CONTRACT DOCUMENTS

For the construction of the

Tao Fu

Digitally signed by Tao Fu
Date: 2021.09.03 14:57:49 -04'00'

TAO FU LICENSE No 63138 STATE OF FLORIDA PROFESSIONAL ENGINEER

GREEN MEADOWS WATER TREATMENT PLANT PIPING IMPROVEMENTS

Lee County Utilities

INDEX OF DRAWINGS

Prepared for the

LEE COUNTY UTILITIES
FORT MYERS, FLORIDA

VOLUME 2 OF 2
DRAWINGS

For information regarding this project, contact:

DIANA FRANCOIS
5801 PELICAN BAY BLVD
SUITE 505
NAPLES, FL 34108
(239) 431 9212

JACOBS®

Project No. D3335202

SEPTEMBER 2021

BID DOCUMENTS

DESIGN CRITERIA

1. APPLICABLE CODE: FLORIDA BUILDING CODE, 7TH 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 PLATFORMS	= 100 PSF
SLABS ON GRADE	= 300 PSF

6. SNOW LOADS:

GROUND SNOW LOAD, Pg	= 0 PSF

7. WIND LOADS:

BASIC WIND SPEED, Vult	= 175 MPH
NOMINAL WIND SPEED, Vasd	= 136 MPH
RISK CATEGORY	= IV
EXPOSURE CATEGORY	= C
ENCLOSURE CLASSIFICATION	= NOT APPLICABLE
INTERNAL PRESSURE COEFFICIENT, GCpI	= NOT APPLICABLE

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.

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.

CAST IN PLACE CONCRETE

1. CONCRETE MIX DESIGN SHALL BE IN ACCORDANCE WITH ACI 301-10:
   A. CONCRETE:
      a. MINIMUM COMPRESSIVE STRENGTH fc 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 C1260
      - 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	A992
MISCELLANEOUS SHAPES INCLUDING ANGLES, CHANNELS, PLATES, ETC.	A36
HOLLOW STRUCTURAL SECTIONS (HSS)	A500, GRADE B
STEEL PIPE	A53, GRADE B
STAINLESS STEEL SHAPES	A276

2. ALUMINUM SHALL CONFORM TO THE FOLLOWING ASTM STANDARDS:

STRUCTURAL SHAPES	B308
PLATES	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:

UNLESS SHOWN OTHERWISE	A325-N
ANCHOR BOLTS (AB)	
STAINLESS STEEL	F593, AISI TYPE 316, CONDITION CW
STEEL OR GALVANIZED STEEL	F1554, GR 36 / A153
MACHINE BOLTS (MB)	
STEEL	A307
STAINLESS STEEL	F593, AISI TYPE 316, CONDITION CW
GALVANIZED STEEL	A307 / A153
ALUMINUM	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.

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: 3”
   UNLESS OTHERWISE NOTED: 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]	1'-4”	1'-8”	2'-1”	3'-0”	5'-2”	6'-8”	8'-6”	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]	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]	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]	1'-0”	1'-3”	1'-8”	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]	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]	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.

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 FBC 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
40 05 15	PIPING SUPPORT SYSTEMS
OTHER	ANY EQUIPMENT OR COMPONENT IN WHICH A TECHNICAL SPECIFICATION REQUIRES SUBMITTAL OF EQUIPMENT OR ANCHORAGE SYSTEM CALCULATIONS

David Everson
Digitally signed by David Everson
Reason: I agree to specified portions of this document
Date: 2021.09.07 11:03:28-04'00'

DAVID R. EVERSON PROFESSIONAL ENGINEER LICENSE No 80180 STATE OF FLORIDA

NO.	DSGN	DATE	DR	REVISION	CHK	BY	APVD
	D EVERSON		J THORNTON		C ANSON	D EVERSON	APVD

643 SW 4TH AVE, SUITE 400
GAINESVILLE, FLORIDA 32601
EB2822
DAVID R. EVERSON PE 80180

Jacobs

GREEN MEADOWS WTP
PIPING IMPROVEMENTS
LEE COUNTY
FOR MYERS, FL 33907

GENERAL
STRUCTURAL NOTES

NTS
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING. 0 1"

DATE SEPTEMBER 2021
PROJ D3335202
DWG G-01
SHEET 2 of 8

BID DOCUMENT

LEE COUNTY UTILITIES
STANDARD PLAN NOTES

GENERAL

The standard notes shown below shall be included on all water and sewer plans submitted for approval to Lee County Utilities (LCU).

