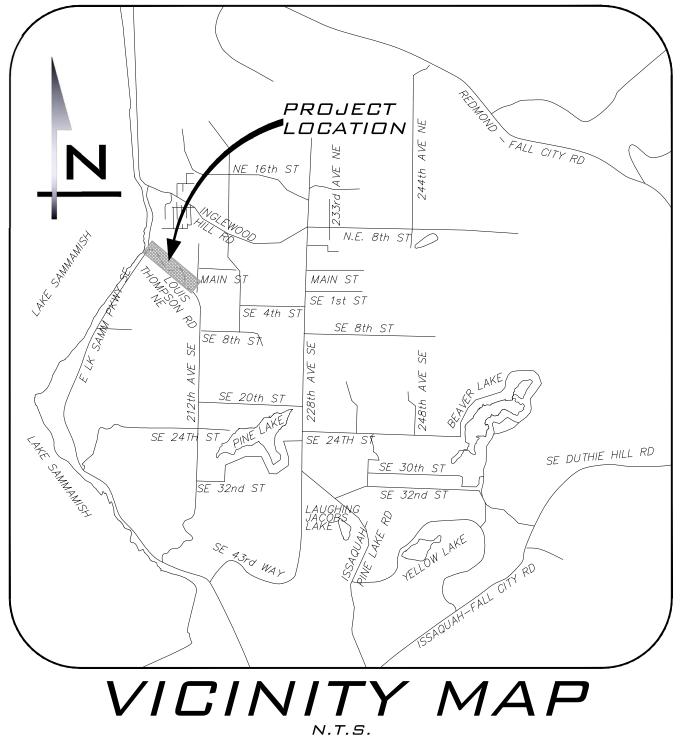


LDUS THDMPSDN RD WATER MAIN REPLACEME

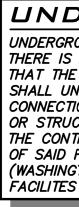
CONSTRUCTION DRAWINGS

JUNE 2024

SEC. 32, TWN. 25, RNG. 06, W.M.



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ST OF DRAWINGS

COVER SHEET GENERAL NOTES LEGEND & ABBREVIATIONS SURVEY CONTROL & ALIGNMENT PLAN WATER PLAN & PROFILE WATER MAIN CROSSING PROFILES WATER MAIN CONNECTION DETAILS PRV SITE PLAN & PROFILE PRV STATION DETAILS DETAILS

DARD NOTES AND DETAILS ARE LOCATED F THESE DRAWINGS:

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- AND CONSTRUCTION NOTES 1 OF 3
- AND CONSTRUCTION NOTES 2 OF 3 AND CONSTRUCTION NOTES 3 OF 3

UNDERGROUND UTILITY NOTE

UNDERGROUND UTILITIES ARE SHOWN IN THE APPROXIMATE LOCATION. THERE IS NO GUARANTEE THAT ALL UTILITY LINES ARE SHOWN, OR THAT THE LOCATION, SIZE, AND MATERIAL IS ACCURATE. THE CONTRACTOR SHALL UNCOVER ALL INDICATED PIPING WHERE CROSSING, INTERFERENCES, OR CONNECTIONS OCCUR PRIOR TO TRENCHING OR EXCAVATION FOR ANY PIPE OR STRUCTURES. TO DETERMINE ACTUAL LOCATIONS. SIZE AND MATERIAL. THE CONTRACTOR SHALL MAKE THE APPROPRIATE PROVISION FOR PROTECTION OF SAID FACILITIES. THE CONTRACTOR SHALL NOTIFY ONE CALL AT 8-1-1 (WASHINGTON811.COM) AND ARRANGE FOR FIELD LOCATION OF EXISTING FACILITES BEFORE CONSTRUCTION.

SAMMAMISH PLATEAU WATER	
APPROVED FOR CONSTRUCTION	
Digitally signed by	
A. Way kyle wong	
Date: 2024.07.16	
09:18:39-07'00'	
ERING MANAGER	DAT



GENERAL CONSTRUCTION NOTES

- 1. ALL UNSUITABLE MATERIAL SHALL BE IMMEDIATELY PLACED IN TRUCKS AND REMOVED FROM THE PROJECT SITE.
- 2. WHERE NATIVE MATERIAL IS SUITABLE FOR BACKFILL AND COMPACTION TO 95% MODIFIED PROCTOR CAN BE ACHIEVED, NATIVE MATERIAL IS ACCEPTABLE, OTHERWISE, SELECT IMPORT IS REQUIRED FOR BACKFILL AND SHALL BE COMPACTED TO 95% MODIFIED PROCTOR. DURING WET SEASON, OCTOBER 1ST TO MAY 1ST, SELECT IMPORT IS REQUIRED FOR TRENCH BACKFILL.
- 3. THE CONTRACTOR SHALL PROTECT ALL EXISTING LANDSCAPING AND VEGETATION. CONTRACTOR SHALL OBTAIN DISTRICT APPROVAL BEFORE WORKING IN THE VICINITY OF OR REMOVING ANY NECESSARY VEGETATION.
- 4. ALL WORK SHALL CONFORM TO THE REQUIREMENTS OF THE DISTRICT'S STANDARD DETAILS AND NOTES. THESE STANDARDS SHALL BE INCLUDED AS PART OF THIS PLAN. THIS PLAN IS INCOMPLETE WITHOUT THE DISTRICT'S STANDARD DETAILS AND NOTES.
- 5. SEE LOUIS THOMPSON TIGHTLINE CONTRACT PLANS AND CONTRACT PROVISIONS FOR ALL TEMPORARY EROSION AND SEDIMENT CONTROL (TESC) MEASURES AND REQUIREMENTS.
- 6. CONSTRUCTION HOURS ARE LISTED IN THE PROJECT SPECIFICATIONS.
- 7. UNLESS OTHERWISE RESTRICTED BY THE CITY OF SAMMAMISH, LANE RESTRICTIONS SHALL BE ALLOWED DURING NORMAL CONSTRUCTION HOURS. COMPLETE CLOSURE OF LOUIS THOMPSON SHALL NOT BE ALLOWED.
- 8. THE CONTRACTOR SHALL KEEP ON HAND DURING EXCAVATION ROAD PLATES TO COVER THE TRENCHES AS NEEDED TO ALLOW TRAFFIC TO PASS THROUGH.
- 9. THE CONTRACTOR SHALL USE EXTREME CARE IN THE PROTECTION OF ALL BUILDINGS, STRUCTURES, AND LANDSCAPING ("PROPERTY") AT NO ADDITIONAL COST TO THE OWNER. THE CONTRACTOR SHALL REPLACE IN KIND ANY DAMAGED PROPERTY UNLESS OTHERWISE DIRECTED BY THE DISTRICT IN WRITING.
- 10. THE CONTRACTOR SHALL COORDINATE WORK WITH THE LOCAL RESIDENCES AS CONSTRUCTION PROCEEDS SO THAT VEHICULAR ACCESS IS PROVIDED AT ALL TIMES. THIS WORK WILL INVOLVE THE CONTRACTOR TO COMMUNICATE DIRECTLY WITH THE OWNERS OF THE INDIVIDUAL RESIDENCE IMPACTED BY ANY TRAFFIC OR ACCESS RESTRICTIONS THROUGHOUT THE DURATION OF CONSTRUCTION.
- 11. WATER MAIN SHALL BE INSTALLED WITH A MINIMUM OF 3-FEET OF COVER UNLESS NOTED OTHERWISE IN THE PLANS. WATER MAIN SHALL BE INSTALLED AT A DEPTH AND SLOPE PER THE PROFILE DRAWINGS TO AVOID INTERMEDIATE HIGH POINTS.
- 12. ALL DUCTILE IRON PIPE SHALL BE ZINC COATED CLASS 52.
- 13. CONTRACTOR SHALL SURVEY (HORIZONTAL AND VERTICAL LOCATION) ALL INSTALLED FACILITIES INCLUDING WATER BEND, TEES, VALVES, AIR/VAC ASSEMBLIES, BLOW-OFFS, AND METER BOXES.

GENERAL WATER MAIN NOTES

- 1. ALL PROPOSED CONNECTIONS SHALL BE POTHOLED TO VERIFY EXISTING CONDITIONS PRIOR TO CONSTRUCTION.
- 2. THE EXISTING WATER MAIN IS PRIMARILY AC PIPE AND IS UNLOCATABLE. THE LOCATION OF THE EXISTING MAIN SHOWN ON THESE DRAWINGS IS ONLY APPROXIMATE.
- 3. WHERE 1 FOOT OF VERTICAL CLEARANCE BETWEEN NEW WATER MAIN AND EXISTING CROSSING FACILITIES CANNOT BE OBTAINED VERTICAL CLEARANCE MAY BE REDUCED TO 6 INCHES WITH THE PERMISSION OF THE UTILITY OWNER AND DISTRICT. USE ETHAFOAM PADS OR APPROVED EQUAL BETWEEN EXISTING UTILITY AND NEW WATER MAIN WHEN VERTICAL CLEARANCE IS LESS THAN 1 FOOT.

ABANDONMENT OF EXISTING UTILITIES

- 1. ALL PIPE ENDS OF ABANDONED UTILITIES SHALL BE CAPPED WITH MJ FITTING AND CONCRETE BLOCKING PRIOR TO BACKFILL.
- 2. WHERE AN EXISTING WATER MAIN WHICH IS TO BE ABANDONED IS CONNECTED TO A PERMANENT MAIN, THE ABANDONED MAIN SHALL BE DISCONNECTED FROM THE PERMANENT MAIN, AND THEN BOTH MAINS SHALL BE CAPPED WITH MJ FITTING AND CONCRETE BLOCKING. IF A VALVE EXISTS BETWEEN THE PERMANENT AND ABANDONED MAIN, THE VALVE SHALL BE REMOVED AND THE TEE PLUGGED OR BLIND FLANGED IN ACCORDANCE WITH DISTRICT STANDARDS. A THRUST BLOCK SHALL BE INSTALLED ON THE END OF THE PERMANENT MAIN AS NEEDED OR AS DIRECTED BY THE DISTRICT.
- 3. ABANDONMENT OF EXISTING WATER SERVICES SHALL ONLY BE ALLOWED WHEN THE NEW SERVICE HAS BEEN INSTALLED, TESTED, AND ACCEPTED BY THE DISTRICT. AFTER DISTRICT APPROVAL, THE EXISTING SUPPLY LINE SHALL BE RELOCATED AND CONNECTED TO THE NEW METER SETTER. IF NECESSARY, THE CONTRACTOR SHALL INSTALL A TEMPORARY IDLER TO PROVIDE WATER TO THE EXISTING CUSTOMER. THE EXISTING METER SHALL BE RETURNED TO THE DISTRICT FOR REPLACEMENT AND OR RE-USE.
- 4. WHEN ABANDONING AN EXISTING WATER SERVICE ON A WATER MAIN THAT IS TO BE ABANDONED, THE CONTRACTOR SHALL REMOVE THE METER BOX, SETTER AND ALL FITTINGS. THE SERVICE LINE SHALL BE CAPPED OR PLUGGED AND LEFT IN PLACE.
- 5. WHEN ABANDONING AN EXISTING BLOW-OFF ON AN ABANDONED WATER MAIN THE EXISTING BLOW-OFF SHALL BE REMOVED, THE PIPING PLUGGED, THE VALVE ABANDONED IN PLACE, AND THE VALVE CAN, MARKER AND METER BOX REMOVED AND BACKFILLED WITH 1-1/4" MINUS CRUSHED ROCK.
- 6. WHEN ABANDONING EXISTING VALVES IN PLACE, THE VALVE SHALL BE CLOSED, THE VALVE CAN AND VALVE MARKER REMOVED AND THE HOLE BACKFILLED WITH 1-1/4" CRUSHED ROCK.
- 7. REMOVE EXISTING PRV CONTROL VALVE AND PROVIDE TO DISTRICT FOR SALVAGE PRIOR TO ABANDONING EXISTING PRV VAULT.

EXISTING WATER SUPPLY LINES

- 1. WATER SUPPLY LINES ARE DEFINED AS THE SMALL DIAMETER PIPES EXTENDING FROM THE DISTRICT'S WATER METER TO THE CUSTOMER'S HOUSE. THESE LINES ARE PRIVATELY OWNED BY THE INDIVIDUAL HOMEOWNER.
- 2. THE DISTRICT HAS LIMITED KNOWLEDGE OF THE EXACT LOCATION OF THE EXISTING INDIVIDUAL SUPPLY LINES FOR THE WATER SUPPLY LINES TO EACH LOT. ANY INFORMATION SHOW ON THE DRAWINGS IS ONLY APPROXIMATE.
- 3. THE CONTRACTOR SHALL CONNECT ALL NEW WATER SERVICES TO EXISTING SUPPLY LINES ONLY AFTER DISTRICT APPROVAL. THE CONTRACTOR SHALL UTILIZE STANDARD CONSTRUCTION PRACTICES AND USE BRASS MATERIALS IN ALL SUPPLY LINE CONNECTIONS UNLESS DIRECTED OTHERWISE BY THE DISTRICT.
- 4. THE CONTRACTOR SHALL LOCATE, PROTECT AND REPAIR IN KIND ALL EXISTING WATER SUPPLY LINES.
- 5. THE CONTRACTOR SHALL PROTECT AND RECONNECT ANY CUSTOMER PRVS OR IRRIGATION BOXES ALTERED DURING CONSTRUCTION. CONTRACTOR SHALL REPAIR IN KIND ANY PRV OR IRRIGATION SYSTEM DAMAGED DURING CONSTRUCTION.

TESC NOTES

- 1. SEE LOUIS THOMPSON TIGHTLINE CONTRACT PLANS AND CONTRACT PROVISIONS FOR ALL TEMPORARY EROSION AND SEDIMENT CONTROL (TESC) MEASURES AND REQUIREMENTS.
- 2. UNLESS OTHERWISE NOTED OR DIRECTED, EXCAVATED MATERIAL IS TO BE PLACED IN TRUCKS AND NOT SPOILED ON SITE.
- 3. ALL STOCKPILED MATERIALS WILL BE REMOVED BY THE END OF EACH DAY ELIMINATING THE NEED TO USE CLEAR PLASTIC COVERING. IN THE EVENT ANY STOCKPILING MAY OCCUR, CLEAR PLASTIC COVERING WILL BE INSTALLED ON ANY STOCKPILES OF DIRT. THE COVER WILL BE INSTALLED IMMEDIATELY AND THERE WILL BE AT LEAST A 12-INCH OVERLAP AT ALL SEAMS. ALL SEAMS WILL BE TAPED OR WEIGHTED DOWN FOR THE FULL LENGTH OF THE SEAM.
- 4. AT THE END OF EACH DAY, STREETS WILL BE SWEPT AND BROOM CLEANED. ALL EXPOSED AREAS WILL HAVE TEMPORARY ASPHALT PATCHES.
- 5. DO NOT BLOCK ACCESS TO ANY TAX LOTS UNLESS APPROVED BY THE DISTRICT.

PAVEMENT RESTORATION NOTES

- 1. THE CONTRACTOR SHALL NOT COMPLETE ANY SAW CUTTING UNTIL ALL UTILITY LOCATE MARKINGS HAVE BEEN PROVIDED.
- 2. THE CONTRACTOR SHALL INSTALL TEMPORARY AND PERMANENT ASPHALT TRENCH PATCHES IN ACCORDANCE WITH THE PROJECT MANUAL.
- 3. ASPHALT TRENCH PATCHING WITH HMA SHALL BE COMPLETED WITHIN 72 HOURS UNLESS OTHERWISE DIRECTED BY THE DISTRICT. COLD MIX ASPHALT WILL ONLY BE ALLOWED FOR 72 HOURS UNLESS OTHERWISE DIRECTED BY THE DISTRICT. ROAD PLATES SHALL BE INSTALLED WHERE LONG TERM ACCESS TO THE TRENCH IS REQUIRED (IE. CUT-IN/TESTING LOCATIONS).
- 4. ALL ASPHALT PAVEMENT RESTORATION SHALL BE MADE WITH A MINIMUM 6-INCH LIFT OF COMPACTED (95% STANDARD DENSITY) CRUSHED SURFACING TOP COURSE (5/8-INCH MINUS) AND 3-INCH MINIMUM (COMPACTED THICKNESS) OF HMA CL 1/2". THE PAVEMENT RESTORATION SHALL EXTEND A MINIMUM OF 12-INCHES (EACH SIDE) BEYOND THE CONSTRUCTED TRENCH WIDTHS. WHEN EXISTING ASPHALT THICKNESS IS FOUND TO BE GREATER THAN 2 INCHES, HMA CL 1/2" SHALL BE PLACED, IN MAXIMUM 2-INCH LIFTS, TO A DEPTH OF 1-INCH OVER EXISTING PAVEMENT THICKNESS. SEAL EDGES WITH SEALER CSS1 AND SEAL SURFACE JOINT WITH HOT ASPHALT IN AREAS THAT WILL NOT HAVE AN OVERLAY.
- 5. SEAL ALL JOINT WITH AR4000W AND APPLY SAND BLANKET TO THE SURFACE JOINT WHEN MATCHING EXISTING PAVEMENT.
- 6. WHERE EXISTING ASPHALT PAVEMENT HAS BEEN DAMAGED DUE TO CONSTRUCTION ACTIVITIES, TRENCH PATCHING WILL BE EXTENDED BEYOND THE RESTORATION LIMITS UNDER THE DISTRICT'S DIRECTION.
- 7. THE CONTRACTOR SHALL PROTECT AND REPAIR IN KIND ALL EXISTING CONCRETE, DRIVEWAYS, SIDEWALKS, CURBS, WALKWAYS, RAILROAD TIES, ROCKERIES, LANDSCAPING, FENCING AND BUILDINGS.
- 8. AFTER FINAL PAVING, THE CONTRACTOR SHALL RESTORE ALL EXISTING SHOULDERS WITH A MINIMUM OF 2-INCH COMPACTED THICKNESS OF CRUSHED SURFACING TOP COURSE, SO THAT THE SHOULDERS ARE LEVEL WITH THE EDGE OF THE ASPHALT.

	BY DATE
	REVISIONS
	Sammamish Plateau Water 1510 228th Avenue SE, Sammamish, WA 98075 425.392.6256 • spwater.org
	LOUIS THOMPSON RD NE WATER MAIN REPLACEMENT GENERAL NOTES
Know what's below. Call before you dig.	DATE: 05/2024 DRAWN: MM DFAWN: MM CHECKED: MF CHECKED: MF JOB ND. 984M020100

	<u>JEGEND</u>		<u>G LEGEND CONT'D</u>		/IATIONS
	MONUMENT IN CASE (FOUND AS NOTED)		STORM DRAIN PIPE	ø	DIAMETER
0	IRON PIPE (FOUND AS NOTED)		STREAM	ACI	AMERICAN CONCRETE INSTITUTE
	REBAR (FOUND AS NOTED)	WET	WETLAND	APPROX	APPROXIMATE
®G∨	GAS VALVE		STREAM/WETLAND BUFFER BUILDING LINE	AVE	AVENUE
	POWER JUNCTION/PULL BOX POWER POLE	W	WATER PIPE (GIS)		
	POWER POLE POWER POLE/LIGHT POLE			BRNG	BEARING
•	LIGHT POLE WITH ARM			С	CURVE
	LIGHT POLE			CL	CENTER LINE, CLASS
	GUY ANCHOR			CLR.	CLEAR
	SIGNAL POLE W/ ARM			DI	DUCTILE IRON
	TRAFFIC SIGNAL/STREET LIGHT			E	EAST
-	PEDESTRIAN SIGNAL			EX	EXISTING
TSC	TRAFFIC SIGNAL CABINET TELEPHONE RISER			F'C	COMPRESSIVE STRENGTH
TJR	TELEPHONE JUNCTION BOX	PROPOS	GED LEGEND		
0	TELEPHONE POLE		- PROPOSED WATER MAIN	FG	FINISHED GRADE
	FIBER OPTIC MANHOLE			FL	FLANGE
	FIRE HYDRANT	WS WS	- PROPOSED WATER SERVICE	FY	YIELD STRENGTH
[®] ICV	IRRIGATION CONTROL VALVE		VALVE	G	GAS
00	WATER BLOW-OFF	₽₽£₽₽£₽₽£	∱ t BEND	Ga.	GUAGE
WM	WATER METER		COUPLING	НМА	HOT MIX ASPAHLT
[⊗] W∨	WATER VALVE	*~*		IBC	INTERNATIONAL BUILDING CODE
W	WATER VAULT STORM AREA DRAIN	<u></u>	FIRE HYDRANT		
	STORM AREA DRAIN STORM CATCH BASIN	· 并 · 并	CROSS OR TEE	L	LINE
	STORM CLEANOUT	5-	WATER METER	LT	LEFT
	STORM DRAIN MANHOLE	•	BLOW OFF	LTR	LOUIS THOMPSON ROAD NORTHEAST
	STORM CULVERT			М	WATER METER
	SEWER MANHOLE	•	AIR-VAC ASSEMBLY	MJ	MECHANICAL JOINT
۲	POST OR BOLLARD	$\overline{\nabla}$		N	NORTH
	MAILBOX		PRV STATION VAULT	NE	NORTHEAST
P WF—1	SIGN WETLAND FLAG				
WF-1	WETLAND DATA PLOT	\bigcirc	DAVIT SOCKET FOUNDATION	PI	POINT OF INTERSECTION
	UTILITY BORE HOLE	\bigcirc	DAVIT SOCKET FOUNDATION	PL	PLACE
	G = PSE GAS	•XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX	XXX REMOVE EXISITNG AC WATER MAIN	PRV	PRESSURE REDUCING VALVE
	T = TELECOM (ZAYO OR COMCAST) Z = ZAYO	·/·/·/·/·/·/·/·/·/·/·/·/·/·/·/·/·/·/·/	ANDON EXISTING WATER MAIN	PSF	POUNDS PER SQUARE FOOT
	C = COMCAST P = PSE ELECTRICAL		PROPOSED DISTRICT 2" OVERLAY AREA	RD	ROAD
	W = SPWSD WATER			RJ	RESTRAINED JOINT
23456789)	TAX LOT / PARCEL NUMBER		PROPOSED DISTRICT 2" OVERLAY LIMITS	RT	RIGHT
	ROCKERY		PROPOSED STORM DRAIN (BY OTHERS)		
M	STUMP		PROPOSED STORM STRUCTURE (BY OTHERS)	S	SOUTH
DEC	DECIDUOUS TREE	UF0	PROPOSED STREET LIGHTING CONDUIT (BY OTHERS)	SPWSD	SAMMAMISH PLATEAU WATER AND SEWER DISTR
M	DECIDUOUS MAPLE			ST	STREET
	CONIFEROUS/EVERGREEN TREE	CUT	— PROPOSED GRADING LIMITS – FILL (BY OTHERS)	STA	STATION
	EXISTING RIGHT-OF-WAY LINE	FILL	— PROPOSED GRADING LIMITS – CUT (BY OTHERS)	STD	STANDARD
	PARCEL LINE	G	— PSE GAS (BY OTHERS)	STDS	TELECOM
	GUARD RAIL			τ	TANGENT
	TRAFFIC STRIPING			TAN	TEMPORARY EROSION AND SEDIMENT CONTROL
× ×	CHAIN LINK FENCE LINE (CLF)				
X	WOOD FENCE LINE (WDF)			TELE	TELECOM
	EDGE OF GRAVEL FLOWLINE			TESC	TOTAL
	EDGE OF DITCH			ТОТ.	TYPICAL
	TOE OF SLOPE			TYP	WEST
	TOP OF SLOPE			W	WATER
	NATURAL GAS PIPE			<i>W.M</i> .	WILLAMETTE MERIDIAN
	POWER LINE			WA	WA TER
	POWER OVERHEAD LINE				
	TELEPHONE LINE			WM	WATER MAIN
	TELEPHONE OVERHEAD LINE				
	FIBER OPTIC LINE				

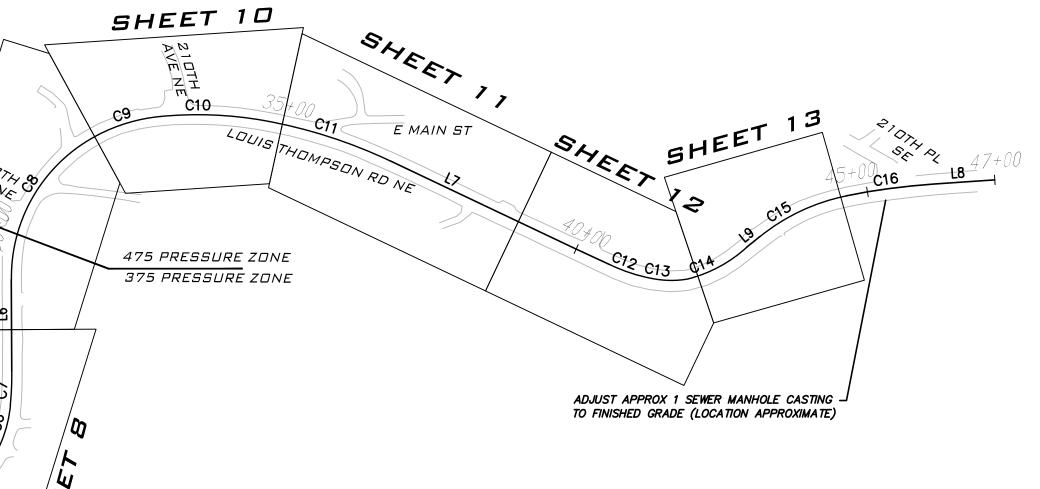
	BY DATE BY BY BY
	Sammamish Plateau Water 1510 228th Avenue SE, Sammamish, WA 98075 425.392.6256 • spwater.org
	LOUIS THOMPSON RD NE WATER MAIN REPLACEMENT LEGEND & ABBREVIATIONS
Know what's below. Call before you dig.	DATE: 05/2024 DRAWN: MM DRAWN: MM CHECKED: MF DIB ND. 9SAM020100

SURVEY NOTES

- 1. THIS SURVEY WAS PERFORMED JANUARY THROUGH AUGUST, 2022 IN SUPPORT OF CITY OF SAMMAMISH LOUIS THOMPSON ROAD TIGHTLINE PROJECT AND IS INTENDED TO BE USED FOR THIS PURPOSE. SPECIFIC INFORMATION SHOWN HEREON SHOULD BE VERIFIED AS TO ITS ACCURACY IF THIS SURVEY IS TO BE USED FOR PURPOSES OTHER THAN WHAT IT WAS INTENDED FOR.
- 2. FIELD MEASUREMENTS FOR THIS SURVEY WERE PERFORMED USING TRIMBLE R12i GPS RECEIVERS AND A TRIMBLE S7 TOTAL STATION. THIS SURVEY COMPLIES WITH THE MINIMUM REQUIRED "ERROR OF CLOSURE" OF 1:10,000 FOR WASHINGTON STATE PLANE COORDINATES AS SET FORTH PER W.A.C. 332–130–090 (AND POSITIONAL TOLERANCE LEVELS OF LESS THAN 0.011 METERS).
- 3. BASIS OF BEARING: WASHINGTON COORDINATE SYSTEM, NORTH ZONE, NAD83-2011
- 4. VERTICAL DATUM: NAVD 88
- 5. CONTOUR INTERVAL: 1 FOOT
- 6. PROPERTY LINES SHOWN HEREON ARE BASED ON READILY AVAILABLE PLATS, SURVEYS, RIGHT OF WAY PLANS, KING COUNTY ASSESSOR INFORMATION AND GIS DATA.
- 7. ALL SURVEY MONUMENTS AND OTHER SURVEY MARKERS SHOWN HEREON WERE VISITED DURING JANUARY, 2022 UNLESS OTHERWISE INDICATED.
- 8. THIS SURVEY WAS PERFORMED WITHOUT THE BENEFIT OF A TITLE REPORT, ACCORDINGLY, ANY EASEMENTS OR RESTRICTIONS OF RECORD WHICH MAY BE REVEALED IN A TITLE REPORT HAVE NOT BEEN INCLUDED HEREON.
- 9. UNDERGROUND UTILITIES SHOWN REPRESENT FIELD SURVEYED PAINT MARKS AS PLACED ON THE GROUND BY A UTILITY LOCATE SERVICE TOGETHER WITH AVAILABLE UTILITY AS-BUILT AND REFERENCE DRAWINGS. NO GUARANTEE IS MADE THAT THE UNDERGROUND UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED OR THAT THE UNDERGROUND UTILITIES ARE SHOWN IN THEIR EXACT LOCATION. THE UTILITIES ARE SHOWN AS ACCURATELY AS POSSIBLE FROM AVAILABLE INFORMATION.
- 10. SUBSURFACE CONDITIONS WERE NOT EXAMINED OR CONSIDERED AS PART OF THIS SURVEY.
- 11. 1–800–424–5555 MUST BE CALLED NOT LESS THAN 48 HOURS BEFORE BEGINNING EXCAVATION WHERE ANY UNDERGROUND UTILITIES MAY BE LOCATED. FAILURE TO DO SO COULD MEAN BEARING SUBSTANTIAL REPAIR COSTS. (UP TO THREE TIMES THE COST OF REPAIRS TO THE SERVICE).

