

STANDARD BLOCKS

- CONCRETE BLOCKING
- FIRE HYDRANT
- GATE VALVE (MJ)
- TEE (MJ)
- BLOW OFF ASSEMBLY (MJ)
- FLxMJ ADAPTOR
- 22.5° BEND (MJ)
- 45° BEND (MJ)
- 90° BEND (MJ)
- COUPLING
- REDUCER
- FIRE DEPARTMENT CONNECTION
- POST INDICATOR VALVE
- EXISTING GATE VALVE (PER SCWSD AS-BUILTS)
- 7-22-5 W1014 EASEMENT BLOCK WITH ATTRIBUTES

BENCHMARK

CITY OF KENT BENCHMARK NUMBER 7094, TOP OF 4" CONCRETE MONUMENT WITH PUNCHED 3" BRASS DISK DOWN 0.5" IN MONUMENT CASE FOUND 30' WESTERLY OF THE INTERSECTION OF SE. 248TH STREET AND 100TH AVENUE SE. AKA THE NORTHEAST SECTION CORNER OF SECTION 7-22-5. ELEVATION = 395.82 FEET.

VERTICAL DATUM

NAVD 88 PER CITY OF KENT VERTICAL CONTROL

NOTES

- SET METER LOCATIONS AT 1 FT BEYOND SIDEWALK/CURB (TYP.)
- INDIVIDUAL PRV'S REQUIRED WHERE SYSTEM PRESSURE EXCEEDS 80 PSI.

UTILITY CLEARANCE REQUIREMENTS

MINIMUM SEPARATION BETWEEN WATER AND SEWER MAINS SHALL CONFORM TO SECTION C1-9.1 OF THE CRITERIA FOR SEWAGE WORKS DESIGN, CURRENT EDITION, AS PUBLISHED BY THE DEPARTMENT OF ECOLOGY. MINIMUM SEPARATION BETWEEN OTHER UTILITIES SHALL BE 6 INCHES WITH A SAND CUSHION.

WATER MAINS SHALL PASS UNDER STORM SEWERS WHEN NECESSARY TO MAINTAIN THE MINIMUM COVER REQUIREMENTS FOR WATER MAINS. THERE SHALL BE NOT LESS THAN A SIX-INCH CUSHION BETWEEN THE WATER MAINS AND THE STORM SEWERS.

PUGET SOUND ENERGY VAULTS, HAND HOLES AND LIGHT STANDARDS SHALL BE LOCATED NO CLOSER THAN 10 FEET FROM ANY WATER MAINS, FIRE HYDRANTS, AND BLOW-OFF ASSEMBLIES AND NO CLOSER THAN 5 FEET FROM ANY WATER SERVICES. DEVELOPER SHALL BE RESPONSIBLE FOR COORDINATION OF VAULTS, HAND HOLES, AND LIGHT STANDARDS WITH THE WATER MAINS, SERVICES, FIRE HYDRANTS, AND BLOW-OFF ASSEMBLIES. NO CONSTRUCTION SHALL START UNTIL THE DEVELOPER HAS FURNISHED THE DISTRICT WITH A WORK SKETCH FROM PUGET SOUND ENERGY OR A SIGNED HOLD HARMLESS AGREEMENT (FORM SUPPLIED BY THE DISTRICT) IS PROVIDED.

WATER SERVICE LOCATION NOTE

ALL WATER SERVICE LOCATIONS TO BE EXAMINED PRIOR TO CONSTRUCTION TO VERIFY UTILITY CONFLICTS. VERIFY 5-FOOT CLEAR OF ALL OTHER UTILITIES.

100TH AVENUE SE NOTE

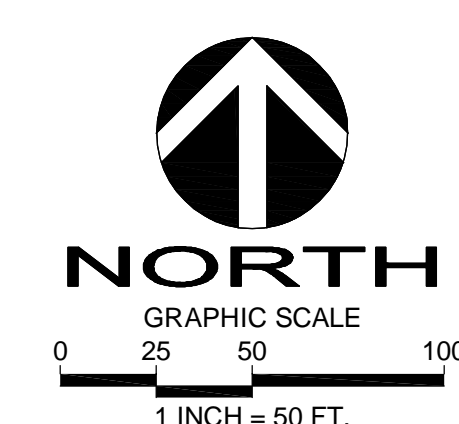
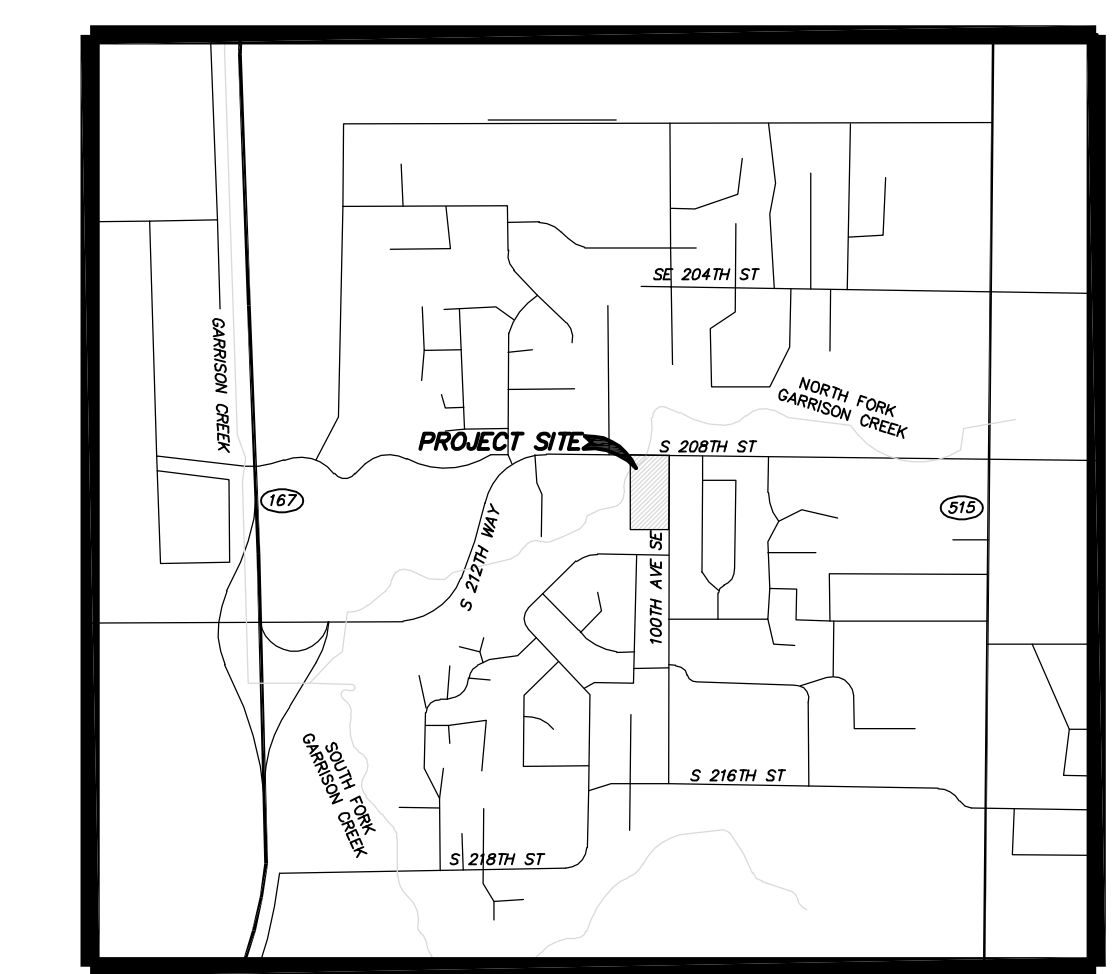
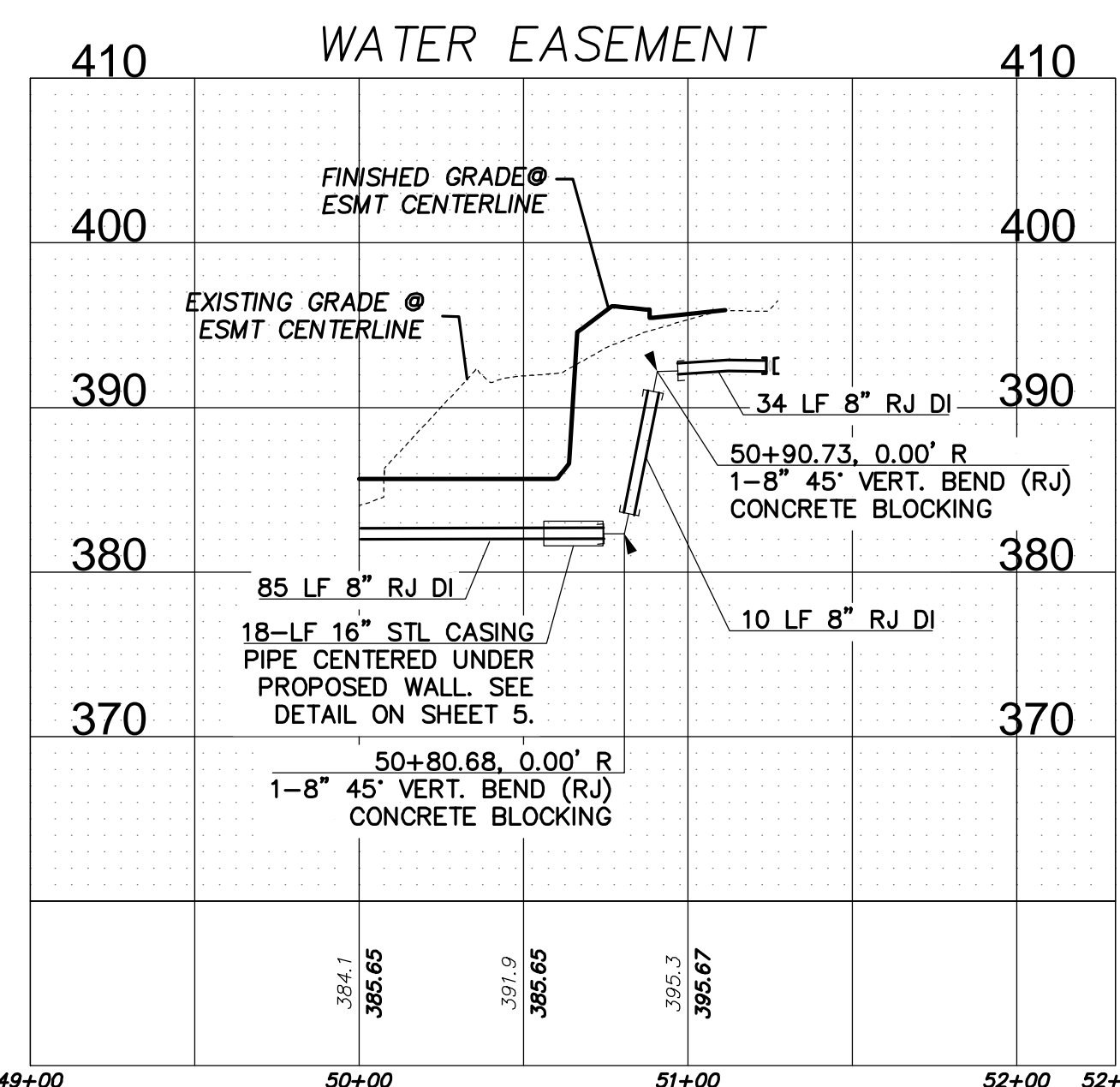
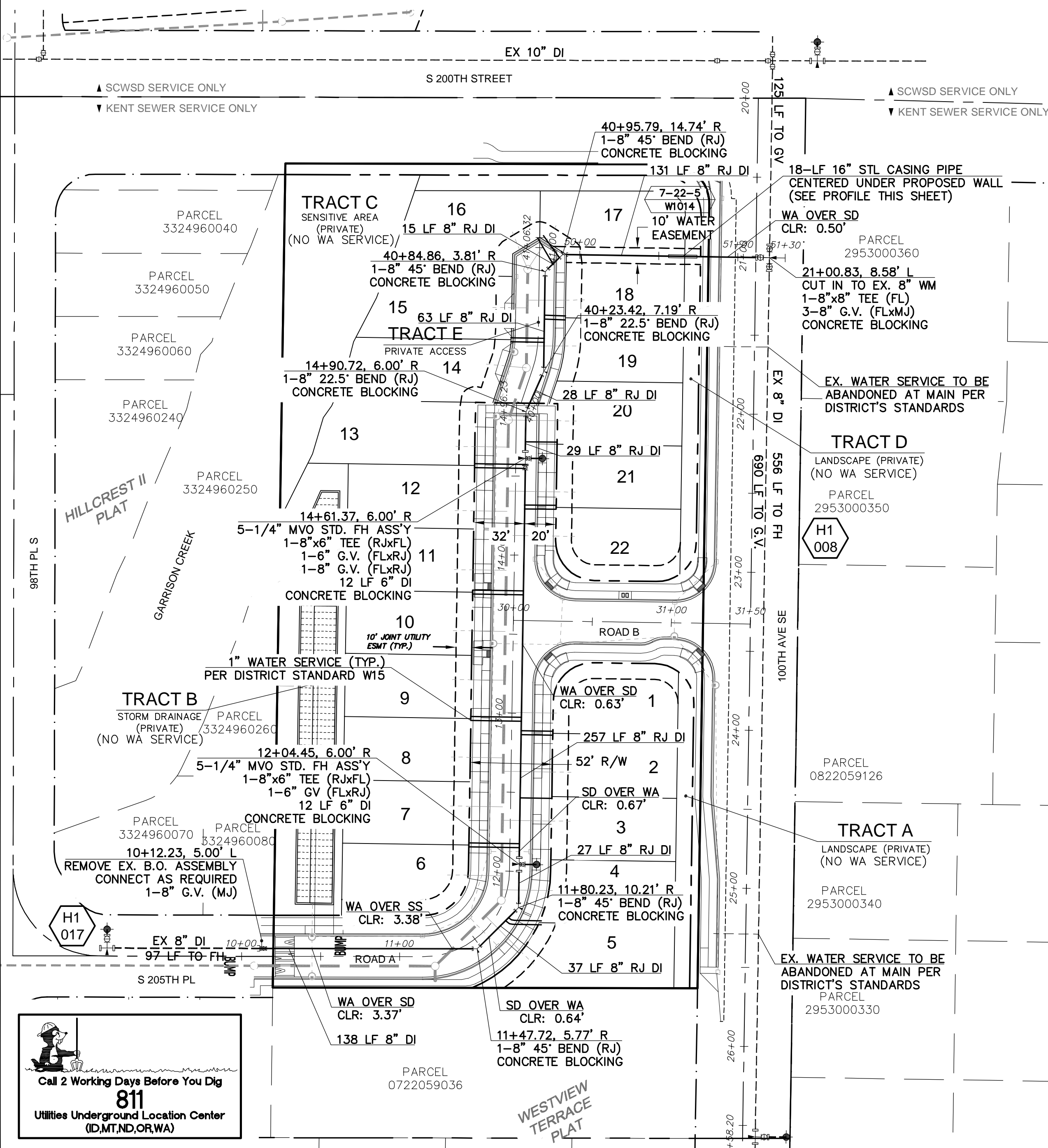
CONTRACTOR TO POTHOLE EXISTING 8" DI (PER RECORD DRAWINGS) WATER MAIN WITHIN 100TH AVENUE SE TO ENSURE LOCATION AND ELEVATION OF EXISTING LINE. ENGINEER TO BE NOTIFIED IMMEDIATELY IF LOCATION DEVIATES FROM PLANS PRIOR TO PROCEEDING WITH CONSTRUCTION.

