COMBINED WATER AND SEWER SPECIFICATION AND STANDARDS AND PROCEDURES FOR NEW DEVELOPMENT AND EXTENSIONS

APRIL 19, 2023

Evergreen Water & Sewer DISTRICT 1

This document is an aggregation of ordinances adopted by the Flathead County Water District No. 1 – Evergreen Board which will collectively form the Combined Water and Sewer Specification and Standards and Procedures for New Development and Extensions. This aggregated document includes the following ordinances and resolutions:

ORDINANCE 2021-08	ADOPTING REVISED WATER AND SEWER SPECIFICATIONS AND STANDARDS AND PROCEDURES FOR NEW DEVELOPMENTS AND EXTENSIONS.
RESOLUTION 2004-02	WATER & SEWER MAIN EXTENSIONS PROCEDURES ABANDONMENTS, SEPARATIONS, DRAINAGE
ORDINANCE 2021-15	ADOPTING REVISED WATER AND SEWER SPECIFICATIONS AND STANDARDS AND PROCEDURES FOR AUXILIARY DWELLINGS UR USES OUTSIDE THE PRIMARY RESIDENCE ON RESIDENTIAL PROPERTIES
RESOLUTION 2023-07	ADOPTINING AMENDED PROCEDURES FOR NEW DEVELOPMENTS AND EXTENSIONS

Evergreen Water & Sewer DISTRICT 1©

130 Nicholson Drive
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Phone: 406-257-5861
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ORDINANCE 2021-08

ADOPTING REVISED WATER AND SEWER SPECIFICATIONS AND STANDARDS
AND PROCEDURES FOR NEW DEVELOPMENTS AND EXTENSIONS

WHEREAS, Flathead County Water District #1 – Evergreen (the "District") requires that all new additions to its water and sewer systems meet certain Specifications and Standards that have been adopted at various times; and

WHEREAS, the District Staff has recommended that revisions be made to the existing Specifications and Standards and that additional new Specifications and Standards be adopted to meet current needs in the District; and

WHEREAS, the District has adopted various Policies and Rules for Developers who are proposing main extensions or other projects that will be connected to the District's systems; and

WHEREAS, the District Staff has recommended that revisions be made to the existing Policies and Rules for Developers by adoption of a new policy titled "Procedures for New Developments and Extensions" to meet current needs in the District; and

WHEREAS, the recommended changes are attached to this Resolution as Exhibit "A" Water Specifications and Standards, Exhibit "B" Sewer Specifications and Standards, and Exhibit "C" Procedures for New Developments and Extensions.

NOW, THEREFORE, THE BOARD OF DIRECTORS OF THE DISTRICT ADOPTS THE REVISIONS AND NEW PROCEDURES ATTACHED TO THIS RESOLUTION AS EXHIBIT "A" WATER SPECIFICATIONS AND STANDARDS, EXHIBIT "B" SEWER SPECIFICATIONS AND STANDARDS, AND EXHIBIT "C" PROCEDURES FOR NEW DEVELOPMENTS AND EXTENSIONS; and

FURTHER, the Board orders that these revisions and new procedures control and take precedence over any other conflicting policies, procedures, rules, and guidelines previously adopted by Ordinance or Resolution of the Board; and

FURTHER, the Board directs the General Manager to publish these revisions and new procedures on the District's website to provide appropriate notice to customers and the public.

APPROVED AND ADOPTED: APRIL 21, 2021

FLATHEAD COUNTY WATER DISTRICT NO. 1 – EVERGREEN

By: _____
John T. Fallon
President of the Board of Directors

ATTEST:

By: _____
Cynthia Murray
Secretary to the Board

Evergreen Water & Sewer DISTRICT 1©

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Water Specifications & Standards

1. Mains shall be designed, constructed, and tested in accordance with these specifications and standards, Montana Circular DEQ 1, and Montana Public Works Standard Specifications. Where discrepancies exist between these documents, The District standards take priority, followed by Circular DEQ 1, and then MPWSS. Water mains will be AWWA C-900 PVC, Class 235. Minimum size shall be 8" in diameter. Actual size to be determined by the District based on hydraulic analysis, in accordance with DEQ 1, fire flow requirements, or upsizing based on further growth.

2. All mechanical joints shall be restrained with EBAA Iron Mega-Lugs, or equivalent, and thrust blocks. Restrain all tees, plugs, caps, reducers, valves, hydrants, and bends 22 ½ degrees and greater with concrete thrust blocks per Montana Public Works Standard Specifications, drawings 02660-1, 3 and 4.

3. Mainline hydrant valves will be Mueller Resilient Wedge Gate Valves in accordance with AWWA C-509. Tapping valves ***(All Sizes)***, shall be flange by flange to accommodate District's tapping machine. Mueller Resilient Wedge Gate Valves will also be used for mainlines valves on 6 inch and 8 inch mains. Ten inch and larger mains, other than tapping valves, will require Mueller 3211 Lineseal III, AWWA C504 butterfly valves with MDT Actuator with 2 inch nut for buried service.

4. Tapping sleeves for 4inch diameter and larger taps will be Romac SST III or Mueller H304 with stainless steel or ductile iron flange.

5. Hydrants will be Mueller Centurion 250 hydrants, red in color. The number of hydrants required, and location of hydrants will be determined by a representative of fire department, Evergreen Fire & Rescue, Kalispell Fire Department in city annexed areas, and West Valley Volunteer Fire Department in the areas north of West Reserve Drive, subject to final review and approval of the Flathead County Water & Sewer District No.1.

6. Valve boxes will Tyler 6860 Series 26" X36" screw to valve boxes with a #6 base, and a 5 ¼" lid marked 'Water'.

7. Fittings will be Class 350 ductile iron, SSB, AWWA C-153, typically MJ with polyethylene wrap.

8. In the event the extended main is a 'dead end main', a minimum 4" blow off or fire hydrant will be installed on the end of main. For any extension that a dead-end main that will be extended later in a subsequent phase, a minimum of 10 feet of main line pipe shall be extended past the shut off valve and a 4" blow-off will be installed on the end.

9. Bedding Material shall be clean washed well-graded gravel not to exceed ¾". Depth of bedding below the pipe will be 4" below the pipe and a at least 6" above the pipe.

10. All mains will be laid with locating tape and continuous loop of 14 gauge stranded or solid copper toner wire.

11. Minimum depth of mains, as measured from finished ground surface to the top of pipe shall be 6 feet. Depth of bury shall not exceed a maximum depth of 8 feet. Depths between 6.5 and 8 feet will require stem risers and box extensions for gate valves.

12. Hydrostatic and leak testing shall conform with MPWSS 02660-3.4A. After successfully completing hydrostatic and leak test, the mains must hold line pressure for a period of 24 hours to demonstrate the absence of leaks. All line valves must be open, and testing will be performed through the entire water main up to valves of hydrants and to service line curb-stops.

13. Water mains will be disinfected using the continuous feed method per the MPWSS 02660-3.4-3a (2). Samples tested after the 24-hour minimum testing period must maintain required minimum free chlorine residual of 10 mg/l. Perform Disinfection after successfully completing hydrostatic and leak testing. Provide saddle tap and corporation stop, or suitable means to inject and or drain disinfection solution and collect 2 sets of samples at the beginning and the end of each water main segment, taken a minimum of 24 hours apart in accordance with AWWA C-651 Section 5.1. These disinfection injection sites are to be abandoned at the corporation stop, shut off and capped, after disinfection has passed.

WATER SERVICES

1. Corporation stops will be Mueller 300 Series Valves CC X Flare. (B25005, B25000)

2. Curb stops will be Mueller 300 Series Ball Valves ¼ turn IPFe X IPFe B-20283, or Mueller Mark II Oriseal Instatite X Instatite IPS PE H-15213.

3. Service connections will be Mueller Instatite or other Mueller brass fittings as approved.

4. Services lines ¾" to 2" in diameter will be AWWA C-901 polyethylene iron pipe size 200 psi Pure-Core or approved equal. Service lines 4" and greater in diameter will be AWWA C-900 Class 235 PVC pipe.

5. Curb boxes will be Mueller H-10308, or District approved equivalent, 1 ¼" or 1 ½" I.D. upper section, minimum of 6 1/2Ft bury. This will include respective 42" shut off rod and lid with brass pentagon nut.

6. Fittings 4" and greater in diameter will be Class 350 ductile iron, SSB AWWA C-153 typically MJ, with polyethylene wrap.

7. All meters for services will be supplied by the District at the owner's / contractor's expense. Meters will be the size of the service supplied from the main.

8. Meter will be installed in a Mueller or Ford Meter Pit with aluminum bottom, insulation pad, and bolt down lid. For some larger meters and multiple large meters will be installed in concrete pit. The meter pit will be installed 3-4 feet from curb stop in the boulevard or on the house side of sidewalk if the meter pit is in conflict with the curb stop in the boulevard. If driveway conflicts with pit location, contact District for alternative placement. Meter Pits and curb stops that will be in traffic area will have to be protected. (Cast iron rings and covers, bollards, curbing, etc.)

9. The size of meters will correspond or be equivalent with size of District service line to curb stop.

10. The type of backflow prevention device for domestic service will be determined by the District. Multi-unit services and other commercial buildings will have a minimum of a testable double check assembly that is on the District's approved backflow list. Irrigation service backflow assemblies will also be determined by the District and the District's approved backflow list.

11. All services will be laid with locating tape and continuous loop of 14-gauge wire.

12. All services will be installed at a minimum depth of 6 feet, measured from top of pipe to finished ground surface.

13. Tapping saddles used for service ranging from ¾" to 2" will be Romac 101NS or Smith Blair 315, single strap with nylon or epoxy coating on ductile iron saddle body and stainless-steel mounting strap.

14. Tapping saddles used service lines 4" and larger will be Romac SST III or Mueller H304.

15. Water taps will be made until October 15. Taps requested after October 15, will be based on availability of hot plant mix and or weather.

16. All water lines (lateral services) will be adjacent to a District water Main and will not be located on any other property other than the property to be served by the service line. In the event a requested service is not adjacent to a District water main, a main line extension will be required at the developer's /owner's expense.

