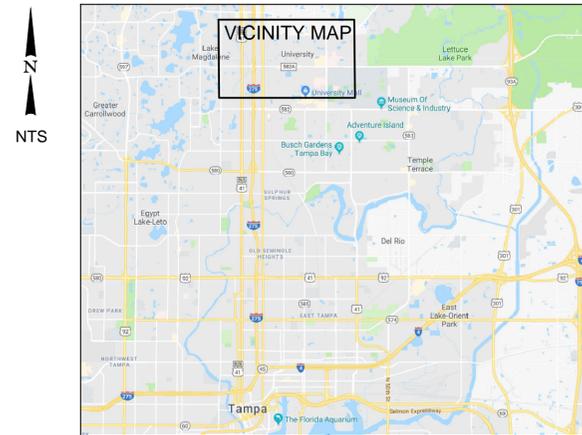




CITY OF TAMPA, FLORIDA UNIVERSITY PUMPING STATION AUTOMATIC BAR SCREEN

AUGUST 2018

CONTRACT: 18-C-00016



LOCATION MAP
NTS



VICINITY MAP
NTS



UNIVERSITY PUMPING STATION
NTS



302 Knights Run Avenue,
Suite 900
Tampa, FL 33602
813.254.5838
FIRM'S FLORIDA
CERT. NO.
AAP000034/CA3806
IB26000797/LC26000381



777 S. Harbour Island Blvd.
Suite 250
Tampa, FL 33602
813.227.9190
Certificate of Authorization No. 8363

P:\4291800\WG00.DWG

DESIGNED _____	JOSEPH B. BARKSDALE, PE 46545 GRESHAM SMITH & PARTNERS GENERAL / MECHANICAL	JASON FUKUDA, PE 66000 GRESHAM SMITH & PARTNERS STRUCTURAL	TIMOTHY D. THOMAS, PE - FPE 47079 TRICON CONSULTING ENGINEERS ELECTRICAL		PROJECT: CITY OF TAMPA UNIVERSITY PUMPING STATION AUTOMATIC BAR SCREEN	DESCRIPTION: COVER PAGE	DATE: AUGUST 2018 GSP JOB No. 4291800 SHEET: G-0 1 OF 27
REV. NO.	DATE	DESCRIPTION	REV. BY	CHECKED _____			

SHEET INDEX

SHEET #	SHEET	DESCRIPTION
GENERAL		
1	G-0	COVER PAGE
2	G-1	SHEET INDEX, ABBREVIATION, GENERAL NOTES, AND REFERENCE SYMBOLS
MECHANICAL		
3	M-1	EXISTING SITE PLAN - KEY PLAN
4	M-2	UPPER PLAN LAYOUT AND DEMOLITION
5	M-3	LOWER PLAN DEMOLITION
6	M-4	UPPER PLAN
7	M-5	SECTIONS
8	M-6	LOWER PLAN - SECTIONS AND DETAILS
9	M-7	MECHANICAL STANDARD DETAILS
STRUCTURAL		
10	S-1	STRUCTURAL GENERAL NOTES
11	S-2	UPPER PLAN AND SECTION AND ISOMETRIC VIEW
12	S-3	LOWER PLAN
13	S-4	CONCRETE REPAIR PHOTOS
14	S-5	REPAIR DETAILS
15	S-6	STRUCTURAL DETAILS
ELECTRICAL		
16	E-1	LEGEND, ABBREVIATIONS AND NOTES
17	E-2	EXISTING SITE PLAN
18	E-3	ELECTRICAL PLAN - ELEVATION 41.17'
19	E-4	HAZARDOUS AREA IDENTIFICATION
20	E-5	PUMPING STATION ELEVATION 41.25' ELECTRICAL PLAN
21	E-6	EXISTING ANNUNCIATOR CONTROL PANEL INTERIOR DETAIL
22	E-7	EXISTING ANNUNCIATOR CONTROL PANEL NEW MODULE WIRING
23	E-8	SLIDE GATE ACTUATOR CONTROL WIRING
24	E-9	CONTACT DEVELOPMENT DIAGRAM
25	E-10	ACTUATOR DISCONNECT DETAIL
26	E-11	PROPOSED ANNUNCIATOR ADDITIONS SAMPLE SCREEN
REFERENCE FILE		
27	REF-1	JUNCTION CHAMBER DETAILS

ABBREVIATIONS

ABS	AUTOMATIC BAR SCREEN
BIO	BIOXIDE
CONC	CONCRETE
CPVC	CHLORINATED POLYVINYL CHLORIDE
DN	DOWN
DIP	DUCTILE IRON PIPE
DTR	DUMPSTER
EOP	EDGE OF PAVEMENT
FM	FORCE MAIN
MG	MAGNESIUM HYDROXIDE
MH	MANHOLE
MOT	MAINTENANCE OF TRAFFIC
POT	POTABLE WATER
PVC	POLYVINYL CHLORIDE
RCP	REINFORCED CONCRETE PIPE
SS	STAINLESS STEEL
SG	SLIDE GATE
TNK	TANK
WC	WASHING COMPACTOR
Ø	DIAMETER

GENERAL NOTES

- G-1. CONTRACTOR SHALL COORDINATE ALL CONSTRUCTION ACTIVITIES WITH CONTRACT ADMINISTRATOR DEPARTMENT, WASTEWATER PERSONNEL AND PUMPING STATION OPERATIONS.
- G-2. EXISTING DIMENSIONS AND ELEVATIONS ARE BASED ON THE BEST INFORMATION AVAILABLE. TRUE DIMENSIONS AND ELEVATIONS SHALL BE DETERMINED IN THE FIELD BY THE CONTRACTOR PRIOR TO LAYOUT AND SHOP DRAWING SUBMITTALS.
- G-3. ALL SUBMITTALS AND SHOP DRAWINGS SHALL BE ORIGINALS OR HIGH-QUALITY COPIES (EASILY READABLE). NO FAXED SHEETS OR POOR QUALITY COPIES WILL BE ACCEPTED FOR SUBMITTAL REVIEW.
- G-4. MECHANICAL AND ELECTRICAL EQUIPMENT TO BE LOCKED OUT SHALL BE LOCKED OUT WITH A MULTIPLE-LOCK MASTER LOCK-OUT DEVICE, WHICH SHALL BE INSTALLED BY CITY PERSONNEL AND LOCKED BY BOTH THE CITY PERSONNEL AND CONTRACTOR.
- G-5. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING, INSTALLING, LEVELING AND ALIGNING EQUIPMENT, GATES, AND VALVES.
- G-6. PROPOSED SLIDE GATE VALVE SHALL BE A STAINLESS-STEEL SLIDE GATE, AS MADE BY RODNEY HUNT OR EQUAL; SEE SPECIFICATIONS FOR DETAILS. SLIDE GATE VALVE SHALL BE EQUIPPED WITH ELECTRIC POWERED ACTUATOR, AS MADE BY ROTORK, LIMITORQUE, OR EQUAL; SEE SPECIFICATIONS FOR DETAILS.
- G-7. PROPOSED AUTOMATIC BAR SCREEN AND WASHER COMPACTOR SHALL BE STAINLESS STEEL AS MADE BY HYDRODYNE INC. OR EQUAL, SEE SPECS FOR DETAILS.
- G-8. ANCHOR BOLTS SHALL BE AS PER SCREEN MANUFACTURER'S RECOMMENDATIONS. ANCHOR BOLTS SHALL BE DOUBLE-NUTTED AND FINISHED WITH NON-SHRINK GROUT. ALL BOLTS SHALL EXTEND BEYOND THE FASTENING NUTS BY A MINIMUM OF 1/2-INCH.
- G-9. ALL STEEL AND HARDWARE, UNLESS OTHERWISE NOTED, SHALL BE TYPE 316 STAINLESS STEEL.
- G-10. ALL CEMENTITIOUS CONCRETE AND GROUT, UNLESS OTHERWISE SPECIFIED, SHALL BE CLASS "B" 4000 PSI COMPRESSIVE STRENGTH AT 28 DAYS.
- G-11. EXPOSED CONCRETE CORNERS SHALL HAVE A 3/4" CHAMFER AND RE-ENTRANT CORNERS SHALL HAVE A 3/4" FLAT FILLET UNLESS OTHERWISE NOTED.
- G-12. CONCRETE PEDESTAL SHOP DRAWINGS INCLUDING FLANGE SUPPORT DETAILS SHALL BE SUBMITTED FOR APPROVAL.
- G-13. ALL STEEL REINFORCING SHALL BE DETAILED ACCORDING TO THE LATEST "ACI MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES". ACTUAL PLACEMENT OF STEEL REINFORCING SHALL BE SHOWN ON SHOP DRAWINGS. ALL LAPS AND SPLICES SHALL BE AT LEAST 32 BAR DIAMETERS OR 24 INCHES.
- G-14. CERTAIN PORTIONS OF THIS PROJECT MAY REQUIRE NIGHT TIME WORK.
- G-15. ALL NOTES PERTAINING TO PROPOSED WORK INSIDE SCREEN ROOM ARE LOCATED ON PERTINENT SHEETS.
- G-16. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE FLORIDA BUILDING CODE 6TH EDITION 2017, AND CHAPTER 5 OF THE CITY OF TAMPA CODE.
- G-17. CONTRACTOR SHALL REMOVE EXISTING WET WELL STOP LOGS FOR THE REPLACEMENT WITH SLIDE GATE.
- G-18. CONFIGURATION FOR THE PROPOSED SLIDE GATE VALVE ACTUATORS SHALL BE AS INDICATED IN THE PLANS.
- G-19. ALL ELECTRICAL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE FLORIDA BUILDING CODE 6TH EDITION 2017, CHAPTER 5 OF THE CITY OF TAMPA CODE AND THE NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) SERIES 70/NATIONAL ELECTRICAL CODE (NEC) 2014 EDITION.
- G-20. CONTRACTOR SHALL OBTAIN A TEMPORARY TRAFFIC CONTROL PERMIT FOR THE ROAD CLOSURE INCLUDING A CERTIFIED MOT.

DEMOLITION NOTES

- D-1. ALL DIMENSIONS ARE APPROXIMATE. TRUE DIMENSIONS SHALL BE DETERMINED IN THE FIELD.
- D-2. SALVAGEABLE MATERIAL, AS DETERMINED BY DEPARTMENT PERSONNEL, SHALL BE DELIVERED TO THE CITY OF TAMPA'S HOWARD F. CURREN AWTP AT 2700 MARITIME BOULEVARD. NON-SALVAGEABLE MATERIALS ARE TO BE REMOVED FROM THE SITE AND PROPERLY DISPOSED OF AT THE CONTRACTOR'S EXPENSE. IN GENERAL, ALL PUMPS AND CONTROLS EQUIPMENT SHALL REMAIN PROPERTY OF THE CITY AND SHALL BE DELIVERED TO THE TREATMENT PLANT.
- D-3. EXISTING MANUALLY RAKED BAR SCREEN SHALL BE SALVAGED AND DELIVERED TO THE TREATMENT PLANT.
- D-4. THE PUMP STATION SITE SHALL BE MAINTAINED IN AS NEAT AND ORDERLY CONDITION AS POSSIBLE DURING CONSTRUCTION OPERATIONS. WALKWAYS AND DRIVEWAYS SHALL BE KEPT CLEAR FOR DEPARTMENT PERSONNEL TO PASS THROUGH.
- D-5. CONTRACTOR SHALL CUT ALL EXPOSED REINFORCING STEEL TO A DEPTH OF 1-INCH BELOW THE EXPOSED SURFACE AND GROUT OVER.
- D-6. CONTRACTOR SHALL PREVENT DUST NUISANCE FROM THE OPERATIONS. CONTRACTOR SHALL SPRINKLE RUBBISH AND DEBRIS WITH WATER TO KEEP DUST TO A MINIMUM.
- D-7. CONTRACTOR SHALL CLEAN AND REMOVE ALL DEBRIS FROM EXISTING WET WELL PRIOR TO CONCRETE RESTORATION.

"POSSIBLE" CONSTRUCTION SEQUENCE

- S-1. CONTRACTOR SETS UP MOT AND INSTALLS BYPASS PUMPING SYSTEM. TEST BYPASS SYSTEM WHILE PUMP STATION IS TURNED OFF. ALL BYPASS PUMPS MUST OPERATE DURING TEST PERIOD. TESTING WILL REQUIRE 24 HOUR TROUBLE FREE OPERATION BEFORE SETTING PIPE PLUGS.
- S-2. CONTRACTOR INSTALLS (2) PIPE PLUGS IN 60" INFLUENT PIPE AND BEGINS BYPASS PUMPING.
- S-3. CONTRACTOR CLEANS AND REPAIRS CONCRETE AND LINER WITHIN WET WELL.
- S-4. INSTALL PROPOSED SCREEN, SLIDE GATE, CONVEYOR, AND LOADOUT AREA.
- S-5. PERFORM REQUIRED TESTS ON PROPOSED SCREENING SYSTEM.
- S-6. REMOVE BYPASS SYSTEM AND MOT.
- S-7. PERFORM TRAINING, COMPLETE PUNCH LIST ITEMS.

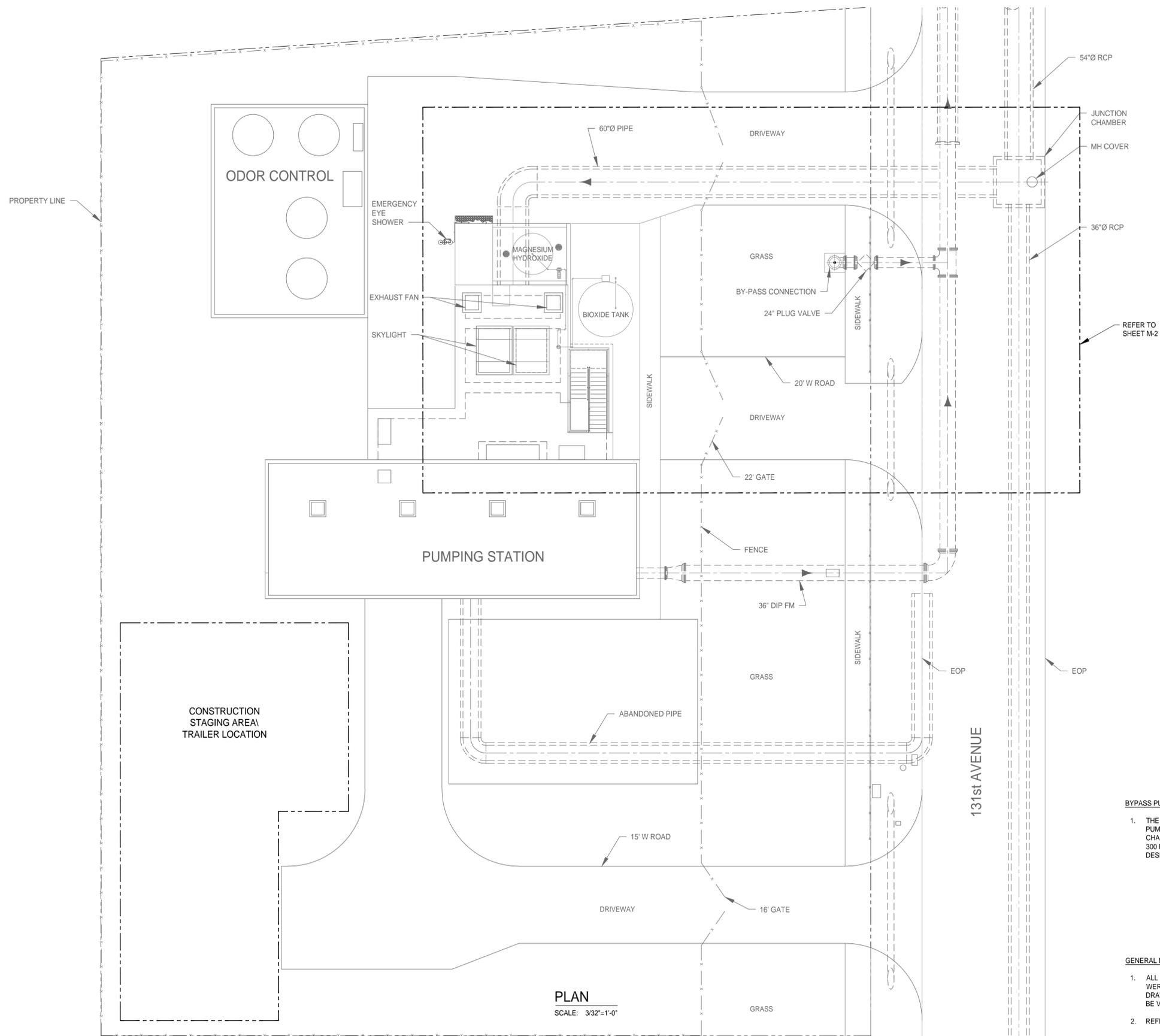
REFERENCE SYMBOLS

<p>SECTION IDENTIFICATION</p>	
<p>DETAIL IDENTIFICATION</p>	
<p>SECTION IDENTIFICATION</p>	
<p>PIPING IDENTIFICATION</p>	
<p>EQUIPMENT IDENTIFICATION</p>	
<p>MISCELLANEOUS</p> <p>4-12 ROOM NUMBER</p> <p>2-16 DOOR NUMBER</p> <p>1-8 WINDOW NUMBER</p> <p>13 ACCESSORY NUMBER</p> <p>4 WALL TYPE NUMBER</p> <p>5 SHEET KEY NOTES</p>	<p>### COORDINATE POINT</p> <p>Ø ROUND OR DIAMETER</p> <p>@ AT</p> <p>∠ ANGLE</p> <p>℄ CENTERLINE</p>

P:\4291800\WG-1.dwg, Aug 15, 2018 - 9:25am

DESIGNED	G DICK	<p>302 Knights Run Avenue, Suite 900 Tampa, FL 33602 813.254.5838</p> <p>FIRM'S FLORIDA CERT. NO. AAP000034/CA3806 1B26000797/LC26000381</p>	APPROVED BY:	<p>CITY OF TAMPA UNIVERSITY PUMPING STATION AUTOMATIC BAR SCREEN</p>	PROJECT:	<p>CITY OF TAMPA UNIVERSITY PUMPING STATION AUTOMATIC BAR SCREEN</p>	DESCRIPTION:	<p>SHEET INDEX, ABBREVIATION, GENERAL NOTES AND REFERENCE SYMBOLS</p>	DATE:	AUGUST 2018		
DRAWN	O GOMEZ						GSP JOB No.		4291800			
CHECKED	G JACOB				JOSEPH B. BARKSDALE FLA. LIC. NO. 46545					SHEET:	G-1	2 OF 27
REV. NO.	DATE		DESCRIPTION		REV. BY							

P:\4291800\N\M-1.dwg, Aug 15, 2018 - 9:26am



PLAN
SCALE: 3/32"=1'-0"

BYPASS PUMPING NOTES:

1. THE CONTRACTOR WILL UTILIZE MANHOLES FOR THE BYPASS PUMPING. THE FIRST MANHOLE IS LOCATED AT THE JUNCTION CHAMBER AND THE SECOND MANHOLE IS LOCATED APPROXIMATELY 300 FEET WEST OF THE JUNCTION CHAMBER. THE CONTRACTOR SHALL DESIGN AND SUBMIT THE BYPASS PLANS PER SPECIFICATIONS.