SHEET 5	SHEET 6	SHEET 7	
ADJUST APPROX 2 SEWER MANHOLE CAS TO FINISHED GRADE (LOCATION APPROXIM ADJUST APPROX 4 WATER VALVE CASTINGS TO FINISHED GRADE (LOCATION APPROXIMATE) MANY STATUST STA			25 64 63

	LOUIS THOMPSON RD NE							
NUMBER	START STA	NORTHING	EASTING	LENGTH	BRNG/DELTA	RADIUS	PI STA	TAN
L1	10+00.00	226111.23	1335859.63	135.30'	S 83°36'02" E			
C1	11+35.30	226096.15	1335994.08	49.90'	7°25'32"	385.00'	11+60.28	24.98'
L2	11+85.19	226087.39	1336043.17	51.51'	S 76°10'30" E			
C2	12+36.70	226075.09	1336093.19	267.67'	45°00'26"	340.76'	13+77.87	141.17'
C3	12+36.70	226075.09	1336093.19	267.67'	45°00'26"	340.76'	13+77.87	141.17'
L3	15+04.38	225920.56	1336303.33	229.03'	S 31°10'04" E			
L4	17+33.41	225724.59	1336421.87	650.50'	S 30°58'32" E			
L5	23+83.91	225166.85	1336756.66	50.83'	S 32°33'15" E			
C4	24+34.74	225124.01	1336784.01	84.89'	24°19'14"	200.00'	24+77.84	43.10'
C5	25+19.63	225064.13	1336843.30	154.56'	40°15'10"	220.00'	26+00.26	80.62'
C6	26+74.19	225030.07	1336990.81	58.48'	16°45'13"	200.00'	27+03.64	29.45'
C7	27+32.68	225045.64	1337046.97	52.59'	5°24'32"	557.07'	27+58.99	26.31'
L6	27+85.26	225069.17	1337093.98	142.90'	N 60°34'29" E			
С8	29+28.16	225139.37	1337218.44	278.14'	63°44'00"	250.05'	30+83.60	155.44'
С9	32+06.30	225130.89	1337482.33	101.30'	21°29'44"	270.00'	32+57.55	51.25'
C10	33+07.60	225060.36	1337554.21	162.69'	15°47'58"	590.00'	33+89.46	81.87'
C11	34+70.29	224915.72	1337627.57	207.97'	15°10'46"	785.00'	35+74.89	104.60'
L7	36+78.26	224712.46	1337668.58	320.05'	S 3°45'05" E			
C12	40+57.90	224333.68	1337694.05	68.89'	14°34'38"	270.78'	40+92.53	34.63'
C13	41+26.79	224266.19	1337706.93	57.13'	21°32'55"	151.90'	41+55.70	28.91'
C14	41+83.92	224216.20	1337733.88	105.24'	28°02'46"	215.00'	42+37.62	53.70'
L9	42+89.16	224160.28	1337821.80	26.64'	S 67°59'45" E			
C15	43+15.80	224150.30	1337846.50	150.58'	27°23'20"	315.00'	43+92.56	76.76'
C16	44+66.38	224063.26	1337967.62	137.87'	7°35'44"	1040.00'	45+35.42	69.04'
L8	46+04.25	223952.96	1338050.17	95.75'	S 32°59'45" E			



WATER MAIN CONSTRUCTION SEQUENCING NOTES

1. WATER MAIN SHALL BE CONSTRUCTED IN THE SEQUENCE OUTLINED IN SECTION 01014 OF THE PROJECT MANUAL.



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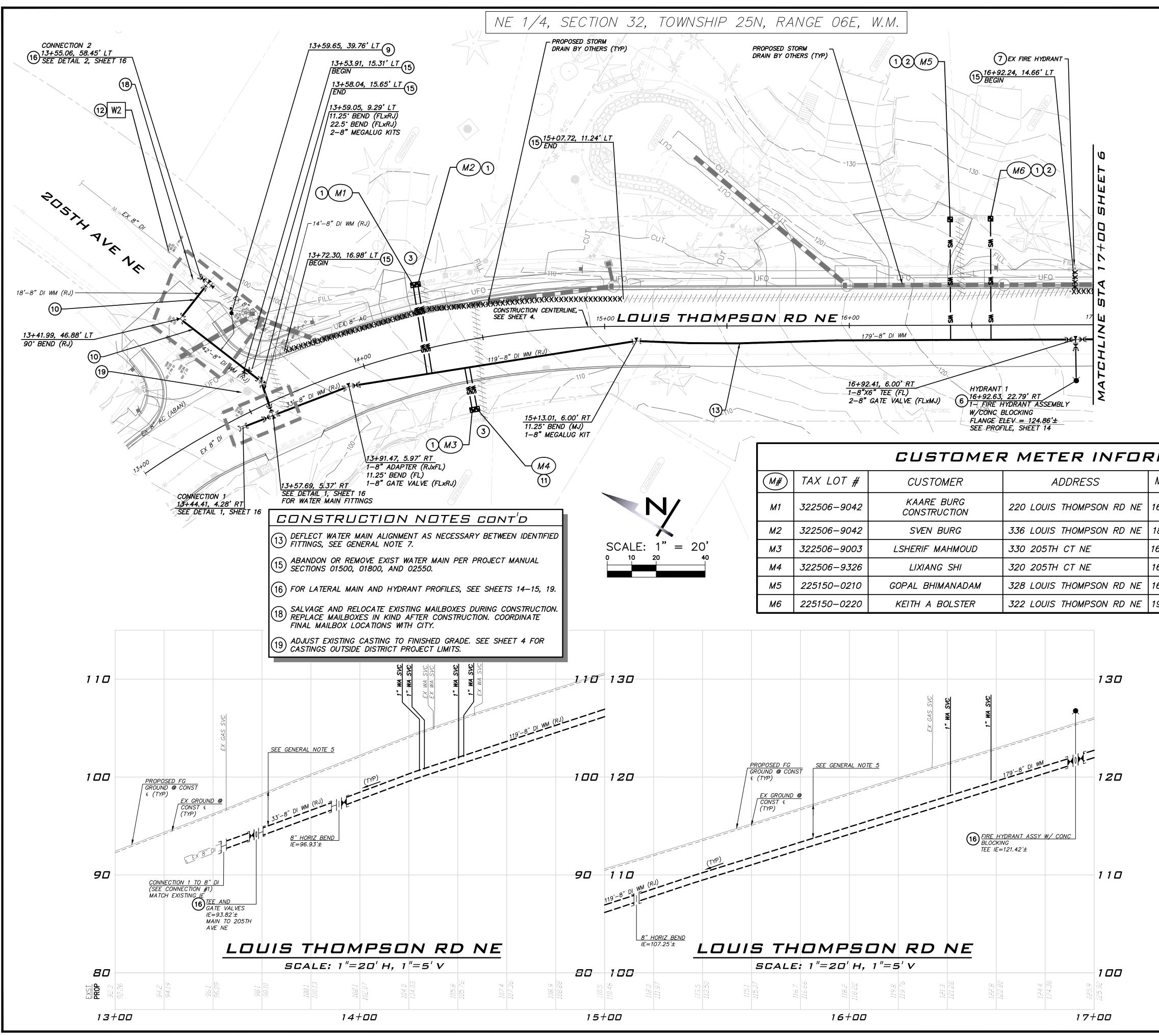
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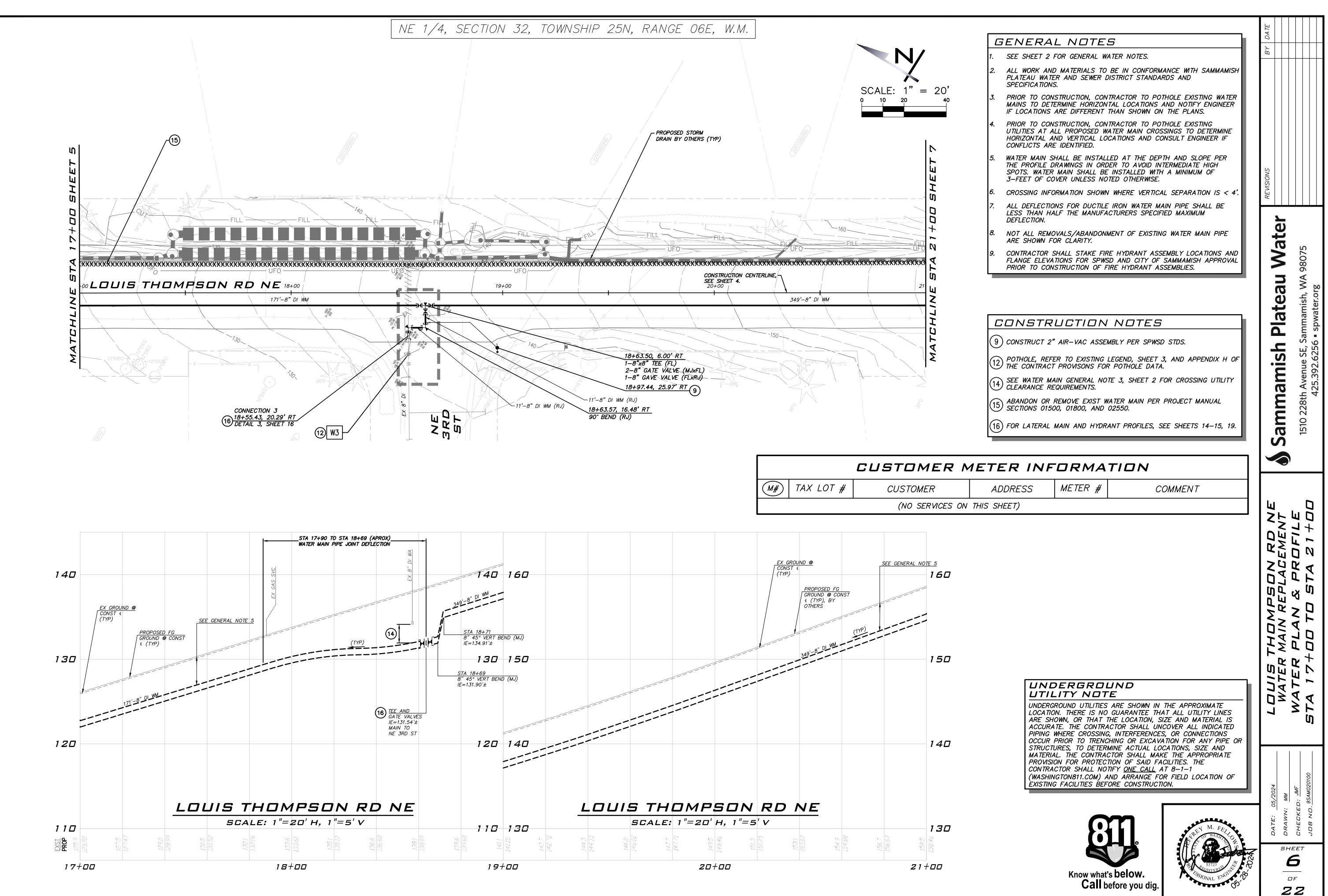
REVISIONS BY DA	
Sammamish Plateau Water	1510 228th Avenue SE, Sammamish, WA 98075 425.392.6256 • spwater.org
LOUIS THOMPSON RD NE WATER MAIN REPLACEMENT	SURVEY CONTROL & ALIGNMENT PLAN
DATE: <u>05/2024</u> DRAWN: <u>MM</u>	снескер: <u>MF</u> Job No. <u>9</u> SAM020100
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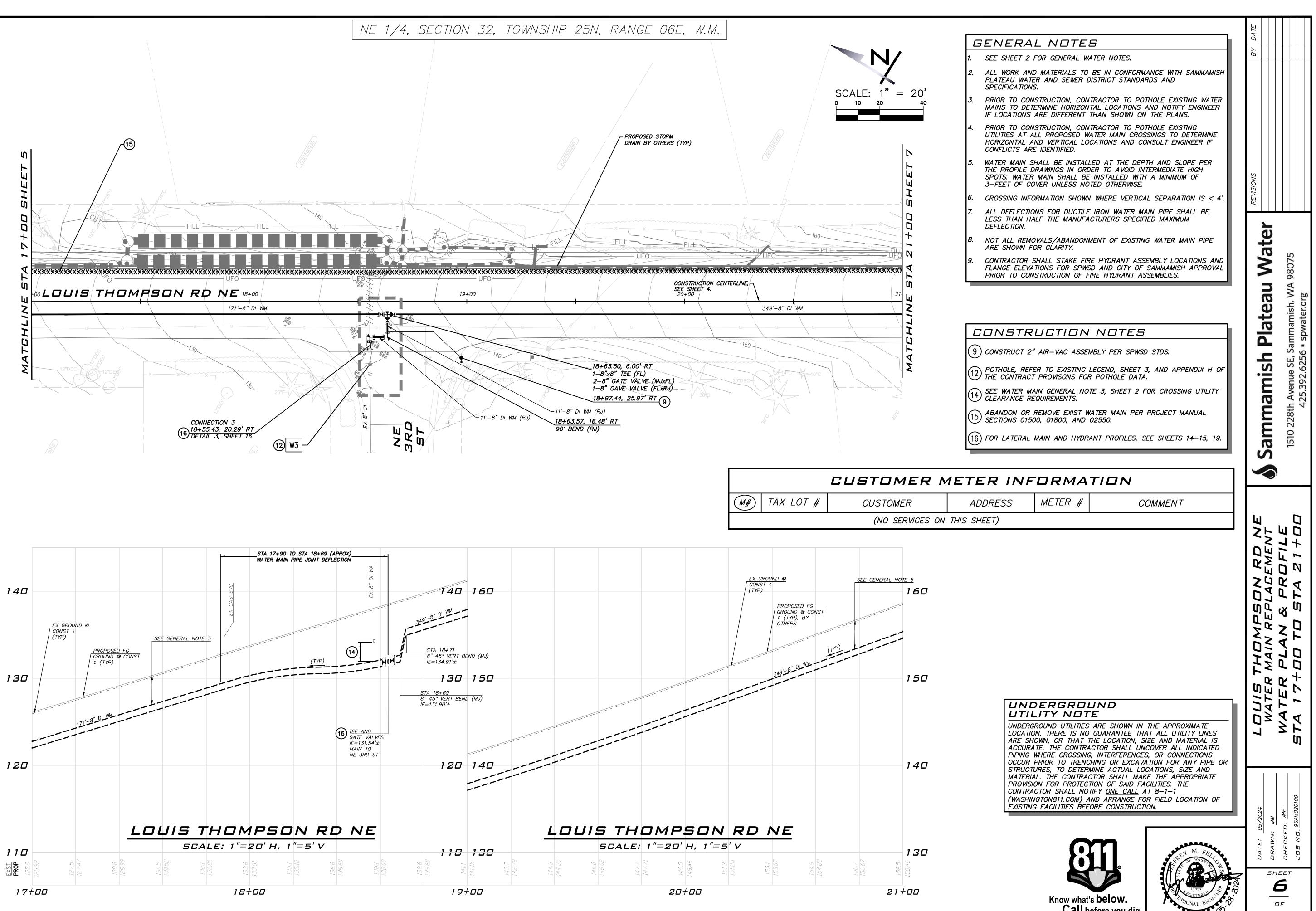
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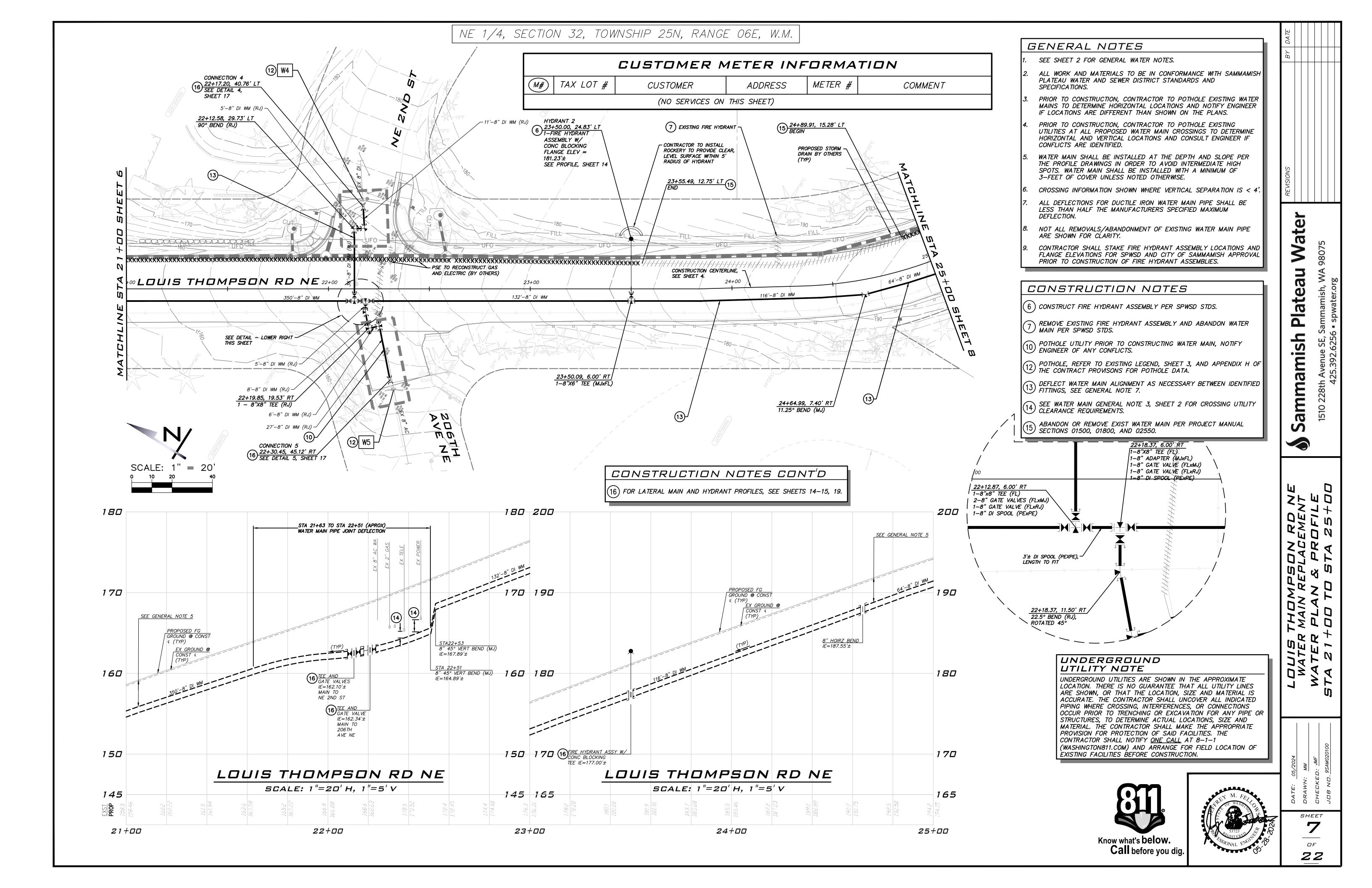
Know what's below. Call before you dig.

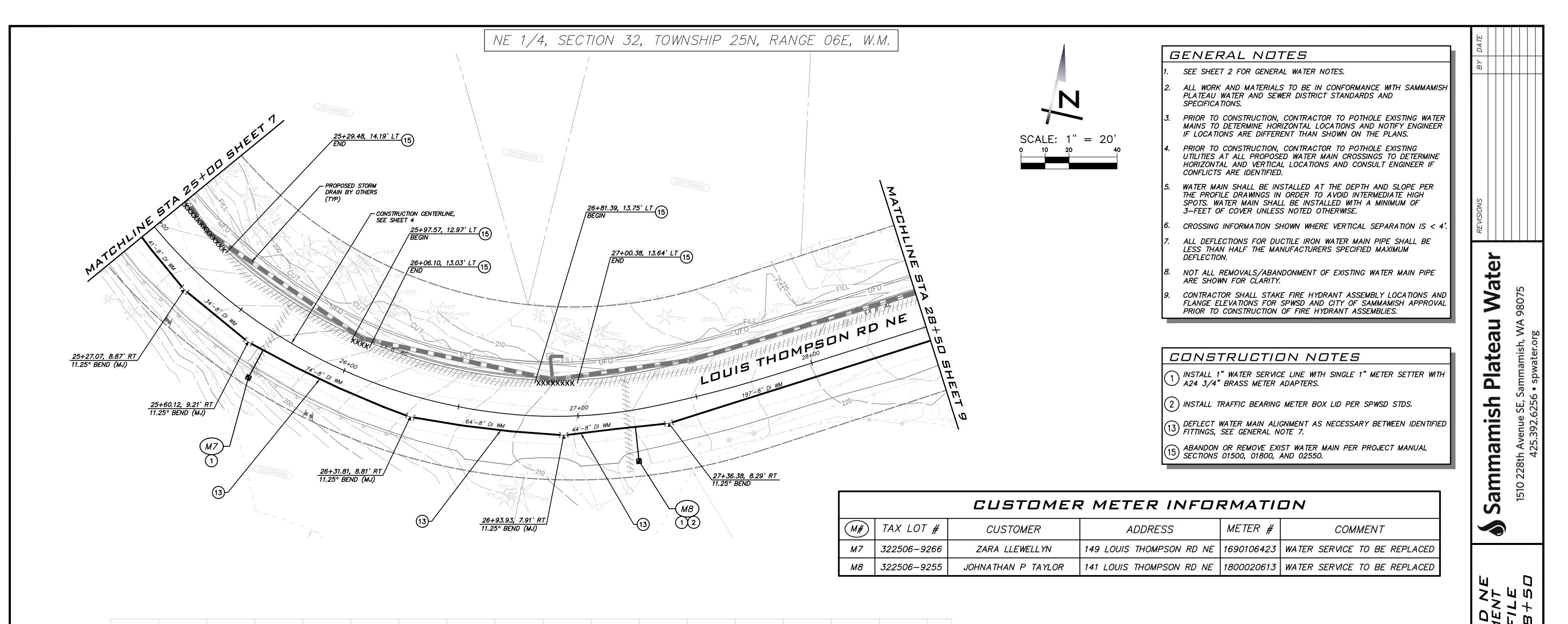


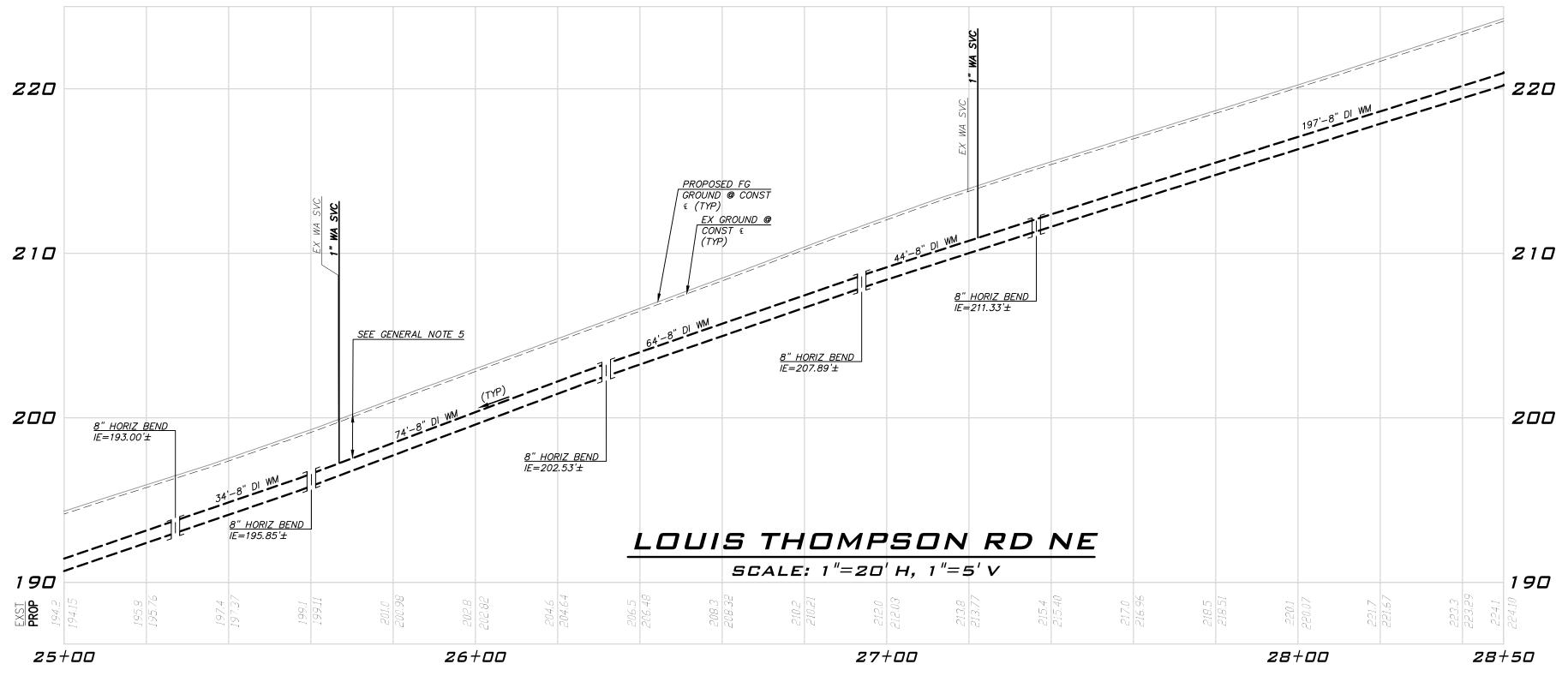
GENERAL NOTES	ATE
1. SEE SHEET 2 FOR GENERAL WATER NOTES.	Y DA
2. ALL WORK AND MATERIALS TO BE IN CONFORMANCE WITH SAMMAMISH PLATEAU WATER AND SEWER DISTRICT STANDARDS AND SPECIFICATIONS.	
3. PRIOR TO CONSTRUCTION, CONTRACTOR TO POTHOLE EXISTING WATER MAINS TO DETERMINE HORIZONTAL LOCATIONS AND NOTIFY ENGINEER IF LOCATIONS ARE DIFFERENT THAN SHOWN ON THE PLANS.	
4. PRIOR TO CONSTRUCTION, CONTRACTOR TO POTHOLE EXISTING UTILITIES AT ALL PROPOSED WATER MAIN CROSSINGS TO DETERMINE HORIZONTAL AND VERTICAL LOCATIONS AND CONSULT ENGINEER IF CONFLICTS ARE IDENTIFIED.	
5. WATER MAIN SHALL BE INSTALLED AT THE DEPTH AND SLOPE PER THE PROFILE DRAWINGS IN ORDER TO AVOID INTERMEDIATE HIGH SPOTS. WATER MAIN SHALL BE INSTALLED WITH A MINIMUM OF 3-FEET OF COVER UNLESS NOTED OTHERWISE.	
6. CROSSING INFORMATION SHOWN WHERE VERTICAL SEPARATION IS < 4'.	SNOI
7. ALL DEFLECTIONS FOR DUCTILE IRON WATER MAIN PIPE SHALL BE LESS THAN HALF THE MANUFACTURERS SPECIFIED MAXIMUM DEFLECTION.	REVISIONS
8. NOT ALL REMOVALS/ABANDONMENT OF EXISTING WATER MAIN PIPE ARE SHOWN FOR CLARITY.	ater
9. CONTRACTOR SHALL STAKE FIRE HYDRANT ASSEMBLY LOCATIONS AND FLANGE ELEVATIONS FOR SPWSD AND CITY OF SAMMAMISH APPROVAL PRIOR TO CONSTRUCTION OF FIRE HYDRANT ASSEMBLIES.	
	u V VA 980
CONSTRUCTION NOTES	C 3, h, v 1, org
1 INSTALL 1" WATER SERVICE LINE WITH SINGLE 1" METER SETTER WITH A24 3/4" BRASS METER ADAPTERS.	I Plateau Sammamish, WA 6 • spwater.org
2 INSTALL TRAFFIC BEARING METER BOX LID PER SPWSD STDS.	ר Pl , Samr 56 • sp
 (3) EXISTING DOUBLE METER TO BE SEPARATED INTO 2 SERVICES. (6) CONSTRUCT FIRE HYDRANT ASSEMBLY PER SPWSD STDS. 	nist nue SE, 92.625
U UNUNUUT TIKE TITUKANT ASSEMBET FER SFWSD STDS.	Aven 5.39
MATION	Sammamish 1510 228th Avenue SE, 425.392.6256
METER # COMMENT	i 510
690106020 WATER SERVICE TO BE REPLACED	S S
1800008511 WATER SERVICE TO BE REPLACED	
600008067 WATER SERVICE TO BE REPLACED	
600022214 WATER SERVICE TO BE REPLACED	L D
690106025 WATER SERVICE TO BE REPLACED	Z F M D
900123335 WATER SERVICE TO BE REPLACED	
CONSTRUCTION NOTES CONT'D	N N N N N N N N N N
9 CONSTRUCT 2" AIR-VAC ASSEMBLY PER SPWSD STDS.	S PLA S F S T S
10 POTHOLE UTILITY PRIOR TO CONSTRUCTING WATER MAIN, NOTIFY ENGINEER OF ANY CONFLICTS.	A M A A A A C A C
(11) INSTALL 1" WATER SERVICE LINE WITH SINGLE 1" METER SETTER.	
12 POTHOLE, REFER TO EXISTING LEGEND, SHEET 3, AND APPENDIX H OF THE CONTRACT PROVISONS FOR POTHOLE DATA.	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2
UNDERGROUND UTILITY NOTE	
UNDERGROUND UTILITIES ARE SHOWN IN THE APPROXIMATE LOCATION. THERE IS NO GUARANTEE THAT ALL UTILITY LINES	L 0 W Д 7 Д
ARE SHOWN, OR THAT THE LOCATION, SIZE AND MATERIAL IS ACCURATE. THE CONTRACTOR SHALL UNCOVER ALL INDICATED PIPING WHERE CROSSING, INTERFERENCES, OR CONNECTIONS	Ŋ
OCCUR PRIOR TO TRENCHING OR EXCAVATION FOR ANY PIPE OR STRUCTURES, TO DETERMINE ACTUAL LOCATIONS, SIZE AND MATERIAL. THE CONTRACTOR SHALL MAKE THE APPROPRIATE	
PROVISION FOR PROTECTION OF SAID FACILITIES. THE CONTRACTOR SHALL NOTIFY <u>ONE CALL</u> AT 8–1–1 (WASHINGTON811.COM) AND ARRANGE FOR FIELD LOCATION OF	4 - 20100
EXISTING FACILITIES BEFORE CONSTRUCTION.	5/202 MM : JMF BSAMO
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REV M. FEL	DATE: _ DRAWN: CHECKE JOB NO
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Know what's below. Call before you dig.	 F
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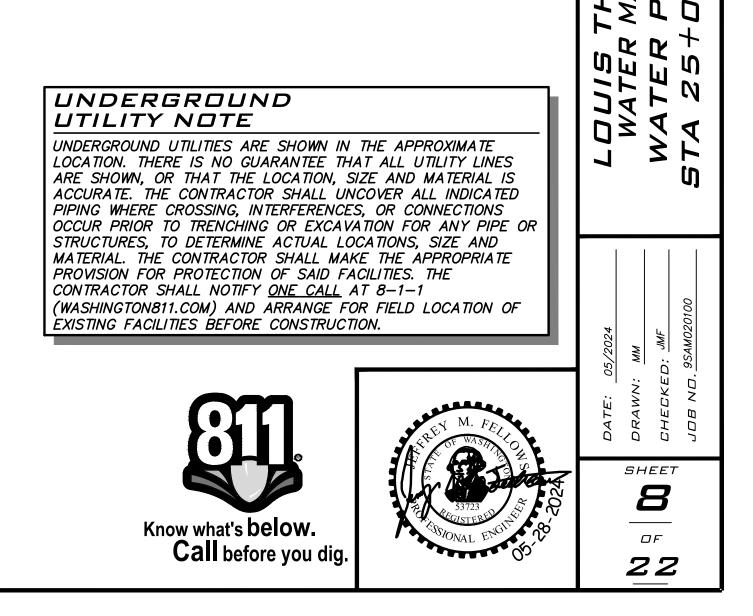




