

**RESOLUTION OF THE BOARD OF TRUSTEES OF MT. OLYMPUS IMPROVEMENT
DISTRICT AMENDING AND REPLACING IN THEIR ENTIRETY THE RULES,
REGULATIONS AND
TECHNICAL SPECIFICATIONS FOR INSTALLATION OF
SANITARY SEWER IN
MT OLYMPUS IMPROVEMENT DISTRICT WITH
DISTRICT STANDARDS AND SPECIFICATIONS**

RESOLUTION 19-092122-2

**MT. OLYMPUS IMPROVEMENT DISTRICT
AMENDMENT AND REPLACEMENT IN THEIR ENTIRETY OF THE RULES,
REGULATIONS AND
TECHNICAL SPECIFICATIONS FOR INSTALLATION OF
SANITARY SEWER IN
MT OLYMPUS IMPROVEMENT DISTRICT WITH
DISTRICT STANDARDS AND SPECIFICATIONS**

WHEREAS, on or about August, 2016 the District adopted certain *Rules, Regulations and Technical Specifications for Installation of Sanitary Sewer in Mt Olympus Improvement District* (the “Technical Specifications”). The Technical Specifications have been in full force and effect since August, 2016 and remain in full force and effect at all times prior to the date of this Resolution.

WHEREAS, the District and others are responsible for (i) the control, safety, and disposition of all water and wastewater discharged to the District system by owners and users of the system or collected by the District, and (ii) for the safe and efficient operation of the District system and facilities.

WHEREAS, the District has the power and authority to adopt and enact rules, regulations, and ordinances governing and regulating the District’s operations, facilities, and

funding, and governing and regulating users, owners, contractors, and other persons operating within the District's boundaries or affecting the District or its facilities in any respect.

WHEREAS, the District is desirous of amending and replacing the Technical Specifications in their entirety by replacing the Technical Specifications and adopting new *District Standards and Specifications* in the stead thereof, in order to govern the affairs and procedures of the District and in order to aid in the administration of the District and its functions.

NOW, THEREFORE BE IT RESOLVED BY THE BOARD OF TRUSTEES OF MT. OLYMPUS IMPROVEMENT DISTRICT:

(1) that the Technical Specifications are hereby amended and replaced in their entirety by the *District Standards and Specifications*, a copy of which is attached hereto as Exhibit A and incorporated herein by reference.


(2) that this Resolution shall be effective immediately upon adoption.

Adopted: September 21, 2022

MT. OLYMPUS IMPROVEMENT DISTRICT, a local district and political subdivision of the State of Utah

By:  _____
Its: Chair

ATTEST:

 _____
District Clerk



District Standards and Specifications

Mt. Olympus Improvement District
3932 South 500 East
Salt Lake City, UT 84107
Phone: (801) 262-2904

Mt. Olympus Improvement District reserves the right to update and make changes to these Standards & Specifications from time to time as conditions dictate.

September 2022



Table of Contents

Section 1 – Introduction	2
Approach	2
Work Schedule	2
Prevailing Fees	3
Construction	3
Pipe Material.....	3
Lateral Diameter & Slope	3
Lateral Placement.....	3
Cleanout Placement & Type.....	3
Fittings	4
Lubrication for Gasket Joints	4
Pipe Testing.....	4
Bedding & Backfill Requirements	4
New Connections	4
Lateral Repairs & Rehabilitation	5
New Connections & Utility Billing	5
Lateral Cap-Offs	5
Maintenance	5
Material Specifications.....	6
Section 2 – Standard Drawings	7
Typical Sanitary Sewer Manhole.....	7
Typical Drop Manhole.....	8
Manhole Collar	9
Abandon Existing Manhole.....	10
Typical Sewer Lateral & Cleanout.....	11
Lateral Replacement for New Utility	13
Typical Trench Detail.....	14
Grease Trap & Sampling Manhole	15
Section 3 – Technical Specifications	17
General Requirements	17
Excavation, Trenching & Backfill for Piping.....	18
Sanitary Sewer Installation.....	21
Restoration of Surface Improvements.....	29

Section 4 – Repairs & Development Procedures..... 32
Work on Laterals 33
Commercial Projects 37
Main Line Projects 39
Miscellaneous 44





Section 1 – Introduction

Approach

Projects within the Mt. Olympus Improvement District are subdivided into three different categories: lateral construction, commercial development, and developments with main lines. Each development must have a preliminary plan review and a final plan review. Emergency repairs on existing sanitary sewer laterals and main lines do not require a plan review. Inspections for repairs can be scheduled by phone and must be done by bonded excavating and plumbing contractors.

The District is responsible for the operation and maintenance of main lines which have been accepted by the District and meet all District requirements. The District is not responsible for the ownership and maintenance of any laterals and private main lines. A complete definition of main lines and laterals can be found in the District's Code of General Regulations.

The District will review and approve submittals in the order they are received. Projects with large or more complicated designs must submit their plans to the District as far in advance as possible to allow adequate time for plan review and approval. Plan submittals must be in pdf format. Plan submittals must be complete, high quality, reproducible, and shall follow industry guidelines for design and drafting. Plan submittals which are scanned must be high quality. Plans that are incomplete, difficult to read and interpret will be rejected and returned. If special conditions exist, contact a District representative for additional discussion and site visit when necessary.

Plans for commercial development and developments with main lines must be submitted to the District and shall include a Utility Plan, Site Plan, and Plat with addresses and lot numbers. Utility Plans for main line projects must include a Plan & Profile drawing. Plans for one single family residence can be submitted in a simplified format and shall include the proposed footprint of the home along with the proposed sanitary sewer lateral alignment. All plan submittals must include the officially assigned addresses and lot numbers. Any changes or corrections to addresses and lot numbers must be sent to the District, failure to do so may lead to a delay in plan approval and permit issuance.

Work Schedule

Inspections shall take place during normal District work hours. Inspections must be scheduled 24 hours in advance. If inspections are needed outside of normal work hours, the inspection(s) will be charged at the approved overtime rate. The overtime rate for normal inspections shall be for an inspector and a pickup truck, with a two-hour minimum. The Contractor agrees to conform with the Code of General Regulations, these Standards and Specifications, any other District requirements. The Contractor agrees to pay for all inspection costs and overtime costs as necessary. The Contractor shall schedule all inspections with the District, if for any reason they cannot work as previously scheduled, they will notify the District to reschedule their inspection. Inspections requiring multiple visits may be charged additional fees.



Prevailing Fees

Information on inspection fees and fees associated with development activities are updated from time to time. The prevailing fees are available in the District office at 3932 South 500 East, Millcreek, Utah 84107 or on the District website at www.mtoid.org.

Construction

The District must inspect all work being performed and nothing shall be buried until approved by a District representative. When scheduling an inspection the Contractor must have the physical address, as assigned by the County, where the inspection is to be performed. Subdivision and lot numbers are not acceptable addresses. Approval must be given by the District to open any sanitary manhole lids.

All Construction activities must be done in accordance with the contractor's Health and Safety plan, which must comply with all OSHA regulations including but not limited to those for trench safety, confined space entry, traffic safety. All work done must conform with all the requirements of the various Federal, State, City and County Agencies involved. All work must also conform with all Central Valley Water Reclamation Facility requirements. Contractors and Developers with unpaid fees, invoices, or outstanding work items, will not be issued additional permits to work in the District until the previous items are completed.

Pipe Material

The contractor shall provide all new high-quality materials for sewers. Materials not meeting the District's standards will be considered defective and will be removed immediately from the site.

Polyvinyl Chloride (PVC): PVC pipe shall be bell and spigot with gasket joint and shall have minimum wall thickness conforming to ASTM D3034 (latest edition) and shall be SDR 35 pipe. Glued joins are not allowed.

Lateral Diameter & Slope

Sewer laterals shall be designed and installed with a minimum of 2% slope for 4" pipe and 1% for 6" pipe. Anything larger must be installed per main line specifications. All lateral test tees, clean-out tees, and caps shall be installed and set in accordance with the District's specifications.

Lateral Placement

Laterals shall not be placed under concrete driveways. Laterals shall be placed to allow the minimum number of bends. Laterals shall not cross adjacent properties. If crossing an adjacent property is the only option, an easement must be obtained and recorded with the County from the adjacent property owner.

Cleanout Placement & Type

A test tee must be installed at the property line when installing a new lateral. The maximum spacing between cleanouts is 100' for 4" and 6" laterals. Cleanouts must be placed between the property line and the structure. A cleanout near the structure is recommended. Cleanouts must remain visible and accessible during and



after construction. Cleanouts that must be placed in concrete must have cast iron box placed over the cleanout and must be installed flush with the concrete. It is recommended that an irrigation style box be placed over any cleanout in landscaped areas. Cleanouts shall be constructed using a combination wye, PVC standpipe, and a watertight cast iron cap with a brass screw type lid.

Fittings

Each joint or fitting must be watertight and free from defects. Only bell to spigot gasket joints are permitted; no glue joints are allowed. Glued joints shall only be allowed in poured in place sampling manholes and inside drop manholes. If a repair is being made, all transition couplings must have stainless steel shear bands or shielded bands (Fernco type or approved equal).

Lubrication for Gasket Joints

The lubricant used in joining pipes will be recommended by the pipe manufacturer.

Pipe Testing

Laterals: A water test is required on all new laterals. A water test is required to ensure joint tightness and that the lateral drains freely without any obstructions. A test tee must be installed at the property line on all new installations. After the pipe is laid to grade and bedded in gravel, an inflatable test ball plug is inserted at the test tee, then the entire lateral is filled with water including a standpipe or cleanout with at least 10' of head. The lateral shall be allowed a maximum water loss of 1" in 5 minutes for a 4" or 6" lateral per 100' feet in length. When the test ball is removed, the lateral must drain freely without any obstructions or interruption to the flow. Any other testing methods shall be approved by the District prior to beginning project.

Main Line (pipe 8" and larger): Requires a licensed pipe tester to pressure test with District representative present. The trench must be backfilled evenly on both sides of the pipe and compacted to retain proper alignment of the main line. All pipe must be cleaned by Contractor. The District shall perform a closed-circuit television (CCTV) inspection of the inside of the pipe. All pipe must be cleaned of dirt and foreign material by the Contractor before the system is accepted.

Bedding & Backfill Requirements

Pipe bedding shall consist of 3/4" minus angular material. Pipe bedding shall surround the pipe and shall extend to a depth of 1' below and above the pipe. Anything that deviates from these requirements must be approved by the District. All backfill placed in the trench shall meet specified gradation and compaction requirements as provided in the specifications.

New Connections

All nose-ons (taps for new connections) made on existing sewer main lines, whether District owned or private must meet the District standards. Contractor is responsible to provide a safe excavation for the nose-on (tap). Contractor must notify the District 24 hours in advance before work is to be performed. Work must be completed per District requirements. The District will record all inspections.



Lateral Repairs & Rehabilitation

The service life of many types of sewer laterals is estimated to be 50 years. The District does not recommend re-using laterals which are older than this. Under no circumstance shall the District assume any liability for loss or damage which takes place as the result of rehabilitating or reusing old laterals. The Contractor shall explain all limitations of the rehabilitation work, along with any deficiencies to the legal property owner. The District makes no representation or warranty of any kind, express or implied, regarding the quality, workmanship, or remaining service life of any work done using rehabilitation methods. Existing laterals may be re-used upon inspection from the District. It will be the Contractor or Owners responsibility to CCTV the lateral with a District representative present to observe the condition of the pipe. The CCTV inspection equipment must produce a high-quality color image and include camera head skids. The CCTV inspection must take place at least 24 hours before any permit is obtained. The District can require the lateral to be lined or a new connection if necessary.

All damaged pipes must be removed. Transition couplings with stainless steel shear bands or shielded bands (Fernco type or approved equal) are to be used when joining different pipe materials. All pipe shall be clean and free of debris during the installation. The District will inspect all work being performed and nothing shall be buried until approved by a District representative. The contractor must have the appropriate staff present for the inspection (i.e., the employee who physically performed the work or was in direct supervision and onsite). When the appropriate staff for the Contractor are not present, the inspection will be recorded as a failed inspection, another inspection fee will be required and the inspection will need to be rescheduled.

New Connections & Utility Billing

It is the District's policy that single family residential properties shall be placed into the billing cycle four months after the connection to the system is made. Commercial, industrial, institutional, multi-family, and all other property types shall be placed into the billing cycle six months after the connection to the system is made. Extensions may be granted on a case-by-case basis. Extensions must be requested in advance of any utility billings and will only be granted one time. The legal property owner is responsible for all utility billings whether the building has been granted occupancy or not.

Lateral Cap-Offs

Laterals must be abandoned and capped-off as close to the property line as possible. An expandable plug must be used to plug the lateral as well as one sack of concrete mixed and placed over the plug. A District representative must visibly see both the expandable plug and the concrete as it is placed to be approved and have the property taken out of billing.

Maintenance

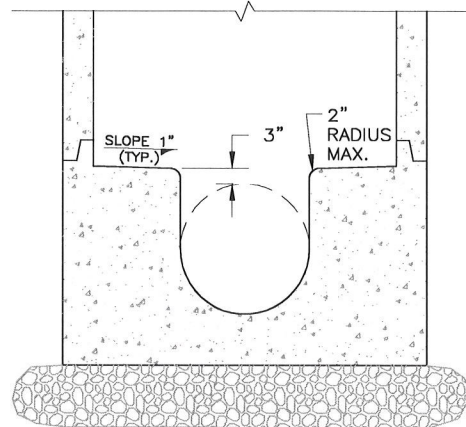
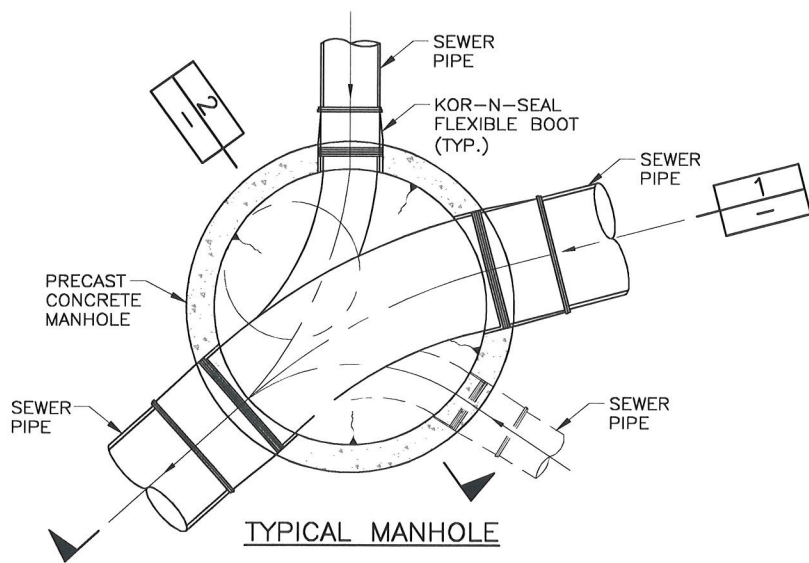
The District will maintain main lines have been accepted by District representatives and which are: 8" in diameter or larger, which serve more than one owner or association of owners, has a formal Line Extension Agreement, located in a public street or within an easement area given to District and acceptable to District representatives, and which are accessible using District cleaning equipment. The District will not maintain or take over ownership of any lift stations or force mains. The District maintains a database of the District main lines. Individual owners or association of owners are responsible for the ownership and maintenance of private main lines and laterals.

