

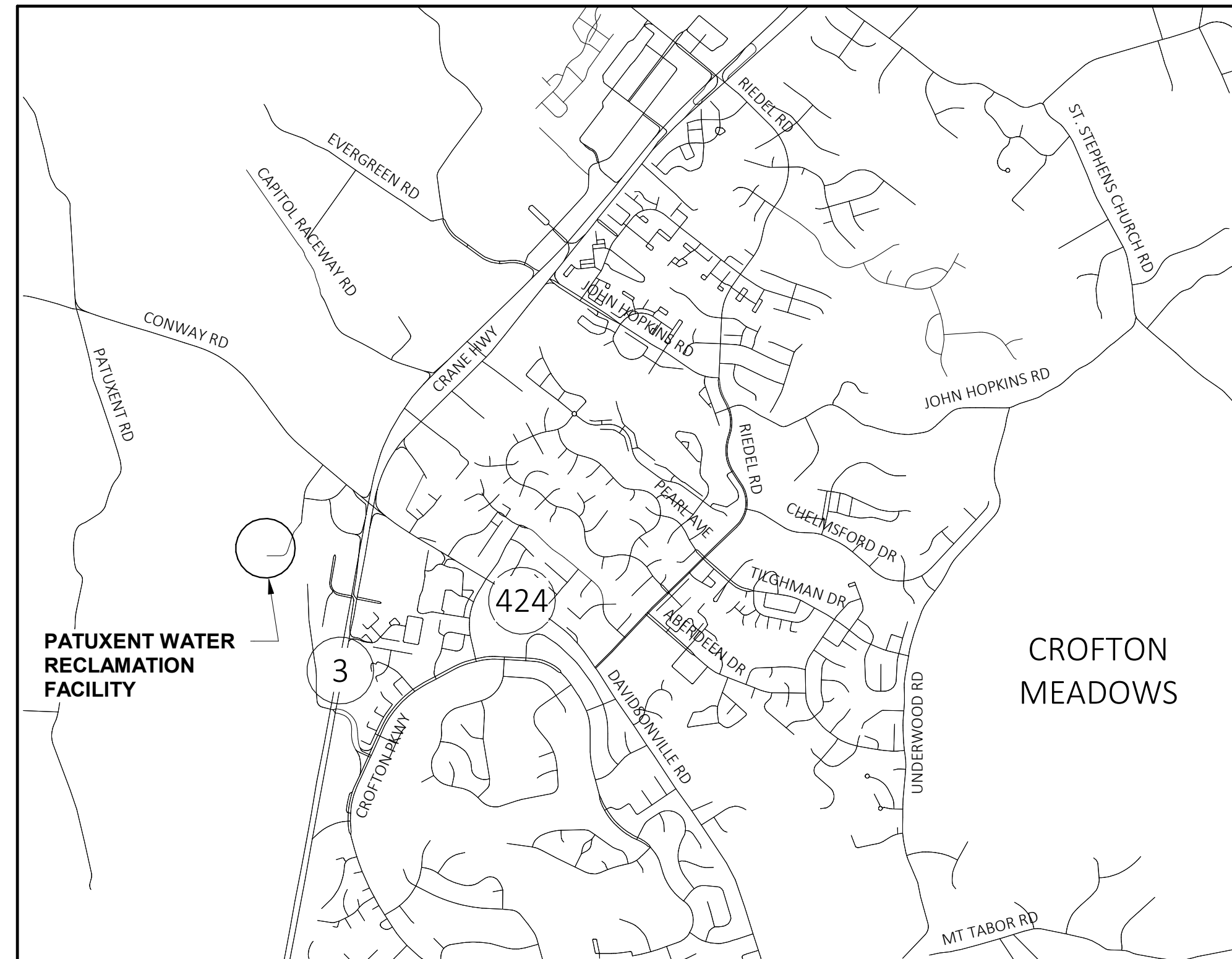
# ANNE ARUNDEL COUNTY MARYLAND DEPARTMENT OF PUBLIC WORKS

## PATUXENT WATER RECLAMATION FACILITY AIR PIPING AND SUPPORT REPAIRS

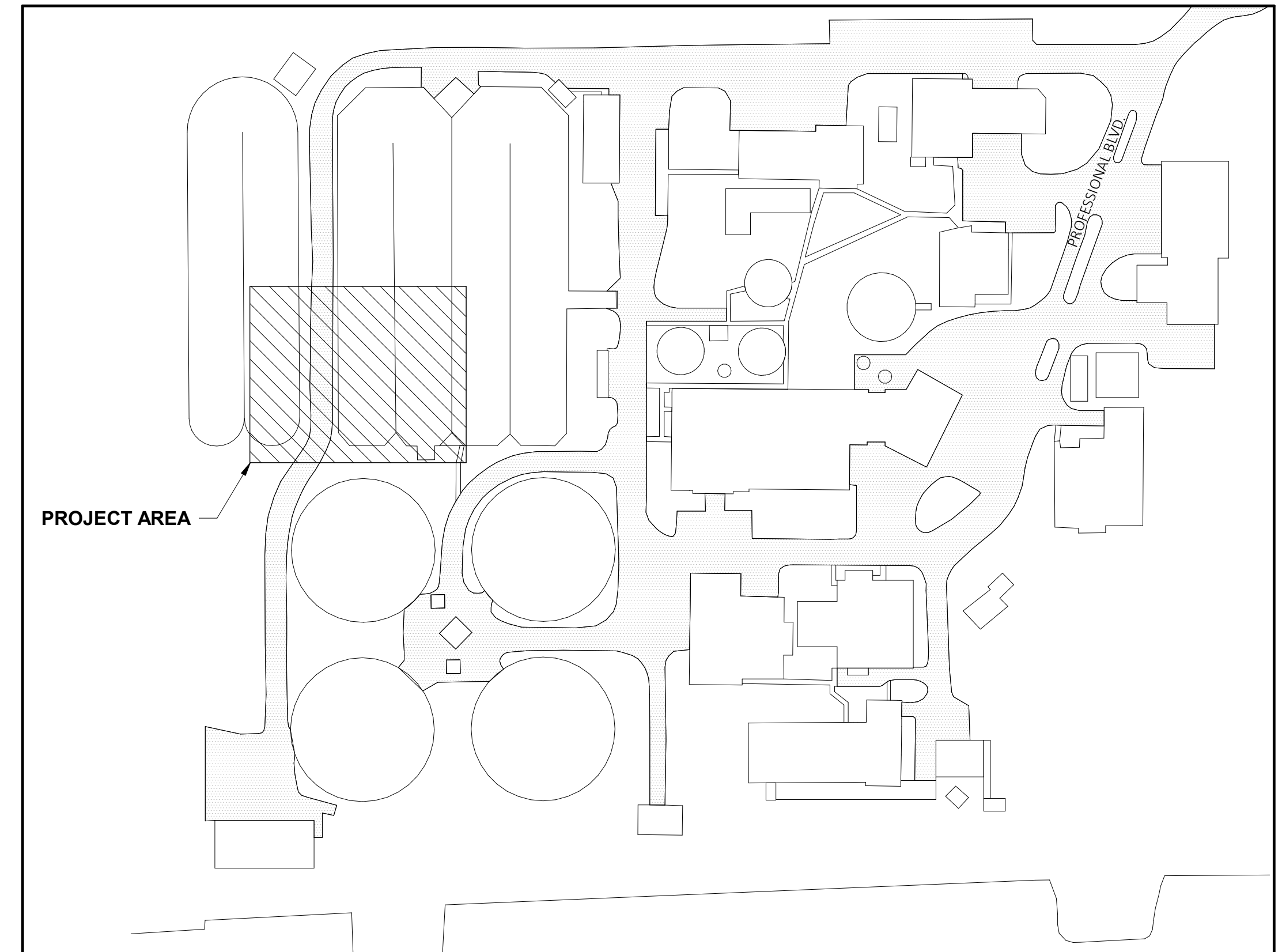
PROJECT NO. S802300  
CONTRACT NO. S802380

FEBRUARY 2024

INDEX OF DRAWINGS	
SHEET NUMBER	SHEET TITLE
GENERAL	
T-001	TITLE SHEET
STRUCTURAL	
S-001	GENERAL NOTES, DESIGN CRITERIA
S-101	DEMOLITION PLAN
S-102	INSTALLATION PLAN
S-301	DEMO SECTIONS AND DETAILS
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S-303	SECTIONS AND DETAILS
S-501	TYPICAL DETAILS
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M-001	ABBREVIATIONS, NOTES & SYMBOLS
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VICINITY MAP  
SCALE: 1" = 2000'



LOCATION MAP  
SCALE: 1" = 100'

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IN CHARGE OF	R. DUDLEY
DESIGNED BY	A. SHUE
CHECKED BY	N. VENKATESAN
MADE BY	T. LARAMAY

RAMBOLL AMERICAS  
ENGINEERING SOLUTIONS, INC.  
+1 (301) 731-5622  
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BOWIE, MD 20715



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ENGINEER UNDER THE  
LAWS OF THE STATE OF  
MARYLAND, LICENSE NO.  
31362, EXPIRATION DATE  
06/20/2025

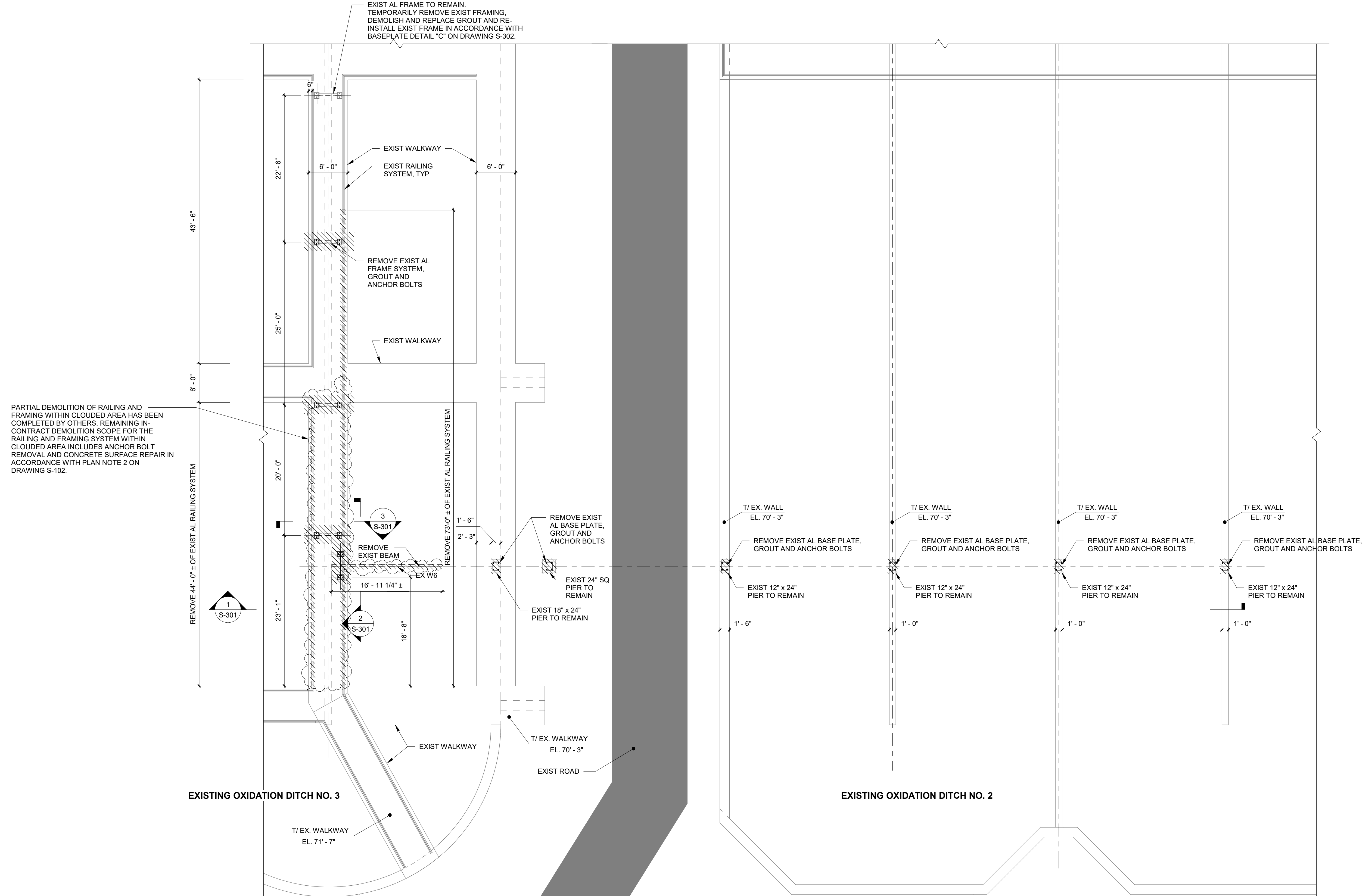


REVISIONS			
NO.	DATE	DESCRIPTION	BY
0	02/29/24	ISSUED FOR BID	NV

ANNE ARUNDEL COUNTY DEPARTMENT OF PUBLIC WORKS			
APPROVED	DATE	APPROVED	DATE
CHEF ENGINEER		PROJECT MANAGER	
APPROVED		APPROVED	
ASSISTANT CHIEF ENGINEER		CHEF, RIGHT OF WAY SERVICES	

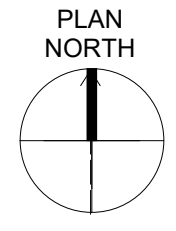
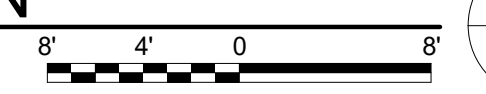
SCALE: AS INDICATED		PATUXENT WRF - AIR PIPING AND SUPPORT REPAIRS	
DRAWN BY: T. LARAMAY		TITLE SHEET	
CHECKED BY: N. VENKATESAN		T-001	
SHEET NO. 1 OF 13		EXISTING OXIDATION DITCH	
PROJECT NO: S802300			
CONTRACT NO: S802380			





PARTIAL DEMOLITION OF RAILING AND FRAMING WITHIN CLOUDED AREA HAS BEEN COMPLETED BY OTHERS. REMAINING IN CONTRACT DEMOLITION SCOPE FOR THE RAILING AND FRAMING SYSTEM WITHIN CLOUDED AREA INCLUDES ANCHOR BOLT REMOVAL AND CONCRETE SURFACE REPAIR IN ACCORDANCE WITH PLAN NOTE 2 ON DRAWING S-102.

**PLATFORM / WALKWAY PLAN**  
1/8" = 1'-0"



**PLAN NOTES:**

- 1. CONTRACTOR SHALL FIELD VERIFY EXISTING CONDITIONS AND DIMENSIONS PRIOR TO THE START OF WORK.