1. All work shall conform to latest revision of the LCU Design Manual which is available on our web-page via the following link: https://www.leegov.com/utilities/design-manual
2. All Regulatory and Permitting Agencies' requirements shall be complied with as well.
3. Any quantities shown on plans are not verified by LCU.
4. The information provided in these plans is solely to assist the Contractor in assessing the nature and extent of conditions that may be encountered during the course of work. All Contractors are directed, prior to bidding, to conduct whatever investigations they may deem necessary to arrive at their own conclusion regarding the actual conditions that will be encountered, and upon which their bids will be based.
5. All construction work performed must be done by a Contractor licensed in the State of Florida to do the work intended.
6. A pre-construction meeting is required before work may begin. Required attendees include but are not limited to; the Engineer of Record or his designee, the Underground Contractor and the LCU Inspector assigned to the project. LCU is to be notified two (2) working days prior to the pre-construction meeting.
7. One copy of the LCU Approved/Stamped Construction Plans, all Contract Documents, Reference Documents and Technical Documents submitted must be kept at the site and maintained in good order.
8. All work and materials, which do not conform to LCU specifications, are subject to removal and replacement at the Contractor's expense.
9. Any work performed without the knowledge of LCU is subject to re-excavation, removal and replacement of same to be done at the Contractor's expense.
10. LCU Inspection Staff is to be present for all hot taps, pressure tests, lift station start-ups and for any necessary inspection. The Contractor is to provide a minimum of two (2) working days

notice prior to scheduling any of the above with the exception of the lift station start-up which requires one-week notice.

11. Traffic must be maintained at all times as per Lee County Department of Transportation (LCDOT) and per Florida Department of Transportation (FDOT) standard specifications for road and bridge construction, latest edition.
12. The Contractor is to uncover all existing lines being tied into and verify grades before beginning construction.
13. Locations, elevations, and dimensions of existing utilities, structures and other features are shown according to the best information available at the time of preparation of these plans, but do not purport to be absolutely correct. LCU will not guarantee any locations as shown on these plans or those omitted from these plans.
14. The Contractor shall verify all utilities and provide at least two (2) working days notice to the individual utility companies, FDOT and LCDOT prior to construction.
15. It is the Contractor's responsibility to locate and take all possible precautions to avoid any damage to all underground pipelines, telephone, cable TV, electric lines/conduits and structures in advance of any construction. The Contractor shall be fully responsible for any and all damages that may occur due to his failure to exactly locate and protect existing utilities and structures.
16. Anything not shown on these drawings should be brought to the attention of the Engineer and shall not constitute an extra, unless approved by the Engineer of Record.
17. The Contractor shall contact the Engineer and LCU immediately concerning any conflicts with LCU utilities/structures arising during construction of any facilities shown on these drawings.
18. The Contractor shall verify all quantities shown on the plans. If any discrepancies in quantities are found, the Contractor shall notify the Engineer of Record and LCU.
19. The Contractor shall replace all pavement, curbs, driveways, sidewalks, fences, etc., with the same type of material that was removed during construction or as directed by the Engineer. The Contractor shall restore all areas affected by the construction to its original condition, or better.
20. Within the FDOT and LCDOT Right-of-Way, all disturbed areas shall receive grassing (seeding) or sodding materials in accordance with FDOT specifications. Those areas that are classified as drainage ditches shall receive full solid sod.

21. All frames, covers valve boxes, meter boxes and manholes shall be adjusted to finished grade upon completion of paving or related construction. All valve pads shall be poured in place. No pre-formed valve pads will be allowed.
22. Appropriate turbidity control devices (e.g. silt fences, hay bales) will be utilized during all phases of installation and grading. Contractor is responsible for submitting the Notice of Intent and Notice of Termination to the EPA in compliance with Lee County's NPDES permit.
23. Contractor is responsible for developing and maintaining an effective Storm Water Pollution Prevention Plan.
24. LCU requires 30" of cover for all underground piping except under pavement, where 36" of cover is required. If LCU required cover cannot be maintained, the Contractor shall provide other methods of construction or pipe protection, which shall first be approved by LCU and the Engineer, at no additional cost to the County. If state agencies require additional cover, meeting the requirements shall be done at no additional cost to the County.
25. LCU requires there to be a minimum of ten (10) feet horizontal and 18" vertical separation between potable water & sanitary sewer mains. LCU also requires minimum of ten (10) feet horizontal separation between other public and/or private utilities, structure(s), building(s), wall(s), fountain(s), fence(s) and LCU infrastructure unless specifically approved by LCU.
26. LCU requires there to be a minimum of five (5) feet horizontal separation between LCU infrastructure and drainage infrastructure, mitered end sections, inlets, etc. LCU also requires minimum of five (5) feet horizontal separation between LCU infrastructure and all new light pole foundations.
27. The root ball of palm trees shall be a minimum of five (5) feet and the root ball of shade trees shall be a minimum of ten (10) feet from any existing or proposed LCU owned and maintained pipe/infrastructure.
28. As the work progresses the Contractor shall record all changes and deviations from the LCU Stamped/Approved Construction Plans. In addition, he shall record the exact location of all changes in vertical and horizontal alignment with coordinates with respect to the NAVD 1988 State Plane Florida West Coordinate System as well as all requirements set forth in the LCU Design Manual. This information is to be forwarded to the Engineer of Record who prepared, signed and sealed the Approved Construction Plans so that he can prepare 'Record Drawings' per the requirements set forth in the LCU Design Manual.

