

<b>DIVISION 1 - GENERAL REQUIREMENTS</b>		
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01010-1 **GENERAL**

**1.1 Project Control System Requirements and Application**

The Engineer will provide and operate a system of project control as a central communication and management control tool. The Contractor is required to provide detailed data concerning his proposed construction methods to the Engineer. This system will be used to identify, schedule, and monitor activities related to progress of the total project since it will show effect of performance on total project and will identify required efforts to be expended for maintenance of satisfactory progress.

**1.2 Method**

Project progress will be controlled using a project control system administered by the Engineer. Control may be based on network techniques including critical path method (CPM) for planning, scheduling, monitoring and reporting of project progress.

**1.3 Effect of Approvals**

Approvals by the Engineer of original network or schedules and revisions thereto, do not relieve the Contractor from any duties or responsibilities required by the Contract.

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**1.4 Preconstruction Meeting**

**1.4.1** Within 10 days after award of the Contract, the Engineer will request a meeting to discuss and set up administrative procedures and responsibilities. The Contractor shall organize and advise all parties accordingly.

**1.4.2** Senior representatives of the Owner, Engineer, Contractor, major Subcontractors, Field Inspectors and Superintendents are to be in attendance.

**1.4.3** Establish time and location of meeting and notify all parties concerned to attend. Notify parties minimum of 5 days before meeting.

**01010-2 SCHEDULING**

**2.1** Within 20 days from Contract award date, provide necessary scheduling or network information such as activity sequencing and duration estimates for submittal of shop drawings and samples, procurement of major equipment and materials, installation and testing and subcontract awards, to allow completion of Work Breakdown Structure, Master Milestone network and detailed CPM construction networks. Detailed CPM construction networks must cover period at least three months beginning from date of Contract award, with activity durations not exceeding 15 days.

**2.2** For duration of project provide necessary information to enable detailed CPM networks to be made available at all times for periods of at least three months ahead through to project completion date.

2.3 Arrange participation on site and off site of subcontractors and suppliers, as and when necessary, for purpose of network planning, scheduling, updating and progress monitoring.

2.4 Sign all networks or schedules to indicate approval.

### 01010-3 **JOB MEETINGS**

3.1 After award of Contract arrange meetings at regular intervals at times and locations approved by the Engineer.

3.2 The Contractor shall notify all parties concerned to attend, to ensure proper co-ordination of project work.

3.3 The Contractor shall record minutes of these meetings, and circulate minutes to all parties within 7 days of the meeting.

3.4 In addition to the above, the Owner will call general site meetings throughout the course of the work. Representatives of the Engineering Consultant and the Contractor will be expected to attend.

### 01010-4 **MEASUREMENT AND PAYMENT**

There will be no separate payment for work outlined in this section.

**END OF SPECIFICATION 01010**

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01015-1      **GENERAL**

**1.1 Description**

**1.1.1** This section establishes general requirements for submission of shop drawings, product data and samples specified for review by the Engineer.

**1.2 Related Work Specified Elsewhere**

**1.2.1** Particular requirements for shop drawings, product data and samples are specified under various sections.

**1.3 Submissions**

**1.3.1** Work involving relevant product may proceed only after submission is reviewed.

**1.3.2** Reproductions for submissions: reproducible transparency with one opaque diazo print.

**1.3.3** Submissions to include:

1. date and revision dates
2. project title and number
3. name of:
  - contractor
  - subcontractor
  - supplier
  - manufacturer
  - separate detailer when pertinent

4. identification of product or material
5. relation to adjacent structure or materials
6. field dimensions, clearly identified as such
7. specification section number
8. applicable standards, such as CSA or CGSB numbers
9. Contractor's stamp, initialled or signed, certifying review of submission, verification of field measurement and compliance with Contract Documents.