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IN CHARGE OF	L. WOODS
DESIGNED BY	J. WILSON
CHECKED BY	C. LAUTZ
MADE BY	T. HOLLIS

**RAMBOLL AMERICAS ENGINEERING SOLUTIONS, INC.**  
301-731-5622  
16701 MELFORD BLVD  
STE 400  
BOWIE, MD 20715

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Mar-08-2024

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0	03/06/24	ISSUED FOR BID	LWW

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CHEF ENGINEER		PROJECT MANAGER		AS INDICATED
APPROVED		APPROVED		
ASSISTANT CHIEF ENGINEER		CHEF, RIGHT OF WAY SERVICES		

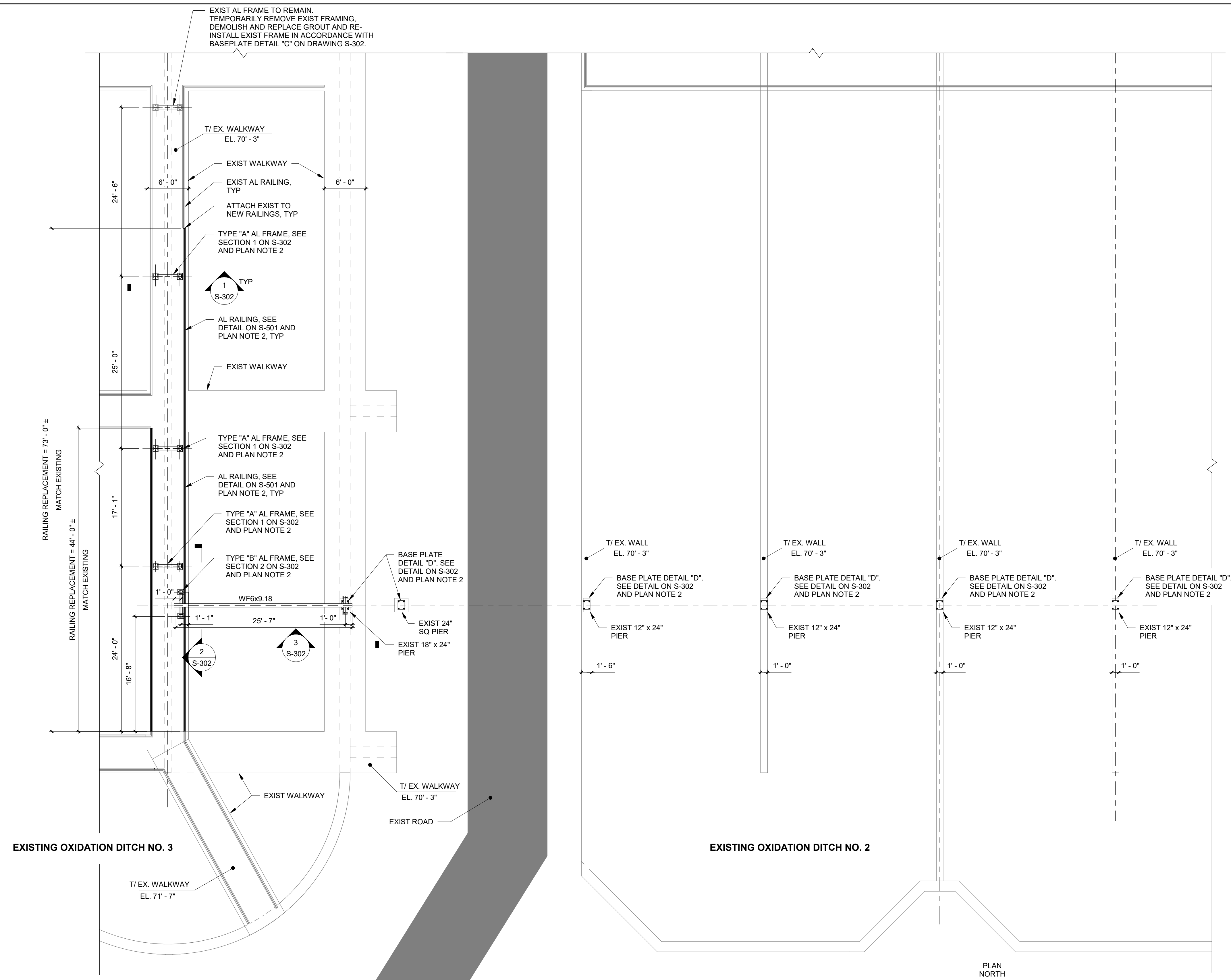
**ANNE ARUNDEL COUNTY DEPARTMENT OF PUBLIC WORKS**

PATUXENT WRF REPAIRS

**DEMOLITION PLAN** S-101

EXISTING OXIDATION DITCH

CONTRACT NO. S802380



**PLATFORM / WALKWAY PLAN**  
 1/8" = 1'-0"  
 PLAN NORTH

- PLAN NOTES:**
- CONTRACTOR SHALL FIELD VERIFY EXISTING CONDITIONS AND DIMENSIONS PRIOR TO THE START OF WORK.
  - AT LOCATIONS WHERE EXISTING FRAMING, RAILINGS, ANCHOR BOLTS AND BASE PLATES ARE REMOVED, EXISTING CONCRETE SHALL BE REPAIRED IN ACCORDANCE WITH DETAILS ON DRAWING S-501 PRIOR TO INSTALLING NEW FRAMING, RAILINGS AND ASSOCIATED BASE PLATES.
  - STRUCTURAL FRAMING AND RAILINGS SHALL BE ALUMINUM UON.

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 DESIGNED BY: J. WILSON  
 CHECKED BY: C. LAUTZ  
 MADE BY: T. HOLLIS

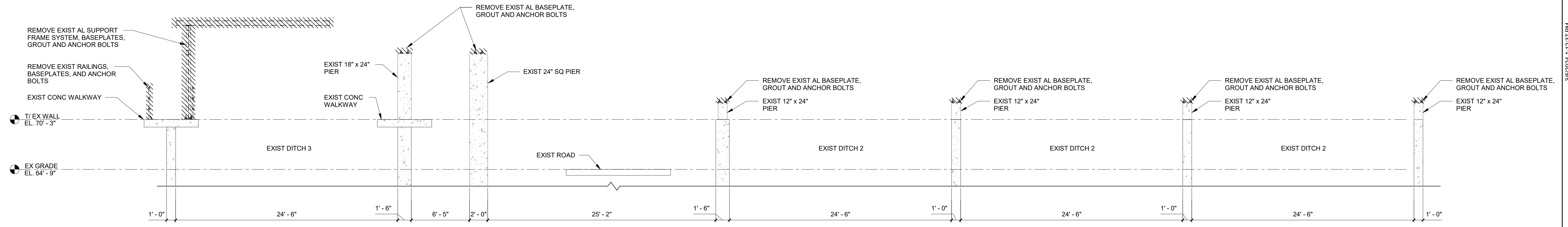
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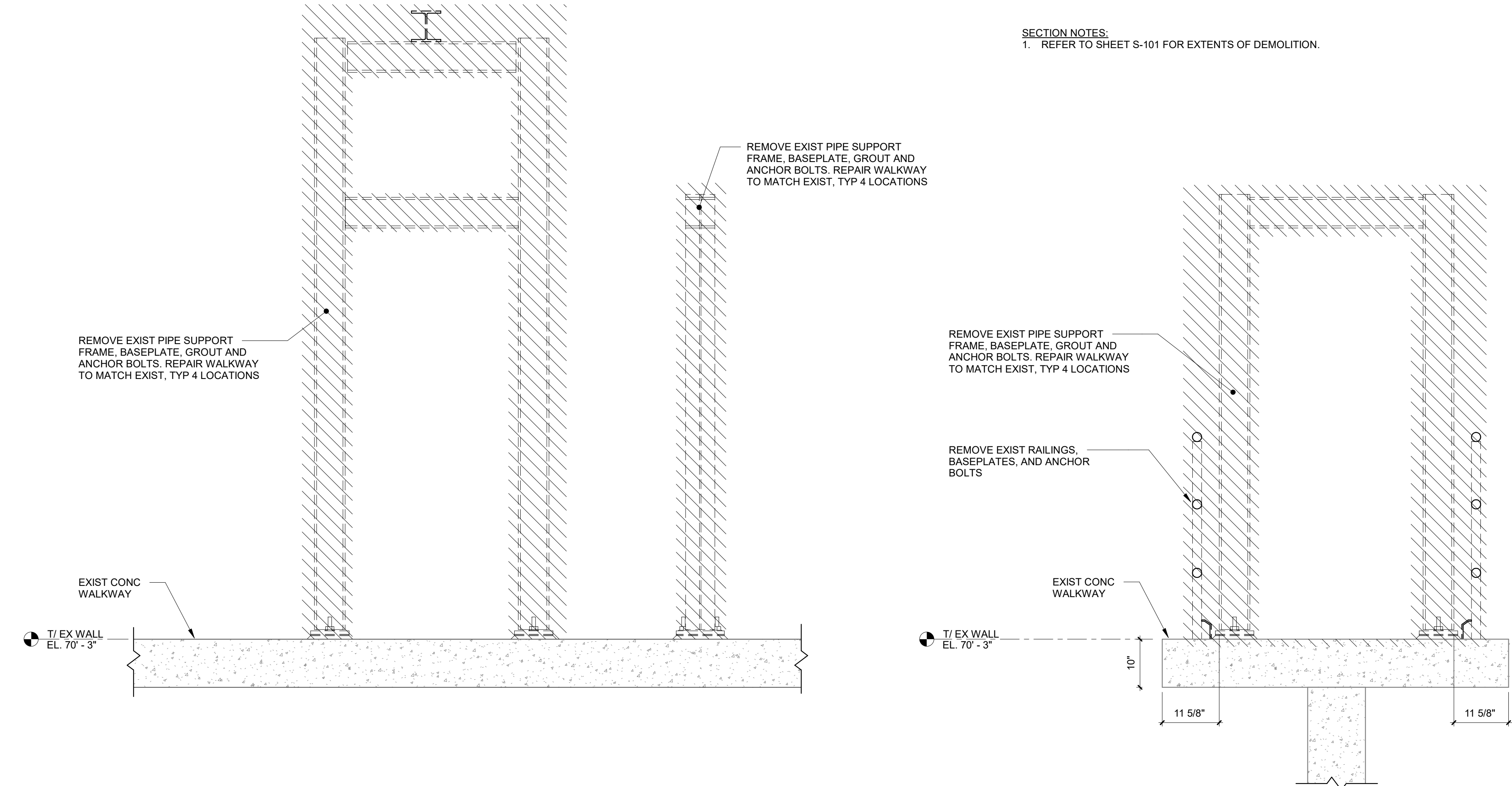
APPROVED	DATE	APPROVED	DATE	SCALE: AS INDICATED
CHEF ENGINEER		PROJECT MANAGER		DRAWN BY: T. HOLLIS
APPROVED	DATE	APPROVED	DATE	CHECKED BY: C. LAUTZ
ASSISTANT CHIEF ENGINEER		CHEF, RIGHT OF WAY SERVICES		SHEET NO: 4 OF 13
				PROJECT NO: S802300
				CONTRACT NO: S802380

**ANNE ARUNDEL COUNTY**  
**DEPARTMENT OF PUBLIC WORKS**  
 PATUXENT WRF REPAIRS  
**INSTALLATION PLAN** S-102  
 EXISTING OXIDATION DITCH



**1 DEMO SECTION**  
 S-101 3/16" = 1'-0"  
 5' 0 5'

SECTION NOTES:  
 1. REFER TO SHEET S-101 FOR EXTENTS OF DEMOLITION.



**2 DEMO SECTION**  
 S-101 3/4" = 1'-0"  
 6' 3' 0 1' 2'

SECTION NOTES:  
 1. REFER TO SHEET S-101 FOR EXTENTS OF DEMOLITION.

**3 DEMO SECTION**  
 S-101 3/4" = 1'-0"  
 6' 3' 0 1' 2'

SECTION NOTES:  
 1. REFER TO SHEET S-101 FOR EXTENTS OF DEMOLITION.

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IN CHARGE OF	L. WOODS
DESIGNED BY	J. WILSON
CHECKED BY	C. LAUTZ
MADE BY	T. HOLLIS

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 Mar-08-2024

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APPROVED	DATE	APPROVED	DATE

**ANNE ARUNDEL COUNTY DEPARTMENT OF PUBLIC WORKS**

PATUXENT WRF REPAIRS

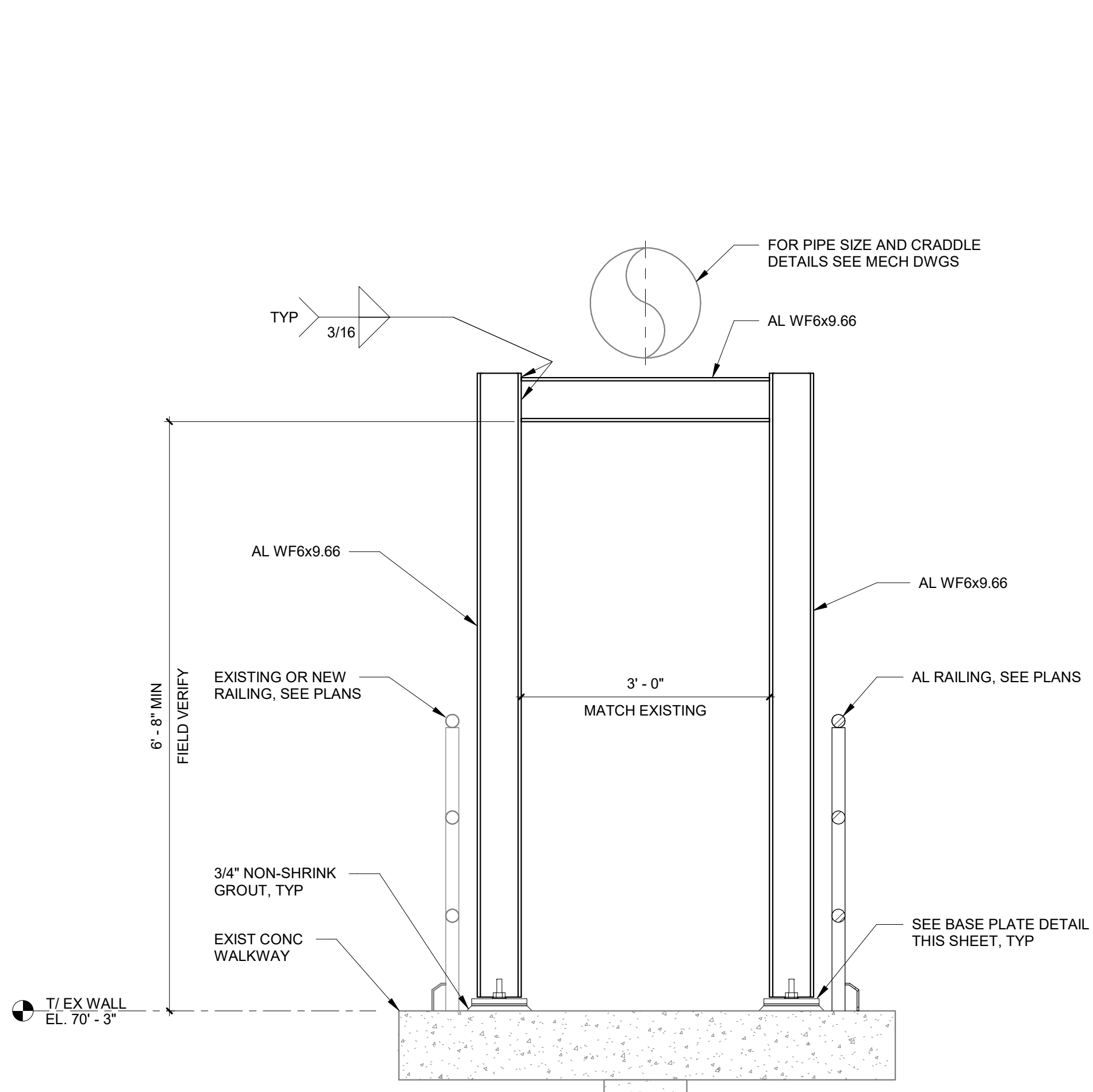
**DEMO SECTIONS AND DETAILS**

EXISTING OXIDATION DITCH

S-301

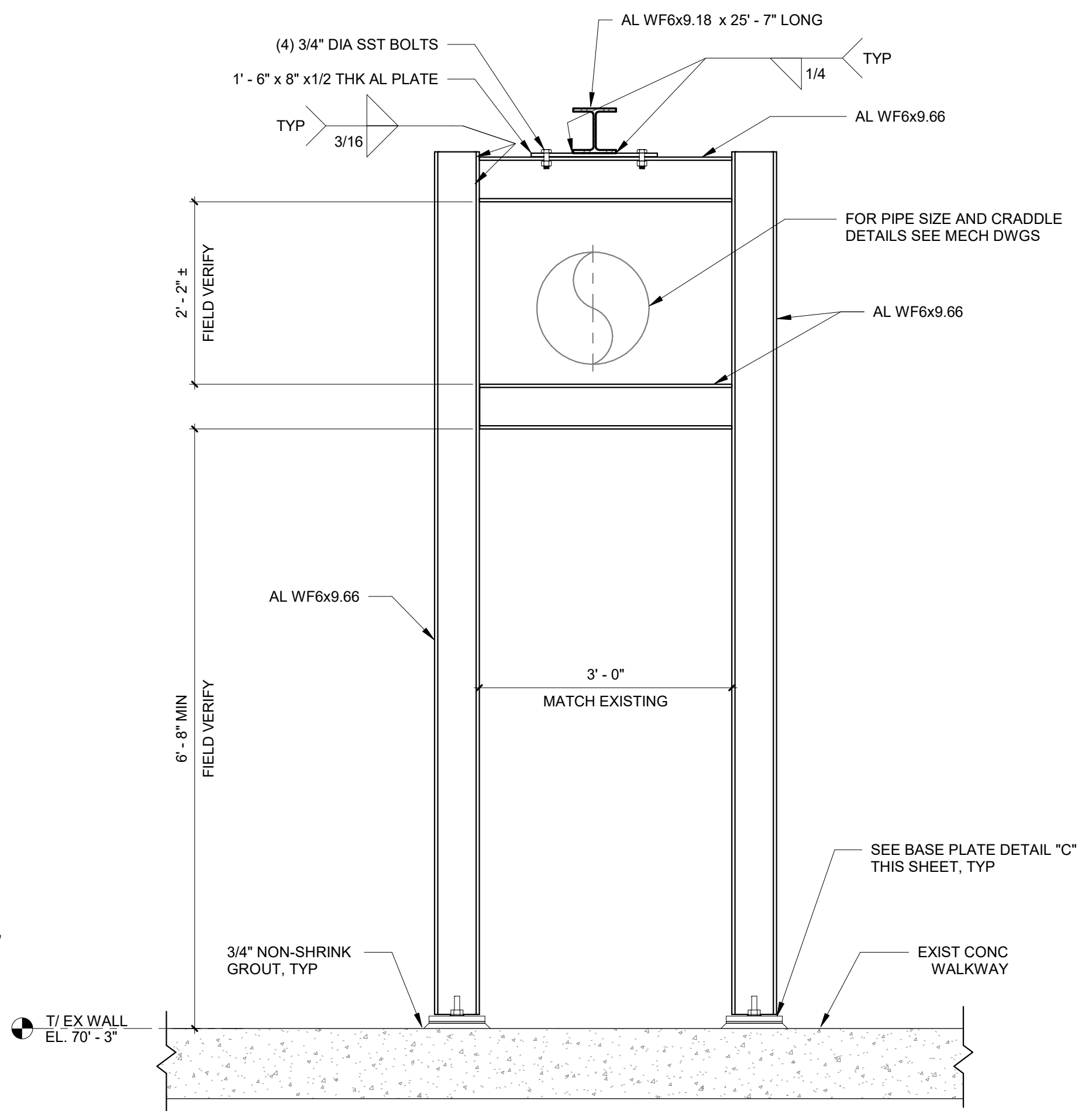
CONTRACT NO. S802380

3/5/2024 1:12:37 PM Autodesk Docs://RUS-1940102857 Patuxent Pipeline repair\_STRUCT.rvt