Tao Fu
Digitally signed by Tao Fu
Date: 2021.09.03 14:57:34 -04'00'

TAO FU LICENSE No 63138 STATE OF FLORIDA PROFESSIONAL ENGINEER

NO.	DATE	DSGN	DR	CHK	APVD	BY	REVISION
		T FU	J THORNTON	A INNISS	APVD	T FU	

643 SW 4TH AVE, SUITE 400
GAINESVILLE, FLORIDA 32601
EB2822
TAO FU PE 63138

Jacobs

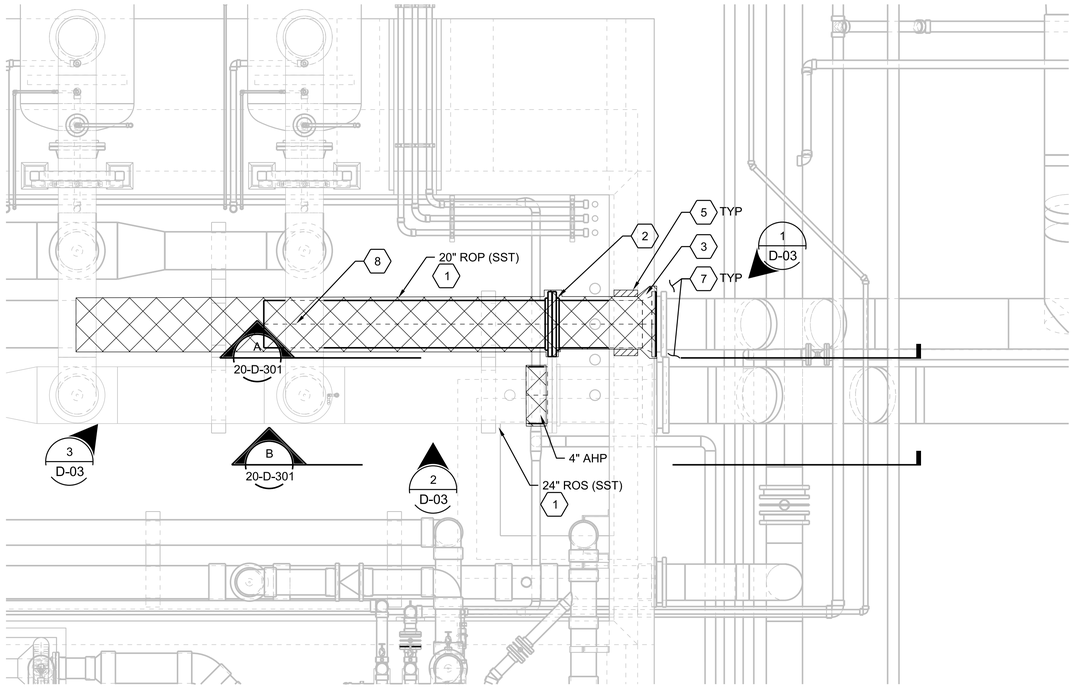
GREEN MEADOWS WTP
PIPING IMPROVEMENTS
LEE COUNTY
FOR MYERS, FL 33907

GENERAL
LEE COUNTY GENERAL NOTES

NTS
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	SEPTEMBER 2021
PROJ	D3335202
DWG	G-02
SHEET	3 of 9

BID DOCUMENT



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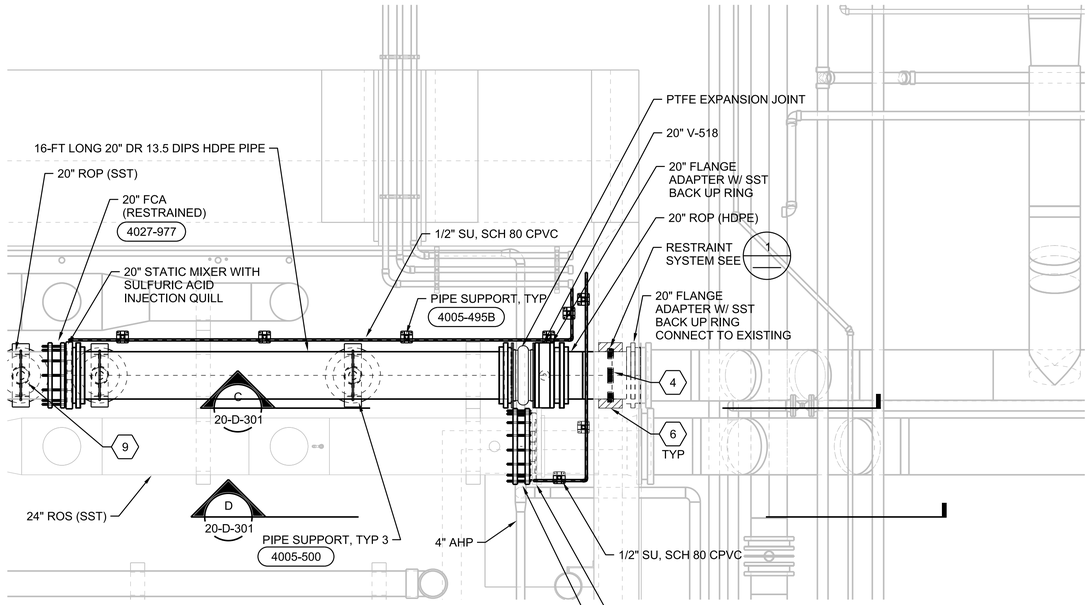
DEMOLITION PLAN