Fire Protection

1. The need for fire sprinkler system lines will be determined by the appropriate fire department (Evergreen Fire & Rescue for areas outside city limits, Kalispell Fire Department for City annexed areas, and West Valley Volunteer Fire Department for areas north of West Reserve Dr on the Bluff.

2. Size of the fire sprinkler supply pipe, (when required) design system flow, necessary residual pressure, and overall sprinkler system design will be determined by a licensed fire sprinkler designer working for the owner/developer at the expense of the owner/developer.

3. Potable water service lines will not be connected to fire service lines. Both potable and fire system and service taps will completely be separate and independent from water main to structure.

4. Fire service lines must be pressure tested and disinfected according to the same procedures for water mains (See items 12 and 13 page 2).

5. Reduce Pressure (RP) type backflow protection devices will be installed on fire protection lines. The assembly shall be designed to protect against both a non-hazard, pollution and or contaminants. The devices shall be tested once a year for proper operation and maintenance at owner's expense.

6. Required fire flows from hydrants, the number and location shall be determined by a representative of the appropriate fire department. If required fire flows are greater than the capacity of the existing water distribution system, off site water system improvements will be necessary. Required improvements will be determined by the District and will be at owner's/developer's expense.

ANY VARIATION OF THE ABOVE MAY ONLY BE AT THE DISCRETION OF THE DISTRICT

Flathead County Water & Sewer District #1 - Evergreen

130 Nicholson Drive • Kalispell, MT 59901
Phone: (406) 257-5861 • Fax: (406) 756-1588

SEWER MAIN SPECIFICATIONS & STANDARDS

1. Sewer main extensions shall be designed, constructed, and tested in accordance with these specifications and standards, Montana Circular DEQ-2, and Montana Public Works Standard Specifications (MPWSS). Where discrepancies exist between these documents, the District Specifications take priority, followed by Circular DEQ-2, and then MPWSS.

2. A written report is required for all proposed sewer main extensions. The report shall contain as minimum the items listed in Circular DEQ-2 Chapter 10.

3. Conventional gravity sewer mains shall be SDR-35 PVC ASTM D-3034 gravity sewer pipe with gasketed joints. Minimum main size shall be 8 inches in diameter. Actual size to be determined by the District. Design shall be in conformance with Circular DEQ-2 Chapter 30. Conventional commercial or multi-unit services into one service stub connection will have an inspection port (manhole) at connection to stub at property line.

4. Septic tank effluent gravity sewer mains shall be SDR-35 PVC ASTM D-3034 gravity sewer main with gasketed joints. Minimum size shall be 6 inches in diameter. Actual size to be determined by the District. Minimum slope for all sizes shall be 0.20%. Design should be in accordance with Circular DEQ-2 Appendix C except as modified in these specifications and standards. Manholes are required no more than 400 feet maximum spacing. Hydraulic calculations can be based upon Manning's roughness co-efficient, n equal to 0.011. Manholes are required at all junctions and when bends exceeding 11.25 degrees. Final manhole locations to be determined by the District.

5. Manholes are required on the upstream end of every small diameter septic tank effluent main. This will be determined by the District staff upon review of plans.

6. All mains shall be laid with locating tape and wire. Septic tank effluent mains shall also include 14-gauge solid core insulated toning wire suitable for direct bury. Locating wire shall be continuous loop from manhole to manhole and shall run to each service and be accessible at the septic tank risers.

7. Bedding material shall be well graded crushed gravel not to exceed ¾". Depth of bedding material shall be 4" minimum below the pipe and at least 6" over the top of the pipe.

8. Minimum depth of bury of sewer mains shall be 4 feet from invert to finished ground surface. Pipe with less than 4 feet of cover shall be insulated. See attachments 19 & 20 following.

9. Manholes shall be 4 feet in diameter precast concrete manholes conforming to ASTM C-478 with ladder rungs on 16-inch centers. Manholes shall be waterproofed with a 'Chimney Seal' barrier, **Whirly Gig** Manhole Riser Collar System, **Cretex** External Chimney Seal, **Cretex** Internal Chimney Seal, or **WrapidSeal** manhole Encapsulation System. Also, manholes shall be constructed with one of the following joints seals, **Infi-Shield** Gator Wrap, **Press-Seal** EZ-WRAP, **MarMac, MacWrap**, Riser-Wrap, or **Con-Seal** CS-212. Exterior surfaces of manholes shall be sealed with Xypex crystalline and Gamma cure.

10. Cast iron ring and covers for manholes shall be IFCO 772 with ¼" O-ring Gasket glued into machined groove in seat of ring, standard a cover with no bolts, marked Evergreen Sewer.

11. Property requesting sewer service must be adjacent to a District sewer main and the service will not be located on any other property other than the property to be served by the line. In the event a requested service is not adjacent to a sewer main then a sewer main extension will be required.

12. All new sewer mains and manholes will be tested following Montana Public Works Standard Specification vacuum test and have a camera inspection performed on all new lines after jetting. All results will be given to the District prior to acceptance. Owner / Developer shall be responsible for warranty of work for 24 months starting from acceptance.

13. When Metering is required for use in sewer tracking or billing, the meter will have to be approved by District staff to ensure proper use with district reading equipment. Owner/contractor will provide reasonable protection of metering enclosures and metering devices from damage of vehicles, snowplows, etc. If not seen reasonable, District will require owner/contractor to move or facilitate protection at their expense.

14. Additional information and drawings are available in the District Sewer 'Specifications and Standards'.

15. Flathead County Water & Sewer District No.1 - Evergreen, by EPA Mandate, follows City of Kalispell WWTP Pretreatment guidelines. Therefore, all grease traps and oil sand interceptor designs must be presented to the pretreatment official at the Kalispell WWTP and signed off for approval. Then after installation the grease traps and/or oil sand interceptors, those fixtures must be inspected by the City of Kalispell and the developer shall provide a copy of written acceptance by the City of Kalispell of the pre-treatment facilities before service can be put online.

ANY VARIATION OF THE ABOVE MAY BE MADE AT THE DISCRETION OF THE DISTRICT

SEPTIC TANKS
New Standard

Gravity Applications

Septic tanks for applications where gravity flow is possible shall be the standard "Evergreen Septic Tank" conforming to the "New & Existing Septic Tanks" section and Detail Drawing #22 of the current version of Sewer Specifications for Flathead County Water & Sewer District #1 Evergreen.

Provide two tank risers, one at each end of the septic tank over inlet & outlet baffles. Risers shall be single piece of 24-inch diameter ribbed PVC risers, with tank adapter cast into top of tank at base of riser and flat fiberglass bolt down lid at top of riser, by Orenco Systems, Inc. Riser shall be trimmed in the field at completion of installation so that top of riser matches finished grade.

Pumped Applications

Where gravity flow is not possible and pumping is necessary, for single family residences, a 1500-gallon, two compartment tank, where the first compartment is a 1,000 septic tank and the second compartment is a 500-gallon pump chamber, shall be provided. Uses other than single family residential may require larger compartments. Sizing shall conform to "New & Existing Septic Tanks" section of the current version of Sewer Specifications for Flathead County Water & Sewer District #1 Evergreen.

Property owners will be responsible for operation, maintenance, repair & replacement of the tank, risers, pumps, floats, pump control devices and appurtenances in and out of the pump chamber of the tank. The District will provide regular pumping of the tank in scheduled area pumping cycles.

Tankage shall be built to Flathead County septic tank standards with the following additions:

1. Septic tanks will be constructed where floors and walls shall be one-piece, single pour with no joints or seams. The tank lid may be a separate piece set atop the tank walls, with joint between lid and walls sealed with a continuous bead of Ramneck sandwiched between the top of the walls and underside of the lid. The tank(s) will have all seams, sealed with 'Press Seal Easy Wrap' barrier. Tank surfaces to be sealed with Xypex penetrating cementous waterproofing compound.

2. For inlet piping wall penetrations, provide smooth formed circular opening cast into tank wall and seal penetration with Press Seal PSX Direct rubber boot. For pump discharge pipe penetrations, provide 2-inch diameter Schedule 80 PVC coupling precast into tank wall.

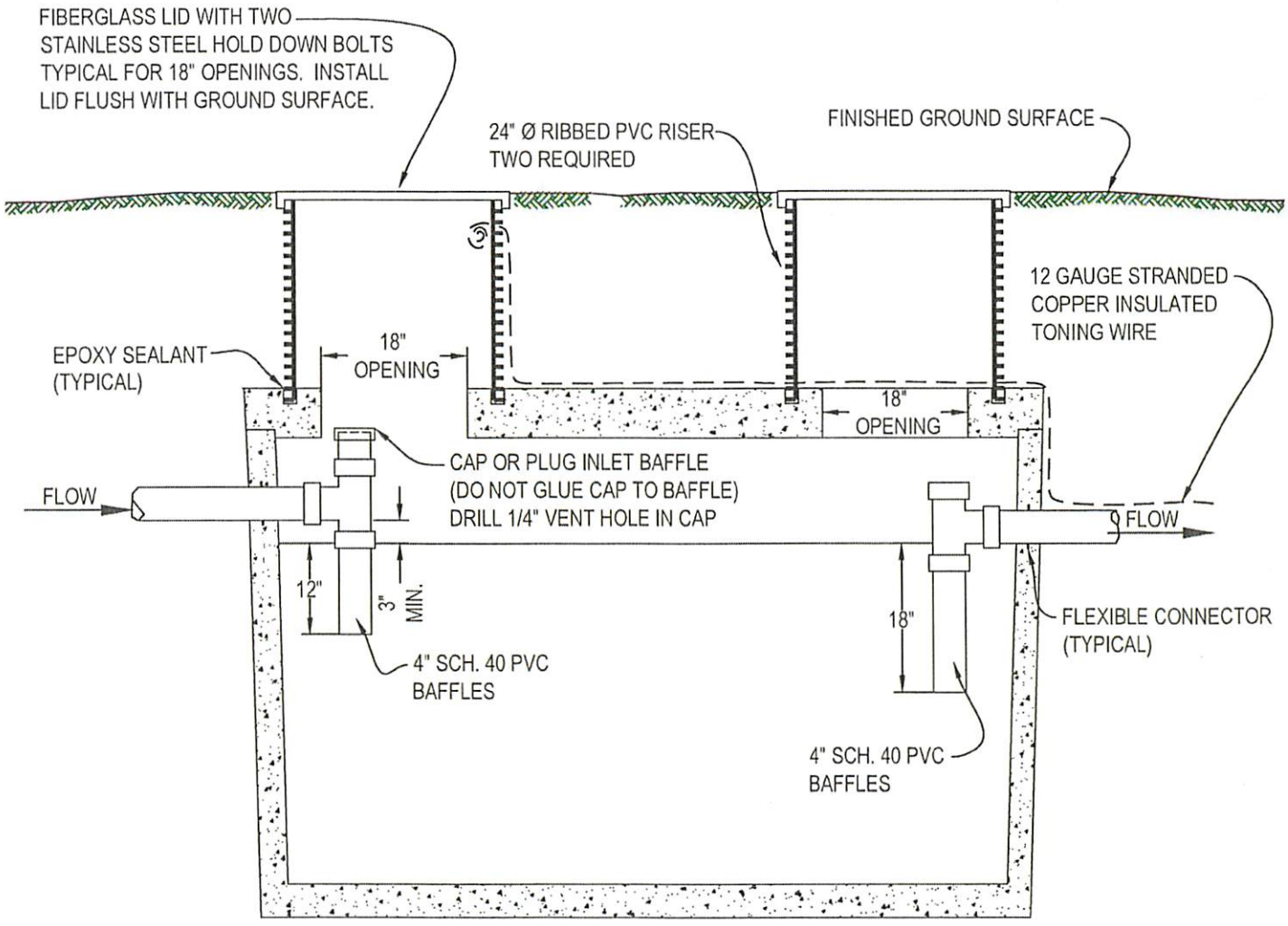
3. Standard Schedule 40 PVC baffles are to be provided on both inlet and outlet piping in tank.