WATER GENERAL NOTES: (REVISED 05/16/11)

- ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE SPECIFICATIONS OF THE SOOS CREEK WATER & SEWER DISTRICT, ALSO REFERRED HEREINAFTER AS "DISTRICT".
- THE DEVELOPER SHALL FURNISH THE DISTRICT A COPY OF THE COMMERCIAL AND/OR SUBDIVISION PLANS APPROVED BY THE GOVERNING AGENCY PRIOR TO ANY WATER MAIN CONSTRUCTION.
- PRIOR TO CONSTRUCTING ANY WATER MAINS, THE APPROPRIATE STREETS AND LOTS SHALL BE CLEARED, GRADED, AND STAKED BY THE DEVELOPER/CONTRACTOR AND ALL EXISTING UTILITIES SHALL BE LOCATED.
- FOLLOWING WATER MAIN CONSTRUCTION, ANY REVISION OF ROADWAY OR EASEMENT GRADES REQUIRING THE MAINS TO BE RECONSTRUCTED SHALL BE MADE AT THE DEVELOPER'S/CONTRACTOR'S EXPENSE.
- RECONSTRUCTION SHALL CONFORM TO THE SPECIFICATIONS OF THE DISTRICT. ALL COSTS FOR INSPECTING SUCH RECONSTRUCTION SHALL BE CHARGED TO THE DEVELOPER IN ADDITION TO THE STANDARD CHARGES, AND SHALL BE PAID BEFORE ACCEPTANCE BY THE DISTRICT.
- NO WATER SERVICE CONNECTIONS SHALL BE MADE TO THE EXISTING SYSTEM UNTIL COMPLETION OF THE BILL OF SALE AND ALL EASEMENTS. MAKE APPLICATION TO THE DISTRICT FOR WATER METER INSTALLATION FOR EACH WATER SERVICE CONNECTION PRIOR TO MAKING CONNECTION. BILL OF SALE WILL NOT BE PROCESSED UNTIL PUGET SOUND ENERGY HAS EITHER PROVIDED A WORK SKETCH OR INSTALLED THEIR VAULTS, HAND HOLES AND LIGHT STANDARDS, OR THE DEVELOPER HAS PROVIDED A SIGNED HOLD HARMLESS AGREEMENT (FORM SUPPLIED BY THE DISTRICT).
- ALL COSTS OF WATER MAIN RE-STAKING SHALL BE PAID BY THE DEVELOPER/CONTRACTOR.
- PROPERTY CORNERS SHALL BE PINNED WITH REFERENCE TACK ON CURBS BY THE DEVELOPER/CONTRACTOR.
- THE DEVELOPER/CONTRACTOR SHALL NOTIFY THE DISTRICT AT (253) 630-9900 TO SCHEDULE A PRECONSTRUCTION MEETING AT THE DISTRICT OFFICE. AFTER THE PRE-CONSTRUCTION MEETING, THE DEVELOPER/CONTRACTOR SHALL NOTIFY THE DISTRICT'S FIELD REPRESENTATIVE AT LEAST 48 HOURS (REGULAR WORKING DAYS) BEFORE STARTING WORK.
- THE DEVELOPER/CONTRACTOR SHALL OBTAIN ALL REQUIRED FINAL INSPECTIONS TO MEET PERMIT REQUIREMENTS. INSPECTIONS MUST BE SCHEDULED AT LEAST 48 HOURS IN ADVANCE.

SHEET INDEX

SHEET	OF	DESCRIPTION
1	5	WATER PLAN AND NOTES
2	5	CONSTRUCTION PROVISIONS
3	5	MATERIALS AND SURFACE RESTORATION
4	5	WATER DETAILS
5	5	WATER DETAILS



Engineer's Seal

DATE APPROVED	PRINCIPAL APPROVAL	DESIGN	DRAWN	CHECKED	JOB NO.
	KP	KP	BD	KP	123450

Engineer Logo

Engineer Company Name
Engineer Company Address
Engineer Company Phone/Email

SOOS CREEK WATER & SEWER DISTRICT

WATER MAIN EXTENSION PROJECT NAME

WATER PLAN AND NOTES

BASE MAP H-1

SHEET 1 OF 5

DRAWING H1.018

CONSTRUCTION PROVISIONS (Revised 05-16-11)

1. STANDARD SPECIFICATIONS

ALL WORK, MATERIALS AND TESTING SHALL CONFORM TO THE STANDARDS OF SOOS CREEK WATER & SEWER DISTRICT AND THE "STANDARD SPECIFICATIONS FOR ROAD, BRIDGE, AND MUNICIPAL CONSTRUCTION", CURRENT EDITION, AS PREPARED BY THE WASHINGTON STATE DEPARTMENT OF TRANSPORTATION, AND HEREINAFTER REFERRED TO AS THE "STANDARD SPECIFICATIONS," EXCEPT AS HEREIN MODIFIED.

2. TRENCH EXCAVATION, BEDDING AND BACKFILL

ALL WORK WITHIN THE RIGHT-OF-WAY SHALL COMPLY WITH ALL PERTINENT PERMITS, THE GOVERNING AGENCY'S CURRENT ROAD STANDARDS, AND THE STANDARD SPECIFICATIONS. ALL MATERIAL FROM CLEARING AND GRUBBING SHALL BE HAULED TO AN APPROVED WASTE DISPOSAL SITE PROVIDED BY THE DEVELOPER/CONTRACTOR.

WHEN TRENCHING THROUGH EXISTING PAVEMENT, THE PAVEMENT SHALL BE CUT ON A NEAT-LINE BY SAW CUTTING. TRENCH SIDES SHALL BE KEPT AS VERTICAL AS POSSIBLE GIVEN THE SOIL CONDITIONS. COMPACTION AND RESTORATION SHALL BE DONE AS DETAILED BELOW AND IMMEDIATELY AFTER THE TRENCH BACKFILL IS PLACED SO AS TO CAUSE THE LEAST DISRUPTION TO TRAFFIC. ALL PAVEMENT SHALL BE CUT 1 FOOT OUTSIDE THE EDGE OF THE TRENCH ON EACH SIDE.

ANY TRENCH EXCEEDING FOUR FEET IN DEPTH SHALL BE PROVIDED WITH ADEQUATE SAFETY SYSTEMS MEETING THE REQUIREMENTS OF THE WASHINGTON STATE INDUSTRIAL SAFETY AND HEALTH ACT (WISHA), CHAPTER 49.17 RCW, AND ALL REGULATIONS ADOPTED PURSUANT THERETO. THE DEVELOPER/CONTRACTOR SHALL HAVE A STRUCTURAL ENGINEER REVIEW AND STAMP ANY AND ALL SHORING PLANS AND CALCULATIONS. THE DEVELOPER/CONTRACTOR SHALL BE RESPONSIBLE FOR WORKER SAFETY AND THE DISTRICT AND THE DISTRICT'S ENGINEER ASSUME NO RESPONSIBILITY.

WHEN NATIVE MATERIAL AT THE TRENCH BOTTOM IS SUITABLE FOR PIPE BEDDING, THE BOTTOM SHALL BE HAND FINISHED TO GRADE SO THAT THE PIPE WILL HAVE UNIFORM SUPPORT ALONG THE BARREL AND BELL. AFTER THE PIPE IS IN PLACE, ADDITIONAL HAND SELECTED NATIVE MATERIAL MEETING THE REQUIREMENTS FOR BEDDING MATERIAL SHALL BE PLACED AND TAMPED AROUND THE PIPE FOR A MINIMUM OF 4 INCHES ABOVE THE CROWN OF THE PIPE.

WHEN NATIVE MATERIAL AT THE TRENCH BOTTOM IS STONY OR OTHERWISE NON-UNIFORM, THE TRENCH SHALL BE OVER-EXCAVATED A MINIMUM OF 6 INCHES BELOW THE SPECIFIED GRADE AND A LAYER OF PIPE BEDDING MATERIAL SHALL BE FURNISHED AND PLACED TO THE SPECIFIED GRADE. AFTER THE PIPE IS IN PLACE, ADDITIONAL HAND SELECTED NATIVE MATERIAL MEETING THE REQUIREMENTS FOR BEDDING MATERIAL SHALL BE PLACED AND TAMPED AROUND THE PIPE FOR A MINIMUM OF 4 INCHES ABOVE THE CROWN OF THE PIPE.

IF THE NATIVE MATERIAL AT THE TRENCH BOTTOM IS UNSUITABLE FOR FOUNDATION PURPOSES OR WILL HAVE DIFFICULTY PROVIDING UNIFORM BEARING FOR THE PIPE, SUCH MATERIAL SHALL BE REMOVED AND REPLACED WITH A MINIMUM OF 6 INCHES OF COMPACTED FOUNDATION MATERIAL.

THE BEDDING MATERIAL SHALL BE CARRIED UP EVENLY ON BOTH SIDES OF THE PIPE SIMULTANEOUSLY IN APPROXIMATELY 6-INCH LAYERS AND EACH LAYER THOROUGHLY COMPACTED WITH APPROPRIATE TOOLS IN SUCH MANNER AS TO AVOID INJURING OR DISTURBING THE COMPLETED PIPELINE. ALL BEDDING AND NATIVE MATERIAL SHALL BE STORED AWAY FROM THE EDGES OF EXCAVATION AND OFF THE PAVED ROADWAY AND SHOULDER.

ALL TRENCH BACKFILL SHALL BE MECHANICALLY COMPACTED TO 95% OF THE MAXIMUM DENSITY WITHIN THE RIGHT-OF-WAY AND IN ALL AREAS (PAVED AND UNPAVED) WHERE STREETS, ROADWAY SHOULDERS, DRIVEWAYS, SIDEWALKS, OR PARKING LOTS WILL BE CONSTRUCTED OR RECONSTRUCTED OVER THE TRENCH EXCEPT FOR TRENCHES OVER 8 FEET IN DEPTH. WHEN THE TRENCH DEPTH EXCEEDS 8 FEET, TRENCH BACKFILL UP TO 4 FEET FROM THE TOP OF THE TRENCH SHALL BE MECHANICALLY COMPACTED TO 90% OF THE MAXIMUM DENSITY. THE REMAINING TOP 4 FEET OF THE TRENCH SHALL THEN BE MECHANICALLY COMPACTED TO 95% OF THE MAXIMUM DENSITY. IN UNPAVED AREAS AND OTHER AREAS NOT SUBJECT TO VEHICULAR TRAFFIC, TRENCH BACKFILL FROM THE PIPE TO WITHIN 3 FEET OF THE SURFACE SHALL BE COMPACTED TO 90% OF THE MAXIMUM DENSITY. THE UPPER 3 FEET SHALL BE COMPACTED TO 95% OF THE MAXIMUM DENSITY.

ALL DENSITIES SHALL BE DETERMINED BY TESTING PER THE MODIFIED PROCTOR METHOD, ASTM D1557. THE DEVELOPER/CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING DENSITY TEST REPORTS CERTIFIED BY A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF WASHINGTON. A MINIMUM OF ONE TEST SHALL BE TAKEN WITHIN EVERY 500 FEET OF TRENCH LENGTH AND AT DEPTHS UP TO 50% OF TRENCH DEPTH, OR AS DIRECTED BY THE DISTRICT'S FIELD REPRESENTATIVE OR THE GOVERNING ROAD AGENCY. COMPACTION OF LATERALS OR SERVICE LINE TRENCHES SHALL ALSO BE TESTED WHERE DIRECTED BY THE DISTRICT'S FIELD REPRESENTATIVE OR THE GOVERNING ROAD AGENCY. TESTING OF CDF, WHEN USED AS REQUIRED BY THE GOVERNING ROAD AGENCY, SHALL BE IN ACCORDANCE WITH ASTM 04832.

TRENCH BACKFILL SHALL BE PLACED IN UNIFORM LOOSE LAYERS NO MORE THAN 12 INCHES THICK AND MECHANICALLY COMPACTED AS SPECIFIED. IN ANY TRENCH WHERE THE SPECIFIED COMPACTION CANNOT BE ACHIEVED WITH NATIVE BACKFILL, THE TOP 4 FEET SHALL BE REPLACED AND COMPACTED TO 95% OF THE MAXIMUM DENSITY WITH IMPORTED BANK RUN GRAVEL. THE DISTRICT'S FIELD REPRESENTATIVE RESERVES THE RIGHT TO REQUEST A COMPACTION TEST AT ANY TIME ON THE BACKFILL MATERIAL.

IN CUTS TRANSVERSE TO THE ROAD ALIGNMENT AND AT ALL UTILITY CROSSINGS, THE ENTIRE TRENCH SHALL BE BACKFILLED WITH CRUSHED SURFACING. BACKFILL SHALL BE PLACED AND MECHANICALLY COMPACTED IN 12-INCH MAXIMUM LIFTS.

AFTER BACKFILL AND COMPACTION, AN IMMEDIATE COLD MIX PATCH SHALL BE PLACED AND MAINTAINED IN A MANNER ACCEPTABLE TO THE GOVERNING ROAD AGENCY UNTIL REPLACED WITH PERMANENT SURFACING.

ALL PIPE AND FITTINGS SHALL BE LAID ~~AND~~ THE DRY-UNLESS OTHERWISE APPROVED BY THE DISTRICT. TRENCH EXCAVATIONS SHALL BE DEWATERED BY USING WELL POINT SYSTEMS, SUMPS WITH PUMPS OR OTHER METHODS APPROVED BY THE DISTRICT. DEWATERING SYSTEMS SHALL BE USED IN ACCORDANCE WITH GOOD STANDARD PRACTICE AND SHALL BE EFFICIENT ENOUGH TO LOWER THE WATER LEVEL IN ADVANCE OF THE EXCAVATION AND MAINTAIN IT CONTINUOUSLY TO KEEP THE TRENCH BOTTOM AND SIDES FIRM AND DRY. DEVELOPER/CONTRACTOR SHALL SUBMIT THE DEWATERING PLAN TO THE DISTRICT FOR REVIEW AT LEAST 10 DAYS PRIOR TO COMMENCING ANY DEWATERING WORK. ALL DEWATERING EFFLUENT SHALL BE ROUTED THROUGH A DEWATERING POND PRIOR TO RELEASE.

GROUNDWATER SHALL BE CONTROLLED SUCH THAT SOFTENING OF THE BOTTOM OF EXCAVATIONS OR FORMATION OF ~~QUICK~~+CONDITIONS OR ~~BOILS~~+ DURING EXCAVATION SHALL BE PREVENTED AND NO SOIL SHALL BE ERODED INTO THE EXCAVATION FROM THE SIDES OF EXCAVATION. DEWATERING SYSTEMS SHALL BE DESIGNED AND OPERATED SO AS TO PREVENT REMOVAL OF THE NATURAL SOILS. THE DEVELOPER/CONTRACTOR SHALL AT ALL TIMES HAVE ON HAND SUFFICIENT PUMPING EQUIPMENT AND MACHINERY IN GOOD WORKING CONDITION FOR ALL ORDINARY EMERGENCIES, INCLUDING POWER OUTAGES, AND SHALL HAVE AVAILABLE AT ALL TIMES COMPETENT WORKERS FOR THE OPERATION OF SAID EQUIPMENT.

DEVELOPER/CONTRACTOR SHALL CONTROL SURFACE RUNOFF SO AS TO PREVENT ENTRY OR COLLECTION OF WATER IN EXCAVATIONS AND SHALL MAINTAIN THE UNDISTURBED STATE OF THE FOUNDATION SOILS AND ALLOW THE PLACEMENT OF ANY BACKFILL TO THE REQUIRED DENSITY. THE RELEASE OF GROUNDWATER TO ITS STATIC LEVEL SHALL BE PERFORMED IN SUCH A MANNER AS TO MAINTAIN THE UNDISTURBED STATE OF THE NATURAL FOUNDATION SOILS, PREVENT DISTURBANCE OF COMPACTED BACKFILL, AND PREVENT FLOTATION OR MOVEMENT OF STRUCTURES AND PIPELINES.

DEVELOPER/CONTRACTOR SHALL BE RESPONSIBLE FOR COMPLYING WITH ALL PERMIT REQUIREMENTS AND PROVISIONS FOR MONITORING AND MANAGING WATER DISCHARGED FROM THE EXCAVATION.

