Steven M. Clouse WRC Digester Mixing and System Enhancements Phase 3 Rebid
Solicitation Number: CO-00581
Job No.: 20-6501

ADDENDUM 2
November 2, 2022

To Bidder of Record:

This addendum, applicable to work referenced above, is an amendment to the bid proposal, plans and specifications and as such will be a part of and included in the Contract Documents. Acknowledge receipt of this addendum by entering the Addendum number and issue date on the space provided in submitted copies of the bid proposal.

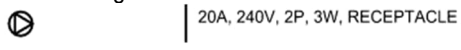
RESPONSES TO QUESTIONS

1. Question: When the project was previously bid, SAWS had prenegotiated the purchase of the 11385 Digester Mixing System , 11403 Tube in Tube Heat Exchangers, and 13225 Digester Gas Equipment. Please advise if SAWS intends to prenegotiate the pricing and will be added as an allowance in the bid form.
   Response: SAWS will not be pre-negotiating the pricing for equipment. An allowance item for equipment will not be provided in the bid form.

2. Question: Electrical detail sheet 00E09 & 00E10 both detail the manholes to be Non-Roadway application. Site manholes EMH-37 and EMH-40 needs to be roadway rated. Please verify Detail E38 on Sheet 00E10 should be for Roadway.
   Response: Please see the Changes to the Plans section of this Addendum.

3. Question: Sheet 00E17 shows the area classification boundary around the digester tank as Class 1, Div. 1 & 2. Plans show standard 120V weather proof GFI receptacle. Specification Section 16140 does not address the 120V receptacle to be utilized in Classified area. Please provide additional information on which product to utilize.
   Response: Please see the Changes to the Specifications section of this Addendum.

4. Question: Sheets 01E01 and 01E17 shows 480V receptacles indicated with  , electrical legend on sheet 00E02 indicate this to be Red Face Isolated ground duples, 15A: 

, and 1-line diagrams 01E04 and 01E20 show these as  20A, 240V, 2P, 3W receptacle: 

. Based on the 1-line diagram, these are 480V 60A welding receptacles. Please verify that these are actually the welding receptacle with integral disconnect switches identified in specification section 16140 2.03 H requiring to be provided with one matching plug for the welder.
   Response: The receptacle shown on Drawings 01E01 and 01E17 are 480V welding receptacles and are shown on Drawings 01E04 and 01E20 receiving 480V power from MCC. The receptacle shall have integral disconnect switch as specified in section 16140 2.03H.

5. On dwg 01SO8 the Scale suggested of 1/8" = 1'-0" is not matching the graphic scales or the dimensions given in the details. Please advise.
   Response: Please see the Changes to the Plans section of this Addendum.

CHANGES TO THE SPECIFICATIONS

1. Specification 16140: Add paragraph 2.03-C-10: Explosion proof duplex, 20 Amp, 125 Volt, 2 phase, 3 Wire; Appleton Electric , Catalog No. CPC2-2350 and plug, Appleton Electric Catalog No. CPP-2023 similar to Crouse-Hinds; Harvey Hubbell, Inc. or equal.

CHANGES TO THE PLANS

1. Drawing 01E10, Detail E38: Change detail title to read, "ROADWAY ELECTRICAL MANHOLE."
2. Delete Drawings 01S01 through 01S17 in their entirety, and replace with revised Drawings 01S01 to 01S17 included in this addendum.

END OF ADDENDUM

This Addendum, including these two (2) pages, is nineteen (19) pages with attachments in its entirety.

Attachments:

- Drawings 01S01 through 01S17

Joseph A. Draper, P.E.
Whitman, Requardt and Associates, LLP

GENERAL STRUCTURAL NOTES (GSN)

GENERAL

G01. SCOPE
THE NOTES ON THIS SHEET AND THE STANDARD STRUCTURAL DETAILS ARE GENERAL AND APPLY TO THE ENTIRE PROJECT WHETHER SPECIFICALLY CALLED OUT OR NOT, EXCEPT WHERE THERE ARE SPECIFIC INDICATIONS TO THE CONTRARY ON STRUCTURAL SHEETS. IF THERE ARE QUESTIONS, THEY SHALL BE SUBMITTED TO THE CONSTRUCTION INSPECTOR AND ANSWERED IN WRITING PRIOR TO CONSTRUCTION.

G02. APPLICABLE SPECIFICATIONS AND CODES
A. INTERNATIONAL BUILDING CODE, IBC 2018 WITH APPLICABLE EDITIONS OF THE CODE REFERENCED STANDARDS.
B. ACI 318-19 BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONRETE
C. AISC 360 15TH EDITION STEEL CONSTRUCTION MANUAL
D. ACI 350-06 CODE REQUIREMENTS FOR ENVIRONMENTAL CONCRETE STRUCTURES
E. LOCAL JURISDICTION AMENDMENTS

G03. DESIGN CRITERIA
APPLIES TO ALL STRUCTURES UNLESS NOTED OTHERWISE (UNO)
A. DEAD LOAD:
1. ACTUAL TRIBUTARY STRUCTURE WEIGHT
2. SUPERIMPOSED DEAD LOAD: 100 PSF
B. LIVE LOAD:
1. ELEVATED FLOORS: 100 PSF
2. WALKWAYS, STAIRS, GRATING: 100 PSF
3. SLAB ON GRADE: 250 PSF
4. ROOF: 20 PSF (NOT REDUCIBLE)
5. HANDRAIL/GUARDRAIL: 50 PLF OR 200 LB
C. WIND:
1. BASIC WIND SPEED: 92 MPH (ASD), 120 MPH (LRFD)
2. EXPOSURE: C
3. IMPORTANCE FACTOR: 1.15
4. ALL STRUCTURES ARE ENCLOSED
D. SEISMIC:
1. ABOVE GRADE, NON WATER BEARING STRUCTURES:
a. RISK CATEGORY: III
b. IMPORTANCE FACTOR: 1.25
c. SPECTRAL RESPONSE ACCELERATION, SS = 0.053
d. SPECTRAL RESPONSE ACCELERATION, S1 = 0.021
e. SITE CLASS: D
f. SEISMIC DESIGN CATEGORY: A
g. SPECTRAL RESPONSE COEFFICIENT, SDS = 0.134
h. SPECTRAL RESPONSE COEFFICIENT, SD1 = 0.044
i. ANALYSIS PROCEDURE: EQUIVALENT LATERAL FORCE
E. SNOW LOAD:
1. GROUND SNOW LOAD: 5 psf

G04. GEOTECH
THE FOLLOWING NON-CONTRACTUAL GEOTECHNICAL REPORT WAS DEVELOPED FOR A PRIOR PROJECT AT THE SITE AND IS THE BASIS OF THIS STRUCTURAL DESIGN:
1. GEOTECHNICAL FIRM NAME: ARIAS AND ASSOCIATES.
2. ADDRESS: 142 CHULA VISTA, SAN ANTONIO, TX 78232
3. REPORT NUMBER: 2009-502
4. REPORT DATE: AUGUST 12, 2020
5. ALLOWABLE SOIL BEARING PRESSURES ARE AS FOLLOWS:
a. SHALLOW SLAB AND MAT FOUNDATIONS: 2000 PSF

G05. SAFETY
SAFETY AND STRUCTURE STABILITY DURING CONSTRUCTION ARE THE SOLE RESPONSIBILITY OF THE CONTRACTOR. STRUCTURES HAVE BEEN DESIGNED TO RESIST THE DESIGN LIVE LOADS ONLY AS A COMPLETED STRUCTURE. SHARP EDGES ON EQUIPMENT, METAL OBJECTS, SHIELDS, APPURTENANCES, AND PARTS THEREOF SHALL BE ROUNDED AND RECOATED AS REQUIRED TO ELIMINATE SAFETY HAZARDS.

G06. OPENINGS
OPENINGS FOR PIPES, DUCTS, CONDUITS, ETC. ARE NOT ALL SHOWN ON THE STRUCTURAL DRAWINGS. COORDINATE AND PROVIDE OPENINGS AS REQUIRED TO ACCOMMODATE ALL WORK SHOWN OR SPECIFIED IN THE CONTRACT DOCUMENTS AND OTHERWISE REQUIRED FOR THE FURNISHING OF A FUNCTIONALLY COMPLETE PROJECT. REINFORCE AROUND OPENINGS PER STANDARD STRUCTURAL DETAILS UNLESS OTHERWISE SHOWN.

G07. SPECIAL INSPECTIONS
SPECIAL INSPECTIONS AND TESTING ARE REQUIRED IN ACCORDANCE WITH CHAPTER 1 AND CHAPTER 17 OF THE IBC. ALL REQUIRED INSPECTION ACTIVITIES WILL BE PROVIDED BY THE OWNER. THE CONTRACTOR SHALL PROVIDE FOR FULL ACCESS TO THE WORK BY THE INSPECTORS AND SHALL PROVIDE FOR THESE INSPECTIONS IN HIS CONSTRUCTION SCHEDULE IN ACCORDANCE WITH THE SPECIFICATIONS. A SPECIAL INSPECTION PLAN WILL BE SUBMITTED UNDER SEPARATE COVER. THE CONTRACTOR SHALL PROVIDE AND PAY FOR ALL CONSTRUCTION TESTING DEFINED IN THE CONTRACT DOCUMENTS VIA A THIRD PARTY FIRM(S) APPROVED BY THE OWNER.

G08. STANDARD DETAILS
THE STANDARD DETAILS DEPICT TYPICAL DETAILING TO BE USED ON THIS PROJECT. IF CONDITIONS ARE NOT EXPLICITLY SHOWN ON THE DRAWINGS THEY SHALL BE MADE SIMILAR TO THE STANDARD DETAILS. OBTAIN APPROVAL OF ENGINEER IN WRITING FOR SIMILAR CONDITIONS PRIOR TO CONSTRUCTION.

G09. THE CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS AND ELEVATIONS OF EXISTING CONSTRUCTION AS REQUIRED TO COORDINATE NEW CONSTRUCTION. SUBMIT REQUIRED CHANGES FOR APPROVAL.

G10. CONTRACTOR TO SUBMIT FOR REVIEW ALL EQUIPMENT SIZES, OPERATING WEIGHTS, VIBRATION FORCES, SUPPORT LOCATIONS, ALONG WITH ANY FLOOR OPENINGS, NOTCHES, AND RECESSES REQUIRED BY SUCH EQUIPMENT. CONCRETE SUPPORT PADS AND/OR FRAMING REQUIRED TO SUPPORT SAID EQUIPMENT SHALL NOT BE FABRICATED AND PLACED UNTIL THE CONCRETE SUPPORT PADS AND/OR FRAMING IS APPROVED TO SUPPORT THE EQUIPMENT.

G11. SEE CIVIL DRAWINGS FOR ALL EXTERIOR PAVING AND FLATWORK.

G12. FORMED CONSTRUCTION JOINTS SHALL BE KEYED, CONSTRUCTION JOINTS AT UNFORMED SURFACES SHALL BE ROUGHENED, SEE STANDARD DETAILS.

CONCRETE

C01. DESIGN STRENGTHS:
F'c = 5000 PSI (GENERAL USE)
F'c = 5000 PSI (WATER - BEARING STRUCTURES)
Fy = 60,000 PSI

C02. CONCRETE COVER
UNLESS OTHERWISE NOTED, PROVIDE CONCRETE COVER FOR REINFORCING AS FOLLOWS: CONCRETE DEPOSITED AGAINST EARTH: 3"
ALL OTHER: 2"
SEE DRAWINGS FOR EXCEPTIONS

C03. SEE SPECIFICATIONS FOR REINFORCING PLACEMENT REQUIREMENTS.

C04. REFER TO OTHER DISCIPLINE DRAWINGS PRIOR TO CONSTRUCTION FOR EMBEDDED ITEMS AND PENETRATIONS NOT SHOWN ON STRUCTURAL DRAWINGS. AS REQUIRED TO ACCOMMODATE ALL WORK SHOWN OR SPECIFIED IN THE CONTRACT DOCUMENTS AND OTHERWISE REQUIRED FOR THE FURNISHING OF A FUNCTIONALLY COMPLETE PROJECT. REINFORCE AROUND OPENINGS PER STANDARD STRUCTURAL DETAILS UNLESS OTHERWISE SHOWN.

C05. PROVIDE 3/4" CHAMFERS AT ALL EXPOSED EDGES AND 1/2" CHAMFERS AT JOINTS AS SHOWN. NOT ALL CHAMFERS MAY BE SHOWN ON DRAWINGS.

C06. FIELD ADJUST REINFORCING AT OPENINGS AND EMBEDDED ITEMS AS INDICATED.

C07. ANCHOR BOLTS FOR EQUIPMENT AND OTHER ITEMS DESIGNED BY THIRD PARTY SHALL BE APPROPRIATELY DESIGNED BY SUPPLIER AND REACTION LOADS GOVERNING EACH ANCHOR BOLT SUPPLIED TO ENGINEER DURING CONSTRUCTION. ENGINEER WILL CONFIRM DESIGN OF ANCHOR BOLTS RELATED TO EMBEDMENT AND FOUNDATION DETAILS DURING CONSTRUCTION. COORDINATE LOCATION, SIZE AND EMBEDMENT PRIOR TO CASTING CONCRETE.

C08. CONTINUOUS WATERSTOP SHALL BE INSTALLED IN JOINTS SUBJECT TO STATIC WATER PRESSURE.

C09. ABSOLUTELY NO WELDING OF REINFORCING BARS OR TORCHING TO BEND REINFORCING BARS SHALL BE ALLOWED WITHOUT SPECIFIC APPROVAL FROM THE STRUCTURAL ENGINEER.

C10. ALL CAST IN PLACE AND POST-INSTALLED ANCHORS INDICATED IN THE STRUCTURAL DOCUMENTS SHALL COMPLY WITH APPENDIX D OF ACI 318 AND CHAPTER 19 OF THE IBC. ALL EXPANSION AND ADHESIVE ANCHORS SHALL HAVE THE ICC REPORT SHOWING EQUIVALENT LOAD CAPACITY. SUBMIT AND INSTALL PER THE ICC EVALUATION REPORT.

C11. PRIOR TO INSTALLING POST INSTALLED ANCHORS INTO CONCRETE, THE CONTRACTOR SHALL LOCATE REINFORCING. DO NOT DAMAGE CONCRETE REINFORCING.

STEEL

S01. DESIGN STRENGTHS:

WIDE FLANGE AND TEES:	Fy=50 KSI
PIPES:	Fy=35 KSI
STAINLESS STEEL:	Fy=33 KSI
HSS SECTIONS GRADE C:	Fy=50 KSI
ALL OTHER PLATES AND SHAPES:	Fy=36 KSI

S02. DIMENSIONS:
TO CENTERLINES OF COLUMNS AND BEAMS, TOP SURFACES OF BEAMS AND TUBES AND BACKS OF CHANNELS AND ANGLES UNO.

S03. ELEVATIONS:
TOP OF STEEL REFERS TO TOP SURFACE OF MEMBER OR FLANGE UNO.

S04. WHEN FILLET WELD SIZE IS NOT INDICATED, PROVIDE MAXIMUM WELD SIZE BASED ON MATERIAL THICKNESS IN ACCORDANCE WITH AISC SPECIFICATIONS.

S05. ALL BOLTED STRUCTURAL CONNECTIONS ARE BEARING TYPE CONNECTIONS UNLESS OTHERWISE SPECIFIED TO BE SLIP-CRITICAL. PROVIDE LOAD INDICATING WASHERS AT SLIP-CRITICAL CONNECTIONS.

S06. CONFORM TO AISC 360, STEEL CONSTRUCTION MANUAL AND AISC 341, SEISMIC DESIGN MANUAL.

ALUMINUM

A01. STRUCTURAL ALUMINUM: Fy=35 KSI
STRUCTURAL ALUMINUM: IS ALLOY 6061-T6 UNO

A02. DIMENSIONS:
TO CENTERLINES OF COLUMNS AND BEAMS, TOP SURFACES OF BEAMS AND TUBES AND BACKS OF CHANNELS AND ANGLES UNO.

A03. ELEVATIONS:
TOP OF ALUMINUM REFERS TO TOP SURFACE OR FLANGE OF MEMBER UNO.

A04. WHEN FILLET WELD SIZE IS NOT INDICATED, PROVIDE MAXIMUM WELD SIZE FOR THE MATERIAL THICKNESS IN ACCORDANCE WITH THE LATEST EDITION OF THE "ALUMINUM DESIGN MANUAL" BY THE ALUMINUM ASSOCIATION.

A05. ALUMINUM IN CONTACT WITH DISSIMILAR MATERIALS OR CONCRETE:
CONTACT SURFACES SHALL BE PROVIDED WITH GALVANIC SEPARATION PER SPECIFICATIONS.