GENERAL NOTES:

1. ALL DIMENSIONS AND ELEVATIONS OF EXISTING FACILITIES WERE OBTAINED FROM PREVIOUS CONSTRUCTION AND RECORD DRAWINGS. ALL EXISTING DIMENSIONS AND ELEVATIONS SHALL BE VERIFIED IN THE FIELD BY THE CONTRACTOR.
2. REFER TO SHEET G-1 AND S-1 FOR ADDITIONAL NOTES.

REV. NO.	DATE	DESCRIPTION	REV. BY

DESIGNED: G DICK
 DRAWN: O GOMEZ
 CHECKED: G JACOB



302 Knights Run Avenue, Suite 900
 Tampa, FL 33602
 813.254.5838
FIRM'S FLORIDA
 CERT. NO.
 AAP000034/CA3806
 1B26000797/LC26000381

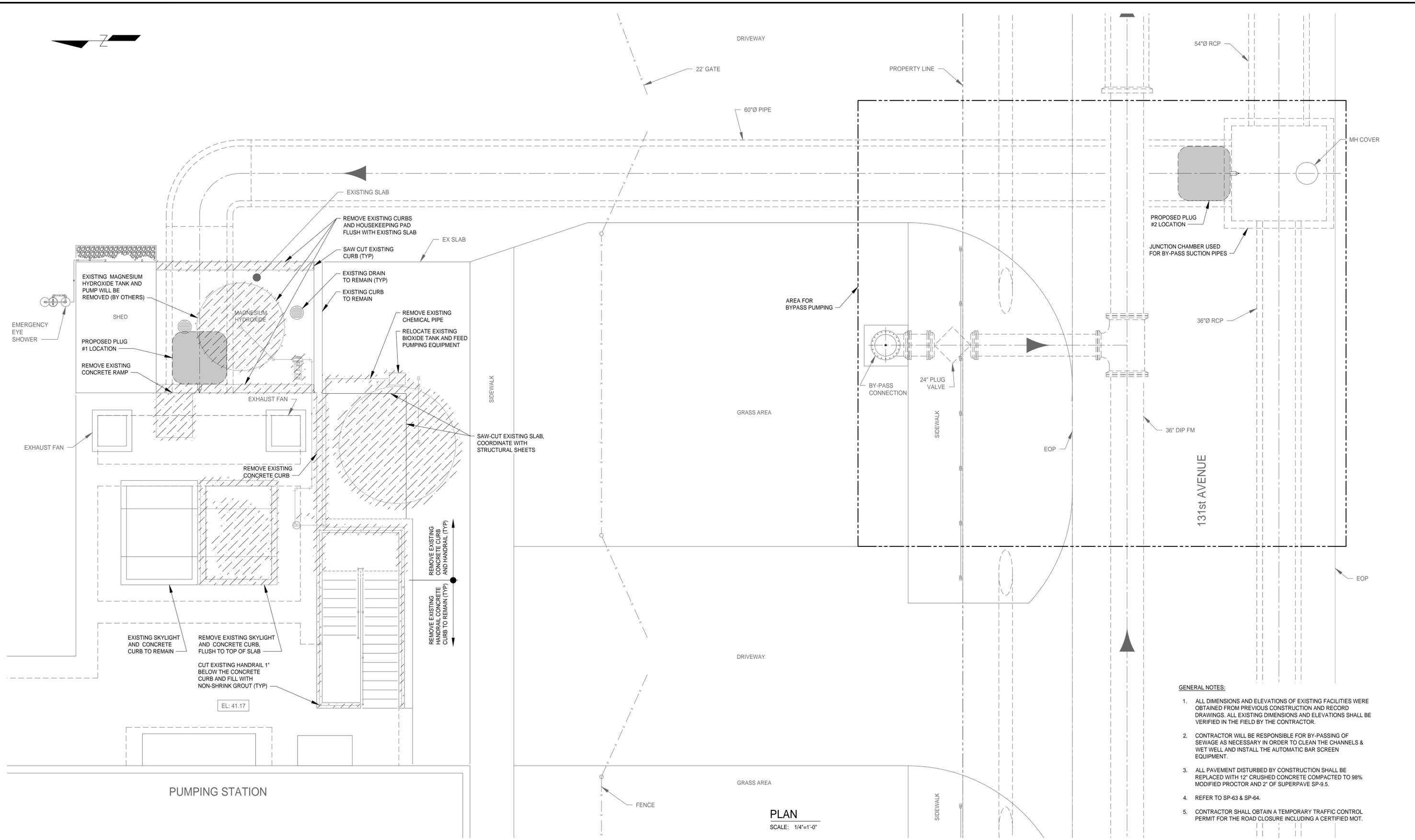
APPROVED BY:
 _____ DATE _____
 JOSEPH B. BARKSDALE
 FLA. LIC. NO. 46545



PROJECT: **CITY OF TAMPA
 UNIVERSITY PUMPING STATION
 AUTOMATIC BAR SCREEN**

DESCRIPTION: **EXISTING SITE PLAN
 KEY PLAN**

DATE: AUGUST 2018
 GSP JOB No. 4291800
 SHEET: **M-1** 3 OF 27



- GENERAL NOTES:**
1. ALL DIMENSIONS AND ELEVATIONS OF EXISTING FACILITIES WERE OBTAINED FROM PREVIOUS CONSTRUCTION AND RECORD DRAWINGS. ALL EXISTING DIMENSIONS AND ELEVATIONS SHALL BE VERIFIED IN THE FIELD BY THE CONTRACTOR.
 2. CONTRACTOR WILL BE RESPONSIBLE FOR BY-PASSING OF SEWAGE AS NECESSARY IN ORDER TO CLEAN THE CHANNELS & WET WELL AND INSTALL THE AUTOMATIC BAR SCREEN EQUIPMENT.
 3. ALL PAVEMENT DISTURBED BY CONSTRUCTION SHALL BE REPLACED WITH 12" CRUSHED CONCRETE COMPACTED TO 98% MODIFIED PROCTOR AND 2" OF SUPERPAVE SP-9.5.
 4. REFER TO SP-63 & SP-64.
 5. CONTRACTOR SHALL OBTAIN A TEMPORARY TRAFFIC CONTROL PERMIT FOR THE ROAD CLOSURE INCLUDING A CERTIFIED MOT.

PLAN
SCALE: 1/4"=1'-0"

P:\4291800\N\N-2.dwg, Aug 15, 2018 - 9:27am

REV. NO.	DATE	DESCRIPTION	REV. BY

DESIGNED	G DICK
DRAWN	O GOMEZ
CHECKED	G JACOB



302 Knights Run Avenue, Suite 900
Tampa, FL 33602
813.254.5838

FIRM'S FLORIDA
CERT. NO.
AAP000034/CA3806
1B26000797/LC26000381

APPROVED BY:	DATE
JOSEPH B. BARKSDALE FLA. LIC. NO. 46545	

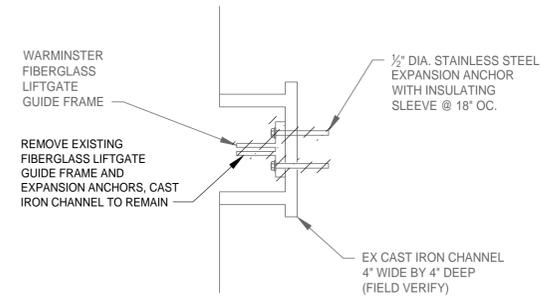
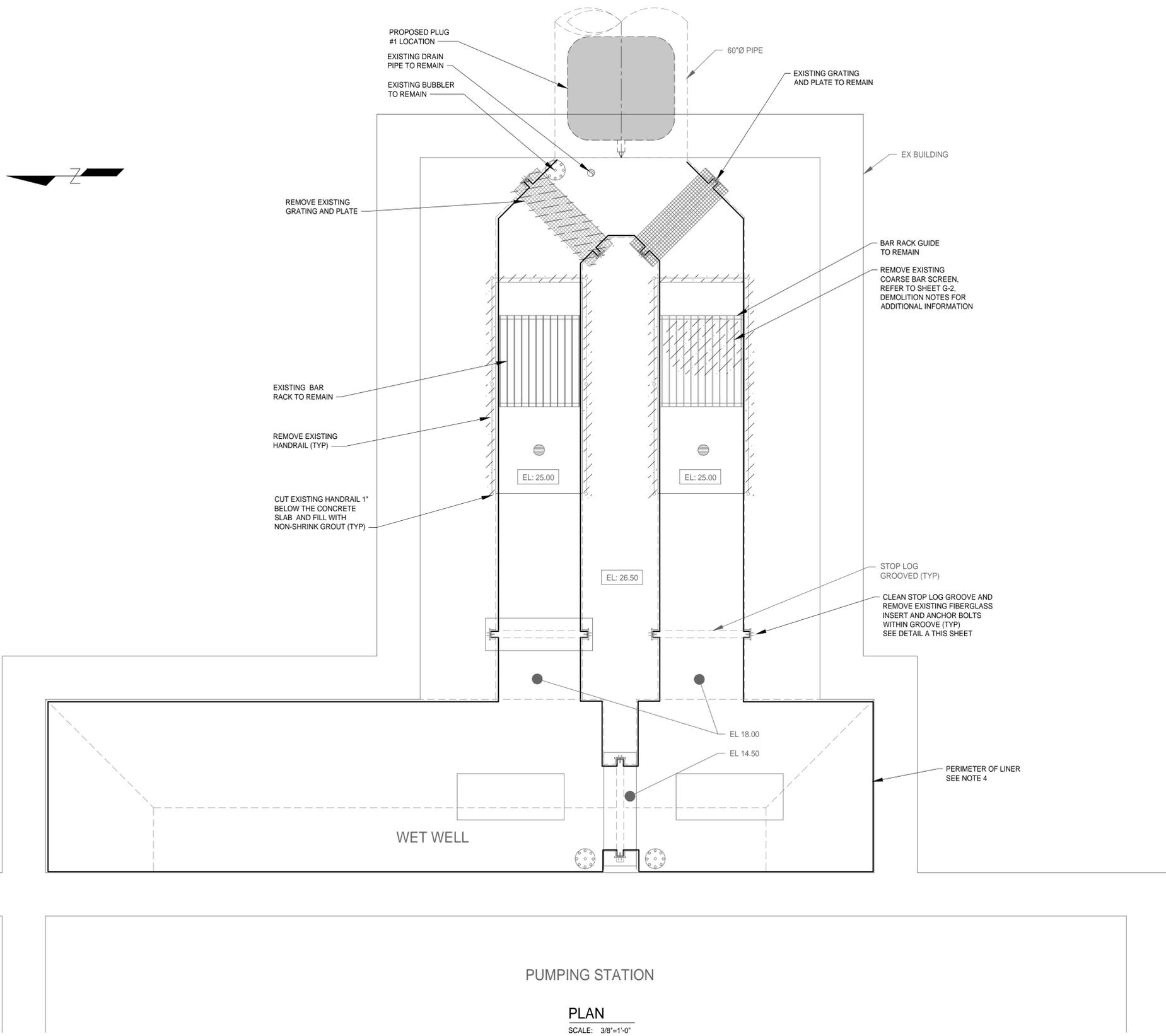


PROJECT: **CITY OF TAMPA
UNIVERSITY PUMPING STATION
AUTOMATIC BAR SCREEN**

DESCRIPTION: **UPPER PLAN LAYOUT
AND DEMOLITION**

DATE:	AUGUST 2018
GSP JOB No.	4291800
SHEET:	M-2 4 OF 27

P:\4291800\N\N-3.dwg, Aug 15, 2018 - 9:27am



DETAIL A
SCALE: NTS

- GENERAL NOTES:**
1. ALL DIMENSIONS AND ELEVATIONS OF EXISTING FACILITIES WERE OBTAINED FROM PREVIOUS CONSTRUCTION AND RECORD DRAWINGS. ALL EXISTING DIMENSIONS AND ELEVATIONS SHALL BE VERIFIED IN THE FIELD BY THE CONTRACTOR.
 2. REFER TO SHEET G-1 AND S-1 FOR ADDITIONAL NOTES.
 3. CONTRACTOR SHALL CLEAN ENTIRE CHANNEL & WET WELL AND ALL DEBRIS REMOVED PRIOR TO CONCRETE REPAIRS.
 4. CONTRACTOR WILL NEED TO CHECK ENTIRE STRUCTURE TO DETERMINE IF EXISTING PVC LINER IS FIRMLY ATTACHED AND CONCRETE IS IN SOUND CONDITION. ALL CORRODED CONCRETE AND UNATTACHED LINER MUST BE REMOVED AND CONCRETE REPAIRED AND COATED PER SPECIFICATIONS.

REV. NO.	DATE	DESCRIPTION	REV. BY

DESIGNED G DICK
DRAWN O GOMEZ
CHECKED G JACOB



302 Knights Run Avenue, Suite 900
Tampa, FL 33602
813.254.5838
FIRM'S FLORIDA
CERT. NO.
AAP000034/CA3806
IB26000797/LC26000381

APPROVED BY:

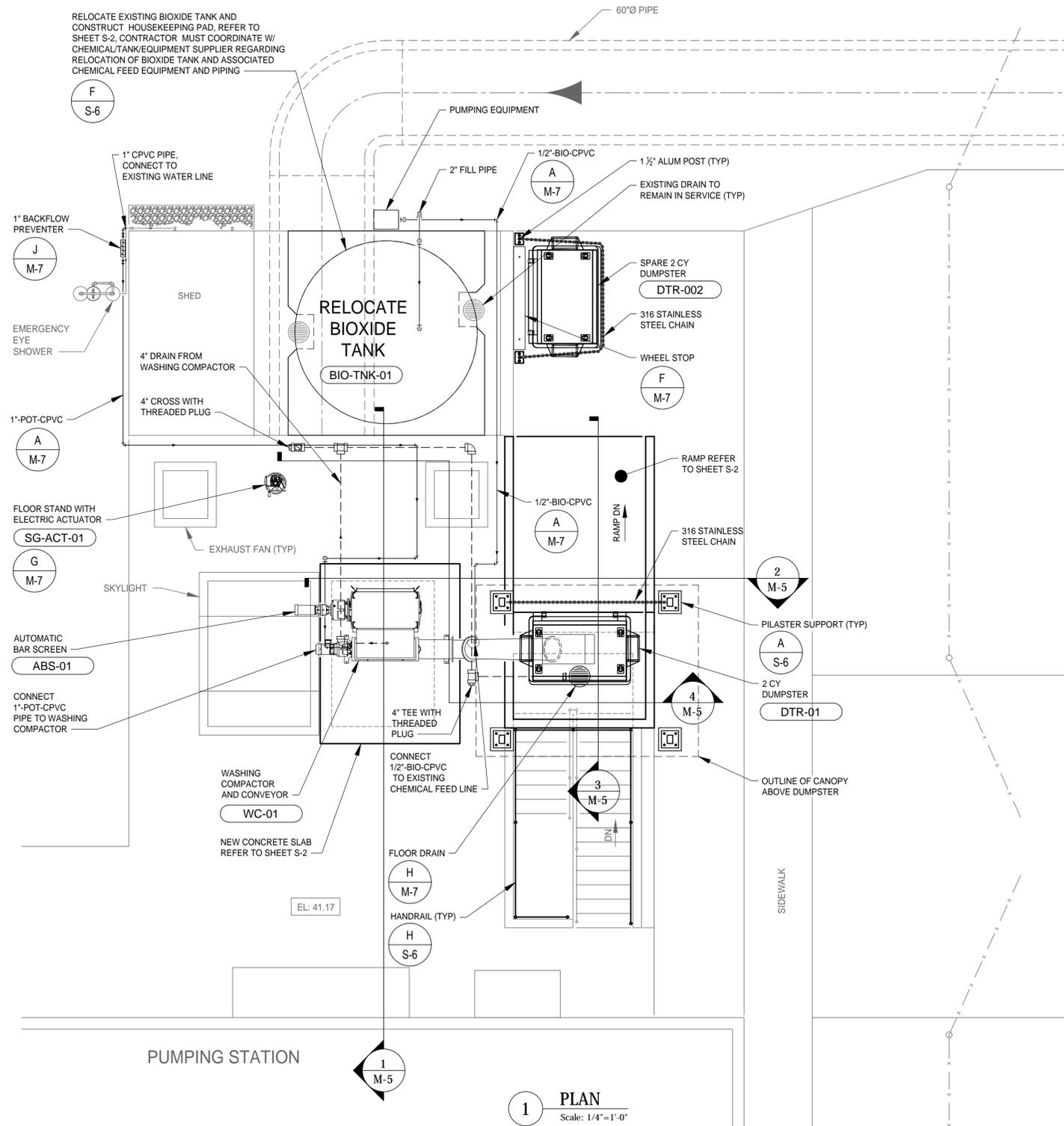
JOSEPH B. BARKSDALE
FLA. LIC. NO 46545



PROJECT: CITY OF TAMPA
UNIVERSITY PUMPING STATION
AUTOMATIC BAR SCREEN

DESCRIPTION: LOWER PLAN DEMOLITION

DATE: AUGUST 2018
GSP JOB No. 4291800
SHEET: M-3 5 OF 27



1 PLAN
Scale: 1/4" = 1'-0"

- GENERAL NOTES:**
1. ALL DIMENSIONS AND ELEVATIONS OF EXISTING FACILITIES WERE OBTAINED FROM PREVIOUS CONSTRUCTION AND RECORD DRAWINGS. ALL EXISTING DIMENSIONS AND ELEVATIONS SHALL BE VERIFIED IN THE FIELD BY THE CONTRACTOR.
 2. REFER TO SHEET G-1 AND S-1 FOR ADDITIONAL NOTES.
 3. REFER TO ELECTRICAL SHEETS FOR ADDITIONAL INFORMATION.

