

IVGID Requirements to Construct Water and Sewer Service Lines

Requirements for Construction of Utilities For Single Family Dwellings & Small Commercial Projects Within Incline Village, NV

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IVGID Requirements to Construct Water and Sewer Service Lines

ARTICLE 1 - GENERAL SPECIFICATIONS

- 1.01** These requirements are applicable within the jurisdiction of the Incline Village General Improvement District (The District) for the building of water and sewer service lines from the property or easement line to the house or building and within existing rights-of-way (ROW). Service lines on private property shall be constructed and maintained by the property owner in accordance with these requirements.
- 1.02** **Codes:** Building sewer and water service lines shall be constructed in accordance with the latest edition of:
- The current Uniform Plumbing Code adopted by the Board of Trustees, as prepared by the International Association of Plumbing and Mechanical Officials, except for particular requirements in excess of the Codes, as stated herein.
- The Nevada Administrative Code, 445A Water Operations.
- The Incline Village General Improvement District Ordinances as passed by the Board of Trustees.
- 1.03** **Plans:** All connection fees must be paid before the District will approve plans for construction, inspect service lines, or install water meters. The Washoe County Building Department requires evidence that the District has examined the plans prior to building permit issuance for all water, sewer and trash related projects within the District. Water and sewer taps require scheduling for inspections at least 48 hours in advance. Line locations must be confirmed prior to any excavations. Any application that has been accepted by the District shall be considered vacated if the Applicant fails to commence construction and connection to the District's water system within 540 days of such acceptance. The fees collected for such application shall be returned to the Applicant, upon written request, and a new application and payment of fees will be required before service will be provided. Connection fees shall be charged at the rate in effect on the day of application for a Building Permit from Washoe County. Connection(s) not made within 540 days will be subject to the current rates in effect at the time of connection. Previously paid connection fees shall be credited to the new connection fee rate. Payment of connection fees constitutes acceptance of a new service connection application by the District. No fees will be refunded after connection.
- 1.04** **Fire Marshal Review:** The District does not review a project to determine the need for fire sprinkler lines. The applicant is advised to contact the North Lake Tahoe Fire Protection District (NLTFPD) at 831-0351 to determine the availability of adequate fire protection and the potential need of a fire sprinkler system. A sprinkler system may require a separate service line tapped to the District's water main as determined by the Fire Dept. The potable water service line if used in conjunction with fire service must be approved by the District and delineation at the property line by separate valving, a riser pipe with a properly boxed enclosure. Fire lines shall not be metered. The NLTFPD will make available their "Fire Prevention Bureau Standard Operation Procedure" upon request. Their formal review of the plans will occur in conjunction with the District review; however District approval may not be gained prior to NLTFPD approval.
- 1.05** **Inspection:** No backfilling shall be performed until the District has inspected and approved the installation for covering. The contractor shall schedule all inspections at least forty-eight (48) hours in advance. All testing shall be performed in the presence of an authorized representative of the District. Inspection fees shall be set by the District and charged for each inspection.
- 1.06** **Re-inspection:** If not ready for scheduled inspection, please call 832-1224 for cancellation. A fee may be charged at a rate set by the District for re-inspection if the site is not ready for inspection, or if the initial inspection fails.

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- 1.07 **Utility Connections:** All water service and building sewer connections shall comply with one of the following conditions, whichever is applicable:
- 1.08 **Single Family Residence:** Where a single-family residence is constructed on a single parcel, direct connection to the public water and sewer system shall be made. Should the parcel not border upon the easement or dedicated right-of-way containing the public utilities, it is the property owner's responsibility to obtain the necessary easements and/or construct main extensions as determined to be necessary by the District. Reimbursement for main extensions is provided should additional connections be made to the extended main within a ten-year period in accordance with the standard "District Main Extension Agreement."
- 1.09 **Multiple Residences with Common Land Ownership and Commercial Development:** A development with more than one residential building with common land ownership shall be served by communal water and sewer systems. The development shall be metered near the point where the service line crosses the property line and each unit shall be served by an individual meter, however the only meter read for billing purposes is the master meter. The District shall approve the number, location and size of meter(s). IVGID reserves the right to meter parcels as it sees fit for the benefit of the general public. The operation and maintenance of the system as well as payment of fire protection fees shall be the responsibility of the owner(s) of the property served or of the association having legal responsibility for buildings and grounds.