3. Provide three tank risers, one at each end of the septic tank compartment and the third over the pump chamber. Risers shall be single piece of 24-inch diameter ribbed PVC risers, with tank adapter cast into top of tank at base of riser and flat fiberglass bolt down lid at top of riser, by Orenco Systems, Inc. Riser shall be trimmed in the field at completion of installation so that top of riser matches finished grade.

'Exhibit B'

Location – Common to both Gravity & Pumped Applications

Tanks are to be installed in a non-traffic area. Provide bollards or barriers to protect tank. If tank is to be installed in area subject to vehicular traffic, provide extra thick traffic rated lid on tank and cast-iron rings and lids over access risers.



NOTE: INTERIOR BAFFLE NOT SHOWN FOR 2000 GALLON TANKS AND LARGER

NEW SEPTIC TANK RISER AND BAFFLE DETAILS

NO SCALE

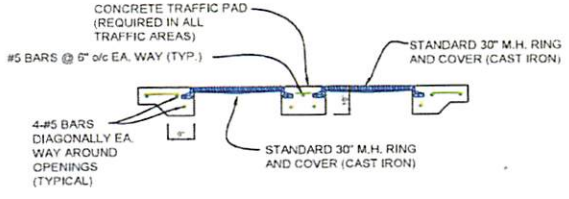
'Exhibit B'

#13
DETAIL DRAWING
MAY, 1994
JULY 20, 2020

#22
DETAIL DRAWING
MAY, 1994
JUNE 16, 2020

1000 & 1500 GALLON SEPTIC TANK DETAILS

NO SCALE



SUMMARY SCHEDULE		
TYPE OF TANK	DEPTH OF COVER	S BAR SPACING
CLASS 1	0'-3'	8" o/c
CLASS 2	3'-5'	6" o/c
CLASS 3	5'-8'	5" o/c

NOTE: INSULATE OVER PRESSURE SEWER SERVICE USING TWO (2) LAYERS OF 1" THICK RIGID SYTROFOAM INSULATION WHERE DEPTH IS LESS THAN 6 FEET.

CONCRETE SHALL BE 4000 PSI
REINFORCING SHALL BE GRADE 60

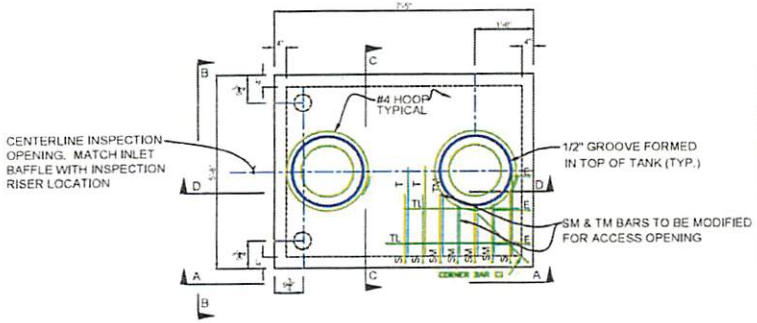
NOTE: INSTALL NEOPRENE PIPE GROMMETS WHERE DISCHARGE PIPEING AND/OR ELECTRICAL CONDUIT PENETRATE PVC RISER WALL

MINIMUM DEPTH OF TANK AS MEASURED FROM INVERT OF THE OUTLET TO TOP OF FLOOR IS 4 FEET.

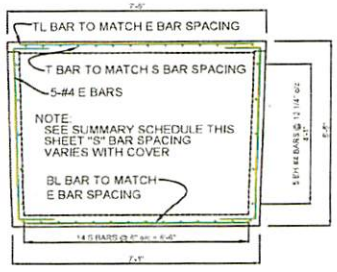
LIQUID DEPTH EXCEEDING 6 FEET SHALL NOT BE CONSIDERED IN DETERMINING TANK CAPACITY

INVERT OF INLET SHALL BE 3" MINIMUM ABOVE INVERT OF OUTLET

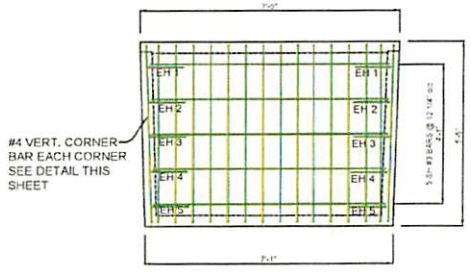
NEW SEPTIC TANK CONSTRUCTION SHALL COMPLY WITH MONTANA DEPARTMENT OF HEALTH AND ENVIRONMENTAL SCIENCES CIRCULAR 84-10, CHAPTER 50, SECTION 2 "DESIGN"



PLAN VIEW 1000 GALLON TANK
SCALE: 3/4"=1'-0"



SECTION D
SCALE: 3/4"=1'-0"

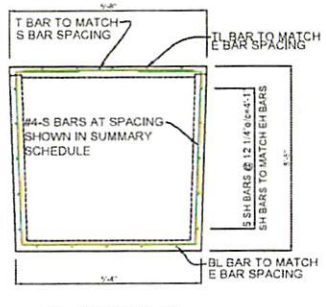


ELEVATION VIEW A
SCALE: 3/4"=1'-0"

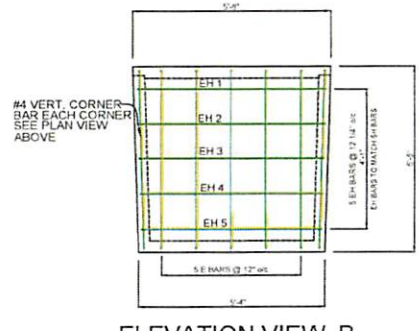
BILL OF REINFORCING

TYPE 1 STRAIGHT BAR | TYPE 2 BENT BAR | TYPE 3 BENT BAR | TYPE 4 BENT BAR

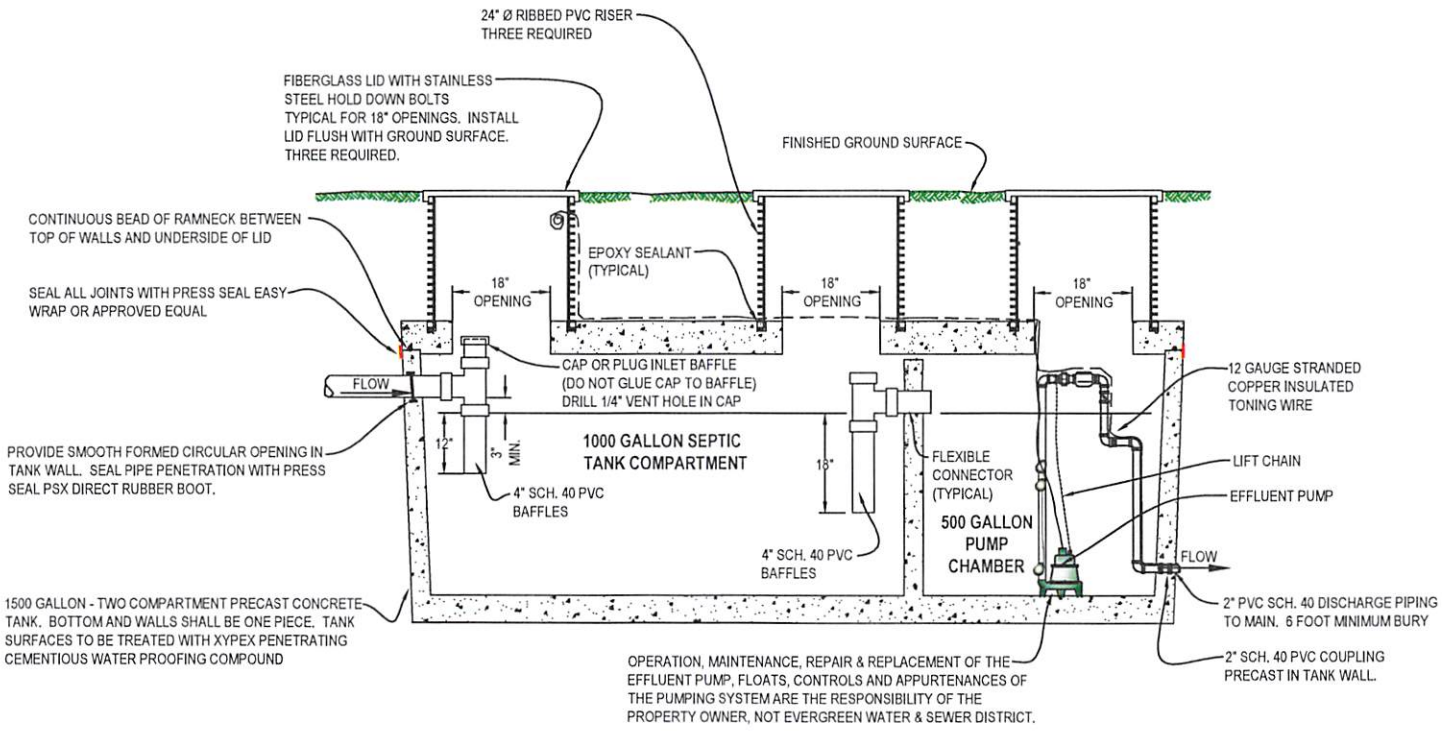
BAR	TYPE	SIZE	A	B	C	NO. OF BARS PER TANK
S	4	4	5'-0"	5'-2"		VARIES
SH1	2	3	-	10'-10 1/2"	1'-0"	2
SH2	2	3	-	10'-9 3/4"	1'-0"	2
SH3	2	3	-	10'-9"	1'-0"	2
SH4	2	3	-	10'-8 1/4"	1'-0"	2
SH5	2	3	-	10'-7 1/2"	1'-0"	2
E	2	4	-	5'-2"	1'-0"	10
EH1	2	4	-	5'-4 1/2"	1'-0"	2
EH2	2	4	-	5'-3 3/4"	1'-0"	2
EH3	2	4	-	5'-3"	1'-0"	2
EH4	2	4	-	5'-2 1/4"	1'-0"	2
EH5	2	4	-	5'-1 1/2"	1'-0"	2
T	1	4	5'-0"	-	-	5
TL	1	4	10'-6"	-	-	VARIES
B	3	4		4'-8"	1'-0"	5
BL	1	4	10'-2"	-	-	VARIES
C1	2	4	-	5'-2"	1'-0"	4