#### **1.4 Samples and Mock-Ups**

- 1.4.1 Submit samples in sizes and quantities specified.
- 1.4.2 Where colour, pattern or texture is criterion, submit full range of samples.
- 1.4.3 Reviewed samples or mock-ups will become standards of workmanship and material against which installed work will be checked on project.

#### **1.5 Shop Drawings**

- 1.5.1 Drawings to be originals, prepared by Contractor, subcontractor, supplier or distributor which illustrate appropriate portion of work; showing fabrication, layout, setting or erection details as specified in appropriate sections.
- 1.5.2 Maximum sheet size 860 mm x 1120 mm
- 1.5.3 Include information required in paragraph 1.3.3.

## **1.6 Product Data**

**1.6.1** Certain specification sections specify that manufacturer's standard schematic drawings, catalogue sheets, diagrams, schedules, performance charts, illustrations and other standard descriptive data will be accepted in lieu of shop drawings.

**1.6.2** Above will be accepted only if they conform to following:

- delete information which is not applicable to project.
- supplement standard information to provide additional information applicable to project.
- show dimensions and clearances required.
- show performance characteristics and capacities.

## **1.7 Responsibility**

**1.7.1** Contractor's responsibility for errors and omissions in submission is not relieved by Engineer's review of submittals.

**1.7.2** Contractor's responsibility for deviations in submission from requirements of Contract Documents is not relieved by Engineer's review of submission unless Engineer gives written acceptance of specified deviations.

## **1.8 Measurement for Payment**

No separate measurement to be made for work this section; work is incidental to project costs.

01015-2 **EXECUTION**

**2.1 Submission Requirements**

**2.1.1** Accompany submissions with transmittal letter in duplicate, containing:

1. date
2. project title and number
3. Contractor's name and address
4. number of each shop drawing, product data and sample submitted.
5. other pertinent data.

**2.1.2** Identify details by reference to sheet and detail numbers shown on Contract Drawings.

**2.1.3** Notify Engineer, in writing at time of submission, of deviation from requirements of Contract Drawings.

**2.1.4** Construct field samples and mock-ups at locations acceptable to Engineer.

**2.1.5** Construct each sample or mock-up complete, including work of all trades required to finish work.

**2.1.6** Submit number of copies of product data which Contractor requires for distribution plus four copies which will be retained by the Engineer.

**2.2 Coordination of Submission**

**2.2.1** Schedule submissions at least 10 days before dates reviewed submissions will be needed.

2.2.2 Coordinate each submission with requirements of work and Contract Documents.

2.2.3 Review shop drawings, product data and samples prior to submission and verify:

- field measurements
- field construction criteria
- catalogue numbers and similar data

2.2.4 After Engineer's review, distribute copies.

### 2.3 Distribution of Submittals After Review

2.3.1 Distribute copies of shop drawings and product data which carry Engineer's stamp to:

1. job site file
2. record documents file
3. other prime contractors
4. subcontractors
5. supplier
6. fabricator

2.3.2 Distribute samples as directed.

**END OF SPECIFICATION 01015**

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01020-1      **GENERAL**

**1.1    Description**

This section establishes general requirements for testing to be performed by testing laboratory designated by the Engineer.

**1.2    Related Requirements Specified Elsewhere**

Particular requirements for inspection and testing are specified under various specification sections.

**1.3    Appointment, Payment and Requirements**

**1.3.1**    The Owner will appoint and pay for services of a testing laboratory except for the following:

1. Inspection and testing required by laws, ordinances, rules regulations or orders of public authorities.
2. Inspection and testing performed exclusively for Contractor's convenience.
3. Testing, adjustment and balancing of conveying systems, mechanical and electrical equipment and systems.
4. Mill tests and certificates of compliance.
5. Tests specified to be carried out by Contractor under the supervision of the Engineer.
6.        Additional tests specified in paragraph 1.3.2.

**1.3.2**    Where tests or inspections by designated testing laboratory reveal work

not in accordance with contract requirements, the Contractor shall pay costs for additional tests or inspections as Engineer may require to verify acceptability of corrected work. Costs for additional testing will be deducted from Contractor's monthly payment certificates.