ARTICLE 2 - WATER SERVICE LINE SPECIFICATIONS

- 2.01 **Service line requirements:** For each service line upgrade required per the Uniform Plumbing Code, each lot shall be serviced by a separate service connection of required size from the District main water line to the water meter. Fire service and domestic water service shall use **the same main line water tap with separation downstream of the tap by a Tee to a water meter** and service line to serve the domestic side. The separation point of this connection is located at the property line or location approved by the District. The other line shall continue through an iron body gate valve with a two inch (2") operating nut with an epoxy coated body, this water line becomes known as the fire service line. **Due to failures in residential mechanical rooms, the District strongly recommends the following when installing P.E. 3408 CTS Polyethylene Pipe:**
1. **Transition from PE to Type K Copper water pipe five feet (5') outside foundation with a CTS Compression coupler.**
 2. **Use an approved restraint when bringing in the water pipe stub up inside the foundation footprint.**
- 2.02 **Pipe Materials:** Water service lines shall conform to the Uniform Plumbing Code and applicable AWWA standards and be **Type K Copper tubing or 200 PSI PE 3408 Tubing SDR-9 ASTM D-2737 copper tube size. PVC C-900 and Ductile Iron Pipe**, is allowable for services 4-inch and larger. If copper is used, service lines two inches in diameter and smaller shall be **Type K copper** conforming to ASTM B-88. Customer service valve boxes must be **Christy G-5** or equivalent concrete box with steel lid marked water. Line sizes are to be commensurate with health standards to ensure that no stagnant water will accumulate. All service line fittings shall be flared mechanical compression type or soldered with non-lead UPC approved solder. Solder spools shall be available for inspection. **FROM THE DISTRICT'S MAIN LINE TO METER, ONLY FLARED OR MECHANICAL JOINTS WILL BE ALLOWED.**
- 2.03 **Curb Stops:** Curb stops for all service lines shall be **Ford ball valve or Mueller Oriseal 2** or equivalent. Curb stops shall be installed no more than two feet (2') to the **downstream side** of meter setters, with an appropriate valve key and capped enclosure; **waste ports & stop and waste valves shall not be allowed.**

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- 2.04** **Air Relief Valve:** Air relief valve shall be single-housing style, cast-iron body, stainless steel trim, one inch (1") inlet and outlet connections, and or 5/16" diameter orifice for a working maximum pressure of 300 psi, equal to Val-Matic model 201C.
- Contact the District for specifications on the installation of Air Relief Valves 832-1224.**
- 2.05** **Trenching:** All trenching for water and sewer lines must meet OSHA Requirements.
- 2.06** **Trace Wire:** All pipe materials, **except copper**, require an approved #10 tracer wire attached to the pipe every five feet (5') by means of tape and made accessible at the meter yoke.
- 2.07** **Caution Tape:** Warning Tape shall be blue in color, three inches (3") in width, 5 mil in thickness, permanently printed "CAUTION: BURIED WATER LINE BELOW", installed twelve inches (12") above the pipe.
- 2.08** **Bedding:** Material used for the pipe zone shall be sand, cinder, or Class A backfill as stated in Section 200, Aggregate, of the Standard Specifications for Public Works Construction for Washoe County. The bottom of trench shall be level and smooth, and excavated as needed to maintain a minimum of six inches (6") of bedding below the grade required by the underside of the pipe barrel, with twelve inches (12") above the pipe. Minimum allowable cover for water service lines is thirty-six inches (36").
- 2.09** **Backfill:** All backfill shall meet the requirements of Class E backfill as stated in Section 200, Aggregate, of the Standard Specifications for Public Works Construction for Washoe County, with no rock larger than three inches (3"). If native material does not meet the requirements then backfill material shall be imported. Minimum allowable cover for water service lines is thirty six inches (36").
- 2.10** **Separation:** All water lines shall be placed at and maintain a minimum depth of thirty six inches (36") and be on an undisturbed shelf. All water utility lines, domestic and fire sprinkler systems, must keep a twelve inch (12") separation at all times. All sewer service lines shall maintain at least 12 inches (12") vertical separation below the water line, and maintain a minimum horizontal separation of twelve inches (12") from water line at all times. If the sewer line is pressurized than the vertical separation is twelve inches (12") below the water line and the horizontal separation is five feet (5') in a separate trench. Any other installation must be approved by the District Compliance Department.
- 2.11** **Main line tapping:** When making a new service connection to the District main line, all taps shall maintain a minimum of two feet (2') separation between all fittings and appurtenances. This applies to all main line pipe. Any other installation must be approved by the District.
- 2.12** **Tapping Saddles and Tapping Sleeves:**
- Tapping Saddles for services shall be epoxy coated ductile iron body with two stainless steel straps. Saddles shall be suitable for 250-psi service.
- Tapping Sleeves shall be Stainless Steel and shall be Romac "SST" or equivalent for all taps larger than two inches (2").
- 2.13** **Cathodic Protection:** Installation of Cathodic protection is required for all water services. A 5 pound "high potential" magnesium anode packaged in chemical backfill with ten feet (10') of #12 lead wire shall be used. The anode shall be buried at a minimum depth of forty eight inches (48"). A bronze or brass clamp shall be used to attach the lead wire to the meter yoke. The anode must be a minimum of thirty six inches (36") from the meter yoke, service line or water main. If a locating wire is installed on the water service line, Cathodic protection shall be installed a minimum of once every five hundred feet (500') and at each intersection in that line. This applies only to Copper Service Lines.