SECTION C
SCALE: 3/4"=1'-0"



ELEVATION VIEW B
SCALE: 3/4"=1'-0"



NEW COMBINATION SEPTIC TANK AND PUMP STATION DETAIL

NO SCALE

#23
DETAIL DRAWING
JULY 20, 2020

'Exhibit B'

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SEWER SPECIFICATIONS & STANDARDS

Specifications for Sewer Pump Stations and Force Mains

1. Pump stations and force mains shall be designed, constructed and test in accordance with these Specifications and Standards, and current editions of Montana Circular DEQ-2, and the Montana Public Works Standard Specifications (MPWSS). Where discrepancies exist between these documents, the District Specifications take priority, followed by Circular DEQ-2 and then MPWSS.

2. Pump stations shall be duplex submersible type with a 316 stainless steel slide rail, valve pit, emergency electrical power generator, slab, fencing, steel pipe for antenna pole / vent chimney, all as detailed on sheets 12 through 15 and specification Sections 03416, 11330, 11350, and Division 16 Electrical, particularly Sections 16623 –and 16902 – Controls and Instrumentation, from the Evergreen Wastewater Collection System Construction Documents and as further described in these specifications.

3. Generator set shall be Caterpillar 50 KW Model DG50-2 fitted with Caterpillar Transfer Switch Model CG. *No substitutions allowed.*

4. Pumping equipment shall be submersible wastewater pumps manufactured by Sulzer ABS Pumps, Inc. capable of passing 3-inch solids. Pumps shall be Sulzer Vortex Pumps, Type 80C-VX. Pumps shall be motor model PE 35/4, 480-volt, three-phase. Contact Falcon Supply Company, Inc.; Niwot, CO 80544; Fax (303)652-3460; Telephone (303)499-7131 for ABS equipment. *No substitutions allowed.*

5. SCADA & alarm system shall be integrated into the District's existing Allen Bradley telemetry system. System integrator shall be Industrial Process Controls, Inc. (406)871-2781. Major hardware to be provided include programmable controller, analog input module, operator interface, power supply, radio modem, and antenna. All equipment to be fully compatible with and identical existing Allen Bradley System. *No substitutions allowed.*

6. Lifting apparatus for the pumps (cable ***NOT*** chain, clamps, bolts, and all other hardware) shall be 316 stainless steel.

7. All piping within and between wet well and valve pit, and to flexible coupling located 5-feet from the valve pit shall be factory fabricated flanged Class 52 cement mortar line ductile iron pipe. Bolt on field flanges, are ***NOT*** allowed.

8. Fittings shall be AWWA C-153 ductile iron, flanged or mechanical joint, Class-350, cement mortar lined, asphaltic coating with polyethylene wrap. Restrain all tees, elbows 22 ½ degrees and greater, plug caps, reducers, and valves with thrust blocks and EBAA Iron Mega-lugs.

9. Provide 316 stainless steel bracket(s) to support pump power cables, level sensing device, stilling well, and float cables. Use stainless steel bolts, studs, and nuts to attach brackets to wet well wall. Provide compression cord snubber for each cable for leveling adjustment and removal of cable.

10. Hatches to be aluminum frame and cover, H-20 rated, with 316 stainless steel hardware, bolt down cover, gasket seal, waterproof recess handles, flush hinges, with spring assist hold-open device and keyed slam lock, by Halliday Products, Inc. Wet well hatch to be model number H1R030048CADAAAAZ, and valve pit hatch to be model number H1R034058CADAAAAZ. Hatch lids opening will open so that hatch lid will open toward fences and cabinets to provide better access to vaults.

11. Check Valves to be rubber flapper style capable of closing with very little backpressure, Flowmatic Model 78, Pratt RD-Series or approved equal.

12. Plug valves shall be quarter turn, eccentric plug, flanged Dezurik Series 100, Figure 118 in valve vault, 4" valves shall be furnished with lever operator, valves six (6) inch and larger shall be furnished with hand wheel and gear operator. Buried valves shall have two (2) inch square nut and valve box.

13. A written Engineer's report is required meeting DEQ 4, 11.1 for all sewage pump stations. Service area boundaries, depth and location of the pump station, and pumping capacity shall be approved by the District and may be modified at the discretion of the District to permit orderly expansion of the sewage collection and conveyance system.

Force Main Specifications

1. Force mains shall be constructed and tested in accordance with these notes and District Standards, and current editions of Montana Circular DEQ-2, and Montana Public Works Standard Specifications (MPWSS). Where discrepancies exist between these documents, these notes take priority, followed by District Specifications, Circular DEQ-2, and then MPWSS.

2. Test pressure for force main shall be 100 PSI and hold that pressure for a period of two (2) hours without any loss of pressure.

3. Provide branch with plug valve for emergency bypass connection downstream of valve pit. All flanged ductile iron pipe to be factory fabricated spools. *Bolt on field flanges, are **NOT** allowed.*

4. Force main begins at the flexible coupling five (5) feet from the valve pit.

5. Fittings shall be AWWA C-153 ductile iron, Class 350, cement mortar lined, asphaltic coating with polyethylene wrap. Restrain all tees, elbows 22 ½ degrees and greater, plug caps, reducers, and valves with thrust blocks and EBAA Iron Mega-lugs.

6. Sewer force mains shall be HDPE pipe and must meet MPWSS requirements.

7. All force mains shall be laid with locating tape and 14-gauge stranded wire insulated copper toning wire suitable for direct bury. Locating wire shall be continuous loop from bypass valve box to the receiving manhole.

8. Bedding material shall be well graded crushed ¾" gravel. Depth of the bedding material shall be 4" minimum below the pipe and at least six (6") over the top of the pipe.

9. Minimum depth of bury of sewer force mains shall be six (6) feet from the top of pipe to finish ground surface except where profile indicates shallower bury and insulation. High Density insulation board shall be extruded polystyrene, ASTM C-578, Type IV, 40 PSI compressive strength, two (2) inches thick, two (2) feet wide.

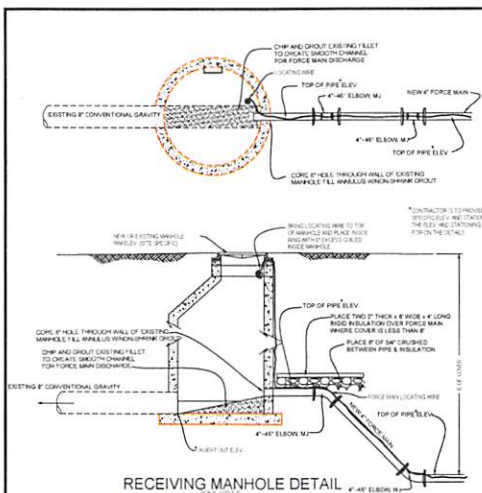
Site Requirements

1. Provide driveway for access to lift station site from public right of way. Access will have to be approved by Flathead County Water & Sewer District No.1 – Evergreen. Minimum driveway width is Twelve (12) feet of pavement with one (1) foot wide gravel shoulder on each side.

2. Provide paved parking / turn around area adjacent to lift station. Minimum dimension of parking/turn around area hammerhead tee with each three legs thirty (30) feet long minimum twenty-five (25) feet wide, three (3) inches thick. Grade paved surface to drain away from lift station slab.