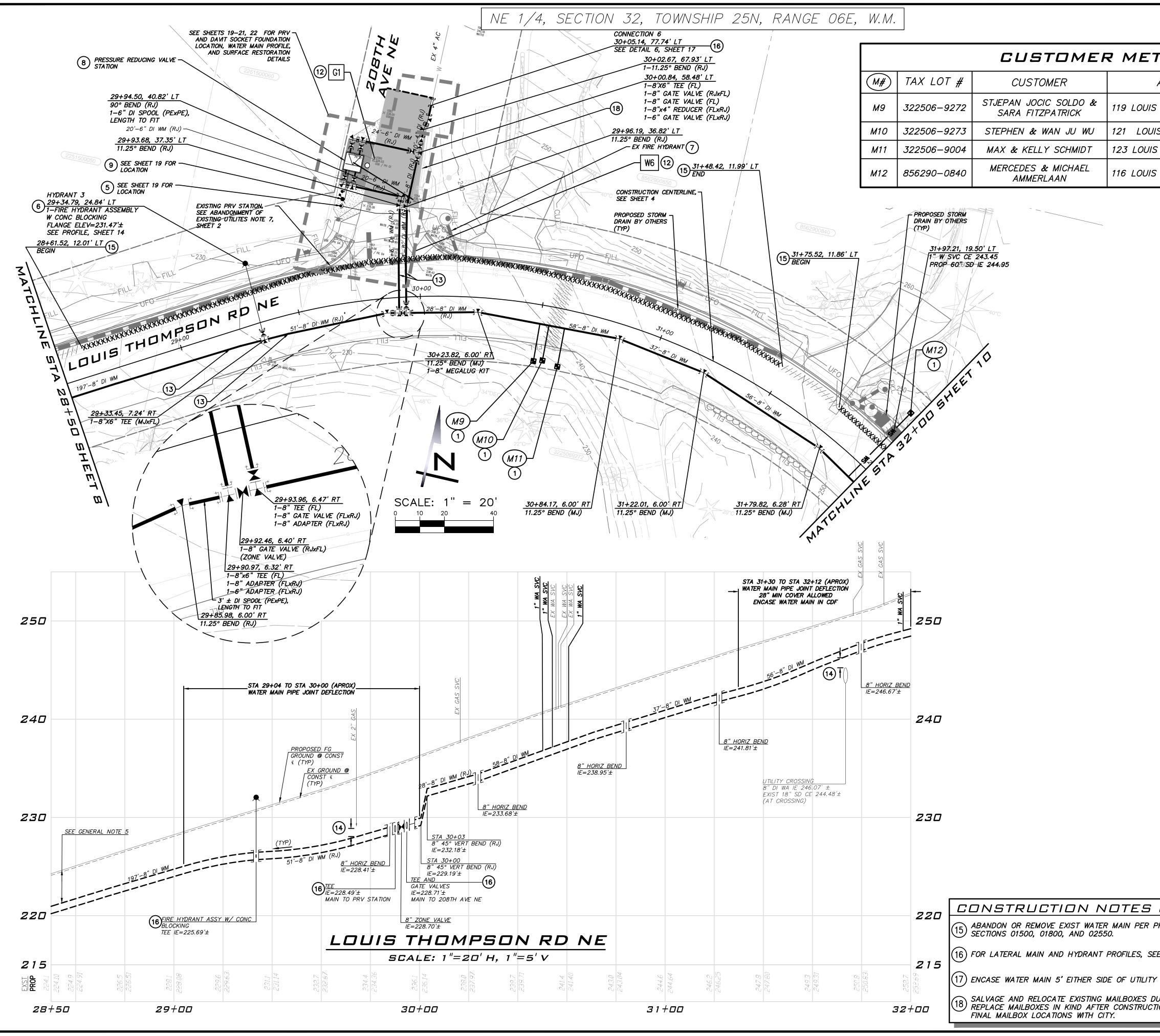




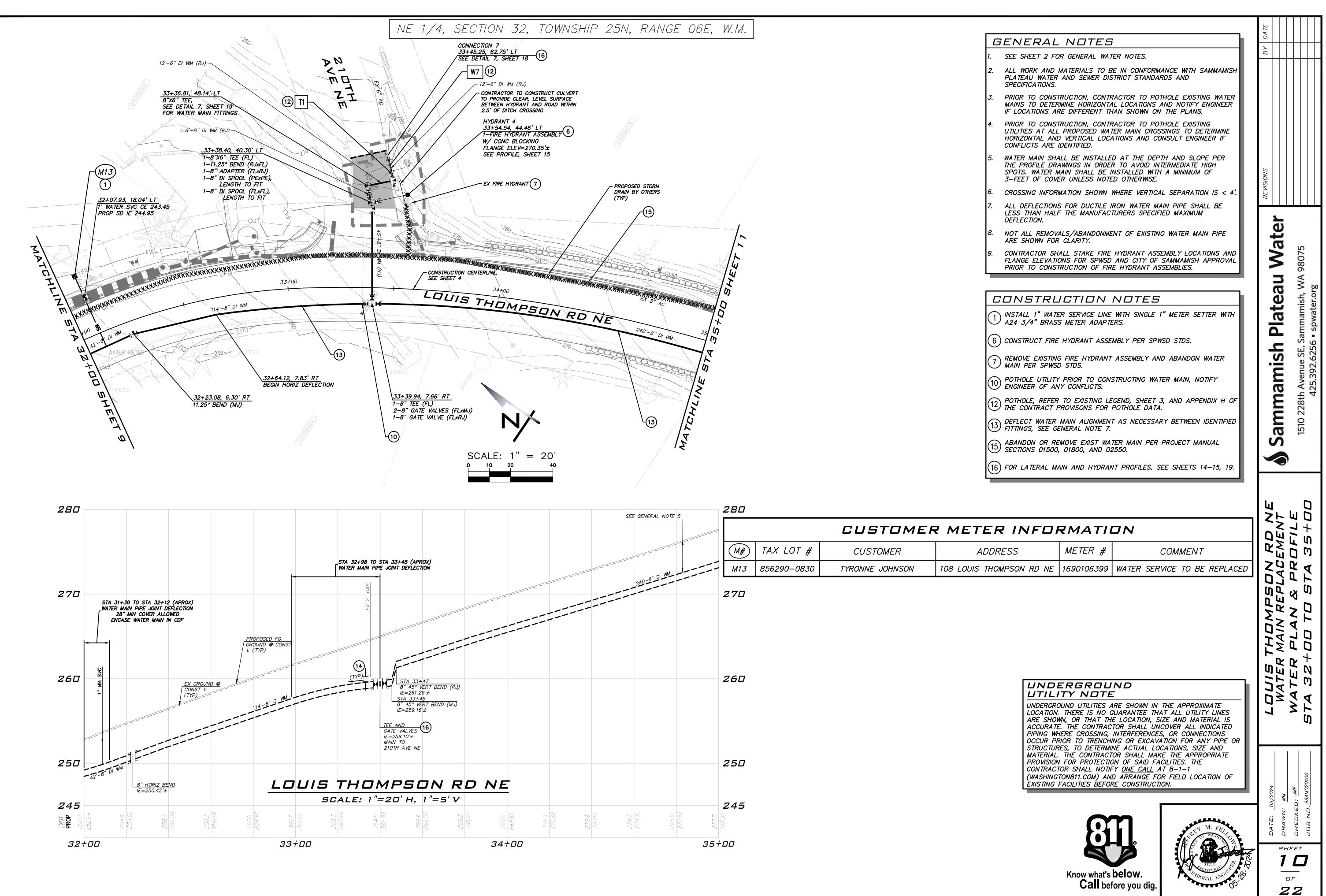


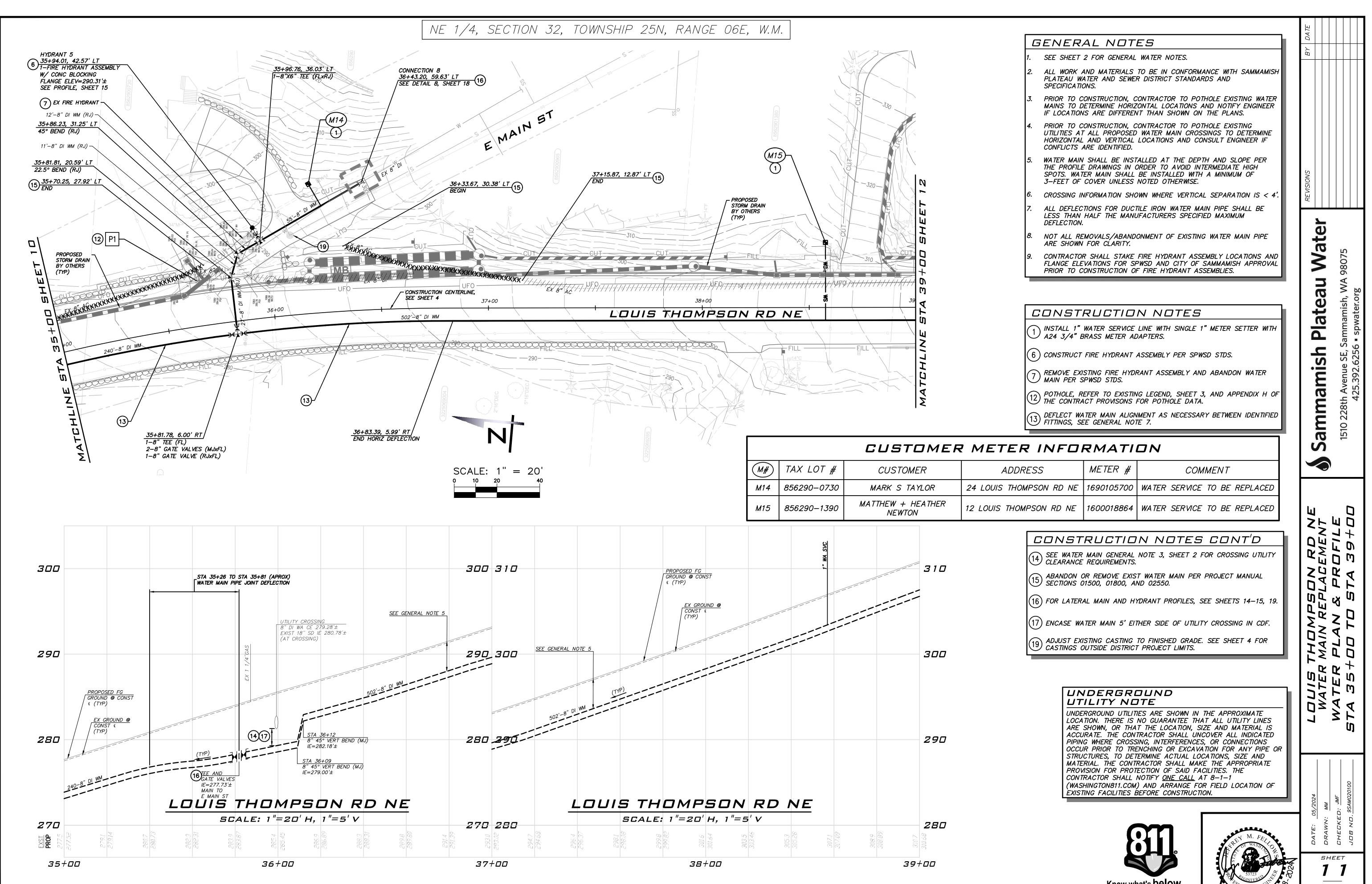


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ADDRESS	METER #	COMMENT	
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S THOMPSON RD NE	1690106401	WATER SERVICE TO BE REPLACED	
S THOMPSON RD NE	1800009053	WATER SERVICE TO BE REPLACED	SN
		-	REVISIONS
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UTILITIES AT AL	.L PROPOŜED WA ND VERTICAL LOC	TRACTOR TO POTHOLE EXISTING ATER MAIN CROSSINGS TO DETERMINE CATIONS AND CONSULT ENGINEER IF	:eau ish, w⊿ er.org
THE PROFILE DI SPOTS. WATER	RAWINGS IN ORDI	ED AT THE DEPTH AND SLOPE PER ER TO AVOID INTERMEDIATE HIGH INSTALLED WITH A MINIMUM OF TED OTHERWISE.	Plateau ammamish, WA • spwater.org
7. ALL DEFLECTION	NS FOR DUCTILE	WHERE VERTICAL SEPARATION IS < 4'. IRON WATER MAIN PIPE SHALL BE CTURERS SPECIFIED MAXIMUM	ammamish 1510 228th Avenue SE, S 425.392.6256
DEFLECTION.	VALS/ABANDONM	IENT OF EXISTING WATER MAIN PIPE	h Avenue 425.392.
9. CONTRACTOR S FLANGE ELEVA	HALL STAKE FIRI TIONS FOR SPWSI	E HYDRANT ASSEMBLY LOCATIONS AND D AND CITY OF SAMMAMISH APPROVAL RE HYDRANT ASSEMBLIES.	ammami 1510 228th Avenue 425.392.6
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CONSTR			
	TER SERVICE LIN SS METER ADAP	E WITH SINGLE 1" METER SETTER WITH TERS.	
5 CONSTRUCT TY	PE II BLOW OFF	PER SPWSD STDS.	
6 CONSTRUCT FIR	E HYDRANT ASS	EMBLY PER SPWSD STDS.	
7 REMOVE EXISTIN MAIN PER SPW		T ASSEMBLY AND ABANDON WATER	R N E
	CONSTRUCT STAN SHEETS 19–20.	NDARD 6-INCH PRV VAULT ASSEMBLY	Z J K A F J D K
9 CONSTRUCT 2"	AIR-VAC ASSEM	IBLY PER SPWSD STDS.	
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EE SHEETS 14–15, 19. Y CROSSING IN CDF. DURING CONSTRUCTION.	Know what's		SHEET 9
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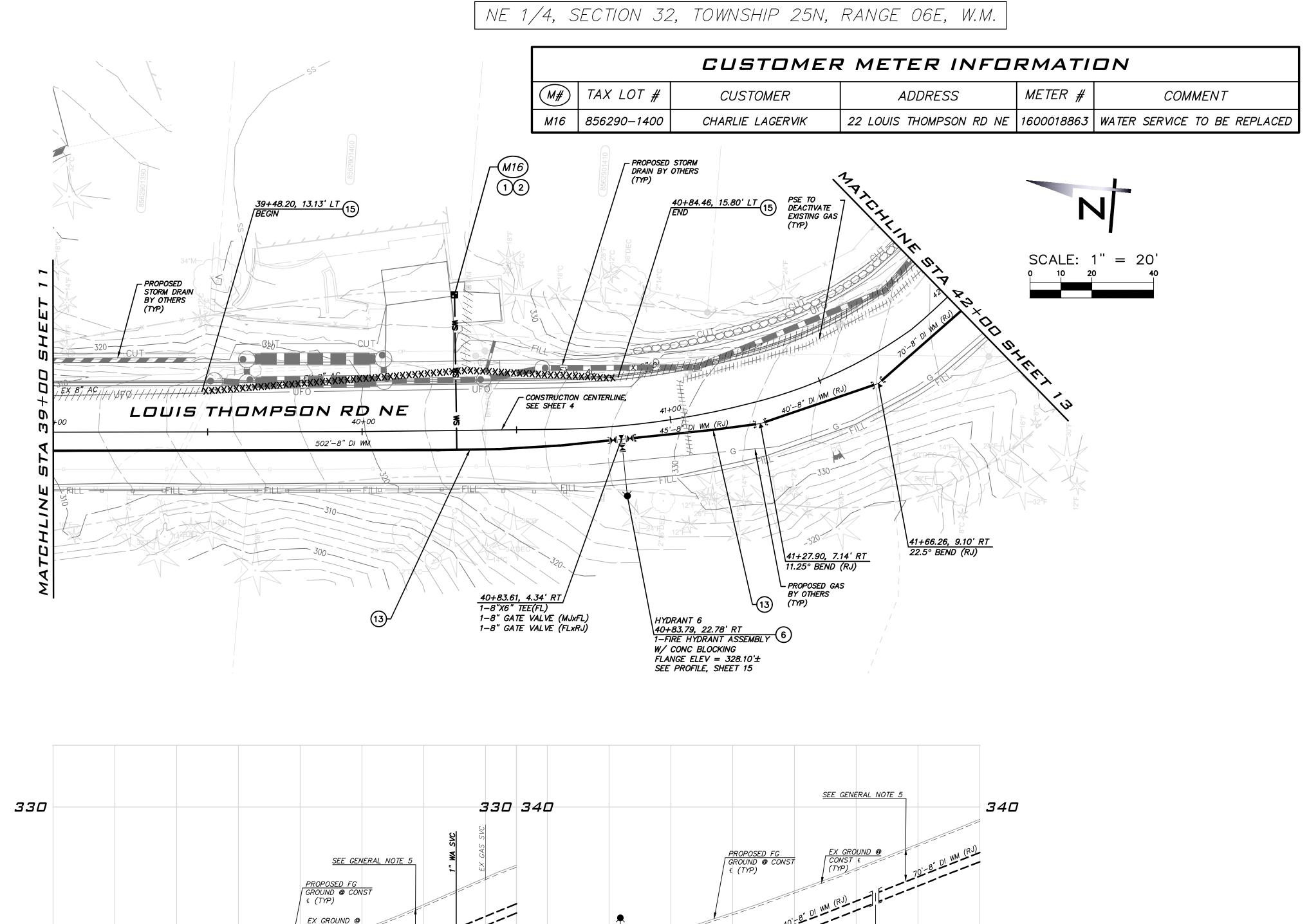


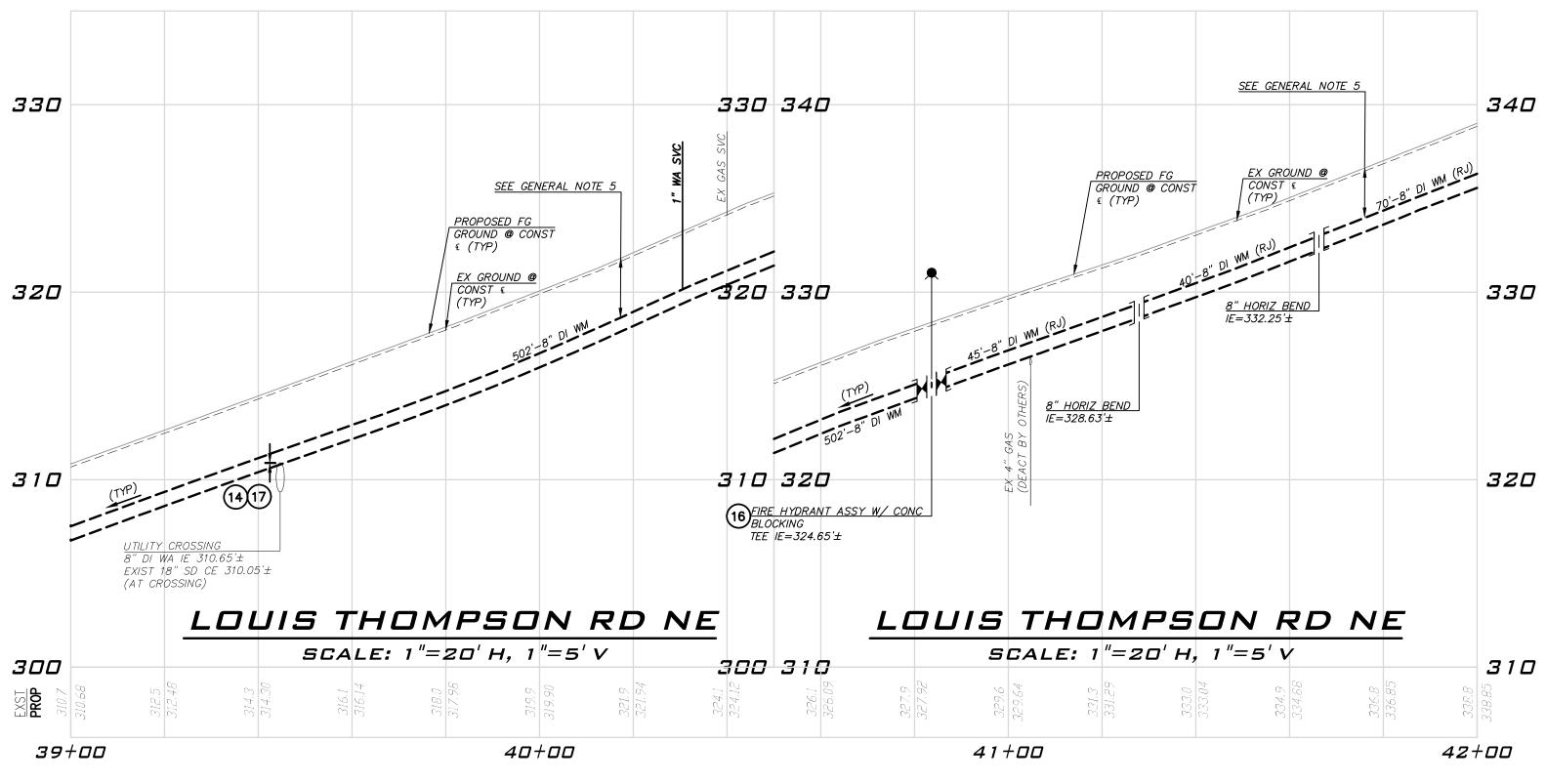


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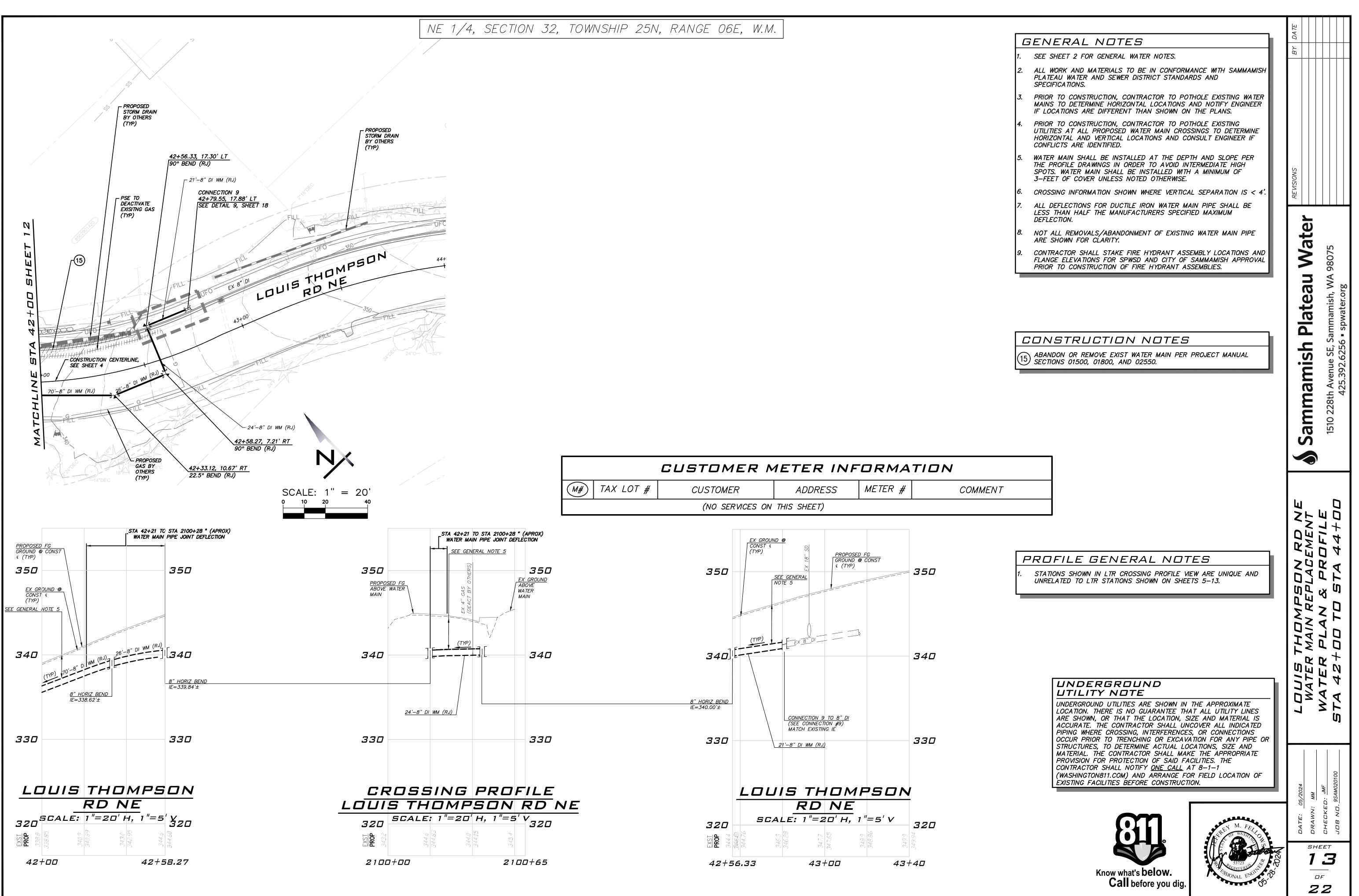
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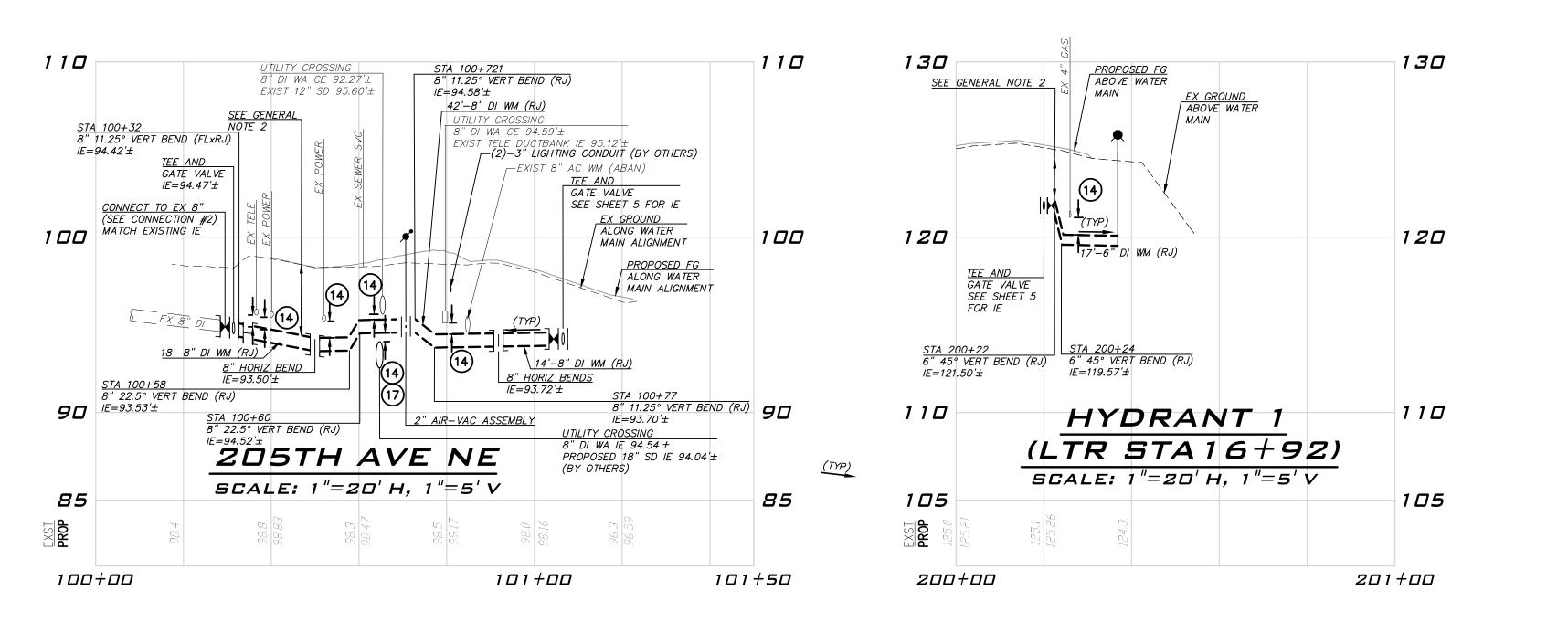
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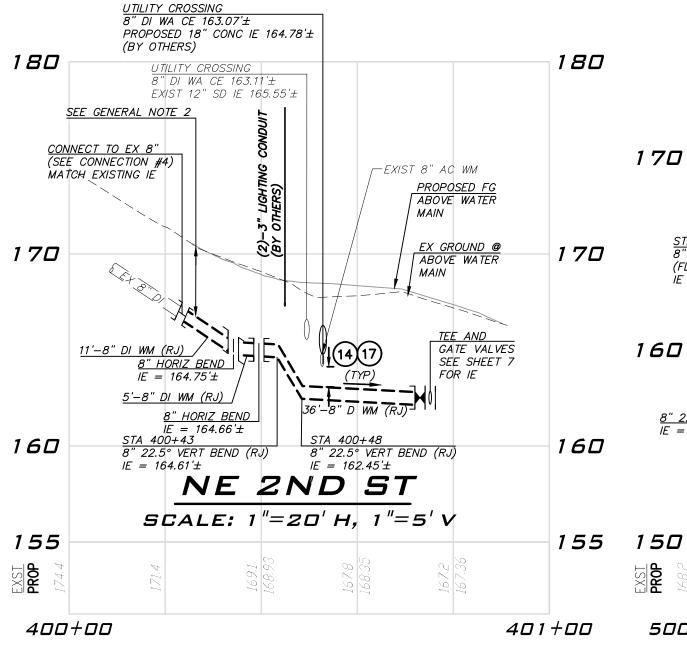