POST-INSTALLED ADHESIVE ANCHORS

P01. MATERIALS:
1. ADHESIVE ANCHOR SYSTEMS SHALL BE TESTED AND ASSESSED IN ACCORDANCE WITH THE MOST RECENT EDITION OF ACI 355.4 QUALIFICATION OF POST-INSTALLED ADHESIVE ANCHORS IN CONCRETE (355.4) AND COMMENTARY. ACCEPTABLE ADHESIVE ANCHORS ARE AS FOLLOWS.
A. HILTI HIT-RE 500V3 ADHESIVE ANCHOR
B. HILTI HTY 500 ADHESIVE ANCHOR
C. AN APPROVED EQUAL TESTED AND ASSESSED IN ACCORDANCE WITH ACI 355.4 AND PROVIDING THE MINIMUM BOND STRESS VALUES BELOW THE SPECIFIED CONDITIONS. BULK-MIXED (E.G., BUCKET-MIXED) ADHESIVES ARE NOT PERMITTED.
2. ADHESIVE ANCHORS SELECTED FROM PARAGRAPH 2, ABOVE, SHALL BE SUPPLIED AS AN ENTIRE SYSTEM. THE SYSTEM SHALL INCLUDE, BUT IS NOT LIMITED TO, MANUFACTURERS PRINTED INSTALLATION INSTRUCTIONS (MPII) AS SUPPLIED WITH THE ADHESIVE, ADHESIVE CARTRIDGE, MIXING NOZZLE, EXTENSION TUBE, DISPENSER, AND ALL REQUIRED EQUIPMENT FOR PROPERLY CLEANING THE DRILLED HOLE.
3. ALL-THREADED (EYEBOLTS, THREADED STUDS, INTERNAL THREADED PARTS) TO BE USED IN ADHESIVE ANCHOR ASSEMBLIES SHALL CONFORM TO ASTM A36, A193 (GRADE B7), A307, B348 (BD), F1554 OR OTHER APPROVED ANCHOR ASSEMBLY TYPES. (STAINLESS STEEL ANCHOR RODS SHALL BE AISI TYPE 304 OR TYPE 316.) THREADS SHALL BE UNC COARSE THREADS, UNLESS NOTED OTHERWISE. COMPATIBLE NUTS AND WASHERS SHALL BE FURNISHED WITH THE ALL-THREAD ROD AND CONSIDERED PART OF THE ASSEMBLY. THE COST OF THE HARDWARE SHALL BE CONSIDERED INCIDENTAL TO THE INSTALLED ADHESIVE ANCHOR ASSEMBLY
4. NUTS, WASHERS, AND OTHER HARDWARE USED WITH AN ALL-THREADED BAR ADHESIVE ANCHOR SYSTEM OR WITH A MECHANICAL EXPANSION ANCHOR SHALL HAVE A MATERIAL OR AN ALLOY DESIGNATION THAT IS COMPATIBLE WITH THE ANCHOR ROD/ALLOY. GALVANIZED ASSEMBLIES SHALL BE HOT-DIP GALVANIZED IN ACCORDANCE WITH ASTM A153 CLASS C. ELECTROPLATE GALVANIZING IS NOT ACCEPTABLE. DISSIMILAR METAL ASSEMBLIES SHALL BE SEPARATED BY NYLON, EPDM, OR OTHER APPROVED NON-METALLIC WASHERS.
5. REINFORCING BARS TO BE USED IN ADHESIVE ANCHOR ASSEMBLIES (E.G., AS ANCHOR REINFORCEMENT) OR AS POST-INSTALLED REINFORCING SHELL CONFORM TO ASTM 1615, A706, A995, OR A1035.

P02. GENERAL INSTALLATION GUIDELINES:
6. CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH (F'_c) OF 2,500 PSI (17.2 MPA) AT THE TIME OF ADHESIVE ANCHOR INSTALLATION.
7. CONCRETE AT THE TIME OF ADHESIVE ANCHOR INSTALLATION SHALL HAVE A MINIMUM AGE OF 21 DAYS. FOR INSTALLATION OF ADHESIVE ANCHORS IN CONCRETE HAVING AN AGE LESS THAN 21 DAYS, TESTS SHALL BE CONDUCTED TO VERIFY THE PERFORMANCE OF THE PRODUCT IN ACCORDANCE WITH ACI 355.4
8. EMBEDMENT DEPTH AND MINIMUM ANCHOR PROJECTION OF THE ANCHOR ELEMENT FROM THE CONCRETE SURFACE SHALL BE SHOWN ON THE DRAWING OR DETAIL FOR THE PARTICULAR ANCHOR OR GROUP OF ANCHORS BEING INSTALLED.

P03. INSTALLATION:
9. ADHESIVE ANCHORS SHALL BE INSTALLED BY QUALIFIED PERSONNEL TRAINED TO INSTALL ADHESIVE ANCHORS IN ACCORDANCE WITH THE SPECIFICATIONS. BOTH POST-INSTALLED EXPANSION AND ADHESIVE ANCHORS SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S PRINTED INSTALLATION INSTRUCTIONS (MPII).
10. ANCHOR HOLES SHALL BE THOROUGHLY CLEANED IN ACCORDANCE WITH THE PROCEDURES SPECIFIED IN THE MPII PRIOR TO ADHESIVE INJECTION.
[COMMENT: CLEANING WITH OIL-FREE AND MOISTURE-FREE COMPRESSED AIR, USING A NOZZLE EXTENDED TO THE BOTTOM HOLE; SUPPLEMENTED WITH A BRUSH OR OTHER TOOL CLEANING TO REMOVE ALL CONCRETE DUST AND LOOSE MATERIAL; AND FOLLOWED BY A SECOND COMPRESSED AIR CLEANING.]
11. DRILLED AND CLEANED ANCHOR HOLES SHALL BE PROTECTED FROM CONTAMINATION AND WATER (E.G. RAIN) UNTIL THE ADHESIVE IS INSTALLED.
12. A DRILLED ANCHOR HOLE SHALL BE RE-CLEANED JUST PRIOR TO ADHESIVE INJECTION IF, IN THE OPINION OF THE ENGINEER, INSPECTOR, OR OWNER'S REPRESENTATIVE, THE HOLE HAS BECOME CONTAMINATED AFTER INITIAL CLEANING.
13. ANCHOR ELEMENTS TO BE INSTALLED IN THE ADHESIVE SHALL BE CLEAN, OIL-FREE, AND FREE OF LOOSE RUST, PAINT, OR OTHER COATINGS THREADS ON THE PROJECTING PORTION OF THE ANCHOR ELEMENT SHALL BE PROTECTED FROM ADHESIVE CO
14. INSTALLED ADHESIVE ANCHORS SHALL BE SECURELY FIXED IN-PLACE TO PREVENT DISPLACEMENT WHILE THE ADHESIVE CURES. UNLESS SHOWN OTHERWISE ON THE DRAWINGS, ANCHORS SHALL BE INSTALLED PERPENDICULAR TO THE CONCRETE SURFACE. ANCHORS DISPLACED BEFORE FULL ADHESIVE CURE SHALL BE CONSIDERED DAMAGED AND REPLACED AT THE CONTRACTOR'S EXPENSE.
15. POST-INSTALLED REINFORCING BARS OR ALL-THREADED BARS SHALL NOT BE BENT AFTER BEING INSTALLED UNLESS PERMITTED BY THE LICENSED DESIGN PROFESSIONAL.

GENERAL ABBREVIATIONS

ABBREVIATION	DESCRIPTION
CONC	CONCRETE
CONNX	CONNECTION
CONT	CONTINUOUS
DIA	DIAMETER
E.W.	EACH WAY
EQ	EQUAL
EXST	EXISTING
EXT	EXTERIOR
FDTN	FOUNDATION
FIN	FINISH
FTG	FOOTING
GRD	GRADE
INT	INTERIOR
NTS	NOT TO SCALE
O.C.	ON CENTER
REF	REFERENCE
REINF	REINFORCEMENT
SLP	SLOPE
STD	STANDARD
TOG	TOP OF GRATING
TYP	TYPICAL
UNO	UNLESS NOTED OTHERWISE
VIF	VERIFY

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REVISIONS

	ADDENDUM 2	

CLIENT INFORMATION

SAN ANTONIO WATER SYSTEM

STEVEN M. CLOUSE WRC
DIGESTER MIXING AND SYSTEM ENHANCEMENTS
PHASE 3

KEY PLAN

GRAPHIC SCALES

SIGNATURE

STATE OF TEXAS · GARY GENE REAVES · 85814 · REGISTERED · PROFESSIONAL ENGINEER

OCTOBER 1, 2022

Whitman, Requardt & Associates, LLP
227 North Loop, 1604 E. Suite 150, San Antonio, Texas 78232

GENERAL NOTES

DRAWING NO.
01S01

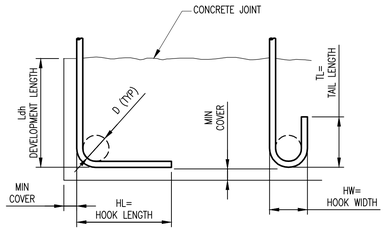
SCALE: NOT TO SCALE		
DATE: JUNE 2022	SHEET 9 OF 231	
DES: LFR	DRAWN: MAA	CHECK: GG

BAR SIZE	f'c = 5.0 fy = 60.0 ksi			
	LAP LENGTH L_d (IN.)		EMBEDMENT LENGTH (IN.)	
	TOP	OTHER	TOP	OTHER
#3	16	16	12	12
#4	19	16	15	12
#5	24	20	19	15
#6	29	23	22	18
#7	42	33	33	25
#8	48	38	37	29
#9	60	47	46	36
#10	74	57	57	44
#11	89	69	68	53

NOTES:

1. LAP LENGTHS SHOWN ARE FOR CLASS "B" TENSION SPLICES.
2. LAP LENGTHS AND EMBEDMENTS SHOWN ARE FOR BARS SPACED LATERALLY ≥ FIVE TIMES THE BAR DIAMETER (CENTER TO CENTER) AND FOR MINIMUM COVER IN ACCORDANCE WITH ACI 315-05.
3. IF SPACING IS < 5 TIMES BAR DIAMETER (CENTER TO CENTER), INCREASE LAP LENGTH AND EMBEDMENT PER ACI-318.
4. TOP REINFORCING IS HORIZONTAL STEEL SO PLACED THAT MORE THAN 12" OF CONCRETE IS CAST IN THE MEMBER BELOW THE REINFORCING.

1 LAP LENGTHS
01S02 SCALE: NOT TO SCALE

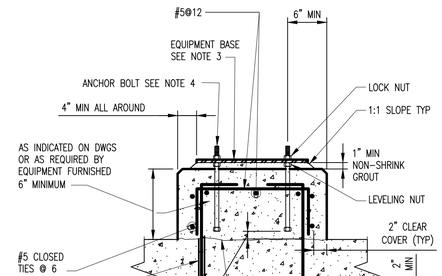


90 DEG STD HOOK — 180 DEG STD HOOK

BAR SIZE GRADE 60	HL	HW	TL	D	f'c = 5.0 Ldh *
#3	6"	3"	3"	2 1/4"	6"
#4	8"	4"	4 1/2"	3"	7"
#5	10"	5"	5"	3 3/4"	9"
#6	1'-0"	6"	6"	4 1/2"	10"
#7	1'-2"	7"	7"	5 1/4"	12"
#8	1'-4"	8"	8"	6"	14"
#9	1'-7"	11 3/4"	10 1/2"	9 1/2"	15"
#10	1'-10"	1'-1 1/4"	11 1/2"	10 3/4"	17"
#11	2'-0"	1'-2 3/4"	1'-1"	1'-0"	19"

* COMPLYING WITH MINIMUM COVER REQUIREMENTS OF ACI 318, 12.5.3. OTHERWISE Ldh MUST BE RE-CALCULATED

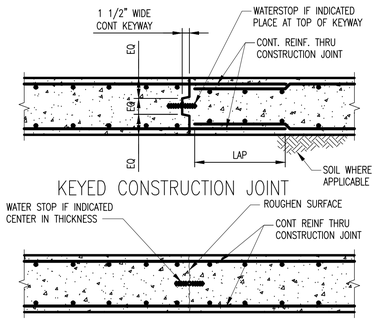
2 REINFORCING HOOK SCHEDULE
01S02 SCALE: NOT TO SCALE



NOTES:

1. FOR NEW EQUIPMENT BASES ON EXISTING SLABS, DRILL INTO EXISTING SLAB TO DEVELOPMENT DEPTH AT 12" CENTERS AROUND PERIMETER OF EQUIPMENT BASE AND SET #5 HOOKED DOWELS IN EPOXY GROUT
2. FOR EQUIPMENT BASES ON NEW SLABS, AT CONTRACTOR OPTION PROVIDE #5 DOWELS HAVING TWO HOOKED ENDS AT 12" CENTERS AROUND PERIMETER OF EQUIPMENT BASE.
3. EQUIPMENT BASE DIMENSIONS SHALL BE AS REQUIRED BY THE APPROVED SHOP DRAWINGS.
4. ANCHOR BOLTS AS RECOMMENDED BY THE EQUIPMENT MANUFACTURER. BOLTS SHALL BE HELD IN POSITION WITH A TEMPLATE WHILE EQUIPMENT BASE IS BEING CAST. COORDINATE WHETHER BOLTS SHALL BE CAST IN SLAB BELOW DUE TO BOLT LENGTH.
5. EQUIPMENT BASES SHALL BE INSTALLED LEVEL. TOLERANCE IS 1/16".

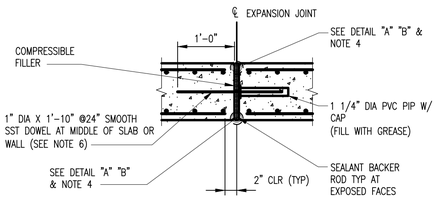
3 EQUIPMENT SUPPORT PAD
01S02 SCALE: NOT TO SCALE



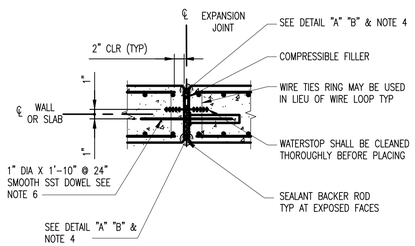
NOTES:

1. ONLY WATER BEARING SLABS OR WALLS REQUIRE WATERSTOP.
2. JOINT MAY BE FORMED WITH 1 /2" CHAMFER STRIPS BACK-TO-BACK AT WALLS, CONTRACTOR'S OPTION.
3. PROVIDE CONSTRUCTION JOINT AS INDICATED OR SPECIFIED IN THE CONTRACT DOCUMENTS, OR AS PERMITTED BY THE ENGINEER.
4. SEE SPECIFICATION FOR REQUIREMENT TO TIE WATERSTOPS IN PLACE TO PREVENT MOVEMENT OR FOLDING OVER.

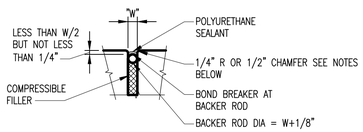
4 CONSTRUCTION JOINT (CJ)
01S02 SCALE: NOT TO SCALE



NON-WATER BEARING SLAB OR WALL



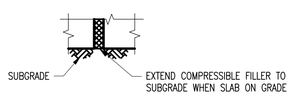
WATER BEARING SLAB OR WALL



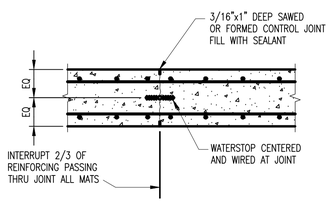
DETAIL "A" EXPOSED FACE

NOTES:

1. FOR WALLS, FORM ALL JOINT EDGES AT 1 /2" CHAMFER.
2. FOR UNDER SIDE OF EXPOSED SLABS, FORM JOINT EDGES AT 1 /2" CHAMFER.
3. FOR SLABS, PROVIDE 1/4" RADIUS TOOLED EDGES AT TOP SURFACE
4. USE DETAIL "B" AT UNDERSIDE OF SLABS ON GRADE ONLY. USE DETAIL "A" AT ALL OTHER LOCATIONS.
5. "W" = 1" WIDE UNLESS OTHERWISE INDICATED ON THE DRAWINGS.
6. SMOOTH DOWEL AND PVC ASSEMBLY AT EXPANSION JOINTS SHALL USE GREENSTREAK "SPEED DOWEL" NO. PSD1 2/#7TX (BASE CODE PSD/#7BX).



DETAIL "B" SOIL SIDE



NOTES:

1. ONLY WATER BEARING SLABS OR WALLS REQUIRE WATERSTOP.
2. JOINT MAY BE FORMED WITH 1 /2" CHAMFER STRIPS BACK-TO-BACK AT WALLS, CONTRACTOR'S OPTION.
3. TO BE USED ONLY WHERE CALLED FROM IN THE CONTRACT DOCUMENTS, OR AS PERMITTED BY THE ENGINEER.

5 PARTIAL MOVEMENT CONTROL JOINT (PCLJ)
01S02 SCALE: NOT TO SCALE

6 EXPANSION JOINTS WITH SEALANT (EJ)
01S02 SCALE: NOT TO SCALE

REVISIONS		
	ADDENDUM 2	

CLIENT INFORMATION

SAN ANTONIO WATER SYSTEM

STEVEN M. CLOUSE WRC
DIGESTER MIXING AND SYSTEM ENHANCEMENTS
PHASE 3

KEY PLAN

GRAPHIC SCALES

SIGNATURE

STATE OF TEXAS · LICENSED PROFESSIONAL ENGINEER · 85852 · REGISTERED · 10-01-2022

OCTOBER 1, 2022

Whitman, Requardt & Associates, LLP
227 North Loop, 1604 E. Suite 150, San Antonio, Texas 78232

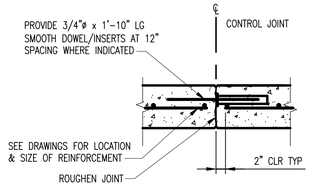
STRUCTURAL STANDARD DETAILS 1

DRAWING NO.