3. Alternate access and parking/turn around designs will be considered on a site, specific basis.

4. Three Phase power required unless phase requirements are not applicable or feasibly available.

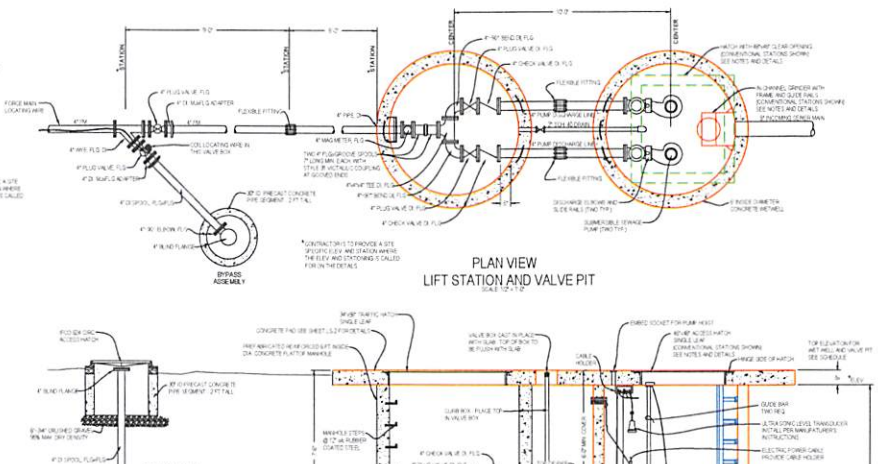


RECEIVING MANHOLE DETAIL

SCALE: NOT TO SCALE

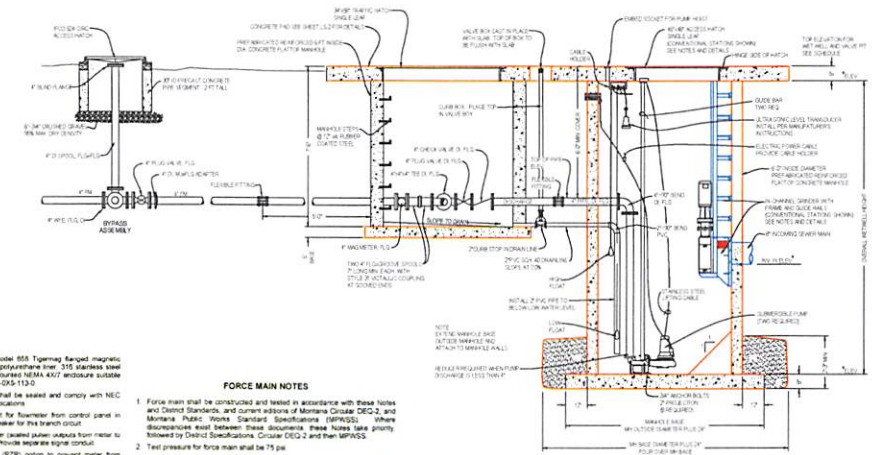
SEWER PUMP STATION NOTES

1. Pump station shall be constructed and tested in accordance with these Notes and District Standards, and current editions of Montana Circular DEQ-2, and Montana Public Works Standard Specifications (MPWSS). Where discrepancies exist between these documents, these Notes take priority, followed by District Specifications, Circular DEQ-2 and then MPWSS.
2. Pump station shall be duplex submersible type with wide rail, valve pit, emergency electrical power generator, slab fencing, steel pipe for antenna polevent chimney, all as detailed on plan sheets LS-1 and LS-2 and Specification Sections 03416, 11330, 11350, and Division 16 Electrical, particularly Sections 16622 & 16623 – Generator, and 16902 – Controls & instrumentation, from the original Evergreen Wastewater Collection System Construction Documents and as further described in these specifications. (Copies of specifications are available at the request of Contractor from Carver Engineering Inc. 257-5202.)
3. Pumping equipment shall be submersible wastewater pumps manufactured by ABS Pumps Inc. capable of passing 3" solids. Pumps shall be ABS model AFP, 480 volts, three phase, 1,800 rpm motor. Contact Falcon Supply Company, Inc. Howell, CO 80544-0469 FAX (303) 652-3460, TELEPHONE (303) 499-7131 for ABS equipment. No substitutions allowed.
4. SCADA & alarm system shall be integrated into the District's existing Allen Bradley telemetry system. System integrator shall be Northwest Automation, Inc., 406-756-9295. Major hardware to be provided includes programmable controller, analog input module, operator interface, power supply, radio modem, and antenna. All equipment to be fully compatible with and identical to existing Allen Bradley system. No substitutions allowed.
5. Lifting apparatus for the pumps (cable, clamps, bolts and all other hardware) shall be stainless steel. Provide cable, not chain.
6. Provide stainless steel bracket(s) to support pump power cables, level sensing device and float cables. Use stainless steel bolts, studs and nuts to attach brackets to wet well wall. Provide compression cord snubber for each cable for level adjustment and removal of cable.
7. For septic tank effluent stations, carbon canister to be factory fabricated unit containing approximately 200 pounds of granular activated carbon, coated steel drum, PVC internal distribution system, Weisaires Vent Scrub Model No. 200 or approved equal. Provide non-corrosive adapters at inlet and outlet for connection of 2-inch canister connections to 4-inch vent hose. Hose to be 4-inch thermoplastic rubber with spring steel helix, Flexaduc LT or approved equal. All hose fittings in valve vault to be stainless steel or PVC. For conventional stations, do not provide carbon canister. Provide close nipple to connect two sections of hose.
8. Hatches to be aluminum frame & cover, H-20 rated, with stainless steel hardware, bolt down cover, gasket seal, waterproof recessed handles, flush hinges, with spring assist hold-open device and keyed alarm lock, by Halliday Products, Inc. Wet well hatch to be model number H1R0346048CADAAAAZ for conventional stations, model number H1R033048CADAAAAZ for septic tank effluent stations, and valve vault hatch to be model number H1R0346059CADAAAAZ.
9. Check valves to be rubber flapper style capable of closing with very little backpressure, Flowmatic Model 78, Pratt RD-Series or approved equal.
10. All piping within and between wet well and valve pit, and to flexible coupling located 5 feet from valve pit shall be factory fabricated flanged Class 52 cement mortar lined ductile iron pipe. Bolt on field flanges are not allowed.
11. Fittings shall be AWWA C-153 ductile iron, flanged, Class 350, cement mortar lined, asphaltic coating with polyethylene wrap.
12. Plug valves shall be quarter turn, eccentric plug, flanged, Dezurick Series 100, Figure 118. In valve vault, 4-inch valves shall be furnished with lever operator; valves 6-inch and larger shall be furnished with hand wheel & gear operator. Buried valves shall have 2" square nut and valve box.



PLAN VIEW
LIFT STATION AND VALVE PIT

SCALE: 1/2" = 1'-0"



ELEVATION VIEW
LIFT STATION AND VALVE PIT

SCALE: 1/2" = 1'-0"

Flow Meter Notes

1. Flowmeter shall be Sparling Instruments Model 855 Tigermag flanged magnetic flowmeter, sized to match discharge piping, polyurethane liner, 316 stainless steel electrode, 150 pound flanges, and remote mounted NEMA 4X/7 enclosure suitable for accidental submergence, Sparling FM 055-0X5-113-0.
2. All electrical equipment in the valve vault shall be sealed and comply with NEC requirements for Class 1 Group D Division 1 locations.
3. Provide 120 volt single phase power circuit for flowmeter from control panel in separate conduit. Provide separate circuit breaker for this branch circuit.
4. Analog flow rate (4-20 MA) and digital totalizer (scaled pulse) outputs from meter to be wired to control panel for input into PLC. Provide separate signal conduit.
5. Flow meter to employ positive zero return (PZR) option to prevent meter from registering flow when pumps are not running. Wire dry contacts on pump motor starters to meter PZR terminals. Closing of contacts will drive 4-20 mA output from meter to zero. PZR wiring may be located in meter power conduit.
6. Locate remote transmitter in valve pit, 4 feet above floor level. Attach transmitter to wall using remote mounting bracket supplied by meter manufacturer.

SITE REQUIREMENTS

1. Provide paved driveway for access to lift station site from public right-of-way. Access to be approved by Evergreen Water & Sewer District. Minimum driveway width is 12 feet of pavement with 1 foot wide gravel shoulder on each side.
2. Provide paved parking/turn around area adjacent to lift station. Minimum dimension of parking/turn around area are a hammerhead tee with each of three legs 30 feet long minimum and 20 feet wide. See detail drawing on sheet LS-2. Grade paved surface to drain away from lift station slab.
3. Alternate access and parking/turn around designs will be considered on a site specific basis.
4. Paving section shall be as shown in the paving section detail on sheet LS-2.

FORCE MAIN NOTES

1. Force main shall be constructed and tested in accordance with these Notes and District Standards, and current editions of Montana Circular DEQ-2, and Montana Public Works Standard Specifications (MPWSS). Where discrepancies exist between these documents, these Notes take priority, followed by District Specifications, Circular DEQ-2 and then MPWSS.
2. Test pressure for force main shall be 75 psi.
3. Provide branch with plug valve for emergency bypass connection downstream of valve pit as shown on sheet LS-1. All flanged ductile iron pipe to be factory-fabricated spools. Bolt on field flanges are not allowed.
4. Force main begins at flexible coupling located 5 feet from valve pit (Sta _+_).
5. Fittings shall be AWWA C-153 ductile iron, mechanical joint, Class 350, cement mortar lined, asphaltic coating with polyethylene wrap. Restrain all tees, elbows 22½° and greater, plugs, caps, reducers, and valves with thrust blocks and EBAA Iron Mega-lugs.
6. Sewer force mains shall be Class 150 AWWA C-900 PVC.
7. All force mains shall be laid with locating tape and 14 gauge stranded insulated copper toning wire suitable for direct bury. Locating wire shall be continuous loop from bypass valve box to receiving manhole. Provide intermediate access boxes for locating wire at 1000 feet maximum intervals if length of force main is greater than 2000 feet.
8. Bedding material shall be well-graded crushed ¾" gravel. Depth of bedding material shall be 4" minimum below the pipe and at least 6" over the top of the pipe.
9. Minimum depth of bury of sewer force mains shall be 5 feet from top of pipe to finished ground surface except where profile indicates shallower bury & insulation. Insulation board shall be extruded polystyrene, ASTM C-578, Type IV, 40 psi compressive strength, 2 inches thick, 2 feet wide, Owens Corning Foamular 400 or approved equal.