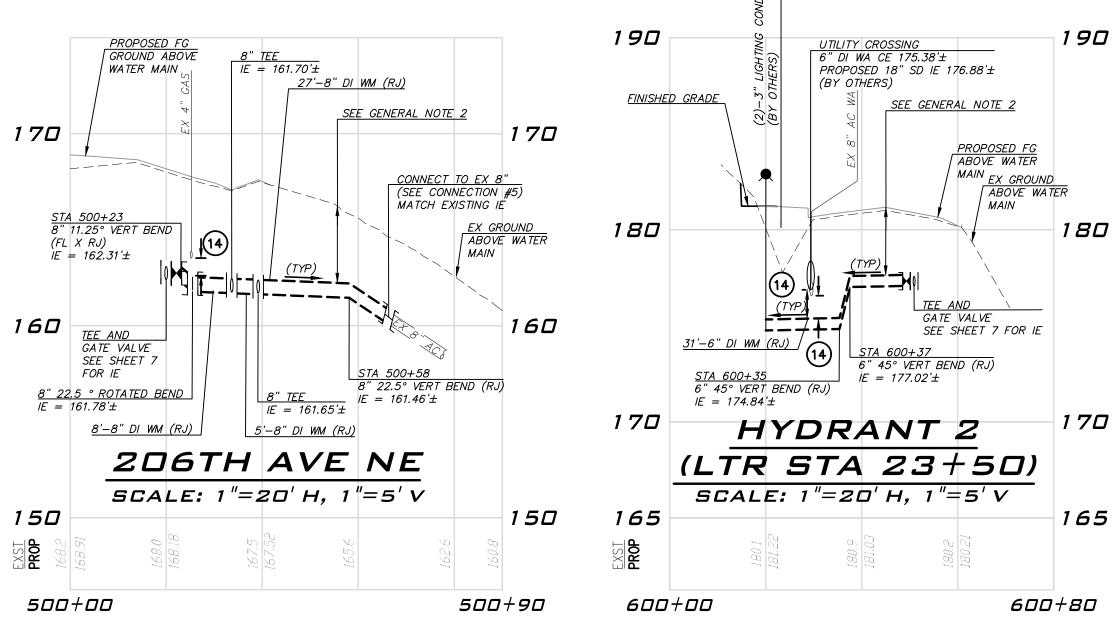


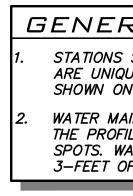
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С	ONSTRUCTION NOTES	late mamisl pwater.
1	INSTALL 1" WATER SERVICE LINE WITH SINGLE 1" METER SETTER WITH A24 3/4" BRASS METER ADAPTERS.	
2	INSTALL TRAFFIC BEARING METER BOX LID PER SPWSD STDS.	ish le SE, S
$\begin{pmatrix} 6 \\ 1 \end{pmatrix}$	CONSTRUCT FIRE HYDRANT ASSEMBLY PER SPWSD STDS. DEFLECT WATER MAIN ALIGNMENT AS NECESSARY BETWEEN IDENTIFIED	ammamish 1510 228th Avenue SE, 425.392.6256
13) 14	FITTINGS, SEE GENERAL NOTE 7. SEE WATER MAIN GENERAL NOTE 3, SHEET 2 FOR CROSSING UTILITY	28th 28th
14) 15)	CLEARANCE REQUIREMENTS. ABANDON OR REMOVE EXIST WATER MAIN PER PROJECT MANUAL	amm 1510 228th
\bigcirc	SECTIONS 01500, 01800, AND 02550. FOR LATERAL MAIN AND HYDRANT PROFILES, SEE SHEETS 14–15, 19.	S.
(17)	ENCASE WATER MAIN 5' EITHER SIDE OF UTILITY CROSSING IN CDF.	
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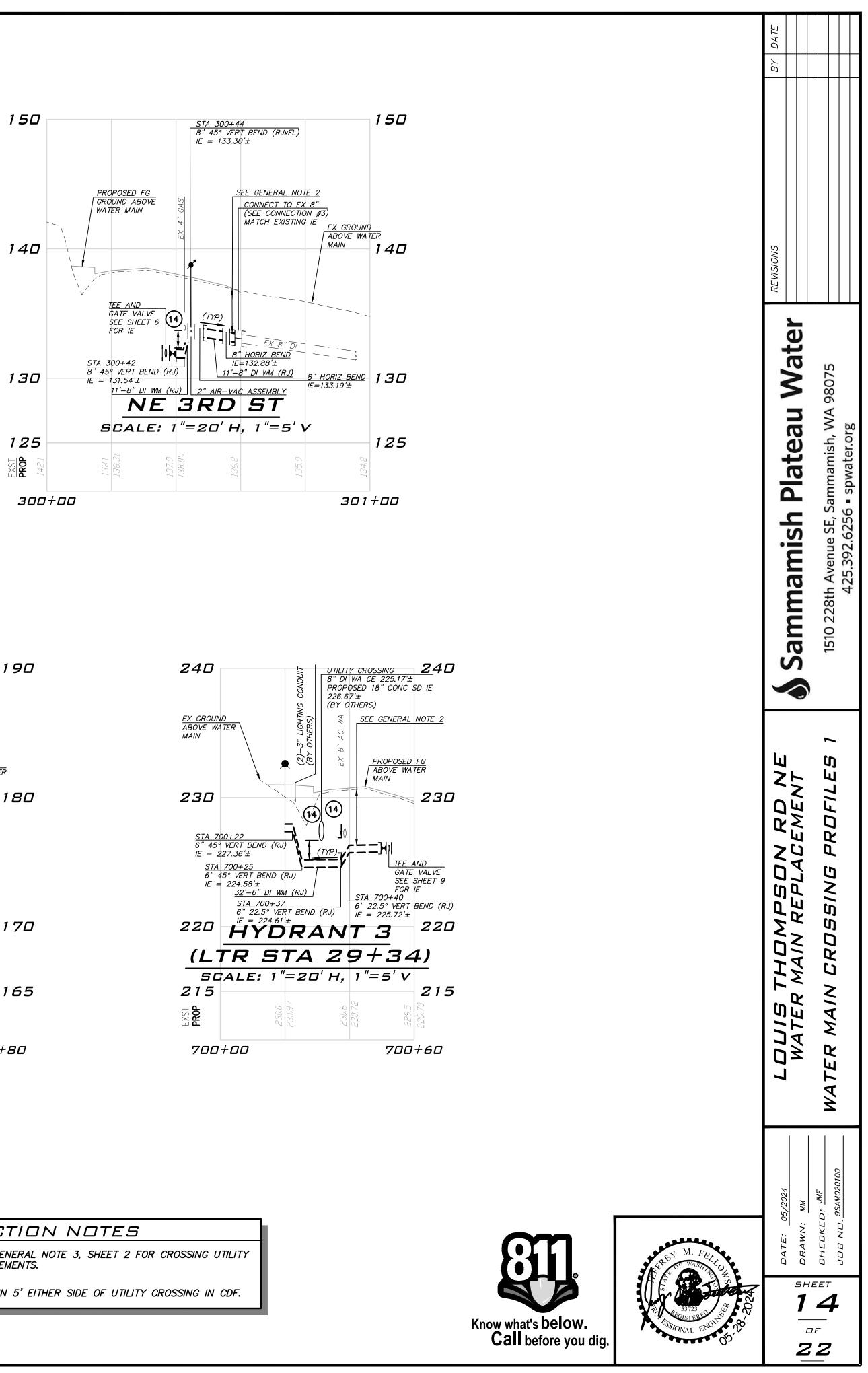


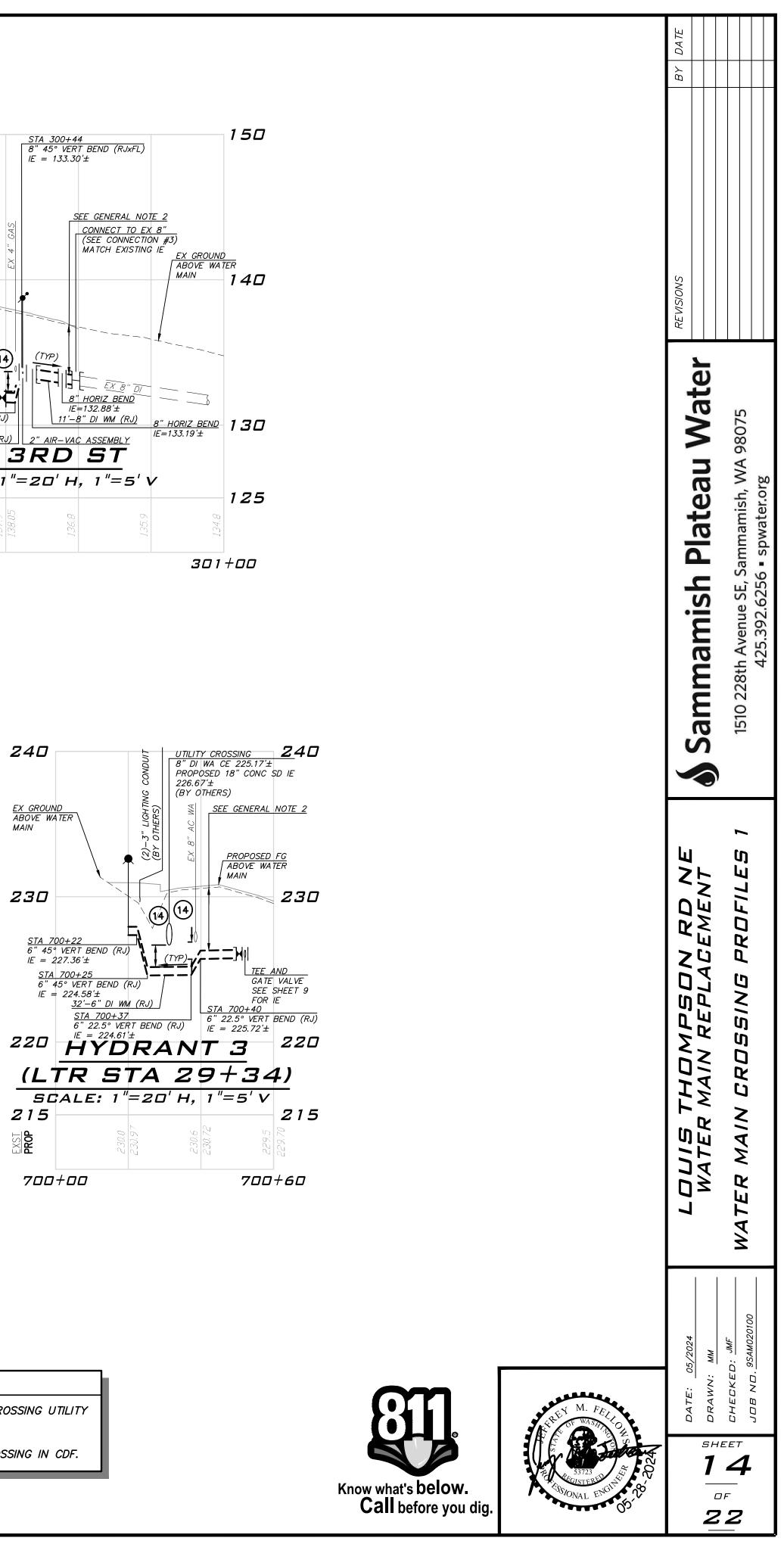






NE 1/4, SECTION 32, TOWNSHIP 25N, RANGE 06E, W.M.





GENERAL NOTES

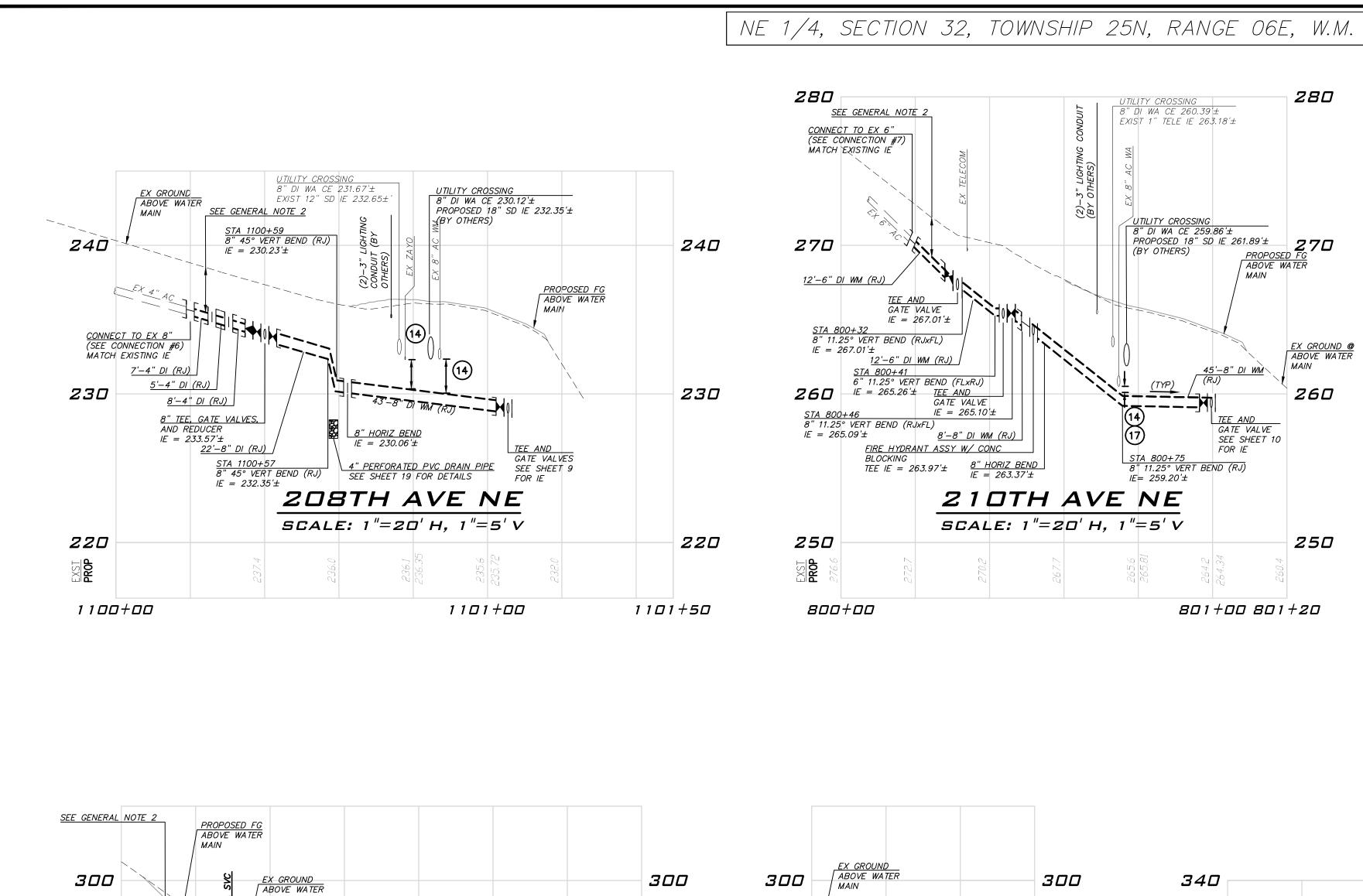
STATIONS SHOWN IN LATERAL MAIN AND HYDRANT PROFILE VIEWS ARE UNIQUE TO EACH PROFILE AND UNRELATED TO LTR STATIONS SHOWN ON SHEETS 5-13.

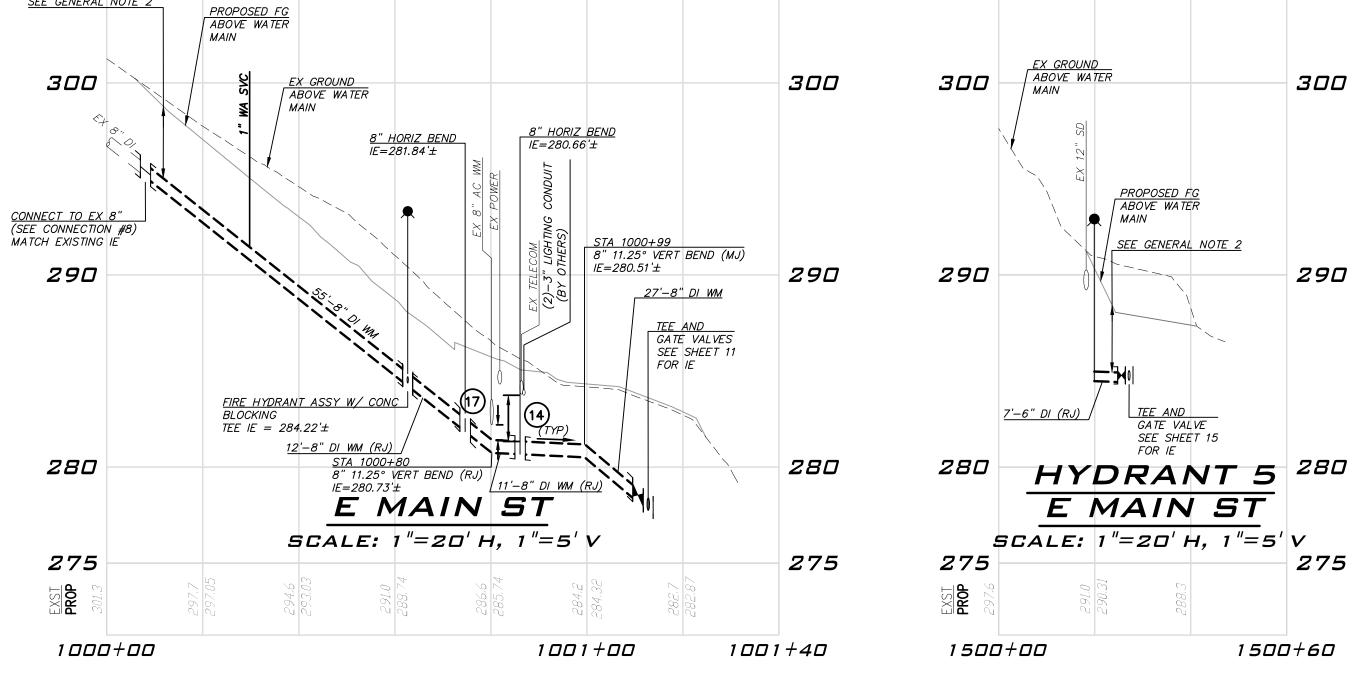
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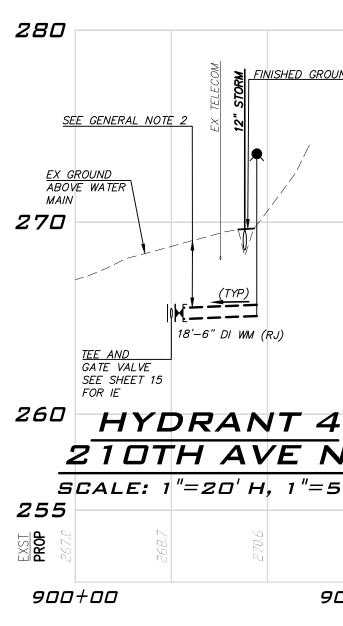
CONSTRUCTION NOTES

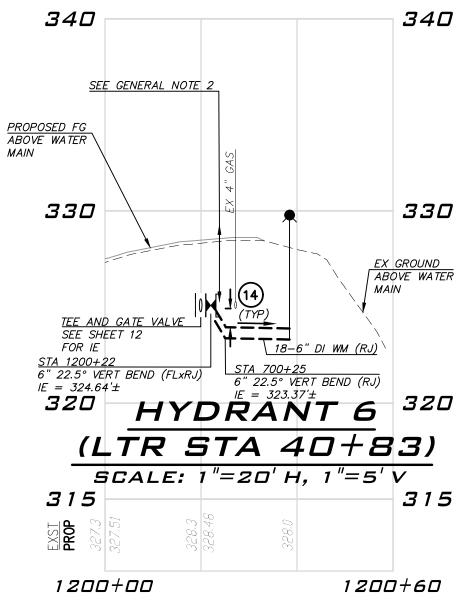
14) SEE WATER MAIN GENERAL NOTE 3, SHEET 2 FOR CROSSING UTILITY CLEARANCE REQUIREMENTS.

(17) ENCASE WATER MAIN 5' EITHER SIDE OF UTILITY CROSSING IN CDF.





