

All construction shall be performed in accordance with the approved plans and comply with all standard city policies and practices. City approval is contingent upon any required state or federal permit approvals such as those from the Department of Environmental Protection or the St. Johns River Water Management District (SJRWMD).

Plan approval through Development Services does not include utilities. Proposed water, sewer or electric construction must be approved separately through the respective utility company. In most cases, this will be:

JEA
JEA Tower - 4th Floor
21 W. Church Street
Jacksonville, FL 32202
<http://www.jea.com/business/services/devanbuild/developers.asp>

CITY: Except for new subdivision infrastructure construction, all work performed within a City of Jacksonville right-of-way or easement requires a Right-of-way Permit. The contractor performing the proposed work must have a current Right-of-way Bond on file with Development Services. Right-of-way Permit applications are processed at:

Development Services Customer Service Counter
Edward Ball Building, 2nd Floor
214 N. Hogan St.
Jacksonville, FL 32202
(904) 255-8572
<http://www.jacdev.info/>

STATE: All work performed within a state right-of-way requires a permit from the Florida Department of Transportation (FDOT). It is the developer's responsibility to obtain required FDOT permits or maintenance-of-traffic approvals for work within FDOT right-of-ways. The FDOT regional office can be contacted at (904) 360-5200 Any changes to the approved plans needed for FDOT approval must be submitted to Development Services as revisions.

Adjacent State Roads: _____

RAILROAD: Railroad companies may require special approvals or permits to work within their right-of-ways. It is the developer's responsibility to obtain permission from any railroad right-of-way owner before performing any work within their right-of-way.

Annual reports in compliance with the SJRWMD stormwater permits are required from the maintenance entity of all stormwater management facilities. Send copies of the reports to:

Engineering and Construction Management
Edward Ball Building, 10th Floor
214 N. Hogan St.
Jacksonville, FL 32202
<http://www.cdm.net/Departments/Public+Works/Engineering+and+Construction+Management/>

The owner of any project one (1) acre or larger is required to provide a Notice of Intent (NOI) in accordance with criteria set forth in the city's NPDES permit within 48 hours of beginning construction. Send NOI and NOI fee to:

Florida Department of Environmental Protection
NPDES Stormwater National Center, Mail Station #2510
2600 Bear Stone Road
Tallahassee, Florida 32399-2400
(866) 336-6312
<http://www.dep.state.fl.us/water/stormwater/npdes/>

The contractor shall contact the Environmental Quality Division, Erosion and Sedimentation Control Section (ESC) to provide verification that applicable stormwater permits have been obtained and to schedule a pre-construction ESC site inspection:

Environmental Quality Division
407 North Laura Street, Third Floor
Jacksonville, FL 32202
(904) 255-7222

Plan review and approval does not relieve the contractor of complying with all applicable State Fire Codes.

Underground mains and hydrants shall be installed, completed, and in service prior to construction work.

Underground contractor shall submit to the Fire Marshall for approval complete specs for all underground pipe and fittings relating to fire protection **PRIOR** to installation and inspection. Contractor shall include manufacturer's name and pipe ID along with contractor's state license number.

A Site Work Permit is required for this project.

☐ Tree Fund payment is due: _____ inches at \$ _____ = \$ _____

☐ Article 25 funds are due: _____ inches at \$ _____ = \$ _____

TRAFFIC SIGNS

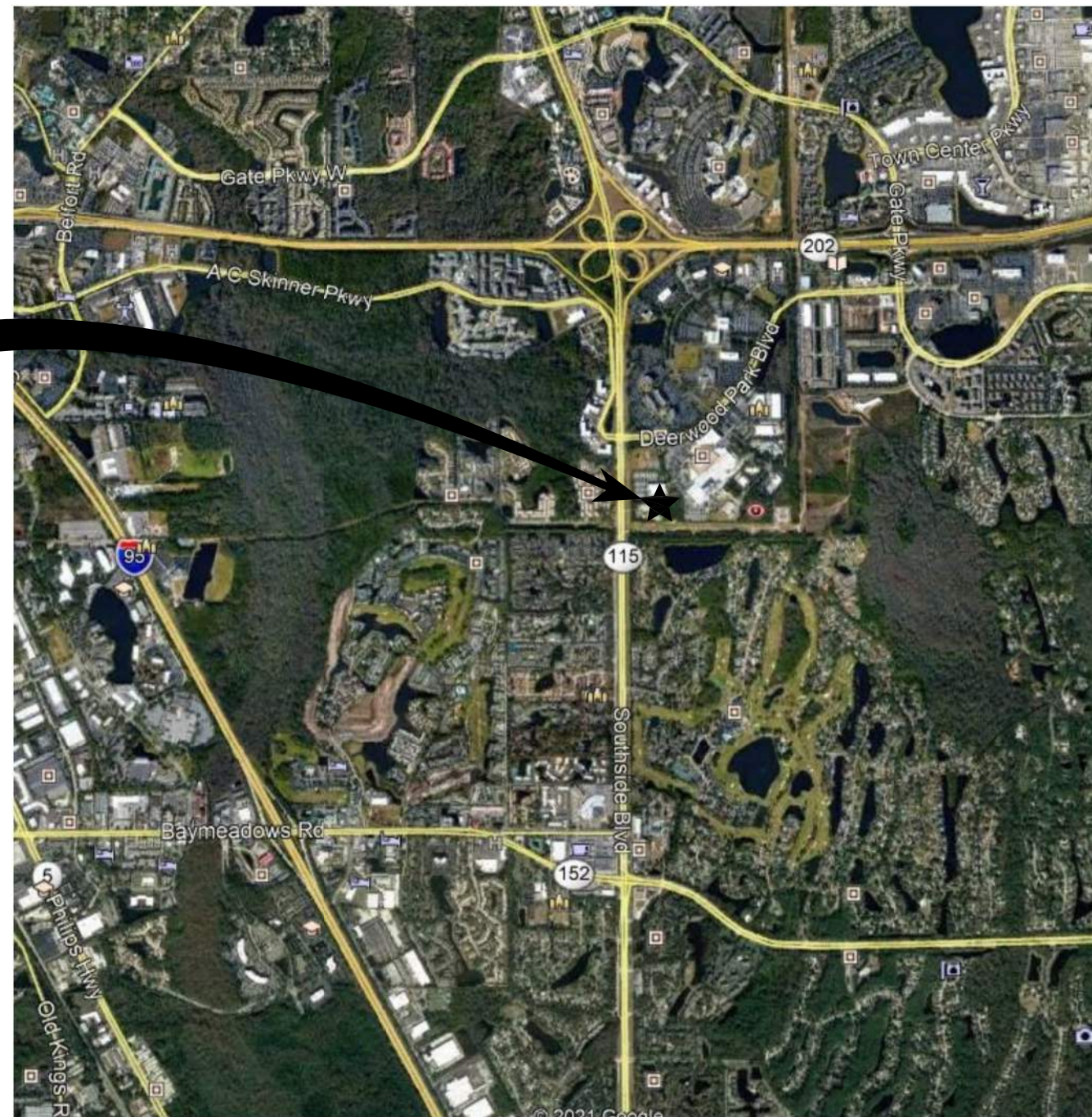
Metro Name	_____	\$55.00	ea.	_____
Standard	_____	\$55.00	ea.	_____
Stop/Yield	_____	\$55.00	ea.	_____
Design	_____	\$55.00		_____
Installation	_____	\$55.00	/hr.	_____
TOTAL				_____

☐ Streetlights Required

NOTE: Traffic sign costs change from time to time. If the costs change after plan approval but prior to payment for installation, the developer must pay for the signs at the current costs. The above total assumes the subdivision will be platted as one phase. If the development is platted as separate phases, design and installation will be calculated separately for each phase.

No lane closures allowed from 7 a.m. till 9 a.m. and from 4 p.m. till 6 p.m.

DEERWOOD III WTP



NTS

Jacobs

PREPARED FOR:



FILENAME: 0-G-001_D32549S3.dgn

Date Development Services Division (Chief)

Date Review Group (Reviewer)

Plan approval is valid for five years after the initial approval date. Revisions made after the initial approval date do not extend this five-year time frame.

[illegible]

GENERAL	
City Development Number	4161.337
Concurrency Application Number	
Property Appraiser Number (RE #)	---
Zoning Designation	----
PUD Ordinance Number	-
FIRM – Community – Panel	-----
Flood Zones (Show in Plans)	-----
Base Flood Elev. (Show in Plans)	
Vertical Datum Used for Project	NAVD 88
JEA Availability Number	
SUBDIVISION	
PSD Number	
City or Private Inspection	
Public or Private Roads	
Subdivision ("911") Disk Provided?	
NON-SUBDIVISION	
North American Industry	
Classification System (NAICS)	
Impervious Area (Sq. Ft.)	

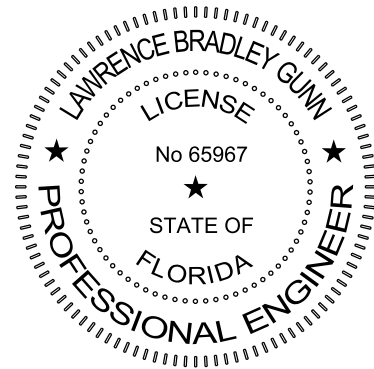


FOR BURIED UTILITY INFORMATION
THREE (3) BUSINESS DAYS
BEFORE YOU DIG CALL 811
www.call811.com

NO. SHEETS SHEET NO. 1		PROJ. NO. D32549S3 DATE: MAY 2021 SCALE: NTS		SIPS-SOUTHSIDE BLVD. INTERTIE TO DEERWOOD III WTP DEERWOOD WTP PRIORITY 1 PROJECTS GENERAL COVER SHEET				DESIGNER: DRAWN BY: M. PATTERSON CHECKED BY: L. GUNN DATE: MAY 2021		DESIGN ENGINEER LAWRENCE BRADLEY GUNN FLORIDA REGISTRATION NO. 65967		NO. BY DATE REVISIONS 5. 1. 1. 4. 1. 1. 3. 1. 1. 2. 1. 1.		 200 WEST FORSYTH STREET, T. (904) 636-5432 SUITE 1620 JACKSONVILLE, FL 32202 CORP # 2822	
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IFA PRO I NO : 8004887 IFA PRO I NO : 8004887
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PROJECT TITLE: SIPS-SOUTHSIDE BLVD INTERTIE TO DEERWOOD III WTP

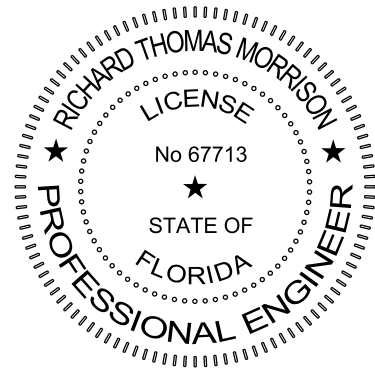


THIS ITEM HAS BEEN DIGITALLY SIGNED AND SEALED BY
LARRY BRADLEY GUNN ON THE DATE ADJACENT TO
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JACOBS ENGINEERING GROUP INC.
200 WEST FORSYTH STREET, SUITE 1520
JACKSONVILLE, FL 32202
CERTIFICATION OF AUTHORIZATION 2822
LARRY BRADLEY GUNN, PE NO. 65967

THE ABOVE NAMED PROFESSIONAL ENGINEER SHALL BE RESPONSIBLE FOR
THE FOLLOWING SHEETS IN ACCORDANCE WITH THE RULE 61G15-23.004, F.A.C.

<u>SHEET NO.</u>	<u>SHEET DESCRIPTION</u>
1	COVER SHEET
2	SIGNATURE SHEET
3	INDEX OF DRAWINGS
6	PROCESS MECHANICAL LEGEND AND GENERAL NOTES
7	PROCESS MECHANICAL SPECIFICATIONS
22	PROCESS MECHANICAL - INTERTIE STATION PLAN AND PROFILE
23	PROCESS MECHANICAL - WATER QUALITY SAMPLING STATION DEMOLITION
24	PROCESS MECHANICAL - WATER QUALITY SAMPLING STATION MODIFICATION
25	PROCESS MECHANICAL - STANDARD DETAILS
30	DECOMMISSIONING - TWP INTER-TIE STATION DEMO/MISSIIONING PLANS

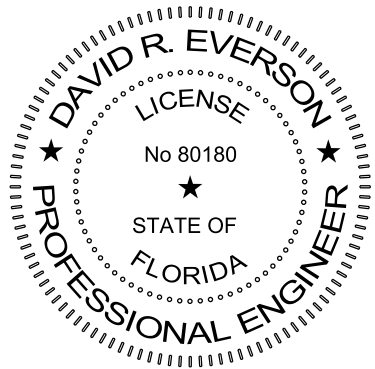


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200 WEST FORSYTH STREET, SUITE 1520
JACKSONVILLE, FL 32202
CERTIFICATION OF AUTHORIZATION 2822
RICHARD THOMAS MORRISON, PE NO. 67713

THE ABOVE NAMED PROFESSIONAL ENGINEER SHALL BE RESPONSIBLE FOR
THE FOLLOWING SHEETS IN ACCORDANCE WITH THE RULE 61G15-23.004, F.A.C.

<u>SHEET NO.</u>	<u>SHEET DESCRIPTION</u>
4	CIVIL GENERAL NOTES AND LEGENDS
11	CIVIL - ENLARGED PLAN
12	CIVIL - STANDARD DETAILS AND PROFILE
13	CIVIL - JEA STANDARD DETAILS
14	CIVIL - JEA STANDARD DETAILS

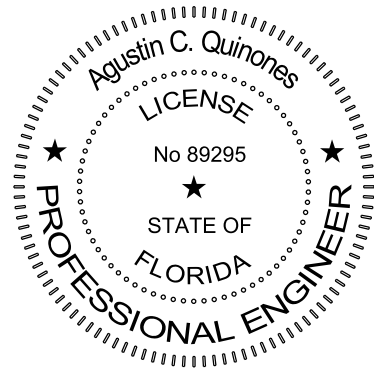


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DAVID R. EVERSON ON THE DATE ADJACENT TO
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JACOBS ENGINEERING GROUP INC.
200 WEST FORSYTH STREET, SUITE 1520
JACKSONVILLE, FL 32202
CERTIFICATION OF AUTHORIZATION 2822
DAVID R. EVERSON, PE NO. 80180

THE ABOVE NAMED PROFESSIONAL ENGINEER SHALL BE RESPONSIBLE FOR
THE FOLLOWING SHEETS IN ACCORDANCE WITH THE RULE 61G15-23.004, F.A.C.

<u>SHEET NO.</u>	<u>SHEET DESCRIPTION</u>
5	STRUCTURAL GENERAL NOTES
15	STRUCTURAL - PRESTRESSED TANK DETAILS
16	STRUCTURAL - PRESTRESSED TANK DETAILS
17	STRUCTURAL - STANDARD DETAILS

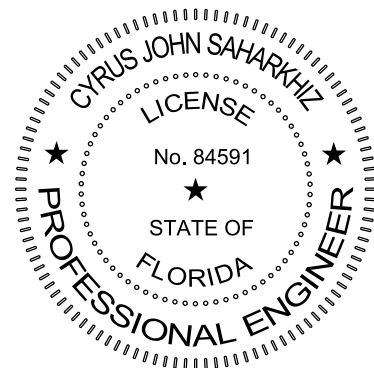


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200 WEST FORSYTH STREET, SUITE 1520
JACKSONVILLE, FL 32202
CERTIFICATION OF AUTHORIZATION 2822
AGUSTIN C. QUINONES, PE NO. 89295

THE ABOVE NAMED PROFESSIONAL ENGINEER SHALL BE RESPONSIBLE FOR
THE FOLLOWING SHEETS IN ACCORDANCE WITH THE RULE 61G15-23.004, F.A.C

<u>SHEET NO.</u>	<u>SHEET DESCRIPTION</u>
8	ELECTRICAL LEGEND AND NOTES
26	ELECTRICAL - OVERALL SITE PLAN
27	ELECTRICAL - ELECTRICAL PLAN, DIAGRAMS, AND SCHEDULE
28	ELECTRICAL - STANDARD DETAILS
29	ELECTRICAL - STANDARD DETAILS



THIS ITEM HAS BEEN DIGITALLY SIGNED AND SEALED BY
CYRUS JOHN SAHARKHIZ ON THE DATE ADJACENT TO
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JACOBS ENGINEERING GROUP INC.
200 WEST FORSYTH STREET, SUITE 1520
JACKSONVILLE, FL 32202
CERTIFICATION OF AUTHORIZATION 2822
CYRUS JOHN SAHARKHIZ, PE NO. 84591

THE ABOVE NAMED PROFESSIONAL ENGINEER SHALL BE RESPONSIBLE FOR
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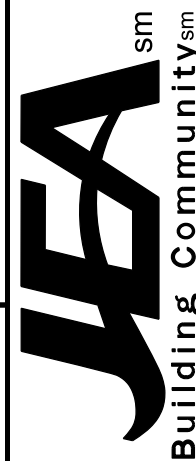
<u>SHEET NO.</u>	<u>SHEET DESCRIPTION</u>
9	INSTRUMENTATION AND CONTROL LEGEND SHEET 1
10	INSTRUMENTATION AND CONTROL LEGEND SHEET 2
18	INSTRUMENTATION AND CONTROL - INTERTIE STANDARD P&ID
19	INSTRUMENTATION AND CONTROL - NETWORK BLOCK DIAGRAM
20	INSTRUMENTATION AND CONTROL - STANDARD DETAILS
21	INSTRUMENTATION AND CONTROL - STANDARD DETAILS

Jacobs
200 WEST FORSYTH STREET, T: (904) 636-5432
SUITE 1520 F: (904) 224-3102
JACKSONVILLE, FL 32202 COA # 2822

NO.	BY	DATE	REVISIONS
6.			
5.			
4.			
3.			
2.			

DESIGN ENGINEER
LAWRENCE BRADLEY GUNN
FLORIDA REGISTRATION NO.
65967

DESIGNER:	L GUNN
DRAWN BY:	N PATTERSON
DATE:	MAY 2021
CHECKED BY:	L GUNN
DATE:	MAY 2021



BLVD. INTERTIE TO DEERWOOD III WTP
D WTP PRIORITY 1 PROJECTS
GENERAL
SIGNATURE SHEET

NO. SHEETS 26	PROJ. NO. D32549S3
SHEET NO. 2	DATE: MAY 2021
DRAWING NO. G-002	SCALE: NTS

IEA PRO INO : 8004887

PROJECT TITLE: SIPS-SOUTHSIDE BLVD INTERTIE TO DEERWOOD III WTP

IER BID NO. -

INDEX OF DRAWINGS

SHEET NUMBER	DRAWING NUMBER	DRAWING TITLE
GENERAL		
1	G-001	COVER SHEET
2	G-002	SIGNATURE SHEET
3	G-003	INDEX OF DRAWINGS
4	G-004	CIVIL GENERAL NOTES AND LEGENDS
5	G-005	STRUCTURAL GENERAL NOTES
6	G-006	PROCESS MECHANICAL LEGEND AND GENERAL NOTES
7	G-007	PROCESS MECHANICAL SPECIFICATIONS
8	G-008	ELECTRICAL LEGEND AND NOTES
9	G-009	INSTRUMENTATION AND CONTROL LEGEND SHEET 1
10	G-010	INSTRUMENTATION AND CONTROL LEGEND SHEET 2
CIVIL		
11	C-001	CIVIL - ENLARGED PLAN
12	C-901	CIVIL - STANDARD DETAILS AND PROFILE
13	C-902	CIVIL - JEA STANDARD DETAILS
14	C-903	CIVIL - JEA STANDARD DETAILS
STRUCTURAL		
15	S-901	STRUCTURAL - PRESTRESSED TANK DETAILS
16	S-902	STRUCTURAL - PRESTRESSED TANK DETAILS
17	S-903	STRUCTURAL - STANDARD DETAILS
INSTRUMENTATION AND CONTROL		
18	N-001	INSTRUMENTATION AND CONTROL - INTERTIE STATION P&ID
19	N-002	INSTRUMENTATION AND CONTROL - NETWORK BLOCK DIAGRAM
20	N-901	INSTRUMENTATION AND CONTROL - STANDARD DETAILS
21	N-902	INSTRUMENTATION AND CONTROL - STANDARD DETAILS
PROCESS MECHANICAL		
22	M-001	PROCESS MECHANICAL - INTERTIE STATION PLAN AND PROFILE
23	M-002	PROCESS MECHANICAL - WATER QUALITY SAMPLING STATION DEMOLITION
24	M-003	PROCESS MECHANICAL - WATER QUALITY SAMPLING STATION MODIFICATION
25	M-901	PROCESS MECHANICAL - STANDARD DETAILS
ELECTRICAL		
26	E-001	ELECTRICAL - OVERALL SITE PLAN
27	E-002	ELECTRICAL - ELECTRICAL PLAN, DIAGRAMS, AND SCHEDULE
28	E-901	ELECTRICAL - STANDARD DETAILS
29	E-902	ELECTRICAL - STANDARD DETAILS
DECOMMISSIONING		
30	D-001	DECOMMISSIONING - TWMP INTER-TIE STATION DECOMMISSIONING PLANS

DRAWING NUMBER	DRAWING TITLE
REFERENCE DRAWINGS	
W-STD-1	WATER MAIN DETAILS
W-STD-2	WATER MAIN DETAILS
W-STD-3	WATER MAIN DETAILS
W-STD-4	WATER MAIN DETAILS
W-STD-5	WATER MAIN DETAILS
S-STD-1	SANITARY SEWER DETAILS
S-STD-2	SANITARY SEWER DETAILS
S-STD-3	SANITARY SEWER DETAILS
S-STD-4	SANITARY SEWER DETAILS
S-STD-5	SANITARY SEWER DETAILS
PUMP STATION ELECTRIC DETAILS	
PS-STD-2	ELECTRIC DETAILS
PS-STD-3	DEMARCATON BOX & POWER DISTRIBUTION PANEL
PS-STD-4	SCADA INSTALLATION
PS-STD-5	SCADA INSTALLATION
PS-STD-6	GROUNDING PLAN
PS-STD-7	GROUNDING DETAILS
PS-STD-8	ELECTRIC SINGLE LINE DIAGRAM

NOTE:
STANDARD DRAWINGS ARE APPLICABLE FOR ALL PROJECTS, INCORPORATED BY REFERENCE AND ARE AVAILABLE AT JEA.COM

GENERAL SITE NOTES:

1. SOURCE OF TOPOGRAPHY SHOWN ON THE CIVIL PLANS ARE BASE MAPS PROVIDED BY R. E. HOLLAND & ASSOCIATES, INC. AND DEGROVE SURVEYORS, INC. EXISTING CONDITIONS MAY VARY FROM THOSE SHOWN ON THESE PLANS. THE CONTRACTOR SHALL VERIFY EXISTING CONDITIONS AND ADJUST WORK PLAN ACCORDINGLY PRIOR TO BEGINNING CONSTRUCTION.
2. EXISTING TOPOGRAPHY, STRUCTURES, AND SITE FEATURES ARE SHOWN SCREENED AND/OR LIGHT-LINED. NEW FINISH GRADE, STRUCTURES, AND SITE FEATURES ARE SHOWN HEAVY-LINED.
3. THE HORIZONTAL PROJECT DATUM IS THE FLORIDA STATE PLANE COORDINATE SYSTEM, EAST ZONE, 0901, NORTH AMERICAN DATUM OF 1983, 2011 ADJUSTMENT (NAD83/2011).
4. THE VERTICAL DATUM IS THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88)
5. UNITS OF MEASURE: US SURVEY FEET
6. MAINTAIN, RELOCATE, OR REPLACE EXISTING SURVEY MONUMENTS, CONTROL POINTS, AND STAKES WHICH ARE DISTURBED OR DESTROYED. PERFORM THE WORK TO PRODUCE THE SAME LEVEL OF ACCURACY AS THE ORIGINAL MONUMENT(S) IN A TIMELY MANNER, AND AT THE CONTRACTOR'S EXPENSE.
7. CONTRACTOR SHALL COORDINATE WITH JEA FOR THE LOCATION OF A STAGING AREA FOR EMPLOYEE PARKING, TRAILERS AND ON-SITE STORAGE OF MATERIALS.
8. PROVIDE TEMPORARY FENCING AS NECESSARY TO MAINTAIN SECURITY AT ALL TIMES.
9. ELEVATIONS GIVEN ARE TO FINISH GRADE UNLESS OTHERWISE SHOWN.
11. THE CONSTRUCTION SITE SHALL HAVE ADEQUATE DRAINAGE AND ACCESS DURING ALL PHASES OF CONSTRUCTION TO ENSURE A SAFE WORK ENVIRONMENT.
12. ALL DISTURBED AREAS NOT RECEIVING A HARD SURFACE SHALL BE COVERED WITH GRASS.
13. CONTRACTOR SHALL BE RESPONSIBLE FOR IMPLEMENTING AND MAINTAINING EROSION CONTROL DEVICES DURING CONSTRUCTION. EROSION CONTROL DEVICES SHOWN ARE THE MINIMUM REQUIRED.
14. CONTRACTOR SHALL TAKE ALL OTHER MEASURES TO POSITIVELY PRECLUDE EROSION MATERIALS FROM LEAVING THE SITE.
15. CONTRACTOR SHALL PROVIDE REGULAR SWEEPING OF ROADS TO PREVENT SEDIMENT FROM LEAVING THE SITE.
16. CONTRACTOR SHALL USE WATER TRUCKS OR OTHER MEASURES TO PREVENT DUST FROM LEAVING THE SITE.
17. JEA, OR ITS APPROVED REPRESENTATIVE, MAY STOP WORK OR WITHHOLD PAYMENT IF THE CONTRACTOR IS IN NON-COMPLIANCE WITH THE ENVIRONMENTAL PROTECTION REQUIREMENTS OF THE CONTRACT.
18. CONTRACTOR SHALL CONTACT THE ENGINEER FOR THE CAD FILE FOR CONSTRUCTION LAYOUT.
19. ALL SITE WORK SHALL BE IN ACCORDANCE WITH JEA STANDARDS.

GENERAL YARD PIPING AND UTILITIES NOTES:

1. UNLESS OTHERWISE SHOWN ALL PIPING SHALL HAVE A MINIMUM OF 36" COVER.
2. ALL PIPES SHALL HAVE A CONSTANT SLOPE BETWEEN INVERT ELEVATIONS UNLESS A FITTING OR JOINT DEFLECTION IS SHOWN.
3. ALL NEW SIPS WATER MAIN PIPES WITHIN THE PLANT SITE MUST BE PROPERLY FLUSHED, PRESSURE TESTED, AND DISINFECTED IN ACCORDANCE WITH JEA STANDARDS.
4. FOR TRENCHING AND BACKFILL, SEE JEA STANDARD DETAIL W-42.
5. MINIMUM ALLOWABLE CLEARANCE BETWEEN PIPES AT CROSSINGS SHALL BE AS SHOWN ON JEA STANDARD DETAILS W-10 & W-11.
6. NO OPEN PIPES SHALL BE LEFT UNATTENDED. CONTRACTOR SHALL PROVIDE TEMPORARY COVERS AS NECESSARY BETWEEN WORK ACTIVITIES TO LIMIT DIRT AND DEBRIS IN PIPES. ANY PIPES THAT DO HAVE DIRT OR DEBRIS SHALL BE PROPERLY FLUSHED PRIOR TO TESTING.
7. THE SIPS WATER MAIN IS PART OF THE SOUTHSIDE INTEGRATED PIPELINE SYSTEM.
8. ALL YARD PIPING WORK SHALL BE IN ACCORDANCE WITH JEA STANDARDS.

CIVIL LEGEND

	SPOT ELEVATION
	CONTOUR LINE
	PROPERTY LINE
	R/W LINE
	WETLAND LINE
	SETBACK/BUFFER LINE
	EASEMENT LINE
	FEMA LINE
	CENTER LINE, BUILDING, ROAD, ETC.
	DRAINAGEWAY OR DITCH
	FENCE
	TEMPORARY FENCE
	SILT FENCE
	SIGN
	POST OR GUARD POST
	FIRE HYDRANT
	STRUCTURE, BUILDING OR FACILITY LOCATION POINT - COORDINATES
	DEMOLITION
	STRUCTURE, BUILDING OR FACILITY
	PAVEMENT

DEGROVE SURVEY LEGEND

ARV	AIR RELEASE VALVE
ABS	PLASTIC PIPE
≡	ANTENNA
---	BACKFLOW PREVENTER
BC	BACK OF CURB ELEVATION
BWF	BARBED WIRE FENCE
⚡	BENCHMARK
●	BOLLARD
⊙	CABLE TV MANHOLE
⊙ CATV	CABLE TV HANDHOLE
⊙	CABLE TV MARKER
⊙ CLF	CHAIN LINK FENCE
⊙	CLEAN OUT
⊙	CONCRETE COLUMN
⊙	CONCRETE LIGHT POLE
⊙	CONCRETE POWER POLE
CMP	CORRUGATED METAL PIPE
DIP	DUCTILE IRON PIPE
EP	EDGE OF PAVEMENT ELEVATION
⊙	ELECTRIC HANDHOLE
⊙	ELECTRIC MANHOLE
⊙	ELECTRIC MARKER
⊙	ELECTRIC OUTLET
ERCP	ELLIPTICAL REINFORCED CONCRETE PIPE
ELEV.	ELEVATION
--X--	FENCE
⊙	FIBER OPTIC CABLE MARKER
--FO--	FIBER OPTIC CABLE LINE
⊙	FIBER OPTIC HANDHOLE
⊙	FIRE HYDRANT
⊙	FLAG POLE
⊙	FLOOD LIGHT
FL	FLOW LINE ELEVATION
FM	FORCE MAIN HANDHOLE
--FM--	FORCE MAIN LINE
⊙	FORCE MAIN MARKER
⊙	GAS LINE
⊙	GAS MARKER
⊙	GAS METER
⊙	GOPHER TORTOISE HOLE
⊙	GREASE MANHOLE
⊙	GUY ANCHOR
HWF	HOG WIRE FENCE
HB	HOSE BIB
IR	IRRIGATION HANDHOLE
⊙	LIGHT POLE
⊙	MAILBOX
⊙	MARSH
⊙	MAST ARM SIGNAL POLE
MF	METAL FENCE
⊙	METAL POWER POLE
MES	MITERED END SECTIONS
⊙	MONITORING WELL
--OHE--	OVERHEAD UTILITY LINE
⊙	PARKING METER
PED	PEDESTRIAN WALK SIGNAL POLE
PF	PLASTIC FENCE
PVC	POLYVINYL CHLORIDE PIPE
⊙	POST
⊙	PVC STAND PIPE
RR X-ING	RAILROAD CROSSING
REC	RECLAIMED WATER HANDHOLE
--RWM--	RECLAIMED WATER LINE
⊙	RECLAIMED WATER MANHOLE
⊙	RECLAIMED WATER MARKER
RCP	REINFORCED CONCRETE PIPE
⊙	SANITARY SEWER MANHOLE
⊙	SANITARY SEWER MARKER
⊙	SANITARY SEWER VALVE
⊙	SHRUB
⊙	SIGN
⊙	SOIL BORING
STP	STEEL PIPE
⊙	STORM SEWER MANHOLE
⊙	STORM SEWER MANHOLE GRATE
⊙	SURVEY BENCH MARK / HORIZONTAL CONTROL POINT
⊙	TELEPHONE MANHOLE
⊙	TELEPHONE RISER/HANDHOLE
TCP	TERRA COTTA PIPE
TH	TEST HOLE
TH	TRAFFIC SIGNAL LIGHT
TH	TRAFFIC SIGNAL HANDHOLE
---	TRAFFIC SIGNAL LINE
--UGE--	UNDERGROUND ELECTRIC LINE
--UGT--	UNDERGROUND TELEPHONE LINE
⊙	UNKNOWN MANHOLE
⊙	VALVE
--W--	WATER LINE
⊙	WATER MANHOLE
⊙	WATER MARKER
⊙	WATER METER
⊙	WATER WELL
⊙	WOOD POWER POLE
WPF	WOOD PRIVACY FENCE
VCP	VITRIFIED CLAY PIPE

R.E. HOLLAND SURVEY LEGEND

ARV	AIR RELEASE VALVE
ABS	PLASTIC PIPE
BC	BACK OF CURB ELEVATION
BAY	BAY TREE
●	BENCHMARK
●	BOLLARD
⊙	CONCRETE COLUMN
CHR	CHERRY TREE
CLF	CHAIN LINK FENCE
⊙	CONCRETE POWER POLE
CMP	CORRUGATED METAL PIPE
⊙	LIGHT POLE
CM	CRAPE MYRTLE
⊙	STORM SEWER MANHOLE
EP	EDGE OF PAVEMENT ELEVATION
⊙	ELECTRIC HANDHOLE
⊙	ELECTRIC MANHOLE
ERCP	ELLIPTICAL REINFORCED CONCRETE PIPE
ELEV.	ELEVATION
---	FENCE
⊙	FIBER OPTIC CABLE MARKER
--FO--	FIBER OPTIC CABLE LINE
⊙	FIBER OPTIC HANDHOLE
⊙	FIRE HYDRANT
FL	FLOW LINE ELEVATION
--FM--	FORCE MAIN LINE
--G--	GAS LINE
⊙	GAS MARKER
⊙	GAS VALVE
⊙	GUY ANCHOR
HWF	HOG WIRE FENCE
⊙	MAILBOX
MAP	MAPLE TREE
MES	MITERED END SECTIONS
MF	METAL FENCE
⊙	MAST ARM SIGNAL POLE
--OHE--	OVERHEAD ELECTRIC LINE
PED	PEDESTRIAN WALK SIGNAL POLE
PVC	POLYVINYL CHLORIDE PIPE
⊙	PVC STAND PIPE
--RWM--	RECLAIMED WATER LINE
⊙	RECLAIMED WATER MANHOLE
RCP	REINFORCED CONCRETE PIPE
⊙	SANITARY SEWER MANHOLE
⊙	SANITARY SEWER VALVE
⊙	SHRUB
---	SIGN
⊙	SOIL BORING
SYC.	SYCAMORE TREE
⊙	TELEPHONE MANHOLE
⊙	TELEPHONE RISER
TH	TEST HOLE
TH	TRAFFIC SIGNAL HANDHOLE
---	TRAFFIC SIGNAL LINE
--UGE--	UNDERGROUND ELECTRIC LINE
--UGT--	UNDERGROUND TELEPHONE LINE
--W--	WATER LINE
⊙	WATER MANHOLE
⊙	WATER MARKER
⊙	WATER METER
⊙	WATER VALVE
⊙	WOOD POWER POLE

Jacobs

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DESIGNER: R. MORRISON
DRAWN BY: C. CHILDRESS
DATE: MAY 2021
CHECKED BY: A. MALONE
DATE: MAY 2021

DESIGN ENGINEER: RICHARD THOMAS MORRISON
FLORIDA REGISTRATION NO. 67713

SIPS-SOUTHSIDE BLVD. INTERTIE TO DEERWOOD III WTP
DEERWOOD WTP PRIORITY 1 PROJECTS
GENERAL
CIVIL GENERAL NOTES AND LEGENDS

PROJ. NO.: D32549S3
DATE: MAY 2021
SCALE: NTS

NO. SHEETS: 30
SHEET NO.:
DRAWING NO.: G-004

JEA

Building Communitysm

PROJ. TITLE: SIPS-SOUTHSIDE BLVD. INTERTIE TO DEERWOOD III WTP

JEA PROJ NO.: 8004887

IFB BID NO.: -

DESIGN CRITERIA

1.

APPLICABLE CODE: FLORDIA BUILDING CODE SEVENTH EDITION (2020), AS AMENDED BY APPLICABLE LOCAL AGENCIES.
2.

REFER TO THE DRAWINGS FOR ADDITIONAL AND SPECIFIC STRUCTURE LOADINGS AND REQUIREMENTS.
3.

ALL LOADS SHOWN ARE SERVICE LEVEL (UNFACTORED) UNLESS SPECIFICALLY NOTED OTHERWISE.
4.

DEAD LOADS:= SELF WEIGHT
5.

LIVE LOADS:

WALKWAYS AND ELEVATED PLATFORMS

SLABS ON GRADE

= 100 PSF
= 300 PSF
6.

SNOW LOADS:

GROUND SNOW LOAD, Pg

= 0 PSF
7.

WIND LOADS:

BASIC WIND SPEED

Vult

Vasd

EXPOSURE CATEGORY

RISK CATEGORY

ENCLOSURE CLASSIFICATION

INTERNAL PRESSURE COEFFICIENT, GCpi

= 137 MPH
= 107 MPH
= C
= III
= NOT APPLICABLE
= NOT APPLICABLE
8.

SEISMIC LOADS:

A. SEISMIC CRITERIA:

RISK CATEGORY

MAPPED SPECTRAL RESPONSE ACCELERATIONS

Ss

S1

DESIGN SPECTRAL RESPONSE ACCELERATIONS

SDs

SD1

SITE CLASS

SEISMIC DESIGN CATEGORY

IMPORTANCE FACTOR, Ie

= III
= 0.101g
= 0.053g
= 0.108g
= 0.085g
= D (ASSUMED)
= B
= 1.25

B. THE FOLLOWING ARE NOT APPLICABLE:

DESIGN BASE SHEAR

SEISMIC RESPONSE COEFFICIENT, Cs
RESPONSE MODIFICATION FACTOR, R
ANALYSIS PROCEDURE USED

GENERAL INFORMATION

1.

FOR ABBREVIATIONS NOT LISTED, SEE ASME Y14.38 "ABBREVIATIONS AND ACRONYMS: PUBLICATION AS DISTRIBUTED BY THE AMERICAN SOCIETY OF MECHANICAL ENGINEERS (ASME).
2.

DESIGN DETAILS ARE INTENDED TO BE TYPICAL AND SHALL APPLY TO SIMILAR SITUATIONS OCCURRING THROUGHOUT THE PROJECT, WHETHER OR NOT THEY ARE INDIVIDUALLY CALLED OUT.
3.

VERIFY FINAL OPENING DIMENSIONS IN WALLS, SLABS, AND DECKS WITH OTHER DISCIPLINE DRAWINGS PRIOR TO CONSTRUCTION OF THESE ELEMENTS.
4.

FOR NUMBER, TYPE, SIZE, ARRANGEMENT, AND/OR LOCATION OF EQUIPMENT PADS, SEE OTHER DISCIPLINE DRAWINGS. COORDINATE WITH EQUIPMENT SUPPLIER PRIOR TO PLACING SLABS, WALLS AND FOUNDATIONS. COORDINATE PIPING OPENINGS WITH OTHER DISCIPLINE DRAWINGS.
5.

DO NOT CUT OR MODIFY STRUCTURAL MEMBERS FOR PIPES, DUCTS, ETC, UNLESS SPECIFICALLY DETAILED OR APPROVED IN WRITING BY THE ENGINEER.
6.

VISITS TO THE JOB SITE BY THE ENGINEER TO OBSERVE THE CONSTRUCTION DO NOT IN ANY WAY MEAN THAT ENGINEER IS GUARANTOR OF CONSTRUCTOR'S WORK, NOR RESPONSIBLE FOR THE COMPREHENSIVE OR SPECIAL INSPECTIONS, COORDINATION, SUPERVISION, OR SAFETY AT THE JOB SITE.

FOUNDATIONS

1.

SOIL DESIGN PARAMETERS (ASSUMED):

A. NET ALLOWABLE SOIL BEARING PRESSURE

= 1,500 PSF
2.

A. FOUNDATION DESIGN WAS BASED ON ASSUMED SOIL BEARING PRESSURE INDICATED ABOVE.

B. OWNER WILL HIRE GEOTECHNICAL FIRM TO TEST SUBGRADE SOILS AND CONFIRM THE ASSUMED BEARING PRESSURE.

C. NOTIFY ENGINEER IMMEDIATELY IF THE INSITU SOIL BEARING PRESSURE IS LOWER THAN THE ASSUMED VALUE PRIOR TO CONSTRUCTION.
3.

SLABS-ON-GRADE SHALL BEAR ON 6 INCHES OF COMPACTED GRANULAR FILL.
4.

DO NOT DAMAGE EXISTING STRUCTURES IN THE EXECUTION OF WORK.

FORMWORK, SHORING, AND BRACING

1.

STRUCTURES SHOWN ON THE DRAWINGS HAVE BEEN DESIGNED FOR STABILITY UNDER FINAL CONDITIONS ONLY. DESIGN SHOWN DOES NOT INCLUDE NECESSARY COMPONENTS OR EQUIPMENT FOR STABILITY OF THE STRUCTURES DURING CONSTRUCTION. CONTRACTOR IS RESPONSIBLE FOR WORK RELATING TO CONSTRUCTION ERECTION METHODS, BRACING, SHORING, RIGGING, GUYS, SCAFFOLDING, FORMWORK, AND OTHER WORK AIDS REQUIRED TO SAFELY PERFORM THE WORK SHOWN.

CONCRETE REINFORCING

1.

REINFORCING STEEL:= ASTM A615, GRADE 60
2.

FABRICATION AND PLACEMENT OF REINFORCING STEEL SHALL BE IN ACCORDANCE WITH CRSI MSP-1 "MANUAL OF STANDARD PRACTICE" AND ACI 301 "SPECIFICATIONS FOR STRUCTURAL CONCRETE".
3.

CONCRETE COVER FOR REINFORCING, UNLESS SHOWN OTHERWISE, SHALL BE:

WHEN CAST AGAINST EARTH:

UNLESS OTHERWISE NOTED:

= 3"
= 2"
4.

90 DEGREE BENDS, UNLESS OTHERWISE SHOWN, SHALL BE ACI 318 STANDARD HOOKS.
5.

REINFORCEMENT BENDS AND LAPS, UNLESS OTHERWISE NOTED, SHALL SATISFY THE FOLLOWING MINIMUM REQUIREMENTS:

CONCRETE DESIGN STRENGTH = 4,000 PSI MIN AT 28 DAYS										
GRADE 60 REINFORCING STEEL										
BAR SIZE	#3	#4	#5	#6	#7	#8	#9	#10	#11	
LAP SPLICE LENGTH										
SPACING = 3"	TOP BAR	1'-4"	1'-8"	2'-1"	3'-0"	5'-2"	6'-8"	8'-8"	10'-10"	13'-4"
	OTHER BAR	1'-4"	1'-4"	1'-8"	2'-4"	4'-0"	5'-2"	6'-7"	8'-4"	10'-3"
SPACING = 4"	TOP BAR	1'-4"	1'-8"	2'-0"	2'-5"	3'-10"	5'-0"	6'-5"	8'-1"	10'-0"
	OTHER BAR	1'-4"	1'-4"	1'-7"	1'-10"	3'-0"	3'-11"	4'-11"	6'-3"	7'-8"
SPACING ≥ 6"	TOP BAR	1'-4"	1'-8"	2'-0"	2'-5"	3'-6"	4'-0"	5'-0"	6'-2"	7'-5"
	OTHER BAR	1'-4"	1'-4"	1'-7"	1'-10"	2'-9"	3'-1"	3'-10"	4'-9"	5'-8"
EMBEDMENT LENGTH										
SPACING = 3"	TOP BAR	1'-0"	1'-3"	1'-6"	2'-4"	4'-0"	5'-2"	6'-7"	8'-4"	10'-3"
	OTHER BAR	1'-0"	1'-0"	1'-3"	1'-10"	3'-1"	4'-0"	5'-1"	6'-5"	7'-11"
SPACING = 4"	TOP BAR	1'-0"	1'-3"	1'-7"	1'-10"	3'-0"	3'-11"	4'-11"	6'-3"	7'-8"
	OTHER BAR	1'-0"	1'-0"	1'-3"	1'-5"	2'-4"	3'-0"	3'-10"	4'-10"	5'-11"
SPACING ≥ 6"	TOP BAR	1'-0"	1'-3"	1'-7"	1'-10"	2'-9"	3'-1"	3'-10"	4'-9"	5'-8"
	OTHER BAR	1'-0"	1'-0"	1'-3"	1'-5"	2'-1"	2'-5"	3'-0"	3'-8"	4'-5"

1.

TOP BARS SHALL BE DEFINED AS ANY HORIZONTAL BARS PLACED SUCH THAT MORE THAN 12 INCHES OF CONCRETE IS CAST IN THE MEMBER BELOW THE BAR IN ANY SINGLE POUR. HORIZONTAL WALL BARS ARE CONSIDERED TOP BARS.

CAST IN PLACE CONCRETE

1.

CONCRETE MIX DESIGN SHALL BE IN ACCORDANCE WITH ACI 301-10:

A. CONCRETE:

a. MINIMUM COMPRESSIVE STRENGTH f' 4,000 PSI AT 28 DAYS.

b. W/CM RATIO SHALL NOT EXCEED 0.45.

c. SLUMP SHALL BE 4 ± 1 INCH.

d. EXPOSURE CLASS AND CATEGORY F1S0W0C0.

B. PORTLAND CEMENT SHALL CONFORM TO ASTM C150 TYPE I OR II.

C. AGGREGATE SHALL COMPLY WITH ASTM C33, CLASS DESIGNATION 4M AND NON-REACTIVE AS DETERMINED USING ONE OF THE FOLLOWING:

- ASTM C1280

- ASTM C1293

- ASTM 1567

D. SUBMIT DOCUMENTATION OF AVERAGE STRENGTH FOR EACH PROPOSED MIX DESIGN IN ACCORDANCE WITH ACI 301.

E. STRENGTH TESTS:

a. ONE SPECIMEN AT 7 DAYS FOR INFORMATION.

b. TWO 6 INCH DIAMETER OR THREE 4 INCH DIAMETER TEST SPECIMENS AT 28 DAYS FOR ACCEPTANCE.

c. PROVIDE MINIMUM OF ONE SPARE TEST SPECIMEN PER SAMPLE.

F. PROVIDE TROWEL FINISH UNLESS OTHERWISE NOTED. DO NOT SPRINKLE WATER OR CEMENT ON SURFACE WHEN FINISHING.

G. APPLY ASTM C309 TYPE 1 OR 1-D CURING COMPOUND IN ACCORDANCE WITH MANUFACTURER'S WRITTEN RECOMMENDATIONS. SUPER DIAMOND CLEAR VOX BY EUCLID CHEMICAL COMPANY..