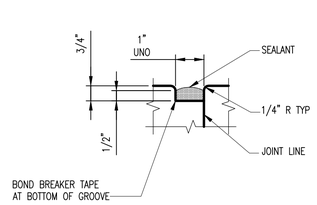
01S02

GE Reaves Engineering
P.O. Box 791793
San Antonio, Tx. 78279-1793
(210) 490-4506 Fax 490-4812
Texas Registration: F-4861
www.gereaveseng.com

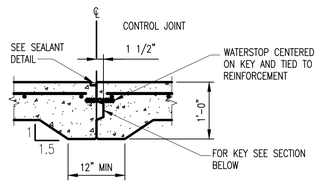
SCALE: NOT TO SCALE		
DATE: JUNE 2022	SHEET 10 OF 231	
DES: LFR	DRAWN: MAA	CHECK: GG



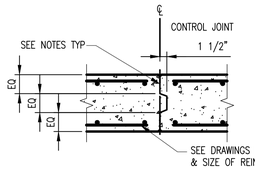
NON-WATER BEARING WALL OR SLAB LESS THAN 10" THICK



SEALANT DETAIL



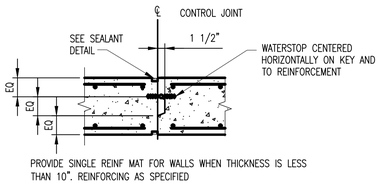
WATER BEARING SLAB LESS THAN 12" THICK



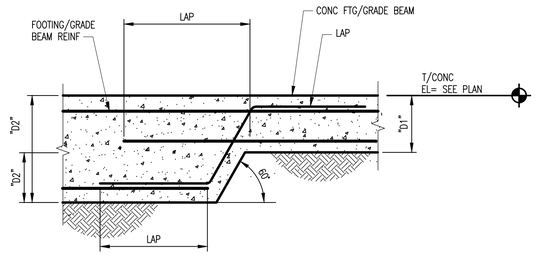
NON-WATER BEARING SLAB OR WALL 10" THICK OR GREAT

NOTES:

1. COAT CONCRETE JOINT SURFACES WITH BOND BREAKER COMPOUND.
2. FOR WALLS, FORM ALL JOINT EDGES AT 1/2" CHAMFER.
3. FOR SLABS, EDGE TOP OF EXPOSED SLAB JOINT AT 1/4" RADIUS.
4. FOR UNDERSIDE OF EXPOSED SLABS, FORM JOINT EDGES AT 1/2" CHAMFER.



WATER BEARING SLAB OR WALL



NOTES:

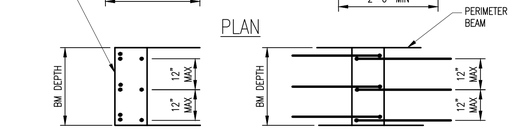
1. FOR FOOTING ELEVATION DEPTH AND REINFORCING, SEE PLAN AND OTHER STANDARD COMMON DETAILS.
2. MAXIMUM INDIVIDUAL STEP = 2'-0" ("D2" – "D1")

1 01S03 CONTROL JOINT (CLJ)

SCALE: NOT TO SCALE

TYPICAL BOTTOM STEP FOOTING/GRADE BEAM

2 01S03 SCALE: NOT TO SCALE

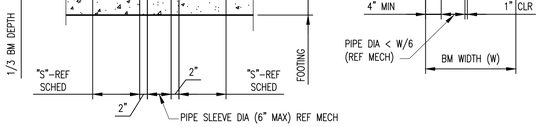


PLAN

SECTION A SECTION B

PERIMETER BEAM REINFORCEMENT AT CORNER & INTERSECTIONS

3 01S03 SCALE: NOT TO SCALE

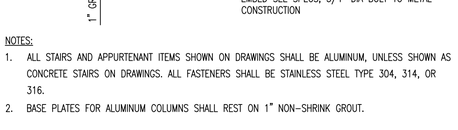


HORIZONTAL

VERTICAL

PENETRATION AT A GRADE BEAM

4 01S03 SCALE: NOT TO SCALE

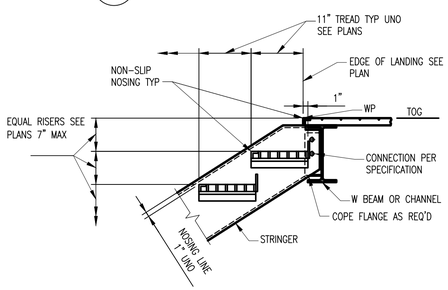


NOTES:

1. ALL STAIRS AND APPURTENANT ITEMS SHOWN ON DRAWINGS SHALL BE ALUMINUM, UNLESS SHOWN AS CONCRETE STAIRS ON DRAWINGS. ALL FASTENERS SHALL BE STAINLESS STEEL TYPE 304, 314, OR 316.
2. BASE PLATES FOR ALUMINUM COLUMNS SHALL REST ON 1" NON-SHRINK GROUT.

STAIR BOTTOM CONNECTION

5 01S03 SCALE: NOT TO SCALE



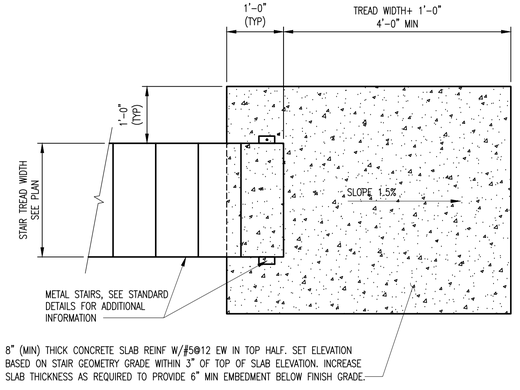
CONNECTION TO BEAM

NOTES:

1. SEE SPECS AND DRAWINGS FOR MATERIAL TYPE.
2. FASTENER MATERIAL SHALL MATCH STAIR MATERIAL TYPE EXCEPT THAT ALUMINUM STAIRS SHALL USE SST TYPE 316 FASTENERS.
3. SEE SPECIFICATIONS FOR DESIGN REQUIREMENTS.

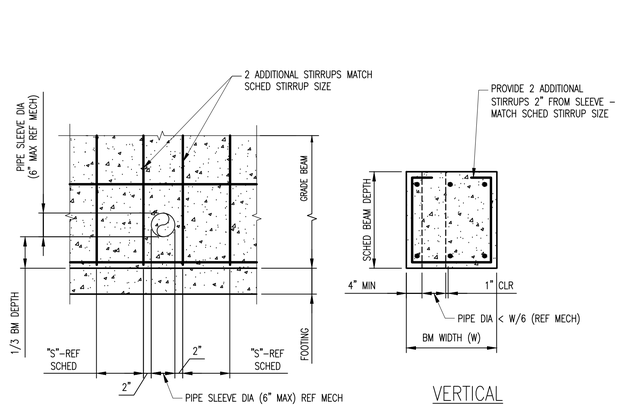
STAIR TOP CONNECTION

6 01S03 SCALE: NOT TO SCALE



TYPICAL CONCRETE GRADE-SUPPORTED STAIR LANDING PLAN W/ A METAL STAIR

7 01S03 SCALE: NOT TO SCALE



HORIZONTAL

VERTICAL

PENETRATION AT A GRADE BEAM

8 01S03 SCALE: NOT TO SCALE

GE Reaves Engineering
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San Antonio, Tx. 78279-1793
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Texas Registration: F-4861
www.gereaveseng.com

REVISIONS		
	ADDENDUM 2	

CLIENT INFORMATION

SAN ANTONIO WATER SYSTEM

STEVEN M. CLOUSE WRC DIGESTER MIXING AND SYSTEM ENHANCEMENTS PHASE 3

KEY PLAN

GRAPHIC SCALES

SIGNATURE

STATE OF TEXAS · LUCAS FERNANDO ALVAREZ · 85554 · REGISTERED PROFESSIONAL ENGINEER

OCTOBER 1, 2022

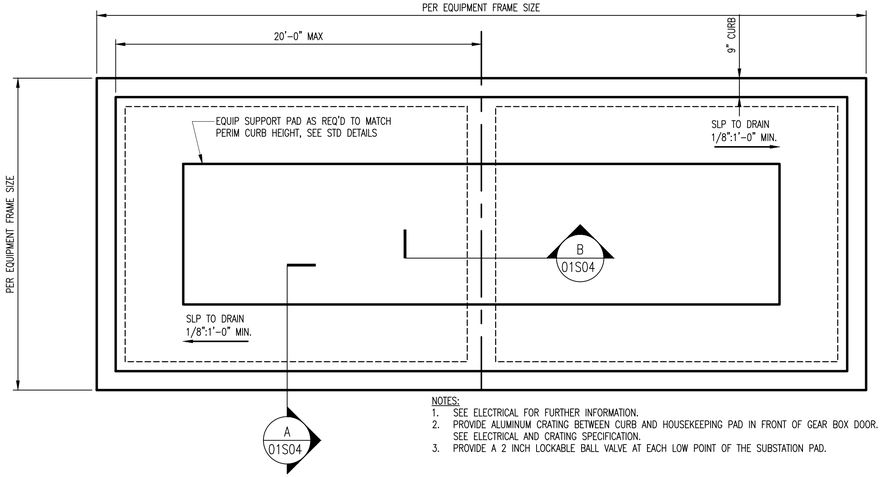
Whitman, Requardt & Associates, LLP
227 North Loop, 1604 E. Suite 150, San Antonio, Texas 78232

STRUCTURAL STANDARD DETAILS 2

DRAWING NO.

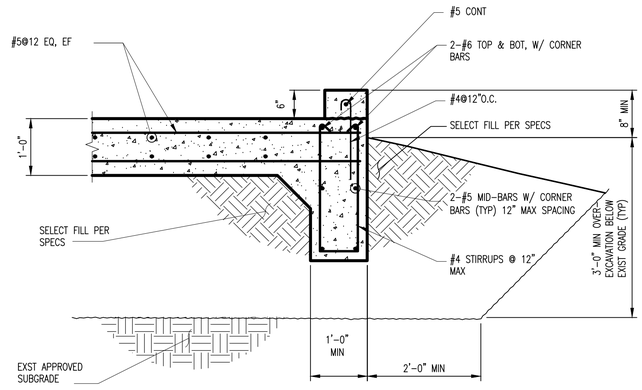
01S03

SCALE: NOT TO SCALE		
DATE: JUNE 2022	SHEET 11 OF 231	
DES: LFR	DRAWN: MAA	CHECK: GG



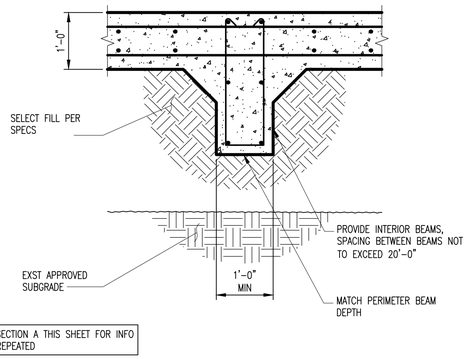
1 / 01S04 TYPICAL ELECTRICAL SUB STATION PAD

SCALE: NOT TO SCALE



A / 01S04 TYPICAL PAD EDGE SECTION

SCALE: NOT TO SCALE



SEE SECTION A THIS SHEET FOR INFO NOT REPEATED

B / 01S04 TYPICAL PAD INTERIOR BM SECTION

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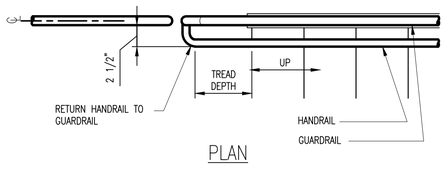
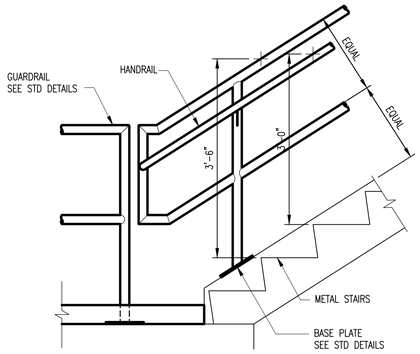


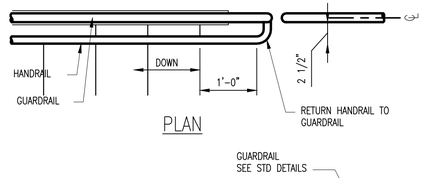
PLAN



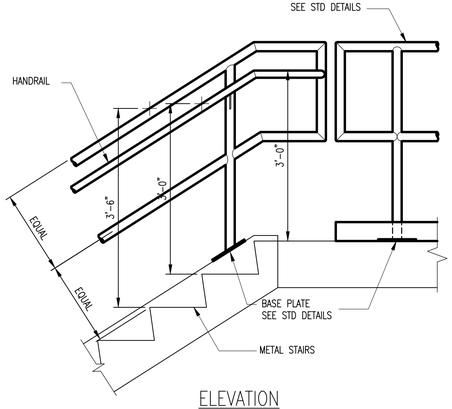
ELEVATION

2 / 01S04 STAIR RAIL (LOWER)

SCALE: NOT TO SCALE



PLAN



ELEVATION

3 / 01S04 STAIR RAIL (UPPER)

SCALE: NOT TO SCALE

GE Reaves Engineering
P.O. Box 791793
San Antonio, Tx. 78279-1793
(210) 490-4506 Fax 490-4812
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www.gereaveseng.com

REVISIONS		
	ADDENDUM 2	

CLIENT INFORMATION

SAN ANTONIO WATER SYSTEM

STEVEN M. CLOUSE WRC
DIGESTER MIXING AND SYSTEM ENHANCEMENTS
PHASE 3

KEY PLAN

GRAPHIC SCALES

SIGNATURE

STATE OF TEXAS · JAMES A. ALLEN · 100564 · REGISTERED PROFESSIONAL ENGINEER

OCTOBER 1, 2022

Whitman, Requardt & Associates, LLP
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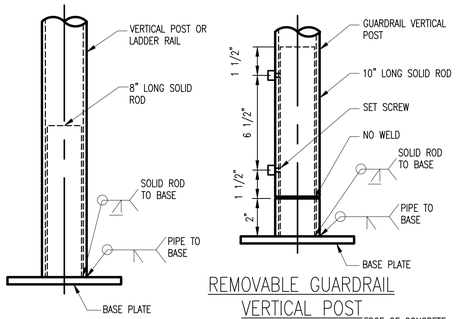
STRUCTURAL STANDARD DETAILS 3

DRAWING NO.

01S04

SCALE: NOT TO SCALE		
DATE: JUNE 2022	SHEET 12 OF 231	
DES: LFR	DRAWN: MAA	CHECK: GG



TYPICAL VERTICAL POST

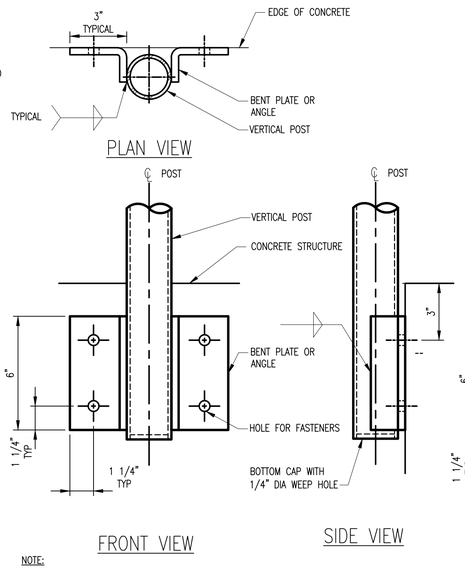
REMOVABLE GUARDRAIL VERTICAL POST

BASE PLATE FOR MOUNTING TO METAL STRUCTURE

BASE PLATE FOR MOUNTING TO CONCRETE

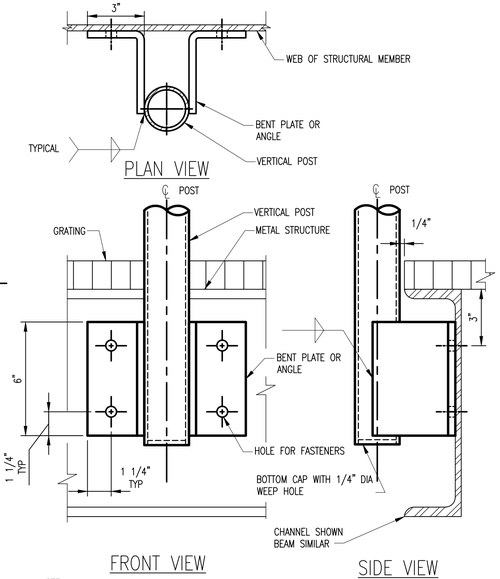
NOTE:

1. TOEBOARD NOT SHOWN.



NOTE:

1. TOEBOARD NOT SHOWN.



NOTE:

1. TOEBOARD NOT SHOWN.

ALUMINUM VERTICAL POST BASE

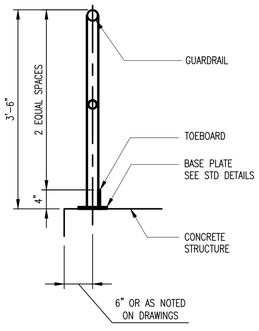
1 / 01S05 SCALE: NOT TO SCALE

ALUMINUM GUARDRAIL POST DETAIL

2 / 01S05 SCALE: NOT TO SCALE

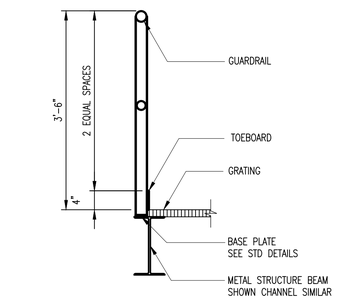
ALUMINUM GUARDRAIL POST DETAIL

3 / 01S05 SCALE: NOT TO SCALE



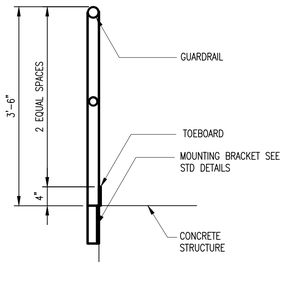
GUARDRAIL TO CONCRETE SLAB (LANDING)

4 / 01S05 SCALE: NOT TO SCALE



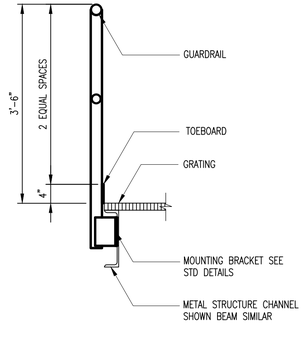
GUARDRAIL TO STEEL BEAM (LANDING)

5 / 01S05 SCALE: NOT TO SCALE



GUARDRAIL TO CONCRETE SLAB (STAIRS)

6 / 01S05 SCALE: NOT TO SCALE



GUARDRAIL TO STEEL BEAM (STAIRS)

7 / 01S05 SCALE: NOT TO SCALE

GE Reaves Engineering
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(210) 490-4506 Fax 490-4812
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REVISIONS		
	ADDENDUM 2	

CLIENT INFORMATION

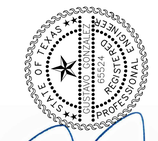
SAN ANTONIO WATER SYSTEM

STEVEN M. CLOUSE WRC
DIGESTER MIXING AND SYSTEM ENHANCEMENTS
PHASE 3

KEY PLAN

GRAPHIC SCALES

SIGNATURE



OCTOBER 1, 2022

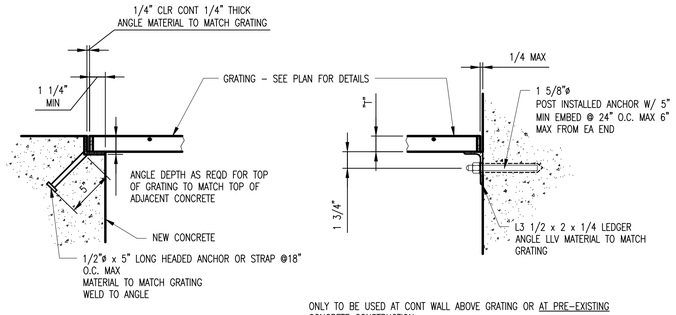
Whitman, Requardt & Associates, LLP
227 North Loop, 1604 E. Suite 150, San Antonio, Texas 78232

STRUCTURAL STANDARD DETAILS 4

DRAWING NO.