3/8"=1'-0"



N

PLAN

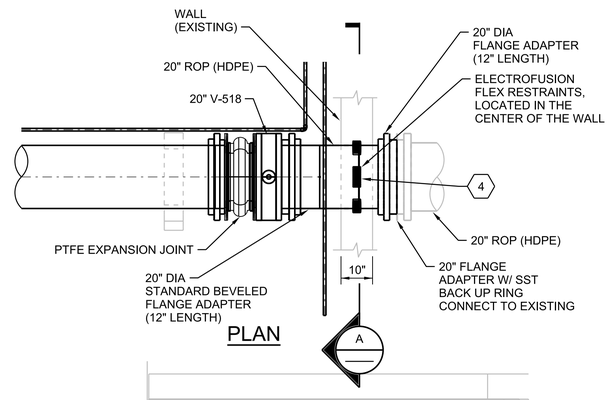
3/8"=1'-0"

GENERAL SHEET NOTES

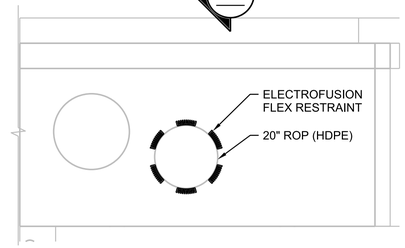
1. REUSE EXISTING PIPE SUPPORTS.

SHEET KEYNOTES

1. DEMOLISH PIPE TO LIMITS NECESSARY TO INSTALL NEW STATIC MIXER AND NEW PIPING COMPONENTS.
2. DEMOLISH 20" ROP ORIFICE PLATE AND 24" ROP ORIFICE PLATES.
3. DEMOLISH WALL PIPE.
4. THE HDPE WALL PIPE, FLANGE ADAPTERS, AND FLEX RESTRAINTS SHALL BE SHOP FABRICATED WITH BACK RING INSTALLED. CONTRACTOR SHALL FIELD MEASURE ALL DIMENSION BEFORE FABRICATION AND CONSTRUCTION.
5. SELECTIVELY DEMOLISH CONCRETE WALL AROUND DEMOLISHED PIPE. PRESERVE EXISTING REINFORCEMENT. SEE DETAIL 0330-022
6. ENCASE NEW PIPE IN MODIFIED WALL OPENING, SEE DETAIL 0330-022
7. DEMOLISH BELOW GRADE CONCRETE FILL PREVIOUSLY PLACED AROUND LEAKING PIPE. INSPECT PIPE AND EXTERIOR FACE OF CONCRETE WALL FOR EVIDENCE OF ACID EXPOSURE OR DAMAGE. NOTIFY ENGINEER OF ACTUAL CONDITION OF PIPE AND CONCRETE PRIOR TO BACKFILLING AREA.
8. EXISTING PRESSURE TRANSMITTER TUBING AND VALVE TO BE RELOCATED.
9. RELOCATED THE EXISTING PRESSURE TRANSMITTER TUBING AND VALVE TO THE EXISTING SST PIPE. PROVIDE TYPE 316 SST TUBING TO CONNECT THE NEW TAPPING LOCATION TO THE EXISTING TUBING. PROVIVED TYPE 316 SST TAPPING SADDLE.



PLAN



SECTION

1 DETAIL

1/2"=1'-0"

Tao Fu

Digitally signed by Tao Fu
Date: 2021.09.03 14:57:16 -04'00'