H. CHAMFER EXPOSED EDGES OF CONCRETE 3/4 INCH UNLESS OTHERWISE NOTED.

I. CONCRETE REPAIR: PATCH SURFACE DEFECTS THAT INCLUDE HONEYCOMBING, ROCK POCKETS, INDENTATIONS AND SURFACE VOIDS WITH SIKATOP 123 PLUS BY SIKA CORP.
2.

FINISH SLAB: BULL FLOAT WITH WOOD FLOAT, WOOD TROWEL, AND LIGHTLY TROWEL WITH STEEL TROWEL. FINISH WITH BROOM TO OBTAIN NONSKID SURFACE.

WELDING

1.

WELDS SHALL CONFORM TO AMERICAN WELDING SOCIETY (AWS):

D1.1, STRUCTURAL WELDING CODE STEEL

D1.2, STRUCTURAL WELDING CODE ALUMINUM

D1.3, STRUCTURAL WELDING CODE SHEET STEEL

D1.4, STRUCTURAL WELDING CODE REINFORCING STEEL

D1.6, STRUCTURAL WELDING CODE STAINLESS STEEL
2.

REPAIR WELDS FOUND DEFECTIVE IN ACCORDANCE WITH AWS D1.1 SECTION 5.26.
3.

USE INTERMITTENT WELDS AT FIELD WELDS OF EMBED PLATES AND ANGLES TO AVOID SPALLING OR CRACKING OF THE EXISTING CONCRETE.
4.

BUTT JOINT WELDS SHALL BE COMPLETE JOINT PENETRATION (CJP) UNLESS INDICATED OTHERWISE.

STRUCTURAL STEEL AND METAL FABRICATIONS

1.

STRUCTURAL STEEL SHALL CONFORM TO THE FOLLOWING ASTM STANDARDS:

W-SHAPES

MISCELLANEOUS SHAPES INCLUDING

ANGLES, CHANNELS, PLATES, ETC.

HOLLOW STRUCTURAL SECTIONS (HSS)

STEEL PIPE

STAINLESS STEEL SHAPES

A992
A36
A500, GRADE B
A53, GRADE B
A276
2.

ALUMINUM SHALL CONFORM TO THE FOLLOWING ASTM STANDARDS:

STRUCTURAL SHAPES

PLATES

B308
B209
3.

STRUCTURAL STEEL SHALL BE FABRICATED AND ERECTED IN CONFORMANCE WITH THE AISC MANUAL OF STEEL CONSTRUCTION, CURRENT EDITION, AND CURRENT OSHA STANDARDS.
4.

FASTENERS SHALL BE HIGH STRENGTH BOLTS CONFORMING TO THE FOLLOWING ASTM STANDARDS EXCEPT WHERE SPECIFICALLY INDICATED OTHERWISE:

ANCHOR BOLTS (AB)

STAINLESS STEEL

STEEL OR GALVANIZED STEEL

MACHINE BOLTS (MB)

STEEL

STAINLESS STEEL

GALVANIZED STEEL

ALUMINUM

A325-N
F593, AISI TYPE 316, CONDITION CW
F1554, GR 36 / A153
A307
F593, AISI TYPE 316, CONDITION CW
A307 / A153
F468, ALLOY 2024-T4
5.

ITEMS TO BE EMBEDDED IN CONCRETE SHALL BE CLEAN AND FREE OF OIL, DIRT AND PAINT.
6.

NO HOLES OTHER THAN THOSE SPECIFICALLY DETAILED SHALL BE ALLOWED THROUGH STRUCTURAL STEEL MEMBERS. NO CUTTING OR BURNING OF STRUCTURAL STEEL IS PERMITTED WITHOUT THE APPROVAL OF THE ENGINEER.

DEFERRED SUBMITTALS

1.

DEFERRED SUBMITTALS ARE THOSE PORTIONS OF THE DESIGN WHICH ARE NOT SUBMITTED AT THE TIME OF PERMIT APPLICATION AND WHICH ARE TO BE SUBMITTED TO THE PERMITTING AGENCY FOR ACCEPTANCE PRIOR TO INSTALLATION OF THAT PORTION OF THE WORK OR ARE REQUIRED TO BE SUBMITTED FOR REVIEW ONLY BY THE ENGINEER.
2.

WHERE DEFERRED SUBMITTALS INCLUDE ADDITIONAL MATERIALS, INSTALLATION, ANCHORAGE, OR CERTIFICATION OF COMPONENTS THAT REQUIRE SPECIAL INSPECTION AND/OR STRUCTURAL OBSERVATION TO MEET CODE REQUIREMENTS, THE DEFERRED SUBMITTAL SHALL INCLUDE SPECIFIC LINE ITEMS TO BE ADDED TO THE APPROPRIATE TABLES IN THE PROJECT'S STATEMENT OF SPECIAL INSPECTIONS PLAN IF THEY ARE NOT ALREADY IDENTIFIED.
3.

THE FOLLOWING IS A LIST OF DEFERRED SUBMITTALS PER IBC SECTION 107.3.4.1 OF 2020 FBC THAT ARE EXPECTED TO CONTAIN STRUCTURAL CALCULATIONS OR SAFETY RELATED SYSTEM INFORMATION FOR REVIEW TO MEET BUILDING PERMITTING REQUIREMENTS FOR DESIGNED SYSTEMS. PRIOR TO INSTALLATION OF THE INDICATED STRUCTURAL ELEMENT, EQUIPMENT, DISTRIBUTION SYSTEM, OR COMPONENT OR ITS ANCHORAGE, THE CONTRACTOR SHALL SUBMIT THE REQUIRED CALCULATIONS AND SUPPORTING DATA AND DRAWINGS FOR REVIEW AND ACCEPTANCE BY THE ENGINEER. ADDITIONALLY, ACCEPTANCE INDICATED ON THE ENGINEER'S COMMENT FORM, ALONG WITH THE COMPLETED, FINAL SUBMITTAL SHALL THEN BE SUBMITTED BY THE CONTRACTOR TO THE PERMITTING AGENCY AND APPROVED PRIOR TO INSTALLATION OF THESE ITEMS.

SPECIFICATION SECTION	CODE REQUIRED DEFERRED SUBMITTALS FOR REVIEW BY PERMITTING AGENCY
01 88 15	ANCHORAGE AND BRACING
OTHER	ANY EQUIPMENT OR COMPONENT IN WHICH A TECHNICAL SPECIFICATION REQUIRES SUBMITTAL OF EQUIPMENT OR ANCHORAGE SYSTEM CALCULATIONS

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DESIGN ENGINEER

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80180

DESIGNER:

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J. THORNTON

DATE:

MAY 2021

CHECKED BY:

C. JARSON

DATE:

MAY 2021

JEA

Building Communitysm

SIPS-SOUTHSIDE BLVD. INTERTIE TO DEERWOOD III WTP

DEERWOOD WTP PRIORITY 1 PROJECTS

GENERAL

STRUCTURAL GENERAL NOTES

PROJ. NO.

D32549S3

DATE:

MAY 2021

SCALE:

NTS

NO. SHEETS

30

SHEET NO.

G-005

DRAWING NO.

G-005

PROJ. TITLE: SIPS-SOUTHSIDE BLVD. INTERTIE TO DEERWOOD III WTP

JEA PROJ NO.: 8004887

IFB BID NO.: -

SECTION 40 27 02 VALVES

1.

ALL MATERIALS THAT COME IN CONTACT WITH FINISHED OR RAW WATER SHALL BE NSF 61 APPROVED. PROVIDE NSF 61 CERTIFICATE FOR EACH VALVE.
2.

UNLESS OTHERWISE SPECIFIED, ALL VALVES SHALL CONFORM TO JEA WATER AND SEWER STANDARDS, LATEST EDITION.
3.

VALVE FACTORY FINISHING EPOXY LINING AND COATING
A. SHALL BE IN ACCORDANCE WITH AWWA C550

B. SHALL BE EITHER TWO-PART LIQUID MATERIAL OR HEAT-ACTIVATED (FUSION) MATERIAL EXCEPT ONLY HEAT-ACTIVATED MATERIAL IF SPECIFIED AS "FUSION"OR "FUSION BONDED" EPOXY.

C. MINIMUM 7-MIL DRY FILM THICKNESS EXCEPT WHERE LIMITED BY VALVE OPERATING TOLERANCES

GATE VALVES:
4. TYPE V135 RESILIANT SEATED DUCTILE IRON GATE VALVES: SHALL BE IN ACCORDANCE TO JEA WATER AND SEWER STANDARDS SECTION 351, LATEST EDITION.

5.

TYPE V307 STAINLESS STEEL BALL VALVE 2 INCHES AND SMALLER:

A. THREE-PIECE, FULL PORT, ASTM A276 GR 316 OR ASTM A351/A351M GR CF8M STAINLESS STEEL BODY AND END PIECES, TYPE 316 STAINLESS STEEL BALL, NPT THREADED ENDS, REINFORCED PTFE SEATS, SEALS, AND PACKING, ADJUSTABLE PACKING GLAND, BLOWOUT-PROOF STAINLESS STEEL STEM, STAINLESS STEEL LEVER OPERATOR WITH VINYL GRIP, RATED 800 PSIG TO 1,000 PSIG CWP, COMPLIES WITH MSS SP 110.

B. MANUFACTURERS AND PRODUCTS:

I. CONBRACO APOLLO; 86R-100/86-500 SERIES.

II. NIBCO; T-595-S6-R-66-LL.
6.

TYPE V330 PVC BALL VALVE 2 INCHES AND SMALLER:

A. RATED 150 PSI WITH ASTM D1784, TYPE I, GRADE 1 POLYVINYL CHLORIDE, BALL, STEM, END ENTRY, DOUBLE UNION DESIGN, SOLVENT-WELD SOCKET ENDS, ELASTOMER SEAT, VITON OR TEFLON O-RING SEALS, TO BLOCK FLOW IN BOTH DIRECTIONS.

B. MANUFACTURES AND PRODUCTS:
1) ASAHI-AV TRUE UNION.

PLUG VALVES:
7. TYPE V464 CORPORATION STOP 1/2 INCH TO 2 INCHES: SHALL BE IN ACCORDANCE TO JEA WATER AND SEWER STANDARDS SECTION 351, LATEST EDITION.

- CHECK VALVES:
8. TYPE V634 RUBBER FLAPPER CHECK VALVE 2 INCHES TO 24 INCHES:

A. IRON BODY, ASME B16.1, CLASS 125 FLANGES, STEEL-REINFORCED BUNA-N FLAPPER RAISED SEATING RING, RATED 150POUND CWP.

B. MANUFACTURERS AND PRODUCTS:

1) VAL-MATIC; 500 SERIES "SWINGFLEX" WITH LIMIT SWITCH

2) GA; FIGURE 200 WITH LIMIT SWITCH

C. LIMIT SWITCH SHALL BE FACTORY INSTALLED NEMA 4X LIMIT SWITCH BY ACTUATOR MANUFACTURER. SPST RATED AT 5 AMPS, 120 VOLTS AC. SWITCH CLOSSES WHEN VALVE FULLY CLOSED. FURNISH ON EACH TYPE V634 VALVE

- SELF-REGULATED AUTOMATIC VALVES:
9. TYPE V710 PRESSURE-REDUCING VALVE 2 1/2 INCHES AND SMALLER:

A. DIRECT DIAPHRAGM OPERATED, SPRING CONTROLLED, BRONZE BODY, NPT THREADED ENDS, 200 PSIG RATED MINIMUM.

B. MANUFACTURES AND PRODUCTS:
1) FISHER; TYPE 75A.
2) WATTS; SERIES 223.

- MISCELLANEOUS VALVES:
10. TYPE V900 FLOW CONTROL VALVE:
A. THE VALVE SHALL BE A SINGLE-CHAMBERED, DIAPHRAGM ACTUATED. THE VALVE BODY AND COVER SHALL BE MADE OF EPOXY COATED DUCTILE IRON TO ASTM A536 WITH FLANGES CONFORMING TO ANSI B16.24 CLASS 150 WITH A MAXIMUM NON-SHOCK PRESSURE RATING OF 250 PSI. ALL IRON SURFACES SHALL BE SHOT BLASTED, PREHEATED AND HAVE AN ELECTRO STATICALLY APPLIED, OVEN CURED FUSION BONDED NSF 61 APPROVED EPOXY COATING. THE VALVE SEAT, OPERATING SHAFT, ALL INTERNAL SCREWS, BOLTS, AND NUTS SHALL BE SAE 303 STAINLESS STEEL. THE VALVE SPRING SHALL BE 302 STAINLESS STEEL. VALVE BEARING SHALL BE BRONZE. THE DISC SEAL, THE NYLON FABRIC BONDED RUBBER DIAPHRAGM AND ALL O-RINGS SHALL BE NBR OR EPDM. ACCESSORIES, TUBING & FITTINGS SHALL BE 316 STAINLESS STEEL.

B. THE VALVE SHALL OPEN WIDE OR CLOSE DRIP TIGHT IN RESPONSE TO AN ELECTRICAL SIGNAL. TWO 3-WAY SOLENOID PILOT VALVES WILL BE PROVIDED THAT ACTUATE TWO ¾" 2-WAY HYDRAULIC RELAY VALVE THAT ALTERNATELY ADD OR RELIEVE LINE PRESSURE FROM THE UPPER COVER CHAMBER OF THE VALVE, CAUSING IT TO OPEN WIDE, CLOSE TIGHT, OR MAINTAIN A FIXED POSITION IN RESPONSE TO AN ELECTRICAL SIGNAL DIRECTED BY AN ELECTRONIC CONTROLLER. SOLENOID VALVES SHALL INCLUDE MANUAL OVERRIDE. VALVE SHALL INCLUDE OPENING AND CLOSING SPEED CONTROLS.

C. THE MAIN VALVE SHALL BE A GLOBE STYLE DIAPHRAGM ACTUATED TYPE WHERE FLOW THROUGH THE VALVE IS SEMI-STRAIGHT WITH NO RIGHT ANGLE TURNS FOR MINIMUM HEAD LOSS. ALL VALVE COMPONENTS SHALL BE ACCESSIBLE AND SERVICEABLE WITHOUT REMOVING THE VALVE FROM THE PIPELINE. ALL EXTERNAL BOLTS AND NUTS SHALL BE MADE OF 316SS.

D. A DIAPHRAGM MADE OF NYLON FABRIC-REINFORCED SYNTHETIC RUBBER SHALL BE USED. THE VALVE DIAPHRAGM SHALL NOT BE USED AS A SEALING SURFACE. THE DIAPHRAGM SHALL BE FULLY SUPPORTED BY THE VALVE BODY AND COVER IN THE OPEN OR CLOSED POSITIONS. ALL INTERNAL FASTENERS SHALL BE 316 SST. A 4-20MA ULTRASONIC POSITION TRANSMITTER SHALL BE INCLUDED.

E. PILOT CONTROL SYSTEM: THERE WILL BE TWO ASCO 8320G230MS 3-WAY SOLENOIDS. THE SOLENOID VALVES WILL ACTUATE A PAIR OF ¾" 2-WAY HYDRAULIC RELAY VALVES. BOTH SOLENOIDS SHALL BE 120VAC AND SHALL HAVE MANUAL OPERATORS.

F. MANUFACTURES AND PRODUCTS:
1) BERMAD; WW-24"M5-718-03-P2-G-C-A5-EB-5AC-NN-NQ

SECTION 40 27 00 PIPING

1.

ALL MATERIALS THAT COME IN CONTACT WITH FINISHED OR RAW WATER SHALL BE NSF 61 APPROVED.
2.

ALL PIPING MATERIAL AND INSTALLATION SHALL CONFORM TO JEA WATER AND SEWER STANDARDS, LATEST EDITION.
3.

PRESSURE TESTING AND FLUSHING: PER JEA STANDARDS- SECTION 350, POTABLE WATER PIPING, LATEST EDITION.
4.

DISINFECTION: PER JEA STANDARDS- SECTION 350, POTABLE WATER PIPING, LATEST EDITION.
5.

ALL DUCTILE IRON AND PVC PIPE SHALL CONFORM TO JEA STANDARDS-SECTION 350, POTABLE WATER PIPING. DUCTILE IRON PIPE SHALL BE LINED WITH CEMENT-MORTAR CONFORMING TO AWWA C104/A21.4-9
6.

ALL PIPING ON THE WTP SITE SHALL BE RESTRAINED. RESTRAINTS SHALL CONFORM TO JEA STANDARDS-SECTION 350, POTABLE WATER PIPING, LATEST EDITION.
7.

ALL STAINLESS STEEL PIPE AND FITTINGS SHALL CONFORM TO SECTION 40 27 00 08 ON THIS SHEET.
8.

SERVICE SADDLES: REQUIRED ON ALL DUCTILE IRON PIPE TAPS.

A. DOUBLE-STRAP DESIGN RATED 150 PSI MINIMUM WORKNG PRESSURE.

B. RUN DIAMETERS COMPATIBLE WITH THE OUTSIDE DIAMETER OF THE PIPE ON WHICH THE SADDLE IS INSTALLED.

C. TAPS WITH IRON PIPE THREADS.

D. MANUFACTURERS AND MODELS: PER JEA STANDARDS APPROVED MATERIAL.
9.

ALL DUCTILE IRON PIPE AND VALVES SHALL COME FACTORY PRIMED WITH 4 TO 6 MDFT WITH TNEMEC SERIES N 140 POTA POX PLUS.

SECTION 09 90 00 PAINTING AND COATING

1.

COLOR: PER JEA WATER AND SEWER STANDARDS, LATEST EDITION.

SIPS WATER PIPING	OLIVE GREEN FED STD 5958 #34258
ALL ELECTRIC MOTORS	RED FED STD 595B #11350
DO NOT PAINT ANY STAINLESS STEEL PIPING	

2.

SYSTEM NO. 10 GALVANIZED METAL CONDITIONING: USE ON GALVANIZED SURFACES REQUIRING PAINTING.

SURFACE PREP.	PAINT MATERIAL	MIN. COATS, COVER
SOLVENT CLEAN (SP 1) FOLLOWED BY HAND TOOL (SP 2) OR POWER TOOL (SP 3)	WASH PRIMER OR COATING MANUFACTURER'S RECOMMENDATION	1 COAT, 0.4 MD FT

3.

SYSTEM NO. 25 EXPOSED FRP, PVC: USE ON ALL EXPOSED-TO-VIEW PVC AND CPVC SURFACES, AND FRP SURFACES WITHOUT INTEGRAL UV-RESISTANT GEL COAT.

SURFACE PREP.	PAINT MATERIAL	MIN. COATS, COVER
IN ACCORDANCE WITH PARAGRAPH PLASTIC AND FRP SURFACE PREPARATION	ACRYLIC LATEX FLAT	2 COATS, 320 SFPG PC

4.

SYSTEM NO. 27 ALUMINUM AND DISSIMILAR METAL INSULATION: USE ON CONCRETE EMBEDDED ALUMINUM SURFACES.

SURFACE PREP.	PAINT MATERIAL	MIN. COATS, COVER
SOLVENT CLEAN (SP1)	WASH PRIMER	1 COAT, 0.4 MDFT
	BITUMINOUS PAINT	1 COAT, 10 MDFT

5.

SYSTEM NO. 5A: EXPOSED AND SUBMERGED DUCTILE IRON PIPE AND VALVES

SURFACE PREP.	PAINT MATERIAL	MIN. COATS, COVER
SOLVENT CLEAN (SP 1), FOLLOWED BY POWER TOOL (SP 3), ABRADE ALL SURFACES PER RECOMMENDED SURFACE PROFILE	PRIME COAT: ALL FACTORY PRIMED METAL WITH TNEMEC SERIES N 140 POTA POX PLUS	1 COAT, 3-5 MDFT
	STRIPE COAT: ALL EDGES WITH A 2-INCH ROLLER USING TNEMEC SERIES N 140 POTA POX PLUS	1 COAT, 3 - 5 MDFT
	FINAL FINISH COAT: ALL EXPOSED SURFACES WITH TNEMEC SERIES 1095	1 COAT, 3 - 5 MDFT

6.

SYSTEM NO. 7: EXPOSED METAL INCLUDING MCC CABINET

SURFACE PREP.	PAINT MATERIAL	MIN. COATS, COVER
REMOVE ALL GREASE. OILS, AND LOOSE RUST WITH SOLVENT CLEANING (SP 1) AND HAND TOOL (SP 2)	STRIPE COAT ALL SHARP EDGES WITH TNEMEC SERIES 135 USING A 2-INCH ROLLER	1 COAT, 3-5 MDFT
	FULL PRIME ALL EXTERIOR SURFACES WITH TNEMEC SERIES 135	1 COAT, 3 - 5 MDFT
	FULL FINISH ALL EXTERIOR SURFACES WITH TNEMEC SERIES 1095, SEMI-GLOSS.PROVIDE A COLOR CHART FOR OWNER SELECTION OF FINISH COLOR.	1 COAT, 2.5 - 4.0 MDFT

SECTION 40 27 00 08

STAINLESS STEEL PIPE AND FITTINGS - GENERAL SERVICE

ITEM	SIZE	DESCRIPTION
PIPE	2" & SMALLER	SCHEDULE 40S: ASTM A312/A312M, TYPE 316 SEAMLESS, PICKLED AND PASSIVATED.
JOINTS	2 INCH & SMALLER	THREADED OR FLANGED AT EQUIPMENT AS REQUIRED OR SHOWN.
FITTINGS	2 INCH & SMALLER	THREADED: FORGED 1,000 CWP MINIMUM, ASTM A182/A182M, REV C GRADE F316L.
BRANCH CONNECTIONS	2 INCH & SMALLER	TEE OR REDUCING TEE IN CONFORMANCE WITH FITTINGS ABOVE.
FLANGES	ALL	FORGED STAINLESS STEEL: ASTM A182/A182M, GRADE F316L, ASME B16.5 CLASS 150 OR CLASS 300, SLIP-ON WELD NECK OR RAISED FACE, WELD SLIP-ON FLANGES INSIDE AND OUTSIDE. CAST CARBON STEEL: ASTM A216/A216M GRADE WCA, DRILLED, ASME B16.5 CLASS 150 OR CLASS 300 VAN STONE TYPE WITH STAINLESS STEEL STUB ENDS, ASTM A240 TYPE 316L "AS-WELDED GRADE", CONFORMING TO MSS SP 43, WALL THICKNESS SAME AS PIPE.
UNIONS	2 INCH & SMALLER	THREADED FORGED: ASTM A182/A182M, GRADE F316, 2,000-POUND OR 3,000-POUND WOG, INTEGRAL GROUND SEATS, AAR DESIGN MEETING THE REQUIREMENTS OF ASME B16.11, BORE TO MATCH PIPE.
BOLTING	ALL	FORGED FLANGES: TYPE 316 STAINLESS STEEL, ASTM A320/A320M GRADE B8M HEX HEAD BOLTS, ASTM A194/A194M GRADE 8M HEX HEAD NUTS AND ASTM F436/F436M TYPE 3 ALLOY WASHERS AT NUTS AND BOLT HEADS. ACHIEVE 40 PERCENT TO 60 PERCENT OF BOLT MINIMUM YIELD STRESS. VAN STONE FLANGES AND ANYWHERE MATING FLANGE ON EQUIPMENT IS CAST IRON AND GASKET IS FLAT RING; CARBON STEEL ASTM A307 GRADE B HEX HEAD BOLTS, ASTM A563 GRADE A HEX HEAD NUTS AND ASTM F436/F436M HARDENED STEEL WASHERS AT NUTS AND BOLT HEADS. ACHIEVE 40 PERCENT TO 60 PERCENT OF BOLT MINIMUM YIELD STRESS.
GASKETS	ALL FLANGES	FLANGED, WATER AND SEWAGE SERVICES: 1/8 INCH THICK, RED RUBBER (SBR), HARDNESS 80 (SHORE A), RATED TO 200 DEGREES F, CONFORMING TO ASME B16.21, AWWA C207, AND ASTM D1330, GRADE 1 AND 2. BLIND FLANGES SHALL BE GASKETED COVERING ENTIRE INSIDE FACE WITH GASKET CEMENTED TO BLIND FLANGE.
THREAD LUBRICANT	2 INCH & SMALLER	GENERAL SERVICE: 100 PERCENT VIRGIN PTFE TEFLON TAPE.

SECTION 40 27 00 10

POLYVINYL CHLORIDE (PVC) PIPE AND FITTINGS

ITEM	SIZE	DESCRIPTION
GENERAL	ALL	MATERIALS IN CONTACT WITH POTABLE WATER SHALL CONFORM TO NSF 61 ACCEPTANCE.
PIPE	ALL	SCHEDULE 80 PVC: TYPE I, GRADE I OR CLASS 12454B CONFORMING TO ASTM D1784 AND ASTM D1785. PIPE SHALL BE MANUFACTURED WITH TITANIUM DIOXIDE FOR ULTRAVIOLET PROTECTION. THREADED NIPPLES: SCHEDULE 80 PVC.
FITTINGS	ALL	FITTINGSALLSCHEDULE TO MATCH PIPE ABOVE: ASTM D2466 AND ASTM D2467 FOR SOCKET WELD TYPE AND SCHEDULE 80 ASTM D2464 FOR THREADED TYPE. FITTINGS SHALL BE MANUFACTURED WITH TITANIUM DIOXIDE FOR ULTRAVIOLET PROTECTION.
JOINTS	ALL	SOLVENT SOCKET WELD EXCEPT WHERE CONNECTION TO THREADED VALVES AND EQUIPMENT MAY REQUIRE FUTURE DISASSEMBLY.
SOLVENT CEMENT	ALL	SOCKET TYPE JOINTS SHALL BE MADE EMPLOYING SOLVENT CEMENT THAT MEETS OR EXCEEDS THE REQUIREMENTS OF ASTM D2564 AND PRIMER THAT MEETS OR EXCEEDS REQUIREMENTS OF ASTM F666, CHEMICALLY RESISTANT TO THE FLUID SERVICE, AND AS RECOMMENDED BY PIPE AND FITTING MANUFACTURER SOLVENT CEMENT AND PRIMER SHALL BE LISTED BY NSF 61 FOR CONTACT WITH POTABLE WATER.
THREAD LUBRICANT	ALL	TEFLON TAPE.

Jacobs

200 WEST FORSYTH STREET, T: (904) 636-5432
SUITE 1520 F:(904) 224-3102
JACKSONVILLE, FL 32202 COA # 2822

DESIGN ENGINEER
LAWRENCE BRADLEY GUNN
FLORIDA REGISTRATION NO. 65967

DESIGNER:
L GUNN
DRAWN BY:
N PATTERSON
DATE:
MAY 2021
CHECKED BY:
L GUNN
DATE:
MAY 2021

JEA

Building Communitysm

SIPS-SOUTHSIDE BLVD, INTERTIE TO DEERWOOD III WTP
DEERWOOD WTP PRIORITY 1 PROJECTS
GENERAL
PROCESS MECHANICAL SPECIFICATIONS

PROJ. NO. D32549S3
DATE: MAY 2021
SCALE: NTS


NO. SHEETS 30
SHEET NO.
DRAWING NO. G-007


PROJ. TITLE: SIPS-SOUTHSIDE BLVD, INTERTIE TO DEERWOOD III WTP

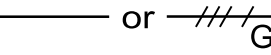
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IFB BID NO.: -

POWER SYSTEM PLAN-1

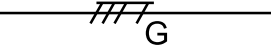
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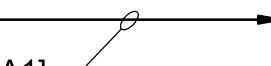
CONNECTION POINT TO EQUIPMENT SPECIFIED, RACEWAY, CONDUCTOR,TERMINATION AND CONNECTION IN THIS DIVISION.
- 

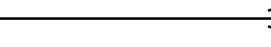
HOME RUN - DESTINATION SHOWN
- 

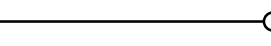
EXPOSED CONDUIT AND CONDUCTORS*

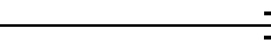
NOTE:
ALL UNMARKED CONDUIT RUNS CONSIST OF TWO NO. 12, ONE NO. 12 GROUND CONDUCTORS IN 3/4" CONDUIT. RUNS MARKED WITH CROSSHATCHES INDICATE NUMBER OF NO. 12 CONDUCTORS. CROSSHATCH WITH SUBSCRIPT "G" INDICATES GREEN GROUND WIRE.

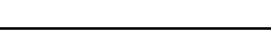
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CROSSHATCHES WITH BAR INDICATE NO.10 CONDUCTOR, SIZE CONDUIT ACCORDING TO SPECIFICATIONS AND APPLICABLE CODE.
- 


CONDUIT AND CONDUCTOR CALLOUT, SEE LEGEND.
- 


CONDUIT DOWN
- 

CONDUIT UP
- 

CONDUIT, STUBBED AND CAPPED
- 

CONDUIT TERMINATION AT CABLE TRAY
- 

EXISTING CONDUIT/ DUCT BANK
- 

CONDUIT ROUTING AREA
- 

CABLE TRAY

ELECTRICAL GENERAL NOTES

- 1

CONDUIT, WIRE AND EQUIPMENT SIZES AND LOCATIONS SHOWN ARE FOR BID BASIS ONLY AND SHALL BE VERIFIED BY THE CONTRACTOR BEFORE CONSTRUCTION. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO COORDINATE ALL WORK WITH APPROVED SHOP DRAWINGS, WITH THE REQUIREMENTS OF EQUIPMENT PROVIDED, WITH EQUIPMENT FURNISHED BY OWNER FOR INSTALLATION BY CONTRACTOR AND WITH REQUIREMENTS OF OTHER DIVISIONS OF THE CONTRACT AS NECESSARY TO PROVIDE COMPLETE AND WORKING SYSTEMS COMPLYING WITH THE CONTRACT DOCUMENTS. ALL PROPOSED DEVIATIONS FROM CONTRACT DOCUMENTS SHALL BE SUBMITTED AND APPROVED BEFORE EXECUTION OF THE AFFECTED WORK.
- 2

THE TERMS RACEWAY AND CONDUIT ARE USED IN THESE DOCUMENTS TO DENOTE NOT ONLY THE RACEWAY OR CONDUIT ITSELF BUT ALSO ALL JUNCTION BOXES, PULL BOXES, CONDUITS, FITTINGS, CLAMPS, SUPPORTS AND ALL OTHER ITEMS NECESSARY FOR A COMPLETE AND WORKING SYSTEM COMPLYING WITH THE CONTRACT DOCUMENTS.
- 3

NOTES INDICATED AS "REF", "REFERENCE" OR "REFER TO" ARE PROVIDED TO ASSIST IN LOCATING RELATED CONTRACTUAL REQUIREMENTS BUT ARE NOT CONTRACTUAL INSTRUCTIONS THEMSELVES. MISSING, INCORRECT OR INCOMPLETE REFERENCES SHALL HAVE NO EFFECT ON THE REQUIREMENTS OF THE CONTRACT.
- 4

AT ITEMS MARKED MSC (MANUFACTURER SUPPLIED OR SPECIFIED CABLE) CONTRACTOR SHALL DETERMINE REQUIREMENTS FOR, AND PROVIDE, CONDUIT AND CABLE AS REQUIRED BY MANUFACTURER AND IN COMPLIANCE WITH CONTRACT DOCUMENTS.
- 5

EXCEPT AS NOTED BELOW, ALL WIRE AND CABLE, INCLUDING FIBER OPTIC, SHALL BE INSTALLED IN RACEWAY. EXCEPTIONS ARE EQUIPMENT CABLES PROVIDED BY EQUIPMENT MANUFACTURERS AND UL LISTED FOR INSTALLATION OUTSIDE OF CONDUIT, INCLUDING FLOAT SWITCH AND SUBMERSIBLE PUMP CABLES.
- 6

SPARE RUNS OF CONDUCTORS SHALL BE INSULATED/TERMINATED AND LABELED AT BOTH ENDS. SPARE RUNS OF FIBER OPTIC STRANDS SHALL BE LABELED AND TERMINATED AT BOTH ENDS. ALL CONDUCTORS AND FIBERS SHALL BE TESTED AFTER INSTALLATION AND TEST REPORTS SHALL BE SUBMITTED. REPLACE ALL DEFECTIVE MATERIAL; DO NOT SUBMIT TEST REPORTS SHOWING DEFECTS.

- 7

LOCATIONS AND ELEVATIONS OF ELECTRICAL CONNECTIONS, MOTORS, PANEL BOARDS, TRANSFORMERS, CONTROL CABINETS AND OTHER ITEMS SHOWN ON DOCUMENTS ARE APPROXIMATE ONLY UNLESS DIMENSIONED. COORDINATE EXACT LOCATIONS AND ELEVATIONS WITH REQUIREMENTS OF OTHER DIVISIONS OF THESE DOCUMENTS. IN AREAS WHERE SPACE AVAILABLE IS LIMITED, PREPARE DIMENSIONED DRAWINGS SHOWING EXACT PROPOSED LOCATIONS OF EQUIPMENT AND VERIFYING THAT EQUIPMENT PROPOSED FOR USE CAN BE INSTALLED AS SHOWN ON PLANS IN COMPLIANCE WITH NEC AND MANUFACTURER'S REQUIREMENTS. BASE THESE DRAWINGS ON DIMENSIONS OF EQUIPMENT TO BE INSTALLED UNDER THIS CONTRACT WHICH ARE KNOWN TO CONTRACTOR TO BE CORRECT AND NOT SUBJECT TO CHANGE. NOTE DEVIATIONS FROM BID BASIS DRAWINGS AND DISCUSS WITH ENGINEER. SUBMIT THESE DRAWINGS AND RECEIVE APPROVAL BEFORE EXECUTING THE WORK. DO NOT SUBMIT SHOP DRAWINGS FOR EQUIPMENT WHICH IS NOT ACCOMPANIED BY DRAWINGS VERIFYING COMPLIANCE WITH CONTRACT REQUIREMENTS.
- 8

PROVIDE #10 WIRE INSTEAD OF #12 WIRE FOR ALL 20 AMPERE 120 VOLT OR 208 VOLT CIRCUITS EXCEEDING 150 FEET CONDUIT LENGTH.
- 9

WHERE THE NUMBER OR SIZE OF CONDUCTORS SHOWN TO BE CONNECTED ARE IN EXCESS OF THE CAPACITY OF THE STANDARD TERMINALS OF THE CONNECTED EQUIPMENT, PROVIDE ADDITIONAL TERMINALS, ENCLOSURES, JUNCTION BOXES, PULL SECTIONS, WIRES, CONDUITS AND ALL OTHER MATERIALS AND LABOR AS NECESSARY TO MAKE THE CONNECTIONS SHOWN IN COMPLIANCE WITH THE CONTRACT DOCUMENTS.
- 10

ALL MATERIALS AND EQUIPMENT PROPOSED FOR USE SHALL BE NEW, UNUSED, FREE OF DAMAGE OR DETERIORATION, FULLY RATED AS SPECIFIED AND SCHEDULED IN THE CONTRACT DOCUMENTS AT THE PROJECT ALTITUDE AND MAXIMUM AMBIENT TEMPERATURE.
- 11

COORDINATE SIZE AND INSTALLATION OF ALL EQUIPMENT WITH EXISTING CONDITIONS AND WORK IN OTHER DIVISIONS OF CONTRACT TO ENSURE COMPLIANCE WITH THE NEC, INCLUDING BUT NOT LIMITED TO PARAGRAPH 110.26 SPACES ABOUT ELECTRICAL EQUIPMENT.
- 12

STANDARD DETAILS INCLUDED IN THESE DOCUMENTS SHALL BE USED WHERE APPLICABLE WHETHER SPECIFICALLY CALLED OUT ON THE PLANS OR NOT. PRACTICES CUSTOMARY TO THE TRADE MAY BE USED ONLY WHERE NO APPLICABLE STANDARD DETAIL CAN BE FOUND IN THESE DOCUMENTS AND WHERE THE CUSTOMARY PRACTICE WILL RESULT IN A COMPLETE AND WORKING SYSTEM IN COMPLIANCE WITH THESE DOCUMENTS.
- 13

REFER TO DOCUMENTS OF OTHER DIVISIONS OF CONTRACT, INCLUDING BUT NOT LIMITED TO PROCESS MECHANICAL AND HVAC, FOR LOCATIONS OF PROCESS, INSTRUMENTATION, CONTROL, HVAC AND OTHER EQUIPMENT REQUIRING ELECTRICAL, FIBER OPTIC OR RACEWAY-ONLY CONNECTIONS TO BE PROVIDED UNDER THIS DIVISION OF CONTRACT. ALL EQUIPMENT LOCATIONS SHOWN ON DRAWINGS IN THIS DIVISION ARE APPROXIMATE ONLY UNLESS DIMENSIONED.
- 14

ALL SHEET METAL JUNCTION BOXES, TERMINAL JUNCTION BOXES, CONTROL PANELS AND OTHER SHEET METAL ELECTRICAL ENCLOSURES OF CONTRACT, BE NEMA 4-X STAINLESS STEEL WHERE SHOWN WITH FAST OPERATING CLAMP ASSEMBLIES. PROVIDE HOFFMAN SUFFIX TYPE SSLP WITH AFC412SS CLAMPS OR APPROVED EQUALS. PROVIDE TERMINAL JUNCTION BOXES AND CONTROL PANELS WITH REMOVABLE INTERIOR STEEL PANELS FACTORY PAINTED WHITE.
- 15

ALL FABRICATED ASSEMBLIES SUPPORTING ELECTRICAL EQUIPMENT PROVIDED UNDER THIS DIVISION OF CONTRACT SHALL BE UL LISTED INDIVIDUALLY, UL LISTED AS PART OF AN ASSEMBLY OR SHALL BE FABRICATED TO A DESIGN PREPARED BY A STRUCTURAL ENGINEER LICENSED TO PRACTICE IN THE STATE OR OTHERWISE PERMITTED TO PRACTICE ENGINEERING IN THE STATE. WHERE DETAILS IN THIS DIVISION OF THE CONTRACT DOCUMENTS CONTAIN SPECIFIC DIMENSIONS, SIZES, WELD INSTRUCTIONS OR SIMILAR INFORMATION RELATED TO THE STRENGTH OF THE ASSEMBLY, THESE SHALL BE INTERPRETED AS BID-BASIS REQUIREMENTS ONLY AND SHALL BE SUPERCEDED BY THE UL OR ENGINEERING DESIGN REQUIREMENTS ABOVE.
- 16

AT ALL LOCATIONS WHERE CONTRACTOR IS DIRECTED TO CUT OFF CONDUITS THROUGH CONCRETE SLAB AND GROUT CLOSED, CONTRACTOR SHALL FIRST DRILL 1-1/2 INCHES DEEP INTO CONCRETE AND USE NON-SHRINK GROUT TO BACKFILL HOLE FLUSH AND SMOOTH WITH EXISTING CONCRETE SURFACE.
- 17

COORDINATE EARTH WORK AND INSTALLATION OF ELECTRICAL ITEMS WITH INTERFERENCES SHOWN ON DOCUMENTS OF ALL DIVISIONS OF CONTRACT, INCLUDING CIVIL AND YARD PIPING. REPORT ALL DAMAGE AT ONCE TO OWNER AND ENGINEER AND REPAIR AS DIRECTED AT NO CHANGE IN CONTRACT.