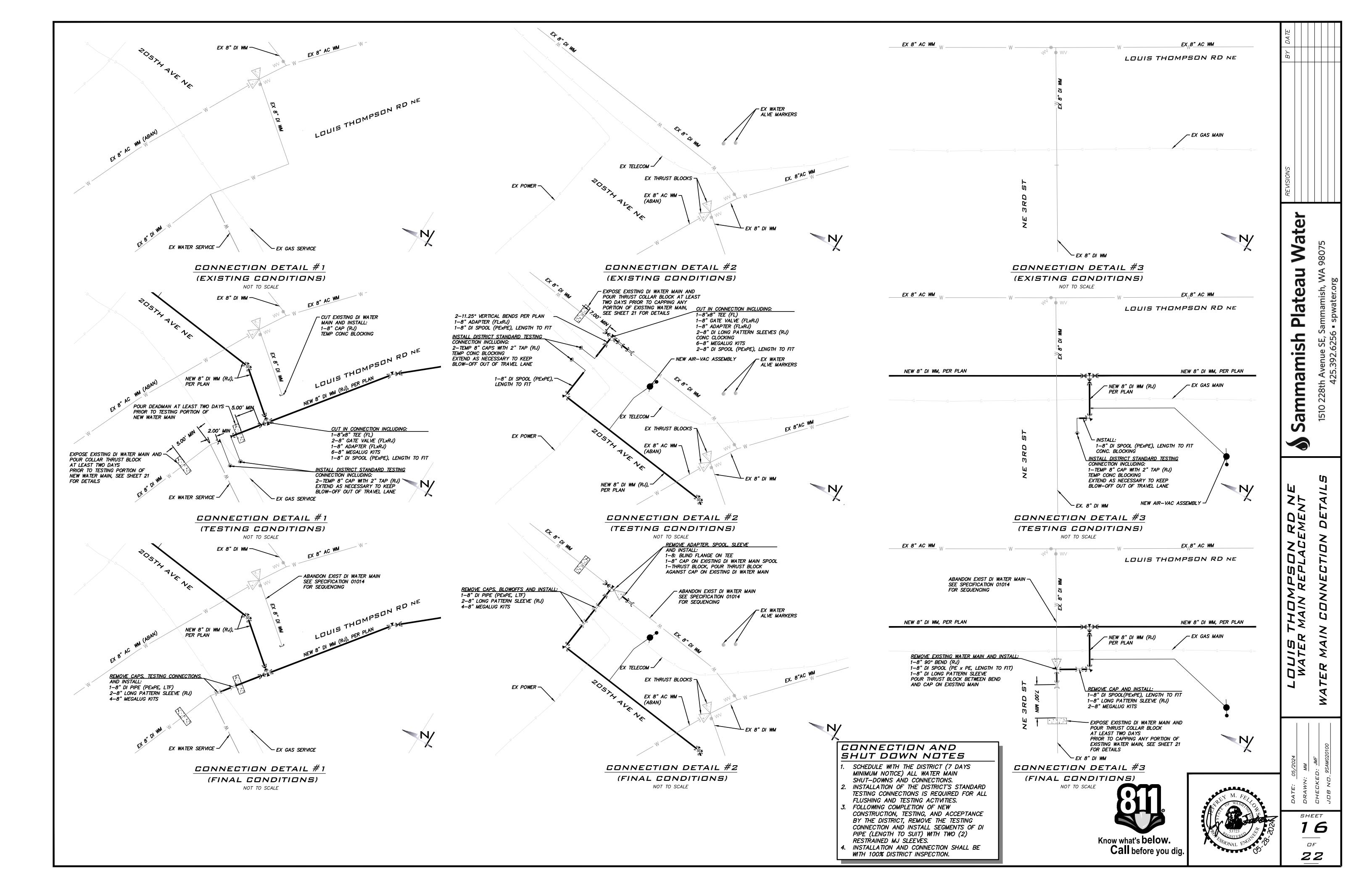


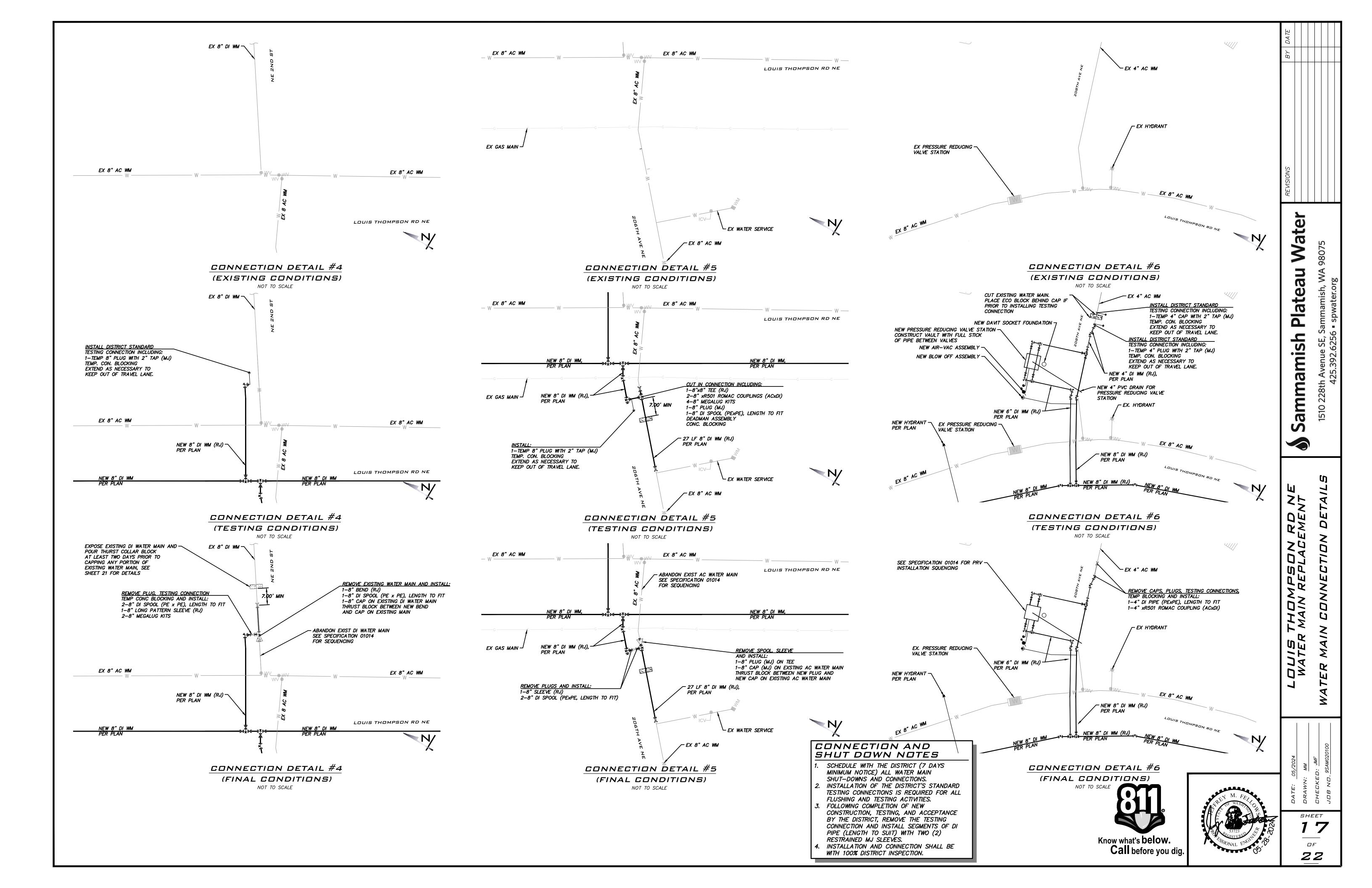


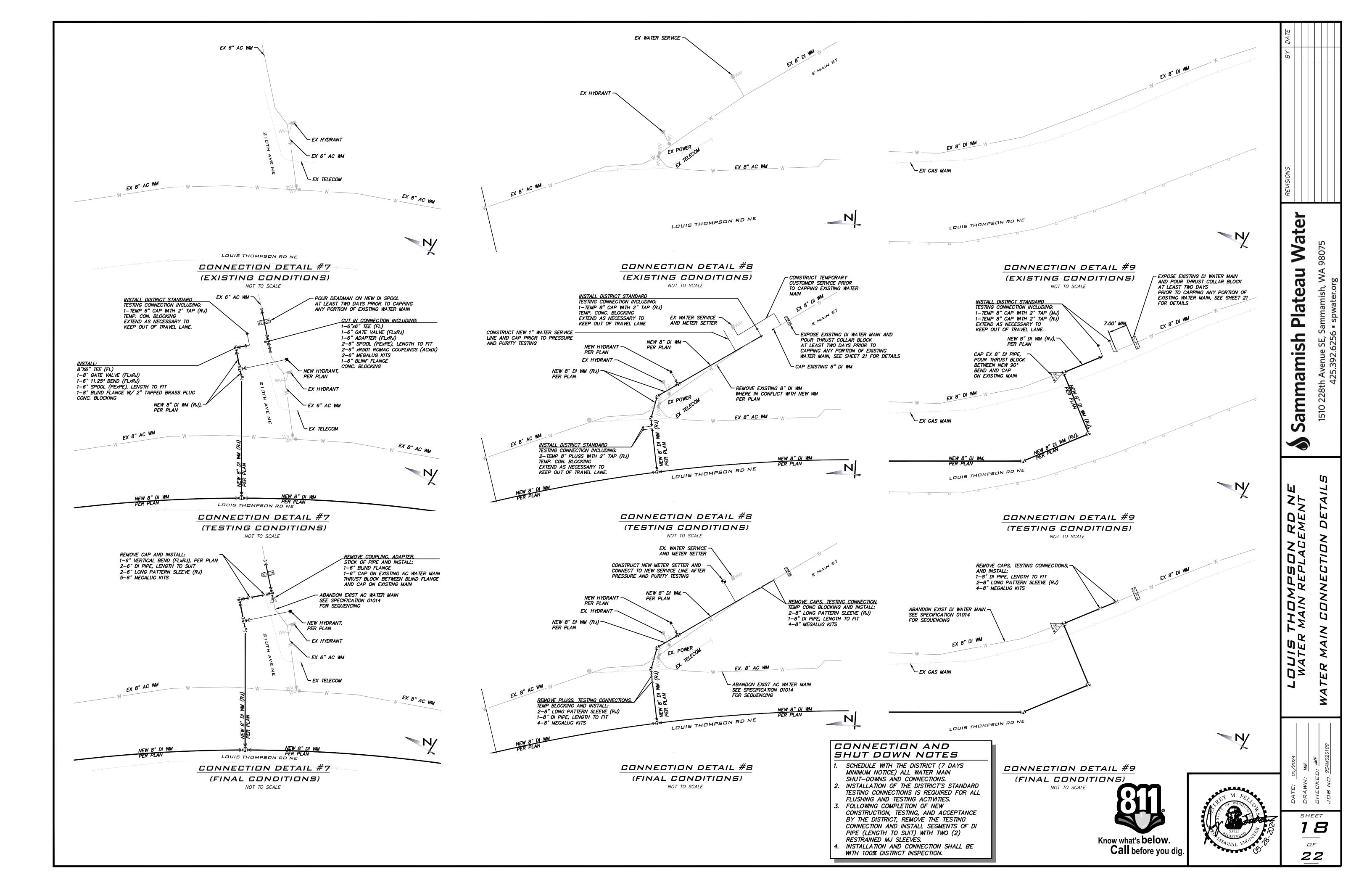


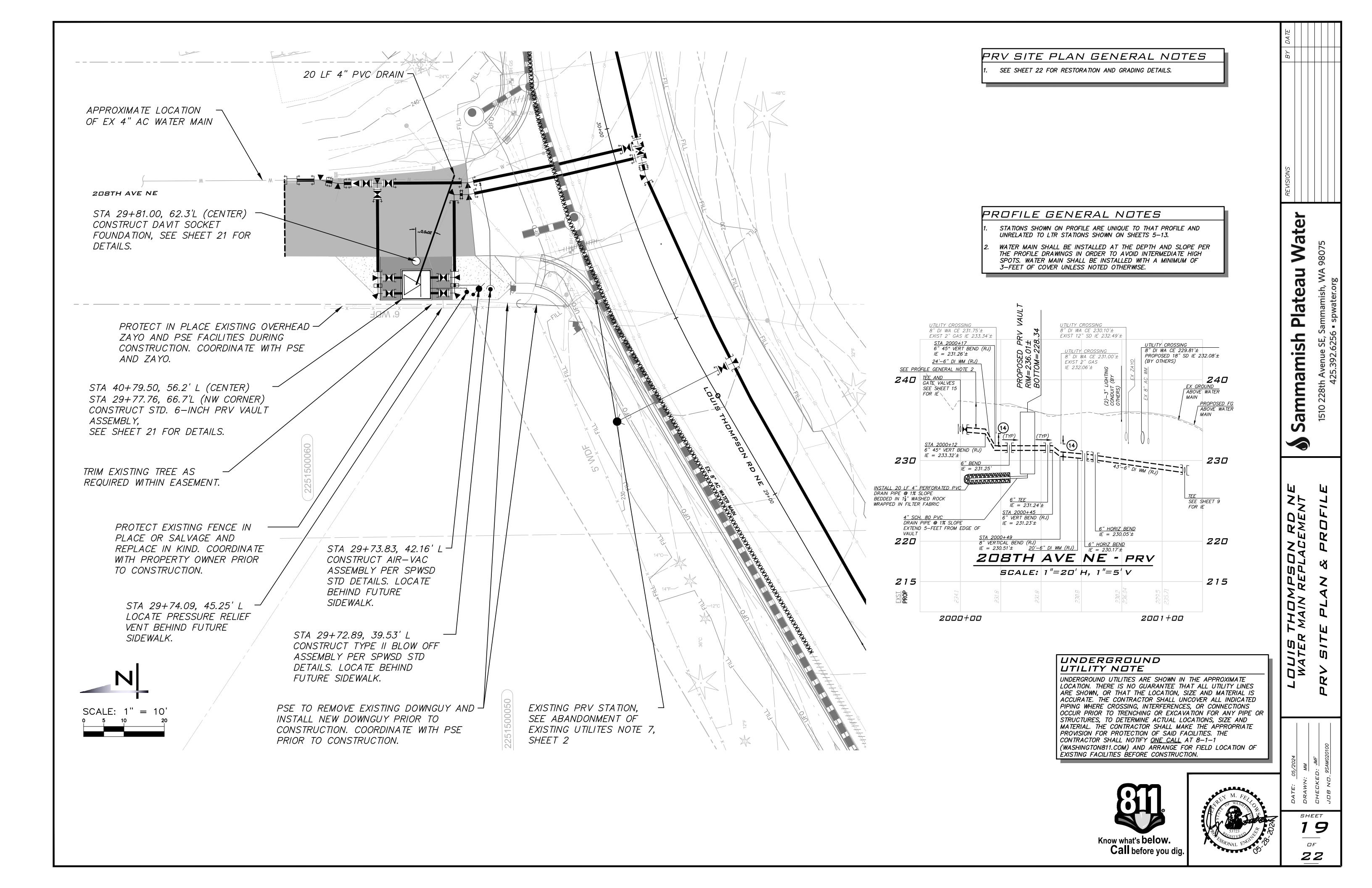
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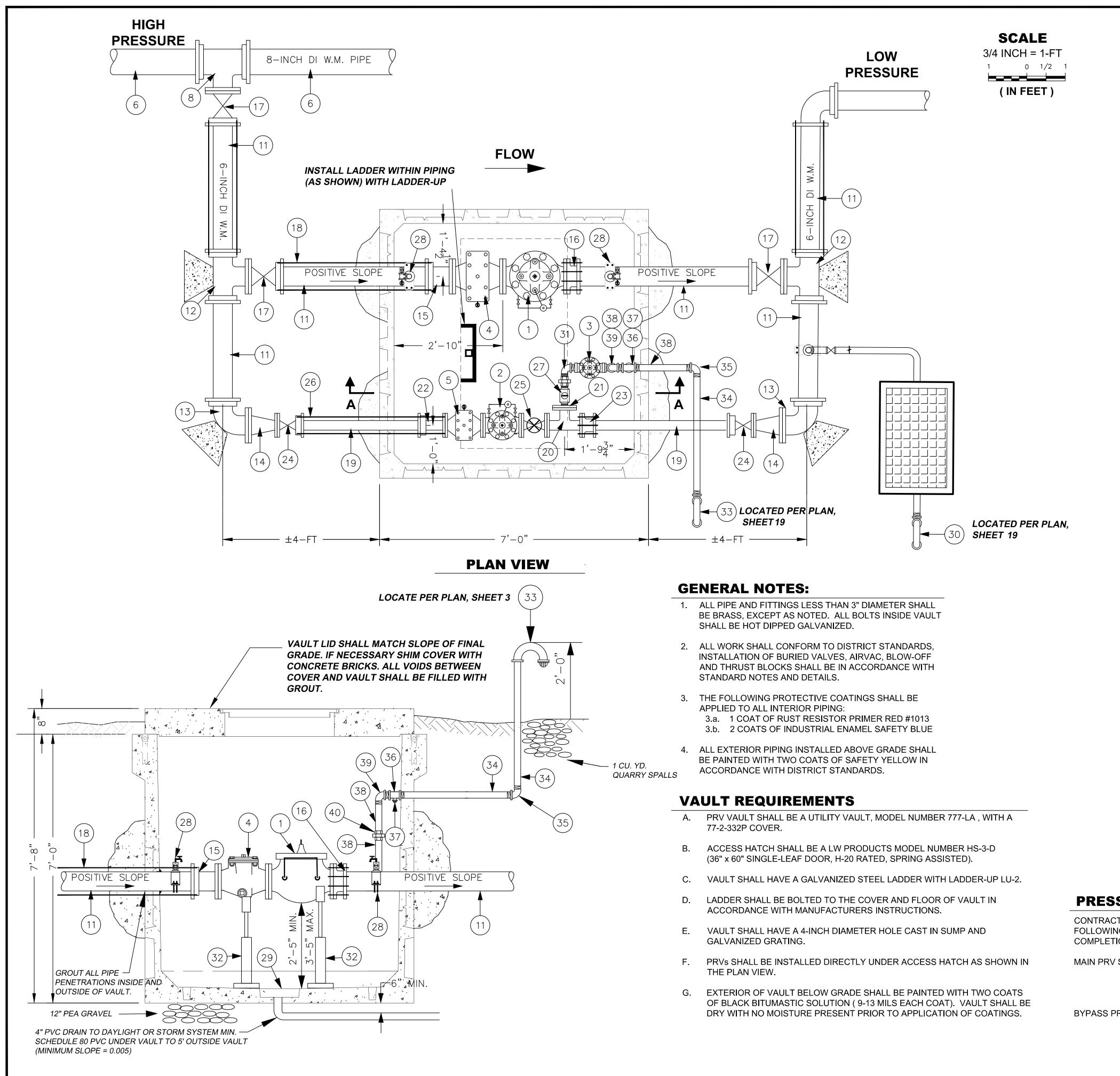
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CONSTRUCTION NOTES	L /AT/
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	15/2024
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ITEN	1 DESCR
1.	6" PRV CLA-VAL 9
2.	3" PRV CLA-VAL \
	FLOW CONTROL
2	(SEE NOTE BELO
3. 4.	2" PRESSURE RE 6" CLA-VAL X43H
4.	(STANDARD 10 M
5.	3" CLA-VAL X43H
•••	(STANDARD 10 M
6.	8-INCH DI PIPE, C
7.	8" x 6" TEE (FLG)
8.	8" x 6" TEE (MJ x
9.	8" FLG x MJ ADAF
10. 11.	8" GATE VALVE (I 6-INCH DI PIPE, C
12.	6" TEE (MJ x FLG)
13.	6" 90° BEND (MJ >
14.	6" x 3" REDUCER
15.	6" FLG x MJ ADAF
16.	6" FCA
17.	6" GATE VALVE (I
18.	TWO 5/8-INCH OF
19. 20.	3-INCH DI PIPE, C 3" x 3" TEE (FLG)
20.	3" BLIND FLANGE
22.	3" FLG x MJ ADAF
	3" FCA
24.	3" GATE VALVE (I
25.	3" GATE VALVE (I
26.	TWO 3/8-INCH OF
07	HARNESS LUGS
27. 28.	2" BRASS CORPO 1" IPT SERVICE S
20.	1" CORPORATION
	1" COUPLING, BR
	1" x 3/4" BUSHING
	3/4" HOSE BIB
29.	
00	MODEL FG-4F OF
30. 31.	
51.	2" UNION
	2" 90° STREET EL
	2" NIPPLE, 3-INCH
32.	6" PIPE SADDLE S
33.	2" RETURN BEND
	GREENBURG P-2
	2" GALVANIZED S
	2" GALVANIZED S
36. 37	2" x 3/4" TEE (BRA AUTOMATIC DRA
	2" BRASS PIPE (L
	2" BRASS 90° STF
	2" BRASS UNION

CONTROL V

PRESSURE SETTING

CONTRACTOR SHALL SET THE PRI FOLLOWING SETTINGS. CONTRAC COMPLETION OF INSTALLATION:

MAIN PRV SETTINGS: (6-INCH) 105

BYPASS PRV SETTINGS: (3-INCH) _____105

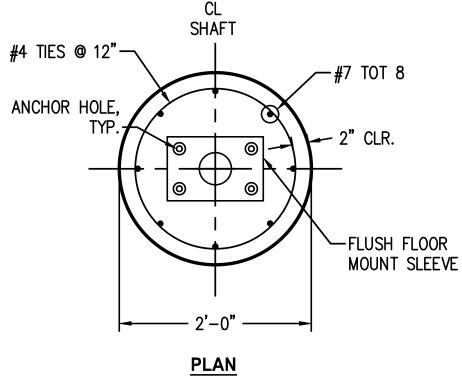
		TE	
MA	TERIAL LIST 6" PRV FOR 8" MAIN LINE	DA	
ITEM		B	
	6" PRV CLA-VAL 90G-01BVYKC (SEE NOTE BELOW) 1 3" PRV CLA-VAL WITH OPENING AND CLOSING FLOW CONTROL 90G-01BCLSVYKC W/ LEFT HAND PILOT SYSTEM		
	(SEE NOTE BELOW)12" PRESSURE RELIEF VALVE CLA-VAL 50G-01BKC (SEE NOTE BELOW)1		
4.	6" CLA-VAL X43H STRAINER W/ 3/4" HOSE BIB AND BRASS BUSHING (STANDARD 10 MESH / 2000 MICRON / OPENINGS 0.078 INCH) 1		
5.	3" CLA-VAL X43H STRAINER W/ 3/4" HOSE BIB AND BRASS BUSHING (STANDARD 10 MESH / 2000 MICRON / OPENINGS 0.078 INCH) 1		
	8-INCH DI PIPE, CL.52 (LENGTH TO SUIT) 3 8" x 6" TEE (FLG) 1		
8.	8" x 6" TEE (MJ x FLG) 1		
10.	8" FLG x MJ ADAPTOR18" GATE VALVE (FLG X MJ) WITH VALVE BOX1	SNO	
	6-INCH DI PIPE, CL.52 (LENGTH TO SUIT)46" TEE (MJ x FLG)2	REVISIONS	
13.	6" 90° BEND (MJ x FLG) 2 6" x 3" REDUCER (FLG) 2	£	
15.	6" FLG x MJ ADAPTOR 1 6" FCA 1	7	
17.	6" GATE VALVE (FLG x MJ) WITH VALVE BOX 2	Wate	
	TWO 5/8-INCH OR THREE 1/2-INCH SHACKLE RODS13-INCH DI PIPE, CL.52 (LENGTH TO SUIT)2	Va	75
	3" x 3" TEE (FLG) 1 3" BLIND FLANGE WITH 2" TAP 1	5	98075
22.	3" FLG x MJ ADAPTOR WITH ROMAC HARNESS LUGS13" FCA1	n	WA g
24.	3" GATE VALVE (FLG x MJ) WITH VALVE BOX 2	Platea	, Sammamish, W 6 = spwater.org
	3" GATE VALVE (FLG) WITH HAND WHEEL1TWO 3/8-INCH OR 1/2-INCH SHACKLE RODS WITH ROMAC1	ate	amis ⁄atei
27.	HARNESS LUGS (EPOXY COATED) 2" BRASS CORPORATION STOP (MIP x MIP) 1	Ë	nm: spw
	1" IPT SERVICE SADDLE, ROMAC 202S 2 1" CORPORATION STOP, MIP x MIP	-	, Sai
	1" COUPLING, BRASS	S	e SE, 625
	1" x 3/4" BUSHING 3/4" HOSE BIB	ם:	enu(
29.	DRAINNET TECHNOLOGIES DRAIN BACKFLOW PREVENTER 1 MODEL FG-4F OR APPROVED EQUAL	ar	Ave 25.:
	DISTRICT STANDARD 2" AIR AND VACUUM RELIEF VALVE ASSEMBLY 1 2" MISC. BRASS FITTINGS: 1	Sammamish	1510 228th Avenue 425.392.6
011	2" UNION	Ē	0 22
	2" 90° STREET EL 2" NIPPLE, 3-INCH LENGTH	a	151
	6" PIPE SADDLE SUPPORT GRINNELL 26442" RETURN BEND, SCH. 40 GALV. W/ BRASS BEEHIVE STRAINER1	S	
34.	GREENBURG P-24-08 MALE FOR 2" PIPE 2" GALVANIZED SCH. 40 PIPE (LENGTH TO SUIT) 2		
35.	2" GALVANIZED SCH. 40 90° STREET ELBOW12" x 3/4" TEE (BRASS)1		
37.	AUTOMATIC DRAIN VALVE - WEATHERMATIC 910 1		
39.	2" BRASS PIPE (LENGTH TO SUIT)32" BRASS 90° STREET ELBOW2	Ш.	
40.	2" BRASS UNION 1		ហ្
CO	NTROL VALVE REQUIREMENTS	DМ	11
	CONTROL VALVES SHALL BE SUPPLIED WITH THE FOLLOWING PARTS AND TURES:	Σ Ω Π	TA
	TROL VALVE SPECIFICATIONS /E PATTERN: GLOBE	LD	DE
MAIN	VALVE BODY AND COVER: DUCTILE IRON ASTM A-536	מם	
	VALVE TRIM: STAINLESS STEEL DETAIL: PRV FLANGED DUCTILE IRON	И П Ц К	Z
PRES	PRESSURE RELIEF SCREWED SSURE RATINGS: 150 CLASS @ 250 PSI MAX.	ΰ₹	דום
	SSURE RELIEF SPRING RANGE: 20 TO 200 PSI	IA	TAT
	TS SYSTEM T SYSTEM MATERIALS' BRONZE / STAINLESS STEEL		51
PILO	T SYSTEM MATERIALS: BRONZE / STAINLESS STEEL T SPRING RANGE: 30 TO 300 PSI DED DADTO: DUNA N OXAITUETIC DUDDED	លក	10
TUBI	BER PARTS: BUNA N SYNTHETIC RUBBER NG & FITTINGS: STAINLESS STEEL	J K	RV
	<u>URES</u> : AINERS	ΟŻ	đ
	T SYSTEM SHUTOFF COCKS ONTROLS AS INDICATED IN MATERIAL LIST CALL OUT	7	
X101	VALVE POSITION INDICATOR		
	ALL SET THE PRESSURE REDUCING VALVES IN ACCORDANCE WITH THE		
SETT	INGS. CONTRACTOR SHALL RECORD ALL PRESSURE SETTING AT INSTALLATION:	/2024 M	<u>JMF</u> SAM020100
ETTIN	GS: (6-INCH) 105 (PSI) INLET PRESSURE	<u>. 105/</u>	
	M December 2	DATE: DRAWN	снескер Joв No. <u></u> §
	65 (PSI) OUTLET PRESSURE	7	, ,
SEL	TINGS: (3-INCH) <u>105 (PSI)</u> INLET PRESSURE	ын 7	
	70 (PSI) OUTLET PRESSURE Know what's below.		_
	Call before you dig.		- 2

DAVIT SOCKET FOUNDATION NOTES:

- 1. STRUCTURES HAVE BEEN DESIGNED BASED ON 2018 INTERNATIONAL BUILDING CODE (IBC) AND ACI 318-19 FOR STRUCTURAL CONCRETE.
- 2. ALL CONCRETE SHALL BE CLASS 3000.
- 3. ALL REINFORCING STEEL SHALL BE A615.
- 4. ALL ANCHOR RODS SHALL BE A 316 STAINLESS STEEL.
- 5. DESIGN STRESSES:
- 5.1. CONCRETE F'C: 3000 PSI 5.2. REINFORCING STEEL: 60,000 KSI
- 5.3. ANCHOR ROD FY: 36,000 PSI

6. DESIGN LOADS

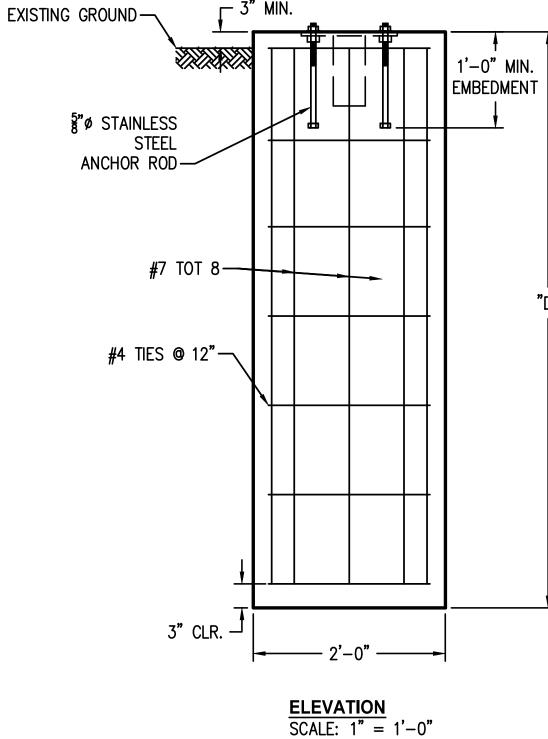
- 6.1. VERTICAL: 5,000 LBS
- 6.2. MOMENT: 90,000IN-LBS
- 7. FLUSH FLOOR SLEEVE SHALL BE MILLER DH-20SS OR APPROVED EQUAL.



USCS* SOIL TYPE	LATERAL BEARING PRESSURE (PSF/FT)**	REQUIRED EMBEDMENT LENGTH "D"
GW, GP	200	5'-0"
SW, SP, SM, SC, GM, GC	150	5'-6"
CL, ML, MH, CH	100	6'-0"

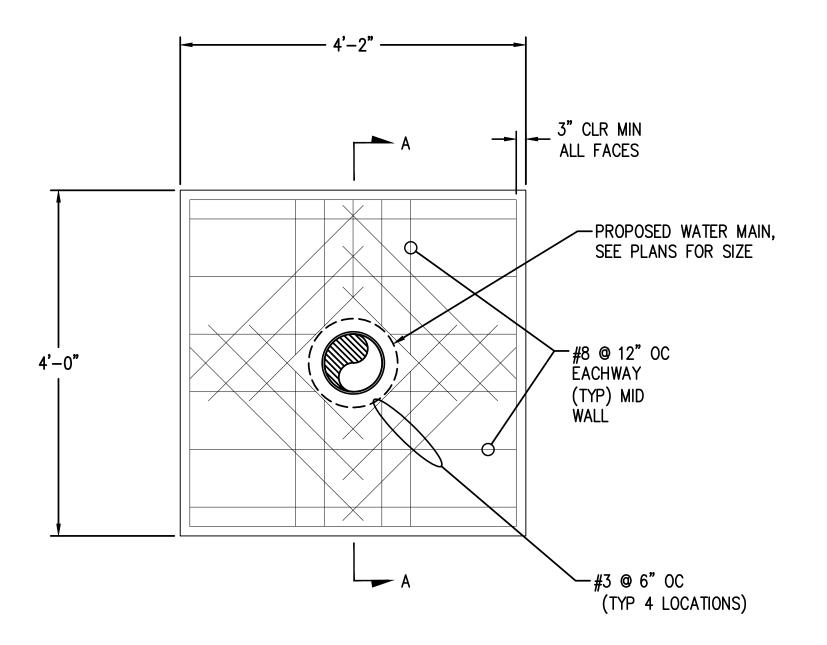
*USCS = UNIFIED SOIL CLASSIFICATION SYSTEM

**LATERAL BEARING PRESSURES AS SPECIFIED IN IBC 2018, TABLE 1806.2



DAVIT SOCKET FOUNDATION

SCALE: NTS



ELEVATION

COLLAR THRUST BLOCK NOTES:

1. CENTER COLLAR THRUST BLOCK ON PIPE.

2. THRUST BLOCK TO BE POURED AGAINST UNDISTURBED EARTH (ALL SIDES); IF NOT POSSIBLE, THE SOIL BETWEEN THE BEARING SURFACE AND UNDISTURBED EARTH SHALL BE COMPACTED TO 95% MODIFIED PROCTOR.

3. REBAR TO BE ASTM A615, GR 60.

4. CONCRETE SHALL BE HIGH EARLY STRENGTH CONCRETE AND SHALL ATTAIN A MINIMUM COMPRESSIVE STRENGTH OF 3000 PSI IN 24 HOURS.

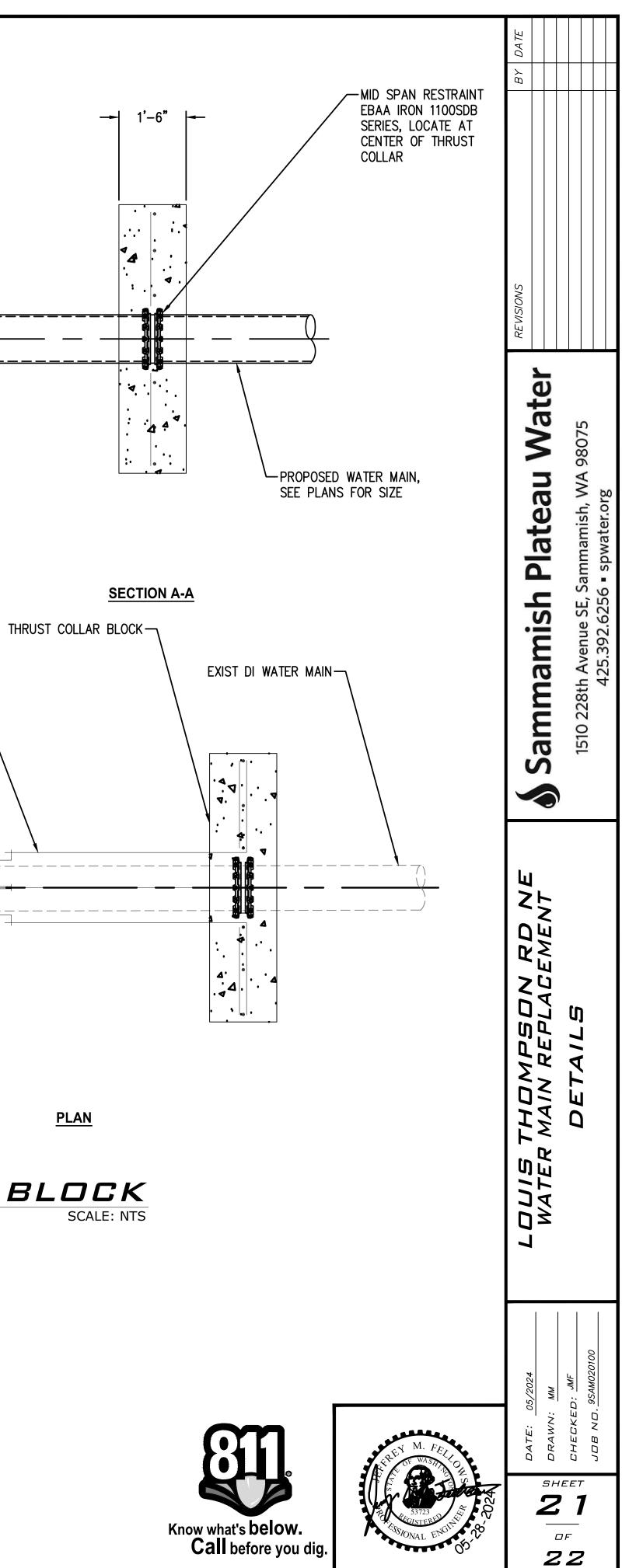
5. SHACKLE RODS NOT SHOWN, SEE CONNECTION DETAIL THIS SHEET. SHACKLE RODS TO BE INSTALLED IN COLLAR THRUST BLOCK PRIOR TO CONCRETE POUR.