3. COVER OVER PIPELINES

THE DEPTH OF COVER FOR WATER MAINS SHALL BE 36-INCHES FOR 8-INCH DIAMETER AND SMALLER MAINS AND 48-INCHES FOR MAINS OVER 8-INCHES IN DIAMETER. DEPTH OF COVER AT DITCH LINES SHALL MEET THE SAME REQUIREMENTS. EXCEPTIONS WILL BE ALLOWED ONLY WITH THE PRIOR APPROVAL OF THE DISTRICT.

4. CONNECTION TO EXISTING WATER SYSTEM

THE DEVELOPER/CONTRACTOR SHALL NOTIFY THE DISTRICT'S FIELD REPRESENTATIVE AND OTHER UTILITIES AT LEAST 48 HOURS IN ADVANCE OF ANY CONSTRUCTION AND MAKE THE NECESSARY ARRANGEMENTS WITH THE DISTRICT'S FIELD REPRESENTATIVE FOR THE CONNECTION TO THE EXISTING WATER MAIN. THE DEVELOPER/CONTRACTOR SHALL NOT OPERATE ANY GATE VALVE OF THE WATER SYSTEM BEFORE, DURING OR AFTER CONSTRUCTION WITHOUT PRIOR APPROVAL OF THE DISTRICT. THE DEVELOPER/CONTRACTOR SHALL FURNISH ALL MATERIAL, EQUIPMENT AND LABOR NECESSARY FOR MAKING THE CONNECTION UNDER THE SUPERVISION OF THE DISTRICT. THE 48 HOUR NOTICE REQUIREMENT SHALL NOT COUNT SATURDAYS, SUNDAYS, AND HOLIDAYS.

WORK SHALL NOT BE STARTED UNTIL ALL OF THE MATERIAL, EQUIPMENT AND LABOR NECESSARY TO PROPERLY COMPLETE WORK IS ASSEMBLED ON THE SITE. ONCE WORK IS STARTED ON A CONNECTION, IT SHALL PROCEED CONTINUOUSLY WITHOUT INTERRUPTION AND AS RAPIDLY AS POSSIBLE UNTIL THE CONNECTION IS COMPLETED. BEFORE ORDERING MATERIALS FOR ANY CONNECTION TO AN EXISTING WATER MAIN, DEVELOPER/CONTRACTOR SHALL EXCAVATE THE WATER MAIN AND VERIFY OUTSIDE DIAMETER OF ALL PIPES FOR DETERMINATION OF TYPES OF FITTINGS TO BE USED. THE DEVELOPER/CONTRACTOR SHALL COORDINATE ALL WORK WITH THE DISTRICT'S FIELD REPRESENTATIVE.

5. SEPARATION OF UTILITIES

MINIMUM SEPARATION BETWEEN WATER AND SEWER MAINS SHALL CONFORM TO SECTION C1-9.1 OF THE ~~CRITERIA~~ CRITERIA FOR SEWAGE WORKS DESIGN, CURRENT EDITION, AS PUBLISHED BY THE DEPARTMENT OF ECOLOGY. MINIMUM SEPARATION BETWEEN OTHER UTILITIES SHALL BE 6 INCHES WITH A SAND CUSHION.

WATER MAINS SHALL PASS UNDER STORM SEWERS WHEN NECESSARY TO MAINTAIN THE MINIMUM COVER REQUIREMENTS FOR WATER MAINS. THERE SHALL BE NOT LESS THAN A SIX-INCH CUSHION BETWEEN THE WATER MAINS AND THE STORM SEWERS.

PUGET SOUND ENERGY VAULTS, HAND HOLES AND LIGHT STANDARDS SHALL BE LOCATED NO CLOSER THAN 10 FEET FROM ANY WATER MAINS, FIRE HYDRANTS, AND BLOW-OFF ASSEMBLIES AND NO CLOSER THAN 5 FEET FROM ANY WATER SERVICES. DEVELOPER SHALL BE RESPONSIBLE FOR COORDINATION OF VAULTS, HAND HOLES, AND LIGHT STANDARDS WITH THE WATER MAINS, SERVICES, FIRE HYDRANTS, AND BLOW-OFF ASSEMBLIES. NO CONSTRUCTION SHALL START UNTIL THE DEVELOPER HAS FURNISHED THE DISTRICT WITH A WORK SKETCH FROM PUGET SOUND ENERGY OR A SIGNED HOLD HARMLESS AGREEMENT (FORM SUPPLIED BY THE DISTRICT) IS PROVIDED.

6. THRUST BLOCKING

ALL FITTINGS SHALL BE BLOCKED WITH POURED CONCRETE AGAINST UNDISTURBED SOIL WITH SUFFICIENT CONCRETE AND 3/4-INCH ANCHOR RODS, IF REQUIRED, TO RESIST THE RESULTANT FORCES. BLOCKING SHALL PROVIDE FOR REMOVAL OF ANY CONNECTION TO THE FITTING WITHOUT DAMAGE TO THE FITTING. WHERE UNFAVORABLE GROUND CONDITIONS ARE ENCOUNTERED, SPECIAL BLOCKING WILL BE REQUIRED AS DIRECTED BY THE DISTRICT IN THE FIELD. WHEN DIGGING NEAR FITTINGS ON EXISTING PIPELINES, TEMPORARY BLOCKING SHALL BE INSTALLED TO PREVENT BLOWOUTS. THRUST BLOCKING SHALL CONFORM TO THE STANDARD DETAILS.

7. WATER WORKS TESTING

PRESSURE TESTING OF LINES SHALL BE IN ACCORDANCE WITH SECTION 7-09.3(23) OF THE STANDARD SPECIFICATIONS. TEST PRESSURE SHALL BE THE EXISTING SYSTEM LINE PRESSURE PLUS 150 PSI, BUT IN NO CASE SHALL THE TEST PRESSURE BE LESS THAN 250 PSI. MAINS SHALL BE DISINFECTED PER SECTION 7-09.3(24) OF THE STANDARD SPECIFICATIONS.

THE DEVELOPER/CONTRACTOR SHALL CUBE AND FLUSH ALL NEW WATER MAINS WHILE BEING OBSERVED BY THE DISTRICT'S FIELD REPRESENTATIVE. DISTRICT SHALL FURNISH THE CUBES FOR THE DEVELOPER/CONTRACTOR WHO SHALL THEN BE RESPONSIBLE FOR CUBING THE NEW WATER MAINS. DEVELOPER/CONTRACTOR SHALL COORDINATE WITH DISTRICT'S FIELD REPRESENTATIVE FOR THE LOCATIONS TO BE CUBED. AFTER THE CUBES HAVE BEEN FLUSHED FROM THE SYSTEM, THE REST OF THE FLUSHING, CHLORINATING, PRESSURE AND PURITY TESTS SHALL BE COMPLETED. THE DISTRICT SHALL BE RESPONSIBLE FOR COLLECTING THE SAMPLES AND OBTAINING THE BACTERIOLOGICAL TESTS.

8. REPAIR OF PIPELINE FAILURES

BROKEN OR OTHERWISE DEFECTIVE PIPE SHALL BE REMOVED AND REPLACED. REPAIR BANDS OR CLAMPS SHALL NOT BE USED TO REPAIR BROKEN PIPE.

9. JACKED CROSSING

AT LOCATIONS AS REQUIRED BY THE DISTRICT OR GOVERNING ROAD AGENCY, OR AS PROPOSED BY THE DEVELOPER, WATER MAIN CROSSINGS OF ARTERIAL STREETS SHALL BE MADE BY JACKING, DRIVING, OR AUGURING A STEEL CASING PIPE BENEATH THE SURFACE. ALIGNMENT AND GRADE OF CASINGS FURNISHED SHALL BE SUCH THAT NO ADDITIONAL FITTINGS ARE NECESSARY TO MAKE THE CONNECTION. IF THE CASING DOES NOT MEET THIS REQUIREMENT, IT SHALL BE ABANDONED BY FILLING THE CASING WITH MOIST SAND AND A NEW CASING INSTALLED TO MEET THE LINE AND GRADE REQUIREMENTS. NO OPEN EXCAVATION SHALL BE MADE CLOSER THAN 6 FEET FROM THE EDGE OF PAVEMENT.

DIAMETER OF CASING PIPE SHALL BE SUFFICIENT TO ALLOW INSTALLATION OF THE WATER PIPE. WALL THICKNESS SHALL BE SUFFICIENT TO WITHSTAND INSTALLATION FORCE AND HIGHWAY LOADING WITH A MINIMUM THICKNESS OF 1/4-INCH. AFTER THE WATER PIPE HAS BEEN ADJUSTED TO GRADE, MOIST SAND SHALL BE TAMPED INTO THE CASING PIPE SO THAT ALL VOIDS WILL BE FILLED. MANUFACTURED CASING SPACERS THAT PROHIBIT MOVEMENT OF THE PIPE IN ANY DIRECTION WITHIN THE CASING MAY BE USED IN LIEU OF FILLING THE VOID BETWEEN THE WATER MAIN AND THE CASING WALL WITH SAND.

10. WATER SUPPLY

WATER SUPPLY FOR FILLING, TESTING AND FLUSHING OF THE NEW MAINS MAY BE AVAILABLE FROM THE EXISTING DISTRIBUTION SYSTEM; HOWEVER, THE DEVELOPER/CONTRACTOR WILL BE BILLED BY THE DISTRICT FOR THE WATER USED AT THE CURRENT COMMERCIAL METER RATE. THE DEVELOPER/CONTRACTOR MAY PROVIDE HIS OWN METERING FACILITIES TO THE SATISFACTION OF THE DISTRICT OR ACCEPT THE QUANTITIES ESTIMATED BY THE DISTRICT.

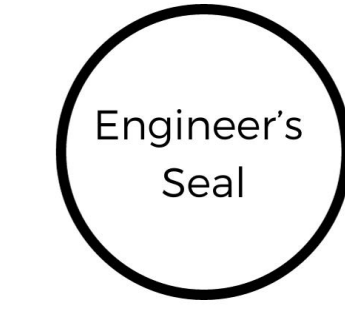
11. EXISTING UTILITIES

EXISTING UTILITIES SHOWN ON ANY REFERENCE DRAWINGS PROVIDED BY THE DISTRICT HAVE BEEN PLOTTED FROM THE BEST INFORMATION AVAILABLE TO THE DISTRICT. THE DEVELOPER/CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING ALL EXISTING UTILITIES WELL ENOUGH IN ADVANCE OF THE EXCAVATION TO PREVENT DAMAGE DURING CONSTRUCTION. THE DEVELOPER/CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE RESULTING FROM HIS OPERATIONS ON THE PROJECT.

THE DEVELOPER SHALL RELOCATE OR REPLACE ANY EXISTING FIRE HYDRANTS LOCATED WITHIN 50 FEET OF THE DEVELOPMENT TO MEET THE DISTRICT'S REQUIREMENTS IF NEW CONSTRUCTION BY THE DEVELOPMENT CREATES A SAFETY HAZARD OR A NON-COMPLIANT CONDITION WITH DISTRICT STANDARD SPECIFICATION REQUIREMENTS.

12. WARRANTY PERIOD

THE DEVELOPER MAKING THE APPLICATION FOR A LINE EXTENSION SHALL BE RESPONSIBLE FOR THE MATERIALS AND FOR SATISFACTORY OPERATION OF THE FACILITY FOR A PERIOD OF ONE YEAR FROM THE DATE OF ACCEPTANCE OF THE COMPLETED PROJECT AND THE BILL OF SALE TO THE DISTRICT.



DATE APPROVED	PRINCIPAL APPROVAL	DESIGN	DRAWN	CHECKED	JOB NO.
	KP	KP	BD	KP	123450

Engineer Logo Engineer Company Name Engineer Company Address Engineer Company Phone/Email	CST.FLD.BK.	NO.	PG.
	DES.FLD.BK.	NO.	PG.
SCALE	HORIZ.	VERT.	

SOOS CREEK WATER & SEWER DISTRICT WATER MAIN EXTENSION NAME PROJECT CONSTRUCTION PROVISIONS	BASE MAP
	SHEET 2 OF 5
DRAWING	

UPDATE DISTRICT DETAILS	5.3.23	
REVISIONS PER DISTRICT COMMENTS	4.21.23	
REVISIONS PER DISTRICT COMMENT (10.31.22)	03.06.23	
NO.	BY	DATE
3	YLP	
2	YLP	
1	YLP	
DESCRIPTION		
REVISIONS		

MATERIALS (Revised 05-16-11)

1. DUCTILE IRON PIPE

ALL DUCTILE IRON PIPE SHALL CONFORM TO SECTION 9-30.1(1) OF THE STANDARD SPECIFICATIONS. PIPE SHALL BE CLASS 52 CONFORMING TO LAYING CONDITION TYPE 2. SHALL BE LINED WITH CEMENT MORTAR PER ANSIAWWA C104/A21.4-95, AND SHALL BE SEAL COATED. JOINTS SHALL BE PUSH-ON TYPES WITH RUBBER GASKETS, WHICH FIT INTO ANNULAR GROOVES. JOINTS AT VALVES OR FITTINGS MAY BE MECHANICAL JOINT OR FLANGED DEPENDING ON SPECIFICATION AND DRAWING REQUIREMENT. DUCTILE IRON PIPE MANUFACTURED AND DISTRIBUTED BY PACIFIC STATES CAST IRON PIPE COMPANY SHALL BE MANUFACTURED AFTER 1988. RESTRAINED JOINTS FOR DUCTILE IRON PIPE SHALL BE U.S. PIPE FIELD LOCK GASKET SYSTEM OR APPROVED EQUAL.

2. FITTINGS

FITTINGS FOR DUCTILE IRON PIPE SHALL CONFORM TO SECTION 9-30.2(1) OF THE STANDARD SPECIFICATIONS AND MAY BE FLANGED, MECHANICAL OR PUSH-ON AS REQUIRED. FLANGED FITTINGS SHALL CONFORM TO A CLASS 125 PRESSURE RATING. MECHANICAL JOINT FITTINGS SHALL BE RESTRAINED WITH MEGA-LUG RESTRAINING DEVICES OR APPROVED EQUAL. RESTRAINING DEVICES SHALL BE MANUFACTURED OF HIGH STRENGTH DUCTILE IRON, ASTM A536, GRADE 65-45-12. BOLTS AND CONNECTING HARDWARE SHALL BE OF HIGH STRENGTH LOW ALLOY MATERIAL IN ACCORDANCE WITH ANSIAWWA C111/A21.11. ALL RESTRAINING DEVICES SHALL HAVE A WATER WORKING PRESSURE RATING EQUIVALENT TO THE FULL RATED PRESSURE OF THE PIPE ON WHICH THEY ARE INSTALLED, WITH A MINIMUM 2:1 SAFETY FACTOR IN ANY NOMINAL PIPE SIZE. NOTARIZED CERTIFICATION FROM THE MANUFACTURER OF THE RESTRAINT DEVICE SHALL BE PROVIDED WITH SUBMITTALS.

THE EXTERIOR OF ALL DUCTILE IRON FITTINGS SHALL BE COATED WITH BITUMINOUS PAINT.

3. FIRE HYDRANTS

HYDRANTS SHALL CONFORM TO AWWA C-502, EXCEPT AS HEREIN MODIFIED. HYDRANTS SHALL HAVE A MINIMUM OF 5-1/4-INCH MAIN VALVE OPENING WITH TWO 2-1/2-INCH HOSE CONNECTIONS AND ONE 4-1/2-INCH PUMPER CONNECTION. ALL PORTS SHALL BE FURNISHED WITH NATIONAL STANDARD HOSE THREAD AND 1-1/4-INCH OPERATING NUTS THAT TURN COUNTERCLOCKWISE TO OPEN.

THE PUMPER CONNECTION SHALL BE EQUIPPED WITH A 5-INCH STORZ ADAPTER MEETING OR EXCEEDING THE FOLLOWING SPECIFICATIONS.

