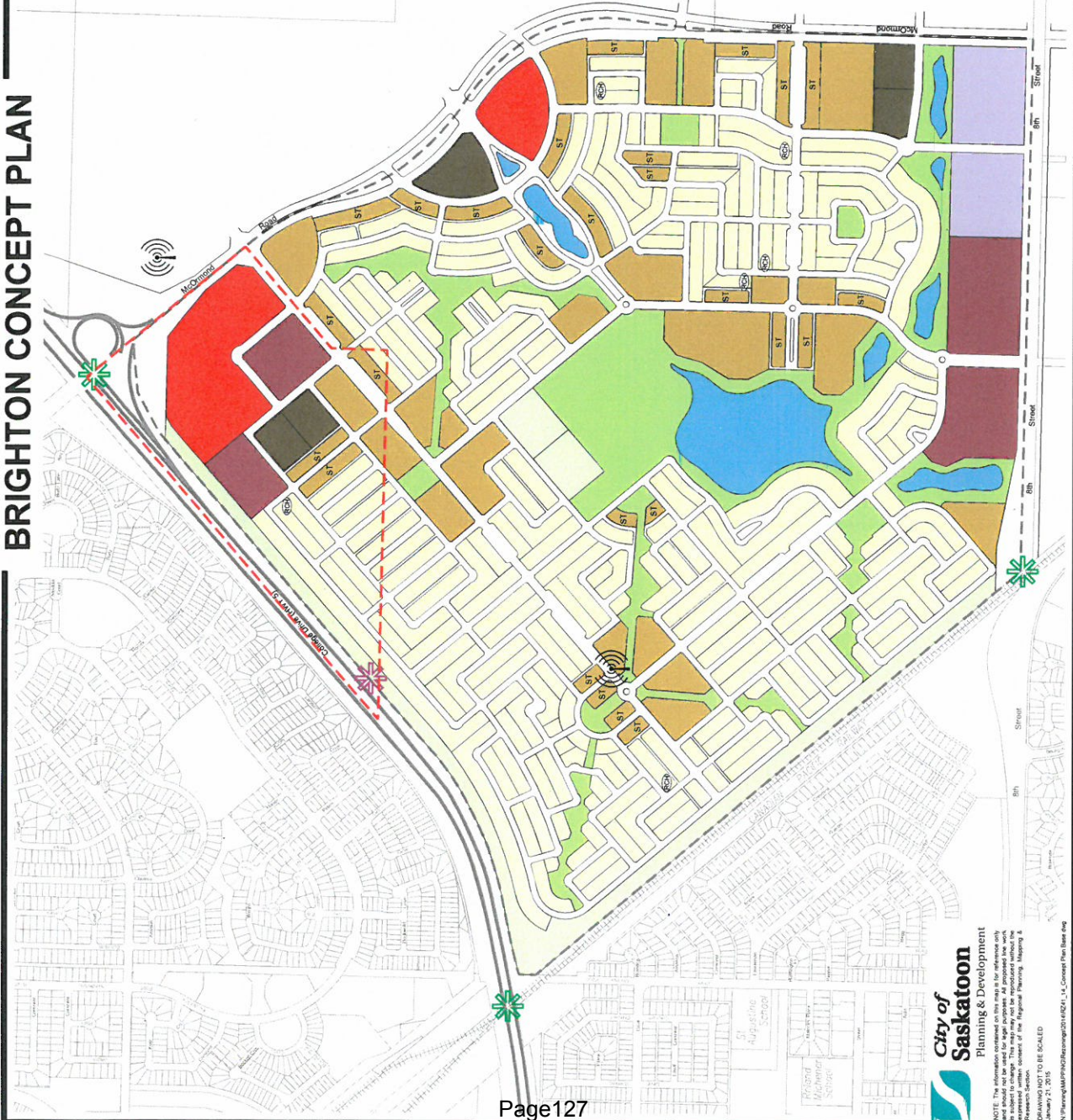
BRIGHTON CONCEPT PLAN

ORIGINAL BRIGHTON
CONCEPT PLAN
APPROVED MAY 20, 2014



LEGEND

- SINGLE UNIT/SEMI UNIT DETACHED DWELLINGS
- LOW DENSITY STREET TOWNHOUSING MULTI-UNIT DWELLINGS
- LOW DENSITY GROUP TOWNHOUSING MULTI-UNIT DWELLINGS
- MEDIUM DENSITY MULTI UNIT DWELLINGS
- MIXED USE 1 - RESIDENTIAL/RETAIL/INSTITUTIONAL
- MIXED USE 2 - OFFICE/RETAIL
- RETAIL
- POTENTIAL SCHOOL SITE
- WETLAND COMPLEX (WATER LEVEL VARIES)
- MUNICIPAL RESERVE
- BUFFER STRIP
- PEDESTRIAN LINKAGE
- POSSIBLE ACCESS (UNDER REVIEW)
- RESIDENTIAL CARE HOME
- APPROXIMATE CELL TOWER LOCATION
- CONCEPT PLAN BOUNDARY
- AREA SUBJECT TO REZONING



**City of
Saskatoon**
Planning & Development

NOTE: The information contained on this map is for reference only and is not intended to be used as a legal document. It is subject to change. This map should be referenced along with the expressed urban context of the Regional Planning, Mapping & Information Services Department.

DRAWING NOT TO BE SCALED
January 21, 2015
N:\Planning\MAPS\Info\ConceptPlan\Brighton\Concept Plan Base.dwg

Comments From Other Divisions

Transportation and Utilities Department

Proposed Zoning Bylaw No. 8770 amendment, as noted in the report, is acceptable to the Transportation and Utilities Department, subject to the following conditions:

1. A Traffic Impact Study must be provided that addresses the following:
 - i) type of traffic control and configuration of the intersection at each access into the site;
 - ii) access scheme to the parcel south of the site, adjacent to Road C and Road B;
 - iii) swept path for delivery trucks entering and egressing the site; and
 - iv) location of sidewalks and proposed pedestrian crossing control.

Planning and Development Comment: This requirement pertains to the District Commercial site proposed to be rezoned to B4(H), of which development may not proceed until the Holding Symbol “H” is removed. Dream is presently working with Transportation to address these requirements, which will be required to be met prior to the removal of the Holding Symbol “H”.

2. The approval is subject to no further development taking place without a servicing agreement.

Planning and Development Comment: A servicing agreement will be required to be in place prior to the removal of the Holding Symbol “H”.

THE STARPHOENIX, SATURDAY, MARCH 7, 2015 and
SUNDAY PHOENIX, MARCH 8, 2015

ZONING NOTICE

BRIGHTON NEIGHBOURHOOD

PROPOSED ZONING BYLAW AMENDMENT – BYLAW NO. 9269

Saskatoon City Council will consider an amendment to the City's Zoning Bylaw (No. 8770). By way of Bylaw No. 9269, The Zoning Amendment Bylaw, 2015 (No. 11), lands shown in the map below will be rezoned from FUD – Future Urban Development District to B4(H) – Arterial and Suburban Commercial District, with the Holding Symbol "H", and RMTN(H) – Townhouse Residential District, with the Holding Symbol "H".

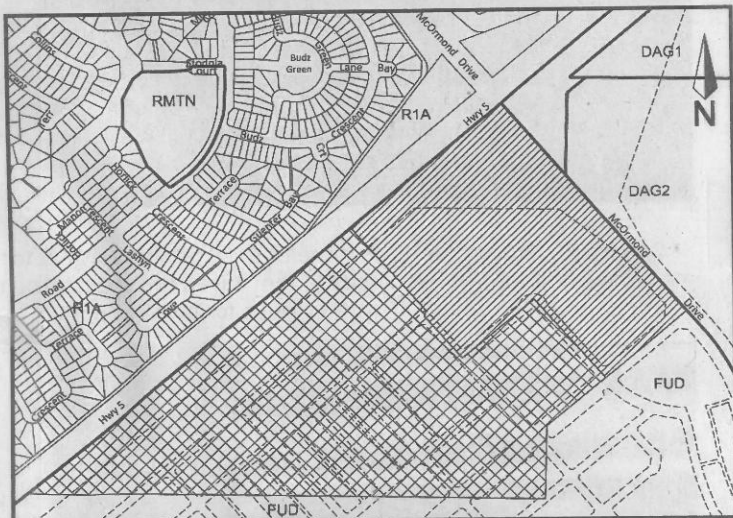
REASON FOR THE AMENDMENT – The proposed rezoning will allow the subdivision of land to proceed in order to exchange land for ownership purposes in advance of future development.

EXPLANATION – The Holding Symbol "H" may be used in conjunction with any other zoning designation to specify the use to which lands may be put at in the future, but which are now considered premature or inappropriate for immediate development. The Holding Symbol "H" is being applied to ensure that required services to the Brighton neighbourhood, including adequate vehicle access, are in place prior to development commencing.



The area of land proposed to be rezoned B4(H) will accommodate commercial development in the future, as identified on the Brighton Neighbourhood Concept Plan (Concept Plan). A future zoning amendment will be required to remove the Holding Symbol "H", which would allow development to commence under the B4 District.

The area of land proposed to be rezoned RMTN(H) will accommodate single family, street and group townhouse, medium-density multiple-unit residential, and mixed use parcels in the future, as identified on the Concept Plan. The RMTN zoning is considered an appropriate placeholder designation until future zoning amendments are brought forward to remove the Holding Symbol "H" and rezone lands within this area to designations consistent with the Concept Plan.

LEGAL DESCRIPTION – Plan of Proposed Subdivision showing subdivision of all of Parcel X, Plan No. 01SA27946; Parcels A & B, Plan No. 101897062; and Part of Parcel A, Plan No. 94S05078 and SW ¼ Sec 32-36-4-W3M.



PROPOSED ZONING AMENDMENT

-  From FUD to B4 (H)
-  From FUD to RMTN (H)

File No. RZ41-2014

INFORMATION – Questions regarding the proposed amendment or requests to view the proposed amending Bylaw, the City of Saskatoon Zoning Bylaw and Zoning Map may be directed to the following without charge:
Community Services Department, Planning and Development Division
Phone: 306-986-0902 (Brent McAdam)

PUBLIC HEARING – City Council will hear all submissions on the proposed amendment, and all persons who are present at the City Council meeting and wish to speak on **Monday, March 23, 2015 at 6:00 p.m. in City Council Chamber, City Hall, Saskatoon, Saskatchewan.**

All written submissions for City Council's consideration must be forwarded to:
His Worship the Mayor and Members of City Council
c/o City Clerk's Office, City Hall
222 Third Avenue North, Saskatoon SK S7K 0J5

All submissions received by the City Clerk by **10:00 a.m. on Monday, March 23, 2015** will be forwarded to City Council. City Council will also hear all persons who are present and wish to speak to the proposed Bylaw.

BYLAW NO. 9269

The Zoning Amendment Bylaw, 2015 (No. 11)

The Council of The City of Saskatoon enacts:

Short Title

1. This Bylaw may be cited as *The Zoning Amendment Bylaw, 2015 (No. 11)*.


Purpose

2. The purpose of this Bylaw is to amend Bylaw No. 8770, *The Zoning Bylaw*, to rezone the lands described in the Bylaw from an FUD District to a B4(H) and an RMTN(H) Districts, respectively.


Bylaw No. 8770 Amended

3. Bylaw No. 8770 is amended in the manner set forth in this Bylaw.

FUD District to B4(H) District

4. The Zoning Map, which forms part of Bylaw No. 8770, is amended by rezoning the lands described in this Section and shown  on Appendix "A" to this Bylaw from an FUD District to B4(H) District:
 - (a) Parcel A and Parcel F as shown on Plan of Proposed Subdivision showing subdivision of all of Parcel X – Reg'd Plan No. 01SA27946, Parcels A & B – Plan No. 101897062, and parts of Parcel A – Reg'd Plan No. 94S05078 and S.W. ¼ Sec. 32-36-4 W3MER, Saskatoon, Saskatchewan by Murray Radoux, S.L.S. dated March 7, 2014.

