


A construction worker wearing a yellow hard hat and an orange safety vest is kneeling in a deep, muddy trench. The worker is installing a white sanitary sewer pipe. A shovel is stuck upright in the dirt next to the worker. The trench is lined with corrugated metal sheet piling on the left side. The ground is dark and muddy, with some debris like a blue cloth visible.

Sanitary Sewer Connection Repair Presentation Methods & Techniques

Sewer Cleaning Record of Service

- The Sewer Cleaning– Record of Service, for the water and sewer section.

| | | |
|--|---|---|
|  | WATER & SEWER SECTION SEWER CLEANING SERVICE RECORD OF SERVICE | Nº 95701 |
| Sewer Trouble / Video Inspection / Auger / Televisé Number: 975-2491 | | |
| ADDRESS: _____ | | DATE: ____YY__MM__DD__ |
| RESIDENT'S NAME (Please Print): _____ | | |
| PH(H): _____ | | PH(B): _____ |
| TIME: Arrived: _____ | | Depart: _____ |
| SERVICE REPRESENTATIVE: _____ AND _____ | | |
| SEVERITY OF BLOCKAGE: <input type="checkbox"/> Not Draining <input type="checkbox"/> Slow Draining <input type="checkbox"/> Minimal Blockages <input type="checkbox"/> Clear to Main | | |
| PROBLEM LOCATED: <input type="checkbox"/> Connection <input type="checkbox"/> Internal <input type="checkbox"/> Private <input type="checkbox"/> City <input type="checkbox"/> Main | | |
| NATURE OF PROBLEM: <input type="checkbox"/> Roots <input type="checkbox"/> Grease <input type="checkbox"/> Other (Specify) _____ | | |
| PIPE MATERIAL: <input type="checkbox"/> Clay Tile <input type="checkbox"/> Fibre <input type="checkbox"/> PVC <input type="checkbox"/> Other (Specify) _____ | | |
| STRUCTURAL GRADE | | |
| <input type="checkbox"/> Offset | | <input type="checkbox"/> Back / From: _____ To: _____ |
| <input type="checkbox"/> Out of Round / Blistered | | <input type="checkbox"/> Sag / From: _____ To: _____ |
| <input type="checkbox"/> Broken / Cracked | | <input type="checkbox"/> Good |
| ACTION TAKEN: | | |
| <input type="checkbox"/> Tape Service <input type="checkbox"/> Auger Service <input type="checkbox"/> Flusher Service From <input type="checkbox"/> Manhole <input type="checkbox"/> House | | |
| <input type="checkbox"/> Service Not Provided (Specify) _____ | | |
| <input type="checkbox"/> Video Inspection Service <input type="checkbox"/> Contractor (Specify) _____ | | |
| LOCATION OF MAIN BLOCKAGE FROM CLEANOUT: _____ | | |
| CLEANOUT SIZE: _____ | | <input type="checkbox"/> Stack DISTANCE TO WALL: _____ |
| COMMENTS: _____ | | |
| _____ | | |
| VIDEO INSPECTION COMMENTS: _____ | | |
| _____ | | |
| _____ | | |
| RESIDENT'S SIGNATURE: _____ | | |
| This is receipt of the work done for you by the Public Works Sewer Service Group. There is no direct charge for this service and your signing is to acknowledge that you are aware of the service provided. If you have any questions please contact the office during normal business hours. | | |

Clearances and Locations

- The Clearances and Locations Work Group will provide drawings, utility locations, location numbers and any required forms.



Daily Work Sheet

- Water & Sewer work to be preformed

| DATE: Friday May 9 - 03 | | | | | | | | | | | | |
|---|-------------------------------------|---------------------|----------|-------|---------|-------------------|--------|-------------------------------|-------|----------|--------------------|-------------------|
| Water and Sewer Maintenance Section | | | | | | | | | | | | |
| :W&SMT1 | | | | | | | | | | | | |
| STATUS | LOCATION | REPAIR TYPE | PRIORITY | JOB # | Loc. | ACTIVITY | GL | SIGNING | GIS | UTL-LOC. | STAFFING | |
| Current | 1006 Tiffin Crescent | Sanitary Connection | MBL | 664 | 3112 | 5-6500 | 05-270 | S/S | | | LABOURERS - | Parker/Klassen |
| 2nd | Massey Drive & Marr Avenue | Water Main | MP1 | 146 | 3114 | 5-6100 | 02-150 | On Site | | | BACKHOE OPERATOR - | Dmytrowich - 2343 |
| Hold | 175/303 Delaronde Road | Repair C/B Lead | MP1 | 775 | 3079 | 5-6710 | 07-310 | On Site | 27126 | | T/A OPERATORS - | Pingue |
| Hold | Arnhem St. & McNaughton Avenue | Hydrant (McAvity) | MP2 | 243 | 3059 | 5-6300 | 02-160 | On Site | 23535 | | | |
| Hold | Field House | Water Connection | MBL | 49246 | 1724067 | 5-6410 | 02-170 | Crew | | | | |
| :W&SMT2 | | | | | | | | | | | | |
| STATUS | LOCATION | REPAIR TYPE | PRIORITY | JOB # | Loc. | ACTIVITY | GL | SIGNING | GIS | UTL-LOC. | STAFFING | |
| Hold | Clarence Avenue - 8th St. - 9th St. | Water Main | MP1 | 146 | 3115 | 5-6100 | 02-150 | S/S | | | LABOURERS - | |
| Hold | 15 Moxon Crescent | Sanitary Connection | MBL | 664 | 3108 | 5-6500 | 05-270 | S/S | | | BACKHOE OPERATOR - | |
| | | | MBL | | | | | | | | T/A OPERATORS - | |
| | | | MBL | | | | | | | | | |
| | | | MBL | | | | | | | | | |
| :W&SMT3 | | | | | | | | | | | | |
| STATUS | LOCATION | REPAIR TYPE | PRIORITY | JOB # | Loc. | ACTIVITY | GL | SIGNING | GIS | UTL-LOC. | STAFFING | |
| Hold | Dudley Street | Sanitary Connection | FMP | 46806 | 1724067 | 5-6100 | 17-596 | N/A | | | LABOURERS - | |
| | | | MBL | | | | | | | | BACKHOE OPERATOR - | |
| | | | MBL | | | | | | | | T/A OPERATORS - | |
| | | | MBL | | | | | | | | | |
| Hold | 8th Street Yard | Cleanup Yard | MBL | 49195 | 1724067 | 5-6100 | 02-150 | N/A | | | | |
| :W&SMT4 | | | | | | | | | | | | |
| STATUS | LOCATION | REPAIR TYPE | PRIORITY | JOB # | Loc. | ACTIVITY | GL | SIGNING | GIS | UTL-LOC. | STAFFING | |
| Hold | Isabella Street / Eastlake Avenue | Repair C/B Lead | MBL | 48959 | 1724067 | 5-6710 | 07-310 | S/S | | | LABOURERS - | |
| Hold | Isabella Street / Eastlake Avenue | Valve (WPL) | MP2 | 146 | 3031 | 5-6200 | 02-150 | S/S | 1168 | | T/A OPERATORS - | |
| | | | MBL | | | | | | | | | |
| | | | MBL | | | | | | | | | |
| DAY OFF/EDO | | VACATION: | | SICK: | | OTHER: | | ADDITIONAL STAFFING: | | | | |
| Ross, Young, Maskwa & Crews, Olchove, | | Hilton, Swidzinski | | | | Collins - Medical | | Loader - Cousins @ Landfill - | | | | |
| Priority Legend | | | | | | | | | | | | |
| (MP1) Maintenance Priority - (MBL) Maintenance Backlog - (MPS) Maintenance Program Support - (FMP) Funded Maintenance Program | | | | | | | | | | | | |
| Pending Water & Sewer Work | | | | | | | | | | | | |
| STATUS | LOCATION | REPAIR TYPE | PRIORITY | JOB # | Loc. | ACTIVITY | GL | SIGNING | GIS | | | |
| Hold | Boychuck Dr. South of Taylor St. | San MH F&C | MBL | 760 | 3010 | 5-6620 | 07-310 | Crew | 21925 | | | |
| Hold | Boychuck Dr. South of Taylor St. | San MH F&C | MBL | 760 | 3010 | 5-6620 | 07-310 | Crew | 21924 | | | |
| Hold | 4200 Block Taylor Street | Sanitary MH F&C | MBL | 563 | | 5-6620 | 05-260 | Crew | 8575 | | | |
| Hold | 412 Avenue C South | Stop (C&S) | MP2 | 48237 | 1724067 | 5-6400 | 02-170 | S/S | | | | |
| Hold | 213 Avenue I South | San Stop (C&S) | MP2 | 48150 | 1724067 | 5-6400 | 02-170 | S/S | | | | |
| Hold | 4th Avenue & 23th Street | San Top | MBL | 573 | 3012 | 5-6620 | 05-260 | S/S | 3813 | | | |
| Hold | Ottawa Avenue / 20th Street | San Bev Top | FMP | 573 | 3068 | 5-6620 | 05-260 | S/S | 3231 | | | |

Daily Work Sheet Section A

- Section A shows the tasks for each Supervisor IV.