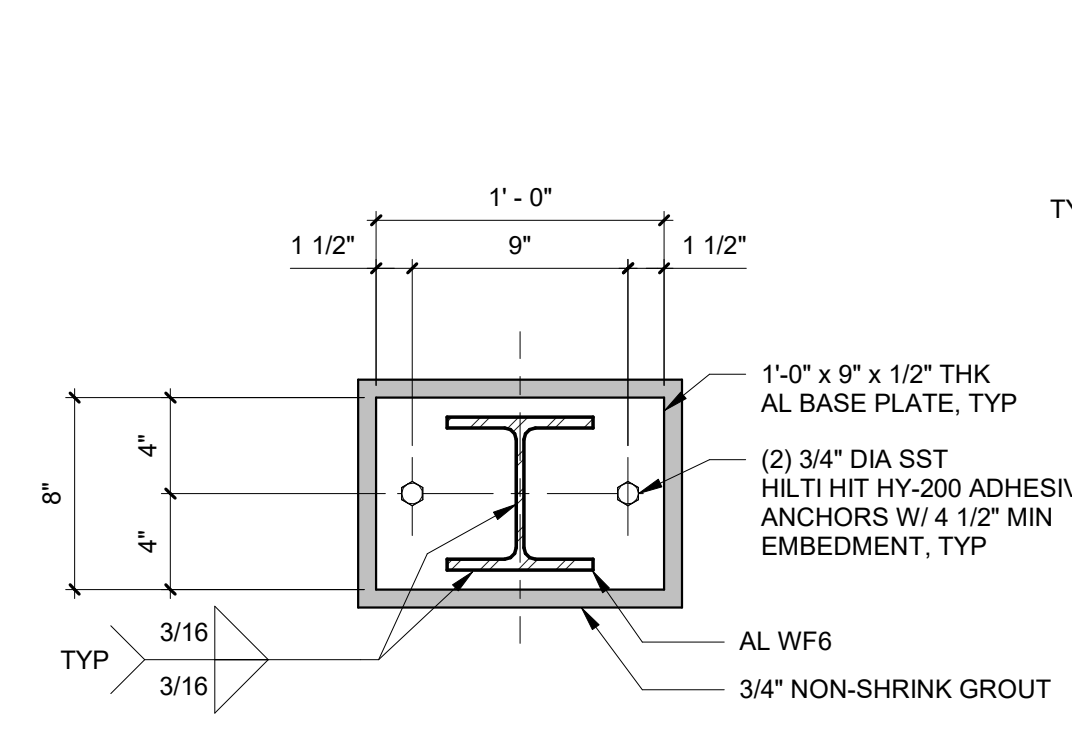
**1 TYPE "A" AL FRAME**  
 S-102 3/4" = 1'-0" 6" 3" 0 1' 2"

- NOTES:**
- COORDINATE EXACT ELEVATION W/ MECH DRAWINGS AND PIPE ATTACHMENT REQUIREMENTS.
  - STRUCTURAL FRAMING AND RAILING SHALL BE ALUMINUM UON.

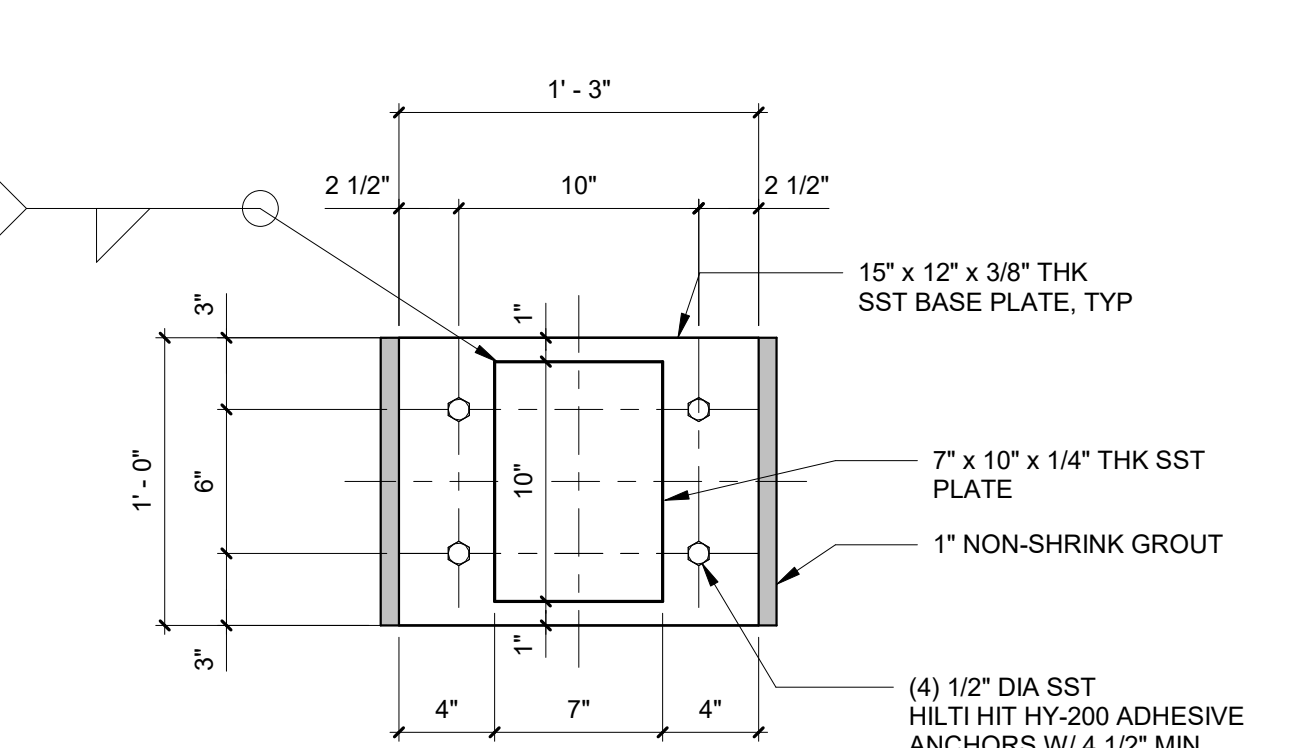


**2 TYPE "B" AL FRAME**  
 S-102 3/4" = 1'-0" 6" 3" 0 1' 2"

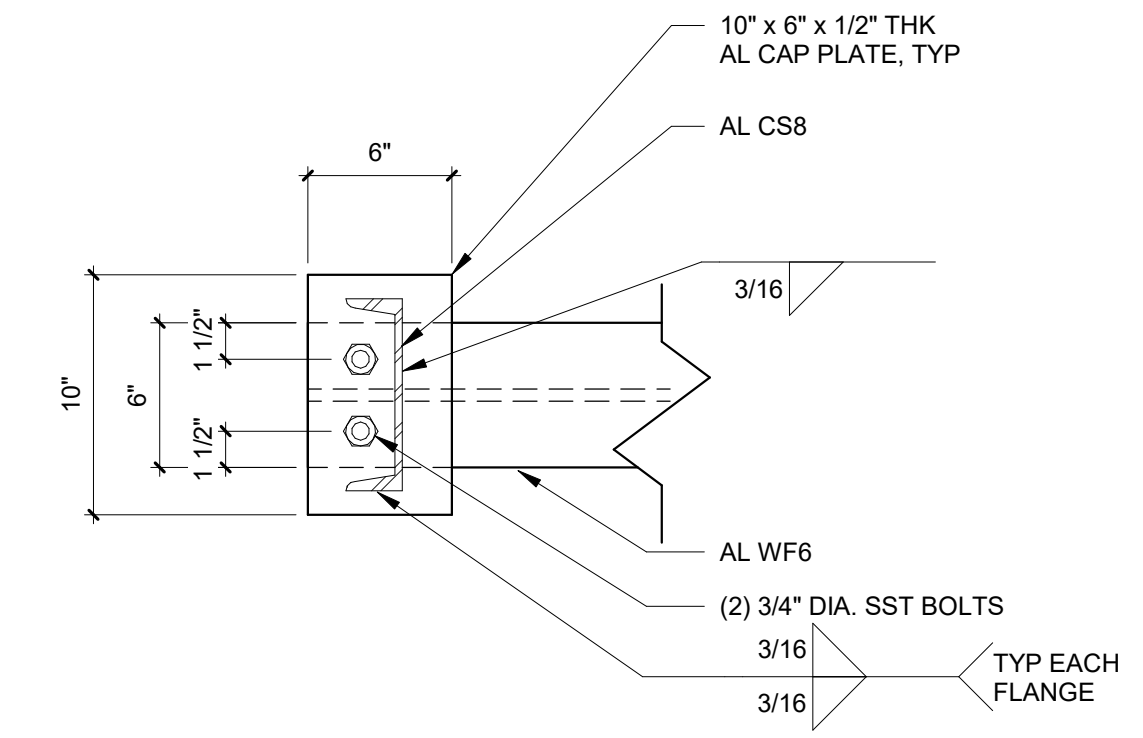
- NOTES:**
- COORDINATE EXACT ELEVATION W/ MECH DRAWINGS AND PIPE ATTACHMENT REQUIREMENTS.
  - STRUCTURAL FRAMING AND RAILING SHALL BE ALUMINUM UON.



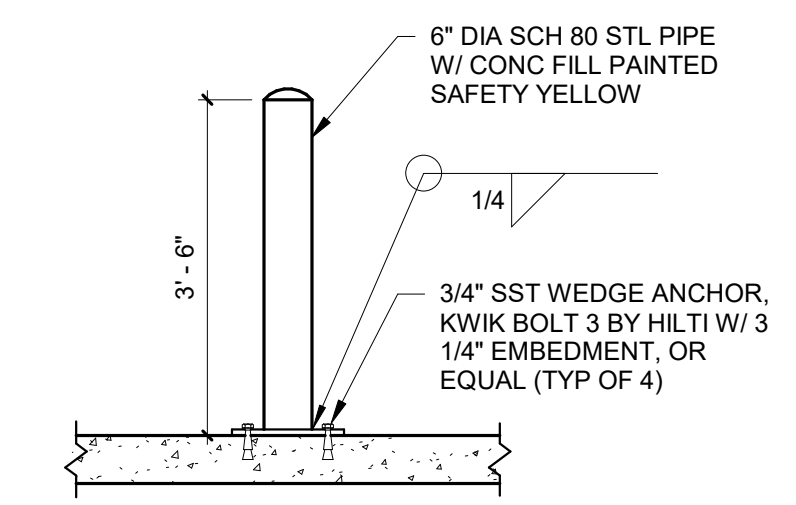
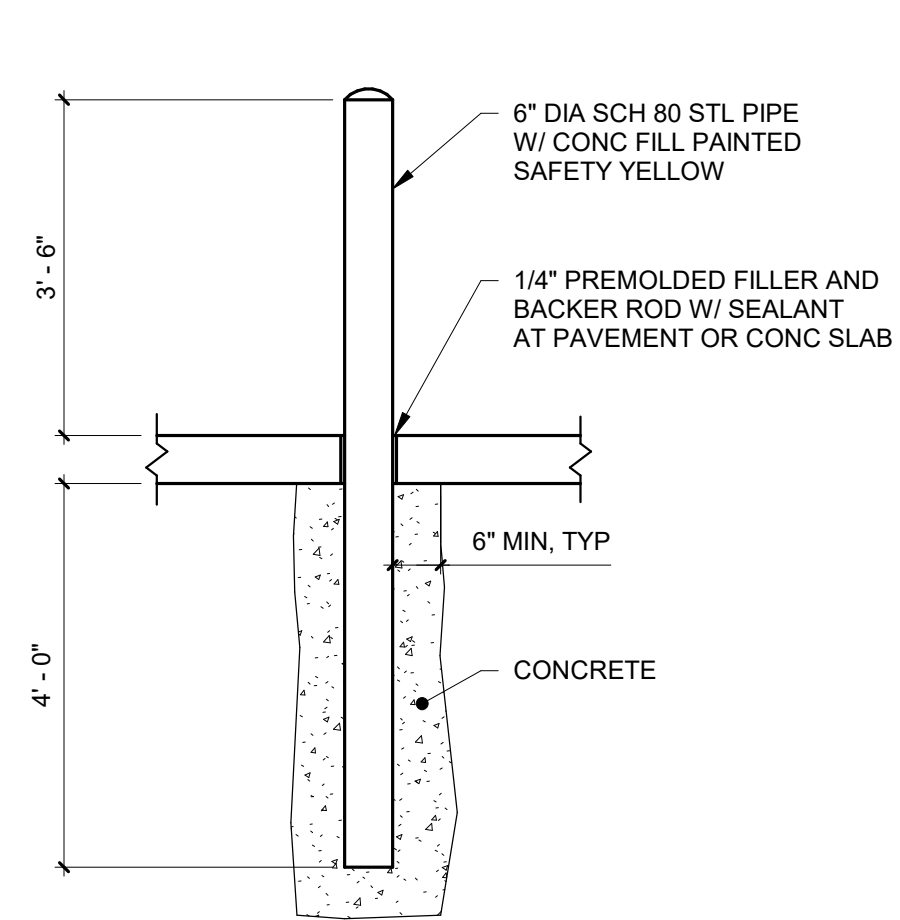
**BASE PLATE DETAIL "C"**  
 1 1/2" = 1'-0" 4" 2" 0 1"



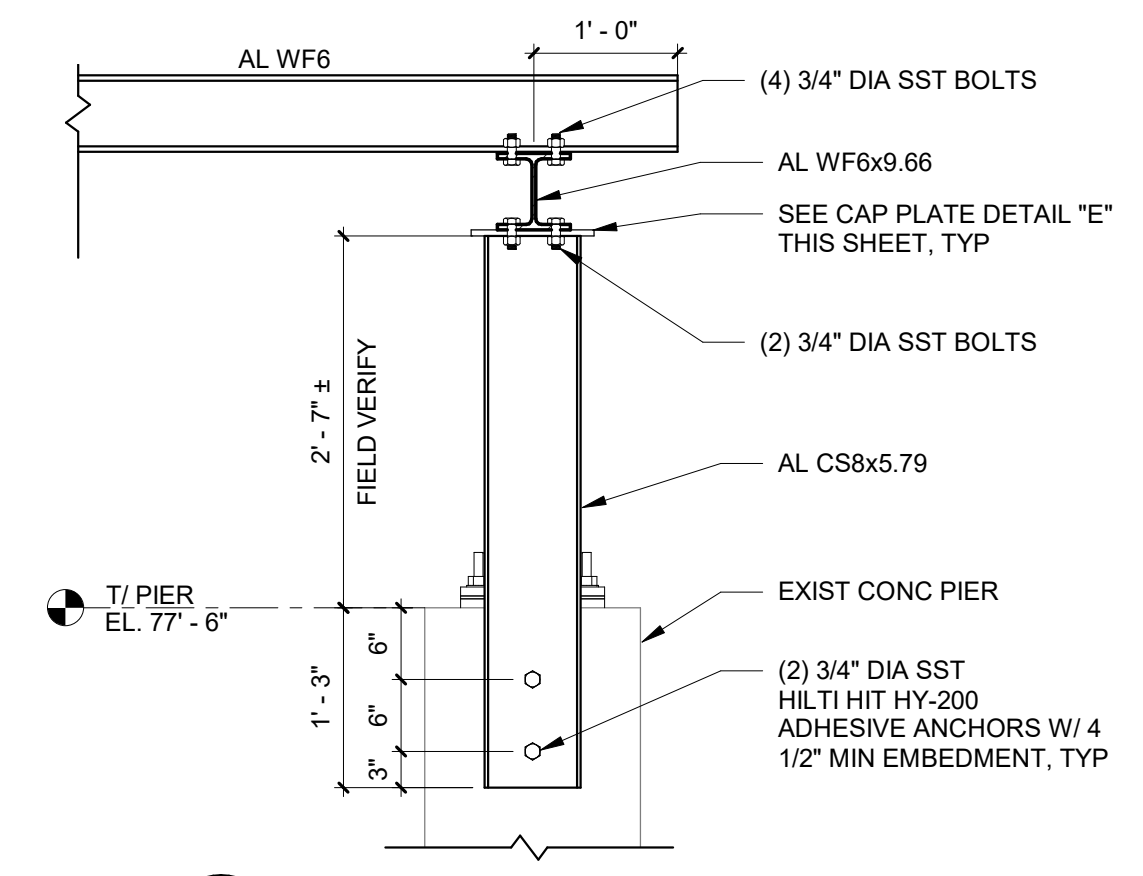
**BASE PLATE DETAIL "D"**  
 1 1/2" = 1'-0" 4" 2" 0 1"



**CAP PLATE DETAIL "E"**  
 1 1/2" = 1'-0" 4" 2" 0 1"



**TYP BOLLARD DETAILS**  
 NOT TO SCALE



**3 SECTION**  
 3/4" = 1'-0" 6" 3" 0 1' 2"

- NOTES:**
- COORDINATE EXACT ELEVATION W/ MECH DRAWINGS AND PIPE ATTACHMENT REQUIREMENTS.
  - STRUCTURAL FRAMING AND RAILING SHALL BE ALUMINUM UON.