#### **1.4 Measurement for Payment**

No separate measurement to be made for work this section, work is incidental to project costs.

### **01020-2 EXECUTION**

#### **2.1 Contractor's Responsibilities**

##### **2.1.1** Furnish labour and facilities to:

1. provide access to work to be inspected and tested.
2. facilitate inspections and tests.
3. make good work disturbed by inspection and test.
4. provide storage on-site for laboratory's exclusive use to store equipment and cure test samples.

**2.1.2** Notify the Engineer sufficiently in advance of operations to allow for assignment of laboratory personnel and scheduling tests.

**2.1.3** Where materials are specified to be tested, deliver representative samples in required quantity to testing laboratory.

- 2.1.4 Pay costs for uncovering and making good work that is covered before required inspection or testing is completed and approved by the Engineer.

## 2.2 Frequency and Evaluation of Testing

- 2.2.1 When not specified separately, frequency of testing to be as directed by the Engineer.

- 2.2.2 Where not specified separately, the Contractor shall cease operation until corrections to his production process are corrected if any of the following criteria are not met:

1. average of all tests to equal or exceed specification.
2. not more than 10% of all tests to be below specification.
3. average of 3 consecutive tests to equal or exceed specification.
4. individual test result to equal or exceed 90% of specification.

**END OF SPECIFICATION 01020**

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01025-1      GENERAL

1.1      Description

1.1.1      This section establishes requirements for all temporary facilities including the following:

1. access
2. Contractor's site office
3. Engineer's site office
4. storage sheds
5. sanitary facilities
6. parking
7. security systems
8. power
9. water supply
10. heating and ventilation
11. drainage
12. signs and notices
13. mobilization
14. removal of temporary facilities
15. maintenance of site
16. maintenance of traffic

1.2      Definitions

1.2.1      Mobilization includes the following:

1. Supply, installation, and servicing of mobile offices, workshops, stores, housing, etc.

2. Supply and transport to site of equipment used in performing work.
3. Dismantling and removing all temporary facilities upon completion of work and restoring site to its original condition.
4. Supply and installation and subsequent dismantling and removal of materials and equipment required for maintenance of traffic.

**1.2.2** Maintenance of site includes cost of maintaining site during periods when work is delayed, as defined below:

1. Payment made under this section is subject to the terms for schedule extensions listed in General Conditions, Article 00700-34 - Delays, and is subject to approval by the Engineer.
2. Tendered unit price per day to include supervisory staff salaries and expenses, office expenses, equipment costs and operating expenses, telephone, electricity and gas, water and sanitation, labour to maintain and protect site, bond and financing costs, overhead and profit.
3. Payment made only when work is delayed throughout site for full working day. No compensation for inconvenience when work is delayed in one area of site but work continues elsewhere on site.
4. Tendered unit price not to include equipment down-time during delays, for which compensation will be negotiated if and when delay occurs.

**1.2.3** Maintenance of traffic requires that existing and temporary roads are kept open to traffic and in good condition.

1. Maintain existing road surfaces in original condition.
2. Supply and erect temporary signing and barricades and supply flagmen as may be required when work interferes with normal traffic flow.
3. Construct detour roads within site as indicated in drawings and maintain surfaces at all times.
4. Ensure convenience and safety of residents affected by work at all times.
5. Credit Owner for maintenance of traffic expenditures arising from emergency situations or cases when action is required by Owner due to failure on part of Contractor to perform.
6. Maintain detour signs and barricades within and outside site where indicated in drawings or by the Engineer as per standards established in the City of Saskatoon Traffic Control Manual.

### **1.3 Measurement for Payment**

**1.3.1** Mobilization to be paid as lump sum with 80% payable upon substantial completion of mobilization as determined by the Engineer, and remaining 20% payable upon total performance of the work.