| DATE: Friday May 9 - 03 | | | | | | | |
|--|-------------------------------------|---------------------|----------|-------|---------|-------------------|--------|
| Water and Sewer Maintenance Section A | | | | | | | |
| PIECOWYEW&SMT1 | | | | | | | |
| STATUS | LOCATION: | REPAIR TYPE: | PRIORITY | JOB # | Loc: | ACTIVITY: | GL |
| Current | 1006 Tiffin Crescent | Sanitary Connection | MBL | 664 | 3112 | 5-6500 | 05-270 |
| 2nd | Massey Drive & Marr Avenue | Water Main | MP1 | 146 | 3114 | 5-6100 | 02-150 |
| Hold | 175/303 Delaronde Road | Repair C/B Lead | MP1 | 775 | 3079 | 5-6710 | 07-310 |
| Hold | Arnhem St. & McNaughton Avenue | Hydrant (McAvity) | MP2 | 243 | 3059 | 5-6300 | 02-160 |
| Hold | Field House | Water Connection | MBL | 49246 | 1724067 | 5-6410 | 02-170 |
| :W&SMT2 | | | | | | | |
| STATUS | LOCATION: | REPAIR TYPE: | PRIORITY | JOB # | Loc: | ACTIVITY: | GL |
| Hold | Clarence Avenue - 8th St. - 9th St. | Water Main | MP1 | 146 | 3115 | 5-6100 | 02-150 |
| Hold | 15 Moxon Crescent | Sanitary Connection | MBL | 664 | 3108 | 5-6500 | 05-270 |
| | | | MBL | | | | |
| | | | MBL | | | | |
| | | | MBL | | | | |
| :W&SMT3 | | | | | | | |
| STATUS | LOCATION: | REPAIR TYPE: | PRIORITY | JOB # | Loc: | ACTIVITY: | GL |
| Hold | Dudley Street | Cathodic Protection | FMP | 46806 | 1724067 | 5-6100 | 17-596 |
| | | | MBL | | | | |
| | | | MBL | | | | |
| | | | MBL | | | | |
| Hold | 8th Street Yard | Cleanup Yard | MBL | 49195 | 1724067 | 5-6100 | 02-150 |
| :W&SMT4 | | | | | | | |
| STATUS | LOCATION: | REPAIR TYPE: | PRIORITY | JOB # | Loc: | ACTIVITY: | GL |
| | | | MBL | | | | |
| Hold | Isabella Street / Eastlake Avenue | Repair C/B Lead | MBL | 48959 | 1724067 | 5-6710 | 07-310 |
| Hold | Isabella Street / Eastlake Avenue | Valve (WPL) | MP2 | 146 | 3031 | 5-6200 | 02-150 |
| | | | MBL | | | | |
| | | | MBL | | | | |
| DAY OFF/EDO | | VACATION: | | SICK: | | | |
| Ross, Young, Maskwa & Crews, Olchove, | | Hilton, Swidzinski | | | | Collins - Medical | |
| Priority Legend | | | | | | | |
| (MP1) Maintenance Priority - (MBL) Maintenance Backlog - (MPS) Maintenance Program Support - (FMP) F | | | | | | | |

Daily Work Sheet Section B

- Section B of the Daily Work Sheet shows additional information

| on | | | | |
|----------------------------|-------------------------------|----------|--------------------------------------|-----------------------------|
| SIGNING: | GIS | UTL>LOC: | STAFFING: | COMMENTS: |
| S/S | | | LABOURERS - Parker/Klassen | |
| On Site | | | BACKHOE OPERATOR - Dmytrowich - 2343 | |
| On Site | 27126 | | T/A OPERATORS - Pingue | Gravel required to complete |
| On Site | 23535 | | | |
| Crew | | | | |
| SIGNING: | GIS | UTL>LOC: | STAFFING: | COMMENTS: |
| S/S | | | LABOURERS - | No homes out! |
| S/S | | | BACKHOE OPERATOR - | |
| | | | T/A OPERATORS - | |
| | | | | |
| | | | | |
| SIGNING: | GIS | UTL>LOC: | STAFFING: | COMMENTS: |
| N/A | | | LABOURERS - | |
| | | | BACKHOE OPERATOR - | |
| | | | T/A OPERATORS - | |
| | | | | |
| N/A | | | | |
| SIGNING: | GIS | UTL>LOC: | STAFFING: | COMMENTS: |
| | | | LABOURERS - | |
| S/S | | | BACKHOE OPERATOR - | |
| S/S | 1168 | | T/A OPERATORS - | |
| | | | | |
| | | | | |
| OTHER: | ADDITIONAL STAFFING: | | | COMMENTS: |
| | Loader - Cousins @ Landfill - | | | |
| | | | | |
| funded Maintenance Program | | | | |

Daily Work Sheet Section C

- Section C shows work pending.

| Pending Water & Sewer Work | | | | | | | | | |
|----------------------------|----------------------------------|-----------------|----------|-------|---------|-----------|--------|----------|-------|
| STATUS | LOCATION: | REPAIR TYPE: | PRIORITY | JOB # | Loc: | ACTIVITY: | GL | SIGNING: | GIS |
| Hold | Boychuck Dr. South of Taylor St. | Storm MH F&C | MBL | 760 | 3010 | 5-6620 | 07-310 | Crew | 21925 |
| Hold | Boychuck Dr. South of Taylor St. | Storm MH F&C | MBL | 760 | 3010 | 5-6620 | 07-310 | Crew | 21924 |
| Hold | 4200 Block Taylor Street | Sanitary MH F&C | MBL | 563 | | 5-6620 | 05-260 | Crew | 8575 |
| Hold | 412 Avenue C South | Curb Stop (C&S) | MP2 | 48237 | 1724067 | 5-6400 | 02-170 | S/S | 3813 |
| Hold | 213 Avenue I South | Curb Stop (C&S) | MP2 | 48150 | 1724067 | 5-6400 | 02-170 | S/S | |
| Hold | 4th Avenue & 23th Street | San Bev Top | MBL | 573 | 3012 | 5-6620 | 05-260 | S/S | |
| Hold | Ottawa Avenue / 20th Street | San Bev Top | FMP | 573 | 3068 | 5-6620 | 05-260 | S/S | |

Public Works Stores









- Supervisor IV will pick up all materials that can be transported by a $\frac{3}{4}$ ton truck.



APWA Color Codes

- Representatives from utility companies can field locate their lines if required

APWA Colour Codes

| | |
|---|---|
|  | Electric Power Lines |
|  | Gas, Oil, or Steam |
|  | Communications Lines, Cables, or Conduit |
|  | Potable Water |
|  | Reclaimed Water, Irrigation, and Slurry Lines |
|  | Sewers and Drain Lines |
|  | Temporary Survey Markings |
|  | Proposed Excavation |

Trailer Location

- Keep trailers clear of the excavation site.



Excavation Site

- The excavation site may have obstructions like fences and trees.



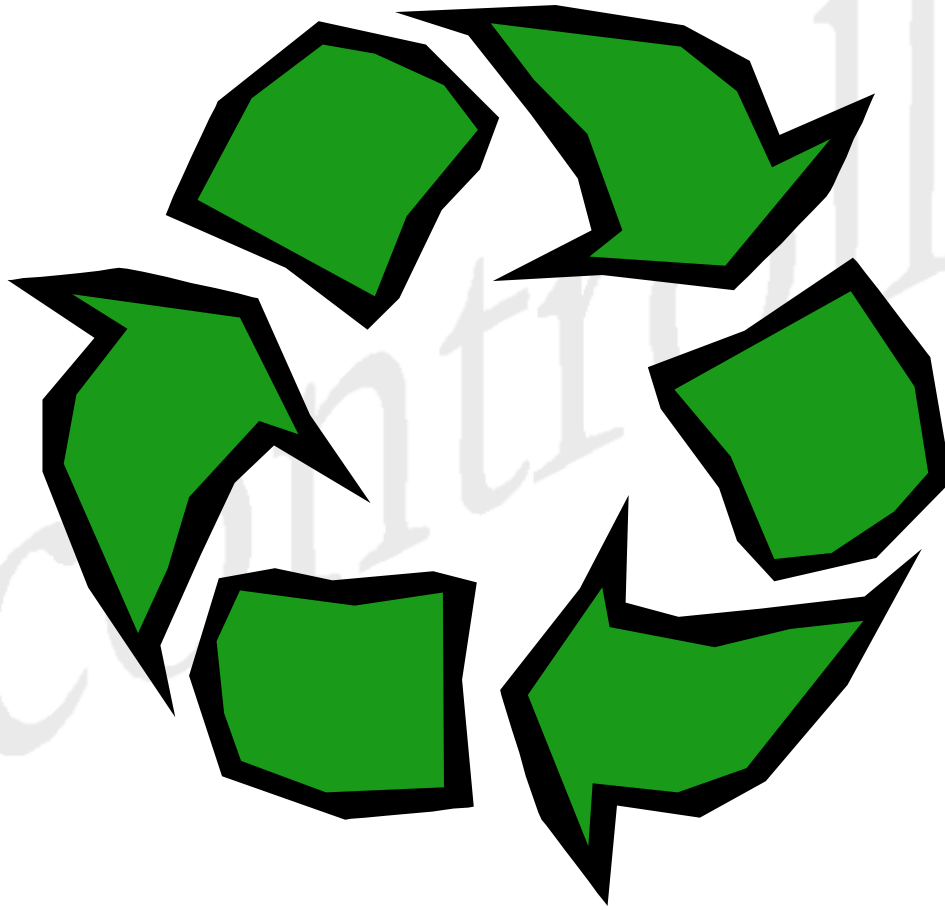
Cutting Asphalt

- Every effort should be made to cut the asphalt or concrete



Asphalt / Concrete Recycling

- Asphalt and concrete are to be recycled.