FUD District to RMTN(H) District

5. The Zoning Map, which forms part of Bylaw No. 8770, is amended by rezoning the lands described in this Section and shown  on Appendix "A" to this Bylaw from an FUD District to RMTN(H) District:
 - (a) Parcel B, Parcel C and Parcel D as shown on Plan of Proposed Subdivision showing subdivision of all of Parcel X – Reg'd Plan No. 01SA27946, Parcels A & B – Plan No. 101897062, and parts of Parcel A –

Reg'd Plan No. 94S05078 and S.W. ¼ Sec. 32-36-4 W3MER, Saskatoon, Saskatchewan by Murray Radoux, S.L.S. dated March 7, 2014.

Coming Into Force

6. This Bylaw shall come into force on the day of its final passing.

Read a first time this _____ day of _____, 2015.

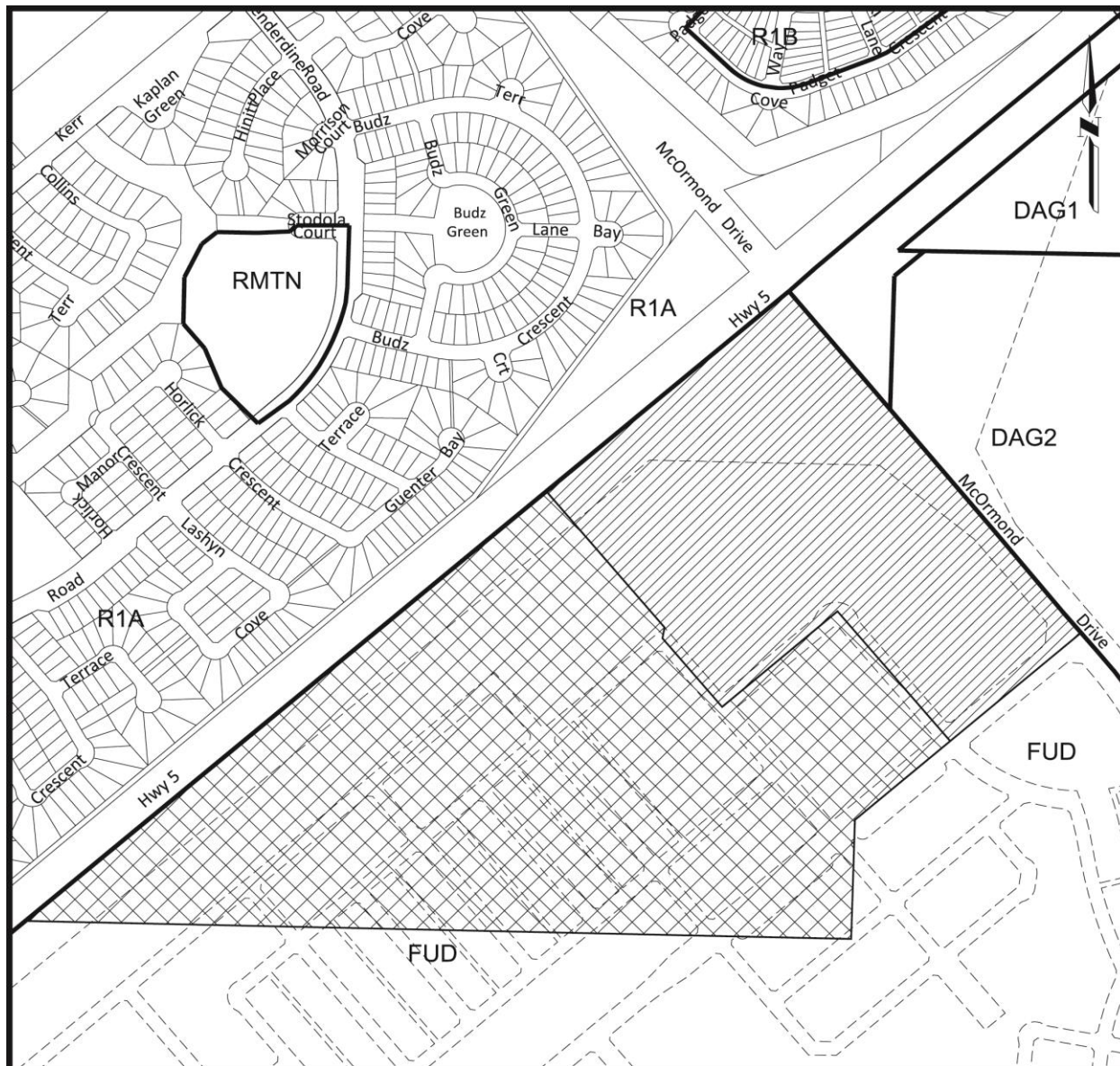
Read a second time this _____ day of _____, 2015.

Read a third time and passed this _____ day of _____, 2015.

Mayor

City Clerk

Appendix "A"



ZONING AMENDMENT



From FUD to B4 (H)



From FUD to RMTN (H)



Contribution Agreement with the Ministry of Education and the Provision of Sites for New Schools

Recommendation

1. That the proposed Contribution Agreement with the Province of Saskatchewan, represented by the Ministry of Education, as outlined in this report, be approved;
2. That the proposed Lease Agreements with the Greater Saskatoon Catholic School Board and the Saskatoon Public School Board, as outlined in this report, be approved, subject to concluding a memorandum of agreement for the use of the community centre and joint use space to be located in the schools;
3. That His Worship the Mayor and the City Clerk be authorized to execute the agreements under the Corporate Seal; and
4. That up to \$950,000 be allocated from the Community Centre Levy Reserve to fund down payments for the acquisition of the school sites and miscellaneous costs incurred to prepare the school sites for lease.

Topic and Purpose

This report recommends the approval of a Contribution Agreement with the Province of Saskatchewan, through the Ministry of Education, related to the acquisition of school sites in the Hampton Village, Stonebridge, Evergreen, and Rosewood neighbourhoods. The report also recommends the subsequent lease of those sites to the local Public and Catholic School Boards for the construction and operation of elementary schools and related activities.

Report Highlights

1. The Ministry of Education (Ministry) intends to build four new pairs of elementary schools in Saskatoon in the neighbourhoods of Hampton Village, Stonebridge, Evergreen, and Rosewood. The new schools will be constructed as part of a bundled P3 project and may be open as early as the fall of 2017.
2. The City of Saskatoon (City) is expected to prepare and acquire the sites and lease them to the local school boards. The main funding source will be the Community Centre Levy Reserve (approximately \$20M), along with a Ministry contribution of \$8.06M. A Contribution Agreement between the City and the Ministry is required to secure this funding. Lease Agreements between the City and the School Boards are also required.
3. Terms of the proposed Contribution Agreement include lease of the school sites for one dollar per year, which is below market value. Reconfiguration of the Hampton Village school site involves using existing Municipal Reserve Land, resulting in the need to lease Municipal Reserve land. Both of these issues require public notice prior to being considered by City Council.

Strategic Goal

This report supports the Strategic Goal of Quality of Life by helping to establish primary services (education) that are of high importance to citizens and supports community building through direct investment and support to volunteers and community associations by providing good access to flexible community space in neighbourhoods.

Background

During its meeting held on October 27, 2014, City Council considered a report of the General Manager of Community Services concerning the Community Centre Levy and New Schools, and resolved:

“That the Administration be instructed to negotiate contribution and lease agreements that substantively reflect the terms described in this report.”

A copy of that report is contained in Attachment 1.

Report

Ministry Announces New School Development

The Ministry announced in the fall of 2013 the intention to build four new pairs of elementary schools in Saskatoon in the neighbourhoods of Hampton Village, Stonebridge, Evergreen, and Rosewood. It is envisaged that the new schools will be constructed as part of a bundled P3 project and may open as early as the fall of 2017.

Ministry Requests Local Municipalities to Provide Land

Ministry funding for the school projects does not include the cost of land acquisition, estimated to be about \$24M for the four sites, plus site reconfiguration and infrastructure costs. At the request of the Ministry, the City is expected to prepare and acquire the sites and lease them to the local school boards. The main funding source will be the Community Centre Levy Reserve (approximately \$20M), along with a Ministry contribution of \$8.06M to provide support for land acquisition and site preparation.

A Contribution Agreement with the Ministry is required to secure this funding. The terms of the proposed agreement are outlined in Attachment 2.

Lease Agreements are also required with the two local school boards. The terms of the proposed agreements are outlined in Attachment 3.

Municipal Reserve to be included in Hampton village School Site

Reconfiguration of the Hampton Village school site will require 0.77 acres (0.31 hectares) of the adjacent Municipal Reserve land be incorporated into the school site. To accommodate this process, the reconfigured school site will be designated as Municipal Reserve. The Stonebridge, Evergreen, and Rosewood school sites will not be designated as Municipal Reserve land at this time and will be held as titled properties by the City.

Options to the Recommendation

City Council may choose to alter the terms of the proposed Contribution Agreement and Lease Agreements, in which case further direction would be required.

There is no practical option to the overall arrangement as the proposed plan will see the construction and operation of needed schools in four of Saskatoon's growing new neighbourhoods.

Public and/or Stakeholder Involvement

The development industry has been kept up to date and is currently working with the Administration to reconfigure the sites. Discussions have also taken place with the affected developers as to the proposed site acquisition terms.

Communication Plan

A joint communication plan is being arranged between the City, the Ministry, and the local school boards, as the planning and development process for the new schools continues to unfold.

Financial Implications

In addition to the land acquisition costs, there are reconfiguration and infrastructure costs which have yet to be fully quantified and will vary by site. The Provincial funds made available through the Contribution Agreement will enable this work to continue.

The estimated current balance in the Community Centre Levy Reserve is approximately \$16.3M for all four neighbourhoods combined. At full build-out of the four neighbourhoods in approximately four years, the total amount collected from the levy will be just over \$20M. It is expected that any shortfall due to the timing of the expenditures and the collection of the levies will be cash-flowed and interest charged at internal investment rates on the outstanding balance. Together with the \$8.06M from the Ministry as part of the Contribution Agreement, and appropriate cash flow management, there is very little financial risk associated with this project in the short term, and a small surplus (for contingencies) expected over the medium term.

Other Considerations/Implications

There are no policy, environmental, privacy, or CPTED implications or considerations.

Due Date for Follow-up and/or Project Completion

The Administration will report further to Committee and City Council in 2015 on the acquisition of the schools sites.

Public Notice

Public Notice is required for the consideration of the Lease Agreements as the land will be leased for less than market value, pursuant to i) of Section 3 of Public Notice Policy No. C01-021. Public Notice is also required for the lease of Municipal Reserve Land for the Hampton Village school site, pursuant to j) of Section 3 of Public Notice Policy No. C01-021.

Attachments

1. Report of the General Manager of Community Services, dated October 27, 2014
2. Proposed terms of the Contribution Agreement
3. Proposed Terms of the Lease Agreements
4. Site Plan for the Hampton Village school site
5. Site Plan for the Stonebridge school site
6. Site Plan for the Evergreen school site
7. Site Plan for the Rosewood school site

Report Approval

Written and Approved by: Randy Grauer, General Manager, Community Services Department

Approved by: Jeff Jorgenson, Acting City Manager

S/Reports/GM/2015/Council – Contribution Agreement for New Schools March 23, 2015.docx/dh

Community Centre Levy and New Schools

Recommendation

That the Administration be instructed to negotiate contribution and lease agreements for the proposed new school sites that substantively reflect the terms described in this report.

Topic and Purpose

This report relates to the acquisition of school sites in the Hampton Village, Stonebridge, Evergreen, and Rosewood neighbourhoods, and the subsequent lease of those sites to the local Public and Catholic School Boards for the construction and operation of elementary schools and related activities, subject to the provision of appropriate community space in each school.