Material Specifications

	<p>Pipe</p> <p>Pipe size and material shall be approved by the District.</p>		<p>Cleanout Caps</p> <p>Must be brass twist-on cap.</p>
	<p>Shear Band Connectors</p> <p>All connections must be stainless steel shear band (Fernco or approved equal)</p>		<p>Manhole Ring and Lids</p> <p>Lid shall be cast with MTOID logo.</p>
	<p>Inserta Tee</p> <p>Use for service connection to existing main line.</p>		<p>Mechanical Test Plug</p> <p>Use for abandoning existing manhole.</p>
	<p>Cast Iron Hub</p> <p>Cast iron hub required on all cleanouts.</p>		<p>Pipe Lubricant</p> <p>Must be lubricant recommended by the manufacturer.</p>
	<p>PVC Wye</p> <p>Must be appropriate size for the pipe.</p>		<p>PVC 22°</p> <p>Must be appropriate size for the pipe.</p>
	<p>PVC 45°</p> <p>Must be appropriate size for the pipe.</p>		<p>Kor N Seal Flexible Boot</p> <p>Boot for connection to manhole.</p>
	<p>RV Cleanout Caps</p> <p>Must be metal and have a lockable cap.</p>		<p>Kent Seal</p> <p>Rope gasketing material for use on piping and manholes.</p>

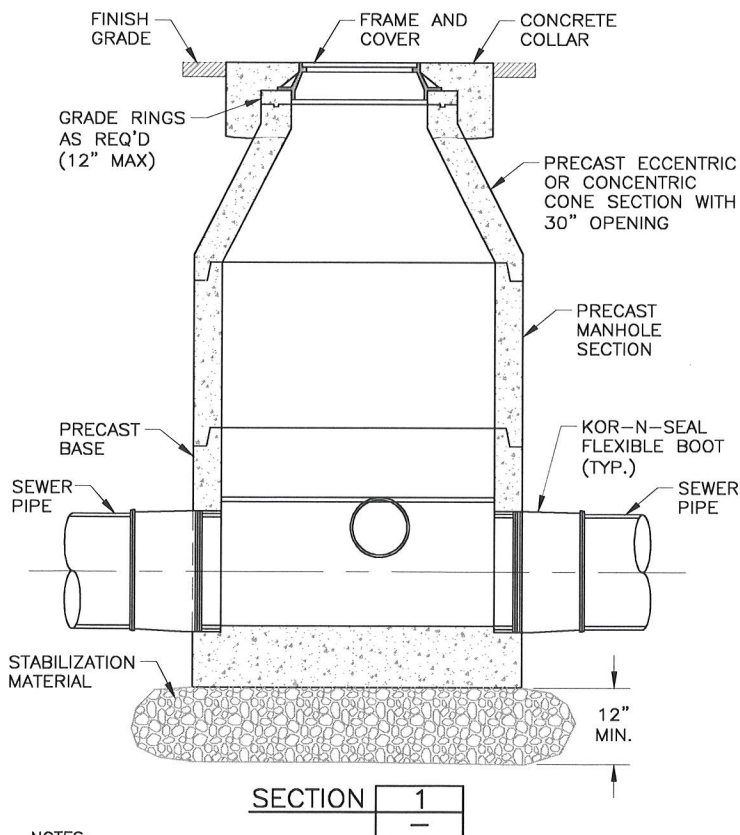
Section 2 - Standard Drawings

Typical Sanitary Sewer Manhole



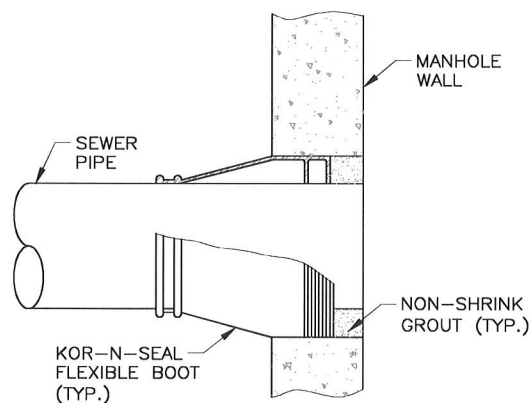
SEWER MANHOLE CHANNEL SECTION (TYP.)

2
-



SECTION

1
-

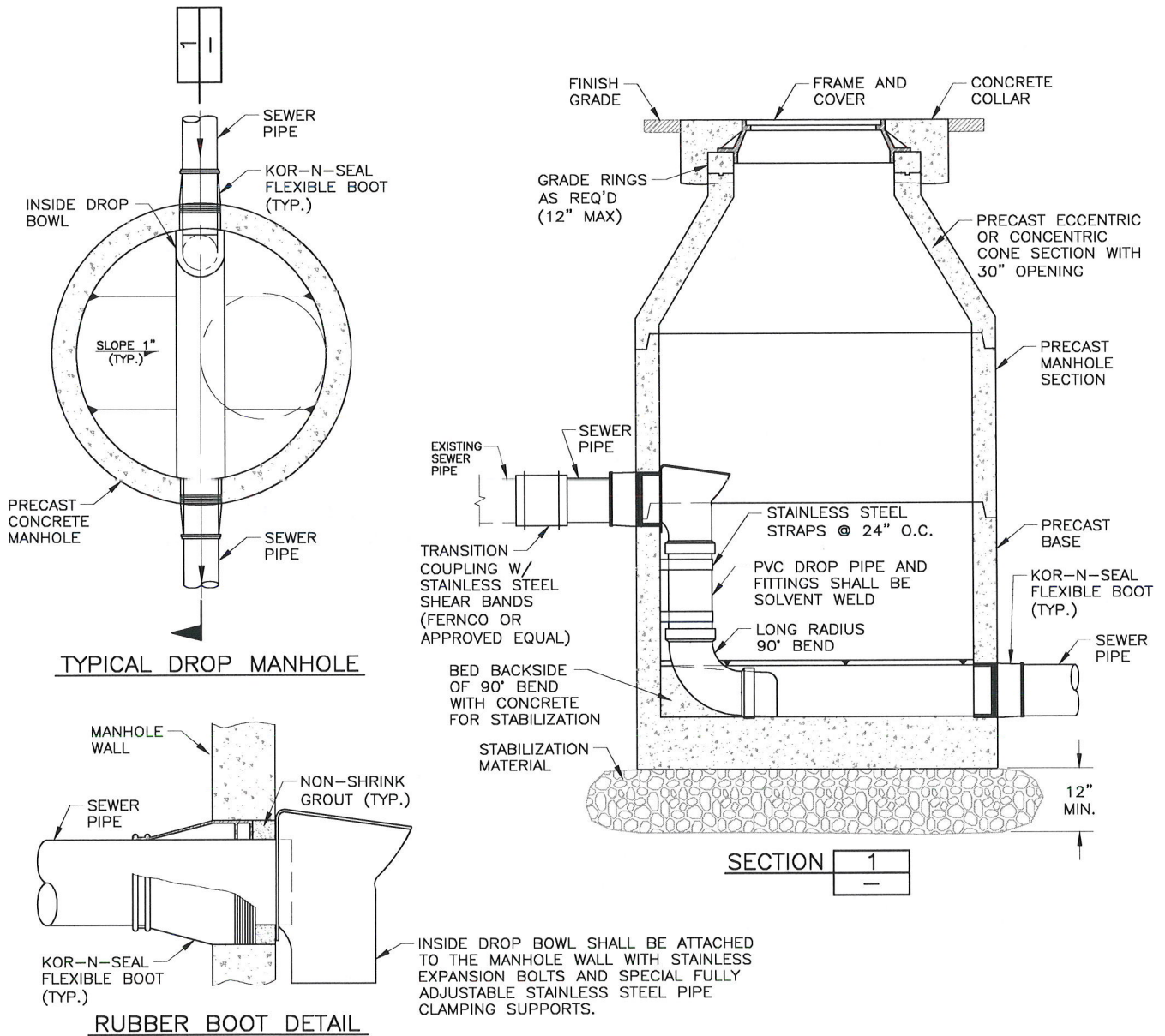


RUBBER BOOT DETAIL

NOTES:

1. MANHOLE SIZE:
 - A. DIAMETER IS 4 FEET: FOR SEWERS UNDER 12" DIAMETER.
 - B. DIAMETER IS 5 FEET: FOR SEWERS 12" THROUGH 24", OR WHEN 3 OR MORE PIPES INTERSECT THE MANHOLE.
 - C. CONSULT WITH MTOID FOR SEWERS LARGER THAN 24".
2. PRECAST REINFORCED CONCRETE MANHOLE SECTIONS SHALL CONFORM TO ASTM C 478. JOINTS SHALL BE RUBBER GASKET, OR SEALED WITH APPROVED SEALANT.
3. CONCRETE: CLASS 4000, APWA SECTION 03 30 04.
4. GROUT: 2 PARTS SAND TO 1 PART CEMENT MORTAR, ASTM C 1329. GROUT SHALL BE NON-SHRINK.
5. MANHOLES SHALL NOT HAVE STEPS.
6. ADDITIONAL WATERPROOFING OF MANHOLES MAY BE REQUIRED WITHIN 400 FEET OF WATERBODIES AT THE DISCRETION OF THE DISTRICT ENGINEER.

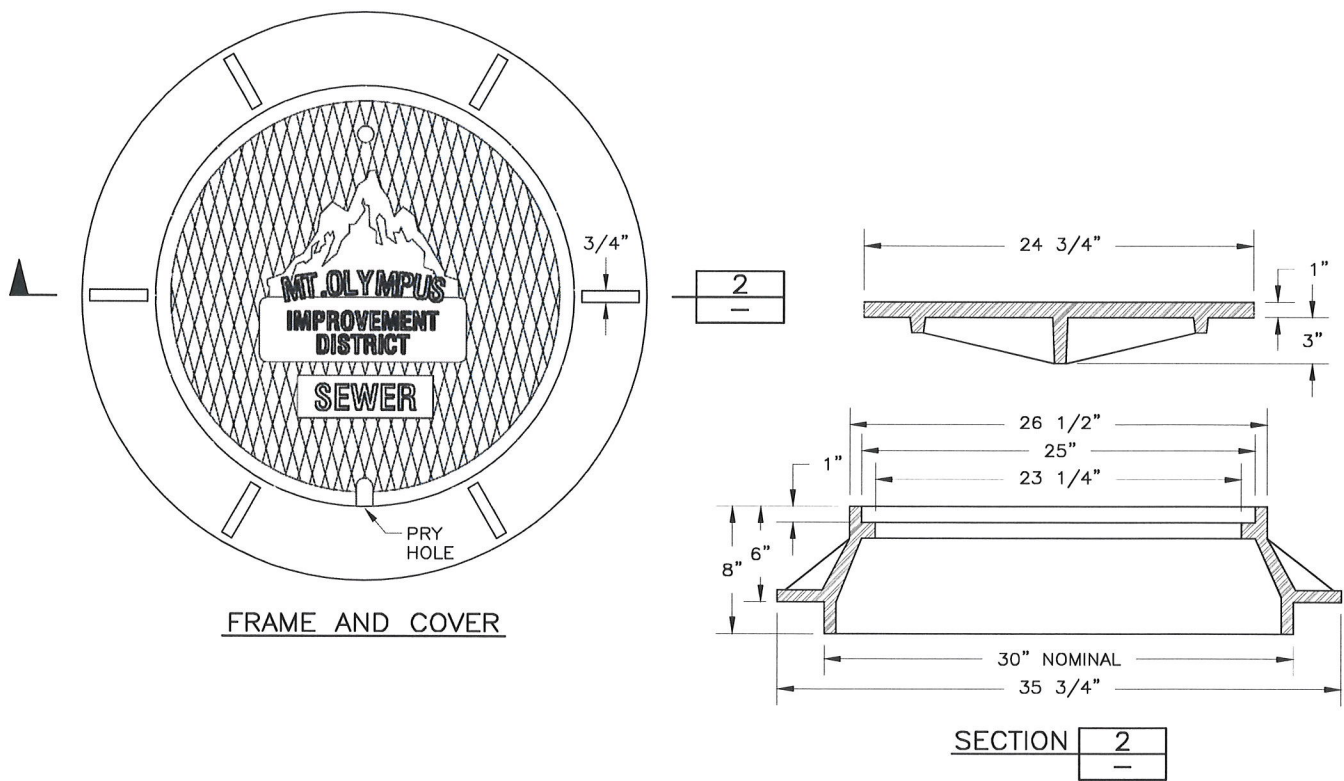
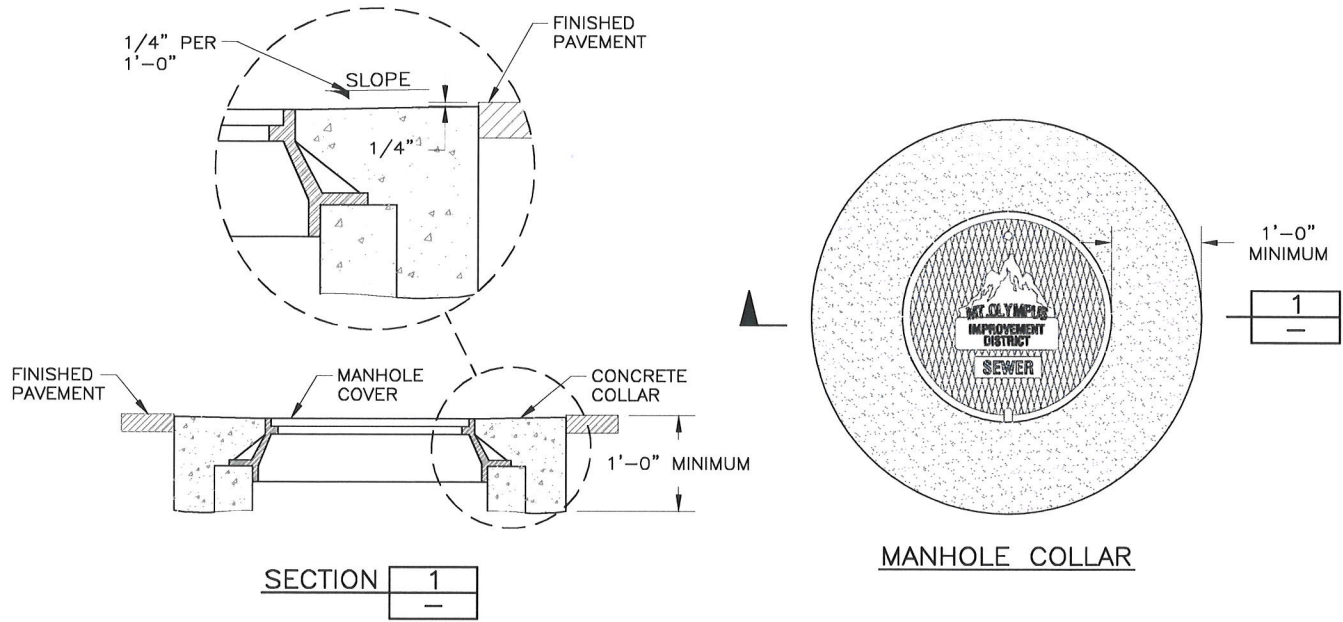
Typical Drop Manhole



NOTES (CONTINUED):

5. THE INVERT CHANNELS SHALL BE SMOOTH AND SEMICIRCULAR IN SHAPE CONFORMING TO THE INSIDE DIAMETER OF THE ADJACENT SEWER SECTION. CHANGES IN DIRECTION OF FLOW SHALL BE MADE WITH A SMOOTH CURVE AS LARGE A RADIUS AS THE SIZE OF THE MANHOLE WILL PERMIT. CHANGES IN SIZE AND GRADE OF THE CHANNELS SHALL BE MADE GRADUALLY AND EVENLY.
6. THE FLOOR OF THE MANHOLE OUTSIDE THE CHANNELS SHALL BE SMOOTH AND SHALL SLOPE TOWARD THE CHANNELS NOT LESS THAN 1 INCH PER FOOT NOR MORE THAN 2 INCHES PER FOOT. WHERE DROP BOWL AND PIPING CANNOT BE USED, PROVIDE SMOOTH TRANSITION INTO TROUGH AS DIRECTED / APPROVED BY MT. OLYMPUS IMPROVEMENT DISTRICT.
7. PIPE CONNECTIONS TO EXISTING MANHOLES SHALL BE MADE IN SUCH A MANNER THAT THE FINISH WORK WILL CONFORM AS NEARLY AS PRACTICABLE TO THE ESSENTIAL APPLICABLE REQUIREMENTS SPECIFIED FOR NEW MANHOLES, INCLUDING ALL NECESSARY CONCRETE WORK, CUTTING, AND SHAPING.
8. INVERT COVERS SHALL BE PLACED BY CONTRACTOR PRIOR TO CONSTRUCTION.

