

THE CITY OF DAYTONA BEACH

WILLIAMSON BLVD - DUNN AVE TO MASON AVE

RECLAIMED WATER IMPROVEMENTS

THE CITY OF DAYTONA BEACH
UTILITIES DEPARTMENT
ENGINEERING DIVISION



UTILITIES PROJECT NO. 6579

- Derrick L. Henry
Mayor
- Ruth Trager
Commissioner
- Aaron Delgado
Commissioner
- Kelly White
Commissioner
- Robert A. Gilliland
Commissioner
- Dannette Henry
Commissioner
- Paula R. Reed
Commissioner
- James V. Chisholm
City Manager



LOCATION MAP

**STA: 210+00
END PROJECT**

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**STA: 99+20
BEGIN PROJECT**

BID SET

GOVERNING STANDARDS AND SPECIFICATIONS:
 CITY OF DAYTONA BEACH UTILITIES DEPARTMENT STANDARD DETAILS, LATEST EDITION
 FLORIDA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, LATEST EDITION
 MANUAL OF UNIFORM MINIMUM STANDARDS FOR DESIGN, CONSTRUCTION AND MAINTENANCE FOR STREETS AND HIGHWAYS, LATEST EDITION
 FLORIDA DEPARTMENT OF TRANSPORTATION DESIGN STANDARDS, LATEST EDITION

Name	Revision:	Date:

2501 BAYFRONT PARKWAY
 ORLANDO, FLORIDA 32806
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 CA 31302

Project No.:6579
Plot Date: 6/2018
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John D. Hermann, PE
 P.E. LICENSE 51088

THE CITY OF DAYTONA BEACH
UTILITIES DEPARTMENT
 Shannon T. Ponitz Interim Utilities Director
 125 BASIN ST., STE. 130 • DAYTONA BEACH • FLORIDA 32114
 PHONE: (386) 671-8800 FAX: (386) 671-8805

WILLIAMSON BLVD – DUNN AVE TO LPGA BLVD
 COVER SHEET AND INDEX
 Project No.: 6579

GENERAL NOTES

- GRADES SHOWN ARE FINISHED GRADES.
- ALL STATIONS AND OFFSETS REFER TO CENTERLINE CONSTRUCTION UNLESS OTHERWISE NOTED IN PLANS.
- ALL CONSTRUCTION WITHIN ROW SHALL CONFORM TO THE LATEST EDITION OF THE FDOT DESIGN STANDARD INDEXES, THE FDOT UTILITY ACCOMMODATION MANUAL, AND THE LATEST EDITION FDOT STANDARD SPECIFICATION FOR ROAD AND BRIDGE CONSTRUCTION.
- ANY MAIL BOX WITHIN THE LIMITS OF CONSTRUCTION TO BE TAKEN DOWN BY THE CONTRACTOR IS TO BE RESET IN ACCORDANCE WITH POSTAL REQUIREMENTS. COST OF WORK & MATERIALS TO BE INCIDENTAL TO CLEARING AND GRUBBING ITEM.
- FOR ANY NVGD DISTURBED MONUMENT WITHIN THE LIMITS OF CONSTRUCTION THE CONTRACTOR SHALL NOTIFY:
GEODETIC INFORMATION CENTER
ATTN: MARK MAINTENANCE SECTION
6001 EXECUTIVE BOULEVARD
ROCKVILLE, MARYLAND 20852
TELEPHONE: (301) 443-8319
- ANY PUBLIC LAND CORNER WITHIN THE LIMITS OF CONSTRUCTION IS TO BE PROTECTED. IF A CORNER MONUMENT IS IN DANGER OF BEING DESTROYED AND HAS NOT BEEN PROPERLY REFERENCED, THE CONTRACTOR SHOULD NOTIFY THE CITY SURVEYOR WITHOUT DELAY BY TELEPHONE. IT SHALL BE THE CONTRACTOR'S FULL RESPONSIBILITY TO REPLACE/RESTORE ANY PROPERTY CORNER DISTURBED BY CONSTRUCTION ACTIVITIES.
- SIGNS SHALL BE RELOCATED IN EQUAL OR BETTER THAN PRE-CONSTRUCTION CONDITION AT THEIR EXISTING STATION ACCORDING TO F.D.O.T. ROADWAY AND TRAFFIC DESIGN STANDARDS (LATEST EDITION).
- SIGNS SHALL BE STOCK PILED BY THE CONTRACTOR. ANY EXISTING SIGNS DAMAGED DURING CONSTRUCTION SHALL BE REPLACED BY THE CONTRACTOR AT HIS COBĐT.
- ALL EXISTING DRAINAGE STRUCTURES AND UTILITIES WITHIN THE CONSTRUCTION LIMITS SHALL REMAIN, UNLESS OTHERWISE NOTED IN PLANS.
- B.M. DATUM IS NATIONAL GEODETIC VERTICAL DATUM OF 1988 (NGVD-88) AND STATE PLANE COORDINATES ARE BASED UPON NAD 83.
- TEMPORARY DRAINAGE SHALL BE PROVIDED DURING CONSTRUCTION TO ELIMINATE ANY FLOODING OF PRIVATE PROPERTY, OR VEHICULAR TRAVEL LANES.
- ALL STORM SEWER LINES AND INLETS SHALL BE CLEANED OF DEBRIS AND ERODED MATERIALS AS REQUIRED BY THE CITY AND COUNTY AT LAST STAGES OF CONSTRUCTION.
- ANY DRAINAGE PROBLEMS CREATED BY CONSTRUCTION, OR EXISTING BEFORE CONSTRUCTION AND NOT ALLEVIATED, SHOULD BE BROUGHT TO THE ATTENTION OF THE CITY OF DAYTONA BEACH AND COUNTY OF VOLUSIA ENGINEERING DEPARTMENT AT THE TIME OF DISCOVERY.
- ALL WORK AND MATERIALS IS TO BE INCLUDED IN THE UNIT PRICE OF THE ASSOCIATED CONSTRUCTION ITEM.
- NO ALTERNATE PIPE OR PAVEMENT MATERIAL WILL BE ALLOWED UNLESS OTHERWISE NOTED IN PLANS.
- ALL DELINEATED WETLAND AREAS SHALL BE STAKED AND FENCED WITH TYPE III SILT FENCING PRIOR TO CONSTRUCTION. FENCING SHALL NOT BE REMOVED UNTIL ALL CONSTRUCTION IS COMPLETED.
- THE EROSION, SEDIMENT, AND TURBIDITY CONTROL MEASURES DELINEATED HEREON ARE THE MINIMUM REQUIRED. ADDITIONAL CONTROLS MAY BE NEEDED, DEPENDING UPON THE ACTUAL SITE CONDITIONS, JURISDICTIONAL AGENCY PERMIT REQUIREMENTS AND CONSTRUCTION OPERATIONS.
- STAKED SILT FENCE SHALL BE UTILIZED TO CONTROL EROSION AND RELEASE OF SUSPENDED SOLIDS AND SEDIMENT TRACKING CONTROL DEVICES SHALL BE USED TO PREVENT THE OFFSITE TRANSPORT OF SEDIMENT BY MOTORIZED VEHICLES. IF CONTROL MEASURES DO NOT PROVE SATISFACTORY, WORK SHALL CEASE UNTIL NEW MEASURES ARE ADOPTED WITH SATISFACTORY RESULTS, AS PER FDOT INDEX NO. 102.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR COMPLIANCE WITH ALL LOCAL, STATE AND FEDERAL REGULATIONS AS WELL AS THE REQUIREMENTS OF ST. JOHNS RIVER WATER MANAGEMENT DISTRICT AND E.P.A. (NPDES). CONTRACTOR SHALL ESTABLISH BEST MANAGEMENT PRACTICES AND EROSION CONTROL METHODS PRIOR TO COMMENCING ANY SITE CLEARING OR DEMOLITION AND SHALL MAINTAIN THOSE BARRIERS UNTIL FINAL ACCEPTANCE OF THE PROJECT.
- ALL EROSION AND SEDIMENT TRACKING CONTROL DEVICES SHALL BE INSPECTED DAILY AND IMMEDIATELY FOLLOWING A RAINFALL EVENT. ANY DEFICIENCIES FOUND IN THE EROSION CONTROL MEASURES SHALL BE REPAIRED IMMEDIATELY. THE CONTRACTOR SHALL KEEP A LOG BOOK DOCUMENTING THESE DAILY INSPECTIONS, DEFICIENCIES AND REMEDIAL ACTIONS.
- LIMITS OF SILT FENCE ARE APPROXIMATE AND ARE TO BE ADJUSTED AS NECESSARY TO MEET FIELD CONDITIONS AS DIRECTED BY THE ENGINEER.
- ALL CURB RAMP CUTS TO BE CONSTRUCTED PER STANDARD INDEX 304, TURNOUTS PER FDOT STANDARD INDEX 515, AND CURB TERMINAL TRANSITIONS PER STANDARD INDEX 300, AND BE IN COMPLIANCE WITH CURRENT A.D.A. REQUIREMENTS.
- DRIVEWAYS OR CITY APPROVED ALTERNATIVE ONSITE ACCESS SHALL BE MAINTAINED DURING CONSTRUCTION.
- MAINTENANCE OF TRAFFIC WILL BE IN ACCORDANCE WITH THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAY CONSTRUCTION, MAINTENANCE AND UTILITY OPERATIONS" AND "THE FDOT ROADWAY AND TRAFFIC DESIGN STANDARDS" LATEST EDITIONS.
- NONE OF THE EXISTING LIMEROCK BASE THAT IS REMOVED IS TO BE USED IN THE CONSTRUCTION OF THE NEW LIMEROCK BASE UNLESS OTHERWISE NOTED ON PLANS.
- FOR STABILIZING AT INTERSECTIONS, TURNOUTS, AND GRADED CONNECTIONS SEE FDOT STANDARD INDEX NO. 515. SEE TYPICAL SECTION FOR DEPTH AND LBR 40 TESTING REQUIREMENTS.

- ACCESS TO SIDE ROADS MUST BE PROVIDED AT ALL TIMES. TEMPORARY CONNECTIONS SHALL BE PROVIDED AT INTERSECTIONS AS DIRECTED BY THE CITY'S REPRESENTATIVE. EXISTING SIDE ROAD SIGNING IS TO REMAIN OR BE ADJUSTED AS REQUIRED DURING EACH CONSTRUCTION PHASE TO MAINTAIN CONTROL OF SIDE ROAD TRAFFIC. LOCAL RESIDENTS AND BUSINESSES WITHIN THE AREA OF CONSTRUCTION SHALL BE GIVEN REASONABLE ACCESS TO THEIR PROPERTY DURING ALL PHASES OF CONSTRUCTION.
- SPECIAL ATTENTION IS DIRECTED TO THE FACT THAT PORTIONS OF SOME DRAINAGE STRUCTURES EXTEND INTO THE STABILIZED PORTION OF THE ROADBED. EXTREME CAUTION WILL BE NECESSARY DURING COMPACTION AND STABILIZATION OPERATIONS AT THESE LOCATIONS TO AVOID DAMAGE AND ACHIEVE THE REQUIRED COMPACTION. CONTRACTOR TO REPAIR AT HIS COST ANY DAMAGE
- EXISTING DRIVEWAYS WITHIN THE LIMITS OF THIS PROJECT ARE TO BE REPLACED AT THE SAME LOCATION AND WIDTH WITH THE SAME TYPE OF MATERIAL, UNLESS OTHERWISE SHOWN IN THE PLANS. CONTRACTOR SHALL MAINTAIN ACCESS TO PROPERTY.
- MAINTENANCE OF TRAFFIC:** THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING VEHICULAR AND PEDESTRIAN TRAFFIC SAFELY THROUGH THE WORK ZONE AT ALL TIMES. FDOT STANDARD INDEX 600 SERIES SHALL BE APPLIED AS A MINIMUM STANDARD. ANY SIDEWALK, LANE OR ROAD CLOSURE REQUIRES REVIEW AND APPROVAL IN ADVANCE AND A SEVEN (7) DAY MINIMUM NOTICE TO VOLUSIA COUNTY TRAFFIC OPERATIONS (386-239-6535), AND CITY OF DAYTONA BEACH'S INFORMATION OFFICER (386-671-8014). THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REQUIRED COORDINATION.
- ALL ROADWAY, SIDEWALKS, DRIVEWAYS, & DRAINAGE IS THE RESPONSIBLY OF COUNTY OF VOLUSIA. REPLACEMENT AND/OR REPAIR OF SUCH SHALL BE CONSISTENT WITH THE EXISTING CONDITION OR TO VOLUSIA COUNTY STANDARDS WHICHEVER IS MORE STRINGENT
- RESTORATION OF SITE SHALL BE IN CONFORMANCE WITH VOLUSIA COUNTY STANDARDS
- WHERE AN ITEM IS SPECIFIED OR INCLUDED IN THE CONTRACT DRAWINGS IN MULTIPLE PLACES THAT MAY BE IN CONFLICT, THE MORE STRINGENT OR HIGHER QUALITY, SIZE, SERVICE LIFE OF THE ITEM MUST BE PROVIDE
- THE PROJECT INCLUDES INCIDENTAL ITEMS THAT HAVE NOT SPECIFICALLY BEEN IDENTIFIED. THESE ITEMS SHOULD BE INCORPORATED INTO EACH BID ITEM TO FURNISH A COMPLETE PROJECT.
- SILT FENCE TO BE USED IN ANY AREA THAT IS UNDER CONSTRUCTION, TO INCLUDE STAGING AREA

VOLUSIA COUNTY NOTES

- NOTIFY VOLUSIA COUNTY DEVELOPMENT ENGINEERING DIVISION AT 386-736-5926 24-HOURS PRIOR TO THE START OF CONSTRUCTION.
- VOLUSIA COUNTY TRAFFIC ENGINEERING IS NOT A MEMBER OF SUNSHINE ONE CALL. ALL TRAFFIC SIGNAL LOCATES SHALL BE REQUESTED FROM TRAFFIC ENGINEERING AT 386-736-5968.
- DRIVING AND/OR STAGING OF CONSTRUCTION VEHICLES IS NOT PERMITTED ON ANY SIDEWALKS IN THE RIGHT-OF-WAY. ANY DAMAGE TO SIDEWALKS WILL BE REPAIRED AND/OR REPLACED IN LIKE KIND BY THE CONTRACTOR.
- ANY SIDEWALK, LANE OR ROAD CLOSURE (INCLUDING FLAGGING OPERATIONS) REQUIRES REVIEW AND APPROVAL IN ADVANCE AND A SEVEN (7) DAY MINIMUM NOTICE TO VOLUSIA COUNTY TRAFFIC OPERATIONS (386-239-6535).
- ALL EXISTING SIDEWALKS WITHIN COUNTY RIGHTS OF WAY SHALL REMAIN OPEN OR PROVISION OF A TEMPORARY WALKWAY SHALL BE PROVIDED IN ACCORDANCE WITH THE CURRENT VERSION OF FLORIDA DEPARTMENT OF TRANSPORTATION STANDARD INDEX #660 'MID BLOCK CLOSURE WITH TEMPORARY WALKWAY' UNLESS OTHERWISE APPROVED BY THE COUNTY TRAFFIC ENGINEER. PLEASE NOTE THAT INDEX #660 MUST BE SHOWN ON THE USE PERMIT PLANS.
- NO TRENCH OR EXCAVATION SHALL BE LEFT OPEN OR UNATTENDED OVERNIGHT, UNLESS THE EXCAVATIONS WITHIN THE CLEAR ZONE OF THE ROADWAY MEET THE DROP OFF CRITERIA OF THE LATEST FDOT DESIGN STANDARDS (INDEX 600) (OF PROPERLY BARRICADED AND SECURED EXCAVATIONS).
- THERE SHALL BE NO OVERNIGHT CONSTRUCTION VEHICLE RELATED PARKING, CONSTRUCTION MATERIALS PLACEMENT OR STORAGE OF ANY KIND PERMITTED WITHIN COUNTY RIGHTS OF WAY IN ACCORDANCE WITH VOLUSIA COUNTY ORDINANCE ARTICLE 1, SECTION 94-1.
- ALL DISTURBED AREAS WITHIN THE COUNTY RIGHT OF WAY SHALL BE RE-GRADED AND SODDED. SEED AND MULCH ARE NOT ACCEPTABLE.

BASIS OF PAY ITEMS

- THE LUMP SUM PRICE INCLUDES ALL LABOR, MATERIAL AND EQUIPMENT NECESSARY TO COMPLETELY CONSTRUCT AND RESTORE THE WORK AREA TO ITS ORIGINAL OR IMPROVED CONDITION AS SHOWN ON THE PLANS AND/OR AS INTERPRETED AS THE DESIGN INTENT BY THE ENGINEER.
- ALL MOBILIZATION, CLEARING, EROSION CONTROL, MAINTENANCE OF TRAFFIC, ROADWAY IMPROVEMENT, SITE IMPROVEMENT AND RESTORATION, DEWATERING, TESTING, CERTIFICATION AND PROJECT CLEANUP AND CLOSEOUT ARE CONSIDERED AS INCIDENTAL TO THE CONSTRUCTION AND ARE INCLUDED IN THE LUMP SUM PRICE.
- ASBULTS SHALL BE INCLUDED IN THE LUMP SUM PRICE AND PERFORMED AS PER CITY OF DAYTONA BEACH STANDARDS (LATEST VERSION).
- ALL REQUIRED PERMITS ARE INCLUDED IN THE LUMP SUM PRICE, INCLUDING BUT NOT LIMITED TO FDEP DEWATERING PERMIT, BUILDING PERMIT, NPDES ETC AND ALL LOCAL, STATE AND FEDERAL PERMITS.
- CONTRACTOR MAY NOT WORK DURING SPECIAL EVENTS AND NO WORK DAYS WILL BE CHARGED, NOR WILL ANY DELAY CLAIMS BE ALLOWED DURING DOWNTIME FOR EVENTS.
- ALL ITEMS OF WORK NOT SPECIFICALLY LISTED IN THE BID FORMS ARE CONSIDERED AS INCIDENTAL TO THE RELATED PAY ITEMS AND SHALL BE COMPLETED AT NO ADDITIONAL COMPENSATION.