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2.14 Pressure Regulators: At all service locations, property owners are required to furnish individual pressure regulators set at sixty (60) pounds per square inch to protect plumbing fixtures. Pressure regulators shall be Watts 25AUB or equivalent. All pressure regulators must be installed under house within ten feet (10') of access door, readily accessible, and approved by the District. If house is slab built the pressure regulator must be located in a readily accessible and District approved location.

2.15 Testing: The Contractor shall provide all labor, tools, and equipment necessary to perform the required tests. Any faulty equipment shall be replaced before any test is accepted. Water lines four inches (4") and greater shall be tested as the following: (Length x Pipe Diameter x Square Root of pressure Divided by 148,000.) All water lines smaller than four inch (4") will be tested at the District's main line pressure.

Example: $L = \frac{SD \text{ (square root of pressure)}}{148,000}$ (1000 lineal feet of 6" pipe tested at 180psi)

Example = $1000' \times 6" \times 13.41 = 80,460 \div 148,000 = .54$ gallons

32oz. = 1 qt

64 oz. = 2qt

96 oz. = 3qt

128oz. = 4qt/1 gallon

2.16 Chlorine Test: Chlorine tests must be conducted on four inch (4") or greater water lines. Chlorine Tests one (50ppm) and two (10ppm) will only be performed Monday through Thursday, as the tests must be conducted within a twenty-four (24) hour contact time. Chlorine residual test and Bac-T tests must be completed before line may be placed into operation. The District may charge for any failed test or inspection that results in an additional visit by a District employee.

2.17 Service Line Test: After the meter is set, the water will be turned on and the line tested for leakage and proper installation. The service line shall be exposed at this time and all visible leaks shall be repaired. Once approved, the water service line may be backfilled. Water lines shall be ready for testing and valve key provided for curb stop before calling for inspection.

2.18 As-Built: Contractor is responsible to submit As-Built plans to the District upon completion of work. This As-Built map must be on a CD as a PDF file for any project larger than a Triplex. Smaller projects may be submitted on an 8.5" X 11" sheet of paper. These will be reviewed and approved by the District.

ARTICLE 3 - WATER METER SPECIFICATIONS

3.01 Meters: Upon payment by the owner, meters are furnished and installed by the District.

3.02 Temporary Meter Sets: A temporary meter may be set upon request. A temporary meter rental form must be completed and approved by a district compliance inspector.

3.03 Meter setters: Meter setters are required and, for 1-inch through 2-inch services, shall be V-70 Series Copper setter as manufactured by Ford Meter Box Company, Inc., or Mueller Company model H-14104 or equivalent. Meter setters shall be all copper or bronze, minimum height of 18 inches (18"), and equipped with a service stop with padlock wings. If using an equivalent meter setter, the internal check valve must be removed.