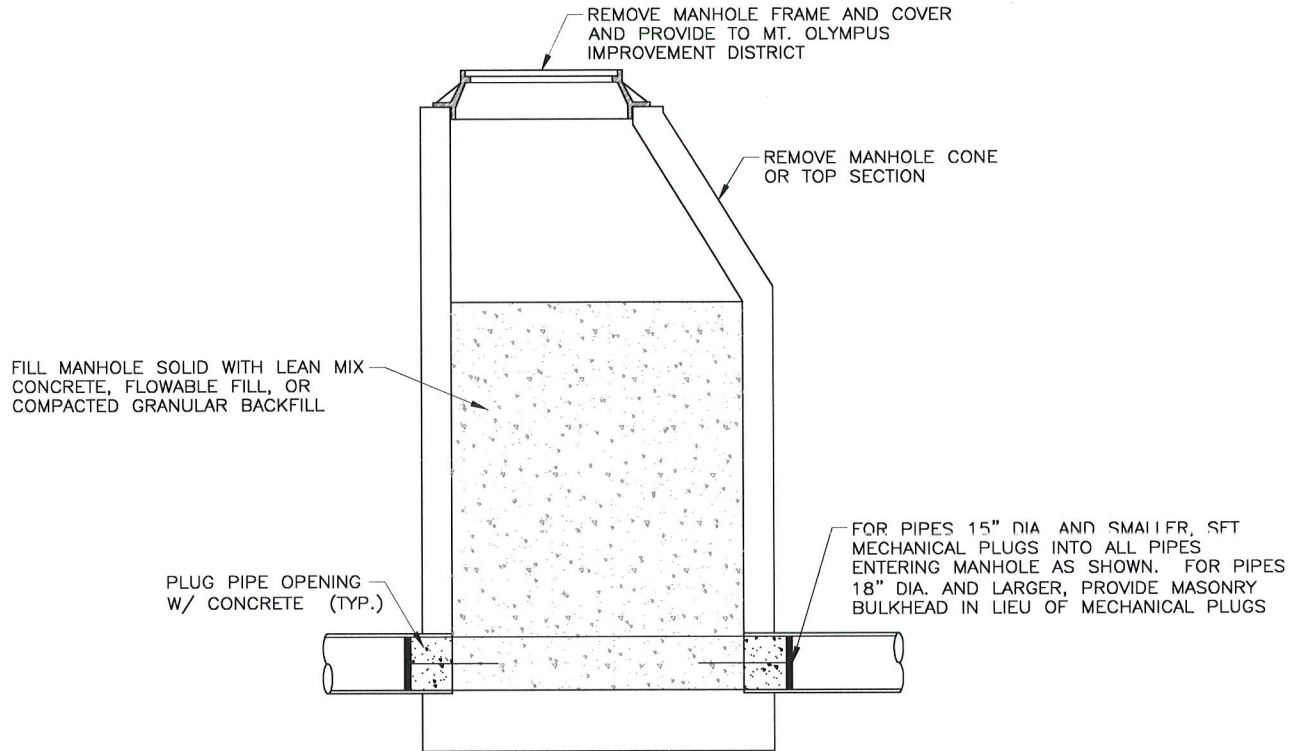
Manhole Collar



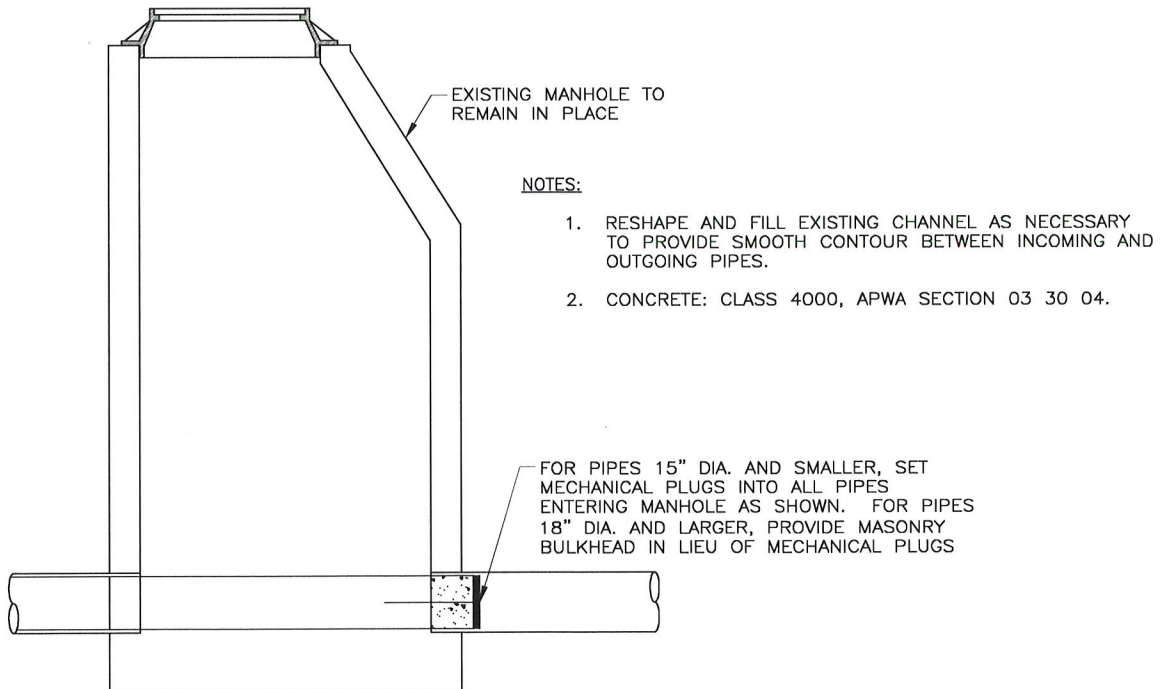
NOTES:

1. CONCRETE SHALL BE CLASS 4000 AS PER APWA SECTION 03 30 04. U-CART OR HAND MIXED CONCRETE WILL NOT BE ACCEPTED.
2. BACKFILL WITH GRADE 1 UNTREATED BASE COURSE AS PER APWA 32 11 23 2.1.
3. GRADE RINGS SHALL BE APWA STANDARD PLAN NO. 361. MTOID ALLOWS THE USE OF WHIRLYGIG OR APPROVED EQUIVALENT FOR SETTING GRADE RINGS.
4. CONCRETE COLLAR SHALL BE APWA STANDARD PLAN NO. 362.
5. LID SHALL BE CAST WITH "MTOID" LOGO.

Abandon Existing Manhole



ABANDON EXISTING MANHOLE

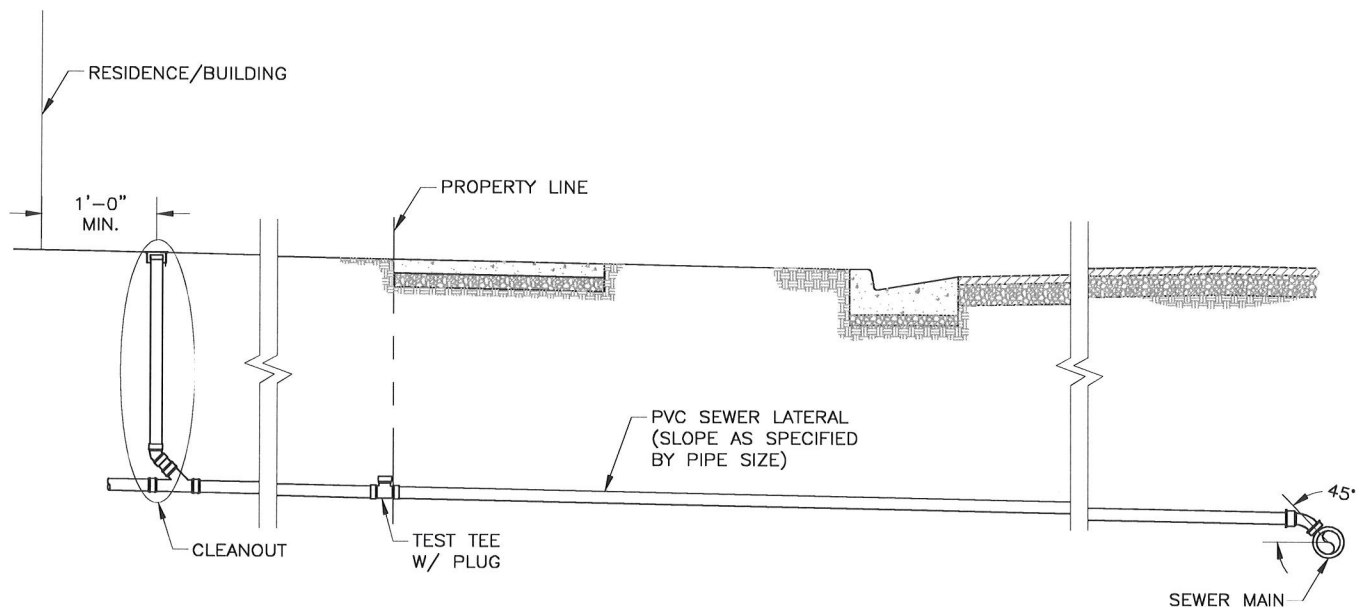


ABANDON PIPE AT EXISTING MANHOLE

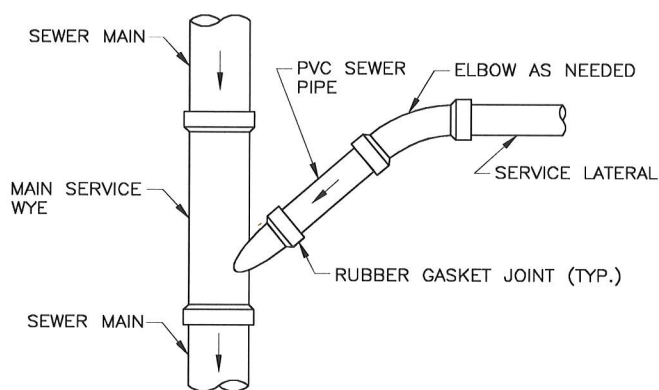
NOTES:

1. RESHAPE AND FILL EXISTING CHANNEL AS NECESSARY TO PROVIDE SMOOTH CONTOUR BETWEEN INCOMING AND OUTGOING PIPES.
2. CONCRETE: CLASS 4000, APWA SECTION 03 30 04.

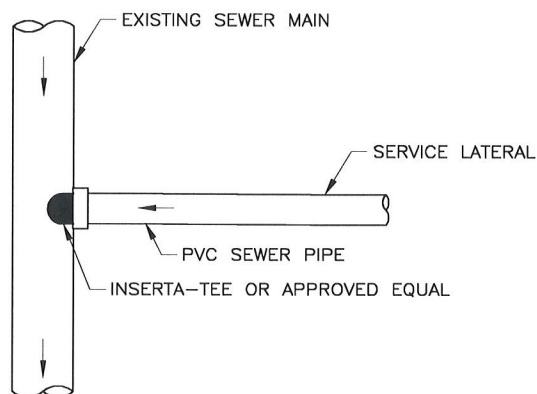
Typical Sewer Lateral & Cleanout



TYPICAL SEWER LATERAL



SERVICE CONNECTION TO NEW MAIN

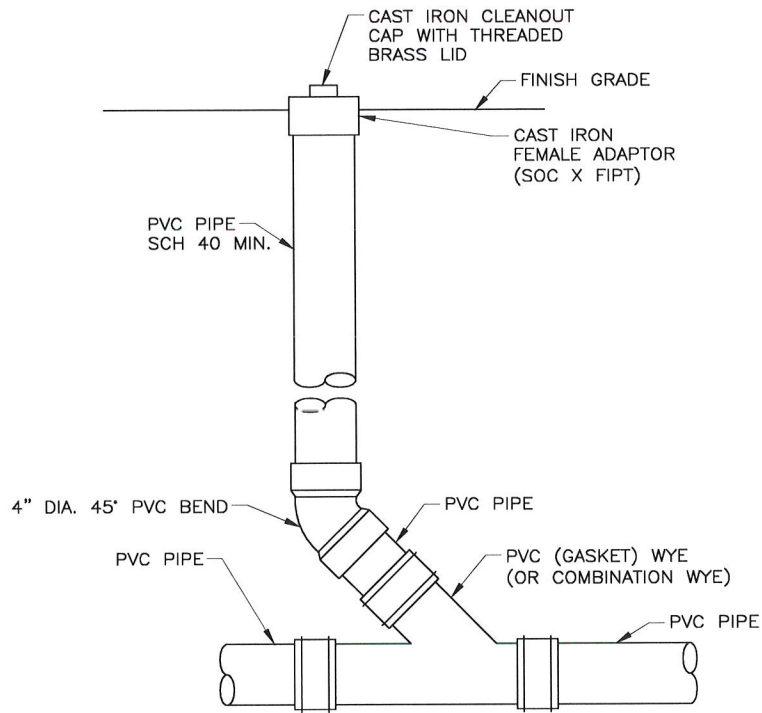


SERVICE CONNECTION TO EXISTING MAIN

NOTES:

1. SERVICE LATERAL SHALL BE 4" OR 6" AS SHOWN ON PLANS OR AS DIRECTED BY MT. OLYMPUS IMPROVEMENT DISTRICT.
2. SEWER LATERALS SHALL CONNECT TO SEWER MAIN AT EITHER A 22.5° OR 45° ANGLE.
3. LATERAL CONNECTIONS SHALL BE A MINIMUM OF 24 INCHES OFF OF BELL SPIGOT OF SEWER MAIN.
4. ONLY ONE (1) NEW LATERAL CONNECTION SHALL BE ALLOWED PER 4 FOOT SEGMENT OF SEWER MAIN PIPE.