Correct Shoring

- Correct shoring will be selected.



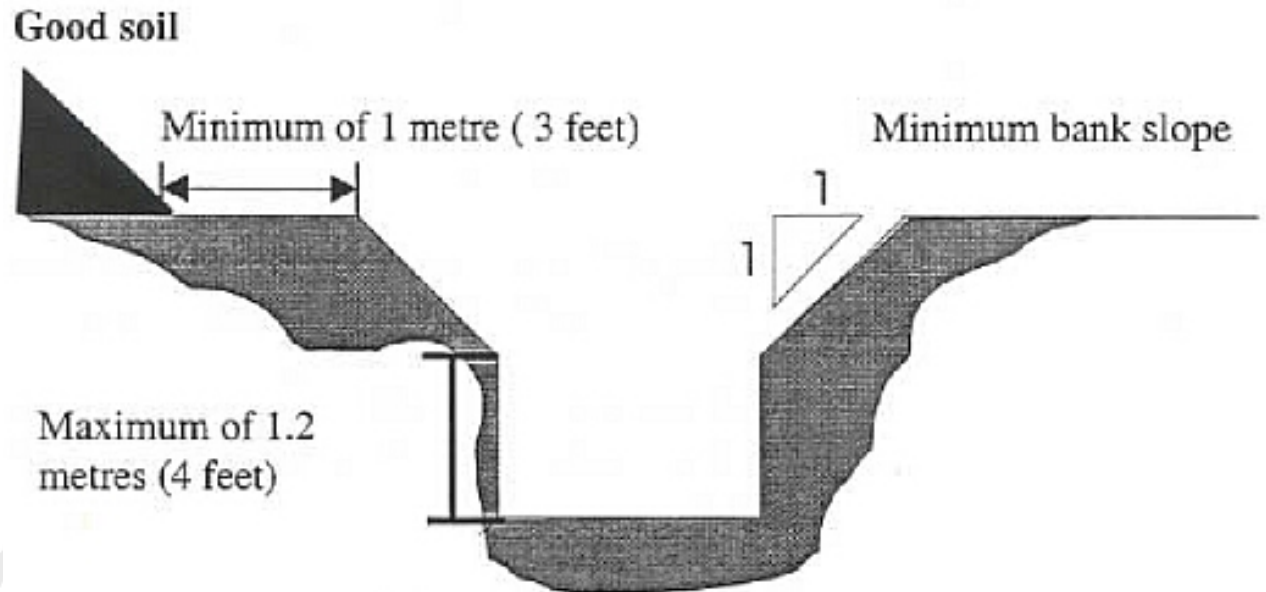
Excavation

- Excavating for a sewer main repair.



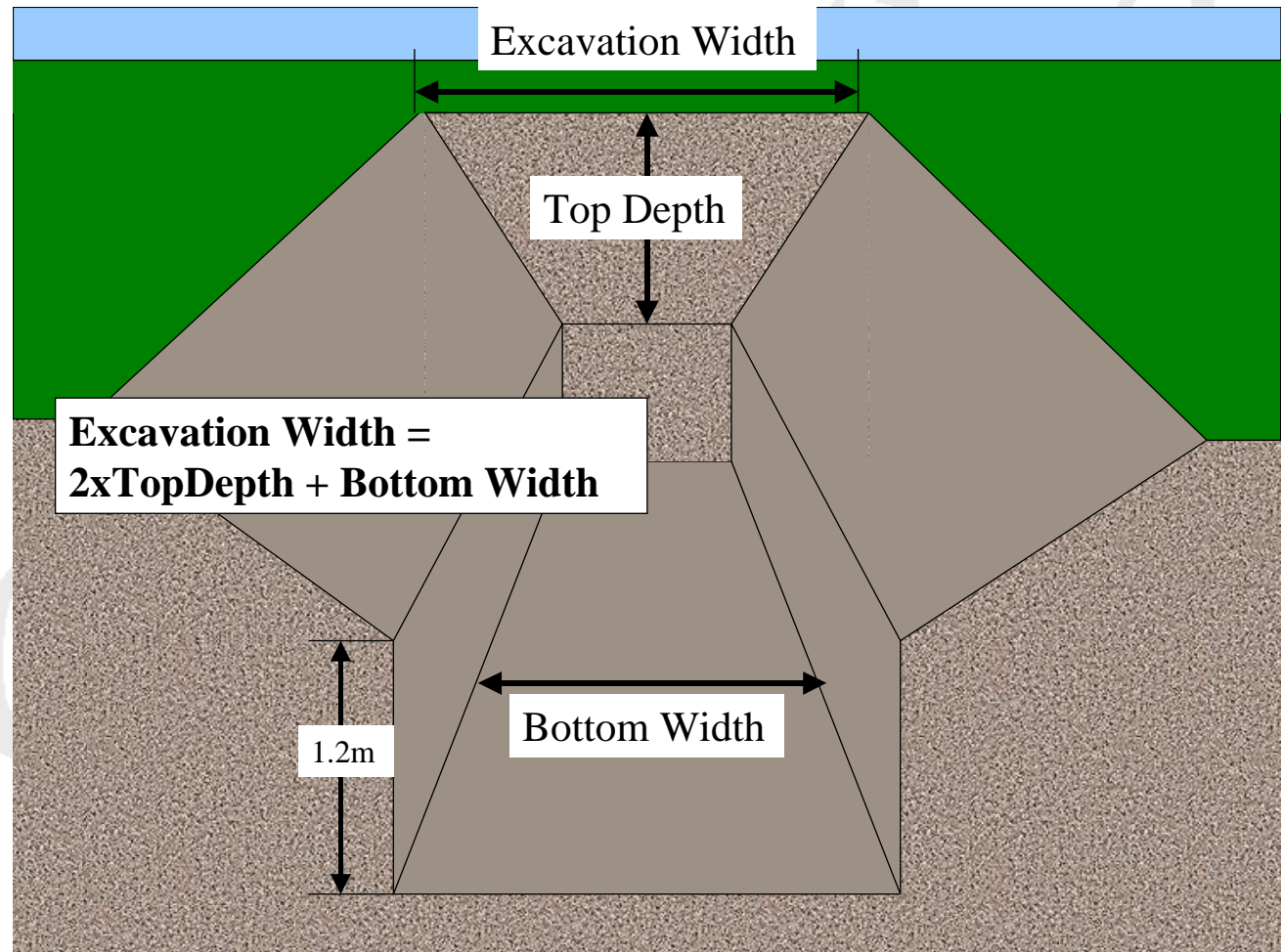
Sloping The Trench Walls

- Protect labourers in an excavation by sloping the walls or installing shoring.