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- 3.04** **Meter boxes:** Meter boxes for 1-inch services shall have meter boxes similar or equal to B-16 top box and include N-16 extensions covers must be B-16-G lids. Cover shall be marked "Water." Meter boxes for 1½-inch and 2-inch services shall have meter boxes similar or equivalent to Christy Concrete Products model B-36, and shall include covers with meter reader lids. Cover shall be marked "Water." Meter installations shall be made at the property line in the ROW.
- 3.05** **Meter Installation:** Meters of any size must be installed per current District requirements. Please contact Utilities department at 832-1224 for more information.

ARTICLE 4 - FIRE SYSTEM SPECIFICATIONS

- 4.01** **Fire Service Requirements:** The North Lake Tahoe Fire Protection District will determine the size of connection required for fire service and adequacy of system for fire protection. Fire service taps will be made using the same materials and methods as stated herein for service taps. The District recognizes that the beginning point of the fire system shall be on the downstream side of the Backflow Prevention Device. The fire service valve shall be an iron bodied gate valve with a two inch (2") operating nut. It must be located adjacent to the domestic water meter box with its own riser pipe and have an approved boxed enclosure with a steel lid marked water the interior shall be marked with a warning tape designating fire line. **Due to failures in residential mechanical rooms, the District strongly recommends the following when installing P.E. 3408 CTS Polyethylene Pipe:**
- 1. Transition from PE to Type K Copper water pipe five feet (5') outside foundation with a CTS Compression coupler.**
 - 2. Use an approved restraint when bringing in the water pipe stub up inside the foundation footprint.**
- 4.02** **Separation:** All fire sprinkler systems must be separated from the District water system with an approved backflow prevention device. This device must be approved by the District and installed to all State and Local Codes.

Double Check backflow prevention devices shall be approved for class one (1), two (2), three (3) or four (4) fire systems when chemical additives are not being used. When a Double Check backflow prevention device has approval from the District to be installed on class one (1), two (2), three (3), or four (4) fire systems the installation must meet all State and local codes. The District also requires a sign to be placed in an approved location, with two inch (2") red letters on a white background stating the class of system, water only, absolutely no additives of any kind.

Reduced pressure backflow prevention devices shall be approved for class four (4), five (5) or six (6) fire systems when chemical additives are being used. The installation must meet all State and local codes

ARTICLE 5 – DISTRICT REGULATIONS FOR BOILER/MECHANICAL SYSTEMS

- 5.01** **Boiler Backflow:** All boiler/mechanical systems must be separated from the District water system with an approved Reduced Pressure backflow prevention device or an approved air gap. It must be installed to all State and local codes. This device must be plumbed from a domestic cold water supply only.
- 5.02** **Heat Exchangers:** All heat exchangers used for domestic hot water service must be Double Walled.

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ARTICLE 6 - DISTRICT REGULATIONS FOR IRRIGATION SYSTEMS

- 6.01 **Irrigation Requirements:** All irrigation systems require a Washoe County Irrigation permit for construction. All work must comply with the District landscape packet.
- 6.02 **Separation:** All irrigation/sprinkler systems must be separated from the District water system with an approved backflow prevention device installed to all State and local codes.
- 6.03 **Irrigation Materials:** Materials shall comply with the District specifications as type K copper or brass. All fittings must be approved curb stops, Drain Valves and unions for winter time removal. Devices shall be plumbed so no water shall be in stand pipes when device is removed for winter time.
- 6.04 **Inspections:** All inspections of connections to the domestic water line is required, please call the utility compliance office at 832-1224 to schedule and appointment. On-site inspection prior to installation is suggested to assure compliance with District regulations.

ARTICLE 7 - REGULATIONS FOR PRIVATE BACKFLOW TESTING

- 7.01 **Forms:** All Incline Village General Improvement District Backflow testing forms must be properly filled out. All testing forms must be submitted to the district within two (2) working days from the date of the test. All testers must be licensed AWWA testers.
- 7.02 **Device Certification:** Any backflow device that did not pass the initial certification test must be repaired and retested. If repairs require delay due to parts, etc the district shall allow five (5) working days for such repairs and retest. If a repair & retest require longer than the five (5) working days, the extension must be approved by the district.
- 7.03 **Compliance:** Failure to comply with 7.01 or 7.02 will result in the tester's name being given to the Northern Nevada Backflow Administrator for AWWA.
- 7.04 **License/Calibration:** Proof of current AWWA license and approved annual gauge calibration **must be submitted to the Incline Village General Improvement District with every test or group of tests**, these shall be faxed, hand delivered or mailed.