CARVER ENGINEERING, INC.
Consulting Engineers
1005 Third Avenue East
Kalispell, Montana 59901
(406) 257-5202

Revisions

Drawn by TLM
Checked by AJH

Date MAY 20, 2008

Project Number 10626.00

Project Title: EVERGREEN SEWER SYSTEM

Sheet Title: SEWAGE PUMP STATION SITE PLAN AND DETAILS STANDARD DRAWING

LS-1

'Exhibit B'

TESTING PUMP SYSYTEMS & CONVEYANCE

HDPE PIPE – MAINS / 200 PSI POLY – SERVICES

TEST FOR WATER TIGHTNESS - MAINS

After construction, all pressure mains and laterals shall be tested for water tightness in accordance with Montana Public Works Standard Specifications Part 3.4. Additionally, Flathead County Water & Sewer District No.1 – Evergreen requires a hydrostatic test at 100 PSI as measured at the low point in the piping segment. The force main shall hold the 100 PSI pressure for a period of 2 hours.

TESTING OF SEWER PRESSURE SERVICES

All sewer pressure service lines shall be subjected to a hydrostatic test. The hydrostatic test shall be conducted at a test pressure of 100 PSI. There shall be no allowable drop in pressure in during a fifteen (15) minute period starting 5 minutes after measuring device (Pressure Gage).

New pressure services shall be tested in two segments: The first segment shall be from the force main to the curb stop and the second segment shall be tested from the curb stop to discharge connection attaching to discharge side of sewage pump.

PUMP CHAMBERS

Pump chambers shall be filled with water to the bottom of inlet pipe and held for a period of thirty (30) minutes maintaining level without drop.

RESULTS

All test results shall demonstrate that the systems have passed the required standards above. If corrective actions are required to achieve a passing test, those actions should be described, and the resulting positive test noted. For private sewer systems connecting to District facilities, the tests must be performed and signed off by the certified system operator or an independent qualified inspector approved in advance by the District. All test results are subject to review and approval by the District prior to the time the system is operational.

Evergreen Water & Sewer DISTRICT 1©

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Procedures for New Developments and Extensions

April 21, 2021

Flathead Water & Sewer District No.1 – Evergreen
130 Nicholson Drive – Kalispell, Montana 59901
(406) 257-5861

The District is committed to working with developers on new additions to the water and sewer systems. For properties located within the District's boundaries, developers must comply with all applicable rules, regulations, policies, and specifications of the District in effect at the time the project is submitted for District review and approval.

Preliminary Planning Meeting:

Developer and the Professional Engineer who will be designing the project and signing the plans should schedule a preliminary planning meeting with District Staff to go over the proposed scope of project before initial plans are drawn. At that meeting, we will discuss initial concerns, possible extensions of mainline services beyond the project, and provide a packet of our specifications and standards for the utilities needed. This meeting, free of charge, will hopefully streamline the review process by having issues or concerns raised before plans are drawn up. Design, construction methods, and materials must comply with the District's specifications.

Submission of Plans:

After plans are finalized, signed, and dated by the Professional Engineer, two printed sets of the plans size 24 x 36, the Engineer's Report and supporting materials will be provided to the District for review along with payment of the Initial Plan Review Fee per the District fee schedule in effect at the time. The two sets of plans must include scaled drawings of water and sewer utilities. The plans must also include plans for dry utilities such as gas, electric, phone, cable, and other underground utilities and a stormwater run-off plan to verify that the dry utilities and storm water improvements will not interfere with District facilities. Review by the District Staff of the dry utility and stormwater plans does not constitute approval of those plans.

The plans also need to identify what additional system upgrades or additions (such as downstream lift stations and other infrastructure) are necessary to accommodate flows from the proposed development.

Adopted by Board Resolution 2021-08
April 21, 2021

Exhibit "C"

If the District determines that its engineer must do additional system flow or demand modelling, such work will be performed at developer's expense. Any such system upgrades or additions identified by the District's engineer or developer's engineer must be included in developer's plans and provided at developer's expense.

Commercial and Multi-Unit facilities must have an engineer's "Instantaneous Demand Calculation" for sizing of service(s) which takes into consideration fixtures, fixture count, pressure zones, etc. In structures containing multiple rental units, multiple unit meters are allowed only if each meter is separately serviced from main to meter.

At the time plans are submitted to the District, developer must provide a letter from the Flathead County Planning and Zoning office concerning zoning and floodplain review of the proposed plans. Any County requirements concerning the floodplain must be incorporated into the plans.

An approval letter from the Fire Department that serves that area should also be provided at the time the plans are submitted for review by the District Staff. The letter should contain a statement of the required fire flow & duration, any other requirements and either approval of the hydrant locations and/or fire suppression proposed by developer or provide a description of what needs to be done to meet the Fire Department's requirements. The District may require additional system upgrades or additions that the District determines are necessary to meet the required fire flow demands. Any such system upgrades or additions must be included in developer's plans and provided at developer's expense.

Plan Review

The plans and other information submitted will be reviewed by the District Staff and the District's engineer no later than 60 days after the later to occur of 1) the submittal date written on the plans or 2) payment of the required plan review fee. Incomplete plans that do not meet the requirements outlined in this policy and the District's specifications and standards in effect at the time the plans are submitted will be rejected in writing by the District Staff within 10 business days of the submittal date on the plans.

Plans that are complete will be reviewed by the District Staff and District's engineer. Developer's engineer will be provided a written set of comments or changes by the District's engineer to be addressed and incorporated into a First Revised Set of Plans. The initial review fee paid to the District covers that first review and one subsequent review by District Staff of the First Revised Set of Plans completed by developer's engineer after receiving the initial written comments from the District. Any subsequent reviews by the District Staff and Engineer after review of the First Revised Set of Plans will have to be paid for by Developer as per the District's Fee Schedule in effect at the time. Plans will not be submitted to the Board for approval until all review fees are paid in full.

Consideration of the Final Plans by the District Board of Directors:

Once the plans have received a final recommendation by the District Staff and its engineer, the Plans will be submitted to District's Board of Directors at its next regularly scheduled meeting. Any conditions of approval recommended by District Staff will be included in the Staff recommendations. The meeting is a public meeting and developer, and engineer are welcome, but not required, to attend. The Board's

decision will be reflected in a Resolution provided to developer after the meeting. At that time, the District will provide a letter to DEQ and the County confirming the Board's approval or denial of the plans and, in the case of approval, the existence of any conditions of the approval or elements required for further review. The Board's Plan Approval expires two years from the date of the Resolution of approval. Thereafter, new plans must be submitted and the process through Board Approval must be followed.

District's review is separate from Flathead County, DEQ, and other required departments or agencies:

Developer must comply with all applicable requirements of DEQ, Flathead County, and any other applicable departments or agencies. The District will require an approval letter from DEQ, Evergreen Fire Department, and Flathead County Planning and Zoning before the Project may proceed with construction.

Main Extensions:

All projects involving main extensions of water or sewer require a written Main Extension Agreement between the District and Developer signed after Plan Approval by the District's Board of Directors. In certain circumstances, when a project involves work on or near existing District facilities, the developer may be required to post a bond or provide insurance with the District as a Named Insured. The bond or insurance policy must cover costs of repair of potential damage to District facilities and surrounding property, including costs of remediation that may be required, and costs and damages related to the loss of service of the existing facility. The amount of the bond or insurance policy will be in an amount to be determined by the District Staff and as a condition of the Plan Approval based on the project proposed.

A key requirement of the Main Extension Agreement is that the Developer must retain a full-time inspector who is approved in writing by the District in advance of the start of construction. The inspector must provide a written inspection report to the District at least once per week. District Personnel will also have to inspect and approve certain connections, which can occur with advance notice during regular business hours.

No developer will be allowed to perform taps into existing District water mains. Taps will be made by District personnel or a contractor approved and retained by the District at developer's expense. Tap fees will be billed for time and materials after the tap is done by completed.

District Personnel may from time to time come to the project site to observe activities and installations and ask questions. These site visits are not to be relied upon by developer as a substitute for inspections as required in the Main Extension Agreement. If appropriate inspections are not occurring per the Main Extension Agreement or if the inspection reports identify issues of concern, the District may require developer to expose work already backfilled so that the District can examine the work to determine if the work is acceptable or must be redone. Developer should work closely with its engineer and inspector throughout the project to avoid additional costs and time delays that correcting non-compliant work can create.

Developer is responsible for a safe and complaint work site and conditions. District Personnel may refuse to conduct observations or inspections of installations or perform other work, such as taps, if there is an unsafe condition on the property. Such a condition must be remedied in order to have the work proceed.

If the main extension will be located on private land, developer must provide the District with an easement for all properties affected by extension. The easement must allow unrestricted future extension of the main beyond the current development. Providing easements that are acceptable to the District is a condition of Plan Approval by the Board.

If the main extension or any service lines will be located in the County or State rights of way or roads, developer must also apply and pay for appropriate encroachment permits from the County. For occupancy permits from the State, the District will apply for the permit in the name of the District and developer will pay all associated fees and costs. Developer is responsible for road repairs as specified by the Montana Department of Transportation or Flathead County Road Department.

After all requirements above are satisfied, then construction may proceed. Any work done before prior to completion of the District's required process will not be accepted.

Upon completion of the infrastructure according to the Approved Plans, the District must be notified, and time scheduled for District staff to perform final inspection, and to observe pressure testing and chlorination per the District's testing specifications. Areas of concern in Water or Sewer main lines may be noted by District staff and therefore require photo documentation by engineer of the laid line's placement (all installed ductile fittings, thrust blocks, and areas such as high ground water, utility separations, etc.) at developer's expense.

Chlorination procedures require two sets of Bac-T samples performed by the developer's engineer at the developer's expense, one set done after chlorine is flushed from system, and the other set performed twenty-four hours later. If the extension does not pass Bac-T tests, then the process will start over until the extension passes both Bac-Ts. If extension does not pass a second round, developer will be billed a fee of $250.00 for each additional attempt to pass to cover additional expense to the District.

Once the pressure and Bac-T tests are successfully completed, the water main will become active, but no water meters will be supplied, or connections allowed until acceptance by the District of the entire project per the requirements below.

Sewer manholes shall be tested for leakage using a vacuum test conforming to the current edition of ASTM C-1244. Mainlines will be inspected via television camera at developer's expense after flushing before acceptance. A video recording of the television inspection shall be provided to the District at developer's expense.