01S05

SCALE: NOT TO SCALE		
DATE: JUNE 2022	SHEET 13 OF 231	
DES: LFR	DRAWN: MAA	CHECK: GG



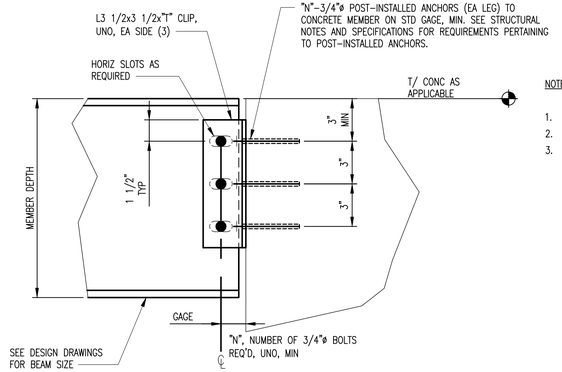
ONLY TO BE USED AT CONT WALL ABOVE GRATING OR AT PRE-EXISTING CONCRETE CONSTRUCTION

NOTES:

1. GRATING SIZE PER CONTRACT DOCUMENTS.
2. ALL ENDS OR OPENINGS SHALL BE BANDED, SEE SPECIFICATION.
3. ATTACH GRATING TO ALL SUPPORT ANGLES WITH BOLTED CLIPS, SPACED AT 2'-0" MAX CENTERS.
4. PROVIDE DISSIMILAR MATERIAL PROTECTION FOR ALUMINUM IN CONTACT WITH CONCRETE PER SPECS. SPECIFICATION.

1 GRATING AND SUPPORT DETAIL

01S06 SCALE: NOT TO SCALE



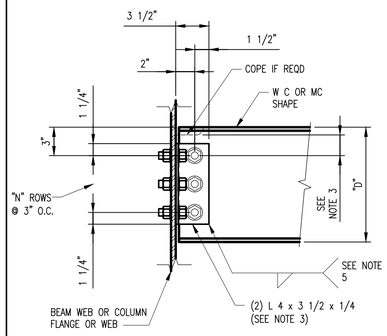
NOTES:

1. * REDUCE BY ONE BOLT AS REQUIRED FOR DEEP COPES.
2. ** ONE ROW WITH 2 BOLTS EACH LEG.
3. DBL-SIDE CONNECTIONS SHALL BE REQUIRED EXCEPT WHERE SPECIFICALLY SHOWN OR PERMITTED TO BE SINGLE-SIDED. CONNECTION ANGLES SHALL BE 1/8" IN (MIN) GREATER IN THICKNESS THAN WEB OF CONNECTED MEMBER FOR SINGLE SIDE CONNECTIONS.

MEMBER DEPTH	"N"	"T" (3)
4", 6"	1 ** (1)	1/4
8" THRU 10"	2	1/4

2 BEAM TO CONCRETE CONNECTION

01S06 SCALE: NOT TO SCALE



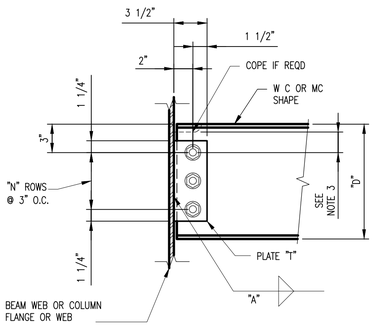
STANDARD BOLTED CONNECTION SCHEDULE		
NOMINAL BEAM SIZE "D"	NUMBER OF BOLT ROWS "N"	WELD SIZE
W8	2	3/16
W10	2	3/16

NOTES:

1. ALL BOLTS SHALL BE 3/4" DIA A325-N UNLESS NOTED OTHERWISE.
2. PROVIDE MINIMUM NUMBER OF BOLT ROWS "N" SHOWN AS THE TYPICAL CONN. INCREASE NUMBER OF ROWS AND / OR BOLT DIA. IF INDICATED ON PLANS.
3. MINIMUM DISTANCE FROM ℄ OF TOP BOLT TO A COPE SHALL BE 1 1/2". WHERE DEEP COPES ARE REQD, INCREASE DISTANCE FROM TOP OF BEAM TO ℄ OF TOP BOLT.
4. USE STANDARD OR SHORT HORIZONTAL SLOTTED HOLES AS REQUIRED.
5. WELD DOUBLE ANGLES TO BEAM WEB IN LIEU OF BOLTING AT CONTRACTORS OPTION.
6. IN THE CASE OF ALUMINUM CONSTRUCTION, CONNECTIONS SHALL BE ALL-BOLTED AND BOLTS SHALL BE ALUMINUM OR STAINLESS STEEL; SAME NUMBER AND DIAMETER AS INDICATED.

3 TYPICAL BEAM CONNECTION

01S06 SCALE: NOT TO SCALE



PERPENDICULAR CONNECTION

SINGLE PLATE BEAM CONNECTION SCHEDULE 3/4" DIA BOLTS			
NOMINAL BEAM SIZE "D"	NUMBER OF BOLT ROWS "N"	PLATE THICKNESS "T"	WELD SIZE "A"
W8	2	5/16"	1/4"
W10	2	5/16"	1/4"

NOTES:

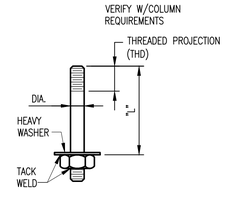
1. ALL BOLTS SHALL BE 3/4" DIA A325-N UNLESS NOTED OTHERWISE
2. PROVIDE MINIMUM NUMBER OF BOLT ROWS "N" SHOWN AS THE TYPICAL CONN. INCREASE NUMBER OF ROWS AND / OR BOLT DIA IF INDICATED ON PLANS.
3. MIN. DISTANCE FROM ℄ OF TOP BOLT TO A COPE SHALL BE 1 1/2". WHERE DEEP COPES ARE REQD, INCREASE DISTANCE FROM TOP OF BEAM TO ℄ OF TOP BOLT.
4. USE STANDARD OR SHORT HORIZONTAL SLOTTED HOLES AS REQUIRED.
5. IN THE CASE OF ALUMINUM CONSTRUCTION, WELD SIZE SHALL BE 2 TIMES THE SIZE SHOWN, AND BOLTS SHALL BE ALUMINUM OR STAINLESS STEEL, SAME NUMBER AND DIAMETER AS INDICATED.

5 SINGLE PLATE BEAM CONNECTION

01S06 SCALE: NOT TO SCALE

ANCHOR BOLT SCHEDULE

MK	DIA (IN)	THD (IN) *	L
1	3/4	5	1'-2"
2	3/4	5	2'-0"
3	3/4	5	2'-6"
4	3/4	5	3'-0"
5	1	6	3'-6"



NOTES:

1. ALL BOLTS SHALL BE STAINLESS STEEL, UNO.
2. PROVIDE ANTI-SEIZE COMPOUND ON THREADS.
3. REFERENCE SPECS FOR ANCHOR BOLT MATERIAL.

4 ANCHOR BOLT DETAIL

01S06 SCALE: NOT TO SCALE

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CLIENT INFORMATION

SAN ANTONIO WATER SYSTEM

STEVEN M. CLOUSE WRC
DIGESTER MIXING AND SYSTEM ENHANCEMENTS
PHASE 3

KEY PLAN

GRAPHIC SCALES

SIGNATURE

OCTOBER 1, 2022

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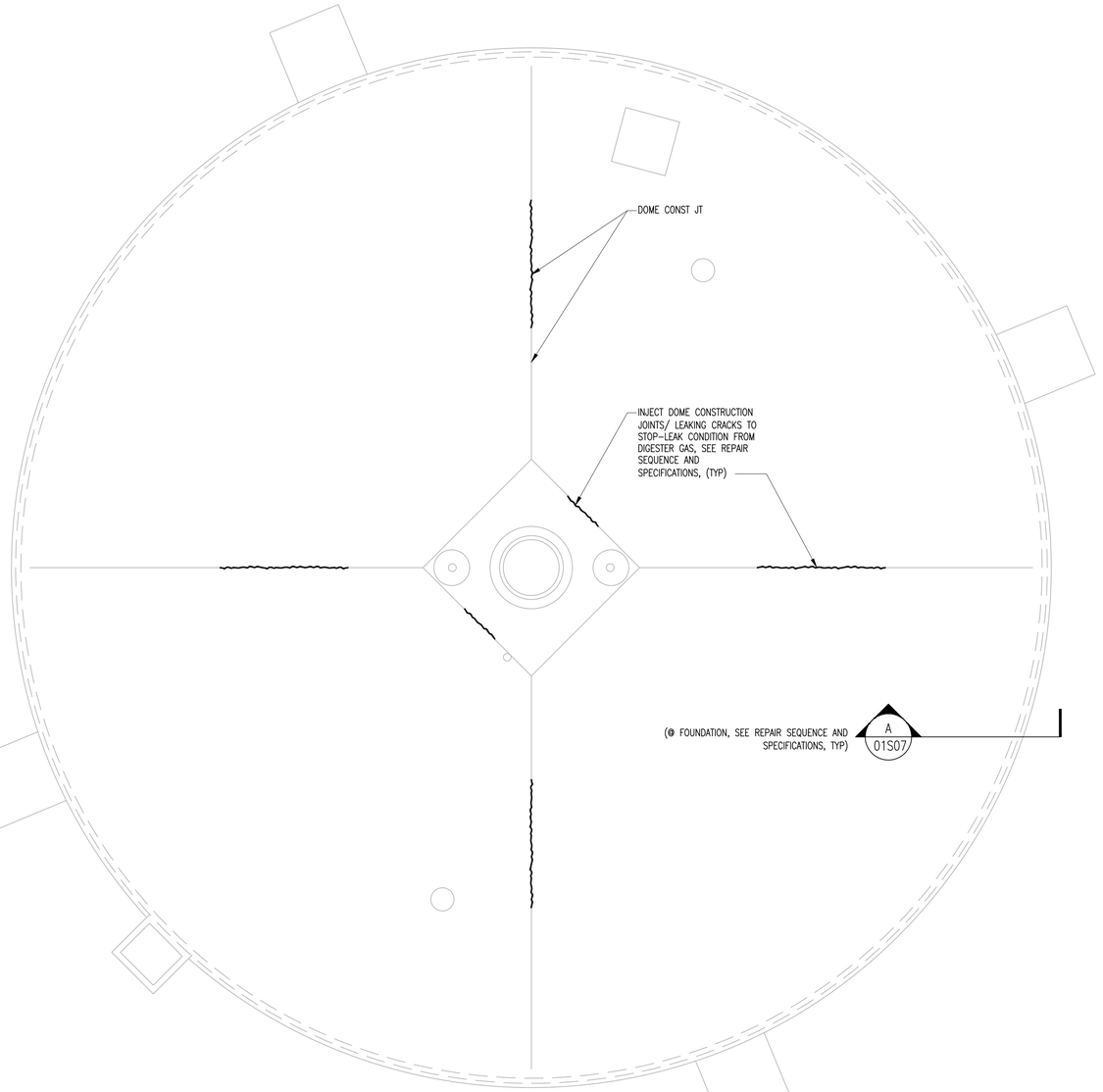
STRUCTURAL STANDARD DETAILS 5

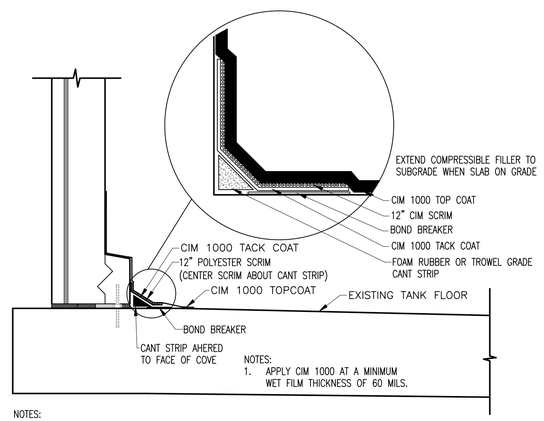
DRAWING NO.

01S06

SCALE: NOT TO SCALE		
DATE: JUNE 2022	SHEET 14 OF 231	
DES: LFR	DRAWN: MAA	CHECK: GG



1 / 01S07 EXISTING DIGESTER REHABILITATION PLAN (TYPICAL)
SCALE: 1/8"=1'-0"



NOTES:

1. THE FLOOR-WALL CONNECTION WORK SHALL BE DESIGNED AND INSTALLED BY THE QUALIFIED TANK CONTRACTOR AS SPECIFIED. TO ENSURE THAT ALL WORK IS PERFORMED PER CURRENT STANDARDS, THE TANK CONTRACTOR SHALL BE RESPONSIBLE FOR THE COORDINATION, DETAILING, AND INSTALLATION OF THE FLOOR-WALL JOINT REPAIR. THE USE OF THE TANK CONTRACTOR SHALL IN NO WAY RELIEVE THE GENERAL CONTRACTOR OF THE ULTIMATE RESPONSIBILITY OF THE WORK.
2. DRAWING IS NOT TO SCALE. FINAL DIMENSIONS SHALL BE SUBMITTED BY THE TANK CONTRACTOR.

A / 01S07 SECTION A
SCALE: 1 1/2"=1'-0"
REF: 1/01S07

GENERAL SHEET NOTES

1. DIGESTERS AND SLUDGE TANK ARE PRE-STRESSED CONCRETE TANKS, CONTRACTOR SHALL NOT MAKE ANY PENETRATIONS TO TANKS UNDER ANY CIRCUMSTANCES, EXCEPT WHERE NOTED.
2. CONTRACTOR SHALL REVIEW TANK CONSTRUCTION SHOP DRAWINGS AND NOT EXCEED LOADING FOR DOME.
3. CONTRACTOR SHALL COMPLETELY CLEAN TANKS OF ALL CONTENTS BEFORE PERFORMING ANY DEMOLITION WORK. SEE SPECIFICATION 11382.
4. TANKS ARE PERMIT REQUIRED CONFINED SPACES. ANY WORK INSIDE THEM MUST BE PERFORMED ACCORDING TO OSHA STANDARD, 29 CFR 1910.146.
5. THE SHEET SHOWS WORK TO BE DONE ON DIGESTER 6 (NOTE: ELECTRICAL BUILDING AND DIGESTER MIXING PUMP PAD NOT SHOWN, SEE SHEET 01S09 FOR MORE DETAILS).
6. REFERENCE TO THIS SHEET FOR SIMILAR WORK DONE ON DIGESTER 5,7, AND 8.
7. SEE BID FORM FOR BASE BID QUANTITIES RELATED TO FOUNDATION REPAIR, CRACK INJECTION, CONCRETE SURFACE REPAIR, AND LINER REPAIR.

