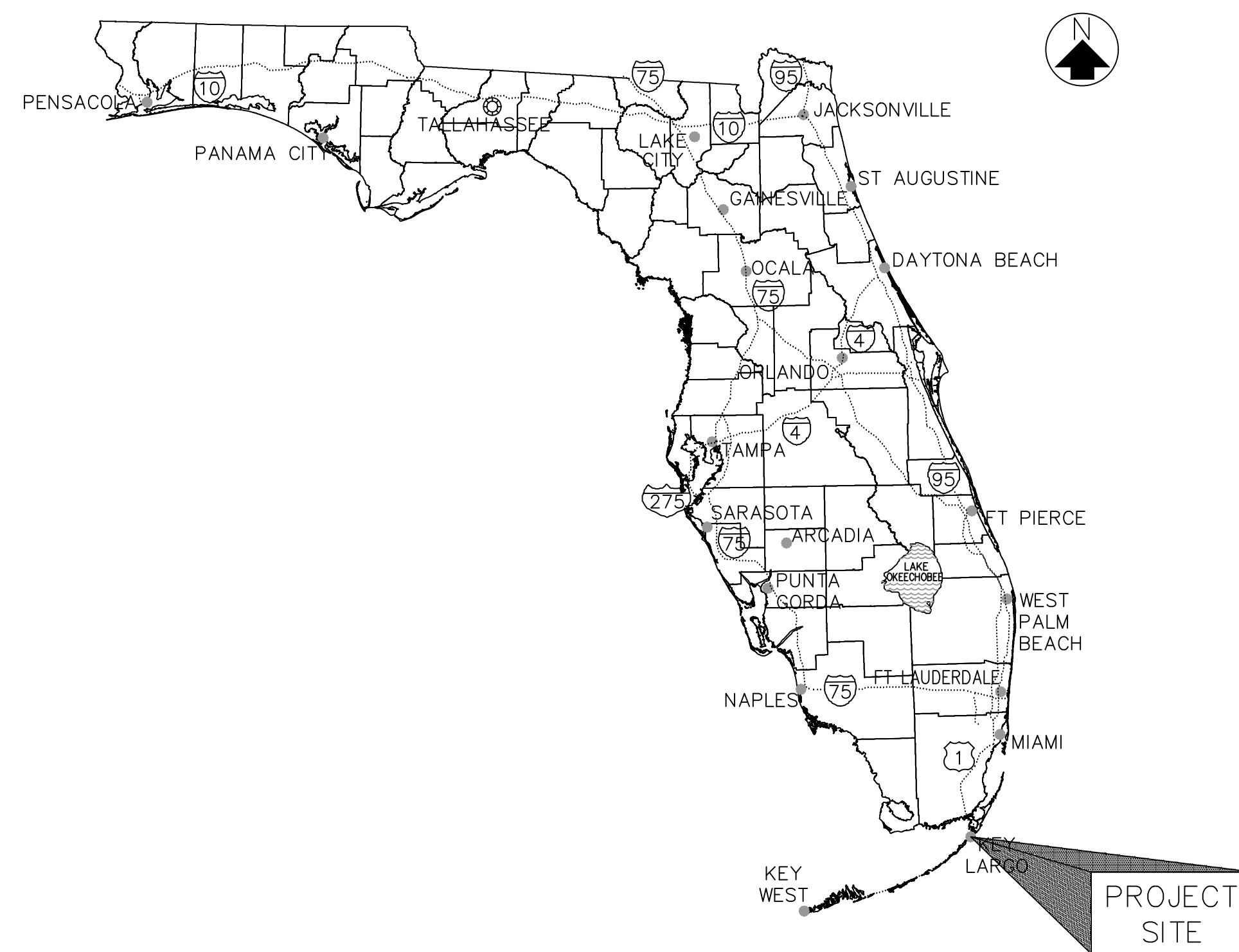


CONSTRUCTION PLANS FOR KLWTD GRINDER PUMP LATERAL KITS UPGRADES

SECTION 14, TOWNSHIP 61 S, RANGE 39 E
MONROE COUNTY, FLORIDA

INDEX OF DRAWINGS

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STATE OF FLORIDA LOCATION MAP
NOT TO SCALE



LOCATION MAP
NOT TO SCALE

OWNER

KEY LARGO WASTEWATER TREATMENT DISTRICT
103355 OVERSEAS HIGHWAY
KEY LARGO, FLORIDA 33037

PREPARED BY

THE WEILER ENGINEERING CORPORATION
201 W. MARION AVE, SUITE 1306
PUNTA GORDA, FLORIDA 33950
(941) 505-1700



www.weilerengineering.org
EB # 6656

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Edward R. Castle
Professional Engineer
State of Florida
Registration No. 58574

SHEET NO. C-1.0
WEC PROJECT NO.
03105.082:170

GENERAL KLWTD BUILDING NOTES

COORDINATION OF WORK

1. THE EXISTING KEY LARGO WASTEWATER TREATMENT FACILITIES MUST REMAIN IN OPERATION WHILE NEW CONSTRUCTION IS IN PROGRESS.
3. CONNECTIONS TO THE EXISTING FACILITIES OR ALTERATION OF EXISTING FACILITIES WILL BE MADE AT TIMES WHEN THE PIPING OR FACILITY INVOLVED IS NOT IN USE OR AT TIMES, ESTABLISHED BY THE OWNER, WHEN USE OF THE PIPING OR FACILITY CAN BE CONVENIENTLY INTERRUPTED FOR THE PERIOD OF TIME NEEDED TO MAKE THE CONNECTION OR ALTERATION.
4. THE CONTRACTOR SHALL COORDINATE HIS WORK WITH THE OWNER SO THAT CONSTRUCTION WILL NOT USUALLY RESTRAIN OR HINDER OPERATION OF THE EXISTING TREATMENT WORKS. IF, AT ANY TIME, ANY PORTION OF THE TREATMENT WORKS IS OUT OF SERVICE, THE CONTRACTOR MUST OBTAIN APPROVAL FROM THE OWNER AS TO THE DATE, TIME AND LENGTH OF TIME THAT PORTION OF THE TREATMENT WORKS IS OUT OF SERVICE
5. AFTER HAVING COORDINATED HIS WORK WITH THE OWNER, THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF THE TIME, TIME LIMITS AND METHODS OF EACH CONNECTION OR ALTERATION AND HAVE APPROVAL OF THE ENGINEER BEFORE ANY WORK IS UNDERTAKEN ON THE CONNECTIONS OR ALTERATIONS.
6. BEFORE ANY ROADWAY OR FACILITIES ARE BLOCKED OFF THE OWNER SHALL BE CONTACTED TO COORDINATE CLOSURES.

GENERAL NOTES

1. THE REQUIREMENTS OF KLWTD SANITARY SEWER CONSTRUCTION STANDARDS SHALL GOVERN ALL UTILITIES WORK. WHERE A CONFLICT EXISTS IN THE REQUIREMENTS OF A REFERENCED MATERIAL OR INSTALLATION STANDARD, THE REQUIREMENTS OF THE KLWTD SHALL PREVAIL. WHERE THE REQUIREMENTS OF A STATE OR LOCAL AGENCY HAVING JURISDICTION ARE MORE STRINGENT, THOSE REQUIREMENTS SHALL PREVAIL.
2. THE CONTRACTOR SHALL HAVE AVAILABLE AT THE JOB SITE, AT ALL TIMES, ONE COPY OF KLWTD SANITARY SEWER CONSTRUCTION STANDARDS, ONE COPY OF THE CONTRACT DOCUMENTS INCLUDING PLANS, SPECIFICATIONS AND SPECIAL PROVISIONS, AND COPIES OF ANY REQUIRED CONSTRUCTION PERMITS.
3. CONTRACTOR IS RESPONSIBLE FOR CHECKING ACTUAL SITE CONDITIONS BEFORE STARTING CONSTRUCTION.
4. ANY DISCREPANCIES ON THE DRAWINGS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER AND KLWTD BEFORE COMMENCING WORK.
5. CONTRACTOR SHALL OBTAIN ALL REQUIRED PERMITS BEFORE COMMENCING WORK.
6. THE CONTRACTOR SHALL CONTACT ALL CONCERNED UTILITIES AND THE ENGINEER AT LEAST 48 HOURS IN ADVANCE OF CONSTRUCTION OPERATIONS.
7. NO FIELD CHANGES OR DEVIATIONS FROM DESIGN TO BE MADE WITHOUT PRIOR WRITTEN APPROVAL OF THE ENGINEER.
8. CONTRACTOR TO VERIFY THE LOCATIONS OF ALL UNDERGROUND UTILITIES BEFORE COMMENCEMENT OF WORK.
9. IT IS THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE EXACT LOCATION, DEPTH AND CHARACTER OF ALL UTILITIES PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL NOTIFY THE OWNER AS LISTED BELOW AND FIELD VERIFY LOCATIONS AND ELEVATIONS OF UTILITIES AT LEAST 72 HOURS IN ADVANCE OF WORK. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DAMAGE CAUSED BY HIS OPERATIONS.

POWER FLORIDA KEYS ELECTRIC CO-OP 91605 OVERSEAS HIGHWAY TAVERNIER, FLORIDA (305) 852-2431	WATER FLORIDA KEYS AQUEDUCT AUTHORITY ENGINEERING DEPARTMENT P.O. BOX 1239 KEY WEST, FLORIDA 33040 (305) 296-2545
AT&T 101431 OVERSEAS HIGHWAY SUITE 103 KEY LARGO, FL 33037 (305) 451-3222	COMCAST 103400 OVERSEAS HIGHWAY SUITE 101 KEY LARGO, FL 33037 (800) 266-2278
10. THE CONTRACTOR SHALL NOT PLACE ANY FILL MATERIALS WITHIN A WETTED DITCH OR WETLAND AREA WHEN WORKING ADJACENT TO EITHER TYPE OF AREA.
11. ALL AREAS DISTURBED DURING CONSTRUCTION OPERATIONS SHALL BE GRADED UNIFORMLY AND GRAVELED IN ACCORDANCE WITH THE SPECIFICATIONS.
12. SOIL BORINGS MAY HAVE BEEN MADE WITHIN THE CONSTRUCTION SITE AREA. IF AVAILABLE, THE REPORTS AND LOCATIONS OF THESE BORINGS ARE ON FILE WITH THE ENGINEERS AND MAY BE INSPECTED BY THE CONTRACTOR FOR HIS GENERAL INFORMATION ONLY. HOWEVER IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO MAKE HIS OWN EXPLORATIONS AND DECISIONS AS TO THE ACTUAL CHARACTER OF THE MATERIALS AND CONDITIONS TO BE ENCOUNTERED.
13. NO ADDITIONAL COMPENSATION WILL BE MADE FOR EXPLORATORY WORK OR TEST HOLES.
14. EXISTING FENCE TO BE REMOVED WHERE REQUIRED DURING CONSTRUCTION OPERATIONS AND REINSTALLED UPON COMPLETION OF WORK. NEW FENCE PER DETAILS AS SHOWN ON THE PLANS. CONTRACTOR WILL PROVIDE AND INSTALL ADDITIONAL FENCE TO MATCH EXISTING, WHERE REQUIRED.
15. ALL AREAS DISTURBED DURING CONSTRUCTION OPERATIONS SHALL BE GRADED UNIFORMLY AND RESTORED IN ACCORDANCE WITH THE SPECIFICATIONS.
16. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COMPLYING WITH APPLICABLE STATE WATER QUALITY STANDARDS DURING CONSTRUCTION AS SPECIFIED IN THE PERMITS. ALL WATER AND WIND EROSION SHALL BE MINIMIZED AS DEFINED IN THE SPECIFICATIONS AND PERMITS. THE SPECIFICATIONS PROVIDE ONLY A MINIMUM REQUIREMENT FOR EROSION AND SEDIMENT CONTROL. IT IS THE CONTRACTOR'S RESPONSIBILITY TO IMPLEMENT CONTROL MEASURES WHETHER OR NOT SHOWN IN SPECIFICATIONS. ALL COST ASSOCIATED WITH TURBIDITY CONTROL AND SEDIMENT STABILIZATION SHALL BE BORNE BY THE CONTRACTOR.
17. THE CONTRACTOR SHALL TAKE ALL MEASURES NECESSARY TO CONTROL TURBIDITY INCLUDING, BUT NOT LIMITED TO, THE INSTALLATION OF TURBIDITY BARRIERS AT ALL LOCATIONS WHERE THE POSSIBILITY OF TRANSFERRING

- SUSPENDED SOLIDS INTO RECEIVING WATER BODY EXIST DUE TO THE PROPOSED WORK. TURBIDITY BARRIERS MUST BE MAINTAINED AT ALL LOCATIONS UNTIL CONSTRUCTION IS COMPLETED AND DISTURBED SOIL AREAS ARE STABILIZED. THE CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR REMOVING THE BARRIERS. AT NO TIME SHALL THERE BE ANY OFF SITE DISCHARGE WHICH VIOLATES THE WATER QUALITY STANDARDS IN CHAPTER 62-302 AND 62-41 FLORIDA ADMINISTRATIVE CODE. CONTRACTOR SHALL OBTAIN SOUTH FLORIDA WATER MANAGEMENT DISTRICT DEWATERING PERMITS AS REQUIRED.
18. CONTRACTOR SHALL VERIFY INSTALLED EQUIPMENT DIMENSIONS WITH MANUFACTURER FOR COMPATIBILITY WITH STRUCTURAL DRAWINGS.
 19. ALL EXPOSED METAL THROUGHOUT THE TREATMENT WORKS SHALL BE EITHER STAINLESS STEEL 304L, ALUMINUM, CAST IRON, OR APPROVED ALTERNATIVES.
 20. ALL EXPOSED STRUCTURES AND/OR EQUIPMENT SHALL BE DESIGNED FOR A 200 MPH WIND.

PIPING

- A. ALL VALVE OPERATORS AND HAND WHEELS, ETC. SHALL FACE AND BE ACCESSIBLE TO PLATFORMS OR OPERATING AREAS. THE CONTRACTOR IS RESPONSIBLE FOR PROPER ORIENTATION TO MEET THIS REQUIREMENT.
- B. PIPING PLANS DO NOT PURPORT TO SHOW ALL FITTINGS, SPECIALS, ETC., WHICH MAY BE NECESSARY TO ACCOMMODATE FIELD LAYING CONDITIONS. THE CONTRACTOR SHALL FURNISH AND INSTALL EXTRA PIPE FITTINGS TO AFFORD PROPER PIPE CLEARANCES AND ALIGNMENT WHERE NECESSARY AT NO ADDITIONAL COST TO THE OWNER.
- C. ALL HYDRAULIC STRUCTURES SHALL HAVE WALL PIPES AT PIPE PENETRATIONS.
- D. ALL YARD PIPING SHALL BE DUCTILE IRON, UNLESS OTHERWISE SPECIFIED : FLANGED ABOVE GRADE, MECHANICAL JOINT WITH PROPER RESTRAINT OR THRUST BLOCK BELOW GRADE.
- E. WATER LINES AND CHEMICAL FEED LINES SHALL BE OF THE TYPE OF MATERIAL NOTED IN THE SPECS OR SHOWN ON THE DRAWINGS, PIPING AND HOSE VALVES SHOWN WHERE REQUIRED. THE SPECIFIC LOCATION OF HOSE BIBBS SHALL BE DETERMINED IN THE FIELD. ALL OUTSIDE HOSE VALVES AT GROUND ELEVATION SHALL BE THE SIZE AS SHOWN, SEE DETAILS.
- F. BOLTING FOR ALL BURIED YARD PIPING SHALL BE DUCTILE IRON OR NON-CORROSIVE TYPE BOLTS AND HARDWARE, PIPING. BOLTING FOR ALL ABOVE GROUND PIPING SHALL BE STAINLESS STEEL UNLESS OTHERWISE INDICATED.
- G. ALL EXTERIOR VALVES IN YARD PIPING SHALL BE INSTALLED COMPLETE WITH CAST IRON VALVE BOXES. EXTENSION STEMS AND GUIDES WITH OPERATING NUTS AND SHALL NOT BE MORE THAN 12-INCHES BELOW FINISHED GRADE. PROVIDE 24" X 24" X 4" THICK CONCRETE PAD AT EACH VALVE BOX, UNLESS OTHERWISE NOTED.
- H. ALL PIPE SHALL HAVE A MINIMUM COVER OF 3'-0" FROM FINISHED GRADE TO TOP OF PIPE UNLESS OTHERWISE NOTED.
- I. ALL BENDS, TEES, PLUGS, ETC. ON PRESSURE MAINS SHALL BE RESTRAINED IN ACCORDANCE WITH SPECIFICATIONS.
- J. CONTRACTOR SHALL INSTALL ALL YARD PIPING AND APPURTENANCES TO THE LIMITS INDICATED UNDER THIS CONTRACT.
- K. PIPE AND FITTINGS SHALL BE PROVIDED AS REQUIRED TO MAKE CHANGES IN ELEVATION AND DIRECTION. THE CONTRACTOR SHALL COORDINATE ALL PIPING AND CONDUIT FOR PROPER CLEARANCES AND AVOIDANCE OF CONFLICTS.
- L. ALL TRENCHES FOR NEW PIPING AND CONDUIT SHALL BE BACKFILLED WITH SUITABLE MATERIAL AND BE THOROUGHLY COMPACTED, UNLESS OTHERWISE SPECIFIED.
- M. ALL NEW PIPES SHALL BE SLOPED UNIFORMLY BETWEEN GIVEN ELEVATIONS, UNLESS INDICATED OTHERWISE.
- N. PIPING SHALL BE TESTED IN ACCORDANCE WITH THE SPECIFICATIONS AND AS DESCRIBED HEREIN.
- O. BURIED DUCTILE IRON PIPING SHALL BE POLY WRAPPED IN ACCORDANCE WITH THE SPECIFICATIONS.
- P. FITTINGS SHALL BE USED FOR PIPE ALIGNMENT CHANGES RATHER THAN DEFLECTING JOINTS. PIPE JOINT DEFLECTIONS WHERE REQUIRED AND OUTLINED BY THE OWNER SHALL NOT EXCEED 75% OF THE MAXIMUM RECOMMENDED DEFLECTION BY THE PIPE MANUFACTURER FOR PVC PIPE AND BY DUCTILE IRON PIPE RESEARCH ASSOCIATION FOR DUCTILE IRON PIPE.
- Q. WHERE DRAINING AND CLEANING OF EXISTING TANKS IS REQUIRED TO PERFORM WORK UNDER THIS CONTRACT, IT WILL BE THE CONTRACTOR'S RESPONSIBILITY TO OPERATE ALL VALVES, GATES, AND PUMPS TO ACCOMPLISH BY-PASS OF THE UNIT, TO DRAIN WASTEWATER BACK TO HEAD OF PLANT AND TO CLEAN AND DISPOSE OF ALL SLUDGE REMOVED.
- R. ALL EXISTING EQUIPMENT, PIPING, VALVES AND OTHER ITEMS REMOVED AND DEEMED REUSABLE DURING CONSTRUCTION OPERATIONS SHALL REMAIN THE PROPERTY OF THE OWNER AT THE OWNER'S DISCRETION, AND SHALL BE STORED ON THE SITE IN THE LOCATION DESIGNATED BY THE OWNER. ANY MATERIALS NOT WANTED BY THE OWNER SHALL BE DISPOSED OF AT THE CONTRACTOR'S EXPENSE.
- S. CONTRACTOR SHALL MAINTAIN A MINIMUM HORIZONTAL OUTSIDE EDGE TO OUTSIDE EDGE SEPARATION OF 10 FEET AND MINIMUM VERTICAL WALL TO WALL SEPARATION OF 18-INCHES BETWEEN WATER MAINS AND WASTEWATER FORCE MAINS, OR GRAVITY SEWERS. WHEN THIS SEPARATION CANNOT BE MAINTAINED, BOTH PIPE LINE MATERIALS SHALL BE UPGRADED TO DUCTILE IRON. A MINIMUM VERTICAL WALL TO WALL SEPARATION OF 12-INCHES SHALL BE MAINTAINED FOR OTHER UTILITY CROSSINGS.
- T. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING FLOWS THROUGH EXISTING PIPING AND STRUCTURES AND DIVERSION OF FLOWS AS NECESSARY DURING CONSTRUCTION UNDER THIS CONTRACT TO ENSURE CONTINUATION OF PLANT OPERATION WITHOUT INTERRUPTION. ALL WORK WHICH AFFECTS PLANT OPERATIONS SHALL BE COORDINATED AND SCHEDULED TO THE SATISFACTION OF THE OWNER PRIOR TO BEGINNING. ALL WORK ON EXISTING SYSTEM SHALL BE COORDINATED A MINIMUM OF 72 HOURS PRIOR WITH THE OWNER.
- U. DIMENSION, ELEVATIONS, AND LOCATIONS SHOWN ON THESE DRAWINGS FOR EXISTING STRUCTURES, PIPING, ETC., MAY BE FROM RECORD DRAWINGS. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY ALL INFORMATION PRIOR TO BEGINNING HIS CONSTRUCTION OPERATIONS IN EACH AREA AND AT NO ADDITIONAL COST TO THE OWNER. MAKE ALL NECESSARY ADJUSTMENTS TO PERFORM THE INTENT OF WORK UNDER THIS CONTRACT.