Report Highlights

1. The Provincial Ministry of Education (Ministry) announced in the fall of 2013 the intention to build four new pairs of elementary schools in Saskatoon in the Neighbourhoods of Hampton Village, Stonebridge, Evergreen and Rosewood. Ministry funding for the school projects does not include the cost of land acquisition, estimated to be about \$24 million for the four sites, plus site reconfiguration and infrastructure costs.
2. The City of Saskatoon (City) is expected to prepare and acquire the sites and lease them to the local school boards. The main funding source will be the Community Centre Levy Reserve (up to \$20M), along with a Ministry contribution of \$8.06M to provide some support for land acquisition and infrastructure improvements. A contribution agreement with the Ministry is required to secure this funding.
3. It is estimated that the site work will be completed in June of 2015, by which time the City would acquire title to all four school sites.
4. The four school sites would then be leased to the local school boards for the construction and operation of the schools and related facilities, subject to lease agreements specifying the amount, configuration and access to the community spaces. These agreements are currently being negotiated.

Strategic Goal

This report supports the Strategic Goal of Quality of Life by helping to establish primary services (education and recreation) that are of high importance to citizens and supports community building through direct investment and support to volunteers and community associations by providing good access to flexible community space in neighbourhoods.

Community Centre Levy and New Schools

Background

During its regular meeting on December 2, 2002, City Council adopted the concept of a Community Centre Levy. The levy was in response to decisions by the school boards and the Province not to provide elementary schools in two new neighbourhoods. This left residents with no community hub for the neighbourhood, and no site for the community association or other service providers from public, non-profit, and private organizations to provide community programs.

During its regular meeting on August 15, 2012, City Council further resolved that the Community Centre Levy be based on the year to year costs of acquiring 8.0 acres of potential school site property in each developing neighbourhood. This policy facilitates the acquisition of land for school sites, and that the land may be leased to the Ministry for one dollar, subject to the provision of appropriate community access space in the new buildings.

It has become apparent that the Ministry intends to release the P3 RFP as soon as October 30, 2014, and that the RFP design objectives for the community space are ambiguous at this point. Therefore, it is important that City Council provide the necessary direction to Administration to ensure the intent of the Community Centre Levy Reserve is upheld in the contribution and lease agreements.

Report

Ministry Announces New School Development

The Ministry announced in the fall of 2013 the intention to build four new pairs of elementary schools in Saskatoon in the neighbourhoods of Hampton Village, Stonebridge, Evergreen, and Rosewood. It is envisaged that the new schools will be constructed as part of a bundled P3 project and may open as early as the fall of 2017.

The Ministry retained a design consultant to prepare conceptual building plans, with the input of students, community members, local school boards, and civic staff. A five-day concept design process was held with key stakeholders in March of this year, and a public information meeting showcasing the new design concept was held in April.

As the draft designs progressed, the proposed Saskatoon school concept plans contained a flexibly designed core community area with:

- central community entry point;
- community lobby and commons space;
- 90 space day care centre;
- two joint-use gymnasiums of over 500m² each;
- numerous joint-use multi-purpose rooms totalling about 800m²; and
- a specific community resource centre space containing a multi-purpose room, meeting room, office and storage area, of about 150m² in total.

Community Centre Levy and New Schools

In the view of the City Administration, with a suitable joint use agreement, this arrangement of flexible and programmable space provides a very reasonable community centre area within each school.

Ministry Requests Local Municipalities to Provide Land

Ministry funding for the school projects does not include the cost of land acquisition, estimated to be about \$24M for the four sites, plus site reconfiguration and infrastructure costs. At the request of the Ministry, the City is expected to prepare and acquire the sites and lease them to the local school boards. The main funding source will be the Community Centre Levy Reserve (up to \$20M), along with a Ministry contribution of \$8.06M to provide support for land acquisition and site preparation. A contribution agreement with the Ministry is required to secure this funding.

School Sites to be Reconfigured to Accommodate the New Schools

There is considerable subdivision and infrastructure work to be done to reconfigure the four existing schools sites to accommodate the proposed new school footprint. It is estimated that the site work will be completed in June of 2015, by which time the City would proceed to acquire title to all four school sites.

School Sites to be Leased to the Local School Boards

Once acquired by the City, the four school sites would be leased to the local school boards for the construction and operation of the schools and related facilities.

In order for City Council to approve the use of the Community Centre Levy Reserve for the acquisition of school sites, City Council must be satisfied that there is a sufficient community use component in the schools.

In the view of the Administration, the following building space outline meets the community use expectations of the Community Centre Levy Reserve, and should be substantively reflected in the contribution and lease agreements:

- central community entry point;
- community lobby and commons space;
- 90 space day care centre;
- two joint-use gymnasiums of about 500m² each;
- numerous joint-use multi-purpose rooms totalling about 800m²,
- a specific community resource centre space containing a multi-purpose room, meeting room, office and storage area, of about 150m² in total, and
- the leases would be subject to a joint-use agreement providing appropriate community access to the above-noted spaces, and other typical joint-use provisions.

Options to the Recommendation

City Council may choose to alter the recommended terms of the proposed contribution agreement or lease agreement, in which case further direction would be required.

Community Centre Levy and New Schools

There is no viable option to the overall arrangement as the proposed plan will see the construction and operation of needed schools in four of Saskatoon's growing new neighbourhoods. Again, further direction would be required.

Public and/or Stakeholder Involvement

The Ministry retained a design consultant to prepare conceptual building plans with the input of students, community members, local school boards, and civic staff.

Communication Plan

A communication plan is being arranged between the City and the Ministry and will be refined as the overall plans move forward.

Financial Implications

The total cost of land acquisition and site preparation may be up to \$28 million. The main funding source for land acquisition will be the Community Centre Levy Reserve (up to \$20M), along with a Ministry contribution of \$8.06M to provide support for land acquisition and site preparation.

Other Considerations/Implications

There are no policy, environmental, privacy, or CPTED implications or considerations.

Due Date for Follow-up and/or Project Completion

As the proposed agreements progress, the Administration expects to report further to Committee and City Council in the near future.

Public Notice

Public Notice will be required for final consideration of this matter, pursuant to i) and j) of Section 3 of Public Notice Policy No. C01-021.

Report Approval

Written and Approved by: Randy Grauer, General Manager, Community Services Department
Approved by: Murray Totland, City Manager

S/Reports/GM/2014/Council - Community Centre Levy Oct 23.docx/dh

Proposed School Site Contribution Agreement City of Saskatoon and Province of Saskatchewan

The following is a summary of the main provisions of the proposed Contribution Agreement between the City of Saskatoon and the Province wherein the Province agrees to contribute to the cost of acquiring and servicing sites for four schools in Saskatoon to be built under a Provincial P3 Project.

City's Obligations

- The City agrees that not later than May 29, 2015 it will hold title to, or be the beneficial owner of four school sites in the Hampton Village, Evergreen, Stonebridge and Rosewood neighbourhoods. [The City is currently the owner of the Evergreen site and beneficial joint owner with the neighbourhood developer of the Hampton Village site. The Stonebridge and Rosewood sites are owned by neighbourhood developers. All sites must be purchased by the City for the project.]
- The sites may, at the option of the City, be designated as Municipal Reserve.
- The City will dedicate the sites to the Minister of Education and the Saskatoon Public and Greater Saskatoon Catholic School Boards for use as a school, child care, community centre, recreational sites, and ancillary uses.
- It is anticipated that each facility will include approximately 2,400m² of building area including all of the following: a community usage entry point; a day care centre, two gymnasiums, multi-purpose rooms, a storage room, a community resource centre containing a multi-purpose room, a meeting room, and an office.
- Use and access by the community will be determined by joint use agreements entered into between the School Boards and the City.
- Final design and configuration of the schools is to be determined through the P3 procurement process.
- The City will grant a license to the successful P3 Proponent to enter on the lands to develop the schools.
- The sites are to be leased to the School Boards pursuant to leases to be entered into by the City with each of the Public and Greater Saskatoon Catholic School Boards. The term of the lease with renewals may extend to 80 years. The annual rent is to be \$1.00. A form of Lease (subject to finalization) is to be an Appendix to the Agreement.

- If further land is required for school expansion, it will be provided on the same terms as contained in the Contribution Agreement. The Minister acknowledges that the size of the sites is sufficient for the current anticipated peak enrollments.
- The sites are to be provided in a fully serviced condition according to Site Requirements, as specified by the Province, which will be appended to the Contribution Agreement.

Minister's Obligations

- The Minister will pay to the City the sum of \$8,060,000.00 toward defraying the land acquisition and servicing costs as follows:
 - \$1,015,000.00 per site upon execution of this Agreement
 - \$1,000,000.00 per site upon completion of the Site Requirements for each site

Other Terms

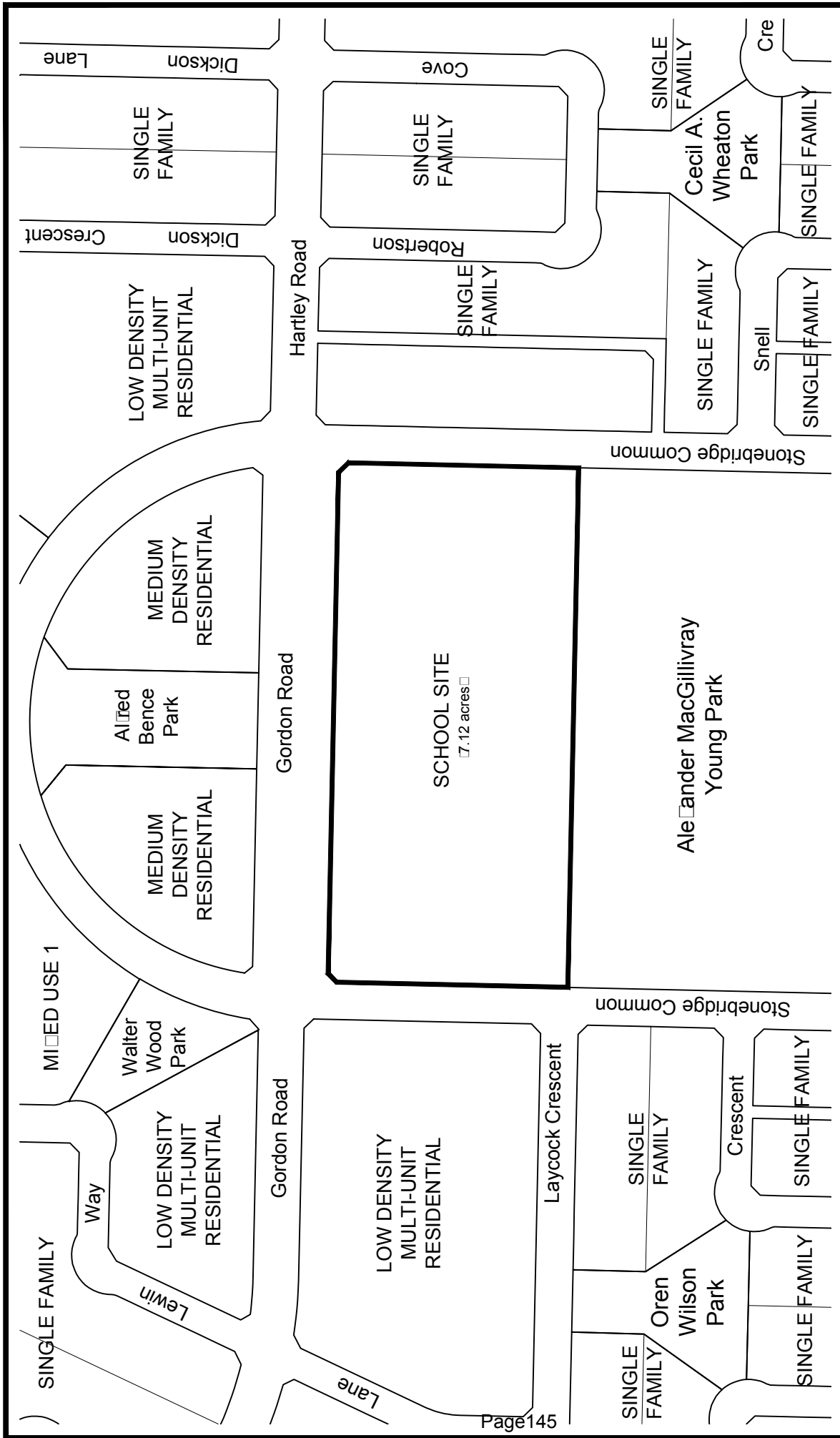
- The Minister may withhold payment or require re-payment if the Minister determines the City is not in compliance with the Agreement.
- The Minister releases and discharges the City from any claims, including economic loss, arising from delay or the inability of the City to provide the sites or service the sites as stipulated in the Agreement. This release also applies to any claims made by the School Boards against the City through the Minister.