ARTICLE 8 - SEWER SERVICE LINE SPECIFICATIONS

- 8.01 **Materials:** Acceptable pipe materials are **DUCTILE IRON or POLYVINYL CHLORIDE PIPE SDR 35**, all of which shall conform to the specifications set forth in the Uniform Plumbing Code. Joints shall be of the same material as the pipe using internal rubber or plastic gaskets, or an external rubber sleeve using stainless steel bands, all as manufactured strictly for use with particular type of pipe. Solvent weld joints and ABS pipe shall not be permitted. Where different pipe materials are jointed the connection shall be made by the use of an approved mechanical coupling specifically manufactured for use with the different pipes to be joined. These couplings shall be similar and equal to Caulder couplings and shall be approved by the District. **POLYVINYL CHLORIDE PIPE** shall not be used where the cover is less than thirty-six inches (36") or greater than eighty-six inches (86"). **DUCTILE IRON** may be used when eighteen inches (18") of cover is available. For shallower depths, concrete encasement or other special means approved by the District must be used to protect the pipe.
- 8.02 **Size:** Building sewer shall be a minimum diameter of four inches (4") for single family residences. Building sewers for apartments, motels, and commercial establishments shall be

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sized in accordance with the requirements of the Uniform Plumbing Code and shall be four inch (4") minimum size.

8.03 **Separation:** All water lines shall be placed at and maintain a minimum depth of thirty six inches (36") and be on an undisturbed shelf. All sewer service lines shall maintain at least 12 inches (12") vertical separation below the water line, and maintain a minimum horizontal separation of twelve inches (12") from water line at all times. If the sewer line is pressurized than the vertical separation is twelve inches (12") below the water line and the horizontal separation is five feet (5') in a separate trench. Any other installation must be approved by the District Compliance Department.

8.04 **Building Sewer Construction:** Where building sewer main line connections have not been provided by the District to the property and/or the properties were not assessed for the building sewer installation, the property owner shall assume the cost of providing the required connection. The owner shall be responsible for obtaining the necessary Washoe County Street cut permits and also coordination with other utility agencies for their utility locations. The property owner requesting the tap will be responsible for cutting pavement and excavating the trench to proper depth and grade. The Owner shall be responsible for the tap to the main. Owner is responsible for laying building sewer with all required appurtenances.

Connection to the existing sewer main shall be through the use of an approved **Romac style "CB"** or equivalent double strap saddle for transite, plastic, cast iron, or concrete mains. For vitreous clay main, a section must be removed and a wye installed with **Caulder couplers**. The pipe grade for four inch (4") must be two percent grade (2%) or a minimum of 1/4" per foot of fall or greater. Six inch (6") diameter pipe must be one percent grade (1%) or a minimum of 1/8" per foot of fall or greater.

8.05 **Trace Wire:** All pipe materials, **except copper**, require an approved #10 tracer wire attached to the pipe every five feet (5') by means of tape and made accessible at the meter yoke.

8.06 **Caution Tape:** Warning Tape shall be green in color, three inches (3") in width, 5 mil in thickness, permanently printed "CAUTION: BURIED SEWER LINE BELOW", installed twelve inches (12") above the pipe.

8.07 **Testing:** The Contractor shall provide all labor, tools, and equipment necessary to perform the required tests. Any faulty equipment shall be replaced before any test is accepted. The Contractor shall supply a pressure gage that can be read in increments of between one and five psi, in accordance with the Uniform Plumbing Code (UPC). Installation must pass the standard five pound per square inch (5 psi) for fifteen (15) minute pressure tests. This can be found under Chapter 7 Section 712.3 of the Universal Plumbing Code. Manholes shall be tested with the ring and cover and grade adjustment rings installed. All pipes entering the manhole shall be plugged and braced and a vacuum of ten inches (10") of mercury shall be drawn. The vacuum pump shall be turned off and the time monitored as the vacuum drops one inch (1"). The vacuum must not drop more than one inch (1") for the duration of the time indicated in the following table.