TAO FU LICENSE No 63138 STATE OF FLORIDA PROFESSIONAL ENGINEER

NO.	DSGN	DATE	REVISION	DR	CHK	BY	APVD
	T FU	A BARTON		T FU	A INNISS	APVD	T FU

643 SW 4TH AVE, SUITE 400
GAINESVILLE, FLORIDA 32601
EB2822
TAO FU, PE #63138

Jacobs

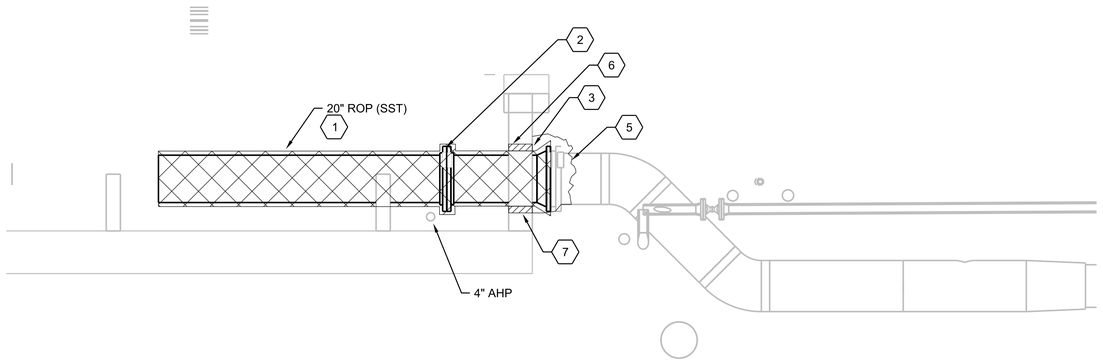
GREEN MEADOWS WTP
PIPING IMPROVEMENTS
LEE COUNTY
FOR MYERS, FL 33907

PROCESS MECHANICAL
PIPING PLAN

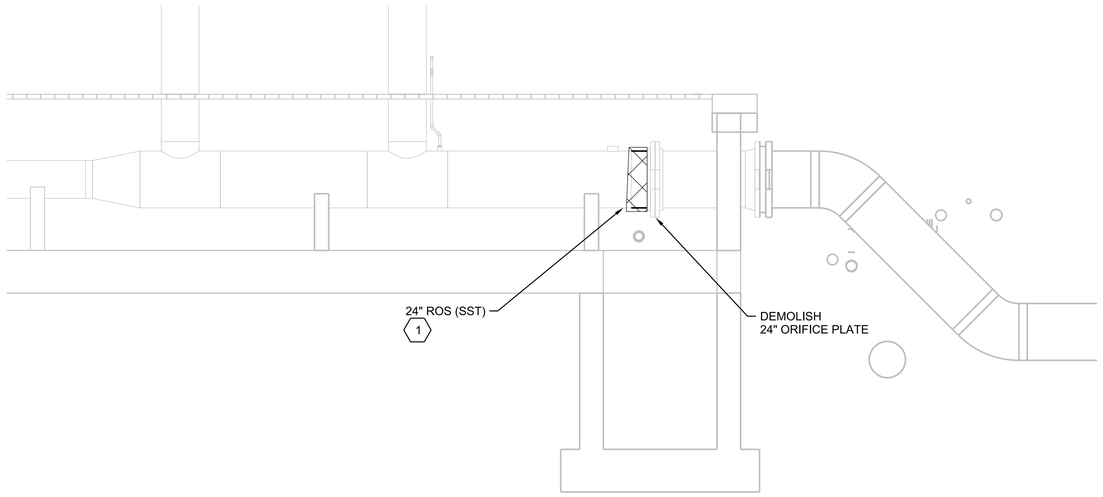
AS NOTED
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING. 0 1"