Typical Sewer Lateral & Cleanout (Cont.)



CLEANOUT

NOTES:

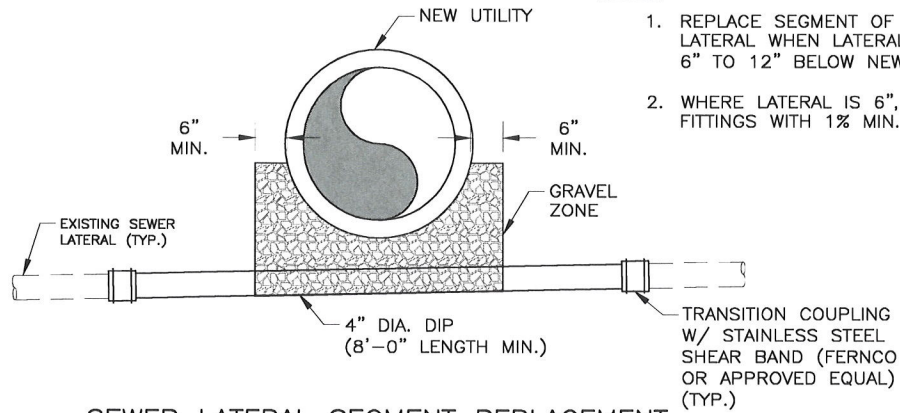
1. SIZE OF PIPING AS SHOWN ON DRAWINGS OR AS DETERMINED BY MT. OLYMPUS IMPROVEMENT DISTRICT.
2. PVC JOINTS SHALL BE GASKETED JOINTS. NO GLUE JOINTS ARE ALLOWED.
3. WHEN CONNECTING TO INTERIOR PIPING, SHEAR BAND FERNCO OR APPROVED EQUAL SHALL BE USED.

Lateral Replacement for New Utility



NOTES:

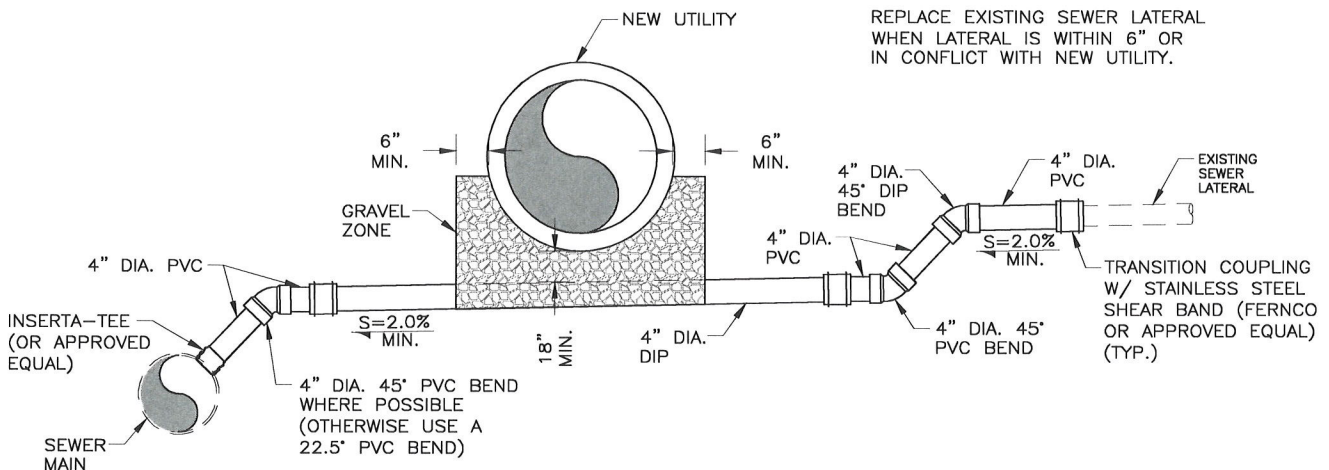
1. REPLACE SEGMENT OF EXISTING SEWER LATERAL WHEN LATERAL IS BETWEEN 6" TO 12" BELOW NEW UTILITY.
2. WHERE LATERAL IS 6", USE 6" FITTINGS WITH 1% MIN. SLOPE.



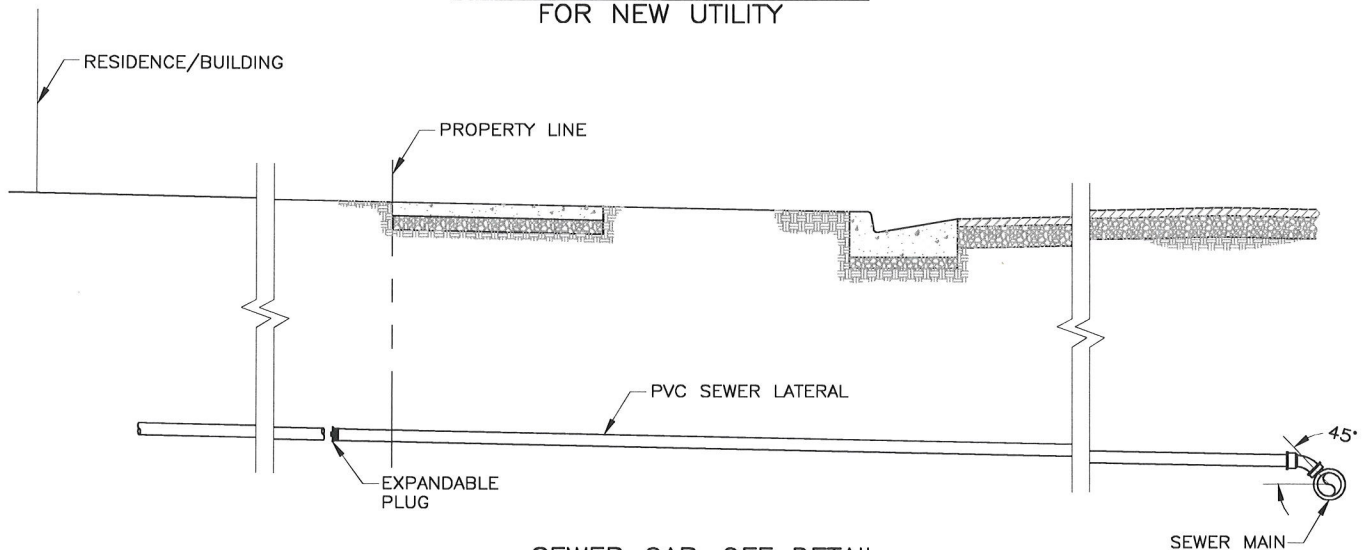
SEWER LATERAL SEGMENT REPLACEMENT FOR NEW UTILITY

NOTE:

REPLACE EXISTING SEWER LATERAL WHEN LATERAL IS WITHIN 6" OR IN CONFLICT WITH NEW UTILITY.



SEWER LATERAL RELOCATION FOR NEW UTILITY

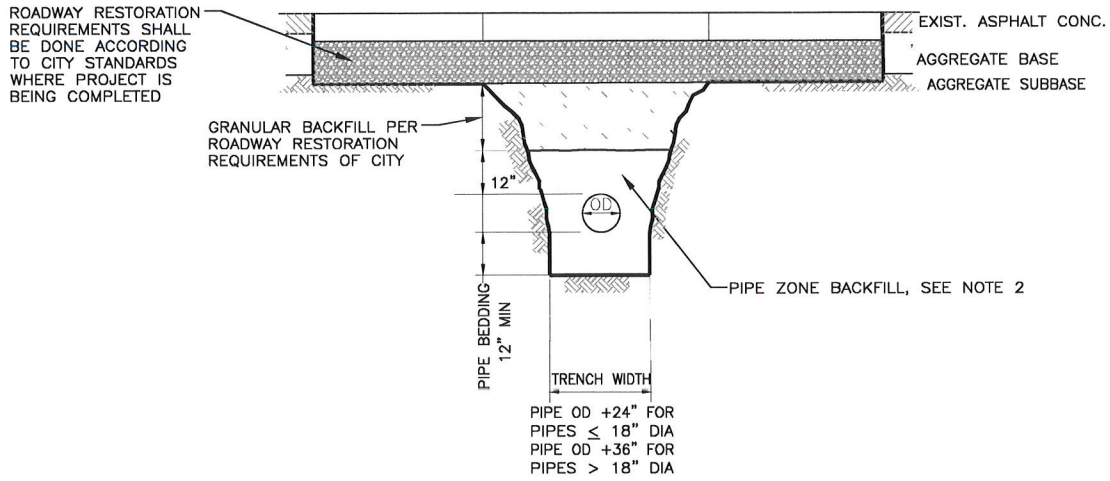


SEWER CAP-OFF DETAIL

NOTES:

1. A BAG OF QUIK-CRETE OR APPROVED EQUAL SHALL BE USED TO MIX AND FILL AROUND EXPANDABLE PLUG.
2. CAP-OFF SHALL BE BEHIND PROPERTY LINE. OLD PROPERTY LINE CLEANOUTS SHALL BE ABANDONED AS PART OF CAP-OFF PROCESS.

Typical Trench Detail

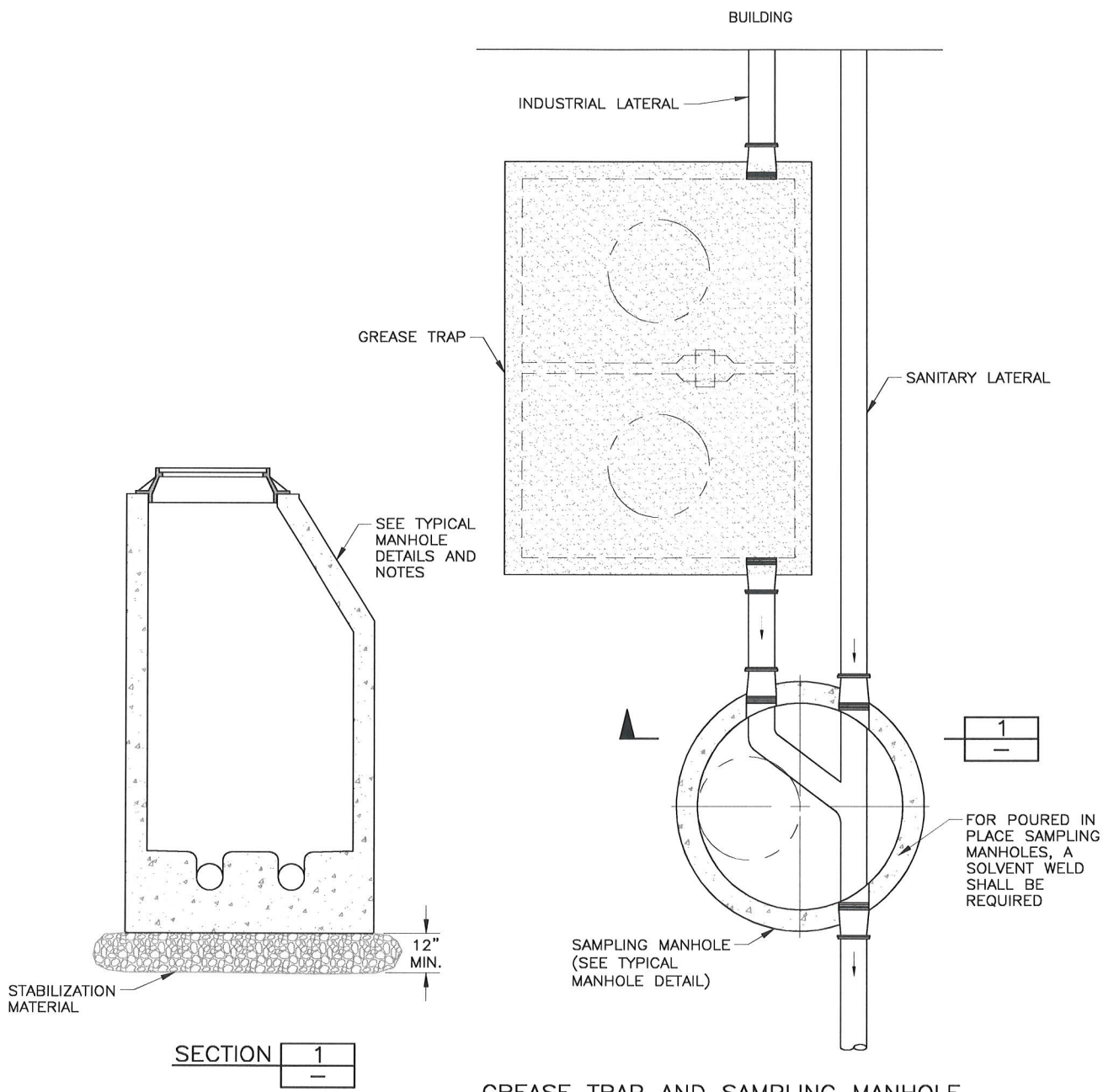


TYPICAL TRENCH SECTION

NOTES:

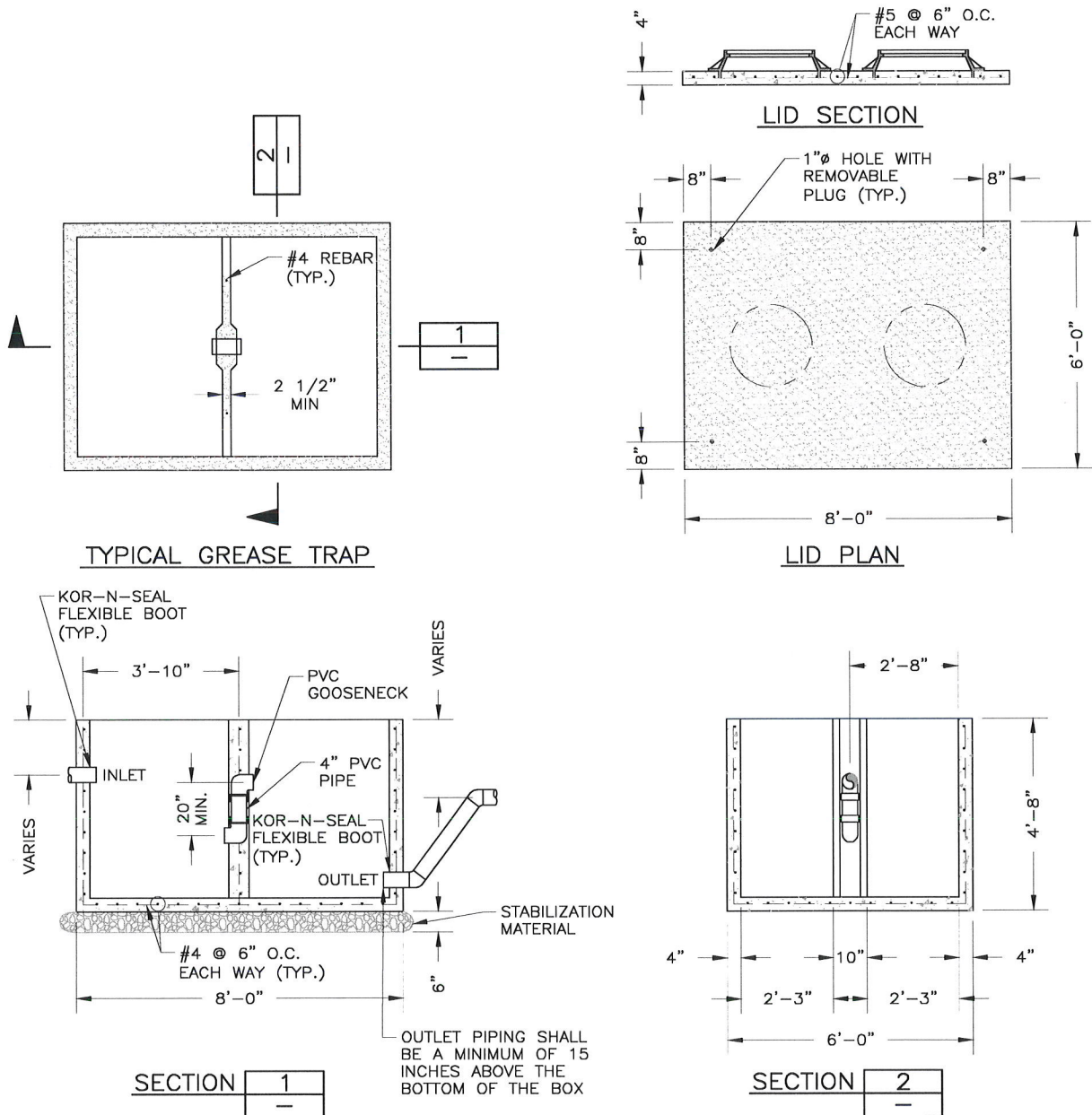
1. TRENCH EXCAVATION IN ACCORDANCE WITH APWA 31 23 16, OSHA, AND UOSH SAFETY STANDARDS.
2. PIPE ZONE MATERIAL TO BE A-1-a OR A-1-b ASTM D 3282 3/4" MAXIMUM PARTICLE SIZE. PEA GRAVEL AND "SQUEEGY" IS NOT ALLOWED IN ANY PART OF THE PIPE ZONE. MATERIAL SHALL BE PLACED IN LIFT NOT EXCEEDING 8" AND COMPACTED TO A MODIFIED PROCTOR DENSITY OF 95% OR GREATER (PER ASTM 1557) WITHOUT DAMAGING OR DEFLECTING PIPE.
3. RECYCLED ASPHALT SHALL NOT BE USED FOR BACKFILL IN ANY PART OF THE TRENCH.
4. FOR NEW CONNECTIONS TRENCH WIDTH SHALL BE 4 FOOT MINIMUM.

Grease Trap & Sampling Manhole



GREASE TRAP AND SAMPLING MANHOLE

Grease Trap & Sampling Manhole (Cont.)



NOTES:

1. MINIMUM VOLUME CAPACITY: 800 GALLONS. VARIANCES MUST BE APPROVED BY DISTRICT ENGINEER.
2. CONCRETE: CLASS 4000, APWA SECTION 03 30 04, PLACEMENT PER APWA SECTION 03 30 10, PROVIDE 1/2-INCH RADIUS EDGES. APPLY A BROOM FINISH. APPLY CURING AGENT.
3. REINFORCEMENT: DEFORMED, 60 KSI YIELD GRADE STEEL, ASTM A 615, PLACEMENT PER APWA SECTION 03 20 00.
4. PVC PIPE: APWA SECTION 33 05 07.
5. SEAL ALL WALL PENETRATIONS.
6. PROVIDE TWO 30" DIAMETER ACCESS OPENINGS WITH FRAME AND COVER (ONE FOR EACH SECTION OF GREASE TRAP).
7. BAFFLE WALL SHALL BE WITHIN 3" OF LID.
8. ALL FOOD AND BEVERAGE BUSINESSES OR ANY OTHER BUSINESSES WITH FLOOR DRAINS THAT CONNECT TO THE SEWER SYSTEM ARE REQUIRED TO HAVE A GREASE TRAP AND SAMPLING MANHOLE.

Section 3 – Technical Specifications

General Requirements

1. CITY, COUNTY, AND UDOT REQUIREMENTS:

Contractors shall contact the appropriate permitting agency with the State, City, County, UDOT, etc. to determine any necessary plan reviews, permits, bonds, and inspections required prior to starting work.

2. PUBLIC CONVENIENCE:

The Contractor shall at all times conduct his work as to insure the least possible obstruction to traffic and inconvenience to the general public and the residents in the vicinity of the work and to insure the protection of persons and property. No road or street shall be closed to the public except with the permission of the proper authorities. Fire hydrants on or adjacent to the work shall be kept accessible to fire-fighting equipment at all times. Temporary provisions shall be made by the Contractor to ensure the use of sidewalks and proper functioning of all gutter, storm drain inlets, drainage ditches and irrigation ditches, which shall not be obstructed.

3. SAFETY AND PROTECTION:

The Contractor shall be responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the work including but not limited to trench safety, confined space entry, traffic safety, and following all OSHA regulations. The Contractor shall take all necessary protection to prevent damage, injury or loss to:

- a) All employees on the work and other persons who may be affected hereby.
- b) All the work and all material or equipment to be incorporated herein, whether in storage on or off the site, and
- c) Other property at the site or adjacent thereto, including trees, shrubs, lawns, walks, pavement, roadways, structures and utilities not designated for removal, relocation or replacement in the course of construction.

Contractor shall comply with all applicable laws, ordinances, rules, regulations, and others of any public body having jurisdiction for the safety of persons or property or to protect them from damage, injury, or loss; and shall erect and maintain all necessary safeguards for such safety and protection. Contractor shall notify owners of adjacent property and utilities when prosecution of work may affect them. All damage, injury, or loss to any property directly or indirectly, in whole or in part, by Contractor, any subcontractor or anyone directly or indirectly employed by any of them or anyone for whose acts any of them may be liable, shall be remedied by the Contractor. The Contractor's duties and responsibilities for the safety and protection of the work shall continue until such time as all the work is completed.

The Contractor shall designate a responsible member of his organization at the site whose responsibility shall be on-site safety.

Excavation, Trenching & Backfill for Piping

1. WORK INCLUDED:

The work under this Section includes the furnishing of all labor, materials, equipment, transportation, hauling, and services required to construct the excavation, trenching and backfill for piping in place, complete, including but not limited to the following general classifications of work:

- Existing Utilities and Improvements
- General Excavation Requirements
- Trench Excavation
- Trench Backfilling
- Schedule of Trench Backfill Materials
- Cleaning Up

2. EXISTING UTILITIES AND IMPROVEMENTS:

It shall be the Contractor's sole responsibility to locate all existing water, sanitary sewer, storm drain, and gas lines, electrical and telephone conduit, and other underground structures in order that no damage or loss of service will result from interference with existing lines. The Contractor shall review all available maps, notes, and information on the location of these underground lines and structures in determining the location of the existing facilities. The Contractor shall have locating equipment and shall mark all lines on the road ahead of the excavating machine.

- a) Protection of Existing Construction: All gas, sanitary sewer, storm drain, culinary water and other pipelines, flumes and ditches of metal, wood or concrete, underground electrical conduits and telephone cable, and all walks, curbs, and other improvements encountered in excavating trenches carefully shall be supported, maintained and protected from injury or interruption of service until backfill is complete and settlement has taken place.
 - 1) Alignment: Care shall be exercised so that when backfilling is complete and settlement has taken place, the existing pipes, flumes, ditches, conduits, cables, walks, curbs, and other improvements will be on the same alignment and grade as they were before work commenced.
 - 2) Blue Stakes Location Center shall be contacted before any excavation is commenced. Telephone 811 for assistance.
- b) Pipelines, Ditches, and Other Utilities: Pipelines, ditches, and other utilities which are interrupted shall be repaired immediately at the Contractor's expense to the complete satisfaction of the Owner of the pipelines, ditches, and other utilities. The Contractor shall indemnify the Owner from any and all damages resulting from damaged facilities.
- c) Fences shall be returned to their original condition except those damaged portions will be replaced with new fencing at the Contractor's expense.
- d) Existing Concrete Improvements: It shall be the responsibility of the Contractor to mark with paint any existing cracks on concrete along which his work may take place, to determine after the construction is completed whether such damage was caused by the operations of the Contractor or had occurred previously. Any concrete showing unmarked cracks upon completion of construction will be evidence of damage by the Contractor's forces and shall be replaced or repaired to the satisfaction of the Owners of the concrete.

- e) Existing Pavement Materials: All existing pavement materials, whether bituminous or portland cement concrete must be cut to provide a straight, neat line along the edge of the patch that will be made at the completion of the project.

3. GENERAL EXCAVATION REQUIREMENTS:

Excavation for pipelines, concrete valve boxes, manholes, cleanouts and appurtenant structures shall include the work of removing all earth, sand, gravel, quicksand, stone, loose rock, solid rock, clay, shale, cement, hardpan, bounders, and all other materials necessary to be moved in excavating the trench for the pipe; maintaining the excavation by shoring, bracing, and sheeting or well pointing to prevent the sides of the trench from caving in while pipe laying is in progress; and removing sheeting from the trench after pipe has been laid.

- a) Ground Water: The Contractor shall do all pumping, shall build all drains, and do all the work necessary to keep the trench and pipes free from water during the progress of the work. In wet trenches, a channel shall be kept open along the side of the pipe for conducting the water to a sump hole, from which it shall be pumped out of the trench. No water shall be allowed to enter the pipe.

4. TRENCH EXCAVATION:

Trenches shall be of the necessary width for proper laying of pipe. Care shall be taken not to over-excavate. The bottom of the trenches shall be accurately graded to provide uniform bedding and support for each section of the pipe on a 3/4" minus gravel foundation along the entire length of the pipe.

- a) Depth of Excavation: Trenches shall be excavated to the depths shown on the Drawings, including any required allowances for the 3/4" minus gravel foundation.

- 1) Minimum Cover: Over the top of the pipe, including any paving, shall be as follows unless noted otherwise on plans:

Sanitary Sewer Lateral: 2' minimum

Sanitary Sewer Main Line: 4' minimum

- 2) Width of Trench: The width of a trench for a nose-on connection shall be at least 4' wide measured at the top of the pipe and long enough to allow adequate room to comfortably work with a drill. No tunneling shall be allowed for a nose-on. The width of a trench for pipe 18" and smaller shall be the outside diameter (OD) of the pipe plus 24". The width of a trench for pipes larger than 18" shall be the OD of the pipe plus 36".
- 3) Trench Support System: Shall be suitable for the soil structure, depth of cut, water content of soil, weather conditions, superimposed loads, and vibration. The Contractor is responsible for the safety of the trench support system. Contractor may select one of the following methods of ensuring the safety of workers in the trench, as approved by OSHA and its safety inspectors.
 - a) Sloping Side of Trench: To the angle of repose required by OSHA, at which the soil will remain safely at rest.
 - b) Shoring Sides of Trench: By placing sheeting, timber shores, trench jacks, bracing, piles, or other materials to resist pressures surrounding the excavation.

- c) Using a Movable Trench Box: Built up of steel plates and a heavy steel frame of sufficient strength to resist the pressure surrounding the excavation.
- 4) Inadequate Support: All damage resulting from lack of adequate sheeting, bracing and shoring shall be the responsibility of the Contractor; and the Contractor shall correct all necessary repairs for reconstruction resulting from such damage.
- 5) Excavation for Appurtenances: Excavation for manholes, cleanouts, and similar structures shall be sufficient to leave at least 12" clear between the outer surface and the embankment or timber that may be used to hold and protect the banks.
- 6) Excess Materials: Shall be hauled away from the construction site or otherwise disposed of by the Contractor as approved by the design engineer or District representative.

5. TRENCHING BACKFILLING:

The trenches shall not be backfilled until the utilities systems as installed conform to the requirements of the drawings and specifications. Where, in the opinion of the District representative, damage is likely to result from withdrawing sheeting, the sheeting shall be left in place. Trenches shall be backfilled to the ground surface with material that is suitable for the specified compaction. Trenches improperly backfilled shall be reopened to the depth required for proper compaction, then refilled and compacted as specified, or the condition shall be otherwise corrected as approved. No material of a perishable, spongy, deleterious or otherwise improper nature shall be used in backfilling.

- a) Pipe Bedding: Consists of preparing an acceptable pipe foundation, excavating the pipe groove in the prepared foundation and backfilling from the foundation to 12" above the top of the pipe and 12" below the bottom of the pipe. All piping shall be protected from lateral displacement and possible damage resulting from impact or unbalanced loading during backfilling operations by being adequately bedded.
 - 1) Pipe Groove: A groove shall be excavated in the pipe foundation to receive the bottom quadrant of the pipe so that the installed pipe will be true to line and grade.
 - a) Bell Holes: Shall be dug after the trench bottom has been graded. Bell holes shall be excavated so that only the barrel of the pipe will be in contact with the soil.
 - 2) Pipe Bedding from Pipe Foundation to 12" Above Top of Pipe and 12" Below the Bottom of the Pipe: Materials shall be deposited and compacted in layers not to exceed 8" in uncompacted depth. Deposition and compaction of bedding materials shall be done simultaneously and uniformly on other sides of the pipe. All bedding materials shall be placed in the trench with hand tools or other approved methods in such a manner that they will be scattered alongside the pipe and not dropped into the trench in compact masses.
 - a) Materials: Shall be 3/4" minus angular gravel. Bedding material from the trench excavation shall be free from roots, sod or other vegetable matter.
 - b) Trenching Backfilling Above Pipe Bedding: Shall normally be accomplished with native excavated materials and shall be free from rocks larger than 4" in diameter. Consult the City, County, or UDOT for exact specifications and requirements.

- c) **Compaction:** Shall be according to City, County, or UDOT requirements. Where not specified and under pavements, or other surface improvements, the in-place density shall be a minimum of 95% of laboratory standard maximum dry density as determined as AASHTO T-99. In shoulders and other areas, the in-place density shall be a minimum of 90% of the maximum dry density as determined as AASHTO T-99. Road base shall be 96% as determined by AASHTO T-180.
 - 1) **Tests:** The Contractor shall perform all tests required by the District representative to determine any adjustments in compacting equipment, thickness of layers, moisture content and compactive or other effort necessary to attain the specified minimum relative density.
- d) **Methods of Compaction:** Are listed in the Schedule of Trench Backfill Materials and include Mechanical Compaction (MC). Selection of method of compaction in each case will be made according to the requirements of the materials being placed. Authorization by the District representative to use any method does not relieve the Contractor of this responsibility to meet the specified density requirements. Compaction shall be performed in strict accordance with the manufacturer's recommendations for each type of pipe.
 - 1) **Mechanical Compaction:** Shall be accomplished using sheepsfoot rollers, pneumatic tire rollers, vibrating rollers, or other mechanical tampers of a size and type approved by the District representative.
 - a) **Placing of Material:** Shall be in lifts which, prior to compaction, shall not exceed 8". Each lift shall be evenly spread and moistened and worked by disk harrowing so that the required density will be produced.