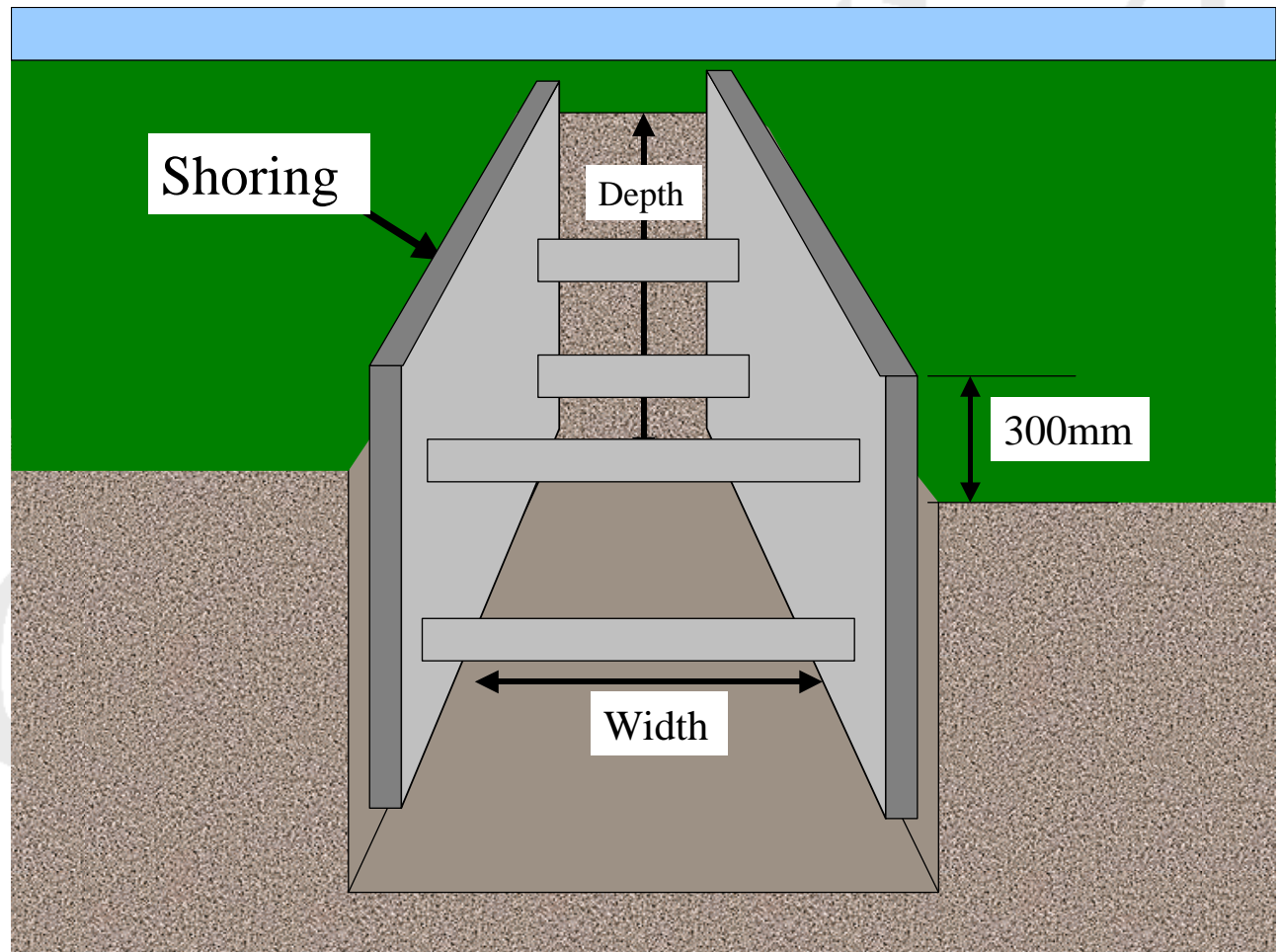
Excavation Size

- Calculate the size of the excavation.



Excavation With Shoring

- Install shoring instead of sloping the excavation walls.



Spoil Piles

- Material from the trench will be sorted



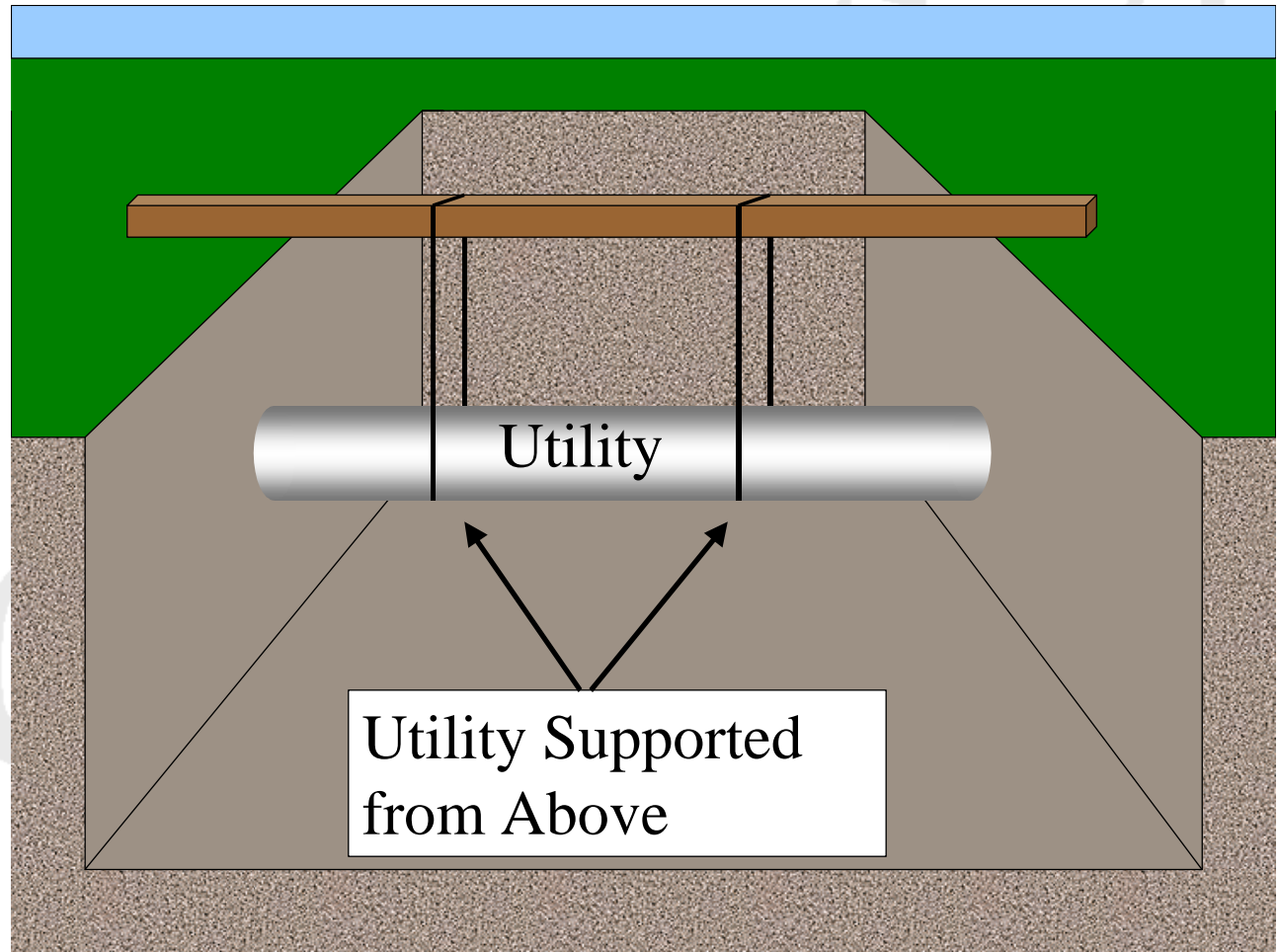
Locating Buried Utilities

- Establish pipe depth using the feeling rod.



Supporting Utilities

- Support buried utilities as required.





General Excavation Safety

Struck Gas Line

- The machine must be immediately turned off



Overhead Power Lines

- Do not exit a vehicle that has contacted overhead power lines.



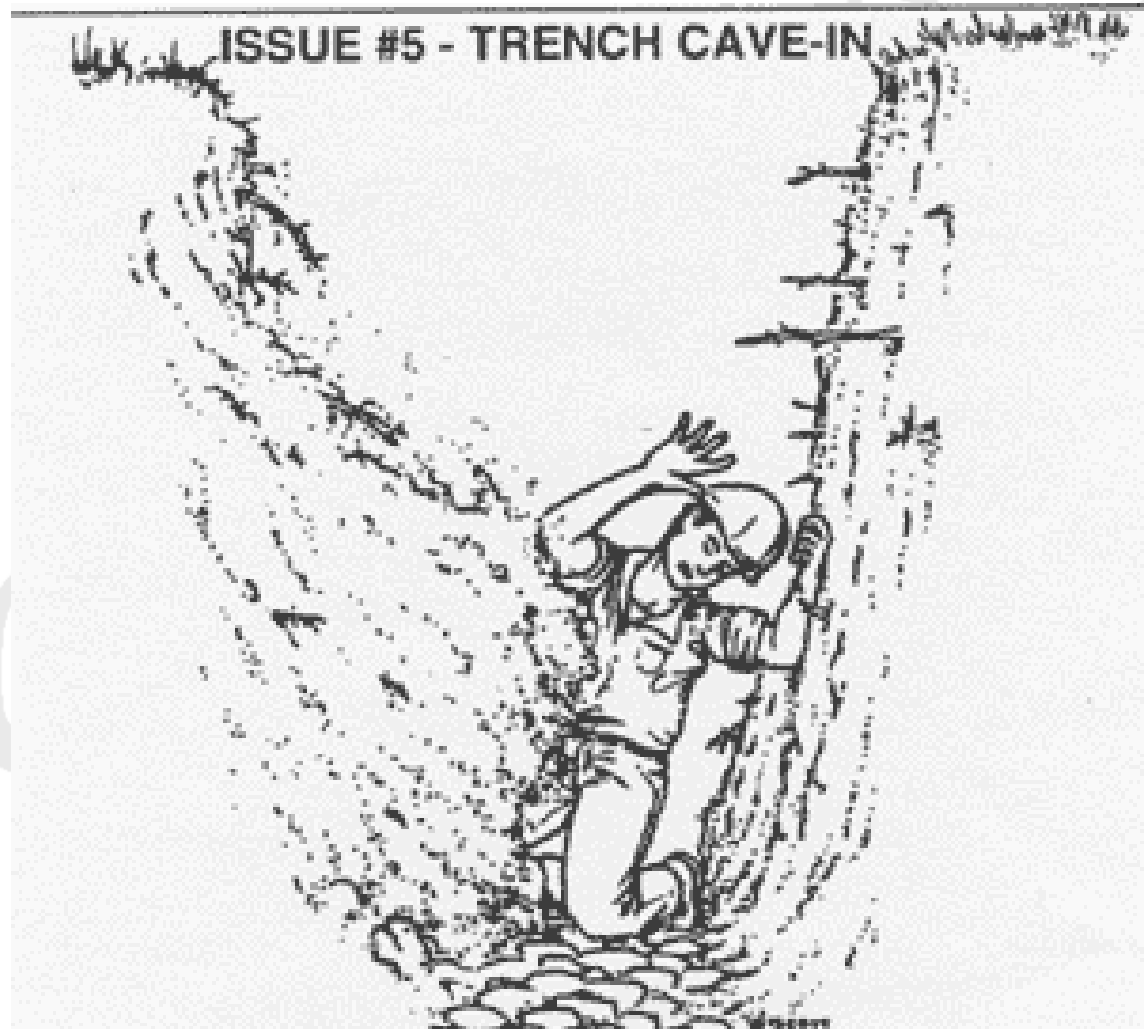
Danger Zone

- Do not go in between the excavator bucket and the truck being loaded.