DATE	SEPTEMBER 2021
PROJ	D3335202
DWG	D-01
SHEET	of

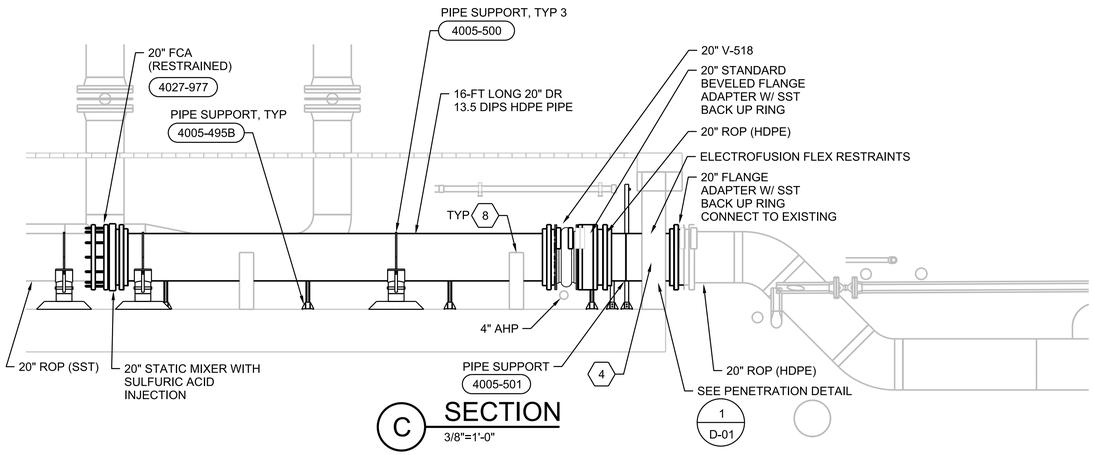
BID DOCUMENT



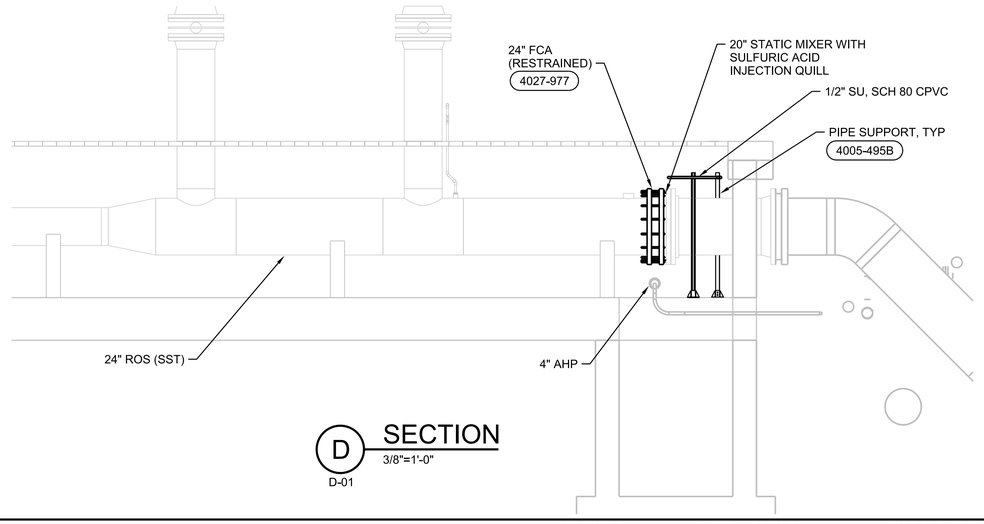
A DEMOLITION SECTION
3/8"=1'-0"
D-01



B DEMOLITION SECTION
3/8"=1'-0"
D-01



C SECTION
3/8"=1'-0"
D-01



D SECTION
3/8"=1'-0"
D-01

GENERAL SHEET NOTES

1. REUSE EXISTING PIPE SUPPORTS.

SHEET KEYNOTES

1. DEMOLISH PIPE TO LIMITS NECESSARY TO INSTALL NEW STATIC MIXER AND NEW PIPING COMPONENTS.
2. DEMOLISH 20" ROP ORIFICE PLATE.
3. DEMOLISH WALL PIPE.
4. THE HDPE WALL PIPE, FLANGE ADAPTERS, AND FLEX RESTRAINTS SHALL BE SHOP FABRICATED WITH BACK RING INSTALLED. CONTRACTOR SHALL FIELD MEASURE ALL DIMENSION BEFORE FABRICATION AND CONSTRUCTION.
5. DEMOLISH CONCRETE FILL, SEE KEYNOTE ON DEMOLITION PLAN.
6. SELECTIVELY DEMOLISH WALL AROUND PIPE, SEE DEMOLITION PLAN.
7. DEMOLISH BELOW GRADE CONCRETE FILL PREVIOUSLY PLACED AROUND LEAKING PIPE. INSPECT PIPE AND EXTERIOR FACE OF CONCRETE WALL FOR EVIDENCE OF ACID EXPOSURE OR DAMAGE. NOTIFY ENGINEER OF ACTUAL CONDITION OF PIPE AND CONCRETE PRIOR TO BACK FILLING AREA.
8. CHIP THE EXISITING CONCRETE PIPE SADDLES AS NEEDED TO ACCOMODATE THE LARGER OD OF THE NEW 20" HDPE PIPE.

Tao Fu
Digitally signed by Tao Fu
Date: 2021.09.03 14:56:56 -04'00'

TAO FU LICENSE No 63138 STATE OF FLORIDA PROFESSIONAL ENGINEER

NO.	DATE	DSGN
1	9/3/2021	T FU

REVISION | CHK: A BARTON | DR: T FU | APVD: A INNISS | BY: APVD | T FU

643 SW 4TH AVE, SUITE 400
GAINESVILLE, FLORIDA 32601
EB2822
TAO FU, PE #63138

Jacobs

GREEN MEADOWS WTP
PIPING IMPROVEMENTS
LEE COUNTY
FOR MYERS, FL 33907

PROCESS MECHANICAL
PIPING SECTIONS

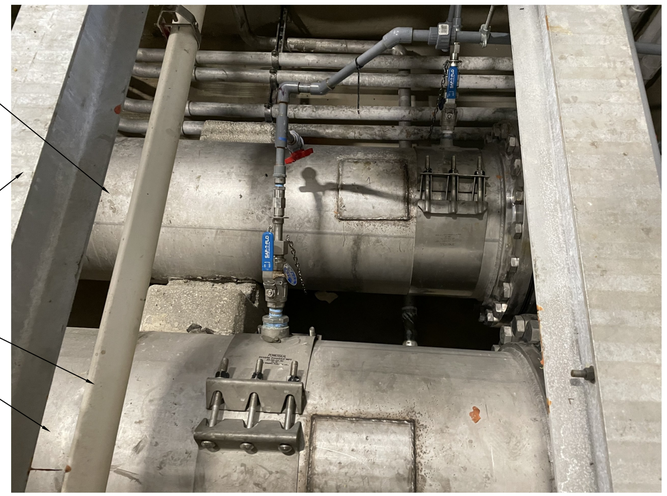
AS NOTED
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING. 0 1"