POWER CIRCUIT CALLOUT SCHEDULE					
EQUIPMENT GROUNDS NEC 250 Table 122		100% GROUNDS NEC 250-122(A)		SERVICE NEUTRAL NEC 250 Table 66	
2 Wire + Ground					
[20E2]	3/4"C-2#12,#12G	[20M2]	3/4"C-2#12,#12G	NA	NA
[30E2]	3/4"C-2#10,#10G	[30M2]	3/4"C-2#10,#10G	NA	NA
[40E2]	3/4"C-2#8,#10G	[40M2]	3/4"C-2#8,#8G	[40S2]	3/4"C-2#8,#8N
[50E2]	3/4"C-2#8,#10G	[50M2]	3/4"C-2#8,#8G	[50S2]	3/4"C-2#8,#8N
[60E2]	1"C-2#6,#10G	[60M2]	1"C-2#6,#6G	[60S2]	3/4"C-2#6,#8N
[70E2]	1"C-2#4,#8G	[70M2]	1"C-2#4,#4G	[70S2]	3/4"C-2#4,#8N
[80E2]	1"C-2#4,#8G	[80M2]	1"C-2#4,#4G	[80S2]	3/4"C-2#4,#8N
[90E2]	1"C-2#3,#8G	[90M2]	1"C-2#3,#3G	[90S2]	1"C-2#3,#8N
[100E2]	1"C-2#3,#8G	[100M2]	1"C-2#3,#3G	[100S2]	1"C-2#3,#8N
[110E2]	1"C-2#2,#6G	[110M2]	1"C-2#2,#2G	[110S2]	1"C-2#2,#8N
[125E2]	1-1/4"C-2#1,#6G	[125M2]	1-1/4"C-2#1,#1G	[125S2]	1-1/4"C-2#1,#6N
[150E2]	1-1/4"C-2#1/0,#6G	[150M2]	1-1/4"C-2#1/0,#1/0G	[150S2]	1-1/4"C-2#1/0,#6N
[200E2]	1-1/2"C-2#3/0,#6G	[200M2]	1-1/2"C-2#3/0,#3/0G	[200S2]	1-1/4"C-2#3/0,#4N
[225E2]	2"C-2#4/0,#4G	[225M2]	2"C-2#4/0,#4/0G	[225S2]	1-1/2"-2#4/0,#2N
[400E2]	3"C-2#500,#3G	[400M2]	3"C-2#500,#500G	[400S2]	3"-2#500,#1/0N
3 Wire + Ground					
[20E3]	3/4"C-3#12,#12G	[20M3]	3/4"C-3#12,#12G	NA	NA
[30E3]	3/4"C-3#10,#10G	[30M3]	3/4"C-3#10,#10G	NA	NA
[40E3]	3/4"C-3#8,#10G	[40M3]	3/4"C-3#8,#8G	[40S3]	3/4"C-3#8,#8N
[50E3]	3/4"C-3#8,#10G	[50M3]	3/4"C-3#8,#8G	[50S3]	3/4"C-3#8,#8N
[60E3]	3/4"C-3#6,#10G	[60M3]	3/4"C-3#6,#6G	[60S3]	3/4"C-3#6,#8N
[70E3]	1"C-3#4,#8G	[70M3]	1"C-3#4,#4G	[70S3]	1"C-3#4,#8N
[80E3]	1"C-3#4,#8G	[80M3]	1"C-3#4,#4G	[80S3]	1"C-3#4,#8N
[90E3]	1-1/4"C-3#3,#8G	[90M3]	1-1/4"C-3#3,#3G	[90S3]	1"C-3#3,#8N
[100E3]	1-1/4"C-3#3,#8G	[100M3]	1-1/4"C-3#3,#3G	[100S3]	1"C-3#3,#8N
[110E3]	1-1/2"C-3#2,#6G	[110M3]	1-1/2"C-3#2,#2G	[110S3]	1"C-3#2,#8N
[125E3]	1-1/2"C-3#1,#6G	[125M3]	1-1/2"C-3#1,#1G	[125S3]	1-1/2"C-3#1,#6N
[150E3]	1-1/2"C-3#1/0,#6G	[150M3]	1-1/2"C-3#1/0,#1/0G	[150S3]	1-1/4"C-3#1/0,#6N
[200E3]	2"C-3#3/0,#6G	[200M3]	2"C-3#3/0,#3/0G	[200S3]	1-1/2"C-3#3/0,#4N
[225E3]	2"C-3#4/0,#4G	[225M3]	2"C-3#4/0,#4/0G	[225S3]	2"C-3#4/0,#2N
[250E3]	2-1/2"C-3#300,#4G	[250M3]	2-1/2"C-3#300,#300G	[250S3]	2-1/2"C-3#300,#2N
[300E3]	3"C-3#350,#4G	[300M3]	3"C-3#350,#350G	[300S3]	2-1/2"C-3#350,#2N
[350E3]	3"C-3#500,#3G	[350M3]	3"C-3#500,#500G	[350S3]	3"C-3#500,#1/0N
[400E3]	3"C-3#500,#3G	[400M3]	3"C-3#500,#500G	[400S3]	3"C-3#500,#1/0N
[500E3]	(2)2-1/2"C-3#250,#2G	[500M3]	(2)2-1/2"C-3#250,#250G	[500S3]	(2)2-1/2"C-3#250,#1/0N
[600E3]	(2)3"C-3#350,#1G	[600M3]	(2)3"C-3#350,#350G	[600S3]	(2)3"C-3#350,#2/0N
[700E3]	(2)3"C-3#500,#1/0G	[700M3]	(2)3"C-3#500,#500G	[700S3]	(2)3"C-3#500,#2/0N
[800E3]	(2)4"C-3#600,#1/0G	[800M3]	(2)3"C-3#500,#500G	[800S3]	(2)4"C-3#600,#2/0N
[1000E3]	(3)3"C-3#350,#2/0G	[1000M3]	(3)3"C-3#500,#500G	[1000S3]	(3)3"C-3#500,#3/0N
[1200E3]	(3)3-1/2"C-3#600,#3/0G	[1200M3]	(3)3-1/2"C-3#600,#600G	[1200S3]	(3)3-1/2"C-3#600,#3/0N
[1600E3]	(4)3-1/2"C-3#600,#4/0G	[1600M3]	(4)3-1/2"C-3#600,#600G	[1600S3]	(4)3-1/2"C-3#600,#3/0N
[2000E3]	(5)3-1/2"C-3#600,#250G	[2000M3]	(5)3-1/2"C-3#600,#600G	[2000S3]	(5)3-1/2"C-3#600,#3/0N
[2500E3]	(6)3-1/2"C-3#600,#350G	[2500M3]	(6)3-1/2"C-3#600,#600G	[2500S3]	(6)3-1/2"C-3#600,#3/0N
[3000E3]	(8)3-1/2"C-3#600,#400G	[3000M3]	(8)3-1/2"C-3#600,#600G	[3000S3]	(8)3-1/2"C-3#600,#3/0N
[4000E3]	(10)3-1/2"C-3#600,#500G	[4000M3]	(10)3-1/2"C-3#600,#600G	[4000S3]	(10)3-1/2"C-3#600,#3/0N
4 Wire + Ground					
[20E4]	3/4"C-4#12,#12G	[20M4]	3/4"C-4#12,#12G	[20E5]	3/4"C-5#12,1#12N
[30E4]	3/4"C-4#10,#10G	[30M4]	3/4"C-4#10,#10G	[20E6]	3/4"C-6#12,1#12N
[40E4]	3/4"C-4#8,#10G	[40M4]	3/4"C-4#8,#8G	[20E7]	3/4"C-7#12,1#12N
[50E4]	3/4"C-4#8,#10G	[50M4]	3/4"C-4#8,#8G	[20E8]	3/4"C-8#12,1#12N
[60E4]	1"C-4#6,#8G	[60M4]	1"C-4#6,#6G	[20E9]	3/4"C-8#12,1#12N
[70E4]	1-1/4"C-4#4,#8G	[70M4]	1-1/4"C-4#4,#4G	[20E10]	1"C-10#10,1#10N
[80E4]	1-1/4"C-4#4,#8G	[80M4]	1-1/4"C-4#4,#4G	[20E11]	1"C-11#10,1#10N
[90E4]	1-1/4"C-4#3,#8G	[90M4]	1-1/4"C-4#3,#3G	[20E12]	1"C-12#10,1#10N
[100E4]	1-1/4"C-4#3,#8G	[100M4]	1-1/4"C-4#3,#3G	[20E13]	1"C-13#10,1#10N
[110E4]	1-1/2"C-4#2,#6G	[110M3]	1-1/2"C-4#2,#2G	[20E14]	1"C-14#10,1#10N
[125E4]	1-1/2"C-4#1,#6G	[125M4]	1-1/2"C-4#1,#1G	[20E15]	1"C-15#10,1#10N
[150E4]	2"C-4#1/0,#6G	[150M4]	2"C-4#1/0,#1/0G	[20E16]	1-1/4"C-16#10,1#10N
[200E4]	2"C-4#3/0,#6G	[200M4]	2"C-4#3/0,#3/0G	[20E17]	1-1/4"C-17#10,1#10N
[225E4]	2-1/2"C-4#4/0,#4G	[225M4]	2-1/2"C-4#4/0,#4/0G	[20E18]	1-1/4"C-18#10,1#10N
[250E4]	3"C-4#300,#4G	[250M4]	3"C-4#300,#300G	[20E19]	1-1/4"C-19#10,1#10N
[300E4]	3"C-4#350,#2G	[300M4]	3"C-4#350,#350G	[20E20]	1-1/4"C-20#10,1#10N
[350E4]	3-1/2"C-4#500,#3G	[350M4]	3-1/2"C-4#500,#500G	THE CONFIGURATIONS SHOWN IN THIS SECTION TITLED "MULTI-WIRE 20 AMP" SHALL NOT BE USED FOR RECEPTACLE CIRCUITS OR OTHER CORD-AND-PLUG-CONNECTED PORTABLE LOADS. NEC-240.4(B)	
[400E4]	3-1/2"C-4#500,#3G	[400M4]	3-1/2"C-4#500,#500G		
[500E4]	(2)3-1/2"C-4#250,#2G	[500M4]	(2)3-1/2"C-4#250,#250G		
[600E4]	(2)3"C-4#350,#1G	[600M4]	(2)3"C-4#350,#350G		
[700E4]	(2)3-1/2"C-4#500,#1/0G	[700M4]	(2)3-1/2"C-4#500,#500G		
[800E4]	(2)3-1/2"C-4#500,#1/0G	[800M4]	(2)3-1/2"C-4#500,#500G		
[1000E4]	(3)3"C-4#350,#2/0G	[1000M4]	(3)3"C-4#350,#350G		
[1200E4]	(3)4"C-4#600,#3/0G	[1200M4]	(3)4"C-4#600,#600G		
[1600E4]	(4)4"C-4#600,#4/0G	[1600M4]	(4)4"C-4#600,#600G		
[2000E4]	(5)4"C-4#600,#250G	[2000M4]	4"C-4#600,#600G		
[2500E4]	(6)4"C-4#600,#350G	[2500M4]	4"C-4#600,#600G		
[3000E4]	(8)4"C-4#600,#400G	[3000M4]	4"C-4#600,#600G		
[4000E4]	(10)4"C-4#600,#500G	[4000M4]	4"C-4#600,#600G		

MULTICONDUCTOR POWER CABLE CIRCUIT CALLOUTS	
[PC1]	[3/4"C,1 (3C#12,1#12G) TYPE 2]
[PC2]	[3/4"C,1 (3C#10,1#10G) TYPE 2]
[PC3]	[1"C,1 (3C#8,1#10G) TYPE 2]
[PC4]	[1 1/4"C,2 (3C#12,1#12G) TYPE 2]
[PC5]	[1 1/2"C,2 (3C#10,1#10G) TYPE 2]
[PC1A]	[3/4"C,1 (2C#12,1#12G) TYPE 2]
[PC2A]	[3/4"C,1 (2C#10,1#10G) TYPE 2]

EMPTY CONDUIT	
[EC-1]	[3/4"C,WITH PULL STRING]
[EC-2]	[1"C,WITH PULL STRING]
[EC-3]	[1 1/4"C,WITH PULL STRING]
[EC-4]	[1 1/2"C,WITH PULL STRING]
[EC-5]	[2"C,WITH PULL STRING]
[EC-6]	[3"C,WITH PULL STRING]
[EC-7]	[4"C,WITH PULL STRING]
[EC-8]	[5"C,WITH PULL STRING]

MULTICONDUCTOR CONTROL CABLE CIRCUIT CALLOUTS	
[CC5]	[3/4"C,1-5C TYPE 1]
[CC7]	[3/4"C,1-7C TYPE 1]
[CC9]	[1"C,1-9C TYPE 1]
[CC12]	[1"C,1-12C TYPE 1]
[CC19]	[1 1/2"C, 1-19C TYPE 1]
[CC25]	[1 1/2"C,1-25C TYPE 1]
[CC37]	[2"C,1-37C TYPE 1]
[CC11]	[1-7C #12 TYPE 1]
[MSC]	[MANUFACTURER SUPPLIED CABLE]
[CAT6]	[1"C, CAT6 CABLE]
[CX]	[1-1/2"C, COAX CABLE]
[FO]	[2"C, MULTI-MODE FIBER OPTIC CABLE]
[PH]	[1"C, PHONE CABLE]
[DP]	[1"C, PROFIBUS DP CABLE]

ANALOG CIRCUIT CALLOUTS		CONTROL CIRCUIT CALLOUTS	
[A1]	[3/4"C,1 TYPE 3]	[C1]	[3/4"C,MSC]
[A2]	[1"C,2 TYPE 3]	[C2]	[3/4"C,2#14,1#14G]
[A3]	[1"C,3 TYPE 3]	[C3]	[3/4"C,3#14,1#14G]
[A4]	[1"C,4 TYPE 3]	[C4]	[3/4"C,4#14,1#14G]
[A5]	[1 1/4"C,5 TYPE 3]	[C5]	[3/4"C,5#14,1#14G]
[A6]	[1 1/4"C,6 TYPE 3]	[C6]	[3/4"C,6#14,1#14G]
[A7]	[1 1/2"C,7 TYPE 3]	[C7]	[3/4"C,7#14,1#14G]
[A8]	[1 1/2"C,8 TYPE 3]	[C8]	[3/4"C,8#14,1#14G]
[A9]	[1 1/2"C,9 TYPE 3]	[C9]	[3/4"C,9#14,1#14G]
[A10]	[2"C,10 TYPE 3]	[C10]	[3/4"C,10#14,1#14G]
[A11]	[2"C,11 TYPE 3]	[C11]	[3/4"C,11#14,1#14G]
[A12]	[2"C,12 TYPE 3]	[C12]	[3/4"C,12#14,1#14G]
[A13]	[2"C,13 TYPE 3]	[C13]	[3/4"C,13#14,1#14G]
[A14]	[2"C,14 TYPE 3]	[C14]	[3/4"C,14#14,1#14G]
[A15]	[3/4"C,1 TYPE 4]	[C15]	[3/4"C,15#14,1#14G]
[A16]	[3/4"C,2 TYPE 4]	[C16]	[3/4"C,16#14,1#14G]
[A17]	[1"C,3 TYPE 4]	[C17]	[3/4"C,17#14,1#14G]
[A18]	[1 1/4"C,4 TYPE 4]	[C18]	[3/4"C,18#14,1#14G]
[A19]	[1 1/4"C,5 TYPE 4]	[C19]	[3/4"C,19#14,1#14G]
[A20]	[1 1/4"C,6 TYPE 4]	[C20]	[1"C,20#14,1#14G]
[A21]	[1 1/2"C,7 TYPE 4]	[C21]	[1"C,21#14,1#14G]
[A22]	[1 1/2"C,8 TYPE 4]	[C22]	[1"C,22#14,1#14G]
[A23]	[2"C,9 TYPE 4]	[C23]	[1"C,23#14,1#14G]
[A24]	[3/4"C,1-4 pr. TYPE 5]	[C24]	[1"C,24#14,1#14G]
[A25]	[1"C,2-4 pr. TYPE 5]	[C25]	[1"C,25#14,1#14G]
		[C30]	[1"C,30#14, 1#14G]
		[C40]	[1 1/4"C, 40#14, 1#14G]
		[C50]	[1 1/4"C, 50#14, 1#14G]

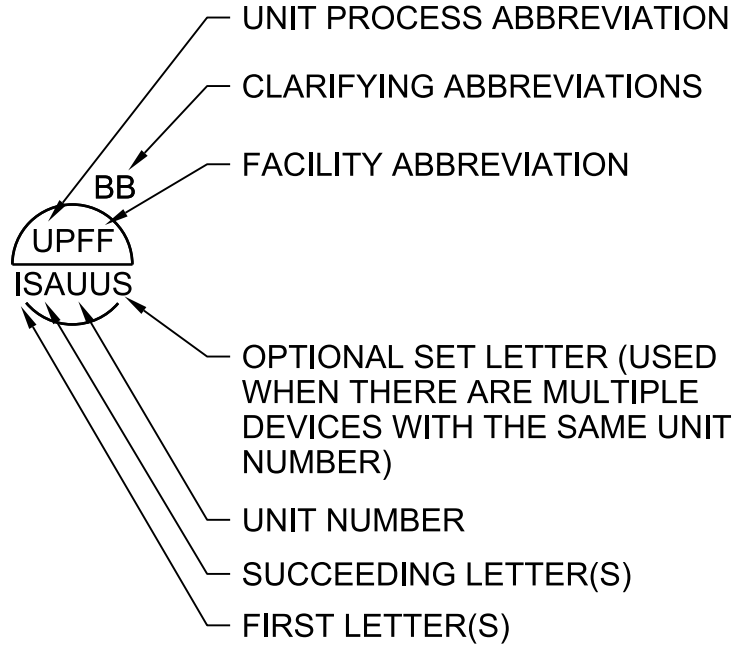
- NOTES:
1. FOR CABLE TYPES, SEE SPECIFICATIONS.

2. CONDUIT SIZES ARE BASED ON THE AREA OF THE CONDUCTORS.

3. SIZING OF CONDUCTORS #1AWG AND SMALLER BASED ON AMPACITIES AT 60 DEGREES C, SIZING OF CONDUCTORS #1/0AWG AND LARGER BASED ON AMPACITIES AT 75 DEGREES C.</

INSTRUMENT IDENTIFICATION

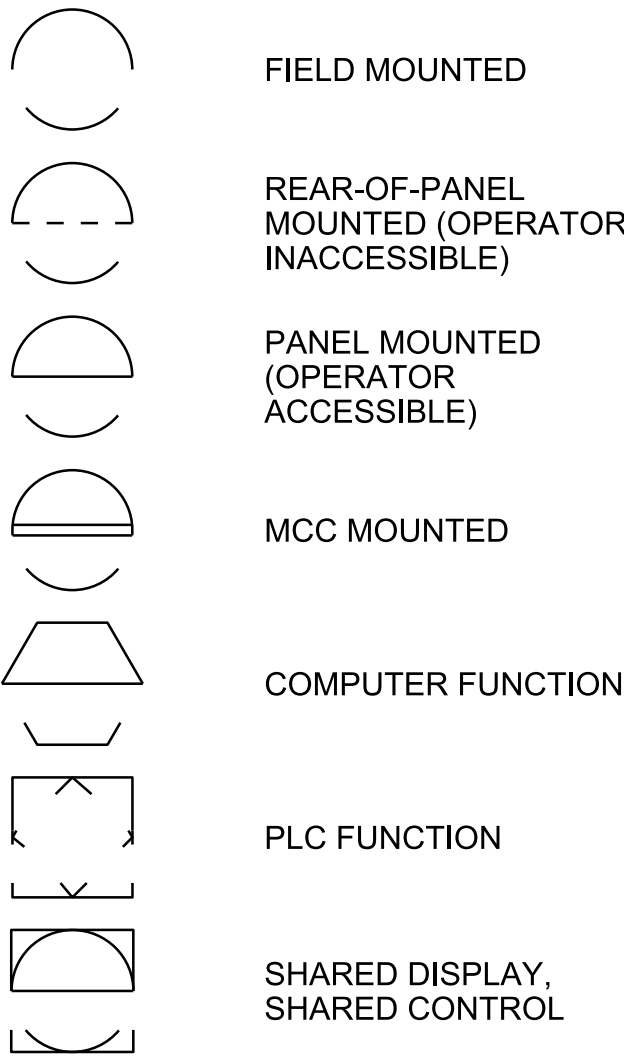
EXAMPLE SYMBOLS



DIGITAL SYSTEM INTERFACES

- ▲ ANALOG INPUT
- ▼ ANALOG OUTPUT
- △_x DISCRETE INPUT
- ▽_x DISCRETE OUTPUT

GENERAL INSTRUMENT OR FUNCTIONAL SYMBOLS

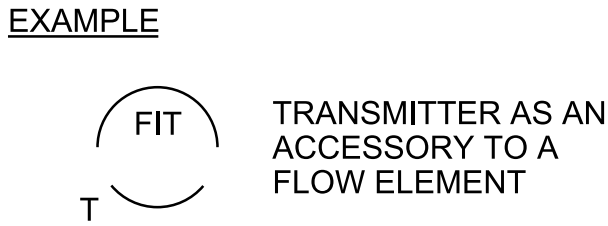


TRANSDUCERS

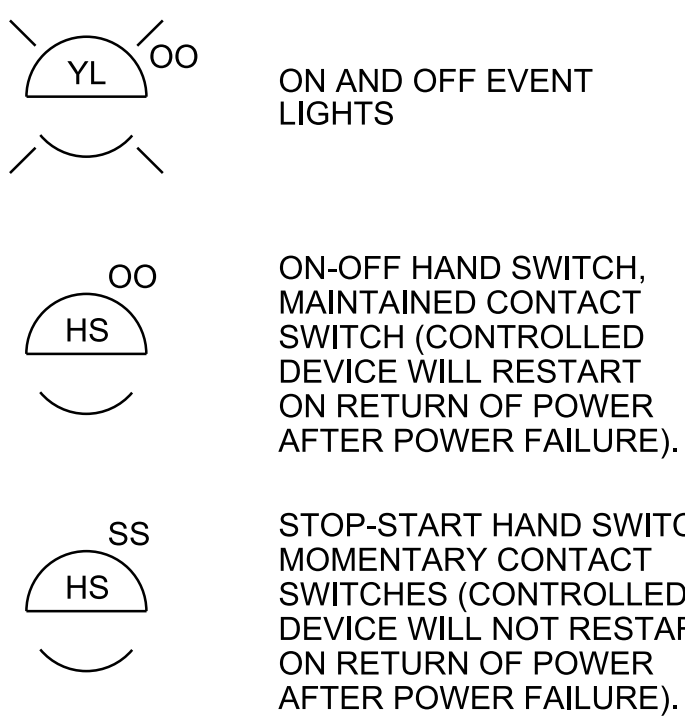
A	ANALOG	I	CURRENT
D	DIGITAL	P	PNEUMATIC
E	VOLTAGE	PF	PULSE FREQUENCY
F	FREQUENCY	PD	PULSE DURATION
H	HYDRAULIC	R	RESISTANCE
EXAMPLE			
	I/P	FY	CURRENT TO PNEUMATIC TRANSDUCER (BACK OF PANEL, IN A FLOW LOOP)

ACCESSORY DEVICES

A	ALARM
C	CONTROLLER
I	INDICATOR
R	RECORDER
S	SWITCH
T	TRANSMITTER
X	UNCLASSIFIED



SPECIAL CASES

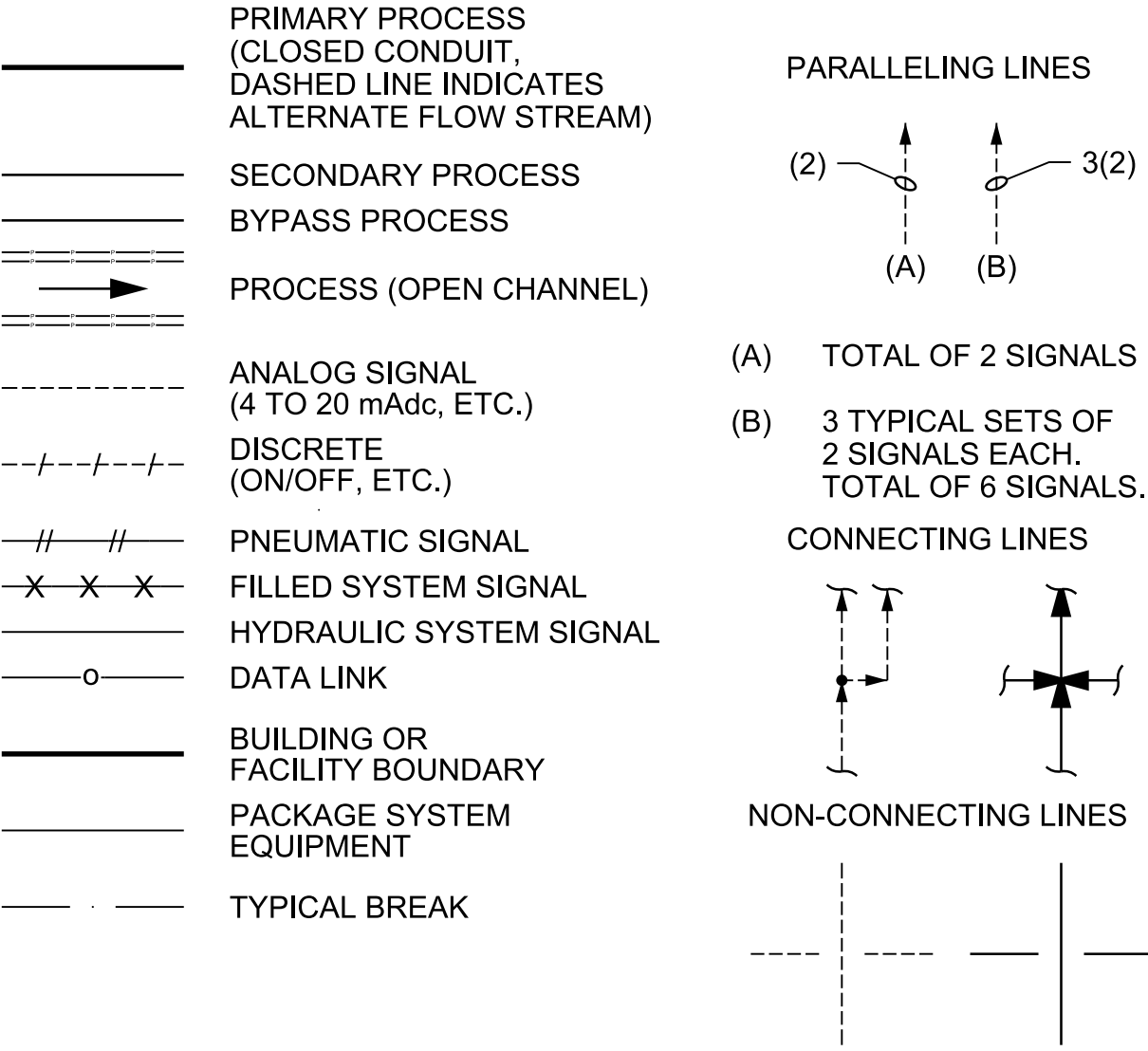


INSTRUMENT IDENTIFICATION LETTERS TABLE

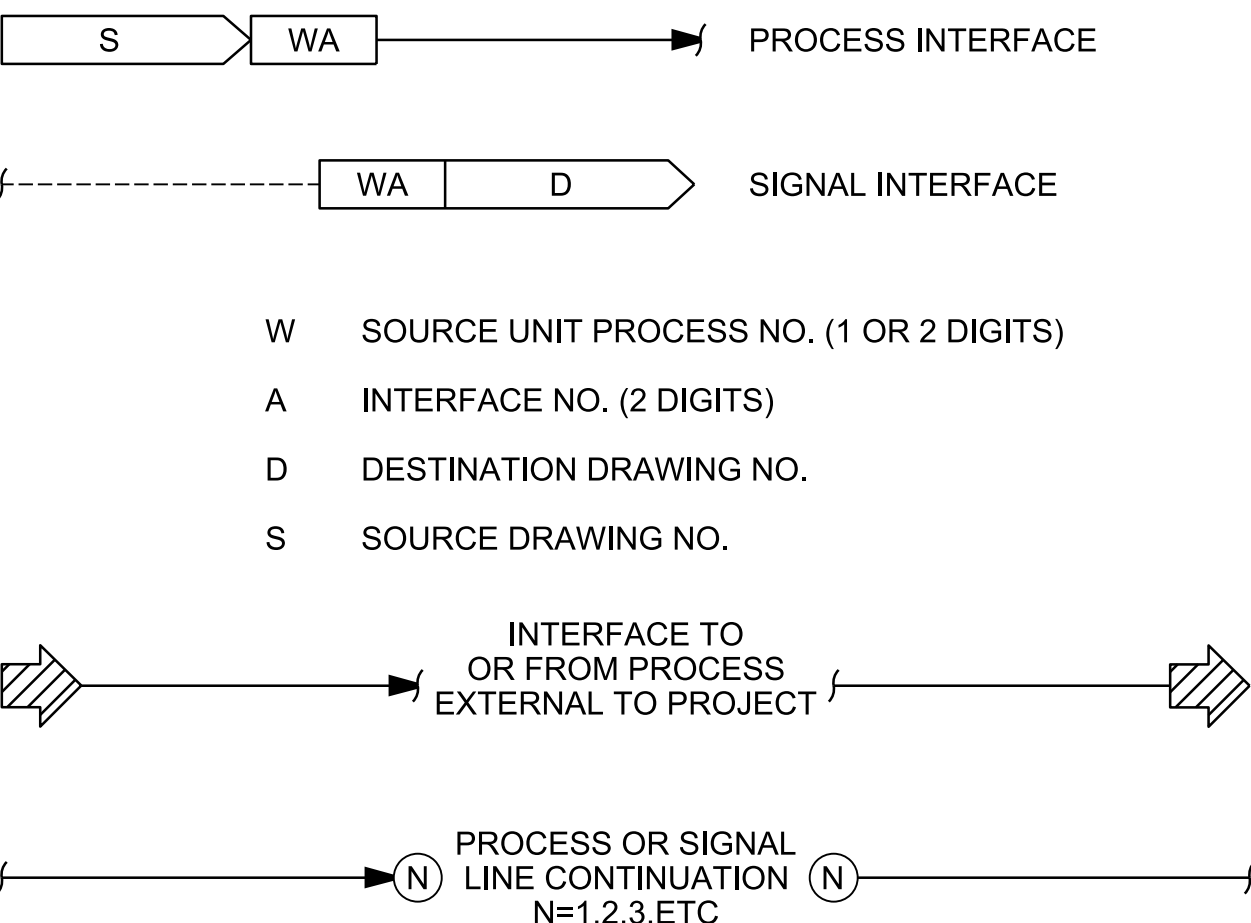
LETTER	FIRST-LETTER		SUCCEEDING-LETTERS		
	PROCESS OR INITIATING VARIABLE	MODIFIER	READOUT OR PASSIVE FUNCTION	READOUT OR PASSIVE FUNCTION	READOUT OR PASSIVE FUNCTION
A	ANALYSIS (+)		ALARM		
B	BURNER, COMBUSTION		USER'S CHOICE (*)	USER'S CHOICE (*)	USER'S CHOICE (*)
C	USER'S CHOICE (*)			CONTROL	
D	DENSITY (S.G.)	DIFFERENTIAL			
E	VOLTAGE		PRIMARY ELEMENT, SENSOR		
K	FLOW RATE	RATIO (FRACTION)			
G	USER'S CHOICE (*)		GLASS, GAUGE VIEWING DEVICE	GATE	
H	HAND (MANUAL)				HIGH
I	CURRENT (ELECTRICAL)		INDICATE		
J	POWER	SCAN			
F	TIME, TIME SCHEDULE	TIME RATE OF CHANGE		CONTROL STATION	
L	LEVEL		LIGHT (PILOT)		LOW
M	MOTION	MOMENTARY			MIDDLE, INTERMEDIATE
N	TORQUE		USER'S CHOICE (*)	USER'S CHOICE (*)	USER'S CHOICE (*)
O	USER'S CHOICE (*)		ORIFICE, RESTRICTION		
P	PRESSURE, VACUUM		POINT (TEST) CONNECTION		
Q	QUANTITY	INTEGRATE, TOTALIZE			
R	RADIATION		RECORD OR PRINT		
S	SPEED, FREQUENCY	SAFETY		SWITCH	
T	TEMPERATURE			TRANSMIT	
U	MULTI VARIABLE		MULTI FUNCTION	MULTI FUNCTION	MULTI FUNCTION
V	VIBRATION, MECHANICAL ANALYSIS			VALVE, DAMPER, LOUVER	
W	WEIGHT, FORCE		WELL		
X	UNCLASSIFIED (*)	X AXIS	UNCLASSIFIED (*)	UNCLASSIFIED (*)	UNCLASSIFIED (*)
Y	EVENT, STATE OR PRESENCE	Y AXIS		RELAY, COMPUTE, CONVERT	
Z	POSITION	Z AXIS		DRIVE, ACTUATOR, UNCLASSIFIED FINAL CONTROL ELEMENT	

TABLE BASED ON THE INSTRUMENTATION, SYSTEMS, AND AUTOMATION SOCIETY (ISA) STANDARD.
(+) WHEN USED, EXPLANATION IS SHOWN ADJACENT TO INSTRUMENT SYMBOL. SEE ABBREVIATIONS AND LETTER SYMBOLS.
(*) WHEN USED, DEFINE THE MEANING HERE FOR THE PROJECT.

LINE LEGEND



INTERFACE SYMBOLS



SELF CONTAINED VALVE & EQUIPMENT TAG NUMBERS

UP	UNIT PROCESS ABBREVIATION
FF	FACILITY ABBREVIATION
EQUIP	ARV AIR RELEASE VALVE
	AVRV AIR AND VACUUM RELEASE VALVE
	E EJECTOR
	G GATE
	M MECHANICAL EQUIPMENT
	P PUMP
	T TANK
UU	UNIT NUMBER

ABBREVIATIONS & LETTER SYMBOLS

AC	ALTERNATING CURRENT
AM	AUTO-MANUAL
CAM	COMPUTER-AUTO-MANUAL
CCS	CENTRAL CONTROL SYSTEM
CL ₂ etc.	CHLORINE (TYPICAL: USE STANDARD CHEMICAL ELEMENT ABBREVIATIONS)
CM	COMPUTER-MANUAL
COD	CHEMICAL OXYGEN DEMAND
CP-X	CONTROL PANEL NO. X
DC	DIRECT CURRENT
DCS	DISTRIBUTED CONTROL SYSTEM
DCU	DISTRIBUTED CONTROL UNIT
DO	DISSOLVED OXYGEN
FCL ₂	FREE CHLORINE RESIDUAL
FOS	FAST-OFF-SLOW
FOSA	FAST-OFF-SLOW-AUTO
FOSR	FAST-OFF-SLOW-REMOTE
FP-W-X	FIELD PANEL NO. WX (W=UNIT PROCESS NUMBER X= PANEL NUMBER)
FR	FORWARD-REVERSE
HOA	HAND-OFF-AUTO
HOR	HAND-OFF-REMOTE
ISR	INTRINSICALLY SAFE RELAY
LEL	LOWER EXPLOSIVE LIMIT
LOS	LOCKOUT STOP
LR	LOCAL-REMOTE
MA	MANUAL-AUTO
MC	MODULATE-CLOSE
MCC-X	MOTOR CONTROL CENTER NO. X
MSC	MANUFACTURER SUPPLIED CABLE
OC	OPEN-CLOSE(D)
OCA	OPEN-CLOSE-AUTO
OCR	OPEN-CLOSE-REMOTE
OO	ON-OFF
OOA	ON-OFF-AUTO
OOR	ON-OFF-REMOTE
ORP	OXIDATION REDUCTION POTENTIAL
OSC	OPEN-STOP-CLOSE
pH	HYDROGEN ION CONCENTRATION
PLC	PROGRAMMABLE LOGIC CONTROLLER
RIO	REMOTE I/O UNIT
RM-X	REMOTE MULTIPLEXING MODULE NO. X
RTU-X	REMOTE TELEMETRY UNIT NO. X
SF	SLOWER-FASTER
SS	START-STOP
SSC	SUPERVISORY SET POINT CONTROL
TCL ₂	TOTAL CHLORINE RESIDUAL
TOC	TOTAL ORGANIC CARBON
TOD	TOTAL OXYGEN DEMAND
TURB	TURBIDITY
VHC	VOLATILE HYDROCARBONS
VIB	VIBRATION
Δ	DIFFERENCE
Σ	SUM
x	MULTIPLY
÷	DIVIDE
F(X)	CHARACTERIZED
X ⁿ	RAISED TO THE Nth POWER
√	SQUARE ROOT
AVG	AVERAGE
1:1	REPEAT OR BOOST
>	SELECT HIGHEST SIGNAL
<	SELECT LOWEST SIGNAL
}	BIAS
%	GAIN OR ATTENUATE

GENERAL NOTES

- COMPONENTS AND PANELS SHOWN WITH A SINGLE ASTERISK (*) ARE TO BE PROVIDED AS PART OF A PACKAGE SYSTEM.
- COMPONENTS AND PANELS SHOWN WITH A DOUBLE ASTERISK (**) ARE TO BE PROVIDED UNDER DIVISION 16, ELECTRICAL.
- THIS IS A STANDARD LEGEND. THEREFORE, NOT ALL OF THIS INFORMATION MAY BE USED ON THE PROJECT.
- COMPONENTS AND PANELS SHOWN WITH A DIAMOND (◆) ARE TO BE PROVIDED UNDER DIVISION 40, PROCESS INTEGRATION.

Jacobs

200 WEST FORSYTH STREET, T: (904) 636-5432
SUITE 1520 F: (904) 224-3102
JACKSONVILLE, FL 32202 COA # 2827

DESIGNER: C SAHARHIZ
DRAWN BY: D CORY
DATE: MAY 2021
CHECKED BY: C WILSON
DATE: MAY 2021

DESIGN ENGINEER: CYRUS JOHN SAHARHIZ
FLORIDA REGISTRATION NO. 84591

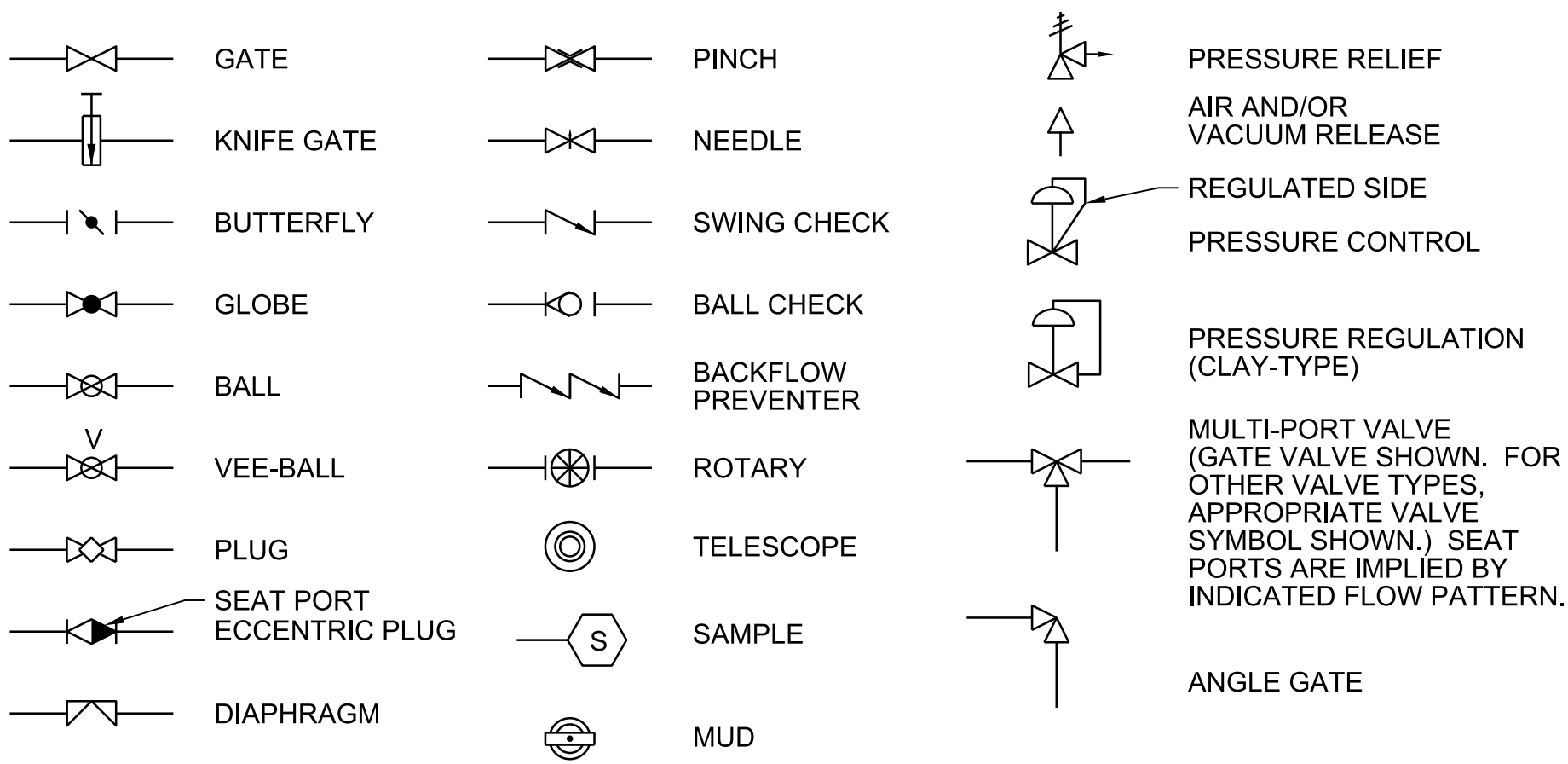
PROJ. NO. D32549S3
SHEET NO. 30
DRAWING NO. G-009

DATE: MAY 2021
SCALE: NTS

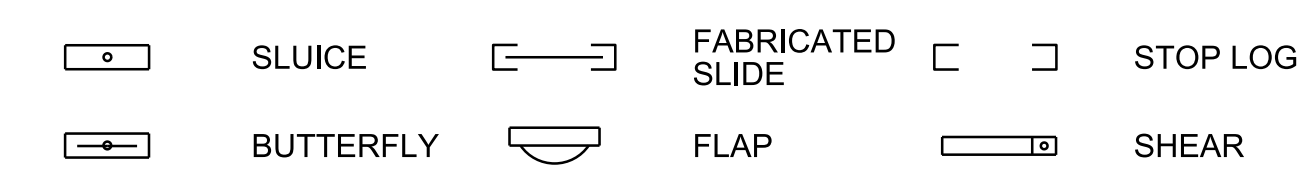
SPS-SOUTHSIDE BLVD. INTERTIE TO DEERWOOD III WTP
DEERWOOD WTP PRIORITY 1 PROJECTS
GENERAL
INSTRUMENTATION AND CONTROLS LEGEND SHEET 1

PROJ. TITLE: SPS-SOUTHSIDE BLVD. INTERTIE TO DEERWOOD III WTP
JEA PROJ NO.: 8004887

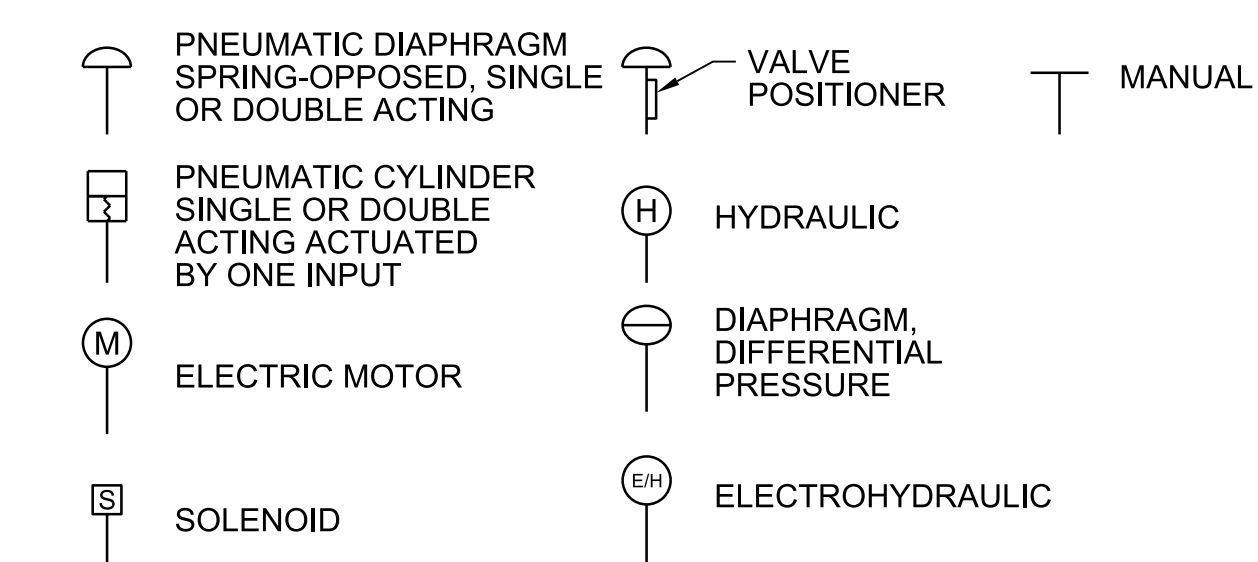
VALVE SYMBOLS



GATE SYMBOLS



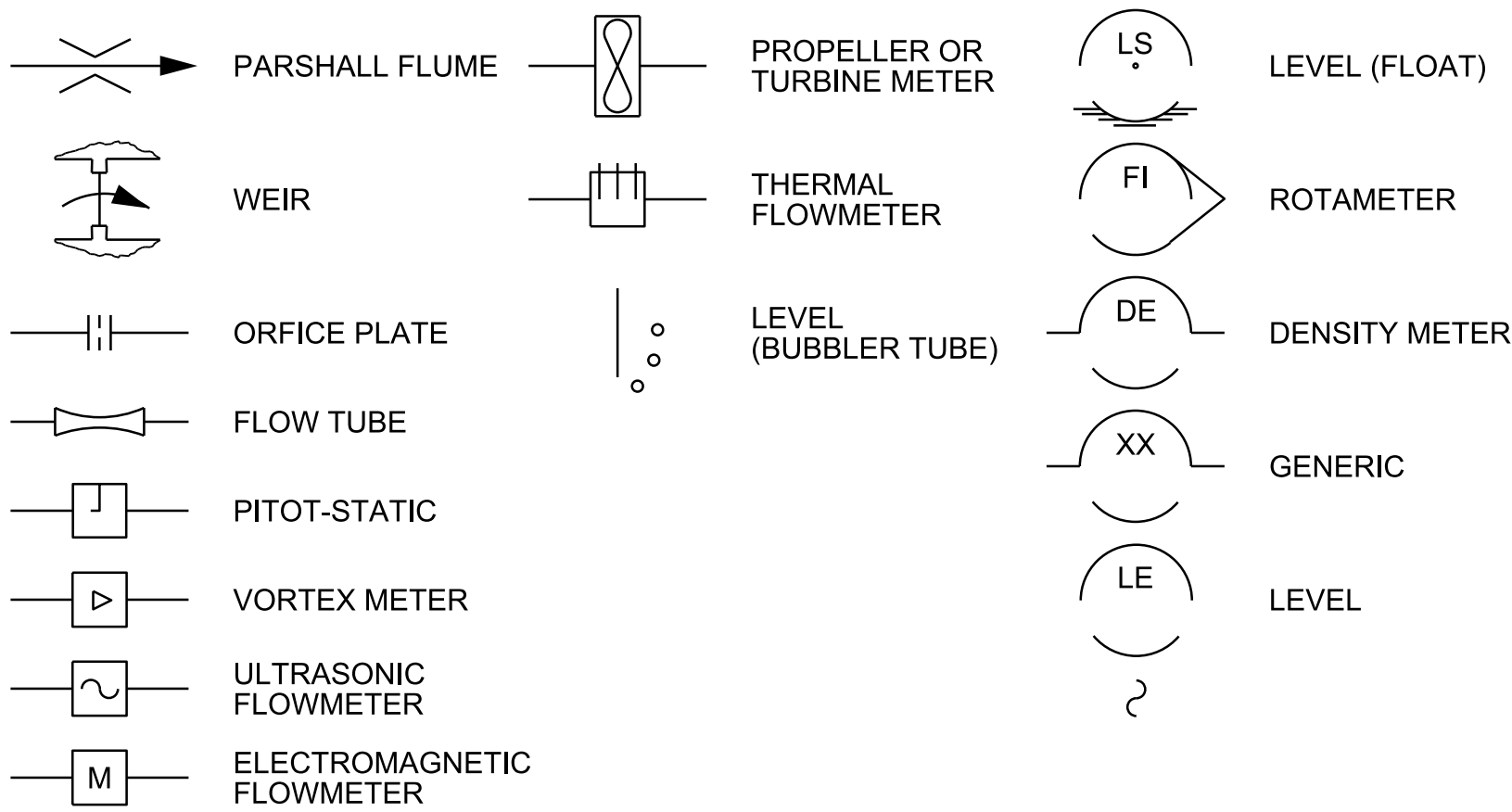
ACTUATOR SYMBOLS



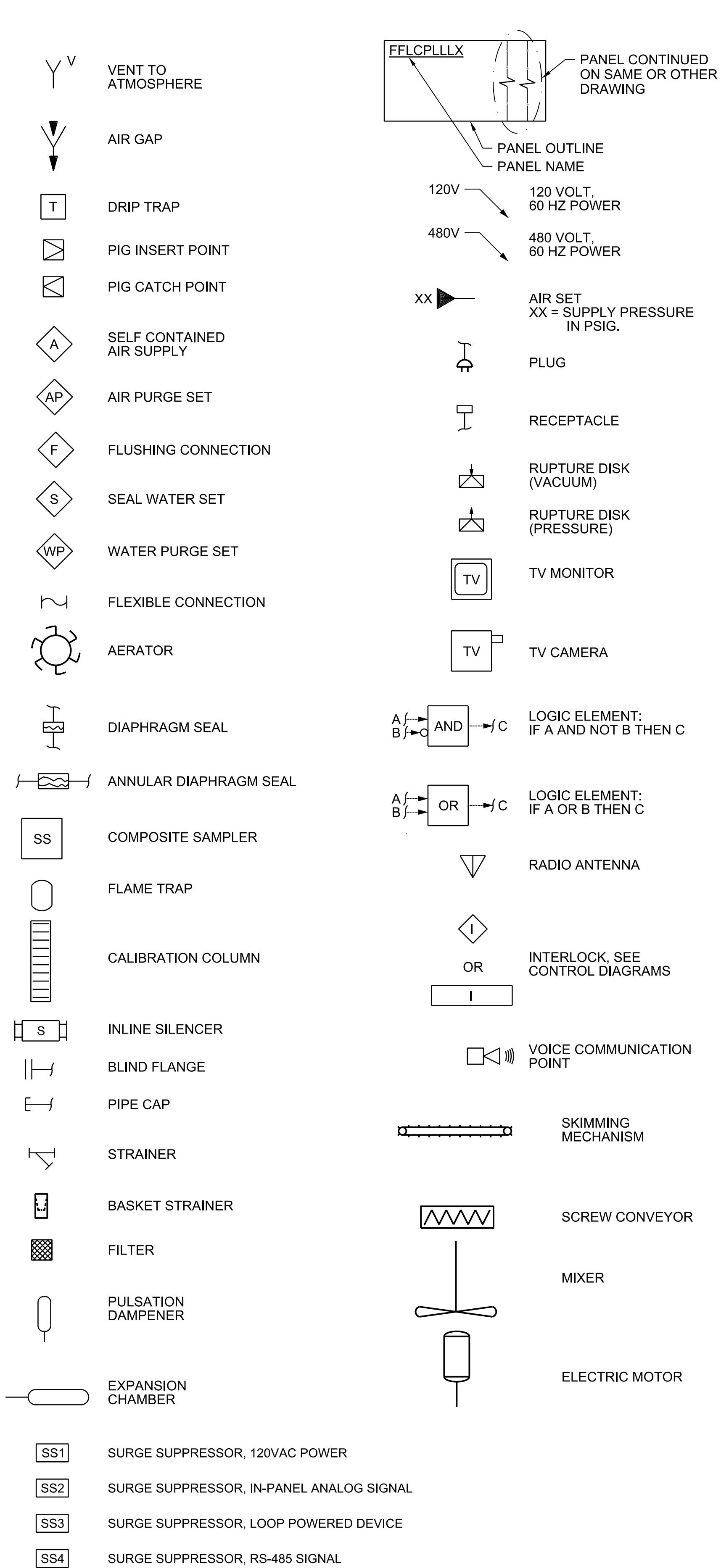
NOTE:
ON LOSS OF PRIMARY POWER
(PNEUMATIC, ELECTRICAL, OR
HYDRAULIC)

XX: FO FAIL OPEN
FC FAIL CLOSED
FLP FAIL TO LAST POSITION

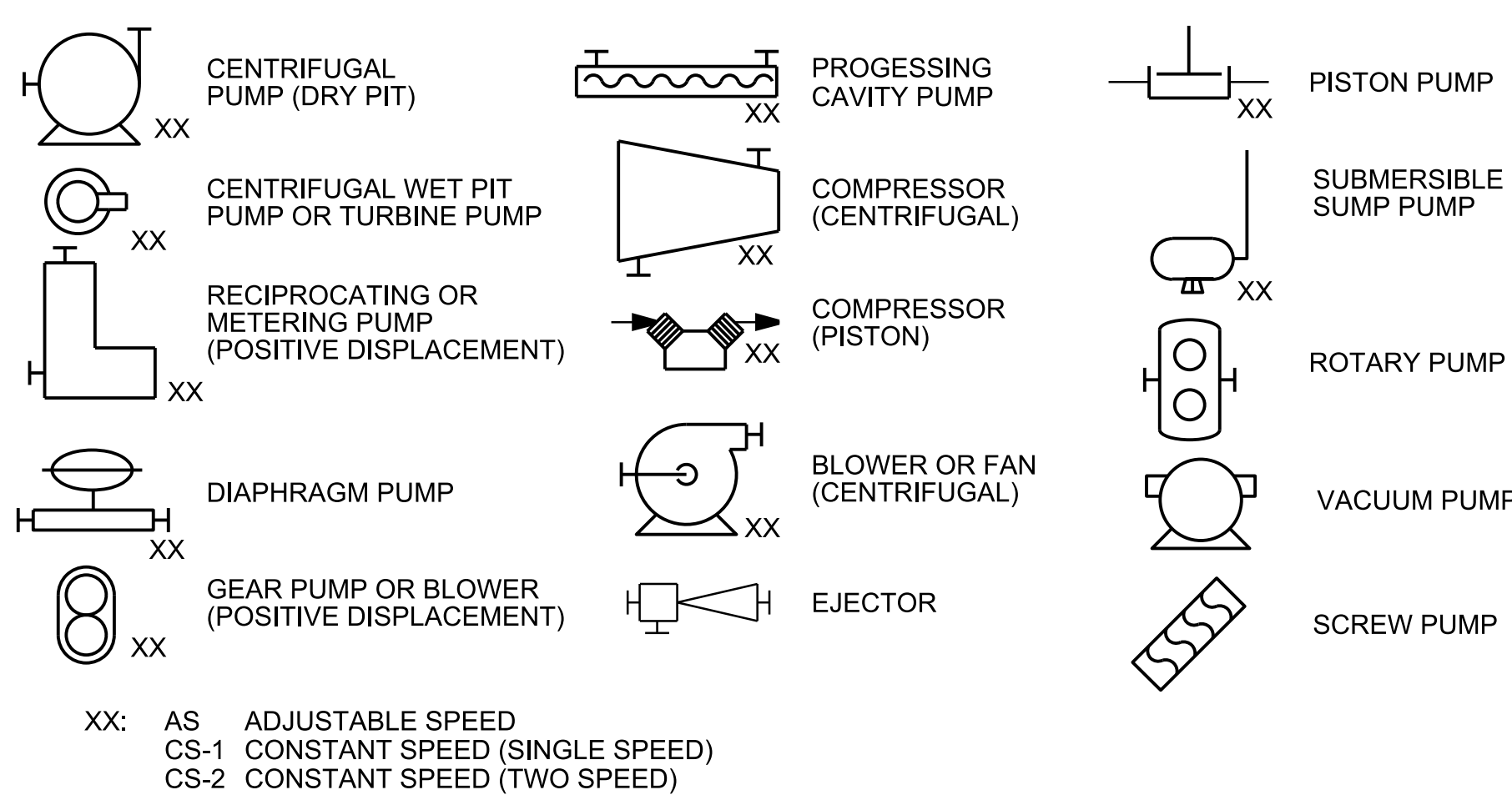
PRIMARY ELEMENT SYMBOLS



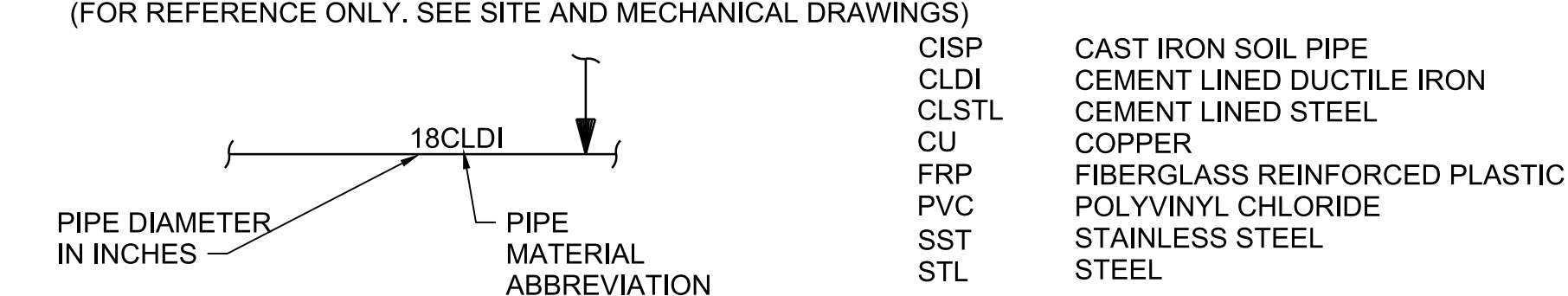
MISCELLANEOUS SYMBOLS



PUMP AND COMPRESSOR SYMBOLS



LINE SIZE AND MATERIAL IDENTIFICATION



JACOBS

200 WEST FORSYTH STREET, T: (904) 636-5432
SUITE 1520 F: (904) 224-3102
JACKSONVILLE, FL 32202 COA # 2822

DESIGN ENGINEER
CYRUS JOHN SAHARKHIZ

FLORIDA REGISTRATION NO.
84691

DESIGNER:
C SAHARKHIZ

DRAWN BY:
D CORY

DATE:
MAY 2021

CHECKED BY:
C WILSON

DATE:
MAY 2021

PROJ. NO. D32549S3

DATE: MAY 2021

DRAWING NO. G-010

NO. SHEETS
30

SHEET NO.