6. PIPE BEDDING MATERIALS:

All sanitary sewer pipe shall be bedded in 3/4" minus coarse angular gravel.

7. CLEANING UP:

The surface of the ground shall be restored to the condition in which it was found prior to construction to include any landscape, pavement, gravel surface restoration. All excess materials shall be hauled from the site and properly disposed of.

Sanitary Sewer Installation

1. GENERAL:

This Section outlines the requirements for construction of the sanitary sewer, including the following general classifications of work:

Pipe Materials	Main Lines
Pipe Installation	Sewers Laterals
Manholes	Leakage Tests

2. GENERAL DESIGN STANDARDS:

1. Definitions:

- a) **Main Lines:** will be 8" or larger and serve more than one building, owner, or association of owners.
- b) **Laterals:** Service line from the outside of a building to the Main Line. Sewer Laterals shall be designed and installed with a minimum of 2% slope for 4" pipe and 1% for 6" pipe. Anything larger must be installed per Main Line specifications. There must be a separate Lateral with a separate connection to the Main Line for each building. Duplexes, twin homes, townhomes and external ADU's must have two separate Lateral connections to the Main Line.

A complete definition of Main Lines and Laterals can be found in the *Code of General Regulations of Mt. Olympus Improvement District*.

2. Minimum Grades and Access for Pipes:

Size	Min Grade	Type of Access *	Maximum Spacing of Access	Comments **
4"	2%	4" Cleanout	100'	Cleanouts can be spaced closer if conditions allow
6"	1%	6" Cleanout	100'	Cleanouts can be spaced closer if conditions allow
8"	0.40%	4' Manhole	400'	0.50% or more desirable
10"	0.28%	4' Manhole	400'	0.38% or more desirable
12"	0.22%	5' Manhole	400'	Increased grade desirable
15"	0.15%	5' Manhole	400'	Increased grade desirable
18"	0.12%	5' Manhole	400'	Increased grade desirable
21"	0.10%	5' Manhole	400'	Increased grade desirable
24"	0.08%	5' Manhole	400'	Increased grade desirable

*A manhole or cleanout, as noted above, will also be required at all changes in grade and alignment except that (1) 45-degree bend will be allowed in Laterals.

** This table shows the minimum slopes which must be provided; however, slopes greater than these are desirable.

3. PIPE & FITTINGS:

For the various services:

TYPE OF SERVICE	PIPE			FITTINGS			JOINTS	
	MATERIAL	SPEC.	CLASS	MATERIAL	SPEC.	CLASS	TYPE	SPEC.
Main Lines	PVC* 8" to 15"	ASTM D-3034	SDR 35	PVC	ASTM D-3034	---	Push-on Gasket	ASTM D2000, AA820, AA625
	PVC* 18" to 24"	ASTM F679	SDR 35	PVC	ASTM	---	Push-on Gasket	ASTM D2000, AA820, AA625
	Concrete 18" or Larger	ASTM C-76	Class 3 Minimum	Concrete	ASTM C-14	Extra Strength	Push-on Gasket	ASTM C-443
	DI**	AWWA C-151	50	Cast Iron	AWWA C-110	250 psi	Push-on Gasket	AWWA C-900 C-110
	VC**	ASTM C-700	Extra Strength	VC	ASTM C-700	Extra Strength	Push-on	ASTM C-425
Laterals	PVC*	ASTM D-3034	SDR 35	PVC	ASTM D-3034	---	Push-on Gasket	ASTM D2000, AA820, AA625
	VC**	ASTM C-700	Extra Strength	VC	ASTM C-700	Extra Strength	Push-on	ASTM C-425
Manholes	Concrete	ASTM C-478	---	---	---	---	---	---

* Used for new construction

** Used, if necessary and approved by District representative, for repair purposes

- a) Vitrified Clay Pipe: Shall be unglazed, bell and spigot pipe.
 - 1) Joints: Shall be factory-made, flexible compression.
 - 2) Quality Standard: Gladding, McBean and Company.
- b) Cast Iron Pipe: Provide redwood supports for cast iron clean-out branches to prevent breaking pipe when trench is backfilled. Use only when required by Salt Lake County Health Department Regulations for separation of culinary water and sanitary sewer.
- c) PVC: Shall be push on gasket type joints.

4. PIPE INSTALLATION:

- a) Pipe Laser: Is to be used to control the line and grade of Main Line pipes.
- b) Bedding: All pipes shall be laid on a firm bed, true to the line and grade shown on the drawings, and the end and shoulder of each pipe shall abut against the other in such a manner that there shall be no unevenness of any kind along the bottom half of the pipeline.
 - 1) Pipe Groove: Material under the pipe bell shall not be compacted.
 - 2) Materials: Pipe bedding shall conform to the District's recommendation for the pipe being installed. Large stones shall not be used for pipe bedding.
 - 3) Placing of pipe bedding shall be done carefully to prevent damage to the pipe.
- c) Floating: Care in all phases of pipe installation shall be taken to prevent floating of pipe.
- d) Use of Compaction Equipment: Care shall be taken to avoid contact between the pipe and compaction equipment. Compaction of bedding and backfill material shall generally be done in such a way so that compaction equipment is not used directly above the pipe until sufficient backfill has been placed to assure that such compaction equipment will not have a damaging effect on the pipe.
- e) Laying: Pipe shall be laid in the uphill direction with the bell-end pointing upgrade.
- f) Manufacturer's Recommendations: All work shall be performed in strict accordance with the manufacturer's recommendations for the type of pipe being installed.

5. MANHOLES:

The Contractor shall construct the manhole at the specific stations shown on the drawings. Manholes shall be set so that the top of the manhole lid is level with the finished surface or grade.

- a) Watertightness: All manholes shall be watertight, both in the floor and the full height of the walls. All manhole grade rings shall be set on a full bed of concrete grout to insure watertightness between the rings. A maximum of 12" of grade rings can be used. Waterproofing of manholes (e.g., gaskets, mastic, external wrap, tar coating, spray coating, spray foam, grouting, concrete admixtures, or other approved measures) shall be required of any manholes located within 400' of a stream, river, lake, or any other water features than could lead to infiltration. Waterproofed manholes may also be required in well protection zones.
- b) Pre-Cast Manholes: May be used for new manholes. These shall include standard sections, cone section, grade rings, and floors.

- 1) Joints: Shall be made tight by the use of Kent-seal or approved gasket.
 - 2) 30" Grade Rings: Shall be limited to a total height of 12". Whirligigs or approved equal can be used in place of grade rings.
 - 3) A Single Cast Iron Riser Ring: May be used as needed to fit in ring securely. (3) 3/8" set screw are to be used to lock riser ring into manhole ring.
- c) Reinforcement: Circumferential reinforcement shall conform to ASTM C-478. The area of vertical reinforcement shall be at least 0.2% of the area of the horizontal concrete cross section.
 - d) Manhole Frames and Covers: All castings shall conform to the requirements of the American Society for Testing Materials specifications for gray iron castings. The bearing between the cover and the frame shall be machined so that it will be uniform all around, and any cover which tips, rocks or creates road noise will be rejected. No low-profile rings will be allowed.
 - 1) Cover Lettering: Shall read "Mt. Olympus Improvement District" D&L Model No A-1180 MT OLPMUS.
 - e) Invert Covers/Invert Boards: Shall be 5/8" thick exterior plywood and shall be placed over the top of pipe in all manholes to prevent debris from entering the sewer during the construction operations. Invert covers shall be removed after the manhole covers have been finally set at grade, and construction has been completed.
 - f) Final Grade Adjustment: In non-paved areas manhole rings and covers shall be adjusted to make them flush with the surface. In paved areas a concrete collar shall be used, the concrete collar shall slope at 1/4" per foot away from the pavement toward the manhole ring and cover. The manhole ring and cover shall be held 1/4" to 1/2" below the adjacent pavement surface.
 - g) Drop Manholes: Drop manholes shall only be used when approved by the District. All drops into manholes shall be inside drops as shown in the Drawings. All drops require a Reliner Bowl or District approved equivalent, with the bowl and piping restrained to the manhole walls as shown in the Drawings. Glued fittings shall be used in drop manholes.

6. LATERALS AND HOUSE LATERALS:

The Contractor shall furnish and install wyes for new Laterals from the Main Line to all structures and for vacant lots as directed. Use 4" Inserta tees for Laterals on existing PVC, Concrete, and Clay pipe. The minimum Main Line size to use a 4" Inserta Tee is 8", and the minimum Main Line size to use a 6" Inserta Tee is 10".

- a) Size: Must be 4" diameter or larger. Sized by the design engineer of the building. Acceptable pipe: SDR 35 PVC.
- b) Location: Laterals shall not be located under driveways or under extensive porch areas.
- c) Minimum Grade: Laterals shall be 2% for 4" diameter Laterals and 1% for 6" diameter Laterals or as approved by the District.
- d) Cleanouts: Shall be installed outside of the structure and at 100' intervals along the Lateral and at all changes in direction of the Lateral. Clean-out branches shall be the same size as the Lateral and shall be connected to wyes or combinations in the Lateral. Use a PVC combination wye with a standpipe with a watertight cast iron cap with a brass screw type lid. Cleanouts that

must be placed in concrete must have a cast iron triangular box placed over the cleanout and must be poured flush with the concrete. It is recommended that an irrigation style box be placed over any cleanout in a landscaped area. Cleanouts shall remain accessible at all times. Connecting a new sewer lateral to an existing cleanout standpipe is prohibited.

7. MAIN LINES:

- a) Size: Main Lines shall be 8" in diameter or larger. Acceptable pipe: SDR 35 PVC for 8" to 15". For Main Lines above 15" consult with District representative.
- b) Depth: Main Lines must be installed below frost line, and where possible, below water lines in the same street. Main Lines installed deeper than the maximum depth on the following table shall follow the manufactures allowable maximum burial depth charts and/or calculations. Documentation on the allowable maximum burial depth shall be submitted to the District when burial depths greater than the following table are necessary.
 - 1) Cover: Over the top of the pipe, as measured from the outside diameter, including any paving shall be as follows unless noted otherwise on the drawings. Main Lines that do not meet the minimum cover requirements will not be accepted as District Main Lines. Main Lines that exceed the maximum cover requirements must submit design calculations to support the proposed pipe bury depth.

Pipe	Minimum	Maximum
VC	4'	16'
Conc.	4'	16'
PVC	4'	16'

8. NUMBER OF CONNECTIONS & SIZING:

a) Number of Connections: The District will not allow multiple sewer connections to a District Main Line for a single structure. Where a single structure is designed with multiple Laterals, they must be consolidated into one point of connection before connecting to a District Main Line. The District will not allow multiple connections, including multiple new manholes, where one point of connection is possible. A maximum of two points of connection may be allowed in certain circumstances where the connections are warranted, supported by design calculations, and no other options are possible. Design calculations must be submitted to a District representative and must include the depth of flow, velocity, water surface profiles, gradients, an explanation of the design basis and why a single point of connection is not possible. A second point of connection may be approved or rejected at the District's sole discretion on a case-by-case basis.

b) Sizing Laterals and Main Lines: The District uses the procedures set forth in Utah Administrative Code 317-3-2 for the sizing of Laterals and Main Lines, with the exception that District uses a design flow for one Residential Equivalent unit (RE) of 200 gallons per day. This design flow is supported by flow metering and studies completed by the District. A drainage fixture unit approach will not be accepted for sizing outdoor sanitary sewers within the District. The District will not allow oversizing of infrastructure where conditions are not warranted. Infrastructure which is oversized may lead to septic conditions, odor complaints, and a lack of a self-cleaning velocities. Where future conditions may warrant larger infrastructure, a full set of plans including a Site Plan, Utility Plan, and supporting design calculations including the depth

of flow, velocity, water surface profiles, gradients, an explanation of the design basis and why larger infrastructure is necessary. This information must be submitted to the District for approval. Improvements that are not warranted and/or oversized will be rejected by the District. Where larger infrastructure is warranted and supported by the necessary plans and design calculations, the project and/or development, shall be responsible for any and all costs associated with upsizing the necessary improvements. All improvements must be upsized up to the location where the existing infrastructure is of a sufficient size and capacity to provide adequate sanitary sewer service for the particular project and/or development.

9. LEAKAGE TESTS:

The following procedures are for air testing of Main Lines. All inspection tests, including all devices for testing purposes, shall be performed and furnished by the Contractor. Any material or workmanship proven defective shall be replaced with sound material and the test repeated if deemed necessary by the District. All tests shall be performed after backfill and compaction are completed. In addition, the District will perform a CCTV inspection as part of the testing procedures.

- a) Notice: The Contractor shall give the District at least 1 business days of notice of any test to be performed on the system.
- b) Observations: Tests shall be observed by the District representative. Any test performed and not so observed shall be repeated when observed by the District representative.
- c) Correction and Re-Testing: All corrections indicated by any unsuccessful tests shall be made and the tests repeated until the successful performance of all tests is achieved. Cost of making corrections and retesting shall be borne by the Contractor.
- d) Length Tested: Shall be from manhole to manhole.
- e) Method of Test: All Main Lines shall be air tested. The method of air testing shall be as follows:
 - 1) Clean test section.
 - 2) Plug all pipe outlets with suitable test plugs. Brace each plug securely.
 - 3) Add air slowly to the portion of the pipe installation under test until the internal pressure is raised to 4.0 psig.
 - 4) After an internal pressure of 4.0 psig is attained, allow at least two minutes for air temperature to stabilize, adding only the amount of air required to maintain pressure.
 - 5) After the two minute period, disconnect the air supply.
 - 6) When pressure decreases to 3.5 psig, start the stopwatch. Determine the time in seconds that is required for the internal air pressure to reach 2.5 psig.
 - a) If the stopwatch time is less than the time specified in the TIME HOLDING CHART, on next page the Contractor shall fill the line with water and hold for 60 minutes. The water is to be released from the test section and immediately retested.
 - b) If after all sources of air leakage have been corrected and there is still difficulty in meeting the minimum specification time requirements, a water exfiltration test may be

conducted, at the sole discretion of the District, to determine the acceptability of the test section.