- V. WHERE PIPING PASSES THROUGH CONCRETE, AND THE CONCRETE IS NOT A SUBMERGED PORTION OF A HYDRAULIC STRUCTURE, THE PIPE SHALL BE SEPARATED FROM THE CONCRETE BY A LAYER OF 1/4-INCH (MIN.) FIBER OR RUBBER EXPANSION JOINT MATERIAL. THE EXPOSED END OF THE MATERIAL SHALL BE SEALED WITH POLYURETHANE SEALANT.
- W. UNLESS OTHERWISE INDICATED, PROCESS PIPING PASSING THROUGH TANK WALLS MAY BE HELD IN PLACE AND SEALED WITH LINK-SEAL OR SIMILAR RESTRAINT SYSTEM.
- X. ALL GRAVITY LINES SHALL BE EQUIPPED WITH TWO-WAY CLEAN-OUTS EVERY 75' AND EVERY CHANGE OF DIRECTION LARGER 45°.

SIGNAGE

THE CONTRACTOR SHALL SUPPLY AND MOUNT INFORMATION AND/OR SAFETY SIGNS IN THE LOCATIONS DESIGNATED BY THE OWNER AND DEFINED ON THE DESIGN SCHEDULE CONTAINED HEREIN.

MISCELLANEOUS METALS

IT IS THE INTENT OF THIS CONTRACT THAT ALL METALS EXPOSED TO THE WEATHER BE NON-CORROSIVE MATERIALS. ACCEPTABLE MATERIALS OF CONSTRUCTION SHALL BE HIGH GRADE ALUMINUM OR STAINLESS STEEL (GRADE 304L OR BETTER).

PROJECT SITE SAFETY:

- A. THE ENGINEER/OWNER OR THEIR EMPLOYEES HAVE NO AUTHORITY TO EXERCISE ANY CONTROL OVER THE CONTRACTOR, ANY SUB-CONTRACTOR OR OTHER ENTITY OR THEIR EMPLOYEES IN CONNECTION WITH THEIR WORK OR ANY JOB SITE HEALTH OR SAFETY PRECAUTIONS.
- B. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR JOB SITE SAFETY, AND WARRANTS THAT THIS INTENT IS MADE EVIDENT BY THE AGREEMENT BETWEEN OWNER AND CONTRACTOR.
- C. ALL EXISTING OVERHEAD AND UNDERGROUND UTILITIES SHOWN ON THESE DRAWINGS OR ENCOUNTERED THROUGH THE PROGRESSION OF WORK AT THIS PROJECT SITE ARE ASSUMED TO BE LIVE AND ACTIVE, CONTRACTOR SHALL BE RESPONSIBLE FOR ALL SAFETY PRECAUTIONS WHEN WORKING AROUND EXISTING OVERHEAD OR UNDERGROUND UTILITIES.

CONSTRUCTION IN STREET AND ROAD RIGHT-OF WAYS

3. OPEN ROAD CUTS REQUIRES PRIOR APPROVAL BY THE KLWTD, COUNTY, STATE, OR ANY OTHER AGENCY WHICH MAY HAVE JURISDICTION.
4. ALL CONSTRUCTION, MATERIALS, AND WORKMANSHIP ARE TO BE IN ACCORDANCE WITH FLORIDA DEPARTMENT OF TRANSPORTATION SPECIFICATIONS AND STANDARDS.
5. ALL AREAS IN EXISTING GRASS RIGHT-OF-WAY DISTURBED BY CONSTRUCTION SHALL RECEIVE SOLID SOD.
6. STREET OR HIGHWAY RESTORATION TO BE DONE AS PER LOCAL OR STATE AGENCY HAVING JURISDICTION.
7. THE CONTRACTOR SHALL COMPLY WITH ALL RULES AND REGULATIONS OF THE STATE, COUNTY, AND CITY AUTHORITIES REGARDING CLOSING OR RESTRICTING THE USE OF PUBLIC STREETS OR HIGHWAYS.
8. TRAFFIC CONTROL ON ALL COUNTY AND STATE HIGHWAY RIGHT-OF-WAYS SHALL MEET THE REQUIREMENTS OF THE CURRENT VERSION OF FDOT'S "STANDARD SPECIFICATIONS FOR ROAD & BRIDGE CONSTRUCTION" AND THE REQUIREMENTS OF THE STATE AND ANY LOCAL AGENCY HAVING JURISDICTION.
9. CONTRACTOR SHALL COMPLY WITH THE TRENCH SAFETY ACT (90-90 LAWS OF FLORIDA), MOST CURRENT VERSION.
10. CONTRACTOR TO HAVE PRE-APPROVED MOT PLANS FOR VARIOUS SITUATIONS ON HAND AND AVAILABLE FOR ON-SITE INSPECTION.

Project Information	CIM
Design:	CIM
Drawn:	ERC
AS NOTED	03/05/082
Job No.:	02/12/2024
Date Issued:	

WEC
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GENERAL KLWTD BUILDING NOTES
GRINDER PUMP LATERAL KITS UPGRADES
KLWTD
KEY LARGO, FL

Description	Revisions

THIS SHEET IS NOT VALID WITHOUT THE SIGNATURE AND SEAL OF A FLORIDA LICENSED ENGINEER.

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 Professional Engineer
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 Registration No. 58574

USER: Colton_PLOTTED THE EXHIBIT LAYOUT OF C:\Users\Colton\Water_Engineering_Dropbox\Colton_Montgomery\KLWTD Grinder Pump Lateral Kits.dwg, ON Dec 18, 2023 @ 5:05pm

ABBREVIATIONS

A A/C Air Conditioner	E EFF Effluent	L LF Linear Foot	R REF Reference
ACP Asbestos Cement Pipe	EL Elevation	LH Left Hand	REQD Required
AL, ALUM Aluminum	ELEV Elevator	LWFC Lightweight Concrete Fill	REV Revision
ALT Alternate	EMER Emergency	LWL Low Water Level	RH Right Hand
AMP Ampere	EO Electrically Operated	M MAX Maximum	RM Room
ARV Air Release Valve	EOP Edge Of Pavement	MBR Membrane Batch Reactor	RPM Revolution Per Minute
ASB Asbestos	EQ Equal or Equalization	MCC Motor Control Center	RFG Refrigerator
AUX Auxiliary	EQUIP Equipment	MECH Mechanical	S S South
AWL Average Water Level	EW Each Way	MEMB Membrane	SBR Sequencing Batch Reactor
B BFP Backflow Preventer	EXH Exhaust	MFM Magnetic Flow Meter	SCH Schedule
BFV Butterfly Valve	EXP Expansion	MG Million Gallons	SECT Section
BHP Brake Horsepower	F FE Flow Element or Fire Extinguisher	MGD Million Gallons Per Day	SD Storm Drain
BL, B _L Baseline	FFE Finished Floor Elevation	MH Manhole	SF Square Feet
BLDG Building	FH Fire Hydrant	MIN Minute or Minimum	SHWR Shower
BM Bench Mark	FIN Finished	MISC Miscellaneous	SOV Solenoid Valve
BPS Booster Pump Station	FLG Flange	MJ Mechanical Joint	SPEC Specification
BPV Back Pressure Valve	FLM Flow Meter	MM Millimeter	SS Stainless Steel
BSMT Basement	FM Force Main	MO Motor Operated	STO Storage
BV Ball Valve	FPS Feet Per Second	MSL Mean Sea Level	STD Standard
BYP Bypass	FRP Fiber Reinforced Plastic	MW Megawatt or Monitoring Well	SWW Storm Water Well
C CC Center to Center	FT Foot	MWL Maximum Water Level	SYM Symbol
CB Catch Basin	FTG Footing	N N North	T T _{OP} Time and Pressure
CA Compressed Air	G GA Gauge	NA Not Applicable	TB Thurst Block
CCB Chlorine Contact Basin	GAL Gallon	NG Natural Gas	TDH Total Dynamic Head
CEM Cement	GALV Galvanized	NO, # Number	TEMP Temperature
CF Cubic Foot	GLV Globe Valve	NOM Nominal	TOP Top of Pavement
CFS Cubic Feet Per Second	GPD Gallons Per Day	NPT National Pipe Thread	TOS Top of Slab
CFM Cubic Feet Per Minute	GPH Gallons Per Hour	NPW Non-Potable Water	TOW Top of Wall
CI Cast Iron	GPM Gallons Per Minute	NTS Not To Scale	TYP Typical
CIP Cast Iron Pipe	GV Gate Valve	O OC On Center	U UON Unless Otherwise Noted
CIPC Cast-in-Place Concrete	H HB Hose Bibb	OD Outside Diameter	V V Volt
CL, C _L Centerline	HDWR Hardware	ODC Odor Control	VAC Vacuum
CLR Clear	HORZ Horizontal	P PC Porous Concrete	VAL VALVE
CMU Concrete Masonry Unit	HP Horsepower	PD Plant Drain	VAT Vinyl Asbestos Tile
CO Clean Out	HR Handrail	PG Pressure Gauge	VCP Vitrified Clay Pipe
COL Column	HT Height	PI Plant Influent	VCT Vitrified Clay Tile
CONC Concrete	HWL High Water Level	PL, PL Property Line	VEL Velocity
CONT Continuous	HZ Hertz	PLC Programmable Logic Center	VIF Verify In Field
CTR Center	I ID Inside Diameter	PLV Plug Valve	VERT Vertical
CV Check Valve	IN, " Inch	PPS Plant Pump Station	VOL Volume
CWR Cold Water Return	INF Influent	PRDV Pressure Reducing Valve	W W Watt or West
CWS Cold Water Supply	INV Invert	PRIM Primary	W/D Washer / Dryer
D DEG, ° Degree	IPF Iron Pin Found	PRV Pressure Relief Valve	WAS Waste Activated Sludge
DI Ductile Iron	IPS Injection Pump Station	PSS Pressure Safty Switch	WS Waste Sludge or Water Stop
DIA, ∅ Diameter	IW Injection Well	PSW Pressure Switch	WT Weight
DIP Ductile Iron Pipe	J JCT Junction	PVC Polyvinyl Chloride	WW Wastewater
DN Down	K KG Kilogram	PVMT Pavement	WWF Welded Wire Fabric
DO Dissolved Oxygen	KSI Kips Per Square Inch	PW Potable Water	WWTP Wastewater Treatment Plant
DS Digested Sludge	KGV Knife Gate Valve	Q QTY Quantity	Y YH Yard Hydrant
E E East	KW Kilowatt	R RAD, R Radius	YR Year
ECC Eccentric	L LAB Laboratory	RC Reinforced Concrete	
EF Each Face	LB Pound	RCC Roller Compacted Concrete	

GENERAL SYMBOL LEGEND

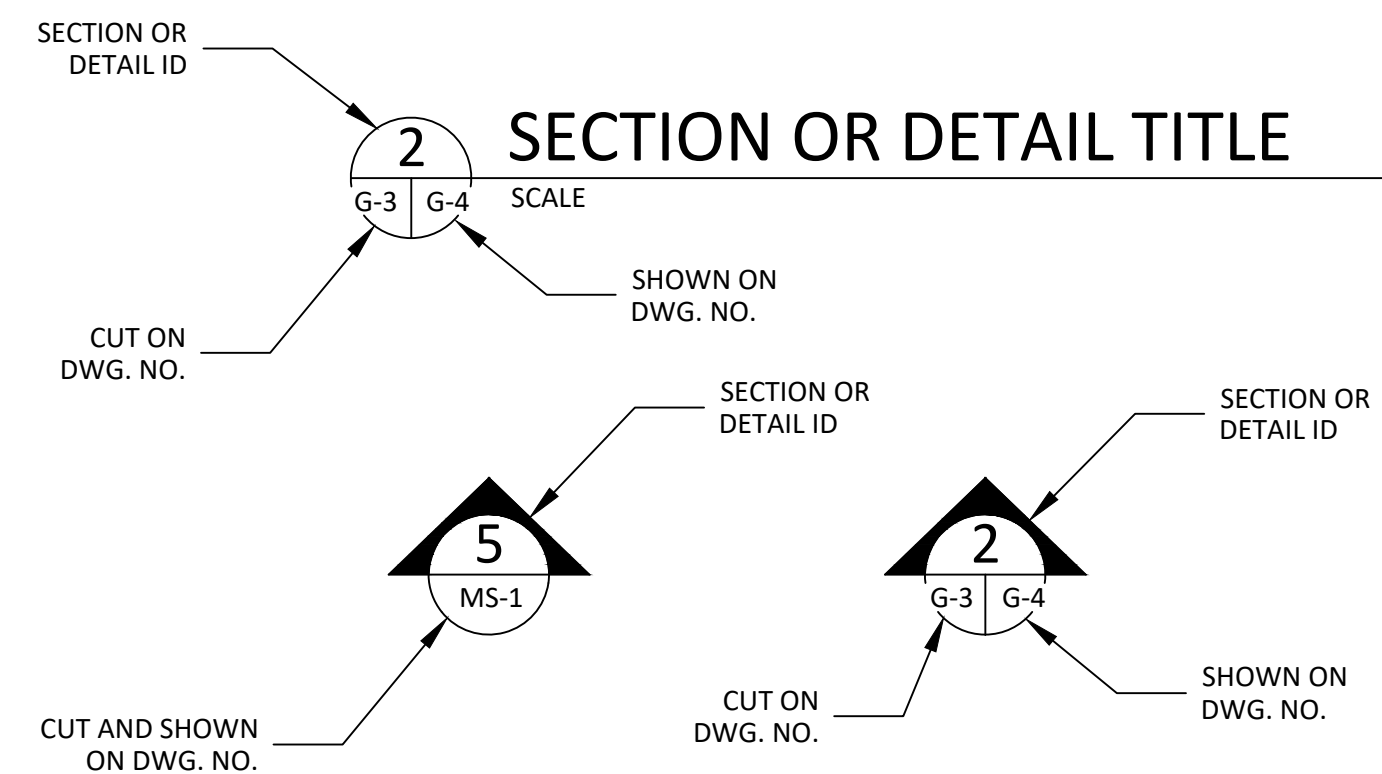
—303—	EXISTING CONTOUR	—OHE—	OVERHEAD ELECTRIC
—303—	FINISHED CONTOUR	⊗ _{pp}	EXISTING POWER LINE
⊕ _{20.5}	SPOT ELEVATION	—	NEW PROCESS PIPING
⊙	ELEVATION DESIGNATION	—	NEW PIPING (UNDERGROUND)
⊥	HOSE BIBB	—	EXISTING PIPING
—x—x—	EXISTING ELECTRICAL	●	YARD HYDRANT - PROPOSED
—x—x—	EXISTING FENCE	⊕	YARD HYDRANT - EXISTING
—x—x—	NEW FENCE	●	FIRE HYDRANT - PROPOSED
—r—	PROPERTY LINE	⊕	FIRE HYDRANT - EXISTING
—R/W—	RIGHT-OF-WAY LINE	CO ●	CLEAN OUT - PROPOSED
— ○ —	BALL VALVE	DB-MOV-15	VALVE DESIGNATION
— ▽ —	REDUCER	DB-DIS-5	EQUIPMENT LABEL
— / —	CHECK VALVE	○	FIELD MOUNTED
— X —	GATE VALVE	○	FIELD PANEL MOUNTED
— + —	PLUG VALVE	◇	INTERLOCK
— X —	BALANCING VALVE	⊕	PUMP
— Z —	BUTTERFLY VALVE	⊕	INSTRUMENT (FIELD MTD.)
— + —	ISOLATION VALVE	⊕	INSTRUMENT (MTD. IN PRIMARY LOCATION)
— S —	SOLENOID VALVE	⊕	SCADA
— X —	PNEUMATIC CONTROL VALVE	⊕	FLOAT SWITCH
— X —	PRESSURE REGULATING VALVE	⊕	PILOT LIGHT
— X —	SURGE RELIEF VALVE	⊕	NEW ASPHALT PAVEMENT
— X —	AIR RELEASE VALVE	⊕	EXISTING STRUCTURE
— X —	NEEDLE VALVE	⊕	NEW STRUCTURE
— M —	MOTOR	⊕	
— FE —	ELECTRICAL SIGNAL	⊕	
— FE —	FLOW METER	⊕	
— FE —	CITY WATER LINE (POTABLE)	⊕	
— FE —	PLANT WATER LINE	⊕	
—NG—	NATURAL GAS LINE	⊕	
—G—	EXISTING GAS LINE	⊕	
—CHL—	EXISTING CHLORINE	⊕	
—S—	EXISTING SANITARY SEWER LINE	⊕	
— S —	LIQUID CALIBRATION TUBE	⊕	

NOTE:
LEGEND APPLIES WHERE INADEQUATE DESCRIPTION AVAILABLE. VERIFY CONFLICTS WITH ENGINEER.