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IN CHARGE OF	L. WOODS
DESIGNED BY	J. WILSON
CHECKED BY	C. LAUTZ
MADE BY	T. HOLLIS

**RAMBOLL AMERICAS ENGINEERING SOLUTIONS, INC.**  
 301-731-5622  
 16701 MELFORD BLVD  
 STE 400  
 BOWIE, MD 20715

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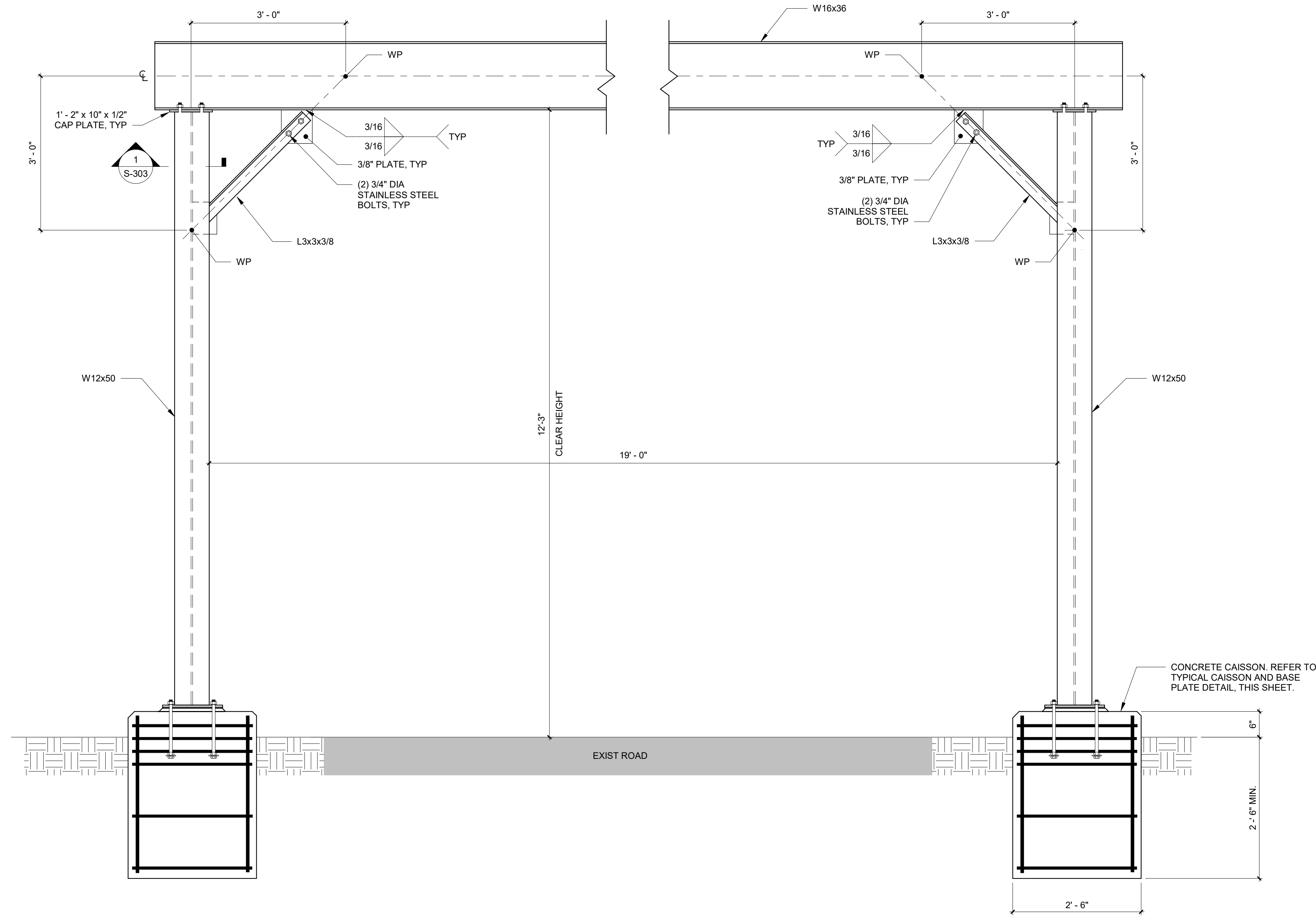
Ma-08-2024

NO.	DATE	DESCRIPTION	BY
0	03/06/24	ISSUED FOR BID	LWW

APPROVED		DATE	APPROVED		DATE
CHIEF ENGINEER			PROJECT MANAGER		
APPROVED			APPROVED		
ASSISTANT CHIEF ENGINEER			CHIEF, RIGHT OF WAY SERVICES		

**ANNE ARUNDEL COUNTY DEPARTMENT OF PUBLIC WORKS**

PATUXENT WRF REPAIRS	
<b>SECTIONS AND DETAILS</b>	<b>S-302</b>
EXISTING OXIDATION DITCH	

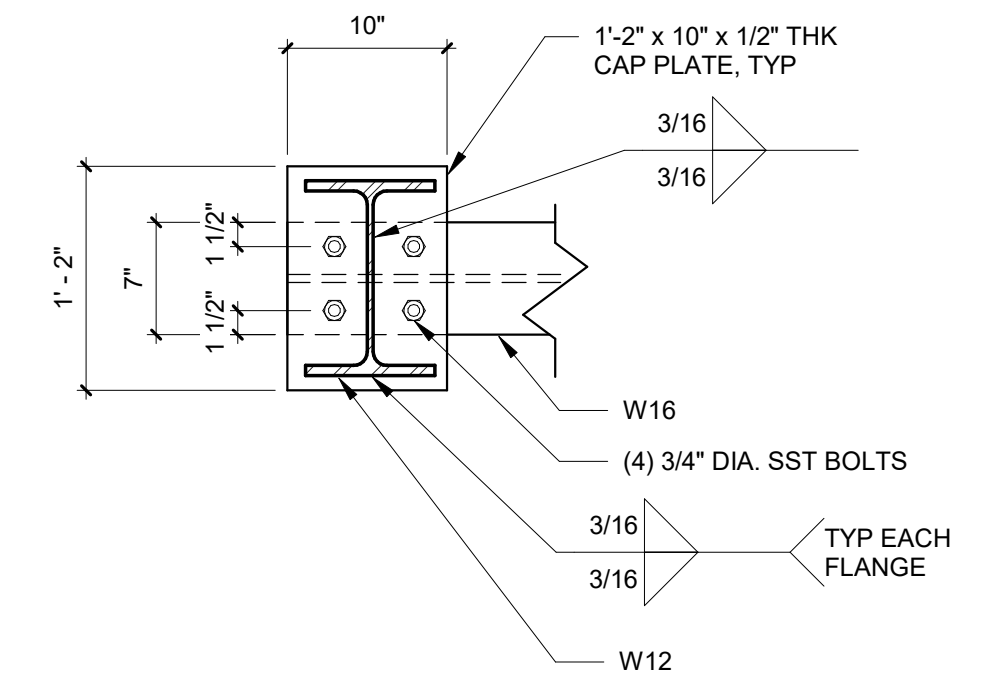


### AIR PIPING PROTECTION FRAME

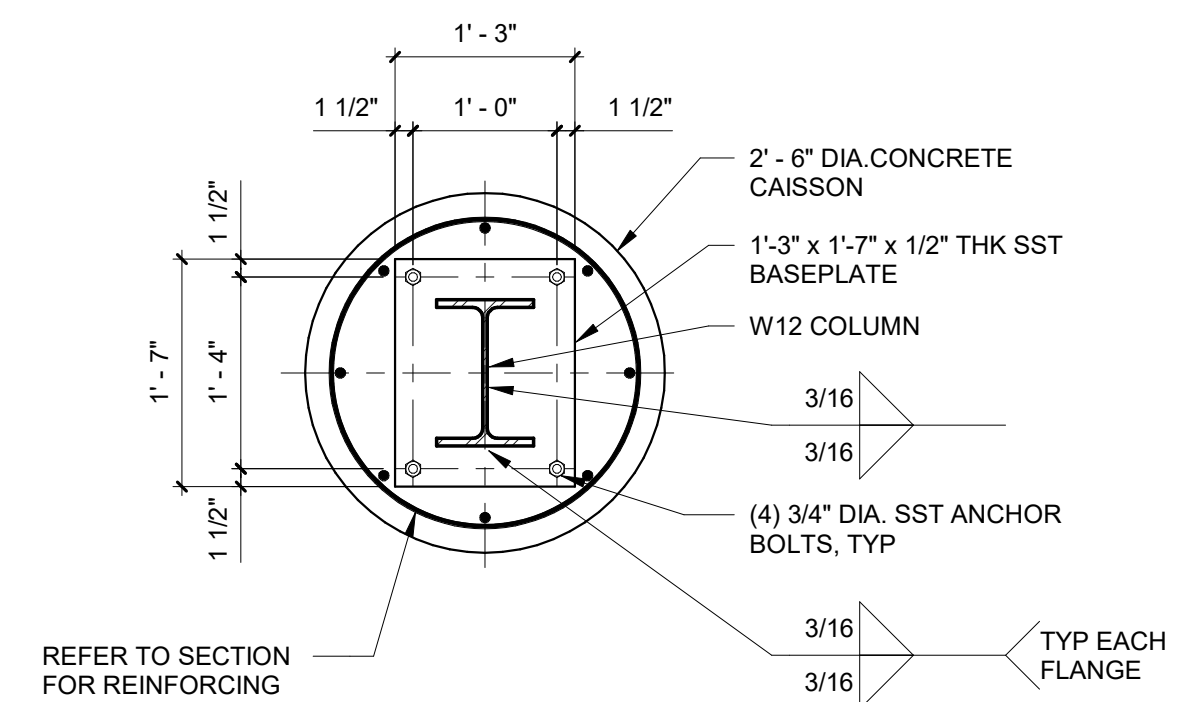
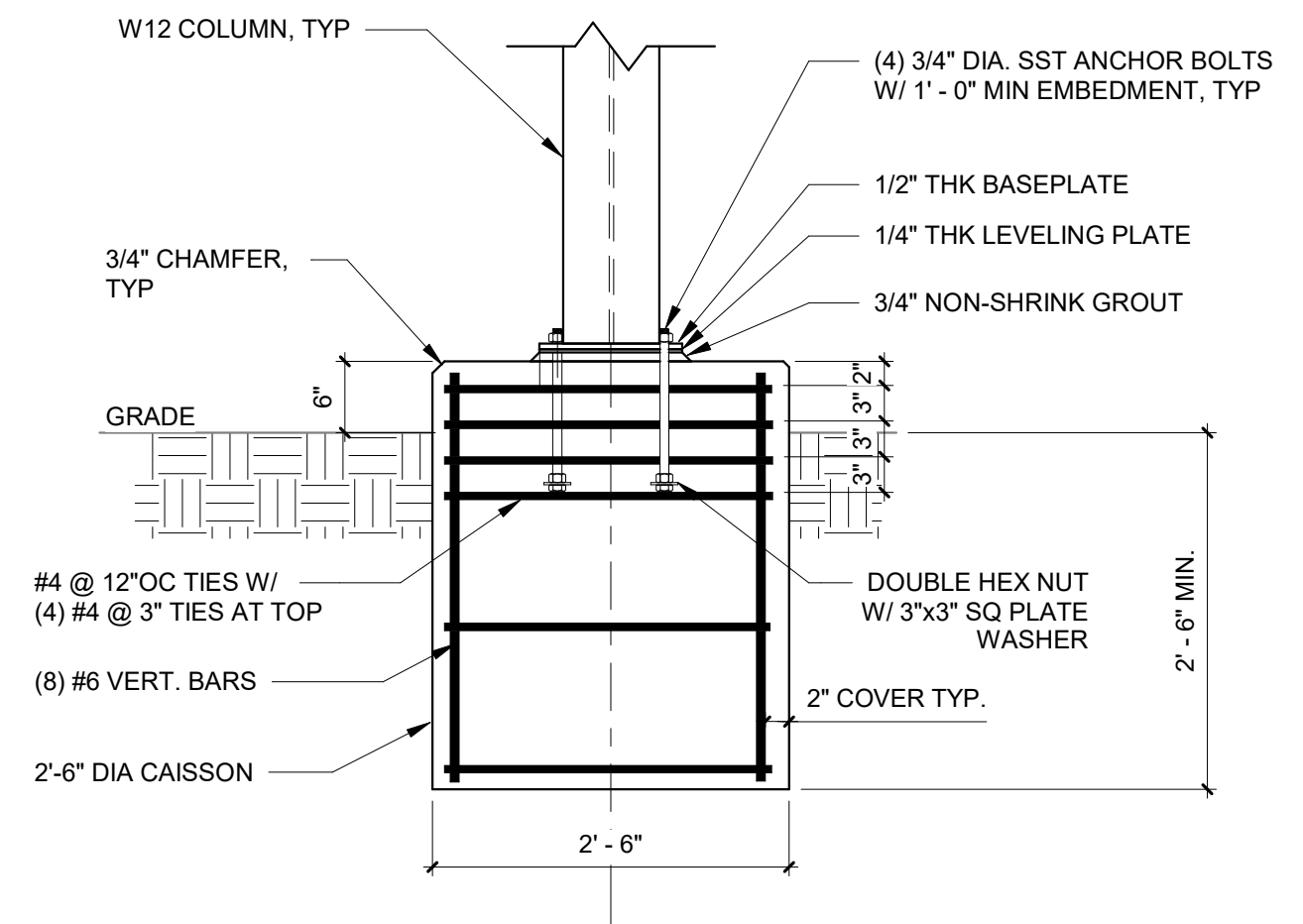


**NOTES:**

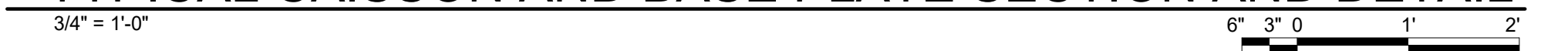
1. FIELD VERIFY GRADE ELEVATION.
2. TWO (2) PROTECTION FRAMES AND FOUNDATIONS REQUIRED. COORDINATE FINAL LOCATIONS OF PROTECTION FRAMES WITH THE OWNER PRIOR TO FABRICATION AND INSTALLATION.
3. STRUCTURAL FRAMING AND PLATES SHALL BE HOT-DIP GALVANIZED AND SHALL BE GIVEN A MINIMUM OF 2.0 OZ./SQ. FT. COATING IN ACCORDANCE WITH ASTM A123.
4. GALVANIZED SURFACES DAMAGED BY WELDING OR OTHER WORK SHALL BE COATED WITH ZINC RICH PAINT.