- 7) Safety Provisions: Plugs used to close the sewer pipe for the air test must be securely braced to prevent the unintentional release of a plug. Gauges, air piping manifolds and valves shall be located at the top of the ground. No one shall enter a manhole when a plugged pipe is under pressure. Pipes larger than 24" diameter shall not be air tested. Air testing apparatus shall be equipped with pressure release devices such as a rupture disc or a pressure relief valve designed to release pressure at a maximum of 6.0 psi.
- 8) Time Holding Chart:

TIME HOLDING CHART
 Time in Seconds Required for
 Pressure Drop from 3.5 to 2.5 psig
 Wet Test Standards based on 0.003 cfm/sf
 Dry Test Standards based on 0.005 cfm/sf
 ASTM C-924

Length	0.003	0.005	0.003	0.005	0.003	0.005	0.003	0.005	0.003	0.005	0.003	0.005	0.003	0.005	0.003	0.005
	4"	6"	8"	10"	12"	15"	18"	21"	24"							
50	9 - 5	20 - 11	35 - 20	55 - 32	79 - 46	124 - 71	178 - 102	243 - 146	317 - 190							
75	13 - 8	30 - 17	53 - 30	83 - 47	119 - 69	186 - 106	267 - 153	364 - 218	475 - 285							
100	18 - 10	40 - 23	71 - 41	110 - 64	158 - 91	248 - 142	356 - 204	485 - 291	639 - 383							
125	22 - 13	50 - 29	88 - 51	138 - 79	198 - 114	309 - 177	446 - 255	595 - 357	680 - 408							
150	26 - 15	59 - 34	106 - 61	165 - 95	238 - 137	371 - 212	510 - 306									
175	31 - 18	69 - 40	123 - 71	193 - 111	277 - 160	425 - 255										
200	35 - 20	79 - 46	141 - 81	220 - 127	317 - 188											
225	40 - 23	89 - 51	158 - 91	248 - 143	340 - 204											
250	44 - 25	99 - 57	176 - 102	275 - 159												
275	48 - 28	109 - 63	194 - 112	283 - 174												
300	53 - 31	119 - 69	211 - 122													
350	62 - 36	139 - 01	227 - 142													
450	79 - 46	170 - 103														
500	88 - 51															
550	97 - 56															
600	106 - 61	170 - 103	227 - 142	283 - 174	340 - 204	425 - 255	510 - 306	595 - 357	680 - 408							

- 9) Exfiltration Tests: The length of pipe tested shall be limited so that the pressure on the invert of the lower end of the section tested shall not exceed 16' of water column, and in no case shall the length of the section tested be greater than 400' or the distance between manholes, where greater than 400'.
- a) Allowable Leakage: The measured rate of leakage during the test shall not exceed 500 gallons per inch of pipe diameter per mile of pipe per 24 hours, with a 6' head at the crown at the end of the test section.
9. CLEANING AND FLUSHING:
- All pipe lengths or units laid shall be thoroughly cleaned of all debris immediately after laying.
- a) At the end of the day's work, or at any time the work is terminated for any reason, the Contractor shall plug all open ends of the pipe with material satisfactory to the District representative to prevent the entrance of small animals and foreign material of any kind into the pipe. Plugs shall be furnished and placed by the Contractor at his expense.
- b) Before connection to existing sewer is made, all new sewer Main Lines shall be thoroughly cleaned by flushing, and all debris removed, as approved by the District.

Restoration of Surface Improvements

1. Work Included:

The work under this Section includes the furnishing of all labor, materials, equipment, transportation, hauling and services included in the following general classifications:

General Requirements
Gravel Surfaced Areas, Bituminous Paved Surfaces
Concrete Curbs, Gutters, Sidewalks, and Driveways
Planted Areas, Miscellaneous Improvements

2. GENERAL REQUIREMENTS:

All surface improvements existing at the time of the start of the work, or placed during the construction period, which require interruption or removal to permit the construction specified herein shall be restored following completion of the work. The requirements in this Section are only general in nature and the appropriate City, County, UDOT, or other Owners shall be contacted for specific requirements.

- a) Quality of Restoration Work: Shall equal or exceed that of the original surface improvements in every case.

3. GRAVEL SURFACED AREAS:

Where trenches are excavated through gravel surfaced areas, such as roads and driveways and other areas, the gravel surface shall be restored by placing a gravel road base.

a) Subgrade Preparation: Immediately after the trench has been backfilled to the required road base subgrade, the subgrade shall be compacted to not less than an average dry density of 96% determined in accordance with AASHO Designation T-180 Method D. No test shall be less than 92%.

b) Gravel Road Base

1) Construction Methods: Mixing, placing, compaction and finishing shall conform to the State of Utah Standard Specifications for Road and Bridge Construction.

2) Material: Gradation of gravel and road base material shall be as follows:

SIEVE SIZE	PERCENT PASSING BY WEIGHT
1"	100
1/2"	70-100
No. 4	41-68
No. 16	21-41
No. 50	10-27
No. 200	4-13

Materials shall conform to the State of Utah Standard Specifications for Road and Bridge Construction.

3) Thickness: Of gravel road base course shall be 6".

4) Compaction: Average dry density shall be not less than 96% of the dry density determined in accordance with AASHO Designation T-180 Method D. No test shall be less than 92%.

4. BITUMINOUS PAVED SURFACES:

Where trenches are excavated through bituminous surfaced roads, driveways or parking areas, the surface shall be restored as follows:

a) Subgrade Preparation: Shall be performed as specified above.

b) Gravel Road Base: Shall be constructed as specified above.

c) Bituminous Prime Coat: Shall be applied to the untreated base course. Materials and construction methods shall be in accordance with State of Utah Standard Specifications for Road and Bridge Construction.

d) Bituminous Surface Course: Shall be composed of a mineral aggregate and bituminous binder mixed at a central mixing plant and spread and compacted on the primed base course.

1) Thickness: Shall match existing thickness or shall be 3" whichever is greater.

2) Materials and Construction Methods: Shall be in accordance with the State of Utah Standard Specifications for Road and Bridge Construction. Dry mineral aggregate shall meet the requirements for 3/4" gradation.

3) Compaction: Average density shall be at least 96% of the maximum laboratory density.

5. CONCRETE CURBS, GUTTERS, SIDEWALKS AND DRIVEWAYS:

Shall be removed and replaced to the next joint or scoring lining beyond the actually damaged or broken sections; or in the event that joints or scoring lines do not exist or are three or more feet from the removed or damaged section, the damaged portions shall be removed and reconstructed to neat, place faces. All new concrete shall match, as nearly as possible, the appearance of adjacent concrete improvements. Where necessary, lampblack or other pigments shall be added to the new concrete to obtain the desired results.

a) Concrete Work: Shall conform to the requirements of the appropriate City, County, or UDOT.

6. PLANTED AREAS:

a) Sodded and planted areas shall be replanted with sod or landscaping materials that are equal or exceed that of the original.

7. MISCELLANEOUS IMPROVEMENTS:

All other improvements interrupted or removed to permit the construction specified herein shall be restored. Miscellaneous improvements to be restored shall include, but shall not be limited to the following:

- Culverts
- Canals and Canal Structures
- Bridges and Bridge Abutments
- Fences
- Driveways
- Sidewalks
- Curbs
- Gutters
- Waterways

Section 4 – Repairs & Development Procedures

MT. OLYMPUS IMPROVEMENT DISTRICT

CHAIRMAN
AMI ANDERSON NEFF

3932 SOUTH 500 EAST
SALT LAKE CITY, UTAH 84107-1895
PHONE (801) 262-2904
FAX (801) 265-0551

GENERAL MANAGER
KERRY S. EPPICH

TRUSTEES
GILES DEMKE
C. KIM BLAIR

COUNSEL
KIRTON & MCCONKIE

LATERAL SPECIFICATIONS

Use SDR 35 pipe. Bell to spigot gasket joints only. All fittings and cleanouts to be SDR 35 PVC. No glued fittings except in sampling manhole.

Cleanouts: Cleanouts are SDR 35 pipe with the same diameter as the Lateral. The top of cleanout must have a cast iron hub with a threaded brass cap for locating purposes. One cleanout outside of the structure one cleanout every 100' thereafter. If more than a 45° bend, there must be a clean-out. A clean-out is also required at every 90° bend and between (2) 45° bends. Fernco shielded couplings (shear band couplings) or an approved equal required.

¾" minus gravel 12" around pipe & clean-out. 2% minimum grade on 4", 1% on 6", uniform grade from start to finish.

New connections require a test tee at the property line. Water test to be run on all Laterals with 10' of head.

The District will install the nose-on, customer pays for the nose-on. The 4" nose-on is a SDR 35 PVC bell. Trench box required for nose-on or trench must be vee'd to OSHA standards. Trench needs to be dewatered. One nose-on per segment of Main Line. The nose-on shall be installed at least 18" from the existing bell end of the Main Line.

Cap-offs: Dig up Lateral as close to the property line as possible without disturbing sidewalk or road asphalt. Cap-off shall take place past any property line cleanout so that the old cleanout will be removed or abandoned. An expandable plug the size of the line to be capped off is needed along with a bag of fence post concrete mix. Pipe to be capped off needs to be cut off square. Put in expandable plug. Call for an inspection by the District representative. Mix concrete and place around cap while inspector is present. The account will only be closed when the District representative witnesses the cap-off and any remaining amounts are paid on the account.

Sampling manhole is required for all commercial buildings. An appropriately sized outside grease trap shall be required at all commercial establishments where food and drink are prepared or at any establishment with indoor floor drains. Minimum grease trap size is 800 gallons.

No building sewer Lateral shall have less than 2' of earth cover over the pipe at finished grade.

Inspection fees must be paid and Lateral Bond in place prior to any work beginning. Property owner may do the repair without a bond if they are doing all the work and no other party will be paid to perform any portion of the sewer Lateral work. Nothing shall be buried until approved by a District representative. Surface restoration of yards, sidewalks, and other improvements disturbed in the course of the work is required.

LATERAL SPECIFICATIONS - REHABILITATION WORK

Under no circumstance shall the District assume any liability for loss or damage which takes place as a result of rehabilitating or reusing old Laterals. The service life of many types of sewer Laterals is estimated to be 50 years. The contractor shall explain all limitations of the rehabilitation work along with any deficiencies to, and obtain the consent from, the legal property owner. The District makes no representation or warranty of any kind, express or implied, regarding the quality, workmanship, or remaining service life of any work done using rehabilitation methods.

Lateral Liners

Lateral liners shall not protrude into the Main Line. Protruding liners shall immediately be removed using a robotic cutter. The protruding liner shall be cut neatly to not cause any rough edges. The District may recoup any costs necessary to eliminate protruding liners which are not addressed in a timely matter. A separate bond may be required for Lateral liners.

Lateral liners shall not be installed from within a permanent structure (e.g. homes, businesses, etc.)

Lateral liners shall have an accessible outdoor cleanout.

Lateral liners shall be continuous and cover all joints. The liner shall be free from visual defects such as foreign inclusions, pinholes, fins, large wrinkles, burns, and delamination. The host pipe shall have no holes or collapsed sections that would affect the structural stability. Fins and wrinkles outside of the flow line shall not exceed 5% of the pipe diameter. Fins and wrinkles in the lower third or flow line of the finished liner shall not exceed 3% of the pipe diameter or 0.5", whichever is smaller. A contractor provided camera with skids is required for the inspection.

All fabric tube and resin materials shall be compatible. Follow all manufacturer recommendations for materials and curing procedures. A pinch roller, or other approved method, shall be used for the wet-out process. Linoleum rollers are not an approved method for the wet-out process.

Liners shall meet all manufacturer, ASTM & NASSCO standards.

Point Repairs (Spot Repairs)

Fernco shielded couplings (i.e., shear band couplings) or an approved equal shall be used to join new pipe to existing pipe.

The repair shall be bedded and haunched in 3/4" minus gravel with adequate and uniform slope.

The repaired pipe must form a tight and strong connection. Cut ends must be clean, uniform, dry, and watertight.

Reconnections

24 hours prior to reconnecting to any existing Lateral, the contractor shall contact the District for a CCTV inspection. A high-quality color camera with skids is required. The contractor shall provide the sewer inspection camera. An adequate supply of water shall be available for the inspection. The camera shall be pushed the entire length of the Lateral with the District representative present. Any deficiencies shall be noted and corrected prior to reusing the Lateral.

MT. OLYMPUS IMPROVEMENT DISTRICT

CHAIRMAN
AMI ANDERSON NEFF

3932 SOUTH 500 EAST
SALT LAKE CITY, UTAH 84107-1895
PHONE (801) 262-2904
FAX (801) 265-0551

GENERAL MANAGER
KERRY S. EPPICH

TRUSTEES
GILES DEMKE
C. KIM BLAIR

COUNSEL
KIRTON & MCCONKIE

CAP-OFF REQUIREMENTS

When a building is demolished the sewer Lateral must be dug up and capped-off at the property line.

A house sheet can be obtained from the District before the demolition work. The house sheet will show the approximate location of the sewer Lateral. District personnel will provide any information they have available to help locate the Lateral.

The Lateral must be exposed as close to the property line as possible without digging into improvements such as the sidewalk and curb and gutter and cut off the existing Lateral square. In some cases, it may be necessary for the contractor to dig across the front of the property line, perpendicular to the Lateral to locate it. Any old property line cleanouts must be removed or abandoned as part of the cap-off process.

A cap-off inspection must be scheduled with the District by phone or in person. All cap-offs must be witnessed by a District representative. The contractor will supply an expandable plug with a bag of concrete mix. Then with a District Inspector present the expandable plug is inserted in the pipe and the concrete mix is placed around the plug and pipe.

Once the cap-off takes place and any amount owing on the account is paid the account will be taken out of billing. Cap-offs not witnessed by a District representative will not be taken out of billing. A permit for future construction activities will not be issued until the sewer Lateral has been capped-off. Credits for future development activities will not be given for accounts where a cap-off inspection was necessary but did not take place.

When a cap-off inspection takes place a capacity fee credit is given. The District's policy is that any capacity fee credits due shall be applied to the permit fees for the first connections made within the redevelopment area. Once all the credits due are used, any new connections will be responsible to pay the capacity fees and other permit fees owed prior to being issued a permit.

MT. OLYMPUS IMPROVEMENT DISTRICT

CHAIRMAN
AMI ANDERSON NEFF

3932 SOUTH 500 EAST
SALT LAKE CITY, UTAH 84107-1895
PHONE (801) 262-2904
FAX (801) 265-0551

GENERAL MANAGER
KERRY S. EPPICH

TRUSTEES
GILES DEMKE
C. KIM BLAIR

COUNSEL
KIRTON & MCCONKIE

LATERAL CHECKLIST

- Sewer Availability Letter (i.e., Board of Health Letter, Will Serve Letter) if required by the City. A preliminary utility layout along with the assigned addresses and lot numbers will be required prior to issuing the letter.
- If a Sewer Availability Letter is not required, send a preliminary utility layout to the District Engineer.
- Any old and abandoned Laterals must be capped at the property line. Call 801-262-2904 and press option 3 to schedule a Cap-Off Inspection. New permits and credits for capacity fees will not be issued until old Laterals have been capped-off and any owing amounts paid to the District.
- Excavating/Plumbing Contractor to have current lateral bond with the District. Lateral bonds are good for 3 years.
- Submit final plans to the District 1-2 weeks prior to start of the project. At this time the final addresses and lot numbers will be verified, and the project fees will be determined. Any last plan review comments will be addressed.
- Excavating/Plumbing Contractor to review the District's Lateral Specifications
- Once all fees have been paid to the District and the Excavating/Plumbing Contractor is bonded, a permit and a work order will be issued and the Contractor can then schedule their inspection(s).
- All sewer Lateral improvements shall be inspected by a District representative. Call 801-262-2904 and press option 3 to schedule an inspection. Have the exact address ready when calling. Also, please reference the type of inspection requested (e.g., Nose On, New Connection, Re-Connection, Lateral Liner, Lateral Repair)

MT. OLYMPUS IMPROVEMENT DISTRICT

CHAIRMAN
AMI ANDERSON NEFF

3932 SOUTH 500 EAST
SALT LAKE CITY, UTAH 84107-1895
PHONE (801) 262-2904
FAX (801) 265-0551

GENERAL MANAGER
KERRY S. EPPICH

TRUSTEES
GILES DEMKE
C. KIM BLAIR

COUNSEL
KIRTON & MCCONKIE

GREASE TRAPS & SAMPLING MANHOLES

Outside grease traps are required on all food and beverage handling establishments and any other commercial or industrial buildings that are discharging oils, grease, or similar type of materials. All commercial or industrial buildings are required to have a sampling manhole.