P:\4291800\W-M-4.dwg, Aug 15, 2018 - 9:28am

REV. NO.	DATE	DESCRIPTION	REV. BY

DESIGNED: G DICK
DRAWN: O GOMEZ
CHECKED: G JACOB



302 Knights Run Avenue, Suite 900
Tampa, FL 33602
813.254.5838
FIRM'S FLORIDA
CERT. NO.
AAP000034/CA3806
IB26000797/LC26000381

APPROVED BY: _____ DATE: _____
JOSEPH B. BARKSDALE
FLA. LIC. NO. 46545

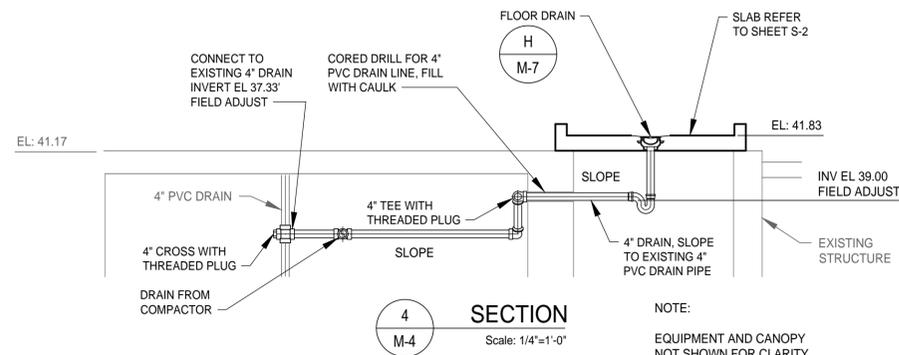
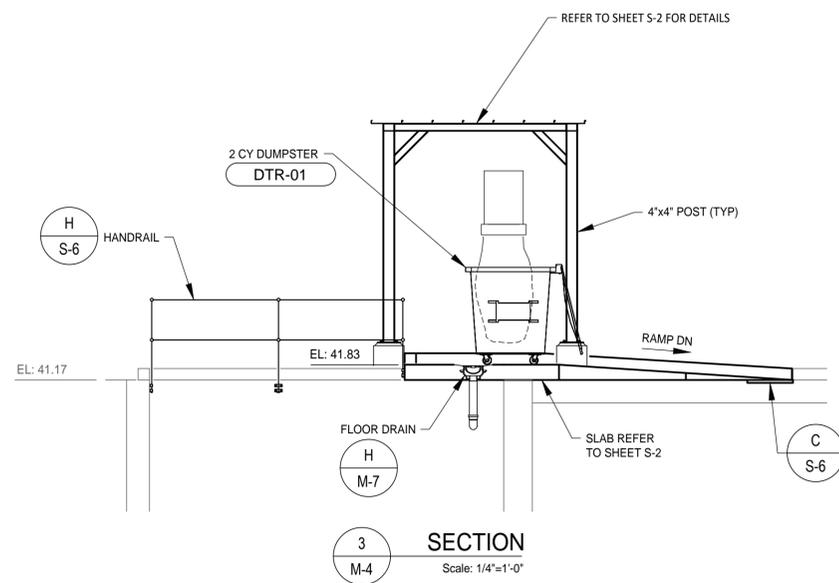
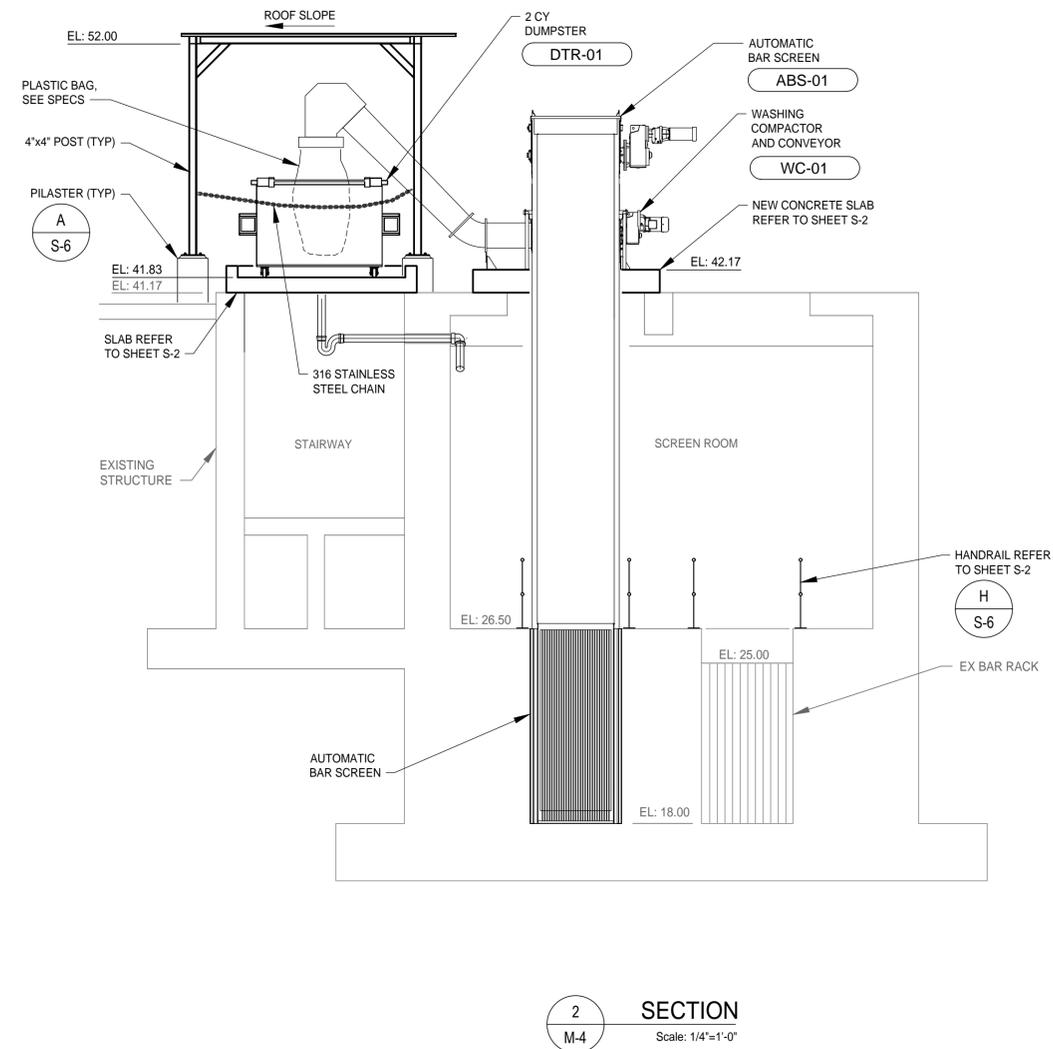
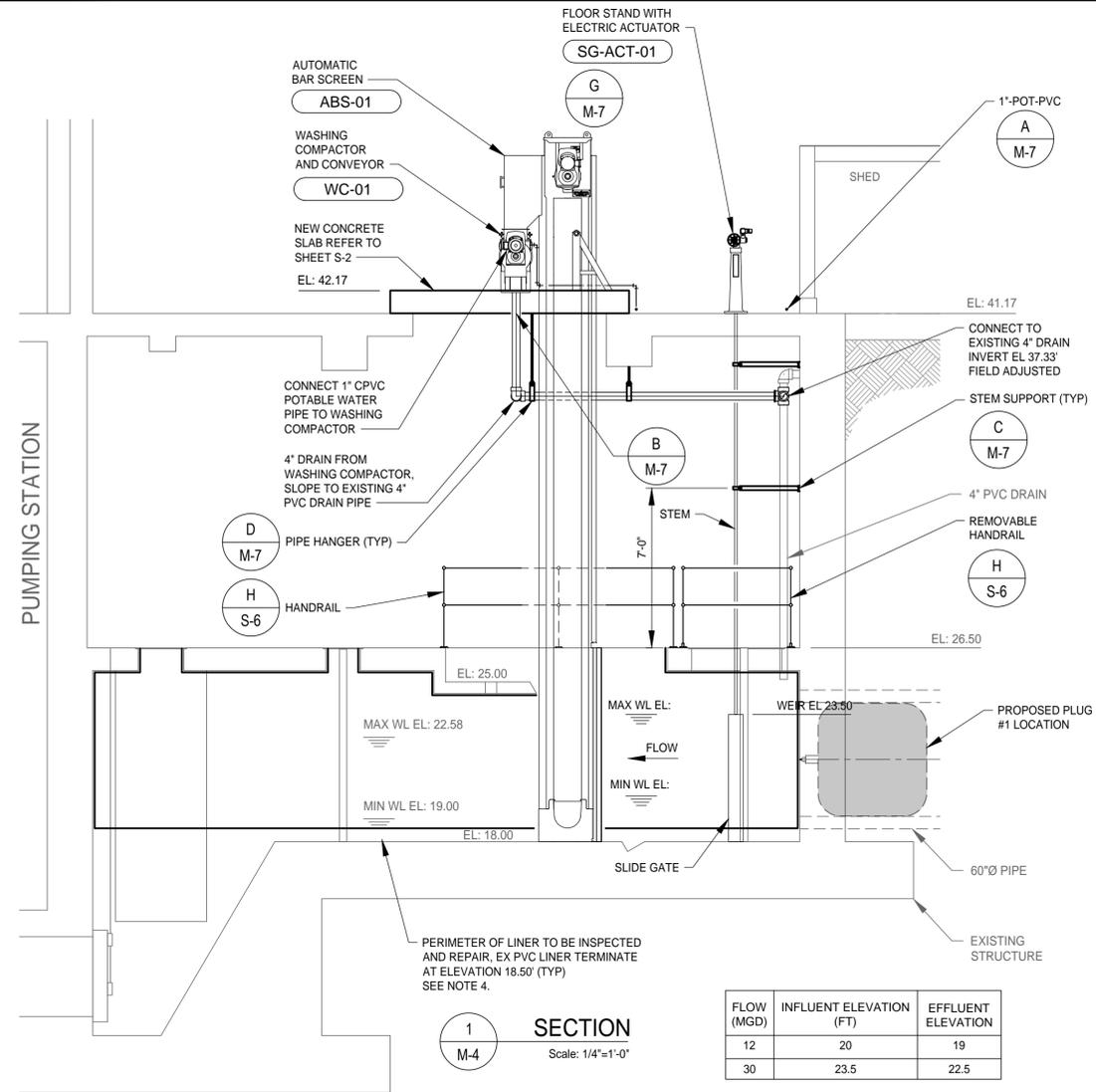


PROJECT: CITY OF TAMPA
UNIVERSITY PUMPING STATION
AUTOMATIC BAR SCREEN

DESCRIPTION: UPPER PLAN

DATE:	AUGUST 2018
GSP JOB No.	4291800
SHEET:	M-4 6 OF 27

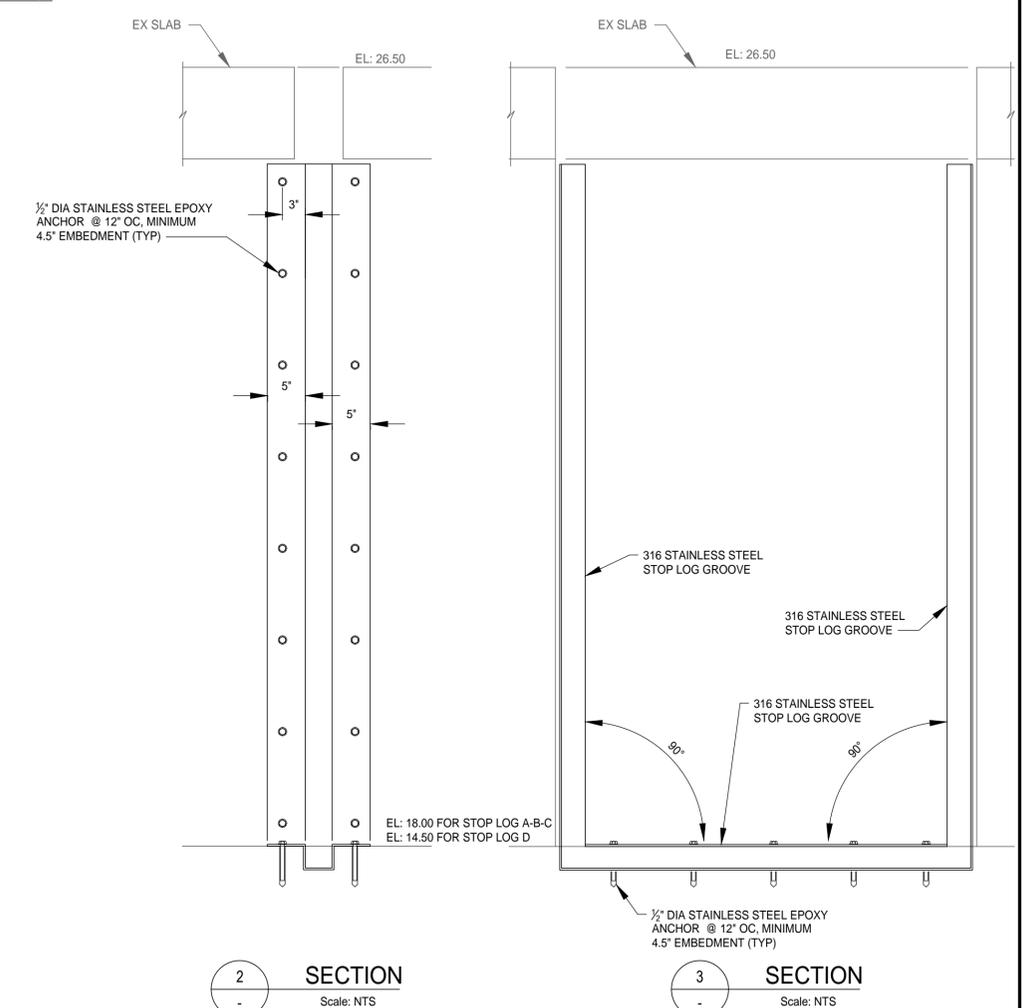
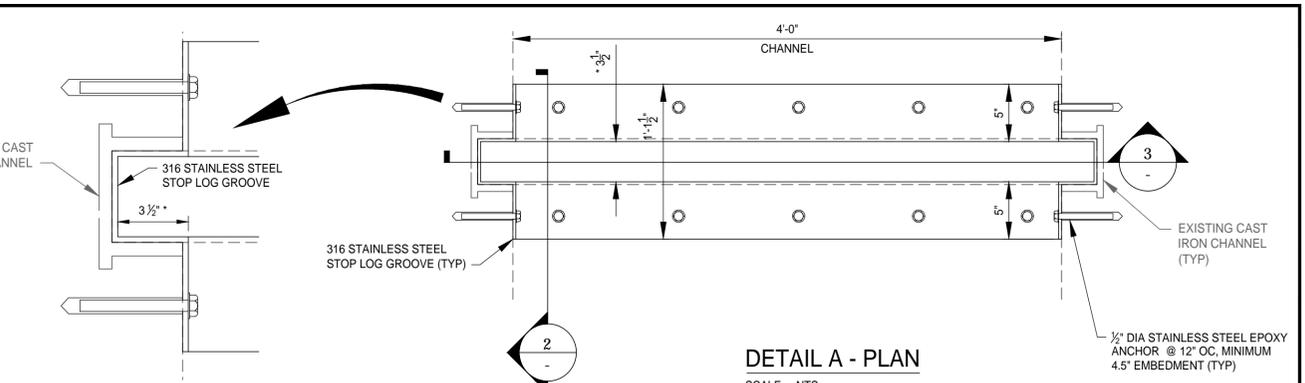
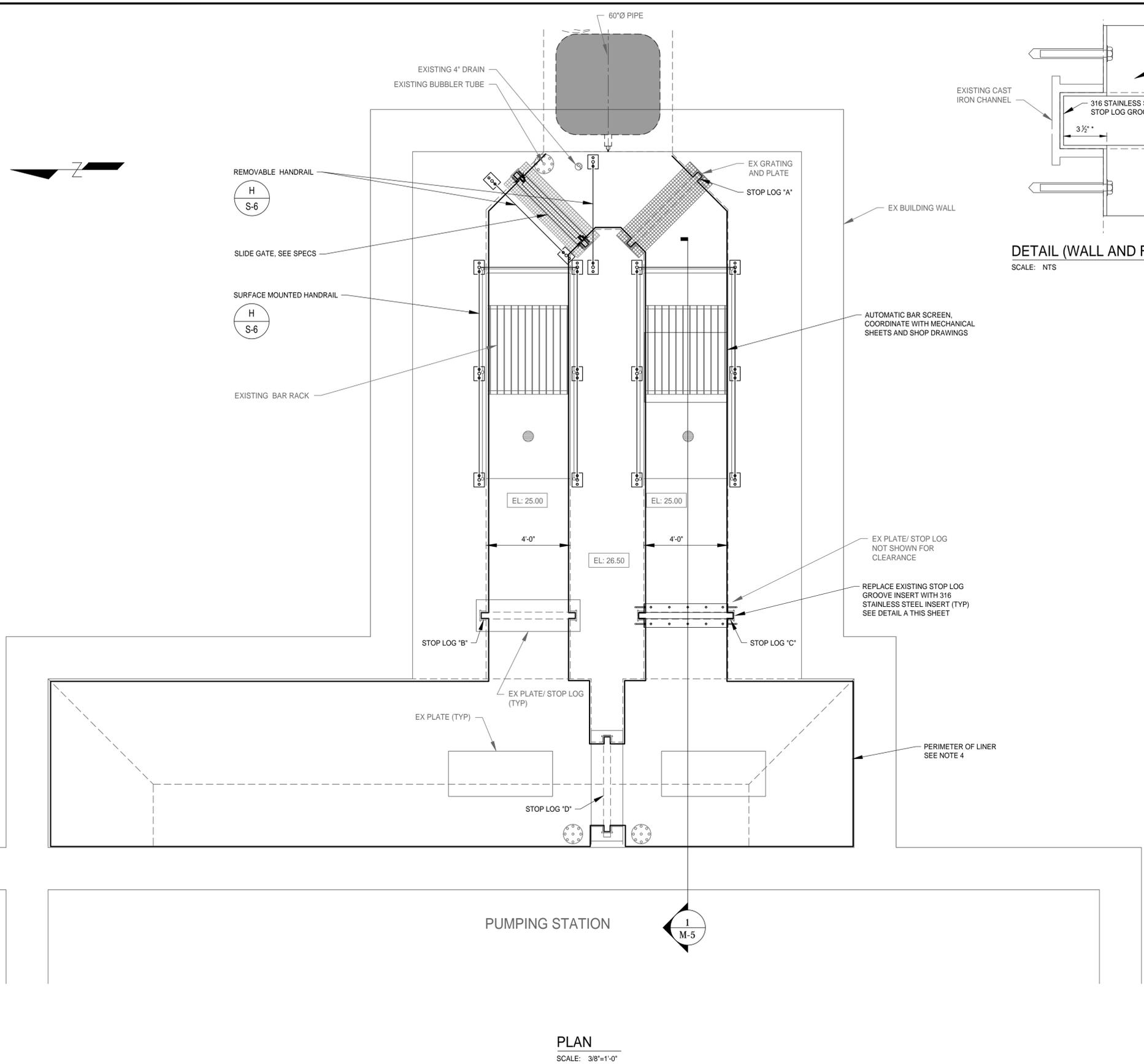
P:\4291800\N\M-5.dwg, Aug 15, 2018 - 9:29am



- GENERAL NOTES:**
- ALL DIMENSIONS AND ELEVATIONS OF EXISTING FACILITIES WERE OBTAINED FROM PREVIOUS CONSTRUCTION AND RECORD DRAWINGS. ALL EXISTING DIMENSIONS AND ELEVATIONS SHALL BE VERIFIED IN THE FIELD BY THE CONTRACTOR.
 - REFER TO SHEET G-1 AND S-1 FOR ADDITIONAL NOTES.
 - CONTRACTOR SHALL CLEAN ENTIRE CHANNEL & WET WELL AND ALL DEBRIS REMOVED PRIOR TO CONCRETE REPAIRS.
 - CONTRACTOR WILL NEED TO CHECK ENTIRE STRUCTURE TO DETERMINE IF EXISTING PVC LINER IS FIRMLY ATTACHED AND CONCRETE IS IN SOUND CONDITION. ALL CORRODED CONCRETE AND UNATTACHED LINER MUST BE REMOVED AND CONCRETE REPAIRED AND COATED PER SPECIFICATIONS.