**1 SECTION**  
1" = 1'-0"  
1' 6" 0 1'



### TYPICAL CAISSON AND BASE PLATE SECTION AND DETAIL



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DESIGNED BY	J. WILSON
CHECKED BY	C. LAUTZ
MADE BY	T. HOLLIS

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APPROVED	DATE	APPROVED	DATE	SCALE
CHEF ENGINEER		PROJECT MANAGER		AS INDICATED
APPROVED		APPROVED		DRAWN BY: J. WILSON
ASSISTANT CHIEF ENGINEER		CHEF, RIGHT OF WAY SERVICES		CHECKED BY: C. LAUTZ

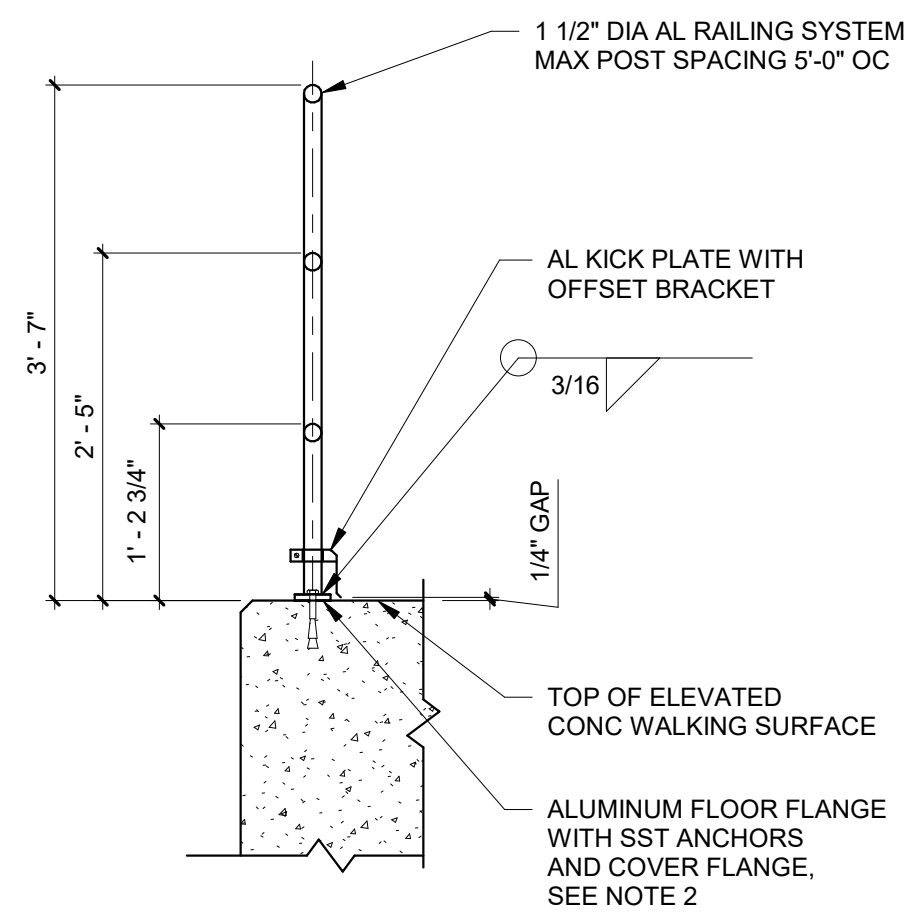
### ANNE ARUNDEL COUNTY DEPARTMENT OF PUBLIC WORKS

PATUXENT WRF REPAIRS

### SECTIONS AND DETAILS

S-303

EXISTING OXIDATION DITCH

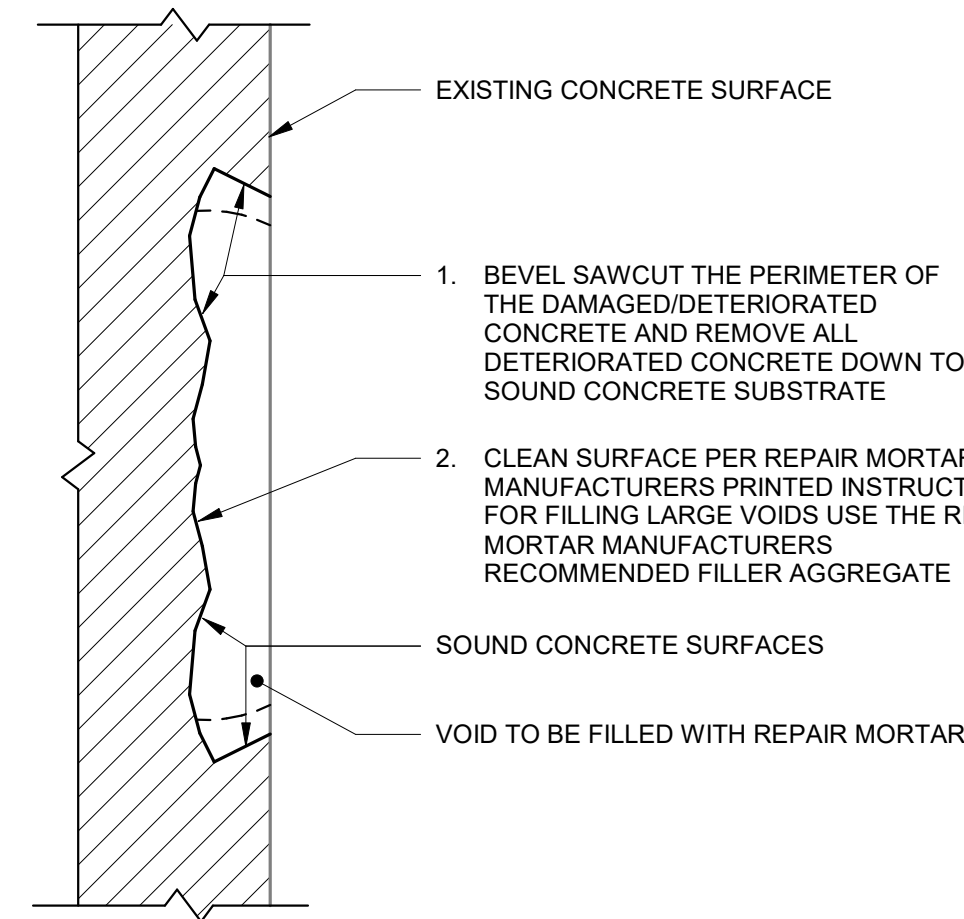


### FIXED ALUMINUM RAILING DETAIL AT CONCRETE WALKWAY

NOT TO SCALE

**DETAIL NOTES:**

1. PAINT ALUMINUM SURFACES THAT WILL BE IN CONTACT WITH HYDRAULIC CEMENT USING BITUMINOUS PAINT.
2. ANCHORAGE OF FLOOR FLANGE BY RAILING MANUFACTURER.

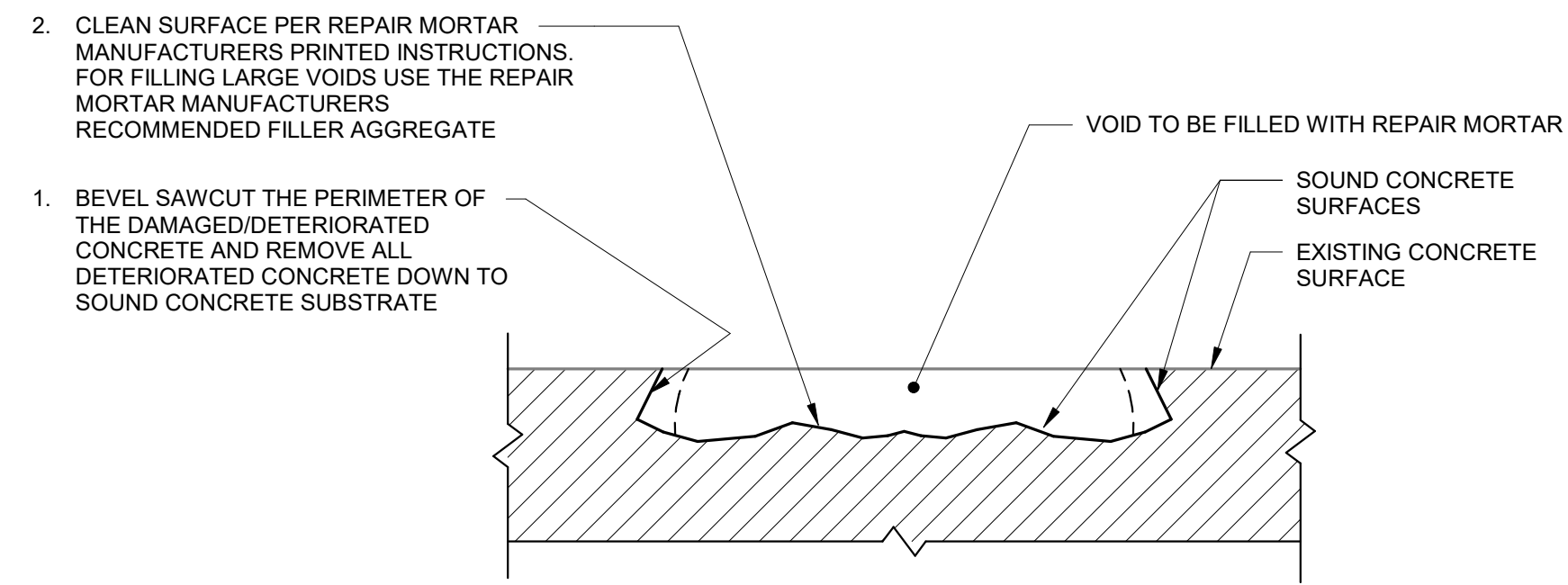


### CONCRETE WALL SURFACE REPAIR DETAIL

NOT TO SCALE

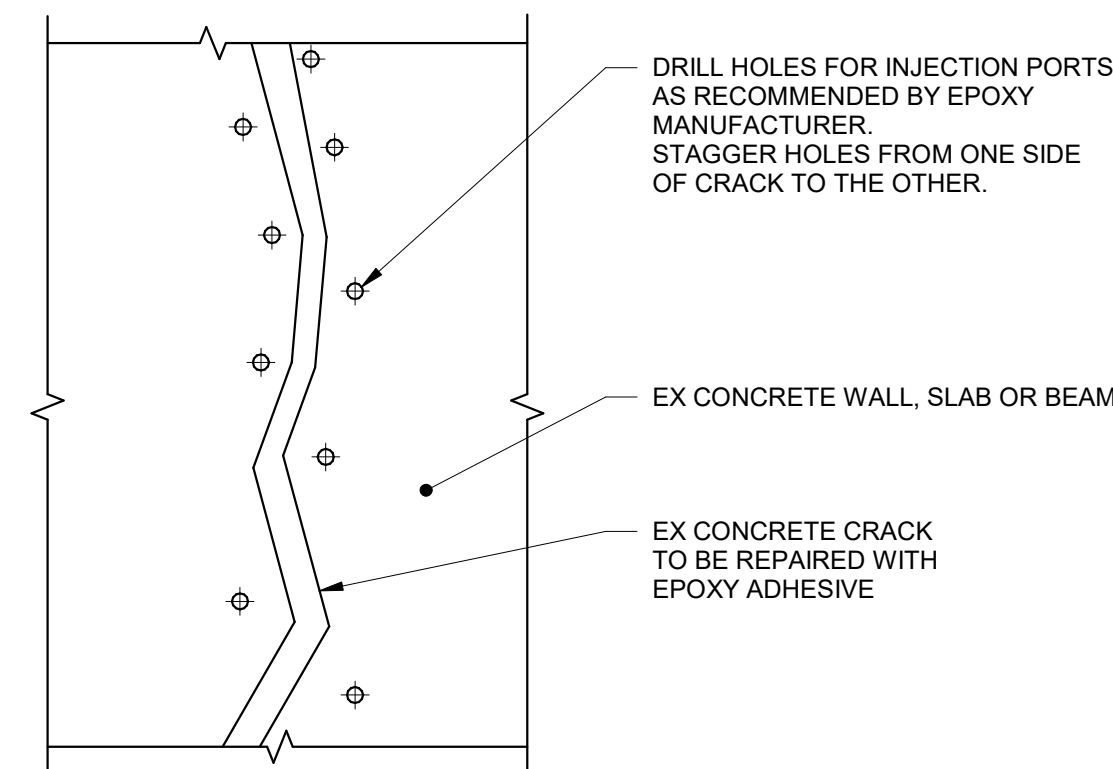
**DETAIL NOTES:**

1. REPAIR CONCRETE SPALLING, CRACKING, DELAMINATION AND DEFECTS INCLUDING VOIDS GREATER THAN 1/4" IN ANY DIMENSION, HONEYCOMBING, ROCK POCKETS, HOLES LEFT BY TIES ROD AND OTHER DAMAGE IDENTIFIED BY THE OWNER'S REPRESENTATIVE.
2. OUTLINE WITH MARKING PAINT THE EXACT EXTENT OF CONCRETE AREAS TO BE REPAIRED IN COORDINATION WITH THE OWNER'S REPRESENTATIVE. SOUND CONCRETE WITH A HAMMER TO DETERMINE THE EXTENT OF LOOSE OR DELAMINATE CONCRETE.
3. USING A MINIMUM NUMBER OF STRAIGHT LINE, LAYOUT AND MARK THE SAW-CUT LOCATIONS AROUND THE REPAIR AREA. SAW-CUT MIN 1" DEEP AROUND REPAIR AREA AT SLIGHT BEVEL IN ORDER TO KEY THE REPAIR AREA INTO THE EXISTING CONCRETE.
4. REMOVE ALL UNSOUND CONCRETE, AGGREGATES, CEMENT PASTE, DIRT, OIL, GREASE, FUNGUS, MILDEW, PAINT, PREVIOUS COATINGS, FORM RELEASE, CURING AGENTS AND OTHER FOREIGN MATERIALS.
5. AT ALL EXPOSED REINFORCING BARS, CHIP OUT CONCRETE TO CREATE A MINIMUM 3/4" SPACE BEHIND THE BAR.
6. REVIEW EACH REPAIR AREA WITH OWNER'S REPRESENTATIVE. TALLY QUANTITIES TO THE NEAREST 0.1 SQUARE FOOT.
7. SAND BLAST EXPOSED REINFORCING BARS TO COMPLY WITH SSPC SP-6/NACE NO. 3 "COMMERCIAL BLAST CLEANING." IF REINFORCING STEEL HAS LOST MORE THAN 25% OF CROSS SECTIONAL AREA (REFER TO STEEL REINFORCEMENT SECTION LOSS TABLE), THE REINFORCEMENT SHALL BE CUT AT THE EXTENTS OF THE SECTION LOSS, REMOVED FROM THE STRUCTURE AND A MATCHING BAR SHALL BE INSTALLED USING LENTON LOCK B-SERIES MECHANICAL REBAR COUPLERS AT EACH END. THE ERICO LENTON LOCK COUPLERS SHALL BE INSTALLED ACCORDING TO MANUFACTURER INSTRUCTIONS.
8. SAND BLAST EXPOSED SURFACE OF CONCRETE. INSPECT CLEANER CONCRETE AND REMOVE LOOSE UNBONDED AGGREGATE. VACUUM REPAIR AREA TO REMOVE REMAINING LOOSE DEBRIS.
9. WET THE CONCRETE SUBSTRATE WITH CLEAN WATER FOR 24 HOURS TO ACHIEVE A SATURATED SURFACE DRIED CONDITION, WITH NO STANDING WATER.
10. INSTALL SIKATOP-111 PLUS REPAIR MORTAR EXTENDED WITH 3/8" AGGREGATE. AGGREGATE SHALL BE NON-REACTIVE (PER ASTM C1260, C227 AND C289), CLEAN, WELL-GRADED, SATURATED SURFACE DRY, LOW ABSORPTION, HIGH DENSITY AND COMPLY WITH ASTM C33 SIZE NO. 8. REPAIR MORTAR SHALL BE MIXED, INSTALLED, FINISHED AND CURED IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.
11. APPLY CURING SYSTEM IMMEDIATELY AFTER FINISHING PATCH SURFACE CURING SYSTEM SHALL BE TWO OR MORE COATS OF LIQUID MEMBRANE-FORMING CURING COMPOUND.



### CONCRETE SLAB SURFACE REPAIR DETAIL

NOT TO SCALE

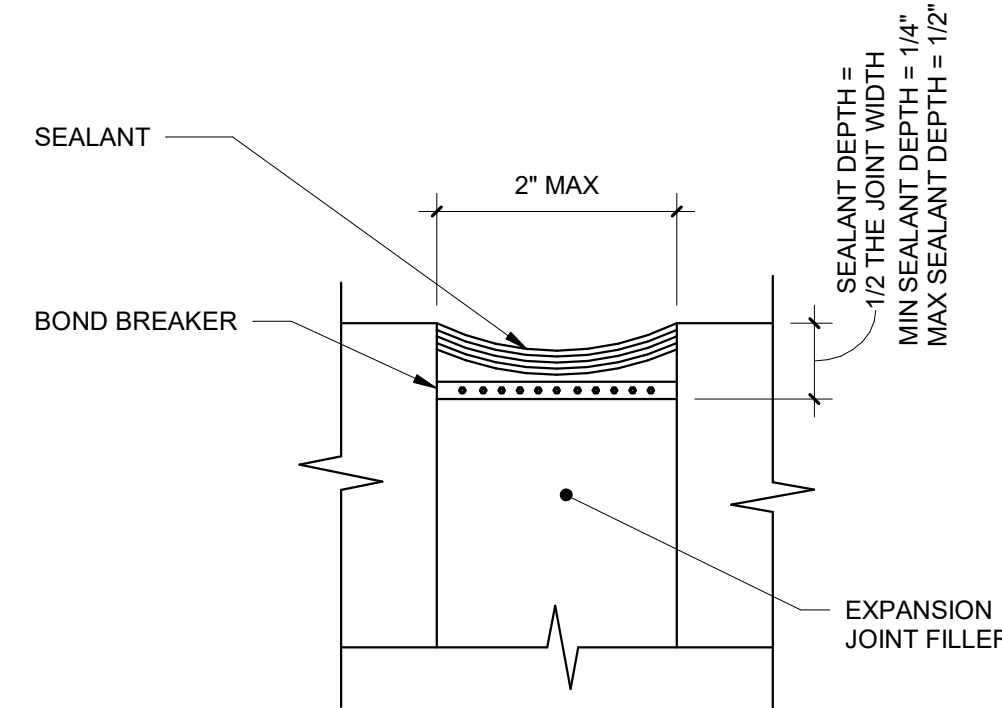


### CONCRETE CRACK REPAIR DETAIL

NOT TO SCALE

**DETAIL NOTES:**

1. REPAIR CONCRETE CRACKS GREATER THAN 1/16" WIDE AND OTHER DAMAGE IDENTIFIED BY THE OWNER'S REPRESENTATIVE.
2. CRACK REPAIR SHALL COMPLY WITH THE MANUFACTURER'S WRITTEN INSTRUCTIONS, CONCRETE CRACK REPAIR DETAIL AND CONCRETE REHABILITATION SPECIFICATION (03930).
3. DRILL HOLES FOR INJECTORS AT 45 DEGREE ANGLE TO CRACK SO THAT HOLES INTERSECT CRACK.
4. CLEAN DEBRIS FROM CRACK SURFACE
5. INSTALL INJECTORS IN HOLES.
6. FLUSH CRACKS WITH CLEAN WATER.
7. INJECT EPOXY ADHESIVE INTO CRACKS.
8. REMOVE INJECTORS.
9. FILL INJECTOR HOLES WITH NON SHRINK GROUT.
10. GRIND SURFACE SO THAT AREA IS SMOOTH AND MATCHES ADJACENT AREA.