HATCH PATTERNS

	CONCRETE		EARTH		GRATING		VEGETATION
	GROUT		STONE/GRAVEL		DIAMOND PLATE		
	DECKING		WOOD		STEEL		

SECTION CUTS & DETAIL CALLOUTS

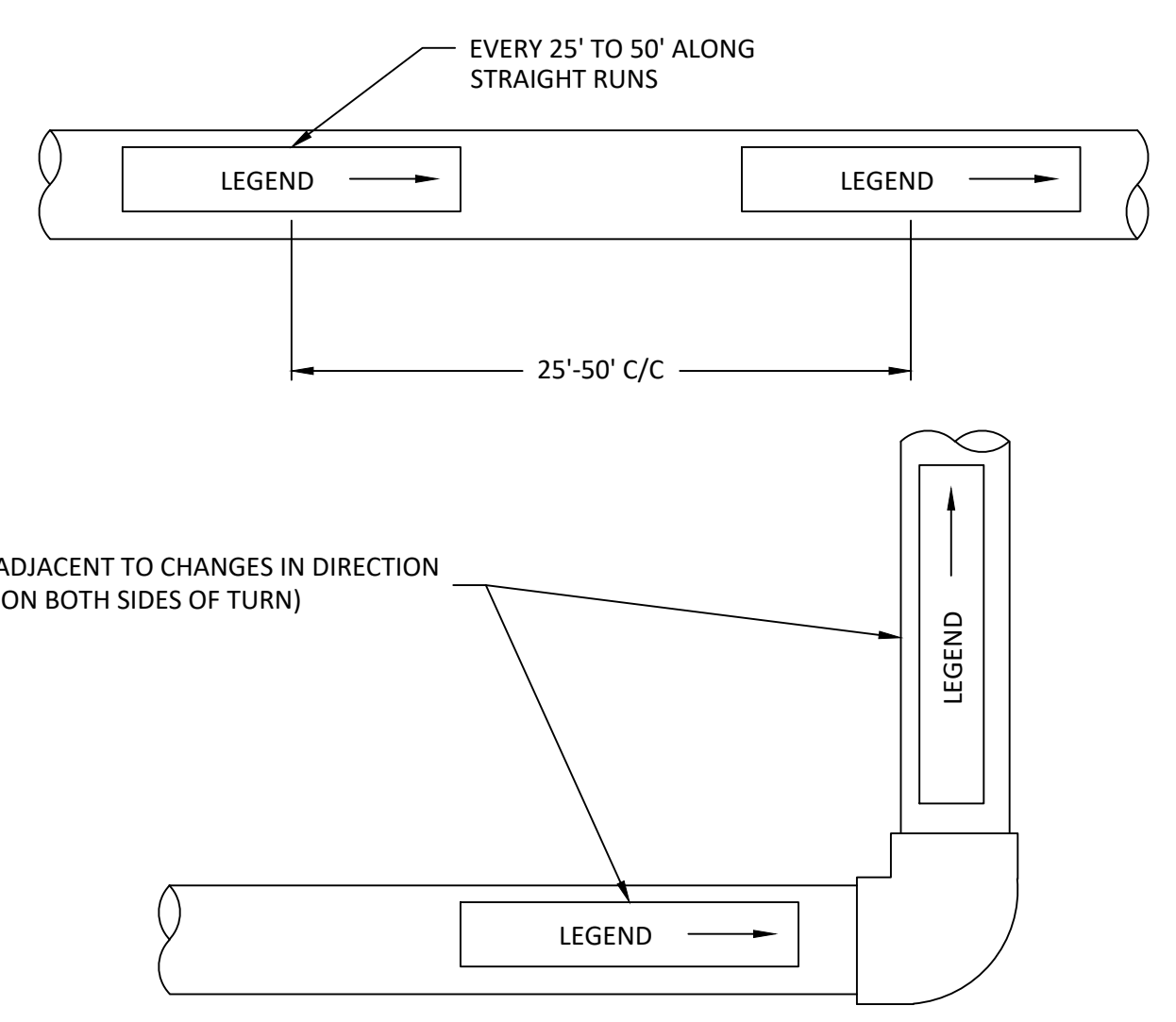


Project Information	Approved By:	Design:	CIM														
	Scale:	Drawn:	CIM														
	Job No.:	Checked:	ERC														
	Date Issued:																
 WEC <i>excellence in engineering</i>																	
6605 OVERSEAS HIGHWAY MARA (941) 565-1700																	
ABBREVIATIONS & SYMBOLS GRINDER PUMP LATERAL KITS UPGRADES KLWTD KEY LARGO, FL																	
Revisions	<table border="1"> <thead> <tr> <th>No.</th> <th>Description</th> </tr> </thead> <tbody> <tr><td>1</td><td></td></tr> <tr><td>2</td><td></td></tr> <tr><td>3</td><td></td></tr> <tr><td>4</td><td></td></tr> <tr><td>5</td><td></td></tr> <tr><td>6</td><td></td></tr> </tbody> </table>			No.	Description	1		2		3		4		5		6	
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Description																	
<small>THIS SHEET IS NOT VALID WITHOUT THE SIGNATURE AND STAMP SIZE OF A FLORIDA LICENSED ENGINEER.</small>																	
Edward R. Castle, P.E. State of Florida, License No. 58574 This item has been digitally signed and sealed by Edward R. Castle, P.E. on the date indicated here. 02/21/2024 Printed copies of this document are not considered signed and sealed and the signature must be verified on any electronic copies.																	
<small>Edward R. Castle Professional Engineer State of Florida Registration No. 58574</small>																	
Sheet No.	G3.0																

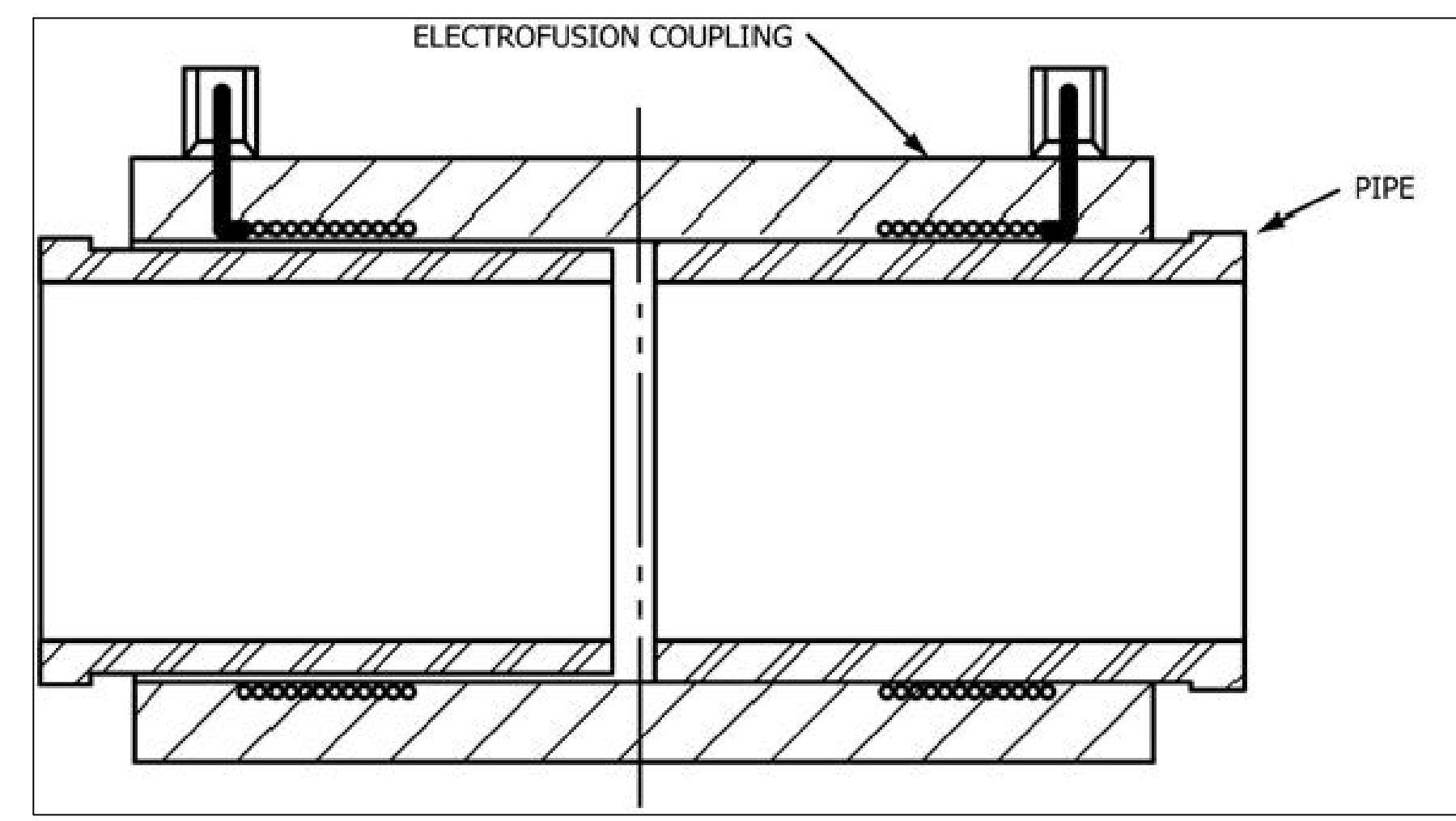
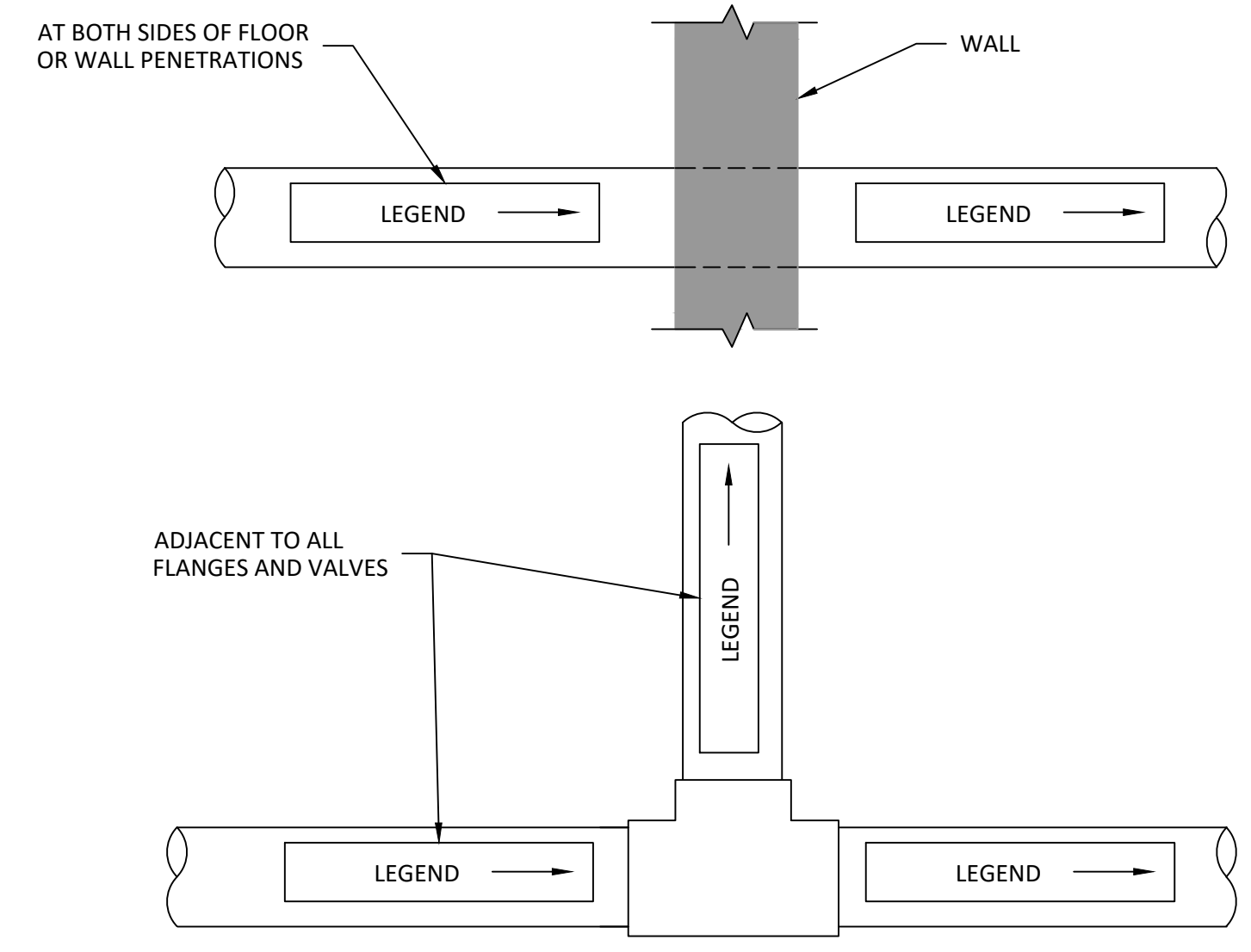
PIPE LABEL COLOR CODING (ANSI A13.1)		
FLUID SERVICE	LETTER COLOR	FIELD COLOR
FIRE QUENCHING	WHITE	RED
TOXIC & CORROSIVE	BLACK	ORANGE
FLAMMABLE & OXIDIZING	BLACK	YELLOW
COMBUSTIBLE	WHITE	BROWN
POTABLE, COOLING & OTHER WATER	WHITE	GREEN
COMPRESSED AIR	WHITE	BLUE
DEFINED BY USER	WHITE	BLACK
DEFINED BY USER	BLACK	WHITE
DEFINED BY USER	WHITE	PURPLE
DEFINED BY USER	WHITE	GRAY

PIPE MARKER SIZE SCHEDULE		
OUTER PIPE DIAMETER INCLUDING COVER	MINIMUM LENGTH OF LABEL FIELD COLOR	MINIMUM LETTER HEIGHT
3/4" - 1 1/4"	8"	1/2"
1 1/2" - 2"	8"	3/4"
2 1/2" - 6"	12"	1 1/4"
8" - 10"	24"	2 1/2"
OVER 10"	32"	3 1/2"

- NOTES:
- PIPE MARKING SYSTEM SHALL MEET ANSI/ASME SIZE RECOMMENDATIONS.
 - SIZE OF LETTERS AND LENGTH OF COLOR FIELD SHALL COMPLY WITH ANSI/ASME 13.1 (LATEST EDITION) FOR VARIOUS PIPE DIAMETERS. (SEE PIPE MARKER SIZE SCHEDULE AT LEFT.)
 - FLUID SERVICE DEFINITIONS SHALL BE AS REFERENCED IN ANSI/ASME 13.1 (LATEST EDITION).
 - PIPE COATING AND COLOR(S) SHALL BE AS SHOWN ON PLANS AND IN THE SPECIFICATIONS.



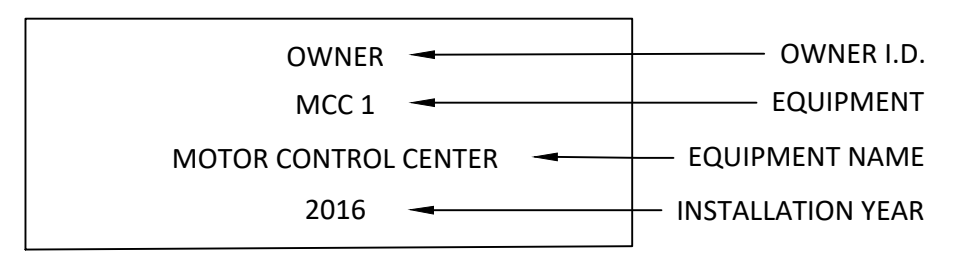
PIPE MARKING STANDARD (ANSI/ASME A13.1)



ELECTROFUSION COUPLING
SCALE: NTS

- NOTE:
- Electrofusion Fittings shall be PE3408 HDPE, Cell Classification of 345464C as determined by ASTM D3350-99. Electrofusion Fittings shall have a manufacturing standard of ASTM F-1055. Fittings shall have the same pressure rating as the pipe unless otherwise specified on the plans.
 - Sections of polyethylene pipe should be joined into continuous lengths on the jobsite above ground. The joining method shall be the butt fusion method and shall be performed in strict accordance with the pipe manufacturer's recommendations. The butt fusion equipment used in the joining procedures should be capable of meeting all conditions recommended by the pipe manufacturer, including, but not limited to, temperature requirements of 400 degrees Fahrenheit, alignment, and an interfacial fusion pressure of 75 PSI. The butt fusion joining will produce a joint weld strength equal to or greater than the tensile strength of the pipe itself. All field welds shall be made with fusion equipment equipped with a Data Logger. Temperature, fusion pressure and a graphic representation of the fusion cycle shall be part of the Quality Control records.