DESIGNED: G DICK	 302 Knights Run Avenue, Suite 900 Tampa, FL 33602 813.254.5838 FIRM'S FLORIDA CERT. NO. AAP000034/CA3806 IB26000797/LC26000381	APPROVED BY:	 PROJECT: CITY OF TAMPA UNIVERSITY PUMPING STATION AUTOMATIC BAR SCREEN	DESCRIPTION: SECTIONS	DATE: AUGUST 2018
DRAWN: O GOMEZ		DATE: _____			GSP JOB No. 4291800
CHECKED: G JACOB		DATE: _____			SHEET: M-5
REV. NO. DATE DESCRIPTION		REV. BY			DATE

P:\4291800\N\N-G.dwg, Aug 15, 2018 - 9:30am



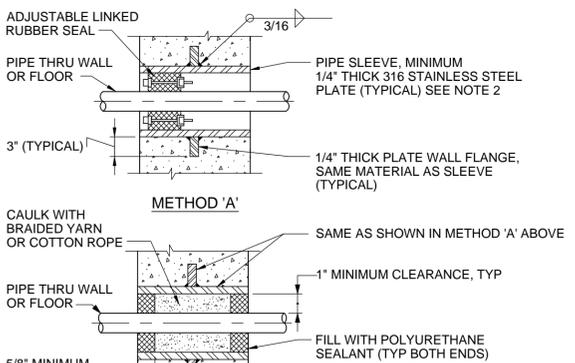
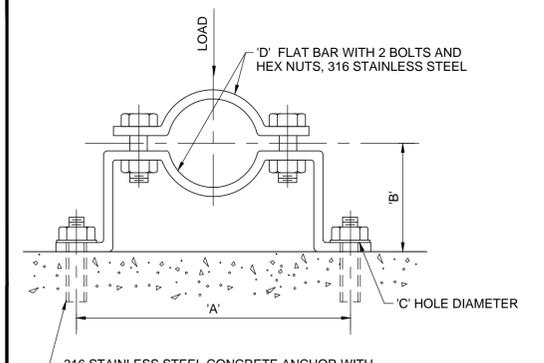
- GENERAL NOTES:**
1. ALL DIMENSIONS AND ELEVATIONS OF EXISTING FACILITIES WERE OBTAINED FROM PREVIOUS CONSTRUCTION AND RECORD DRAWINGS. ALL EXISTING DIMENSIONS AND ELEVATIONS SHALL BE VERIFIED IN THE FIELD BY THE CONTRACTOR.
 2. REFER TO SHEET G-1 AND S-1 FOR ADDITIONAL NOTES.
 3. REFER TO ELECTRICAL SHEETS FOR ADDITIONAL INFORMATION.
 4. CONTRACTOR WILL NEED TO CHECK ENTIRE STRUCTURE TO DETERMINE IF EXISTING PVC LINER IS FIRMLY ATTACHED AND CONCRETE IS IN SOUND CONDITION. ALL CORRODED CONCRETE AND UNATTACHED LINER MUST BE REMOVED AND CONCRETE REPAIRED AND COATED PER SPECIFICATIONS.
 5. * CONTRACTOR TO VERIFY ALL EXISTING STOP LOG GROOVE DIMENSIONS BEFORE FABRICATING NEW 316 SS STOP LOG GROOVES. ALL PROPOSED STOP LOG GROOVES SHALL BE THE SAME UNIFORM WIDTH AND DEPTH (FOR STOP LOG A,B & C).
 6. EXISTING CAST IRON GROOVES SHALL BE HIGH PRESSURE WASHED OR SAND BLASTED TO REMOVE ALL LOOSE, UNSOUND MATERIAL BEFORE INSTALLING OF NEW STOP LOG GROOVES. CONTRACTOR MAY NEED TO FILL VOID AREAS WITH CONCRETE REPAIR MATERIAL OR OTHER APPROVED MATERIAL TO PREVENT VOIDS BEHIND NEW STOP LOG GROOVES.
 7. SAND BLASTING SHALL BE 100% CONTAINED.

DESIGNED	G DICK	<p>302 Knights Run Avenue, Suite 900 Tampa, FL 33602 813.254.5838</p> <p>FIRM'S FLORIDA CERT. NO. AAP000034/CA3806 1B26000797/LC26000381</p>	APPROVED BY:	<p>City of Tampa Florida</p>	PROJECT:	CITY OF TAMPA UNIVERSITY PUMPING STATION AUTOMATIC BAR SCREEN	DESCRIPTION:	LOWER PLAN SECTIONS AND DETAILS	DATE:	AUGUST 2018	
DRAWN	O GOMEZ							GSP JOB No.	4291800		
CHECKED	G JACOB				JOSEPH B. BARKSDALE FLA. LIC. NO 46545					SHEET:	M-6
REV. NO.	DATE		DESCRIPTION		REV. BY	DATE					8 OF 27

PIPE DIAMETER	DIMENSIONS IN INCHES				LOAD RATING LBS
	'A'	'B' SEE NOTE 3 BELOW	'C' HOLE DIAMETER	'D' FLAT BAR SIZE	
3/4	5 15/16	2 1/2	7/16	3/16x1 1/4	190
1	6 1/4	2 5/8	7/16	3/16x1 1/4	190
1 1/4	6 11/16	2 3/4	7/16	3/16x1 1/4	190
1 1/2	6 15/16	3	7/16	3/16x1 1/4	190
2	8 5/16	3 3/16	7/16	1/4x1 1/4	420
2 1/2	8 7/8	3 7/16	7/16	1/4x1 1/4	420
3	9 1/8	3 3/4	7/16	1/4x1 1/4	420
3 1/2	10 1/16	4	7/16	1/4x1 1/4	420
4	10 9/16	4 1/4	9/16	1/4x1 1/2	610
5	11 3/4	4 3/4	9/16	1/4x1 1/2	610
6	14 3/8	5 5/16	9/16	3/8x1 1/2	870
8	16 5/8	6 5/16	9/16	3/8x1 1/2	870

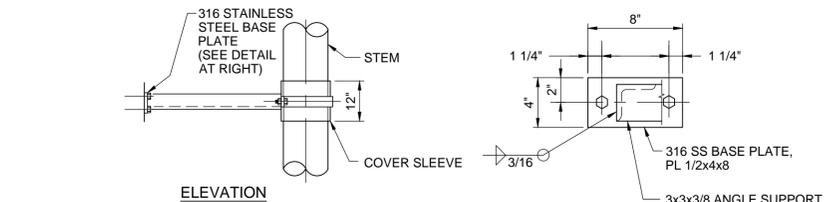
- NOTES:
- WHERE SUBMERGED, PIPE CLAMP, ANCHORS, SHIELD, NUTS AND LOCKWASHER TO BE TYPE 316 STAINLESS STEEL.
 - WHEN USED WITH PVC OR FIBERGLASS PIPE, PROVIDE STEEL SHIELD WITH LOOSE FIT AROUND PIPE AT CLAMP. WRAP COPPER TUBING WITH 2" WIDE STRIP OF RUBBER AT CLAMP.
 - FOR FLANGED PIPING, INCREASE 'B' DIMENSION AS REQUIRED.

A PIPE CLAMP FOR INDIVIDUAL PIPES
(FOR PIPE 8" DIAMETER AND SMALLER)



- NOTES:
- THESE SLEEVED PIPE OPENING DETAILS ARE TO BE USED IN DRY WALLS ONLY AND SHALL NOT BE USED FOR WALLS WITH WATER ON ONE OR BOTH SIDES.
 - SLEEVES ARE NOT REQUIRED IN CORE DRILLED WALLS, PENETRATIONS THROUGH EXISTING WALLS, OR FLOORS.

B SLEEVED PIPE OPENING



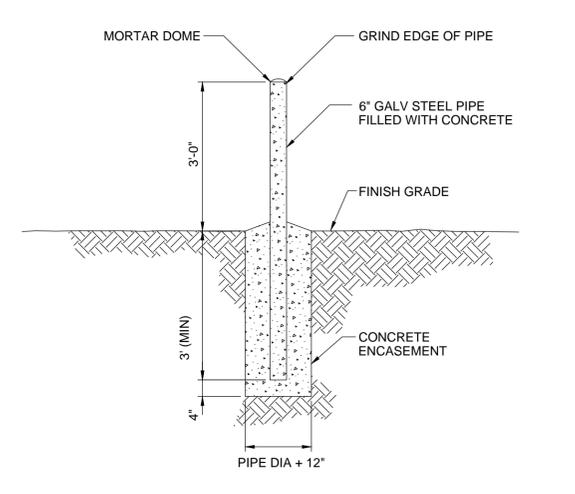
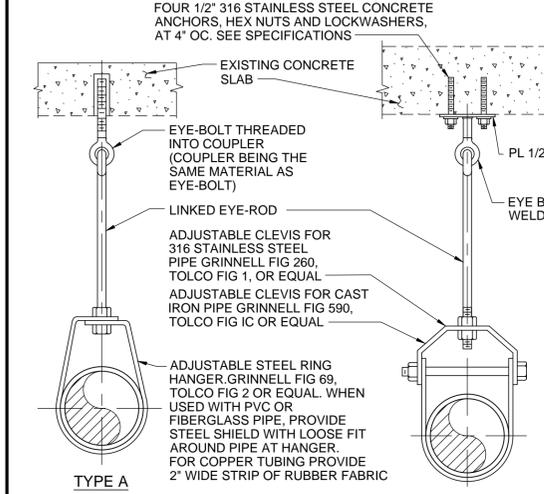
- NOTES:
- USE 5/8" 316 STAINLESS STEEL CONCRETE ANCHORS WITH NUTS AND LOCK WASHERS, SEE SPECIFICATIONS.

C STEM SUPPORT

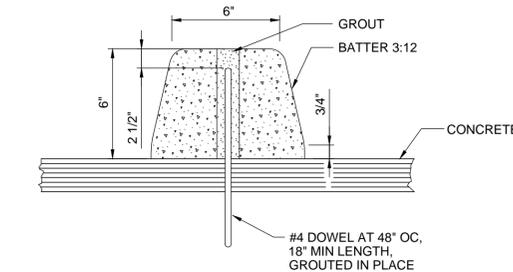
PIPE DIAMETER (INCHES)	ROD DIAMETER (INCHES)	MAX SUPPORT SPACING (FEET)		WEIGHT LIMIT (LBS)	
		STEEL PIPE	CI PIPE	TYPE A	TYPE B
1 & SMALLER	3/8	6	10	300	610
1 1/4 TO 2	3/8	10	10	300	610
2 1/2 TO 3 1/2	1/2	12	10	525	1130
4 TO 5	5/8	14	10	650	1430
6, 8	3/4	17	10	1000	1940
10, 12	7/8	18	---	---	3600
14, 16	1	20	---	---	3800

- NOTES:
- DESIGN IS FOR STATIC LOAD, ONLY.
 - FOR ADDITIONAL REQUIREMENTS SEE SPECIFICATION SECTION 'PIPE SUPPORTS'.
 - ALL HANGER COMPONENTS SHALL BE 316 STAINLESS STEEL.

D PIPE HANGER FOR EXISTING CONCRETE
(FOR PIPE 16" DIAMETER AND SMALLER)

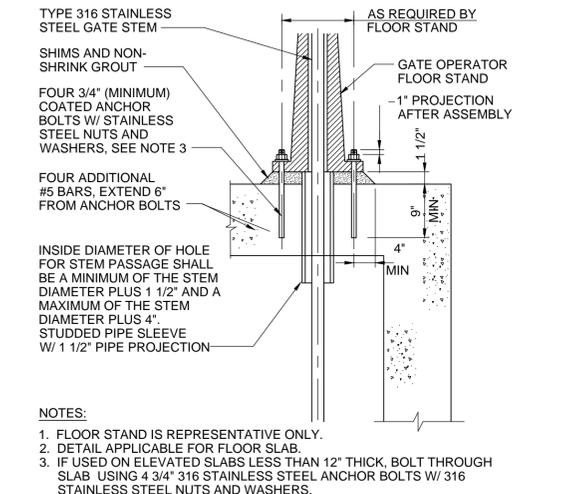


E GUARD POST



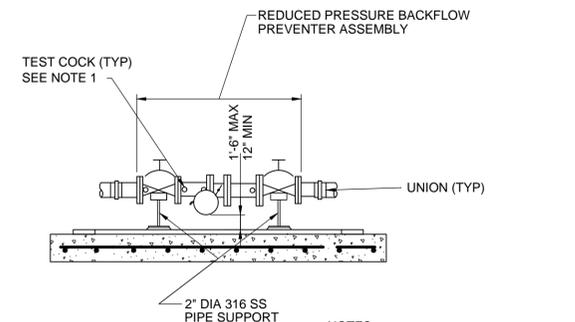
- NOTES:
- WHEEL STOP SHALL BE CONSTRUCTED OF PORTLAND CEMENT CONCRETE.
 - EPOXY CEMENT COAT SHALL BE APPLIED TO CONCRETE SURFACE PRIOR TO INSTALLATION OF WHEEL STOP.
 - ALL EXPOSED CORNERS ON WHEEL STOP TO BE ROUNDED WITH A 1/2" RADIUS.
 - PRECAST WHEEL STOP SHALL BE 5'-0" LONG UNLESS INDICATED OTHERWISE.

F PRECAST WHEEL STOP



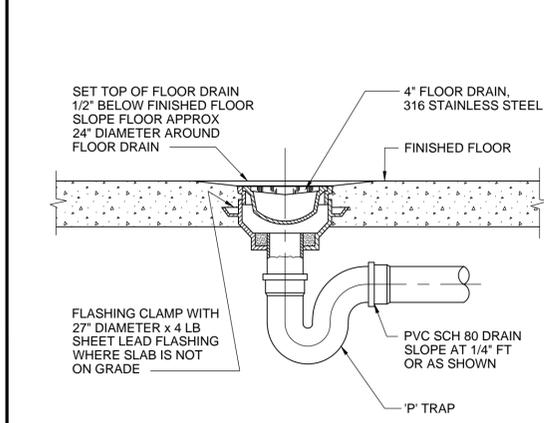
- NOTES:
- FLOOR STAND IS REPRESENTATIVE ONLY.
 - DETAIL APPLICABLE FOR FLOOR SLAB.
 - IF USED ON ELEVATED SLABS LESS THAN 12" THICK, BOLT THROUGH SLAB USING 4 3/4" 316 STAINLESS STEEL ANCHOR BOLTS W/ 316 STAINLESS STEEL NUTS AND WASHERS.

G FLOOR STAND INSTALLATION



- NOTES:
- TEST COCKS AND SHUT-OFF MUST BE SUPPLIED AS SHOWN.
 - DISCHARGE PORT MUST BE KEPT CLEAR OF OBSTRUCTION AT ALL TIMES.

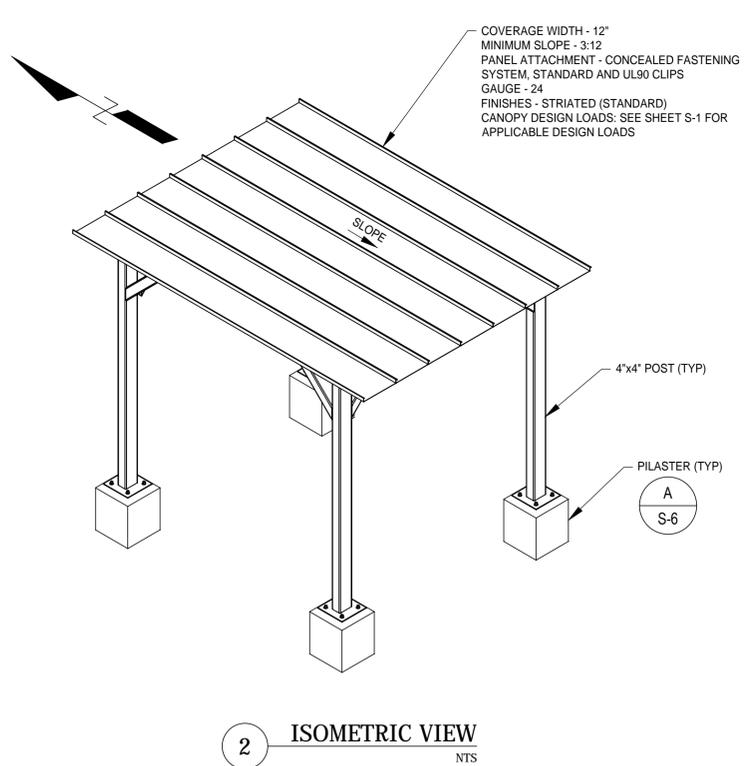
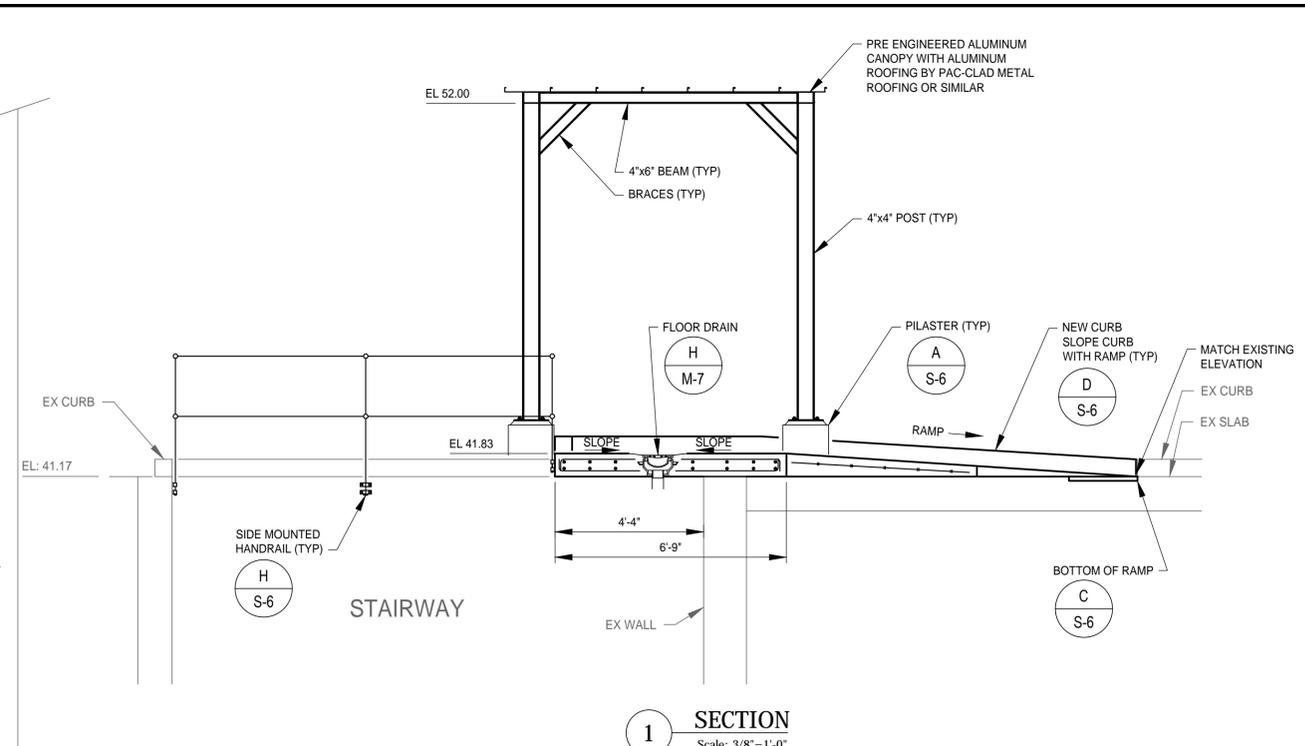
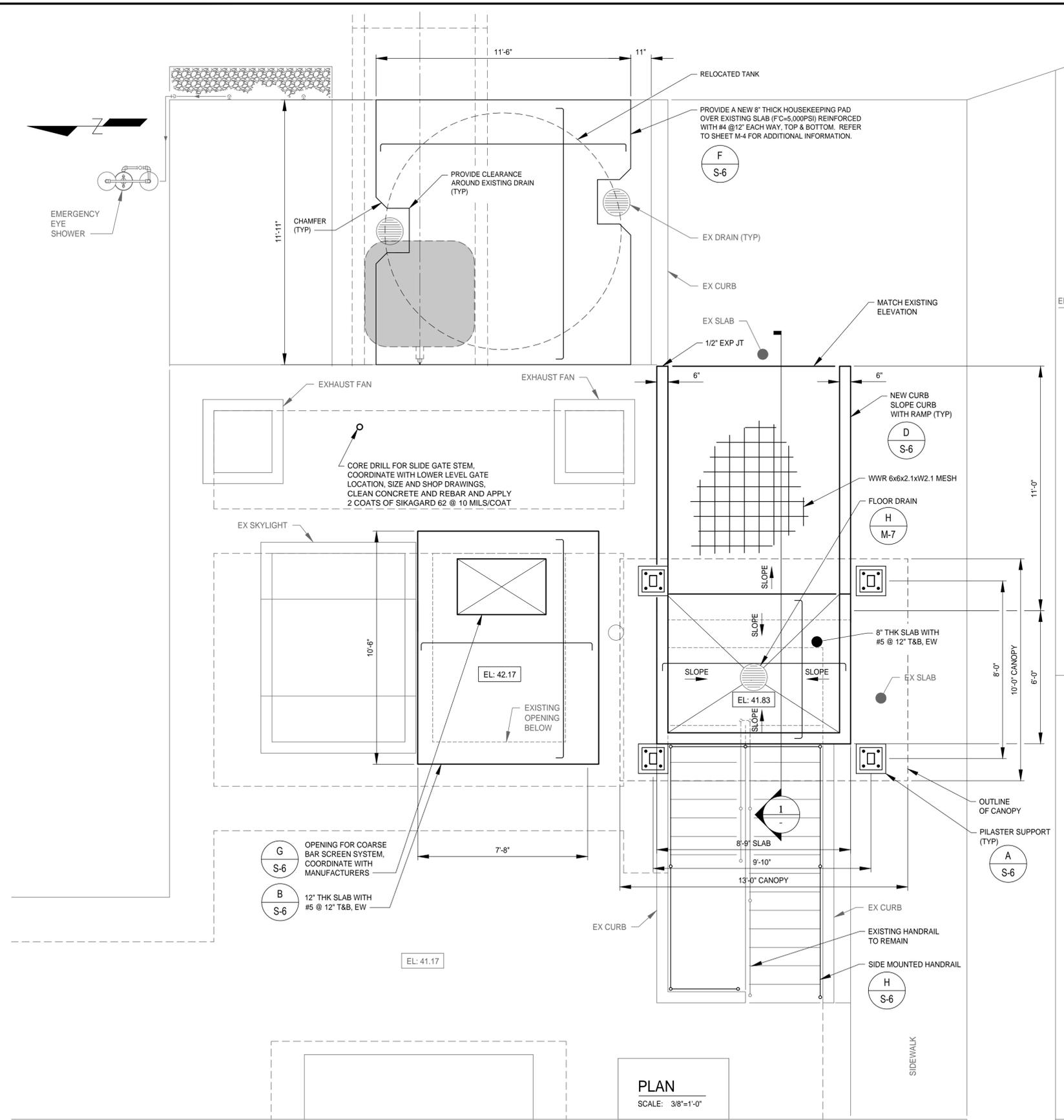
J BACKFLOW PREVENTER