- 1.3.2 Maintenance of site to be measure in working days.
- 1.3.3 Maintenance of traffic to be paid on a cost plus basis in accordance with Article 00700-24 of the General Conditions, and:
1. No payment for maintenance of existing road surfaces within site, initial supply and erection of temporary signs and barricades, construction and maintenance of detours within site.
  2. Payment to include replacement of signs and barricades damaged by causes not under the control of the Contractor, maintenance of existing road surfaces outside site, supply of flagmen, inspection and maintenance of detour signs and barricades inside and outside site.

**01025-2      EXECUTION**

**2.1      Access**

- 2.1.1 Provide and maintain adequate access to project site.
- 2.1.2 Build and maintain temporary roads and provide snow removal during period of work.
- 2.1.3 If authorized to use existing roads for access to project site, maintain such roads for duration of Contract and make good damage resulting from Contractor's use of roads.

## **2.2 Contractor's Site Office**

- 2.2.1** Provide office of size to accommodate site meetings and furnished with drawing laydown table, drawing storage rack, three-drawer filing cabinet, shelving and coat hooks when required by Section 01005, Specific Conditions.
- 2.2.2** Install lighting to provide 750 lx using surface mounted shielded, commercial fixtures with 10% upward light component.
- 2.2.3** Heat to maintain 22° C inside temperature. Provide two operable windows for cross ventilation.
- 2.2.4** Provide telephone in Contractor's site office. Pay telephone is not acceptable.

## **2.3 Engineer's Site Office**

- 2.3.1** Provide temporary office for Engineer when required by Section 01005, Specific Conditions.
- 2.3.2** Inside dimensions minimum 3.6 m long x 3 m wide x 2.4 m high with floor .1 m above grade, complete with 50% opening windows and one lockable door.
- 2.3.3** Insulate building and provide heating system to maintain 22° C inside temperature at -20° C outside temperature.

- 2.3.4 Finish inside walls and ceiling with plywood, hardboard or wallboard and paint in selected colours. Finish floor with 19 mm thick plywood.
- 2.3.5 Install electrical lighting system to provide minimum 750 lx using surface mounted, shielded commercial fixtures with 10% upward light component.
- 2.3.6 Arrange and pay for telephone in Engineer's office for his exclusive use. Long distance calls placed on this telephone will be paid for by Engineer.
- 2.3.7 Provide private washroom facilities adjacent to office complete with flush or chemical type toilet, lavatory, mirror and maintain supply of paper towels and toilet tissue.
- 2.3.8 Equip office with 1 m x 2 m table, four chairs, 6 m of shelving 300 mm wide, one three-drawer filing cabinet, one plan rack and one coat rack and shelf.
- 2.3.9 Maintain in clean condition.

## 2.4 Storage Sheds

Provide adequate weathertight sheds with raised floors, for storage of materials, tools, and equipment which are subject to damage by weather.

## **2.5 Sanitary Facilities**

**2.5.1** Provide sanitary facilities for work force in accordance with governing regulations and ordinances.

**2.5.2** Post notices and take such precautions as required by local health authorities. Keep area and premises in sanitary condition.

## **2.6 Parking**

Parking space will be made available on-site. Maintain and administer this space as directed by the Engineer.

## **2.7 Site Enclosures**

**2.7.1** Erect temporary site enclosure using new 1.2 m high snow fence wired to rolled steel "T" bar fence posts spaced at 2.4 m oc. Provide one lockable truck gate. Maintain fence in good repair.

**2.7.2** Site enclosures required as indicated on Drawings.

## **2.8 Security Systems**

**2.8.1** Ensure safety of all equipment and materials on-site. Repair or replace damaged equipment or materials regardless of cause of damage.

**2.8.2** Prevent damage to lines and grades established by Engineer. Re-establish lines or grades that become damaged by any cause.

**2.8.3** Maintain concrete finishes free from imperfections, regardless of cause, until acceptance of job. Repair damage to concrete surface at no additional cost to Owner.