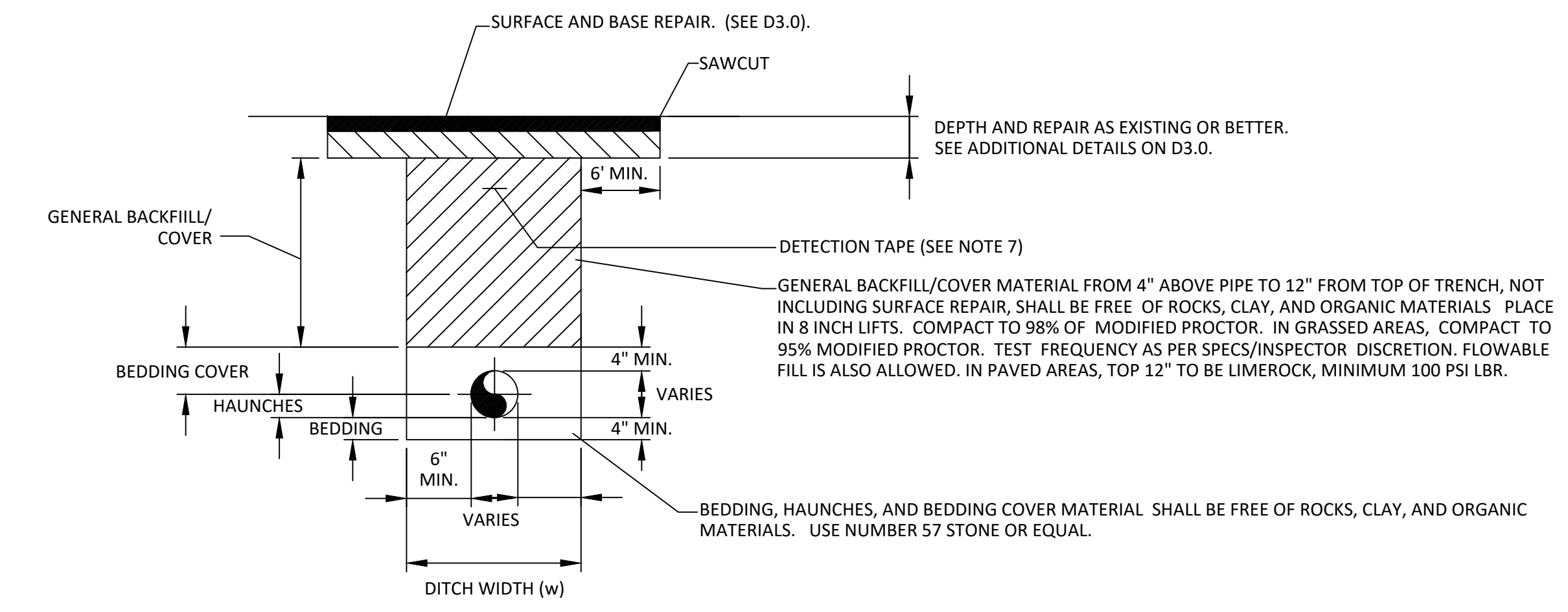
- NOTES:
- NAMEPLATE SHALL BE ENGRAVED RIGID LAMINATED PLASTIC.
 - NAMEPLATES SHALL BE BLACK WITH WHITE LETTERS.
 - LETTER HEIGHT SHALL BE 3/16".
 - FASTEN TO COMPONENT WITH S.S. SCREWS OR ADHESIVE.
 - CONTRACTOR SHALL CONFIRM TEXT DURING SHOP DRAWING PROCESS.
 - ALL NEW EQUIPMENT SHALL BE LABELED.
 - NAMEPLATE(S) SHALL BE SIZED AS SHOWN.



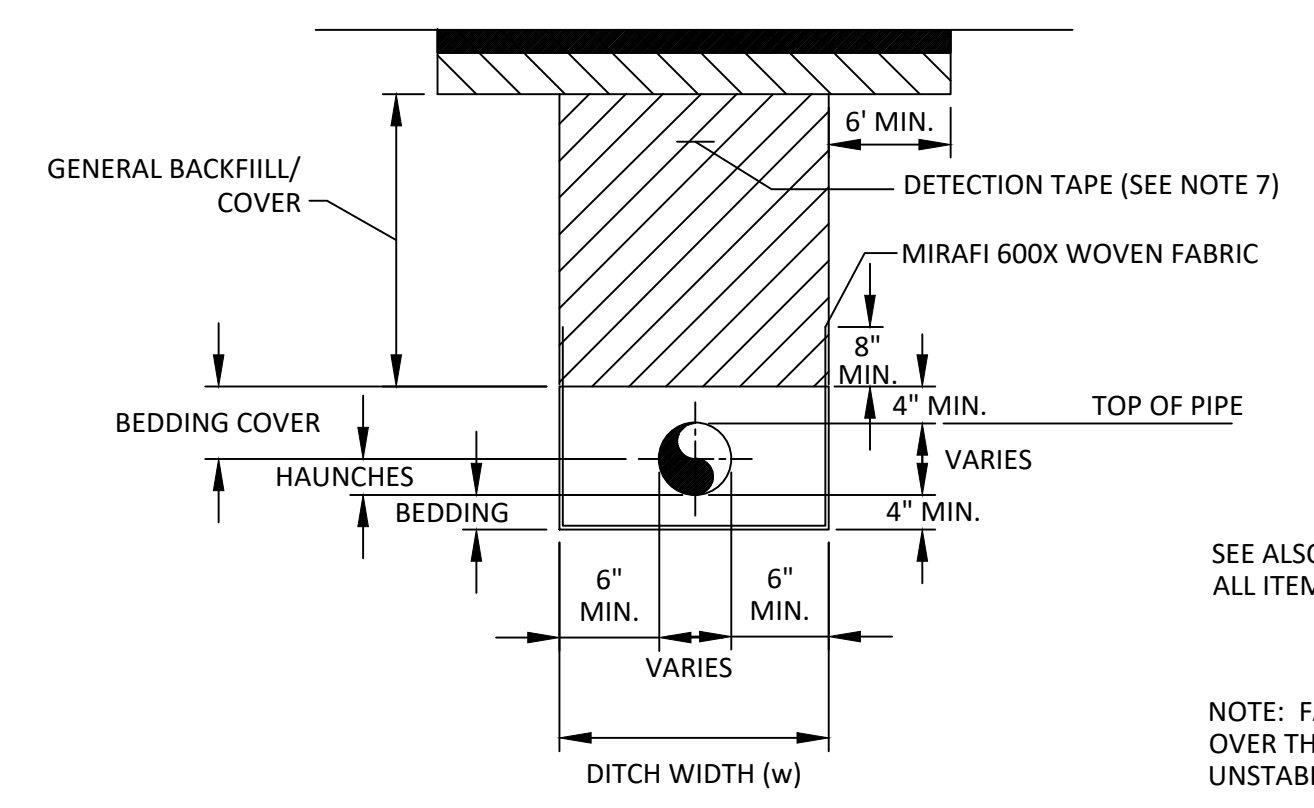
GENERAL NEW EQUIPMENT LABEL
SCALE: NTS

NOTES:

- CONTRACTOR SHALL FOLLOW THE BEDDING, HAUNCHES AND BEDDING COVER OF THIS DETAIL FOR ALL PIPELINE INSTALLATION OUTSIDE FDOT JURISDICTION.
- FOR ALL WORK INSTALLED IN FDOT JURISDICTION FOLLOW THE FDOT DETAIL CRITERIA FOR THE TRENCH AREA ABOVE BEDDING COVER.
- TEMPORARY ASPHALT SHALL BE APPLIED TO ALL TRENCHES NOT REPAIRED WITHIN 14 DAYS AFTER PIPING INSTALLATION WHERE THE FLOWABLE FILL OPTION IS NOT USED.
- AT THE CONTRACTORS OPTION, FLOWABLE FILL MAY BE INSTALLED FLUSH WITH EXISTING PAVEMENT AS A TEMPORARY MEASURE. FINAL RESTORATION WILL REQUIRE MILLING OF THE FLOWABLE FILL AND INSTALLATION OF 1 1/2" OF ASPHALT.
- SEWER MAINS SHALL HAVE A MINIMUM COVER OF 30 INCHES, UNLESS OTHERWISE NOTED.
- SEE SURFACE RESTORATION DETAIL FOR RESTORATION REQUIREMENTS
- 6" WIDE DETECTION TAPE WITH METALLIC BACKING TO BE INSTALLED DIRECTLY ON THE CENTERLINE OF MAIN 1' BELOW THE SURFACE. TAPE TO BE MARKED AS STATED IN THE GENERAL NOTES.
- WHERE PORTIONS OF THE BOTTOM OF TRENCHES OR EXCAVATIONS CONSIST OF MATERIAL UNSTABLE TO SUCH A DEGREE THAT, IN THE OPINION OF THE ENGINEER, IT CANNOT ADEQUATELY SUPPORT THE PIPE OR STRUCTURE, THE BOTTOM SHALL BE OVER-EXCAVATED AND STABILIZED WITH APPROVED COARSE GRANULAR STABILIZATION MATERIAL. MINIMUM DEPTH OF OVER-EXCAVATION IS 2 FEET. IN ADDITION, FILTER FABRIC WILL ALSO BE USED AS SHOWN IN THE DETAIL TO ENCAPSULATE THE BEDDING MATERIAL.
- PAVEMENT RESTORATION FOR LONGITUDINAL CUTS SHALL INCLUDE FULL LANE WIDTH RESURFACING FOR EACH LANE WITHIN WHICH THE CUT EXTENDS. IN SOME CASES IT WILL BE NECESSARY TO OVERLAY MORE THAN ONE (1) LANE W/ ASPHALTIC CONCRETE TO SATISFY PAVEMENT SLOPE.

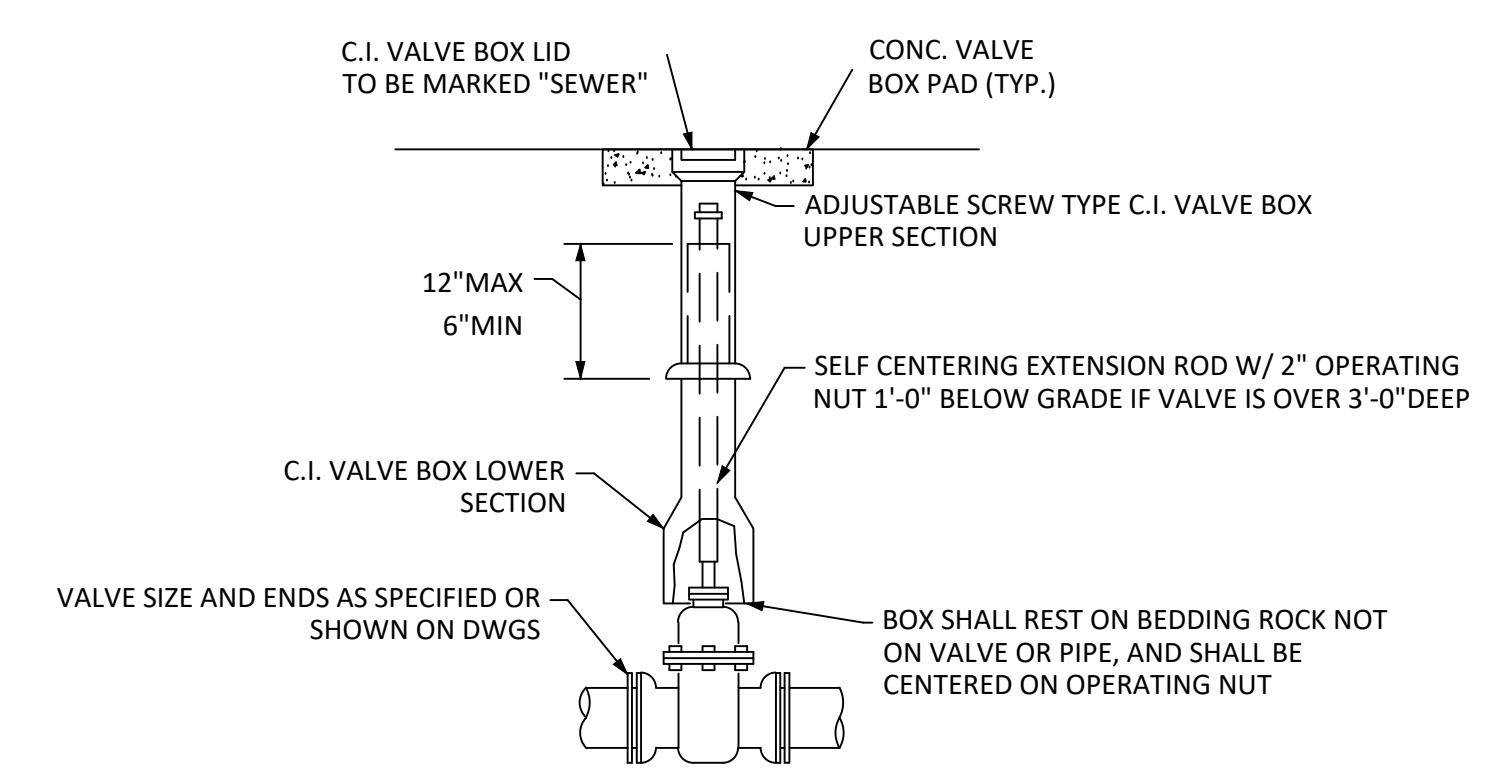


TRENCHING/BEDDING DETAIL



FILTER FABRIC PLACEMENT DETAIL

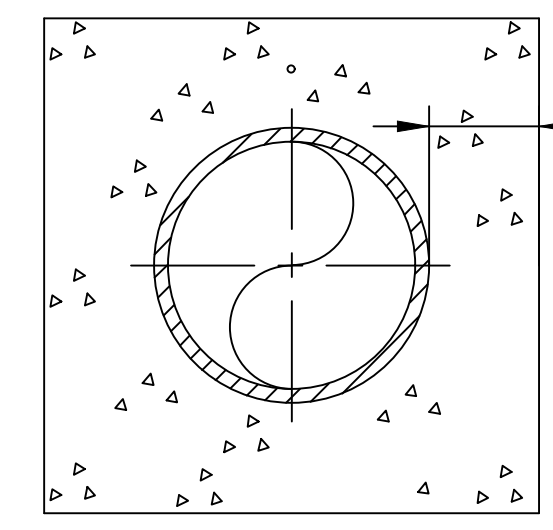
STANDARD TRENCHING DETAIL
SCALE: NTS



- NOTES:
- ADJUSTABLE CAST IRON VALVE BOX SHALL BE TYLER / UNION 6850 SERIES OR EQUAL.
 - SEE SPECIFICATION SECTION 15100 FOR MORE INFORMATION ON VALVES.

GATE OR PLUG VALVE W/O GEAR OPERATOR
SCALE: NTS

- NOTES:
- CONCRETE ENCASEMENT SHALL BE 3000 PSI.
 - CONCRETE ENCASEMENT LENGTH AS NOTED IN DRAWINGS.
 - PIPE SHALL BE ENCASED AS SOON AS COVER IS LESS THAN 30" TO TOP OF PIPE.
 - VACUUM PIPE TO BE WRAPPED IN PLASTIC BEFORE CONCRETE ENCASEMENT.



CONCRETE PIPE ENCASEMENT
SCALE: NTS

Project Information	Design:	CIM
Approved By:	AS NOTED	CIM
Scale:	03/05/082	ERC
Job No.:	02/12/2024	
Date Issued:		

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 MARA, FL 33650
 (941) 565-1700

STANDARD PIPING DETAILS 1
 GRINDER PUMP LATERAL KITS UPGRADES
 KLWTD
 KEY LARGO, FL

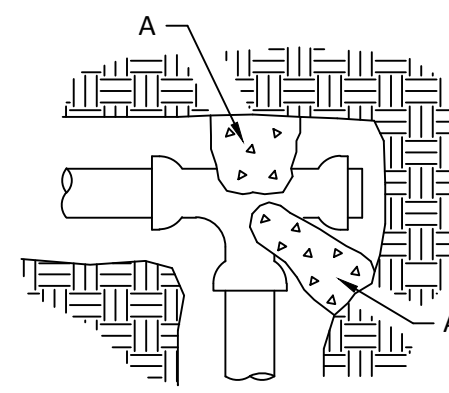
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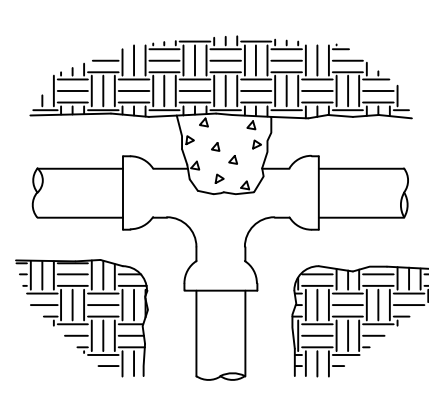
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 State of Florida,
 License No. 58574
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 Professional Engineer
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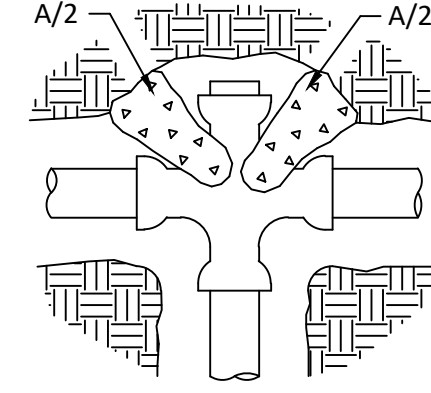
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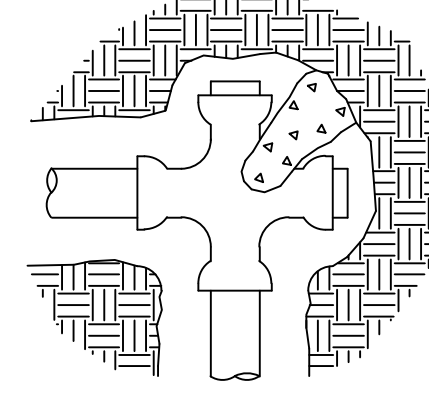
PLUGGED TEE