DRAWING NO. G-010

PROJ. TITLE: SIPS-SOUTHSIDE BLVD. INTERTIE TO DEERWOOD III WTP

DEERWOOD WTP PRIORITY 1 PROJECTS

INSTRUMENTATION AND CONTROLS LEGEND SHEET 2

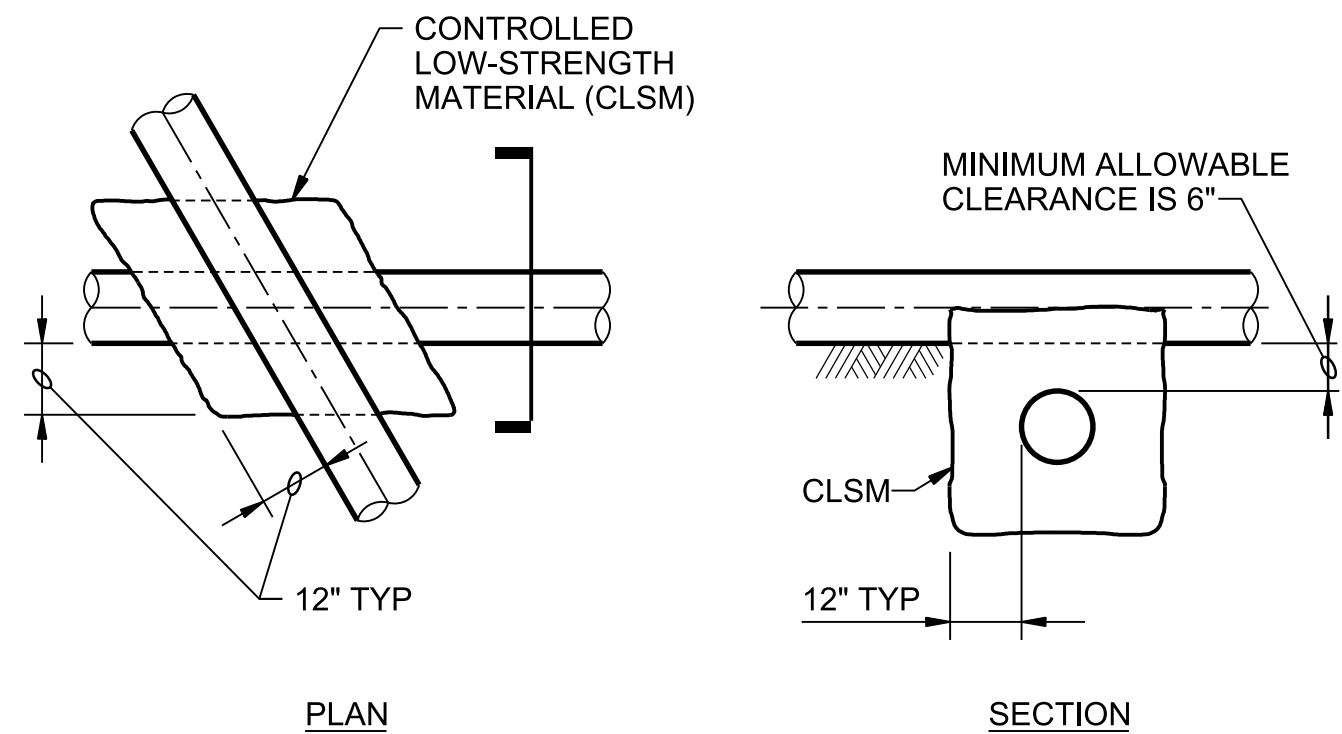
PROJ. NO.: 8004887

IFB BID NO.: -

FILENAME: 0-G-081_D32549S3.dgn

PLOT DATE:

PLOT TIME: 8:43:02 PM

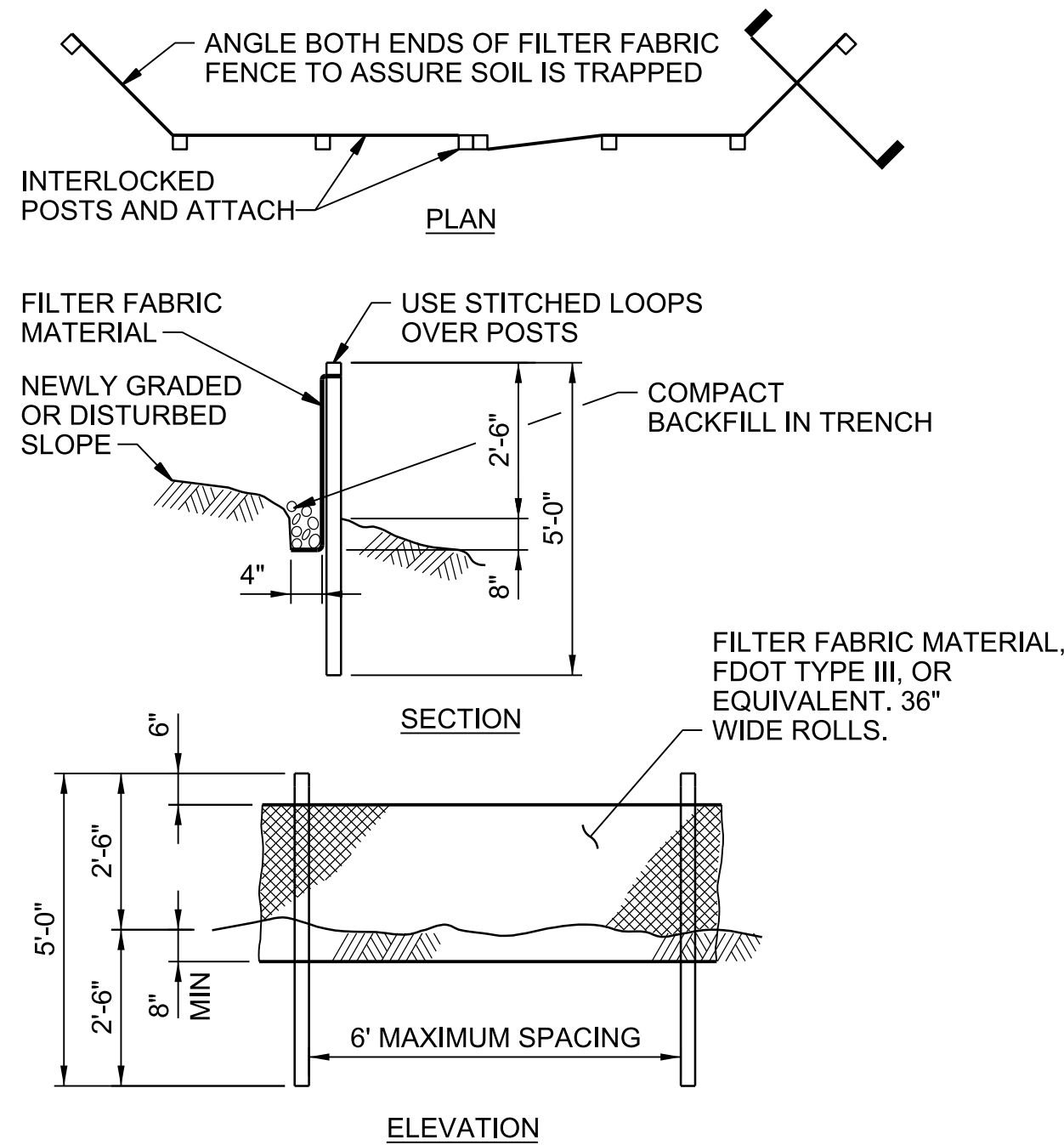


- NOTES:
- CLSM SUPPORT IS REQUIRED:
1. WHEN BOTH PIPELINES ARE NEW AND CLEARANCE BETWEEN THEM IS LESS THAN 12".
 2. WHEN A NEW PIPELINE IS CROSSING OVER AN EXISTING PIPELINE AND THE CLEARANCE BETWEEN THEM IS LESS THAN 12".
 3. AT ALL PIPE CROSSINGS WHERE A NEW PIPELINE IS CROSSING UNDER AN EXISTING PIPELINE.
 4. CLSM REQUIREMENTS:
 - A. SELECT AND PROPORTION INGREDIENTS TO OBTAIN COMPRESSIVE STRENGTH BETWEEN 50 AND 100 PSI AT 28 DAYS IN ACCORDANCE WITH ASTM D4832.
 - B. MATERIALS:
 1. CEMENT: ASTM C150, TYPE I OR II.
 2. AGGREGATE: ASTM C33, SIZE 7.
 3. WATER: CLEAN, POTABLE, CONTAINING LESS THAN 500 PPM OF CHLORIDES.

TRENCH PIPE CROSSING

NTS

3123-120

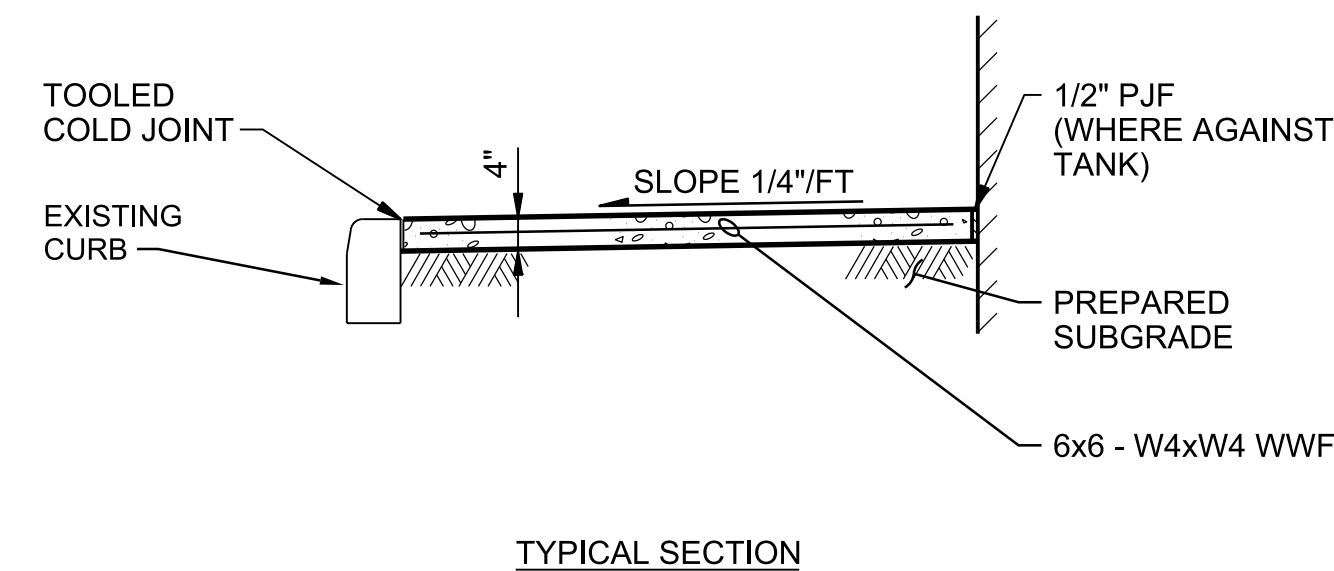


- NOTES:
1. BURY BOTTOM OF FILTER FABRIC 8" VERTICALLY BELOW FINISHED GRADE.
 2. WOOD FENCE POSTS.
 3. INSTALL STITCHED LOOPS ON THE DOWNHILL SIDE OF SLOPE.
 4. COMPACT ALL AREAS OF FILTER FABRIC TRENCH.
 5. A MINIMUM OF ONE ROW OF SILT FENCING IS REQUIRED FOR GOPHER TORTOISE EXCLUSION BY PERMIT. ADDITIONAL ROW(S) ARE REQUIRED BY PERMITS FOR WATER QUALITY CONTROL.

SILT FENCE

NTS

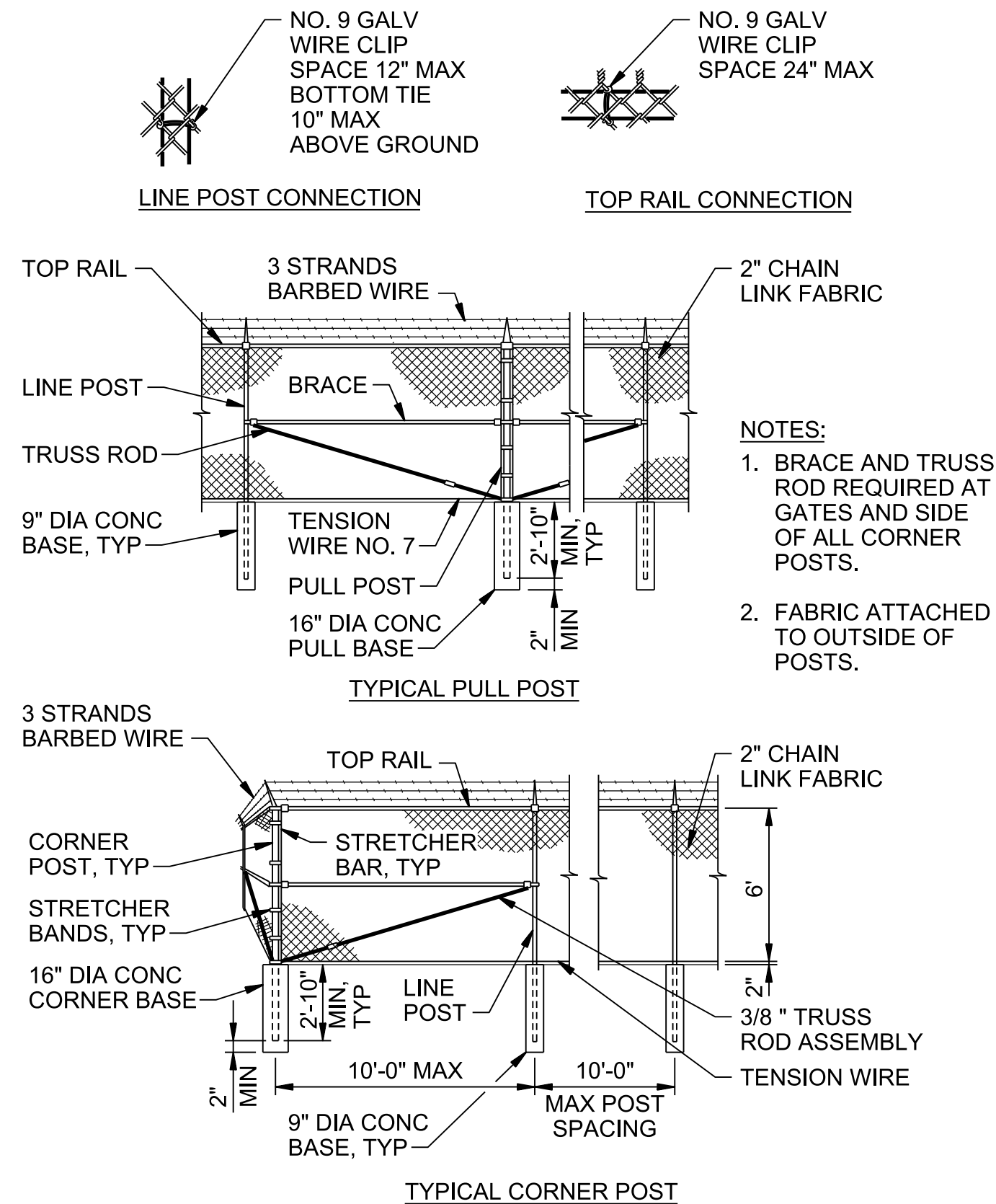
3125-165



CONCRETE SPLASH PAD

NTS

3213-220

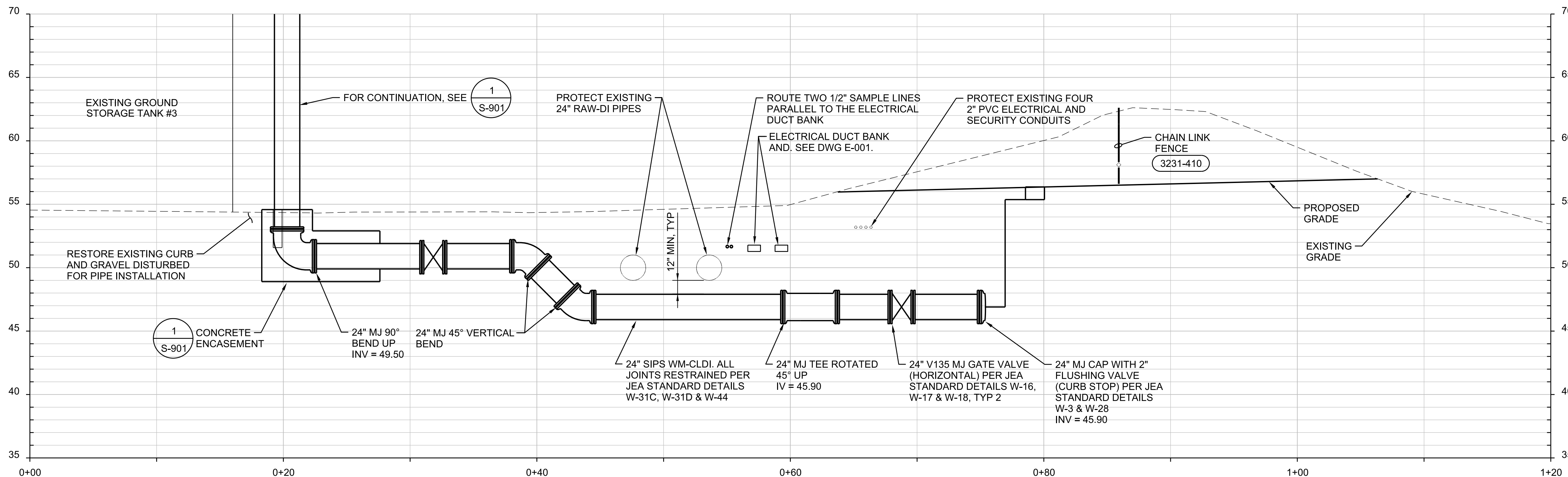


- NOTES:
1. ATTACH "NO TRESPASSING" SIGNS AT 50 FOOT INTERVALS ALONG ENTIRE FENCE.

CHAIN LINK FENCE

NTS

3231-410



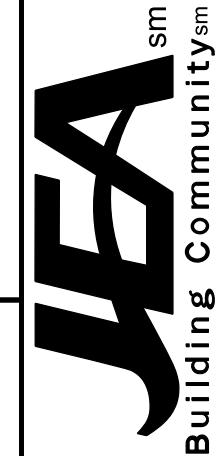
SECTION

1"=5'

C-001

200 WEST FORSYTH STREET, T: (904) 636-5432 SUITE 1520 F: (904) 224-3102 JACKSONVILLE, FL 32202 COA # 2822	
REVISIONS	
NO.	BY
1.	DATE
2.	DATE
3.	DATE
4.	DATE
5.	DATE
6.	DATE

DESIGNER	R. MORRISON
DESIGNED BY	C. CHILDRESS
DATE	MAY 2021
CHECKED BY	A. MALONE
DATE	MAY 2021
FLORIDA REGISTRATION NO.	67713



SIPS-SOUTHSIDE BLVD. INTERTIE TO DEERWOOD III WTP
DEERWOOD WTP PRIORITY 1 PROJECTS
CIVIL
STANDARD DETAILS AND PROFILE

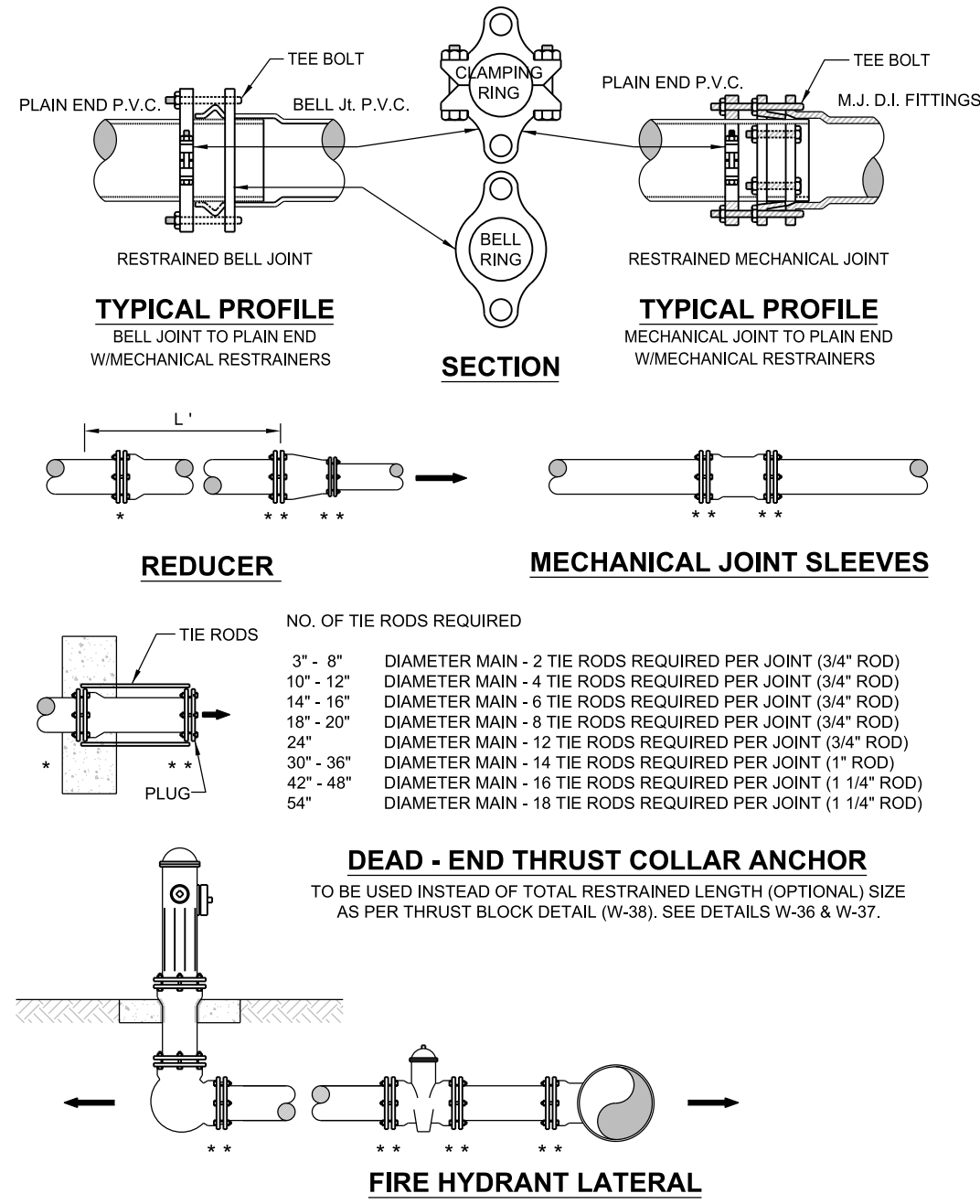
PROJ. NO.	D32549S3
DATE	MAY 2021
SCALE	AS NOTED
DRAWING NO.	C-901

IFB BID NO.: -

JEA PROJ NO.: 8004887

PROJ. TITLE: SIPS-SOUTHSIDE BLVD. INTERTIE TO DEERWOOD III WTP

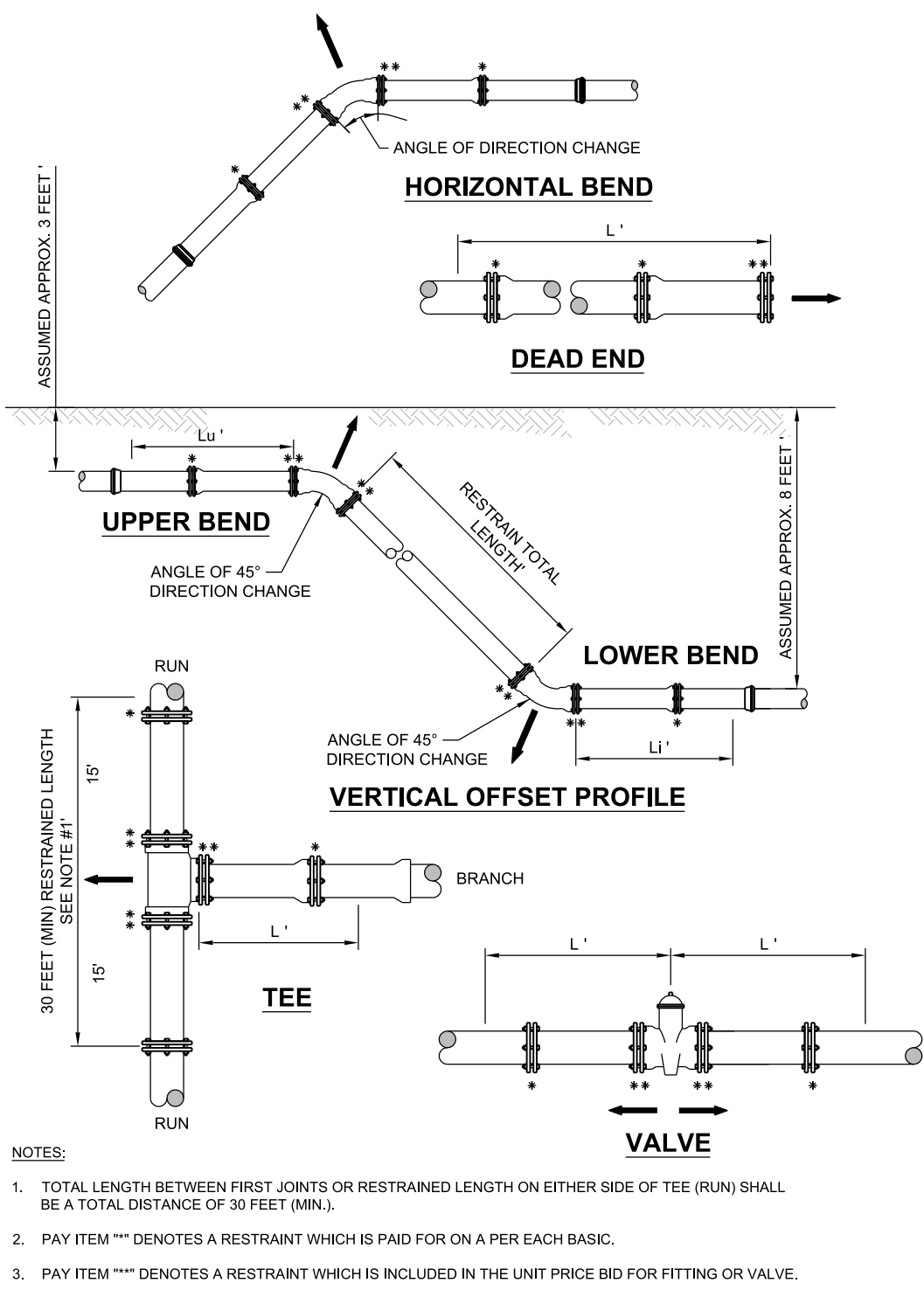
JANUARY 2021



MECHANICAL RESTRAINT DETAILS - I

JANUARY 2021

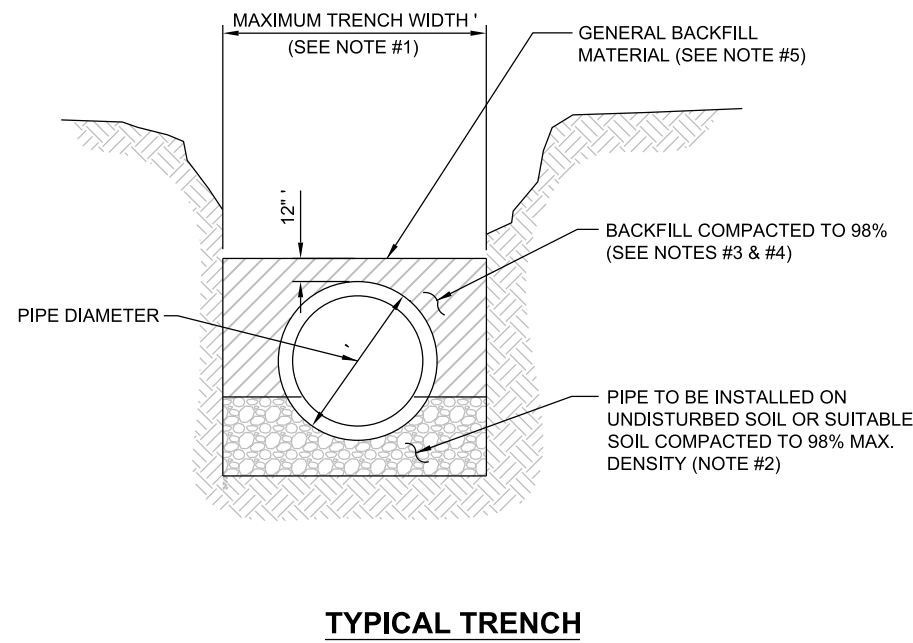
PLATE W-31C



MECHANICAL RESTRAINT DETAILS - II

JANUARY 2021

PLATE W-31D

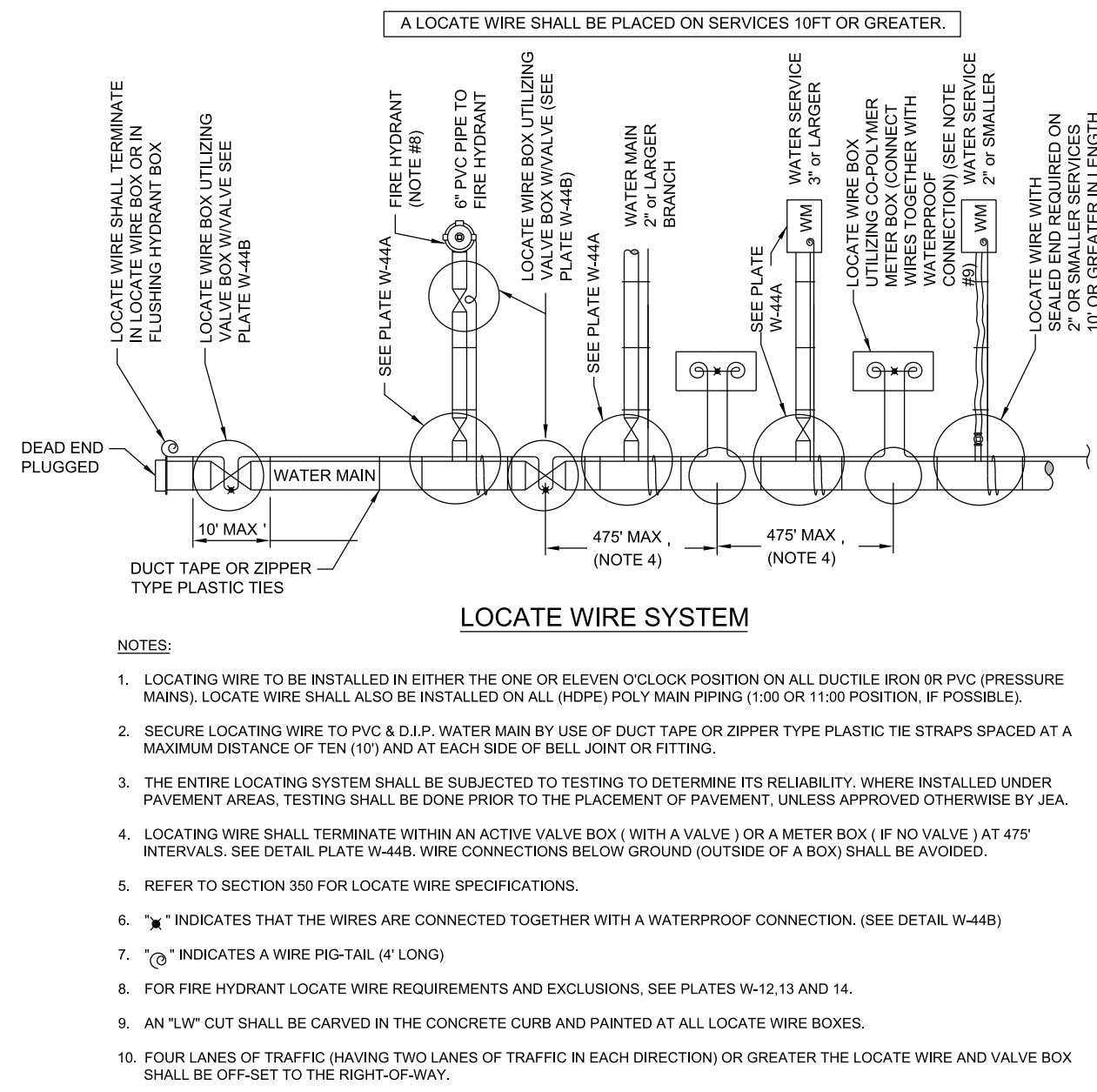


OPEN CUT TRENCH FOR PRESSURE PIPE

JANUARY 2021

IN CITY RIGHT -OF-WAY


PLATE W-42

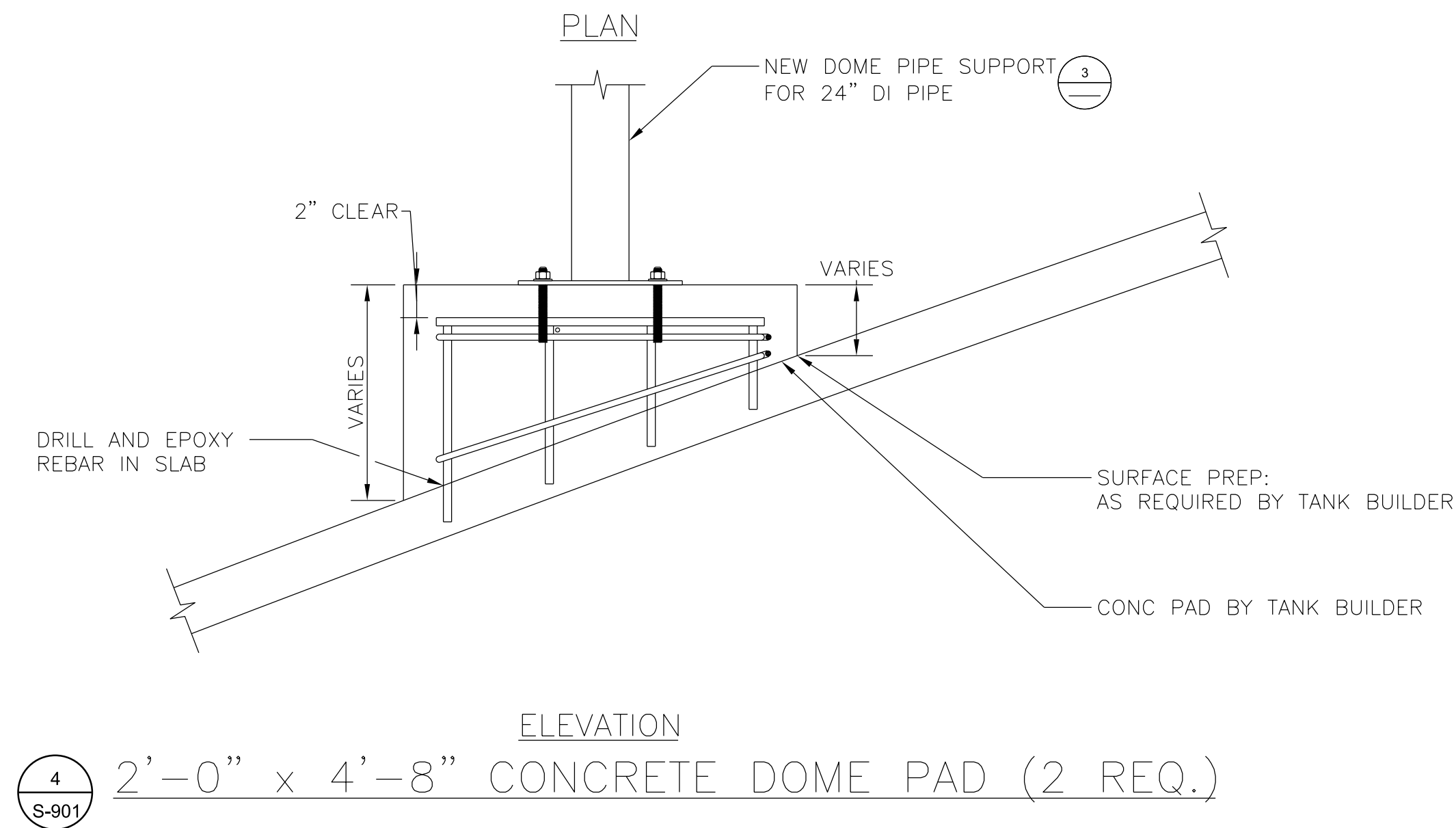
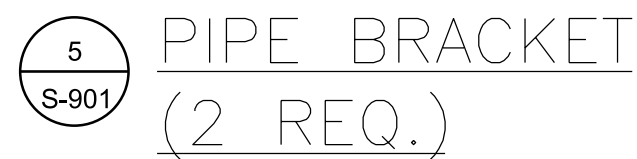


LOCATE WIRE CONSTRUCTION FOR WATER MAINS

JANUARY 2021

PLATE W-44

NO. SHEETS 30			PROJ. NO. D32549S3			SIPS-SOUTHSIDE BLVD. INTERTIE TO DEERWOOD III WTP			 JEA Building Community sm			DESIGNER: R. MORRISON			DESIGN ENGINEER			NO.			BY			DATE			REVISIONS					
SHEET NO.			DATE: MAY 2021			DEERWOOD WTP PRIORITY 1 PROJECTS						DRAWN BY: C CHILDRESS			DATE: MAY 2021			RICHARD THOMAS MORRISON			6.											
DRAWING NO. C-903			SCALE: AS NOTED			CIVIL JEA STANDARD DETAILS						CHECKED BY: A. MALONE			DATE: MAY 2021			FLORIDA REGISTRATION NO. 67713			3.											



1. SEE GENERAL NOTES ON S-901

Jacobs.

200 WEST FORSTH STREET, I: (904) 636-3432
SUITE 1520 F:(904) 224-3102
JACKSONVILLE, FL 32202 COA # 2822

BY	DATE	REVISIONS
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NO.	BY	DATE	REVISIONS
6.			
5.			
4.			
3.			
2.			
1.			

DESIGNER:	D. EVERSON	DESIGN ENGINEER DAVID R. EVERSON FLORIDA REGISTRATION NO. 80180
DRAWN BY:	J. THORNTON	
DATE:	MAY 2021	
CHECKED BY:	C. ANSON	
DATE:	MAY 2021	

JEAsm
Building Communitysm

SIPS-SOUTHSIDE BLVD. INTERTIE TO DEERWOOD III WTP
DEERWOOD WTP PRIORITY 1 PROJECTS
STRUCTURAL
STANDARD DETAILS

NO. SHEETS 30	PROJ. NO. D32549S
SHEET NO. 16	DATE: MAY 2021
DRAWING NO. S-902	SCALE: AS NOTED

PROJ TITLE: SIPS-SOUTHSIDE BLVD. INTERTIE TO DEERWOOD III WTP

JEA PROJ NO.: 8004887

IFB BID NO.: -

SIPS-DW-CP-01 ◆

SS1
PS
UPS

SIPS-DW-RIO-01

FLOW
PRESSURE
IN REMOTE
TRAVEL OPEN
COMMAND
TRAVEL CLOSE
COMMAND
POSITION
FEEDBACK
CHECK
VALVE
CLOSED

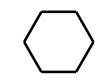
SS4
SS2
DSS
DSS
DSS
SS2
DSS

SIPS-DW-CP-X

SIPS-DW-PLC-X

LOW
FLOW

DSS



SHEET KEYNOTES

- HYDRAULIC VALVE ACTUATION. SOLENOID VALVE POSITIONS DETERMINE FLOW PATH OF HYDRAULIC FLUID.
- CONTROL VALVE SHALL FAIL-LAST-POSITION ON LOSS OF REMOTE I/O POSITION COMMAND SIGNAL.
- CO-LOCATE POWER AND RS-485 SURGE SUPPRESSORS INSIDE POLYCARBONATE ENCLOSURE. MOUNT ENCLOSURE ON FLOW TRANSMITTER INSTRUMENT STAND.
- FIBER-OPTIC PROFIBUS DATALINK TO EXISTING PLC PANEL. REFER TO BLOCK DIAGRAM N-002 FOR DETAILED NETWORK ROUTING REQUIREMENTS.
- RS-485 PROFIBUS DATALINK TO EXISTING PLC PANEL. REFER TO BLOCK DIAGRAM FOR DETAILED NETWORK ROUTING REQUIREMENTS.