DATE	SEPTEMBER 2021
PROJ	D3335202
DWG	D-02
SHEET	of

BID DOCUMENT

1 PHOTO DETAIL
NTS
20-D-201

3 PHOTO DETAIL
NTS
20-D-201



2 PHOTO DETAIL
NTS
20-D-201

Tao Fu
Digitally signed by Tao Fu
Date: 2021.09.03 14:56:41 -04'00'

TAO FU LICENSE No 63138 STATE OF FLORIDA PROFESSIONAL ENGINEER

GENERAL SHEET NOTES

1. REUSE EXISTING PIPE SUPPORTS.
2. PHOTOS ARE FOR REFERENCE ONLY. CONTRACTOR SHALL FIELD VERIFY EXISTING CONDITIONS.

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	T FU		A BARTON		A INNISS		T FU

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GREEN MEADOWS WTP
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LEE COUNTY
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PROCESS MECHANICAL
PHOTO DETAILS

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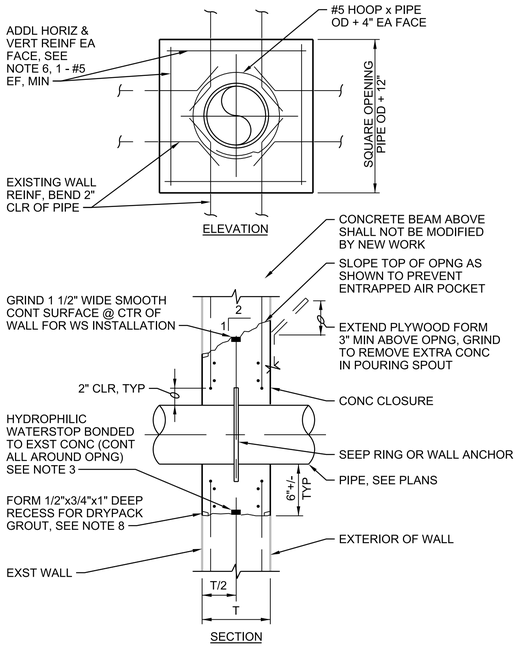
0 1"

DATE	SEPTEMBER 2021
PROJ	D3335202
DWG	D-03
SHEET	of

BID DOCUMENT



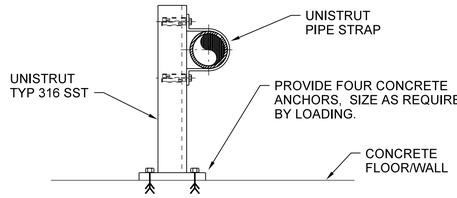
NOTES:

1. SAW-CUT 1-INCH DEEP x PIPE OD + 12" SQUARE SCORE LINE ON EACH FACE OF WALL. (VERIFY DEPTH OF CUT TO CLEAR REINFORCING.) (INCREASE HEIGHT AS NOTED AT TOP ON WATERSIDE FACE FOR POURING.)
2. CHIP TO REMOVE THE CONCRETE WITHIN THE SCORE LINE, WHILE PRESERVING THE EXISTING WALL REINFORCING.
3. HYDROPHILIC WATERSTOP SHALL BE HYDROTITE CJ 1020 2K WITH LEAKMASTER LV 1 ADHESIVE AND SEALANT BY GREENSTREAK PLASTIC PRODUCTS. INSTALL IN ACCORDANCE WITH MANUFACTURER'S WRITTEN INSTRUCTIONS
4. GRIND 1 1/2" WIDE x CONT SMOOTH SURFACE ALL AROUND THE OPENING AT CENTER OF WALL. CLEAN SURFACES AND BOND CONTINUOUS HYDROPHILIC WATERSTOP IN PLACE.
5. INSTALL WALL PIPE. (COAT CONCRETE ENCASED PORTION OF PIPE WITH SPECIFIED COATING SYSTEM.)
6. INSTALL ADDITIONAL REINFORCING EACH FACE, EACH SIDE, ABOVE AND BELOW PIPE. HORIZONTAL REINFORCING TO HAVE COMBINED AREA EQUAL TO AREA OF HORIZONTAL REINFORCING CUT. VERTICAL REINFORCING TO HAVE COMBINED AREA EQUAL TO AREA OF VERTICAL REINFORCING CUT.
7. SOAK CONCRETE SURFACES AND WITHIN 15-MINUTES CAST CONCRETE CLOSURE. (CONCRETE CLOSURE MUST BE CAST BEFORE HYDROPHILIC WATERSTOP EXPANDS). FORM GROOVE ON ALL SIDES OF OPENING EXCEPT AT TOP ON THE POUR SIDE.
8. CLEAN SURFACES OF FORMED GROOVE WITH POWER WIRE BRUSH OR SANDBLASTING AND DRY-PACK WITH NON-SHRINK GROUT AFTER NEW CONCRETE MIN 28-DAYS OLD.