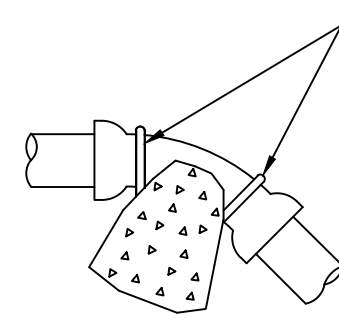
TEE



PLUGGED CROSS

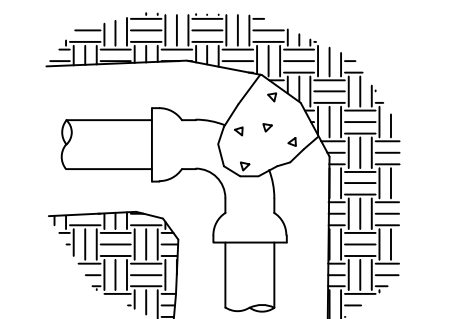


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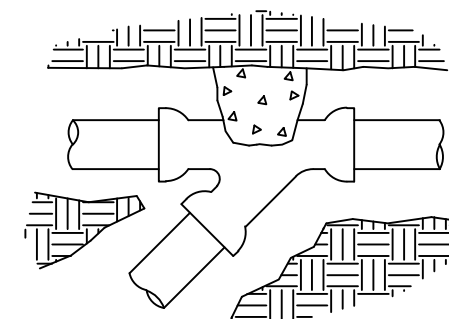


PROFILE

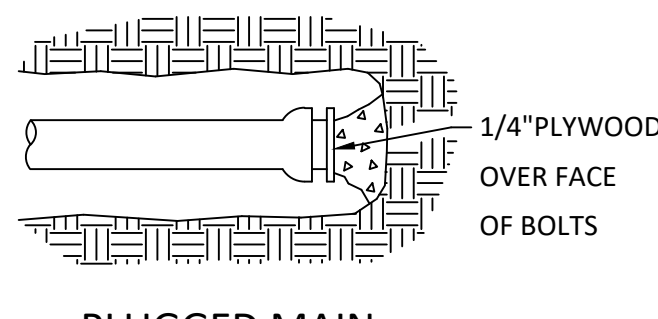
GALV RESTRAINING RODS (FOR FITTINGS 4" THRU 12" USE #6 RODS EMBEDDED 30") FOR FITTINGS 14" THRU 16" USE #8 RODS EMBEDDED 36")



BEND



WYE



PLUGGED MAIN ENDING

1/4" PLYWOOD OVER FACE OF BOLTS

VOLUME OF THRUST BLOCKS FOR VERTICAL BENDS IN CUBIC YARDS			
FITTING SIZE	BENDS		
	11-1/4 °	22-1/2 °	45 °
4"	0.2	0.4	1.1
6"	0.4	1.0	2.7
8"	0.6	1.5	4.0
10"	0.9	2.3	6.0
12"	1.3	3.2	8.5
14"	1.8	4.3	11.5
16"	2.3	5.6	14.8

THRUST BLOCK NOTES

- REQUIRED VOLUMES OR BEARING AREAS INDICATED AT FITTINGS ARE BASED UPON TEST PRESSURES OF 150 PSIG, 2,000 LBS/SF ALLOWABLE SOIL BEARING STRESS AND THE WEIGHT OF CONCRETE EQUAL TO 4050 LBS/CY.
- BEARING AREAS OF THRUST BLOCKS SHALL NOT BE LESS THAN 1.0 SF.
- KEEP CONCRETE CLEAR OF JOINT AND JOINT ACCESSORIES AND WRAP THE FITTING WITH VISQUEEN PRIOR TO PLACING CONCRETE.
- BEARING AREAS, VOLUMES, AND SPECIAL BLOCKING DETAILS SHOWN ON DRAWINGS SHALL TAKE PRECEDENCE OVER THIS STANDARD.
- THRUST BLOCKS FOR VERTICAL BENDS HAVING DOWNWARD RESULTANT THRUSTS SHALL BE THE SAME AS HORIZONTAL BENDS.
- COMPUTE BEARING AREAS FOR HORIZONTAL BEND THRUST BLOCKS AT DIFFERENT TEST PRESSURES AND SOIL BEARING STRESSES WITH THE FOLLOWING EQUATION :

$$\text{BEARING AREA} = \frac{\text{REQUIRED TEST PRESSURE}}{150} \times \frac{2,000}{\text{ACTUAL SOIL BEARING STRESS}} \times (\text{TABLE VALUE})$$
- COMPUTE VOLUMES OF CONCRETE FOR VERTICAL BENDS HAVING UPWARD RESULTANT THRUSTS AT DIFFERENT TEST PRESSURES WITH THE FOLLOWING EQUATION :

$$\text{VOLUME} = \frac{\text{REQUIRED TEST PRESSURE}}{150} \times (\text{TABLE VALUE})$$

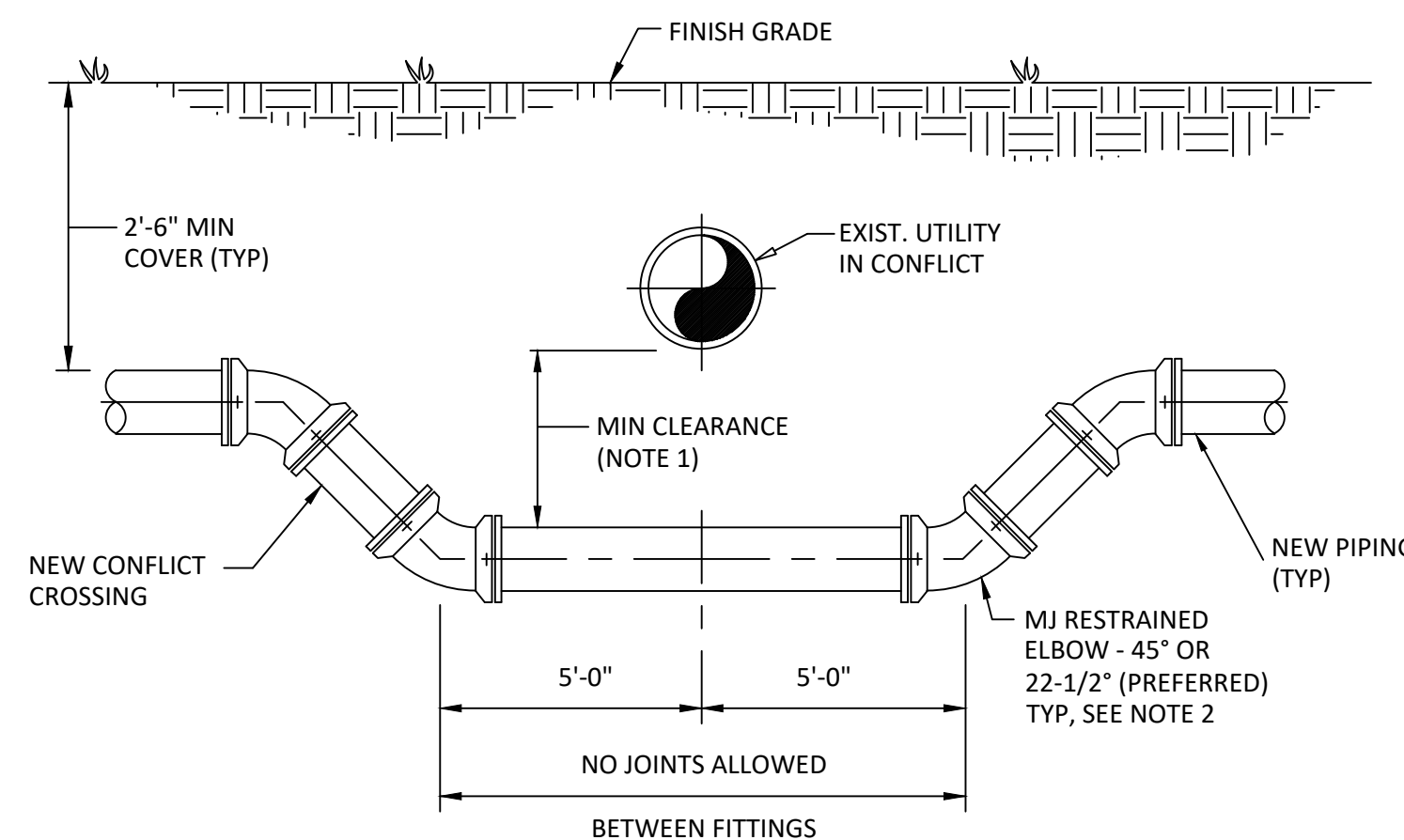
BEARING AREA OF THRUST BLOCKS IN SQ.FT. (HORIZONTAL FITTINGS)							
FITTING SIZE	BENDS			TEE, WYE PLUG, OR CAP	TEE (PLUGGED RUN)		90 BEND OR PLUGGED CROSS
	11-1/4 °	22-1/2 °	45 °		A1	A2	
4"			1.0	1.0	1.9	1.4	1.4
6"		1.0	1.6	2.1	4.3	3.0	3.0
8"	1.0	1.5	2.9	3.8	7.6	5.4	5.3
10"	1.2	2.4	4.6	5.9	11.8	8.4	8.4
12"	1.7	3.4	6.6	8.5	17.0	12.0	12.0
14"	2.3	4.6	8.9	11.5	23.0	16.3	16.3
16"	3.0	6.0	11.6	15.0	30.0	21.3	21.3
18"	3.8	7.6	14.6	19.0	38.0	27.0	27.0
20"	4.7	9.4	18.1	23.5	47.0	33.3	33.3
24"	6.8	13.6	26.2	34.0	68.0	48.0	48.0

THRUST BLOCK NOTES AND DETAILS

(THRUST BLOCKS ALLOWED AT LOCATIONS SHOWN ON DRAWINGS ONLY)

NOTES:

- MINIMUM VERTICAL CLEARANCES SHALL BE IN ACCORDANCE WITH STANDARD SEPARATION STATEMENT.
- ALL JOINTS OF CROSSING SHALL BE RESTRAINED PER JOINT RESTRAINT DETAILS.
- JOINT RESTRAINT SHALL BE AS SPECIFIED IN SECTION 15005 - DUCTILE IRON PIPE OR SECTION 15002 - POLYVINYLCHLORIDE (PVC) PRESSURE PIPE, AS APPLICABLE.
- PIPE JOINTS MAY BE DEFLECTED AS AN ALTERNATIVE TO FITTINGS AT CONTRACTORS DISCRETION. DO NOT EXCEED PIPE MANUFACTURERS SPECIFIED MAXIMUM DEFLECTION.
- DETAIL MAY BE MODIFIED IN FIELD WHERE TWO (2) OR MORE UTILITY CONFLICTS ARE IN CLOSE PROXIMITY WITH EACH OTHER. COORDINATE IN FIELD WITH RESIDENT PROJECT REPRESENTATIVE.



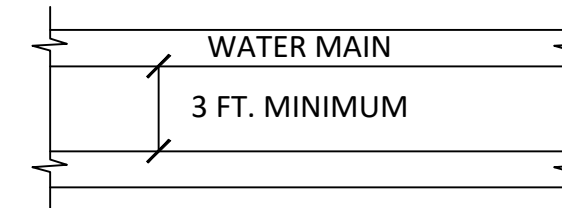
UTILITY CROSSING

FDEP PIPE SEPARATION DETAIL

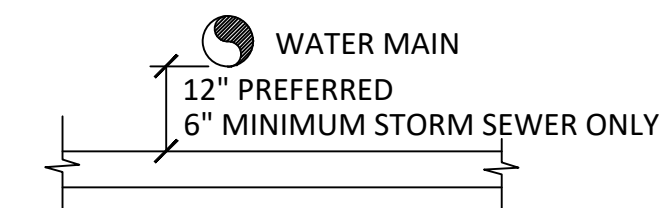
OTHER PIPE

STORM SEWER, STORMWATER FM, RECLAIMED WATER (1)

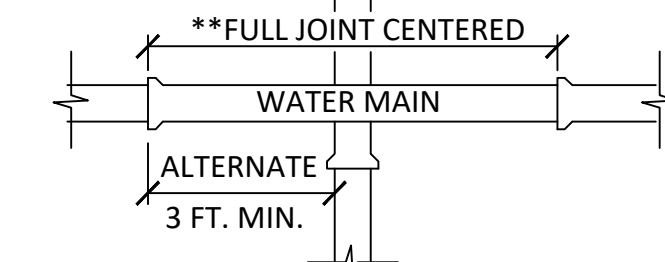
HORIZONTAL SEPARATION



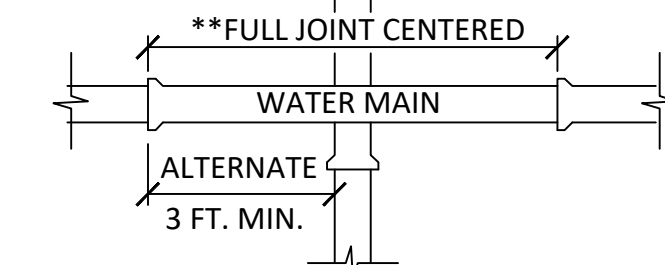
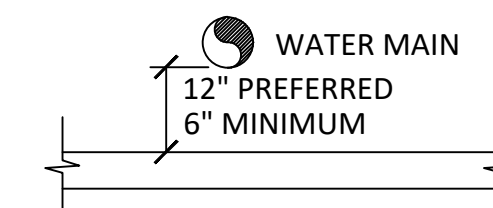
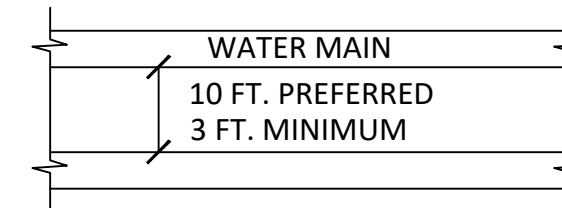
***CROSSINGS**



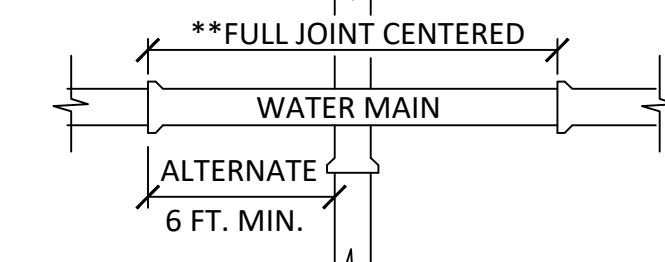
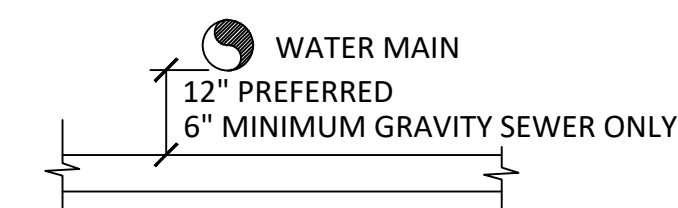
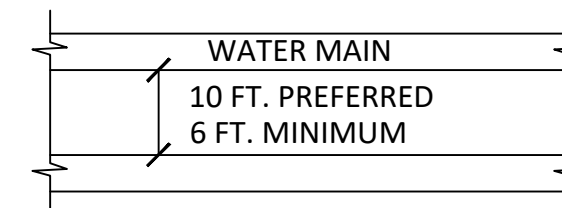
JOINT SPACING @ CROSSINGS



VACUUM TYPE SANITARY SEWER



GRAVITY OR PRESSURE SANITARY SEWER; SANITARY SEWER FM; RECLAIMED WATER (2)



- RECLAIMED WATER REGULATED UNDER PART III 62-610 F.A.C.
- RECLAIMED WATER NOT REGULATED UNDER PART III 62-610 F.A.C.

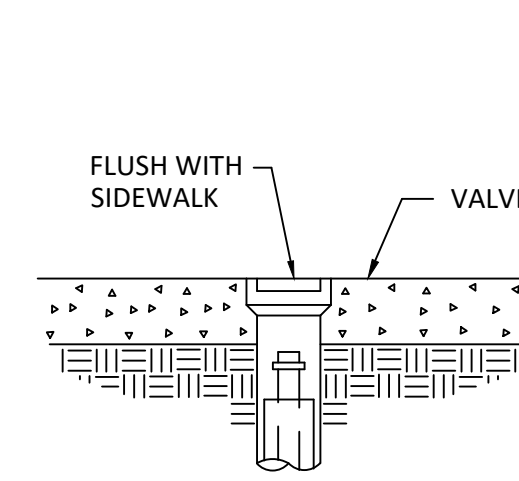
*WATER MAIN SHOULD CROSS ABOVE OTHER PIPE. WHEN WATER MAIN MUST BE BELOW OTHER PIPE THE MINIMUM VERTICAL SEPARATION SHALL BE 12".

**FULL LENGTH OF PIPE CENTERED AT CROSSING

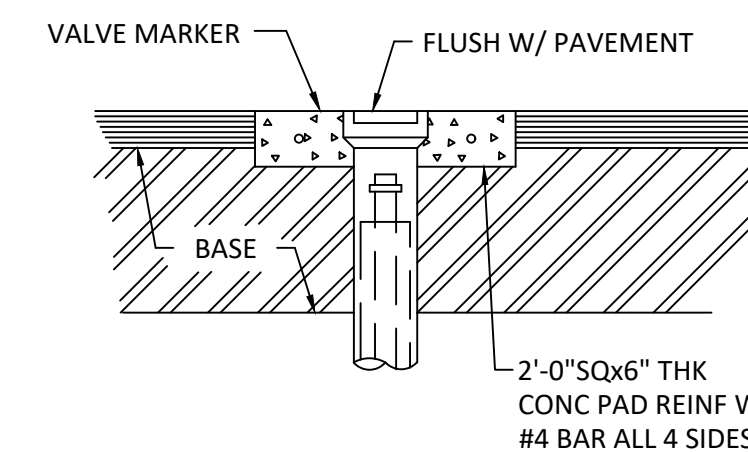
LOCATION OF PUBLIC WATER SYSTEM MAINS

THE TABLE REPRESENTS THE MINIMUM SEPARATION REQUIREMENTS AS DESCRIBED IN F.D.E.P. RULES OF THE FLORIDA ADMINISTRATION CODE (F.A.C.).

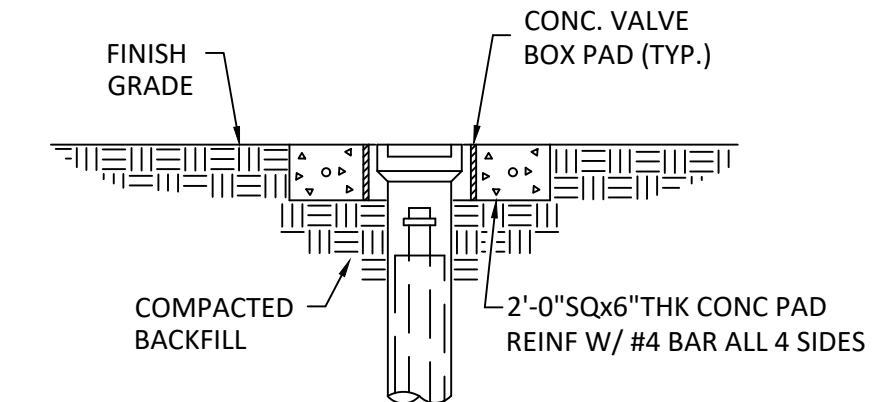
N.T.S.