- A. STORZ ADAPTER AND CAP SHALL BE FORGED AND/OR EXTRUDED 6061-T6 ALUMINUM ALLOY, HARD COAT ANODIZED.
- B. THREADED PORTION TO HAVE TWO SET SCREWS 180° APART AND NO LUGS.
- C. STORZ FACE TO BE METAL WITH NO GASKETS TO WEATHER.
- D. STORZ CAP TO HAVE SYNTHETIC MOLDED RUBBER GASKET AND SHALL BE ATTACHED TO HYDRANT ADAPTER WITH 1/8-INCH COATED STAINLESS STEEL AIRCRAFT CABLE.
- E. CAP TO BE CONNECTED AND DISCONNECTED WITH STORZ WRENCHES ONLY. TORQUE TO BE SUFFICIENT SO CAP CANNOT BE REMOVED BY HAND.

HYDRANTS SHALL BE FURNISHED WITH A 6-INCH MECHANICAL JOINT OUTLET, TWO 3/4-INCH DIAMETER TIE RODS, OR MEGA-LUGS. A 6-INCH AUXILIARY GATE VALVE WITH VALVE BOX, AND A RISER TO SUIT TRENCH DEPTH AT EACH INSTALLATION. THE GATE VALVE SHALL BE FLANGED TO THE MAIN TEE. HYDRANT SHALL BE FURNISHED WITH A BREAK-OFF FLANGE ON THE BARREL AND A BREAK-OFF COUPLING FOR THE STEM. HYDRANTS SHALL CONFORM TO DISTRICT STANDARDS.

ALL FIRE HYDRANTS SHALL BE M & H STYLE 929 RELIANT, MUELLER CENTURION MODEL A-423, CLOW MEDALLION OR WATEROUS PACER NO. WB-67.

NOZZLES SHALL BE FITTED WITH RENEWABLE BRONZE NIPPLE LOCKED IN PLACE. MAINTAIN 3 FEET CLEARANCE BETWEEN HYDRANT AND PROPERTY OR EASEMENT LINE.

TYPE 1 BLUE REFLECTIVE MARKERS AS DESCRIBED IN SECTION 9-21.1 OF THE STANDARD SPECIFICATIONS SHALL BE INSTALLED AS REQUIRED BY THE GOVERNING ROAD AGENCY.

FIRE HYDRANTS SHALL BE EQUIPPED WITH STEAMER AND HOSE PORT THREADS IN ACCORDANCE WITH THE REQUIREMENTS OF THE LOCAL FIRE PROTECTION DISTRICT.

THE HYDRANT SHALL BE CLEANSSED AND PRIME COATED WITH A HEAVY-DUTY BRUSH TYPE PRIMER OR APPROVED EQUAL. ALL HYDRANTS SHALL BE PAINTED YELLOW WITH TWO TOPCOATS OF OIL RESISTANT ENAMEL, BRUSH TYPE OR APPROVED EQUAL. THE DISTANCE FROM THE HYDRANT TO THE 6-INCH GATE VALVE SHALL BE STENCILED ON THE HYDRANT WITH 2-INCH LETTERS.

DURING THE CHLORINATING PROCESS FOR THE NEWLY LAID PIPE, ALL VALVES ASSOCIATED WITH THE FIRE HYDRANTS SHALL BE OPERATED WHILE THE PIPELINE IS FILLED WITH THE CHLORINATING AGENT AND UNDER NORMAL OPERATING PRESSURE.

4. FIRE HYDRANT GUARD POSTS

GUARD POSTS SHALL NOT BE INSTALLED WITH FIRE HYDRANT ASSEMBLIES UNLESS REQUIRED BY DISTRICT. IF GUARD POSTS ARE REQUIRED BY DISTRICT, THEY SHALL BE MADE OF REINFORCED CONCRETE, 8 INCHES IN DIAMETER, 6 FEET LONG AND BURIED TO A MINIMUM DEPTH OF 3 FEET. GUARD POSTS SHALL BE SET WITH THEIR TOPS AT THE SAME ELEVATION AS THE BONNET FLANGE OF THE HYDRANT. THE EXPOSED PORTION OF THE GUARD POSTS SHALL BE PAINTED WITH 2 COATS OF EXTERIOR CONCRETE PAINT, COLOR AS DESIGNATED BY THE DISTRICT.

5. GATE VALVES

GATE VALVES SHALL BE OF THE SIZE AND TYPE INDICATED ON THE DRAWINGS WITH BRONZE-MOUNTED RESILIENT SEAT WEDGING DEVICES CONFORMING TO AWWA C509 OR AWWA C515. VALVES SHALL BE COATED PER AWWA C550 WITH NON-RISING STEMS, OPEN COUNTERCLOCKWISE, AND BE EQUIPPED WITH AN O-RING STUFFING BOX. VALVE END CONNECTIONS MAY BE FLANGED, MECHANICAL JOINT OR PUSH-ON AS REQUIRED. ALL FLANGE FACES SHALL BE MACHINED AND DRILLED TO STRADDLE THE VERTICAL CENTERLINE. VALVE STEM EXTENSIONS WITH PLATE WELDED TO OPERATING NUT WILL BE REQUIRED WHERE OPERATING NUT IS MORE THAN 4 FEET BELOW SURFACE. THE VALVE STEM EXTENSION TOP SHALL BE INSTALLED WITHIN 18 INCHES TO 24 INCHES BELOW FINISH GRADE AND SHALL HAVE A 2-INCH SQUARE OPERATING NUT AND SELF-CENTERING ROCK PLATE SUPPORT. LOCK DOWN SET SCREWS SHALL NOT BE USED ON VALVE OPERATING NUT EXTENSIONS.

MANUFACTURER SHALL PROVIDE CATALOG DATA, NET WEIGHT, AND ASSEMBLY DRAWINGS OF ALL VALVES TO BE PURCHASED AND INSTALLED AS WELL AS AN AFFIDAVIT OF COMPLIANCE. ALL VALVES SHALL HAVE A WATER WORKING PRESSURE RATING EQUIVALENT TO THE FULL RATED PRESSURE OF THE PIPE ON WHICH THEY ARE INSTALLED, WITH A MINIMUM 2:1 SAFETY FACTOR IN ANY NOMINAL PIPE SIZE.

6. VALVE BOX

VALVE BOX SHALL BE CAST IRON SERIES 940B AS MANUFACTURED BY OLYMPIC FOUNDRY OR APPROVED EQUAL WITH LID MARKED "WATER". ALL BOXES SHALL BE ADJUSTED TO MATCH THE FINISH GRADE AT THE VALVE LOCATION. ALL VALVE BOX COVERS SHALL BE PAINTED BLUE. ORIENT THE VALVE BOXES SO THE "W" MARKS ARE SET THE SAME AS THE PIPE DIRECTION. PROVIDE 4-INCH THICK BY 2-FOOT WIDE ASPHALT OR CONCRETE COLLAR AROUND VALVE BOX COVERS IN UNIMPROVED AREAS, LANDSCAPE AREAS AND EASEMENTS.

7. VALVE MARKER POSTS

VALVE MARKER POSTS SHALL BE FURNISHED AND INSTALLED WITH EACH VALVE UNLESS THE VALVE IS LOCATED IN THE PAVEMENT OR IN A VAULT. MARKER POSTS SHALL BE CONCRETE WITH 4-INCH MINIMUM SQUARE SECTION, 42-INCH LENGTH, AND SHALL BE REINFORCED WITH ONE 3/8" X 39" BAR OF REINFORCING STEEL. MARKERS SHALL BE PLACED AT THE EDGE OF THE RIGHT-OF-WAY OPPOSITE THE VALVE OR AS DIRECTED BY THE DISTRICT WITH 18 INCHES OF THE POST EXPOSED ABOVE GRADE. THE EXPOSED PORTION SHALL BE PAINTED WITH TWO COATS OF WHITE EXTERIOR CONCRETE PAINT WITH THE SIZE OF THE VALVE AND THE DISTANCE IN FEET AND INCHES TO THE VALVE STENCILED WITH BLACK PAINT ON THE FACE OF THE POST USING A STENCIL THAT WILL PRODUCE LETTERS TWO INCHES HIGH.

8. WET TAPS

TAPPING SLEEVE SHALL BE JCM 432 OR ROMAC "ST+STAINLESS STEEL SLEEVES WITH FULL COVERAGE RUBBER GASKET, OR EPOXY COATED LONG PATTERN SLEEVE, OR APPROVED EQUAL. VALVE SHALL BE A RESILIENT SEATED VALVE MADE FOR TAPPING, U.S. PIPE METROSEAL 250 OR APPROVED EQUAL. REFER TO THE GATE VALVE DESCRIPTION FOR ADDITIONAL DETAILS. SUBMITTALS REQUIRED FOR ALL WET TAP MATERIALS.

9. WATER SERVICES AND METERS

NEW SERVICE LINES SHALL BE CLASS 200, HI-MOL OR APPROVED EQUAL AND SHALL CONFORM TO THE STANDARD DETAILS AND SECTIONS 9-30.6 AND 9-30.6(3)B OF THE STANDARD SPECIFICATIONS. INSTALL PLASTIC-COATED 16-GAUGE COPPER TRACER WIRE ALONG TOP OF ALL PLASTIC SERVICE PIPES. ATTACH BARE WIRE TO ANGLE AND CORPORATION STOPS.

CONNECTIONS FROM PIPE TO ANGLE AND CORPORATION STOPS SHALL BE WITH COMPRESSION PACK JOINTS. METER BOXES SHALL BE AS CALLED OUT ON THE STANDARD DETAILS. METER BOXES AND LIDS LOCATED IN DRIVEWAYS OR SIDEWALKS SHALL BE TRAFFIC BEARING AS APPROVED BY THE DISTRICT.

WATER SERVICES SHALL BE LOCATED BY MUTUAL AGREEMENT BETWEEN DEVELOPER, DISTRICT, AND OTHER UTILITY COMPANIES. PAINT SERVICE LOCATIONS ON CURB WITH BLUE PAINT. METER BOXES SHALL BE FURNISHED AND INSTALLED BY DEVELOPER/CONTRACTOR. WATER SERVICE SHALL BE LOCATED NO CLOSER THAN 5 FEET FROM POWER VAULTS, HAND HOLES AND LIGHT STANDARDS.

ALL SERVICE LINES SHALL BE ONE-INCH MINIMUM, AND SHALL BE CONTINUOUS AND UNSPLICED FROM CORPORATION STOP TO METER AND SHALL HAVE 6 INCHES OF SAND BEDDING SURROUNDING THE SERVICE LINE. EXPANSION LOOPS ARE TO BE HELD AS FLAT AS POSSIBLE WITH NO REVERSE GRADE. WATER MAIN SERVICE SADDLE AND CORPORATION STOP WITH COMPRESSION ADAPTER SHALL BE LOCATED AT APPROXIMATELY 10" ABOVE SPRING LINE PER THE STANDARD DETAIL.

THE DEVELOPER/CONTRACTOR SHALL NOT BACKFILL ANY SERVICE LINES UNTIL ALL BRASS FITTINGS ASSOCIATED WITH THAT SERVICE LINE HAVE BEEN INSPECTED AND ACCEPTED BY THE DISTRICT.

EXISTING WATER SERVICES, WHICH NEED TO BE ABANDONED, SHALL BE DISCONNECTED AT THE WATER MAIN CORPORATION STOP. THE DEVELOPER/CONTRACTOR SHALL COORDINATE WITH THE DISTRICT'S FIELD REPRESENTATIVE AS REQUIRED.

10. IMPORTED GRAVEL MATERIAL

PIPE BEDDING SHALL CONFORM TO SECTION 9-03.12(3) OF THE STANDARD SPECIFICATIONS. FOUNDATION GRAVEL SHALL CONFORM TO SECTION 9-03.17 OF THE STANDARD SPECIFICATIONS. BANKRUN GRAVEL FOR TRENCH BACKFILL SHALL CONFORM TO SECTION 9-03.19 OF THE STANDARD SPECIFICATIONS, EXCEPT AT TRANSVERSE CUTS TO THE ROAD ALIGNMENT OR AT UTILITY CROSSINGS, WHICH SHALL BE BACKFILLED WITH CRUSHED GRAVEL SURFACING OR AS REQUIRED BY THE GOVERNING AGENCY. DEVELOPER/CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVING AND DISPOSING OF ANY EXCESS EXCAVATED SOIL MATERIAL AT AN APPROVED DISPOSAL SITE.

11. CRUSHED GRAVEL SURFACING

CRUSHED GRAVEL SURFACING SHALL CONFORM TO THE REQUIREMENTS OF SECTION 9-03.9(3) OF THE STANDARD SPECIFICATIONS.

12. ASPHALT CONCRETE PATCH AND OVERLAY

ASPHALT CONCRETE SURFACING FOR PATCHING AND OVERLAY SHALL CONFORM TO SECTION 5-04.2 AND 5-04.3 OF THE STANDARD SPECIFICATIONS. ASPHALT CONCRETE SURFACING SHALL MEET CLASS 1/2-INCH, P.G. 58-22 GRADING REQUIREMENTS, OR AS REQUIRED BY THE GOVERNING ROAD AGENCY.

3. ASPHALT SURFACE RESTORATION WITHIN RIGHT-OF-WAY

THE EXISTING ASPHALT SURFACE SHALL BE CUT ON A NEAT LINE BY SAWCUTTING PRIOR TO EXCAVATION. FOLLOWING PROPER BACKFILL AND COMPACTION OF THE TRENCH, THE EDGES OF THE SURFACING SHALL BE RE-TRIMMED 12 INCHES WIDER THAN THE EXCAVATION WITH STRAIGHT VERTICAL EDGES FREE FROM IRREGULARITIES. A 1-1/4 INCH MINUS CRUSHED SURFACING BASE COURSE SHALL BE PLACED TO A COMPACTED THICKNESS OF 4-1/2 INCHES, FOLLOWED BY 5/8-INCH MINUS CRUSHED SURFACING TOP COURSE PLACED TO A COMPACTED THICKNESS OF 2 INCHES.

ASPHALT CONCRETE PAVING SHALL THEN BE PLACED AND COMPACTED IN 2-INCH LIFTS TO MATCH THE EXISTING THICKNESS AND GRADE OF THE ORIGINAL SURFACE. ASPHALT PATCHES SHALL HAVE A MINIMUM THICKNESS OF 2 INCHES AND A MAXIMUM THICKNESS OF 4 INCHES. THE ASPHALT PATCH SHALL THEN BE OVERLAIN WITH A MINIMUM OF 1-1/2 INCHES COMPACTED ASPHALT CONCRETE. ASPHALT OVERLAY SHALL BE PRE-LEVELLED AS DETERMINED BY THE DISTRICT'S FIELD REPRESENTATIVE. NO OVERLAY SHALL BE REQUIRED IF THE FINAL TRIMMED EDGE OF THE ASPHALT PATCH DOES NOT ENCRoACH INSIDE THE FOG LINE OR, IN LIEU OF A FOG LINE, WITHIN 12 FEET FROM THE EXISTING CENTERLINE OF THE ROAD. THE DISTRICT OR GOVERNING ROAD AGENCY RESERVES THE RIGHT TO REQUIRE AN OVERLAY ON ANY SECTION. IF THE EDGE OF THE ROAD IS CURB AND GUTTER, THEN THE ASPHALT PATCH SHALL EXTEND TO THE EDGE OF THE CURB UNLESS INDICATED OTHERWISE BY THE DISTRICT OR GOVERNING ROAD AGENCY. ALL ASPHALT JOINTS SHALL BE SEALED WITH AN APPROVED SEALER. DEVELOPER/CONTRACTOR SHALL REPLACE EXISTING STRIPING AND PAVEMENT MARKINGS AS REQUIRED BY THE GOVERNING ROAD AGENCY.