Summary of Proposed Lease Agreement P3 School Sites

The following is a summary of the terms of the proposed Lease Agreement for the P3 School Sites. The Contribution Agreement provides that a lease substantially in accordance with the lease appended to the Agreement is to be entered into by the municipality and the school boards. The Lease Agreement is to be generally applicable to all P3 School Sites in the Province. Under the terms of the Contribution Agreement, the City is required to enter into a lease with the School Boards substantially in compliance with the terms outlined below:

- Term – initial term is 40 years with a series of renewals which could amount to a further 40 years for a total of 80 years.
- Annual Rent - \$1.00.
- Tenant may vacate on 1 year's notice.
- City to install and provide services typically provided for all serviced development parcels throughout term.
- Tenant to construct and maintain improvements [construction to be done by successful P3 proponent].
- Use of premises is restricted to school, daycare or nursery school, community centre and facilities, recreational facilities, joint uses contemplated under Joint Use Agreement to be negotiated and appended to Lease. In addition, other uses approved by the City [If the land is designated as Municipal Reserve, uses will be limited to those allowed under *The Planning and Development Act, 2007* and *The Dedicated Land Regulations*].
- Removal of buildings – at the end of the term where the Tenant discontinues use of premises, the Tenant may remove the building and return the land to its original state, including environmental remediation. If the Tenant leaves the building intact, it becomes the property of the City.
- If the building is damaged or destroyed, it is the Tenant's option to rebuild or terminate the lease and return the land to its original state.
- Tenant to insure. City not to be liable for any injury, death or loss on premises, except where caused by City negligence.
- Tenant may sub-lease if for a permitted use and where sub-tenant agrees to terms and conditions of lease.
- Joint Use Agreement is to be entered into and appended to lease governing the use of the City's adjacent recreational facilities and the Tenant's facilities in the leased premises.

STONEBRIDGE SCHOOL SITE

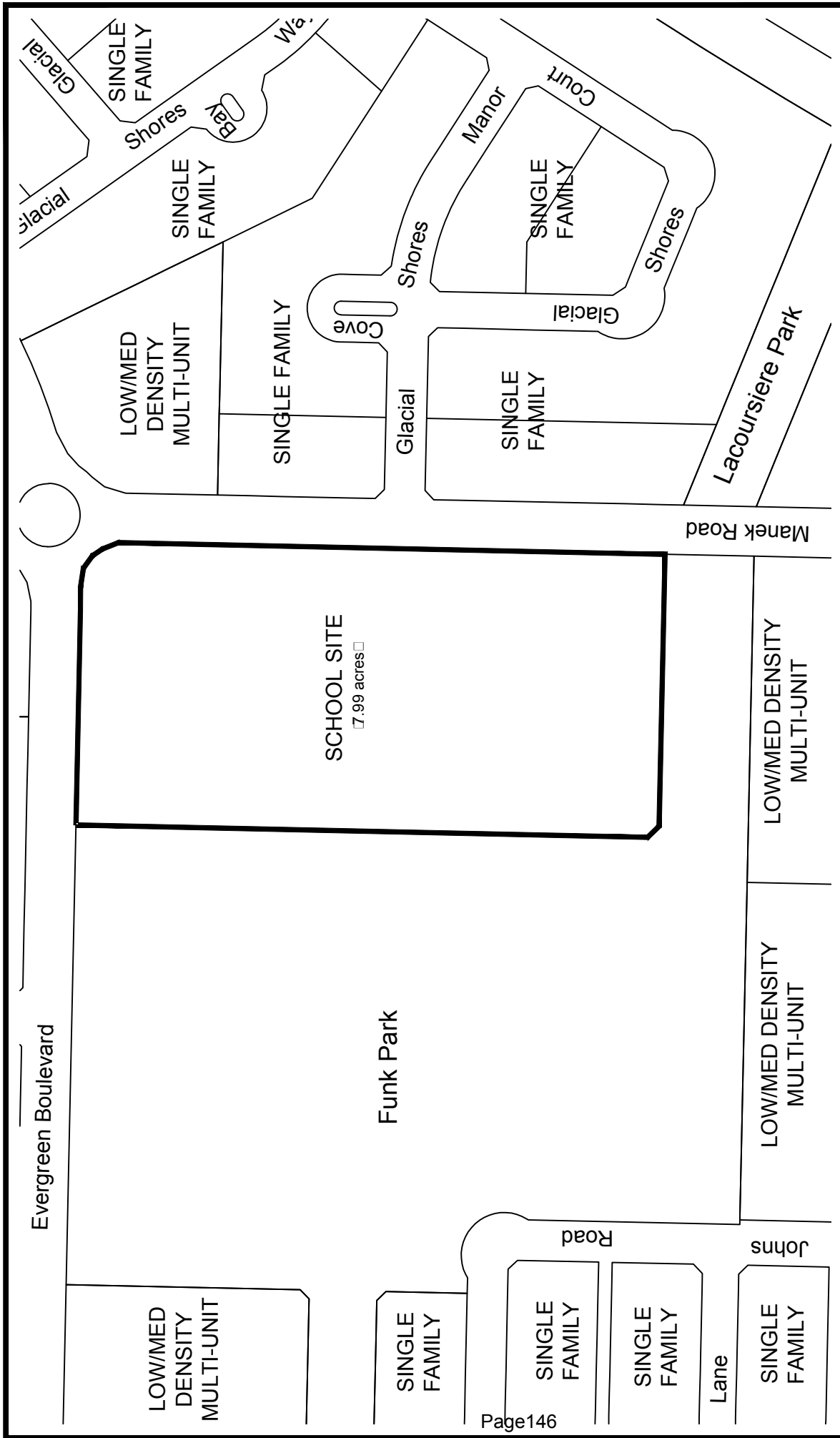


— SCHOOL SITE
7.12 acres

Legal Description: Parcel G, Plan 101923477 □ Parcel M □ Parcel N, Plan 101955641 □ Part o the NE 10-36-05 W3 □ Part o Parcel H, Plan 101923477 □ Part o the Street Closing as approved under Bylaw No. 9243, identified as Parcel YY on Subdivision Application No. 64/14



EVERGREEN SCHOOL SITE

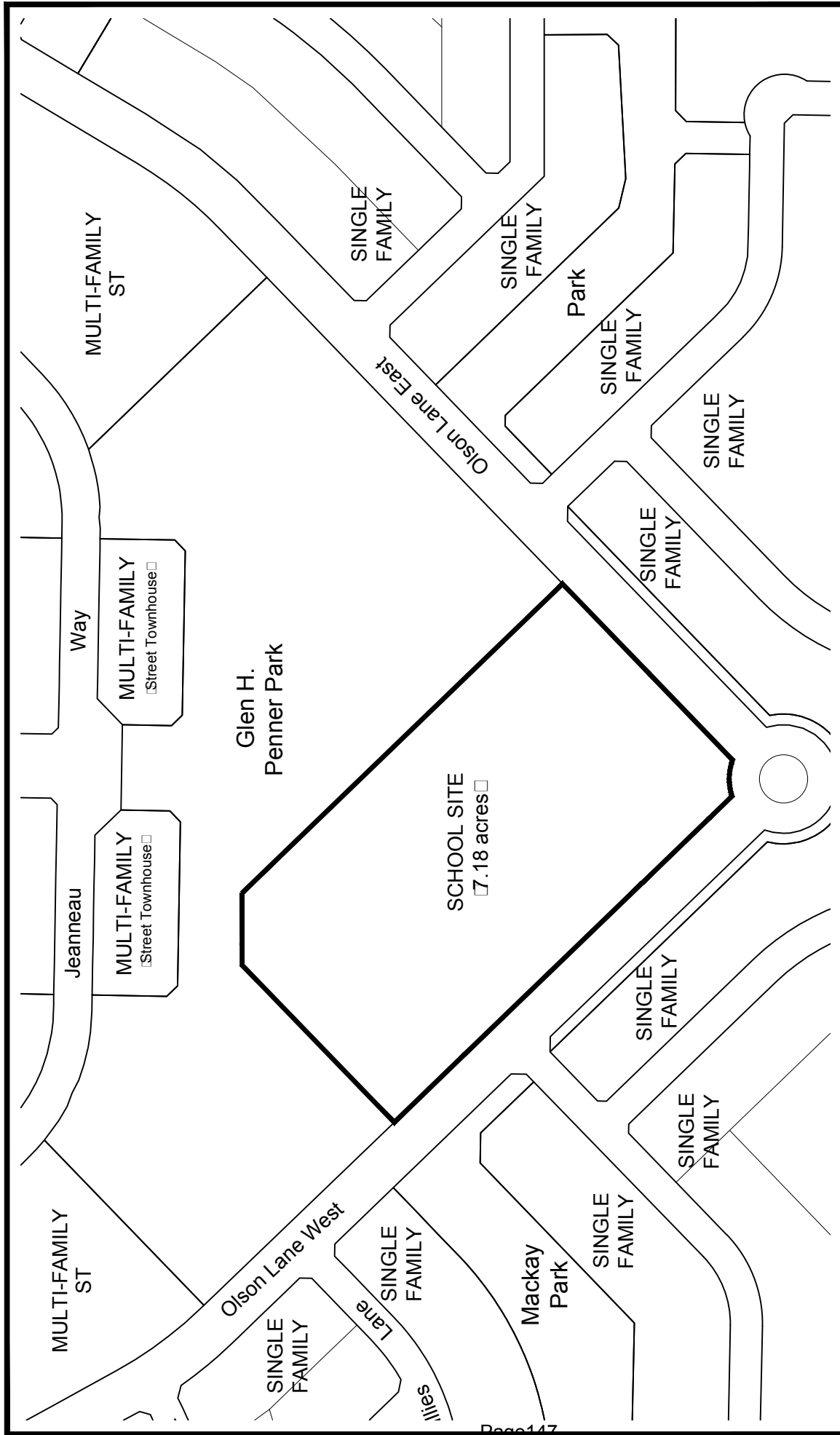


— SCHOOL SITE
7.99 acres □

Legal Description: Parcel Q, Plan 102176603



ROSEWOOD SCHOOL SITE



Legal description: Part of Parcel BB, Plan 101875394 □ Part of Parcel EE, Plan 102028586 □ Part of the Street Closing as approved under Bylaw No. 9244, identified as Parcel A on Subdivision Application No. 66/14

— SCHOOL SITE
□ 7.18 acres □



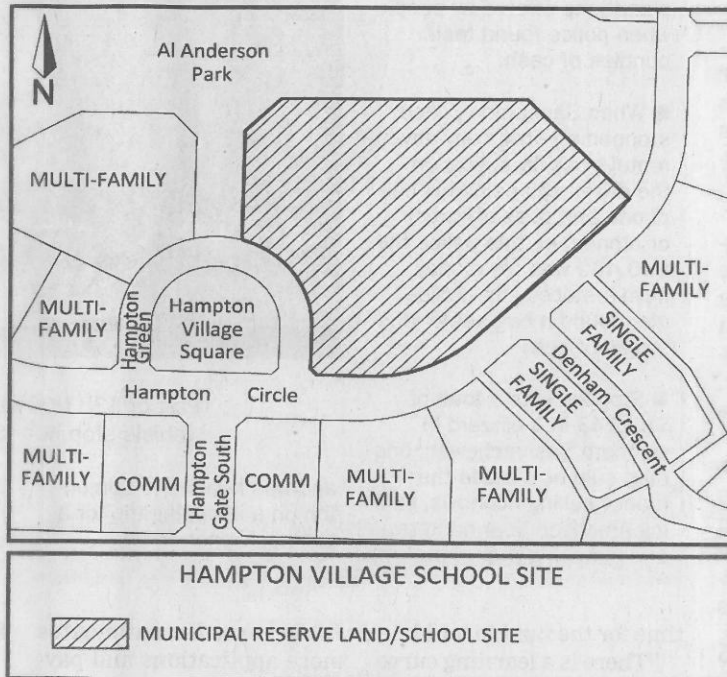
THE STARPHOENIX, SATURDAY, MARCH 7, 2015 and
SUNDAY PHOENIX, MARCH 8, 2015

PUBLIC NOTICE

**PROPOSED LAND LEASE OF HAMPTON VILLAGE SCHOOL SITE –
MUNICIPAL RESERVE**

Saskatoon City Council will consider a proposal to lease the school site in Hampton Village that is to be designated as municipal reserve land to the Saskatoon Public School Division and the Greater Saskatoon Catholic School Division. The lease will accommodate the proposed Hampton Village joint-use elementary schools.