### JOINT SEAL DETAIL

NOT TO SCALE

**DETAIL NOTES:**

1. USE THIS DETAIL AT ALL EXPANSION JOINT LOCATIONS.
2. SEAL JOINTS USING SIKAFLEX-1A, OR EQUAL (1 COMPONENT POLYURETHANE SEALANT). SEALANT SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURERS WRITTEN INSTRUCTIONS.
3. AT SEALED JOINTS BELOW GRADE, COVER JOINTS WITH 1/4" x 12" ASPHALT IMPREGNATED FIBER BOARD.

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DESIGNED BY	J. WILSON
CHECKED BY	C. LAUTZ
MADE BY	T. HOLLIS

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301-731-5622  
16701 MELFORD BLVD  
STE 400  
BOWIE, MD 20715

PROFESSIONAL  
CERTIFICATION:  
I HEREBY CERTIFY THAT  
THESE DOCUMENTS  
WERE PREPARED OR  
APPROVED BY ME, AND  
THAT I AM A DULY  
LICENSED PROFESSIONAL  
ENGINEER UNDER THE  
LAWS OF THE STATE OF  
MARYLAND, LICENSE NO.  
44463 EXPIRATION DATE  
10/10/2025

Mar-08-2024

NO.	DATE	DESCRIPTION	LWW BY
0	03/06/24	ISSUED FOR BID	LWW

APPROVED		DATE	APPROVED		DATE	SCALE: AS INDICATED
CHEF ENGINEER			PROJECT MANAGER			DRAWN BY: T. HOLLIS
APPROVED			APPROVED			CHECKED BY: C. LAUTZ
ASSISTANT CHIEF ENGINEER			CHEF, RIGHT OF WAY SERVICES			SHEET NO. 8 OF 13
						PROJECT NO: S802300
						CONTRACT NO: S802380

### ANNE ARUNDEL COUNTY DEPARTMENT OF PUBLIC WORKS

PATUXENT WRF REPAIRS	
<b>TYPICAL DETAILS</b>	<b>S-501</b>
EXISTING OXIDATION DITCH	



**PIPING AND FITTINGS**

	PIPING
	FLEXIBLE PIPING
	FLANGED JOINT
	WELDED JOINT
	MECHANICAL JOINT
	SOLID SLEEVE-TYPE MECHANICAL COUPLING
	ARCHED BAND EXPANSION COUPLING
	RUBBER EXPANSION COUPLING
	ELBOW UP
	ELBOW DOWN
	90-DEG ELBOW
	45-DEG ELBOW
	TEE UP
	TEE DOWN
	TEE
	CROSS
	CONCENTRIC REDUCER
	FLxFL WALL SLEEVE
	MXFL WALL SLEEVE
	PIPE SLEEVE W/ LINK SEAL

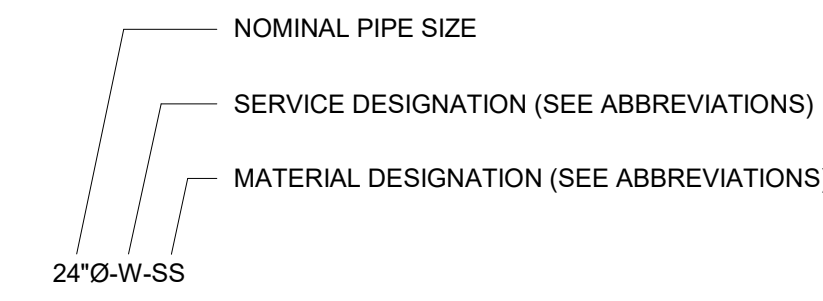
**VALVES AND GATES**

IN ELEVATION	IN PLAN	
		BUTTERFLY VALVE
		CHECK VALVE
		BALL VALVE
		GLOBE VALVE
		GATE VALVE
		PINCH VALVE
		PLUG VALVE
		KNIFE GATE VALVE
		SLUICE GATE
		WEIR GATE
		MOTOR OPERATOR

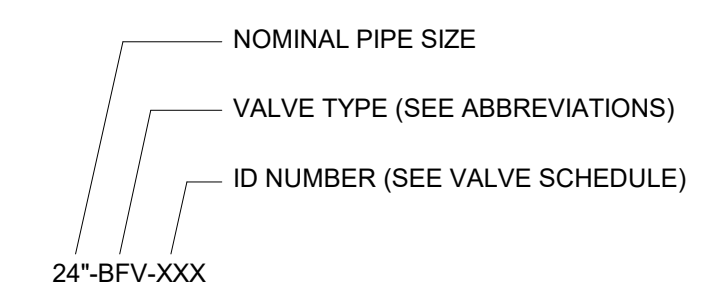
**MECHANICAL ABBREVIATIONS**

PIPING SERVICE IDENTIFICATION	
BBG	BIO-GAS
CA	COMPRESSED AIR
DW	DRAINWASTE
DCW	DOMESTIC COLD WATER
DGS	DIGESTED SLUDGE
EFF	PLANT EFFLUENT
HPA	HIGH PRESSURE AIR
HW	HOT WATER, POTABLE
INF	PLANT INFLUENT
LPA	LOW PRESSURE AIR
NPW	NON-POTABLE WATER
PA	PLANT AIR
PFL	PRIMARY SLUDGE
PW	PLANT WATER
RAS	RETURNED ACTIVATED SLUDGE
RW	RAW WATER
SAN	SANITARY SEWER
SAW	SAMPLE WATER
SCM	SCUM
SL	SLUDGE
SSL	SECONDARY SLUDGE
ST	STORM SEWER
SW	SETTLED WATER
THS	THICKENED SLUDGE
TW	TEMPERED WATER
V	VENT
WAS	WASTE ACTIVATED SLUDGE
WW	WASTE WATER
<b>VALVES</b>	
AVV	AIR/VACUUM VALVE
ARV	AIR RELEASE VALVE
BV	BALL VALVE
BFV	BUTTERFLY VALVE
CV	CHECK VALVE
GV	GATE VALVE
PRV	PRESSURE REGULATING VALVE
PRLV	PRESSURE RELIEF VALVE
PLV	PLUG VALVE
RPZ	REDUCED PRESSURE ZONE/BACKFLOW PREVENTOR
<b>MISCELLANEOUS</b>	
ALUM	ALUMINUM
BI	BOTTOM OF
CI	CAST IRON
CONC.	CONCRETE OR CONCENTRIC
CONN.	CONNECTION
CORP.	CORPORATION STOP
CL	CENTERLINE
CS	CARBON STEEL
DI	DUCTILE IRON
DN	DOWN
ECC.	ECCENTRIC
EL	ELEVATION
ELEC.	ELECTRIC OR ELECTRICAL
EXIST.	EXISTING
FLEX	FLEXIBLE
FLG.	FLANGED
FRP	FIBERGLASS REINFORCED PLASTIC
FOB	FLAT ON BOTTOM
FOT	FLAT ON TOP
GALV.	GALVANIZED
HP	HIGH POINT
ID	INTERNAL DIAMETER
INV.	INVERT
LP	LOW POINT
LR	LONG RADIUS
MAG	MAGNETIC
MH	STORM MANHOLE
MJ	MECHANICAL JOINT
NC	NORMALLY CLOSED
NO	NORMALLY OPEN
NTS	NOT TO SCALE
OIF	OVERFLOW
PE	PLAIN END
PO	PUSH ON
PVC	POLYVINYL CHLORIDE
RAS	RETURN ACTIVATED SLUDGE
RECT	RECTANGULAR
RED.	REDUCING OR REDUCER
RJ	RESTRAINED JOINT
SCH	SCHEDULE
SG	SLUICE GATE OR SLIDE GATE
SS	STAINLESS STEEL (PIPING)
ST. STL.	STAINLESS STEEL (OTHER THAN PIPING)
SMH	SANITARY MANHOLE
TYP.	TYPICAL
T/	TOP OF
T-O-L	THREAD-O-LET
TURB.	TURBIDITY
VFD	VARIABLE FREQUENCY DRIVE
W/	WITH
W-O-L	WELD-O-LET

**TYPICAL PIPING IDENTIFICATION**



**TYPICAL VALVE IDENTIFICATION**



**GENERAL MECHANICAL NOTES (APPLY TO ALL MECHANICAL DRAWINGS)**

- REFER TO TECHNICAL SPECIFICATIONS FOR MATERIALS AND INSTALLATION REQUIREMENTS.
- FLEXIBLE COUPLINGS SHOWN ON THE CONTRACT DRAWINGS ARE REQUIRED FOR REMOVAL OF EQUIPMENT AND PIPING BY THE OWNER AFTER COMPLETION OF THE WORK. ADDITIONAL COUPLINGS MAY BE REQUIRED TO FACILITATE INSTALLATION BY THE CONTRACTOR - NO ADDITIONAL PAYMENT WILL BE MADE THEREFOR.
- PROVIDE HARNESSING FOR ALL FLEXIBLE COUPLINGS INSTALLED INSIDE STRUCTURES, UNLESS OTHERWISE INDICATED.
- IN GENERAL, SMALL DIAMETER PIPING (I.E., 2-1/2" AND SMALLER) IS SHOWN FOR GENERAL LAYOUT PURPOSES ONLY, AND IS NOT INTENDED TO SHOW EXACT ALIGNMENT, NUMBER OF FITTINGS, VALVES AND APPURTENANCES. ALL PIPING, FITTINGS AND APPURTENANCES SHALL BE PROVIDED AS SPECIFIED ON THE INSTRUMENTATION DRAWINGS OR SHOWN IN APPLICABLE SCHEMATIC DIAGRAMS, AND AS REQUIRED FOR A COMPLETE INSTALLATION. ACTUAL PIPE ROUTING SHALL BE DETERMINED BY THE CONTRACTOR SUBJECT TO REVIEW BY THE ENGINEER, AND SHALL BE COORDINATED TO AVOID CONFLICTS WITH EXISTING AND NEW WORK OF ELECTRICAL, HVAC AND PLUMBING SYSTEMS, AND SO AS NOT TO INTERFERE WITH ACCESS TO OR OPERATION OF ANY OTHER PIPE, VALVE OR EQUIPMENT. SMALL DIAMETER PIPING SYSTEMS SHALL BE LAID OUT AND INSTALLED IN AN ORGANIZED, NEAT AND WORKMANLIKE MANNER.
- PIPE SIZES SHOWN MAY NOT BE THE SAME AS SIZES OF CONNECTIONS TO THE EQUIPMENT SUPPLIED. PROVIDE ALL NECESSARY REDUCERS, BUSHINGS AND APPURTENANCES REQUIRED TO MAKE EQUIPMENT CONNECTIONS.
- REPAIR INTERIOR AND EXTERIOR PIPE COATINGS DAMAGED DURING INSTALLATION.
- CONTRACTOR SHALL COORDINATE WALL HANGER LOCATIONS, ALLOWABLE LOADS, AND ATTACHMENT METHODS WITH MANUFACTURER OF WALL BRACKET AND OBTAIN APPROVAL OF THE ENGINEER.
- PRIOR TO INSTALLATION, CONTRACTOR SHALL SUBMIT EXPOSED PIPING SUPPORT PLAN TO ENGINEER FOR APPROVAL. REFER TO THE SPECIFICATIONS.
- SEE STRUCTURAL DRAWINGS FOR RELATED REMOVALS AND DEMOLITION TO BE PERFORMED UNDER THIS PROJECT AND COORDINATE DEMOLITION WORK WITH OTHER CONTRACTS.
- PROVIDE NEW GASKETS AND HARDWARE AT ALL CONNECTIONS BETWEEN NEW AND EXISTING PIPING AND AT ALL PIPE JOINTS DISASSEMBLED IN CONNECTION WITH THIS PROJECT.

**GENERAL DEMOLITION NOTES**

- EXISTING DIMENSIONS, ELEVATIONS AND SIZES HAVE BEEN TAKEN FROM THE FOLLOWING DRAWINGS: "PATUXENT WRF EXPANSION - OXIDATION DITCHES OVERALL PLAN SOUTH UPPER LEVEL, SHEET 185 OF 366, ANNE ARUNDEL COUNTY DEPARTMENT OF PUBLIC WORKS BY ATKINS NORTH AMERICA, INC. FEBRUARY 2019 AS-BUILT DRAWINGS" ALL DIMENSIONS, ELEVATIONS AND SIZES ARE TO BE CONSIDERED APPROXIMATE, AND SHALL BE FIELD VERIFIED BY THE CONTRACTOR.
- REMOVE EXISTING PIPE SUPPORTS AND HARDWARE ASSOCIATED WITH DEMOLISHED PIPING. PATCH CONCRETE IN ACCORDANCE WITH STRUCTURAL DETAIL ON S-501.
- UNLESS OTHERWISE NOTED OR SPECIFIED IN THE CONTRACT DOCUMENTS, ALL MATERIALS REMOVED OR DEMOLISHED UNDER THIS PROJECT SHALL BE PROPERLY DISPOSED OF OFF-SITE BY CONTRACTOR, AT A LOCATION PROPERLY LICENSED FOR SUCH DISPOSAL, WHERE SPECIFICALLY NOTED, CERTAIN ITEMS SHALL BE TURNED OVER TO THE OWNER.
- UNLESS OTHERWISE NOTED OR SPECIFIED IN THE CONTRACT DOCUMENTS, EXISTING ITEMS SHALL REMAIN. CONTRACTOR SHALL PROTECT EXISTING ITEMS FROM DAMAGE AND DUST DURING WORK. ANY DAMAGED ITEMS SHALL BE REPAIRED OR REPLACED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.

THIS DRAWING WAS PREPARED AT THE SCALE INDICATED IN THE TITLE BLOCK. INACCURACIES IN THE STATED SCALE MAY BE INTRODUCED WHEN DRAWINGS ARE REPRODUCED BY ANY MEANS. USE THE GRAPHIC SCALE BAR IN THE TITLE BLOCK TO DETERMINE THE ACTUAL SCALE OF THIS DRAWING.