Jacobs

200 WEST FORSYTH STREET, T: (904) 636-5432
SUITE 1520 F: (904) 224-3102
JACKSONVILLE, FL 32202 COA # 2822

DESIGNER: C SAHARHIZ
DRAWN BY: D CORY
DATE: MAY 2021
CHECKED BY: C WILSON
DATE: MAY 2021
FLORIDA REGISTRATION NO. 84591

JEA
Building Communitysm

SIPS-SOUTHSIDE BLVD. INTERTIE TO DEERWOOD III WTP
DEERWOOD WTP PRIORITY 1 PROJECTS
INSTRUMENTATION AND CONTROLS
INTERTIE STATION P&ID

JEA PROJ NO.: 8004887

PROJ TITLE: SIPS-SOUTHSIDE BLVD. INTERTIE TO DEERWOOD III WTP

IFB BID NO.: -

120V

120V

120V

FROM ARLINGTON
BOOSTER PUMP
STATION

SIPS-DW-ARV-01

SIPSDW
FIT01

SIPSDW
PIT01

SIPSDW
HS01

SIPSDW
ZIT01

SIPSDW
ZSC02

RETRACTABLE COUPON
INSERTION SYTEM
TYP OF 2

EXISTING
STORAGE
TANK NO. 3

SIPS-DW-FP-01 ◆
WATER QAULTY
SAMPLING STATION

TERMINATING
RESISTOR

SIPSDW
AIT01

SIPSDW
AIT02

SIPSDW
AIT03

SIPSDW
AIT04

SIPSDW
AE01

SIPSDW
AE02

SIPSDW
AE03

SIPSDW
AE04

SIPSDW
AE05

SIPSDW
FI01

SIPSDW
FSL01

SIPSDW
FI02

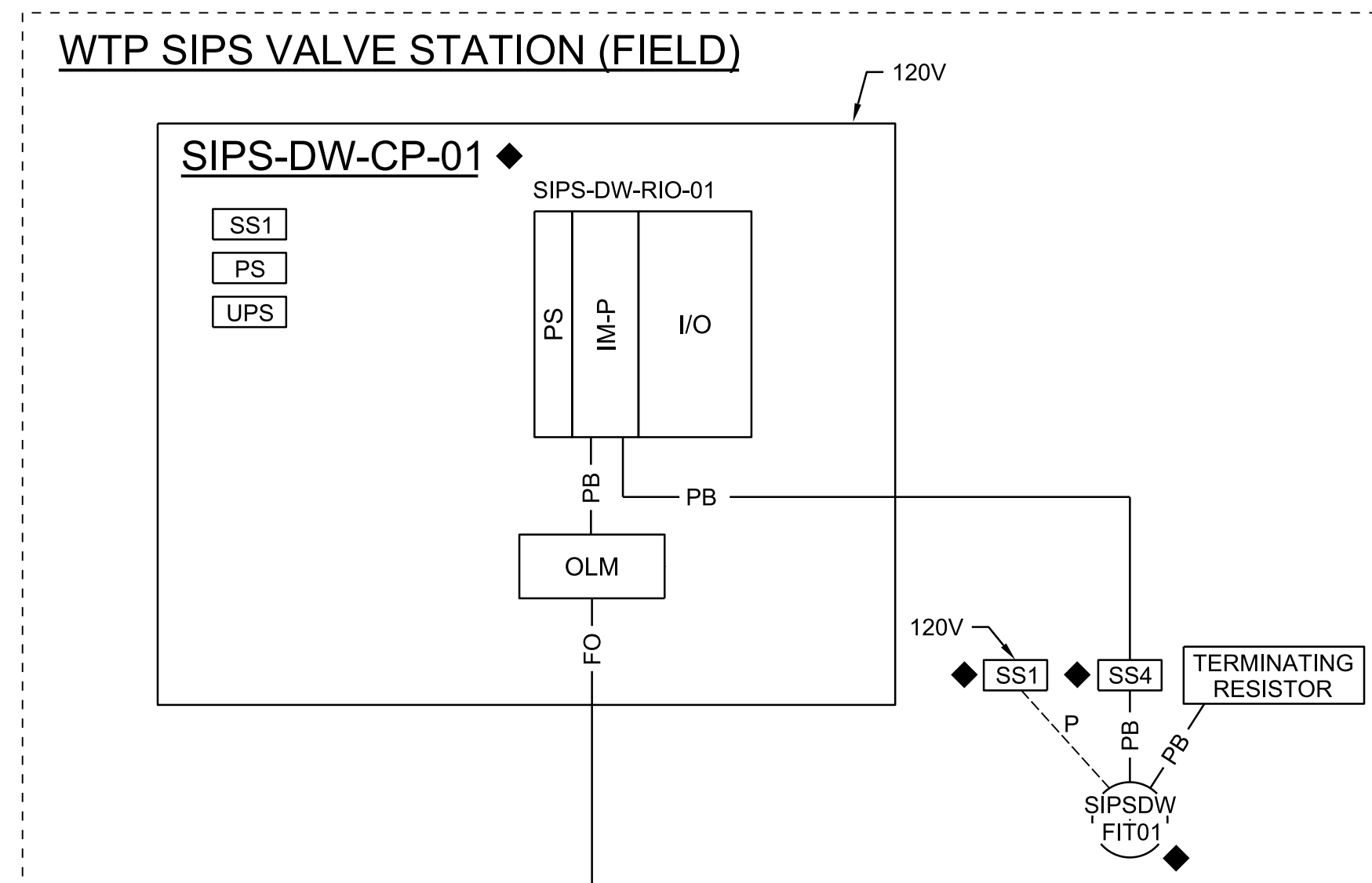
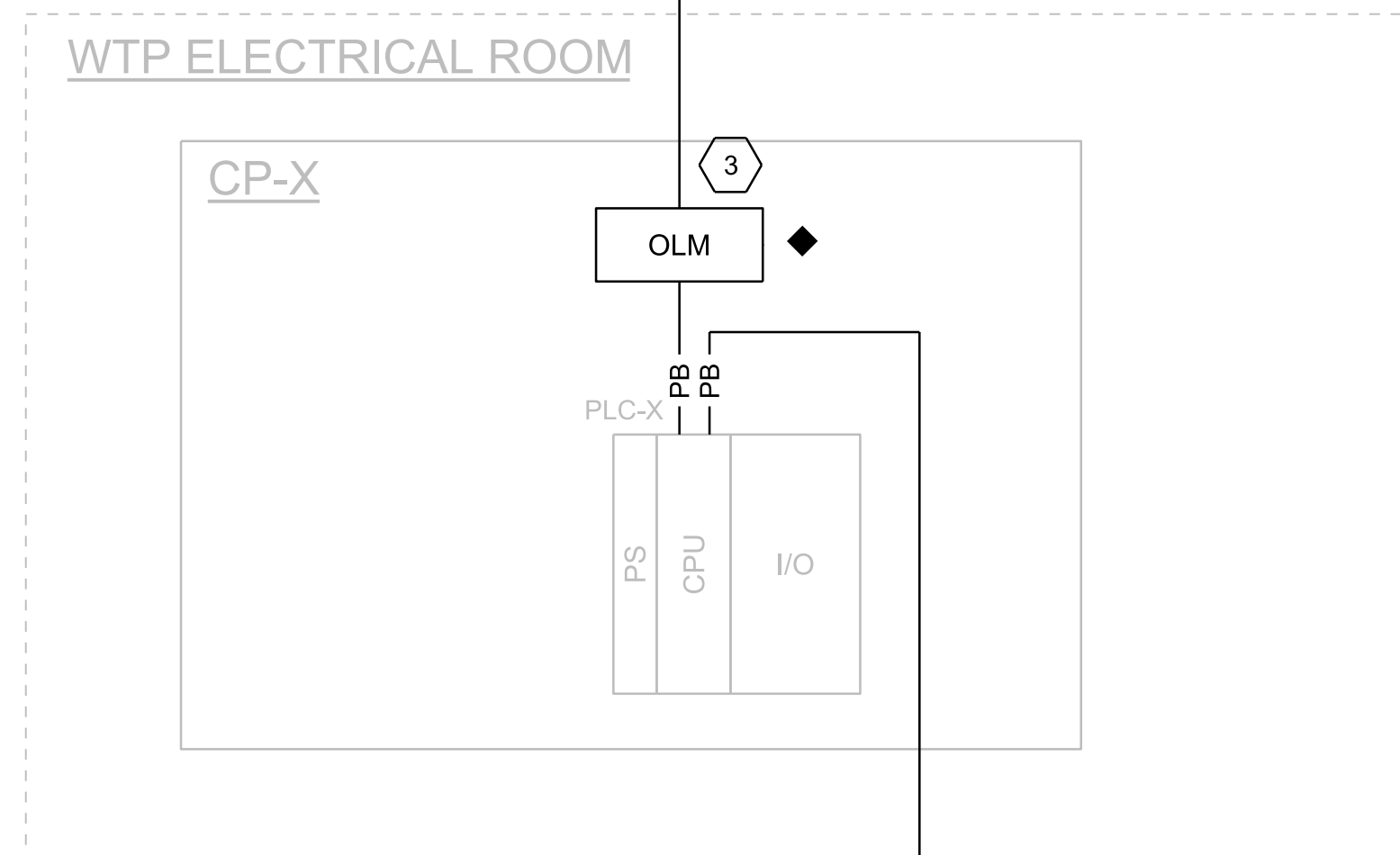
SIPSDW
FI03

SIPSDW
FI04

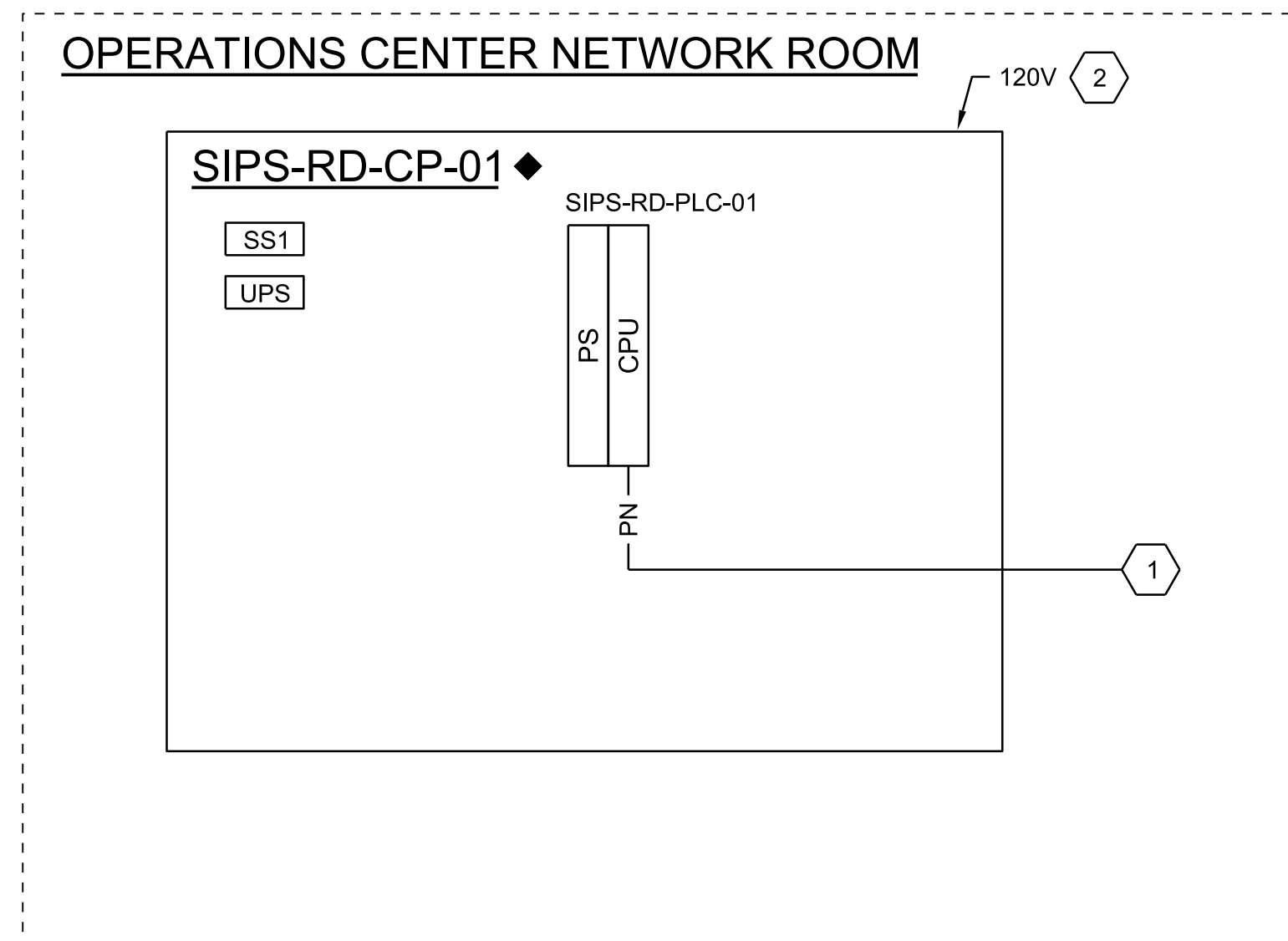
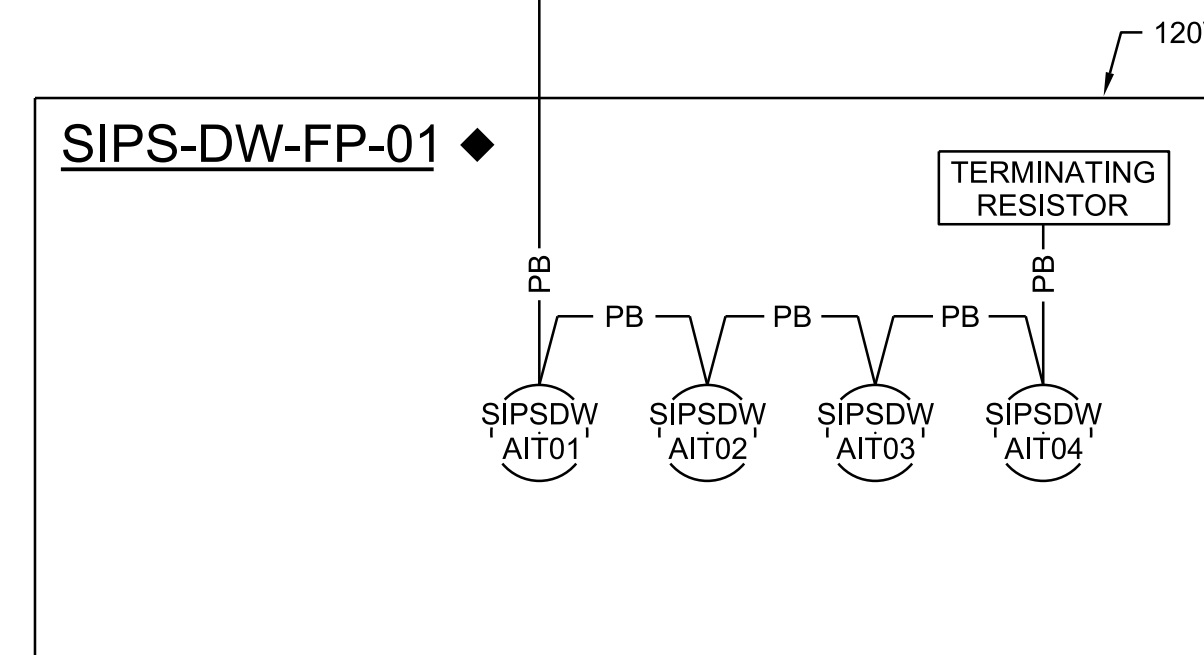
SIPSDW
FI05

SIPSDW
PCV01

DR


DEERWOOD III WTP

WTP SODIUM HYPOCHLORITE
GENERATOR ROOM

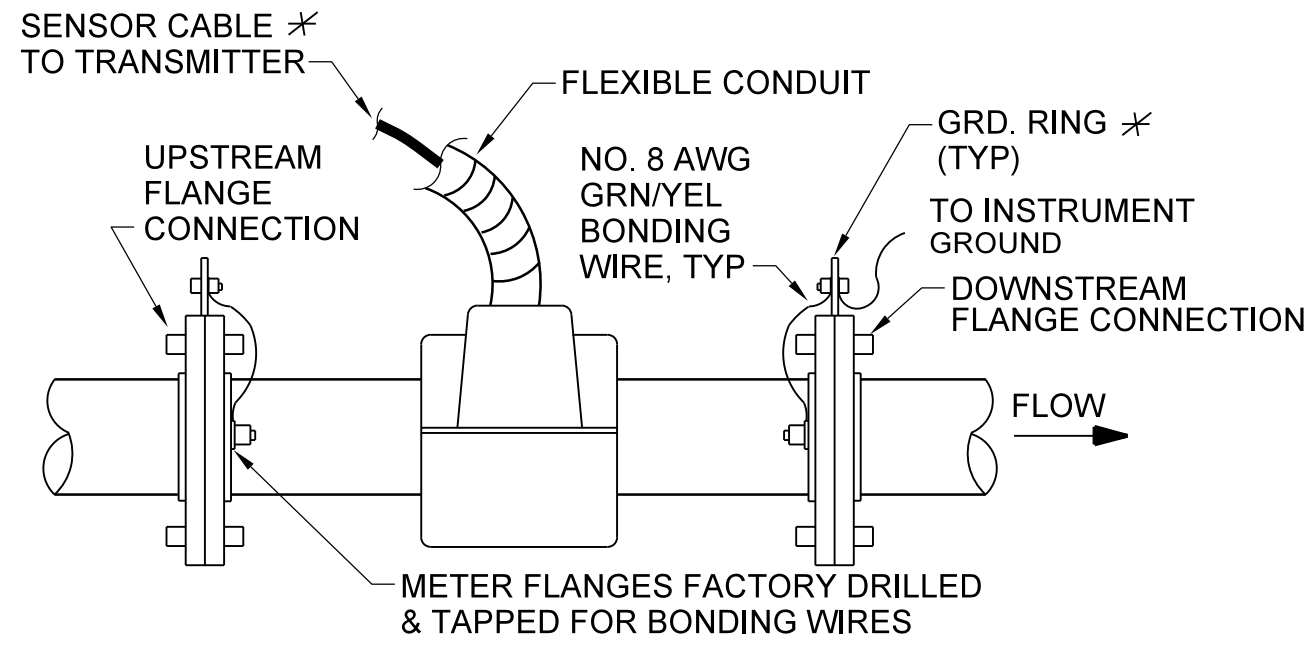
RIDENOUR WTP

<h1>ABBREVIATIONS</h1>	
CP	- CONTROL PANEL
CPU	- CENTRAL PROCESSING UNIT
IM-P	- INTERFACE MODULE - PROFIBUS DP
I/O	- INPUT/OUTPUT
OLM	- OPTICAL LINK MODULE
PLC	- PROGRAMMABLE LOGIC CONTROLLER
PS	- POWER SUPPLY
RIO	- REMOTE I/O
SS	- SURGE SUPPRESSOR
UPS	- UNINTERRUPTIBLE POWER SUPPLY

<h1>LINE LEGEND</h1>	
—FO—	- FIBER-OPTIC, 62.5 MICRON MULTI-MODE, SINGLE-PAIR
—PB—	- PROFIBUS, RS-485
—PN—	- PROFINET, CAT-6 UTP

<div>  <h1>SHEET KEYNOTES</h1> </div>	
1.	CONNECT PROFINET DATALINK CABLE TO EXISTING NETWORK SWITCH XXX.
2.	PROVIDE PANEL FEED POWER FROM EXISTING LIGHTING PANEL LP-X INSIDE RIDENOUR OPERATIONS BUILDING.
3.	INSTALL NEW OPTICAL LINK MODULE INSIDE EXISTING WTP PLC CONTROL PANEL.

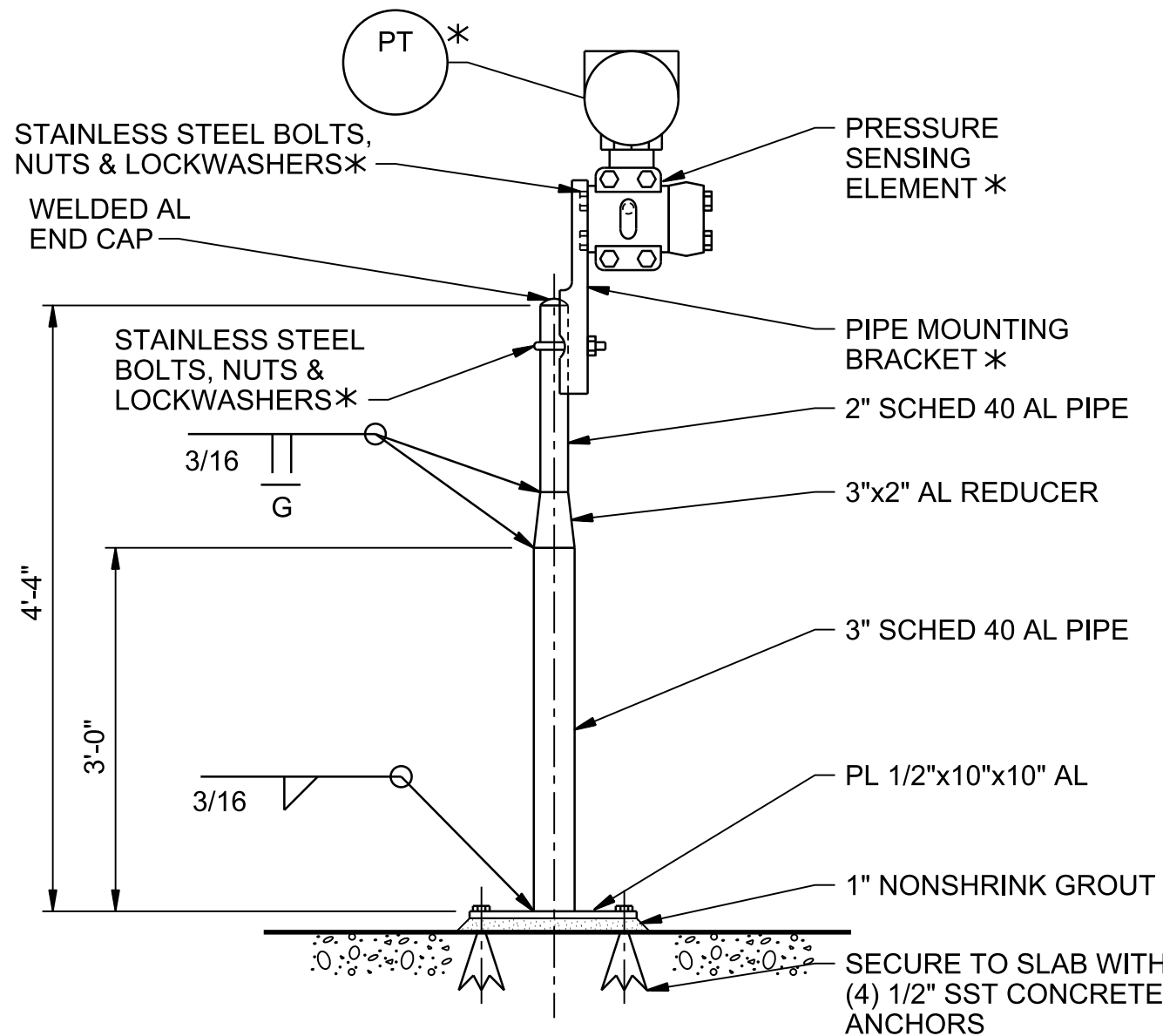
[illegible]



- NOTES:**
- COMPONENTS DESIGNATED BY * ARE SUPPLIED BY INSTRUMENT MANUFACTURER.
 - IF PIPE IS NON-CONDUCTIVE BOND MAGMETER TO ONE OF THE FOLLOWING ACCEPTABLE GROUNDS:
 - METALLIC WATER PIPE IF BURIED PORTION IS MORE THAN 10'.
 - STRUCTURAL STEEL.

MAGNETIC FLOWMETER INSTALLATION
NTS

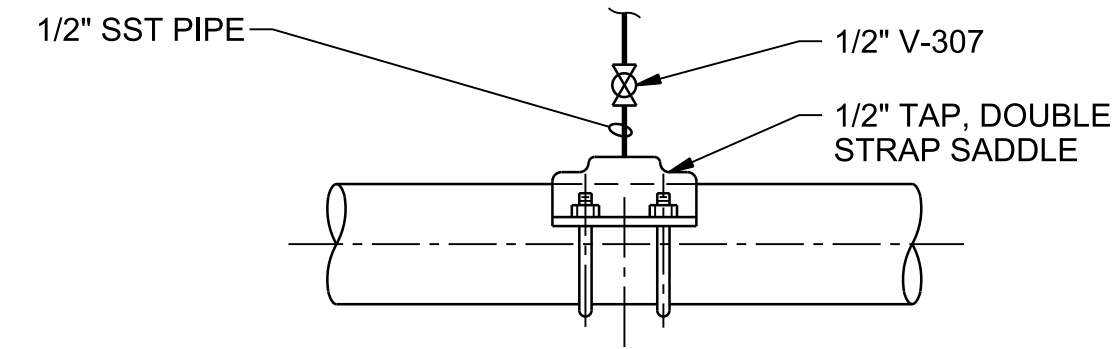
4091-222G



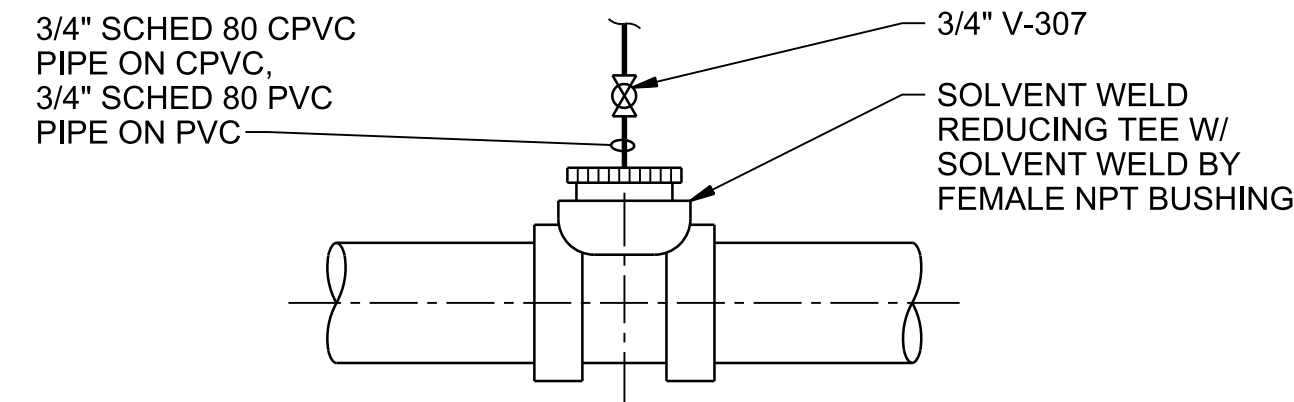
- NOTES:**
- PAINT ALUMINUM IN CONTACT WITH CONCRETE ACCORDING TO SPECIFICATIONS FOR PAINTING.
 - ALTERNATIVELY, STANCHION SUPPORT SHALL BE O'BRIEN CORP. MODEL 32FP52 WITH 9 MIL ARC SPRAY ZINC METALLIZED COATING; OR EQUAL.
 - COMPONENTS DESIGNATED BY * ARE SUPPLIED BY INSTRUMENT MANUFACTURER.

PRESSURE AND PRESSURE DIFFERENTIAL TRANSMITTER INSTALLATION
NTS

4091-302



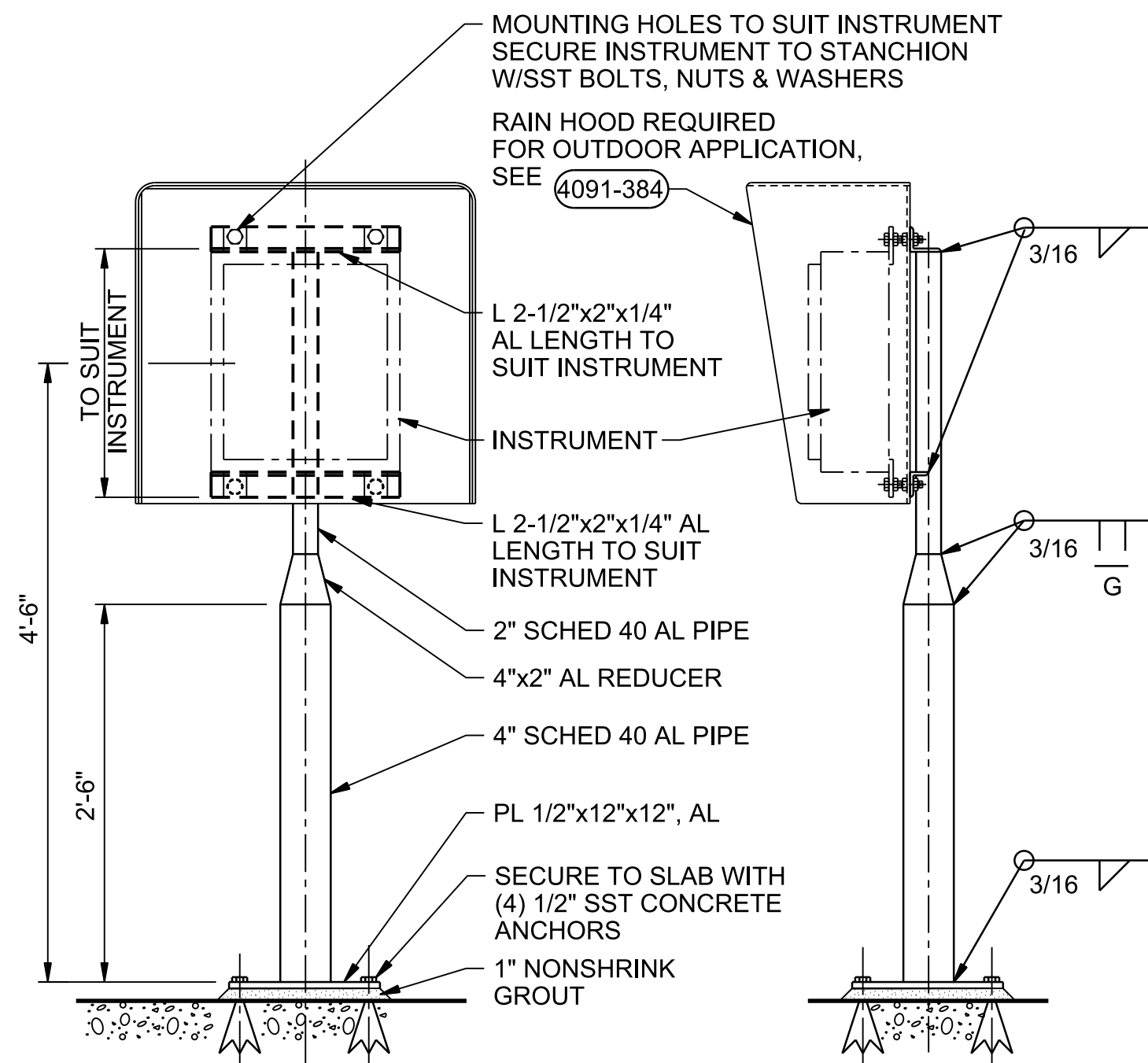
CEMENT LINE STEEL PIPE, CAST IRON PIPE AND DUCTILE IRON PIPE



PVC AND CPVC PIPE

PRESSURE CONNECTION INSTALLATION
NTS

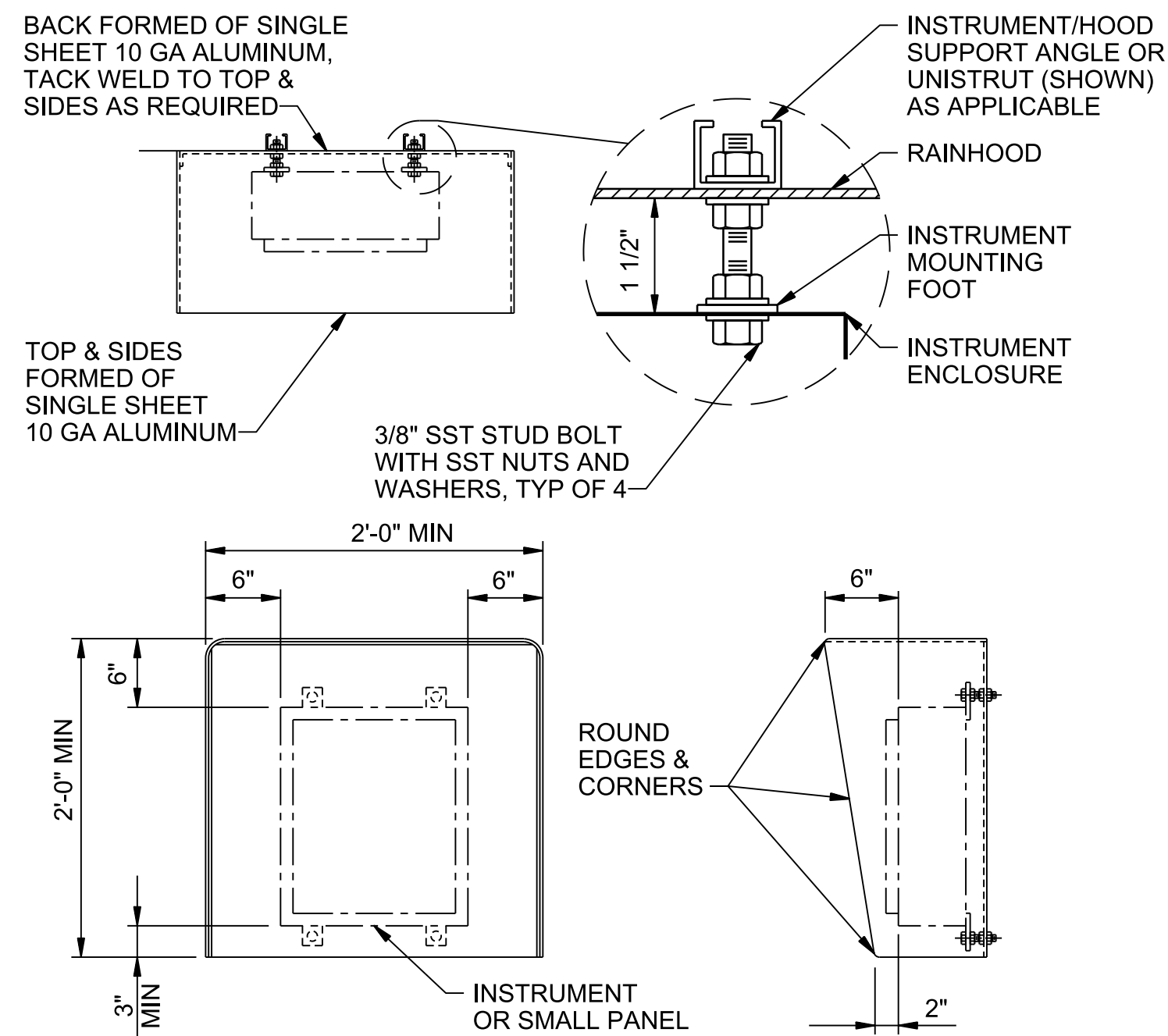
4091-305A



- NOTES:**
- ROUND OFF ALL EXPOSED EDGES AND CORNERS.
 - PAINT ALUMINUM IN CONTACT WITH CONCRETE ACCORDING TO SPECIFICATIONS FOR PAINTING.

STANCHION SUPPORT FOR CASE MOUNTED INSTRUMENTS
NTS

4091-383

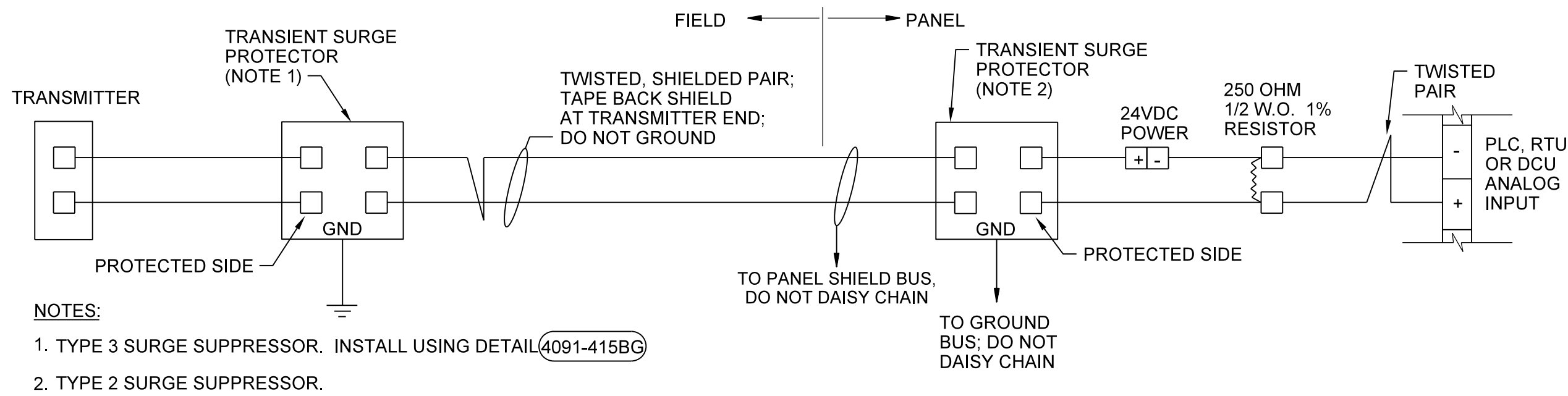


- NOTES:**
- ALL EXPOSED EDGES TO BE GROUND SMOOTH AND BURR FREE.
 - MOUNT RAIN HOOD BETWEEN INSTRUMENT AND MOUNTING BRACKET. DRILL HOLES IN RAIN HOOD AS PER MOUNTING HOLES FOR INSTRUMENT.

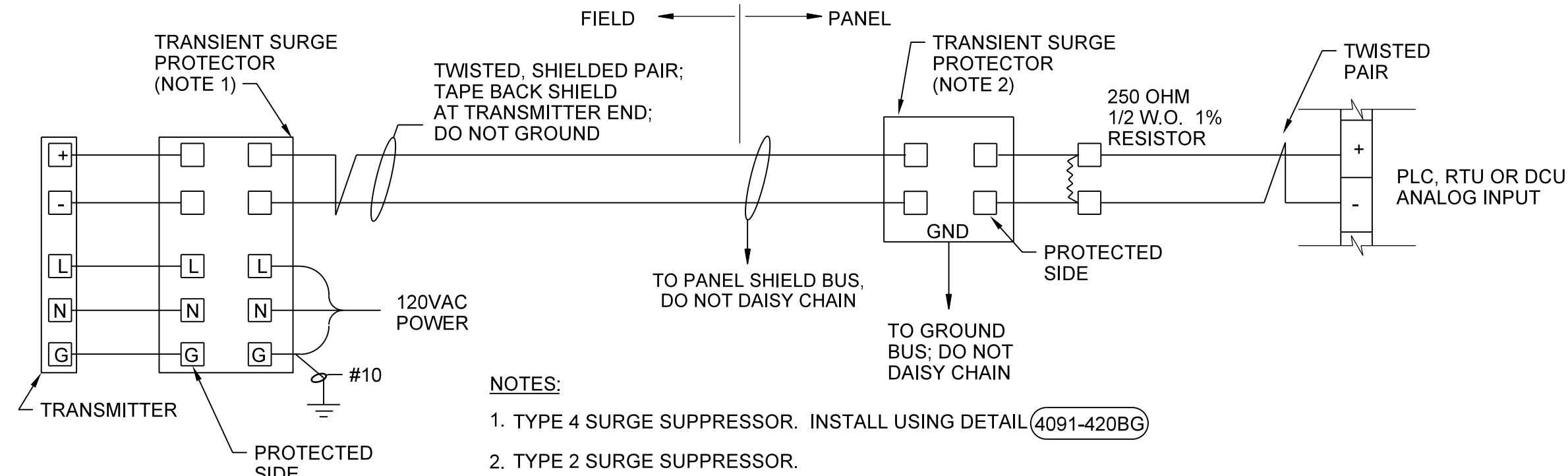
RAIN HOOD INSTALLATION
NTS

4091-384

Jacobs 200 WEST FORSYTH STREET, T: (904) 636-5432 SUITE 1520 F: (904) 224-3102 JACKSONVILLE, FL 32202 COA # 2822		NO. BY DATE 6. 1. 1. 2. 3. 4. 5. 6.	
		REVISIONS	
DESIGNER: C. SAHARHIZ DRAWN BY: D. CORY DATE: MAY 2021 CHECKED BY: C. WILSON DATE: MAY 2021		DESIGN ENGINEER: CYRUS JOHN SAHARHIZ FLORIDA REGISTRATION NO. 84591	
PROJ. NO.: D32549S3 DATE: MAY 2021 SCALE: AS NOTED		SIPS-SOUTHSIDE BLVD. INTERTIE TO DEERWOOD III WTP DEERWOOD WTP PRIORITY 1 PROJECTS INSTRUMENTATION AND CONTROLS STANDARD DETAILS	
NO. SHEETS: 30 SHEET NO.: N-901		PROJ. TITLE: SIPS-SOUTHSIDE BLVD. INTERTIE TO DEERWOOD III WTP JEA PROJ NO.: 8004887	