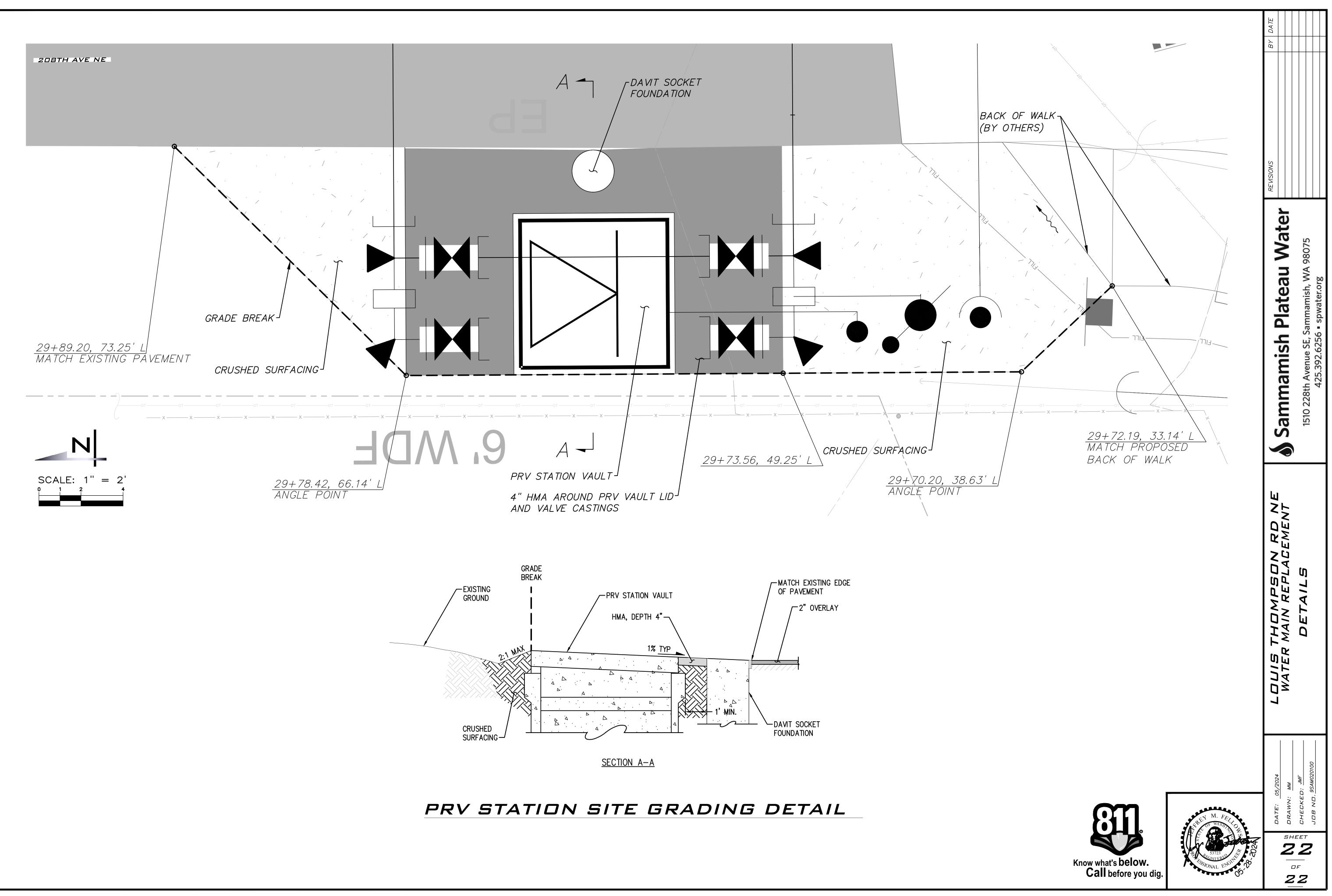
6. SHACKLE RODS SHALL BE 3/4-INCH DIAMETER COR-TEN ASTM A242, 4 EQUALLY SPACED PER BLOCK, COATED WITH TWO COATS OF COAL TAR EPOXY.

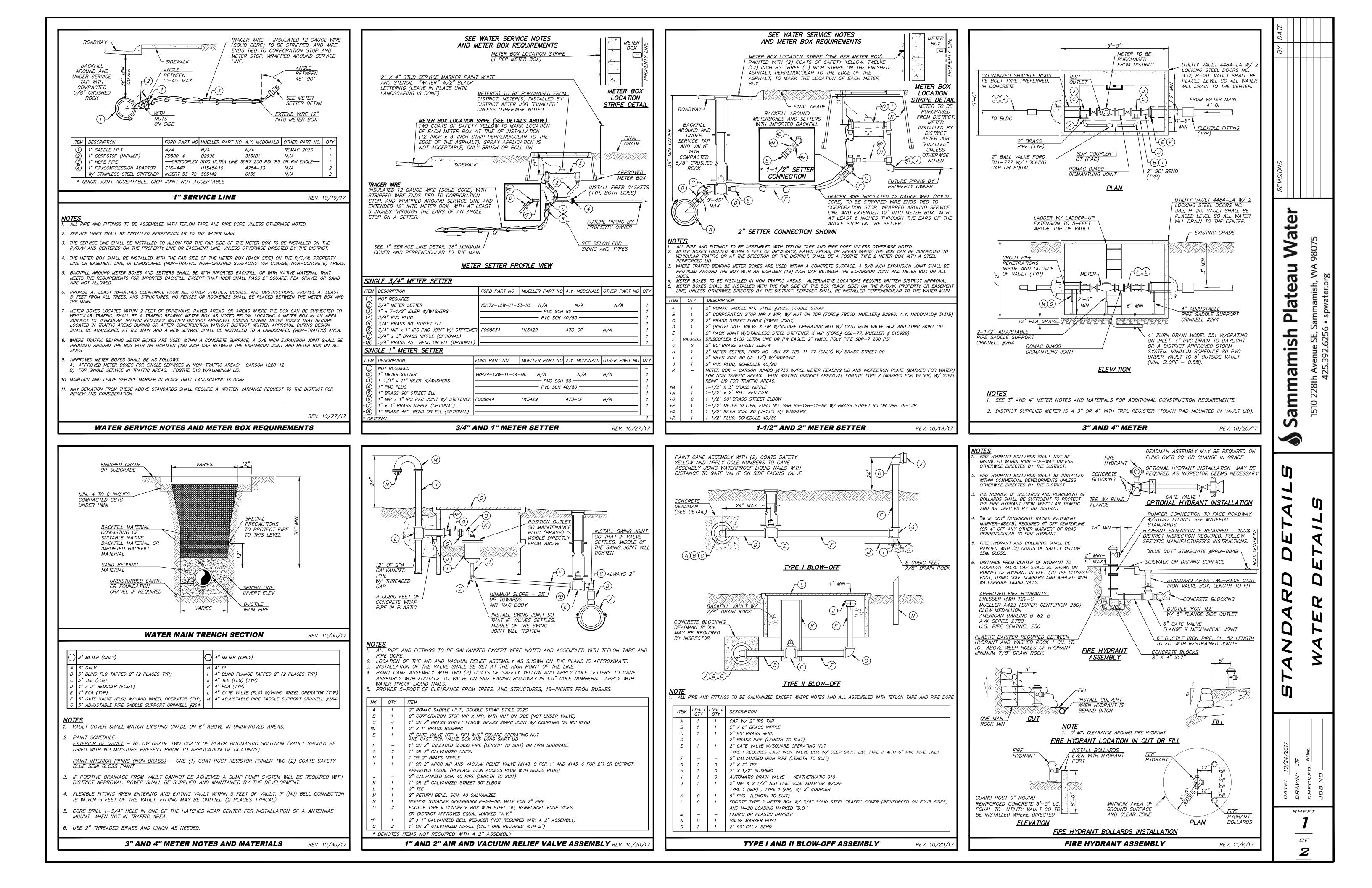
7. ATTACH SHACKLE RODS TO FITTINGS WITH THE BOLTS, EQUAL TO STAR NATIONAL PRODUCTS.

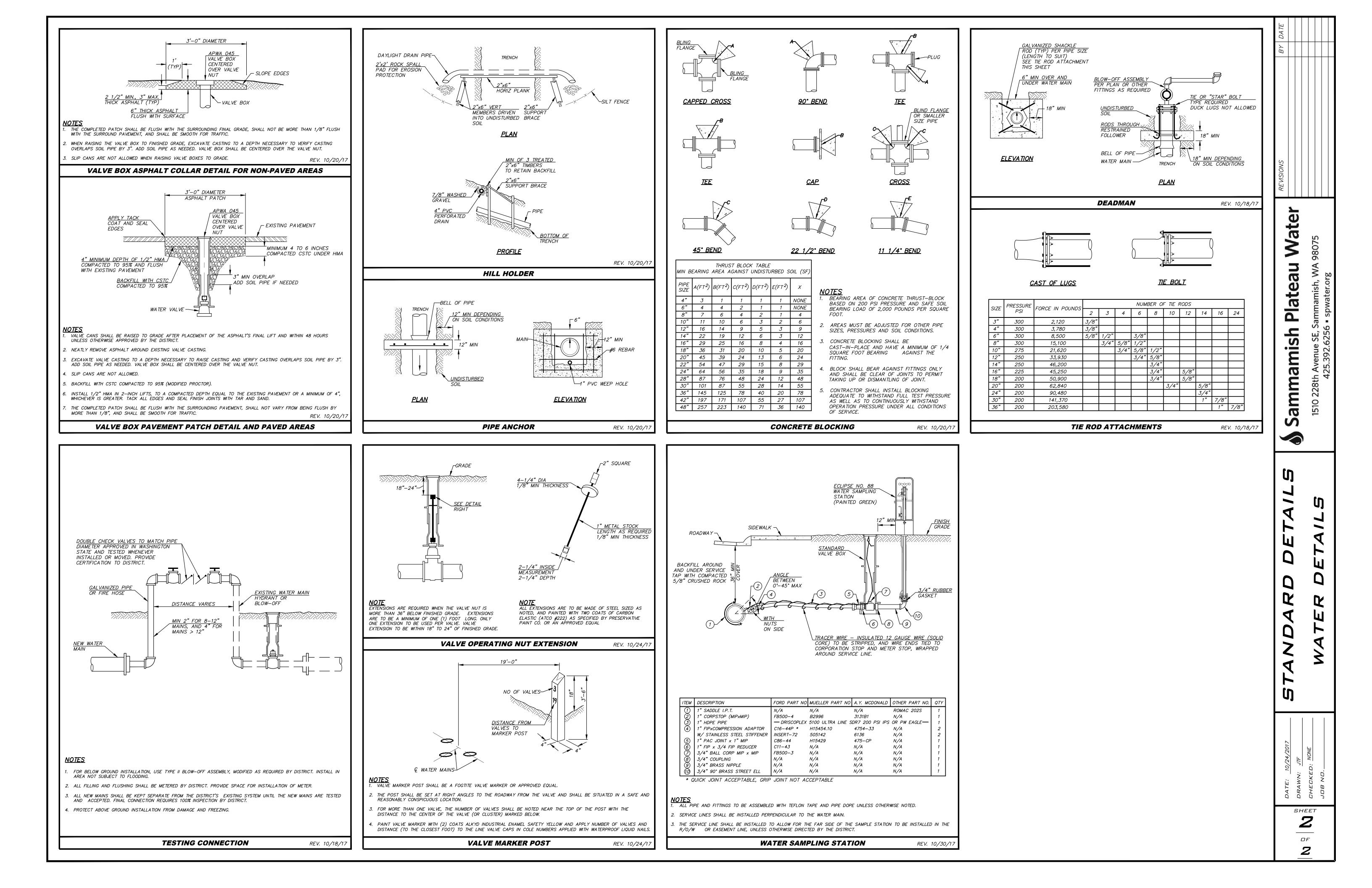
4-3/4" SHACKLE RODS,-SEE CONNECTION NOTES, TYP VALVE, CAP OR FITTING, SEE CONNECTION DETAILS -EX AC OR DI WM ШР Ч╢⊨ CAP, RJ SEE PLANS FOR SIZE

COLLAR THRUST BLOCK









PART TWO - MATERIAL STANDARDS			Τ
2.1 GENERAL	3. Where fittings are called for on restrained joint pipes, mechanical joints with megalugs or Alpha fittings shall be used.	C. Tapping Sleeve And Valve Assembly	
All materials and equipment shall be new and undamaged. Where possible, the same manufacturer of each item shall be used throughout the job. In accordance with paragraph WS-20 "Material and Equipment List" of this Agreement, the	4. Ductile Iron pipe shall be polywrapped. 5. Ductile Iron pipe shall be furnished with factory-installed plugs in each end of each stick of pipe. Such plugs shall	Where required by the District, tapping sleeves shall be Romac FTS 420 or JCM 412, with fusion_bonded epoxy coating and Type 304 stainless steel fasteners. The gate valve shall conform to the requirements herein.	3.
Developer or Contractor shall file a material and equipment list with the District including the quantity, manufacturer, model	remain installed until the pipe is ready to be installed in the trench.	D.Corporation Stop	
number and technical specifications, if applicable, of material and equipment to be installed as part of the work. If requested by the District, five (5) copies of all information concerning the specifications, installation, operation and maintenance of	Q.Polywrap for Ductile Iron Pipe	See Standard Details - Service Connections.	4.
material and equipment installed as part of the work shall be furnished to the District in five separate labeled binders. A.Foundation Gravel	Polywrap shall conform to ANSI/AWWA A21.5/C105 (See AWWA C600) for linear low-density polyethylene film. The inside surface of the polyethylene wrap to be in contact with the pipe exterior shall be infused with a blend of	E. Service Saddle	
Foundation gravel used for backfill of over-excavated trenches shall conform to the requirements of	anti-microbial biocide to mitigate microbiogically influenced corrosion and volatile corrosion inhibitor to control galvanic corrosion.	See Standard Details - Service Connections. F. Water Service Pipe	
WSDOT/APWA 9-03.17, "Foundation Material, Class B." B. Controlled Density Fill (CDF)	R.PVC Pipe for Watermains	Water service pipe shall be DRISCOPLEX 5100 ULTRA-LINE or equal manufactured from a high density, extra high	
Controlled Density Fill (CDF) shall be a mixture of Portland cement (Type I or II), fly ash (ASTM C618, Class F), fine	PVC pipe 4 inches or larger in diameter shall conform to AWWA C900, Class 150. PVC pipe for water service shall only be used where crossing the gas pipeline easement. The pipe shall conform to WSDOT/APWA 9-30.1(5).	molecular weight pipe resin polyethylene defined by ASTM D3350 having a cell classification of 345564C as polyethylene type III, grade, PE4710. Pipe shall be Iron Pipe Size - ID ASTM D2239 - SIDR 7 and have a working pressure of 200 PSI	
aggregates (coarse sand with 100% passing 3/8-inch sieve, 60-100% passing No. 4 sieve, and 0-5% passing No. 200 sieve), and water, with a maximum 28-day compressive strength of 100 psi, conforming to following proportions:	S.PVC Pipe for Non-Pressure (Gravity) Sewers	at 73.4 degrees F. The polyethylene extrusion compound from which the PE pipe and tubing are extruded shall be made of virgin quality material. The polyethylene pipe or tubing shall be marked in accordance with ASTM D-2239 for IPS pipe	5.1
Material Batch Weight/Cubic Yard	PVC pipe for depths up to twenty (20) feet, and less than 14 inches in diameter shall conform to ASTM D3034 and shall	sizes and carry the National Sanitation Foundation (NSF) seal of approval. See Standard Details for installation procedures.	
Mixing Water 50 lb/cu yd	be defined as flexible conduit. Joints shall conform to ASTM D3212 using a restrained rubber gasket conforming to ASTM F477. Fittings shall be injection molded tees . Saddles fastened to pipe with external bands are not acceptable on	G.Air and Vacuum Relief Valve Assemblies	
Portland Cement30 lb/cu ydFly Ash200 lb/cu yd	any new system. PVC pipe used for depths twenty (20) feet and greater and less than 14 inches in diameter shall conform to AWWA	Air and Vacuum Relief Valve assemblies shall be APCO No. 143-C, Crispin UL10 or District approved equal for one (1) inch assemblies and APCO No. 145-C, Crispin UL20 or District approved equal for two (2) inch assemblies, or approved	
Fine Aggregate 3200 lb/cu yd	specification C900, Class 150 (DR 18). Joints shall conform to ASTM D3139 with rubber gaskets meeting ASTM F477. Fittings shall be Class 150 injection molded tees, meeting the requirements of AWWA C-907 and ASTM D1784.	equal, equipped with a brass plug on top service port, and shall conform to WSDOT/APWA 9-30.3(7).	G.Air
Submit CDF mix design for District review prior to use.	T. HDPE Pipe for Water Mains and Pressure Sewers	H.Hydrant Guard Posts	Air
C.Pea Gravel Bedding material for PVC or HDPE pipe shall be well graded, clean granular gravel material commonly known as pea	HDPE pipe for water mains and pressure sewers may be used in specific situations where Ductile Iron pipe is not	Hydrant guard posts shall be reinforced concrete posts, 8"x8"x6' long, 8" diameter x 6' long, or 9" diameter x 6' long. The same size and type of guard posts shall be used around each hydrant.	H.Cle
gravel. Material slightly smaller than pea gravel may be used.	appropriate or feasible. The use of HDPE requires written District approval. The specifications and class of the HDPE will be determined on a project-specific basis including such factors as working pressure.	2.3 SEWER SYSTEMS	Cle as No
Bedding material shall meet the following requirements: U.S. STANDARD SIEVE SIZE PERCENT PASSING	U.C-905 PVC Pipe for Non-Pressure (Gravity) Sewers	A.Sewer Pipe and Appurtenances, Non-Pressure	INC
3/8" Square Opening 100%	C-905 PVC pipe may be considered for lines that are fourteen (14) inches and greater in diameter. Pipe shall conform to the requirements of AWWA C905 and Uni-B-11.	Gravity sewer pipe shall be either PVC Pipe for Non-Pressure (Gravity) Sewer Service or PROTECTO 401 ceramic epoxy lined Ductile Iron pipe as specified herein. Pipes with slopes greater than or equal to twenty (20) percent shall be	
No. 8 Sieve 0 - 5%	All pipe joints shall be rubber gasketed. Rubber gaskets shall conform to ASTM F477.	PROTECTO 401 ceramic epoxy lined Ductile Iron pipe or C-900 PVC. C-905 PVC pipe may be considered for lines which are fourteen (14) inches in diameter or greater.	
V.Sand Bedding Material Bedding material for ductile iron pipe shall conform to the requirements of WSDOT/APWA 9-03.13, Backfill for Sand	V.Gate Valves	B. Sewer Pipe and Appurtenances, Pressure	
Drain".	 Gate valves shall conform to AWWA C-515, be epoxy coated, resilient seated, have a non-rising stem, a minimum of 200 PSI working pressure unless otherwise specified, shall have a standard 2-inch operating nut, and the standard 	High pressure sewer pipe and appurtenances shall be Ductile Iron or HDPE pipe as specified herein.	
W.Concrete Encasement Concrete material for encasing water mains crossing over sewer pipes shall have a 30-day compressive strength of not	opening rotation shall be counter_clockwise.	C.Side Sewer Pipe, Non-Pressure	
less than 1,500 psi. The mix shall have a slump of between one (1) and five (5) inches.	2. Gate valves shall be used for all water mains less than 12 inches in diameter. Gate valves are allowed for wet taps.	 Gravity side sewer pipe shall conform to the requirements of the Sammamish Plateau Water and Sewer District "Side Sewer Regulations", latest edition. 	
X.Native Backfill Material Native materials will be considered suitable for use in backfilling if the material is not sensitive to moisture (compactable if	 Butterfly valves shall be installed on all water mains 12 inches and larger. Butterfly valves may require plugging for testing purposes. 	New side sewer connections on an existing sewer main for a single connection (not in conjunction with a new development) shall conform to the requirements listed below.	
moisture content is greater than optimum). Native materials shall be a sand and gravel combination with no deleterious materials. All materials shall pass a 3-inch sieve.	4. Where called for on the plans, gate valves shall be used for sewers four (4) inches and larger.	a. For existing D3034 PVC Sewer Main (less than 20 feet in depth), the side sewer connection shall be one of the	
Y.Imported Backfill Material	5. Special valves and fittings shall be as specified on the plans.	following:	
Durable crushed gravel or rock; or naturally occurring sands and gravels free from wood, bark, roots or other extraneous material, meeting the requirements of WSDOT/AWPA 9-03.19 for "Bank Run Gravel for Trench Backfill", with percent	 6. Gate Valves shall be one of the following types, with stainless steel bolts: a) Mueller 	 Cut-in PVC side sewer tee Romac "SST" Stainless Steel Tapping Sleeve (w/ stainless steel flange), with FLxMJ adapter with 	
passing the No. 200 sieve limited to 5 percent max.	b) Kennedy M & H	 Romac 331 Stamless Steer rapping Sleeve (w) stamless steer hange), with FLMB adapter with PROTECTO 401 ceramic epoxy lining and gasket sized for D3034 PVC side sewer. Romac side sewer saddle, Model CB, is NOT allowed. 	
Z. Hot Mix Asphalt (HMA)	c) Clow d) US Pipe	b. For existing C900 PVC Sewer Main (20 feet or greater in depth), the side sewer connection shall be a cut-in tee	
Hot Mix Asphalt (HMA) shall be CL ¹ / ₂ " as specified in WSDOT/APWA Section 9-03.9(6) Aggregates for Hot Mix Asphalt, HMA Proportions of Materials, and Performance Graded PG 58-22. Aggregate for asphalt concrete shall conform to the performance of WSDOT (AD) (A D) (A	e) American Flow Control Series 25002-17	of one of the following materials:	
to the requirements of WSDOT/APWA Sections 9-03.8(1) through 9-03.8(6) for Aggregates for Hot Mix Asphalt, inclusive. AA. Crushed Surfacing	f) AVK	• C900 PVC side sewer tee with a C900 side sewer up to the transition point to D3034 PVC	
1. Top Course and Keystone Material (5/8" Minus): For use in the restoration of excavated areas. Top Course and	W.Valve Boxes Valve boxes shall be Cast Iron, 2 piece, suitable for installation required, equal to Olympic Foundry Company/APWA	 Epoxy-lined ductile iron tee with a C900 side sewer up to the transition point to 4-inch D3034 PVC c. For existing ductile iron Sewer Main (20 feet or greater in depth), the side sewer connection shall be a cut-in tee 	
Keystone material shall conform to the requirements of WSDOT/APWA 9-03.9(3), "Crushed Surfacing" for Top Course and Keystone.	Valve Box VB045. Valve box lids shall fit snugly in the casting. Valve Box Lid shall be marked "WATER" for water facilities. Valve boxes shall be equal to Olympic Foundry 940 and marked "SEWER" for sewer facilities.	of epoxy-lined ductile iron, with a C900 side sewer up to the transition to 4-inch D3034 PVC or Romac "SST" Stainless Steel Tapping Sleeve (w/ stainless steel flange), with FLxMJ adapter with	
 Base Course Material (1 ¼" Minus): Base Course Material shall conform to the requirements of WSDOT/APWA 9-03.9(3), "Crushed Surfacing" for Base Course. 	X. Valve Marker Posts	PROTECTO 401 ceramic epoxy lining.	
J. Not Used	Valve marker posts shall be reinforced concrete posts, 4"x4" on one end and 4"x6" on the other end, and 42" long. Posts	D.Side Sewer Pipe, Pressure Grinder pump side sewer pipe shall conform to the requirements of the Sammamish Plateau Water and Sewer	
K. 7/8-inch Drain Rock	shall be equipped with 1.5" raised Cole brand numbers referencing distance to the valve to the nearest foot. Cole brand numbers shall be installed using waterproof Liquid Nails brand glue suitable for metal surfaces.	District "Side Sewer Regulations", latest edition.	
Material for drains around facilities such as hydrants, blowoffs, and hill holders shall conform to the requirements of WSDOT/APWA 9-03.12(5), "Gravel Backfill for Drywells", except that the material shall be washed to remove fines.	Y.Concrete Blocking	E. Low Pressure Mainline Sewer Pipe and Appurtenances	
L. Not Used	Concrete blocking shall be a 1:3:6 mix with a six-inch (6") maximum slump. Z.Bolts In Piping	Low pressure mainline sewer pipe shall be either two (2) inch or three (3) inch diameter high-density polyethylene plastic pipe (HDPE SDR 11), conforming to the materials requirements in the Sammamish Plateau Water and Sewer	
M.Grout Grout shall consist of one part Portland Cement, three parts fine sand, and sufficient water to allow proper	All bolts shall be new and shall be of the same type and quality of the pipe or fittings as supplied by the manufacturer.	District "Side Sewer Regulations", latest edition. F. Manholes	
workability. "Jet-Set" is not allowed. N. Trench Plug	Bolts shall be in conformance with AWWA Standard C110.	Galvanized steel shall not be used in manholes. See Standard Details for material requirements for standard manholes	
Low permeable fill material, a non-dispersible clay material having a minimum plasticity index of 10.	AA. Flange Gaskets Flange gaskets shall be Ring-type cloth insert rubber gaskets 1/16-inch thick equal to Rainbow or Durable Garlock.	and for deep manholes.	
O.Unsuitable Materials	Gaskets shall cover the full face of flanged fitting ends.	 Cast Iron Frames and Covers Cast Iron frames and covers shall conform to the Olympic Foundry Company No. MH 30A Traffic Type or equivalent 	
1. Unsuitable materials include the materials listed below:	BB. Flexible Coupling	marked "SEWER" in two (2) inch raised letters. Castings shall conform to the requirements of ASTM A 48, Class 30 and shall be free of porosity, shrink cavities, cold shuts, or cracks or any surface defects which would impair service	
(a) Soils which, when classified under ASTM D 2487 - Standard Classification of Soils for Engineering Purposes (Unified Soil Classification System), fall in the classifications of Pt (Peat), OH (organic clays of medium to high	Flexible couplings shall be cement-lined, Mechanical Joint, Ductile Iron long-pattern sleeves unless otherwise approved by the District.	ability. Repair or defects by welding, or by the use of "smooth-on" or similar material will not be permitted. Cover shall have a maximum of one hole, and a rubber plug per the Standard District Detail shall be installed in the hole.	
plasticity, organic silts), CH (inorganic clays of high plasticity, fat clays), MH (inorganic silts, micaceous or diatomaceous fine sandy or silty soils, elastic silts), or OL (organic silts and organic silty clays of low plasticity).	CC. Galvanized Steel, Pipe And Fittings For Blowoffs And Air Vacuum Relief Valves	Manholes located outside of public rights-of-way shall be equipped with a 3-bolt, lockdown cover. All movable parts shall be made of noncorrosive metals otherwise arranged to avoid possible binding. The locking frame and cover	
OH, CH, MH with liquid limits of greater than 50 and OL liquid limit less than 50.	Galvanized steel pipe shall conform to ASTM A120-65, Schedule 40. Galvanized steel fittings shall be malleable galvanized.	shall be Olympic Foundry Company No. MH 30 D/T Traffic Type or equivalent marked "SEWER" in two (2) inch raised letters.	
(b) Soils which cannot be compacted sufficiently to achieve the density specified for the intended use or as determined by the District. Soil additives for drying or stabilization will not be allowed, including but not limited to fly ash,	2.2 WATER SYSTEMS	Manhole covers in pedestrian or bike lane areas shall have low embossment lids.	
Portland cement, or kiln dust.	All water mains shall be cement-lined Ductile Iron as specified herein unless otherwise indicated on the Plans.	All manholes rings and covers shall be machine finished or ground on seating surfaces so as to assure nonrocking fit in any position, and interchangeability. At the request of the District, there shall be made available at the foundry	
(c) Materials that contain organic material, hazardous or designated waste materials including petroleum hydrocarbons, pesticides, heavy metals, and any material which may be classified as hazardous or toxic according to applicable regulations.	A.Butterfly Valves Butterfly valves shall conform to AWWA C-504. Unless otherwise specified the valves shall be class 150, ductile iron,	standard rings and standard covers for use by inspectors in testing fit and seating. At the request of the District, there shall be made available at the foundry a testing device suitable for proving the	
regulations. (d) Soils that contain greater concentrations of chloride or sulfate ions, or have a soil resistively or pH less than the	Butterny valves shall conform to AVVVA C-504. Unless otherwise specified the valves shall be class 150, ductile iron, epoxy coated, stainless steel bolts, shaft seals shall be "O" ring type, the standard opening rotation shall be counter-clockwise and shall have a standard 2" operating nut.	capacity of the assembly to resist an uplift pressure on the lid equal to a 20-foot head.	
existing on-site soils.	1. Butterfly Valves shall be one of the following types:	All manhole frames and covers shall be identified by the name or symbol of the manufacturer. This identification shall be in a plainly visible location when the frame and cover is installed. In addition to the manufacturer's identification,	
P. Ductile Iron Pipe	a) Mueller/ Pratt	the material shall be identified by the following "NOD" or "DUC" for nodular or ductile iron respectively. The manufacturer's identification and the material identification shall be adjacent to each other and shall be minimum 1/2 included by the particular structure of the particul	
Ductile Iron pipe shall be cement mortar-lined and zinc coating as specified herein unless otherwise indicated on the plans. Any pipe found to have dimensional tolerances in excess of those prescribed by the manufacturer or having	b) Kennedy M & H B. Fire Hydrants	inch letters recessed to be flush with the adjacent surfaces. 2. Precast Manhole Components	
defects which prevent adequate joint seal or any other damage shall be rejected. If requested by the District, not less than three nor more than five pipe lengths of pipe for each size, selected from stock by the District, shall be tested as	B. Fire Hydrants 1. Fire hydrants shall be a dry-barrel, compression-type traffic model with a 5-1/4 inch main valve opening (MVO) with	Precast manhole components shall conform to ASTM C478 except as modified herein. Base section openings to	
specified for maximum dimensional tolerance of the respective pipe.	brass on brass or brass on stainless steel seating as specified for 36-inch trench, unless otherwise designated, flanged at ground line, 6 inch MJ connection with lugs suitable for rods; two 2-1/2 inch hose connections, National Standard	receive pipe shall be circular and held to the minimum size practical to accommodate the pipe to be inserted to effectively seal the joint. Kor_n-Seal boots shall be used for all pipe penetrations. Connections shall conform to	
Ductile Iron pipe shall conform to AWWA Standard C151, Thickness Class 52 or as indicated on the Drawings. Pipe with cement mortar lining shall conform to AWWA C104. The exterior of Ductile Iron pipe shall be coated with a layer of	Thread; pumper connection shall be a 4_inch Seattle Standard Thread 4.875 x 6 equipped with a five (5) inch, 125-5 Storz quick connect fitting, unless otherwise noted on the drawings or as required by the local fire department	WSDOT/APWA 7-05.3. All manholes shall be channeled in the field. Pre_channeled manholes are not permitted. Where the direction of future extensions from the manhole are known, a 2-foot stub and cap shall be installed in a	
arc-sprayed zinc per ISO 8179. The mass of the zinc applied shall be 200b/m ² . A finishing layer topcoat shall be applie to the zinc. The mean dry film thickness of the finishing layer shall not be less than 3 mils with a local minimum not less than	jurisdiction. Operating nut shall be 1-1/4 inch pentagon and shall open counter-clockwise. Hydrant shall be so constructed that the direction facing of pumper connection may be rotated to face the roadway. Hydrants shall comply	Kor-n-Seal boot at that location and the manhole shall be channeled to receive the future flow. The 2-foot stub shall be removed and replaced when the future extension is installed.	
2 mils. The coating system shall conform in every respect to ISO 8179-1 "Ductile iron pipes- External zinc-based coating - Part 1: Metallic zinc with finishing layer" Second edition 2004-06-01 Ductile Iron pipe and fittings for sewer shall	with AWWA C502. Unless otherwise specified, hydrant shall be of dry barrel traffic type with break flange construction.	Precast manhole elements shall be provided with steps and/or ladders such that the completed manhole will contain a	
be lined with PROTECTO 401 ceramic epoxy coating (Manufacturer - Induron, Birmingham, Alabama (888) 773-2401). Joints shall be mechanical joint or push-on joint and shall conform to AWWA C111.	2. Hydrants shall be one of the following types:a) Dresser M&H 129-S	continuous vertical ladder with rungs equally spaced at twelve (12) inches plus or minus 3/4 inch. The lowest rung shall be not more than sixteen (16) inches above the shelf, and the uppermost rung shall be not more than eighteen (18) inches below the street surface. Ladder rungs or handholds in the manhole neck area must be recessed 2 inches	
1. Ductile Iron and Cast Iron fittings shall conform to AWWA Standard C110. Mechanical or push-on joints shall conform	b) Mueller A423 (Super Centurion 250)	(18) inches below the street surface. Ladder rungs or handholds in the manhole neck area must be recessed 2 inches for improved clearance.	
to AWWA Standard C111. Flanged joints shall conform to ASA Standard B-16.1, Class 125 with ductile iron followers. All fittings shall be cement mortar lined in conformance with AWWA Standard C104.	c) Clow Medallion d) American Darling B-62-B	Joints between precast manhole elements shall be rubber gasketed with O-rings or approved equal conforming to AASHTO M198 and shall be grouted on the inside. Shop drawings of the joint design shall be submitted to the District	
2. Where required on the Drawings, restrained push-on joint pipe and fittings shall be provided. Restrained joint pipe shall conform to AWWA Standard C151, Thickness Class 52 or as indicated on the Drawings. Pipe shall have cement	e) AVK Series 2780	for approval, prior to manufacture or purchase. Completed joints shall show no visible leakage and shall conform to the dimensional requirements of ASTM C478.	
mortar lining conforming to AWWA C104. Push-on restrained joints shall conform to AWWA C111. Restrained joints shall be designed for a water working pressure of 350 psi for sizes 4_inch through 24_inch, 250 psi for sizes 30-inch	f) U.S. Pipe Sentinel 250	Drop manholes, wherever shown on the plans, shall conform in all respects to the requirements for standard manholes as specified above. Pipe and fitting materials shall be ductile iron and shall conform to the specifications	
through 48-inch, and 150 psi for sizes 54-inch through 64-inch. Submit type of restrained joint pipe to the District for approval.		for ductile iron pressure sewer main.	
			1