SYMBOL LEGEND

EXISTING	PROPOSED
CURB INLET	TEMPORARY EASEMENT LINE
CONCRETE MONUMENT	PROPOSED UTILITY
GUY ANCHOR	REUSE WATER MAIN
IRON PIPE	WATER MAIN
IRON ROD	SANITARY SEWER
METAL ACCESS CABINET	IT CONDUIT
MONITORING WELL	SANITARY MANHOLE
SIGN	GATE/PLUG VALVE
SANITARY MANHOLE	REUSE WATER METER
TELEPHONE JUNCTION BOX	REUSE WATER LINE
TELEPHONE MANHOLE	FIRE HYDRANT AND VALVE
POWER POLE	PULL BOX
LIGHT POLE	VALVE IN PROFILE
UTILITY MARKER	
WATER VALVE	
#2 SOIL BORING LOCATION	
O/E OVERHEAD ELECTRIC	
TV CABLE TV LINE	
G GAS MAIN	
OHT OVERHEAD TELEPHONE	
UT UNDERGROUND TELEPHONE	
FM SANITARY SEWER FORCE MAIN	
W WATER MAIN	
S SANITARY SEWER MAIN	
SWM STORM WATER MAIN	
FO FIBER OPTIC CABLE	
WM WATER METER	
SWM STORM WATER MANHOLE	
RIGHT OF WAY	
DITCH	
FENCE	
FIRE HYDRANT	
RWM REUSE WATER MAIN	
SOIL BORING LOCATIONS	

BID SET

Name	Revision:	Date:

ARMINIUS CONSULTANTS, LLC
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CA 31302

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THE CITY OF DAYTONA BEACH UTILITIES DEPARTMENT
Shannon T. Ponitz Interim Utilities Director
125 BASIN ST., STE. 130 DAYTONA BEACH • FLORIDA 32114
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WILLIAMSON BLVD – DUNN AVE TO MASON AVE
GENERAL NOTES AND SYMBOLS
Project No.: 6579

RECLAIMED WATER CONSTRUCTION NOTES

- THE CITY'S UTILITIES DEPARTMENT (386-671-8815) SHALL BE GIVEN A MINIMUM OF (2) TWO BUSINESS DAYS (NOT INCLUDING HOLIDAYS) PRIOR TO BEGINNING ANY RECLAIMED WATER SYSTEM CONSTRUCTION.
- ALL DEWATERING ACTIVITIES EITHER DIRECTLY DISCHARGED OR THAT SUBSEQUENTLY USE THE CITY'S STORMWATER SYSTEM TO CONVEY GROUND OR SURFACE WATER FROM A SITE SHALL REQUIRE A STANDARD OR GENERAL USE PERMIT AS PER ARTICLE 7 SECTION 7 OF THE LAND DEVELOPMENT CODE. A PERMIT SHALL BE REQUIRED PRIOR TO ENGAGING IN ANY DEWATERING ACTIVITIES, OR IN ANY CONSTRUCTION ACTIVITIES. DEWATERING ACTIVITIES INCLUDE THE REMOVAL OF GROUND WATER FROM A CONSTRUCTION SITE, ENCLOSED VAULT, COFFERDAM, OR TRENCHES ALLOWING CONSTRUCTION OR MAINTENANCE TO BE DONE IN THE DRY, OR ANY ACTIVITY WHICH CHANGES THE IMPERVIOUS AREA OF LAND. SITE SPECIFIC PERMITS SHALL REQUIRE THE PAYMENT OF A PER ACRE FEE BASED ON THE SIZE OF THE DEVELOPMENT. GENERAL PURPOSE PERMITS SHALL REQUIRE THE PAYMENT OF AN ANNUAL FEE BASED ON ROUTINE SCHEDULE OF MAINTENANCE ACTIVITIES DISCHARGING DIRECTLY OR SUBSEQUENTLY INTO THE CITY'S MS4. DEWATERING PERMIT APPLICATIONS MAY BE FOUND AT <http://codb.us/index.aspx?NID=262>. FEES ARE SUBJECT TO ARTICLE 20 SECTION 3.1 OF THE LAND DEVELOPMENT CODE AND MUST BE SUBMITTED TO THE CITY OF DAYTONA BEACH UTILITY DEPARTMENT AT 125 BASIN STREET SUITE 130, DAYTONA BEACH FL 32114 BEFORE ANY USE OF THE MS4 WILL BE ALLOWED. FAILURE TO COMPLY WILL RESULT IN THE TERMINATION OF ACCESS TO THE CITY'S MS4 SYSTEM.
- RECLAIMED WATER SERVICE ENDINGS SHALL BE SECURED BY WIRE TO 2" X 4" PRESSURE TREATED STAKES, APPROXIMATELY 2' ABOVE GRADE, OR MAY BE PLACED IN RECLAIMED WATER METER BOXES, PROVIDED BY THE CONTRACTOR, AT THE TIME OF FINAL PROJECT INSPECTION.
- ALL PROPOSED RECLAIMED WATER MAINS SHALL BE FLUSHED, TESTED AND CLEARED FOR SERVICE, WHEN APPROPRIATE, IN ACCORDANCE WITH THE FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION REQUIREMENTS. THE CONTRACTOR SHALL NOTIFY THE CITY'S DESIGNATED SITE INSPECTOR WHO SHALL COORDINATE WITH CITY PERSONNEL AT THE WASTEWATER PLANT AT LEAST (2) TWO BUSINESS DAYS PRIOR TO THE BEGINNING OF A FULL-DIAMETER FLUSH OF THE MAINS PRIOR TO THE COMMENCEMENT OF PRESSURE TESTING.
- UPON CONSTRUCTION COMPLETION AND ACCEPTANCE OF THE SYSTEM BY THE CITY OF DAYTONA BEACH UTILITIES DEPARTMENT, IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO SUPPLY "AS-BUILTS DRAWINGS" TO THE CITY PRIOR TO ANY USE OF THIS SYSTEM. **SEE CITY OF DAYTONA BEACH AS-BUILT REQUIREMENTS.**
- ALL RECLAIMED WATER SERVICES SHALL BE MARKED ALONG THE OUTSIDE EDGE OF CURB WITH A "◇" OR BY METAL TABS SET INTO PAVEMENT. VALVES AND BLOW-OFFS FOR RECLAIMED WATER MAINS SHALL BE MARKED BY AN "+" SET INTO THE PAVEMENT AND PAINTED WITH PURPLE ENAMEL.
- RECLAIMED WATER SERVICES SHALL BE LOCATED AT THE SIDE LOT LINES, ALTERNATING WITH POTABLE WATER SERVICE LOCATIONS. IN INSTANCES WHERE RECLAIMED WATER SERVICES NEED TO BE OFFSET, THESE SERVICES MAY BE OFFSET FROM THE LOT LINE A MAXIMUM DISTANCE OF 2 FEET.
- ALL RECLAIMED WATER, HAND-OPERATED CONNECTIONS AND OUTLETS SHALL BE CONTAINED IN UNDERGROUND SERVICE VAULTS AND SHALL BE APPROPRIATELY TAGGED OR LABELED TO WARN THE PUBLIC AND EMPLOYEES THAT THE WATER IS NOT INTENDED FOR DRINKING OR SWIMMING.



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- VAULTS FOR OUTLETS SHALL BE LOCKED OR REQUIRE A SPECIAL TOOL FOR OPERATION OF OUTLETS.
- A 75 FOOT SETBACK DISTANCE SHALL BE PROVIDED FROM PUBLIC ACCESS RECLAIMED WETTED AREAS TO ANY PUBLIC AND ANY PRIVATE POTABLE WATER SUPPLY WELLS.
- LOW TRAJECTORY NOZZLES ARE REQUIRED WITHIN 100 FEET OF PUBLIC EATING, DRINKING OR BATHING FACILITIES.

RECLAIMED WATER CONSTRUCTION NOTES
(CONT'D)

- ANY SIGNIFICANT IRRIGATION SITE UTILIZING RECLAIMED WATER, SUCH AS AN ATHLETIC FIELD, GOLF COURSE, PARK OR POND, IS REQUIRED TO POST A 12" x 12" RECLAIMED WATER SIGN WARNING THE PUBLIC AND EMPLOYEES IN ENGLISH AND SPANISH THAT RECLAIMED WATER IS NOT INTENDED FOR DRINKING OR SWIMMING. THIS SIGN SHALL BE PLACED AT THE ENTRANCE TO THE SITE AND THE LOCATION OF THE PRIVATE REUSE SYSTEM.



SEE SHEET RW-16

- DEWATERING SHALL BE PROVIDED TO KEEP GROUND WATER ELEVATION A MINIMUM OF 6 INCHES BELOW RECLAIMED WATER MAIN BEING LAID.
- ALL RECLAIMED WATER MAINS SHALL BE LAID ON A FIRM FOUNDATION WITH ALL UNSUITABLE MATERIAL (MUCK, ROCK, COQUINA, ETC.) REMOVED AND REPLACED WITH CLEAN GRANULAR MATERIAL.
- TRENCHES SHALL BE BACKFILLED WITH MATERIAL ACCEPTABLE TO THE CITY WITH A MINIMUM COMPACTION OF 95% IN UNPAVED AREAS AND 98% IN PAVED AREAS IN ACCORDANCE WITH AASHTO T-180.
- IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO ENSURE THAT TRENCH COMPACTION TESTS BE PROVIDED AT POINTS 1 FOOT ABOVE THE PIPE AND AT 1 FOOT VERTICAL INTERVALS TO FINISH GRADE, AT A MINIMUM SPACING OF EVERY 300 FEET.
- MAXIMUM OBTAINABLE SEPARATION OF PUBLIC RECLAIMED WATER MAINS, STORM WATER SYSTEMS, POTABLE WATER AND SANITARY SEWER MAINS SHALL BE MAINTAINED. A MINIMUM HORIZONTAL SEPARATION OF SIX (6) FEET (SIDE TO SIDE). WHERE RECLAIMED WATER AND SANITARY SEWAGE MAINS CROSS WITH LESS THAN TWELVE (12) INCHES VERTICAL CLEARANCE, THE SANITARY SEWAGE MAIN SHALL BE TWENTY (20) FEET OF EITHER CONCRETE ENCASED PVC PIPE OR ENCASED IN A WATERTIGHT CARRIER PIPE, CENTERED ON THE POINT OF CROSSING (SEE PIPE SEPARATION CHART).
- 3" METALIZED PIPE LOCATION TAPE SHALL BE LOCATED BETWEEN 15" AND 24" BELOW FINISHED GRADE OR AS SPECIFIED BY MANUFACTURER FOR ALL PVC LINES, AND UF#12 SINGLE STRAND INSULATED COPPER WIRE SHALL BE ATTACHED TO ALL PVC PIPE.

RECLAIMED WATER CONSTRUCTION NOTES
(CONT'D)

- GRIPPER RING GASKETS BY ROMAC MAY BE USED AS APPROPRIATE FOR RESTRAINING PRESSURE PIPE TO FITTINGS, VALVES, ETC.
- ALL RECLAIMED WATER LINES SHALL BE READILY DISTINGUISHABLE BY THEIR PURPLE COLOR OR TAPE MARKINGS. DUCTILE IRON PIPE SHALL BE WRAPPED WITH PURPLE POLYETHYLENE OR COMPLETELY PAINTED PURPLE.
- AT ALL RECLAIMED WATER MAIN TEES AND CROSSES, VALVES SHALL BE INSTALLED ON ALL LEGS EXCEPT ONE.
- APPROVED WATER VALVE TYPES ARE THE FOLLOWING:
 - RESILIENT SEAT GATE VALVES (AWWA C-509)
 - TAPPING VALVES WITH MECHANICAL OR STAINLESS STEEL TAPPING SLEEVE.
- ALL VALVES SHALL BE ADJUSTED TO FINISH GRADE AND THE CAPS SHALL BE PAINTED PURPLE TO MAKE THEM PLAINLY DISTINGUISHABLE.
- THE CONTRACTOR SHALL BE REQUIRED TO PIG ALL RECLAIMED WATER MAINS EQUAL TO OR GREATER THAN 6" IN DIAMETER AND PRIMARY DISTRIBUTION MAINS LOCATED ON COLLECTOR AND ARTERIAL ROADWAYS. LAUNCHING AND EXTRACTION POINTS SHALL BE DETERMINED BY THE CONTRACTOR.
- IN AREAS WHERE RECLAIMED WATER IS AVAILABLE, RECLAIMED WATER WILL BE UTILIZED IN THE PRESSURE TESTING OF NEW NON-POTABLE WATER LINES.
- THE RECLAIMED WATER MAIN SHALL NOT BE PLACED IN SERVICE UNTIL A SATISFACTORY 150 PSI @ (4) FOUR HOURS PRESSURE TEST HAS PASSED AND THE RESULTS ARE FORWARDED TO THE CITY.
- WATER UTILITIES DEPARTMENT NO LONGER DOES RECLAIMED WATER TAPS.
- WITH RESPECT TO TIE-IN CONNECTIONS, THE CITY RESERVES THE RIGHT TO REQUIRE CONNECTIONS TO BE PERFORMED DURING PERIODS OF LOW FLOW IN ORDER TO MINIMIZE SERVICE DISRUPTION TO EXISTING CUSTOMERS.
- FOR CONSTRUCTION PURPOSES, THE PLANS SHALL DIMENSION THE PROPOSED LOCATIONS OF ALL RECLAIMED WATER MAINS MEASURED FROM THE BACK OF CURB (EDGE OF PAVEMENT IF NO CURB EXISTS), AND THE RIGHT-OF-WAY LINE.
- LANDSCAPE PLANS SHALL CLEARLY DEPICT THE DESIGN LOCATION OF PLANTINGS RELATIVE TO THE LOCATION OF PUBLIC UTILITIES AND STORM WATER INFRASTRUCTURE IN ORDER TO EVALUATE POTENTIAL CONFLICTS.
- THE RECLAIMED WATER MAIN SHALL NOT BE PLACED IN SERVICE UNTIL AN APPROVED BACKFLOW PREVENTER HAS BEEN INSTALLED ON THE CUSTOMER'S POTABLE SERVICE LINE.

BID SET

<p>2501 BAYFRONT PARKWAY ORLANDO, FLORIDA 32806 321-315-7674 www.arminius.co CA 31302</p>	<p>Project No.: 6579 Plot Date: 6/2018 Design Date: 6/2018</p>	<p>John D. Hermann, PE P.E. LICENSE 51088</p>	<p>THE CITY OF DAYTONA BEACH UTILITIES DEPARTMENT Shannon T. Ponitz Interim Utilities Director 125 BASIN ST., STE. 130 DAYTONA BEACH • FLORIDA 32114 PHONE: (386) 671-8800 FAX: (386) 671-8805</p>	<p>WILLIAMSON BLVD – DUNN AVE TO MASON AVE CONSTRUCTION NOTES Project No.: 6579</p>	<p>3</p>
	<p>Checked By: JDH</p>				<p>3 OF 17</p>

EXISTING UTILITY COORDINATION/PROTECTION

NOTES:

1) 811 AND COUNTY CONTACT: THE CONTRACTOR SHALL CONTACT SUNSHINE STATE ONE CALL OF FLORIDA (811) AS REQUIRED BY CHAPTER 556 OF THE FLORIDA STATUES A MINIMUM OF TWO BUSINESS DAYS PRIOR TO ANY EXCAVATION AT THE PROJECT SITE:

Utility Agency / Owner (UAOs)	TELEPHONE
AT&T Florida (f/k/a Bellsouth Distribution), Kirby Spencer	386-366-4588
City of Daytona Beach City Dispatch	386-671-8815
Crown Castle (f/k/a FPL FiberNet), Bill More	904-813-0602
Florida Power & Light Co. Distribution, Trouble Line	1-800-468-8243
Florida Power & Light Co. Distribution, Port Orange Office Florida Power & Light Co. Transmission, Jerry	386-322-3428 386-547-3133
SPECTRUM (f/k/a Bright House), Ben Jordelh	386-267-7526
TECO Peoples Gas System, Dispatch	1-800-832-6747
Additional R/W users, but not UAOs Volusia County - ITS Traffic Engineering, Bobby Maddox	386-239-6537


- 2) NOT ALL EXISTING UTILITIES ARE MEMBERS OF SUNSHINE ONE. CONTRACTOR TO INSURE THAT EACH EXISTING UTILITY HAS BEEN CONTACTED AND COORDINATION PREFORMED
- 3) EXISTING UTILITIES ARE TO REMAIN IN PLACE UNLESS OTHERWISE NOTED.
- 4) THE CONTRACTOR IS RESPONSIBLE FOR DAMAGE TO ALL EXISTING UTILITIES AND MUST REPAIR/REPLACE DAMAGED UTILITIES AT HIS COST IN ACCORDANCE WITH THE UTILITY OWNER(S).
- 5) EXISTING UTILITIES ARE PRESENT IN ALL AREAS, THE CONTRACTOR SHALL TAKE PRECAUTIONS IN EXCAVATIONS TO NOT DAMAGE EXISTING UTILITES. THE CONTRACTOR SHALL EMPLOY NON DESTRUCTIVE EXCAVATION SUCH AS HYDROEXCAVATION OR HAND DIGGING.
- 6) THE CONTRACTOR SHALL PROTECT AND SUPPORT EXISTING UTILITIES.

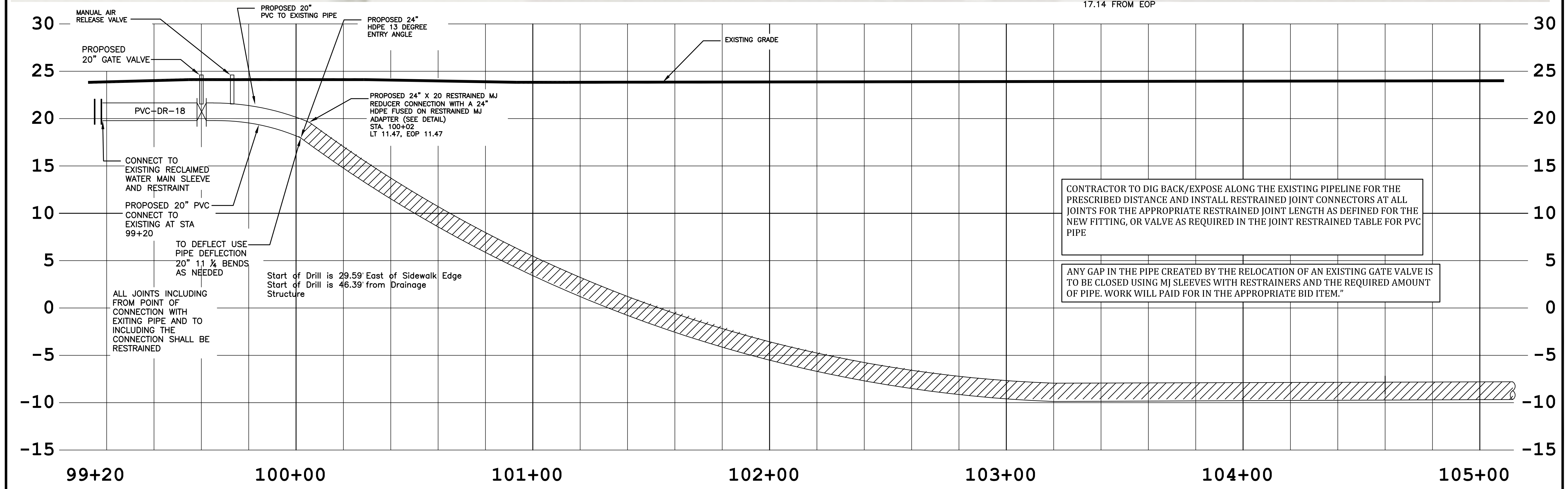
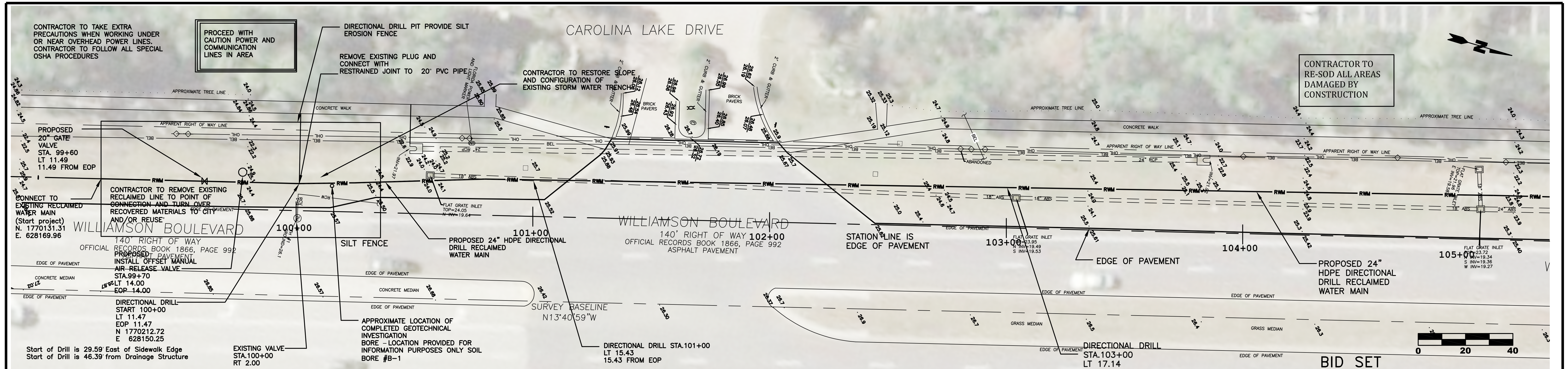
- 7) THE CONTRACTOR SHALL EMPLOY PERFORM CARE IN HIS WORK. THE CONTRACTOR SHALL COMPLY WITH OSHA PROCEDURES WHEN WORKING ADJACENT TO AND UNDER EXISTING OVERHEAD LINES
- 8) THE LOCATION(S) OF THE UTILITIES SHOWN IN THE PLANS, ARE BASED UPON LIMITED INVESTIGATION TECHNIQUES AND SHOULD BE APPROXIMATE ONLY. THE VERIFIED LOCATIONS/ELEVATIONS APPLY ONLY AT THE POINTS SHOWN. INTERPOLATIONS BETWEEN THESE POINTS HAVE NOT BEEN VERIFIED.
- 9) THE CONTRACTOR SHALL COOPERATE WITH FP&L CO.-DISTRIBUTION TO CONFIRM THE DEPTH OF THE EXISTING UNDERGROUND CROSSING UNDER WILLIAMSON BLVD AND CROSSING THE PROPOSED REUSE WATER MAIN TO AVOID VERTICAL CLEARANCES CONFLICTS WITH AND DURING THE INSTALLATION OF THE REUSE WATER MAIN.
- 10) ALL STAKING OF PROPOSED CONSTRUCTION TO ALLOW FOR PROPER INSTALLATION/RELOCATION/PROTECTION OF UTILITY FACILITIES, AS INDICATED ON THE PLANS, SHALL BE PERFORMED BY THE CONTRACTOR. THE CONTRACTOR SHALL COORDINATE WITH THE IMPACTED UTILITIES AND STAKE ITEMS REQUESTED. THIS STAKING SHALL BE SEPARATE AND IN ADDITION TO THE NORMAL STAKING FOR THIS PROJECT.
- 11) THE EXISTING ELECTRICAL UTILITIES SHALL REMAIN IN PLACE. THE CONTRACTOR SHALL EXERCISE CAUTION, NOT DAMAGE AND SHALL PROTECT AND PROVIDE SUPPORTS FOR ALL EXISTING ELECTRICAL UTILITIES.
- 12) CONTRACTOR SHALL NOT UNDER ANY CIRCUMSTANCE REUSE JOINT RESTRAINERS
- 13) ALL ARV VALVES AND BOLLARDS SHALL BE LOCATED A MINIMUM OF 18 FEET FROM THE EDGE OF PAVEMENT