Flathead County Water & Sewer District #1 - Evergreen, by EPA Mandate, follows City of Kalispell WWTP Pretreatment guidelines. Therefore, all grease traps and oil sand interceptor designs must be presented to the pretreatment official at the Kalispell WWTP and signed off for approval. Then after installation of the grease traps and/or oil sand interceptors, those fixtures must be inspected by the City of Kalispell and the Developer shall provide a copy of written acceptance by the City of Kalispell of the pre-treatment facilities before service can be put online.

Completion of Construction and Acceptance by the District:

At the conclusion of construction, developer's engineer will provide to the District a written certification in a form acceptable to the District that the project has been built per the Approved Plan. Engineer will create as-built plans and will supply the District with a digital copy in .DWG and PDF of the as-builts along with printed copy. Developer will be required to reimburse time and expenses for the District to collect GPS coordinates of valves, hydrants, curb stops, and manholes, etc.

Developer will also provide a written 2-Year warranty of all the facilities to be transferred to the District in a form acceptable to the District. Developer may be required to provide a warranty bond as part of the Main Extension Agreement to secure the provisions of the warranty. The amount of the bond will be set by the District based on the size and type of the project.

After review of the engineer's as-built plans and subject to developer's payment of all remaining fees and charges due at that time (excluding meter fees for individual lots or other fees allowed to be paid in phases under the terms of the Main Extension Agreement), the District will provide a written acceptance of the project. A letter from the District stating that all fees and charges due are paid and that the water and sewer improvements meet the District requirements is required by Flathead County Planning and Zoning and must be submitted by Developer with the application for the final plat.

Reservations of Sewer Capacity within the District's current sewer boundaries:

The District has limited sewer service capacity due to requirements in its agreement with the City of Kalispell for wastewater treatment. This capacity, measured by the EDUs for the project, is not guaranteed to developer until acceptance of the completed project by the District and payment of the District's applicable Sewer Facility Fees.

Approval of the Plans by the Board of Directors does NOT reserve sewer capacity for the project. Payment of the Sewer Facility Fees does not extend the deadline for completion of the project and acceptance by the District. If a project is not completed within TWO YEARS of the Plan Approval by the Board, the Sewer Facility Fees paid will be forfeited and the project plan will have to be resubmitted for review by the District and approval by the Board unless the Board grants a written extension, which is at the Board's discretion. If no extension is granted, developer will have to obtain approvals from the City and the District as a new project, subject to all the applicable rules, policies, procedures, fees and/or costs in effect at that time. Approved EDUs and associated sewer capacity reservations are not a property right of Developer and cannot be transferred, assigned, or sold.

For a project involving phases, no capacity will be reserved for each particular phase until approval and completion of that phase and payment of the applicable Sewer Facility Fees.

Evergreen Water & Sewer DISTRICT 1©

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Water & Sewer Main Extensions Procedures

Abandonments, Separations, and Drainage

Abandonments

Whenever existing service and/or water services located on the property will not be used as part of the development, the service lines shall be properly abandoned at the expense of the developer by cutting and capping the service lines where they connect to the District's mains. Existing septic tanks and effluent pump chambers shall be abandoned by pumping them to empty them of their contents and physically removing them from the project site and properly disposing them on their contents offsite.

Separations

Separation between water and sewer facilities and other utilities: There shall be a minimum 5' (five feet) horizontal separation and 18" (eighteen inches) vertical separation, as measured from the nearest outside surface of the facilities, from new or existing water and sewer facilities and other new existing utility facilities such as natural gas pipelines, electrical, telephone conduits and/or conductors/cables, and TV cables. All crossings shall be as near to a 90-degree angle as possible. New water and sewer facilities such as services and hydrants shall not be located at lot corners where other utility facilities (such as poles, transformers, pedestals, services) are located.

Drainage

For subdivisions, the Developer shall provide a drainage plan for the development prepared by a professional engineer licensed to practice in the State of Montana. Plan shall be in conformance with the requirements of MT DEQ Circular DEQ8 – Subdivision Storm Drainage. The drainage plan shall show existing and proposed finished contours, proposed drainage patterns and any proposed facilities, and shall include calculations to demonstrate the proposed drainage facilities are adequate to convey, detain, retain, and disposed of runoff volumes from the design events and that no District water or sewer facilities will be inundated during a 100-year event.

Evergreen Water & Sewer DISTRICT 1©

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ORDINANCE 2021-15

ADOPTING REVISED WATER AND SEWER SPECIFICATIONS AND STANDARDS
AND PROCEDURES FOR AUXILIARY DWELLINGS
OR USES OUTSIDE THE PRIMARY RESIDENCE ON RESIDENTIAL PROPERTIES

WHEREAS, Flathead County Water District #1 – Evergreen (the "District") requires that all new additions to its water and sewer systems meet certain Specifications and Standards that have been adopted at various times; and

WHEREAS, the District Staff has recommended that revisions be made to the existing Specifications and Standards and that additional new Specifications and Standards be adopted to meet current needs in the District; and

WHEREAS, the District has adopted various Policies and Rules; and

WHEREAS, the District Staff has recommended that a new Policy be adopted for Auxiliary Dwellings and uses outside the Primary Residence on residential properties to meet current needs in the District; and

WHEREAS, the recommended changes are attached to this Resolution as Exhibit "A" Water Specifications and Standards, Exhibit "B" Sewer Specifications and Standards, and Exhibit "C" Procedures for Auxiliary Dwellings and Uses outside the Primary Residence on Residential Properties.

NOW, THEREFORE, THE BOARD OF DIRECTORS OF THE DISTRICT ADOPTS THE REVISIONS AND NEW PROCEDURES ATTACHED TO THIS RESOLUTION AS EXHIBIT "A" WATER SPECIFICATIONS AND STANDARDS, EXHIBIT "B" SEWER SPECIFICATIONS AND STANDARDS, AND EXHIBIT "C" PROCEDURES FOR AUXILIARY DWELLINGS AND USES OUTSIDE THE PRIMARY RESIDENCE ON RESIDENTIAL PROPERTIES; and

FURTHER, the Board orders that these specification revisions and new procedures control and take precedence over any other conflicting policies, procedures, rules, and guidelines previously adopted by Ordinance or Resolution of the Board; and

FURTHER, the Board directs the General Manager to publish these revisions and new procedures on the District's website to provide appropriate notice to customers and the public.

APPROVED AND ADOPTED: November 17, 2021

FLATHEAD COUNTY WATER DISTRICT NO. 1 – EVERGREEN

By: _____

John T. Fallon
President of the Board of Directors

ATTEST:

By: _____

Cynthia Murray
Secretary to the Board

EXHIBIT "A"

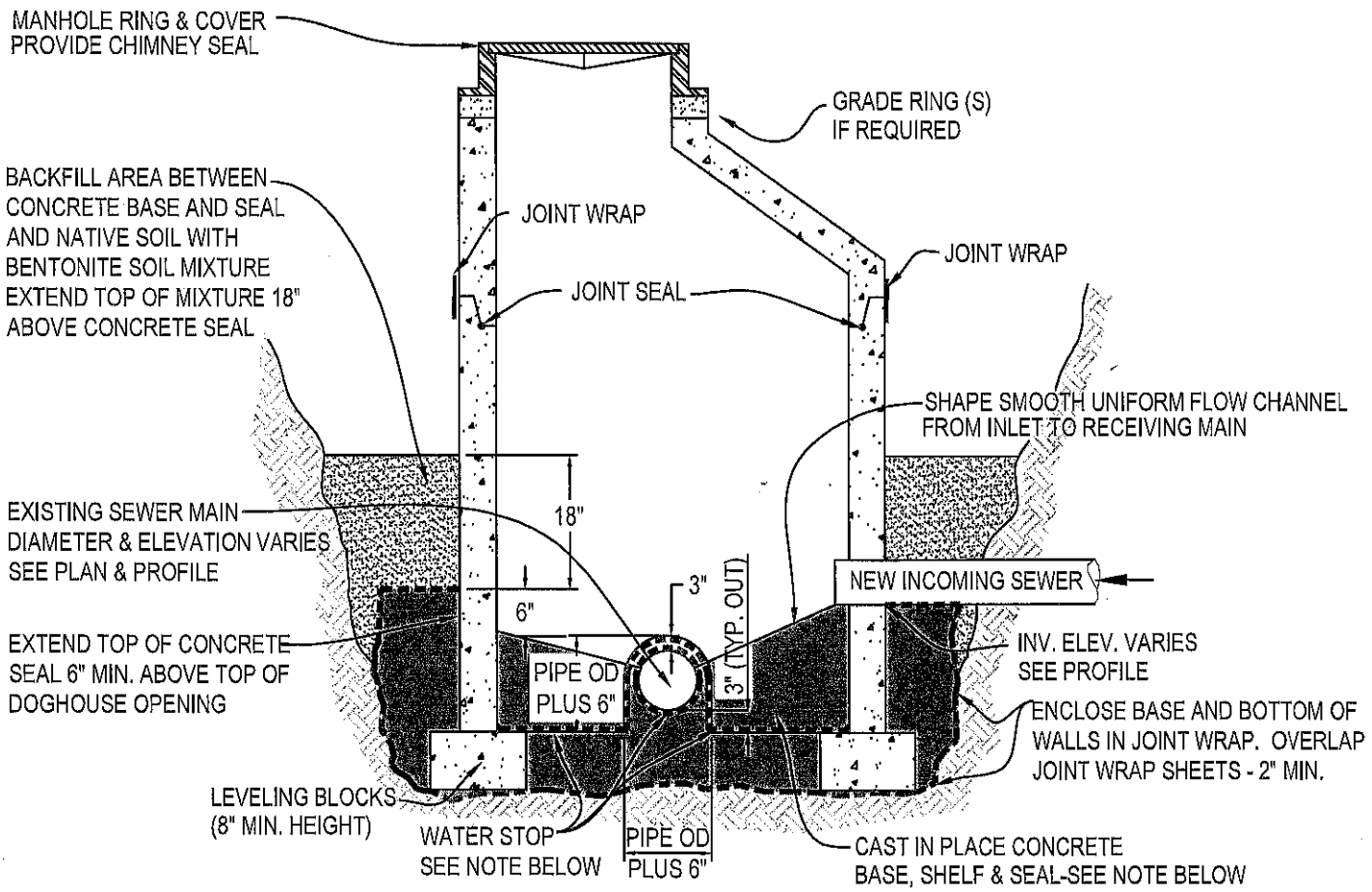
ADDITIONS OR AMENDMENTS TO WATER SPECIFICATIONS

Meter Pits – Commercial

Commercial water using ¾" and 1" services will install a District specified meter pit. The meter pit will have its check valve removed and replaced with an elbow fitting. The commercial business will then install the proper backflow device for that business inside the building.