obypropylene plastic step injection molded around a 1/2 inch diameter ASTM Step dimensions and pattern shall conform to the WSDOT/APWA 7-03.5. provided with a ladder as shown in the Standard Details. Ladders shall be installed in the manhole sections. All ladders shall be subject to approval by intered on the largest shelf of the manhole or as otherwise directed by the ow pressure mainline discharges shall be lined 5-9 mils of Tnemec Series addition, the two manholes downstream of that manhole shall be lined with	BY L	
r Aeroshield if installed as part of the same project. ce main discharge shall be lined with a material resistant to hydrogen sulfide Tnemec Series 141 Epoxoline. Submit product information for District	REVISIONS	
e 2-inch, shall be stainless steel ARI D-020 with flanged connection.	REV	
shall not be allowed in the right-of-way or in private access tracts. Cleanout finished grade with a locking cleanout cover (Olympic Foundry t Standard Detail.	Sammamish Plateau Water	1510 228th Avenue SE, Sammamish, WA 98075 425.392.6256 • spwater.org
		כייאט איי איילא איין איי
	DATE: 10/30/2017 DRAWN: JTF	CHECKED: NONE
		/ 7F 3

A

Standard precast cones shall provide an eccentric reduction from forty-eight (48) inches to twenty-four (24) inches and shall not be less than seventeen (17) inches in height. Precast cones shall conform to WSDOT/APWA 9-12.4. 3. Manhole Steps

Polypropylene plastic steps shall be a poly A-615, Grade 60, steel reinforcing bar. Ste

4. Ladders

Precast manhole base sections shall be p made of the same material as the steps in the District.

Ladders shall be installed so they are cent District.

5. Manhole Lining

The manhole into which a force main or lo 141 Epoxoline or Wasser Aeroshield. In a Tnemec Series 141 Epoxoline or Wasser

Existing manholes downstream of the forc corrosion, such as Wasser Aeroshield or 1 review.

Air And Vacuum Relief Valve Assemblies

Air and Vacuum Relief Valve assemblies, size . Cleanout Assemblies

Cleanout assemblies for private side sewers s assemblies shall be brought up to No. M-1025, marked "SEWER"). See District

PART THREE - CONSTRUCTION STANDARDS

3.1 GENERAL

Except as otherwise noted herein, all work shall be done in accordance with the Plans and Specifications approved by the District and as recommended in the applicable American Water Works Association (AWWA) specifications and/or the latest edition of the Washington State Department of Transportation/American Public Works Association, Washington State Chapter (WSDOT/APWA) Standard Specifications for Road, Bridge, and Municipal Construction, and/or the 10 States Standards, and according to the recommendations of the material or equipment manufacturer. In the event of a conflict between the specifications herein, the District shall determine which specification controls. Work shall be done only by contractors licensed and bonded with the State of Washington and experienced in the installation of public water and/or sewer mains.

The District will strictly enforce the erosion and sedimentation control requirements of other agencies. These requirements include, but are not limited to, silt fencing, check dams, catch basin filtration, and removal of debris from sawcuts by appropriate methods such as vacuuming.

Temporary lot numbers, addresses, or building numbers shall be clearly marked on the curb. These numbers are used by the District for side sewer inspections and water meter installations.

No work shall be done until all necessary permits have been received from the agencies having authority.

A preconstruction conference and a minimum of 48-hours notice will be required prior to starting construction.

Inspection shall be by a representative of the Sammamish Plateau Water and Sewer District. All work shall be inspected prior to backfill. All pressure testing shall be done in the presence of the District. The Contractor shall supply all equipment and materials necessary for testing.

ANY APPROVED CHANGES TO THE PLANS AS APPROVED SHALL BE NOTED ON THE CONTRACTOR'S CONSTRUCTION DRAWINGS. THE CONTRACTOR'S MARKUPS SHALL BE PROVIDED TO THE DISTRICT AT THE COMPLETION OF CONSTRUCTION.

All locations of existing utilities shown are approximate and it shall be the Contractor's responsibility to verify the true and correct location so as to avoid damage or disturbance. Separations from potable water mains shall conform to Washington State Department of Ecology's "Criteria for Sewage Works Design".

Separation Between Other Utilities:

Water - in accordance with criteria set forth in DOE guidelines

Storm Sewer - Three (3) foot horizontal clearance

Underground Power, Gas, Telephone and Cable - Three (3) foot horizontal clearance is preferred when utilities are aligned parallel to the water main. In any case where less than three (3) foot separation occurs, exact measurements to the utility lines shall be provided on the As Built drawings.

Horizontal distances on construction drawings are measured between centerlines (e.g., centerlines of water fittings, centerlines of sewer manholes, etc.). Actual distances shall be computed at the time of staking.

Pipes Entering Structures - A flexible fitting shall be placed on all lines entering/exiting vaults or other structures, shall be located outside of the structure, and shall be located within five (5) feet of the structure. The flexible fitting shall provide protection from earthquake shaking by providing a point where the difference in vibration rates of the pipe and the structure can be absorbed. For watermains, for example, the fitting shall be a mechanical joint ductile iron sleeve, unless a mechanical joint bell connection occurs within 5 feet of the structure, outside of the structure, in which case the flexible fitting may be omitted.

Repaving shall be in accordance with the requirements of the agency having jurisdiction over the area to be paved. Monuments shall be restored by a Washington State licensed surveyor following completion of the overlay. Monument cases shall conform to King County standards; monument cases of other agencies (such as Snohomish County monument cases) will not be allowed.

A. Alignment

Unless otherwise specified, the location of the water mains, sewer mains, fittings, manholes and other appurtenances shall be staked out by a Washington State licensed surveyor supplied by the Developer/Contractor.

Contractor shall provide survey and layout required to perform the work. In all questions arising as to proper location of lines and grades, the District decision will be final. Cuts to invert of watermain and sewer main shall be shown on staking along with finish grade elevations. Deviations from the alignment shown on the plans must be specifically authorized by the District.

The Contractor's Washington State licensed surveyor shall place offset wood hubs (in soil) and/or steel pins (in asphalt or concrete) showing finished grade and cut depth to invert periodically (at least every 100 feet) along the pipeline alignment, and before and at all changes in alignment vertically or horizontally. Hubs/pins shall be placed far enough in advance of such alignment changes so that the manufacturers and specified deflections can be met. Hubs/pins shall be placed and marked for fittings and provide the District with a cut sheet containing the location, description, and elevation information for all hubs and pins. The Washington State licensed surveyor shall survey the installed invert elevation at the bell end of each piece of pipe and shall provide the District with a cut sheet of the invert elevations.

B. Trench Excavation

Trench excavation shall be in compliance with OSHA and WISHA regulations and requirements and shall meet the following requirements unless otherwise directed by the District or otherwise shown on the District-approved Plans.

Trenches shall be excavated to the line, depth and grade as approved by the District. Unless otherwise directed by Contract Documents or the District, trench excavation shall provide a minimum cover over the pipe of thirty-six (36) inches for water mains, forty-eight (48) inches for sewer mains, or as required to meet the depth requirements of sanitary sewer manholes or other necessary structures. Trench sides shall be excavated vertically. Trench widths shall be adequate for proper working space and the placement of any required bedding material under and around the pipe. The maximum trench width at the crown of the pipe shall be the outside diameter of the pipe barrel plus twenty-four (24) inches. For eighteen (18) inch diameter or larger pipe, the trench width at the crown of the pipe shall not exceed 1.5 times the inside diameter. If these widths are exceeded, a stronger grade of pipe and/or a higher classification and amount of bedding material shall be furnished, as directed by the District. Excavation for manholes or other structures shall be sufficient to provide a minimum of twelve (12) inches between their outer surfaces and the sides of the excavation.

The trench shall be kept free from water until jointing is complete. Surface water shall be diverted so as not to enter the trench. The Contractor shall maintain sufficient pumping equipment on the job to insure that these provisions are carried out. Gravel required in the bottom of the trench due to action of weather or workers shall be furnished by the Contractor. Boulders, rocks, logs, roots and other obstructions shall be entirely removed or cut out to the width of the trench and to a depth six (6) inches below pipe. Where material is removed from below grade, the trench shall be backfilled to grade with material which meets the District's standards for trench foundation gravel, and thoroughly compacted. Trenching operations shall not proceed more than 100 feet in advance of pipe laying.

If the native trench bottoms will provide a firm base for the subsequent placement of bedding, pipe and backfill, such native trench bottom may be used if the bottom is leveled and smoothed so that the entire length of pipe will rest on a well compacted base.

Trench bottoms shall be over-excavated as necessary to remove all unstable soil and eliminate "boiling" or "quick" conditions to such a depth as to provide a firm base. Over excavated materials shall be replaced with trench foundation gravel as directed by the District. Trench foundation gravel shall be placed in no more than one foot lifts. When trenching operations cut through concrete or asphalt pavement, the pavement shall be removed to a width of eighteen (18) inches greater than the top width of the trench. The concrete shall be cut on a straight line. Asphalt paving shall be cut ahead of the trenching equipment to prevent excessive tearing up on the surfacing and to eliminate ragged edges.

C. Timbering and Sheeting

The Developer and/or Contractor shall provide and install timbering and sheeting as necessary to protect workers, the work, existing buildings, utilities and other properties. All timbering and sheeting above the pipe shall be removed prior to backfilling. All sheeting below the top of the pipe shall be cut off and left in place. Removal of timbering shall be accomplished in such a manner that there will be no damage to the work or to other properties. All timbering and sheeting shall be to the Developer's design and shall meet all requirements as specified by OSHA and WISHA.

D.Pipe Laying

Each gravity sewer pipe shall be laid with bells upgrade and the invert of the pipe to the alignment and grade shown on the plans. Concentric joints shall be closed and a smooth invert provided.

Open ends of pipe or fittings shall be temporarily capped or plugged at all times.

A laser alignment tool shall utilized for alignment and be capable of self-leveling adjustable line and grade with locking features. The tool shall be inserted into the pipe with a Class IIIA < 5.0mW Laser Diode. For gravity sewers, adjustment to the line and grade shall be done by scraping away or filling in and tamping bedding material under the body of the pipe. No wedging or blocking of the pipe for adjustment to line and grade may be done.

Tees, wyes, elbows, valves, cleanouts, and other appurtenances shall be installed as shown in the standard details herein and at such locations as are shown on the plans or as otherwise directed by the District, and shall not be covered until the District has completed inspection and exact location has been recorded on the project field plan drawings by the Contractor.

All test trenches and excavations including excavation, trench support, and groundwater removal for the field soils testing No fen operations shall be provided as required by the District. The trenches and excavations shall be provided at the locations feet cle and to the depths required by the District. Lawn areas destroyed by test trenching and excavation shall be regraded and B. Water Service Connections re-landscaped with sod or hydro seeding as directed by the District. Connections shall be installed with d Compaction testing shall be performed at a frequency of every five feet of depth and every 50 feet or with any changes in soils conditions, equipment, or operator personnel, or as directed by the District. Installation shall be as shown in the I Regardless of the approval of the District as to manner of compaction, testing, acceptance by the District or otherwise, Draining the water system to install the Contractor/Developer shall repair any settlement of trenches and excavations that may occur within one year after filings/shavings are removed completion and acceptance of the work by the District. C.Meter Box Installations Pipe laying shall in general conform to AWWA Standard C600 and the manufacturer's recommendations unless All pavement trench repair shall be provided in accordance with WSDOT/APWA 5-04.3(5)E and joints, surface specifically contradicted by these Specifications. Special care shall be taken in handling pipe to avoid damaging ends. Meter boxes shall be installed only smoothness and other related pavement construction shall be provided as specified in WSDOT/APWA 5.04, or as coatings and linings. Pipe shall be carried in slings and shall not be rolled or dragged. The pipe shall be examined for unimproved or landscaped areas, directed by the District. defects and damage while suspended before lowering into trench. Any damage shall be repaired before pipe is landscaping or mulch. Meter boxes lowered into trench. All pipe shall be poly-wrapped in accordance with AWWA C600. Special care shall be taken to H. Grade Lines avoid damaging the polywrap during installation and backfilling. The area surrounding meter boxes The contractor shall maintain the correct grades of sewer pipes. All bench marks, reference points and stakes shall be Material) or 2.1 G (Import Backfill Ma preserved and, in case of destruction of any of them, the resulting expense of restoration shall be borne by the Developer. Laser beam equipment for grade and alignment control shall be required. PVC pipe shall be bedded by hand with material containing no organic matter and no rocks larger than 3/4". When ir If paved or concrete areas are instal the opinion of the District the native material will not meet this requirement, the District may require that bedding Boring and Casing abandoned at the main and a new wa material be imported that meets the WSDOT/APWA classification of bedding material, Section 9-03.16. Pipe shall not located in an unimproved area not su In situations where the pipeline is to be bored, the pipeline shall be placed inside a casing. The casing pipe shall be be dropped or handled roughly and shall be checked for cracks and defects prior to installation. Any cracked or smooth steel, bare pipe, 0.375 inch minimum wall thickness, and comply with ASTM A139, Grade C, with a minimum Meter boxes may be located in or nea defective pipe shall not be installed. steel yield of 36,000 psi. To support the pipe inside the casing, pipe slides, casing spacers or 4" x 4" treated timbers with District. Such meter boxes shall be stainless steel straps shall be used to maintain vertical and horizontal alignment. After installation of the pipe in the flush with concrete or asphalt surface casing is complete, the casing void shall be filled with sand or grout and the ends of the casing shall be grouted. HDPE pipe shall meet the installation requirements for PVC pipe. Joints shall be flanged or thermal fusion butt-welded When the meter box is installed in ca . Pipe in Fills and shall meet the requirements in the District's "Side Sewer Regulations", latest edition. Tracer wire shall be installed eighteen (18) inch gap between the e with the low pressure mainline to its termination point. A minimum of three (3) feet and a maximum of six (6) feet of Special treatment may be required at the discretion of the District for pipe in fills. This treatment may consist o Install a water meter marker post at th cover shall be provided. compacting the backfill in 6-inch layers, careful choice of backfill materials, use of ductile iron pipe in short lengths, or such other reasonable methods or combinations as may be necessary in the opinion of the District. A twelve (12) inch by three (3) inch the asphalt, to mark the location of ea . Highway Crossings All pipe, fittings, and valves shall be carefully cleaned of all dirt and foreign materials as they are placed. The open No fences, rockeries, trees, or guard ends of pipe and fittings shall be plugged with a temporary watertight plug at all times. Groundwater shall be This item applies only to rigid surface pavements. The Developer may use any method which provides satisfactory prevented from entering the pipe at all times. results and is acceptable to the governmental agency having control of the road and to the District, provided that the D.Backflow Prevention (Cross Connecti Developer restores the roadway to its original condition. Normally, highway crossings require the placing of a steel Where the possibility of contaminat casing by jacking, tunneling or boring and laying the pipeline within this casing. In case of tunneling, subsequent low equipped with a backflow prevention pressure grouting through the pavement may be required. prevention assembly shall be solely d . Valve Installation Pursuant to Washington State Regu Before installation, valves shall be cleaned of all foreign material as hereinbefore specified for installation of pipe. Such Cross Connection Program, the Dis blocking as the District may deem necessary shall be provided certified Washington State Tester, pri-M.Valve Box Installation Any transfer of water from a District the method and equipment. The valve box shall be set centered on the valve operating nut. Valve boxes shall be set flush in pavement. In gravel roads the valve box shall be set in a three (3) foot diameter circular pad of two (2) inch thick asphalt, flush with the gravel Any use of District water for constr surface. Installation of pavers or slip cans to adjust valve boxes to finished grade is not allowed. appropriate, District-approved cross with District requirements. I. Valve Marker Posts E. Connections To Existing Water Mains Valve marker posts shall be set where required by the District for all valves outside of paved roads, except auxiliary valves for hydrants and Type I blowoffs. The marker shall be set on a line through the valve. The marker shall generally District standard testing connections be set on the property line unless the District decides another location is safer or more conspicuous. existing system shall not be made u satisfactory purity tests, schedule with D.Concrete Blocking of new water system construction, te Concrete blocking with specified material shall be cast in place and have a minimum of 1/4 square foot bearing against of ductile iron pipe, length to suit, the fitting and bearing area against undisturbed soil as shown on the District's Standard Details. Additional bearing area Installation and connection to the exist may be required by the District. Blocking shall bear against fittings only and shall be clear of joints so as to permit taking Connections to the end of an existing up or dismantling joints. All fire hydrants, bends, tees and valves shall be blocked. All sewer force main bends and line size, and new main construction valves shall be blocked. The Developer/Contractor shall install blocking which is adequate to withstand full test pressure existing valve in close proximity to the as well as to continuously stand operating pressures under all conditions of service. P. Air and Vacuum Release Valve Installation Tapping of existing DI pipelines whe valve assembly. Joints shall be teste Location of the air release valves as shown on the Plans is approximate. The installation shall be set at the high point of determine where tapping under press the line. tapping sleeves with Type 316 stainle Q.Access Roads Where cut-ins are to be made in exis manner as to minimize the interruptic Access roads shall be used only where the use of public or private roads to which the District has access is infeasible or ready for installation prior to the shut unavailable. Use of access roads to water and sewer facilities must be approved by the District. The road surfacing be prosecuted vigorously and shall ne shall be appropriate to the neighborhood (such as gravel, grass-crete, paving, cobblestones, etc.). At a minimum, access roads shall be twelve (12) feet wide designed for H-20 loading, with a minimum of two-and-a-half (2-1/2) inches Unless specifically provided for elsew crushed surfacing base course and one-and-a-half (1-1/2) inches crushed surfacing top course, as defined in least 5 business days notice to the WSDOT/APWA Section 9-03.9(3), over a District-approved subgrade compacted to 95 percent relative compaction, affected water users. Water service unless otherwise approved by the District. Operation of District Valves Turnarounds shall be provided at all dead ends, either a hammerhead type with forty five (45) foot long legs and forty Developer/Contractor shall not operat (43) foot inside radii, or circular with a diameter of eighty-five (85) feet. The maximum road grade for gravel access except in the presence of the Distric roads shall be 7 percent (7%). If the road grade is greater than seven percent, the access road surfacing shall be paved the District's water system if valv with asphalt concrete pavement. District 48 hours in advance of need R.Painting 1. Exposed parts above ground shall be painted as follows: a) Fire hydrants shall be painted with two coats of semi-gloss quick set enamel. The color shall be Safety Yellow. b) Hydrant posts, type I blowoff assemblies, water air/vacuum assemblies for water mains and water valve markers shall be painted with two coats of semi-gloss quick set enamel. The color shall be Safety Yellow. c) Distance to valves shall be marked with raised Cole numbers on the valve marker, blowoff stem, air vacuum assembly stem or Hydrant. Apply numbers with waterproof Liquid Nail. d) Sewer air/vacuum release valve vents shall be painted with two coats of semi-gloss quick set enamel. The color shall be Safety Green. 2. Piping and Appurtenances within Structures: a) Water Facilities: One (1) rust resistor prime coat and two (2) coats of semi-gloss quick set enamel. The color shall be Safety Blue. b) Sewer Facilities: One (1) rust resistor prime coat and two (2) coats of semi-gloss quick set enamel. The color shall be Safety Green. 3. Vaults: The exterior of vaults below grade shall be painted with two (2) coats of black bitumastic solution. 4. Meter Box Location stripes: Meter Box Location stripes (3 in. x 12 in.) shall be painted with two coats of semi-gloss, quick set enamel. The color shall be Safety Yellow. 5. Sewer Air/Vacuum Release Valve Vents: Two coats of semi-gloss quick set enamel. The color shall be Safety Green. 3. Raising Structures to Grade The Developer/Contractor shall notify the District prior to raising any water or sewer system structures to grade. All water or sewer system structures (i.e. valves, manholes, clean-outs, monuments, etc) shall be raised within 48 hours of installation of ATB or Asphalt Concrete overlay unless directed by the District to raise said structures sooner.

1. Ductile Iron Pipe 3. HDPE (Low Pressure Mainline) Sewer Pipe 4. Contamination Prevention The pipe shall be properly aligned before the joint is forced home. During insertion of the tongue or spigot the pipe shall when it deems necessary. The pipe zone shall be backfilled with suitable backfill material as described herein. Care shall be exercised to prevent

For gravity sewers, variance from established line and grade shall not be greater than 1/32nd of an inch per inch of pipe diameter, but shall not exceed ½ inch or result in a level or reverse sloping invert. Variation in the invert elevation between adjoining ends of pipe due to non-concentricity of joining surface and pipe interior surfaces shall not exceed 1/64th of an inch per inch of pipe diameter or 1/2 inch in any event. For sewers, the furthest downstream manhole shall be plugged in the downstream side and remain plugged throughout the period of construction, until final acceptance of the project by the District, to prevent debris and/or infiltration from entering the District system. 2. PVC Pipe No joints shall be covered until examined and approved by the District. Joint material shall be installed according to the manufacturer's recommendations. be partially supported by hand, sling or crane as required to minimize lateral pressure on the gasket and to maintain concentricity until the gasket is properly positioned. Pipe deflection and straightening shall be avoided once the joint is home, to prevent creep of the joint. Pipe must be constructed upslope. Pressure shall be applied in making the joint to assure that the joint is home, as defined in the pipe manufacturer's standard instructions for installation. Restraint shall be applied to the line to assure the joints, once home, are held so by tamping fill under and alongside the pipe or by other appropriate means. When pipe laying is not in progress, the last pipe laid shall be plugged and blocked in such a manner as may be required to prevent water and debris from entering the pipe and creep during downtime. Bedding material shall be placed from a minimum of six (6) inches below the pipe barrel to six (6) inches over the top of the pipe as shown on the standard details herein. Bedding material shall be placed before the pipe is installed and shall be spread smoothly so that the pipe is uniformly supported along the barrel. Subsequent lifts of not more than six (6) inch thickness shall be placed to six (6) inches over the crown on the pipe and individually compacted to 90% of maximum density. Removal of shoring or moveable trench shields or boxes shall be accomplished so that the bedding material placement is not disturbed. In solid rock excavation, all ledge rock, boulders or stones shall be removed to provide a minimum clearance of eight (8) inches under the pipe. All material thus removed shall be replaced with bedding material. No backfilling shall be performed until after the District has inspected the installation of the pipe and approved backfilling. Native material that meets the requirements of Imported Backfill may be used for trench backfill upon approval by the District. In addition, 100% import backfill will be required for trench backfill during the wet season from October 1 to April 30. Backfill material shall be moisture-conditioned as necessary to achieve the required compaction as described herein. Fill and backfill materials to be placed within 6 inches of any structure or pipe shall be free of rocks or unbroken masses of earth materials having a maximum dimension larger than 3 inches. Backfilling shall be performed carefully so that no damage is done to the pipe or to its alignment. The District may direct the contractor to use special backfill techniques Fill, backfill materials shall be selected or processed clean, fine earth, rock, or sand, free from grass, roots, brush, or other vegetation and organic materials. In areas such as existing paving, or in areas to be paved, where the District determines that minor settlement would be detrimental and the native excavated material is not suitable for compaction as backfill, the trench shall be backfilled with Imported Backfill material. Materials not defined as unsuitable in Part Two - Material Standards are defined as suitable materials and may be used in fills, backfilling, and embankment construction subject to the indicated limitations. Suitable materials may be obtained from on-site excavations, may be processed on-site materials, or may be imported. If imported materials are required to meet the quantity requirements for the project, imported materials shall conform to the suitable material standards herein. Suitable materials are defined in Part Two - Material Standards. All trenches shall be fully backfilled at the end of each day or, in lieu thereof, shall be covered by heavy steel plates adequately braced and capable of supporting vehicular traffic in those locations where it is impractical to backfill at the end of each day at the District's discretion. Backfilling operations shall not follow more than 100 feet from pipe laying operations. The above requirements for backfilling or use of steel plate will be waived in cases where the trench is located further than 100 feet from any traveled roadway or occupied structure. In such cases, however, barricades and warning lights meeting applicable safety requirements shall be provided and maintained. All street crossings shall be backfilled with 1 1/4" crushed rock or as otherwise required by the District, or Local Agency (City/King County). The pipe zone is defined as that portion of the vertical trench cross-section lying between a plane below the bottom surface of the pipe and a plane at a point above the top surface of the pipe as identified on the standard trench section detail. The bedding is defined as that portion of pipe zone backfill material between the trench subgrade and the bottom of the pipe. Backfill material shall be placed and compacted around and under the pipelines by hand tools, unless otherwise approved by the District, to a height of six (6) inches above the top of the pipe. damage to the pipeline coating, cathodic bonds, and the pipe itself during the installation and backfill operations. If a moveable trench shield is used during backfill operations the shield shall be lifted to a location above each layer of backfill material prior to compaction of the layer. The pipe or backfill shall not be displaced while the shield is being moved. Backfill material around another utility crossing the water or sewer trench, such as gas, power, and fiber optic, shall comply with the backfill material requirements of that utility. After the pipe zone backfills have been placed, backfilling of the trench zone may proceed. The trench zone is defined as that portion of the vertical trench cross-section lying as indicated between a plane above the top surface of the pipe and a plane at a point 18 inches below the finished surface grade, or if the trench is under pavement, 18 inches below the roadway subgrade. Final backfill is all backfill in the trench cross-sectional area within 18 inches of finished grade, or if the trench is under pavement, all backfill within 18 inches of the roadway subgrade.

E. Pipe Joints . Bedding Material Placement G.Backfilling

3.2 WATER SYSTEMS

In addition, all backfill in right-of-way shall meet King County Road Standards, latest edition or appropriate governing authority's requirements.

The remaining backfill material shall be placed and compacted in layers not more than twelve (12) inches thick (two fee loose thickness), except that under roadways all backfill material shall be placed in layers not more than six (6) inches thick and mechanically compacted to the density of the existing subgrade, unless state or county requirements are more stringent. All backfill shall be compacted to 95 percent of maximum density (modified Proctor), unless otherwise directed by the District.

Where compaction densities are specified, measurements of density shall be by the modified AASHTO method. The District may require that an independent laboratory or King County Laboratory be employed to perform in-place density tests as proof of compaction which meets these Specifications. Compaction of native material as trench backfill shall be tested and certified by an independent laboratory. All costs shall be borne by the Developer. At its discretion, the District may request supply samples for testing of any material used in the work.