Maintenance of Traffic During Installation General Notes
Proposed Reclaim Water Main Installation along EE Williamson Blvd.

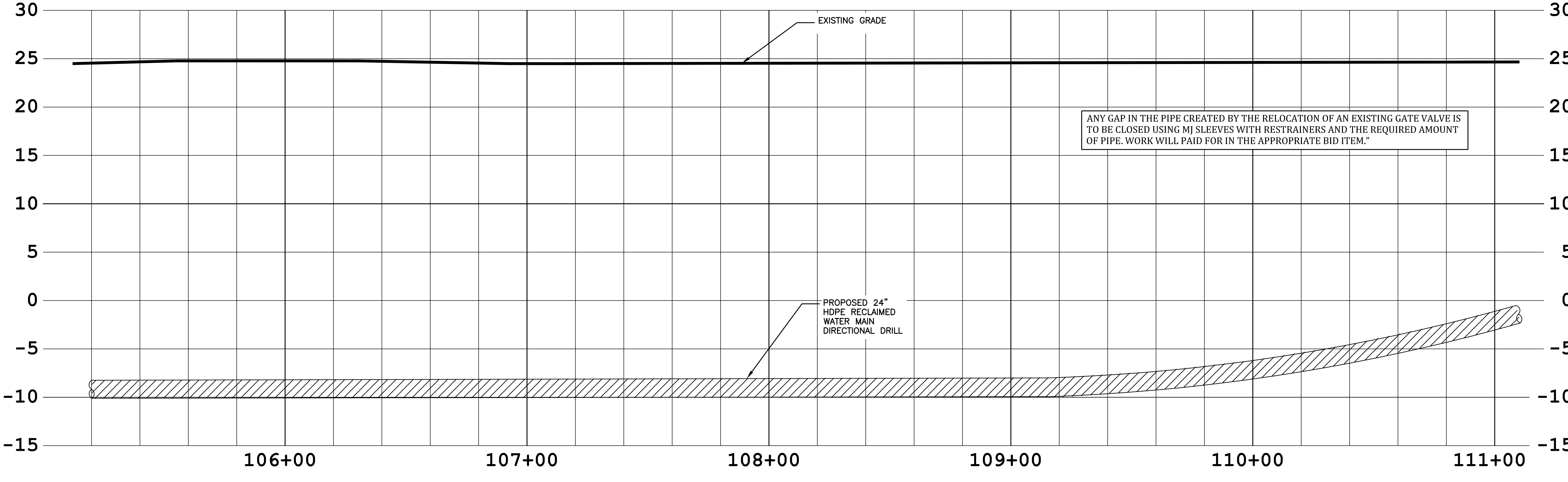
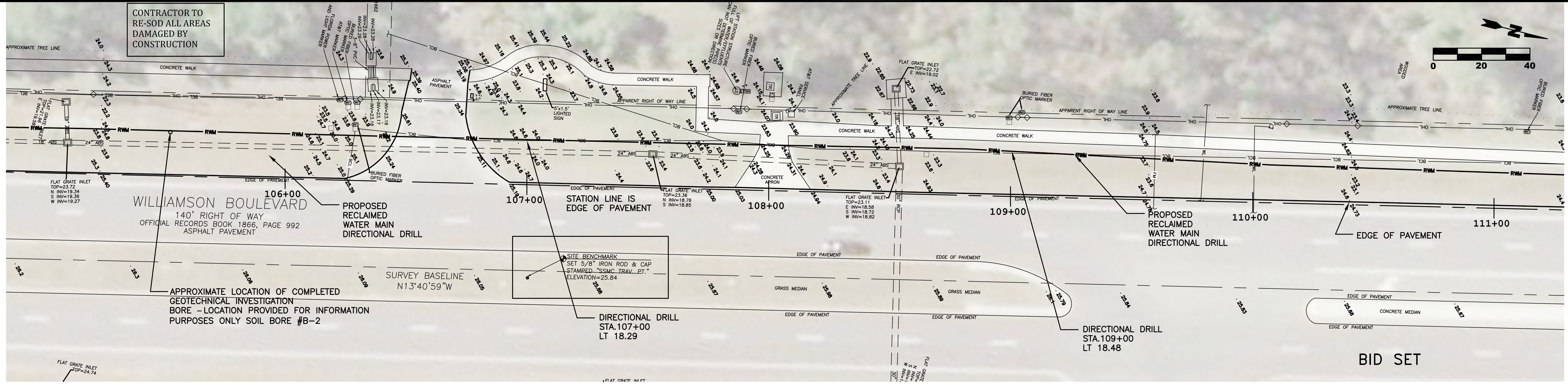
- 1) All Work Zone Traffic Control shall adhere to the Manual of Traffic Control Devices and the 600 Series of the FDOT Standard Index.
- 2) The posted speed along E Williamson Blvd. shall be maintained at all time.
- 3) Signal Timing, outside of the actual construction zone, shall be maintained.
- 4) Any drop off hazards, as defined by Index 600, that is created and not restored within the same work period shall be shielded, per Index 600.
- 5) Any drop off that infringes with in the "Clear Zone" shall be shielded.
- 6) Portable Changeable Message Signs shall be installed and in use one week prior to the start of construction, only on the side of the road where construction is anticipated. Sign location and message can only be changes with Engineer's approval.
- 7) All driveway shall remain open throughout the duration of construction of the pipeline. As necessary steel plate sheet can be used to cover the excavation and provide passage of vehicles.
- 8) The contractor shall notify a minimum of 14 days prior to all apartment complex office(s), businesses and effected entities of the anticipated start of construction activities.
- 9) The Contractor shall identify the proposed location of all launching and receiving pits and or point of access for removal of spoils during any directional drilling operation.
- 10) All signage shall be promptly removed from the R/W upon completion of the installation.
- 11) Contractor to submit and implement MOT plan

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 <p>2501 BAYFRONT PARKWAY ORLANDO, FLORIDA 32806 321-315-7674 www.arminius.co CA 31302</p>	<p>Project No.: 6579 Plot Date: 6/2018 Design Date: 6/2018</p>	<p>John D. Hermann, PE P.E. LICENSE 51088</p>	<p>THE CITY OF DAYTONA BEACH UTILITIES DEPARTMENT Shannon T. Ponitz Interim Utilities Director 125 BASIN ST., STE. 130 DAYTONA BEACH • FLORIDA 32114 PHONE: (386) 671-8800 FAX: (386) 671-8805</p>	<p>WILLIAMSON BLVD – DUNN AVE TO MASON AVE CONSTRUCTION NOTES Project No.: 6579</p>	<p>4</p>
<p>Name: _____ Revision: _____ Date: _____</p>	<p>Checked By: JDH</p>				<p>4 OF 17</p>



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ANY GAP IN THE PIPE CREATED BY THE RELOCATION OF AN EXISTING GATE VALVE IS TO BE CLOSED USING MJ SLEEVES WITH RESTRAINERS AND THE REQUIRED AMOUNT OF PIPE. WORK WILL PAID FOR IN THE APPROPRIATE BID ITEM.

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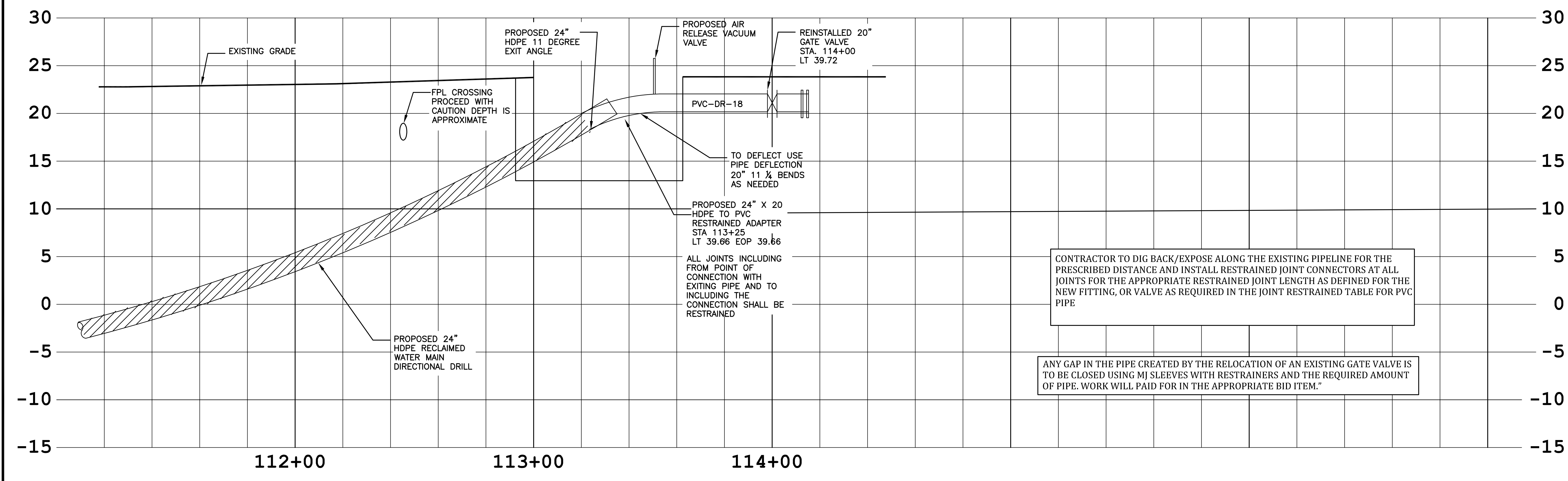
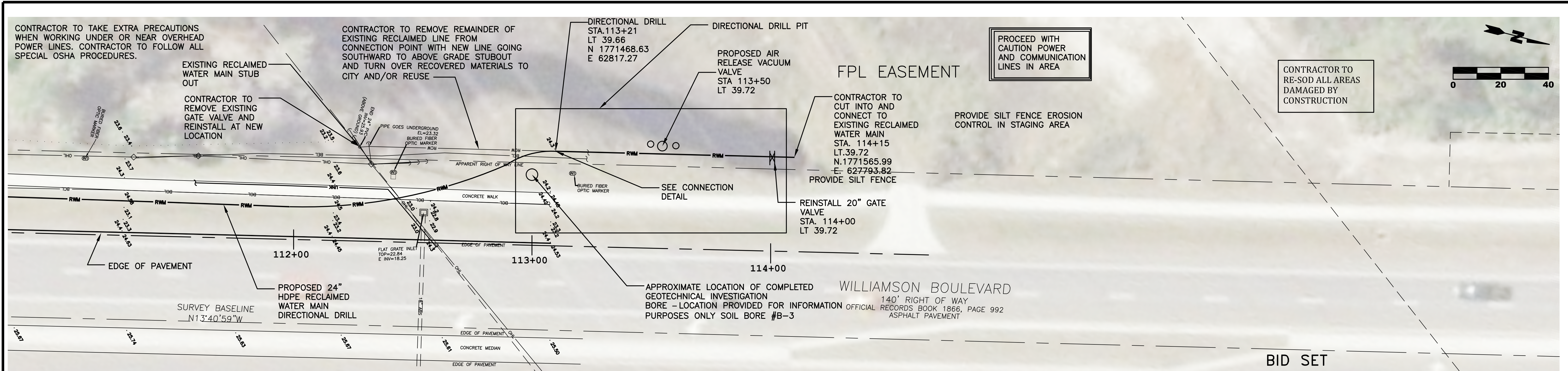
ARMINIUS
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John D. Hermann, PE
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WILLIAMSON BLVD – DUNN AVE TO MASON AVE
STA: 105+20 TO STA: 111+00
PLAN AND PROFILE
Project No.: 6579



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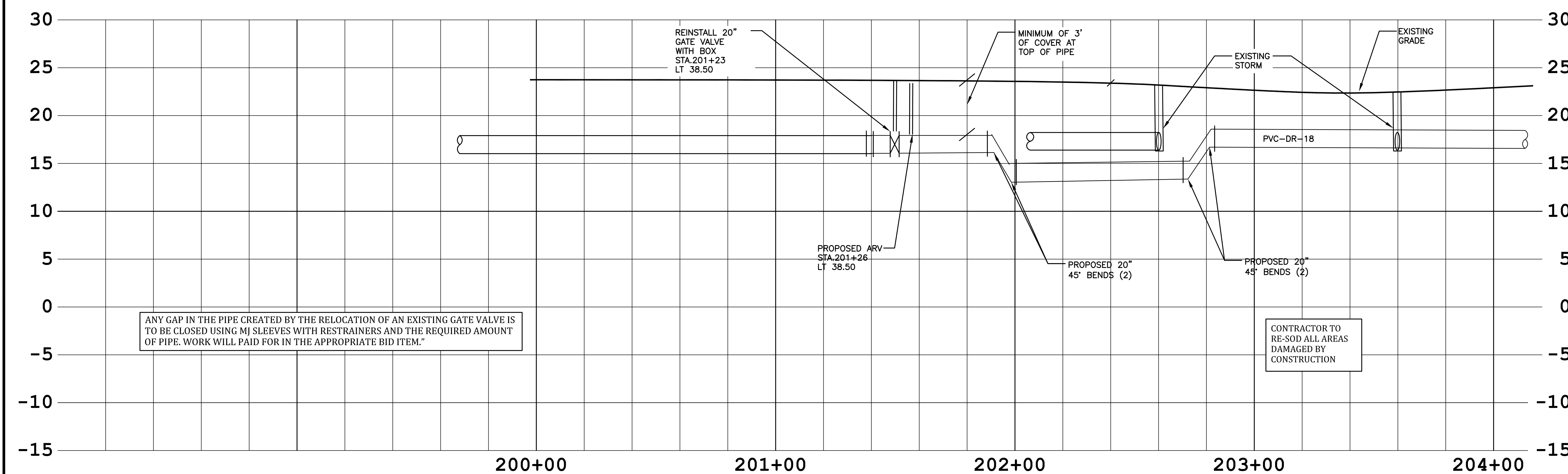
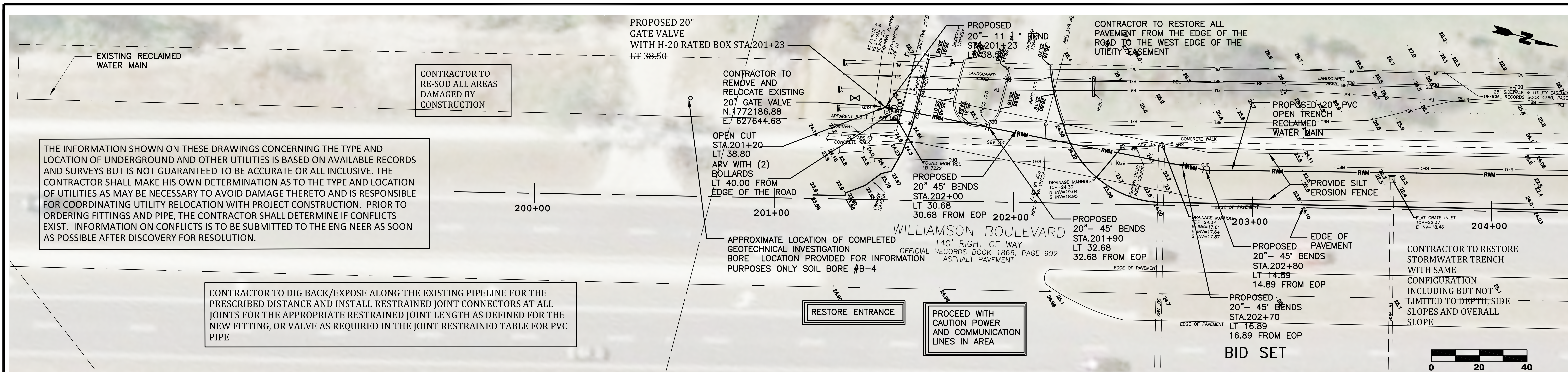
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WILLIAMSON BLVD - DUNN AVE TO MASON AVE
STA: 111+20 TO STA: 114+00
PLAN AND PROFILE
Project No.: 6579