The proposed terms of the lease include a term of 40 years, with an option to renew for an additional 40 years.



PUBLIC HEARING – City Council will hear all submissions on the proposed leases, and all persons who are present at the City Council meeting and wish to speak on **Monday, March 23, 2015 at 6:00 p.m. in City Council Chamber, City Hall, Saskatoon, Saskatchewan.**

All written submissions for City Council's consideration must be forwarded to:
His Worship the Mayor and Members of City Council
c/o City Clerk's Office, City Hall
222 Third Avenue North, Saskatoon SK S7K 0J5.

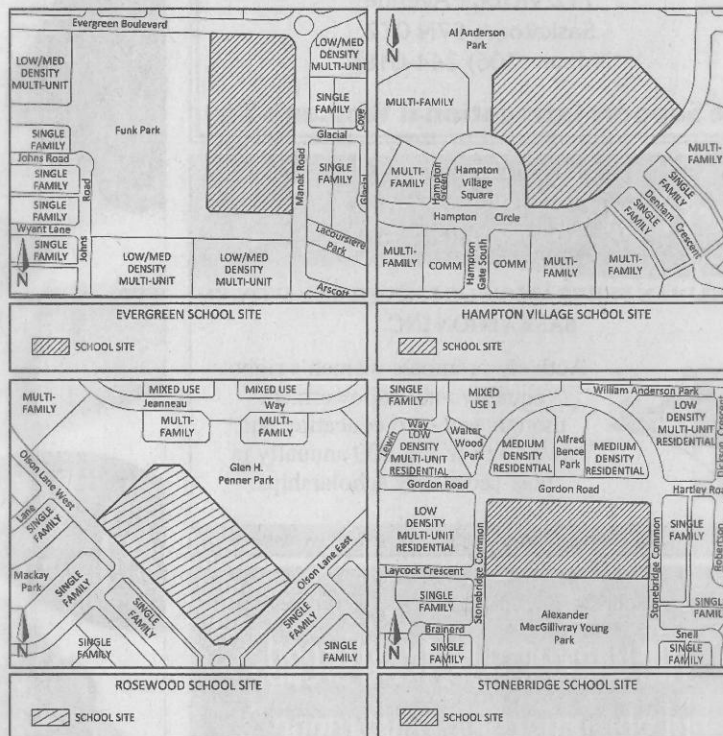
All submissions received by the City Clerk by **10:00 a.m. on Monday, March 23, 2015** will be forwarded to City Council. City Council will also hear all persons who are present and wish to speak to the proposed resolution.

THE STARPHOENIX, SATURDAY, MARCH 7, 2015 and
SUNDAY PHOENIX, MARCH 8, 2015

PUBLIC NOTICE
PROPOSED LAND LEASES FOR NEIGHBOURHOOD SCHOOLS

Saskatoon City Council will consider a proposal to lease land to the Saskatoon Public School Division and the Greater Saskatoon Catholic School Division for the purposes of accommodating proposed joint-use elementary schools on sites in the following four locations:

- Evergreen (corner of Evergreen Boulevard and Manek Road);
- Hampton Village (Hampton Green);
- Rosewood (Olson Lane West); and
- Stonebridge (Gordon Road).



The proposed terms of the leases include a rent of \$1.00 per year per site over a term of 40 years, with an option to renew for an additional 40 years.

PUBLIC HEARING – City Council will hear all submissions on the proposed leases, and all persons who are present at the City Council meeting and wish to speak on **Monday, March 23, 2015 at 6:00 p.m. in City Council Chamber, City Hall, Saskatoon, Saskatchewan.**

All written submissions for City Council's consideration must be forwarded to:
 His Worship the Mayor and Members of City Council
 c/o City Clerk's Office, City Hall
 222 Third Avenue North, Saskatoon SK S7K 0J5.

All submissions received by the City Clerk by **10:00 a.m. on Monday, March 23, 2015** will be forwarded to City Council. City Council will also hear all persons who are present and wish to speak to the proposed resolution.

Proposed Closure of Right-of-Way, North-South Lane between 12th Street West and Garfield Street and East-West Lane between Avenue R and Avenue P – West Industrial

Recommendation

1. That the entire north-south lane between 12th Street West and Garfield Street and the entire east-west lane between Avenue R and Avenue P be closed;
2. That portions of the proposed closure are to be sold to Lazer Autobody Inc. for \$12,430.43 plus GST and Ironwood III Assets Inc. for \$20,987.18 plus GST. The remaining portion is to be consolidated with adjacent City of Saskatoon property;
3. That all land costs associated with the closure be paid for by the applicants, and all Solicitor's fees and disbursements will be shared equally among the applicants; and
4. That City Council consider Bylaw No.9264, The Street Closing Bylaw, 2015 (No. 3).

Topic and Purpose

This report requests approval to close, and subsequently sell, the entire north-south lane between 12th Street West and Garfield Street and the entire east-west lane between Avenue R and Avenue P.

Report Highlights

The lane between 12th Street West and Garfield Street and the east-west lane between Avenue R and Avenue P is no longer required for traffic, and is being sold to the adjacent property owners. A portion of the lane will be consolidated with adjacent City of Saskatoon (City) property.

Strategic Goal

This report supports the Strategic Goal of Sustainable Growth as the closure will allow development in the West Industrial Area neighbourhood.

Background

In August 2011, the Administration received a request from Lazer Autobody Inc. to purchase the north-south lane between 12th Street and a portion of the east-west lane between Avenue R and Avenue P, and consolidate this land with their existing property. Subsequently, the Administration has reviewed and determined that the lane is not required for travel; therefore, the lane closure process proceeded which includes notifying other City Departments and land owners adjacent to the lane and requesting their review and comments. All adjacent property owners were contacted as required and agreed to purchase the portion of the lane adjacent to their property. The City agrees to consolidate the remaining portion with adjacent City owned property.

Proposed Closure of Right-of-Way, North-South Lane between 12th Street West and Garfield Street and East-West Lane between Avenue R and Avenue P - West Industrial

Report

On November 20, 2012, Ironwood III Assets Inc. received a letter from the Administration agreeing to sell a portion of the lane (Area D), and outlined a cost of \$3.50 per square foot for a total price of \$20,987.19 plus GST.

On November 21, 2012, Lazer Autobody Inc. received a letter from the Administration agreeing to sell a portion of the lane (Areas B & C) and outlined a cost of \$3.50 per square foot for a total price of \$12,430.43 plus GST.

The remaining portion of the lane (Area A) will be consolidated with the adjacent City of Saskatoon land. All parties agreed to a division of the closure as outlined in Plan No. 240-0043-005r002 (Attachment 1).

George, Nicholson, Franko & Associates Ltd. has submitted a plan showing the Proposed Lane Closure dated March 7, 2013 (Attachment 2) which outlines the right-of-way to be closed.

A proposed Subdivision No.42/14 was approved by the General Manager, Community Services Department on September 2, 2014.

To complete this transaction, the Administration requires City Council to approve Bylaw No. 9264, The Street Closing Bylaw, 2015 (No. 3) (Attachment 3).

No dead end situations will be created as a result of this proposed closure of right-of-way.

Public and/or Stakeholder Involvement

Other City departments were surveyed for feedback and have no objection to the proposed plan. Utility agencies have been contacted with respect to the closure and have no objections to the closure subject to the following easements: Transportation & Utilities, Saskatoon Light & Power, and SaskTel.

The adjacent property owners were contacted and have no objection to the suggested proposed lane closure.

The Ministry of Highways and Infrastructure has confirmed that the Minister's consent is not required nor is compensation to the Crown required pursuant to Sections 13(4) and 13(2)(a) of *The Cities Act*.

Communication Plan

Communication activities are included with the requirement for Public Notice. No other communication activities are required.

Other Considerations/Implications

There are no options, policy, financial, environmental, privacy or CPTED considerations or implications.

Due Date for Follow-up and/or Project Completion

There will be no follow up report.

Public Notice

Public Notice is required for consideration of this matter, pursuant to Section 3b) of Policy C01-021, Public Notice Policy. The following notice was given:

- Advertised in The StarPhoenix on March 7, 2015;
- Posted on the City Hall Notice Board on Thursday, March 5, 2015;
- Posted on the City of Saskatoon website on Thursday, March 5, 2015; and
- Public Notice sent out to businesses adjacent to the lane.