2-WIRE TRANSMITTER

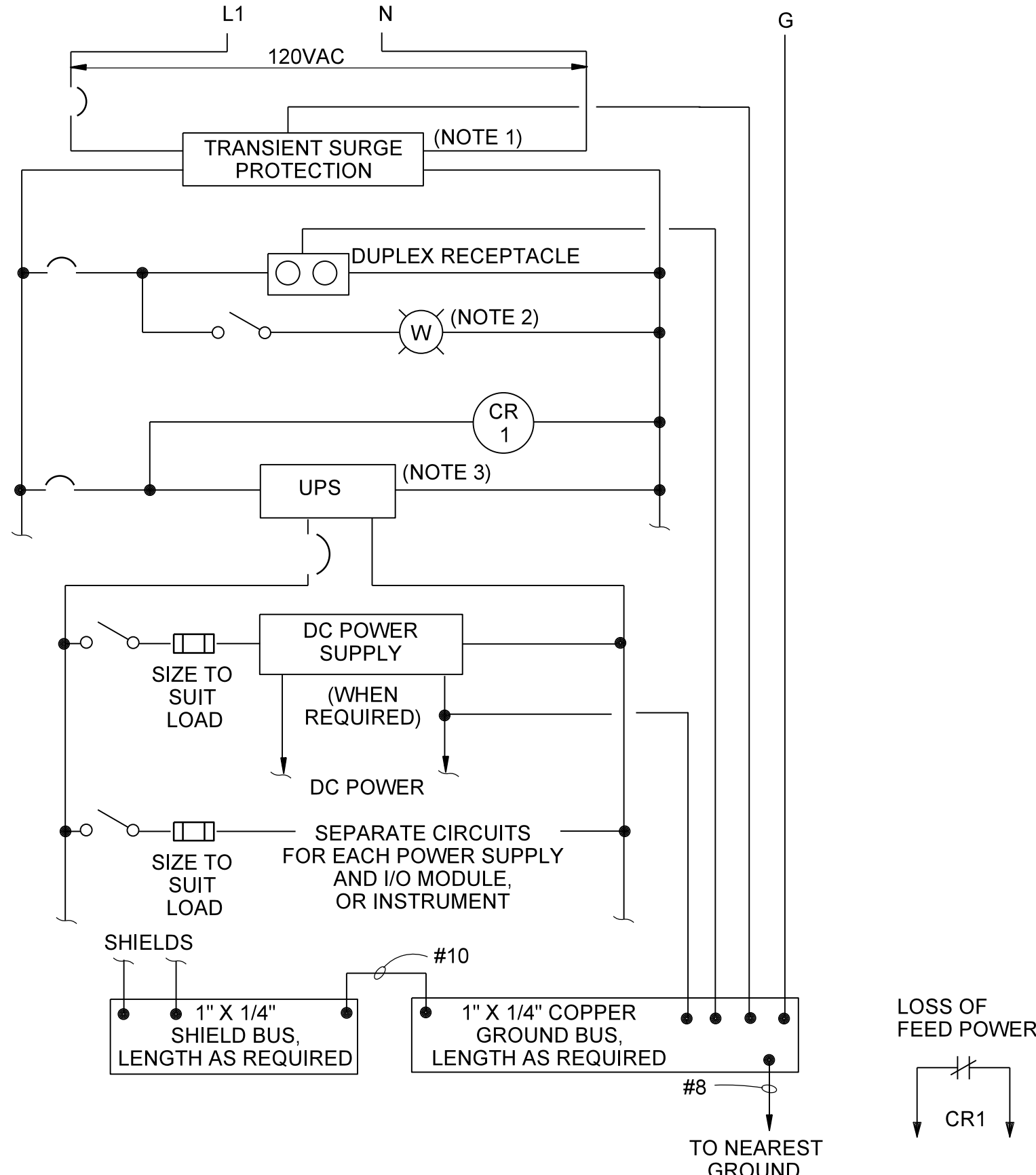


4-WIRE TRANSMITTER

TYPICAL OUTDOOR TRANSMITTERS

NTS

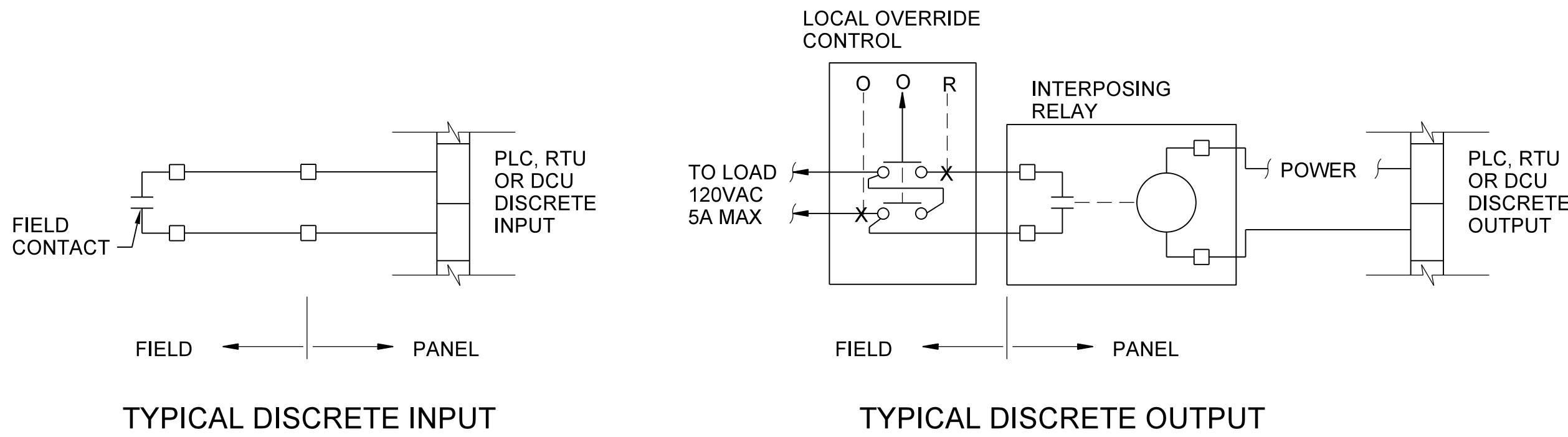
4091-405BG



TYPICAL PANEL POWER DISTRIBUTION
FOR PANELS WITH INTERNAL UPS

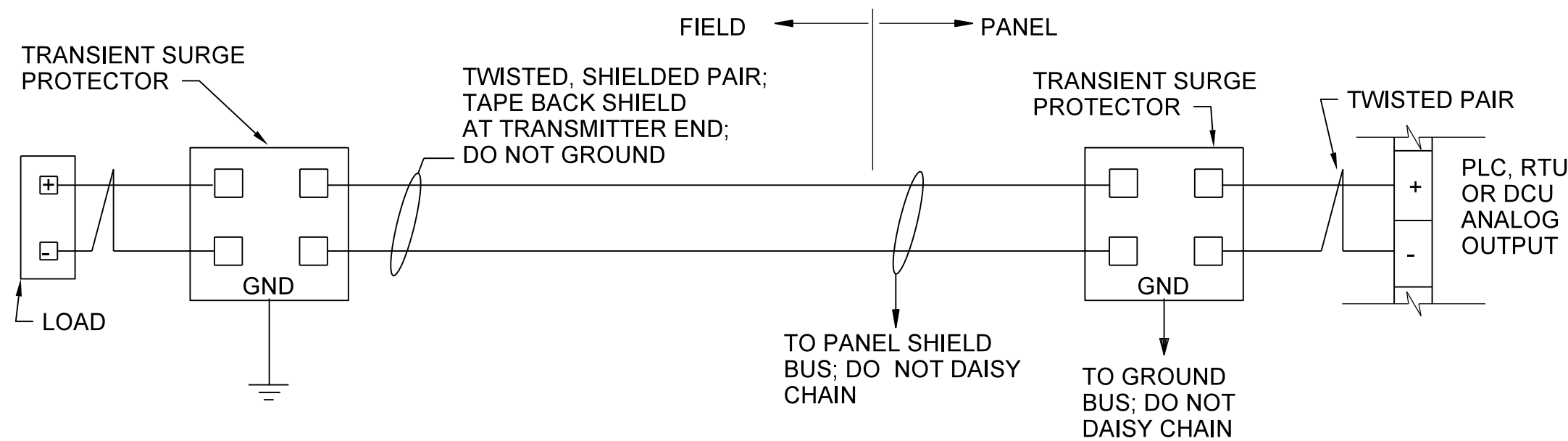
NTS

4091-406AG



TYPICAL DISCRETE INPUT

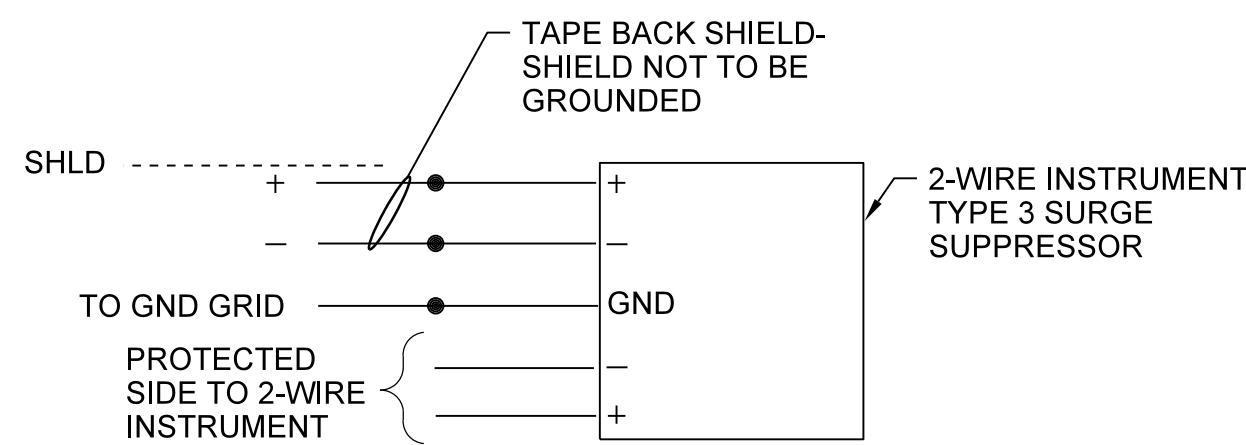
TYPICAL DISCRETE OUTPUT



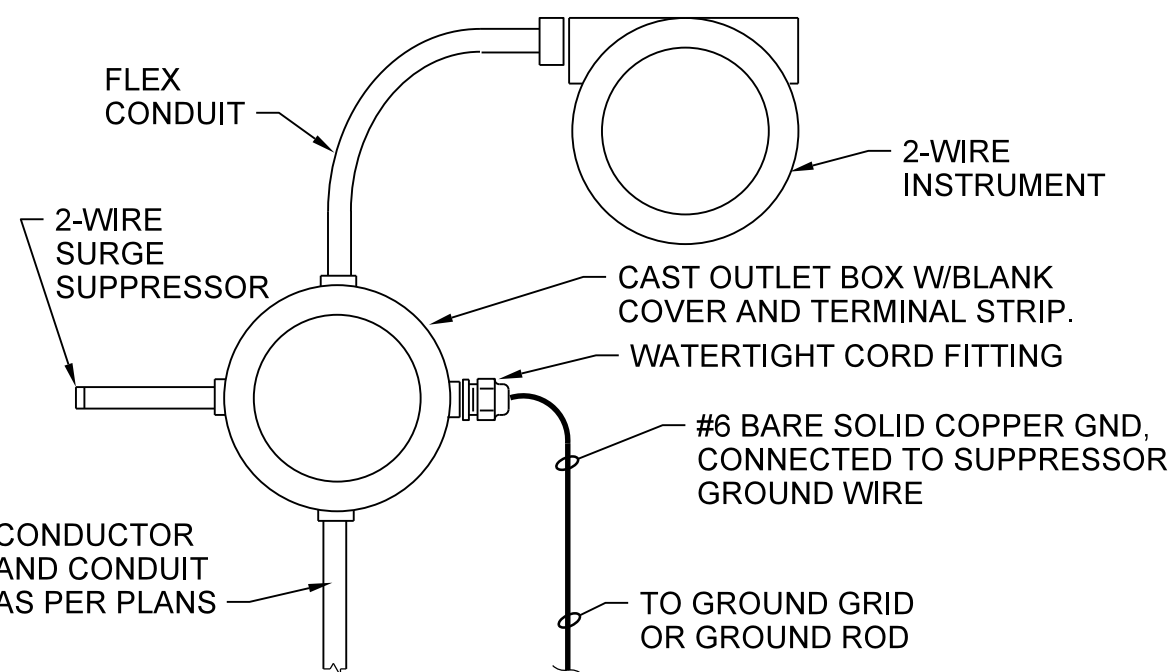
TYPICAL OUTDOOR ANALOG OUTPUT

NTS

4091-408G



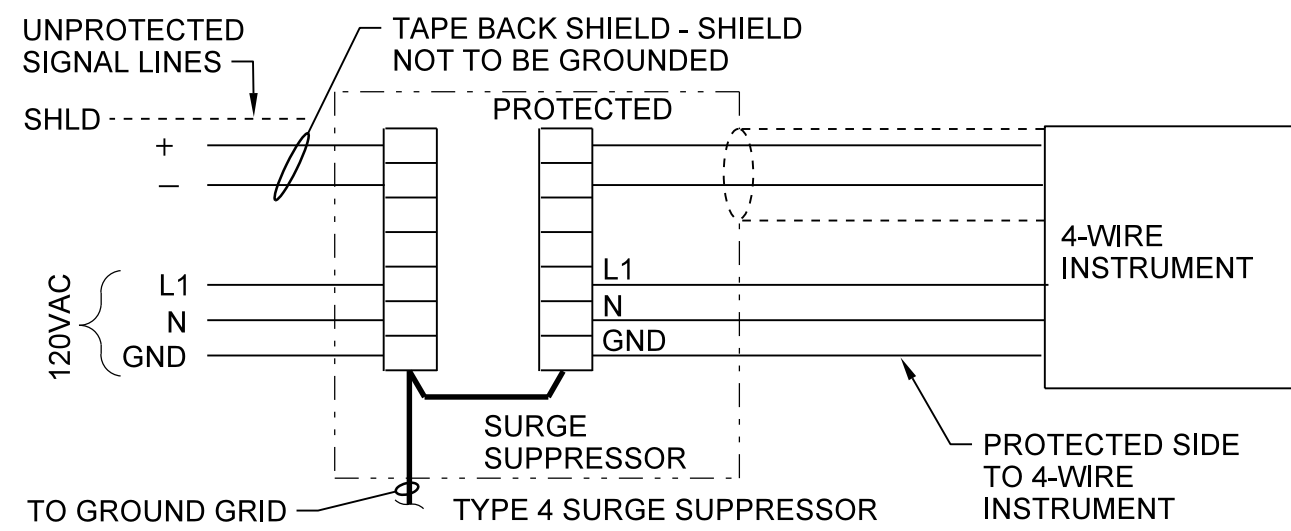
WIRING DIAGRAM



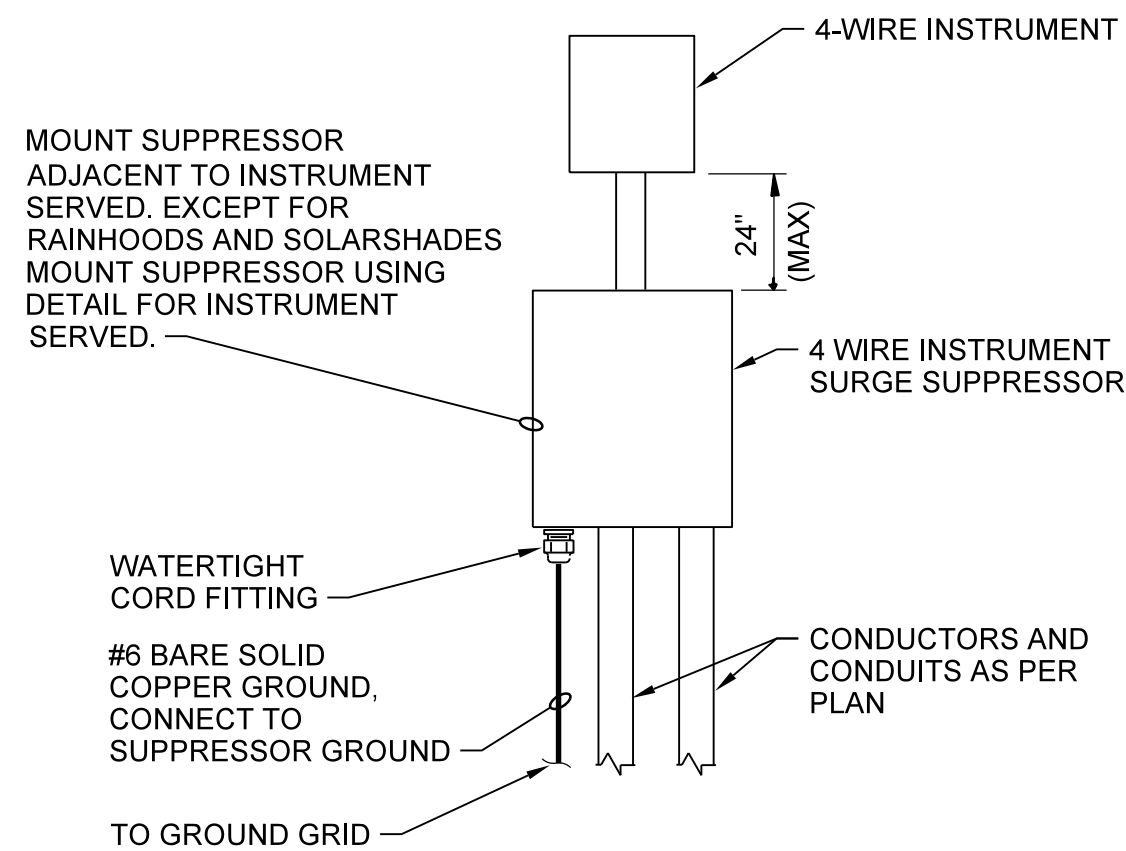
TYPE "3" SURGE SUPPRESSOR
INSTALLATION 2-WIRE INSTRUMENT

NTS

4091-415BG



WIRING DIAGRAM



TYPE "4" SURGE SUPPRESSOR
INSTALLATION 4-WIRE INSTRUMENT

NTS

4091-420BG

JACOBS		200 WEST FORSYTH STREET, T. (904) 636-5432 SUITE 1520 F. (904) 224-3102 JACKSONVILLE, FL 32202 COA # 2822	
NO.	BY	DATE	REVISIONS
1.			
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6.			

DESIGNER:	C. SAHARKHIZ
DRAWN BY:	D. CORY
CHECKED BY:	C. WILSON
DATE:	MAY 2021
DATE:	MAY 2021
DESIGN ENGINEER:	CYRUS JOHN SAHARKHIZ
FLORIDA REGISTRATION NO.:	84591



SIPS-SOUTHSIDE BLVD. INTERTIE TO DEERWOOD III WTP
DEERWOOD WTP PRIORITY 1 PROJECTS
INSTRUMENTATION AND CONTROLS
STANDARD DETAILS

PROJ. NO.	D32549S3
DATE:	MAY 2021
SCALE:	AS NOTED
NO. SHEETS	30
SHEET NO.	
DRAWING NO.	N-902

IFB BID NO.: - JEA PROJ NO.: 8004887 PROJ TITLE: SIPS-SOUTHSIDE BLVD. INTERTIE TO DEERWOOD III WTP

NO.	BY	DATE	REVISIONS
1.			
2.			
3.			
4.			
5.			
6.			

DESIGN ENGINEER	L. GUNN
DESIGNER	N. PATTERSON
DRAWN BY	MAY 2021
CHECKED BY	L. GUNN
DATE	MAY 2021
FLORIDA REGISTRATION NO.	65967

DESIGNER	L. GUNN
DRAWN BY	N. PATTERSON
DATE	MAY 2021
CHECKED BY	L. GUNN
DATE	MAY 2021
FLORIDA REGISTRATION NO.	65967

PROJ. NO.	D32549S3
DATE	MAY 2021
SCALE	AS NOTED

NO. SHEETS	30
SHEET NO.	1
DRAWING NO.	M-001

PROJ. TITLE: SIPS-SOUTHSIDE BLVD. INTERTIE TO DEERWOOD III WTP

JEA PROJ NO.: 8004887

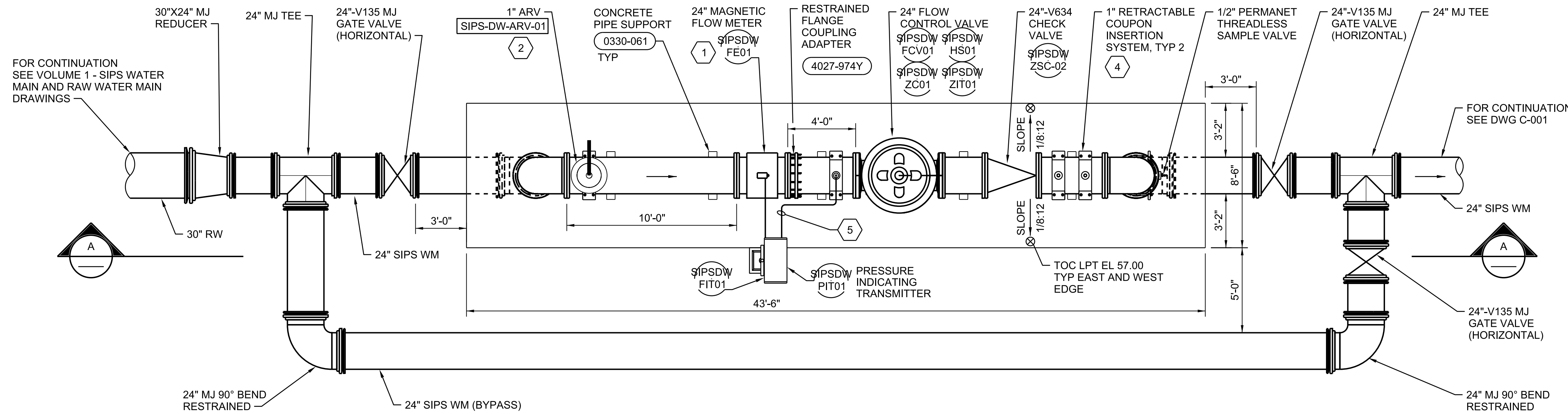
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GENERAL NOTES

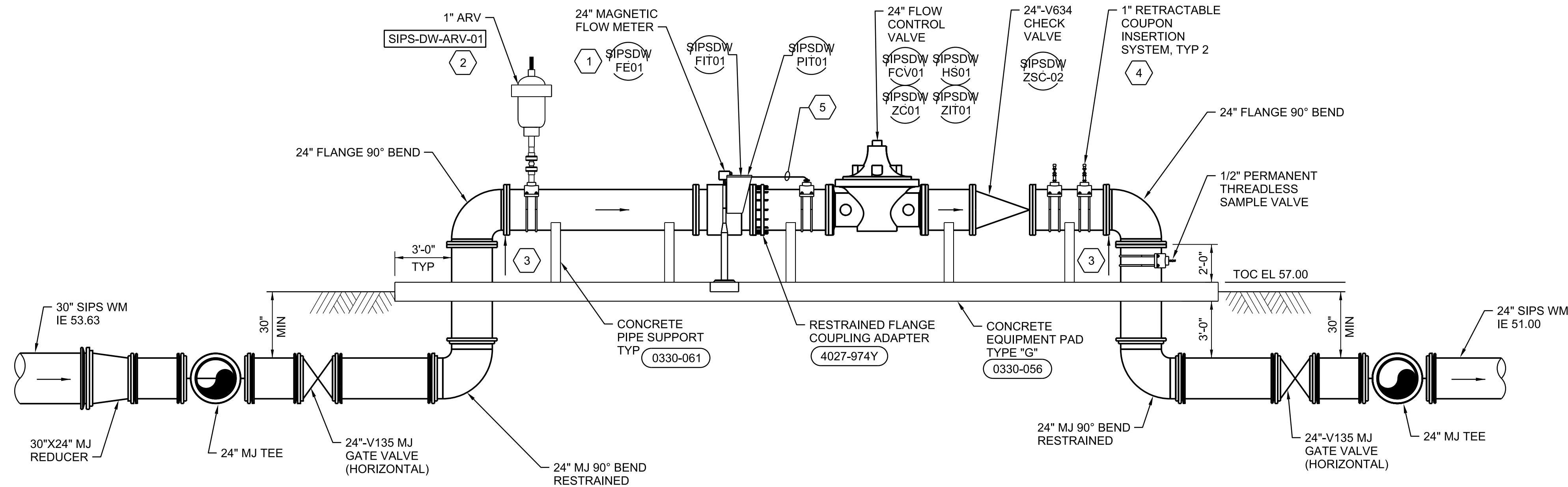
- USE TYPE 316 SST BOLTS, NUT AND WASHERS ON ALL EXPOSED EQUIPMENT.
- USE TYPE A307/A563 BOLTS, NUTS AND WASHERS ON ALL PIPING.
- ALL NE PRESSURE PIPING ON THE DEERWOOD WTP SITE SHALL BE RESTRAINED.

SHEET KEYNOTES

- SEE DRAWING E-002 FOR FLOW METER REQUIREMENTS.
- 1"-V742 AIR RELEASE VALVE, 1"-V307 BALL VALVE AND 1" 316 SST PIPING INSTALLED ON A TAPPING SADDLE. 1/2" 316 SST DISCHARGE PIPING TO BE TERMINATED 12" ABOVE THE CONCRETE PAD. CONTRACTOR TO SUPPORT ASSEMBLY AS NEEDED.
- FIELD COAT WITH SYSTEM 5A.
- THE 1" RETRACTABLE COUPON INSERTION SYSTEMS SHALL BE METAL SAMPLES CO., MODEL RT45-22-010-24-1.
- 1/4" SST PIPING WITH 1/4"-V307 BALL VALVE AND SST PIPE COUPLING.



PLAN
1/4"=1'-0"



SECTION A-A
1/4"=1'-0"



1 DETAIL
NTS
M-003

SHEET KEYNOTES

1. REMOVE ABANDONED HYPOCHLORITE GENERATORS SKIDS. CAP ALL REMOVED PIPING AT THE WALL OR FLOOR AS NEEDED.
2. REMOVE AND CAP 4" HYDROGEN PIPING AT WALL.
3. REMOVE ABANDONED WATER SOFTNER SUPPORTS AND RELOCATE EXISTING 2" W2 PIPING TO KEEP IN SERVICE. PROTECT NEW PIPING AS NEEDED.
4. RELOCATED 2" W2.
5. REMOVE AND CAP 1 1/4" W1, 2" W3, 2" BRINE, 1" DR PIPING AT FLOOR OR GRATING AS NEEDED. REMOVE PUMP. REMOVE DRAIN AND CAP AT FLOOR.

Jacobs

200 WEST FORSYTH STREET, T: (904) 636-5432
SUITE 1520 F: (904) 224-3102
JACKSONVILLE, FL 32202 COA # 2822

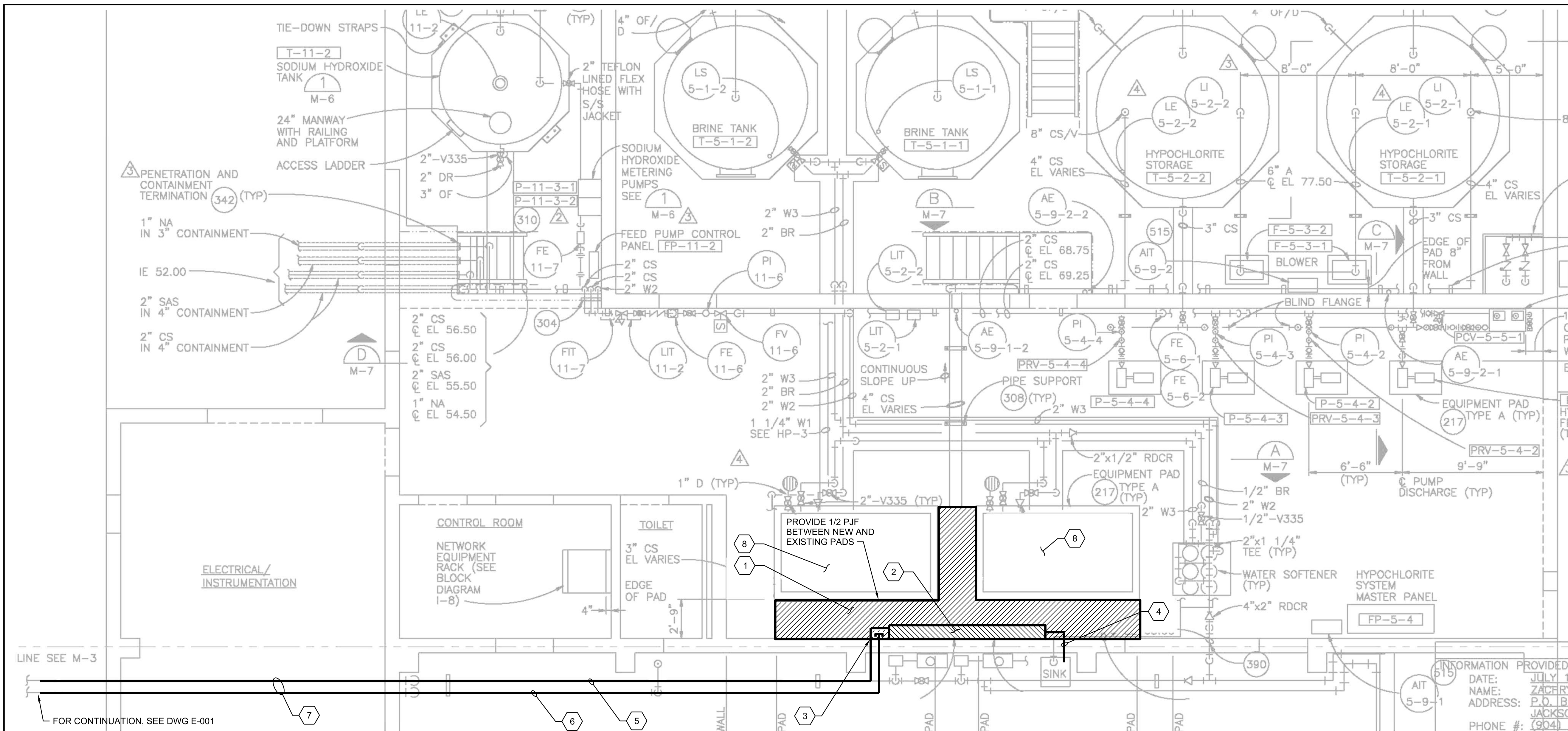
NO.	BY	DATE	REVISIONS
6.			
5.			
4.			
3.			
2.			
1.			

DESIGNER: L. GUNN	DESIGN ENGINEER LAWRENCE BRADLEY GUNN
DRAWN BY: N. PATTERSON	
DATE: MAY 2021	
CHECKED BY: L. GUNN	FLORIDA REGISTRATION NO. 65967
DATE: MAY 2021	

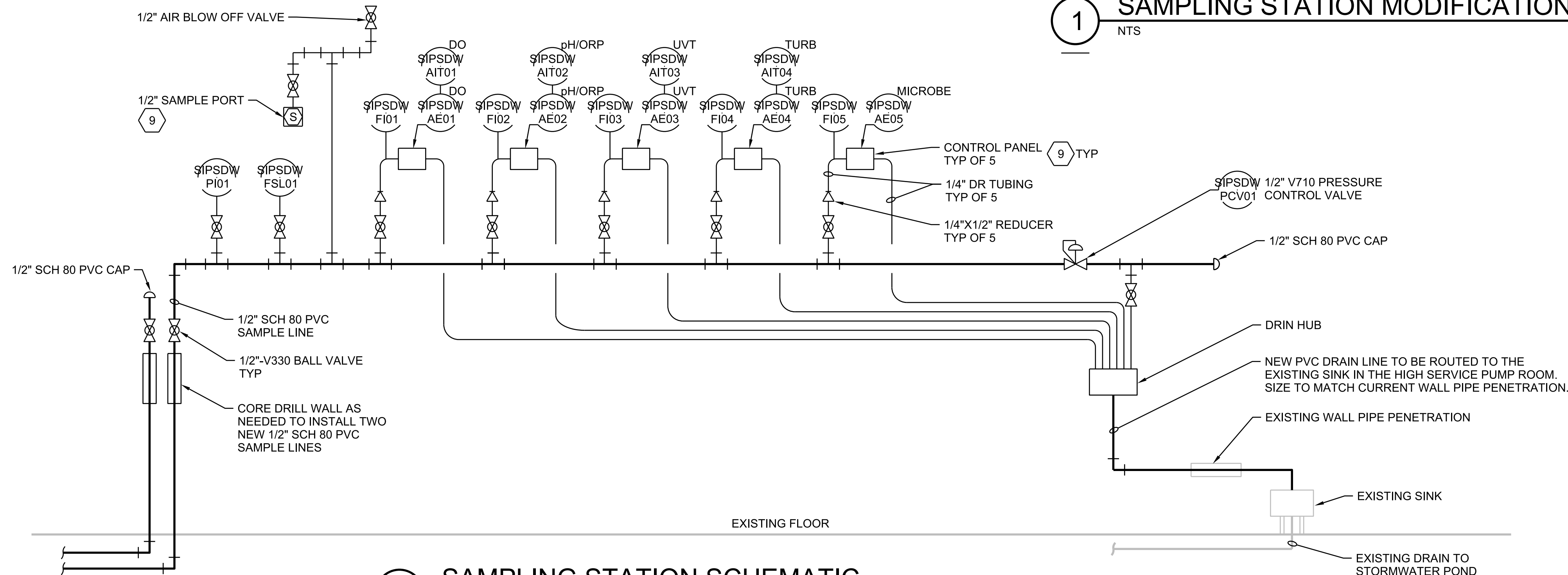


SIPS-SOUTHSIDE BLVD. INTERTIE TO DEERWOOD III WTP
DEERWOOD WTP PRIORITY 1 PROJECTS
PROCESS MECHANICAL
WATER QUALITY SAMPLING STATION DEMOLITION

PROJ. NO. D32549S3	NO. SHEETS 30
DATE: MAY 2021	SHEET NO. 53
SCALE: AS NOTED	DRAWING NO. M-002



1 SAMPLING STATION MODIFICATION PLAN
NTS



2 SAMPLING STATION SCHEMATIC
NTS

GENERAL NOTES

- DRAWING BASE IS EXTRACTED FROM RECORD DRAWING PROVIDED BY JEA.
- FOR DETAILS ON THE DEMOLITION OF THE EXISTING HYPOCHLORITE GENERATORS, SEE DETAIL 1 ON DWG M-002.
- CONTRACTOR SHALL PREPARE A WATER QUALITY SAMPLING STATION LAYOUT PLAN SUBMITTAL BASED ON ACTUAL DIMENSIONS OF EQUIPMENT AND PIPING FOR REVIEW PRIOR TO CONSTRUCTION. THE LAYOUT PLAN SHALL ALSO INCLUDE DETAILS ON POWER SUPPLY AND COMMUNICATION TO EXISTING PLC PANEL.

SHEET KEYNOTES

- INSTALL CONCRETE PAD TO MATCH EXITING EQUIPMENT PADS. SEE DETAIL 330-056, TYPE "E".
- APPROXIMATE LOCATION OF NEW WALL MOUNTED WATER QUALITY SAMPLING STATION.
- CORE DRILL WALL AS NEEDED TO INSTALL TWO NEW 1/2" SCH 80 PVC SAMPLE LINES.
- ROUTE NEW DRAIN TO EXISTING SINK THROUGH EXISTING WALL PIPING.
- 1/2" SCH 80 PVC SAMPLE LINE.
- 1/2" SCH 80 PVC BACK UP SAMPLE LINE.
- REMOVE EXISTING ABANDONED PIPING FROM EXISTING PIPE SLEEVES UNDER THE ELECTRICAL FROOM AND INSTALL NEW 1/2" SAMPLE LINES.
- EXISTING CONCRETE PAD. REPAIR CONCRETE SURFACE AT REMOVED EQUIPMENT IN ACCORDANCE WITH DETAIL (0330-143).
- EQUIPMENT READOUT AND SAMPLE PORT SHALL BE LOCATED AT APPROXIMATELY 5-FEET ABOVE EXISTING FLOOR ON THE WALL BEHIND THE EXISTING HYPOCHLORITE GENERATORS (TO BE REMOVED).

Jacobs

200 WEST FORSYTH STREET, T: (904) 636-5432
SUITE 1520 F: (904) 224-3102
JACKSONVILLE, FL 32202 COA # 2822

REVISIONS		NO.	BY	DATE
1		6		
2		4		
3		3		
4		2		

DESIGNER:	L. GUNN	DESIGN ENGINEER	LAWRENCE BRADLEY GUNN
DRAWN BY:	N. PATTERSON		
DATE:	MAY 2021		
CHECKED BY:	L. GUNN	FLORIDA REGISTRATION NO.	65967
DATE:	MAY 2021		

DESIGNER:	L. GUNN	DESIGN ENGINEER	LAWRENCE BRADLEY GUNN
DRAWN BY:	N. PATTERSON		
DATE:	MAY 2021		
CHECKED BY:	L. GUNN	FLORIDA REGISTRATION NO.	65967
DATE:	MAY 2021		

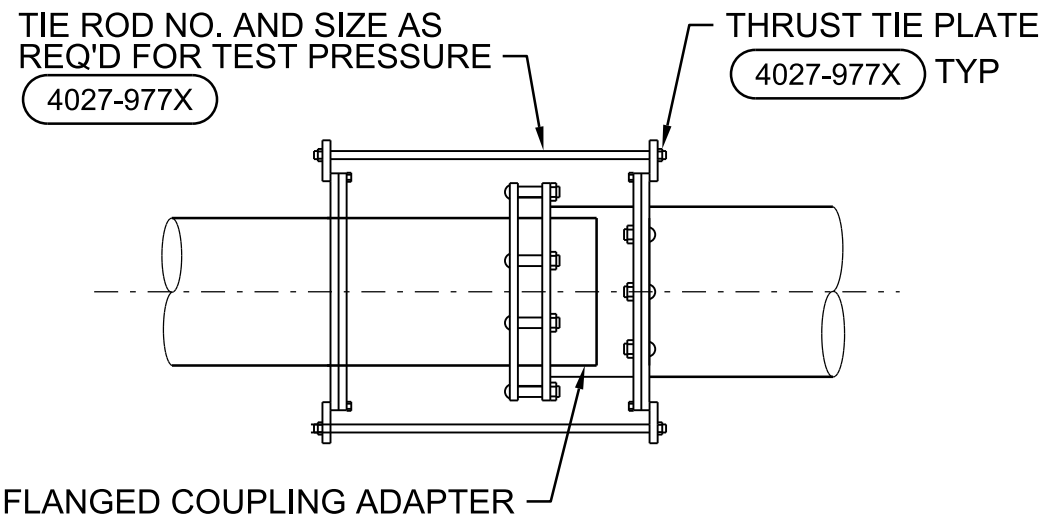
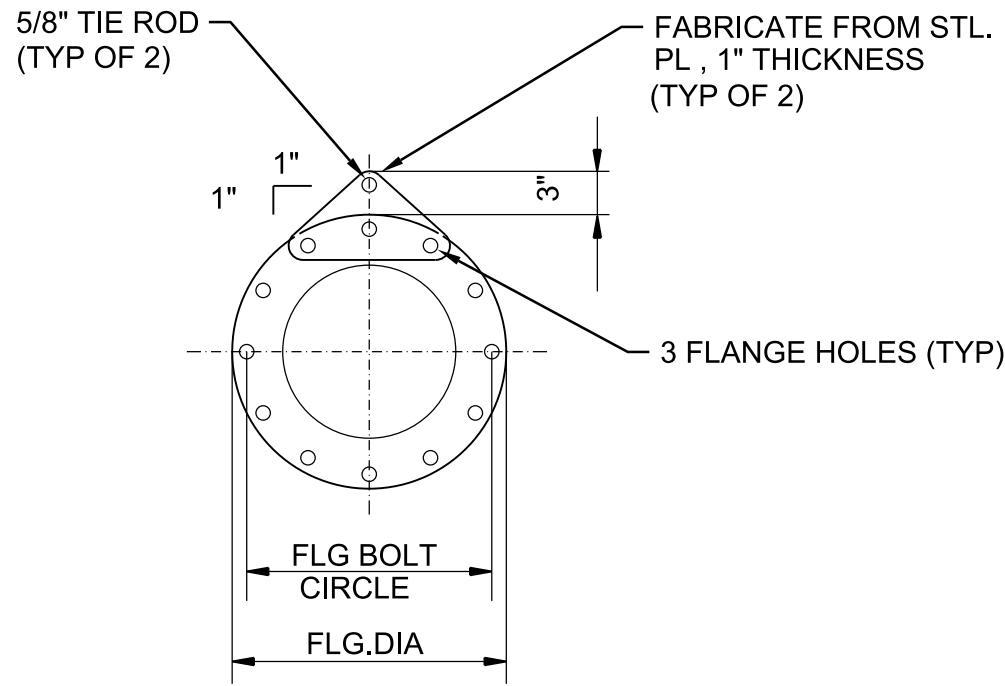
PROJ. NO.	D32549S3
DATE:	MAY 2021
SHEET NO.	1
DRAWING NO.	M-003
SCALE:	AS NOTED

NO. SHEETS	30
SHEET NO.	1
DRAWING NO.	M-003
SCALE:	AS NOTED

PROJ. TITLE: SIPS-SOUTHSIDE BLVD. INTERTIE TO DEERWOOD III WTP

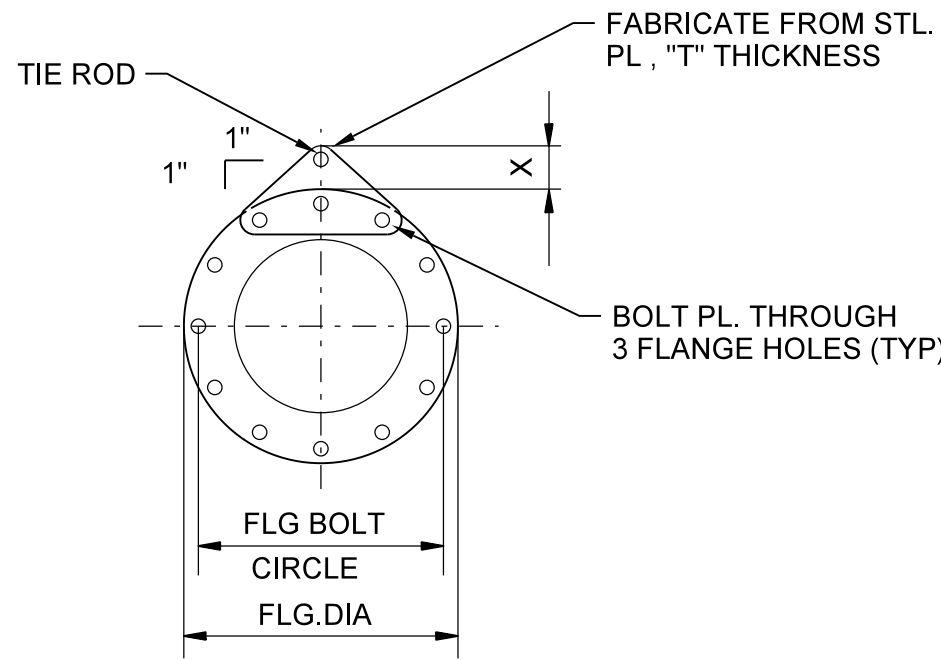
JEA PROJ NO.: 8004887

IFB BID NO.: -



RESTRAINED FLANGED COUPLING ADAPTER
NTS

4027-974Y



PIPE SIZE	X	T @ TEST	
		PRESS <150 PSI	150< PRESS <375 PSI
6"	2 3/4 "	5/8 "	5/8 "
8"	2 3/4 "	5/8 "	3/4 "
10"	2 3/4 "	5/8 "	1"
12"	3"	3/4 "	1"
14"	3 1/4 "	3/4 "	1"
16"	3 1/4 "	1"	1"
18"	3 1/2 "	1"	1"
20"	3 3/4 "	1"	1 1/2 "
22"	4"	1"	1 3/4 "
24"	4 1/4 "	1 1/4 "	1 3/4 "
30"	4 1/4 "	1 1/4 "	1 3/4 "
36"	4 1/2 "	1 1/2 "	1 3/4 "
42"	4 3/4 "	1 1/2 "	1 7/8 "
48"	4 3/4 "	1 1/2 "	1 7/8 "
54"	4 3/4 "	1 1/2 "	1 7/8 "
60"	4 3/4 "	1 1/2 "	1 7/8 "

THRUST TIE ROD/ CONNECTION PLATE
NTS

4027-977X

TIE ROD SCHEDULE											
TEST PRESSURE		25 PSI		50 PSI		100 PSI		150 PSI		225 PSI	
PIPE DIAM. (IN.)	MINIMUM PIPE WALL THICKNESS (IN.)	TIE RODS		TIE RODS		TIE RODS		TIE RODS		TIE RODS	
		DIA. (IN.)	NO. REQ'D	DIA. (IN.)	NO. REQ'D	DIA. (IN.)	NO. REQ'D	DIA. (IN.)	NO. REQ'D	DIA. (IN.)	NO. REQ'D
6	3/16	—	—	—	—	5/8	2	5/8	2	5/8	2
8	3/16	—	—	—	—	5/8	2	5/8	2	5/8	2
10	3/16	—	—	—	—	5/8	2	5/8	2	5/8	2
12	3/16	5/8	2	5/8	2	5/8	2	5/8	2	5/8	2
14	3/16	5/8	2	5/8	2	3/4	2	3/4	2	3/4	4
16	3/16	5/8	2	5/8	2	3/4	2	7/8	2	7/8	4
18	1/4	5/8	2	5/8	2	7/8	2	1	2	1	4
20	1/4	5/8	2	3/4	2	7/8	2	7/8	4	7/8	4
22	1/4	5/8	2	3/4	2	3/4	4	7/8	4	7/8	4
24	1/4	5/8	2	3/4	2	7/8	4	1	4	1	6
30	1/4	5/8	4	3/4	4	7/8	6	1	6	1	8
36	1/4	3/4	4	7/8	4	1	6	1	8	1	8
42	1/4	3/4	4	1	4	1	8	1-1/4	8	1-1/4	8
48	5/16	7/8	4	7/8	8	1	10	1-1/4	10	1-1/4	10
54	5/16	3/4	6	7/8	8	1	12	1-1/4	12	1-1/4	12
60	11/32	7/8	6	1	8	1-1/4	10	1-1/4	14	1-1/4	14

NOTES:

- TIE RODS SHALL CONFORM TO ASTM A193 GRADE B7.
- NUTS SHALL CONFORM TO ASTM A194 GRADE 2H.
- PLATE SHALL CONFORM TO ASTM A283 GRADE D.
- TIE ROD NUTS SHALL BE TIGHTENED GRADUALLY AND EQUALLY IN STAGES TO PREVENT UNEVEN ALIGNMENT AND TO ALLOW EQUAL STRESS ON ALL TIE RODS UNDER PRESSURE. TIGHTEN UNTIL SNUG. THREADS SHALL PROTRUDE FROM NUTS. PEEN THREADS AFTER TIGHTENING NUTS.
- CONTRACTOR SHALL USE DATA FOR ONLY THOSE PIPE SIZES AND TEST PRESSURES SPECIFIED IN THIS CONTRACT.

NO. SHEETS
30

SHEET NO.

DRAWING NO.
M-901

PROJ. NO. D32549S3

DATE: MAY 2021

SCALE: NTS

PROJ. TITLE: SIPS-SOUTHSIDE BLVD. INTERTIE TO DEERWOOD III WTP

DEERWOOD WTP PRIORITY 1 PROJECTS

PROCESS MECHANICAL

STANDARD DETAILS

DESIGNER: L. GUNN

DRAWN BY: N. PATTERSON

DATE: MAY 2021

DESIGN ENGINEER: LAWRENCE BRADLEY GUNN

FLORIDA REGISTRATION NO. 65967

NO.