Trench Cave-in

- No worker will enter a trench greater than 1.2m (4feet) in depth, without a protective structure.



Shoring and Trailer

- Inspect the shoring before use.



Unloading Shoring

- Hook up chain of adequate length so as not to crowd lift or flexibility.



Shoring Installation

- Use the excavator/backhoe to install shoring.
- Naturally frozen soil is not a substitute for shoring.



Shoring Endplates

- Hydraulically expand shoring.
- Install endplates if required.



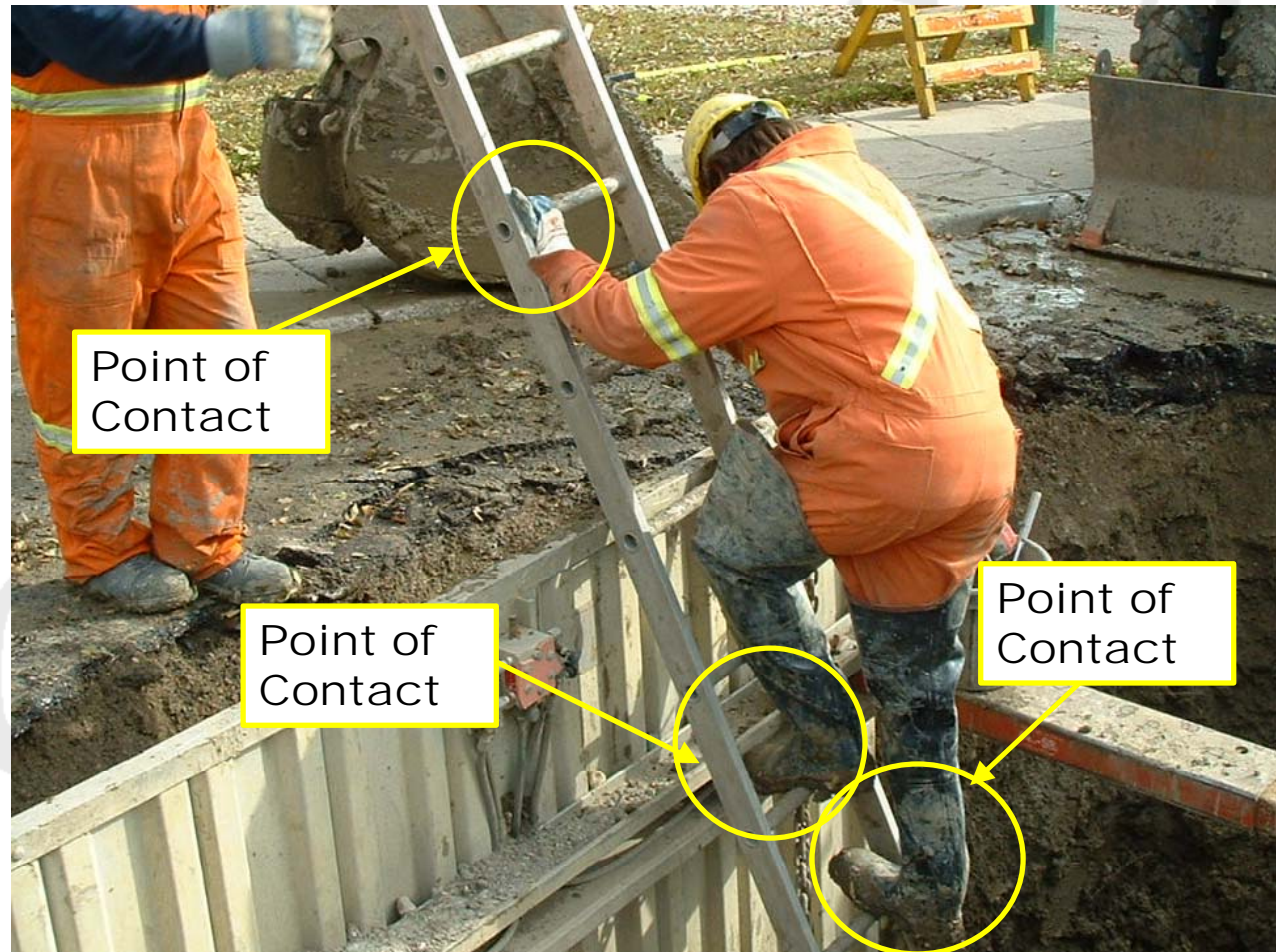
Entering the Excavation

- Secure the ladder
- Wear all Personal Protective Equipment.



Three Points of Contact

- Three points of contact on the ladder.





Sewer Connection Repair

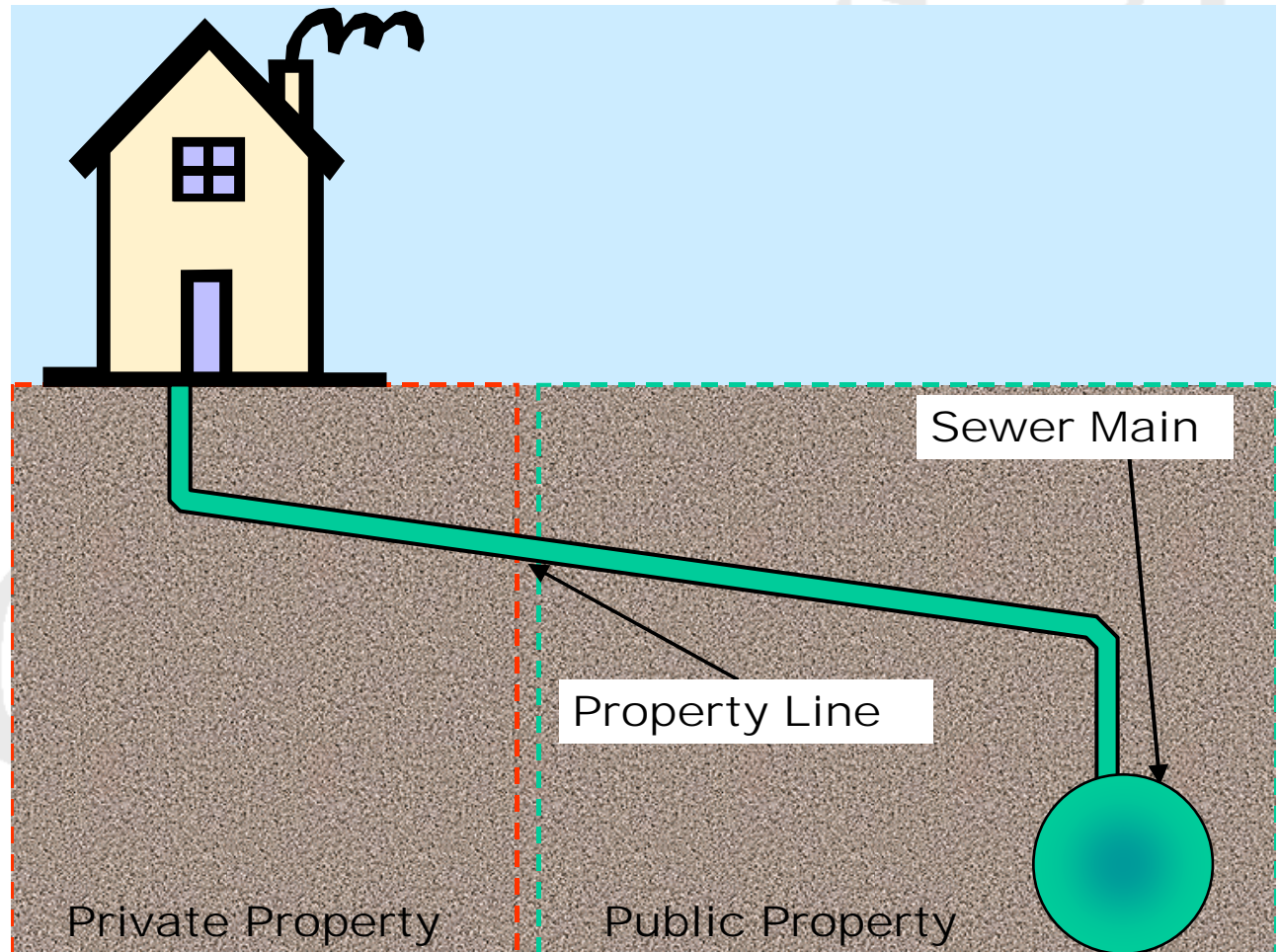
Curb Stop

- Check the curb stop when excavating for a Sewer Connection.