DEVELOPER/CONTRACTOR SHALL MAINTAIN TEMPORARY COLD OR HOT MIX ASPHALT PATCHES DAILY DURING CONSTRUCTION TO THE SATISFACTION OF THE GOVERNING ROAD AGENCY AND THE DISTRICT'S FIELD REPRESENTATIVE UNTIL SAID PATCH IS REPLACED WITH A PERMANENT HOT PATCH. THE PERMANENT PATCH SHALL BE PLACED AND SEALED WITH PAVING GRADE ASPHALT WITHIN 30 CALENDAR DAYS.

CONCRETE PAVEMENT SHALL BE RESTORED CONSISTENT WITH SECTION 5-01 OF THE STANDARD SPECIFICATIONS. ANY CONCRETE PAVEMENT TRAFFIC LANE AFFECTED BY THE TRENCHING SHALL HAVE ALL AFFECTED PANELS REPLACED. CEMENT CONCRETE PAVEMENT SHALL BE RESTORED WITH AN 8-SACK MIX, USING EITHER TYPE II OR TYPE III CEMENT WITHIN 30 CALENDAR DAYS.

4. CURBS, GUTTERS, AND SIDEWALKS

EXISTING CURBS, GUTTERS, AND SIDEWALKS DAMAGED BY CONSTRUCTION OF THE PROJECT OR THE DEVELOPER'S/CONTRACTOR'S USE AND ACTIVITY, SHALL BE REPAIRED TO THE SATISFACTION OF THE PROPERTY OWNER, THE DISTRICT, OR THE GOVERNING ROAD AGENCY, AND TO ITS ORIGINAL CONDITION OR BETTER.

5. NON-PAVEMENT RESTORATION WITHIN RIGHT-OF-WAY

CULTIVATED LAWNS SHALL BE RESTORED WITH SOD. RESEEDING OF CULTIVATED LAWNS WILL NOT BE ALLOWED WITHOUT PRIOR APPROVAL OF PROPERTY OWNER AND DISTRICT. UNCULTIVATED LAWNS, PASTURE AND VACANT LAND SHALL BE RESTORED WITH A PASTURE GRASS MEETING THE FOLLOWING REQUIREMENTS.

SEED MIX: 40% PERENNIAL RYEGRASS
10% WHITE CLOVER
30% FESCUE
20% RED CREEPING FESCUE
APPLY AT THE RATE OF 100 POUNDS PER ACRE

MULCH: SILVA FIBER MULCH APPLIED AT 1500 TO 2000 POUNDS PER ACRE.

FERTILIZER: COMMERCIAL MIX 10/20/20 OF NITRATE, PHOSPHATE AND POTASH APPLIED AT RATE OF 450 POUNDS PER ACRE.

6. FINAL UTILITY ADJUSTMENT TO FINISH GRADE

ALL UTILITY COVERS, WHICH ARE LOCATED ON PROPOSED ASPHALT ROADWAYS, SHALL BE TEMPORARILY PLACED AT SUB-GRADE ELEVATION PRIOR TO PLACING CRUSHED SURFACING MATERIAL. FINAL ADJUSTMENT OF ALL COVERS AND ACCESS ENTRIES SHALL BE MADE FOLLOWING FINAL PAVING BY SAWCUTTING THE PAVEMENT AROUND LIDS AND COVERS. OPENING SHOULD NOT BE LARGER THAN 12 INCHES BEYOND THE RADIUS OF THE COVER. DEVELOPER/CONTRACTOR SHALL THEN REMOVE BASE MATERIAL, SURFACING COURSE, AND FRAME, ADD RAISING BRICKS, AND REPLACE FRAME AND COVER TO FINISH GRADE. FILL AND MECHANICALLY COMPACT AROUND THE STRUCTURE AND FRAME WITH CRUSHED SURFACING MATERIAL. FINISHED SURFACING SHALL BE TWO, 2-INCH COURSES OF ASPHALT CONCRETE SURFACING, COMPACTED AND SEALED TO PROVIDE A DENSE, UNIFORM SURFACE. FINAL ADJUSTMENT OF ALL COVERS AND ACCESS ENTRIES SHALL BE COMPLETED WITHIN 30 DAYS OF FINAL PAVING.

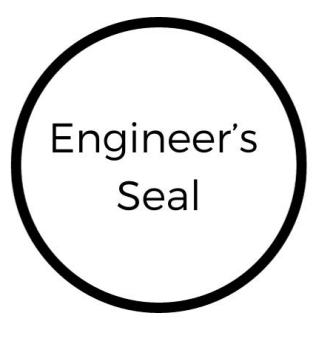
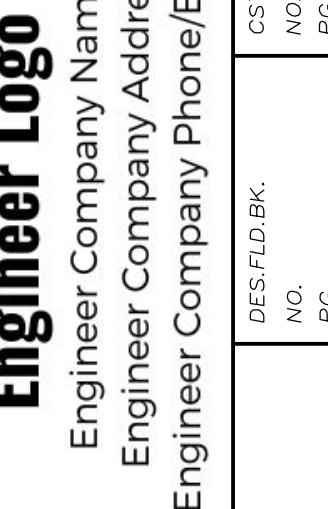
7. FINAL CLEANUP

THE DEVELOPER/CONTRACTOR SHALL CLEANUP ALL ADJACENT AREAS IN COMPLIANCE WITH SECTION 1-04.11 OF THE STANDARD SPECIFICATIONS. STREETS AND ROADWAYS SHALL BE CLEANED AND SWEPT BOTH DURING AND AFTER THE INSTALLATION WORK. DISTURBED SOILS SHALL BE FINAL GRADED, SEED, AND MULCHED AFTER INSTALLATION OF THE WATER MAIN. IN LIMITED AREAS, SEEDING AND MULCHING BY HAND, USING APPROVED METHODS, WILL BE ACCEPTABLE. DITCH LINES WITH ERODIBLE SOIL OR SUBJECT TO RAPID FLOWS MAY REQUIRE SEEDING, JUTE MATTING, NETTING, OR ROCK LINING TO CONTROL EROSION. ANY SILTING OF DOWNSTREAM DRAINAGE FACILITIES, WHETHER DITCHES OR PIPE AND CATCH BASINS, WHICH RESULTS FROM THE WATER MAIN INSTALLATION SHALL BE CLEANED OUT AND THE WORK SITE RESTORED TO A STABLE CONDITION AS PART OF SITE CLEANUP.

8. TRAFFIC CONTROL

THE DEVELOPER/CONTRACTOR SHALL BE RESPONSIBLE FOR INTERIM TRAFFIC CONTROL DURING CONSTRUCTION ON OR ALONG TRAVELED COUNTY ROADWAYS. TRAFFIC CONTROL SHALL FOLLOW THE GUIDELINES OF SECTION 1-07.23 OF THE STANDARD SPECIFICATIONS. ALL BARRICADES, SIGNS, AND FLAGGING SHALL CONFORM TO THE REQUIREMENTS OF THE MUTCD MANUAL. SIGNS SHALL BE LEGIBLE AND VISIBLE AND SHOULD BE REMOVED AT THE END OF EACH WORKDAY IF NOT APPLICABLE AFTER CONSTRUCTION HOURS.

WHEN ROAD CLOSURES CANNOT BE AVOIDED, THE DEVELOPER/CONTRACTOR SHALL POST "TO BE CLOSED" SIGNS A MINIMUM OF FIVE DAYS PRIOR TO THE CLOSING. THE TYPES AND LOCATIONS OF THE SIGNS SHALL BE SHOWN ON A DETOUR PLAN. A DETOUR PLAN MUST BE PREPARED AND SUBMITTED TO THE DISTRICT'S FIELD REPRESENTATIVE AND APPROVED BY THE GOVERNING ROAD AGENCY PRIOR TO CLOSING ANY ROADWAYS. IN ADDITION, THE DEVELOPER/CONTRACTOR MUST NOTIFY IN WRITING ALL LOCAL FIRE, SCHOOL, LAW ENFORCEMENT AUTHORITIES, METRO TRANSIT, AND ANY OTHER AFFECTED PERSONS AS DIRECTED BY THE DISTRICT'S FIELD REPRESENTATIVE AT LEAST FIVE DAYS PRIOR TO THE ROAD CLOSURE.

 Engineer's Seal	 Engineer Logo Engineer Company Name Engineer Company Address Engineer Company Phone/Email	DATE APPROVED PRINCIPAL APPROVAL DESIGN DRAWN CHECKED JOB NO. 123450	DATE 5.9.23 4.21.23 03.06.23	UPDATE DISTRICT DETAILS REVISIONS PER DISTRICT COMMENTS REVISIONS PER DISTRICT COMMENT (10.31.22)	NO. BY DATE 3 YLP 5.9.23 2 YLP 4.21.23 1 YLP 03.06.23
SOOS CREEK WATER & SEWER DISTRICT WATER MAIN EXTENSION PROJECT NAME MATERIALS AND SURFACE RESTORATION		SCALE HORIZ. VERT.	DES.FLD.BK. NO. PG. DES.FLD.BK. NO. PG. CST.FLD.BK. NO. PG.	DESCRIPTION REVISIONS	SHEET 3 OF 5 DRAWING

SURFACE RESTORATION (Revised 05-16-11)

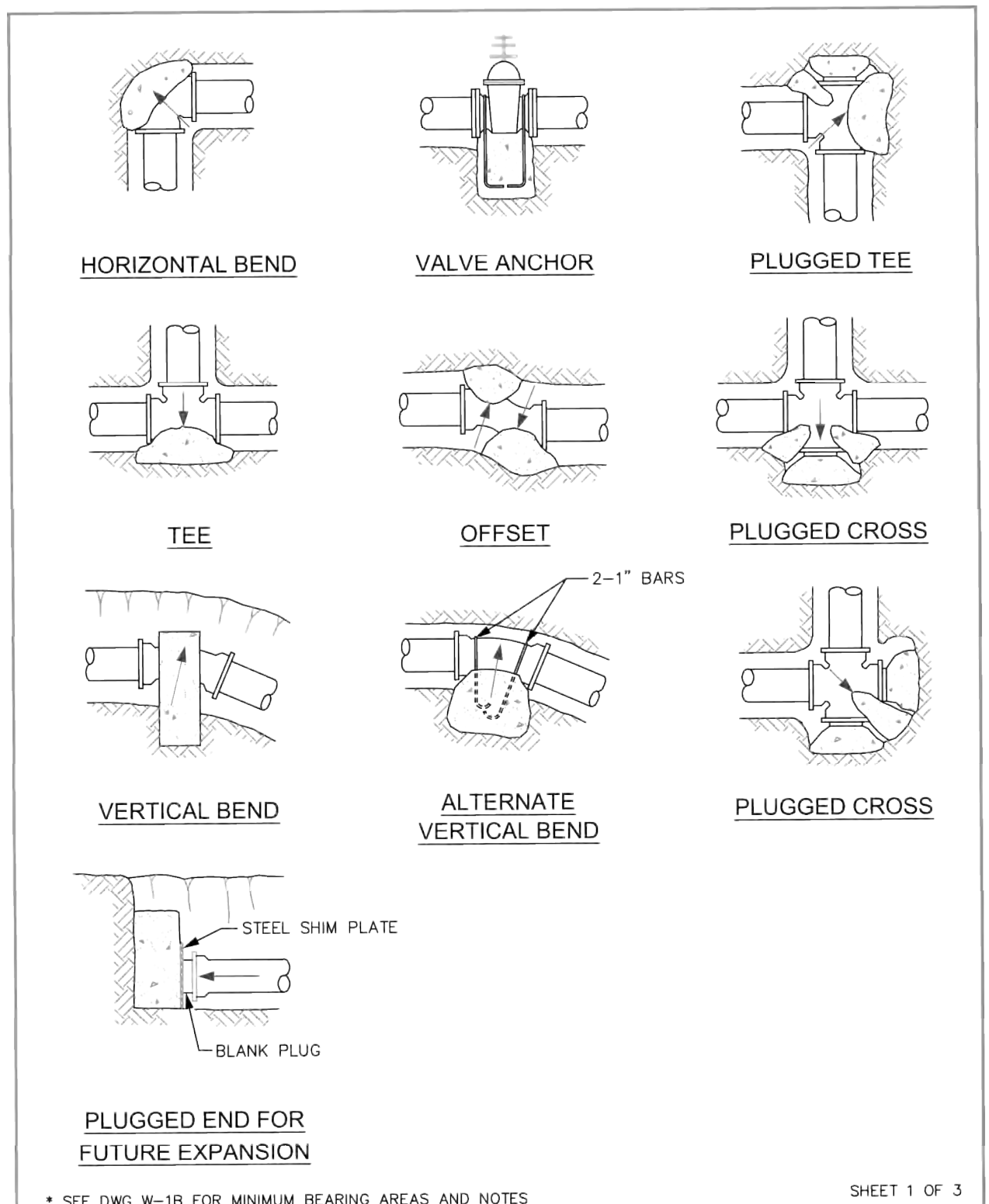
1. OFFSITE SURFACE RESTORATION

ALL PAVED OR UNPAVED SURFACES OR EASEMENTS SHALL BE RESTORED TO A CONDITION EQUAL TO OR BETTER THAN THAT WHICH EXISTED PRIOR TO CONSTRUCTION. ALL TREES, SHRUBS AND OR OTHER IMPROVEMENTS SHALL BE SAVED, RELOCATED, OR REPLACED BY DEVELOPER/CONTRACTOR UNLESS NOTED OTHERWISE ON THE DRAWINGS OR IN THE EASEMENT STIPULATIONS. RESTORATION SHALL BE TO THE SATISFACTION OF THE DISTRICT, PROPERTY OWNER, OR GOVERNING ROAD AGENCY. PRECONSTRUCTION PHOTOGRAPHS SHALL BE USED TO APPROVE RESTORATION.

2. ROAD SHOULDER RESTORATION WITHIN RIGHT-OF-WAY

THE EXISTING SURFACING OF DISTURBED ASPHALT SHOULDERS SHALL BE REMOVED TO A MINIMUM DEPTH OF 6 INCHES BELOW ORIGINAL STREET GRADE TO PROVIDE FOR PLACEMENT OF THE NEW SUBGRADE AND PAVING. THE SUBGRADE SHALL BE CONSTRUCTED OF 1-1/4-INCH MINUS CRUSHED SURFACING BASE COURSE PLACED TO A COMPACTED THICKNESS OF 2-1/2 INCHES, FOLLOWED BY 5/8-INCH MINUS CRUSHED SURFACING TOP COURSE PLACED TO A COMPACTED THICKNESS OF 1-1/2 INCHES. ASPHALT CONCRETE PAVING SHALL THEN BE PLACED AND COMPACTED IN 2-INCH LIFTS UP TO A MAXIMUM 4-INCH THICKNESS TO MATCH EXISTING PAVEMENT THICKNESS. MINIMUM THICKNESS SHALL BE 2 INCHES. THE SHOULDER SHALL BE REPLACED TO THE EXISTING FOG LINE IN AREAS WHERE THE EXISTING ASPHALT SHOULDER IS SERIOUSLY DISTURBED, OR AT THE DISCRETION OF THE DISTRICT OR THE GOVERNING ROAD AGENCY.

RESTORATION OF GRAVEL SHOULDERS SHALL INCLUDE A MINIMUM OF 1-1/2 INCHES OF CRUSHED SURFACING TOP COURSE AND 2-1/2 INCHES OF CRUSHED SURFACING BASE COURSE.