BY

DATE

REVISIONS

6

4

3

2

1

JACOBS

200 WEST FORSYTH STREET, T: (904) 636-5432
SUITE 1520 F: (904) 224-3102
JACKSONVILLE, FL 32202 COA # 2822

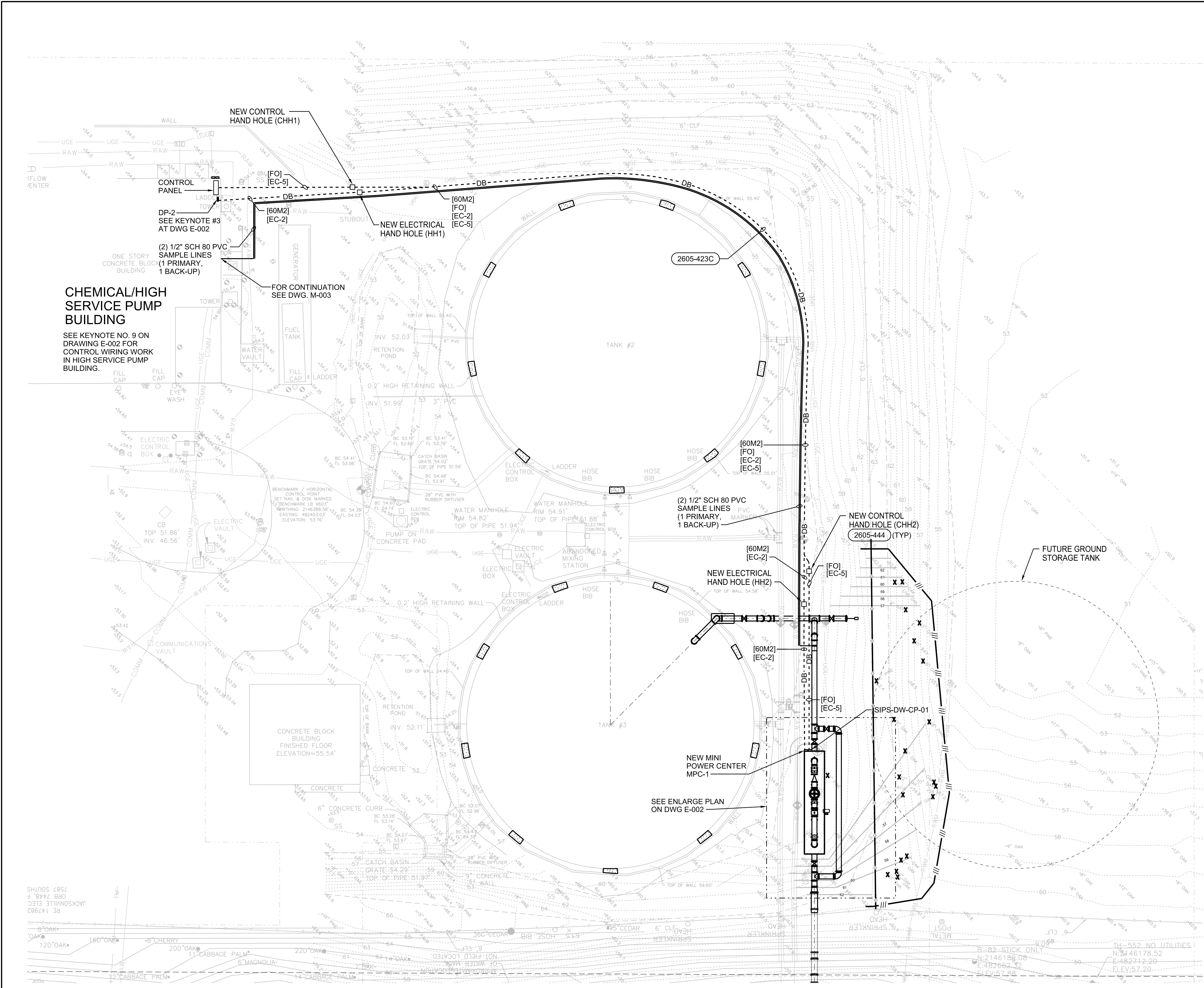
JEA

Building Communitysm

IPB BID NO.: -

JEA PROJ NO.: 8004887

PROJ. TITLE: SIPS-SOUTHSIDE BLVD. INTERTIE TO DEERWOOD III WTP



- ### GENERAL NOTES
- PRIOR TO ROUGH-IN AND THE START OF CONSTRUCTION, THE ELECTRICAL CONTRACTOR SHALL COORDINATE ALL FINAL EQUIPMENT LOCATIONS, PLACEMENTS, ORIENTATION, EQUIPMENT CONNECTION POINTS, ETC., WITH THE GENERAL CONTRACTOR AND THE EQUIPMENT INSTALLER. FIELD MEASURE THE SITE CONDITIONS AND CHECK EQUIPMENT CHARACTERISTICS TO VALIDATE MEASUREMENTS AND EXACT DIMENSIONS.
 - PRIOR TO THE START OF CONSTRUCTION, THE ELECTRICAL CONTRACTOR SHALL FIELD COORDINATE THE ROUTING OF ALL ELECTRICAL CABLES, CONDUITS, TRANSFORMERS, ETC., WITH THE OWNER PM AND THE GENERAL CONTRACTOR. COORDINATE THE ROUTING OF RUNS FOR ALL UTILITIES (INCOMING POWER, OUTGOING POWER, DISTRIBUTION FEEDERS, BRANCH CIRCUITS, CONTROLS, COMMUNICATIONS, FIBER, WATER, SEWER, SEPTIC LINES, NATURAL GAS, ETC.) WITH OTHER TRADES.
 - UNLESS SPECIFICALLY NOTED OTHERWISE, ALL UNDERGROUND ELECTRICAL CONDUITS SHALL BE PER STANDARD DETAIL 2605-423C.
 - UNLESS OTHERWISE SPECIFIED OR NOTED, ALL ELECTRICAL PANELS, ENCLOSURES, AND SIMILAR EQUIPMENT SHALL BE MOUNTED 6'-6" (MAX) FROM THE TOP OF THE PANEL TO FINISHED FLOOR, SLAB, OR GRADE.
 - UNLESS OTHERWISE NOTED, ALL LIGHTING SWITCHES, CONTROL SWITCHES, AND SIMILAR EQUIPMENT SHALL BE MOUNTED WITH THEIR CENTERLINE APPROXIMATELY 4'-0" ABOVE FINISHED FLOOR, SLAB, OR GRADE.
 - A SEPARATE EQUIPMENT GROUNDING CONDUCTOR SHALL BE PROVIDED FOR EACH CIRCUIT (SEPARATE CONDUCTOR IN THE CONDUIT). THE CONDUCTOR SHALL BE TERMINATED AT THE PROPER DEVICE, TERMINAL, OR LUG AT THE POWER SOURCE (MCC GROUND BUS, PANELBOARD GROUND BUS, ETC.). GROUND CONDUCTOR SIZE SHALL BE PER LATEST EDITION OF THE NEC.
 - UNLESS SPECIFICALLY NOTED OTHERWISE, EXISTING PAVEMENT OR SIDEWALK SHALL BE SAW CUT AND REMOVED TO ALLOW FOR THE INSTALLATION OF NEW ELECTRICAL DUCTBANKS. AFTER INSTALLATION, REPLACE PAVEMENT OR SIDEWALK WITH NEW TO MATCH ORIGINAL CONDITIONS.
 - ALL EQUIPMENT AND MATERIALS SHALL BE, AS A MINIMUM, PER JEA'S MOST CURRENT EDITION OF STANDARDS AND METHODS OF INSTALLATION.
 - COMPLY WITH THE LATEST NATIONAL ELECTRICAL CODE (NEC) AND WITH ALL LOCAL CODES AND ORDINANCES, INCLUDING CLIENT'S ENGINEERING REQUIREMENTS, CONFORM WITH THE MOST RESTRICTIVE.
 - VERIFY ALL ELECTRICAL REQUIREMENTS AND EXACT LOCATION OF EQUIPMENT WITH DRAWINGS AND SPECIFICATIONS. CHECK AND VERIFY ALL DIMENSIONS IN THE FIELD.
 - CONDUIT ROUTINGS, WHERE SHOWN, ARE DIAGRAMATIC. COORDINATE ACTUAL ROUTINGS TO AVOID INTERFERENCES WITH ALL OTHER TRADES AND TO ADJUST TO EXISTING CONDITIONS.
 - FOR LEGEND, NOTES, AND CIRCUIT CALLOUTS REFER TO DRAWING G-006.
 - ALL ABOVE GRADE CONDUIT SHALL BE RIGID ALUMINUM. ALL ABOVE GRADE TO BELOW GRADE TRANSITIONS, AND BELOW GRADE ELBOWS, SHALL BE RIGID ALUMINUM INCLUSIVE OF TWO BITUMASTIC COATS ON THE EXTERIOR AND ALL AROUND THE UNDERGROUND COUPLING. ALL BELOW GRADE CONDUIT SHALL BE PVC SCH-40 UNLESS NOTED OTHERWISE ON THE PLANS. PROVIDE PULL STRING IN ALL EMPTY CONDUITS, AND CAP BOTH ENDS OF EMPTY CONDUITS. HORIZONTAL UNDERGROUND CONDUIT RUNS ARE NOT TO BE EMBEDDED IN THE CONCRETE SLAB.

JACOBS

200 WEST FORSYTH STREET, T: (904) 636-5432
SUITE 1520 F: (904) 224-3102
JACKSONVILLE, FL 32202 COA # 2822

DESIGNER: A. QUINONES
DRAWN BY: A. QUINONES
DATE: MAY 2021
CHECKED BY: M. GOSLOW
DATE: MAY 2021

DESIGN ENGINEER
AGUSTIN C. QUINONES
FLORIDA REGISTRATION NO.
89295

PROJ. NO. D32549S3
DATE: MAY 2021
SCALE: AS NOTED

NO. SHEETS 30
SHEET NO. 6
DRAWING NO. E-001

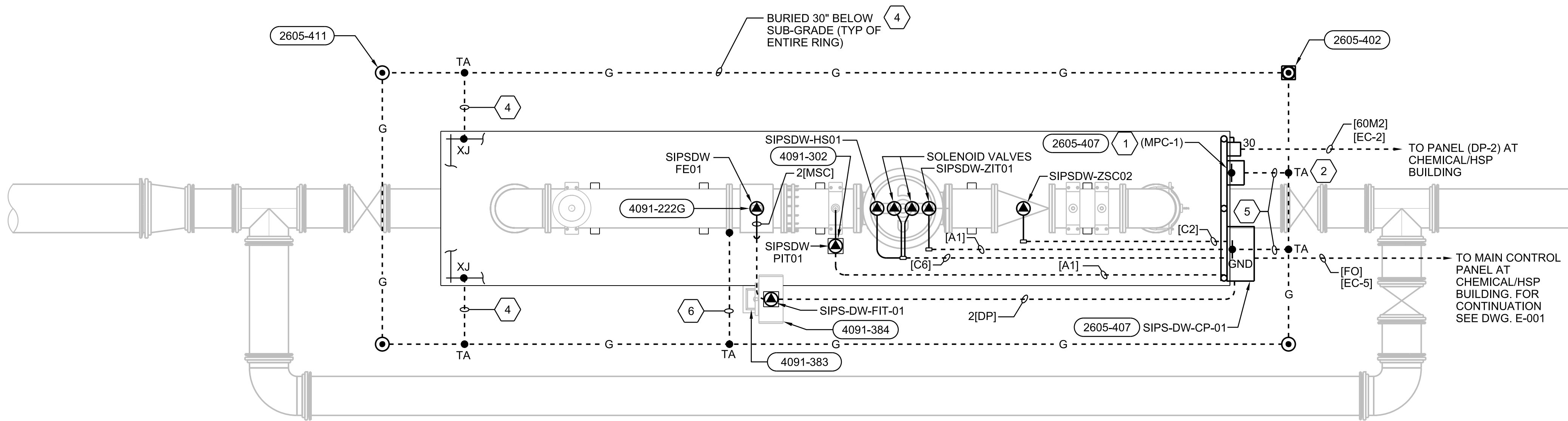
SIPS-SOUTHSIDE BLVD. INTERTIE TO DEERWOOD III WTP
DEERWOOD WTP PRIORITY 1 PROJECTS
ELECTRICAL
OVERALL SITE PLAN

PROJ. TITLE: SIPS-SOUTHSIDE BLVD. INTERTIE TO DEERWOOD III WTP
JEA PROJ. NO.: 8004887

JEA

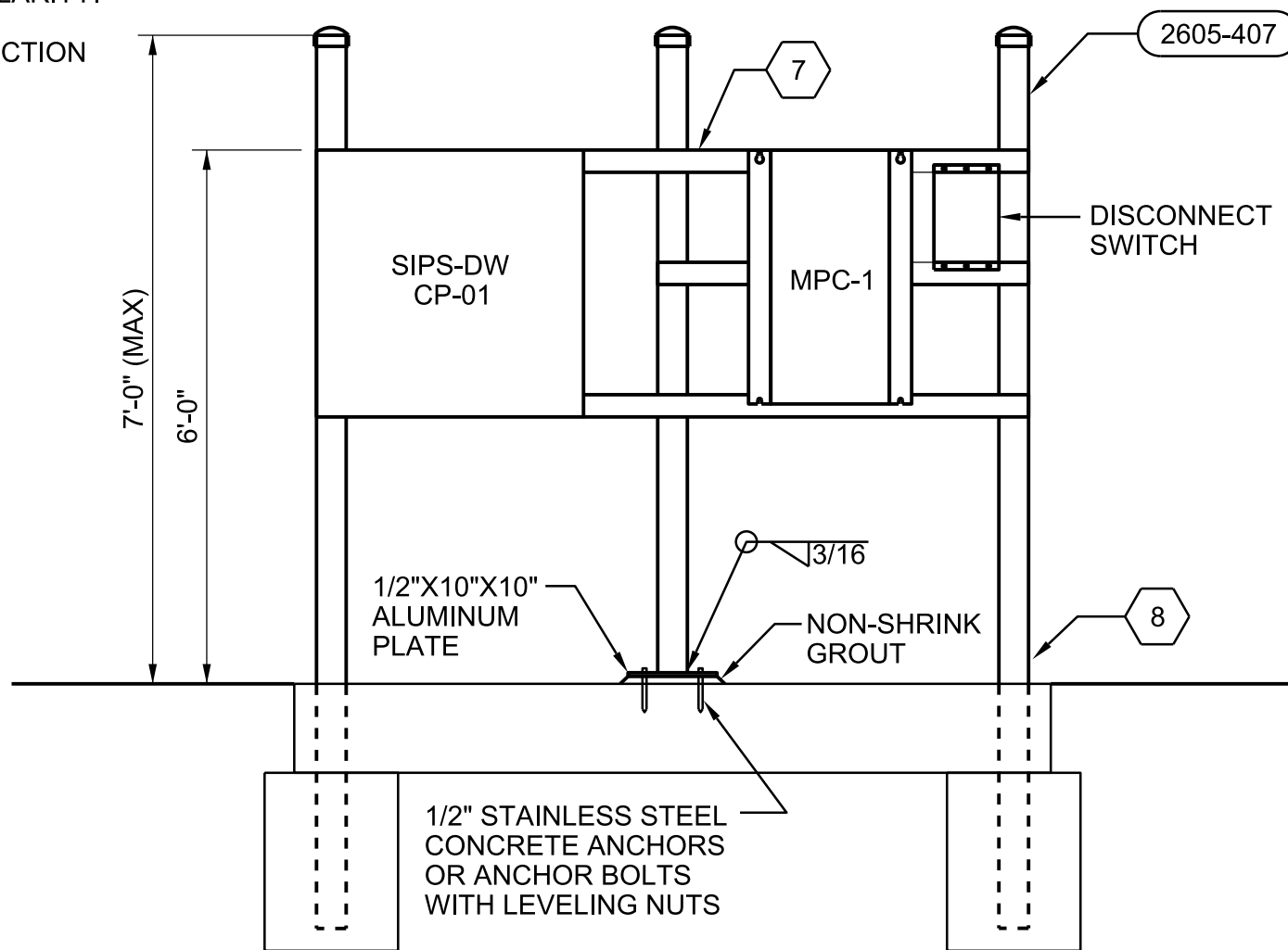
Building Communitysm

FILENAME: 1070-E-001_D32549S3.dgn PLOT DATE: 5/27/2021 PLOT TIME: 8:43:08 PM



POWER, CONTROL AND GROUNDING PLAN

- NOTES:
- 120VAC POWER CIRCUITS NOT SHOWN FOR CLARITY. REFER TO POWER RISER DIAGRAM.
 - REFER TO DETAIL 4091-305A FOR PIPE CONNECTION OF PIT01. PIT01 DISPLAY TO FACE NORTH.



EQUIPMENT RACK NORTH ELEVATION

1/2"=1'-0"

INSTRUMENTATION PROBES/TRANSMITTERS BASIS OF DESIGN:

FLOW:
ENDRESS + HAUSER PROLINE PROMAG W-500 FULL BORE, REMOTE MOUNT
5W5B7F- (SIPSDWFE01 & SIPSDWFIT01)
- AAFILABBBFAAADV9992BA11-AAJA75

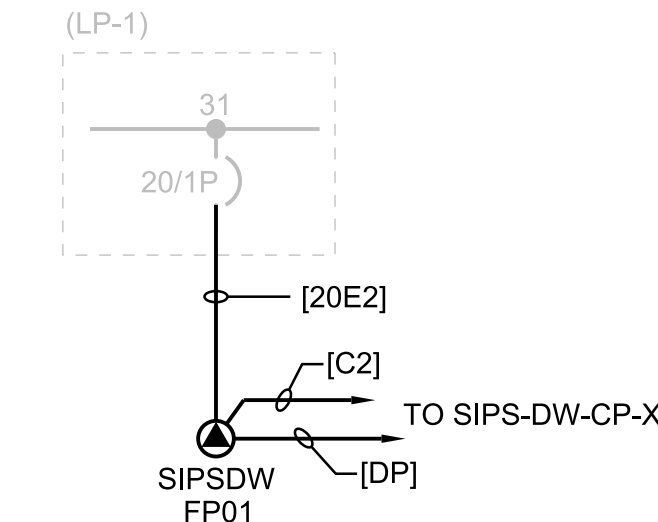
INCLUDE:

- 30" NB
- POLYURETHANE LINER
- TANTALUM ELECTRODES
- COATED ALUMINUM HOUSING
- 304 S/S FLANGE
- FIXED FLANGE, S/S CONNECTIONS
- 0.2% CALIBRATION
- 60FT MSC CABLE
- PROFIBUS DP

PRESSURE:
ROSEMOUNT INLINE TRANSMITTER:
MODEL 305ITG-2A-2B215-M4-Q4 (SIPSDWPIT01)

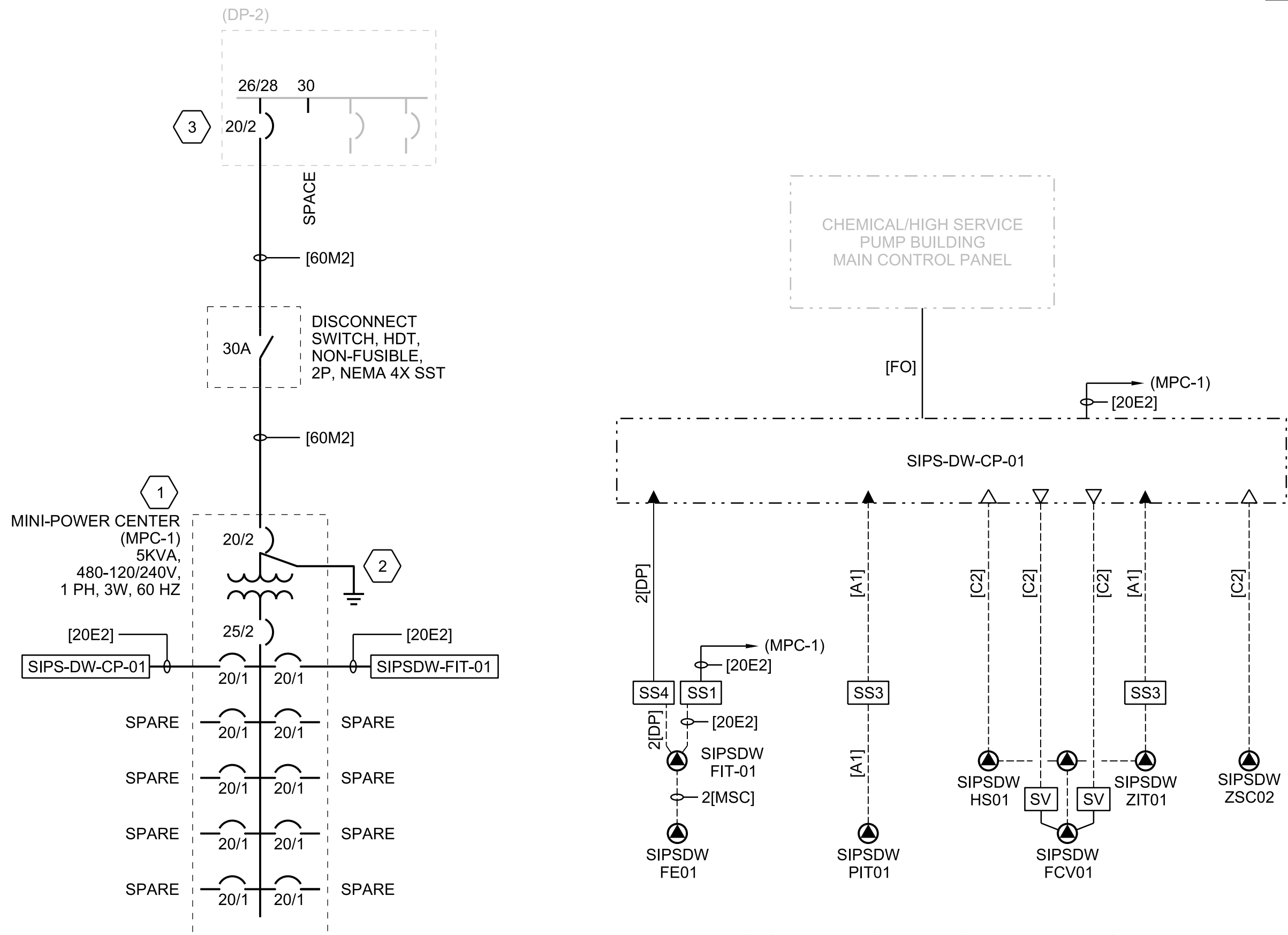
INCLUDE:

- FACTORY CALIBRATION
- FACTORY SET ENGR. UNITS = PSIG



WIRING DIAGRAM

N.T.S.



CONTROL RISER DIAGRAM

- N.T.S.
- NOTE:
- REFER TO KEYNOTES ON DRAWING N-001 FOR LOCATION AND MOUNTING OF SPDs.

POWER RISER DIAGRAM

N.T.S.

SHEET KEYNOTES

1. PROVIDE MINI-POWER CENTER WITHIN THE INDICATED RATINGS AND THE FOLLOWING FEATURES: ENCAPSULATED WINDINGS IN NON-VENTILATED, NEMA 3R, SST ENCLOSURE. PROVIDED W/ EIGHTEEN 20/1P, BREAKERS; 10 KAIC RATED.
2. BOND TRANSFORMER NEUTRAL TO GROUNDING ELECTRODE SYSTEM AROUND PAD.
3. REPLACE EXISTING 15A/3P SPARE BREAKER FROM PANEL (DP-2) BY A NEW 20A/2P T/M CIRCUIT BREAKER TO FEED NEW MINI POWER CENTER (MPC-1). NEW BREAKER AIC RATING TO MATCH EXISTING PANEL. PROVIDE A COVER ON EMPTY SPACE.
4. #4/0 AWG STRANDED, BARE, TIN PLATED COPPER.
5. #2 AWG STRANDED, XHHW-2 INSULATED, 600VAC.
6. GROUNDING ELECTRODE CONDUCTOR SHALL BE ROUTED IN CONDUIT FULL LENGTH FROM FLOW METER POTENTIAL EQUALIZATION TO THE GROUNDING ELECTRODE SYSTEM.
7. FURNISH AND INSTALL 1/2" X 3" ALUMINUM SUPPORT BARS AS REQUIRED TO PROPERLY SUPPORT RACK MOUNTED EQUIPMENT.
8. MASTIC SEAL. TYPICAL FOR ALL ALUMINUM POSTS AS SHOWN IN DETAIL 2605-407 ON DWG E-901.
9. REFER TO DRAWING N-001 AND N-002 FOR CONTROL WIRING REQUIREMENTS IN THE HIGH SERVICE PUMP BUILDING.

GENERAL NOTES

1. ALL EQUIPMENT AND MATERIALS SHALL BE, AS A MINIMUM, PER CITY OF JACKSONVILLE MOST CURRENT EDITION OF STANDARDS AND METHODS OF INSTALLATION.
2. REFER TO DWG. M-001 FOR DIMENSION DETAILS OF THE EQUIPMENT PAD.
3. ROUTE ALL GROUNDING ELECTRODE CONDUCTORS FROM EQUIPMENT GROUND BUSSES, STRUCTURAL SUPPORT FRAMES, AND EQUIPMENT PEDESTALS, TO THE GROUNDING ELECTRODE SYSTEM IN 1-INCH PVC SCH 40 CONDUIT. CONNECTIONS FROM STRUCTURAL MEMBERS, AND EQUIPMENT PEDESTALS SHALL BE IN CONDUIT FROM 3-INCHES ABOVE THE CONCRETE SLAB TO A MINIMUM OF 6-INCHES BEYOND THE OUTSIDE EDGE OF THE SLAB. CONNECTIONS FROM EQUIPMENT GROUND BUSSES SHALL BE ROUTED IN CONDUIT FULL LENGTH FROM THE ENCLOSURE TO A MINIMUM OF 6-INCHES BEYOND THE OUTSIDE OF THE EDGE OF THE SLAB. FURNISH AND INSTALL THE APPROPRIATE CONDUIT FITTING FOR EACH ENCLOSURE PENETRATION. DO NOT ROUTE GROUNDING ELECTRODE CONDUCTORS ACROSS THE CONCRETE SURFACE.
4. THE GROUNDING ELECTRODE SYSTEM AND ELECTRODE GROUNDING CONDUCTORS SHALL BE SIZED AND INSTALLED AS SHOWN ON THE PLANS AND IN THE KEYNOTES. ALL BELOW GRADE AND REBAR BONDING CONNECTIONS SHALL BE EXOTHERMICALLY MADE, ERICO CADWELD OR CADWELD EXOLEN, NO SUBSTITUTIONS. ABOVE GRADE CONNECTIONS SHALL BE STANDARD GROUND BUS LUGS WITHIN THE EQUIPMENT ENCLOSURES. STRUCTURAL CONNECTIONS SHALL BE MECHANICAL SPLIT-BOLT, SADDLE, OR CONE SCREW TYPE: BURNDY OR THOMAS AND BETTS.
5. GROUND RODS SHALL BE TWO-SECTION, COPPER-CLAD, 3/4-INCH DIAMETER, 20-FEET IN LENGTH.
6. GROUND WELL TEST BOX SHALL BE CHRISTY NO. G5 OR EQUIVALENT.
7. MAXIMUM RESISTANCE TO REMOTE EARTH OF THE GROUNDING ELECTRODE SYSTEM SHALL BE 5 OHMS AS MEASURED WITH AN AEMC 3711, FLUKE 1630 OR GREENLEE CMGRT-100 OR EQUIVALENT DEVICE. FALL OF POTENTIAL TESTS ARE NOT ACCEPTABLE. GROUND TEST MONITOR MUST HAVE CERTIFICATE OF CALIBRATION NOT EXCEEDING 12 MONTHS PRIOR TO TESTING THE INSTALLATION. CONTRACTOR SHALL FURNISH A WRITTEN REPORT OF THE GROUND TEST TO THE OWNER'S ENGINEER. CONTACT OWNER'S ENGINEER FOR LOCATION OF TEST MEASUREMENT.

JACOBS

200 WEST FORSYTH STREET, T: (904) 636-5432
SUITE 1520 F: (904) 224-3102
JACKSONVILLE, FL 32202 COA # 2822

DESIGNER		BY		DATE		REVISIONS	
A. QUINONES	A. QUINONES						
DRAWN BY:	A. QUINONES						
DATE:	MAY 2021						
CHECKED BY:	M. GOSLOW						
DATE:	MAY 2021						
DESIGN ENGINEER		AGUSTIN C. QUINONES		FLORIDA REGISTRATION NO.		89295	

A. QUINONES	A. QUINONES						
DRAWN BY:	A. QUINONES						
DATE:	MAY 2021						
CHECKED BY:	M. GOSLOW						
DATE:	MAY 2021						

JEAsm
Building Community

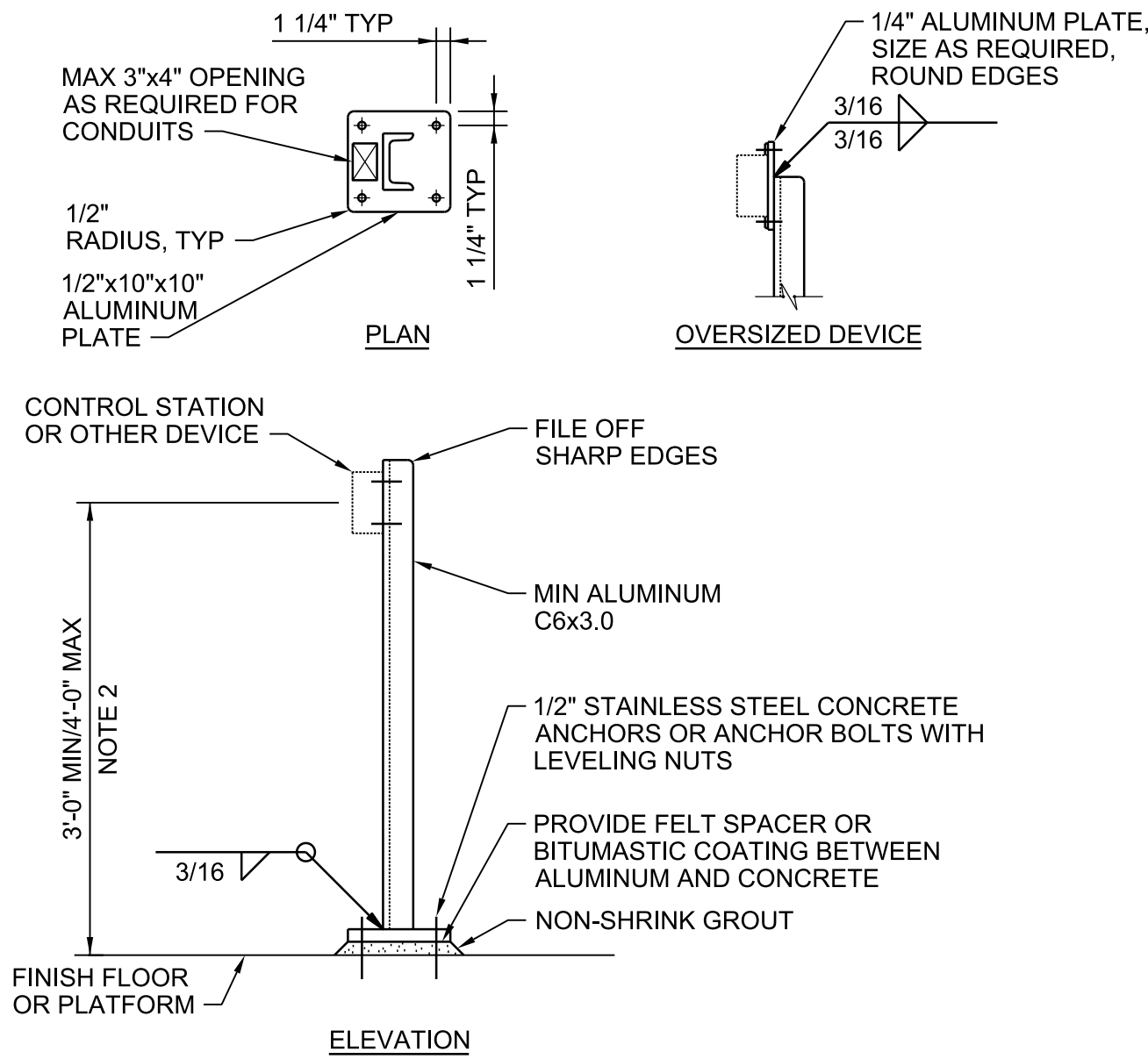
SIPS-SOUTHSIDE BLVD, INTERTIE TO DEERWOOD III WTP
DEERWOOD WTP PRIORITY 1 PROJECTS
ELECTRICAL
ELECTRICAL PLAN, DIAGRAMS, AND SCHEDULE

PROJ. NO.	D32549S3	DATE:	MAY 2021
NO. SHEETS	30	DRAWING NO.	E-002
SHEET NO.	1	SCALE:	AS NOTED

PROJ. TITLE: SIPS-SOUTHSIDE BLVD, INTERTIE TO DEERWOOD III WTP

JEA PROJ NO.: 8004887

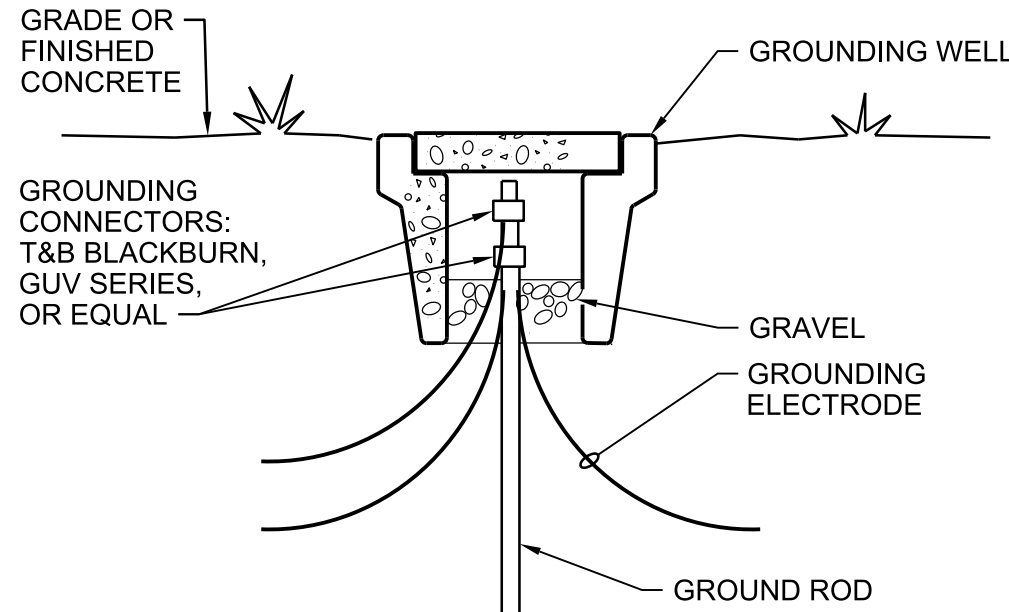
IFB BID NO.: -



- NOTES:
- ALL MOUNTING HARDWARE SHALL BE STAINLESS STEEL. USE WASHERS AND SPLIT-LOCK WASHERS UNDER ALL NUTS AND BOLTS.
 - FOR HEIGHTS EXCEEDING 4'-0" OR WEIGHTS OF MOUNTED EQUIPMENT EXCEEDING 200 LBS. SIZE POST AND CONNECTION FOR LATERAL LOADS. EXTEND POSTS TO STRUCTURE ABOVE WHERE REQUIRED BY CALCULATION.

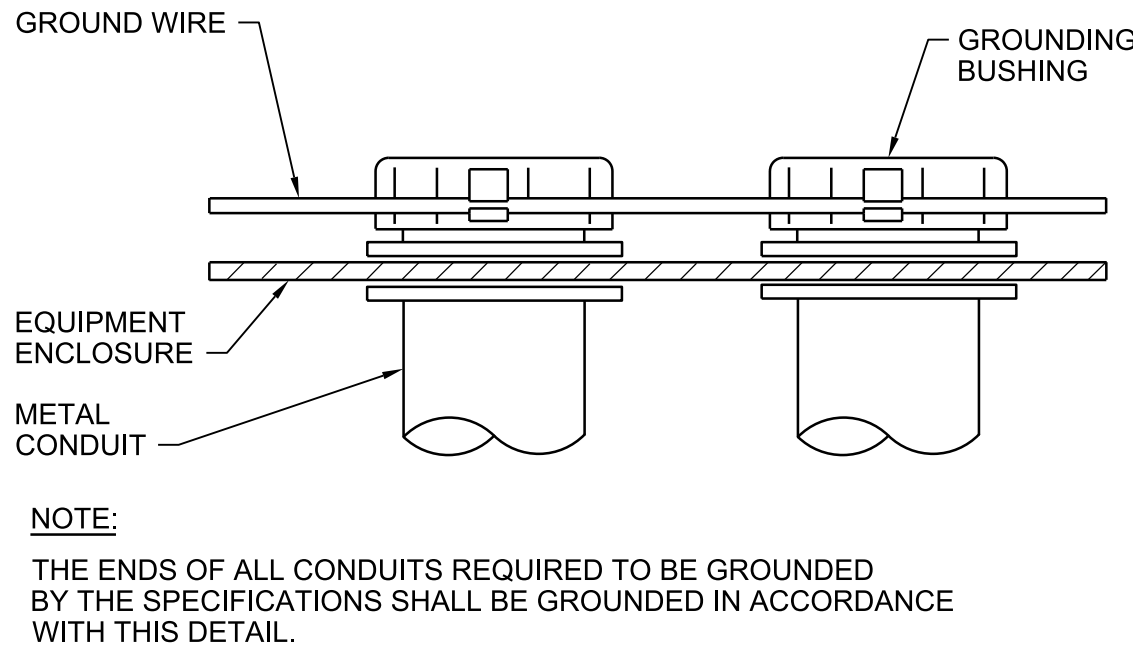
PEDESTAL MOUNTED DEVICE
NTS

2605-401



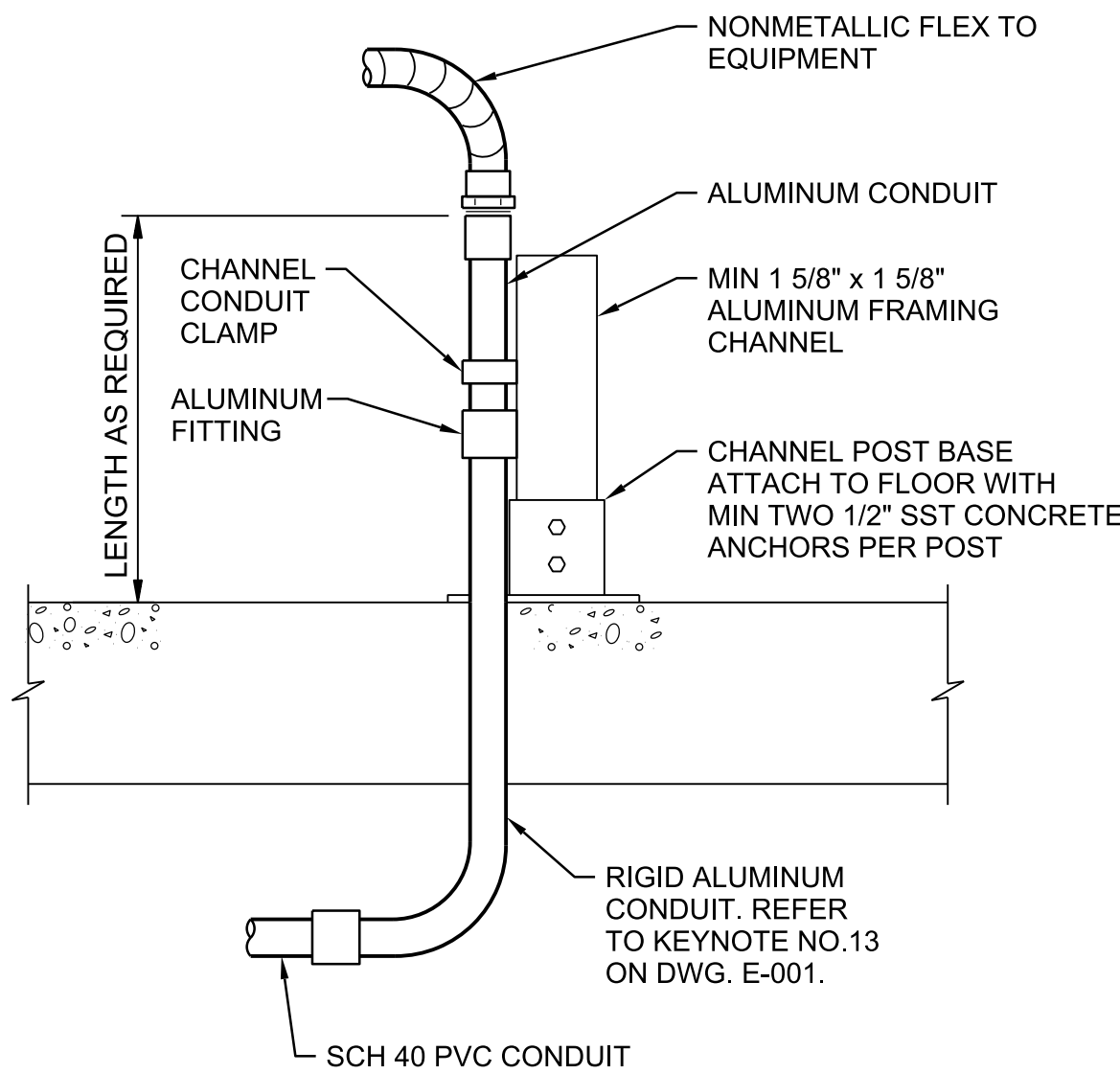
GROUND TEST WELL
NTS

2605-402



CONDUIT GROUNDING
NTS

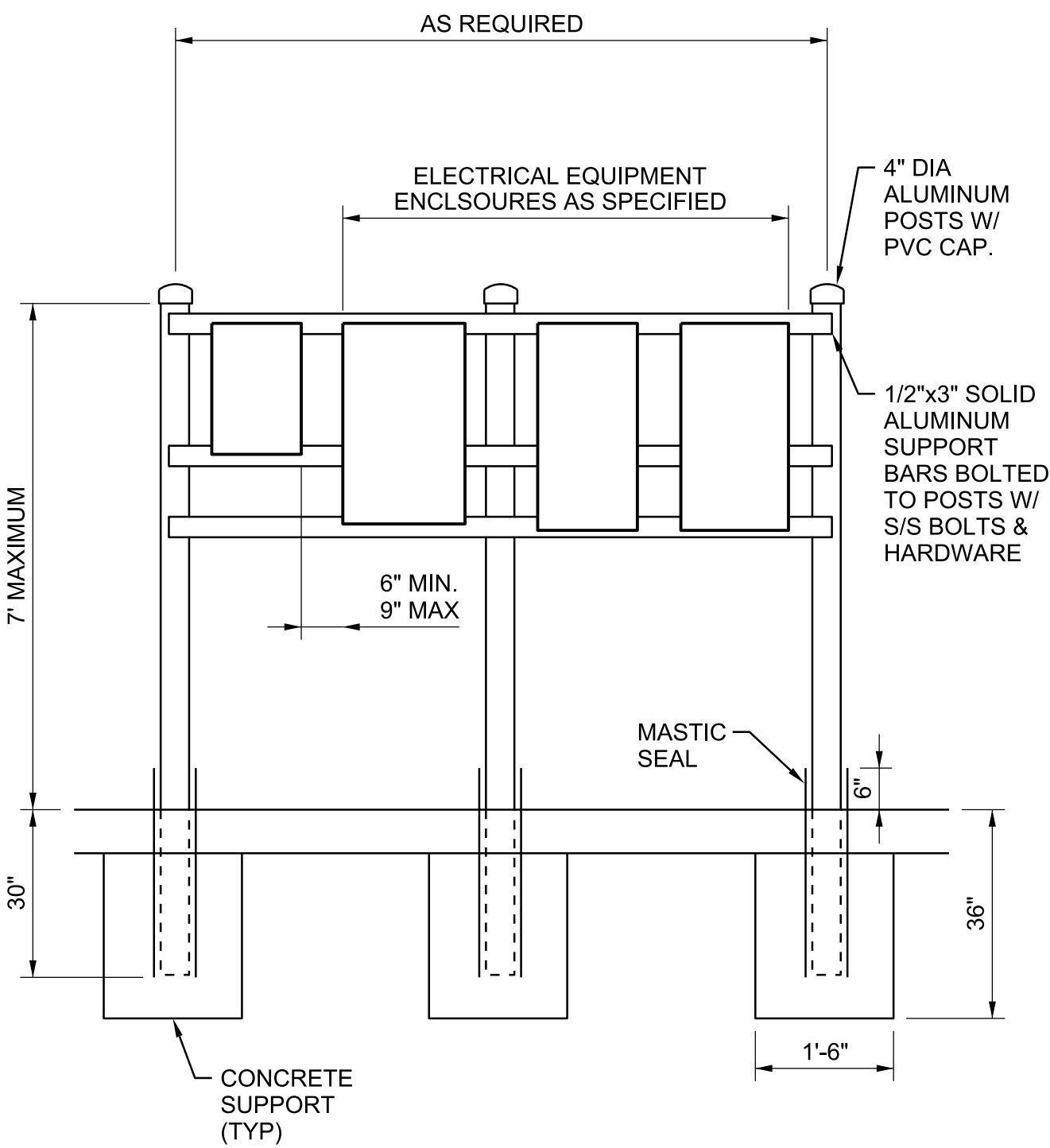
2605-403



- NOTES:
- PROVIDE SUPPORT FOR ALL METAL CONDUITS WHICH EXTEND 18 INCHES OR MORE OUT OF THE SLAB WITHIN 3 INCHES OF THE END OF THE CONDUIT.
 - PROVIDE SUPPORT FOR ALL PVC CONDUIT WITHIN 3 INCHES OF THE END OF THE CONDUIT.