Connection Failure

- A failure must be removed and new pipe added.



Damaged Pipe

- Check the pipe.



Cutting Pipe

- Cut out damaged section of pipe.



Cutting Fibre Pipe

- Cut Fibre Pipe with a hacksaw.



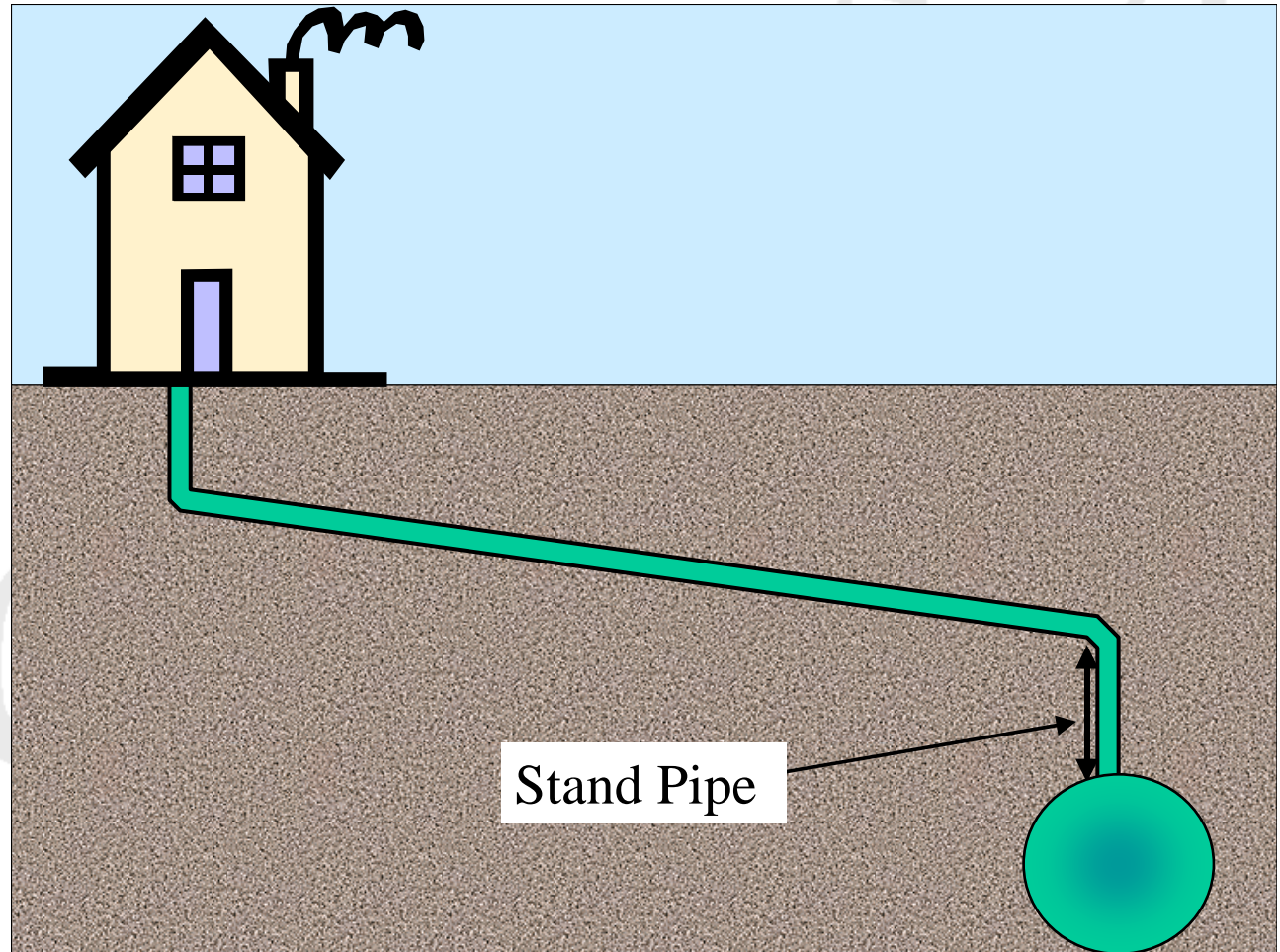
Cutting A/C Pipe

- Cut A/C with a tile cutters.



Stand Pipe

- The stand pipe is a vertical drop from the elbow to the main.



Remove Pipe

- After cutting remove damaged section of pipe.



Block Pipe

- Prevent debris from entering the sewermain.



Check Pipe

- Check the connection pipe for more failures.



Clean Pipe

- Clean the ends of the existing pipe.



A construction worker wearing a yellow hard hat and an orange safety vest is kneeling in a dirt trench. The worker is using a shovel to dig around a new white pipe that has been laid on the ground. The pipe has a black cap on one end. In the background, a wooden fence is visible. The ground is dark brown soil, and there are some pieces of debris and a blue cloth scattered around. The text "Connecting to Existing Pipe" is overlaid on the image in a black serif font.

Connecting to Existing Pipe

Connecting Pipe

- If appropriate the bell end of the pipe can be used to connect the pipe.



Couplers

- A coupler can be used to connect the pipe.



Transition Coupler

- Transition coupler is used to connect different sized pipe.



Coupler Installation

- Install coupler on existing pipe first



Coupler Installation

- Install coupler on replacement pipe or coupler.



90°Bend

90° bends must not
be used.



Correct Bends

- The 22.5° and 45° bends are the correct bends to use.





Connecting to the Sewer Main

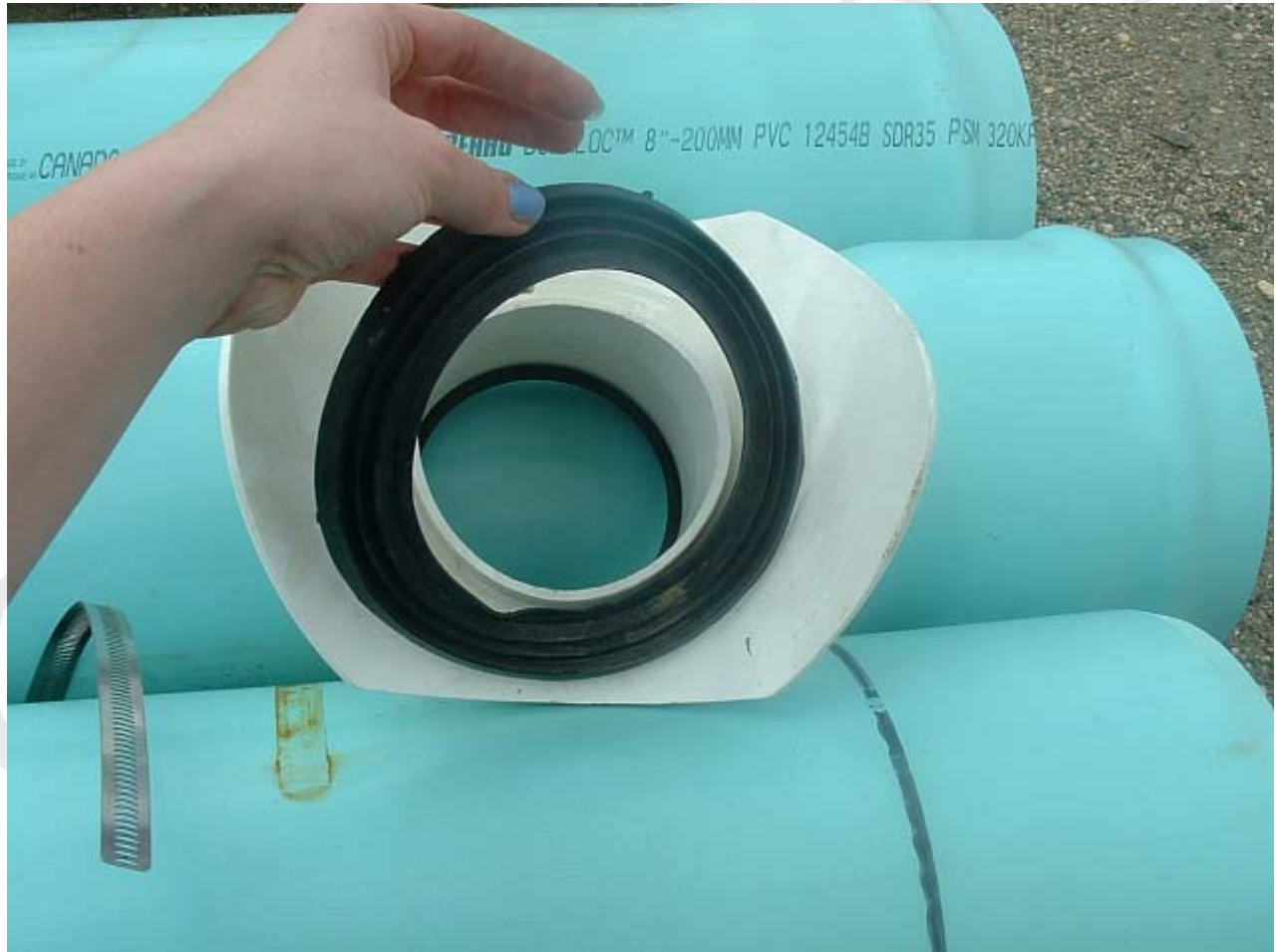
Service Saddle

- A service saddle is used to connect the pipe to the main.