REPAIR SEQUENCE

1. WITH THE TANK IN OPERATION, MOP THE TOP SURFACE OF THE DOME WITH A SOAP/WATER SOLUTION TO ASCERTAIN THE LOCATION AND EXTENT OF DOME CRACKS THAT LEAK DIGESTER GAS. MAP THE EXTENT OF CRACKS IDENTIFIED IN THIS STEP. CONTRACTOR TO SUBMIT SURVEY OF DEFECTS FOR REVIEW AND APPROVAL.
2. REMOVE SLUDGE AND CLEAN INSIDE OF TANK PER CONTRACT DOCUMENTS.
3. ACCESS THE INSIDE OF THE CLEANED TANK AND VISUALLY OBSERVE THE CONDITION OF THE PVC DOME AND WALL LINER FROM THE LEVEL OF THE FOUNDATION. COORDINATE WITH THE OWNER AND OWNER'S REPRESENTATIVE ANY AREAS OF THE DOME OR WALL LINER THAT SHOW SIGNIFICANT DETERIORATION AND REQUIRE LINER REPAIR. SEE SPECIFICATIONS SECTION 13219.
4. INSPECT THE BOTTOM OF WALL JOINT ALONG THE INSIDE FOUNDATION CURB. COORDINATE EXTENT OF INJECTION ALONG THIS JOINT WITH THE OWNER AND OWNER'S REPRESENTATIVE. SEE SPECIFICATIONS SECTION 03003.
5. PERFORM INJECTION ALONG THE BOTTOM OF WALL/CURB JOINT AND AT THE MAPPED CRACKS/JOINTS IN THE TANK DOME.
6. THE OWNER, OWNER'S REPRESENTATIVE, AND DIGESTER REPAIR SUBCONTRACTOR WILL ACCESS THE EMPTY TANK USING DRONES PROVIDED BY THE CONTRACTOR. AN INSPECTION WILL BE PERFORMED BY DRONE TO COORDINATE/MAP AREAS OF THE DOME LINER WHERE REPAIRS WILL BE NECESSARY. DURING THIS STEP, OBSERVE AND APPROVE THE PERFORMANCE OF INJECTION ALONG THE BOTTOM OF WALL. SEE SPECIFICATIONS SECTION 11382.
7. PRESSURIZE THE TANK TO FULL OPERATING PRESSURE, AND MOP THE DIGESTER ROOF WITH A SOAP/WATER MIXTURE TO DETERMINE ANY ADDITIONAL LEAKS IN NEED OF INJECTION OR REINJECTION.
8. TRANSFER THE NPW OUT OF THE TANK PER CONTRACT DOCUMENTS.
9. SCAFFOLD AS REQUIRED TO PERFORM DIGESTER LINER REPAIRS, CONCRETE SURFACE REPAIRS, AND BALANCE OF WORK TO BE DONE INSIDE THE TANKS. COMPLETE ANY ADDITIONAL INJECTION/RE-INJECTION DURING THIS STEP AS DETERMINED IN STEP 6. SEE SPECIFICATION 03003.
10. ONCE ALL WORK HAS BEEN COMPLETED, RETURN TANK/DIGESTER TO SERVICE AND PRESSURIZE TO SERVICE PRESSURE. MOP DOME ROOF WITH SOAP/WATER MIXTURE TO VERIFY NO ADDITIONAL LEAKS REQUIRE INJECTION OR REINJECTION. ALSO VERIFY NO LEAKS ALONG THE FOUNDATION JOINT. AT CONTRACTOR'S OPTION, THIS STEP MAY BE PERFORMED WITH NPW SUPPLIED BY THE OWNER IN CASE A FURTHER CYCLE OF DRAINING AND INJECTION BECOMES REQUIRED AND TO PRECLUDE CLEANING THE TANK BETWEEN CYCLES. STEP 9 SHALL BE REPEATED UNTIL THE DIGESTER IS VERIFIED TO BE FREE OF LEAKS AT DESIGN OPERATING PRESSURE.

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CLIENT INFORMATION

SAN ANTONIO WATER SYSTEM

STEVEN M. CLOUSE WRC
DIGESTER MIXING AND SYSTEM ENHANCEMENTS
PHASE 3

KEY PLAN

GRAPHIC SCALES

0 4' 8' 16'
SCALE: 1/8" = 1'-0"

0 4" 8" 16"
SCALE: 1 1/2" = 1'-0"

SIGNATURE

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OCTOBER 1, 2022

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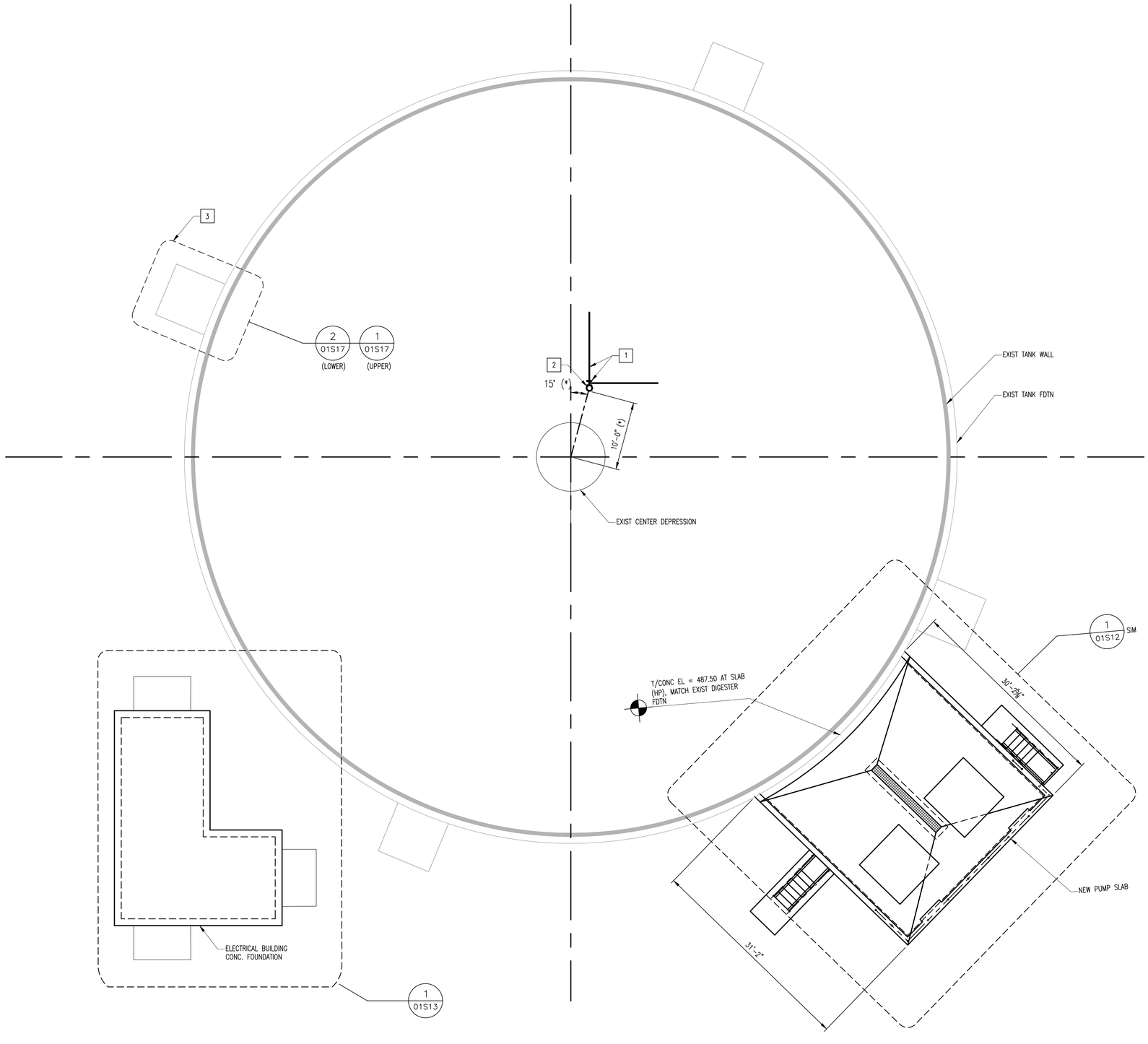
TANK REHABILITATION

DRAWING NO.
01S07

SCALE: VARIES		
DATE: JUNE 2022		SHEET 15 OF 231
DES: LFR	DRAWN: MAA	CHECK: GG



1 / 01S08 DIGESTER No.5 LOWER PLAN

SCALE: 1/8"=1'-0"

GENERAL SHEET NOTES

1. SEE STANDARDS DRAWINGS FOR GENERAL STRUCTURAL NOTES AND STANDARD DETAILS.
2. CONTRACTOR SHALL REVIEW EXISTING FACILITY DRAWINGS FOR ALL DETAILS PERTAINING TO THE EXISTING PLANT, INCLUDING EXISTING SHOP DRAWINGS PERTAINING TO THE EXISTING DIGESTERS. CONTRACTOR TO VERIFY ALL DIMENSIONS SHOWN WITH EXISTING CONSTRUCTION AND REPORT ANY DISCREPANCIES TO THE ENGINEER.
3. DIMENSIONS INDICATED BY (*) SHALL BE VERIFIED BY THE CONTRACTOR BASED ON ACTUAL EQUIPMENT OR COMPONENTS SUPPLIED.
4. SEE PROCESS/MECHANICAL DOCUMENTS FOR ALL PIPE SIZES, LOCATIONS, AND PENETRATION DETAILS.
5. SEE PROCESS/MECHANICAL DRAWINGS FOR EQUIPMENT DETAILS, INCLUDING CONCRETE PAD LOCATION AND DIMENSIONS. SEE STRUCTURAL STANDARD DETAILS FOR CONCRETE PAD DETAILS.
6. SEE MECHANICAL DRAWINGS FOR INTERIOR AND EXTERIOR PIPE SUPPORTS.
7. SEE CIVIL DRAWINGS FOR ALL EXTERIOR PAVING AND FLATWORK, AND LOCATIONS OF FOUNDATIONS.
8. SEE ELECTRICAL DRAWINGS FOR DUCTBANK SPECS AND DETAILS.
9. FORMED CONSTRUCTION JOINTS SHALL BE KEYED, CONSTRUCTION JOINTS AT UNFORMED SURFACES SHALL BE ROUGHENED, SEE STANDARD DETAILS.
10. ALL PIPING BELOW THE FOUNDATION SHALL BE ENCASED PER STANDARD DETAILS TO 5 FT BEYOND THE FOUNDATION LINE.
11. DESIGN NET ALLOWABLE SOIL BEARING PRESSURE: 2000 PSF.

GENERAL SHEET NOTES – DEMOLITION

1. DEMOLISH EXTERNAL MIXER DRIVER, PROPELLER ASSEMBLY, GUARDRAILS TO NEAREST SUPPORT, AND ALUMINUM GRATING.
2. DEMOLISH CENTER SLUDGE MIXER MOTOR AND IMPELLER. MIXER TUBE TO BE COMPLETELY REMOVED FROM DIGESTER. CONTRACTOR TO PROVIDE 3/8" 316SST PLATE WITH STIFFENER PLATES. MATCH EXISTING BOLT OPENING AND MOUNT OVER EXISTING MIXER TUBE MOUNTING PLATE.
3. DEMOLISH SLUDGE MIXER DISCHARGE TO FLANGE.
4. DEMOLISH 30" MANWAY TO FLANGE.
5. DEMOLISH SLUDGE MIXER INLET PIPING TO FLANGE
6. DEMOLISH PRESSURE/VACUUM RELIEF AND THREE WAY VALVE ASSEMBLIES.

NOTE: FOR MORE DETAILS SEE PROCESS MECHANICAL DRAWINGS.

X SHEET KEYNOTES

1. EXISTING STAINLESS STEEL COLUMN AND BRACE.
2. EXISTING 10" SAMPLE TUBE. CONTRACTOR SHALL VERIFY FIELD LOCATION.

WORK DONE ON PIPE AND CONDUIT SUPPORT. SEE DETAIL 1/01S17 AND 2/01S17.

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CLIENT INFORMATION

SAN ANTONIO WATER SYSTEM

STEVEN M. CLOUSE WRC DIGESTER MIXING AND SYSTEM ENHANCEMENTS PHASE 3

KEY PLAN

GRAPHIC SCALES

0 4' 8' 16'

SCALE: 1/8" = 1'-0"

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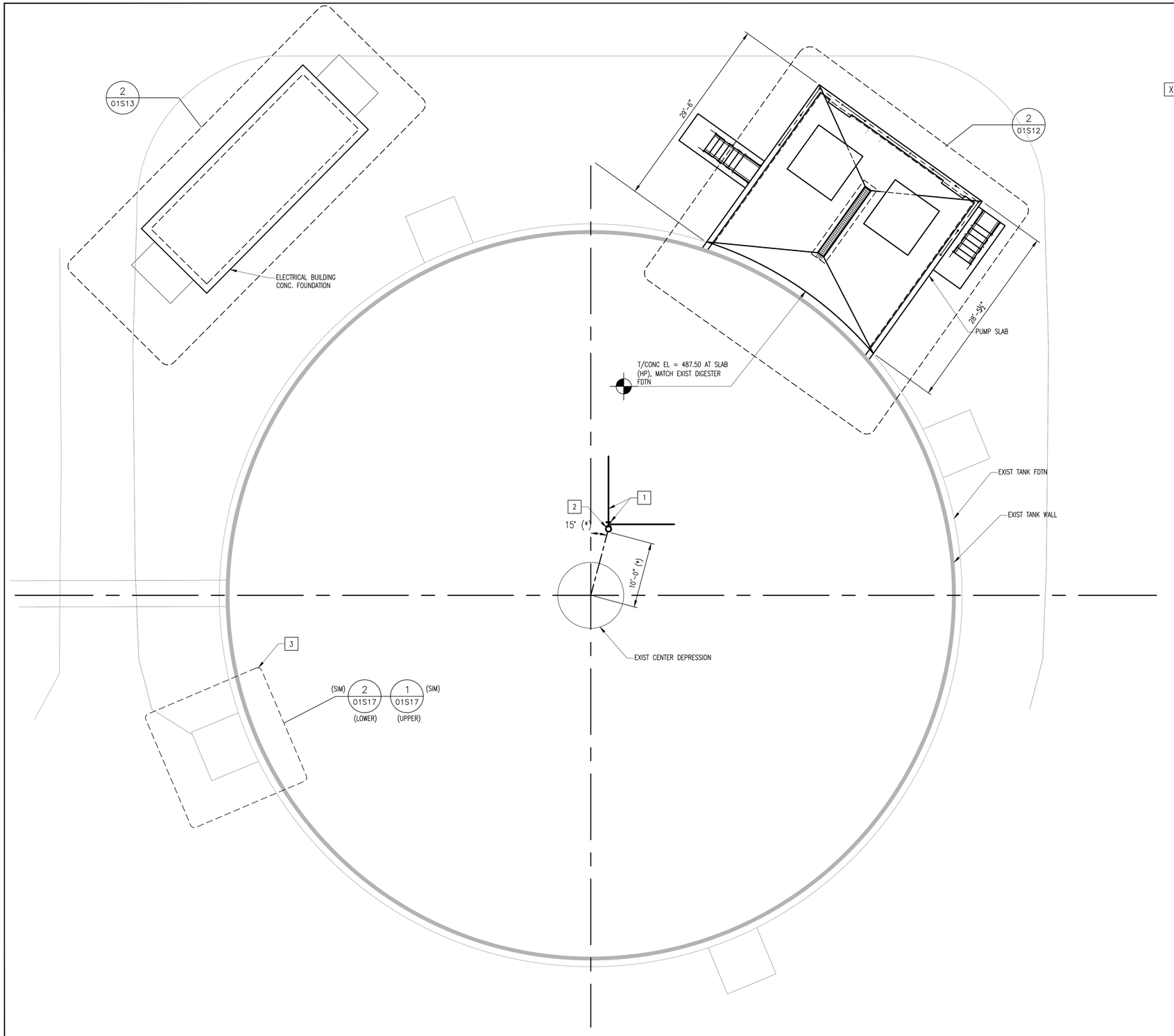
DIGESTER NO. 5 LOWER PLAN

DRAWING NO.

01S08

SCALE: 1/8"=1'-0"		
DATE: JUNE 2022	SHEET 16 OF 231	
DES: LFR	DRAWN: MAA	CHECK: GG



1 / 01S09 DIGESTER No.6 LOWER PLAN
SCALE: 1/8"=1'-0"

GENERAL SHEET NOTES

1. SEE 01S08 FOR NOTES NOT REPEATED

X SHEET KEYNOTES

1. EXISTING STAINLESS STEEL COLUMN AND BRACE.
2. EXISTING 10" SAMPLE TUBE. CONTRACTOR SHALL VERIFY FIELD LOCATION.
3. WORK DONE ON PIPE AND CONDUIT SUPPORT. SEE DETAIL 1/01S17 AND 2/01S17.

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CLIENT INFORMATION

SAN ANTONIO WATER SYSTEM

STEVEN M. CLOUSE WRC
DIGESTER MIXING AND SYSTEM ENHANCEMENTS
PHASE 3

KEY PLAN

GRAPHIC SCALES

0 4' 8' 16'
SCALE: 1/8" = 1'-0"

SIGNATURE

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DIGESTER NO. 6 LOWER PLAN

DRAWING NO.
01S09

SCALE: 1/8"=1'-0"		
DATE: JUNE 2022	SHEET 17 OF 231	
DES: LFR	DRAWN: MAA	CHECK: GG

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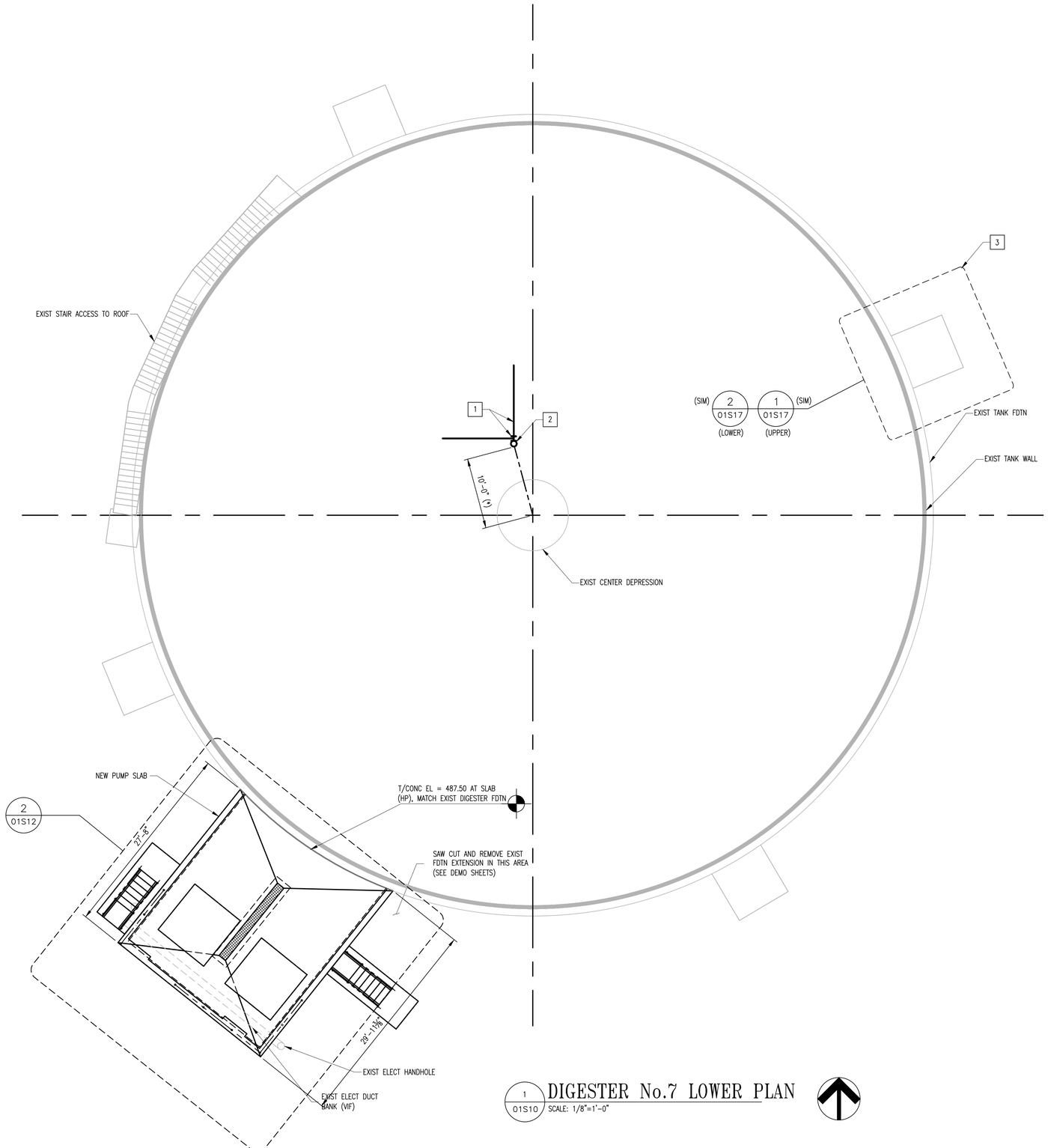

1 / 01S10 DIGESTER No.7 LOWER PLAN
SCALE: 1/8"=1'-0"

GENERAL SHEET NOTES

1. SEE 01S08 FOR NOTES NOT REPEATED

X SHEET KEYNOTES

1. EXISTING STAINLESS STEEL COLUMN AND BRACE.
2. EXISTING 10" SAMPLE TUBE. CONTRACTOR SHALL VERIFY FIELD LOCATION.
3. WORK DONE ON PIPE AND CONDUIT SUPPORT. SEE DETAIL 1/01S17 AND 2/01S17.