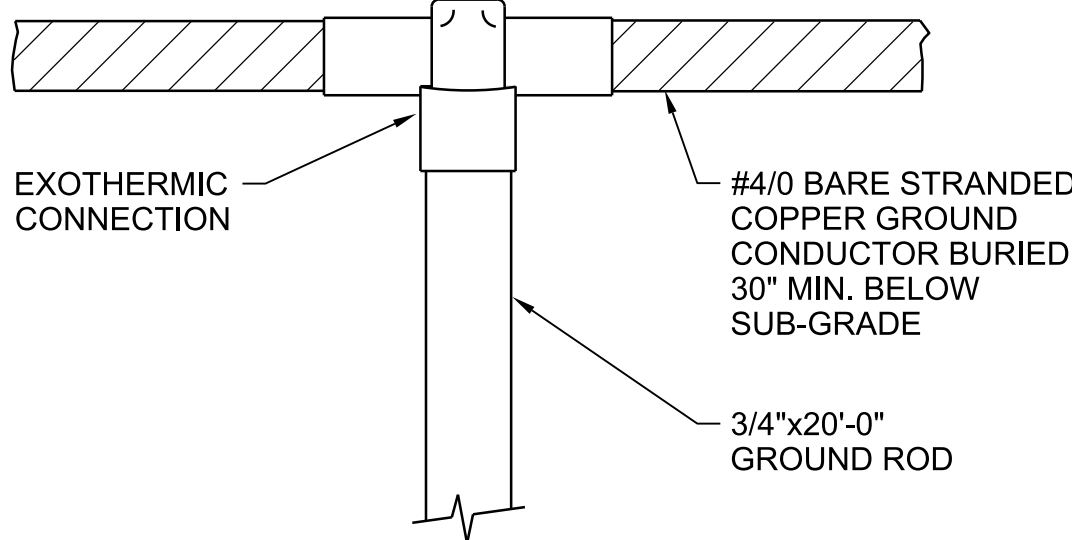
CONDUIT TRANSITION AND SUPPORT
NTS

2605-404



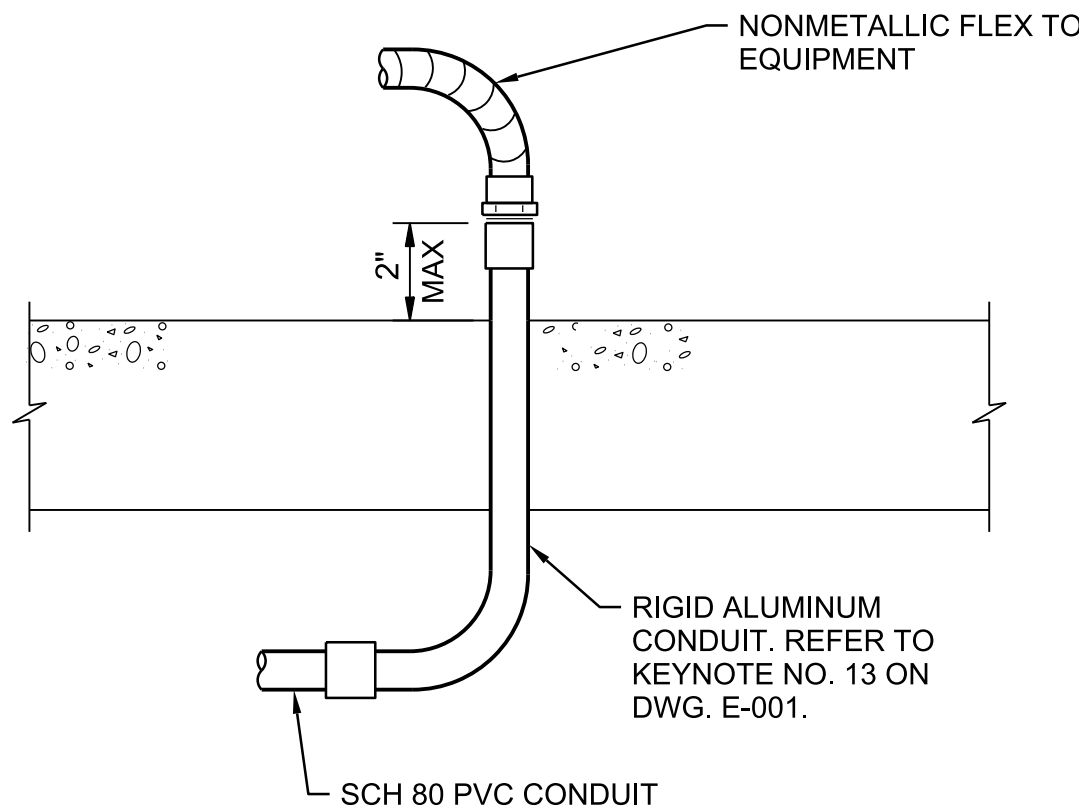
ELECTRICAL EQUIPMENT RACK DETAIL
NTS

2605-407



GROUND ROD CONNECTION
NTS

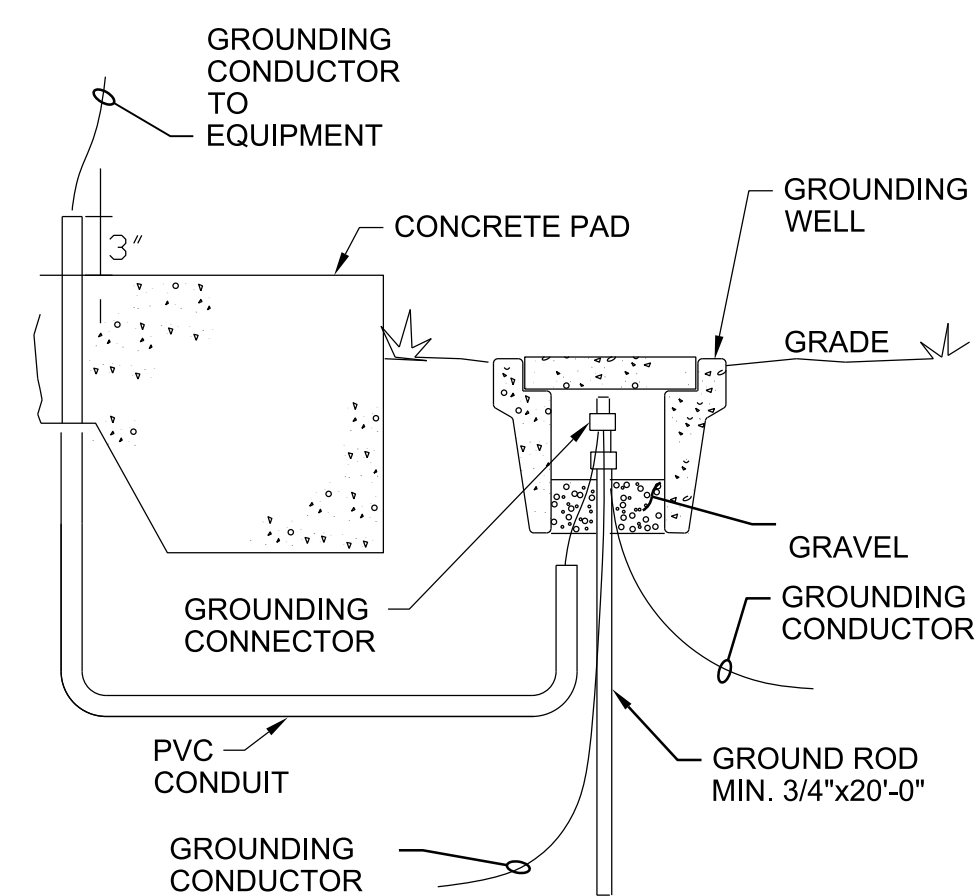
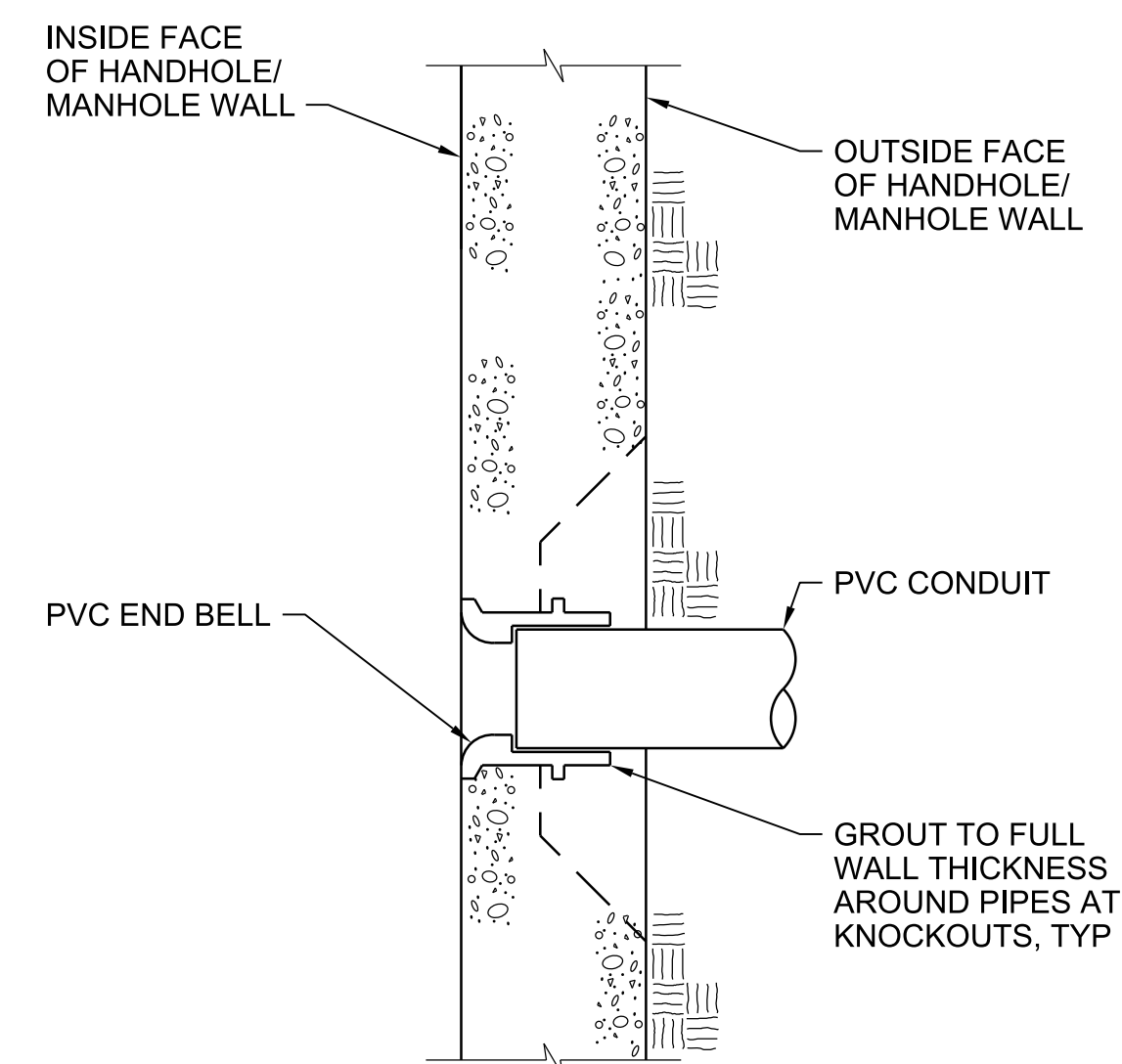
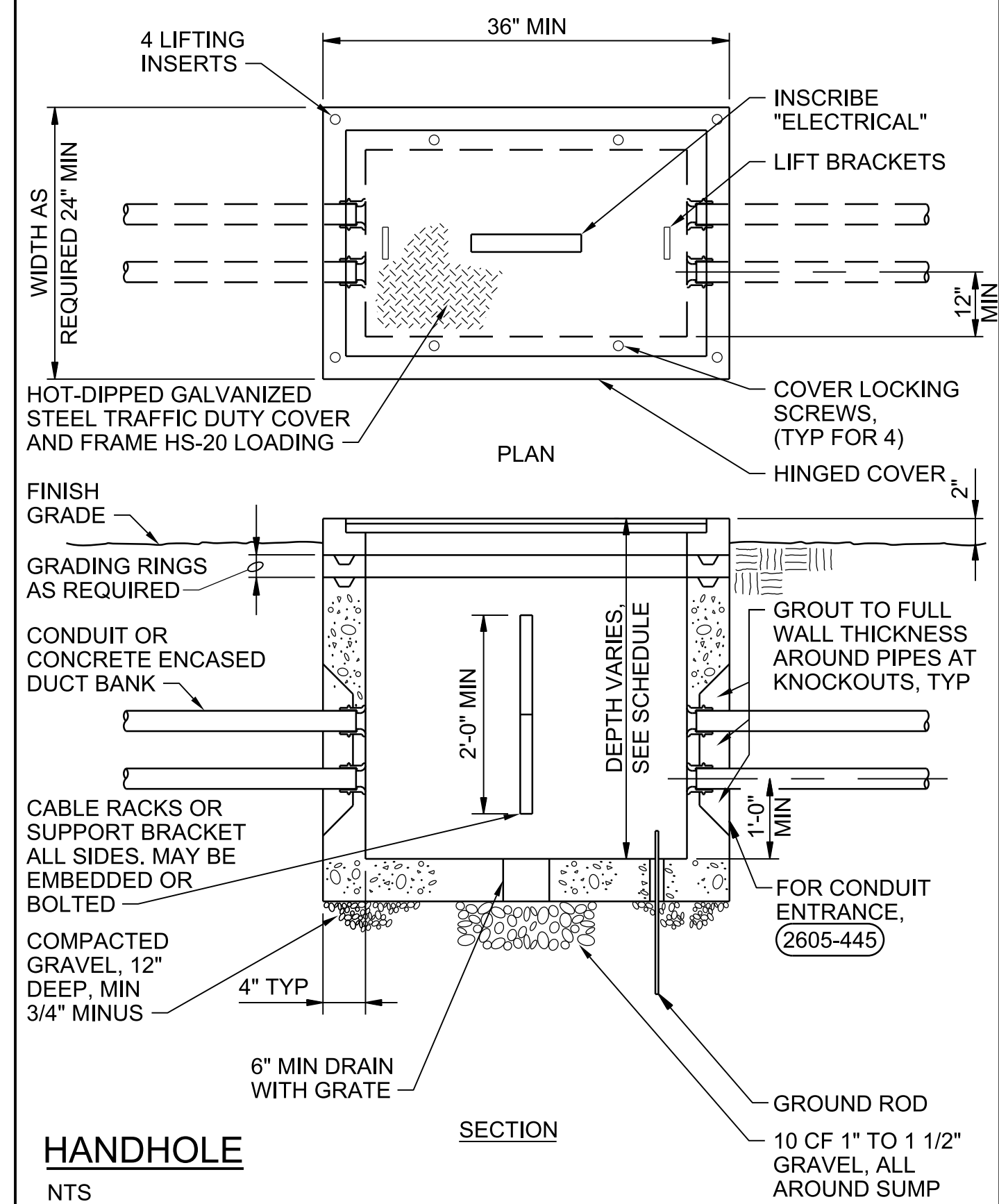
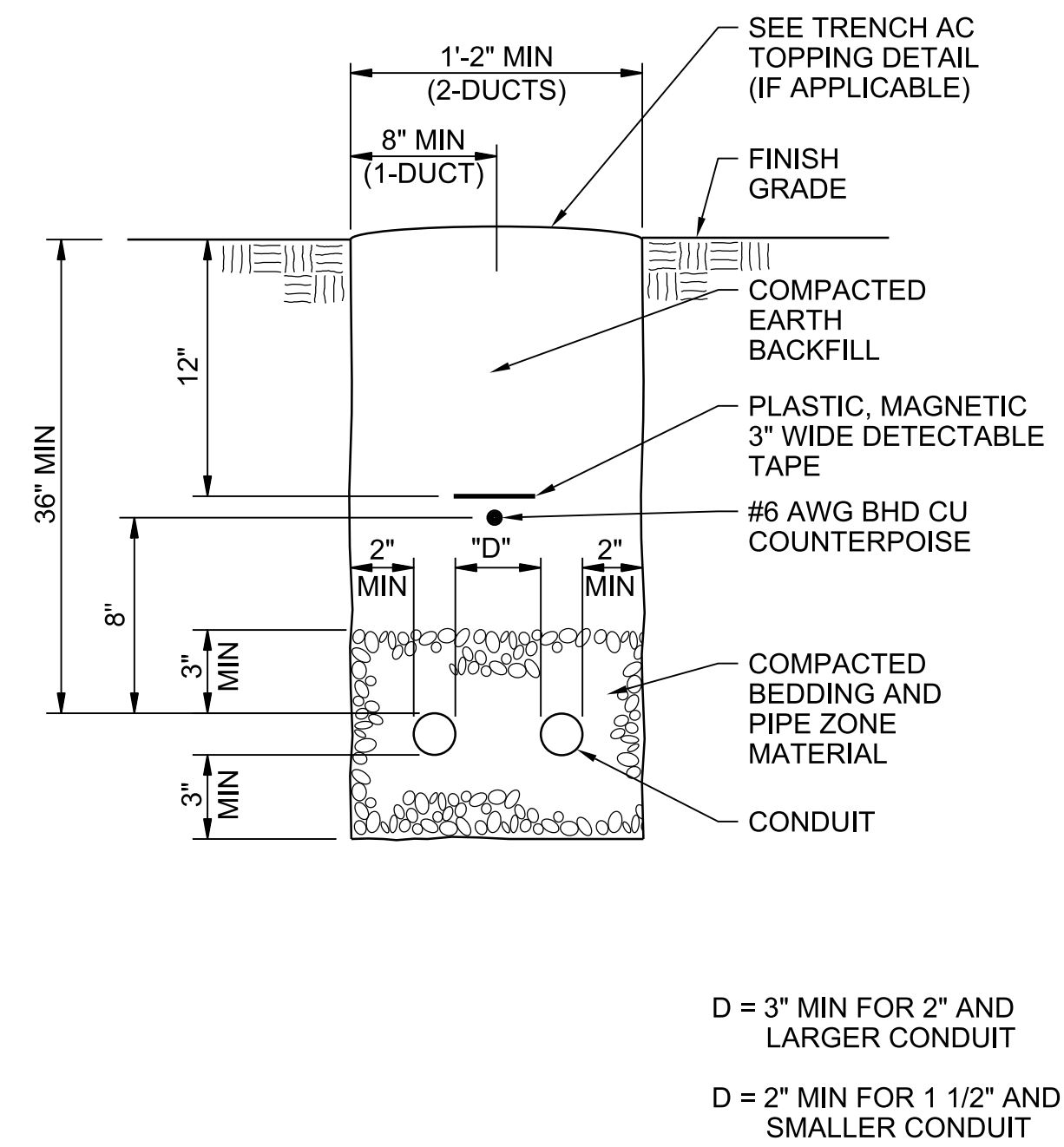
2605-411



CONDUIT TRANSITION AND SUPPORT
NTS

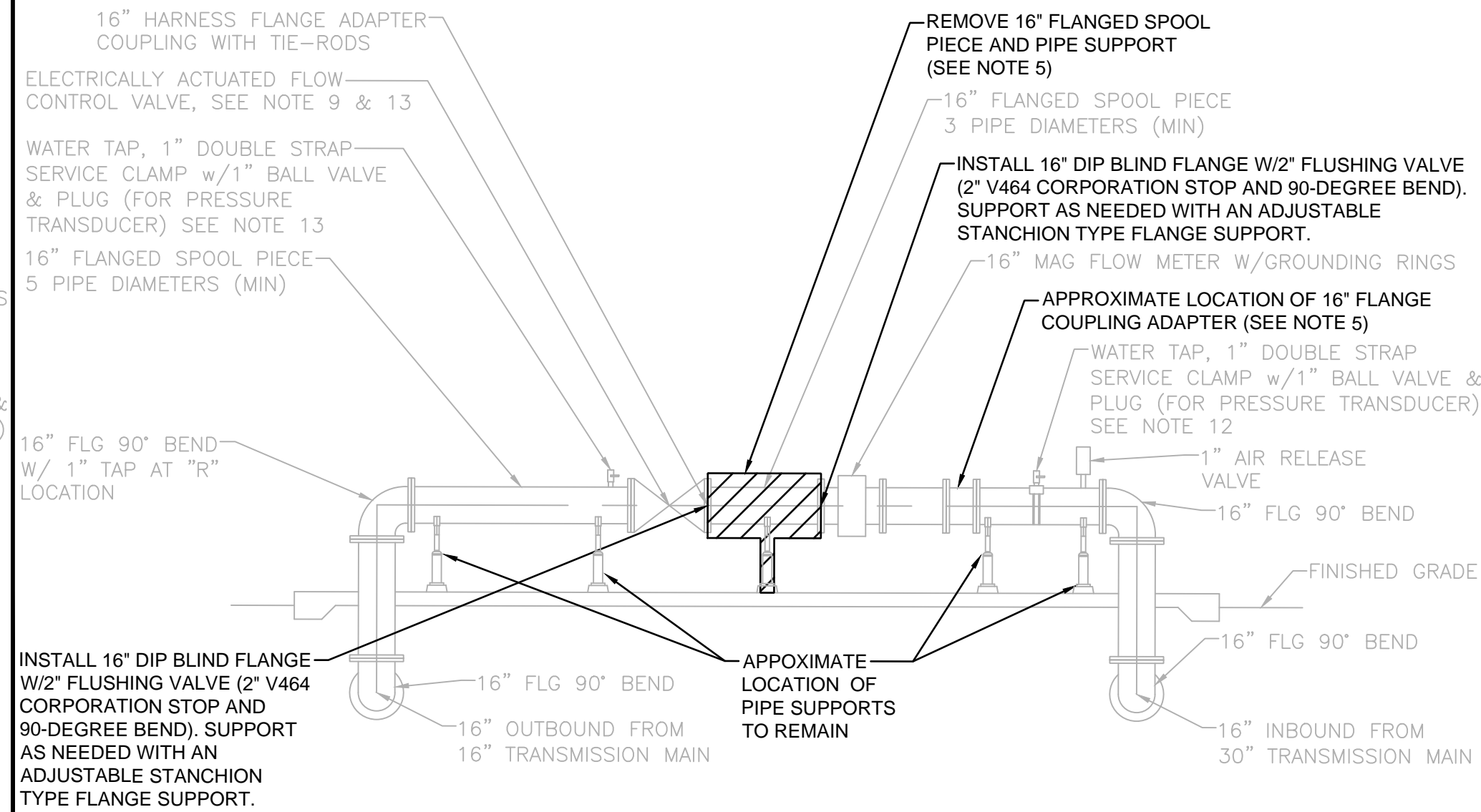
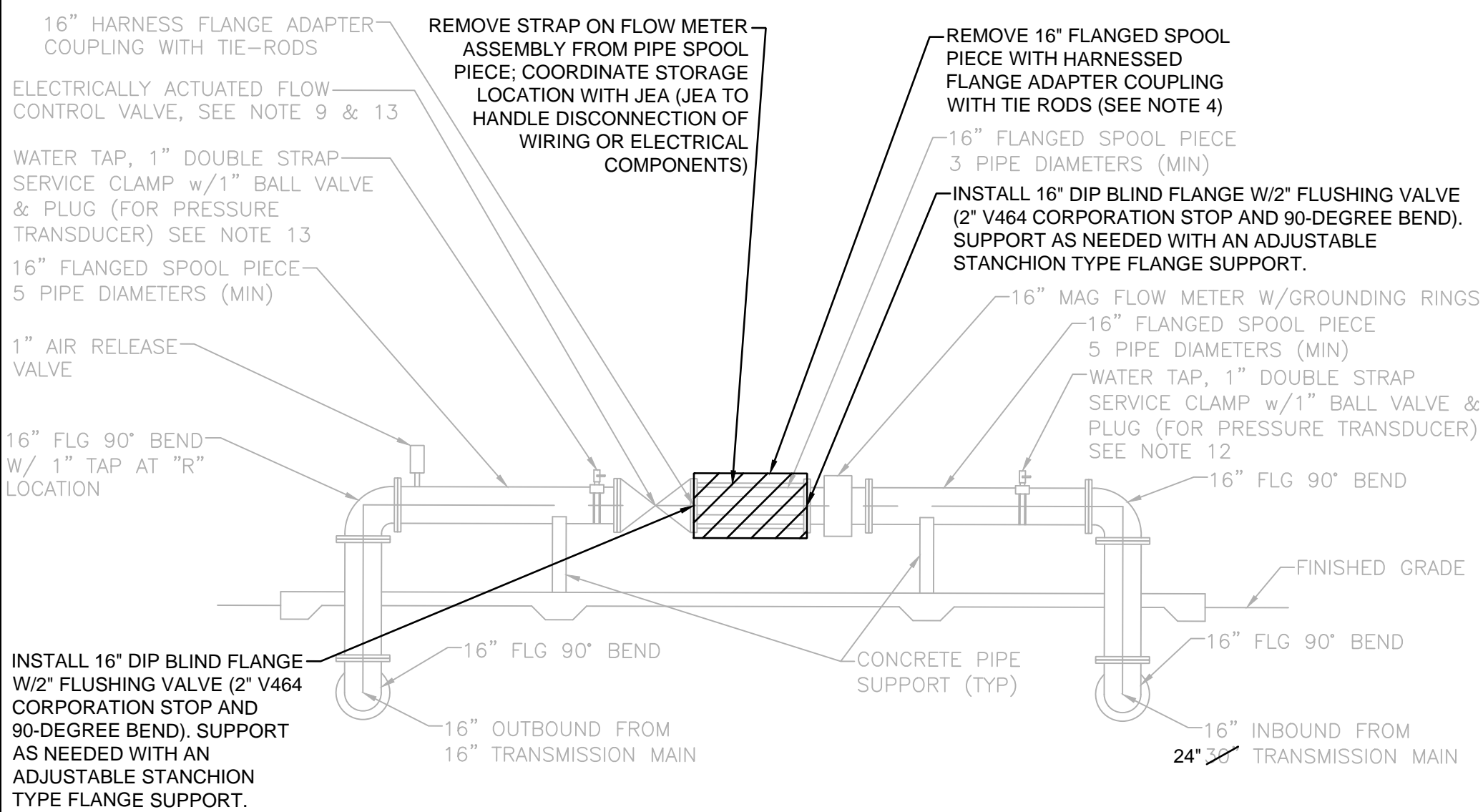
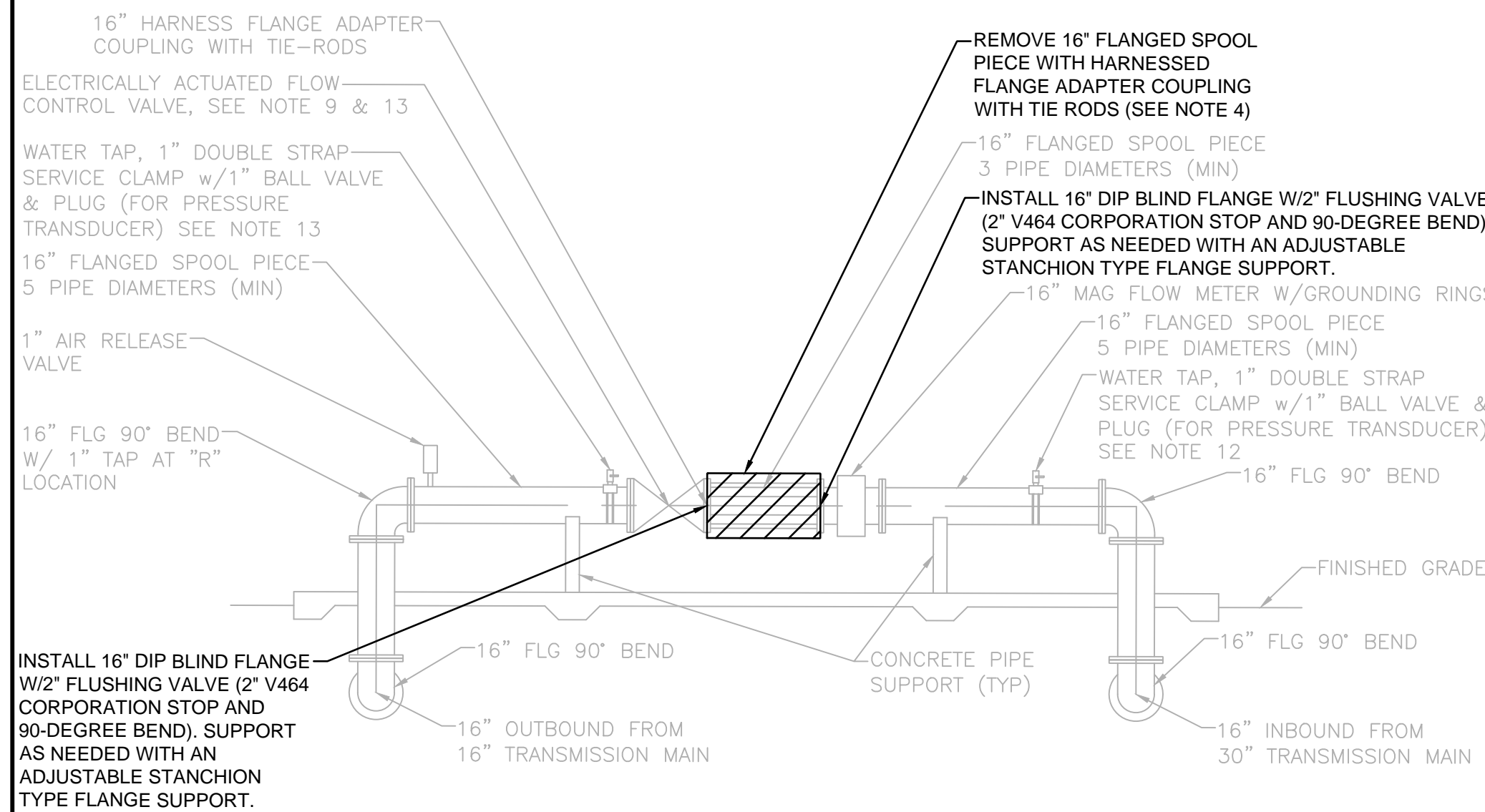
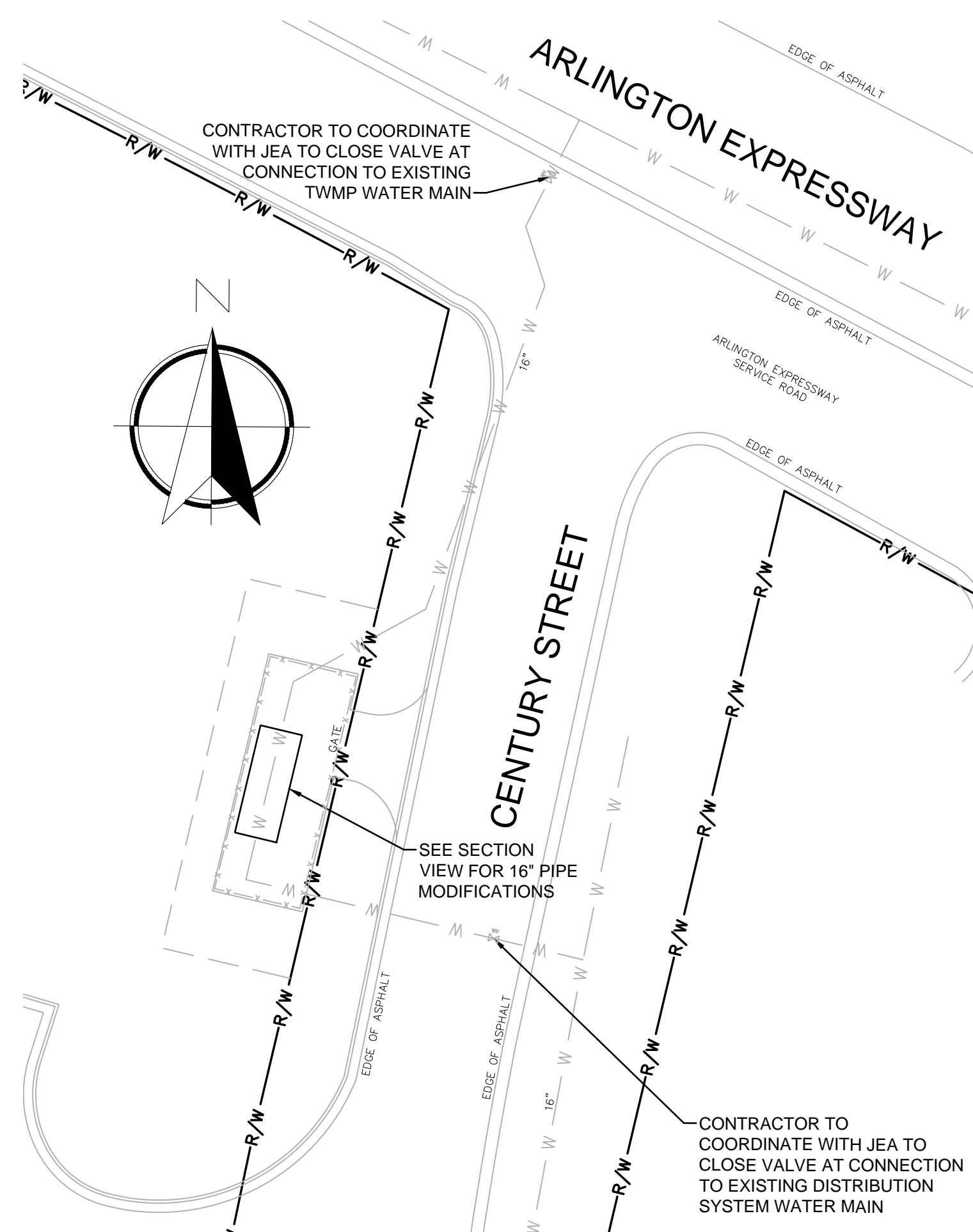
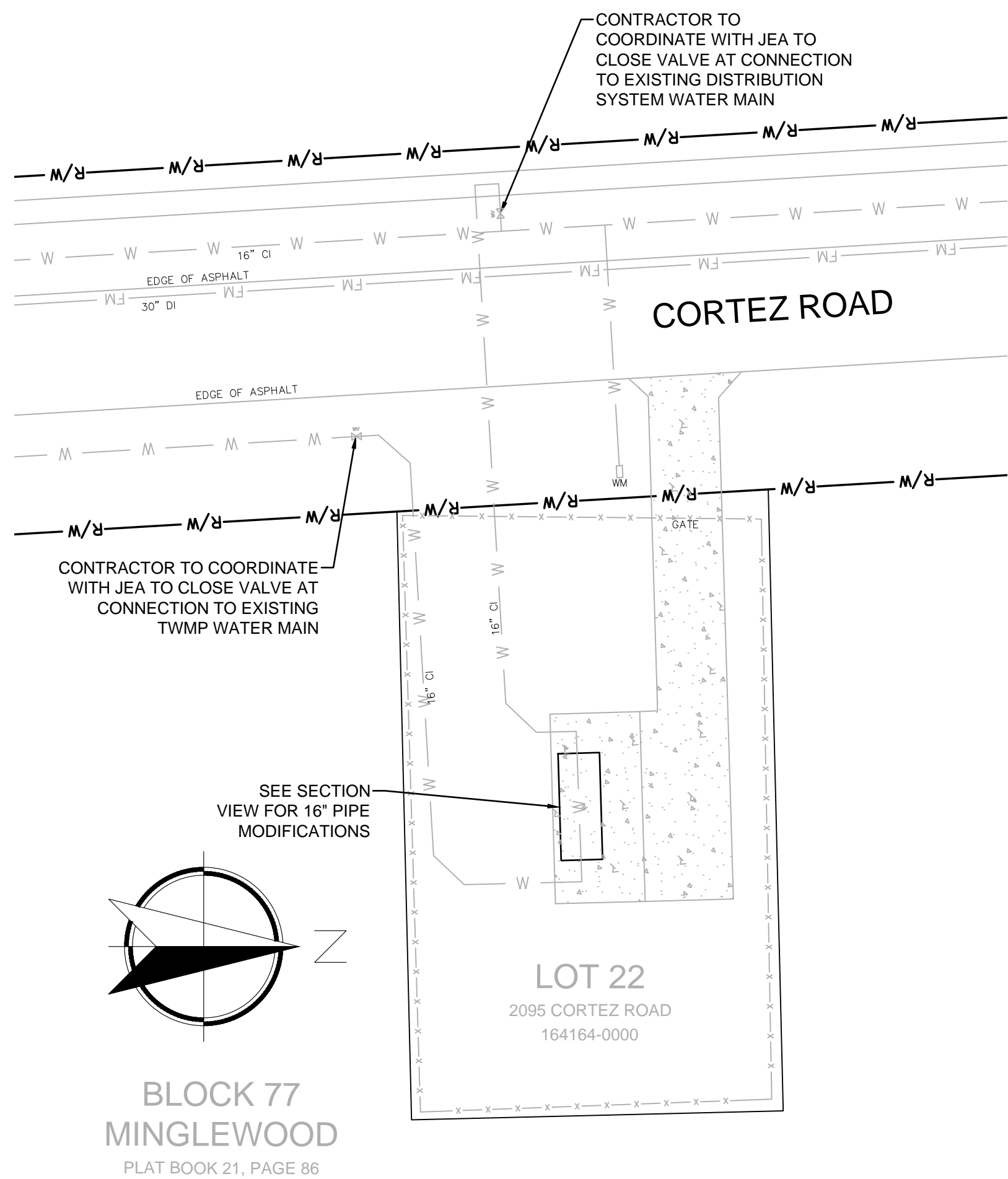
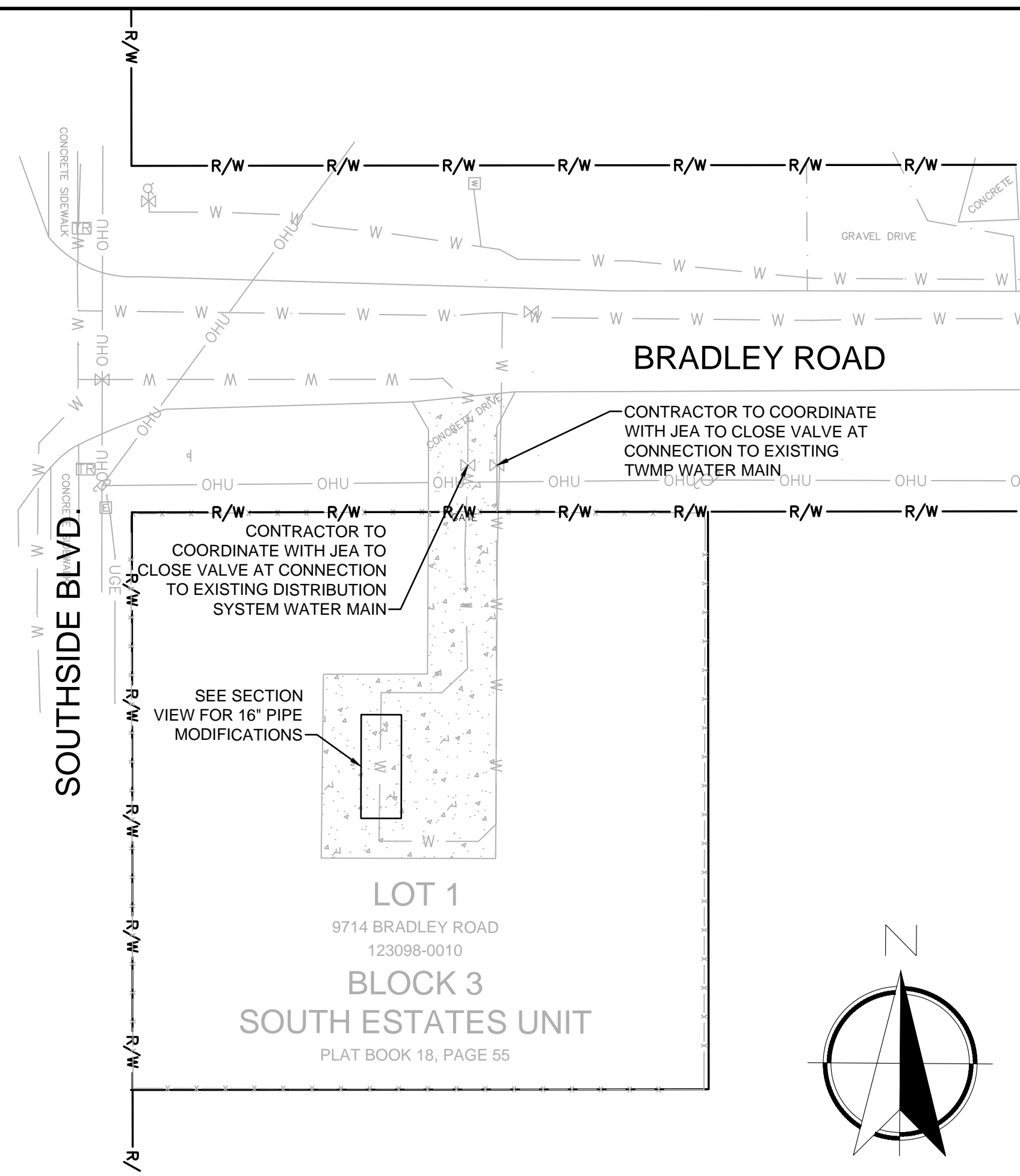
2605-413

NO. SHEETS 30			PROJ. NO. D32549S3			SIPS-SOUTHSIDE BLVD. INTERTIE TO DEERWOOD III WTP			JEA			DESIGNER: A. QUINONES			200 WEST FORSYTH STREET, T. (904) 636-5432			JACOBS		
SHEET NO. 58			DATE: MAY 2021			DEERWOOD WTP PRIORITY 1 PROJECTS			Building Community sm			DRAWN BY: A. QUINONES			SUITE 1520			F1(904) 224-3102		
DRAWING NO. E-301			SCALE: NTS			ELECTRICAL			STANDARD DETAILS			CHECKED BY: M. GOSLOW			JACKSONVILLE, FL 32202			COA # 2822		
						PROJ. TITLE: SIPS-SOUTHSIDE BLVD. INTERTIE TO DEERWOOD III WTP						DESIGN ENGINEER: AGUSTIN C. QUINONES			NO.			REVISIONS		
												FLORIDA REGISTRATION NO. 88295			BY			DATE		
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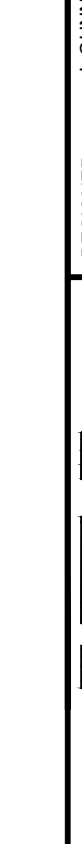


- NOTES:
1. BOND CONDUCTOR TO GROUND ROD OR GROUNDING CONDUCTOR AS SHOWN ON PLANS.

		DESIGNER: A QUINONES DRAWN BY: A QUINONES DATE: MAY 2021 CHECKED BY: M GOSLOW DATE: MAY 2021		DESIGN ENGINEER AGUSTIN C. QUINONES FLORIDA REGISTRATION NO. 89295		NO. BY DATE REVISIONS 6. 4. 3. 2.	
NO. SHEETS 30		PROJ. NO. D3254683		SIPS-SOUTHSIDE BLVD. INTERTIE TO DEERWOOD III WTP DEERWOOD WTP PRIORITY 1 PROJECTS ELECTRICAL STANDARD DETAIL S			
SHEET NO. 29		DATE: MAY 2021					
DRAWING NO.		SCALE: NTS					



- GENERAL NOTES:
1. TWMP INTER-TIE STATION SITE PLANS AND PIPE SECTIONS ARE APPROXIMATE AND BASED ON AS-BUILT DRAWINGS AND FIELD CONDITIONS OBSERVED ON 3/8/2021. THE CONTRACTOR SHALL FIELD VERIFY LOCATIONS, DIMENSIONS, AND EXISTING FEATURES PRIOR TO STARTING CONSTRUCTION ON THE TWMP INTER-TIE STATION DECOMMISSIONING.
 2. DECOMMISSIONING SEQUENCE: CONTRACTOR TO COORDINATE WITH JEA TO CLOSE THE VALVE AT CONNECTION TO EXISTING DISTRIBUTION SYSTEM WATER MAIN, AND TO CLOSE THE VALVE AT CONNECTION TO EXISTING TWMP WATER MAIN, THEN REMOVE PIPING SECTION AND INSTALL BLIND FLANGES AND PIPE SUPPORTS AS INDICATED.
 3. AT ALL INTER-TIE STATIONS, THE EXISTING CONTROL VALVE AND FLOW METER SHALL BE SUPPORTED AT ALL TIMES. TEMPORARY SUPPORTS MAY BE REQUIRED UNTIL PERMANENT SUPPORTS INSTALLED. AT NO TIME SHALL THE FLOW METER BE SUPPORTED ALONG THE BODY.
 4. CORTKIEZ ROAD AND SOUTH SIDE BLVD./BRADLEY ROAD INTER-TIE STATIONS: THE EXISTING 16" DIP PLANGED SPOOL PIECE TO BE REMOVED INCLUDES A HARNESSSED FLANGE ADAPTER COUPLING WITH THE RODS THAT WILL REQUIRE DISASSEMBLY FOR REMOVAL. ALL HARDWARE AND ACCESSORIES SHALL BE SAVED IN A SUITABLE BOX AND STORED ALONG WITH THE PIPE SPOOL PIECE IN THE LOCATION TO BE DESIGNATED BY JEA.
 5. CENTURY STREET INTER-TIE STATION: THE EXISTING 16" DIP PLANGED SPOOL PIECE TO BE REMOVED MAY REQUIRE DISASSEMBLY OF THE FLANGE COUPLING ADAPTER ON THE NORTH SIDE OF THE FLOW METER. AFTER THE SPOOL PIECE IS REMOVED, THE FLANGE COUPLING ADAPTER SHALL BE RE-ASSEMBLED TO THE ORIGINAL CONFIGURATION. ALL PIPE HARDWARE AND ACCESSORIES TO BE REMOVED SHALL BE SAVED IN A SUITABLE BOX AND STORED ALONG WITH THE PIPE SPOOL PIECE AND PIPE SUPPORT IN THE LOCATION TO BE DESIGNATED BY JEA.
 6. UPON COMPLETION OF THE PIPE MODIFICATIONS AT EACH STATION, THE PIPING AND APPURTENANCES SHALL BE PAINTED IN ACCORDANCE WITH THE TECHNICAL SPECIFICATIONS. ANY AREAS OF EXISTING PIPING OR APPURTENANCES WITH DAMAGE TO THE COATING SHALL BE REPAIRED AND RECOATED IN ACCORDANCE WITH THE COATING SYSTEM MANUFACTURER'S RECOMMENDATIONS.
 7. PIPE OR FLANGE SUPPORTS SHALL BE AN ADJUSTABLE STANCHION TYPE: MSS SP 58, TYPE 38 WITHOUT CLAMP.
- MANUFACTURERS:
- A. ANVIL, FIGURE 264, SIZES 2 1/2 INCHES THROUGH 36 INCHES WITH FIGURE 62C BASE.
 - B. B LINE, FIGURE B3092, SIZES 3/4 INCH THROUGH 36 INCHES WITH FIGURE B3088S BASE.

NO. SHEETS 30	PROJ. NO.	D3254583		SIPS-SOUTHSIDE BLVD. INTERTIE TO DEERWOOD III WTP DEERWOOD WTP PRIORITY 1 PROJECTS DECOMMISSIONING TWMP INTER-TIE STATION DECOMMISSIONING PLANS		DESIGNER: DRAWN BY: DATE: CHECKED BY: DATE:	L. GUNN B. GODFREY MAY 2021 MAY 2021	DESIGN ENGINEER LAWRENCE BRADLEY GUNN FLORIDA REGISTRATION NO. 65967	NO.	BY	DATE	REVISIONS
	SHEET NO. 50	DATE: MAY 2021	SCALE: AS SHOWN									
DRAWING NO. D-001												