CONC SIDEWALK



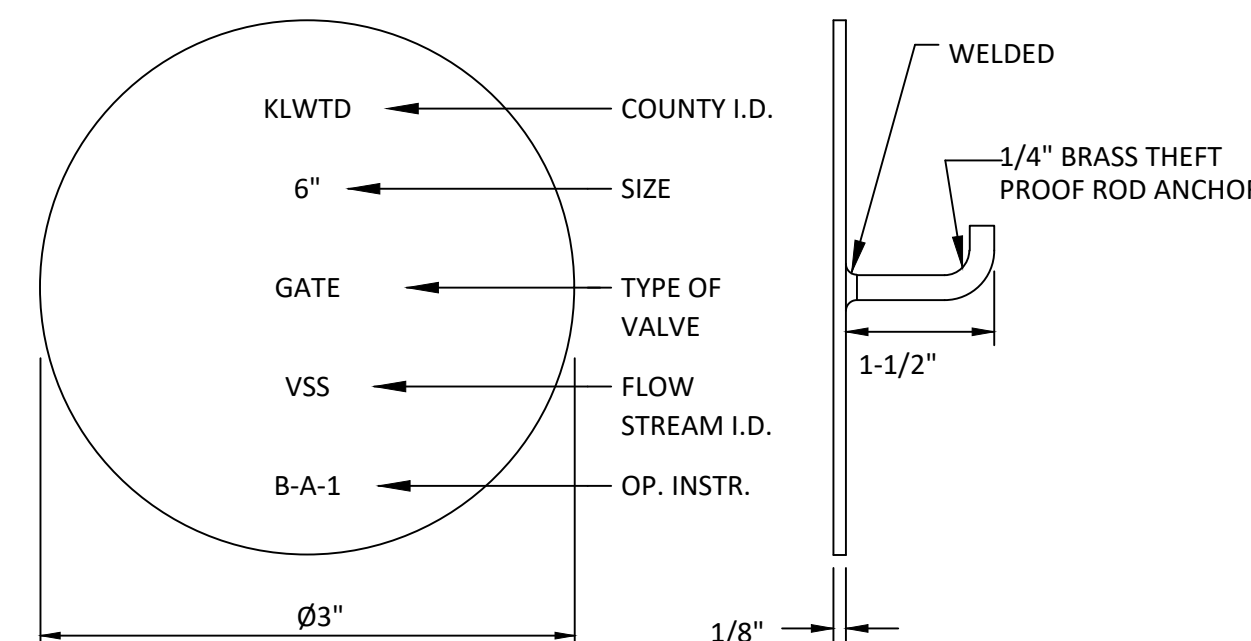
PAVED AREAS



UNPAVED AREAS

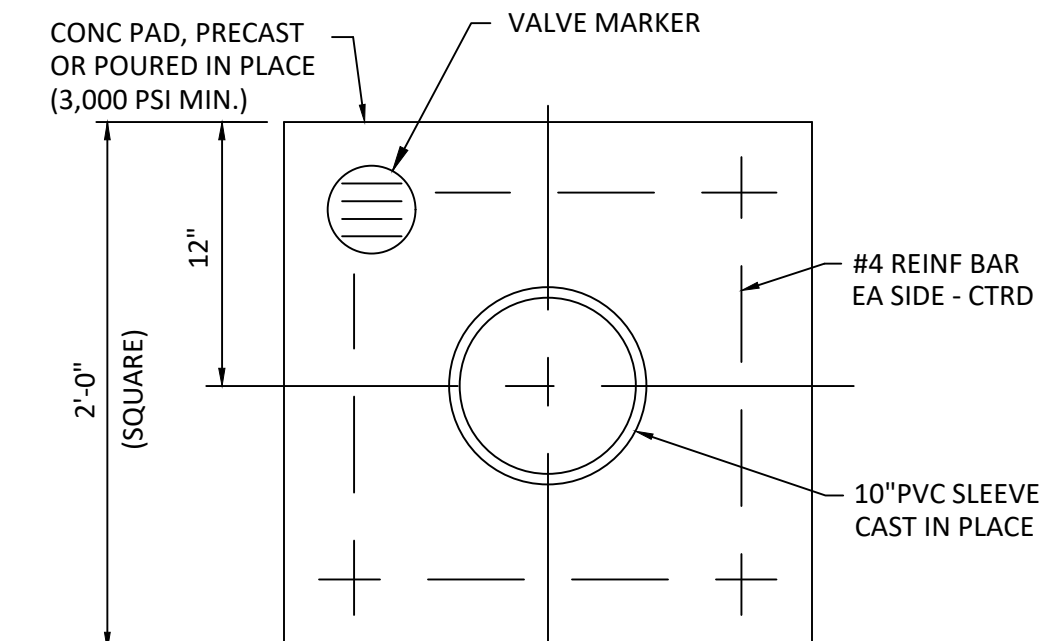
VALVE BOX SETTING DETAILS

SCALE: NTS



BURIED VALVE MARKER

SCALE: NTS



CONCRETE VALVE BOX PAD

SCALE: NTS

Project Information	CIM	Design:	CIM
	ERC	AS NOTED	CIM
Approved By:	Scale:	Job No.:	ERC
		03.105.082	Checked:
			02/12/2024

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 6605 OVERSEAS HIGHWAY
 MARA, FL 33050
 (941) 505-1700

STANDARD PIPING DETAILS 2

GRINDER PUMP LATERAL KITS UPGRADES

KLWTD

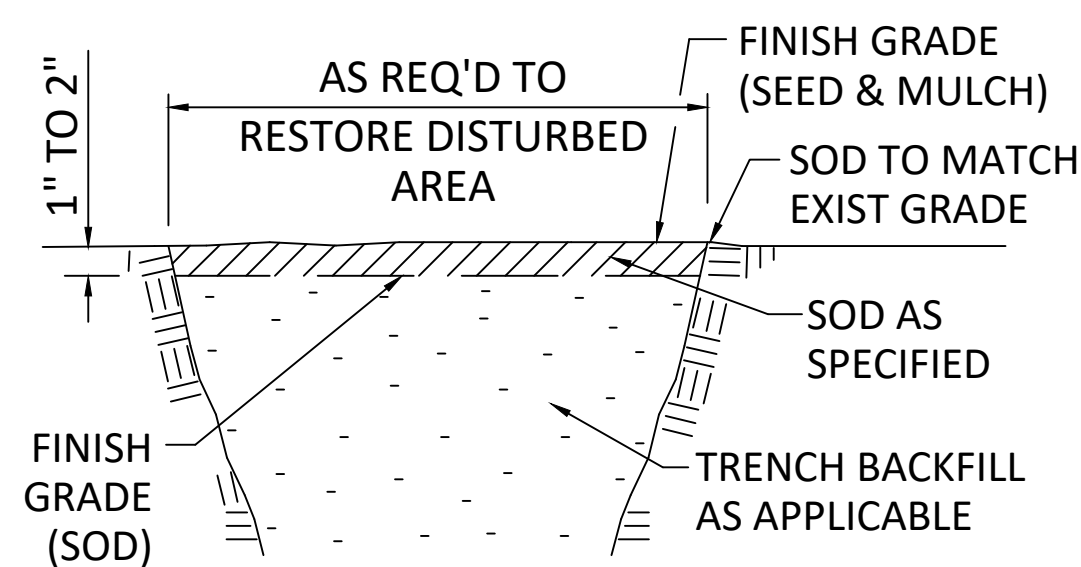
KEY LARGO, FL

Revisions	Description
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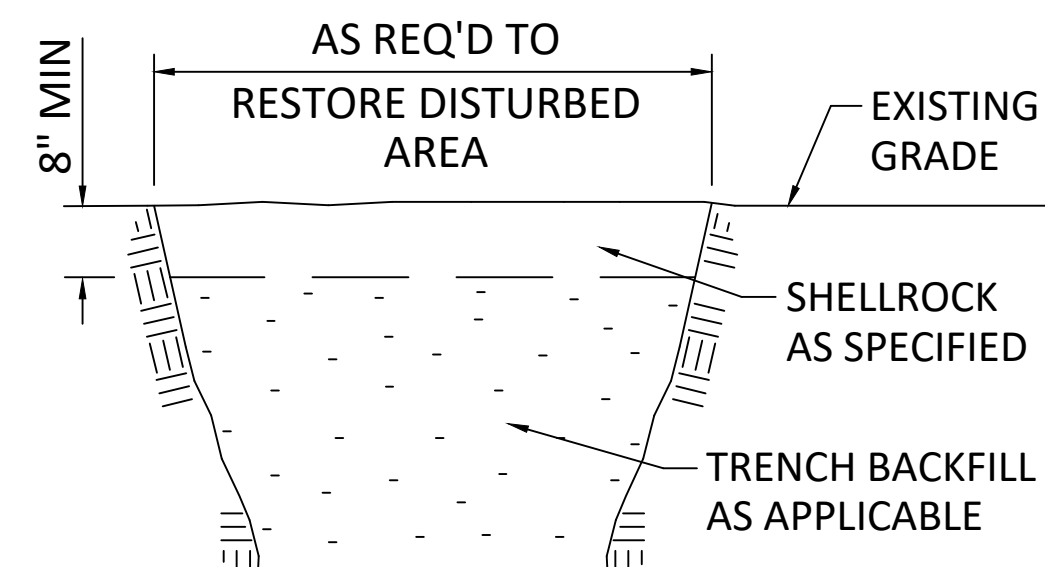
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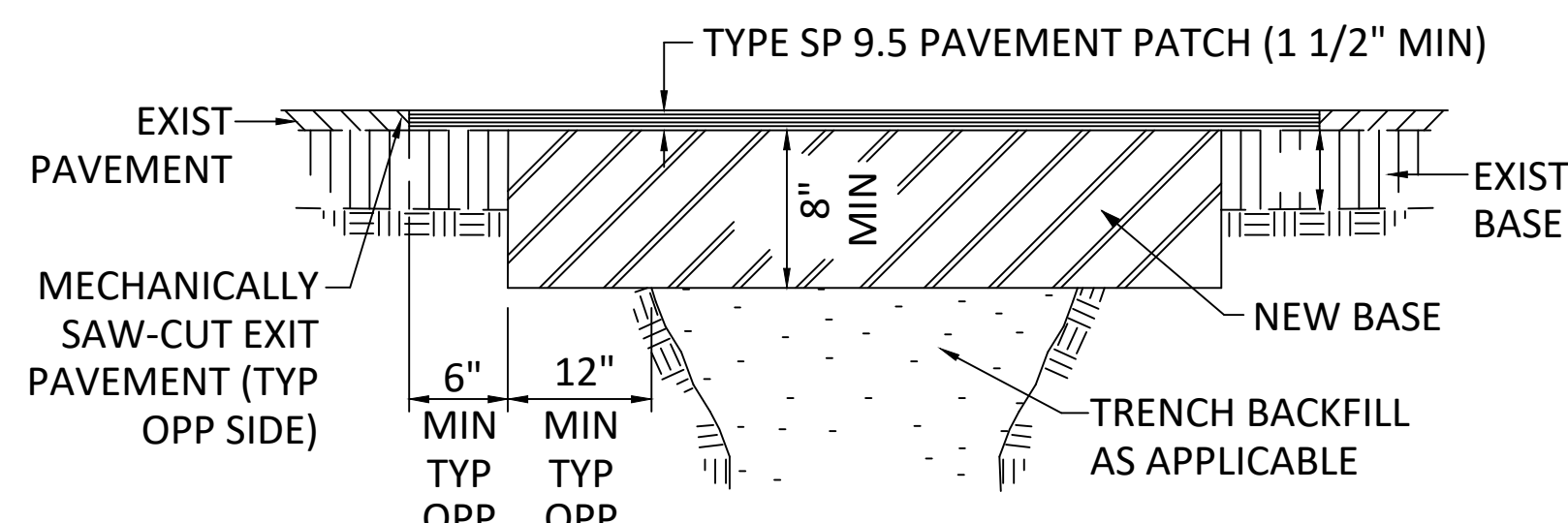
GRASS AREAS