**2.8.4** Take responsibility for safety of all work performed under this Contract and of all existing structures within limits of Contract. Repair damage at no additional cost to Owner.

## **2.9 Power**

**2.9.1** Arrange, pay for and maintain temporary electrical power supply in accordance with governing regulations and ordinances.

**2.9.2** Install temporary facilities for power such as pole lines and underground cables to approval of local power supply authority.

## **2.10 Heating and Ventilation**

**2.10.1** Pay for costs of temporary heat and ventilation used during construction, operation, maintenance and removal of equipment. Use of direct-fired heaters discharging waste products into work areas will not be permitted unless prior approval is given by the Engineer.

**2.10.2** Furnish and install temporary heat and ventilation in enclosed areas as required to:

1. Facilitate progress of work.
2. Protect work and products against dampness and cold.

3. Prevent moisture condensation on surface.
4. Provide adequate ambient temperatures and humidity levels for storage, installation and curing of materials.
5. Provide adequate ventilation to meet health regulations for safe working environment.

### **2.11.3 Ventilating**

1. Prevent hazardous accumulations of dust, fumes, mists, vapours or gases in areas occupied during construction.
2. Provide local exhaust ventilation to prevent harmful accumulation of hazardous substances into atmosphere of occupied areas.
3. Dispose of exhaust materials in a manner that will not result in harmful exposure to persons.
4. Ventilate storage spaces containing hazardous or volatile materials.
5. Ventilate temporary sanitary facilities.
6. Continue operation of ventilation and exhaust system for time after cessation of work process to assure removal of harmful elements.

**2.11.4** Maintain strict supervision of operation of temporary heating and ventilating equipment.

1. Enforce safe practices.
2. Prevent abuse of services.
3. Enforce conformance with applicable codes and standards.
4. Prevent damage to finishes.
5. Vent direct-fired combustion units to outside.

## **2.12 Drainage**

Refer to Section 01035 for site drainage and pumping requirements.

## **2.13 Site Signs and Notices**

**2.13.1** Only Project Identification and Consultant/Contractor signboards and notices for safety or instruction are permitted on site.

**2.13.2** Format, location and quantity of site signs and notices to be approved by the Engineer.

**2.13.3** Signs and notices for safety or instruction to be in English language or commonly understood graphic symbols.

**2.13.4** Maintain signboards, signs and notices for duration of project. Remove and dispose of signs off-site when directed by the Engineer.

**2.13.5** Erect, maintain, and subsequently dismantle as directed by the Engineer any project signs supplied by the Owner.

**2.14 Removal of Temporary Facilities**

**2.14.1** Remove temporary facilities from site when directed by the Engineer.

**2.14.2** When project is closed down at end of construction season, keep facilities operational until close down is approved by the Engineer.

**2.14.3** Restore site to original condition to satisfaction of the Engineer.

**2.15 Traffic Operations**

**2.15.1** Maintain, control and safeguard traffic within and immediately abutting site and maintain detour signing on detours outside site indicated on Drawings.

**2.15.2** Conform to City Traffic Bylaw.

**2.15.3** Vehicles with gross weight greater than 5,000 kg to use routes designated in General Conditions.

**2.15.4** Requests for street closures to be made through Engineer.

**2.15.5** Provide emergency access for police and fire units at all times.

**2.15.6** Provide access to private property for local traffic except when such access would prevent work from being completed.

**2.15.7** Advise Engineer if modifications to traffic signals operation by Owner is required, such modification at no cost to Contractor.

**2.15.8** Construct, sign, and maintain detours to RTAC standards, City of Saskatoon Traffic Control Manual and to approval of the Engineer.

**2.16 Site Maintenance**

Maintain site at all times. This includes supervision of site maintenance of offices and utilities, maintenance of equipment, daily clean-up, and general care.

**END OF SPECIFICATION 01025**

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**01030-1 GENERAL**

**1.1 Description**

This section specifies requirements for ensuring the safety of people and property affected by performance of work.