REVISIONS		
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CLIENT INFORMATION

SAN ANTONIO WATER SYSTEM

STEVEN M. CLOUSE WRC
DIGESTER MIXING AND SYSTEM ENHANCEMENTS
PHASE 3

KEY PLAN

GRAPHIC SCALES

0 4' 8' 16'
SCALE: 1/8" = 1'-0"

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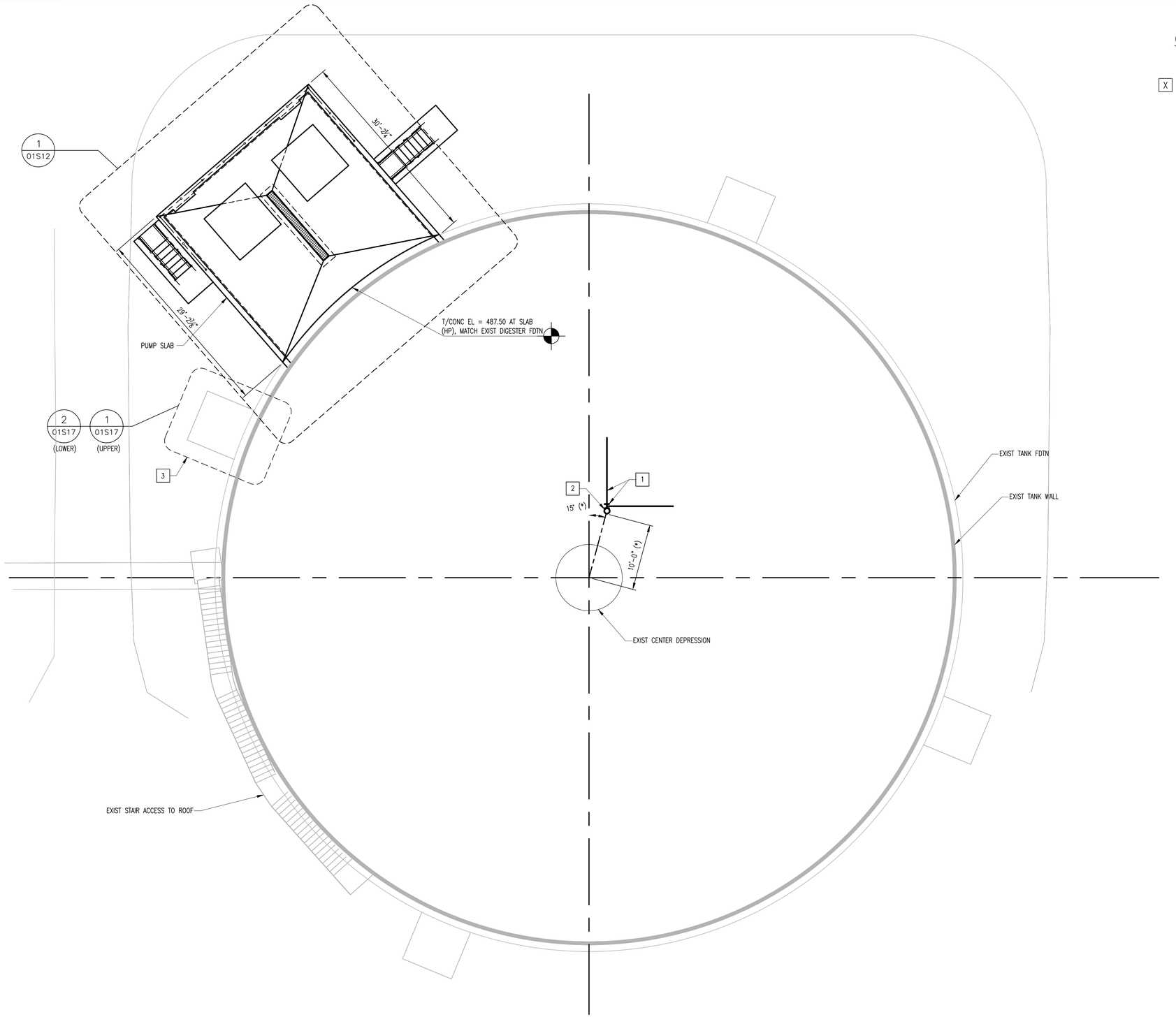
DIGESTER NO. 7 LOWER PLAN

DRAWING NO.

01S10

SCALE: 1/8"=1'-0"		
DATE: JUNE 2022	SHEET 18 OF 231	
DES: LFR	DRAWN: MAA	CHECK: GG



1 / 01S11 DIGESTER No.8 LOWER PLAN
SCALE: 1/8"=1'-0"

GENERAL SHEET NOTES

1. SEE 01S08 FOR NOTES NOT REPEATED

[X] SHEET KEYNOTES

1. EXISTING STAINLESS STEEL COLUMN AND BRACE.
2. EXISTING 10" SAMPLE TUBE. CONTRACTOR SHALL VERIFY FIELD LOCATION.
3. WORK DONE ON PIPE AND CONDUIT SUPPORT. SEE DETAIL 1/01S17 AND 2/01S17.

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PHASE 3

KEY PLAN

GRAPHIC SCALES

0 4' 8' 16'
SCALE: 1/8" = 1'-0"

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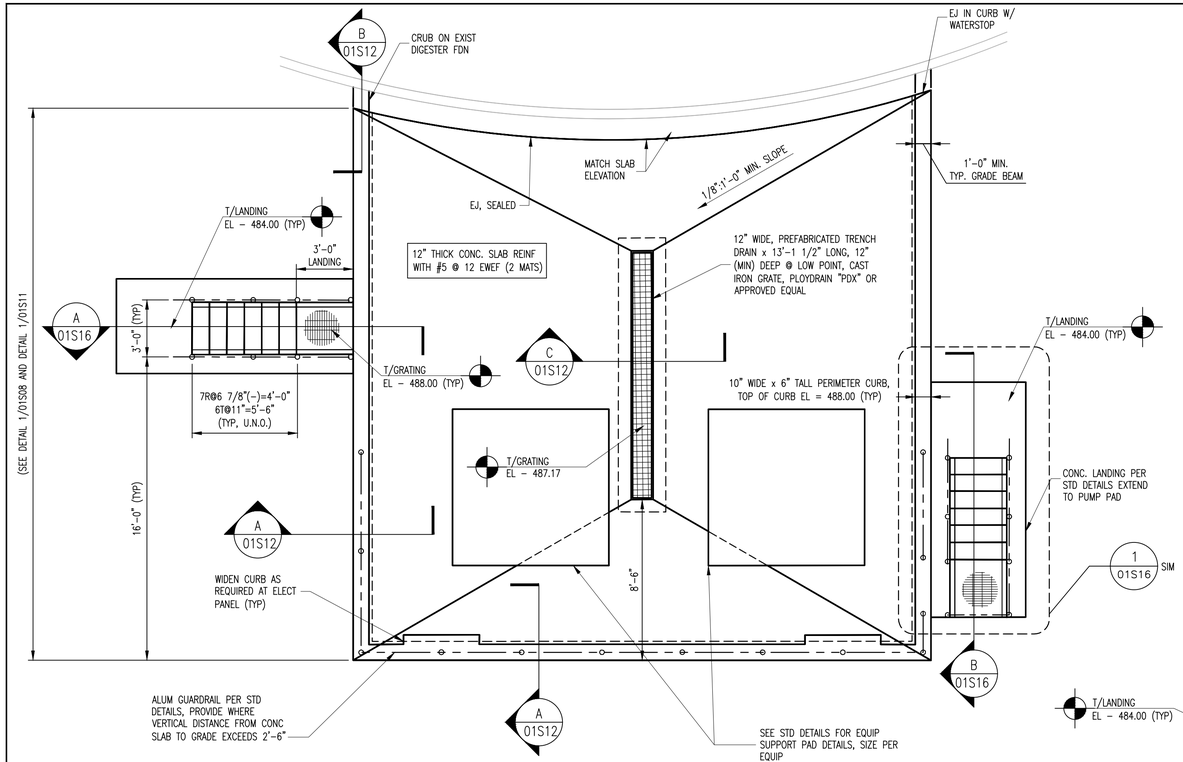
DIGESTER NO. 8 LOWER PLAN

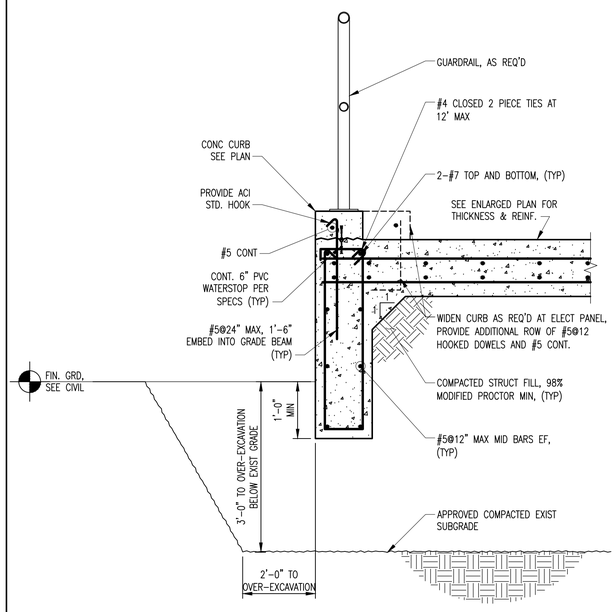
DRAWING NO.
01S11

SCALE: 1/8"=1'-0"		
DATE: JUNE 2022	SHEET 19 OF 231	
DES: LFR	DRAWN: MAA	CHECK: GG



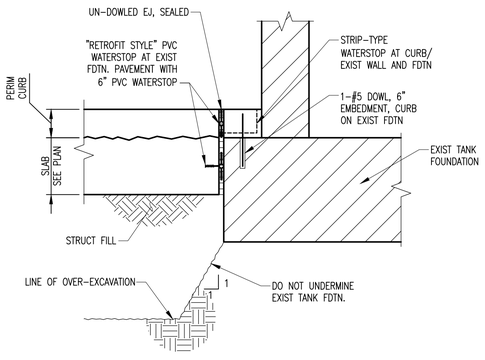
1 / 01S12 ENLARGED PUMP PAD DIGESTER (A)

SCALE: 1/4"=1'-0"
REF: 1/01S08, 1/01S11



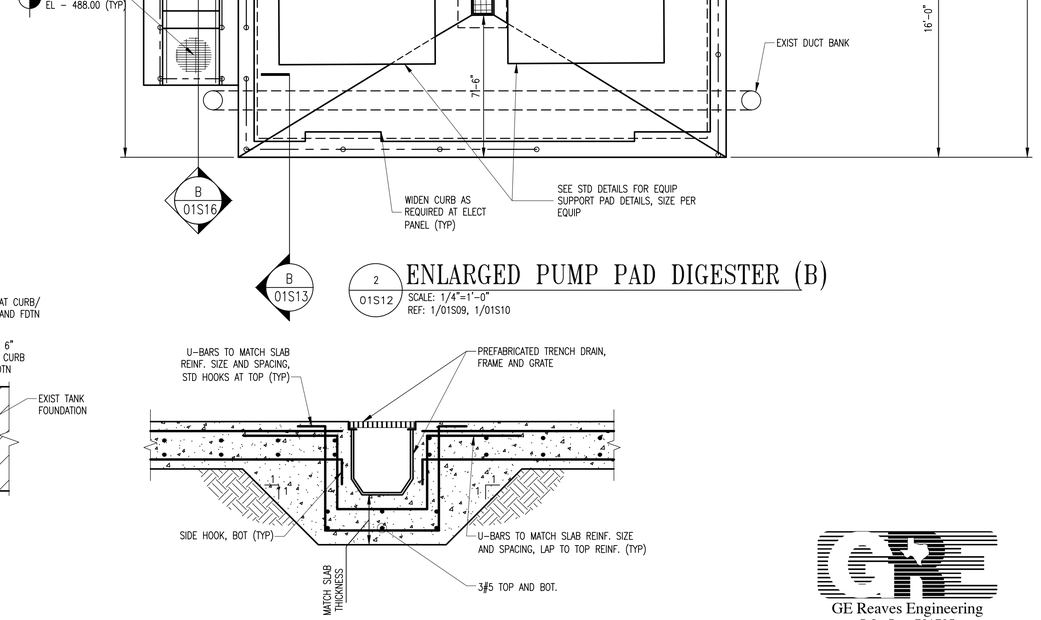
A / 01S12 SECTION

SCALE: 3/4"=1'-0"
REF: 1/01S12



B / 01S12 SECTION

SCALE: 3/4"=1'-0"
REF: 1/01S12, 2/01S12



2 / 01S12 ENLARGED PUMP PAD DIGESTER (B)

SCALE: 1/4"=1'-0"
REF: 1/01S09, 1/01S10

C / 01S12 SECTION

SCALE: 3/4"=1'-0"
REF: 1/01S12, 2/01S12

GENERAL SHEET NOTES

1. SEE OVERALL PLANS FOR TOP OF CONCRETE ELEVATIONS AND SLAB REINFORCEMENT.
2. SEE OVERALL PLANS FOR SLAB DIMENSIONS.
3. PROVIDE GRADE BEAM BOTTOM STEPS PER STANDARD DETAILS AS REQUIRED.

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CLIENT INFORMATION

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DIGESTER MIXING AND SYSTEM ENHANCEMENTS
PHASE 3

KEY PLAN

GRAPHIC SCALES

0 2' 4' 8'
SCALE: 1/4" = 1'-0"

0 1' 2' 3'
SCALE: 3/4" = 1'-0"

SIGNATURE

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OCTOBER 1, 2022

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ENLARGED PUMP PADS AND SECTIONS

DRAWING NO.