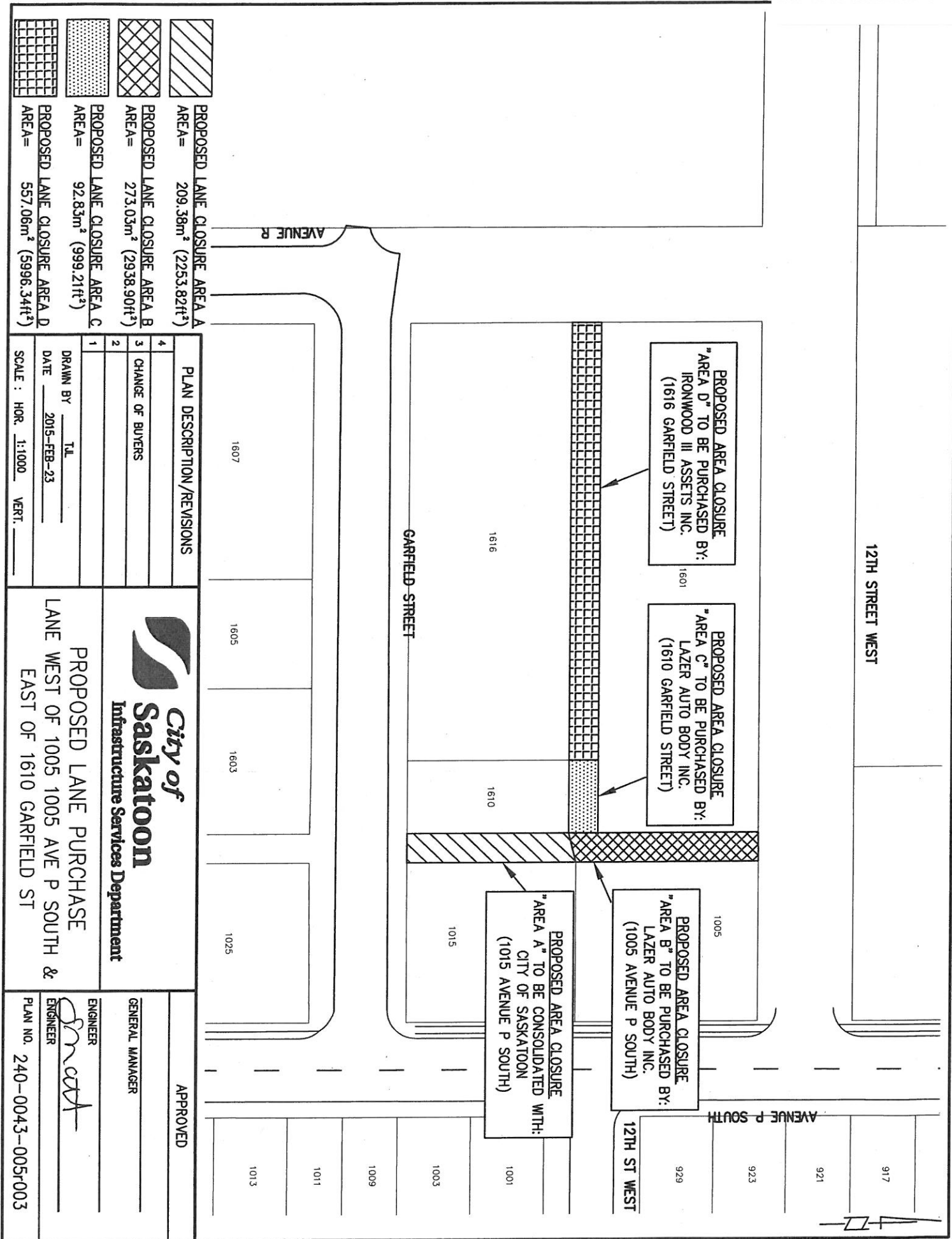
Attachments





1. Proposed Lane Purchase Plan No. 240-0043-005r002
2. Plan Showing Proposed Lane Closure dated March 7, 2013
3. Proposed Bylaw No. 9265, The Street Closing Bylaw, 2015 (No.3)
4. Copy of Public Notice

Report Approval

Written by: Shirley Matt, P. Eng. Traffic Management Engineer, Transportation
Reviewed by: Jay Magus, Engineering Manager, Transportation
Reviewed by: Angela Gardiner, Director of Transportation
Approved by: Jeff Jorgenson, General Manager, Transportation & Utilities
Department

Council SM – PClosure-ROW - 12th St W_Garfield St and Ave R_Ave P - West Industrial



- 
PROPOSED LANE CLOSURE AREA A
 AREA = 209.38m² (2253.82ft²)
- 
PROPOSED LANE CLOSURE AREA B
 AREA = 273.03m² (2938.90ft²)
- 
PROPOSED LANE CLOSURE AREA C
 AREA = 92.83m² (999.21ft²)
- 
PROPOSED LANE CLOSURE AREA D
 AREA = 557.06m² (5996.34ft²)

PLAN DESCRIPTION/REVISIONS	
4	
3	CHANGE OF BUYERS
2	
1	

DRAWN BY: T.L.
 DATE: 2015-FEB-23
 SCALE: HOR. 1:1000 VERT. _____



PROPOSED LANE PURCHASE
 LANE WEST OF 1005 1005 AVE P SOUTH &
 EAST OF 1610 GARFIELD ST

APPROVED

GENERAL MANAGER _____

ENGINEER *Smeth*

ENGINEER _____

PLAN NO. 240-0043-005-003

BYLAW NO. 9264

The Street Closing Bylaw, 2015 (No. 3)

The Council of The City of Saskatoon enacts:

Short Title

- 1. This Bylaw may be cited as *The Street Closing Bylaw, 2015 (No. 3)*.

Purpose

- 2. The purpose of this Bylaw is to close the north-south lane between 12th Street West and Garfield Street and the east-west lane between Avenue R and Avenue P, Saskatoon, Saskatchewan.

Closure of Portion of Lane

- 3. All the north-south lane between 12th Street West and Garfield Street and east-west lane between Avenue R and Avenue P, Saskatoon, Saskatchewan, more particularly described as all of Lane in Block 4 Reg'd. Plan No. G670 and Lane in Block 4 Reg'd. Plan No. G1221, as shown on a Plan Showing Proposed Lane Closure prepared by D.V. Franko S.L.S. dated March 7, 2013 and attached as Schedule "A" to this Bylaw, is closed.

Coming into Force

- 4. This Bylaw comes into force on the day of its final passing.

Read a first time this _____ day of _____, 2015.

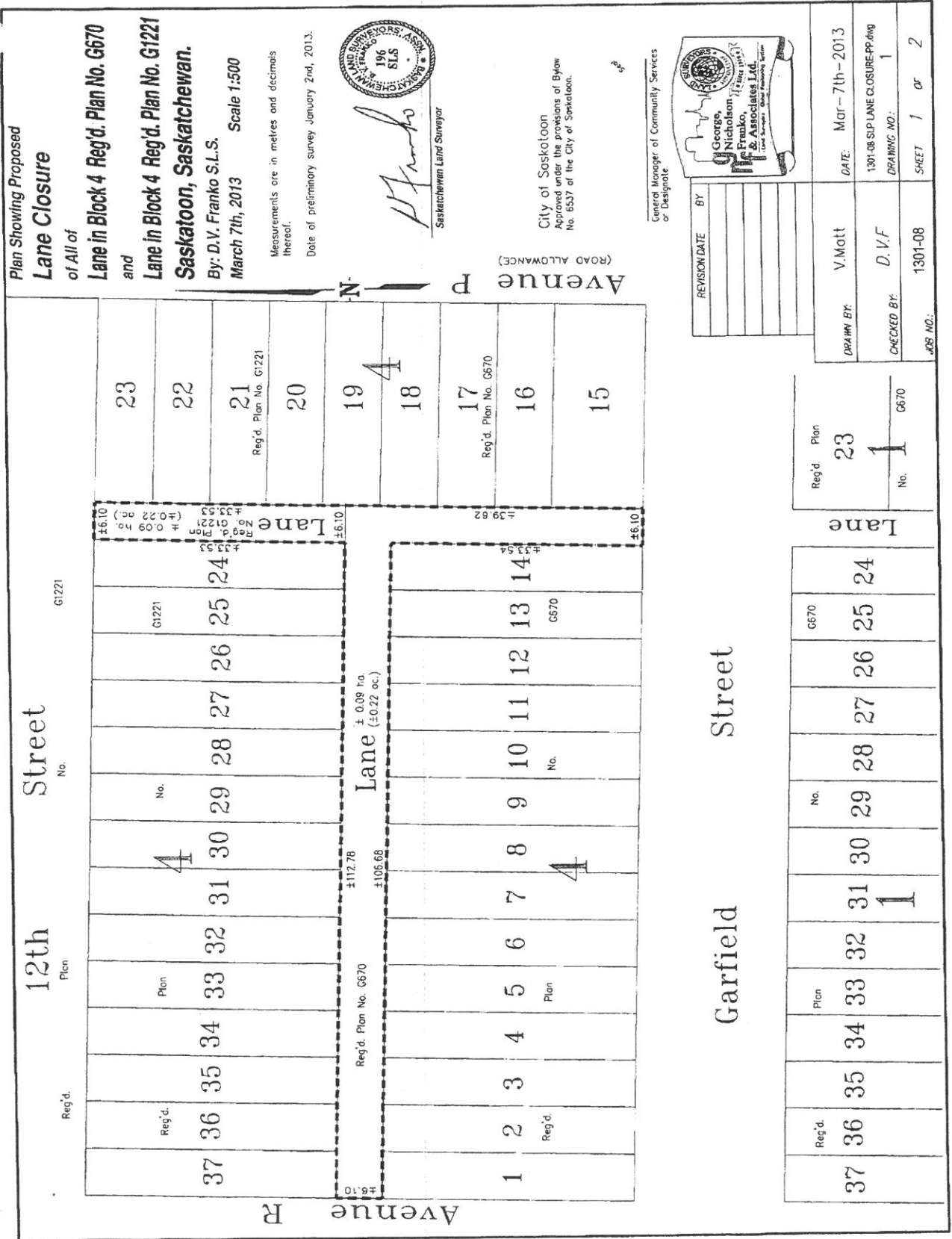
Read a second time this _____ day of _____, 2015.

Read a third time and passed this _____ day of _____, 2015.

Mayor

City Clerk

Schedule "A"



PUBLIC NOTICE
PROPOSED CLOSURE OF RIGHT-OF-WAY

The City is proposing the following closure for the West Industrial Neighbourhood.

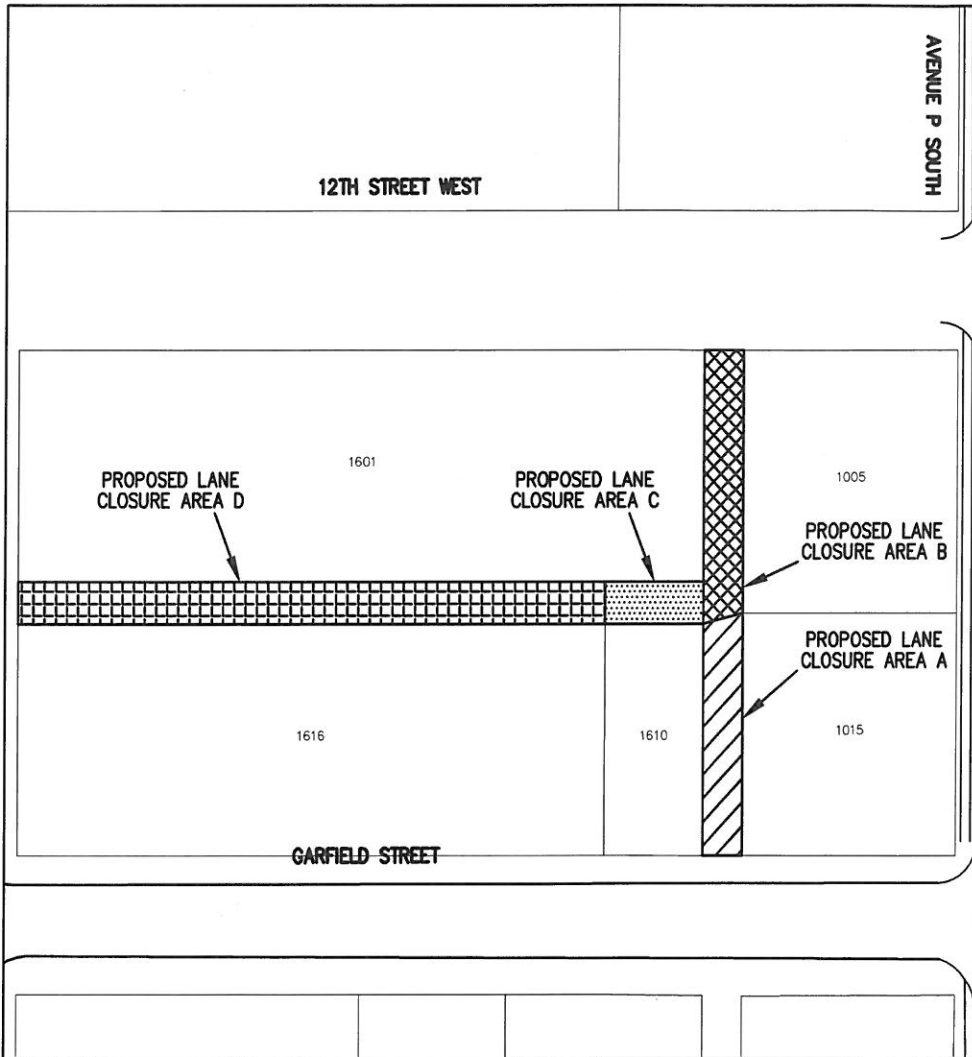
Location – Lanes, 12th Street West and Garfield Street

Area A to be consolidated with 1015 Ave P South

Area B to be consolidated with 1005 Ave P South

Area C to be consolidated with 1610 Garfield Street

Area D to be consolidated with 1616 Garfield Street



INFORMATION - Questions regarding the proposal may be directed to:
 Department of Transportation and Utilities, Transportation Division
 Phone: 975-3145 (Shirley Matt)

PUBLIC MEETING - City Council will consider the above matter and hear all persons present at the City Council meeting who wish to speak to it on **Monday, March 23, 2015, at 6:00 p.m.** in Council Chambers (City Hall, Saskatoon).