**1.2 Related Work Specified Elsewhere**

Particular requirements for safety are specified under various sections.

**1.3 Measurement of Payment**

No separate measurement for work in this section.

**01030-2 EXECUTION**

**2.1 Construction Safety Measures**

**2.1.1** Observe and enforce construction safety measures required by Canadian Construction Safety Code, Provincial Government, Worker's Compensation Board and municipal statutes and authorities.

**2.1.2** In event of conflict between any provisions of above authorities, the most stringent provision will apply.

## **2.2 Fire Safety Requirements**

**2.2.1** Comply with requirements of standard for Building Construction Operations, DFC No. 301-1975, issued by Dominion Fire Commissioner.

**2.2.2** This standard may be viewed at Regional Engineer's office and copies may be obtained from:

Dominion Fire Commissioner  
Sir Charles Tupper Building  
Riverside Drive  
OTTAWA, Ontario K1A 0M2

## **2.3 Overloading**

Ensure no part of work is subjected to a load which will endanger its safety or will cause permanent deformation.

**END OF SPECIFICATION 01030**

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**01035-1      GENERAL**

**1.1      Description**

This section specifies requirements for protection of air, water, soil and vegetation.

**1.2      Measurement for Payment**

No separate measurement to be made for work in this section.

**01035-2      EXECUTION**

**2.1      Fires**

Fires and burning of rubbish on site not permitted.

**2.2      Disposal of Wastes**

**2.2.1**      Burying of rubbish and waste materials on site permitted only when approved by the Engineer.

**2.2.2**      Disposal of waste or volatile materials such as mineral spirits, oil or paint thinner into waterways, storm or sanitary sewers prohibited.

**2.3      Drainage**

**2.3.1**      Provide temporary drainage and pumping as necessary to keep excavations and site free from water.

2.3.2 Pumping of water containing silt in suspension into waterways, sewer or drainage systems prohibited.

2.3.3 Dispose of water containing silt in suspension in accordance with local authority requirements.

#### **2.4 Site Clearing and Plant Protection**

2.4.1 Protect trees and plants on site and adjacent properties where indicated.

2.4.2 Wrap in burlap trees and shrubs adjacent to construction work, storage areas and trucking lanes. Encase trees and shrubs with protective wood framework from grade level to height of 2.4 m.

2.4.3 Protect roots to dripline during excavation and site grading to prevent disturbance or damage. Avoid unnecessary traffic, dumping and storage of materials over root zones of protected trees.

2.4.4 Restrict stripping of topsoil and vegetation to those areas designated in the Contract Documents or by the Engineer.

2.4.5 Restrict tree removal to those designated by the Engineer.

#### **2.5 Work Adjacent to Waterways**

2.5.1 Prohibit operation of construction equipment in waterways.

2.5.2 Do not use waterway beds for borrow material without Engineer's approval.

2.5.3 Do not dump excavated fill, waste material, or debris in waterways.

2.5.4 Design and construct temporary crossings so that minimum erosion is caused to waterways.

## 2.6 Pollution Control

2.6.1 Maintain temporary erosion and pollution control features if installed under this Contract.

2.6.2 Prevent sandblasting and other extraneous materials from contaminating air beyond application area, by providing temporary enclosures.

2.6.3 Cover or wet down dry materials and rubbish to prevent blowing dust and debris. Provide dust control for temporary roads as designated by the Engineer.

**END OF SPECIFICATION 01035**

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**01040-1 GENERAL**

**1.1 Description**

This section specifies requirements for maintenance and cleaning of site during construction and final clean up.

**1.2 Related Work Specified Elsewhere**

Particular requirements for cleaning are specified under various sections.

**1.3 Measurement for Payment**

No separate measurement to be made for work in this section.

**01040-2 PRODUCTS**

**2.1 Materials**

Use only cleaning materials recommended by manufacturer of surface to be cleaned and as recommended by cleaning material manufacturer.