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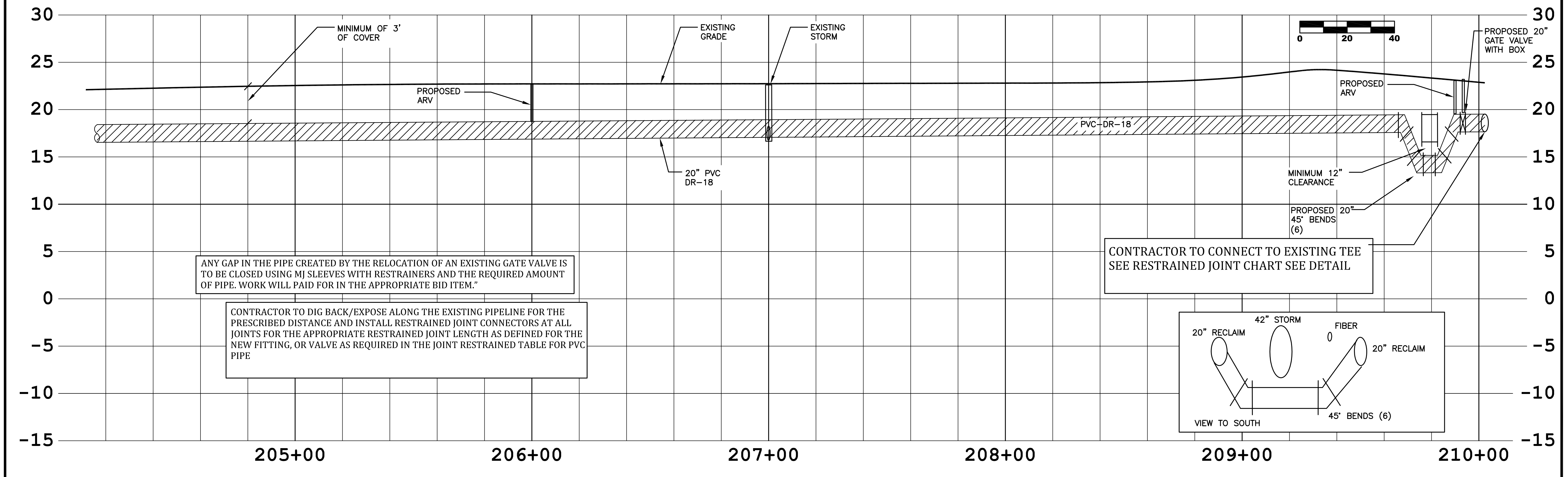
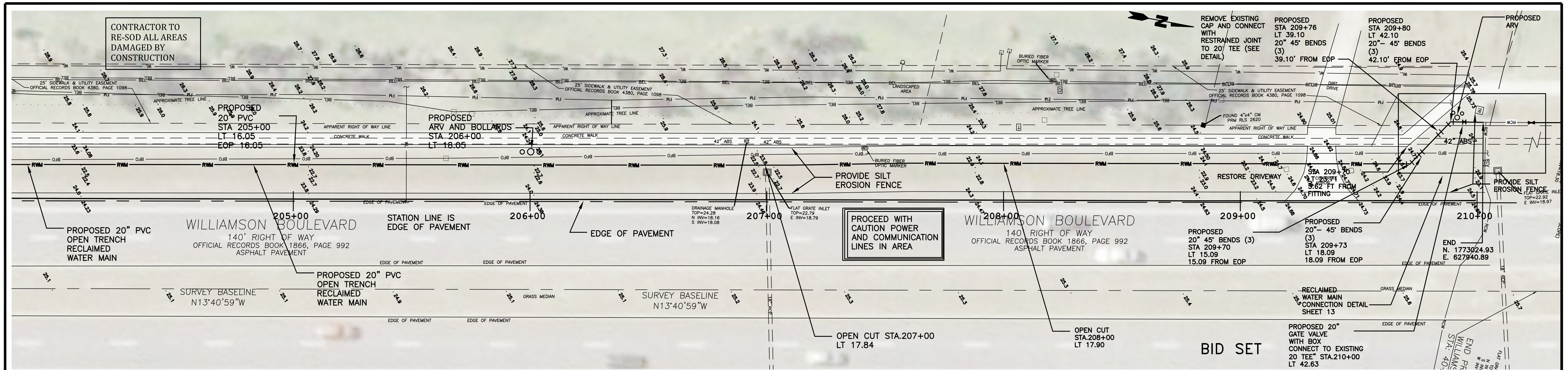
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WILLIAMSON BLVD – DUNN AVE TO MASON AVE
 STA: 200+00 TO STA: 204+20
 PLAN AND PROFILE
 Project No.: 6579



ANY GAP IN THE PIPE CREATED BY THE RELOCATION OF AN EXISTING GATE VALVE IS TO BE CLOSED USING MJ SLEEVES WITH RESTRAINERS AND THE REQUIRED AMOUNT OF PIPE. WORK WILL PAID FOR IN THE APPROPRIATE BID ITEM.

CONTRACTOR TO DIG BACK/EXPOSE ALONG THE EXISTING PIPELINE FOR THE PRESCRIBED DISTANCE AND INSTALL RESTRAINED JOINT CONNECTORS AT ALL JOINTS FOR THE APPROPRIATE RESTRAINED JOINT LENGTH AS DEFINED FOR THE NEW FITTING, OR VALVE AS REQUIRED IN THE JOINT RESTRAINED TABLE FOR PVC PIPE

CONTRACTOR TO CONNECT TO EXISTING TEE SEE RESTRAINED JOINT CHART SEE DETAIL

Name	Revision	Date

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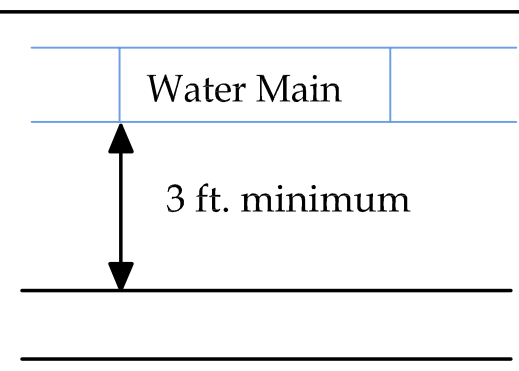
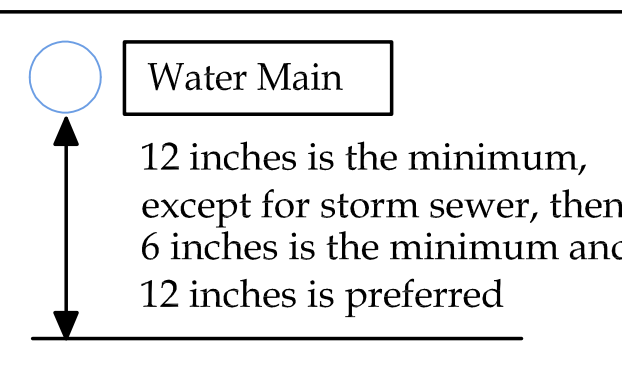
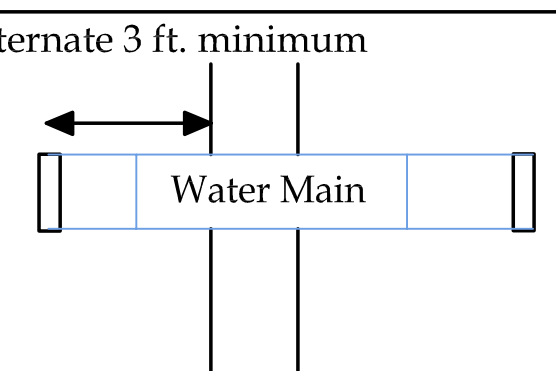
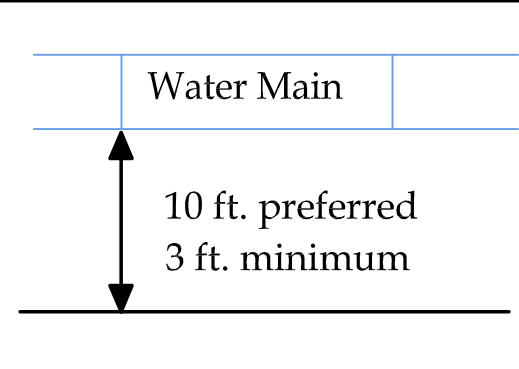
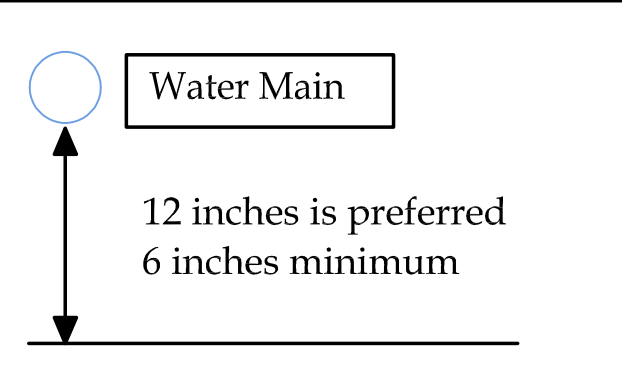
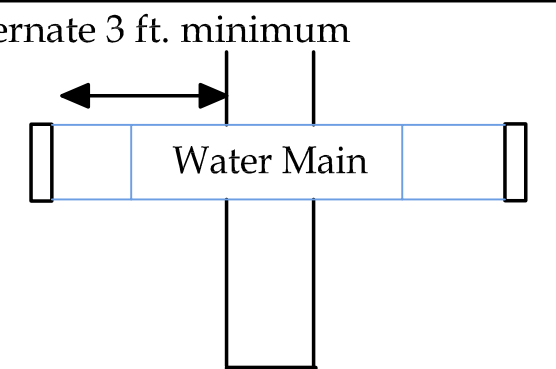
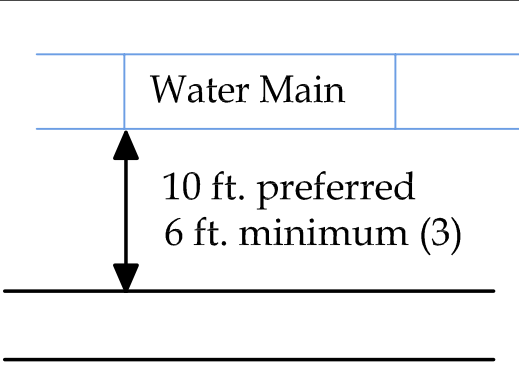
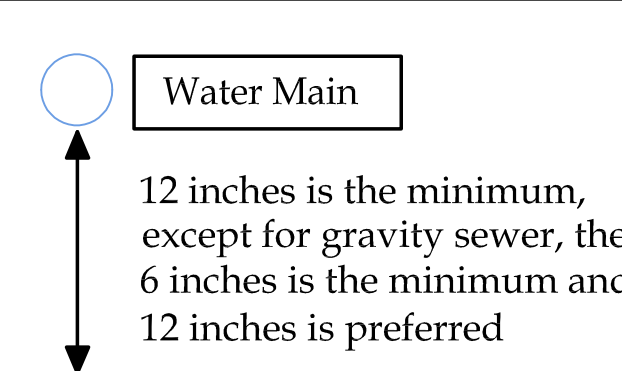
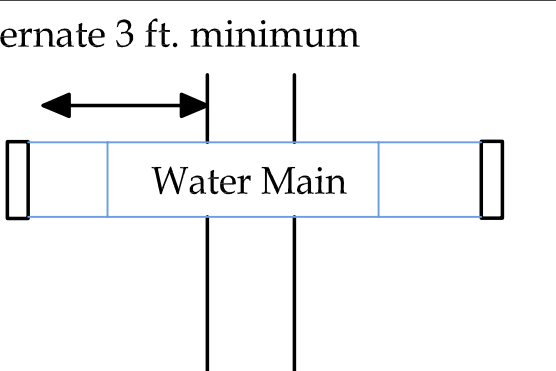
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WILLIAMSON BLVD – DUNN AVE TO MASON AVE
 STA: 204+20 TO STA: 210+20
 PLAN AND PROFILE
 Project No.: 6579

LOCATION OF PUBLIC WATER SYSTEM MAINS IN ACCORDANCE WITH F.A.C. RULE 62-555.314

Other Pipe	Horizontal Separation	Vertical Separation Crossing	Joint Spacing @ Crossings (Full Joint Centered)
Storm Sewer, Stormwater Force Main, Reclaimed Water (2)			Alternate 3 ft. minimum 
Vacuum Sanitary Sewer			Alternate 3 ft. minimum 
Gravity or Pressure Sanitary Sewer, Sanitary Sewer Force Main, Reclaimed Water (4)			Alternate 3 ft. minimum 
On-Site Sewage Treatment & Disposal System	10 ft. minimum	--	--

- (1) Water main should cross above other pipe. When water main must be below other pipe, the minimum separation is 12 inches.
- (2) Reclaimed water regulated under Part III of Chapter 62-610, F.A.C.
- (3) 3 ft. for gravity sanitary sewer where the bottom of the water main is laid at least 6 inches above the top of the gravity sanitary sewer.
- (4) Reclaimed water not regulated under Part III of Chapter 62-610, F.A.C.

Disclaimer - This document is provided for your convenience only. Please refer to F.A.C. Rule 62-555.314 for additional construction requirements.

NEW OR RELOCATED UNDERGROUND WATER MAINS SHALL BE LAID TO PROVIDE A HORIZONTAL DISTANCE OF AT LEAST SIX FEET, AND PREFERABLY TEN FEET, BETWEEN THE OUTSIDE OF THE WATER MAIN AND THE OUTSIDE OF ANY EXISTING OR PROPOSED GRAVITY OR PRESSURE-TYPE SANITARY SEWER, WASTEWATER FORCE MAIN, OR PIPELINE CONVEYING RECLAIMED WATER NOT REGULATED UNDER PART III OF CHAPTER 62-610, F.A.C. THE MINIMUM HORIZONTAL SEPARATION DISTANCE BETWEEN WATER MAINS AND GRAVITY-TYPE SANITARY SEWERS SHALL BE REDUCED TO THREE FEET WHERE THE BOTTOM OF THE WATER MAIN IS LAID AT LEAST SIX INCHES ABOVE THE TOP OF THE SEWER. NEW OR RELOCATED UNDERGROUND WATER MAINS CROSSING ANY EXISTING OR PROPOSED GRAVITY OR VACUUM-TYPE SANITARY SEWER SHALL BE LAID SO THE OUTSIDE OF THE WATER MAIN IS AT LEAST TWELVE INCHES, AND PREFERABLY EIGHTEEN INCHES, ABOVE OR AT LEAST TWELVE INCHES BELOW THE OUTSIDE OF THE OTHER PIPELINE. HOWEVER, IT IS PREFERABLE TO LAY THE WATER MAIN ABOVE THE OTHER PIPELINE. NEW OR RELOCATED UNDERGROUND WATER MAINS CROSSING ANY EXISTING OR PROPOSED PRESSURE-TYPE SANITARY SEWER, WASTEWATER OR STORMWATER FORCE MAIN, OR PIPELINE CONVEYING RECLAIMED WATER SHALL BE LAID SO THE OUTSIDE OF THE WATER MAIN IS AT LEAST 12 INCHES ABOVE OR BELOW THE OUTSIDE OF THE OTHER PIPELINE AND CONDUIT. HOWEVER, IT IS PREFERABLE TO LAY THE WATER MAIN ABOVE THE OTHER PIPELINE.

AT THE UTILITY CROSSINGS DESCRIBED ABOVE, ONE FULL LENGTH OF WATER MAIN PIPE SHALL BE CENTERED ABOVE OR BELOW THE OTHER PIPELINE SO THE WATER MAIN JOINTS WILL BE AS FAR AS POSSIBLE FROM THE OTHER PIPELINE. ALTERNATIVELY, AT SUCH CROSSINGS, THE PIPES SHALL BE ARRANGED SO THAT ALL WATER MAIN JOINTS ARE AT LEAST THREE FEET FROM ALL JOINTS IN VACUUM-TYPE SANITARY SEWERS, OR PIPELINES CONVEYING RECLAIMED WATER REGULATED UNDER PART III OF CHAPTER 62-610, F.A.C., AND AT LEAST SIX FEET FROM ALL JOINTS IN GRAVITY OR PRESSURE-TYPE SANITARY SEWERS, WASTEWATER FORCE MAINS, OR PIPELINES CONVEYING RECLAIMED WATER NOT REGULATED UNDER PART III OF CHAPTER 62-610, F.A.C.

PIPE SEPARATION DETAIL
NTS

PVC RESTRAINED JOINT TABLE


SCHEDULE OF MINIMUM LENGTH OF RESTRAINED PVC PIPE FOR EACH SIDE (FT)