01S12

SCALE: VARIES		
DATE: JUNE 2022	SHEET 20 OF 231	
DES: LFR	DRAWN: MAA	CHECK: GG

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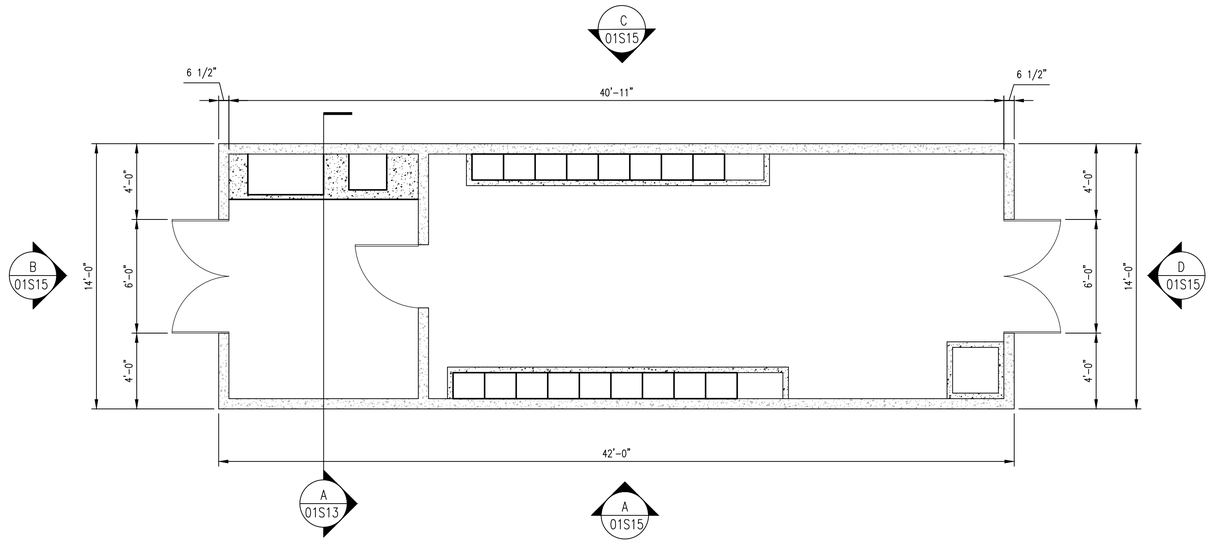
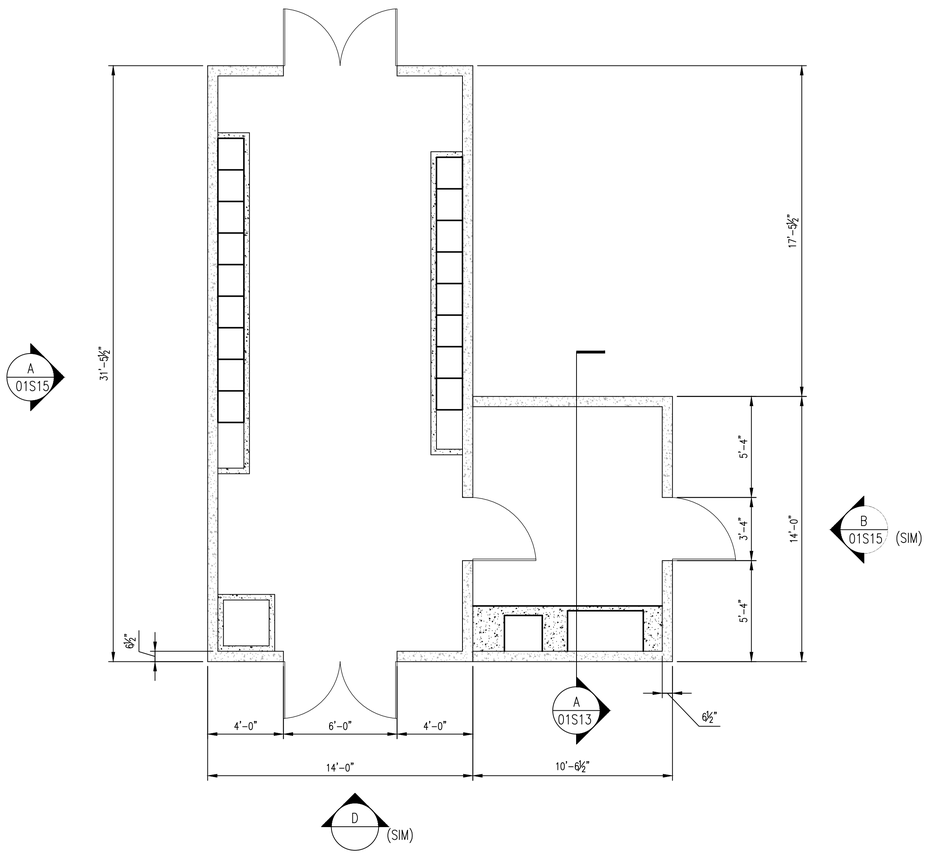


2 / 01S13 DIGESTER 6 ELECTRICAL BUILDING PAD

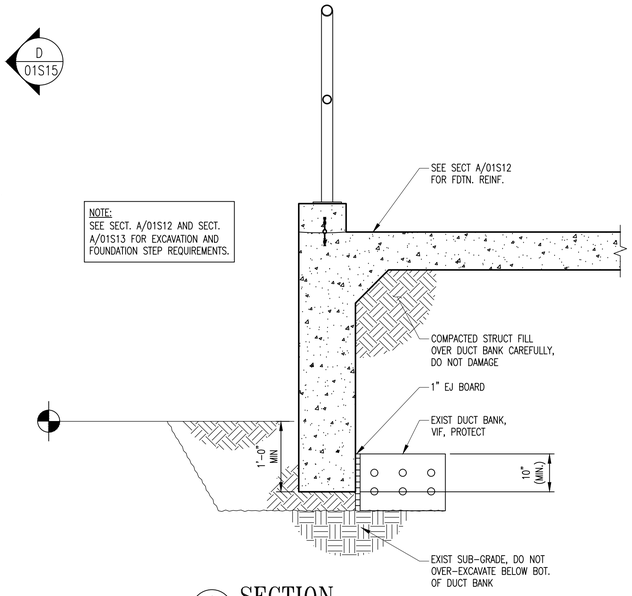
SCALE: 1/4"=1'-0"
REF: 1/01S09



1 / 01S13 DIGESTER 5 ELECTRICAL BUILDING PAD

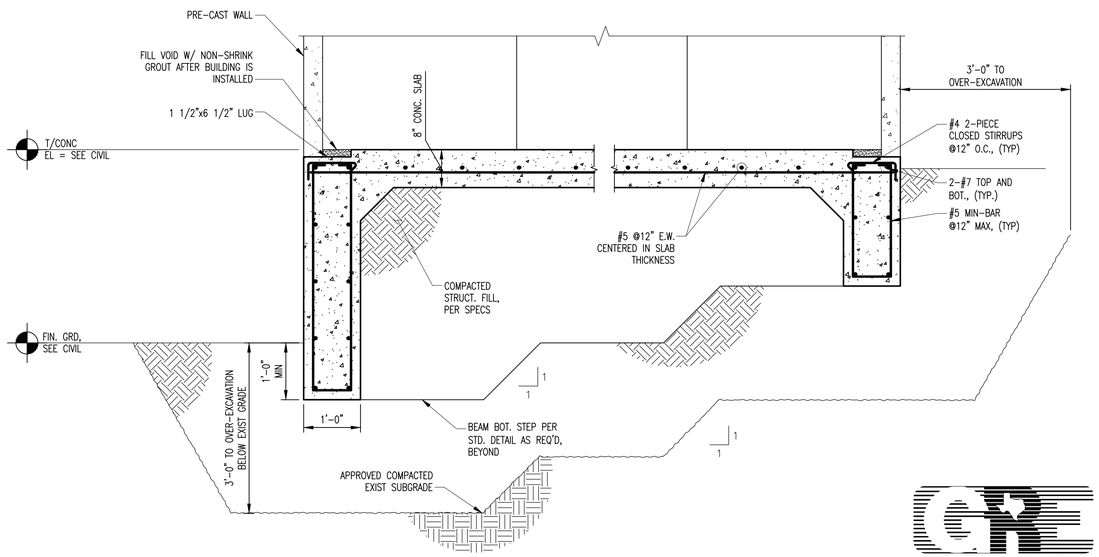
SCALE: 1/4"=1'-0"
REF: 1/01S08

NOTE:
SEE SECT. A/01S12 AND SECT. A/01S13 FOR EXCAVATION AND FOUNDATION STEP REQUIREMENTS.



B / 01S13 SECTION

SCALE: 3/4"=1'-0"
REF: 1/01S12, 2/01S12



A / 01S13 SECTION

SCALE: 3/4"=1'-0"
REF: 1/01S13, 2/01S13

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CLIENT INFORMATION

SAN ANTONIO WATER SYSTEM

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DIGESTER MIXING AND SYSTEM ENHANCEMENTS
PHASE 3

KEY PLAN

GRAPHIC SCALES

0 2' 4' 8'
SCALE: 1/4" = 1'-0"

0 1' 2' 3'
SCALE: 3/4" = 1'-0"

SIGNATURE

OCTOBER 1, 2022

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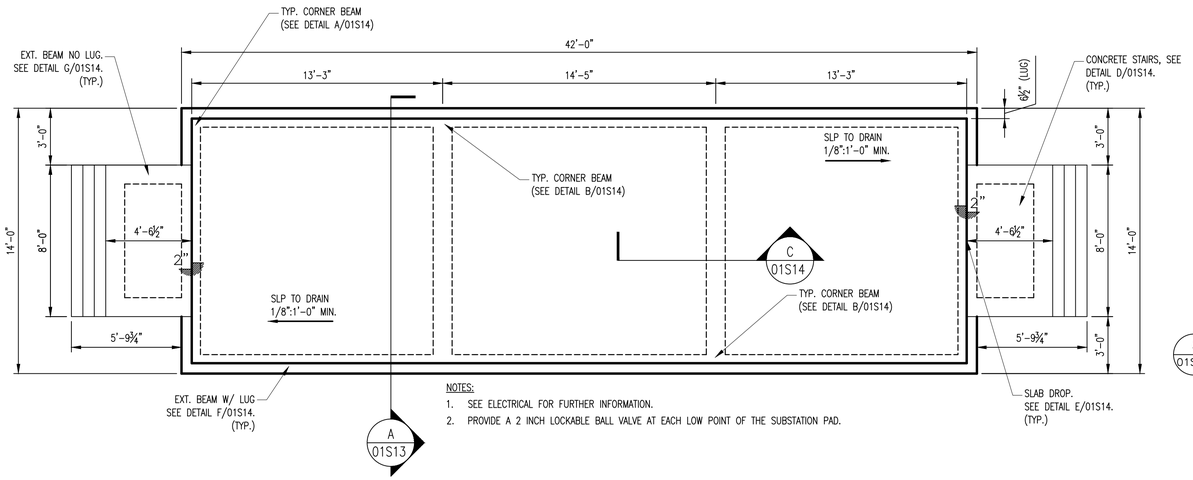
ELECTRICAL BUILDING

DRAWING NO.

01S13

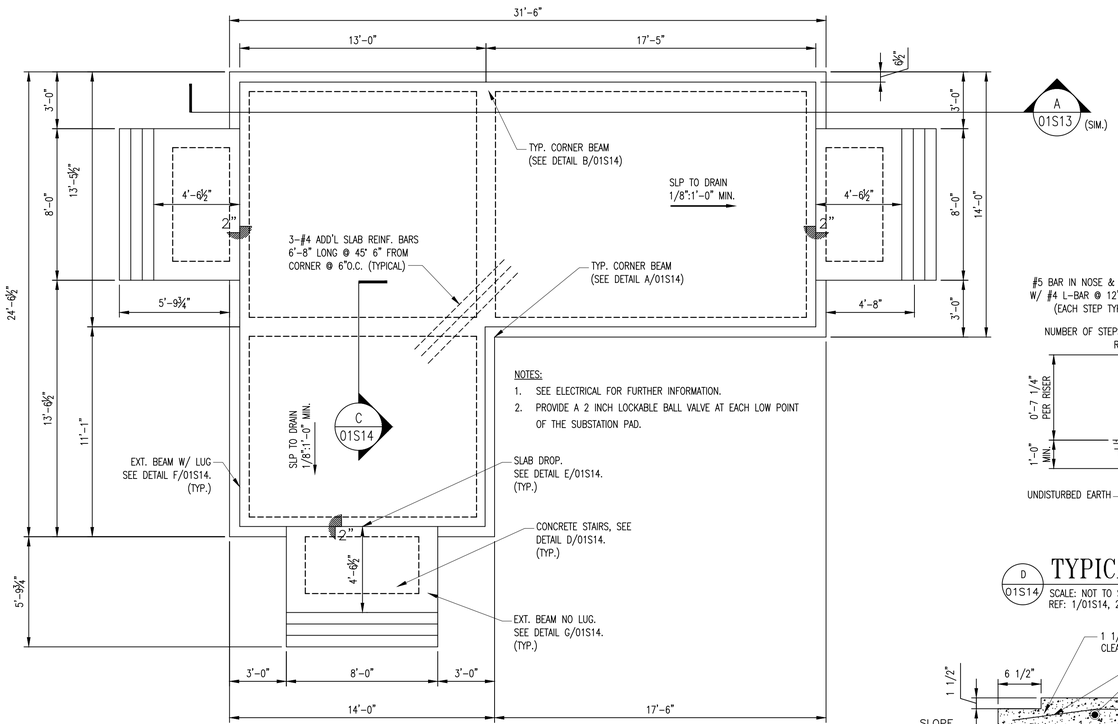
SCALE: VARIES		
DATE: JUNE 2022	SHEET 21 OF 231	
DES: LFR	DRAWN: MAA	CHECK: GG



NOTES:
1. SEE ELECTRICAL FOR FURTHER INFORMATION.
2. PROVIDE A 2 INCH LOCKABLE BALL VALVE AT EACH LOW POINT OF THE SUBSTATION PAD.

1 01S14 ELECTRICAL BUILDING FOUNDATION (DIGESTER 6)

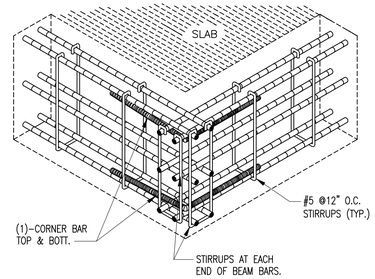
SCALE: 1/4"=1'-0"
REF: 2/01S13



NOTES:
1. SEE ELECTRICAL FOR FURTHER INFORMATION.
2. PROVIDE A 2 INCH LOCKABLE BALL VALVE AT EACH LOW POINT OF THE SUBSTATION PAD.

2 01S14 ELECTRICAL BUILDING FOUNDATION (DIGESTER 5)

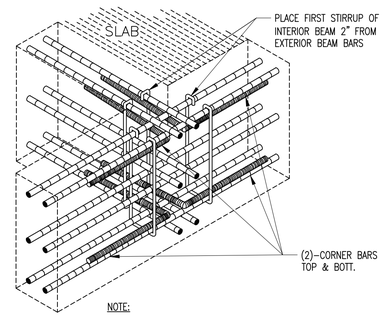
SCALE: 1/4"=1'-0"
REF: 1/01S13



NOTE:
1. CORNER BARS TO BE THE SAME SIZE AS TOP & BOTT. BARS IN EXTERIOR BEAM.
2. BAR LAPS SHALL BE A LENGTH EQUAL TO 40 DIAMETERS.

A 01S14 TYP. CORNER BARS FOR EXT. CORNERS

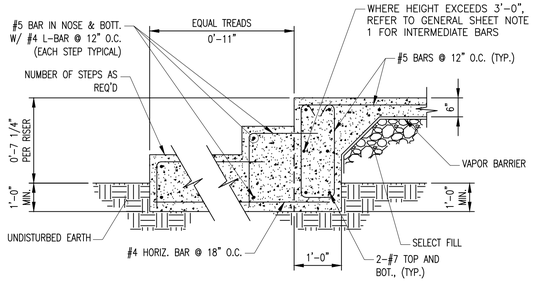
SCALE: NOT TO SCALE
REF: 2/01S14



NOTE:
1. CORNER BARS TO BE THE SAME SIZE AS TOP & BOTT. BARS IN EXTERIOR BEAM.
2. BAR LAPS SHALL BE A LENGTH EQUAL TO 40 DIAMETERS.

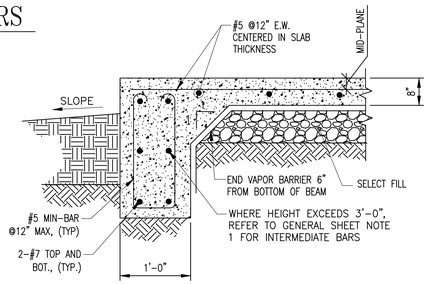
B 01S14 TYP. CORNER BARS FOR BEAM INTERSECTION

SCALE: NOT TO SCALE
REF: 1/01S14



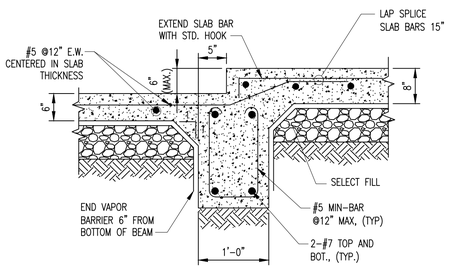
D 01S14 TYPICAL STEP TO GRADE DETAIL

SCALE: NOT TO SCALE
REF: 1/01S14, 2/01S14



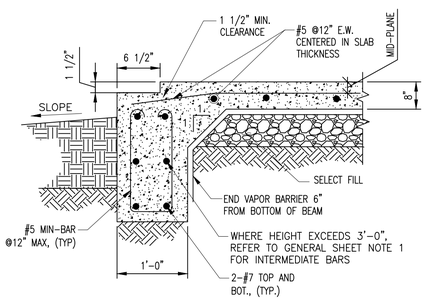
G 01S14 TYPICAL EXT. BEAM

SCALE: NOT TO SCALE
REF: 1/01S14, 2/01S14



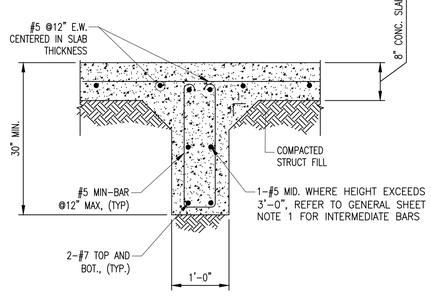
E 01S14 TYPICAL SLAB DROP DETAIL

SCALE: NOT TO SCALE
REF: 1/01S14, 2/01S14



F 01S14 TYPICAL EXT. BEAM W/ LUG

SCALE: NOT TO SCALE
REF: 1/01S14, 2/01S14



C 01S14 TYPICAL INTERIOR BEAM

SCALE: 3/4"=1'-0"
REF: 1/01S14, 2/01S14

GENERAL SHEET NOTES

1. FOR GRADE BEAMS WITH DEPTH EQUAL TO OR IN EXCESS OF 36-INCHES, INCREASE THE AMOUNT OF REINFORCING STEEL BY ADDING TWO #5 BARS HORIZONTALLY EVERY 18-INCHES OF VERTICAL.