- TYPE ① SOD
- TYPE ⑥ SEED & MULCH



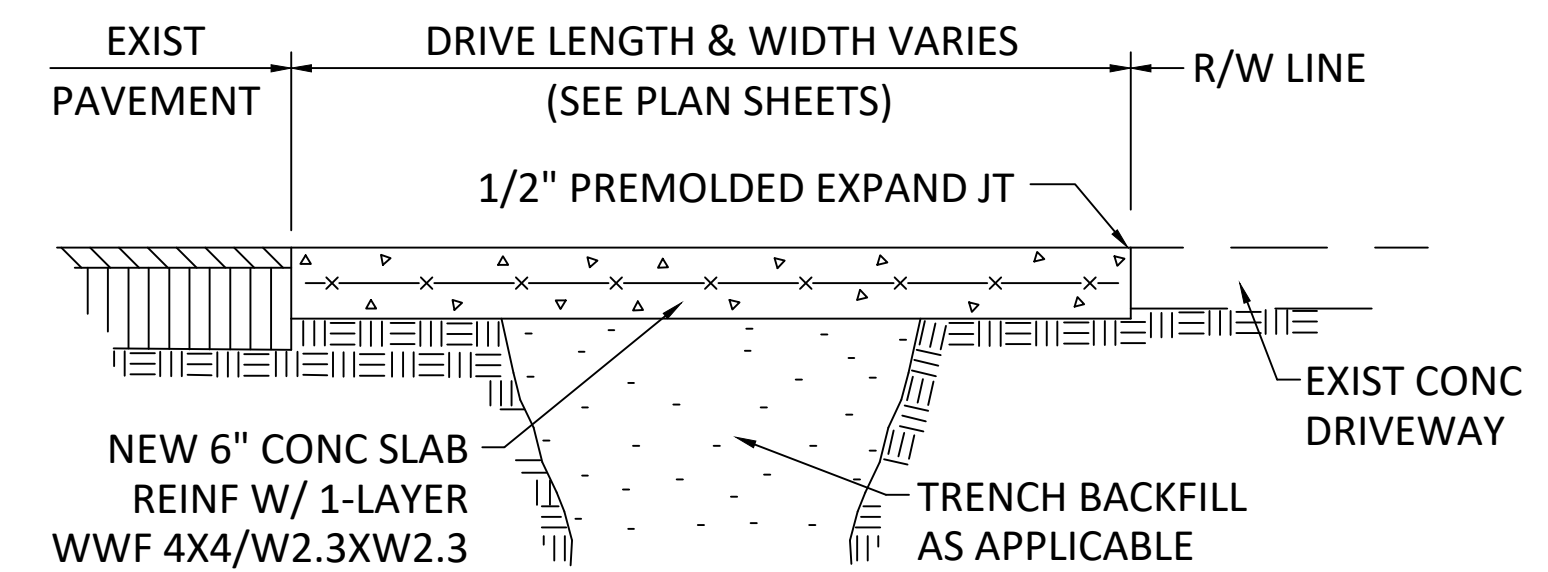
ROCK ROADWAYS AND DRIVEWAYS

- TYPE ①



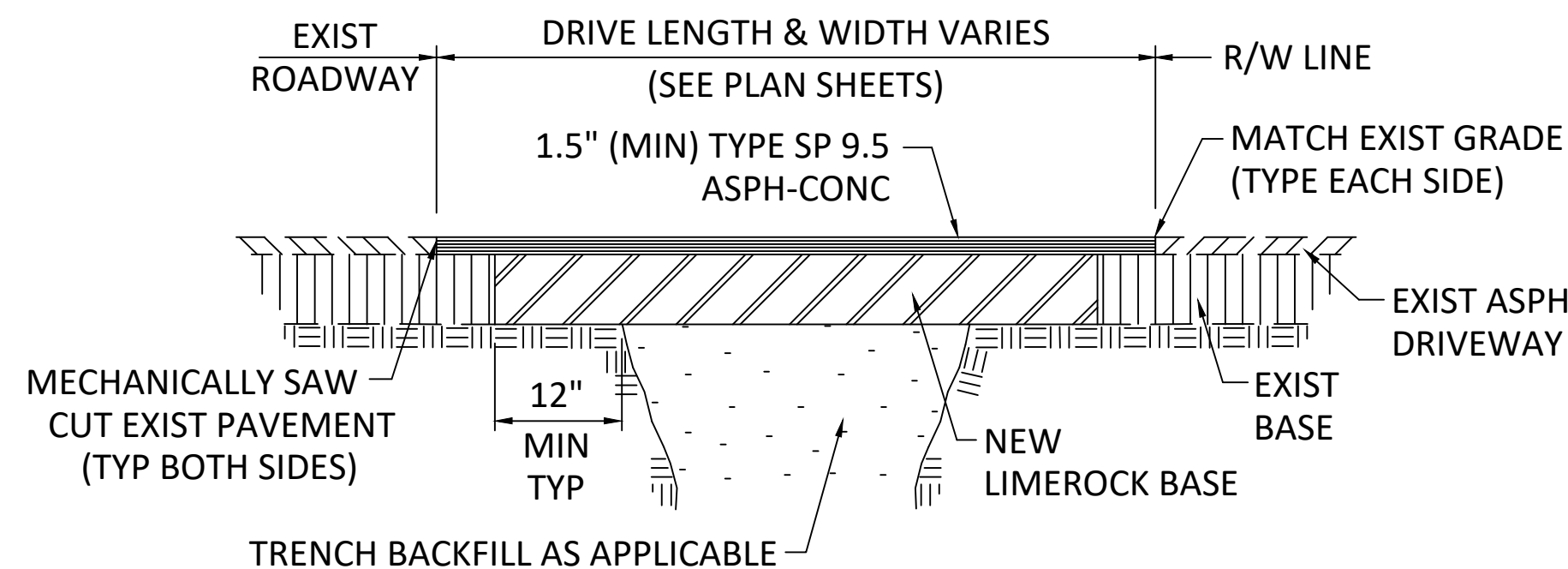
ASPHALT ROADWAYS

- TYPE ②



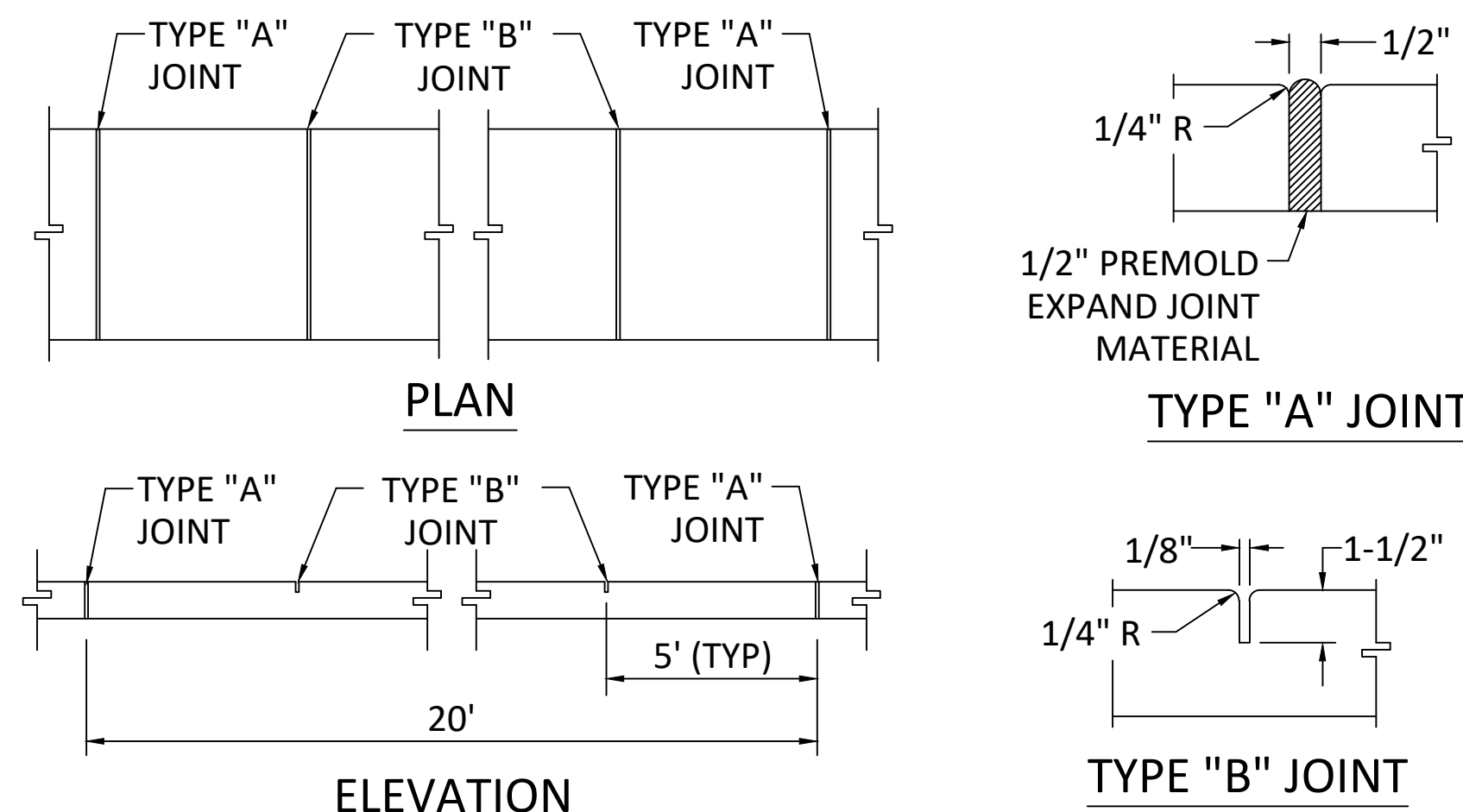
CONCRETE DRIVEWAYS

- TYPE ③



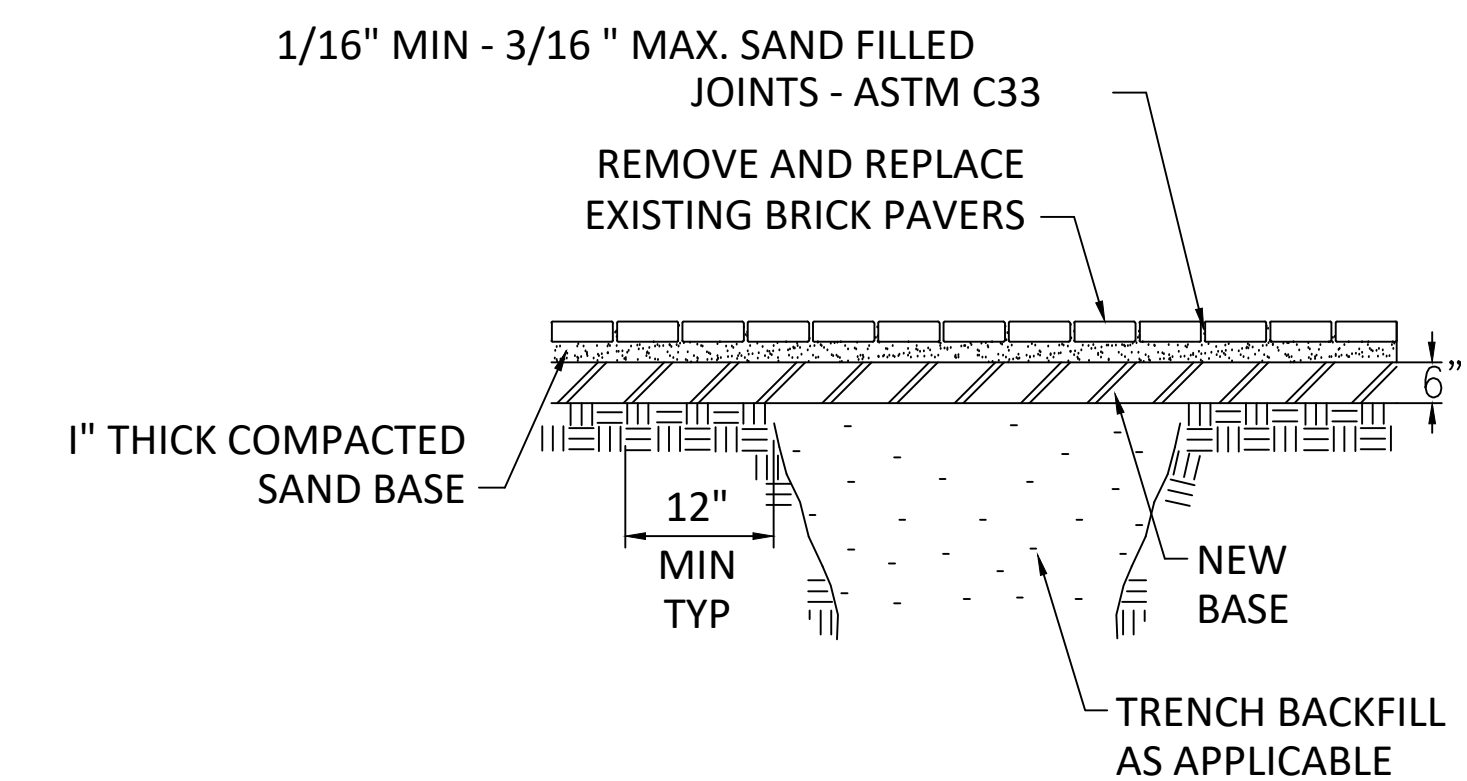
ASPHALT DRIVEWAYS

- TYPE ④



CONCRETE SIDEWALKS TYPE

- TYPE ⑤



BRICK PAVERS

- TYPE ⑦

1) ASPHALT ROADWAYS :

- PAVEMENT MATERIALS SHALL BE AS SPECIFIED.
- PREPARE BASE SECTION, SAW CUT EXISTING PAVEMENT AS APPLICABLE PRIME COAT, TACK COAT AND PLACE ASPHALT PATCH IMMEDIATELY FOLLOWING PIPE INSTALLATION.
- BASE MATERIAL SHALL BE TWICE THE THICKNESS OF EXISTING BASE MATERIAL, BUT IN NO CASE BE LESS THAN 8". BASE MATERIAL SHALL BE PLACED IN LIFTS NOT TO EXCEED 8" AND COMPACTED TO 98% OF MAXIMUM DENSITY AS DETERMINED BY AASHTO T-180.
- PAVEMENT PATCH THICKNESS TO MATCH EXISTING PAVEMENT THICKNESS, BUT IN NO CASE LESS THAN 1 1/2".
- WHEN OVERLAY IS NOT REQUIRED CONTRACTOR OR ENGINEER SHALL SCHEDULE A FIELD INSPECTION WITH THE MONROE COUNTY RIGHT OF WAY AUTHORITY TO INSPECT CONDITION OF PATCH 90 DAYS AFTER PLACEMENT. IF SAID AUTHORITY FINDS PATCH TO BE UNACCEPTABLE THEN THE PATCH SHALL BE COMPLETELY REMOVED AND REPLACED AT NO ADDITIONAL COST TO THE OWNER.
- 90 DAYS AFTER PLACEMENT OF ASPHALT PATCH, OVERLAY ROADWAY TO THE EXTENT AS SHOWN ON DRAWINGS AND NOTED HEREIN WITH A MINIMUM OF 1 1/2" TYPE S-I ASPHALTIC CONCRETE APPLIED IN 1 LIFT.
- APPLY TACK COAT PRIOR TO PLACING ASPHALTIC OVERLAY.
- EDGES OF OVERLAY SHALL BE KEYED TO EXISTING PAVEMENT.
- WHERE OVERLAY IS REQUIRED, THE PAVEMENT PATCH DOES NOT NEED TO BE COMPLETED.

2) CONCRETE DRIVES :

- AS APPLICABLE, EXISTING CONCRETE DRIVEWAYS SHALL BE REMOVED AND REPLACED FROM THE R/W LINE TO EDGE OF ROADWAY COMPLETELY. CONCRETE DRIVE DAMAGE OUTSIDE OF THE R/W SHALL ALSO BE RESTORED.
- NEW SLAB SHALL BE CONSTRUCTED TO THE LINES AND GRADES OF EXISTING DRIVEWAY PRIOR TO CONSTRUCTION.
- CONCRETE SHALL BE 3000 PSI AS SPECIFIED.
- BASE MATERIAL SHALL BE PLACED IN LIFTS NOT TO EXCEED 8" AND COMPACTED TO 98% OF MAXIMUM DENSITY AS DETERMINED BY AASHTO T-180.
- SUBGRADE SHALL BE PREPARED AS SPECIFIED.

3) ASPHALT DRIVES :

- REMOVE EXISTING ASPHALT DRIVEWAY SURFACE FROM R/W LINE TO EDGE OF ROADWAY COMPLETELY.
- BASE MATERIAL SHALL BE PLACED IN LIFTS NOT TO EXCEED 8" AND COMPACTED TO 98% OF MAXIMUM DENSITY AS DETERMINED BY AASHTO T-180.
- APPLY TACK COAT AS SPECIFIED PRIOR TO PLACING ASPHALT.
- PAVEMENT MATERIALS SHALL BE AS SPECIFIED.
- NEW PAVEMENT SHALL BE CONSTRUCTED TO THE LINES AND GRADES OF EXISTING DRIVEWAYS PRIOR TO CONSTRUCTION.

4) CONCRETE SIDEWALKS :

- SIDEWALK SHALL BE 4" THICK EXCEPT IN DRIVEWAYS WHERE THE THICKNESS SHALL BE 6". CONCRETE SHALL BE 3000 PSI AS SPECIFIED.
- TYPE "A" JOINTS SHALL BE PLACED AT 20' CENTERS ON SIDEWALKS PC'S AND PT'S OF CURVES, JUNCTIONS OF EXISTING AND NEW SIDEWALKS AND WHERE SIDEWALK ABUTS CONCRETE CURBS, DRIVEWAYS AND SIMILAR STRUCTURES.
- TYPE "B" JOINTS SHALL BE PLACED AT 5' CENTERS ON SIDEWALKS.
- BASE MATERIAL SHALL BE PLACED IN LIFTS NOT TO EXCEED 8" AND COMPACTED TO 98% OF MAXIMUM DENSITY AS DETERMINED BY AASHTO T-180.

5) GRASS AREAS :

- SOD AND SEED & MULCH SHALL BE AS SPECIFIED
- BASE MATERIAL SHALL BE PLACED IN LIFTS NOT TO EXCEED 8" AND COMPACTED TO 98% OF MAXIMUM DENSITY AS DETERMINED BY AASHTO T-180.
- DISTURBED AREAS ALONG CANAL R/W SHALL BE REGRADED AT A 20:1 REVERSE SLOPE, UNLESS NOTED OTHERWISE.

6) BRICK PAVERS:

- REPLACE BRICK PAVERS TO MATCH THE LINE AND GRADES OF EXISTING DRIVEWAY PRIOR TO CONSTRUCTION.
- BASE MATERIAL SHALL BE PLACED IN LIFTS NOT TO EXCEED 8" AND COMPACTED TO 98% OF MAXIMUM DENSITY AS DETERMINED BY AASHTO T-180.
- EDGE RESTRAINT SHALL MATCH EXISTING.

TYPICAL PIPELINE ROUTE SURFACE RESTORATION DETAILS AND NOTES

NOTE: SEE SURFACE RESTORATION NOTES FOR ADDITIONAL DETAILS

Project Information	Design:	CIM
Approved By:	AS NOTED	CIM
Scale:	03/05/082	ERC
Job No.:	02/12/2024	
Date Issued:		

WEC WATER ENGINEERING CORPORATION
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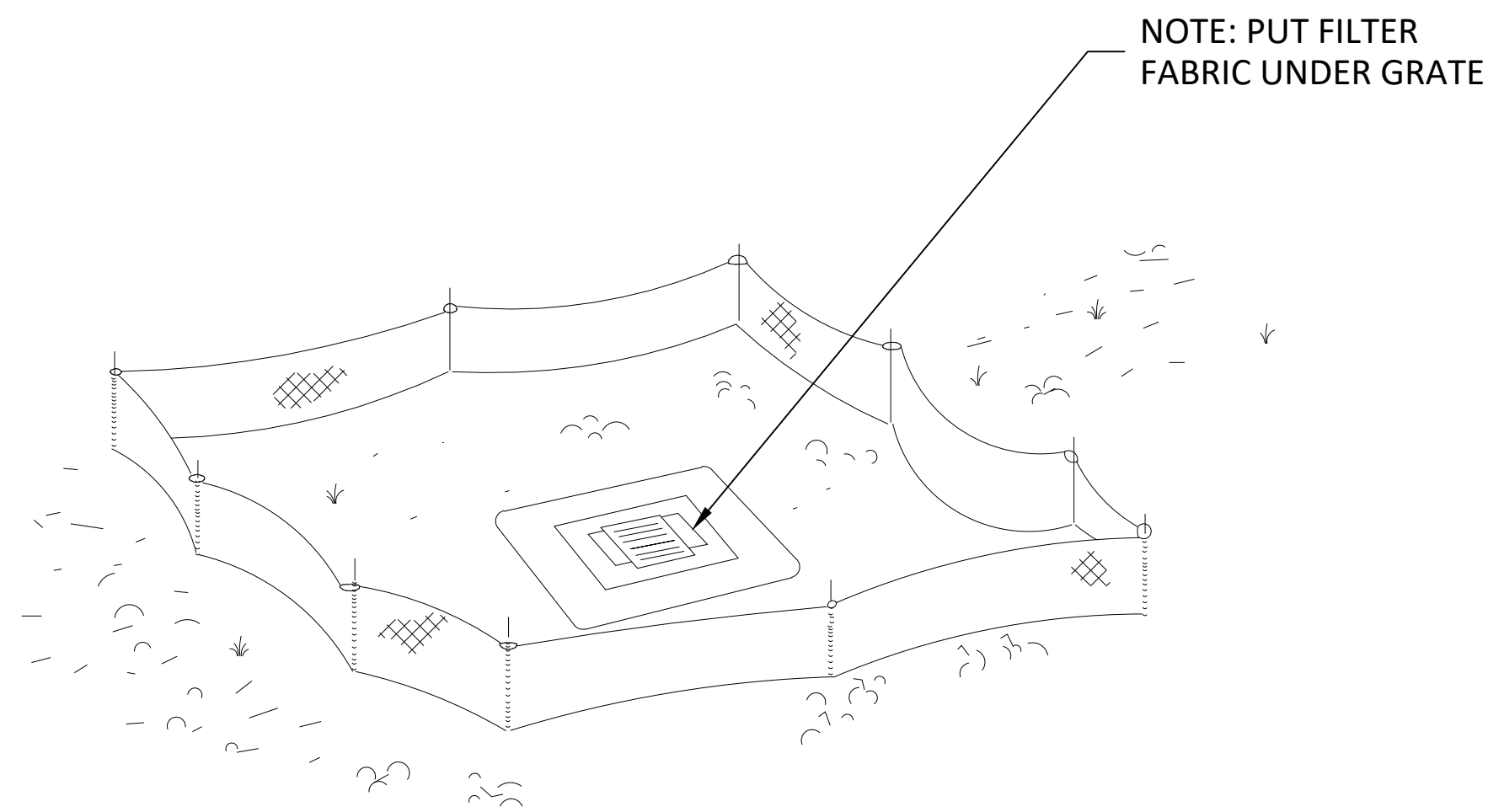
ROAD RESTORATION DETAILS
GRINDER PUMP LATERAL KITS UPGRADES
KLWTD
KEY LARGO, FL