All written submissions for City Council’s consideration must be received by 10:00 a.m. on Monday, March 23, 2015. They should be sent to:

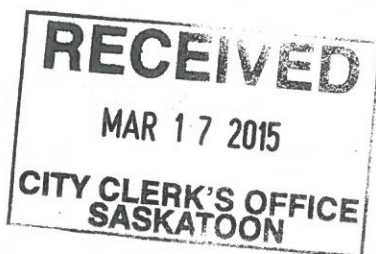
His Worship the Mayor and Members of City Council
 c/o City Clerk’s Office, City Hall
 222 Third Avenue North, Saskatoon, SK S7K 0J5

HMCS UNICORN
405 24th Street East
Saskatoon SK S7K 0K7

1110-1 (Coxn)

9 March 2015

Office of the Mayor
City Hall
222 3rd Avenue North
Saskatoon SK S7K 0J5



Your Worship,

BATTLE OF THE ATLANTIC SUNDAY, 3 MAY 2015

Each year on the first Sunday in May, Canada's maritime community pays tribute to the courageous Canadians who joined with Allies during the Second World War to fight and win the Battle of the Atlantic. Our heroes did so against tremendous odds in the face of harsh elements, and above all, a determined foe, the German *U-Boats*.

On Sunday, May 3rd, 2015 we will observe the 72nd Anniversary of the Battle of the Atlantic. To mark the occasion, thousands of naval veterans from the Royal Canadian Navy, merchant navy and maritime air forces will join present members of the Royal Canadian Navy to salute those who paid the ultimate price for freedom on or over the seas between 1939 and 1945. Ceremonies will take place all over Canada, but particularly in cities like Saskatoon, which maintain a special relationship with our Navy. Saskatoon stands out from other Canadian cities, not only because of the presence of HMCS UNICORN but also because we share the name of our city with one of the Canadian Navy's Maritime Coastal Defense Vessels.

Battle of the Atlantic Sunday holds a special meaning for those of us with ties to the Navy. Canada is a maritime nation with a history and an economy tied very much to the sea. The Royal Canadian Navy contributes to the safeguard of our citizens and resources in roles that have diversified greatly in recent years and continue to do so. Canadians are well served by the dedicated men and women of Canada's Navy.

In order to highlight this important past, present and future contribution, and in recognition of the sacrifice made by our veterans, let me **invite you to fly the Canadian Naval Jack at City Hall** from Monday April 27th to Monday May 4th. This initiative will certainly contribute to strengthen the ties that we share, and will improve our community's awareness about their Navy. I know this sign of support will have a special meaning for the veterans in the community.

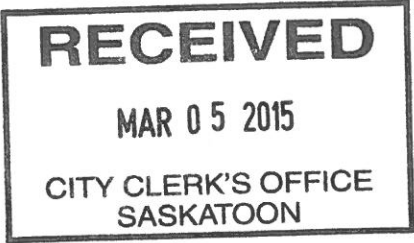
Please accept my thanks in advance, Your Worship, and be assured the Canadian Navy will always be proud of its motto "Ready, Aye, Ready!".

Sincerely,

K.L. Wallace
Lieutenant-Commander
Commanding Officer

205-1 x
205-5

From: Web NoReply
Sent: March 05, 2015 10:34 AM
To: City Council
Subject: Form submission from: Write a Letter to Council



Submitted on Thursday, March 5, 2015 - 10:33
Submitted by anonymous user: 67.225.49.2
Submitted values are:

Date: Thursday, March 05, 2015
To: His Worship the Mayor and Members of City Council
First Name: Erin
Last Name: McKay
Address: #105 315 Tait Cres.
City: Saskatoon
Province: Saskatchewan
Postal Code: S7H 5L6
Email: erin.mckay@suncorpvaluations.com

Comments:

I would like to ask council on behalf of the Saskatoon Diversity Network to declare Saskatoon Pride week June 8-14, 2015.
In addition, I would also like to request a flag raising to take place at Civic Square June 8, 2015 of the Pride flag for the week June 8-14, 2015. (An application to use Civic Square has been submitted separately).

Thank you.

The results of this submission may be viewed at:
<https://www.saskatoon.ca/node/398/submission/6217>



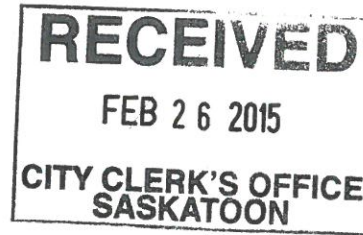
Saskatchewan Federation of Labour
#220-2445 13th Avenue
Regina, SK, S4P 0W1

p: 1 (306) 525-0197
f: 1 (306) 525-8960
w: www.sfl.sk.ca

205-5

February 23, 2015

Mayor Don Atchison
City Hall
222 – 3rd Ave North
Saskatoon SK S7K 0J5



Dear Mayor Atchison:

RE: Shift Work Recognition Day - March 20th

We are writing today in regards to a Shift Work Recognition Day designation for March 20th.

Approximately one-third of Canadian workers are involved in some type of shift work. Between 80-90% of shift workers express concerns about fatigue and drowsiness on the job. Sleep, alertness, hunger and many other aspects of life are controlled by biological rhythms. Shift work upsets these rhythms and does take a toll on the long-term health, well-being and safety of workers both on and off the job.

We ask that you declare March 20th as Shift Work Recognition Day to honour the contributions of shift workers in our society.

Thank you for your attention to this matter.

Sincerely,

Lori Johb
Chair – SFL OHS/WC Committee

cc Hon. Don Morgan, Minister of Labour
Saskatoon and District Labour Council

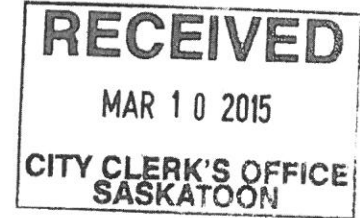
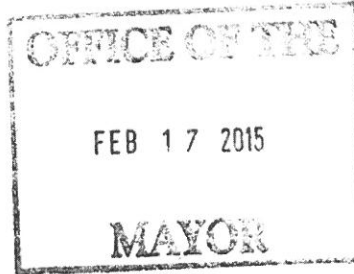
205-5



THE CITY OF
CALGARY

February 11, 2015

Mayor Atchison
222 Third Avenue North
City of Saskatoon S7K 0J5



Dear Mayor Atchison:

**Re: Mayor's Poetry City Challenge: A Celebration of Poetry,
Writing and Publishing**

For the past three years the City of Regina's Mayor has issued a challenge to the Mayors across Canada to participate in an annual Mayor's Poetry City Challenge. This year the torch has been passed from Mayor Michael Fougere to me, and I am honoured to challenge you to some friendly literary competition.

The purpose of the Challenge is to recognize both UNESCO's World Poetry Day on March 21 as well as National Poetry Month, which is celebrated in Canada and the United States for the month of April. Last year, 45 communities from Whitehorse and Dawson City to Victoria and St. John's took part. Fifty established, emerging and student poets were recognized.

In this spirit, I would like to issue this Challenge – to have a local poet read a poem at the start of one of your Council meetings in March or April. In addition to ensuring that Calgary's Poet Laureate is provided with an opportunity to open a Council meeting with a reading, I also undertake to declare March 21 as World Poetry Day and April as National Poetry Month in Calgary. I hope you will join me in making a similar declaration.

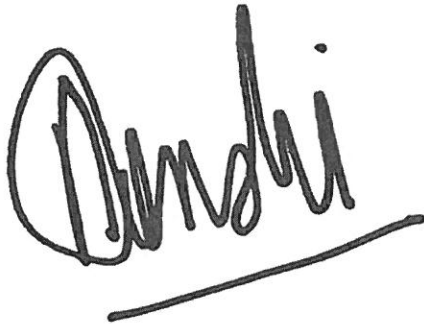
A confirmation form and guide, FAQ, and list of communities that participated in 2014 are attached. Please confirm your intention to participate by completing the confirmation form and returning it to the League of Canadian Poets at the address provided. The League is the lead organization for day-to-day management of this initiative and any questions you may have. I am sure you will find that the municipal requirements are easily managed. Participating communities will be promoted through traditional and social media, as part of National Poetry Month campaign and will be recognized in special promotion for the Mayor's Poetry City Challenge.

All Canadian cities are encouraged to meet the Challenge, but yours is one of those identified as a strong supporter of culture in your region. If you have participated before, thank you for your support and leadership. If this is a new undertaking, I am excited to see you join this initiative which touches artists and citizens alike.

Calgary is proud of its support for the literary arts, and of the many poets and writers in our community. Calgary is pleased to be this year's host city, with our partners, the League of Canadian Poets (LCP), the Writers' Guild of Alberta (WGA), and Loft 112 literary hub. With this challenge, we are pleased to be supporting local artists, while raising awareness and profile on a national level.

I hope you will take up the Mayor's Poetry City Challenge for 2015.

Yours truly,

A handwritten signature in black ink, appearing to read 'Naheed Nenshi', with a long horizontal line underneath it.

Mayor Naheed Nenshi
City of Calgary

Attachments



Memorandum

To: The Honorable Mayor Don Atchison, City of Saskatoon

From: Lynn Latta, Executive Director

Date: March 6, 2015

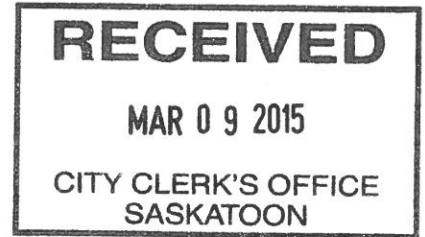
Subject: April Autism Awareness Month

On April 2, 2008 the United Nations General Assembly declared the day World Autism Awareness day. In keeping with the increasing need to spread awareness about Autism, Autism Services of Saskatoon is requesting the City of Saskatoon to proclaim the month of April Autism Awareness Month in Saskatoon.



205-5

From: Web NoReply
Sent: March 09, 2015 1:51 PM
To: City Council
Subject: Form submission from: Write a Letter to Council



Submitted on Monday, March 9, 2015 - 13:50
Submitted by anonymous user: 198.169.140.30
Submitted values are:

Date: Monday, March 09, 2015
To: His Worship the Mayor and Members of City Council
First Name: Dorothy
Last Name: Van't Hof
Address: 602 Lenore Drive
City: Saskatoon
Province: Saskatchewan
Postal Code: S7K 6A6
Email: vanthofd@spsd.sk.ca

Comments: I would like to work with the Council to join with many communities across Canada to Proclaim Wednesday, April 15, 2015 as Financial Literacy Day. The Canadian government's Minister of State (Finance) Kevin Sorenson is passionate about financial literacy and a great supporter of Canadian Foundation for Economic Education (CFEE)'s Talk With Our Kids About Money program. I would like the opportunity to present a proclamation to City Council and to ask that Saskatoon proclaim Wednesday, April 15, 2015 Financial Literacy Day. Thank you, Dorothy Van't Hof

The results of this submission may be viewed at:
<https://www.saskatoon.ca/node/398/submission/7205>

205-5

Look Listen Live!
Regardez Écoutez Restez en Vie!



Operation Lifesaver
901 - 99 Bank Street
Ottawa, Ontario K1P 6B9
Telephone (613) 564-8094
Fax (613) 567-6726
e-mail admin@operationlifesaver.ca

Opération Gareautrain
901 - 99, rue Bank
Ottawa, Ontario K1P 6B9
téléphone (613) 564-8094
télécopieur (613) 567-6726
courriel admin@operationlifesaver.ca

February 17, 2015

Office of the Clerk
City of Saskatoon
222 Third Avenue North
Saskatoon, SK S7K 0J5



Dear Sir / Madam:

I am writing to you today in my capacity as President of Operation Lifesaver.