Service Saddle Gasket

- Place gasket on service saddle



Service Saddle on Pipe

- Set service saddle onto pipe



First Clamp

- Affix first clamp to the service saddle



Second Service Saddle

- Affix second clamp to service saddle



Service Saddle Installed

- Service saddle installed onto pipe



A photograph showing a construction worker in a trench. The worker is wearing a yellow hard hat, an orange high-visibility vest, and black rubber boots. They are kneeling in the dirt, working on a white pipe that has been laid out in a trench. A shovel is stuck in the ground nearby. The trench is dug into the earth, and a wooden fence is visible in the background. The text "Installing a Section of Pipe" is overlaid on the image.

Installing a Section of Pipe

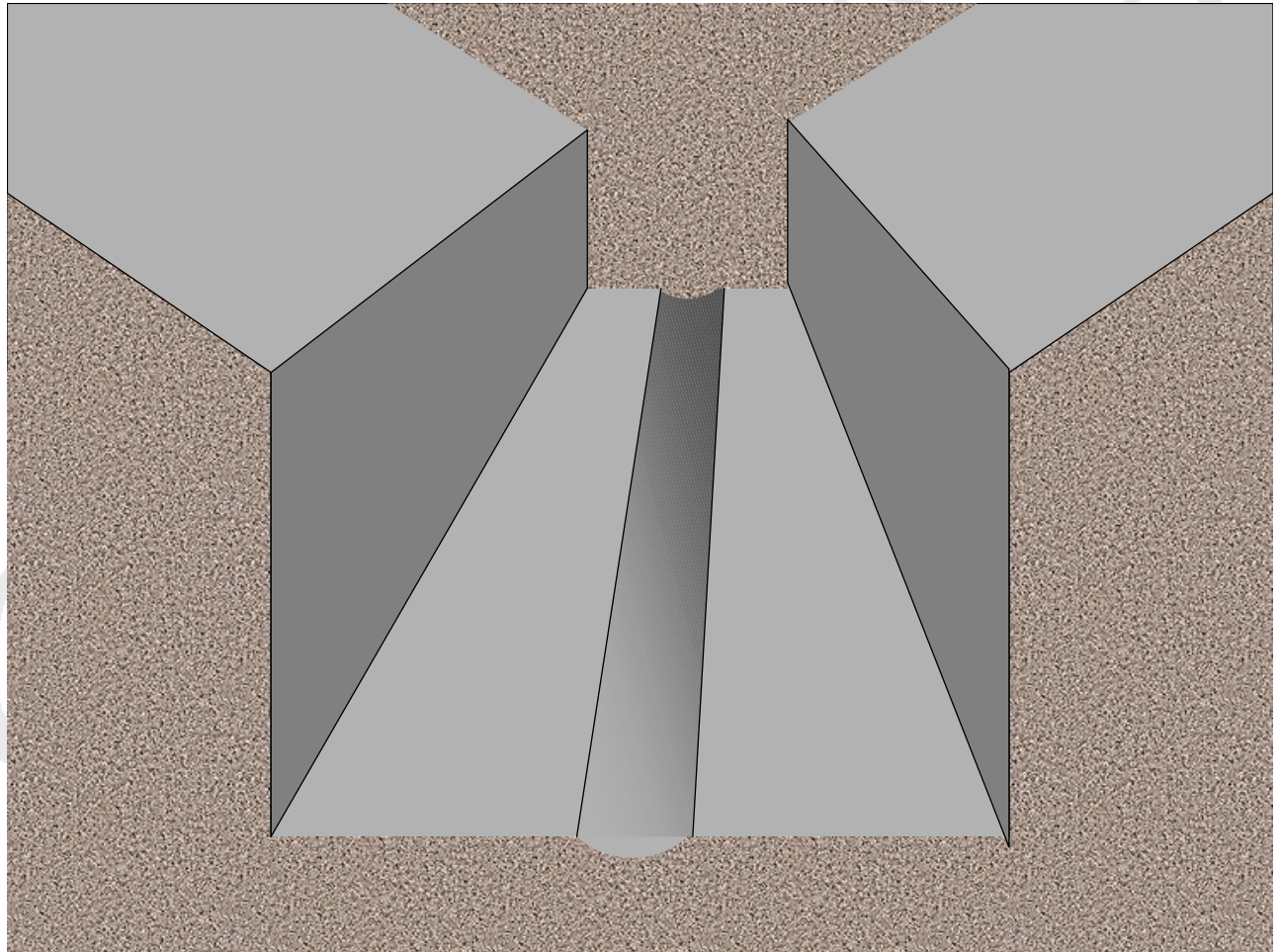
Measure Length

- Measure the length between existing pipe stubs.



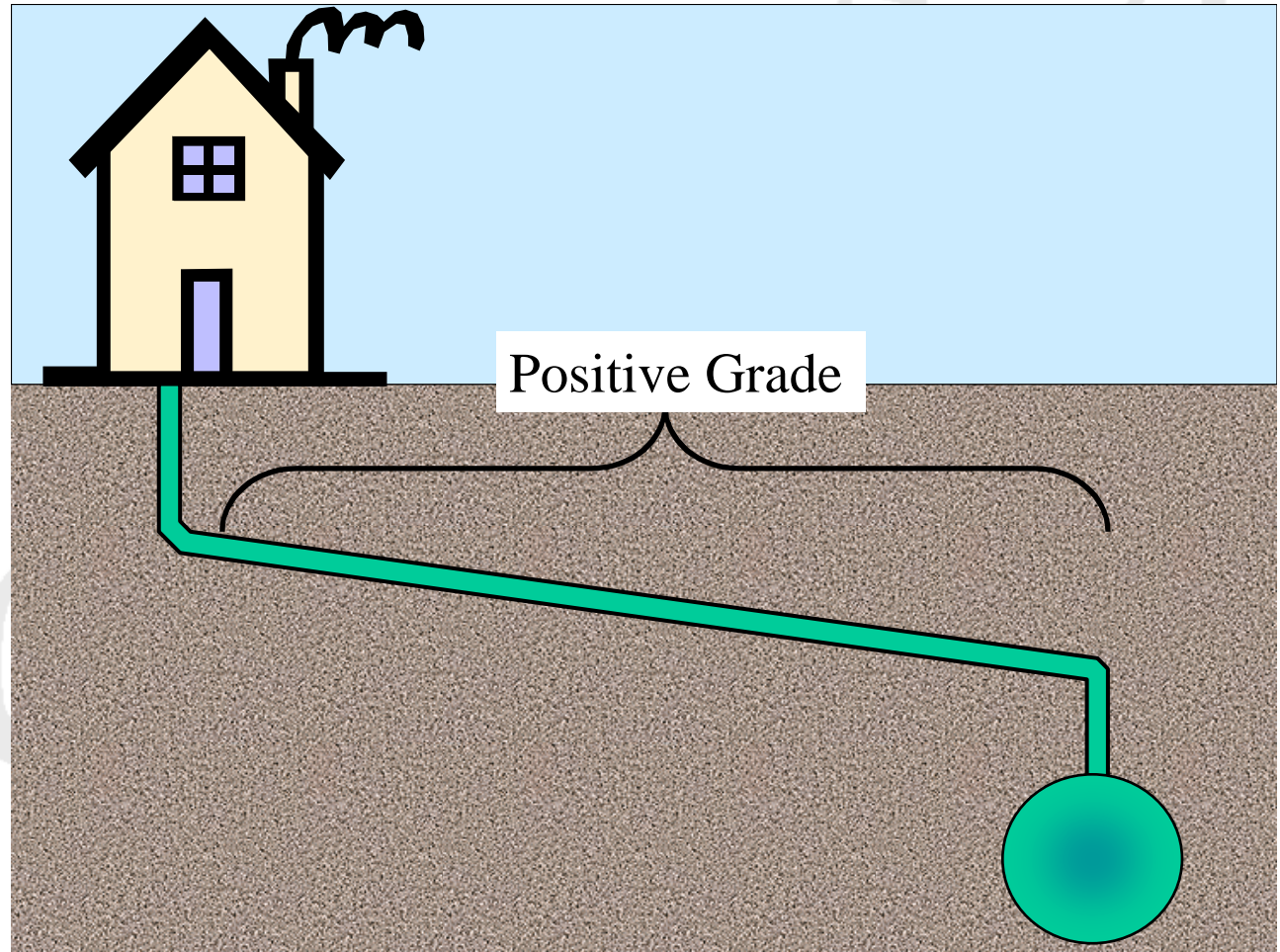
Pipe Foundation

- Prepare pipe foundation.



Positive Grade

- Ensure the pipe has a positive grade.



Cutting Pipe

- Cut the required pipe length.



Insert Pipe into Elbow

- Insert the pipe into the elbow.