H FLOOR DRAIN

P:\4291800\N\M-7.dwg, Aug 15, 2018 - 9:30am

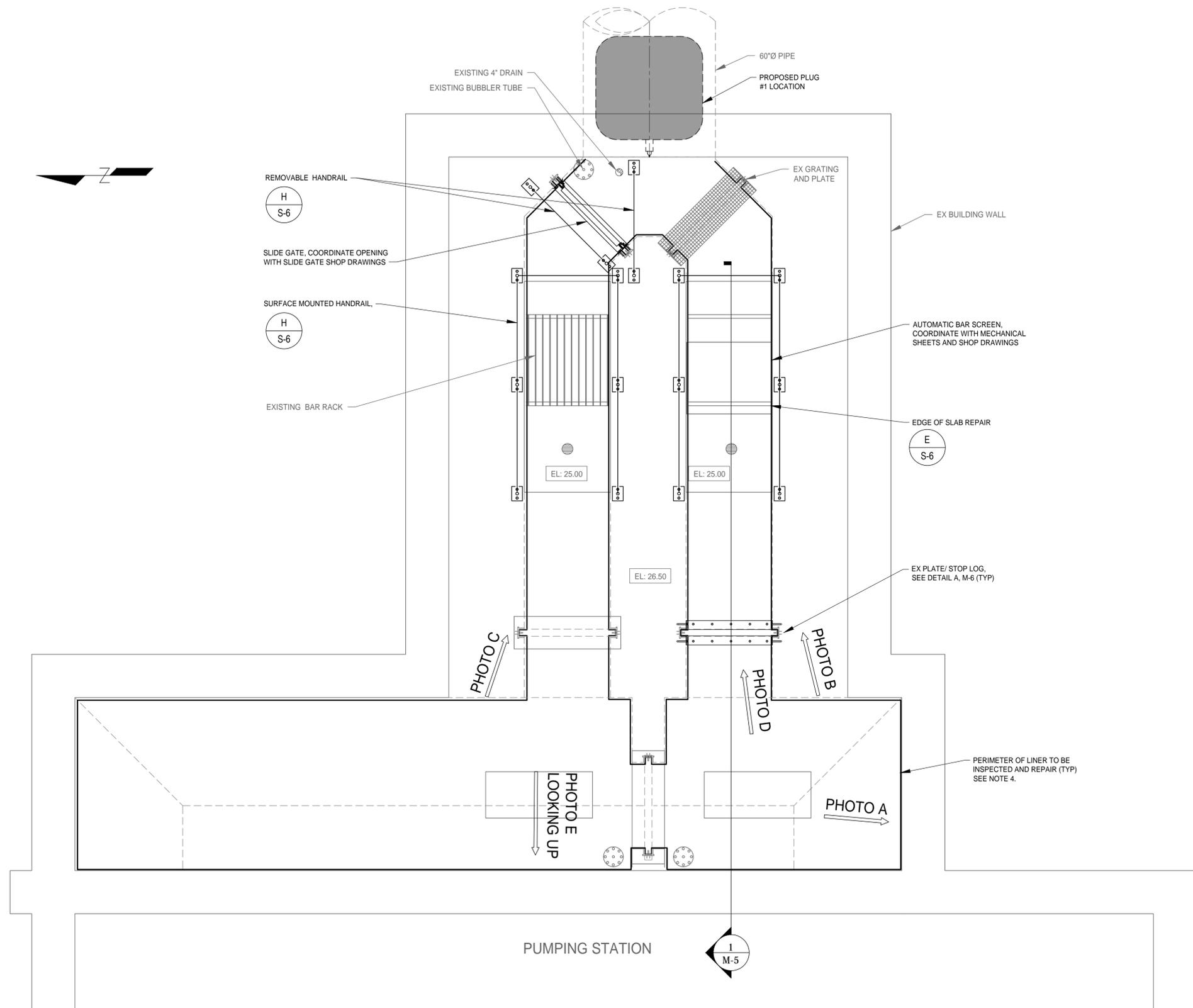
P:\4291800\A\S-2.dwg, Aug 15, 2018 - 9:32am



- GENERAL NOTES:**
- ALL DIMENSIONS AND ELEVATIONS OF EXISTING FACILITIES WERE OBTAINED FROM PREVIOUS CONSTRUCTION AND RECORD DRAWINGS. ALL EXISTING DIMENSIONS AND ELEVATIONS SHALL BE VERIFIED IN THE FIELD BY THE CONTRACTOR.
 - REFER TO SHEET G-1 AND S-1 FOR ADDITIONAL NOTES.

DESIGNED	RJ TAZELAAR	<p>302 Knights Run Avenue, Suite 900 Tampa, FL 33602 813.254.5838 FIRM'S FLORIDA CERT. NO. AAP000034/CA3806 IB2600797/LC26000381</p>	APPROVED BY:	<p>CITY OF TAMPA</p>	PROJECT:	CITY OF TAMPA UNIVERSITY PUMPING STATION AUTOMATIC BAR SCREEN	DESCRIPTION:	UPPER PLAN, SECTION AND ISOMETRIC VIEW	DATE:	AUGUST 2018
DRAWN	O GOMEZ		CHECKED		J FUKUDA	DATE:		GSP JOB No.	4291800	
REV. NO.			REV. BY			JASON FUKUDA FLA. LIC. NO. 66000		SHEET:	S-2	11 OF 27

P:\4291800\N\S-3.dwg, Aug 15, 2018 - 9:33am



PUMPING STATION
PLAN
SCALE: 3/8"=1'-0"

- GENERAL NOTES:**
1. ALL DIMENSIONS AND ELEVATIONS OF EXISTING FACILITIES WERE OBTAINED FROM PREVIOUS CONSTRUCTION AND RECORD DRAWINGS. ALL EXISTING DIMENSIONS AND ELEVATIONS SHALL BE VERIFIED IN THE FIELD BY THE CONTRACTOR.
 2. REFER TO SHEET G-1 AND S-1 FOR ADDITIONAL NOTES.
 3. FOR PHOTO LOCATION REFER TO SHEET S-4.
 4. CONTRACTOR WILL NEED TO CHECK ENTIRE STRUCTURE TO DETERMINE IF EXISTING PVC LINER IS FIRMLY ATTACHED AND CONCRETE IS IN SOUND CONDITION. ALL CORRODED CONCRETE AND UNATTACHED LINER MUST BE REMOVED AND CONCRETE REPAIRED AND COATED PER SPECIFICATIONS.

REV. NO.	DATE	DESCRIPTION	REV. BY

DESIGNED: R.J. TAZELAAR
DRAWN: O. GOMEZ
CHECKED: J. FUKUDA

302 Knights Run Avenue, Suite 900
Tampa, FL 33602
813.254.5838
FIRM'S FLORIDA
CERT. NO.
AAP000034/CA3806
IB26000797/LC26000381

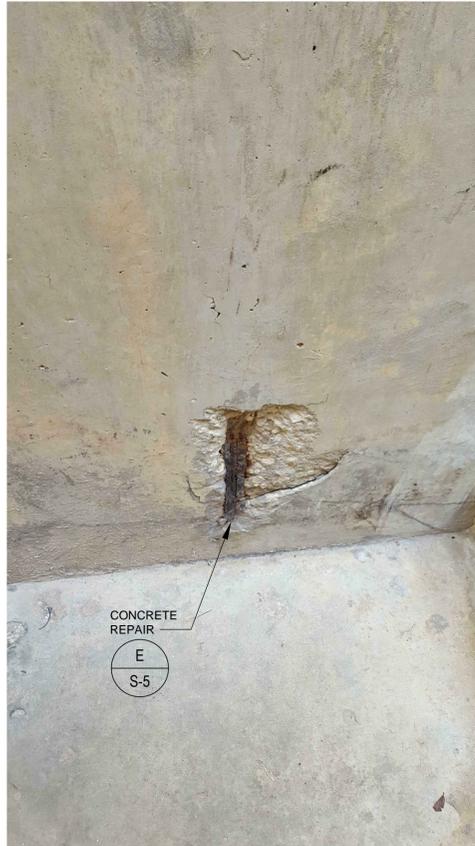
APPROVED BY: _____ DATE: _____
JASON FUKUDA
FLA. LIC. NO. 66000



PROJECT: CITY OF TAMPA
UNIVERSITY PUMPING STATION
AUTOMATIC BAR SCREEN

DESCRIPTION: LOWER PLAN

DATE:	AUGUST 2018
GSP JOB No.	4291800
SHEET:	S-3
	12 OF 27



A PHOTO
NTS



B PHOTO
NTS



C PHOTO
NTS



D PHOTO
NTS



E PHOTO
NTS

GENERAL NOTES:

1. THE PHOTOS PRESENTED ON THIS SHEET PROVIDE EXAMPLES AT CONCRETE REPAIR TYPES. AN ESTIMATED QUANTITY FOR THE VARIOUS TYPES OF REPAIRS IS PROVIDED IN THE BID FORM. THE ACTUAL NUMBER OF EACH CONCRETE REPAIR TYPE WILL BE DETERMINED AFTER CONTRACT EXECUTION.

P:\4291800\N\S-4.dwg, Aug 15, 2018 - 9:34am

DESIGNED	RJ TAZELAAR	 302 Knights Run Avenue, Suite 900 Tampa, FL 33602 813.254.5838 FIRM'S FLORIDA CERT. NO. AAP000034/CA3806 IB26000797/LC26000381	APPROVED BY:	 CITY OF TAMPA UNIVERSITY PUMPING STATION AUTOMATIC BAR SCREEN	DESCRIPTION:	CONCRETE REPAIR PHOTOS	DATE:	AUGUST 2018	
DRAWN	O GOMEZ						GSP JOB No.	4291800	
CHECKED	J. FUKUDA		JASON FUKUDA FLA. LIC. NO 66000		DATE		SHEET:	S-4	13 OF 27
REV. NO.	DATE		DESCRIPTION		REV. BY				

- USE REPAIR MATERIALS PER MANUFACTURERS INSTRUCTIONS
- PROVIDE TEMPORARY SHORING DURING BEAM REPAIR UNTIL BEAM REPAIR IS COMPLETE AND REPAIR MATERIAL IS CURED A MINIMUM OF SEVEN (7) DAYS. COORDINATE LOCATION AND DESIGN OF SHORING WITH OWNER'S OPERATIONAL REQUIREMENTS. SHORING DRAWINGS SHALL BE SIGNED AND SEALED BY ENGINEER LICENSED IN FLORIDA.
- PREVENT VEHICULAR TRAFFIC FROM LOADING BEAM UNTIL REPAIR MATERIAL HAS ATTAINED A MINIMUM STRENGTH OF 3000 PSI AND REPAIR MATERIAL IS CURED A MINIMUM OF SEVEN (7) DAYS.
- PROVIDE TESTING AGENCY TO PERFORM TESTING OF REPAIR MATERIAL ACCORDING TO ASTM C39
- ARRANGE TO HAVE A REPRESENTATIVE OF REPAIR MATERIAL MFR VERIFY INSTALLATION AND PREPARATION ACCORDING TO MANUFACTURERS POINTED INSTRUCTIONS.

A GENERAL NOTES

- EXPOSED SURFACES OF WORK ELEMENTS MUST BE THOROUGHLY CLEANED PRIOR TO APPLYING REPAIR.
- TAKE EXTREME CARE WHEN REMOVING EXISTING SPALLED CONCRETE SO AS NOT TO DAMAGE EXISTING REINFORCING STEEL. COMPLETELY CLEAN EXPOSED EXISTING REINFORCING STEEL TO REMOVE RUST. NOTIFY ENGINEER IF CORRODED REBAR HAS LOST CROSS-SECTIONAL AREA.
- PROVIDE EPOXY MODIFIED CEMENTITIOUS CORROSION INHIBITING BONDING AGENT EQUIVALENT TO SIKA CRETE 211 SCC PLUS PER MANUFACTURER'S APPLICATION REQUIREMENTS.
- POWER DRIVEN HAND TOOLS USED FOR REMOVAL OF UNSOUND CONCRETE ARE SUBJECT TO THE FOLLOWING RESTRICTONS:
 - A. PNEUMATIC HAMMERS HEAVIER THAN 35 LB. CLASS SHALL NOT BE USED.
 - B. CHIPPING HAMMERS OF THE 15 LB. CLASS SHALL BE USED TO REMOVE CONCRETE FROM BEHIND REINFORCING STEEL.

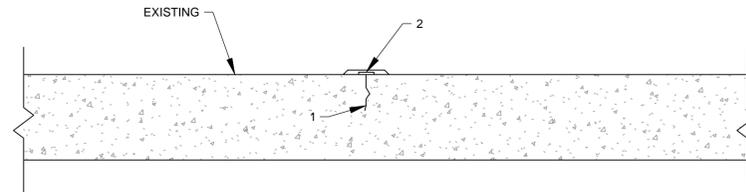
B CONCRETE WALL REPAIR NOTES

- SOUND TEST AND MARK CONCRETE AREA TO BE REMOVED.
- REMOVE ALL UNSOUND DETERIOTED CONCRETE
- COAT REINFORCING WITH TWO COATS OF SIKAAARMATED 110 EPOCEM
- FORM/POUR REPAIR OPTION - SIKACRETE 211SCC PLUS FROM 1" - 8" PER LIFT.
- HAND APPLIED REPAIR OPTION - SIKAQUICK VOH - FROM 1/8" - 3" PER LIFT.

F CONCRETE BEAM REPAIR NOTES

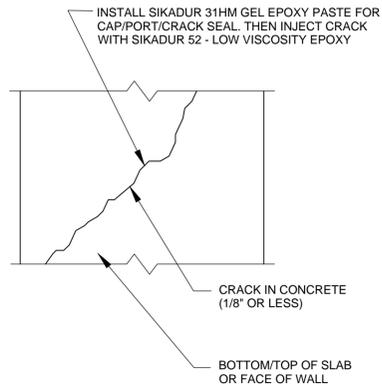
- REMOVE UNATTACHED PVC LINER AND COAT WITH 125 MILS OF C.P.P. AND OVERLAP PVC LINER BY 3"
- MAY REQUIRED ADDITIONAL ANCHORS AT THE EDGE OF EXISTING PVC LINER.

G WET WELL REPAIRS

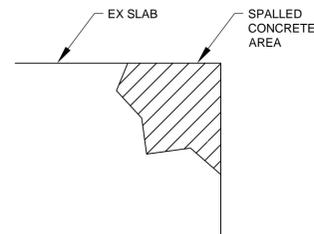


1. ROUT ALL CRACKS TO A MINIMUM OF 1/4" WIDE BY 1/4" DEEP.
2. APPLY A 6" WIDE LAYER OF SIKAFLEX 2c EURETHANE WITH A 4" NAP ROLLER. WHILE THE PRODUCT IS STILL WET, INSTALL A LAYER OF SIKA FLEXITAPE AND APPLY A SECOND LAYER OF SIKAFLEX 2c EURETHANE.

C CRACK TREATMENT
NTS



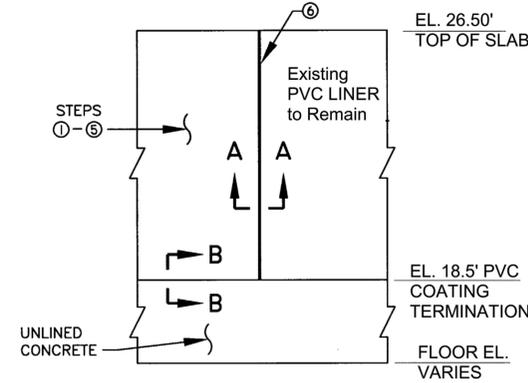
D HAIRLINE CRACK REPAIR
NTS



NOTES:

1. THIS SURFACE MUST BE MECHANICALLY PREPARED. AREA TO BE REPAIRED MUST BE CLEAN, SOUND AND FREE OF CONTAMINANTS. ALL LOOSE AND DETERIORATED CONCRETE MUST BE REMOVED.
2. CLEAN ALL EXPOSED REBAR AND COAT WITH SIKA ARMATED 110.
3. RECAST TO ORIGINAL SURFACE PROFILE USING SIKAQUICK VOH.
4. FINISH WITH MEDIUM BROOM FINISH.