Properties with Service Installed prior to 2001

Properties serviced prior to 2001 that do not currently have meter pits that meet current District specifications, will be required to install the District-specified meter pit if there is a change in use, additions to, or replacements of dwellings such as mobiles, modular homes, or site-built homes.



DOGHOUSE MANHOLE DETAILS

SCALE: NONE

DOGHOUSE MANHOLE CONSTRUCTION NOTE

Cut in new Doghouse Manhole with 4' inside diameter, precast barrel section and poured-in-place concrete base, shelf and seal, a minimum of 10" thickness below the existing 8" sewer main. Install #4 rebar at 8" on center, each way, centered within the poured in place base. The minimum outside diameter of the poured-in-place bases is 72". Provide 4" concrete blocks or 8" CMU blocks to temporarily hold up the precast barrel section during the concrete pour. **A concrete vibrator is required and necessary to consolidate the concrete during the pour.** Provide waterstops around the existing pipe at pipe penetrations, and along the interface between the cast-in-place concrete base and the precast barrel section.

Provide minimum of 2" of concrete cover around waterstops.

Ladder rungs required at 16" O/C inside manhole below access opening (NOT SHOWN)

DOGHOUSE MANHOLE MATERIALS

Joint Wrap: For joints between manhole sections, joint wrap shall be Press-Seal EZ-WRAP. For wrap under the bottom of the base and around the sides of the seal, wrap shall be ConSeal ConWrap CS-212, 0.100" thick, 36 inches or 48-inches in width.

Waterstop: Cetco WATERSTOP-RX 102. Install waterstop completely around the outside diameter of the existing sewer main at each wall penetration, to the inner surface of the doghouse openings in the walls of the manhole, and to the base of the manhole as shown.

Concrete: Concrete for base, shelf & seal shall be ¾-inch maximum aggregate, minimum 28-day strength of 4,000 psi, 0.35 maximum water-cement ratio, 2-inch maximum slump, sulfate resistant cement (Type II with 20% slag or fly ash), 6 ½ sacks of cement minimum per cubic yard.

EXHIBIT "B"

ADDITIONS OR AMENDMENTS TO SEWER SPECIFICATIONS

Septic Tanks – Burial

New septic tanks cannot be installed deeper than 32". If the owner raises the ground level over an existing septic tank by filling, the owner will be responsible for the cost of the additional riser required to bring the access lid at the new ground level. Cutting down to meet spec will not be allowed as it will create an area where runoff can collect and flow into the tank. The new depth limit is due to difficulty in pumping and thorough cleaning along with the safety hazards it creates for the District staff and its contractors.

Manholes

Where the owner raises the ground level over the level of existing manholes previously installed, the owner must at their expense raise the manhole lid to the new ground surface elevation. Manhole lids can be raised using a maximum of 4-inch of cast iron adjusting riser rings placed inside and atop the existing cast iron manhole cover frame. For applications between 4 and 12 inches, a single piece concrete riser ring set between the top of the concrete manhole section and the underside of the cast iron frame is required. Adjustments greater than 12 inches require manhole barrel sections. After raising the manhole lid to match the ground level, the first ladder step in the manhole must be no deeper than 30 inches below the ground level. For all applications, the finished assembly must be sealed according to District standards using chimney seals, joint wrap, and/or joint seals as appropriate.

Septic Tank Lids – Protection

Septic tank lids according to District specifications are to be protected from traffic or other damage. Lids broken due to damage more than twice will have a cast iron ring and cover installed by the District and cost billed to the owner of property.

Commercial Sewer Service – Connection to Service Stub

New commercial sewer services connecting to the District's sewer main will install a manhole at the supplied service stub at the property line. This provides better line cleaning for the customer and an inspection and troubleshooting point for the District.

Sewer Mains – Minimum Size Pipe

Minimum pipe size of all new gravity sewer mains for both conventional and septic tank effluent mains shall be 8-inch in diameter regardless of the size of the existing sewer main it ties into. New 8-inch mainline pipe into existing 6-inch mains will be connected via manhole. Doghouse manholes will be "Diapered" when installed on District sewer mains (see attached detail). New 4-inch sewer services will be schedule 40 PVC.

EXHIBIT "C"

POLICIES and PROCEDURES

Auxiliary Dwellings and Other Uses on Residential Properties served by the District

Auxiliary dwellings added to residential properties that have existing water and/or sewer services from the District must first get a signoff from the Flathead County Planning and Zoning (form at District office), provide the District with proof of payment of the City of Kalispell's Sewer Treatment Fee and pay the District its Sewer Facility Fee.

Properties connected to the District water system will install a District specified meter pit at the curb stop. Auxiliary uses other than residential uses must comply with the District's applicable water specifications, including the installation of approved backflow devices and meter pits.

Sewer connections can be made to the current sewer infrastructure depending on size and fixtures. Dwellings on sewer-only properties must install a water meter in well line prior to all serviced building connections. This is for purposes of billing flows for sewer only.

Dwellings greater than 600 square feet may have to install separate services from the main(s) depending on water and sewer fixtures (as in washer, multiple bathrooms, dishwasher, etc.) in the proposed Auxiliary Structure. A structure that requires a separate service will be required to pay the full residential facility fee.

Residential/Commercial sewer use will comply with District and City of Kalispell pretreatment specifications and pay all applicable fees that apply. Failure to comply, or to declare uses or auxiliary dwellings will result in all services, commercial or residential, to the residential property (not just the auxiliary structure) being shut off after a disconnect notice is provided per the applicable District policies.

Evergreen Water & Sewer DISTRICT 1©

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Kalispell, MT 59901
Phone: 406-257-5861
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ORDINANCE 2023-07

April 19, 2023

ADOPTING AMENDED PROCEDURES FOR NEW DEVELOPMENTS AND EXTENSIONS

Whereas, Flathead County Water District #1 – Evergreen (the "District") has adopted various Policies and Rules for Developers who are proposing main extensions or other projects that will be connected to the District's systems as contained in Ordinance 2021-08 ("Developer Policies and Rules"); and

Whereas, the District Staff has recommended that revisions be made to the existing Developer Policies and Rules in the Section "Submission of Plans" on pages 1 and 2; and

Whereas, the recommended changes are attached to this Resolution as Exhibit "A" titled "Amended Procedures for New Developments and Extensions"; and

Whereas, the Board of Directors has determined that the Amended Procedures adopted in this Ordinance should be effective for all developer plans that are submitted to the Board for consideration and approval pursuant to and in full compliance with applicable District Rules on or after the effective date of this Ordinance.

NOW, THEREFORE, THE BOARD OF DIRECTORS OF THE DISTRICT ADOPTS THE AMENDED PROCEDURES FOR NEW DEVELOPMENTS AND EXTENSIONS ATTACHED TO THIS RESOLUTION AS EXHIBIT "A"; and

FURTHER, IT IS ORDERED that these Amended Procedures contained in Exhibit "A" shall be effective for all developer plans submitted to the Board for consideration and approval pursuant to and in full compliance with all applicable District Rules on or after the effective date of this Ordinance; and

FURTHER, IT IS ORDERED that these Amended Procedures control and take precedence over any other conflicting policies, procedures, rules, and guidelines previously adopted by Ordinance or Resolution of the Board; and

FURTHER, the Board directs the General Manager to publish these revisions and new procedures on the District's website to provide appropriate notice to customers and the public.

APPROVED AND ADOPTED APRIL 19, 2023

FLATHEAD COUNTY WATER DISTRICT #1 – EVERGREEN

BY: _____

John T. Fallon, President

ATTEST: _____

Cynthia S. Murray, Secretary

EXHIBIT "A"

AMENDED PROCEDURES FOR NEW DEVELOPMENTS AND EXTENSIONS

April 19, 2023

THE FLATHEAD COUNTY WATER DISTRICT NO. 1 – EVERGREEN PROCEDURES FOR NEW DEVELOPMENTS AND EXTENSIONS DATED APRIL 21, 2021, ARE HEREBY AMENDED TO INCLUDE THE FOLLOWING ADDITIONAL REQUIREMENTS IN SECTION "SUBMISSION OF PLANS" ON PAGES 1 AND 2.

Hydraulic Modeling Requirements for Minimum Fire Flows and Residual System Pressures:

All water main extensions will require the developer's Engineer to submit a written report to the Evergreen Water and Sewer District (District) that will address the fire and domestic flow requirements. The report shall include data on test results at the nearest hydrant that shows the static pressure at zero flow from the hydrant. The Engineer's report shall include hydraulic modeling calculations for steady state domestic demands and fire flow scenarios as required by the Fire Marshall. The District can provide hydraulic modeling for the developer on a time and materials basis for payment. The normal operating range of pressure allowed for water systems is 40-100 psi.

The amount of fire flow required for structures shall be based on the Uniform Fire Code Appendix III-A. Non-Structural utilization of an area shall have the fire flow requirements as determined by the Fire Marshall. The minimum fire flow for any structure shall be one thousand (1,000) gallons per minute (gpm), with a minimum of twenty (20) pounds per square inch (psi) residual pressure at the hydrant closest to the proposed project during flow. The District Engineer shall have final judgement over whether the minimum fire flows and residual system pressures required are achieved for any proposed project based on the District's approved model using hydrant and flow data provided by the District and other assumptions, including hydraulic and system operating assumptions, provided by the District Engineer.

Prohibited Dead-End Main Extensions:

In an effort to minimize dead-end water mains, all water main extensions should be looped by the developer proposing a water main extension or other project at developer expense where deemed reasonable by District Staff. When the District staff determines that it is not reasonable to loop, all mains must be extended at developer's expense with appropriate rights of way to the end of the property where they will be valved and capped to allow for future extension.