A.Fire Hydrant Installation

together.

Hydrant installation shall generally conform to AWWA Standard C600 unless specifically contradicted by the detail for Fire Hydrant Assembly included in the District's Standard Details. In addition, the fire hydrant run shall be installed with District approved restrained joints. The concrete guard posts as shown on the Standard Detail shall be installed where required by the District. Pumper nozzle shall face the road after installation is completed, unless otherwise specified. Hydrants shall be covered with a bag until operational.

All water mains shall have a minimum cover of 36 inches below finished grade. Where utility conflicts occur, water mains

Where more than one fitting occurs in close proximity to each other (i.e., a tee and a valve), the fittings shall be flanged

shall be lowered to clear, except that water mains may not be installed under sewer facilities.

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In or service. Indecessary pipe, intrings and gate valves shall be assembled at the shell of the over the water in the existing main. Once the water has been cut off, the work shall of be halted until the line is restored to service. Where in these Specifications, the Developer shall have the responsibility of giving at District of intention to disrupt service and shall give at least 72 hours notice to the shutdowns shall not be scheduled on Mondays or Fridays. Ite any valves, including fire hydrant valves, in any part of the District's water system, the <u>Developer and/or Developer's Contractor shall be fined for tampering with res are operated without the District being present.</u> Developer shall notify the to operate system.	RIAL A	CONSTRUCTION NOTES	
Ibject to traffic. ar driveways or paved areas only with written District approval, or as required by the traffic-bearing boxes as specified on the Standard Details. Meter boxes shall be set so (roadway, sidewalk, driveways, driving or parking surfaces, etc.). concrete paving, a 5/8-inch expansion joint shall be provided around the box with a expansion joint and meter box on all sides. The meter box location until landscaping is completed. Stripe shall be painted on the ATB or finished asphalt, perpendicular to the edge of ach meter box. The color of the stripe shall be as per section 3-1.R(4) "Painting". Trails shall be installed between the meter box and the main. ion Control) tion of the water supply exists, the District will require that certain services be assembly that is approved by DOH. The determination as to the need of a backflow determined by the District. ulation WAC 246-290-490 and current District Resolution regulating the District's strict shall receive a Backflow Prevention Assembly Test Report performed by a ior to acceptance of the system by the District. water main to a vehicle or container must have District inspection and approval as to rruction purposes must be from a hydrant or other District-approved source with connection control. District personnel will inspect the installation for conformance s shall be installed on new water main construction. Direct connection to the District's ntil the new water main is tested and accepted by the District. Following completion sting, and acceptance by the District, remove testing connection and install segment with two long-pattern sleeves or as directed on the District-approved drawings. sting water system shall be with 100% District inspection. g water main line shall be made with a main line valve, sized the same as the main n connection. g water main line shall be made with a main line valve, sized the same as the main n connection. g water main line shall be made with a main line valve, sized the same as the main n connection. gre required.	Sammamish Plateau Water	1510 228th Avenue SE, Sammamish, WA 98075 425.392.6256 • spwater.org	
y in unimproved or landscaped areas not subjected to driving or parking. In meter boxes shall be set two (2) inches above the finished grade, including shall be centered over the meter setter(s). shall be backfilled with backfill material conforming to Part 2.1 F (Native Backfill aterial). Maximum size particle shall be 2 inches. Sand or pea gravel shall NOT be lled around meter boxes after the meter box is installed, the water service shall be ater service shall be installed perpendicular to the main so that the new meter box is			
ouble strap type pipe saddle that uses stainless steel straps. District Standard Details. Splices or couplings in service lines will not be acceptable. I the meter setters will not be allowed. Water services shall be installed so that	BY		

ces, rockeries, trees, or guardrails shall be installed between the fire hydrant and the main.	A minimum of	five
ear zone shall be provided between the fire hydrant and any rockery or structure.		

1 SEWER SYSTEMS	Allowable leakage in gallons	s per fifteei	n minutes
.Manholes Precast manhole base sections shall be placed on a well-compacted bedding course of bedding material. The depth of	2" - 0.06 gallons 8" - 0.2	24 gallons	14" - 0.
the bedding shall be four (4) inches thick or greater, extending a minimum of twelve (12) inches beyond the outside perimeter of the base section. The balance of any remaining excavated area shall be filled with imported backfill material and well-tamped to the level of the top of the bedding before the manhole is set in place. The bedding shall be well-tamped and made smooth and level to assure uniform contact and support of the precast elements.	4" - 0.12 gallons 10" - 0.	.30 gallons	3 16" - 0 .
All lift holes (inside and outside) and the inside face of rubber gasket joints between precast sections shall be thoroughly wetted and then filled with grout, smoothed and all joints pointed.	6" - 0.18 gallons 12" - 0. B. Hydrostatic Tests For HDPE W	•	
Precast sections shall be placed and aligned to provide vertical sides and vertical alignment of ladder rungs. Eccentric cone shall be positioned to allow vertical access to the ladder. The completed manhole shall be rigid, true to dimension and watertight.	HDPE water and sewer mair operating pressure of the pipe pipe shall be raised to the test	n installation.	ons_shal of the te
Manholes eight (8) feet and less in depth shall have cones a maximum of two (2) feet in height.	expansion of the pipe, unless section shall be pressurized to	s otherwise c 1.5 times	e approve the rate
Manholes twenty (20) feet or greater in depth shall conform to the Deep Manhole detail on the Standard Details. Manholes set in paved streets or other paved areas shall be set flush with finished grade of the paving and when	final test pressure shall be he of "make up" water shall be method. The allowable amoun	e measure	d in the
required, the manhole frame shall be tilted to conform to the grade on the paved surface.	100-feet of pipe):		
Manholes set in gravel shoulders or other non-paved improved areas shall be set flush with the finished grade and in an asphalt apron six (6) feet in outside diameter. The asphalt apron shall be tapered per the Standard District Details. The manhole frame shall be tilted to conform to the grade of the finished surface.		ninal Pipe e (inches)	1 - Hou
Manholes not set in paved or improved areas shall be set at a finished grade six (6) inches to twelve (12) inches higher than the surrounding terrain to prevent surface water infiltration into the system, unless plans specify otherwise. Manholes shall be surrounded by an asphalt apron as shown on the Standard Details.		3 4 6	0.
Manholes installed in wet areas shall have additional measures added to ensure no water infiltration. Consult with District for requirements.		8	0.8
Manhole channels shall be made to conform to the sewer grade and shall be brought together with well-rounded junctions. Channel sides shall be carried up vertically to the top of the largest pipe's diameter and rounded to the shelf at the largest pipe's crown elevation. The concrete shelf shall be smoothly finished with slopes to drain.		10 11	0.8
The openings through which pipes come into the manhole shall be completely and thoroughly grouted. A watertight joint (Kor-n-Seal boot or approved equal) shall be provided where the pipe passes through the manhole wall. 6-Inch Side Sewer from Main to Property Line		12 14 16	1.1 1.4 1.7
The strength class of side sewer pipe shall be the same as the sewer pipe to which it connects and these specifications		18	2.0
shall be applicable to side sewer work. The slope of side sewers shall not exceed one (1) foot vertical to one (1) foot horizontal when using SDR 35 D3034 PVC,		20 22	2.8 3.9
nor be less than 2 percent. If ductile iron or C900 piping is used along with the corresponding change in mainline material, then slope is allowed a maximum of two (2) foot vertical to one (1) foot horizontal nor be less than two percent. When change in slope between connecting pipes exceeds two (2) inches per foot, standard 1/8 bends shall be used. All side sewers shall be plugged and plugs blocked.		24 28	4.9 5.9
The end of all side sewers at the property lines shall be marked with a vertical twelve (12) foot long, 2"x4" board, the bottom of which shall be located at the invert of the elevations of the side sewer and top of which shall be painted white		32 36	7.0 9.0
and extend above the ground. The board shall be wrapped from one end to the other with a 12 AWG insulated wire. The wire shall be securely wrapped around the end of the side sewer. The word "SEWER" shall be stenciled in two (2)		42	12.
inch high black letters on the upper end of the board. Depth to invert shall be clearly shown on the board. For inverts that are deeper than 12 feet, the boards shall be extended to at least 4 feet above finish grade and the corresponding		48	15.
measurements to invert shall also be clearly shown. .Connection to the Existing Sewer System	Under no circumstances shall test is not completed due t eight (8) hours prior to the nex	to leakage	
the District. Developer and/or Developer's Contractor shall be fined for tampering with the District's sewer system if the plug is removed or a connection is made without the District being present. Developer shall notify the District 48 hours in advance of need to install or remove plug or connect to the system. No connections shall be made to the existing sewer system without the presence of the District. Written application for connection shall be made to the District, and the connection shall be made at a time agreed upon with the District. 1. Connections to existing manholes shall be made as follows:	and equipment and shall performs service lines are installed. All C.Sterilization and Flushing Of W Flushing of the water mains is that will remove rocks and deb	valves with Vater Mains s to clean a	nin the se s and steril
a) If the manhole is "live", the manhole channel shall be tightly covered to prevent debris from entering the sewer line prior to breaking into the manhole wall. Immediately after the connection is made, the new pipe shall be plugged and blocked in such a manner that no water shall enter into the existing manhole. The plug shall not be removed without permission of the District. Additional upstream plugs may be required by District.	Sterilization of water mains sh Department of Health (DOH) install chlorine granules per m When a chlorine concentratior	and in a n nanufacture	nanner s er's spec
b) If the existing manhole is not "live", a plug shall be installed in the downstream or discharge pipe of the existing manhole in addition to the above. Where new connections to existing manholes require an outside drop, two plugs for each drop shall be installed and blocked.	closed and the line left undistu approval by the local health ag	urbed for 2 gency.	4 hours.
c) The existing manhole shall be rechanneled2. Connections to existing sewer main shall be made as follows:	thoroughly flushed at maximu Sections will ordinarily be ster	um flow p	rior to c
 a) The existing line shall be cut and removed from the manhole excavation. A new manhole shall be installed in place of the removed existing line. The manhole shall be precast, minimum 48-inch diameter. The manhole shall be placed with a full stick of pipe centered through the manhole and coupled to both ends of the existing sewer line. 	may be satisfactorily handled hydrant at the opposite end op shall be fed into the pipeline application rate of not less th	pened suffice already n	ciently to nixed by
The new sewer line inside the manhole shall be cut out and the manhole channeled. Sewage must be bypassed during channelling.	application rate of hot less it application until the presence of ppm has been established through	of chlorine	has defi
3. Connections of side sewers to an existing sewer line shall be made as follows:	line shall then be thoroughly flue be repeated until water sample		
a) The connection to an existing sewer main shall be made with a cut in tee with slip couplings. If the connection is made to the existing sewer pipe while in operation, the existing sewer pipe shall be cut with a saw or approved equal to give a smooth beveled edge of the proper size and the lip shall be filed smooth. Each connection shall be	to surrounding property. The Contractor shall be respor	nsible for c	disposal
bedded with a minimum of six (6) inches of bedding material. Unsuitable foundation material shall be over-excavated and replaced with bedding material.	for protection of aquatic life in	the receivi	•
b) Alternatively, the connection shall be made with Romac "SST" Stainless Steel Tapping Sleeve (with stainless steel flange), with Protecto 401 FLxMJ adapter and gasket sized for appropriate side sewer pipe material; or an Insert-a-Tee. Romac side sewer saddle, Model CB, is NOT allowed.	D. Cleaning And Jetting Of Sewer Prior to sewer pipe testing, all the jetting shall be removed wedged debris or damaged pi	pipes and at the first	t manho
. Side Sewers (Gravity or Pressure)	debris or jetting water shall be	permitted	
Gravity or pressure (grinder pump) side sewers shall be installed and tested in accordance with the Sammamish Plateau Water and Sewer District "Side Sewer Regulations", latest edition.	E. Testing Of Non-Pressure Sewe Testing, which includes CCTV		n. of all r
Use of Ductile Iron Pipe for Sewers The contractor shall furnish repair kits and shall repair the PROTECTO 401 ceramic epoxy lining damaged during installation, welding and/or field cutting operations.	basis. Testing for District's an trenches backfilled and compa cleaned as discussed above in	pproval sh acted, all n	all only l nanholes
Lift Stations	All wyes, tees and ends of sid the District and securely faster		
Lift stations shall be installed per District-approved plans and specifications. Lift stations shall be tested with representatives of the District, Developer, Contractor and all sub-contractors involved with the lift station present. Developer/Contractor shall furnish the District with three (3) copies of the Operation and Maintenance Manuals for the Lift Station in labeled binders.	If any section of the sewer sy repair any and all deficiencies sewer main, manhole-to-manh	/stem is fo or substar nole, at the	und to h ndard wo District's
2 TESTING FOR WATER AND SEWER PIPELINES	be completed at the Developer Final Approval of the sewer sys		
.Hydrostatic Tests For Ductile Iron Water and Sewer Mains	1. <u>Pressure Testing:</u> All runs of section shall be employed i	of non-pre	ssure se
Ductile iron water and sewer main installations shall be subjected to a hydrostatic pressure test of 250 PSI for a	observation of the District s		

after corporation stops and service lines are installed, and the trench is backfilled and compacted. All valves within the section being tested shall be open, if possible. No more than 1,500 feet of 8-inch main can be tested at one time.

Butterfly valves shall be tested at 150 psi above the static water pressure, with a maximum pressure of 250 psi unless

otherwise noted.

2. Deflection Testing: All sanitary sewers constructed of flexible pipe shall be deflection-tested not less than 30 days after the trench backfill and compaction has been completed. The test shall be conducted by pulling a solid-pointed mandrel with a diameter equal to 95% of the pipe diameter through the completed pipeline.

3. Infiltration Testing: The District may require an infiltration test if it appears that there is excessive infiltration after air tests are completed. The District shall also be the sole judge of whether or not this test is required. The maximum allowable limit for infiltration shall be as per WSDOT/APWA 7-17.3(2)C. Failure to pass the infiltration test shall be cause for rejection.

per fifteen minutes per 1,000 feet of pipe:

gallons 14" - 0.42 gallons 20" - 0.59 gallons

30 gallons 16" - 0.48 gallons 24" - 0.71 gallons

.36 gallons 18" - 0.54 gallons

ater and Sewer Mains

I - Hour

installations shall be subjected to a hydrostatic pressure test of 1.5 times the rated . Location of the test pump shall be approved by the District. To establish equilibrium, the pressure and allowed to stand without makeup pressure for 2 to 3 hours to allow for otherwise approved or directed by the District. After equilibrium is established, the test 1.5 times the rated operating pressure of the pipe. The pump shall be turned off and the eld for 1, 2, or 3 hours as determined by the District at the time of testing. The amount measured in the presence of the the District Inspector, utilizing a District-approved ts of make up water for expansion during the leak test are as listed below (US Gallons /

- Hour Test	2 - Hour Test	3 - Hour Test
0.10	0.15	0.25
0.13	0.25	0.40
0.30	0.60	0.90
0.50	1.00	1.50
0.80	1.30	2.10
1.00	2.00	3.00
1.10	2.30	3.40
1.40	2.80	4.20
1.70	3.30	5.00
2.00	4.30	6.50
2.80	5.50	8.00
3.50	7.00	10.50
4.50	8.90	13.30
5.50	11.10	16.80
7.00	14.30	21.50
9.00	18.00	27.00
12.00	23.10	35.30
15.00	27.00	43.00

the total time under the test exceed eight (8) hours at 1.5 times the pressure rating. If the leakage, equipment failure, etc., the test section shall be allowed to "relax" for

eloping under said pressure shall be remedied by the Contractor before final acceptance all provide all necessary equipment to allow the District's inspectors to use their gauges orm all work connected with the tests. Tests shall be made after corporation stops and alves within the section being tested shall be open, if possible.

to clean and sterilize the mains. Cleaning includes the flushing at a velocity and volume

all be accomplished by the Contractor in accordance with the requirements of the State and in a manner satisfactory to the District. During pipe installation the Contractor shall anufacturer's specifications to achieve a chlorine concentration of not less than 50 PPM. n of not less than 50 PPM has been established throughout the line, the valves shall be bed for 24 hours. The line shall then be thoroughly flushed and water samples taken for

tests the following procedure shall be followed. The section to be sterilized shall be m flow prior to chlorination. Flushing shall be done in the presence of the District. ized between adjacent gate valves unless, in the opinion of the District, a longer section Chlorine shall be applied by solution feed at one end of the section with a valve or ened sufficiently to permit a flow through during chlorine application. The chlorine solution already mixed by an automatically proportioning applicator so as to provide a steady nan 60 ppm chlorine. Hydrants along the chlorinated section shall be opened during chlorine has definitely been detected. When a chlorine concentration of not less than 50 ughout the line, the valves shall be closed and the line left undisturbed for 24 hours. The shed and water samples taken for approval by the local health agency. Chlorination shall test satisfactory. The Contractor shall exercise special care in flushing to avoid damage

sible for disposal of treated water flushed from mains and shall neutralize the wastewater he receiving water before disposal into any natural drainage channel.

ipes and manholes shall be completely cleaned by jetting and vactoring. All debris from the first manhole where presence of the debris is noted. In event that cemented or ipe cannot be dislodged by jetting, the obstruction shall be removed and/or repaired. No permitted to enter the existing sewer system.

Inspection, of all non-pressure sewer pipe shall be conducted on a manhole_to_manhole proval shall only be allowed after all other nearby utilities have been installed and their cted, all manholes have been channeled, and all manholes and sewer mains have been

sewer stubs shall be plugged with gasketed caps or plugs, or an alternate acceptable to ned to withstand the internal test pressure. Such plugs or caps shall be readily removable.

tem is found to have deficiencies or fails to pass a test, the Contractor shall locate and or substandard work. After all repairs are made, the Contractor shall retest the full run of ole, at the District's sole discretion. All work, testing and retesting, under this section shall s or Contractor's expense.

tem is conditional on successful completion of all tests and Inspections.

non-pressure sewer pipe shall be air tested at 4 psi. The procedures set forth in this conducting the testing. All facilities and personnel for conducting the testing under the nall be furnished by the Developer and/or Contractor. All equipment and personnel to ubject to the approval of the District. Although air testing may be performed for the or prior to backfilling, no pipe shall be accepted until air tests have been performed after The installed pipe shall be tested with low pressure air as set forth in WSDOT/APWA shall be brought to the surface and allow District personnel to verify the testing without

4. Television/CCTV Inspection: The District shall require all runs of sewer pipe to be inspected by the use of a television camera not less than 30 days after the trench backfill and compaction has been completed. The costs of making all inspections and re-inspections, shall be borne by the Developer or Contractor.

a. CCTV Equipment:

- 1) Television inspection equipment shall have an accurate footage counter that will display on the monitor and record the camera distance from the centerline of the starting manhole.
- 2) The camera shall be of the remotely operated pan and tilt type. The rotating camera and light head configuration shall have the capability of panning 360° with pan and tilt capability of providing a full view of the pipe to ensure complete inspection of the mainline pipe and service laterals.
- 3) The camera, television monitor, and other components shall be color. To ensure peak picture quality throughout all conditions encountered, the color camera shall be equipped with the necessary circuitry to allow for the remote adjustment of the optical focus iris from the power control unit at the viewing station. A variable intensity control of the camera lights shall also be located at the viewing station.
- 4)Lighting and camera quality shall be suitable to allow a clear, in-focus picture for the entire inside periphery of pipelines extending at least ten (10) feet in front of the camera. In High Density Polyethylene (HDPE) or ductile iron poly-lined pipe, lighting should be sufficient enough to provide a clear view at least two (2) feet in front of the camera. The replay of the recorded video information shall be free of electrical interference and shall provide a clear stable image.
- 5) Camera quality shall be suitable to provide a full 360° view of the pipe during the inspection.
- 6) The travel speed of the camera shall be variable but uniform and shall not exceed 30 feet per minute. Any means of propelling the camera through the sewer line which would produce non-uniform or jerky movement of the camera, will not be acceptable.
- 7) The television system shall be capable of performing line segment inspection in increments of 400 feet with one

8) The District's 1-1/2" target, or the contractor's District-approved target, shall be used

- b. CCTV Procedure:
- 1) Just prior to performing the video inspection procedure, dyed water must be introduced into the nearest upstream manhole until observed at the nearest downstream manhole. This will insure that any pipe segments with bellies are easily identified during CCTV inspection. Introduction of the dyed water shall be recorded.
- 2) All fog shall be evacuated from the pipeline and the pipeline kept clear of any fog during the CCTV inspection process.
- 3) Perform the inspection on all mainline sections from manhole to manhole.
- 4) Should access to a particular sewer segment be difficult, and where adjacent segments require television inspection, the CCTV Contractor may be allowed to complete the inspection of multiple sewer line segments with one setup. When multiple sewer line segments are inspected utilizing one setup, the CCTV Contractor shall zero the footage counter at each subsequent sewer manhole to establish a uniform starting point for each line segment televised
- 5) The interior of the pipe shall be carefully inspected to determine the location and extent of all deficiencies. Pipe conditions that result in a question of proper installation procedures shall be noted so that these conditions can be reviewed and, if necessary, corrected before actual acceptance of the sewer system.
- 6) At all service connections, the camera shall be stopped and the pan and tilt features shall be used to obtain a clear picture. At each service lateral, the camera shall be panned to view up each lateral or point of connection. Make note of any deficiencies through the use of Data Collection Software.
- 7) Prior to the beginning of each CCTV inspection, manhole identification numbers, as indicated on the record drawings, will be displayed in the title and shall become a part of the video record.
- 8) As directed by District, the Developer's Engineer or thier representative, the camera shall be stopped to view and analyze conditions that appear unusual or uncommon. The CCTV inspection technician shall, at all times, be able to move the camera through the lines in either direction without the loss of quality in the video presentation
- c. The television-inspection format shall be provided on DVD in a MPEG file type that is able to be viewed using Windows Media Player, with separate MPEG files individually designated between each sewer run between manholes and listed on an index or menu. The file names shall reflect the manhole numbers on the plan for each sewer run between manholes. The associated television-inspection reports and the original DVDs shall be provided to the District immediately upon completion of the television-inspection. If contractor wants a copy, the contractor shall obtain one at same time as the original is completed. Provide the District with two copies of the written report for each sewer run between manholes.

F. Hydrostatic Tests For Pressure Sewer Pipe

After the trench is backfilled and compacted, all pressure sewer pipe shall be subjected to a hydrostatic pressure test in accordance with the test for the applicable pipe material, as specified previously in this section. All facilities and personnel for conducting the testing under the observation of the District shall be furnished by the Developer/Contractor and shall be subject to the approval of the District.

- G. Testing For Low Pressure Mainline Sewers And Grinder Pump Systems
- Testing shall conform to the requirements in the District's "Side Sewer Regulations", latest edition.

3.3 ABANDONMENT OF WATER AND SEWER FACILITIES

A. Abandonment of Water Mains

Water mains and valves to be abandoned shall be abandoned in accordance with the procedures listed below, so as to minimize the risk of leaking from abandoned valves and to minimize obstructions within the right-of-way. If an active water main that has an abandoned valve attached to it will be abandoned in the foreseeable future, as determined solely by the District, the abandoned valve can remain and its valve can and valve box shall be raised to finished grade, in accordance with A.1 below. However, if the valve is a double disc valve or if it is leaking, it must be removed in accordance with A.2 below. If an active water main that has an abandoned valve attached to it will NOT be abandoned in the foreseeable future, as determined solely by the District, the abandoned valve must be removed and the tee plugged or blind-flanged, in accordance with A.2 below.

- 1. For Abandoned Water Valve to Remain:
- a. Turn valve to the closed position.
- b. Remove valve box and valve can.
- c. Inspect valve for longevity of leaking from packing, etc.

d. If valve is not leaking, cut out section of main from old valve.

- e. Install MJ plug or blind flange on valve.
- f. Plug old pipe with concrete. If pressure build-up from ground water entering the abandoned pipe is likely to occur (especially on hillsides), install a blocked MJ cap.
- g. Re-install the valve box and valve can, and install 6" grout in valve can to indicate a plugged valve.

h. Backfill and compact.

- 2. For Abandoned Water Valve to Be Removed:
- a. Schedule a water main shutdown.
- b. Turn valve to the closed position.
- c. Remove valve box and valve can.
- d. Cut out section of main from old valve.
- e. Remove valve, and install blind flange or MJ plug on tee.
- f. Plug old pipe with concrete. If pressure build-up from ground water entering the abandoned pipe is likely to occur (especially on hillsides), install a blocked MJ cap.
- g. Backfill and compact.

Manhole

- 4. Possi

- 3. A cap
- with g (espe (e.g.,

B. Abandonment of Fire Hydrants	TE
Fire hydrants to be abandoned shall be abandoned in accordance with the procedures listed below, so as to minimize the risk of leaking from abandoned valves and to minimize obstructions within the right-of-way. If an active water main that has an abandoned hydrant foot valve attached to it will be abandoned in the foreseeable future, as determined solely by the District, the abandoned foot valve can remain and its valve can and valve box shall be raised to finished grade, in accordance with B.1 below. However, if the valve is a double disc valve or if it is leaking, it must be removed in accordance with B.2 below. If an active water main that has an abandoned foot valve attached to it will NOT be abandoned in the foreseeable future, as determined solely by the District, the abandoned foot valve water main that has an abandoned foot valve attached to it will NOT be abandoned in the foreseeable future, as determined solely by the District, the abandoned foot valve must be removed and the tee plugged or blind-flanged, in accordance with B.2 below.	BY DA
1. For Abandoned Foot Valve to Remain:	
a. Turn 6-inch valve to the closed position.	
b. Remove valve box, valve can, and fire hydrant.	
c. If valve is not leaking, remove entire 6-inch pipe to hydrant, or cut out at least a 1-foot section of main from old valve.	
d. Install MJ plug or blind flange on valve.	
e. If hydrant run is not removed, plug both ends of hydrant run pipe with concrete.	S
f. Re-install the valve box and valve can, and install 6" grout in valve can to indicate a plugged valve.	REVISIONS
g. Backfill and compact.	SE VIS
h. If the existing hydrant is to be relocated due to some conflict, a new hydrant will be installed. The existing hydrant shall be delivered to the District's offices.	
2. For Abandoned Foot Valve to Be Removed:	<u> </u>
a. Schedule a water main shutdown.	Water BR075
b. Turn valve to the closed position.	at
c. Remove valve box, valve can, and fire hydrant.	J W
d. Remove entire 6-inch pipe to hydrant, or cut out at least a 1-foot section of main from old valve.	> 86
e. Remove valve, and install blind flange or MJ plug on tee.	
f. If hydrant run is not removed, plug both ends of hydrant run pipe with concrete. g. Backfill and compact.	h, v org
y. Backin and compact. h. If the existing hydrant is to be relocated due to some conflict, a new hydrant will be installed. The existing hydrant	ter.
shall be delivered to the District's offices. C. Abandonment of Water Services	Platea Sammamish, V 5 • spwater.org
Water services must be abandoned at the water main in accordance with the following procedure:	Sal 6 -
1. Excavate to corporation stop and saddle.	ish _{le SE, S} 2.6256
 2. If saddle is a single strap or is not stainless steel or the stainless steel strap/saddle/corporation stop is in poor condition, schedule a water main shutdown, then replace the saddle with a stainless steel repair band. 2. If the coddle is a stainless steel double strap in good condition, it can remain in place. Shut off the corporation stop 	/enu 39;
 If the saddle is a stainless steel double strap in good condition, it can remain in place. Shut off the corporation stop and plug the abandoned service line. Polybag all exposed components of the abandoned saddle. 	h Av 425
4. Install a brass plug on the corporation stop.	st⊧ 3
5. On the setter side, cut the service line away from the setter, plug the line, remove the setter and dispose of properly (return to District and place in recycle bin).	n
 Arrange with the District's Customer Service Department for disposition of the water meter and documentation of the last meter reading. 	J510 228th
7. Backfill and compact.	0
D. Abandonment of Manholes or Vaults	
Manholes, vaults, and similar underground structures must be abandoned in accordance with the following procedure:	
1. Remove frame and cover or vault lid and hatch(es).	
 Remove manhole cone and sections or vault sections as necessary so that remaining structure is at least 4 feet below finished grade. Remove the intervention of the section of	រ ភ្ល
3. Plug all pipe penetrations with grout.	4
4. Fill remaining structure with pea gravel to within 3.5 feet of the top of the remaining structure.5. Fill the next 3.5 feet (to the top of the remaining structure) with CDF.	
6. Backfill and compact the top 4 feet with suitable native material or import backfill to finished grade.	
E. Abandonment of Pressure Sewers (Force Mains, Low Pressure Force Mains, and Grinder Pump Lines)	
All pressure sewer lines, including force mains, low pressure force mains, and grinder pump lines, must be abandoned in accordance with the following procedure:	
 Force mains, low pressure force mains, and grinder pump lines that are to be abandoned should be flushed in a sanitary way to eliminate a septic condition, if possible. Mains shall be physically disconnected from District's system and plug all forcemains larger than 2 inches in diameter 	
 Mains shall be physically disconnected from District's system and plug all forcemains larger than 2 inches in diameter with grout. Plug or cap all pipe ends 2 inches or smaller. If pressure build-up from groundwater entering the abandoned force main or low pressure force main is likely to occur 	MA CTI
(especially on hillsides), install a blocked cap or plug on pipe 4 inches or larger, and install a watertight connection (e.g., pack joint) for pipe smaller than 4 inches.	אם אם
4. Possible pressure grouting of abandoned main may be required on a case-by-case basis.	
F. Abandonment of Gravity Side Sewers All gravity side sewer lines must be abandoned in accordance with the following procedure:	NDA NDS NC
1. Side sewer shall be physically disconnected from District's system.	Z Z D
2. A plug shall be installed in the side sewer tee at the sewer main.3. A cap shall be installed on both ends of the side sewer.	2 1
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