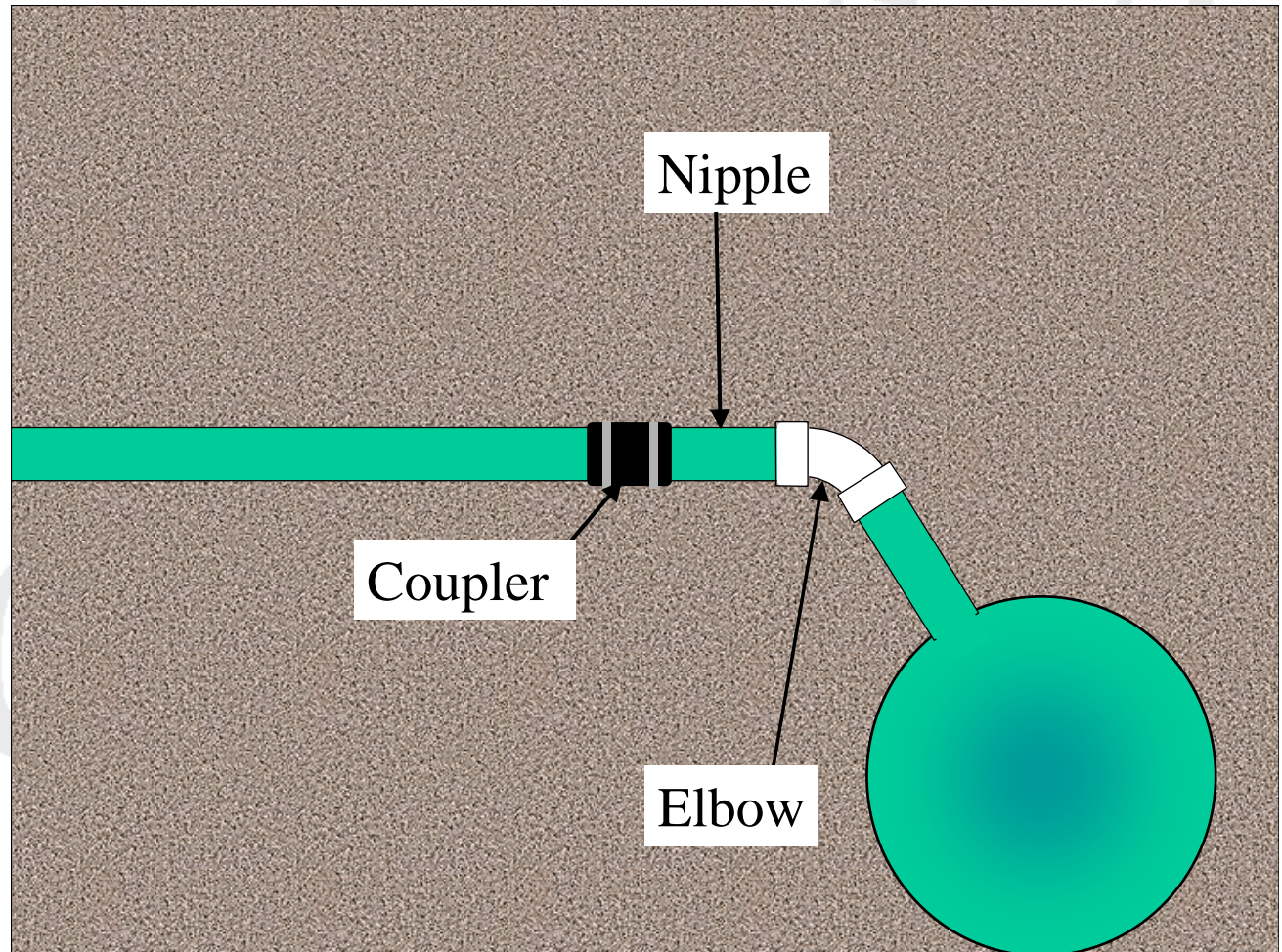
Connect New Pipe

- Connect the new pipe to the existing connection pipe with a coupler.



PVC Nipple

- The PVC nipple is between the coupler and the elbow.



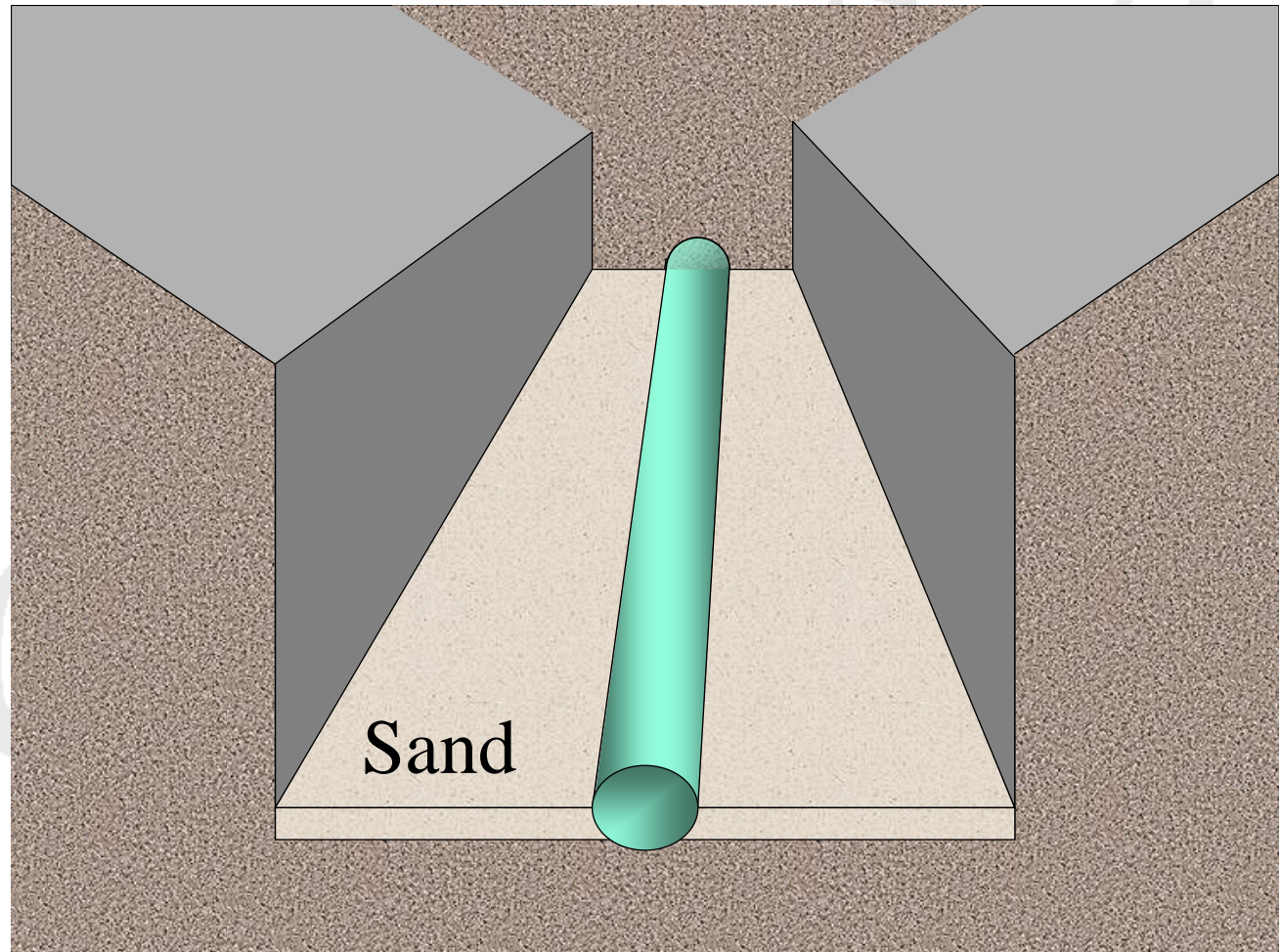
Tighten the Clamps

- Tighten the clamps of the coupler.



Pipe Bedding

- The pipe will be bedded to the spring line, with sand.



Cover Pipe

- Cover pipe and compact.



General Backfill



Service Connections

- Cover services connection and mains with 150mm (6inch) of granular material



Non-shrink Backfill

- Non-shrink backfill shall be used beneath (concrete or paving stone), sidewalks or driveways



Backfilling Other Utilities

- Ensure utilities are backfilled according to the specifications.



Backfill Material

- Backfill material should conform to City of Saskatoon Standards.



Compactors

- Mechanical Methods of compaction are required.



Hydraulic Tamper

- The hydraulic tamper is an excavator attachment



Walk Behind Tamper

- Backfill in 150mm (6inches) lifts.



Handheld Plate Tamper

- Backfill in 150mm (6inches) lifts.



Bucket Tamping

- Bucket tamping will be avoided.



Finished Backfill

- Leave adequate room for asphalt or concrete as per the instructions.



Disinfectant Applicator

- Disinfect all tools after use.



Disinfecting

- Apply disinfectant solution.



Traffic Control Devices


- Before leaving the site any unnecessary traffic control devices will be removed



Site Restoration

- The applicable department will perform restoration of the site.



A construction worker wearing a yellow hard hat and an orange safety vest is kneeling in a dirt trench. A white pipe with a black cap is lying on the ground. A shovel is stuck in the dirt. The background shows a wooden fence.

Thank You.
Are there any Questions?