IN CHARGE OF	R. DUDLEY
DESIGNED BY	A. SHUE
CHECKED BY	N. VENKATESAN
MADE BY	T. LARAMAY

**RAMBOLL AMERICAS ENGINEERING SOLUTIONS, INC.**  
 +1 (301) 731-5622  
 16701 MELFORD BLVD, STE 400  
 BOWIE, MD 20715

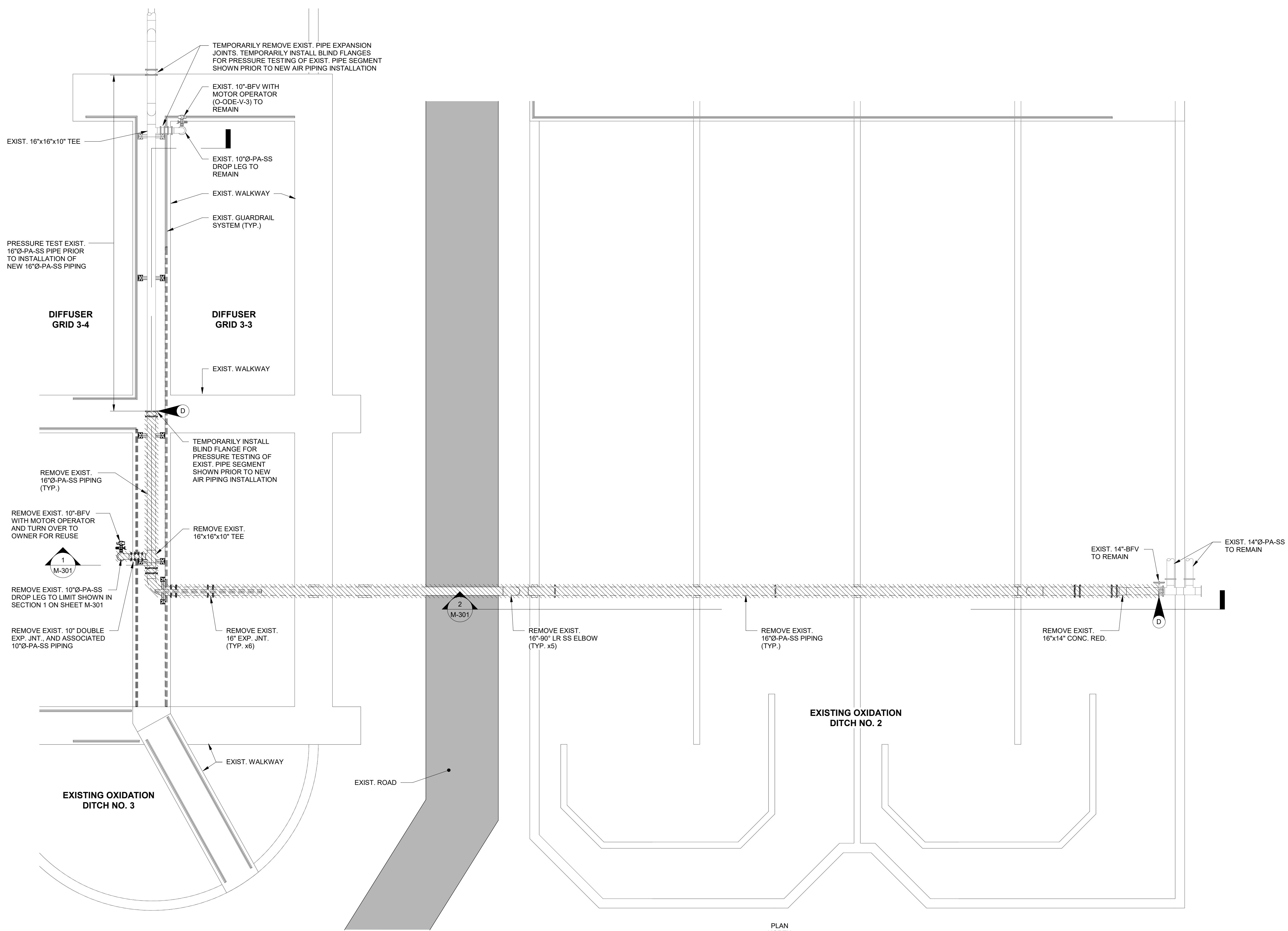
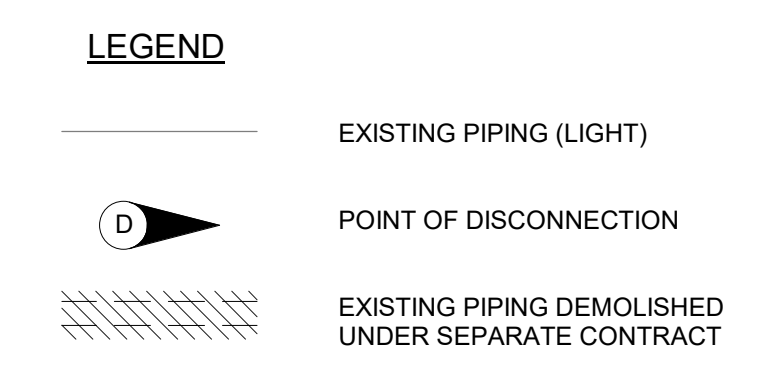


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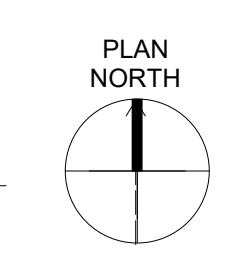


REVISIONS				
NO.	DATE	DESCRIPTION	BY	
0	02/29/24	ISSUED FOR BID	NV	

<b>ANNE ARUNDEL COUNTY</b>				
<b>DEPARTMENT OF PUBLIC WORKS</b>				
APPROVED	DATE	APPROVED	DATE	SCALE: AS INDICATED
CHIEF ENGINEER		PROJECT MANAGER		DRAWN BY: T. LARAMAY
APPROVED		APPROVED		CHECKED BY: N. VENKATESAN
ASSISTANT CHIEF ENGINEER		CHIEF, RIGHT OF WAY SERVICES		SHEET NO: 9 OF 13
				PROJECT NO: S802300
				CONTRACT NO: S802380
<b>ABBREVIATIONS, NOTES &amp; SYMBOLS</b>				<b>M-001</b>
EXISTING OXIDATION DITCH				



**PLATFORM / WALKWAY PLAN**  
1/8" = 1'-0"



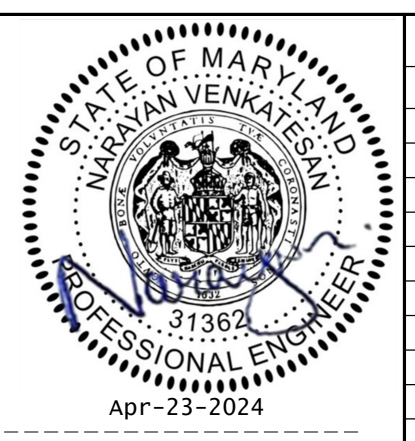
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IN CHARGE OF	R. DUDLEY
DESIGNED BY	A. SHUE
CHECKED BY	N. VENKATESAN
MADE BY	T. LARAMAY

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+1 (301) 731-5622  
16701 MELFORD BLVD, STE 400  
BOWIE, MD 20715



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NO.	DATE	DESCRIPTION	BY
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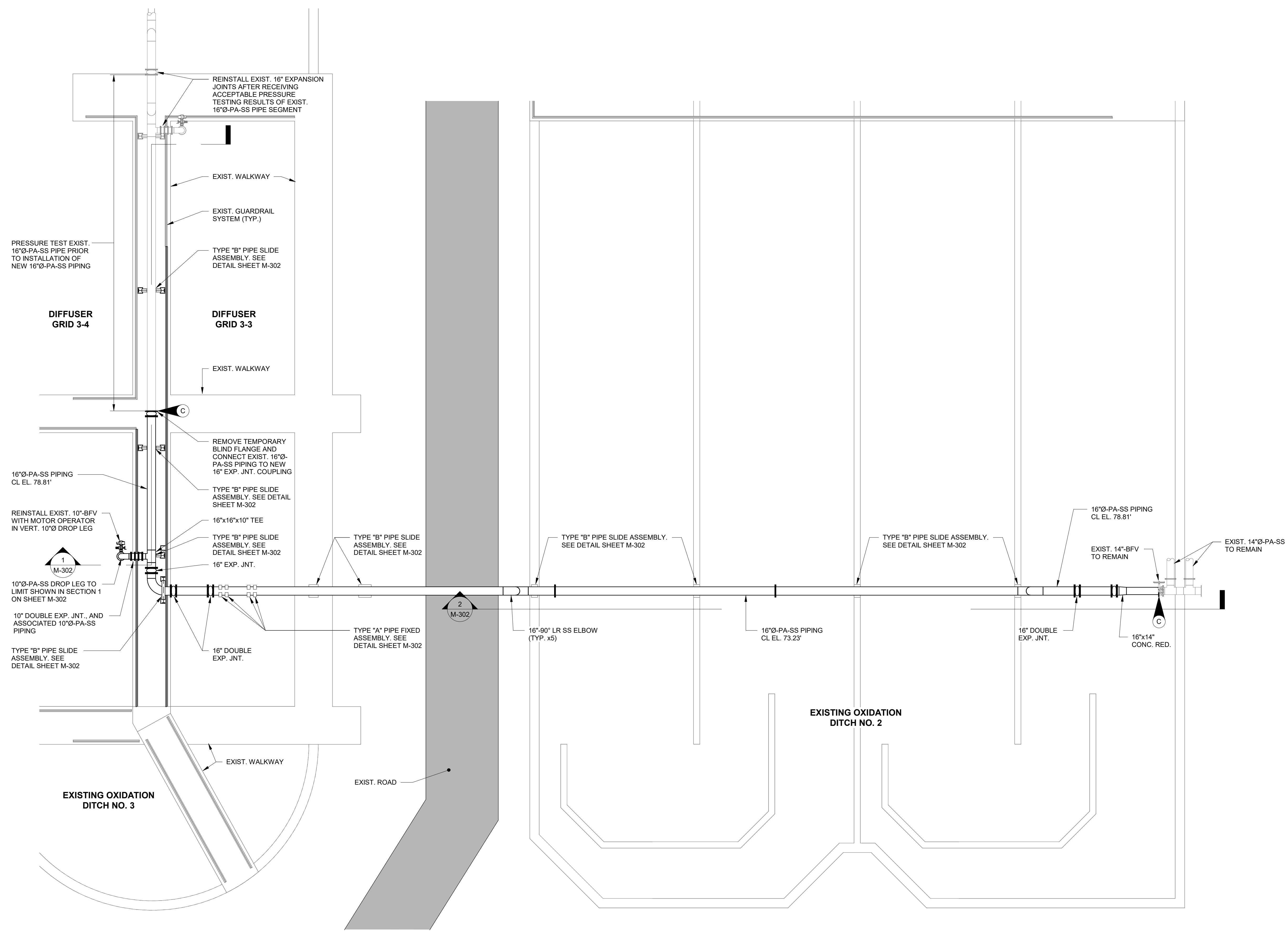
APPROVED	DATE	APPROVED	DATE

**ANNE ARUNDEL COUNTY DEPARTMENT OF PUBLIC WORKS**

PATUXENT WRF - AIR PIPING AND SUPPORT REPAIRS	
<b>DEMOLITION PLAN</b>	<b>M-101</b>
EXISTING OXIDATION DITCH	

**LEGEND**

	EXISTING PIPING, EQUIPMENT AND FEATURES
	NEW PIPING, EQUIPMENT AND FEATURES
	POINT OF CONNECTION



**PLATFORM / WALKWAY PLAN**  
1/8" = 1'-0"

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IN CHARGE OF	R. DUDLEY
DESIGNED BY	A. SHUE
CHECKED BY	N. VENKATESAN
MADE BY	T. LARAMAY

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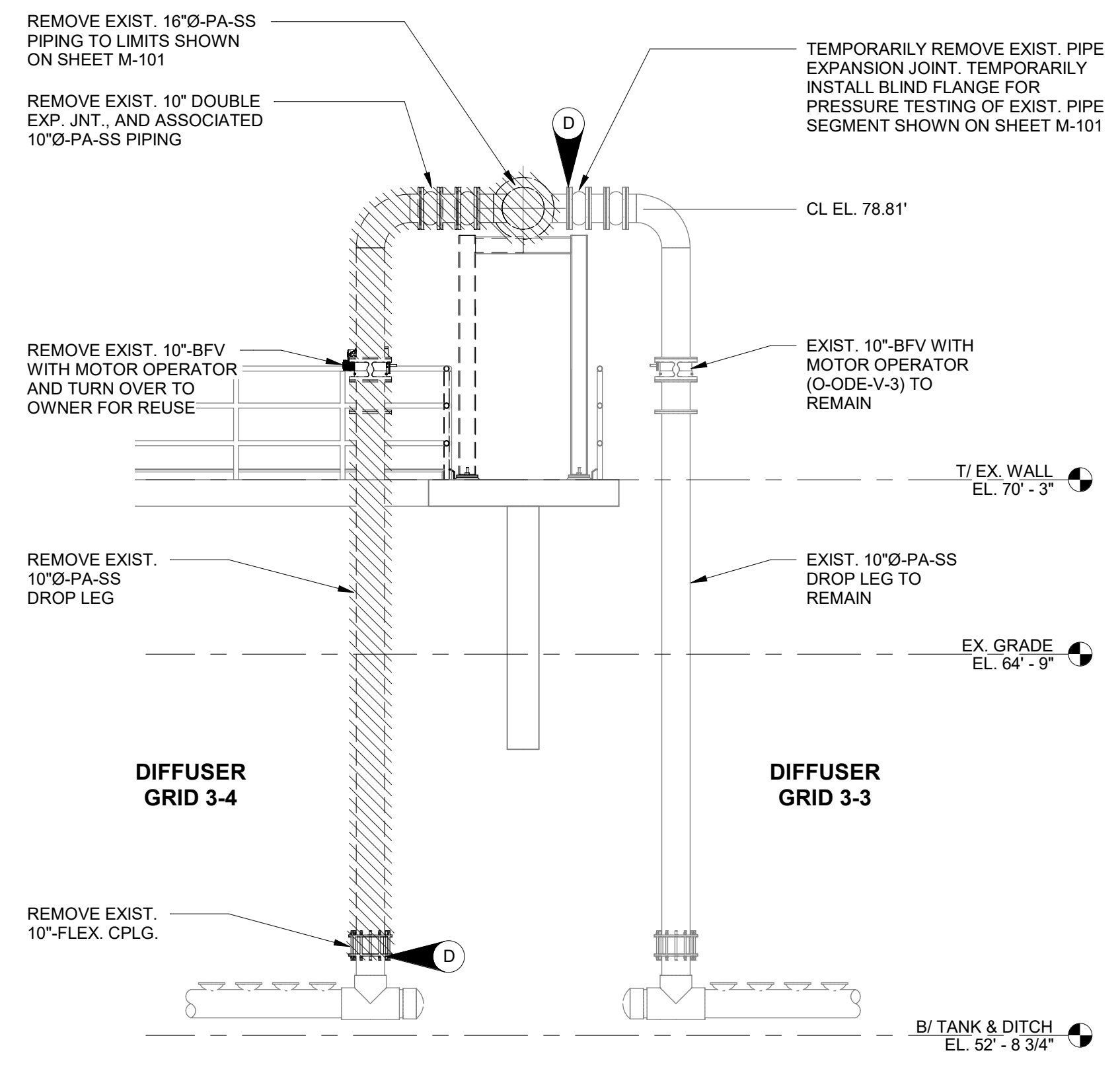


NO.	DATE	DESCRIPTION	BY
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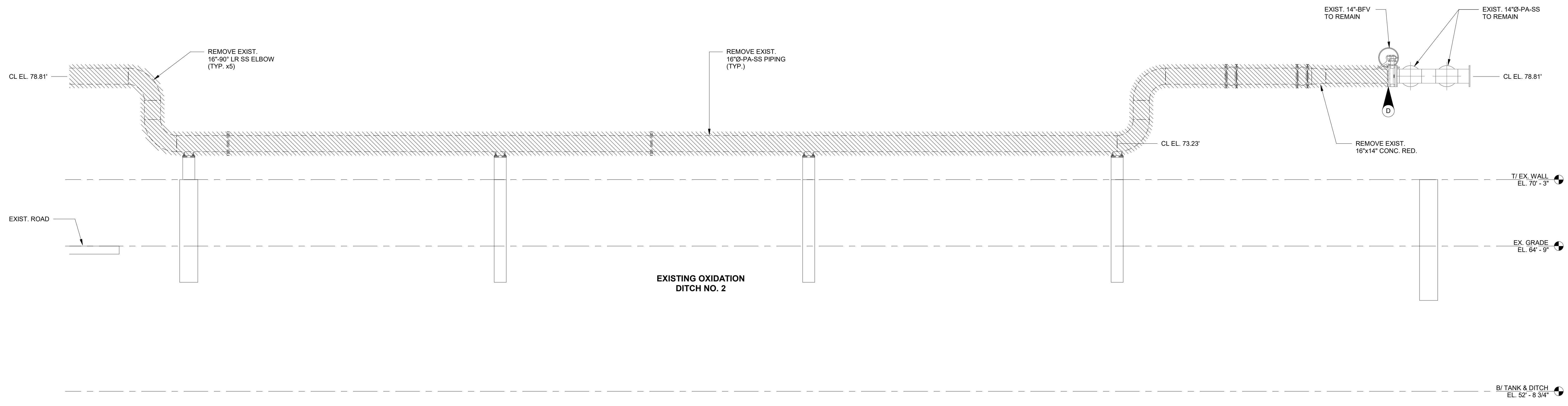
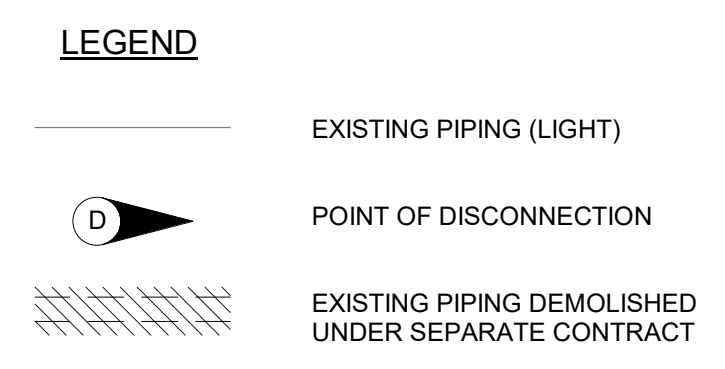
APPROVED	DATE	APPROVED	DATE