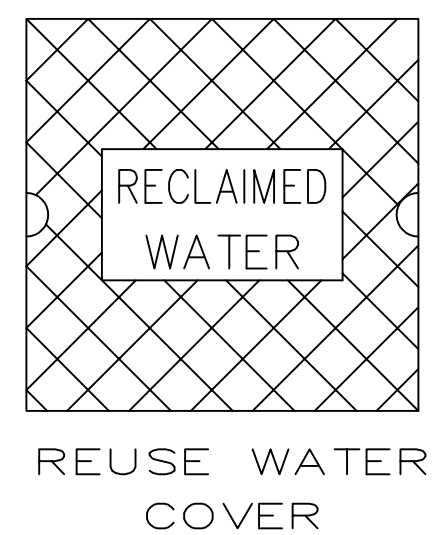
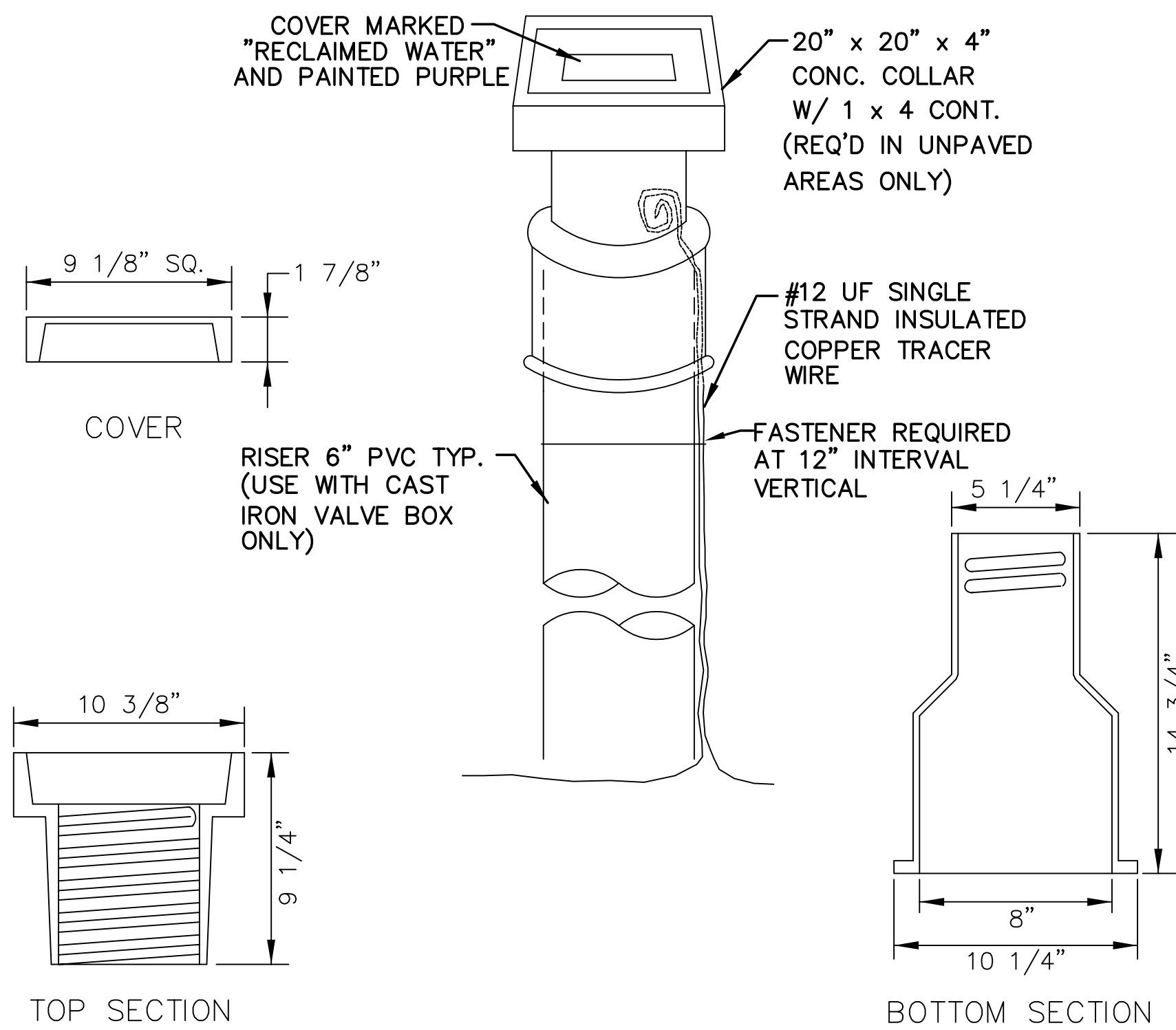
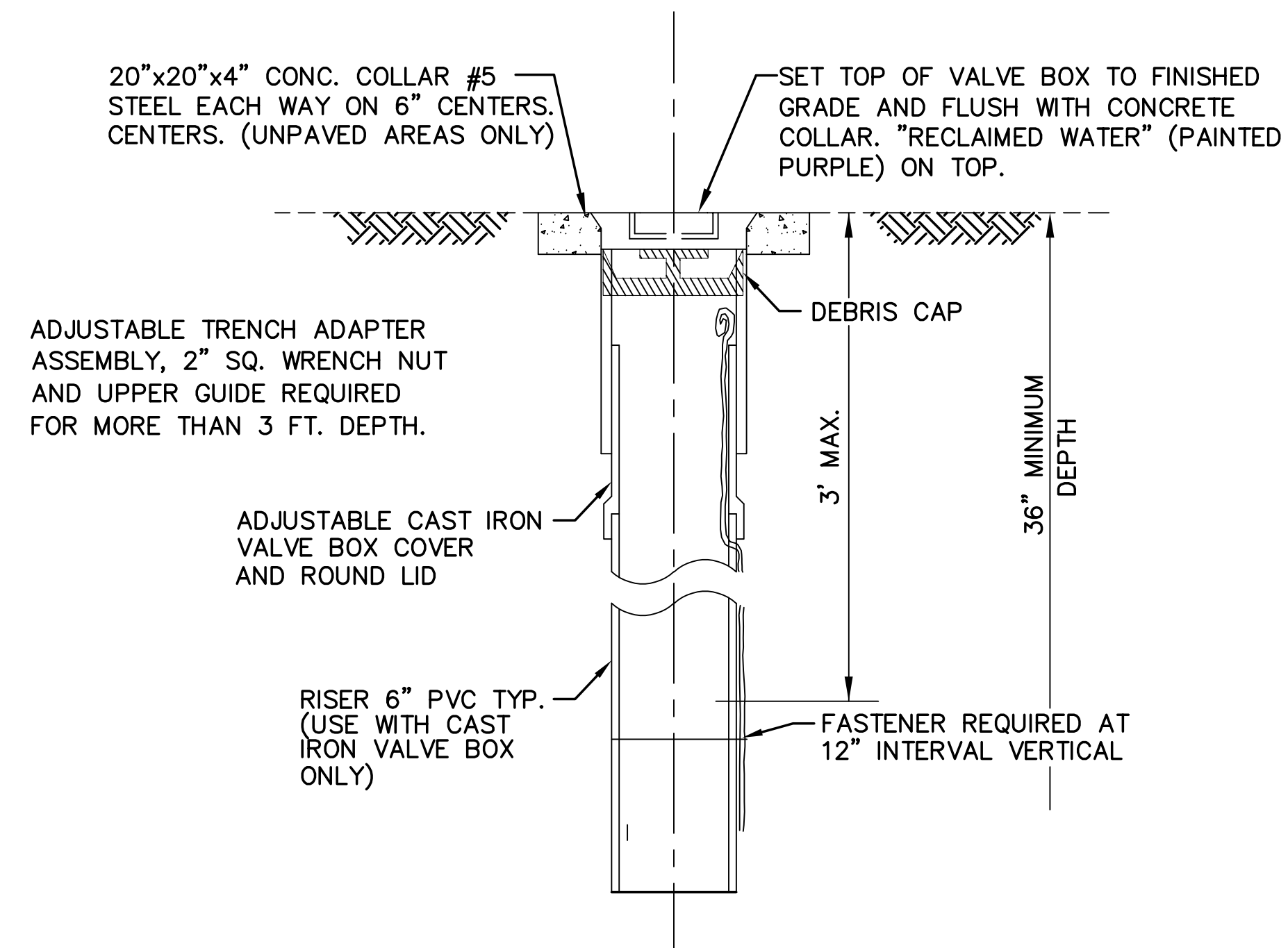
FITTING	HORIZONTAL						
	90 DEG BEND	45 DEG BEND	22.5 DEG BEND	11.25 DEG BEND	TEE	DEAD END	VALVE
PIPE SIZE (IN)							
20	74	31	15	8	212 ALONG BRANCH	212	212

FITTING	VERTICAL OFFSET		
	45 DEG BEND	22.5 DEG BEND	11.25 DEG BEND
PIPE SIZE (IN)			
20	88	43	21

FITTING	AT NORTH END OF NORTH PIPE		
	12 x 20 REDUCER*	20 TEE RUN*	12 VALVE*
PIPE SIZE (IN)			
20	133 (ALONG 20-INCH PIPE ONLY)	74	136

- *A. UNCOVER AND PROVIDE RESTRAINT FROM EXISTING FITTING ALONG 20-INCH PIPE AT NORTH END OF NORTH PORTION OF PIPE (RESTRAIN ALL PIPE AND FITTINGS EXISTING TOWARDS AND INCLUDING NEW PIPE AND FITTINGS)
- (1) UNLESS NOTED RESTRAIN ALL FITTINGS (ON ALL SIDES) AND VALVES (ON BOTH SIDES) PLUS RESTRAIN ALL PIPE ON EACH SIDE FOR THE REQUIRED MINIMUM LENGTH AS SHOWN IN THE TABLE
 - (2) TABLE SHOWS MINIMUM LENGTH OF PIPE EACH WAY FROM FITTING, VALVE, ETC. IN CASES WHERE THE RESTRAINED LENGTH FROM A PARTICULAR FITTING EXCEEDS THE REQUIRED LENGTH OF THE NEXT FITTING, THE CONTRACTOR SHALL INSTALL RESTRAINED JOINTS FOR THE GREATER LENGTH.
 - (3) IF DISTANCE BETWEEN FITTINGS IS LESS THAN OR EQUAL TO THE CALCULATED RESTRAINT LENGTH, RESTRAIN ALL JOINTS BETWEEN THOSE FITTINGS.
 - (4) ALL JOINTS AT AND BETWEEN VERTICAL OFFSETS SHALL BE RESTRAINED
 - (5) IF RESTRAINED LENGTH IS LESS THAN A FULL LENGTH OF PIPE, CONTRACTOR SHALL RESTRAIN JOINTS AT BOTH PIPE ENDS
 - (6) VALVES SHALL BE TREATED AS DEAD-ENDS AND RESTRAINED AS SUCH
 - (7) FOR JOINT OR FITTING TYPE NOT DEFINED IN THIS TABLE, CONTRACTOR TO PROVIDE RESTRAINT WITH SAFETY FACTOR OF NOT LESS THAN 2 FOR SOIL CONDITION DEFINED AS SM AND BACKFILL TYPE AS CONDITION 4. PROVIDE SIGNED AND SEALED CALCULATION.
 - (8) FOR CONNECTION TO EXISTING PIPE, CONTRACTOR TO UNCOVER PIPE JOINTS FOR A MINIMUM LENGTH AS DEFINED IN THE TABLE AND INSTALL JOINT RESTRAINERS. CONTRACTOR TO NOTIFY CITY IF EXISTING FITTINGS ARE UNRESTRAINED.
 - (9) CONTRACTOR TO NOTIFY CITY IF EXISTING VALVES OR FITTINGS ARE DISCOVERED AS UNRESTRAINED

		Project No.: 6579 Plot Date: 6/2018 Design Date: 6/2018 Checked By: JDH	John D. Hermann, PE P.E. LICENSE 51088	THE CITY OF DAYTONA BEACH UTILITIES DEPARTMENT Shannon T. Ponitz Interim Utilities Director 125 BASIN ST., STE. 130 DAYTONA BEACH • FLORIDA 32114 PHONE: (386) 671-8800 FAX: (386) 671-8805	WILLIAMSON BLVD – DUNN AVE TO MASON AVE DETAILS Project No.: 6579	BID SET 10 10 OF 17
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NOTES:

1. ROD OR BOLT TEE WHERE APPLICABLE.
2. ACCEPTABLE MANUFACTURERS OF GATE VALVES INCLUDE: AMERICAN DARLING, KENNEDY, M&H, MUELLER, CLOW.
3. FOR CONSTRUCTION PURPOSES, THE PLANS SHALL DIMENSION THE LOCATION OF ALL VALVES AND VALVE BOXES BY STATE PLANE COORDINATES WITH STATION & OFFSETS FROM CL OF R/W.
4. A UF #12 SINGLE STRAND INSULATED COPPER TRACER WIRE SHALL BE LAID THE ENTIRE LENGTH OF ALL NON-METALLIC RECLAIMED WATER PIPE. ALL CONNECTION ENDS SHALL USE LIQUID TAPE AND A DIRECT BURIED SPLICE KIT (LAWSON 95313) OR EQUIVALENT.
5. ANY VALVE DEEPER THAN 36" SHALL HAVE AN EXTENSION BOLTED ON THE VALVE. THE OPERATING NUT SHALL BE 12" BELOW FINISHED GRADE.

NOTE:

1. RECLAIMED WATER MAIN VALVE BOX AND COVER SHALL BE ADJUSTABLE SCREW TYPE.

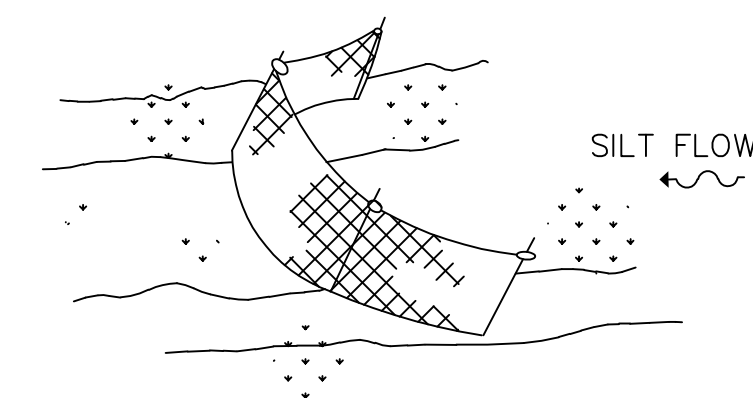
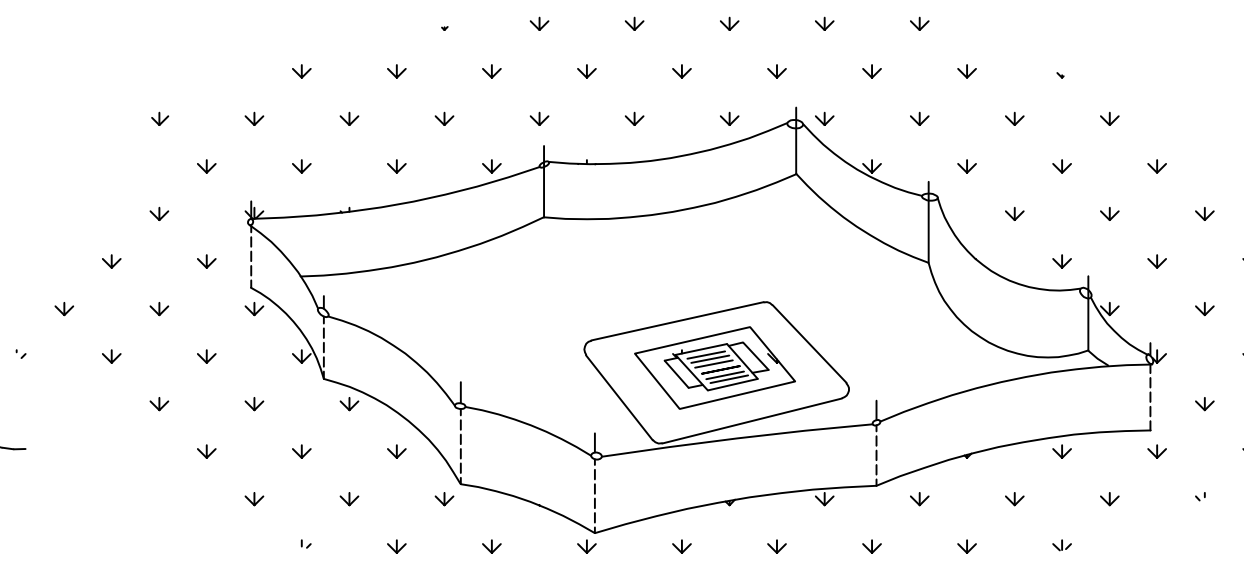
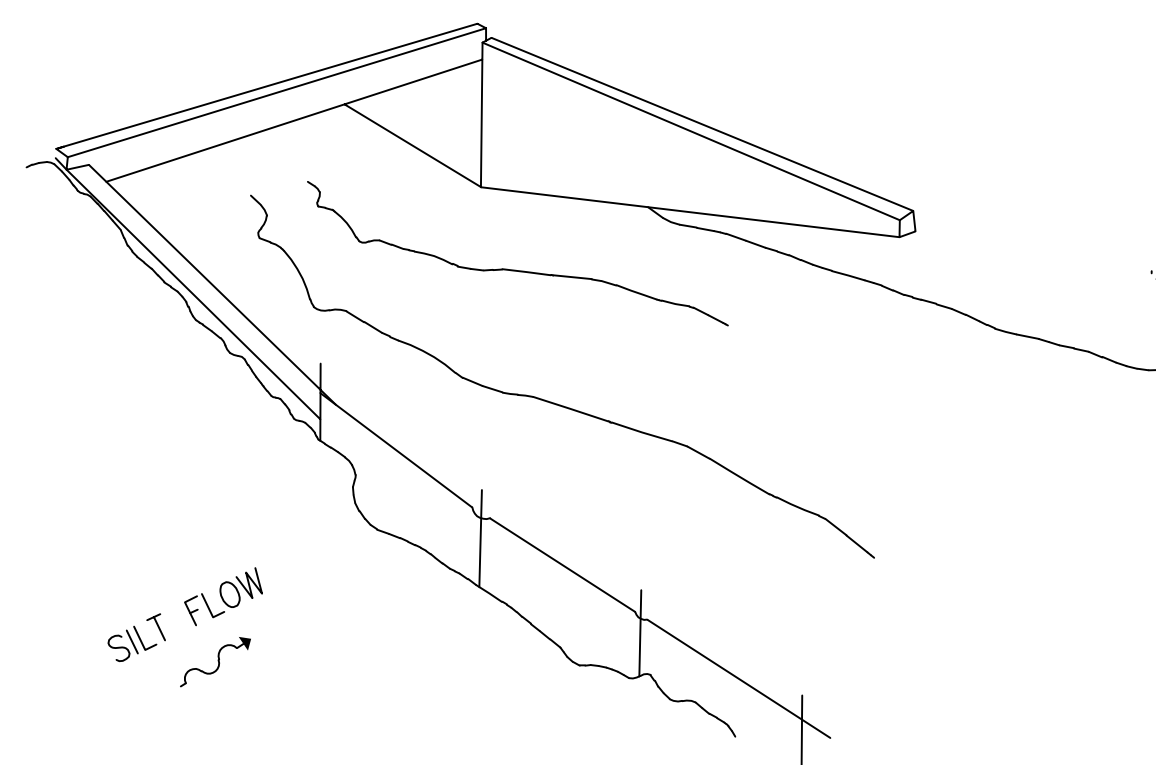
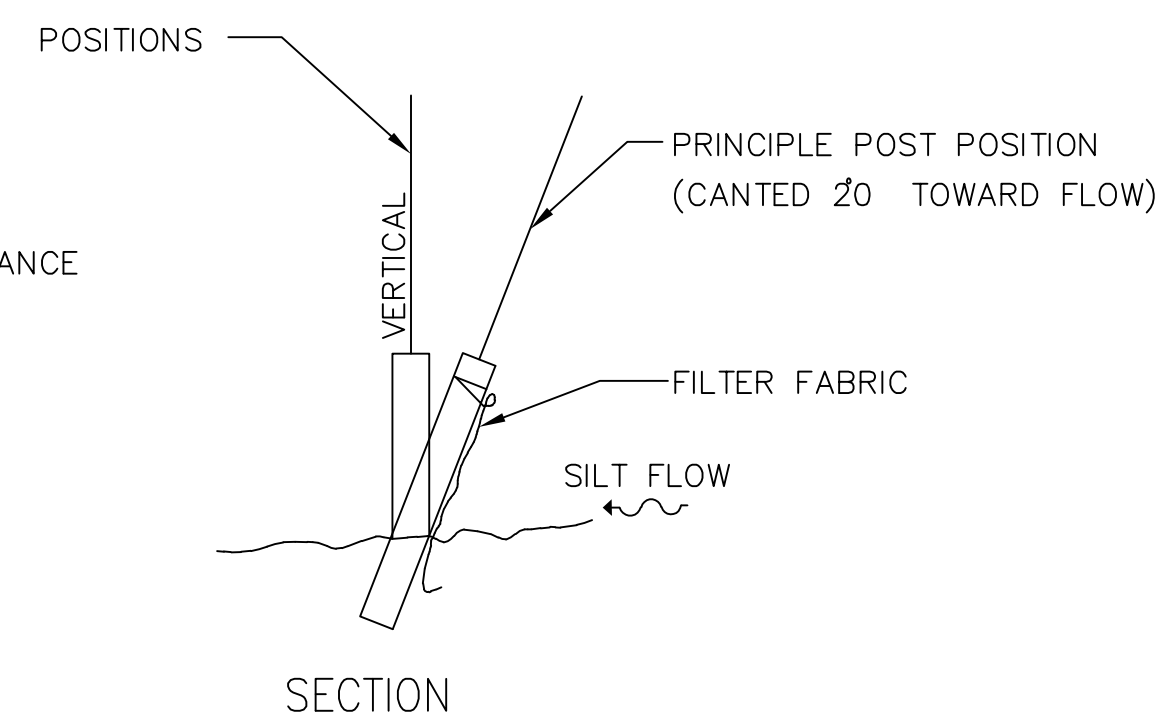
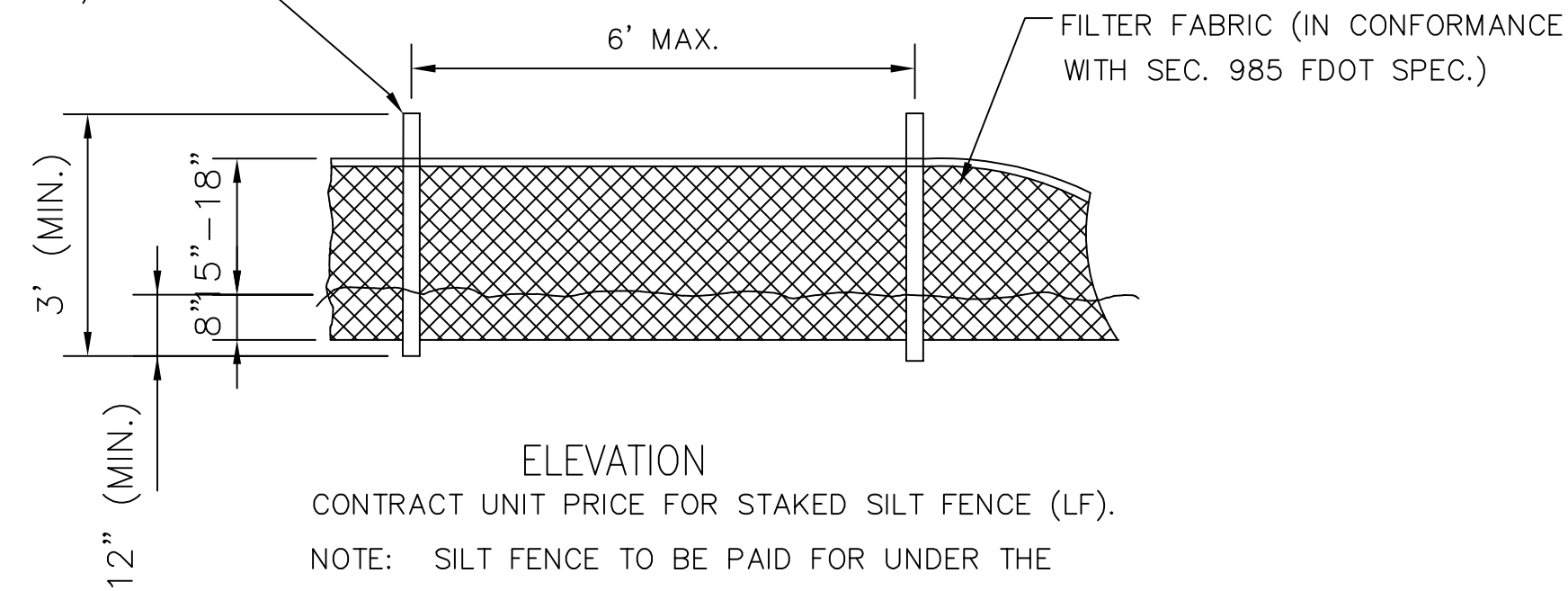
RECLAIMED WATER MAIN VALVE BOX
NTS