CONCRETE BLOCKING DETAIL

REVISION DATE: APRIL 21, 2023 | SCALE: NTS | DISTRICT APPROVAL: Gregory G. Hill, P.E. | DATE APPROVED: APRIL 27, 2023
 FILE NAME: W-1A.DWG | DWG. NO.: W-1A

MINIMUM BEARING AREA (SF)

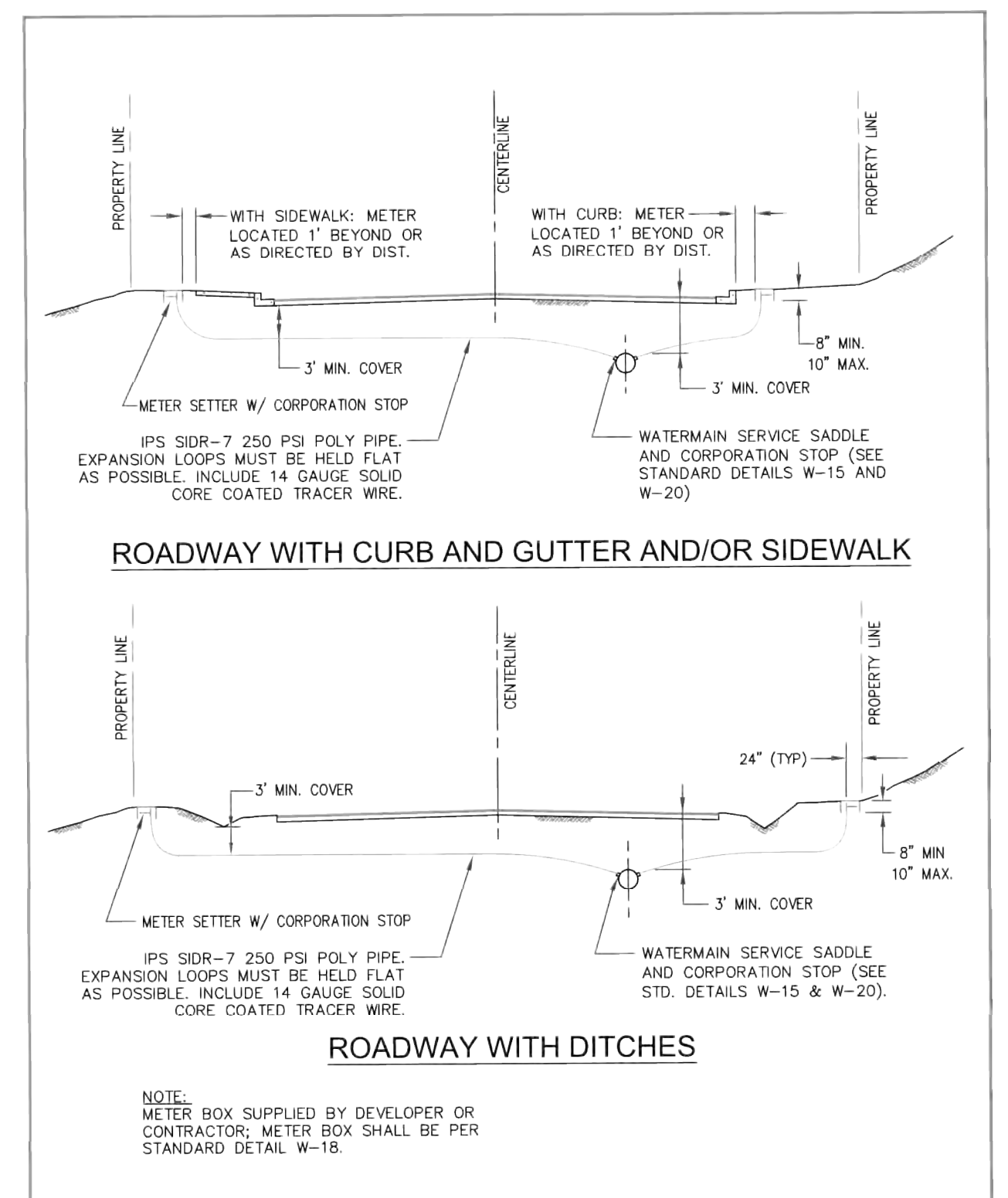
FITTING	PIPE SIZE				
	4"	6"	8"	10"	12"
11 1/4" BEND	1	2	3	4	5
22 1/2" BEND	2	3	5	7	10
45" BEND	3	6	10	14	20
90" BEND	5	10	17	26	36
TEE	4	7	12	18	26

GENERAL NOTES:

- MINIMUM BEARING AREAS SHOWN IN THE TABLE WERE CALCULATED BASED ON THE FOLLOWING CONDITIONS:
 - DESIGN PRESSURE IS 250 PSI
 - SOIL BEARING STRENGTH IS 2,000 PSF
 - SAFETY FACTOR IS 1.5
- BEARING AREAS SHALL BE RECALCULATED WHERE SITE SPECIFIC CONDITIONS VARY FROM THE ABOVE CONDITIONS, AS REQUIRED BY THE DISTRICT.
- ALL CONCRETE FOR BLOCKING SHALL BE A FIVE (5) SACK MIX.
- ALL BLOCKING SHALL BE POURED AGAINST FIRM, UNDISTURBED EARTH.
- FOR PIPE GREATER THAN 12" DIAMETER, THRUST BLOCKS SHALL BE DESIGNED, STAMPED, AND SIGNED BY A WASHINGTON STATE PE.

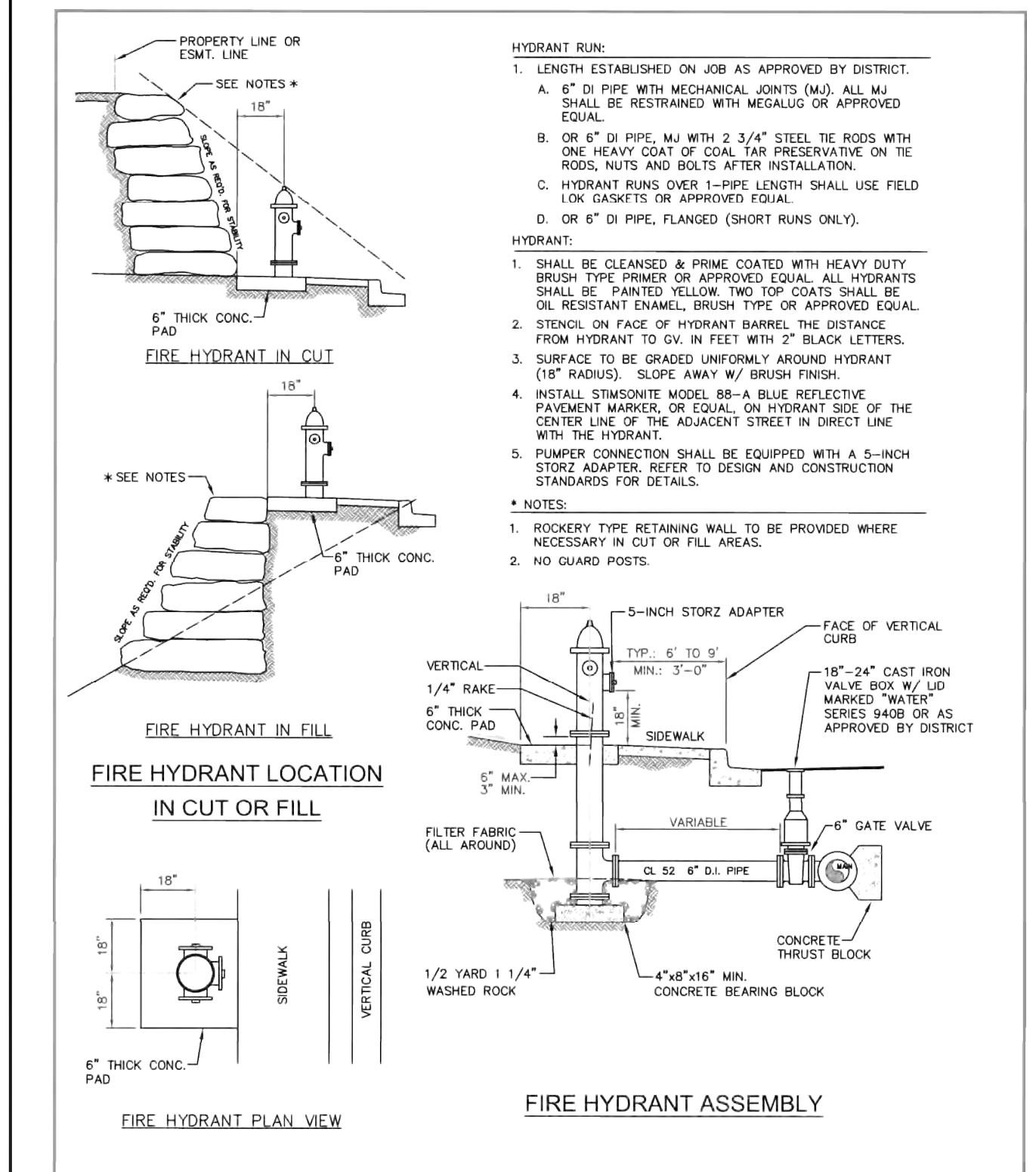
MINIMUM BEARING AREA DETAIL

REVISION DATE: APRIL 21, 2023 | SCALE: NTS | DISTRICT APPROVAL: Gregory G. Hill, P.E. | DATE APPROVED: APRIL 27, 2023
 FILE NAME: W-1B.DWG | DWG. NO.: W-1B



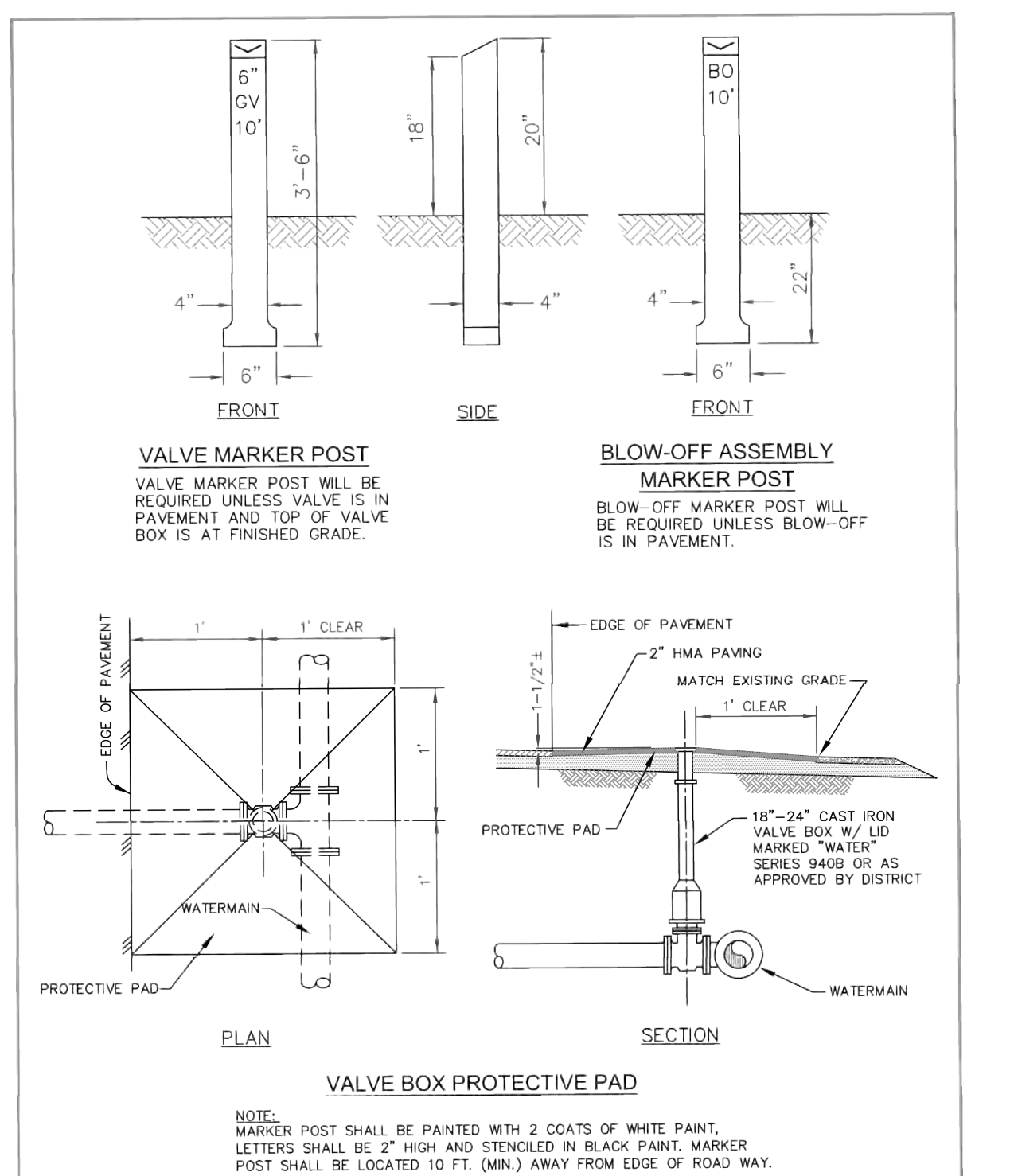
TYPICAL ROADWAY SECTIONS FOR RESIDENTIAL SUBDIVISION

REVISION DATE: MARCH 15, 2023 | SCALE: NTS | DISTRICT APPROVAL: Gregory G. Hill, P.E. | DATE APPROVED: APRIL 27, 2023
 FILE NAME: W-2.DWG | DWG. NO.: W-2



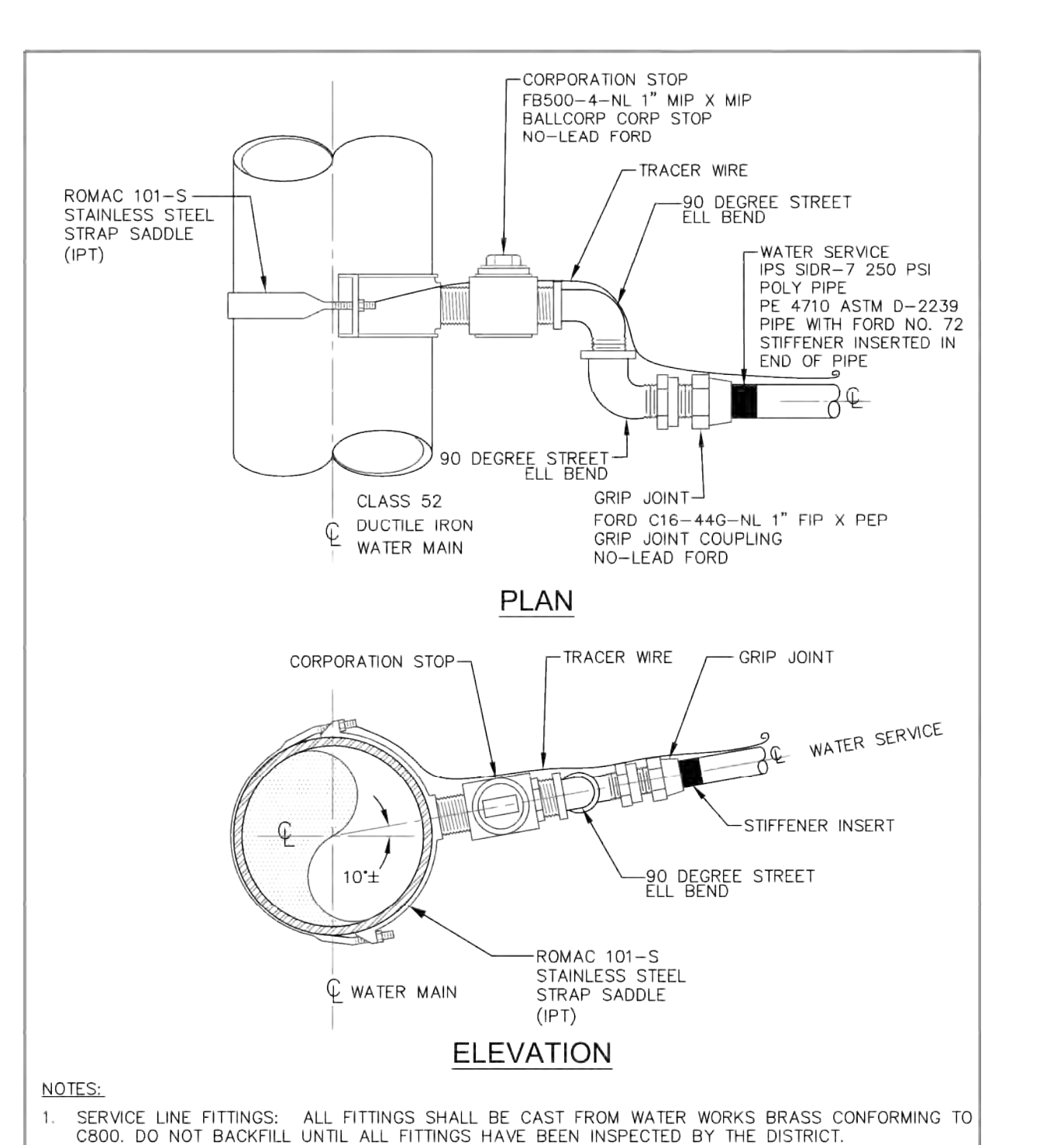
FIRE HYDRANT ASSEMBLY VERTICAL CURB

REVISION DATE: DECEMBER 1, 2022 | SCALE: NTS | DISTRICT APPROVAL: Gregory G. Hill, P.E. | DATE APPROVED: APRIL 27, 2023
 FILE NAME: W-5.DWG | DWG. NO.: W-5