**01040-3 EXECUTION**

**3.1 General**

**3.1.1** Conduct cleaning and disposal operations to comply with local ordinances and anti-pollution laws.

3.1.2 Store volatile wastes in covered metal containers and remove from premises daily.

3.1.3 Prevent accumulation of wastes which create hazardous conditions.

3.1.4 Provide adequate ventilation during use of volatile or noxious substances.

### 3.2 Cleaning During Construction

3.2.1 Maintain project grounds and public properties free from accumulations of waste materials and rubbish.

3.2.2 Provide adequate on-site containers for collection of waste materials and rubbish.

3.2.3 Remove waste materials and rubbish from site.

### 3.3 Final Cleaning

3.3.1 In preparation for substantial completion, conduct inspection of sight-exposed interior and exterior surfaces.

3.3.2 Broom clean paved surfaces; rake clean other surfaces of ground where required.

3.3.3 Remove debris and surplus materials from site.

**END OF SPECIFICATION 01040**

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**01045-1      PRODUCTS**

**1.1      General**

All products, equipment and articles incorporated in the work shall be new, not damaged or defective and of best grade (compatible with specifications) for the purpose intended.

If requested, furnish evidence as to source and quality of products provided.

**1.2      Product Quality**

Should any dispute arise as to the quality or fitness of equipment, materials or products, the decision shall rest with the Engineer, and shall be based upon the requirements of this Contract.

**1.3      Availability of Products**

Immediately on signing the Contract, review the project requirements, anticipate foreseeable supply delays in any items and so notify the Engineer, in order that substitution or other remedial action may be authorized in ample time to prevent work delay. Should the Contractor fail to notify the Engineer at commencement of the work and should it subsequently appear that the work may be delayed for the above reasons, the Engineer reserves the right to substitute more readily available materials or equipment of similar character, at no increase in Contract price.

**01045-2 WORKMANSHIP**

**2.1 General**

**2.1.1** Workmanship shall be of the best quality, executed by workmen experienced and skilled in their respective trades. If work is specified in such manner as to make it impracticable to produce required results, notify the Engineer for further directions.

**2.1.2** At all times, enforce discipline and good order among workers. Do not employ any unfit person or anyone unskilled in the duties assigned to him. The Engineer reserves the right to require the removal, from the site, of workers deemed incompetent, careless, insubordinate or otherwise objectionable.

**2.2 Coordination**

**2.2.1** Ensure full cooperation and coordination among all trades and provide efficient and continuous supervision.

**2.2.2** Make certain that the work of various subcontractors does not conflict or create interference, thus assuring completion of the project in a satisfactory manner.

**2.3 Measurement and Payment**

There will be no separate payment for work outlined in this section.

**END OF SPECIFICATION 01045**

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**01050-1    GENERAL**

**1.1    Description**

This section specifies requirements for documentation of as-built information.

**1.2    Measurement for Payment**

No separate measurement to be made for work in this section.

**01050-2    EXECUTION**

**2.1    Record Drawings**

**2.1.1**    Engineer will provide two sets of white prints for record drawing purposes.

**2.1.2**    Maintain project "as-built" record drawings and record accurately significant deviations from Contract Documents caused by site conditions and changes ordered by the Engineer.

**2.1.3**    Mark "as-built" changes in red.

**2.1.4**    Record following information:

1. Depths of various elements of foundation in relation to survey datum.

2. Horizontal and vertical location of underground utilities and appurtenances referenced to permanent surface improvement or property lines.
  3. Location of internal utilities and appurtenances concealed in construction, referenced to visible and accessible features of structure.
  4. Field changes of dimension and detail.
  5. Changes made by Change Order or Field Order.
- 2.1.5** At completion of project and prior to final inspection, neatly transfer "as-built" notations to second set and submit both sets to the Engineer.

**END OF SPECIFICATION 01050**