REVISIONS		
	ADDENDUM 2	

CLIENT INFORMATION

SAN ANTONIO WATER SYSTEM

STEVEN M. CLOUSE WRC
DIGESTER MIXING AND SYSTEM
ENHANCEMENTS
PHASE 3

KEY PLAN

GRAPHIC SCALES

0 2' 4' 8'
SCALE: 1/4" = 1'-0"

0 1' 2' 3'
SCALE: 3/4" = 1'-0"

SIGNATURE

STATE OF TEXAS · REGISTERED · PROFESSIONAL · ENGINEER

OCTOBER 1, 2022

WRA
Whitman, Requardt & Associates, LLP
227 North Loop, 1604 E. Suite 150, San Antonio, Texas 78232

ELECTRICAL BUILDING SECTIONS

DRAWING NO.
01S14

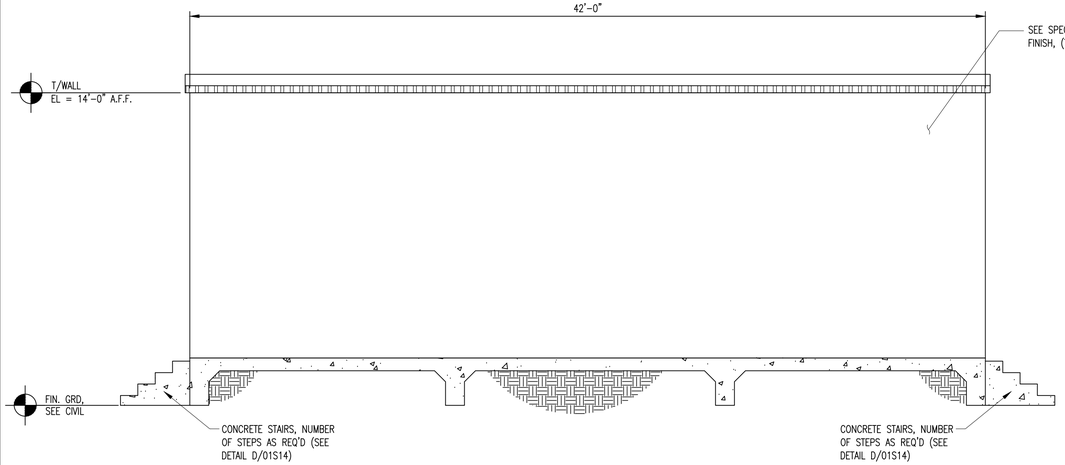
SCALE: VARIES		
DATE: JUNE 2022	SHEET 22 OF 231	
DES: LFR	DRAWN: MAA	CHECK: GG

GE Reaves Engineering
P.O. Box 791793
San Antonio, Tx. 78279-1793
(210) 490-4506 Fax 490-4812
Texas Registration: F-4861
www.gereaveseng.com

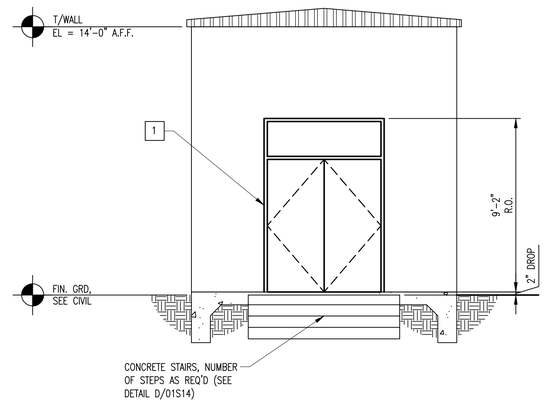
GENERAL SHEET NOTES

[X] SHEET KEYNOTES

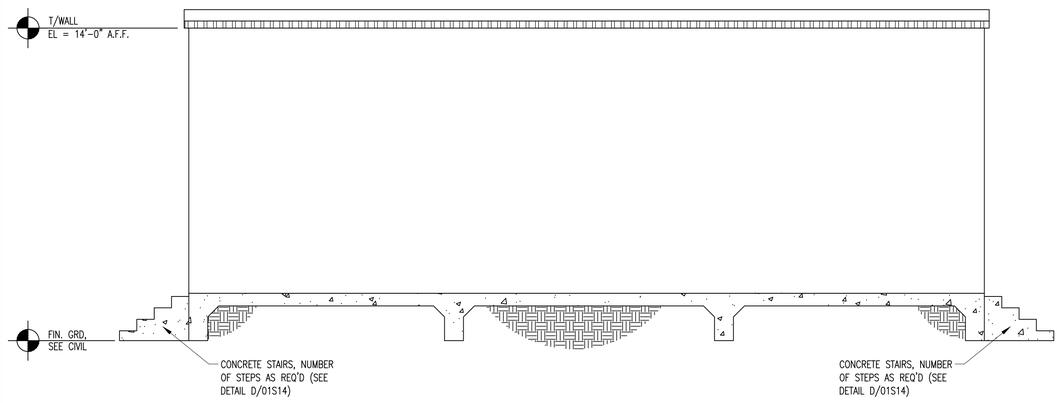
1. 6'-0"x7'-0" DOOR W/ 2"-0" OVERHEAD REMOVABLE TRANSOM. SEE PRECAST BUILDING SPECIFICATIONS.



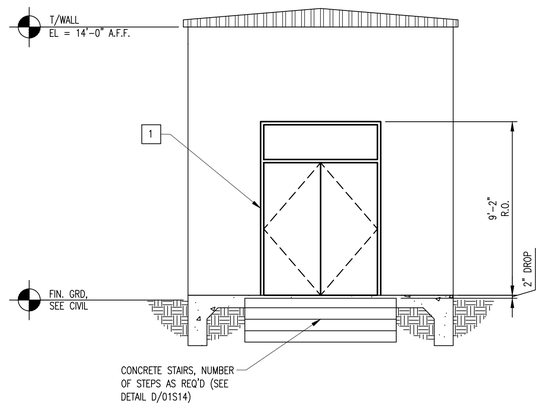
A / 01S15 FRONT ELEVATION
SCALE: 1/4"=1'-0"
REF: 1/01S13, 2/01S13



B / 01S15 LEFT ELEVATION
SCALE: 1/4"=1'-0"
REF: 1/01S13, 2/01S13



C / 01S15 REAR ELEVATION
SCALE: 1/4"=1'-0"
REF: 1/01S13, 2/01S13



D / 01S15 RIGHT ELEVATION
SCALE: 1/4"=1'-0"
REF: 1/01S13, 2/01S13

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REVISIONS		
	ADDENDUM 2	

CLIENT INFORMATION

SAN ANTONIO WATER SYSTEM

STEVEN M. CLOUSE WRC
DIGESTER MIXING AND SYSTEM ENHANCEMENTS
PHASE 3

KEY PLAN

GRAPHIC SCALES

0 2' 4' 8'
SCALE: 1/4" = 1'-0"

SIGNATURE

STATE OF TEXAS · GREGORY A. ALLEN · 108524 · REGISTERED PROFESSIONAL ENGINEER

OCTOBER 1, 2022

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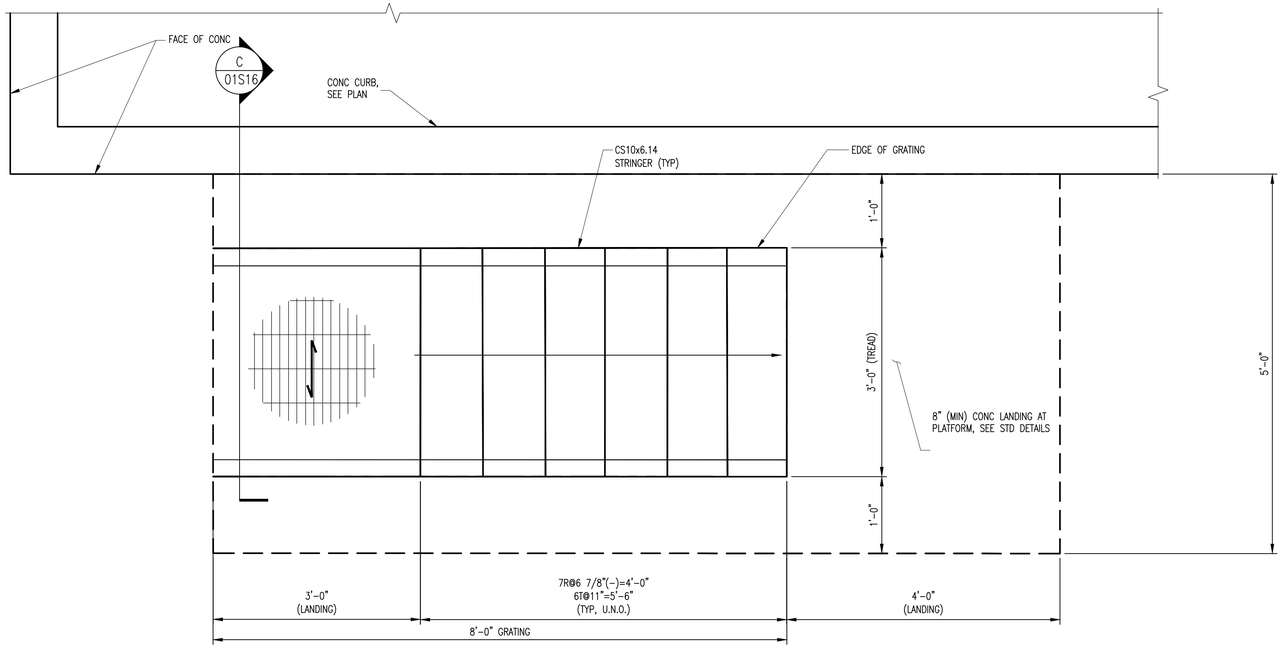
ELECTRICAL BUILDING SECTIONS

DRAWING NO.

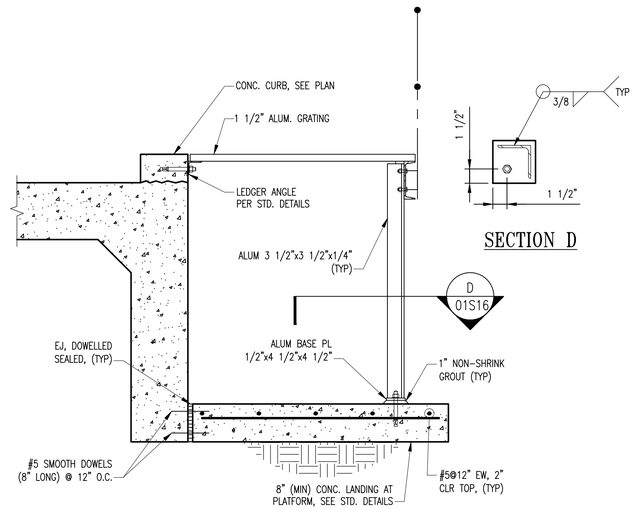
01S15

SCALE: 1/4"=1'-0"		
DATE: JUNE 2022	SHEET 23 OF 231	
DES: LFR	DRAWN: MAA	CHECK: GG



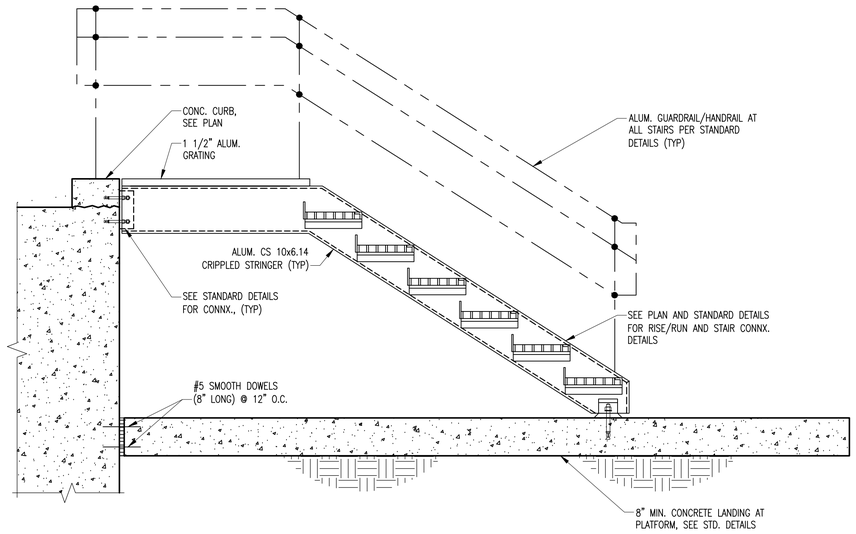
NOTE:
ALL FRAMING AND GRATING TO BE ALUMINUM, TYPICAL

1 / 01S16 ENLARGED PLAN
SCALE: 1"=1'-0"
REF: 1/01S12, 2/01S12

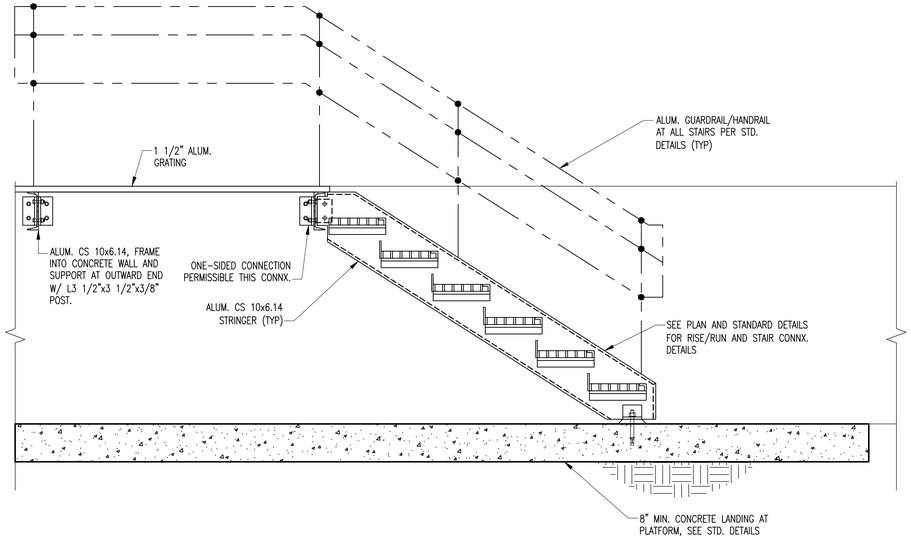


SECTION D

C / 01S16 SECTION
SCALE: 3/4"=1'-0"
REF: 1/01S16



A / 01S16 SECTION
SCALE: 3/4"=1'-0"
REF: 1/01S16



B / 01S16 SECTION
SCALE: 3/4"=1'-0"
REF: 1/01S16

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REVISIONS		
	ADDENDUM 2	

CLIENT INFORMATION

SAN ANTONIO WATER SYSTEM

STEVEN M. CLOUSE WRC
DIGESTER MIXING AND SYSTEM ENHANCEMENTS
PHASE 3

KEY PLAN

GRAPHIC SCALES

0 1' 2' 3'
SCALE: 3/4" = 1'-0"

0 6" 1' 2'
SCALE: 1" = 1'-0"

SIGNATURE

OCTOBER 1, 2022

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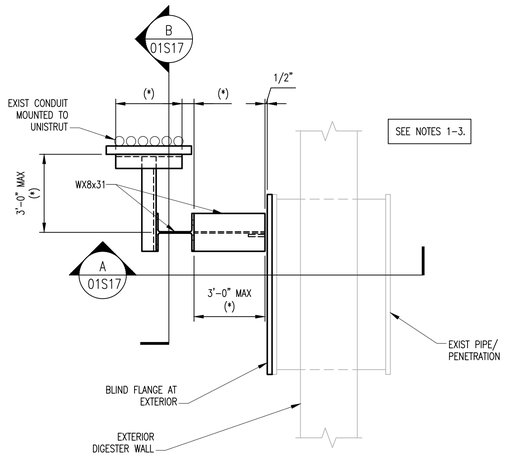
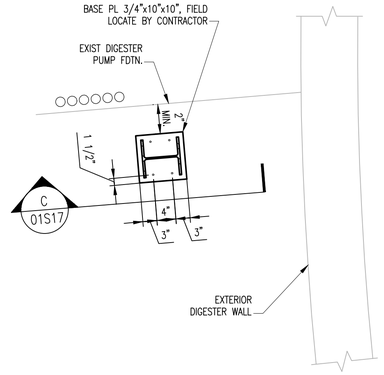
STRUCTURAL SECTIONS

DRAWING NO.
01S16

SCALE: VARIES		
DATE: JUNE 2022	SHEET 24 OF 231	
DES: LFR	DRAWN: MAA	CHECK: GG



1 01S17 UPPER PLAN
SCALE: 3/4"=1'-0"

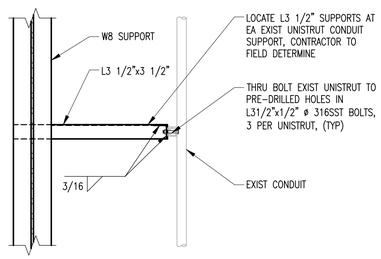


2 01S17 LOWER PLAN
SCALE: 3/4"=1'-0"

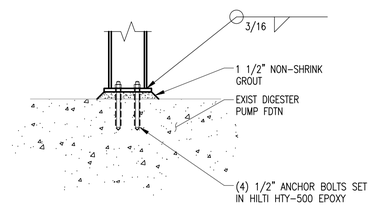
GENERAL SHEET NOTES

1. ALL DIMENSIONS INDICATED AS (*) TO BE FIELD VERIFIED/DETERMINED BY CONTRACTOR. POSITION OF W8 FRAME TO BE DETERMINED BY LOCATION OF EXIST CONDUIT.
2. CONTRACTOR TO PROTECT EXIST CONDUIT DURING CONSTRUCTION.
3. ALL COMPONENTS TO BE HOT DIPPED GALVANIZED AFTER FABRICATION.

A 01S17 SECTION
SCALE: 3/4"=1'-0"



B 01S17 SECTION
SCALE: 3/4"=1'-0"



C 01S17 SECTION
SCALE: 3/4"=1'-0"

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REVISIONS

	ADDENDUM 2	

CLIENT INFORMATION

SAN ANTONIO WATER SYSTEM

STEVEN M. CLOUSE WRC
DIGESTER MIXING AND SYSTEM ENHANCEMENTS
PHASE 3

KEY PLAN

GRAPHIC SCALES

0 1' 2' 3'
SCALE: 3/4" = 1'-0"

SIGNATURE

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OCTOBER 1, 2022

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STRUCTURAL SECTIONS

DRAWING NO.
01S17

SCALE: 3/4"=1'-0"		
DATE: JUNE 2022	SHEET 25 OF 231	
DES: LFR	DRAWN: MAA	CHECK: GG