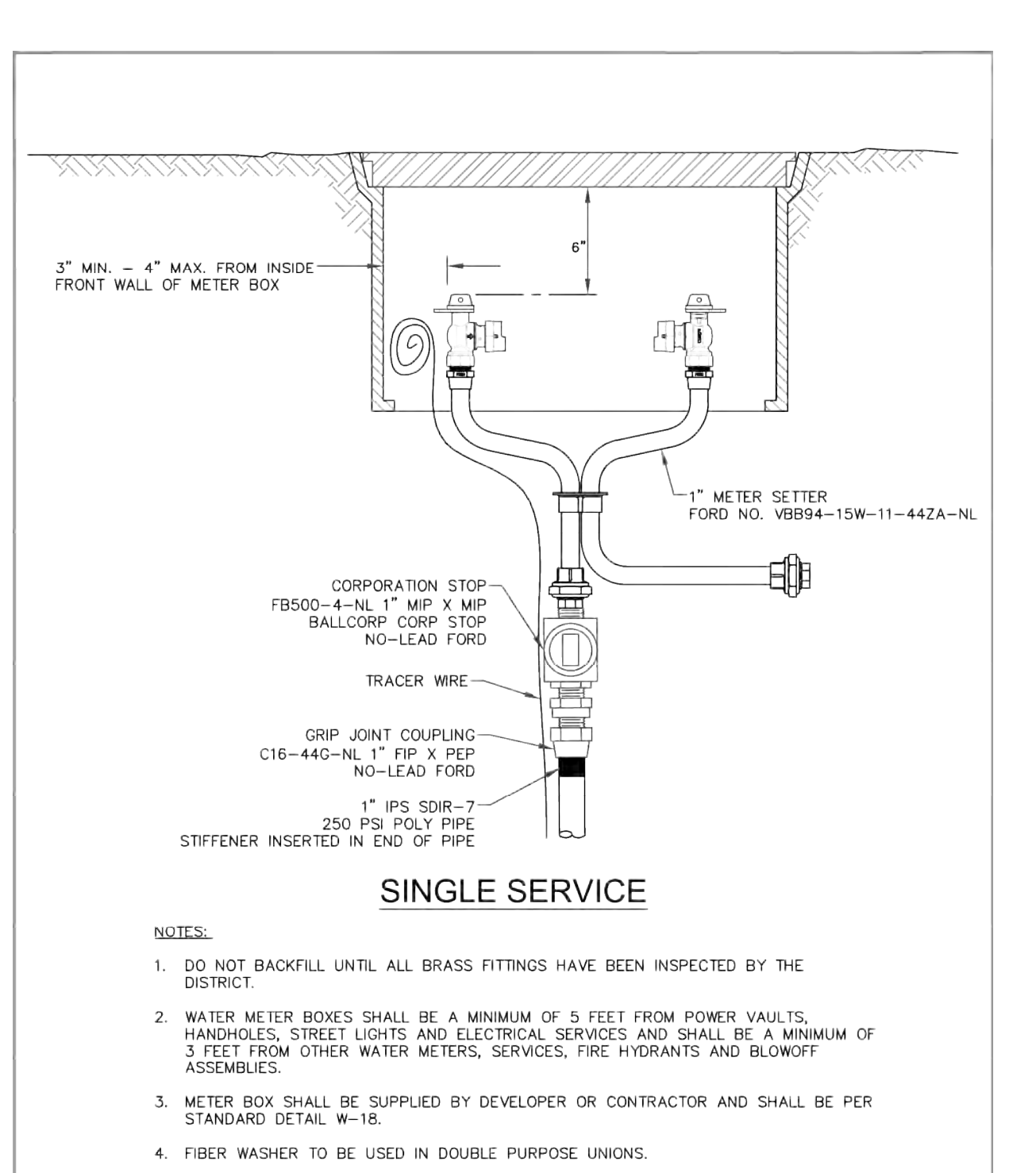
VALVE BOX PROTECTIVE PAD AND MARKER POST

REVISION DATE: MAY 17, 2011 | SCALE: NTS | DISTRICT APPROVAL: Gregory G. Hill, P.E. | DATE APPROVED: APRIL 27, 2023
 FILE NAME: W-13.DWG | DWG. NO.: W-13



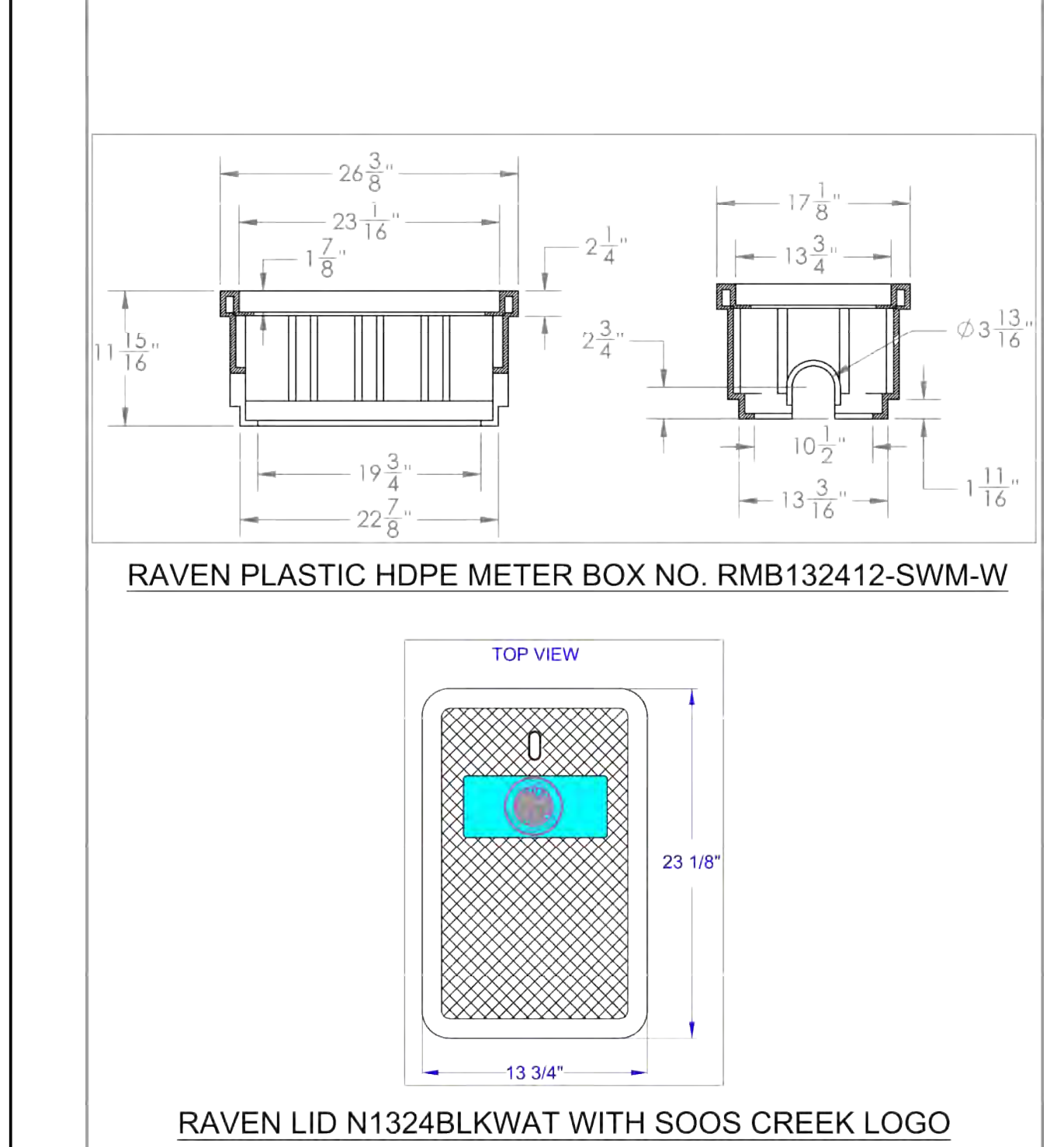
WATER SERVICE CONNECTION ONE INCH

REVISION DATE: APRIL 11, 2023 | SCALE: NTS | DISTRICT APPROVAL: Gregory G. Hill, P.E. | DATE APPROVED: APRIL 27, 2023
 FILE NAME: W-15.DWG | DWG. NO.: W-15



METER SETTER DETAIL

REVISION DATE: APRIL 17, 2023 | SCALE: NTS | DISTRICT APPROVAL: Gregory G. Hill, P.E. | DATE APPROVED: APRIL 27, 2023
 FILE NAME: W-16.DWG | DWG. NO.: W-16



HDPE METER BOX FOR 1" METER

REVISION DATE: JULY 29, 2022 | SCALE: NTS | DISTRICT APPROVAL: Gregory G. Hill, P.E. | DATE APPROVED: APRIL 27, 2023
 FILE NAME: W-18.DWG | DWG. NO.: W-18

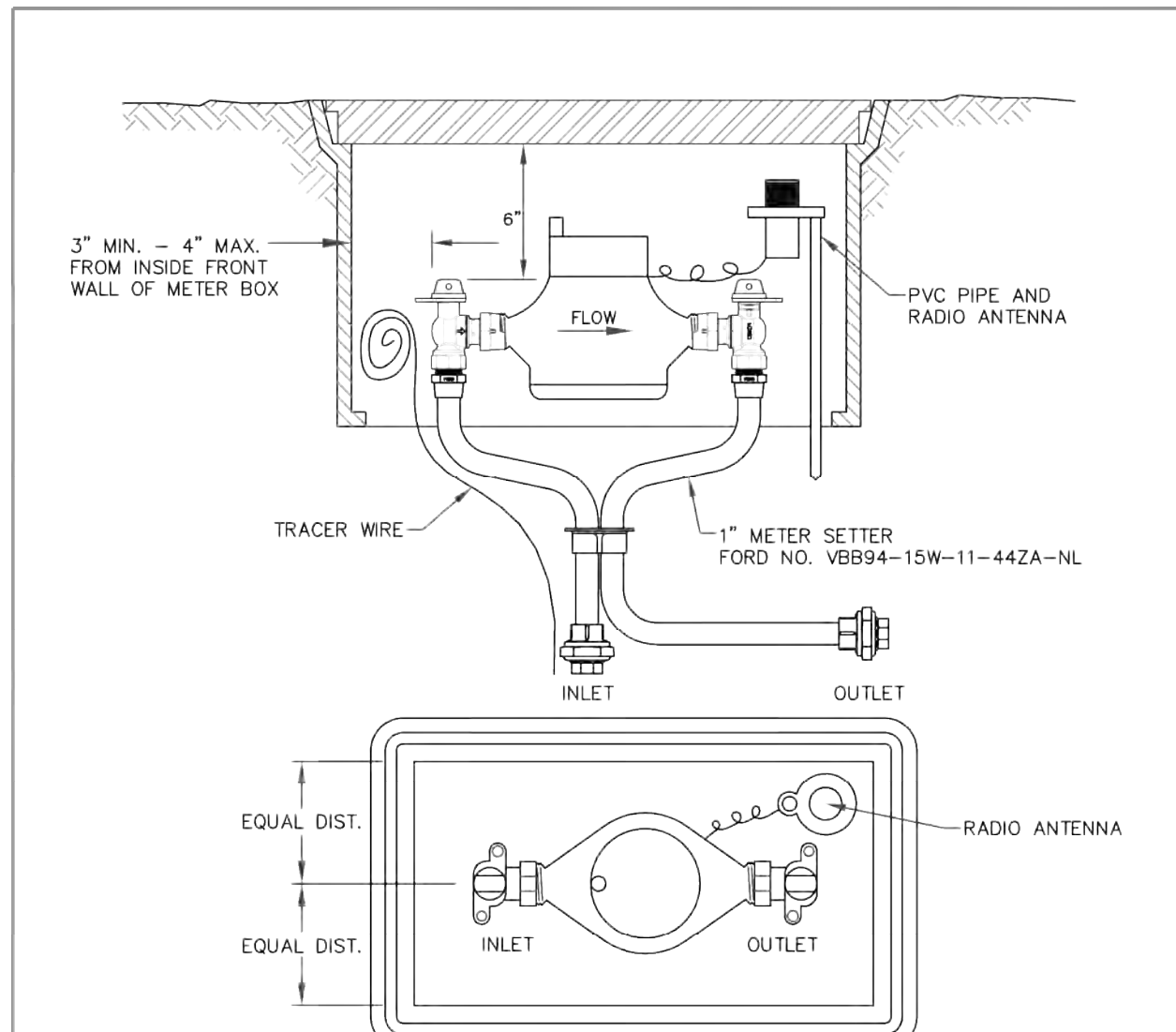
Engineer's Seal

Soos Creek Water & Sewer District
 Engineer Company Name
 Engineer Company Address
 Engineer Company Phone/Email

DATE APPROVED: [] | PRINCIPAL APPROVAL: KP | DESIGN: KP | DRAWN: BD | CHECKED: KP | JOB NO.: 123450

SCALE: [] | HORIZ: [] | VERT: []