Public - Rail Safety Week will be held from April 27 to May 3, 2015. As you know, the purpose of this national week is to raise rail safety awareness among all Canadians and to highlight the ongoing commitment of the rail industry, its member companies and their employees, to make the rail network even safer.

Last year, your City Council joined safety efforts of many other Canadian municipalities by adopting a resolution to support the **Public - Rail Safety Week**. Once again this year, **Operation Lifesaver** is proud to support the various activities and events that will be taking place throughout **Public - Rail Safety Week** across the country to raise public awareness on reducing avoidable accidents, injuries and damage caused by collisions at level crossings or incidents involving trains and citizens.

Your City Council can continue to be a powerful ally for our public awareness campaign by reiterating its engagement and by adopting the enclosed draft resolution to support **Public - Rail Safety Week** in your community. Should you require additional information about Operation Lifesaver and rail safety, please consult www.operationlifesaver.ca.

Thank you in advance for your continued support to **Public - Rail Safety Week**. We would greatly appreciate it if you would send us a copy of such a resolution.

Stephen Covey
President
Operation Lifesaver

Encl.

(Draft Resolution)

RESOLUTION IN SUPPORT OF PUBLIC - RAIL SAFETY WEEK

Whereas *Public - Rail Safety Week* is to be held across Canada from April 27 to May 3, 2015;

Whereas it is in the public's interest to raise citizens' awareness on reducing avoidable accidents, injuries and damage caused by collisions at level crossings or incidents involving trains and citizens;

Whereas Operation Lifesaver is a public/private partnership whose aim is to work with the rail industry, governments, police services, the media and other agencies and the public to raise rail safety awareness;

Whereas Operation Lifesaver has requested City Council adopt this resolution in support of its ongoing effort to save lives and prevent injuries in communities, including our municipality;

It is proposed by Councillor _____

seconded by Councillor _____

It is hereby **RESOLVED** to support national ***Public - Rail Safety Week***, to be held from April 27 to May 3, 2015.

205-5



RECEIVED
MAR 13 2015
CITY CLERK'S OFFICE
SASKATOON

March 9, 2015

Mayor and City Council
c/o City Clerk and City Council
City Hall
222 Third Avenue North
SASKATOON, SK S7K 0J5

Your Worship and City Council,

April 28th is recognized by the labour movement across Canada as the day when we mourn the victims of workplace accidents or disease and remember their sacrifice. It is also a time for the renewal of our pledge to continue to urge governments to improve health and safety standards and workers' compensation benefits in the workplace.

The Saskatoon and District Labour Council is holding a commemorative service at the Masonic Temple (1021 Saskatchewan Crescent West) on April 28, 2015 starting at 7:00 p.m. It would be greatly appreciated if the City of Saskatoon would proclaim April 28th as an Annual Day of Mourning in recognition of workers killed, injured or disabled on the job.

We thank you for your attention to our request.

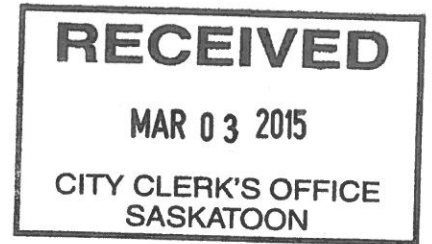
In solidarity,
SASKATOON AND DISTRICT LABOUR COUNCIL

Kelly Harrington
President

KH/tlg
cope 397



From: Web NoReply
Sent: March 03, 2015 8:04 AM
To: City Council
Subject: Form submission from: Write a Letter to Council

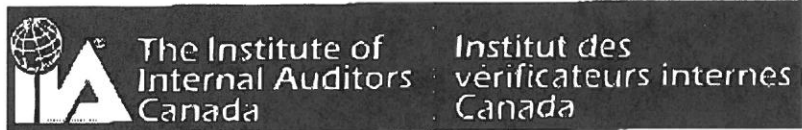


Submitted on Tuesday, March 3, 2015 - 08:03
Submitted by anonymous user: 174.2.95.42
Submitted values are:

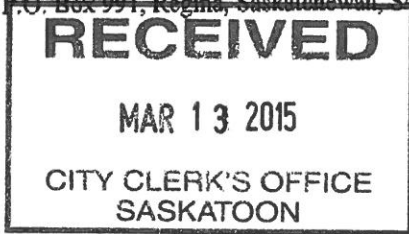
Date: Tuesday, March 03, 2015
To: His Worship the Mayor and Members of City Council
First Name: Jen
Last Name: Bain
Address: 1400-606 Spadina Cres. East
City: Saskatoon
Province: Saskatchewan
Postal Code: S7K 3H1
Email: jennifer.bain@f55f.com

Comments:
Good morning!
Leave a Legacy respectfully requests that the month of May 2015 be declared 'Leave a Legacy' month, in the city of Saskatoon.
If there are any questions, please contact me at 306-934-7060 Ext 261, or jennifer.bain@f55f.com.
Thank you for your consideration and time,
Jen Bain
Leave a Legacy committee member

The results of this submission may be viewed at:
<https://www.saskatoon.ca/node/398/submission/5472>



The Institute of Internal Auditors Saskatchewan Chapter Inc.
 P.O. Box 991, Regina, Saskatchewan, S4P 3B8



March 12, 2015

Council Assistant
 City Clerk's Office
 City of Saskatoon
 2nd Floor, City Hall
 222 3rd Avenue, North
 Saskatoon, Saskatchewan
 S7K 0J5

Via Fax: (306) 975-2784

Re: Institute of Internal Auditors – Saskatchewan Chapter

In celebration of International Internal Audit Awareness Month in May of this year, please consider the issuance of a special proclamation from the City of Saskatoon. This proposed proclamation would recognize the contribution of Internal Auditors to the affairs of the City of Saskatoon; both within the business of government as well as in existing economic enterprises to be more effective in meeting their goals and objectives. A sample Proclamation is offered for consideration:

WHEREAS, internal auditors help their organizations meet their objectives by monitoring risks and ensuring controls in place are adequate to mitigate those risks; and

WHEREAS, internal auditors — along with the board, executive management, and the external auditors — are a corporate governance cornerstone and help their organizations comply with new legislation and regulations for enhanced corporate governance; and

WHEREAS, The Institute of Internal Auditors (IIA), an international professional association with an active membership of professional members throughout the province of Saskatchewan who engage in the provision of internal auditing, governance, internal control, IT audit, education, and security. The Institute is the acknowledged leader in certification, education, research, and technological guidance for the profession worldwide; and

WHEREAS, The Institute of Internal Auditors established the Certified Internal Auditor® Program in August 1974 to enhance the recognition of internal auditing and provide proper direction to internal auditors seeking to further their professional development and advancement; and

WHEREAS, Certified Internal Auditors (CIAs) are members of a recognized professional group who have earned the only professional designation for internal auditors that is recognized worldwide, and

WHEREAS, The Institute is celebrating International Internal Audit Awareness Month in May in the year 2015,

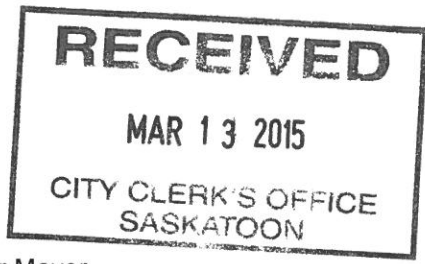
THEREFORE, the City of Saskatoon does hereby proclaim the Month of May 2015 as **Internal Auditor Awareness Month**. The city invites the citizens of Saskatoon to join in recognizing professional internal auditors for their contribution.

Thank you for your consideration of this request by our organization. If you have any enquiries I can be reached at 306-798-1159.

Respectfully Submitted,

THE INSTITUTE OF INTERNAL AUDITORS –
SASKATCHEWAN CHAPTER

Per:
Kent Kraft, CPA, CMA, CIA
Member, Board of Governors,
IIA Saskatchewan Chapter



March 12th, 2015
i2i Intergenerational Society of Canada
www.intergenerational.ca 1-250-308-7892

Dear Mayor,

We would like to encourage you to consider issuing a Proclamation officially declaring **June 1st Intergenerational Day Canada*** in your community. There is no financial commitment required.

INTERGENERATIONAL DAY CANADA JUNE 1ST (2010)

- * **Reminds** people of the importance of simple and respectful connecting between generations.
- * **Raises awareness** of the many benefits inter-generational connecting brings to education, health and community safety.

Respectful and purposeful intergenerational connecting is a way to prevent isolation and mistreatment of older and younger generations. It effectively creates safer and more resilient communities. By breaking down ageism, we build all-age-friendly neighborhoods. Recognition of June 1st directly supports provincial/territorial and federal initiatives for older persons and serves as a reminder of the UN World Elder Abuse Awareness Day June 15.

Intergenerational Day Canada creates a focus opportunity to make a powerful statement about the value of intergenerational relations. By 2014, communities nationwide officially endorsed Intergenerational Day Canada June 1 including Saskatchewan, British Columbia, Manitoba, Yukon, and PEI and Nova Scotia (2013). As well, over 100 cities including Vancouver, Victoria, Calgary, Edmonton, Regina, Toronto, Halifax, Fredericton, St. John's, Yellowknife, Whitehorse and the Hamlets of Nunavut supported the day.

In 2014, the province of Manitoba proclaimed the day in perpetuity, ensuring that for one day of every year going forward, the people of Manitoba will be reminded to honour and pursue respectful relationships between older and younger generations. We encourage your community to join with Manitoba in proclaiming, not just for 2015, but in perpetuity.

A Proclamation will encourage those within your region who are already involved in inter-generational activities to share and celebrate. In support, our organization will assist interested individuals/organizations in networking and building bridges of understanding between age groups through media awareness and resources. Our website (www.intergenerational.ca) provides a plethora of ideas and government funded (PHAC) intergenerational materials.

Please consider working towards a stronger Canada by Proclaiming **June 1st** officially as **Intergenerational Day Canada**.

Sincerely,
Sharon MacKenzie, Executive Director i2i Intergenerational Society
417 Durban St., Victoria BC, V8S 3K2



- *Intergenerational Day Canada is acknowledged in the following government publications:
- Public Health Agency of Canada document- Across the Generations—Respect All Ages
<http://www.intergenerational.ca/images/stories/pdfs/AcrossGenerationsEnglish.pdf>
<http://www.intergenerational.ca/images/stories/pdfs/AcrossGenerationsFrench.pdf>
 - International Federation on Ageing/PHAC/International Network for the Prevention of Elder Abuse publication, Elder Abuse Awareness Teen Kit, Intergenerational Day, p. 20
www.intergenerational.ca/images/stories/pdfs/Elder-Abuse-Awareness-Teen-Tool-Kit.

Template-example of Proclamation

PROCLAMATION

**INTERGENERATIONAL DAY CANADA
JUNE 1st**

WHEREAS *Intergenerational Day Canada, June 1st, is meant to raise awareness about the power of making simple, respectful intergenerational connections*

WHEREAS *Intergenerational Day Canada, June 1st is a day to focus on the profound positive influence intergenerational connecting has in creating healthy, all-age friendly communities*

WHEREAS *Intergenerational Day Canada, June 1st is a day to celebrate all of the good things presently taking place between generations in local community*

WHEREAS *Intergenerational Day Canada, June 1st does not require funding, excessive time or extensive planning, but rather comes from the people for the people*

WHEREAS *Intergenerational Day Canada, June 1st will be an official reminder, a yearly invitation for every citizen to take one small respectful step to bridge generations within his or her local community. (How much effort and time does it take to smile at someone from a different generation?)*

AND NOW THEREFORE, I the Mayor of, do hereby proclaim the day of

June 1st

as

“Intergenerational Day Canada”

in the Community of _____.

IN WITNESS WHEREOF, I hereby set my hand this the (date)_____

Signed _____ (Official Seal)