PIPE PENETRATION - EXISTING WALL

NTS

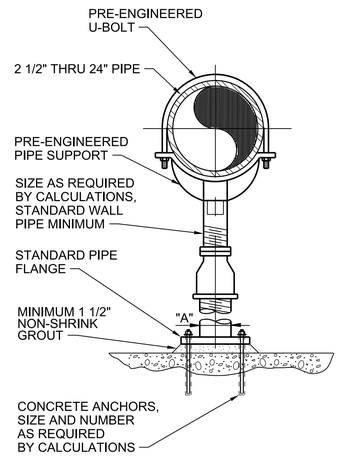
0330-022



PIPE SUPPORT

NTS

4005-495B



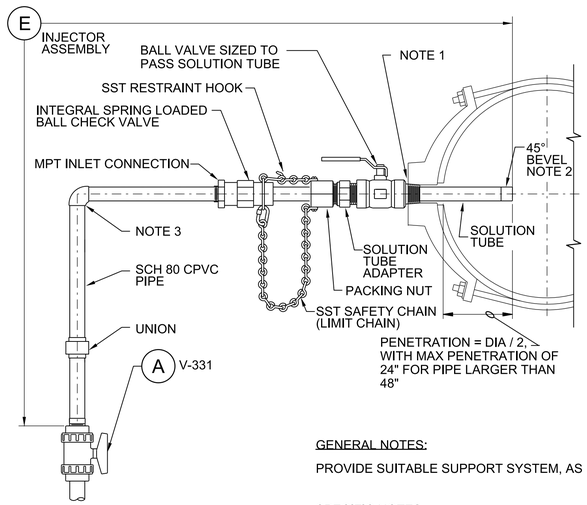
DIMENSION TABLE	
PIPE SIZE	"A" MINIMUM NOMINAL PIPE SIZE
2-1/2"	2-1/2"
3"	2-1/2"
4"	3"
6"	3"
8"	3"
10"	3"
12"	3"
14"	4"
16"	4"
20"	6"
24"	6"

NOTE:
SUBMIT FINAL DESIGN AND CALCULATIONS FOR SUPPORT AND ANCHORAGE AS SPECIFIED.

PIPE SUPPORT
SADDLE SUPPORT PEDESTAL
TYPE - ADJUSTABLE

NTS

4005-500



GENERAL NOTES:

PROVIDE SUITABLE SUPPORT SYSTEM, AS PER SECTION 40 05 15, PIPING SUPPORT SYSTEMS.

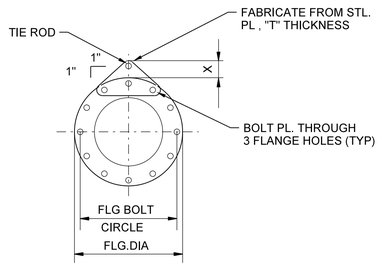
SPECIFIC NOTES:

1. STATIC MIXER MANUFACTURER SHALL PROVIDE THE INJECTOR.
2. ORIENT BEVEL SO IT FACES FLOW DIRECTION. SEE VENDOR'S RECOMMENDATIONS.
3. FIELD LOCATE VALVE (A) TO ALLOW SOLUTION TUBE RETRACTION ONCE PIPE IS REMOVED. USE FITTINGS AS NEEDED.

CHEMICAL INJECTOR, RETRACTABLE, REMOVABLE RIGID PIPE

NTS

4027-957B



TIE ROD SCHEDULE												
TEST PRESSURE		25 PSI		50 PSI		100 PSI		150 PSI		225 PSI		375 PSI
PIPE DIAM. (IN.)	MINIMUM PIPE WALL THICKNESS (IN.)	TIE RODS		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	DIA. (IN.)	NO. REQ'D
20	1/4	5/8	2	3/4	2	7/8	2	7/8	4	7/8	4	1-1/4	4
22	1/4	5/8	2	3/4	2	3/4	4	7/8	4	7/8	4	1-1/2	4
24	1/4	5/8	2	3/4	2	7/8	4	1	4	1	6	1-1/2	6

PIPE SIZE	X	T @ TEST PRESS <150 PSI	T @ TEST 150< PRESS <375 PSI
20"	3 3/4 "	1"	1 1/2 "
22"	4"	1"	1 3/4 "
24"	4 1/4 "	1 1/4 "	1 3/4 "

NOTES:

1. TIE RODS SHALL CONFORM TO ASTM A193 GRADE B8M.
2. NUTS SHALL CONFORM TO ASTM A194 GRADE 2H.
3. PLATE SHALL BE TYPE 316 SST.
4. 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.
5. CONTRACTOR SHALL USE DATA FOR ONLY THOSE PIPE SIZES AND TEST PRESSURES SPECIFIED IN THIS CONTRACT.

THRUST TIE ROD/CONNECTION PLATE

NTS

4027-977

Tao Fu
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Date: 2021.09.03 14:56:25 -04'00'

TAO FU LICENSE No 63138 STATE OF FLORIDA PROFESSIONAL ENGINEER

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