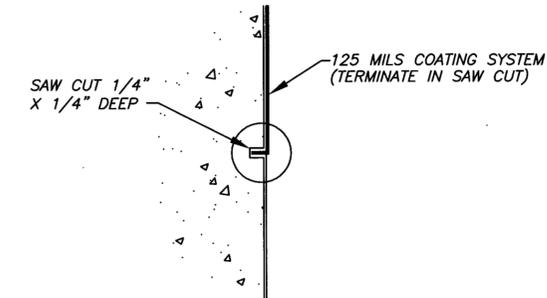
E CONCRETE REPAIR
NTS



SECTION VIEW
PROP. COATING/EX. PVC LINER TRANSITION DETAIL
N.T.S.

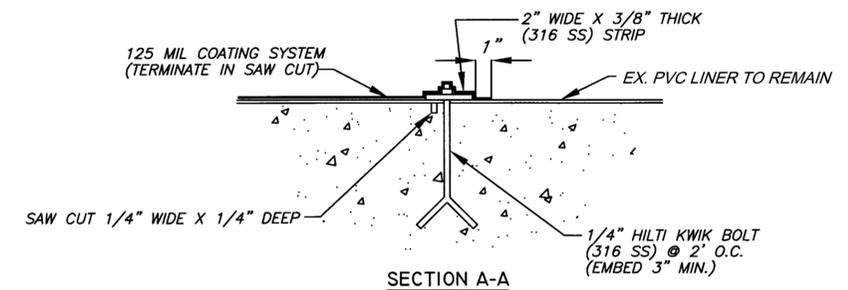
- ① REMOVE FAILING PVC LINER UNTIL SOUND LINER IS OBSERVED.
- ② HYDROBLAST* UNLINED DETERIORATED CONCRETE TO STRUCTURALLY SOUND CONCRETE
- ③ EXPOSED REINFORCING STEEL SHALL BE CLEANED, PREPARED AND COATED WITH CORROSION INHIBITOR.
- ④ FILL VOIDS OF DETERIORATED CONCRETE SECTIONS WITH REPAIR MATERIAL IN ACCORDANCE WITH THE SPECIFICATIONS AND MANUFACTURER'S INSTRUCTIONS.
- ⑤ SAW CUT COATING TERMINATION AND COAT 125 MILS MDFT COATING, SEE SPECIFICATIONS.
- ⑥ MECHANICALLY ANCHOR 2" WIDE SS316 (3/8" THK.) STRIP AT EX. LINER/NEW COATING INTERFACE. FASTEN WITH 3/8" SS316 HILTI WEDGE ANCHORS AT 2' O.C.

*CONTRACTOR MAY UTILIZE SAND BLASTING IN LIEU OF HYDROBLASTING, WITH 100% CONTAINMENT OF SAND, DEBRIS, AND AEROSOL DRIFT.



SECTION B-B
N.T.S.

NOTE: COATING TERMINATION AS SHOWN, WILL BE INCLUDED IN THE COST OF THE COATING SYSTEM PER SQUARE FOOT(SF)



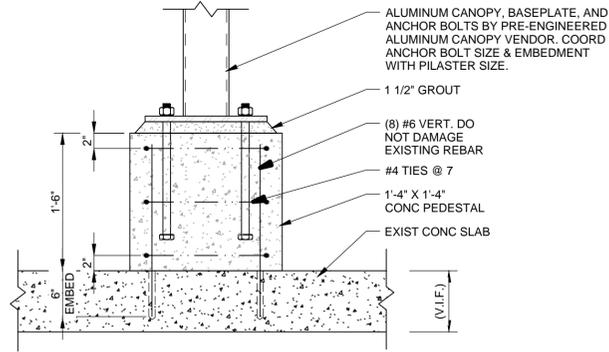
SECTION A-A
N.T.S.

NOTE: COATING /PVC LINER TRANSITION AS SHOW, WILL BE PAID PER SQUARE FOOT(SF) OF TRANSITION STRIP INSTALLED.

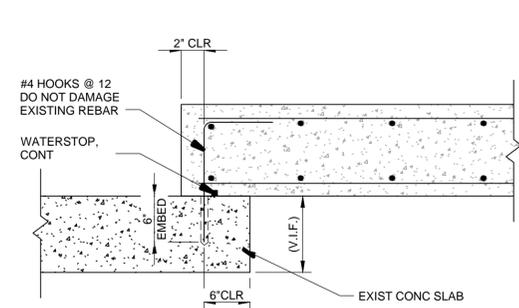
LINER TRANSITION DETAIL
NTS

DESIGNED	RJ TAZELAAR	 302 Knights Run Avenue, Suite 900 Tampa, FL 33602 813.254.5838 FIRM'S FLORIDA CERT. NO. AAP000034/CA3806 IB26000797/LC26000381	APPROVED BY:	 DATE	PROJECT:	CITY OF TAMPA UNIVERSITY PUMPING STATION AUTOMATIC BAR SCREEN	DESCRIPTION:	REPAIR DETAILS	DATE:	AUGUST 2018	
DRAWN	O GOMEZ		CHECKED		JASON FUKUDA FLA. LIC. NO 66000			GSP JOB No.	4291800	SHEET:	S-5
REV. NO.	DATE		DESCRIPTION		REV. BY						

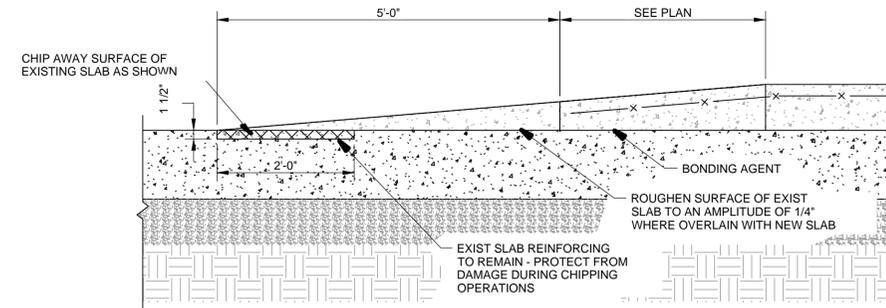
P:\4291800\N\S-5.dwg, Aug 15, 2018 - 9:34am



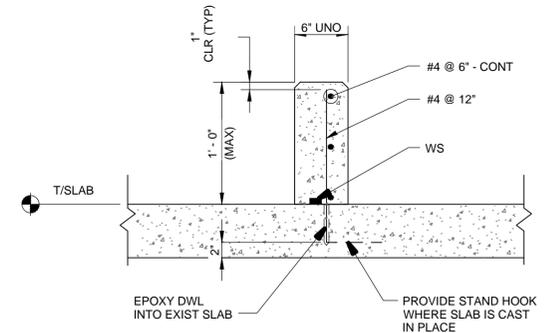
A PILASTER - POST INSTALLED
NTS



B NEW SLAB AT EXISTING
NTS



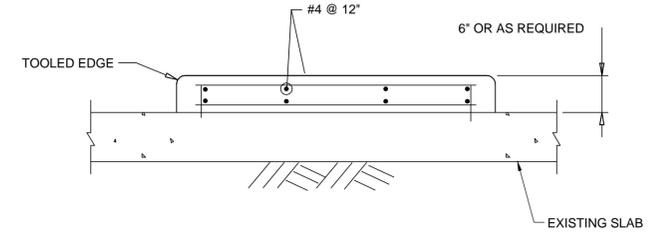
C BOTTOM OF RAMP
NTS



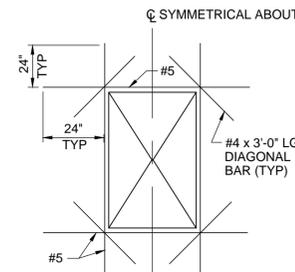
D TYPICAL CURB REINFORCEMENT
NTS



E EDGE OF SLAB REPAIR
NTS

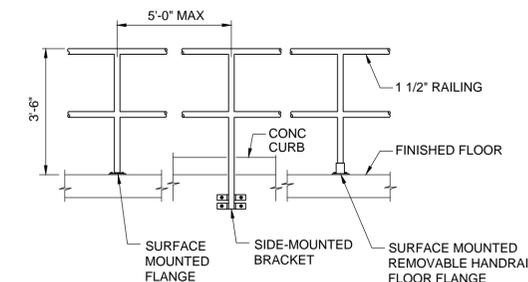
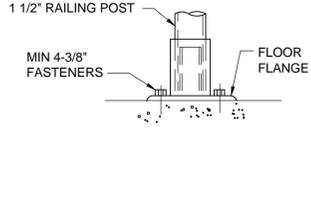
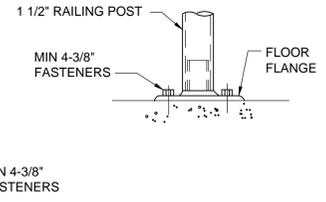
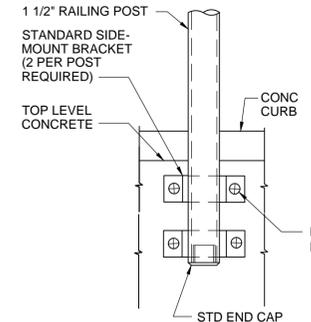


F HOUSEKEEPING PAD
NTS



G ADDITIONAL REINFORCEMENT
AROUND RECTANGULAR OPENING
NTS

- NOTES:
1. CUT NORMAL REINFORCING AT OPENING.
 2. FOR SLAB WITH TWO LAYERS OF REINFORCING PROVIDE 1 BAR EACH FACE.
 3. BAR LENGTHS FOR GRADE 60.



H HANDRAIL DETAIL
NTS

- NOTES:
1. HANDRAIL SHALL BE ALUMINUM WITH MECHANICAL JOINTS UNLESS INDICATED OTHERWISE.
 2. POSTS AND RAILING SHALL BE 1 1/2\"/>

P:\4291800\W\S-G.dwg, Aug 15, 2018 - 9:35am

DESIGNED	RJ TAZELAAR		302 Knights Run Avenue, Suite 900 Tampa, FL 33602 813.254.5838 FIRM'S FLORIDA CERT. NO. AAP000034/CA3806 IB26000797/LC26000381	APPROVED BY:		PROJECT:	CITY OF TAMPA UNIVERSITY PUMPING STATION AUTOMATIC BAR SCREEN	DESCRIPTION:	STRUCTURAL DETAILS	DATE:	AUGUST 2018
DRAWN	O GOMEZ			JASON FUKUDA		DATE	GSP JOB No.	4291800			
CHECKED	J. FUKUDA			FLA. LIC. NO.		66000	SHEET:	S-6			
REV. NO.	DATE			DESCRIPTION		REV. BY		15 OF 27			

C:\TDP\Projects\2017\26-50\231703284 Gresham Uni Screen\GS Bid Border 8-15-18\E-1.dwg, Aug 15, 2018 - 10:24am

- CONDUIT RUN EXPOSED
- - - - - CONDUIT RUN CONCEALED UNDERGROUND
- - - - - CONDUIT RUN CONCEALED IN FLOOR OR SLAB

- g — g — GROUNDING ELECTRODE CONDUCTOR
- [— CONDUIT STUB OUT AND CAP
- ⊙ GROUND ROD
- JUNCTION BOX
- JUNCTION BOX WITH FLEXIBLE CONNECTION

480V
15 KVA, 1*
120/240V



TRANSFORMER, 480V INDICATED PRIMARY VOLTAGE, 120/240V INDICATES SECONDARY VOLTAGE, 15 KVA REPRESENTS POWER RATING, AND 1* INDICATES SINGLE PHASE (THREE PHASE IF NOT INDICATED)

3P
30A



THERMAL MAGNETIC CIRCUIT BREAKER WITH NUMBER OF POLES AND AMPERE RATING

COMBINATION MAGNETIC STARTER WITH CONTROL POWER TRANSFORMER (SIZED FOR LOAD). LETTERS INDICATE TYPE :

- N - NON-REVERSING
- R - REVERSING
- 2S - TWO-SPEED
- C - CONTACTOR
- SS - SOLID STATE SOFT START

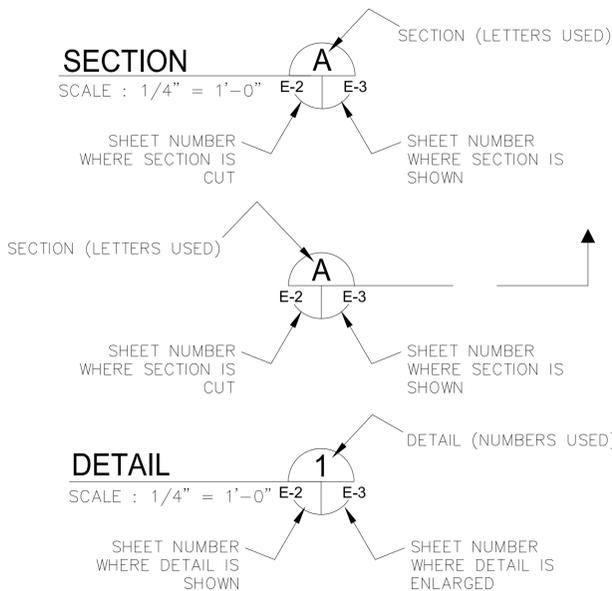


XXX	XXX DEVICE	DESCRIPTION
HLS	HLS	HIGH LEVEL SWITCH
HOA	HOA	HAND-OFF-AUTO
LD	LD	LEAK DETECTION
LLS	LLS	LOW LEVEL SWITCH
LOR	LOR	LOCAL-OFF-REMOTE
PB	PB	PUSH BUTTON
RTU	RTU	REMOTE TERMINAL UNIT
SS	SS	SOFT STARTER
SS/B	SS/B	SOFT START OR BYPASS
TS	TS	TEMPERATURE SWITCH
TVSS	TVSS	TRANSIENT VOLTAGE SURGE SUPPRESSOR
ZS	ZS	POSITION SENSOR (LIMIT SWITCH)

⋈ FUSE



EXAMPLE OF SECTION CUT AND DETAIL



GENERAL NOTES

THE WORK CONSIST OF FURNISHING ALL LABOR, MATERIALS, EQUIPMENT, AND TECHNICAL SUPERVISION TO INSTALL THE ELECTRICAL COMPONENTS AS INDICATED AND SHOWN. THE WORK INCLUDES, BUT IS NOT LIMITED TO, THE FOLLOWING:

- CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR APPROVAL PRIOR TO PURCHASING EQUIPMENT OR COMMENCING CONSTRUCTION.
- ALL WIRING SHALL BE IDENTIFIED WITH NUMBERS AT ALL TERMINALS AND ON WIRING DIAGRAMS.
- FIELD VERIFY ALL EQUIPMENT LOCATIONS AND CONNECTIONS PRIOR TO COMMENCING CONSTRUCTION.
- ALL NEW EQUIPMENT SHALL BE PERMANENTLY IDENTIFIED WITH A BLACK ON WHITE LAMACOID TAG ENGRAVED WITH MINIMUM 3/16 INCH LETTERING.
- ALL CONDUCTOR LENGTHS SHALL BE CONTINUOUS. NO SPLICES OR CONDUCTOR TERMINATIONS SHALL BE PERMITTED UNLESS SPECIFICALLY DESIGNATED IN THE DRAWINGS.
- ALL EXISTING INSTALLATIONS DENOTED ON THE DRAWINGS ARE FOR THE CONTRACTORS REFERENCE ONLY.
- INSTALL CIRCUIT BREAKERS, CONDUIT, CONDUCTORS, MANUAL SWITCH, I/O MODULES, SURGE PROTECTION DEVICES AS INDICATED TO ACCOMMODATE THE NEW BAR SCREEN CONTROL PANEL AND NEW SLIDE GATE ACTUATOR AS SHOWN AND SPECIFIED.
- ALL ELECTRICAL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE FLORIDA BUILDING CODE (FBC) 6TH EDITION 2017, THE NATIONAL ELECTRICAL CODE (NEC) 2014 AND CHAPTER 5 OF THE CITY OF TAMPA CODE.
- TEST AND START-UP REPORTS FOR THE BAR SCREEN AND SLIDE GATE ACTUATOR SHALL BE INCLUDED IN THE OPERATION AND MAINTENANCE (O&M) MANUALS PROVIDED UNDER THIS CONTRACT. ALL CIRCUIT BREAKER SETTINGS SHALL BE TABULATED AND INCLUDED IN THE O&M MANUAL.

ABBREVIATIONS:

A	AMPS
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
ATL	ACROSS-THE-LINE
C	CONDUIT
CU	COPPER
EX	EXISTING
ELEC	ELECTRICAL
EXP	EXPLOSION PROOF
FU	FUSE
GFI	GROUND FAULT INTERRUPTER
GND	GROUNDING CONDUCTOR
HP	HORSEPOWER
HZ	HERTZ
IG	ISOLATED GROUND
KVA	KILOVOLT AMPERES
KW	KILOWATTS
MAX	MAXIMUM
MIN	MINIMUM
N/A	NOT APPLICABLE
PH	PHASE
RECP	RECEPTACLE
RPM	REVOLUTIONS PER MINUTE
RTU	REMOTE TERMINAL UNIT
SPD	SURGE PROTECTION DEVICE
TYP	TYPICAL
V	VOLTS
WP	WEATHERPROOF



777 S. Harbour Island Blvd,
Suite 350
Tampa, FL 33602
813.227.9190
Certificate of Authorization No. 8363

DESIGNED	TDT	 <p>302 Knights Run Avenue, Suite 900 Tampa, FL 33602 813.254.5838</p> <p>FIRM'S FLORIDA CERT. NO. AAP000034/CA3806 IB26000797/LC26000381</p>	APPROVED BY:	 <p>TIMOTHY THOMAS FLA. LIC. NO. 47079</p>	PROJECT:	CITY OF TAMPA UNIVERSITY PUMPING STATION AUTOMATIC BAR SCREEN	DESCRIPTION:	LEGEND, ABBREVIATIONS AND NOTES	DATE:	AUGUST 2018
DRAWN	JLH		CHECKED		TDT	GSP JOB No.	4291800			
REV. NO.	DATE		DESCRIPTION		REV. BY	SHEET:	E-1 16 OF 27			