VALVE BOX DETAILS
NTS

BID SET

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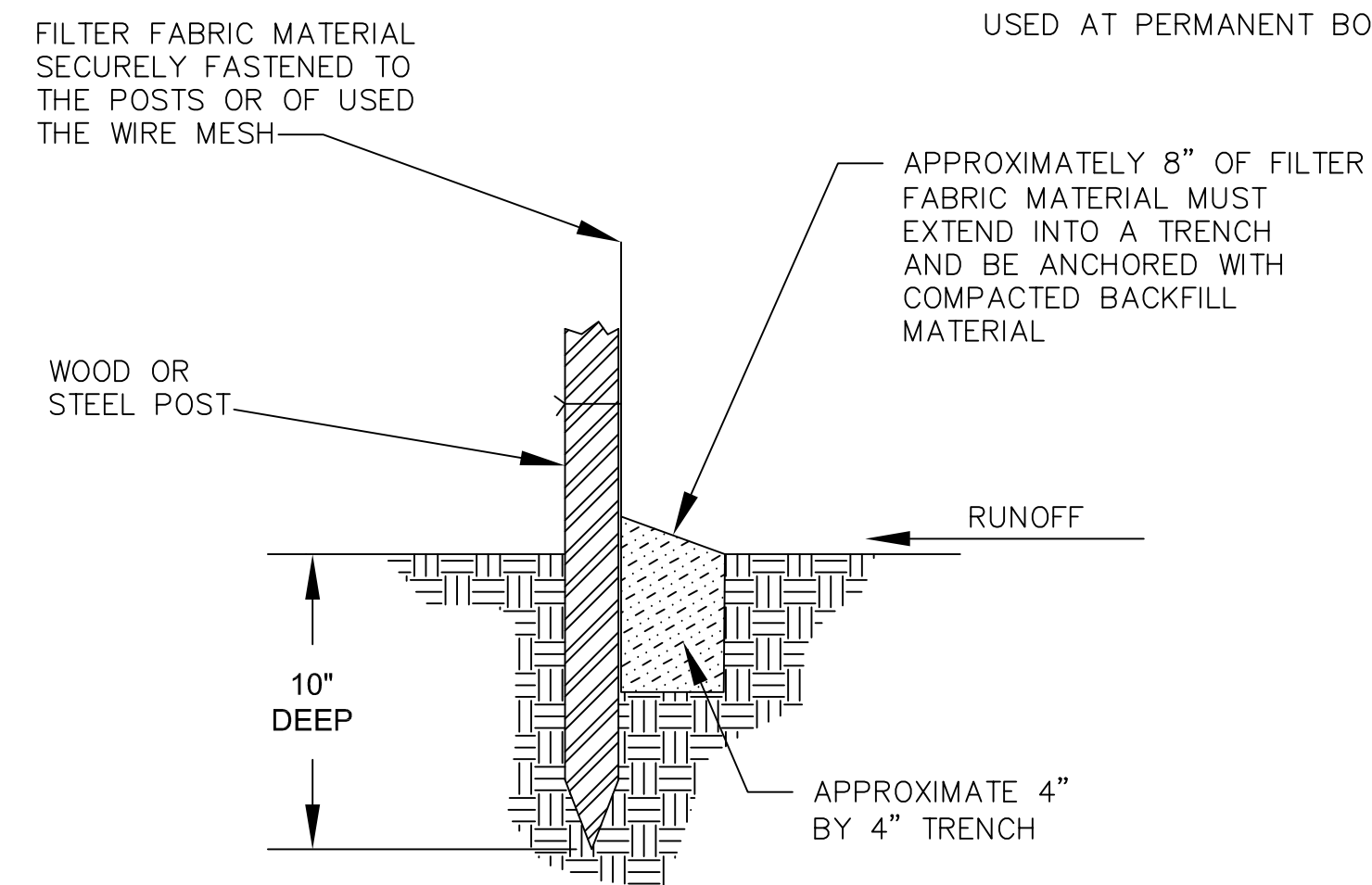
POST OPTIONS: WOOD 2 1/2" MIN.
WOOD 2"x4"
OAK 1 1/2"x1 1/2"
STEEL 1.33 LBS/FT. MIN.



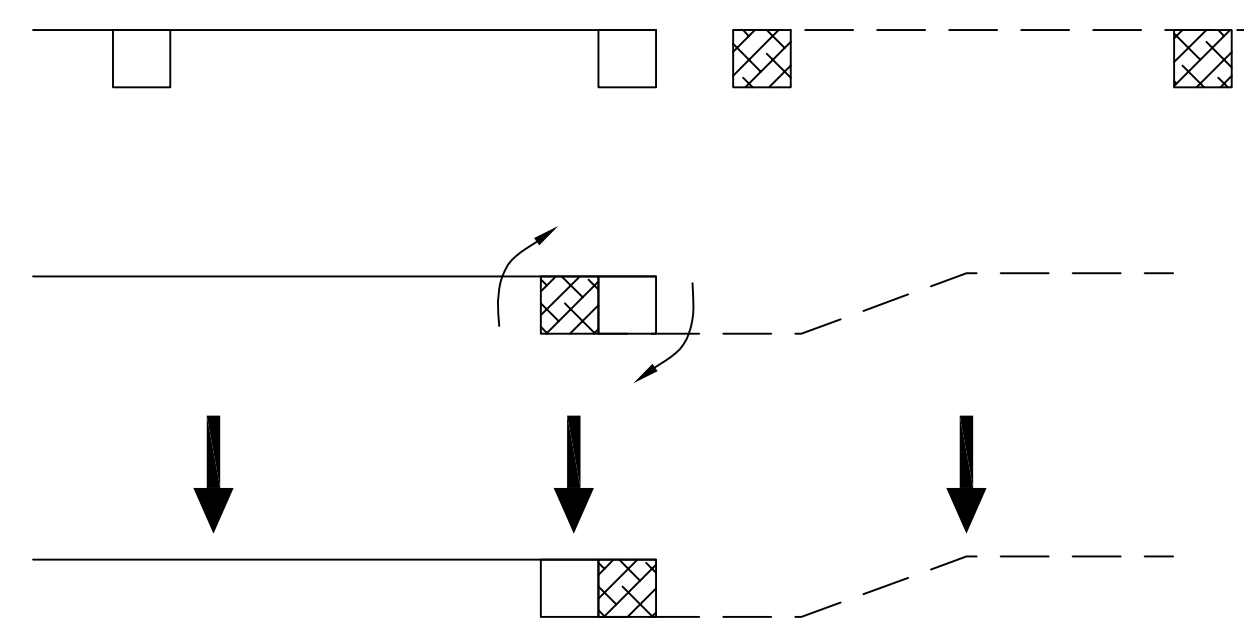
NOTE: SPACING FOR TYPE III FENCE TO BE IN ACCORDANCE WITH CHART I, SHEET 1 OF 3 AND DITCH INSTALLATIONS AT DRAINAGE STRUCTURES SHEET 2 OF 3.

TYPE III SILT FENCE PROTECTION AROUND DITCH BOTTOM INLETS.

DO NOT DEPLOY IN A MANNER THAT SILT FENCES WILL ACT AS A DAM ACROSS PERMANENT FLOWING WATERCOURSES. SILT FENCES ARE TO BE USED AT UPLAND LOCATIONS AND TURBIDITY BARRIERS USED AT PERMANENT BODIES OF WATER.



ATTACHING TWO SILT FENCES

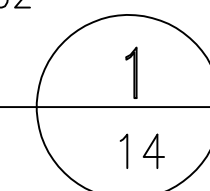


1. PLACE THE END POST OF THE SECOND FENCE INSIDE THE END POST OF THE FIRST FENCE.
2. ROTATE BOTH POSTS AT LEAST 180° IN A CLOCKWISE DIRECTION TO CREATE A TIGHT SEAL WITH FABRIC MATERIAL.
3. DRIVE BOTH POSTS ABOUT 10 INCHES INTO THE GROUND AND BURY FLAP.

SILT FENCE APPLICATIONS

PER FDOT INDEX 102

DETAIL
NTS



BID SET

Name	Revision	Date

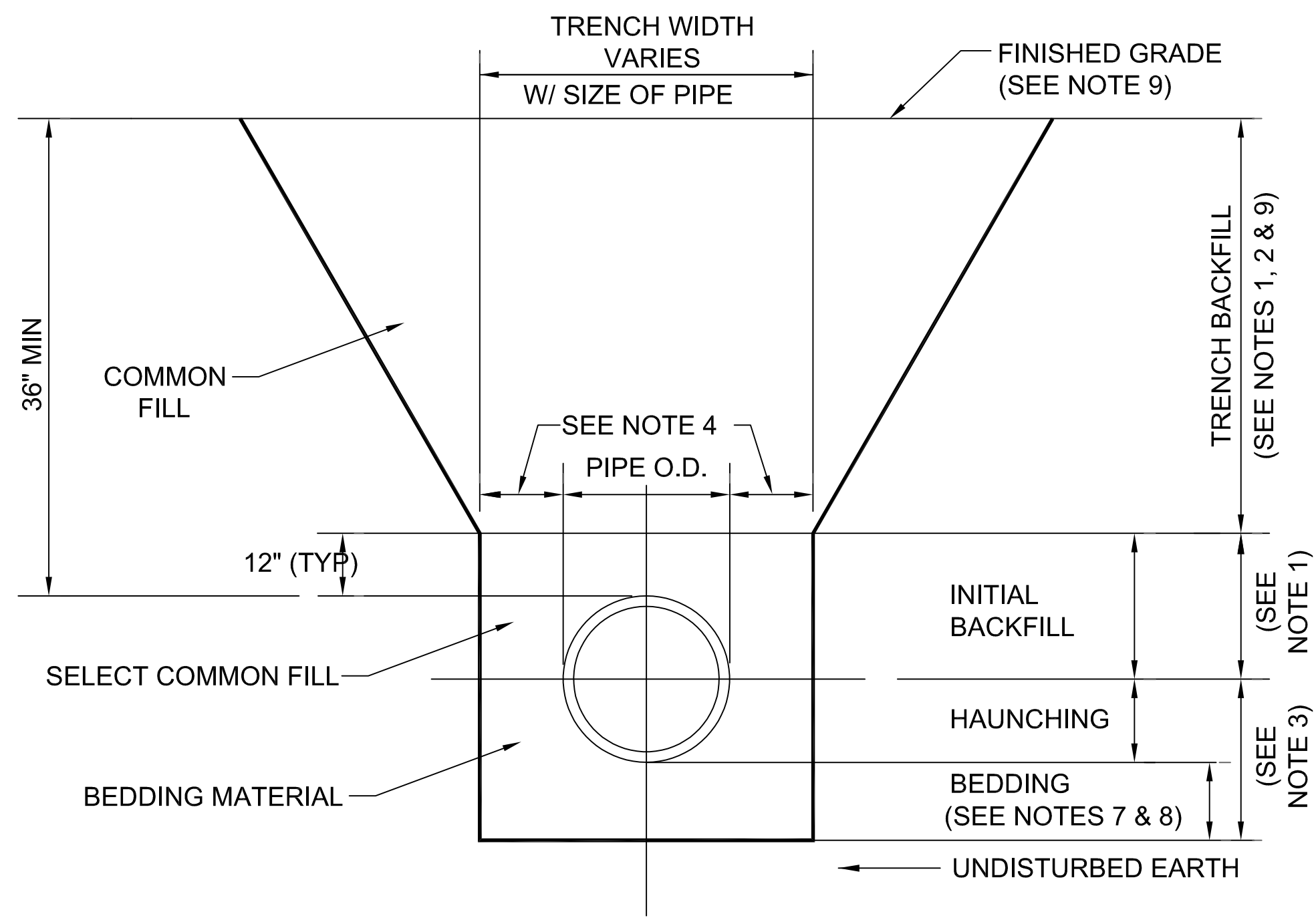
ARMINIUS CONSULTANTS, LLC
2501 BAYFRONT PARKWAY
ORLANDO, FLORIDA 32806
321-315-7674 www.arminius.co
CA 31302

Project No.: 6579
Plot Date: 6/2018
Design Date: 6/2018
Checked By: JDH

John D. Hermann, PE
P.E. LICENSE 51088

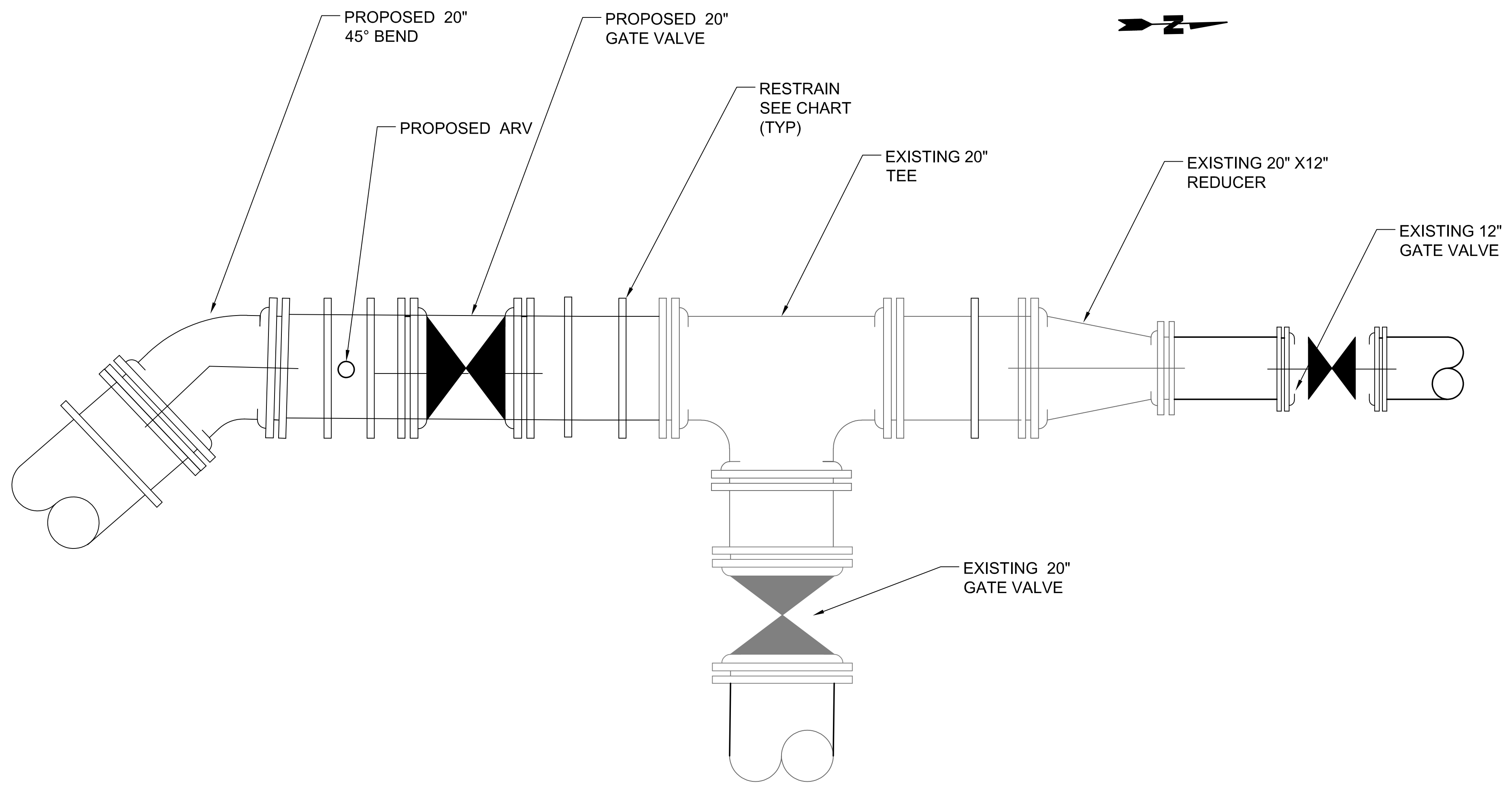
THE CITY OF DAYTONA BEACH UTILITIES DEPARTMENT
Shannon T. Ponitz Interim Utilities Director
125 BASIN ST., STE. 130 • DAYTONA BEACH • FLORIDA 32114
PHONE: (386) 671-8800 FAX: (386) 671-8805

WILLIAMSON BLVD – DUNN AVE TO MASON AVE
DETAILS
Project No.: 6579



- NOTES:
1. SELECT COMMON FILL UNDER & WITHIN 6 FEET OF THE EDGE OF ANY PAVED SURFACE SHALL BE PLACED IN 6" COMPACTED LIFTS TO TOP OF PIPE, THEN 6" COMPACTED LIFTS THEREAFTER, AND COMPACTED TO 98% OF MAX DENSITY PER AASHTO T-180. BACKFILL IN AREAS OUTSIDE THE ROADWAY SHALL BE PLACED IN 6" COMPACTED LIFTS TO TOP OF PIPE THEN 6" COMPACTED LIFTS THEREAFTER AND COMPACTED TO 98% MAX DENSITY PER AASHTO T-180.
 2. TRENCH BACKFILL/BACKFILL COMPACTION SHALL BE IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS.
 3. TYPE A BEDDING MATERIAL SHALL CONFORM TO FDOT NO. 57 AGGREGATE.
 4. 15" MAX. (12" MIN.) FOR PIPE DIAMETER LESS THAN 24" AND 24" MAX (18" MIN) FOR PIPE DIAMETER 24" AND LARGER.
 5. WATER SHALL NOT BE PERMITTED IN THE TRENCH DURING CONSTRUCTION.
 6. ALL PIPE TO BE INSTALLED WITH BELL FACING UPSTREAM TO THE NORMAL DIRECTION OF FLOW.
 7. BEDDING DEPTH SHALL BE 4" MINIMUM FOR PIPE DIAMETER UP TO 12" AND 6" MINIMUM FOR PIPE DIAMETER 16" AND LARGER.
 8. DEPTH FOR REMOVAL OF UNSUITABLE MATERIAL SHALL GOVERN DEPTH OF BEDDING ROCK BELOW THE PIPE. CODB UTILITIES SHALL DETERMINE IN THE FIELD REQUIRED REMOVAL OF UNSUITABLE MATERIAL TO REACH SUITABLE FOUNDATION.
 9. ALL TRENCHING AND SHEETING SHALL COMPLY WITH OSHA REGULATIONS.
 10. ALL CONTAMINATED SOIL SHALL BE DISPOSED IN ACCORDANCE WITH STATE AND FEDERAL REGULATIONS.