Diameter	Time	Mercury Level	Allowable Loss
48 Inches	1 minute	10 Inches	1 Inch Max.
60 Inches	1 min. 15 sec.	10 Inches	1 Inch Max.
72 Inches	1 min. 30 sec.	10 Inches	1 Inch Max.

Manholes, which fail the vacuum test, shall have the defects located and repaired and the test shall be repeated. Repair and repeat testing shall be continued until the testing requirements are met.

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- 8.08 As-Built:** Contractor is responsible to submit As-Built plans to the District upon completion of work. This As-Built map must be on a CD as a PDF file for any project larger than a Triplex. Smaller projects may be submitted on an 8.5" X 11" sheet of paper. These will be reviewed and approved by the District.
- 8.09 Trenching:** All trenching for water and sewer lines must meet OSHA Requirements.
- 8.10 Bedding:** Material used for the pipe zone shall be sand, cinder, or Class A backfill as stated in Section 200, Aggregate, of the Standard Specifications for Public Works Construction for Washoe County. The bottom of trench shall be level and smooth, and excavated as needed to maintain a minimum of six inches (6") of bedding below the grade required by the underside of the pipe barrel, with twelve inches (12") above the pipe. Minimum allowable cover for sewer service lines is twelve inches (12").
- 8.11 Backfill:** All backfill shall meet the requirements of Class E backfill as stated in Section 200, Aggregate, of the Standard Specifications for Public Works Construction for Washoe County, with no rock larger than three inches (3"). If native material does not meet the requirements then backfill material shall be imported. Minimum allowable cover for sewer service lines is twelve inches (12").
- 8.12 Clean outs:** A clean out shall be provided by the property owner within three feet (3') outside of the foundation. A clean out must also be installed where the building sewer crosses the property or easement line. All clean outs shall be installed at intervals not to exceed one hundred feet (100'); variances in this length must be approved by District Compliance Department. In a change of direction ninety (90) degrees or more a clean out must be installed within one foot (1') of that transition. All clean outs shall be cut to grade, plugged, and have a concrete box with metal lid marked sewer. Plugs shall be two piece expansion types similar to ETCO, T-cone stopper or equivalent. (No metal on plug.) Property owners shall be responsible for keeping clean out boxes from being buried or damaged.
- 8.13 Backwater Valves:** Installation of a backwater valve on lots with fixtures lower than the next upstream manhole, as more specifically explained in the Uniform Plumbing Code, shall be enforced. Backwater valves must be installed in an accessible location inside or outside of the structure. Outside installations will be required to be properly boxed, upstream of foundation cleanout.
- 8.14 Specifications for Individual Sewer Pump Stations**

General: If an individual sewage pump station is to be installed outside of the foundation, it falls within the jurisdiction of the District and will be constructed to meet the following specifications. Individual sewage pump stations shall not be used in the District unless the property is too low to be served by gravity to an existing sewer line, the property owner shall install an individual pump station as approved by the District. The property owner shall install the pressure building sewer with his own contractor or employees. However, the District will approve materials and inspect and approve the construction. All pump stations will discharge into a manhole unless otherwise specified by the District. Where individual sewage pump stations are authorized, they shall be designed, constructed, and maintained in conformance with these specifications. District inspection of newly installed pumping facilities shall be completed in accordance with the procedures outlined within this document.

The District may periodically inspect any individual sewage pump station to determine if it is being properly maintained. Where stations are not being maintained in conformance with these specifications, service may be terminated. Resumption of service will not be allowed until all discrepancies are corrected and the District has approved the work. Any expense incurred by the District to discontinue and resume service shall be paid by the property owner at the time of reconnection.