All floor drains in a commercial building will discharge through an outside grease trap. The only exception is for a floor drain required for a water heater.

All new construction must meet the requirements for grease traps. All commercial or industrial buildings that are remodeled that meet the above-mentioned criteria are required to install a grease trap as part of the remodel.

Indoor grease traps are only allowed on existing buildings that are only undergoing a remodel, where outdoor utility work will not take place. Only in this specific circumstance can the Owner contact the District and request a "Grease Trap Variance". If the variance is approved the District will prepare a "Grease Trap Variance" for the Owner to sign. The only approved indoor grease traps are the "Big Dipper Grease Trap" or the "Grease Guardian, Point Source Style with X or D Series Models". If the indoor grease trap proves to be inadequate an outdoor grease trap will need to be installed at the Owner's expense.

Sanitary wastewater discharge is not to be discharged through the grease trap.

MT. OLYMPUS IMPROVEMENT DISTRICT

CHAIRMAN
AMI ANDERSON NEFF

3932 SOUTH 500 EAST
SALT LAKE CITY, UTAH 84107-1895
PHONE (801) 262-2904
FAX (801) 265-0551

GENERAL MANAGER
KERRY S. EPPICH

TRUSTEES
GILES DEMKE
C. KIM BLAIR

COUNSEL
KIRTON & MCCONKIE

COMMERCIAL OR INDUSTRIAL SITE CHECKLIST

- Sewer Availability Letter (i.e., Board of Health Letter, Will Serve Letter) if required by the City. A preliminary utility layout along with the assigned addresses and lot numbers will be required prior to issuing the letter.
- If a Sewer Availability Letter is not required, send a preliminary utility layout to the District.
- Any old and abandoned Laterals must be capped at the property line. Call 801-262-2906 and press option 3 to schedule a Cap-Off Inspection. New permits and credits for capacity fees will not be issued until old Laterals have been capped-off and any owing amounts paid to the District.
- A sampling manhole is required on all commercial or industrial sewer Laterals.
- A grease trap is required for all food & beverage establishments & buildings with floor drains.
- Excavating/Plumbing Contractor has current Lateral Bond with the District. Lateral Bonds are good for 3 years.
- Excavating/Plumbing Contractor has a copy of the District Lateral Specifications.
- Industrial users complete and return the Industrial Discharge Questionnaire (IDQ).
- Submit final plans to the District 1-2 weeks prior to the start of the project. At this time the final addresses and lot number will be verified, and the project fees will be determined. Any last plan review comments will be addressed.
- Once all fees have been paid to the District and the Excavating/Plumbing Contractor is bonded, a permit & work order will be issued and the Contractor can schedule their inspection(s).
- All sewer improvements shall be inspected by a District representative. Call 801-262-2904 and press option 3 to schedule an inspection. Have the exact address ready when calling. Also, please reference the type of inspection requested (e.g., Nose-on, New Connection, Re-Connection, Lateral Liner).

MT. OLYMPUS IMPROVEMENT DISTRICT

CHAIRMAN
AMI ANDERSON NEFF

3932 SOUTH 500 EAST
SALT LAKE CITY, UTAH 84107-1895
PHONE (801) 262-2904
FAX (801) 265-0551

GENERAL MANAGER
KERRY S. EPPICH

TRUSTEES
GILES DEMKE
C. KIM BLAIR

COUNSEL
KIRTON & MCCONKIE

DETAILED PROCEDURES FOR MAIN LINE EXTENSIONS

NO.	DESCRIPTION
1	Developer provides the District with a site plan, utility plan, and plat with easements, assigned addresses and lot numbers. There will be two plan reviews. A preliminary plan review that should take place as part of issuing the "Sewer Availability Letter/Will Serve Letter" and a final plan review. The utility plan shall include a plan and profile drawing. After the final review and corrections, Developer to provide AutoCAD files of the Site Plan, Utility Plan and Plat.
2	Easements shall be provided by Developer on all Main Lines that will be owned and maintained by the District. A 10 foot wide public utility easement, 5 feet on each side of the Main Line shown on the plat is required. On the plat state "10 foot wide utility easement in favor of Mt. Olympus Improvement District" Larger Main Lines may require wider easements. An easement using metes and bounds is acceptable in the absence of a plat. The Developer's engineer/surveyor will provide legal description and tax number of property where easement is located and send it to the District. The District will prepare the easement document. Developer will have the legal Owner of the property sign easement and return the completed document to the District. The District will record the easement document once the project is completed.
3	Excavating Contractor to provide the District a copy of the bid for the sewer improvements. A Main Line Bond on the District's bond form is specific to the job for the amount of installing the sewer Main Line improvements. The amount includes all materials, manholes, pipe, labor to complete the job. Based on the sewer Main Line cost, a 3% + \$100.00 fee is charged. A manhole deposit for each new and any existing manholes affected is charged. Manhole deposits will be returned to the Developer once a final inspection of the Main Line has taken place. To receive the refund of the deposit, the manholes need to be cleaned-out, invert boards removed, and the manhole to final grade in existing asphalt, concrete, or landscaped areas. All necessary fees and deposits will be paid before work can begin.
4	A line extension agreement will be signed by the Developer/Owner.

5	A pre-construction meeting with the Excavating Contractor and District will take place before work begins.
6	All pipe to be laid with the use of an in-pipe laser.
7	5/8" invert boards will be installed in all new manholes when they are stacked. Eccentric manhole cones will have the flat side of the core on the outlet side (i.e., downstream) of the manhole invert. No steps in manholes.
9	The inlet and outlet pipes of the manhole will be grouted.
10	All new Laterals will need to be inspected before they are backfilled.
11	Laterals are covered by Contractors "Lateral Bond" with the District.
12	An air test of all new Main Lines will be performed by a qualified pipe tester and witnessed by the District.
13	After the Main Line has passed the air test, the District will dump water at the top of all new Main Lines and perform a CCTV inspection of the Main Lines.
14	A final inspection on the manholes will be done by the District after the asphalt is finished; manholes are set to grade and cleaned-out. New manholes will have District lids.
15	Copy of "Line Extension Agreement" signed and returned to Owner along with letter reducing bond to 25% for the warranty period. Remaining manhole deposits returned.

MT. OLYMPUS IMPROVEMENT DISTRICT

CHAIRMAN
AMI ANDERSON NEFF

3932 SOUTH 500 EAST
SALT LAKE CITY, UTAH 84107-1895
PHONE 262-2904
FAX # 265-0551

GENERAL MANAGER
KERRY S. EPPICH

TRUSTEES
GILES DEMKE
C. KIM BLAIR

COUNSEL
KIRTON & MCCONKIE

MAIN LINE CHECKLIST

- Sewer Availability Letter (i.e., Board of Health Letter, Will Serve Letter) if required by the City. A preliminary utility layout along with the assigned addresses and lot numbers if available.
- If a Sewer Availability Letter is not required, send a preliminary utility layout to the District Engineer.
- Any old abandoned Laterals must be capped at the property line. Call 801-262-2906 and press option 3 to schedule a Cap-Off Inspection. New permits and credits for capacity fees will not be issued until old Laterals have been capped-off and any owing amounts paid to the District.
- Submit a copy of the contractor's bid. Bid to show the total cost of the necessary sewer improvements.
- Owner/Developer to sign the District's Line Extension Agreement.
- Excavating Contractor to complete a District Main Line Bond. The Main Line Bond amount is for 100% of the contractor's bid price for the sewer improvements, excluding the cost of the Laterals.
- On the plat show specific language dedicating a sewer easement to Mt. Olympus Improvement District such as "10 foot wide utility easement in favor of Mt. Olympus Improvement District".
- Submit electronic copies of the AutoCAD plans. Submit the following: Utility Plan with Plan and Profiles, Site Plan, building foot prints, and Final Plat. Show all rim and invert elevations. Show SD 35 pipe with slopes and no more than 400' manhole spacing.
- Final addresses and lot numbers provided to the District. Plans will not be approved that do not have officially assigned addresses and lot numbers.
- Pay all fees. Contact District 2-3 weeks before the start of project to determine the project fees and obtain a final plan review. Engineering fees (\$100 + 3% of total sewer Main Line improvement costs), manhole deposit (\$500 per manhole), capacity fees (\$758 per connection or residential equivalent), inspection fees (\$50 per inspection).
- Onsite pre-construction meeting prior to starting the sewer improvements.
- All sewer improvements shall be inspected by the District. Call 801-262-2904 and press option 3 to schedule inspections. Be sure to have assigned exact addresses ready when calling.

MT. OLYMPUS IMPROVEMENT DISTRICT

CHAIRMAN
AMI ANDERSON NEFF

3932 SOUTH 500 EAST
SALT LAKE CITY, UTAH 84107-1895
PHONE (801) 262-2904
FAX (801) 265-0551

GENERAL MANAGER
KERRY S. EPPICH

TRUSTEES
GILES DEMKE
C. KIM BLAIR

COUNSEL
KIRTON & MCCONKIE

MAIN LINE PRECONSTRUCTION CONFERENCE

- District lid with standard base ring only. No low-profile base rings allowed.
- Manholes shall not have steps.
- If using an eccentric or offset manhole cone the flat side should be placed downstream.
- Core into manholes to install new lines only. Trough needs to be grouted in. Grout around pipe inside manhole.
- Invert boards (5/8" plywood) to be installed when manhole is stacked to protect sewer mains from falling debris. Invert board to be removed after paving.
- 3/4"-minus gravel to be used 12" over and under the pipe. See District Typical Trench Detail of the District Standard Drawings.
- Contractor can use up to 12" of grade rings. Use mortar between grade ring joints. Use of Whirlygig manhole riser or approved equal using a thermoplastic form may be used.
- Cast iron riser rings may be used. Ring must sit down solid in base ring and must have 3 - 3/8" set screws to help secure the riser ring to the base ring.
- A pipe laser is required for laying pipe.
- Water stop required on all poured in place manholes.
- Final grade of the manhole ring & cover is to be 1/4"- 1/2" below finished road surface. Asphalt cannot be built up around manhole to set grade.
- Laterals shall be stubbed past any utilities in the park strip and generally terminated at the property line. Plug Lateral stub with expandable plug prior burying and air testing.

- After the Main Line has been installed and backfilled, an air test shall be performed. Gage for air test must be a low-pressure type with at least 1/2 pound increments and show a current calibration test date.
- The District will perform a CCTV inspection of the Main Lines after a successful air test and access is provided for the CCTV truck. The District will perform a CCTV inspection of the Main Line prior to the warranty period expiring to document any deficiencies that need to be repaired.
- A compacted base is to be used for pre-cast and poured in place manholes.
- Provide 18" of cover prior to compaction over pipe zone.
- When tying into existing Main Lines to ensure that the new Main Line is at least 0.2' higher than the existing high-water mark.
- Give the District 24-hours notice when starting the work on the sewer. If the job is shut down for more than two days, notify the District when starting the job again.
- An inside drop to be used if difference between top of pipe and flow line is more than 18". Install the inside drop per District Typical Drop Manhole Detail.
- Any work done during a weekend or holiday is to be left open for inspection on the next regular working day.
- Any changes to the Main Line slopes shall be annotated on as-built drawings and given to the District Inspector.
- Poured in place manhole bases shall be poured and stacked at least 24-hours later. Anywhere concrete is poured over the top of a pipe there shall be an equal amount of concrete below the pipe.

MT. OLYMPUS IMPROVEMENT DISTRICT

CHAIRMAN
AMI ANDERSON NEFF

3932 SOUTH 500 EAST
SALT LAKE CITY, UTAH 84107-1895
PHONE (801) 262-2904
FAX (801) 265-0551

GENERAL MANAGER
KERRY S. EPPICH

TRUSTEES
GILES DEMKE
C. KIM BLAIR

COUNSEL
KIRTON & MCCONKIE

BONDS

Laterals:

All work on Laterals in the District must be performed by a licensed excavating or plumbing contractor with a current Lateral Bond with the District. No work will be allowed under another contractor's bond or permit.

The Lateral Bond is a three-year bond for \$5,000 that allows the contractor to install Laterals at different locations throughout the District. The Lateral Bond is a continuous bond and is good for three years. It should not be cancelled after work at an individual location is completed. If the contractor desires to cancel their Lateral Bond, it must take place one-year after any work has taken place in the District. The District will not be held liable for any delays in permitting and construction on projects where the Lateral Bond has not been kept current.

No work can be scheduled, performed, or inspected without a current bond.

Main Lines:

All work on Main Lines in the District must be performed by a licensed excavating contractor with a current Main Line Bond with the District. No work will be allowed under another Contractor's bond or permit.

Each Main Line Project will require a Main Line Bond specific for that project. The Main Line Bond shall be for the full amount of the sewer improvements including all costs for the installation of the Main Line, manholes, backfill, and any other necessary sewer improvements.

When the surface improvements have been completed, the District will perform a final inspection on the Main Lines. Once all deficiencies have been corrected, the bond can be reduced to 25% of the original value for a one-year warranty period. Once the one-year warranty period has passed the Main Line Bond can be cancelled.

Private developments with private Main Lines will be required to post a Main Line Bond to cover cost of the improvements taking place on and near the existing District Main Line.

No work can be scheduled, performed, or inspected without a current bond.

Other Bonds:

Other bonds may be required by the District.

MT. OLYMPUS IMPROVEMENT DISTRICT

CHAIRMAN
AMI ANDERSON NEFF

3932 SOUTH 500 EAST
SALT LAKE CITY, UTAH 84107-1895
PHONE (801) 262-2904
FAX (801) 265-0551

GENERAL MANAGER
KERRY S. EPPICH

TRUSTEES
GILES DEMKE
C. KIM BLAIR

COUNSEL
KIRTON & MCCONKIE

SUBSTANDARDS

When a sewer installation cannot meet the standards required by the District, the Owner must sign a “Substandard Agreement”. The agreement states what the specific fault is. These agreements are then recorded with the property at the Salt Lake County Recorder’s Office.

Substandard agreements must be signed for the following conditions that do not meet District requirements:

- Lateral not receiving proper inspection
- Lateral not using acceptable materials
- Lateral having less than minimum required grade
- Lateral not having sufficient bury or cover over the pipe
- Multiple buildings or structures connected to the same Lateral.

Additional substandard conditions may apply. All substandard agreements must be approved by the District and then signed and returned to the District office before any work is to be performed. Any substandard agreements not returned to the District will be recorded on the District’s records as a failed inspection and the work will be shown as not complete.

The District will not accept any Main Lines that are substandard. Main Lines which are built substandard and cannot be corrected, will belong to the Individual Owner(s) or Association of Owners for which the Main Line was constructed and where the Main Line is located. The Individual Owners or Association of Owners will be responsible for the ownership and maintenance of the Main Line.