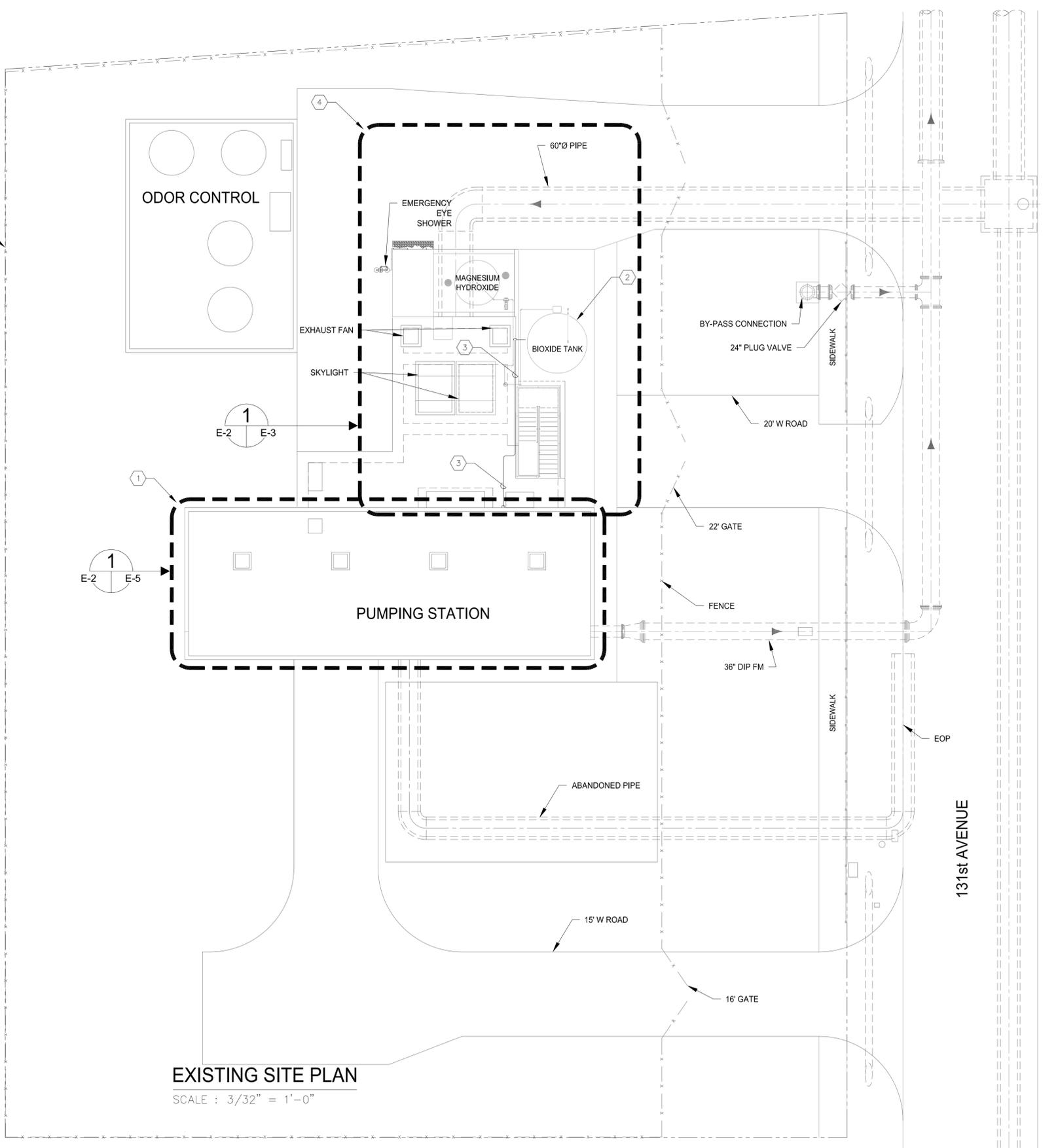
KEYED NOTES:

- ① EXISTING PUMP STATION BUILDING, ELEVATION 41.25'. REFER TO SHEET E-5 FOR WORK REQUIRED.
- ② EXISTING BIOXIDE TANK TO BE RELOCATED. REFER TO SHEET E-3 FOR PROPOSED LOCATION.
- ③ EXISTING CONDUIT AND CONDUCTORS TO BIOXIDE TANK. THE EXISTING CONDUIT CONTAINS VARIOUS CONDUCTORS WHICH SERVE OTHER EQUIPMENT. THE CONTRACTOR SHALL INTERCEPT THIS CONDUIT AT THE MOST CONVENIENT LOCATION AND EXTEND THE BIOXIDE TANK CONDUCTORS TO THE PROPOSED TANK LOCATION. SPLICING OF CONDUCTORS WILL NOT BE PERMITTED. CONTRACTOR SHALL PROVIDE NEW CONDUCTORS (MATCHING THE EXISTING BIOXIDE TANK CONDUCTORS) FROM POINT OF ORIGIN TO NEW BIOXIDE TANK LOCATION.
- ④ REFER TO SHEET E-3 FOR NEW BAR SCREEN LOCATION, SLIDE GATE MOTOR OPERATOR LOCATION, NEW BIOXIDE TANK LOCATION, ETC.

GENERAL NOTES:

- 1. REFER TO MECHANICAL SHEETS FOR EXACT EQUIPMENT LOCATIONS AND DEMOLITION REQUIREMENTS.

PROPERTY LINE



EXISTING SITE PLAN
SCALE : 3/32" = 1'-0"

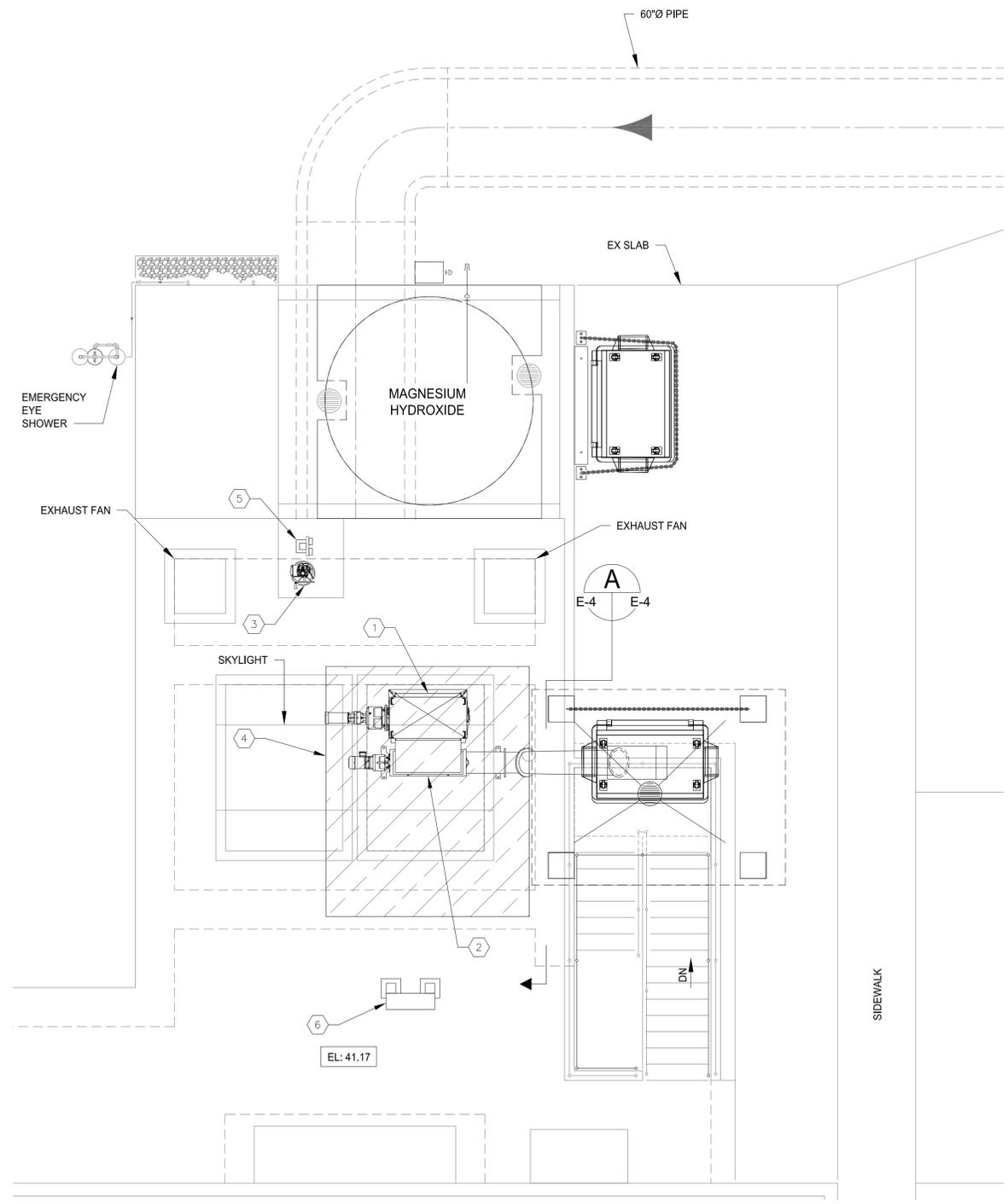


777 S. Harbour Island Blvd,
Suite 350
Tampa, FL 33602
813.227.9190
Certificate of Authorization No. 6363

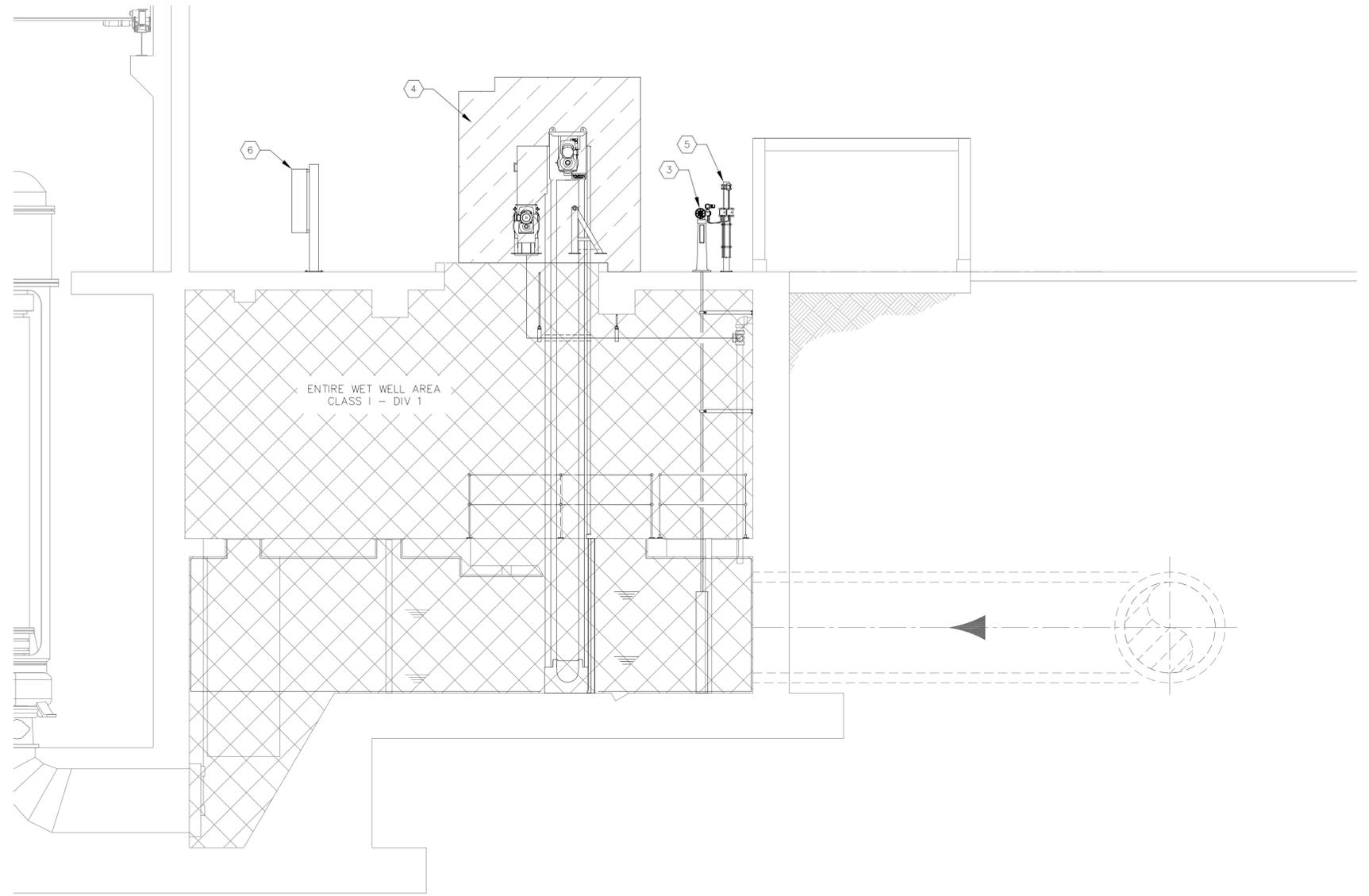
C:\TDP\Projects\2017\26-50\231703284 Gresham Uni Screen\GS Bid Border 8-15-18\E-2.dwg, Aug 15, 2018 - 10:33am

DESIGNED	TDT	 <p>302 Knights Run Avenue, Suite 900 Tampa, FL 33602 813.254.5838</p> <p>FIRM'S FLORIDA CERT. NO. AAP000034/CA3806 1B26000797/LC26000381</p>	APPROVED BY:	 <p>CITY OF TAMPA Florida</p>	PROJECT:	CITY OF TAMPA UNIVERSITY PUMPING STATION AUTOMATIC BAR SCREEN	DESCRIPTION:	EXISTING SITE PLAN	DATE:	AUGUST 2018	
DRAWN	JLH		TIMOTHY THOMAS FLA. LIC. NO. 47079		DATE:		GSP JOB No.	4291800	SHEET:	E-2	17 OF 27
CHECKED	TDT										
REV. NO.	DATE	DESCRIPTION	REV. BY								

C:\TDT\Projects\2017\26-50\231703284 Gresham Uni Screen\GS Bid Border 8-15-18\E-4.dwg, Aug 15, 2018 - 10:40am



HAZARDOUS AREA ELEVATION 41.17'
SCALE : 1/4" = 1'-0"



HAZARDOUS AREA SECTION VIEW
SCALE : 1/4" = 1'-0"
A
E-4 E-4

KEYED NOTES:	
1	PROPOSED BAR SCREEN.
2	PROPOSED COMPACTOR.
3	PROPOSED STAND AND ELECTRIC OPERATOR FOR SLIDE GATE.
4	CLASS 1 - DIV 2 AREA : 36" ENVELOPE AROUND BAR SCREEN AND COMPACTOR EQUIPMENT.
5	PROPOSED ACTUATOR DISCONNECT. REFER TO DETAIL ON SHEET E-10.
6	PROPOSED BAR SCREEN CONTROL PANEL (PROVIDED BY BAR SCREEN SUPPLIER).

CLASSIFIED AREA LEGEND:	
	CLASS 1 - DIV 1
	CLASS 1 - DIV 2



777 S. Harbour Island Blvd.
Suite 350
Tampa, FL 33602
813.227.9190
Certificate of Authorization No. 8363

REV. NO.	DATE	DESCRIPTION	REV. BY

DESIGNED	TDT
DRAWN	JLH
CHECKED	TDT



302 Knights Run Avenue, Suite 900
Tampa, FL 33602
813.254.5838
FIRM'S FLORIDA
CERT. NO.
AAP000034/CA3806
IB26000797/LC26000381

APPROVED BY:	DATE
TIMOTHY THOMAS FLA. LIC. NO. 47079	

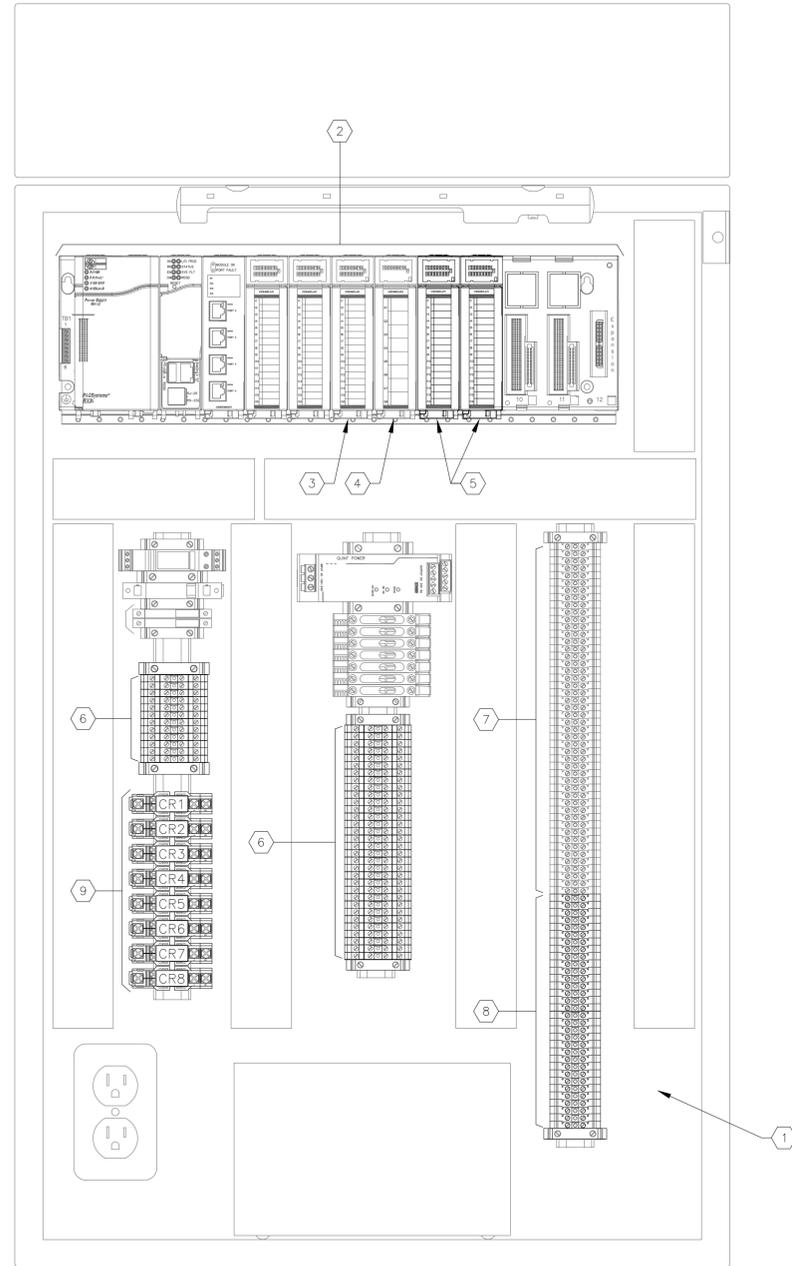


PROJECT:
**CITY OF TAMPA
UNIVERSITY PUMPING STATION
AUTOMATIC BAR SCREEN**

DESCRIPTION:
**HAZARDOUS AREA
IDENTIFICATION**

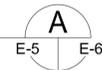
DATE:	AUGUST 2018
GSP JOB No.	4291800
SHEET:	E-4 19 OF 27

C:\TDP\Projects\2017\26-50\231703284 Gresham Uni Screen\GS Bid Border 8-15-18\E-6.dwg, Aug 15, 2018 - 11:19am



**EXISTING ANNUNCIATOR CONTROL PANEL
INTERIOR DETAIL**

SCALE : N.T.S.



KEYED NOTES:

- ① INTERIOR OF EXISTING ANNUNCIATOR CONTROL PANEL. CONTRACTOR TO MAKE MODIFICATIONS TO EXISTING CONTROL PANEL AS NOTED BELOW.
- ② EXISTING PLC RACK CONSISTING OF: ONE (1) - GE RX3i CPU : IC695CPE305-ABAG; ONE (1) - SERIAL COMMUNICATION MODULE: GE IC695CMM004; THREE (3) DC INPUT MODULES: GE IC694MDL241; ONE (1) A/C RELAY MODULE: GE IC694MDL916; ONE (1) 120V POWER SUPPLY: GE IC695PSA140; ONE (1) 12-SLOT BACK PLANE: GE IC695CHS012.
- ③ EXISTING DC INPUT MODULE (GE IC694MDL241) CURRENTLY LOCATED IN SLOT 6. CONTRACTOR SHALL UTILIZE SPARE INPUTS FOR NEW INPUTS REQUIRED UNDER THIS CONTRACT. REFER TO SHEET E-7 FOR DETAILS.
- ④ EXISTING A/C RELAY MODULE (GE IC694MDL930) CURRENTLY LOCATED IN SLOT 7. CONTRACTOR SHALL UTILIZE SPARE OUTPUTS (AND ASSOCIATED RELAYS) FOR NEW OUTPUTS REQUIRED UNDER THIS CONTRACT. REFER TO SHEET E-7 FOR DETAILS.
- ⑤ CONTRACTOR TO PROVIDE AND INSTALL TWO (2) NEW DC INPUT MODULES (EACH GE IC694MDL241). INSTALL IN SLOTS 8 AND 9 RESPECTIVELY. REFER TO SHEET E-7 FOR DETAILS.
- ⑥ EXISTING MULTI-LEVEL TERMINAL BLOCKS. CONTRACTOR SHARE UTILIZE SPARE TERMINAL BLOCKS AS REQUIRED.
- ⑦ EXISTING SURGE PROTECTION DEVICES FOR 24V DC DISCRETE INPUT CIRCUITS. CONTRACTOR SHARE UTILIZE SPARE SURGE PROTECTION DEVICES AS REQUIRED.
- ⑧ CONTRACTOR TO PROVIDE AND INSTALL THIRTY TWO (32) NEW SURGE PROTECTION DEVICES FOR 24V DC DISCRETE INPUT MODULE TO BE INSTALLED IN SLOT 8 AND SLOT 9. PHOENIX CONTACT #2794699. PROVIDE AND INSTALL ADDITIONAL DIN-RAIL, END BARRIERS, ACCESSORIES AS REQUIRED TO ACCOMMODATE NEW SURGE PROTECTION DEVICES AS REQUIRED.
- ⑨ EXISTING SQUARE-D 8501 R SERIES SPDT RELAYS WITH 120V COILS. CONTRACTOR SHARE UTILIZE SPARE INTERPOSING RELAYS CR2, CR3 AND CR4 AS REQUIRED. REFER TO SHEET E-7 FOR DETAILS.