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- 8.15 Materials:** Unless previously accepted in writing by the District, pressurized pipe from individual sewer pump stations shall be of engineered size to provide a minimum velocity of two feet (2') per second, and not less than two inches (2") in diameter. Piping approved by the District is **RING-TITE CLASS 200 SDR 21** or **200 PSI PE3408 TUBING SDR-9 ASTM D-2737**. Solvent welded joints shall not be used. Discharge piping connection to the pressurized line in and adjacent to pump station shall be **SCH80 PVC or GALVANIZED** and shall be accessible at all times.
- 8.16 Pumps:** A minimum of two pumps shall be provided at each individual sewage pump station (100% standby capacity). Where pumps are used, they shall be either grinder pumps or non-clog sewage pumps (dual compressor pneumatic ejector shall be utilized only with prior approval by the District) engineered to serve the dwelling and overcome the head pressure within the pressure ejector line.
- Grinder Pumps shall be specially designed for grinding and pumping raw sewage. Pumps shall conform to the following requirements: The motor shall be 2HP minimum, corrosion resistant stainless steel hardware, and 2-inch minimum discharge, stainless steel cutter bar, stainless steel wear plate with micrometer adjustment, stainless steel motor shaft and automatic direction reverse with each operation cycle. Discharge piping within the station shall be 2 inches in diameter (minimum).
- Non-Clog Sewage Pumps shall be submersible and specially designed for pumping raw sewage. Pumps discharge piping shall have the capability of passing a 2-inch solid. The motor speed shall not exceed 1750 RPM. The pump body water housing shall be of cast iron construction. Hardware shall be of non-corrosive materials. The pump head shall be as required for the particular installation and the pump shall be sized to provide a minimum of 20 gpm output at the design head.
- 8.17 Valves:** Each pump shall be equipped with a check valve and an isolating gate valve. Valves and check shall be located outside the sewage pump station wet well.
- 8.18 Controls and Alarm:** Pumps shall be automatically controlled by the level in the wet well. The lag pump shall be controlled in such a manner that it will automatically take the place of the lead pump in the event of failure. An alternating system shall be installed to balance wear on both pumps. An audible alarm and a red high water level light shall be installed in a moisture-proof enclosure adjacent to the station. This light must be visible from the street in public view and approved by the District. This light shall be controlled by a separate level setting above the lag pump control range.
- 8.19 Wet Wells and Storage Chambers:** A minimum of three hundred (300) gallons of storage per living unit shall be provided above the normal pump operation level, variances in storage capacity must be approved by the District Compliance Department. Such storage shall be provided either in the wet well or in an adjacent structure with a drain back feature. Storage is provided primarily to allow continued use during brief outages. Wet wells and storage chambers shall be concrete, polyethylene, or fiberglass. A manhole opening shall be provided into wet wells and storage chambers. The wet well shall be equipped with the required inlets and outlets.
- 8.20 Testing:** Pressurized sewer pipe shall be hydrostatically tested for fifteen minutes (15) at 1.5 times the pump capacity or meet sewer pipe class specifications. Installation standard shall be manufacturer's specifications and shall meet all of the District's installation requirements. Wet well shall be hydrostatically tested for sixty minutes (60) with no loss. All functions of the station will be tested and approved by the District.

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ARTICLE 9 - COMMUNAL UTILITY SYSTEM SPECIFICATIONS

9.01 Communal systems have additional requirements. Contractors are encouraged to submit a set of preliminary plans and meet with the District Compliance Department. Contact the District for specifications: **(775) 832-1224**.

ARTICLE 10 - JOINT TRENCHING SPECIFICATIONS

10.01 **Joint Trenching:** Joint trenching of utility service lines is allowed; however, jurisdictional standards must be met within the public right-of-way and District easements. All water service(s) shall be installed and maintain a minimum of one foot (1') above and one foot (1') horizontally away from all building sewer on undisturbed soil. All water services lines in joint trenching shall maintain a twelve inch (12") minimum separation at all times and have their own #10 tracer wire attached to the water service line every five feet (5') by means of tape. Water mains constructed within the public right-of-way and District easements shall be installed twelve inches (12") minimum above the sewer main and a minimum of ten feet (10') horizontally away from the sewer where possible. Joint trenching is not allowed with the District main systems. No other utilities shall be installed within three feet (3') horizontally of the District main lines and/or within one foot (1') from service building sewers.

Please direct any questions to our Compliance Department

Thank you for your cooperation.

Tim Buxton **Chief Inspector**

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Shawn Lochridge: **Inspector/Backflow Specialist**

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IVGID Requirements to Construct Water and Sewer Service Lines

Inspection hot line: 1-775-832-1224 all inspections require 48 hour notice