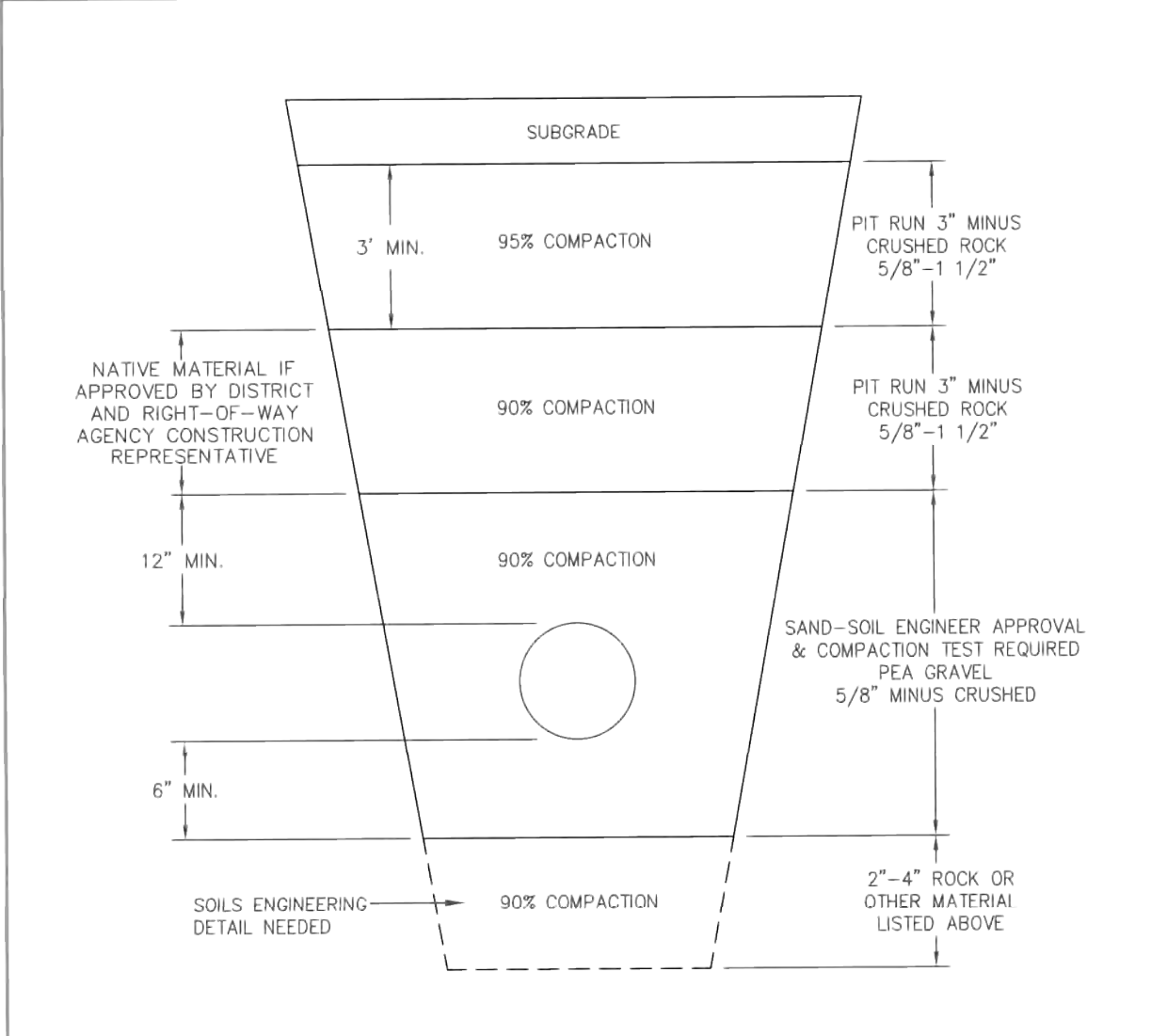
BASE MAP: [] | SHEET 4 OF 5 | DRAWING



- NOTES:**
1. THE METER SETTER MUST BE EQUAL DISTANCE FROM THE LONGITUDINAL SIDES OF THE METER BOX. THE TOP OF THE METER SETTER MUST BE 6" BELOW THE BOTTOM OF THE METER BOX LID. THE METER SETTER MUST BE BETWEEN 3" AND 4" FROM THE LATITUDINAL END OF THE METER BOX AND MUST BE VERTICAL (90°) TO GROUND LEVEL.
 2. THE METER SETTER MUST REMAIN IN A VERTICAL POSITION AFTER THE CONNECTION TO THE CUSTOMER'S LINE HAS BEEN COMPLETED.
 3. THE METER BOX MUST REMAIN FREE OF FOREIGN MATERIAL SUCH AS CONCRETE & DEBRIS.
 4. METER BOX SUPPLIED BY DEVELOPER/CONTRACTOR. METER BOX SHALL BE PER STANDARD DETAIL W-18.
 6. INCLUDE 14 GAUGE SOLID CORE COATED TRACER WIRE FROM WATER MAIN TO METER BOX. INCLUDE 2'-FT OF ADDITIONAL WIRE IN METER BOX.

METER INSTALLATION

REVISION DATE: APRIL 11, 2023 | SCALE: NTS | DISTRICT APPROVAL: Gregory G. Hill, P.E. | DATE APPROVED: APRIL 27, 2023
 FILE NAME: W-19.DWG | DWG. NO.: W-19



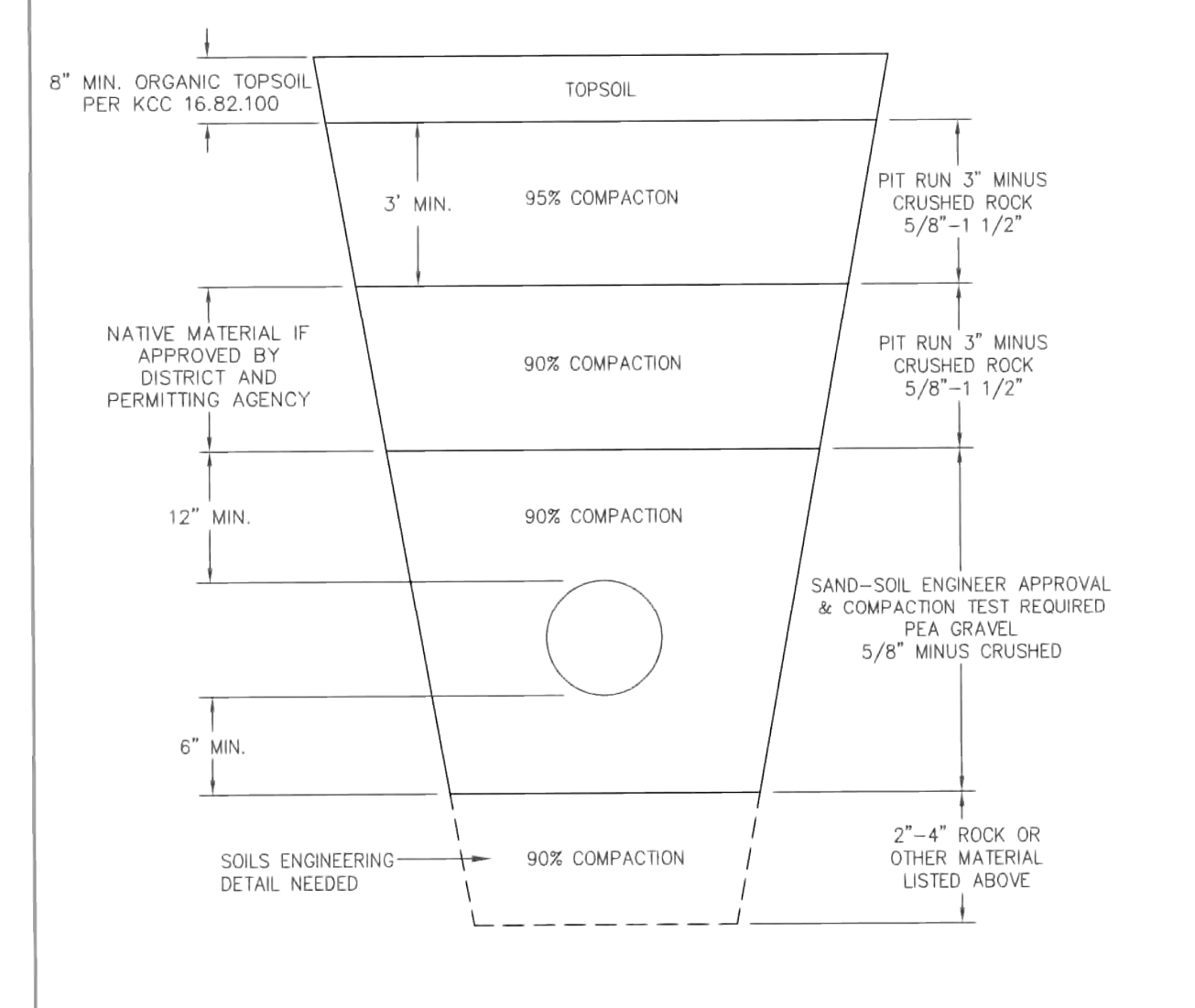
- NOTES:**
1. BEDDING—IN RIGHT OF WAY, DRIVEWAY, PARKING LOTS, PAVED AREAS, AND NON-PAVED AREAS.
 2. BEDDING FOR RIGID PIPE—NATIVE MATERIAL UNLESS JUDGED UNSUITABLE BY THE DISTRICT AND RIGHT-OF-WAY AGENCY CONSTRUCTION REPRESENTATIVE.
 3. TRENCH BACKFILL, BEDDING AND MATERIAL TO CONFORM TO RIGHT-OF-WAY AGENCY SPECIFICATIONS AND DISTRICT STANDARDS.

TYPICAL TRENCH DETAIL

REVISION DATE: MAY 17, 2011 | SCALE: NTS | DISTRICT APPROVAL: Gregory G. Hill, P.E. | DATE APPROVED: APRIL 27, 2023
 FILE NAME: W-33.DWG | DWG. NO.: W-33

NOMINAL PIPE DIAMETER	TRENCH WIDTHS		
	MINIMUM EARTH	MINIMUM ROCK	MAXIMUM
2	18	24	36
3	18	24	36
4	18	24	36
6	21	24	36
8	24	24	36
12	28	28	40

(IN INCHES)



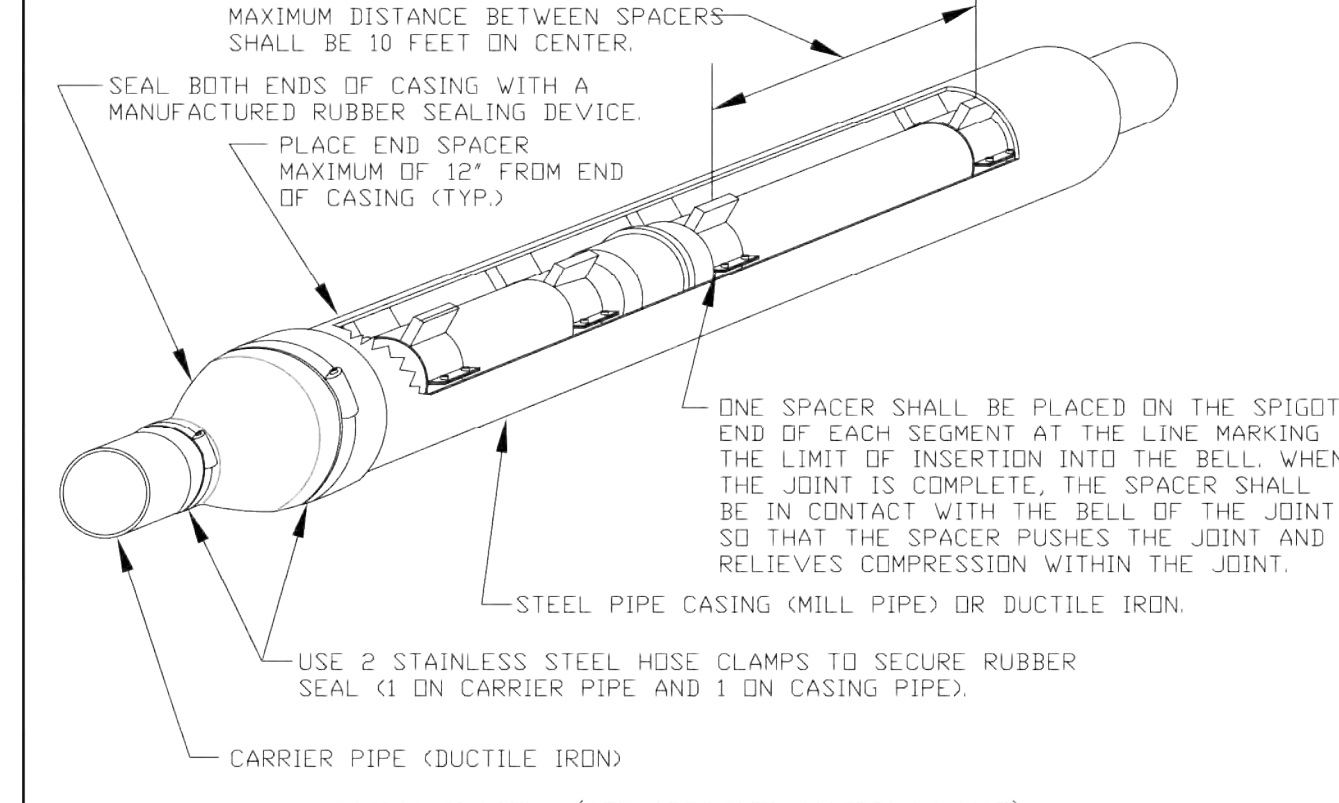
- NOTES:**
1. BEDDING—IN RIGHT OF WAY, DRIVEWAY, PARKING LOTS, PAVED AREAS, AND NON-PAVED AREAS.
 2. BEDDING FOR RIGID PIPE—NATIVE MATERIAL UNLESS JUDGED UNSUITABLE BY THE DISTRICT AND PERMITTING AGENCY.
 3. TRENCH BACKFILL, BEDDING AND MATERIAL TO CONFORM TO PERMITTING AGENCY SPECIFICATIONS AND DISTRICT STANDARDS.

TYPICAL TRENCH DETAIL (OUTSIDE ROADWAY)

REVISION DATE: MAY 17, 2011 | SCALE: NTS | DISTRICT APPROVAL: Gregory G. Hill, P.E. | DATE APPROVED: APRIL 27, 2023
 FILE NAME: W-34.DWG | DWG. NO.: W-34

NOMINAL PIPE DIAMETER	TRENCH WIDTHS		
	MINIMUM EARTH	MINIMUM ROCK	MAXIMUM
2	18	24	36
3	18	24	36
4	18	24	36
6	21	24	36
8	24	24	36
12	28	28	40

(IN INCHES)



CASING SPACERS (SEE APPROVED MATERIALS LIST)

CARRIER PIPE DIAMETER	4"	6"	8"	10"	12"
CASING DIAMETER (PUSH-ON JOINT CARRIER PIPE)	10"	12"	14"	16"	20"
CASING DIAMETER (MJ/MEGALUG JOINT CARRIER PIPE)	14"	16"	18"	20"	22"
STEEL CASING THICKNESS	0.25"	0.25"	0.25"	0.25"	0.25"
SPACER BAND WIDTH	8"	8"	8"	8"	8"

- NOTES:**
- * 24" FOR DUCTILE IRON CASING.
1. CASING SPACERS SHALL BE "CENTER POSITIONING" TYPE.
 2. MINIMUM RUNNER WIDTH SHALL BE 2 INCHES.
 3. RUNNER HEIGHT SHALL BE SIZED TO PROVIDE:
 - A. MINIMUM 0.75" BETWEEN CARRIER PIPE BELL AND CASING PIPE WALL AT ALL TIMES.
 - B. MINIMUM 1" CLEARANCE BETWEEN RUNNERS AND TOP OF CASING WALL TO PREVENT JAMMING DURING INSTALLATION.
 4. STEEL CASING DIAMETERS ARE "OUTSIDE DIAMETER" FOR 16" AND LARGER.
 5. SPACER BAND WIDTH SHALL BE 12" FOR CARRIER PIPES THAT ARE 36" DIAMETER OR GREATER.
 6. FOR STEEL CASING, PROVIDE SHOP-APPLIED ANTI-CORROSIVE COATING ON CASING EXTERIOR CONFORMING TO AWWA C210. MINIMUM COATING THICKNESS 16 MILS DFT (DO NOT EXCEED MANUFACTURER'S MAXIMUM THICKNESS). PRODUCT SHALL BE EQUAL TO TNEC HI-BUILD TNEC-TAR SERIES 46H-413.

CASING INSTALLATION

JANUARY 2019 | NO SCALE | DWG. NO.: W-7

SOOS CREEK WATER & SEWER DISTRICT
 WATER MAIN EXTENSION PROJECT NAME
 WATER DETAILS

Engineer's Seal

DATE APPROVED: [] | PRINCIPAL APPROVAL: KP | DESIGN: KP | DRAWN: BD | CHECKED: KP | JOB NO.: 123450

SCALE: [] | HORIZ: [] | VERT: [] | DES.FLD.BK. NO.: [] | PG.: [] | CST.FLD.BK. NO.: [] | PG.: []

REVISIONS PER DISTRICT COMMENTS

NO.	BY	DATE	DESCRIPTION
3	YLP	5.3.23	UPDATE DISTRICT DETAILS
2	YLP	4.21.23	REVISIONS PER DISTRICT COMMENTS
1	YLP	03.06.23	REVISIONS PER DISTRICT COMMENT (10.31.22)

BASE MAP: [] | SHEET 5 OF 5 | DRAWING