BEDDING AND TRENCHING

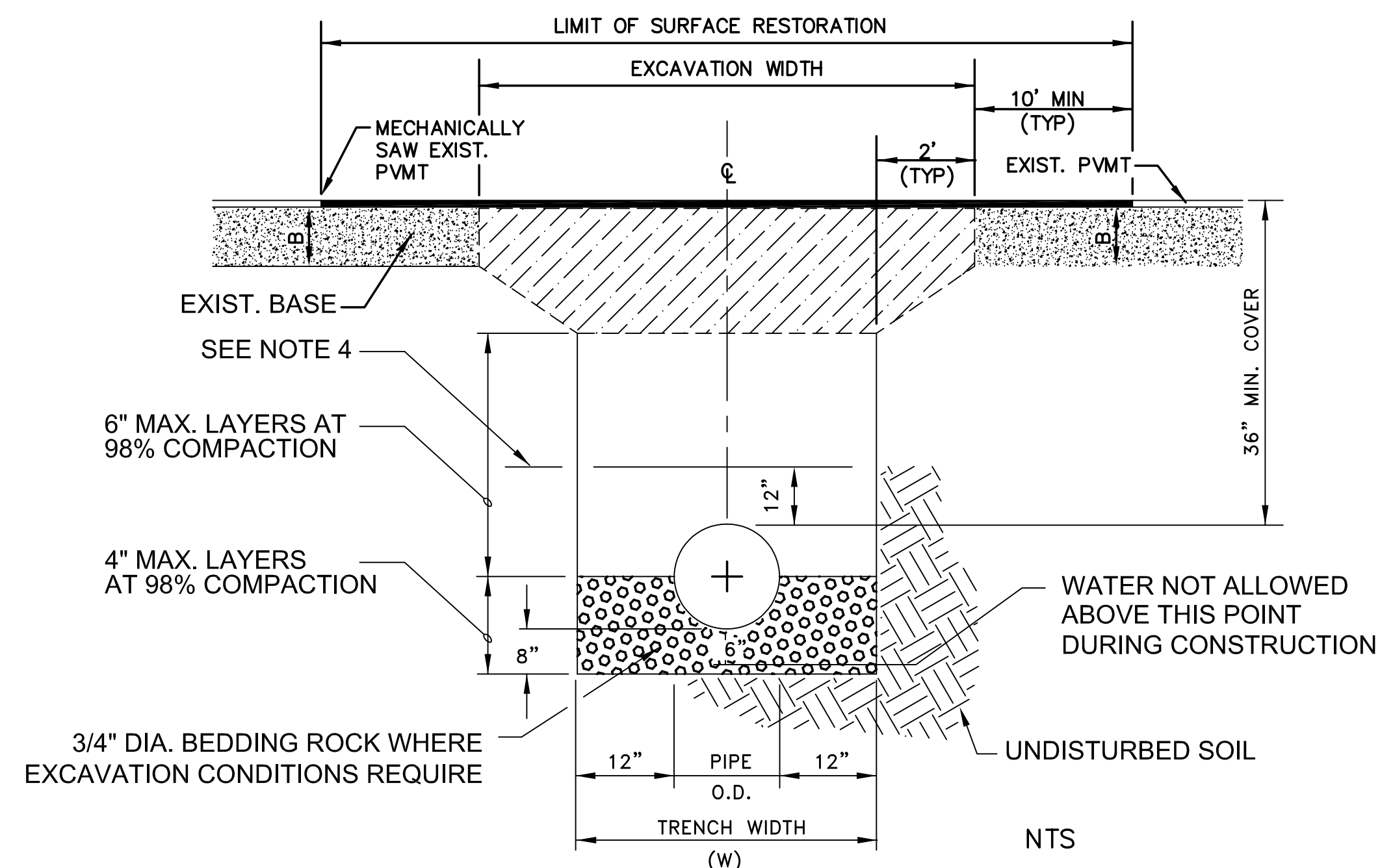


"RESTRAIN ALL JOINTS/FITTINGS IN ACCORDANCE WITH RESTRAINT TABLE SEE ""*"" NOTE SHEET 10

CONNECTION TO EXISTING RECLAIMED MAIN STA. 210+20

BID SET


<p>2501 BAYFRONT PARKWAY ORLANDO, FLORIDA 32806 321-315-7674 www.arminius.co CA 31302</p>	Project No.: 6579 Plot Date: 6/2018 Design Date: 6/2018	John D. Hermann, PE P.E. LICENSE 51088	THE CITY OF DAYTONA BEACH UTILITIES DEPARTMENT Shannon T. Ponitz Interim Utilities Director 125 BASIN ST., STE. 130 • DAYTONA BEACH • FLORIDA 32114 PHONE: (386) 671-8800 FAX: (386) 671-8805	WILLIAMSON BLVD – DUNN AVE TO MASON AVE DETAILS Project No.: 6579	13 13 OF 17
	Name: _____ Revision: _____ Date: _____ Checked By: JDH				

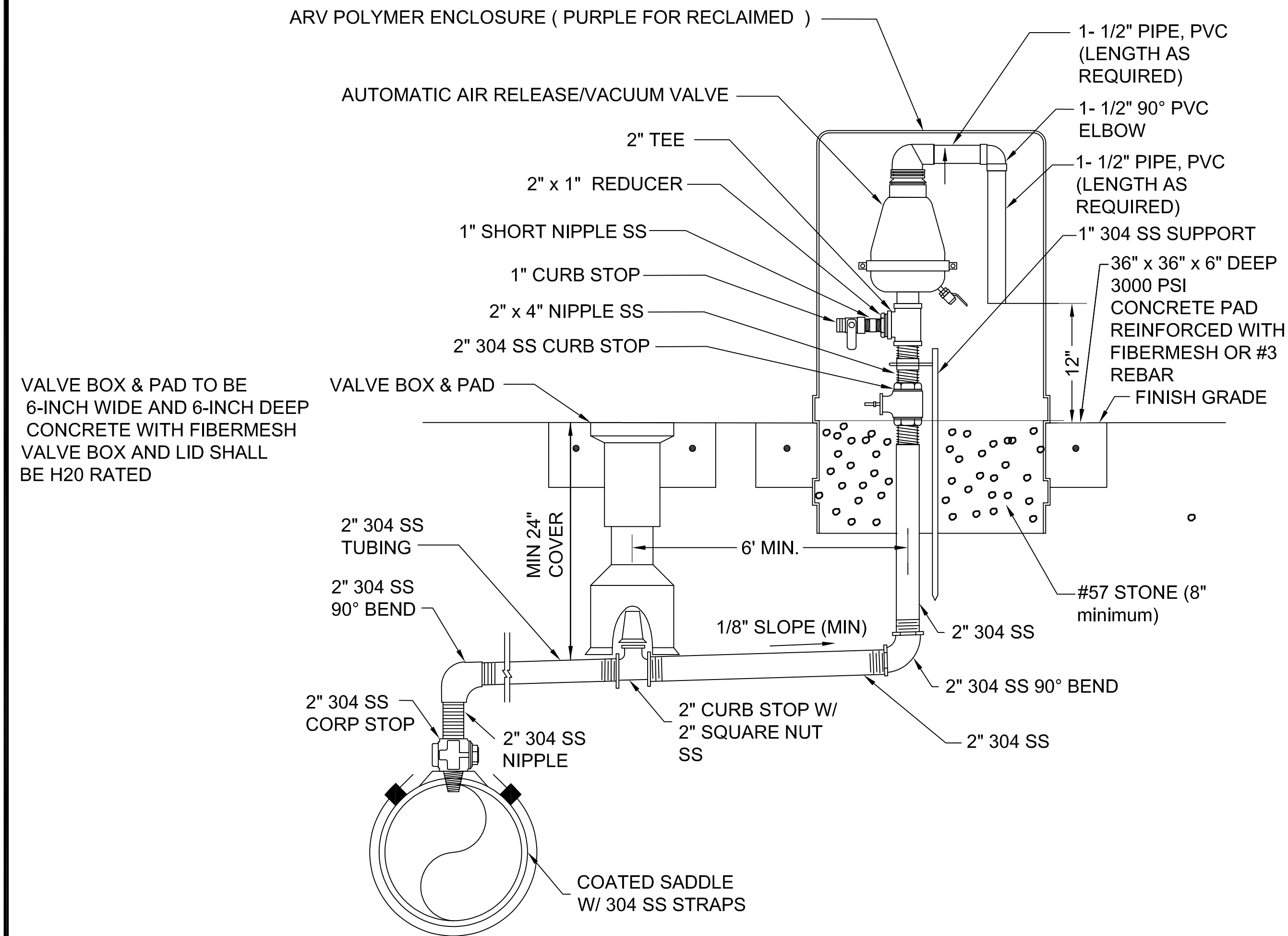


- NOTES:**
1. WHERE SOIL CONDITIONS CAN NOT BE MAINTAINED AS SHOWN ABOVE, PROVIDE APPROVED METHOD OF CONSTRUCTION.
 2. SHEETING WILL BE REQUIRED AS DETERMINED IN THE FIELD.
 3. COMPACTION PERCENTAGES SHOWN REFER TO A.A.S.H.T.O. T-180. PROVIDE COMPACTION TEST REPORTS TO CITY INSPECTOR.
 4. MECHANICAL COMPACTION NOT ALLOWED BELOW THIS LEVEL.
 5. THE CONTRACTOR SHALL, UNLESS OTHERWISE NOTED, RESTORE ALL STRIPING, PAVEMENT MARKINGS, DELINEATORS, SIGNAGE AND TRAFFIC SIGNAL SYSTEM COMPONENTS DISTURBED DURING CONSTRUCTION ACTIVITIES. COBBT OF ALL WORK AND MATERIALS WILL BE CONSIDERED INCIDENTAL TO PATCH MATERIAL ITEMS.
 6. LIMITS OF PAVEMENT RESTORATION SHALL BE SHOWN ABOVE AND AS SHOWN IN DRAWING

TRENCH DETAIL WITH PAVEMENT RESTORATION

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	Checked By: JDH				

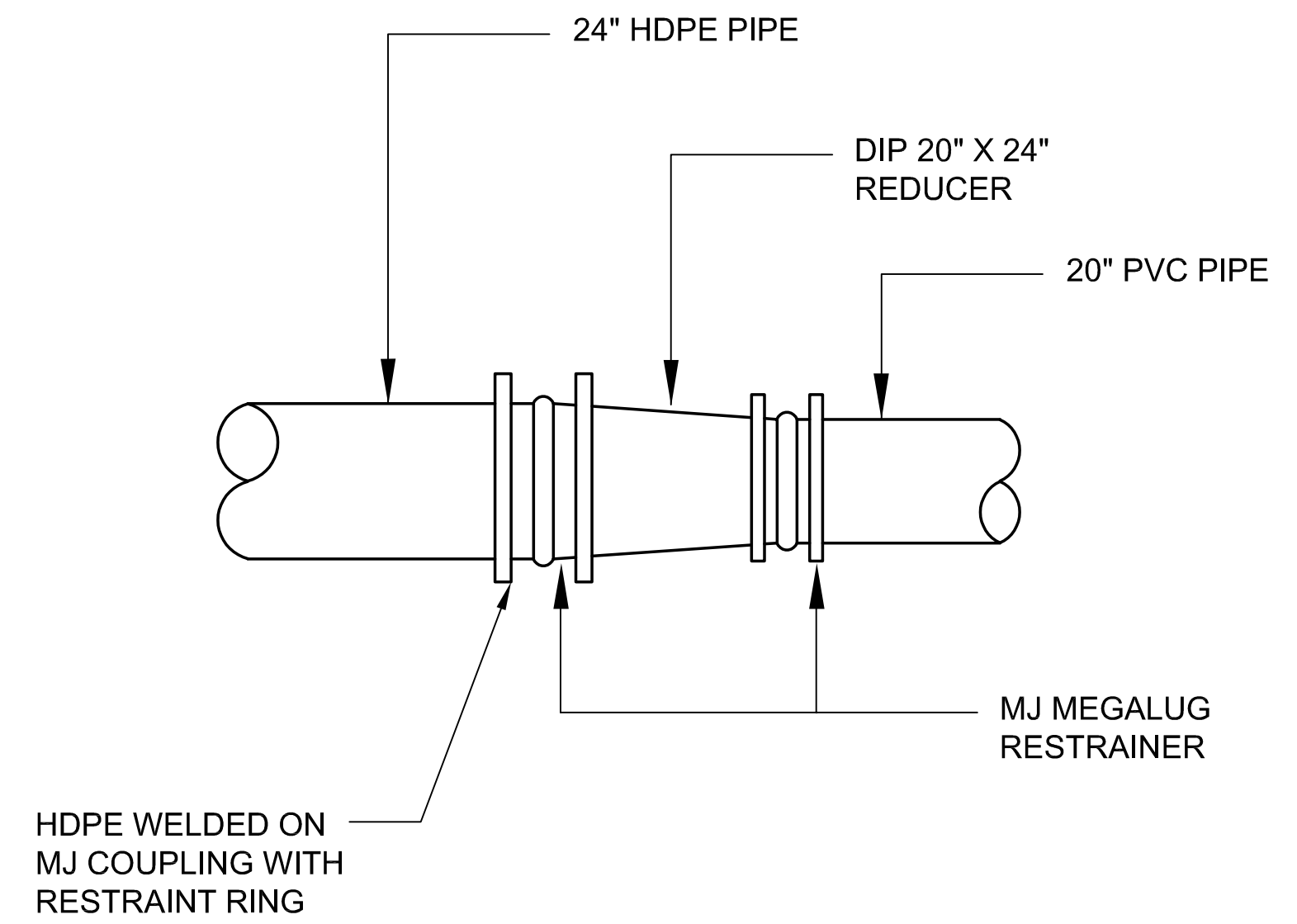


VALVE BOX & PAD TO BE 6-INCH WIDE AND 6-INCH DEEP CONCRETE WITH FIBERMESH VALVE BOX AND LID SHALL BE H20 RATED

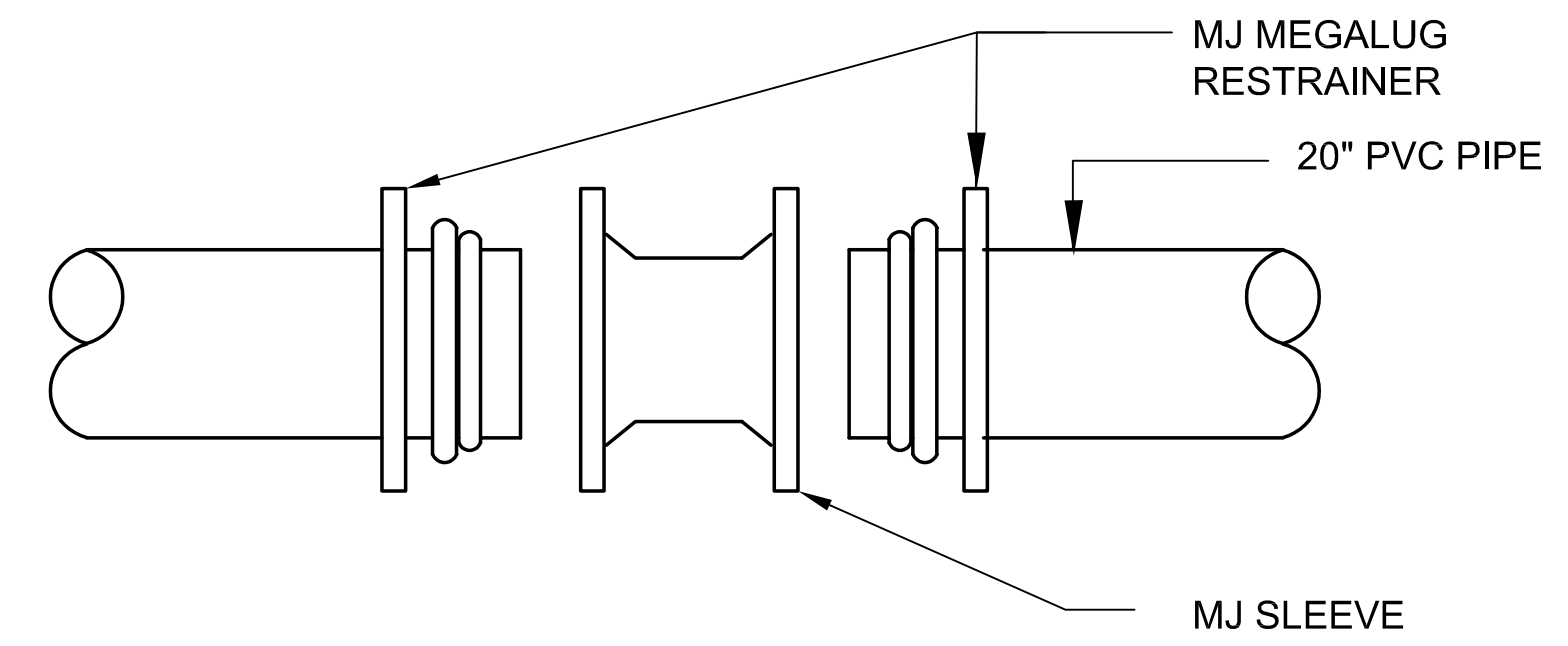
NOTES:

1. ABOVE DETAIL IS BASED ON 2" AIR RELEASE VACUUM VALVE INSTALLATION
2. ALL PVC (SCH 80)
3. ALL 304 SS (SCH 40)

AUTOMATIC AIR RELEASE VACUUM VALVE FOR RECLAIMED



DETAIL FOR HDPE TO PVC TRANSITION



MJ SLEEVE WITH MEGALUG RESTRAINER FOR JOINING PVC PIPE

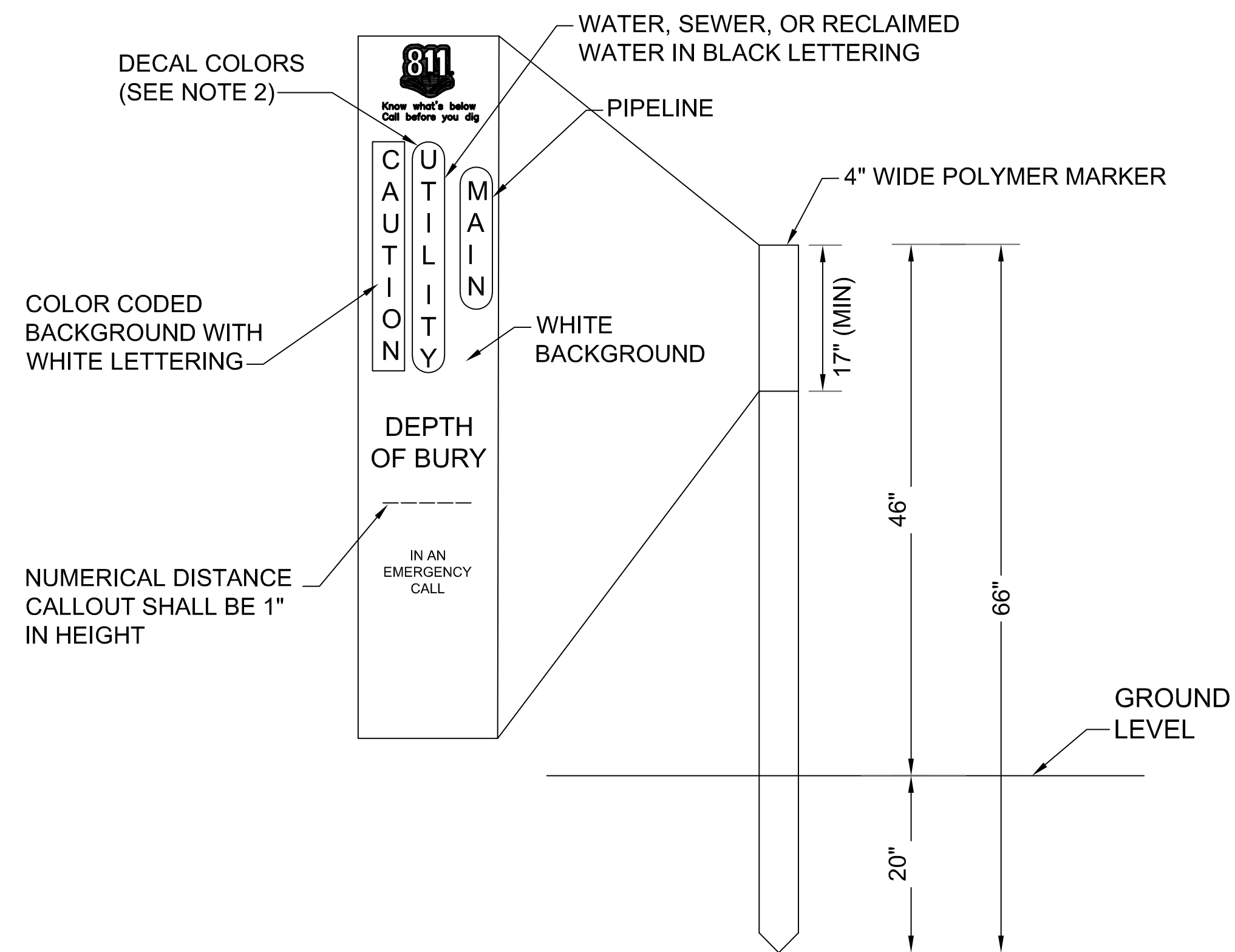
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ARMINIUS CONSULTANTS, LLC	Project No.: 6579
2501 BAYFRONT PARKWAY	Plot Date: 6/2018
ORLANDO, FLORIDA 32806	Design Date: 6/2018
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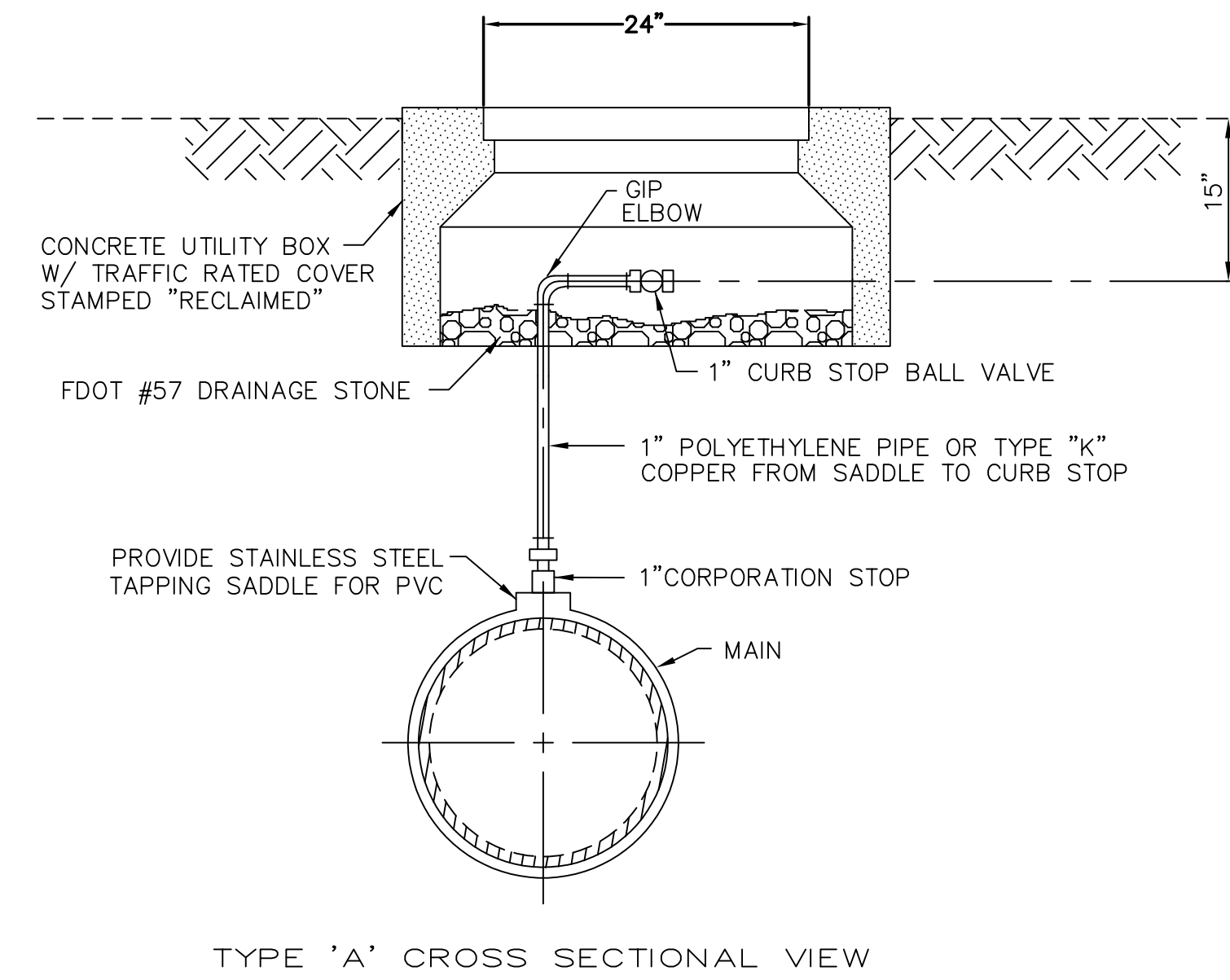
THE CITY OF DAYTONA BEACH UTILITIES DEPARTMENT
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WILLIAMSON BLVD – DUNN AVE TO MASON AVE DETAILS
 Project No.: 6579

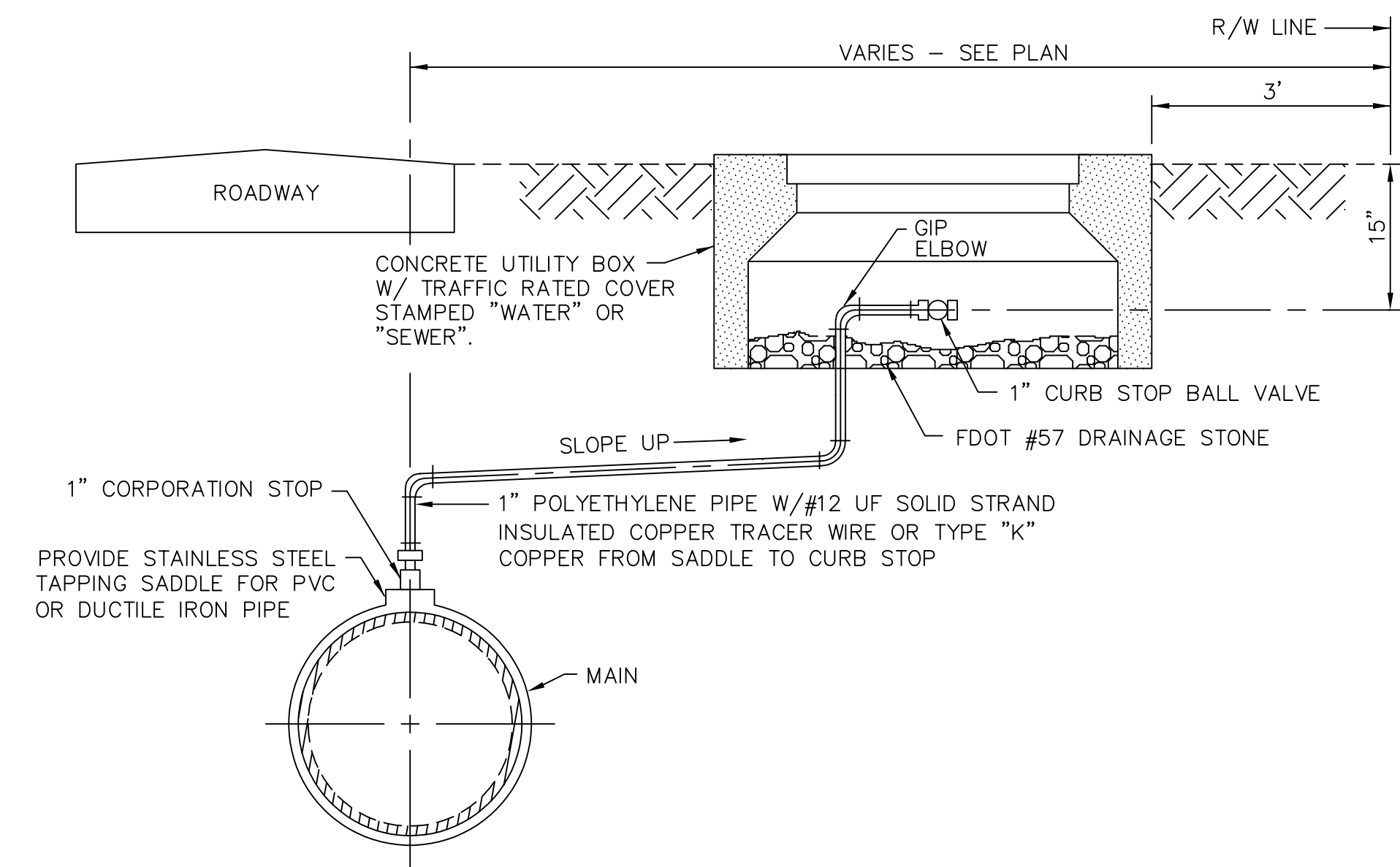


- NOTES:
1. MARKERS SHALL BE PLACED WHERE INDICATED ON THE PLANS OR OTHERWISE SPECIFIED BY CODB UTILITIES.
 2. COLOR CODE SHALL BE: POTABLE WATER - BLUE
RECLAIMED WATER - PURPLE
WASTEWATER - GREEN

PIPE LINE MARKER (TYPICAL)



TYPE 'A' CROSS SECTIONAL VIEW



TYPE 'B' CROSS SECTIONAL VIEW

- NOTES:
- ACCEPTABLE MANUFACTURERS: (SEE CODB'S APPROVED PRODUCT LIST)

BID SET

Name	Revision:	Date:

ARMINIUS
CONSULTANTS, LLC

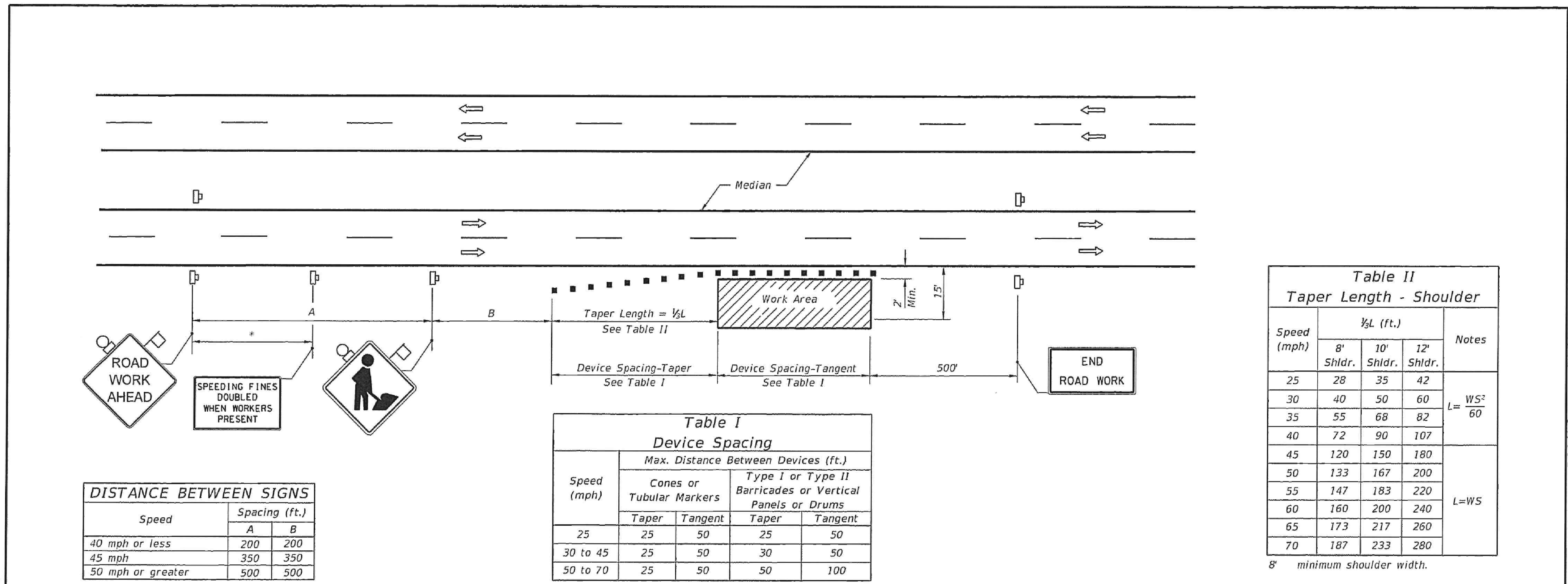
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WILLIAMSON BLVD – DUNN AVE TO MASON AVE
DETAILS
Project No.: 6579



Speed	Spacing (ft.)	
	A	B
40 mph or less	200	200
45 mph	350	350
50 mph or greater	500	500

Speed (mph)	Max. Distance Between Devices (ft.)			
	Cones or Tubular Markers		Type I or Type II Barricades or Vertical Panels or Drums	
	Taper	Tangent	Taper	Tangent
25	25	50	25	50
30 to 45	25	50	30	50
50 to 70	25	50	50	100

Speed (mph)	1/2 L (ft.)			Notes
	8' Shldr.	10' Shldr.	12' Shldr.	
25	28	35	42	L = WS ² / 60
30	40	50	60	
35	55	68	82	
40	72	90	107	L = WS
45	120	150	180	
50	133	167	200	
55	147	183	220	
60	160	200	240	
65	173	217	260	
70	187	233	280	

* 500' beyond the ROAD WORK AHEAD sign or midway between signs whichever is less.

GENERAL NOTES

- If the work operation encroaches on the through traffic lanes or when four or more work vehicles enter the through traffic lanes in a one hour period (excluding establishing and terminating the work area), a flagger shall be provided and a FLAGGER sign shall be substituted for the WORKERS sign. The flagger shall be positioned at the point of vehicle entry or departure from the work area.
- This TCZ plan also applies to work performed in the median more than 2' but less than 15' from the edge of travelway.
- When work is being performed on a multilane undivided roadway the signs normally mounted in the median (as shown) shall be omitted.
- WORKERS signs to be removed or fully covered when no work is being performed.
- SHOULDER WORK sign may be used as an alternate to the WORKER symbol sign.
- When a side road intersects the highway within the TTC zone, additional TTC devices shall be placed in accordance with other applicable TCZ Indexes.
- For general TCZ requirements and additional information, refer to Index No. 600.

DURATION NOTES

- Signs and channelizing devices may be omitted if all of the following conditions are met:
 - Work operations are 60 minutes or less.
 - Vehicles in the work area have high-intensity, rotating, flashing, oscillating, or strobe lights operating.

- SYMBOLS**
- Work Area
 - Sign With 18" X 18" (Min.) Orange Flag And Type B Light
 - Channelizing Device (See Index No. 600)
 - Work Zone Sign
 - Lane Identification + Direction of Traffic

8' minimum shoulder width.
 1/2 L = Length of shoulder taper in feet
 W = Width of total shoulder in feet (combined paved and unpaved width)
 S = Posted speed limit (mph)

CONDITIONS

WHERE ANY VEHICLE, EQUIPMENT, WORKERS OR THEIR ACTIVITIES ENCR OACH THE AREA CLOSER THAN 15' BUT NOT CLOSER THAN 2' TO THE EDGE OF TRAVEL WAY.

17/17

LAST REVISION 07/01/07	DESCRIPTION:	FDOT 2014 DESIGN STANDARDS	MULTILANE, WORK ON SHOULDER	INDEX NO. 612	SHEET NO. 1 of 1
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 2501 BAYFRONT PARKWAY ORLANDO, FLORIDA 32806 321-315-7674 www.arminius.co CA 31302	Project No.: 6579 Plot Date: 6/2018 Scale:(HOR.) 1" = 20' (Vert.) 1" = 5' Design Date: 6/2018 Checked By: JDH	John D. Hermann, PE P.E. LICENSE 51088	THE CITY OF DAYTONA BEACH UTILITIES DEPARTMENT Shannon T. Ponitz Interim Utilities Director 125 BASIN ST., STE. 130 • DAYTONA BEACH • FLORIDA 32114 PHONE: (386) 671-8800 FAX: (386) 671-8805	WILLIAMSON BLVD – DUNN AVE TO MASON AVE MOT-MINIMUM REQUIREMENT Project No.: 6579	17 17 OF 17
	Name: _____ Revision: _____ Date: _____				