Revisions	Description
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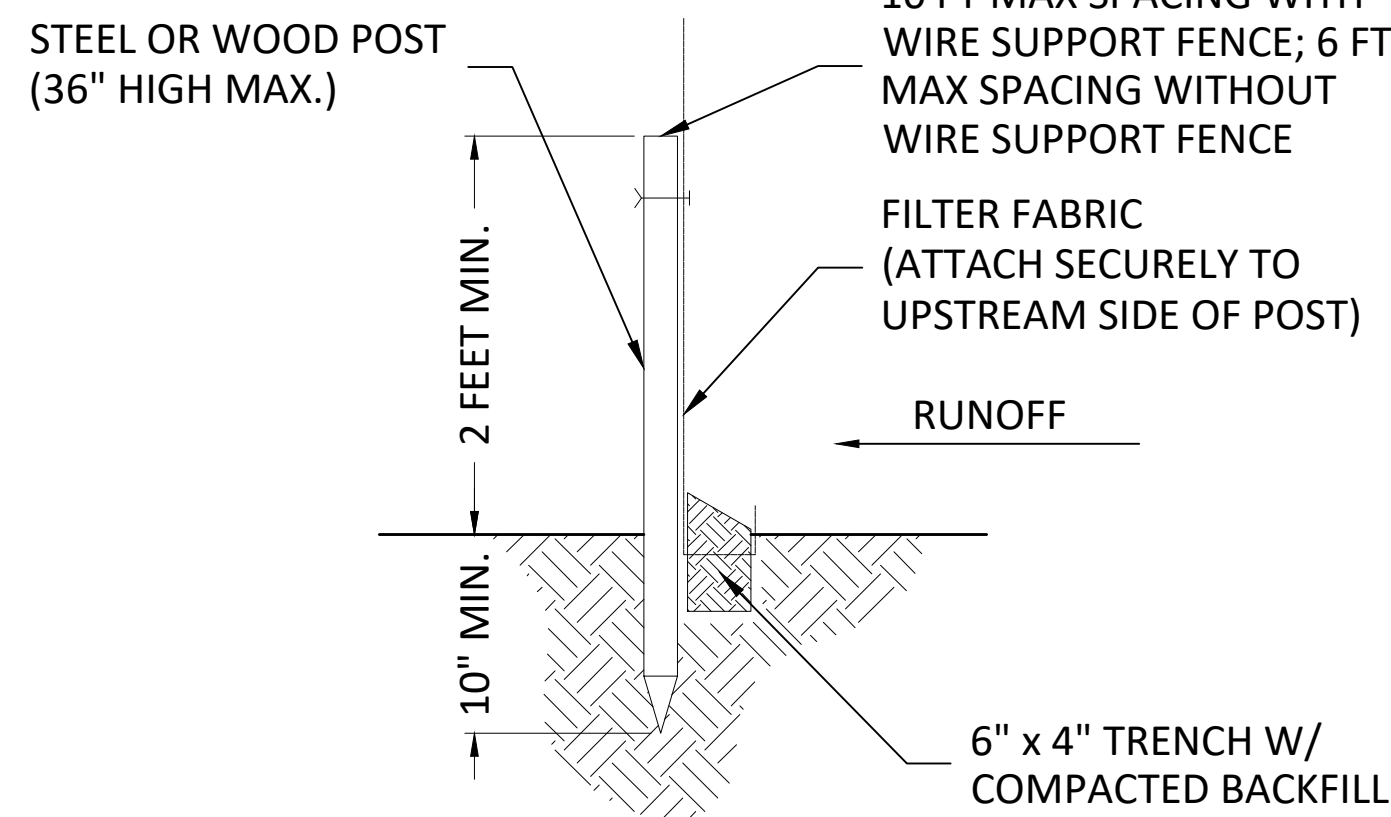
Edward R. Castle
 Professional Engineer
 State of Florida
 Registration No. 58574
 Sheet No. **D3.0**

USER: Colton_FLOTTED THE EXHIBIT LAYOUT OF C:\Users\Colton\Water_Engineering_Dropbox\Colton_Montgomery\KLWTD Grinder_Pump_Lateral_Kits.dwg, ON Dec 18, 2023 @ 5:05pm

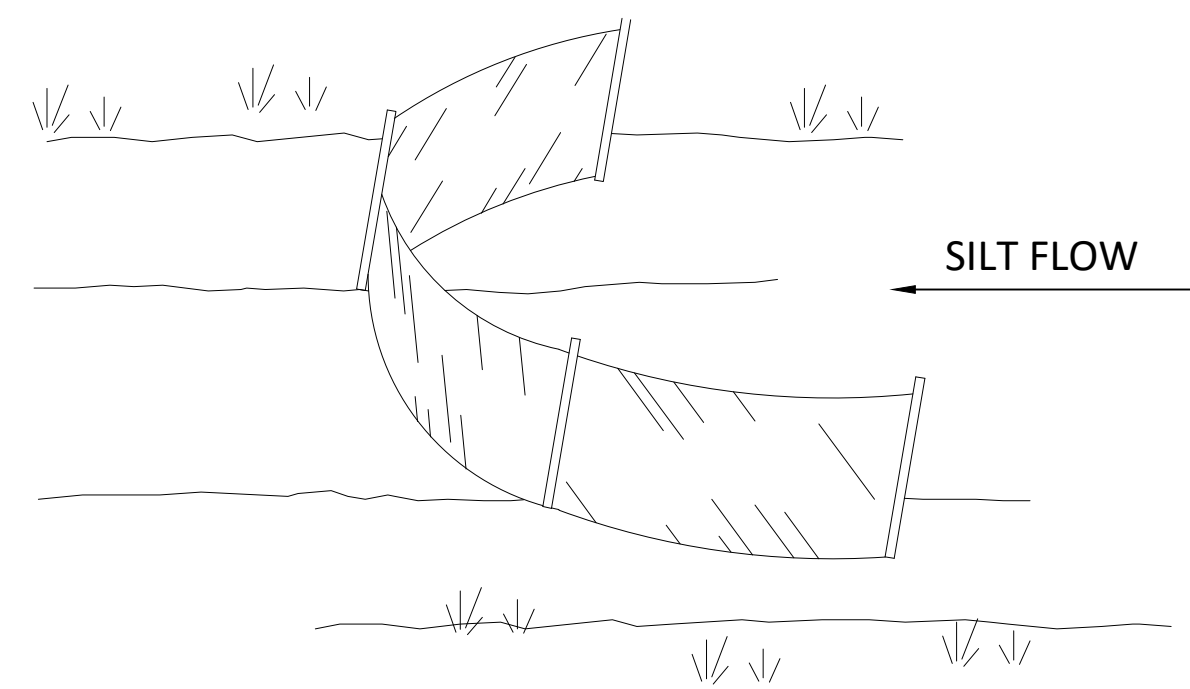


STAKED SILTY BARRIER OR SILTY FENCE PROTECTION AROUND DITCH BOTTOM INLETS
SCALE: NTS

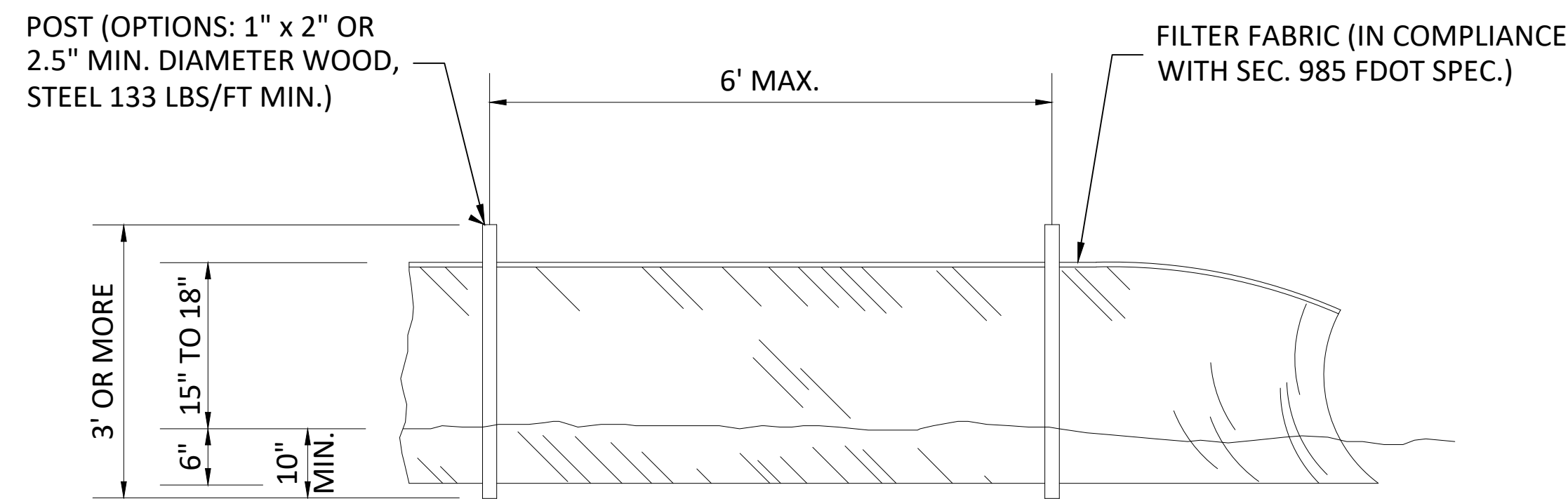
- NOTES:**
1. INSPECT AND REPAIR FENCE AFTER EACH STORM EVENT AND REMOVE SEDIMENT WHEN NECESSARY.
 2. REMOVED SEDIMENT SHALL BE DEPOSITED TO AN AREA THAT WILL NOT CONTRIBUTE SEDIMENT OFF-SITE AND CAN BE PERMANENTLY STABILIZED.
 3. SILTY FENCE SHALL BE INSTALLED AT LEAST 1 FT AWAY FROM VEGETATION DRIP LINE.



SILTY FENCE DETAIL - TRENCH WITH NATIVE BACKFILL
SCALE: NTS



TYPE III SILTY FENCE
SCALE: NTS



TYPICAL SILTY FENCE
SCALE: NTS

NOTE: CONTRACTOR TO INSPECT SILTY FENCE DAILY AND REPAIR IMMEDIATELY IF DAMAGED.

EROSION CONTROL MAINTENANCE SCHEDULE

THE CONTRACTOR SHALL INSTALL SILTY FENCE, STAKED HAY BALES, AND AND OTHER EROSION CONTROL DEVICES AS SHOWN ON THE DRAWINGS PRIOR TO BEGINNING CONSTRUCTION. THESE INSTALLATIONS AS SHOWN ON THE DRAWINGS SHALL BE CONSIDERED THE MINIMUM EROSION/SILTATION PROTECTION REQUIRED FOR THE SITE. IN ADDITION THE ENGINEER, OWNER, OR OWNER'S REPRESENTATIVE MAY DEEM IT NECESSARY TO INSTALL PROTECTIVE FACILITIES ELSEWHERE ON THE SITE.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING THE EROSION PROTECTION FACILITIES THROUGH COMPLETION OF CONSTRUCTION. THE CONTRACTOR SHALL PERFORM DAILY INSPECTIONS OF THE FACILITIES TO ENSURE THAT THE EROSION PROTECTION FACILITIES ARE MAINTAINING THEIR PROTECTION FUNCTIONS AND INTEGRITY.

IN ADDITION TO THE INSTALLATION OF EROSION PROTECTION FACILITIES, THE ENGINEER, OWNER, OR OWNER'S REPRESENTATIVE MAY DEEM IT NECESSARY, UPON INSPECTION OF THE SITE, THAT TURBIDITY MONITORING BE PERFORMED BY THE CONTRACTOR IF GREATER THAN 0 NTU'S ABOVE BACKGROUND LEVELS ARE DETCTED. THE MONITORING SHALL BE PERFORMED DAILY IF BACKGROUND TURBIDITY LEVELS REACH 25-29 NTU'S. FOR BACKGROUND TURBIDITY LEVELS LESS THAN 25 NTU'S, TURBIDITY MONITORING SHALL BE PERFORMED WEEKLY. IF BACKGROUND TURBIDITY LEVELS ARE GREATER THAN 29 NTU'S, ALL CONSTRUCTION ACTIVITIES SHALL STOP AND THE CONTRACTOR SHALL PROVIDE ADDITIONAL EROSION PROTECTION NECESSARY TO RETURN LEVELS TO 29 NTU'S OR LESS. CONSTRUCTION ACTIVITIES SHALL BEGIN AGAIN ONLY UPON APPROVAL BY THE ENGINEER, OWNER, OR OWNER'S REPRESENTATIVE.

ALL EROSION PROTECTION FACILITIES SHALL BE REMOVED AFTER CONSTRUCTION COMPLETION, AND WHEN A VEGETATIVE COVER HAS BEEN WELL ESTABLISHED OVER THE CONSTRUCTED AREAS. PER THE PLANS: THE CONTRACTOR SHALL REMOVE PROTECTION FACILITIES ONLY UPON APPROVAL BY THE ENGINEER, OWNER, OR OWNER'S REPRESENTATIVE.

Project Information	
Approved By:	Design:
Scale:	Drawn:
Job No.:	Checked:
Date Issued:	

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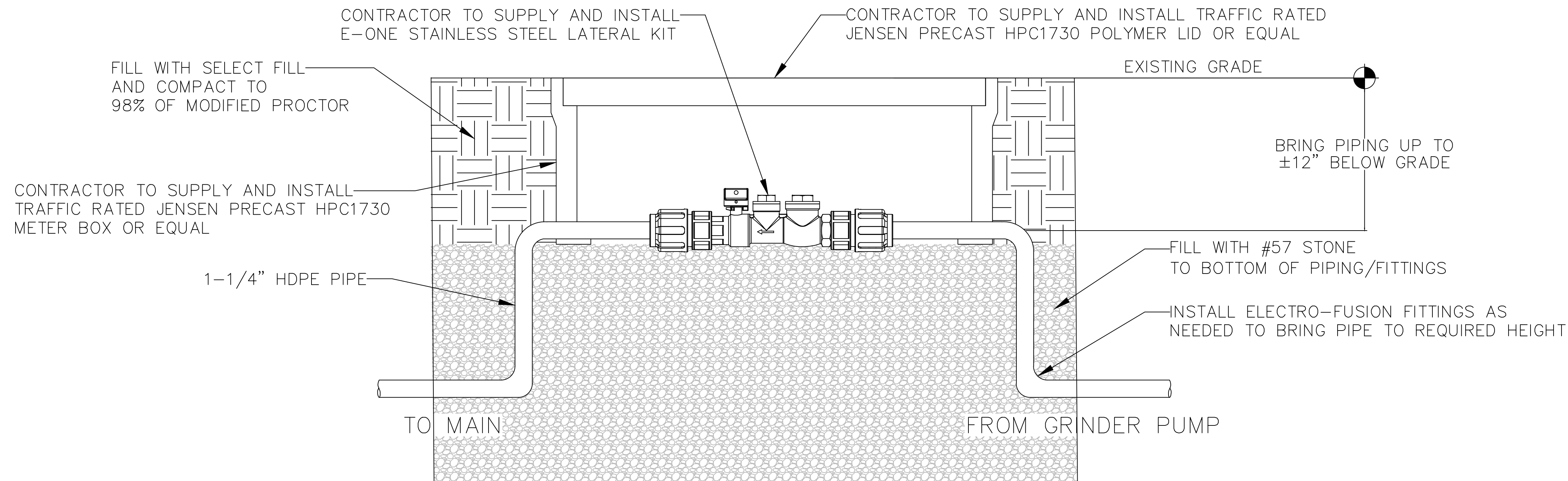
BMP DETAILS
GRINDER PUMP LATERAL KITS UPGRADES
KLWTD
KEY LARGO, FL

Description	Revisions

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METER BOX DETAIL

NTS

BILL OF MATERIALS			
ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	100008174	HPC 1730 Polymer Cover, Tier-22, Bolt Down, Blank
2	1	100002034	HPC 1730-12 Polymer Box, Tier-22, 1/2-13 SS Nut
3	2	100004339	BOLT HEX 1/2-13 UNC 2 304SS
4	2	100007767	WASHER FLAT 1/2 REGULAR 1.25 OD 304SS

PALLET QUANTITY:	15	APPROX. WEIGHT:	134.57 lbs
CERTIFICATION:	ANSI/SCTE 77	DESIGN/TEST LOAD:	22.5/33.75 kip
DESIGN SPEC:	ANSI/SCTE 77	LOADING SPEC:	Tier-22
AGENCY:		AGENCY SPEC:	

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200059138

DESCRIPTION: HPC 1730x12 Polymer Assembly V0, Tier-22, 1/2-13 SS Nut, Blank

REV: A-1

WWW.JENSENPRECAST.COM

PART #: 200059138 DRAWN BY: T.Larson SHEET: 1 OF 1

CREATED: 10/6/2020 MODIFIED: 10/28/2022

STAINLESS STEEL LATERAL KIT

1-1/4" SDR 11 HDPE PIPE

TO MAIN TO PUMP

VALVE CURB STOP WITH FEMALE PIPE THREADS AND VALVE POSITION STOPS (OPEN/CLOSED) WITH INTEGRAL CHECK VALVE MATERIAL: STAINLESS STEEL

COMPRESSION ADAPTER FITTING MATERIAL: POLYPROPYLENE (ASSEMBLED BY OTHERS)

1-1/4" SDR 11 POLYETHYLENE PIPE (SUPPLIED BY OTHERS)

COMPRESSION ADAPTER FITTING MATERIAL: POLYPROPYLENE (ASSEMBLED BY OTHERS)

NOTES:

- SS CURB STOP/CHECK VALVE AND FITTINGS ARE PROVIDED SEPARATELY, TO BE ASSEMBLED BY OTHERS
- TO ASSEMBLE, APPLY A DOUBLE LAYER OF TEFLON TAPE, AND A LAYER OF PIPE DOPE (SUPPLIED BY OTHERS) TO THE THREADS ON THE PLASTIC FITTINGS AND INSTALL PER THE MANUFACTURER'S INSTRUCTIONS
- *FOR SS FITTING INTO SS THREAD, USE PIPE DOPE OR TEFLON TAPE, NOT BOTH
- ASSEMBLY IS TO BE PRESSURE TESTED (BY OTHERS)
- ASSEMBLY IS TO BE USED WITH SDR11 HDPE PIPE
- TO ORDER SS LATERAL KIT, USE PART NUMBER NC0193G01
- CURB BOX IS TO BE ORDERED SEPARATELY, SEE ABOVE

KIT PARTS ARE NOT ASSEMBLED

SGS	DN	11/02/11	B	3/16
DR BY	CHK'D	DATE	ISSUE	SCALE

STAINLESS STEEL LATERAL KIT

1-1/4" SDR 11 HDPE PIPE

NA0330P02

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Edward R. Castle
Professional Engineer
State of Florida
Registration No. 58574

Project Information

Approved By:	ERC	Design:	CIM
Scale:	AS NOTED	Drawn:	CIM
Job No.:	03105.079	Checked:	ERC
Date Issued:	02/12/2024		

WEC engineering in engineering

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METER BOX DETAILS

GRINDER PUMP LATERAL KITS UPGRADES

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KEY LARGO, FL

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Sheet No. D 5.0