**ANNE ARUNDEL COUNTY DEPARTMENT OF PUBLIC WORKS**

SCALE: AS INDICATED	PATUXENT WRF - AIR PIPING AND SUPPORT REPAIRS
DRAWN BY: T. LARAMAY	<b>INSTALLATION PLAN</b>
CHECKED BY: N. VENKATESAN	
SHEET NO. 11 OF 13	
PROJECT NO: S802300	<b>M-102</b>
CONTRACT NO: S802380	



1 DEMOLITION - SECTION  
 M-101 1/4" = 1'-0"  
 4' 2' 0' 2' 4'



2 DEMOLITION - SECTION  
 M-101 1/4" = 1'-0"  
 4' 2' 0' 2' 4'

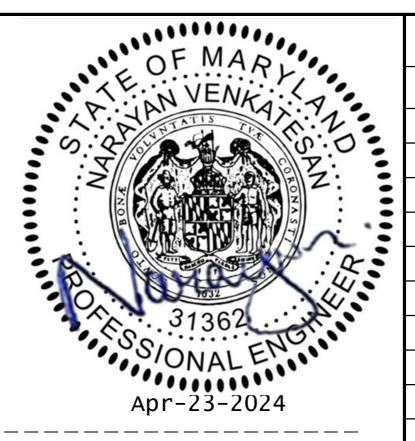
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IN CHARGE OF	R. DUDLEY
DESIGNED BY	A. SHUE
CHECKED BY	N. VENKATESAN
MADE BY	T. LARAMAY

**RAMBOLL**

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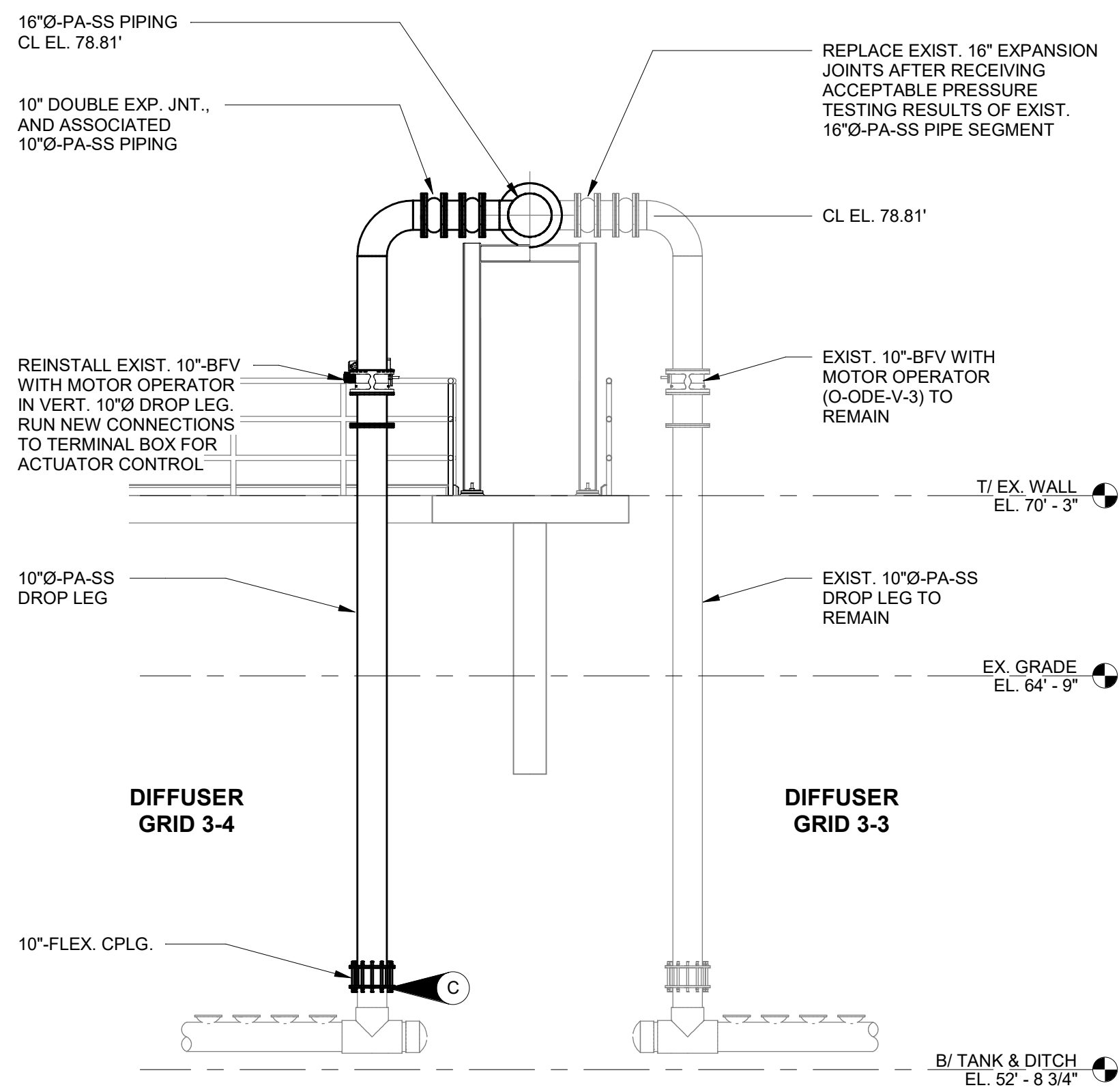


NO.	DATE	DESCRIPTION	BY
0	02/29/24	ISSUED FOR BID	NV

APPROVED	DATE	APPROVED	DATE

**ANNE ARUNDEL COUNTY  
 DEPARTMENT OF PUBLIC WORKS**

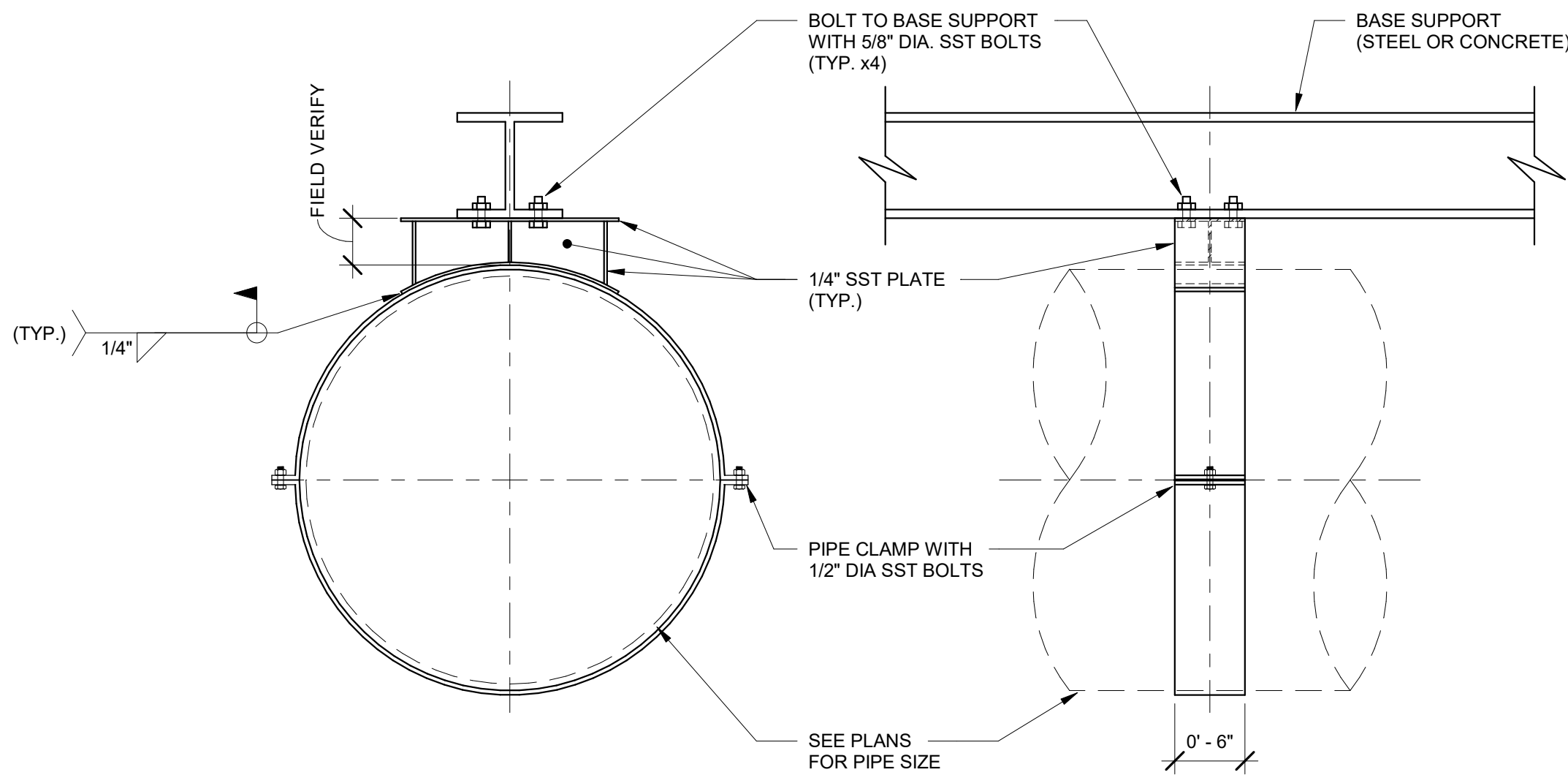
PATUXENT WRF - AIR PIPING AND SUPPORT REPAIRS	
<b>SECTIONS</b>	<b>M-301</b>
EXISTING OXIDATION DITCH	



1  
M-102  
1/4" = 1'-0"  
4' 2' 0' 2' 4'

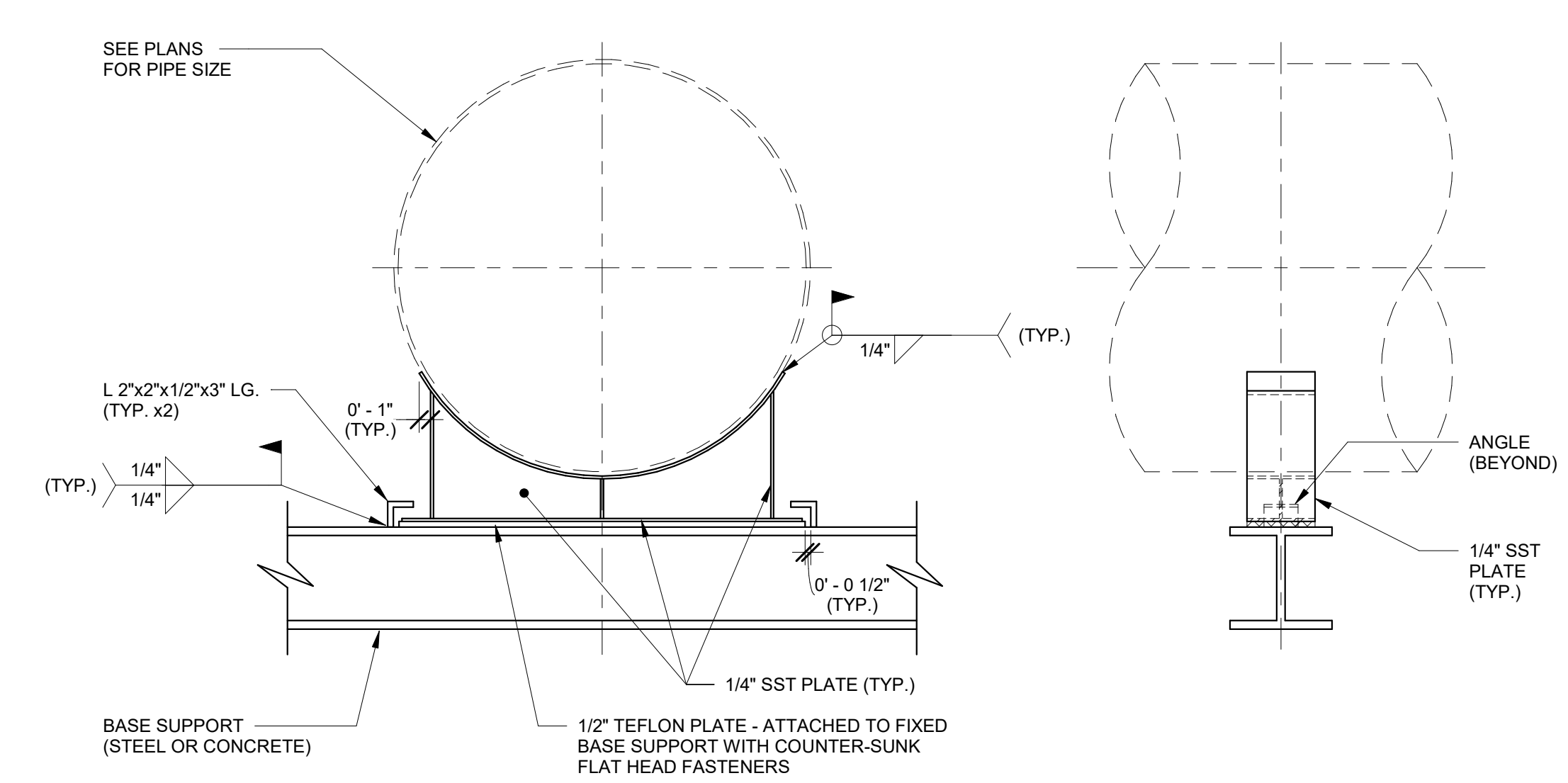
**LEGEND**

- EXISTING PIPING, EQUIPMENT AND FEATURES
- NEW PIPING, EQUIPMENT AND FEATURES
- POINT OF CONNECTION



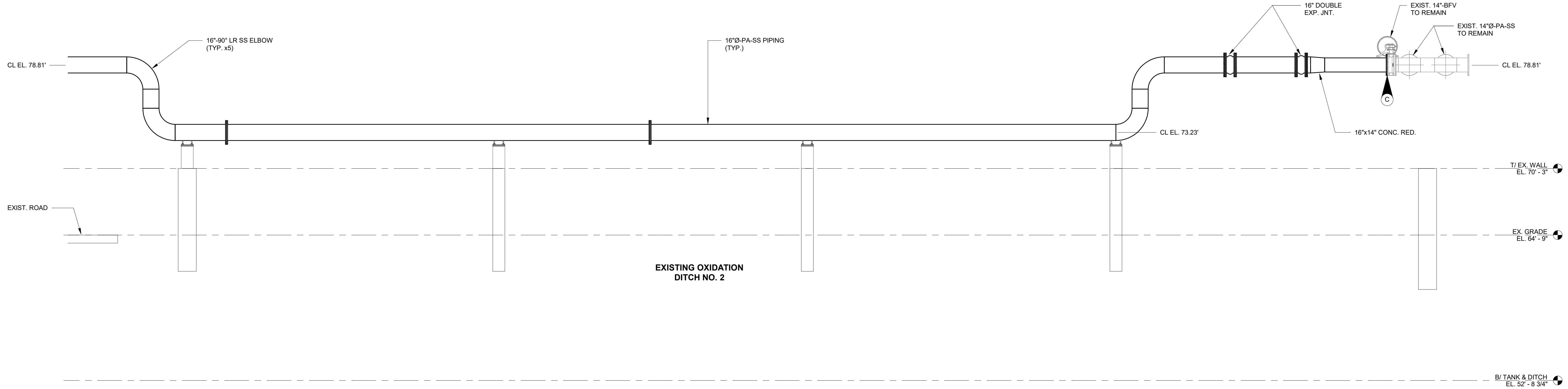
- DETAIL NOTES:**
- CONTRACTOR SHALL BE RESPONSIBLE FOR THE DESIGN, LOCATION, AND INSTALLATION OF PIPE SUPPORTS. PIPE SUPPORTS SHALL COMPLY WITH DETAILS SHOWN ON THE MECHANICAL DRAWINGS.

TYPE "A" PIPE FIXED ASSEMBLY DETAIL  
1" = 1'-0" 1' 6" 0' 1'



- DETAIL NOTES:**
- CONTRACTOR SHALL BE RESPONSIBLE FOR THE DESIGN, LOCATION, AND INSTALLATION OF PIPE SUPPORTS. PIPE SUPPORTS SHALL COMPLY WITH DETAILS SHOWN ON THE MECHANICAL DRAWINGS.

TYPE "B" PIPE SLIDE ASSEMBLY DETAIL  
1" = 1'-0" 1' 6" 0' 1'



2  
M-102  
1/4" = 1'-0"  
4' 2' 0' 2' 4'

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IN CHARGE OF	R. DUDLEY
DESIGNED BY	A. SHUE
CHECKED BY	N. VENKATESAN
MADE BY	T. LARAMAY

**RAMBOLL**  
 RAMBOLL AMERICAS  
 ENGINEERING SOLUTIONS, INC.  
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NO.	DATE	DESCRIPTION	BY
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APPROVED	DATE	APPROVED	DATE

**ANNE ARUNDEL COUNTY  
 DEPARTMENT OF PUBLIC WORKS**

PATUXENT WRF - AIR PIPING AND SUPPORT REPAIRS	
<b>SECTIONS AND DETAILS</b>	<b>M-302</b>
EXISTING OXIDATION DITCH	