777 S. Harbour Island Blvd.
Suite 350
Tampa, FL 33602
813.227.9190
Certificate of Authorization No. 8363

REV. NO.	DATE	DESCRIPTION	REV. BY

DESIGNED	TDT
DRAWN	JLH
CHECKED	TDT

GS & P

302 Knights Run Avenue, Suite 900
Tampa, FL 33602
813.254.5838

FIRM'S FLORIDA
CERT. NO.
AAP000034/CA3806
1B26000797/LC26000381

APPROVED BY:

TIMOTHY THOMAS
FLA. LIC. NO. 47079

DATE

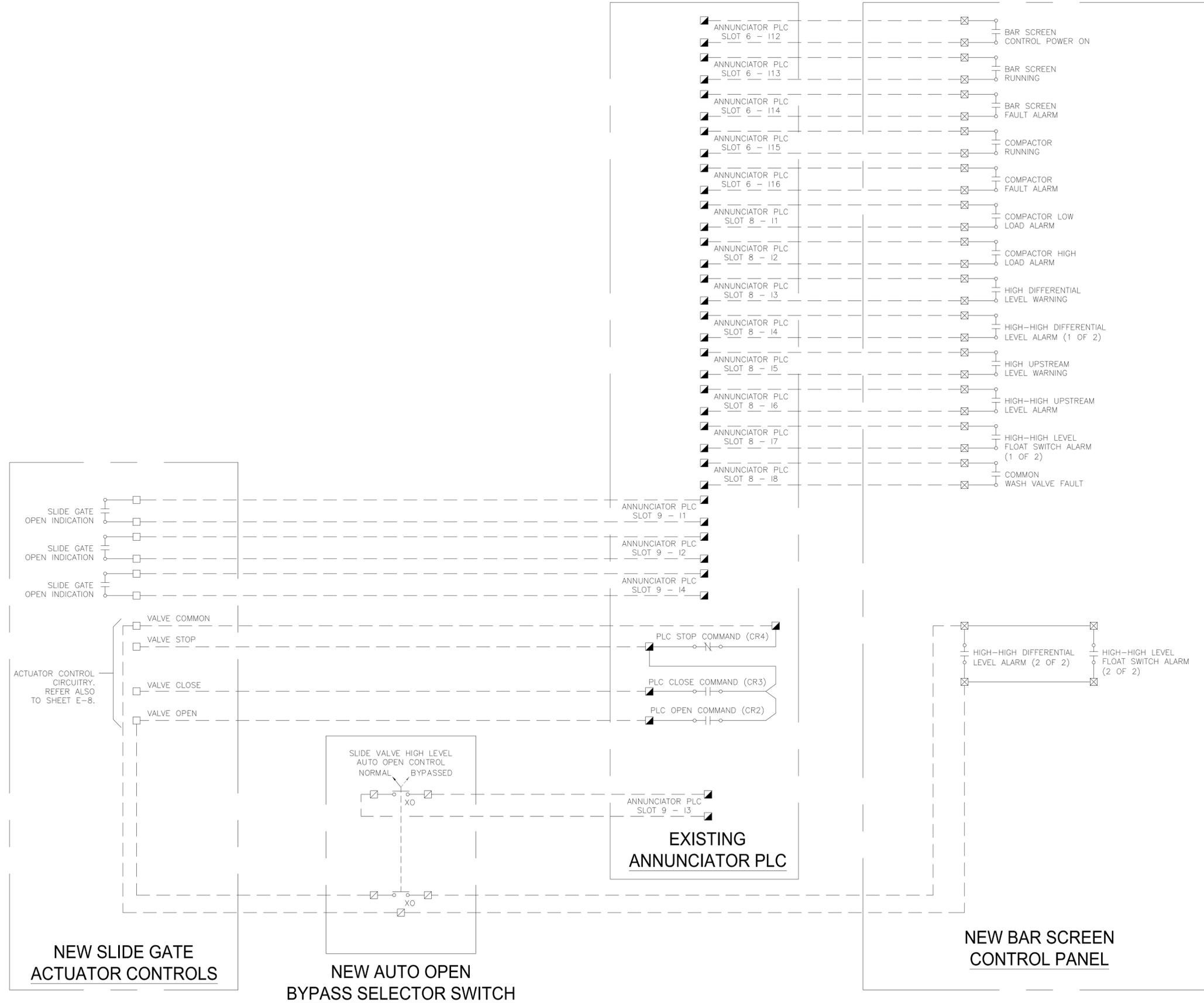


PROJECT:
**CITY OF TAMPA
UNIVERSITY PUMPING STATION
AUTOMATIC BAR SCREEN**

DESCRIPTION:
**EXISTING ANNUNCIATOR
CONTROL PANEL
INTERIOR DETAIL**

DATE:	AUGUST 2018
GSP JOB No.	4291800
SHEET:	E-6 21 OF 27

C:\TDP\Projects\2017\26-50\231703284 Gresham Uni Screen\GS Bid Border 8-15-18\E-9.dwg, Aug 15, 2018 - 11:10am



LEGEND

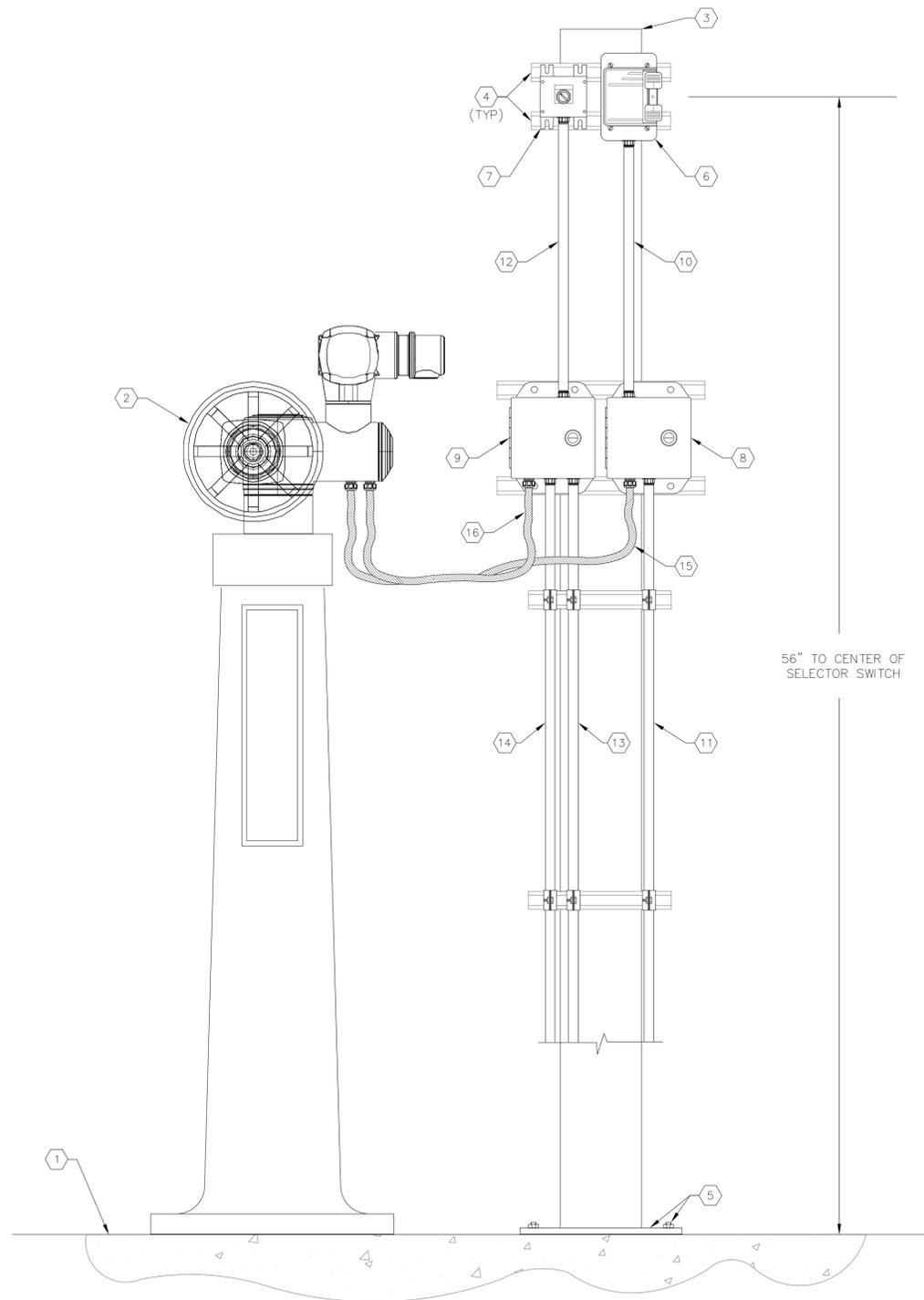
- DENOTES FIELD WIRING
- DENOTES TERMINAL ON ACTUATOR CONTROLLER
- DENOTES TERMINAL IN ANNUNCIATOR PLC CABINET
- ⊠ DENOTES TERMINAL IN BAR SCREEN CONTROL PANEL
- ⊡ DENOTES TERMINAL IN AUTO OPEN BYPASS SELECTOR SWITCH



777 S. Harbour Island Blvd.
Suite 350
Tampa, FL 33602
813.227.9190
Certificate of Authorization No. 8363

DESIGNED	TDI	<p>302 Knights Run Avenue, Suite 900 Tampa, FL 33602 813.254.5838</p> <p>FIRM'S FLORIDA CERT. NO. AAP000034/CA3806 1B2600797/LC26000381</p>	APPROVED BY:	<p>CITY OF TAMPA UNIVERSITY PUMPING STATION AUTOMATIC BAR SCREEN</p>	DESCRIPTION:	<p>CONTACT DEVELOPMENT DIAGRAM</p>	DATE:	AUGUST 2018	
DRAWN	JLH		TIMOTHY THOMAS		DATE		GSP JOB No.	4291800	
CHECKED	TDI		FLA. LIC. NO.		47079		SHEET:	E-9	24 OF 27
REV. NO.	DATE		DESCRIPTION		REV. BY				

C:\TDT\Projects\2017\26-50\231703284 Gresham Uni Screen\GS Bid Border 8-15-18\E-10.dwg, Aug 15, 2018 - 11:03am



ACTUATOR DISCONNECT DETAIL

SCALE : N.T.S.

1
E-3 E-10

KEYED NOTES:

- 1 EXISTING SLAB, ELEVATION 41.25'.
- 2 PROPOSED SLIDE GATE ELECTRICAL OPERATOR AND ASSOCIATED STAND. REFER ALSO TO CIVIL/MECHANICAL DRAWINGS.
- 3 PROVIDE AND INSTALL 4" SQUARE ALUMINUM POST WITH 3/4" WALL THICKNESS. WELD 1/4" CAP TO TOP OF POST.
- 4 PROVIDE AND INSTALL 1-5/8" X 1-5/8" 316 STAINLESS STEEL UNISTRUT, ALL MOUNTING HARDWARE SHALL BE 316 STAINLESS STEEL. UNISTRUT BOLTS SHALL BE INSTALLED THROUGH POST. INSTALL NEOPRENE GASKETS WHERE STAINLESS STEEL COMES IN CONTACT WITH ALUMINUM. PROVIDE END CAPS ON ALL UNISTRUT ENDS.
- 5 PROVIDE AND INSTALL 8" X 8" X 1/2" ALUMINUM BASE PLATE. SECURE BASE PLATE TO CONCRETE W/(4) STAINLESS STEEL 1/2" DIA. X 8" BOLTS & STAINLESS STEEL HEX NUTS WITH LOCKWASHER. DRILL CONCRETE & EMBED BOLTS AND ANCHORS IN EPOXY. COAT BOTTOM OF BASE PLATE WITH ASPHALT PAINT. PROVIDE NEOPRENE GASKET BETWEEN ALL STAINLESS STEEL AND ALUMINUM COMPONENTS.
- 6 PROVIDE AND INSTALL NEW 600V, 30A, 3-POLE MANUAL SWITCH IN NEMA 4 DIE CAST ZINC ALLOY, SQUARE-D 2510KW2CH TO SERVE AS ACTUATOR 480V DISCONNECTING MEANS.
- 7 PROVIDE AND INSTALL A NEMA 4X TWO-POSITION SELECTOR SWITCH (MAINTAINED CONTACTS) IN A NEMA 4X STAINLESS STEEL ENCLOSURE, ALLEN BRADLEY, SQUARE D OR EQUAL. SELECTOR SWITCH TO BE UTILIZED TO BYPASS AUTO OPEN SLIDE GATE ON HIGH LEVEL WHEN DESIRED.
- 8 PROVIDE AND INSTALL 4" X 4" X 3" 316 STAINLESS STEEL JUNCTION BOX WITH STAINLESS STEEL HINGES AND QUARTER TURN LATCH, HAMMOND EJ443S16. JUNCTION BOX TO SERVE AS RACEWAY FOR ACTUATOR 480V CONDUCTORS (NO TERMINATIONS).
- 9 PROVIDE AND INSTALL 4" X 4" X 3" 316 STAINLESS STEEL JUNCTION BOX WITH STAINLESS STEEL HINGES AND QUARTER TURN LATCH, HAMMOND EJ443S16. JUNCTION BOX TO SERVE AS RACEWAY FOR ACTUATOR 24V DC CONTROL CONDUCTORS (NO TERMINATIONS).
- 10 PROVIDE AND INSTALL NEW 3/4" RIGID ALUMINUM CONDUIT WITH 6-#10 + 1-#10 GND FOR SLIDE GATE ACTUATOR 480V, 3Ø FEEDER.
- 11 PROVIDE AND INSTALL NEW 3/4" RIGID ALUMINUM CONDUIT WITH 3-#10 + 1-#10 GND TO EXISTING MCC FOR SLIDE GATE ACTUATOR 480V, 3Ø FEEDER. REFER TO SHEET E-5 FOR EXISTING MCC LOCATION.
- 12 PROVIDE AND INSTALL NEW 3/4" RIGID ALUMINUM CONDUIT WITH 3-#14 + 1-#14 GND FOR SLIDE GATE ACTUATOR AUTO CLOSE BYPASS SELECTION.
- 13 PROVIDE AND INSTALL NEW 3/4" RIGID ALUMINUM CONDUIT WITH 2-#14 + 1-#14 GND TO NEW BAR SCREEN CONTROL PANEL (REFER TO SHEET E-3 FOR CONTROL PANEL LOCATION) FOR SLIDE GATE ACTUATOR AUTO CLOSE BYPASS SELECTION.
- 14 PROVIDE AND INSTALL NEW 3/4" RIGID ALUMINUM CONDUIT WITH 12-#14 + 1-#14 GND TO EXISTING ANNUNCIATOR CONTROL PANEL FOR NEW SLIDE GATE OPERATOR INPUT/OUTPUTS (4-#14 OPEN, CLOSE, STOP COMMANDS AND COMMAND; 2-#14 VALVE UNDER REMOTE CONTROL INDICATION; 2-#14 VALVE OPEN INDICATION; 2-#14 VALVE CLOSED INDICATION; 2-#14 AUTO CLOSE HIGH LEVEL BYPASS). REFER TO SHEET E-5 FOR EXISTING ANNUNCIATOR CONTROL PANEL LOCATION.
- 15 PROVIDE AND INSTALL NEW 3/4" LIQUIDTIGHT FLEXIBLE NONMETALLIC CONDUIT WITH 3-#10 + 1-#10 GND FOR SLIDE GATE ACTUATOR 480V, 3Ø FEEDER.
- 16 PROVIDE AND INSTALL NEW 3/4" LIQUIDTIGHT FLEXIBLE NONMETALLIC CONDUIT WITH 12-#14 + 1-#14 GND FOR SLIDE GATE ACTUATOR 24V DC CONTROLS.

GENERAL NOTES:

1. CONTRACTOR SHALL COORDINATE THE EXACT LOCATION OF THE ACTUATOR DISCONNECT WITH THE CITY OF TAMPA.
2. REFER TO SHEET E-7 FOR I/O ASSIGNMENTS AND LISTING. REFER TO SHEET E-9 FOR CONTACT DEVELOPMENT.



777 S. Harbour Island Blvd.
Suite 350
Tampa, FL 33602
813.227.9190
Certificate of Authorization No. 8363

REV. NO.	DATE	DESCRIPTION	REV. BY

DESIGNED	TDT
DRAWN	JLH
CHECKED	TDT



302 Knights Run Avenue, Suite 900
Tampa, FL 33602
813.254.5838
FIRM'S FLORIDA
CERT. NO.
AAP000034/CA3806
IB26000797/LC26000381

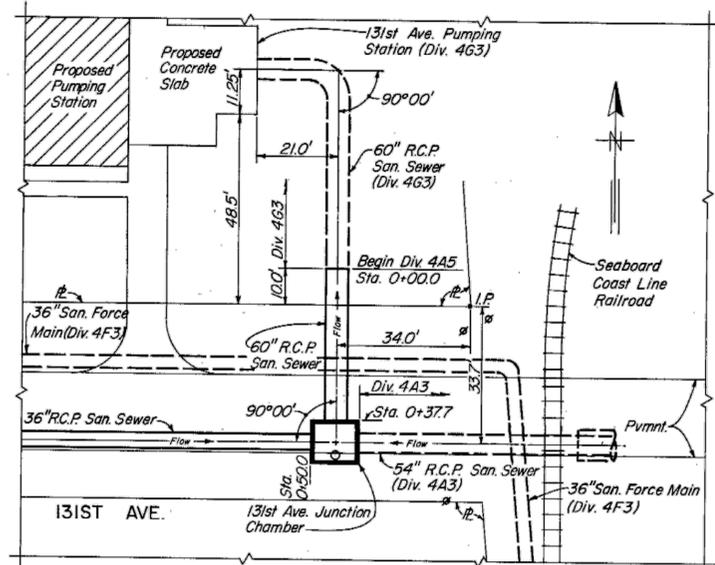
APPROVED BY:	DATE
TIMOTHY THOMAS FLA. LIC. NO. 47079	



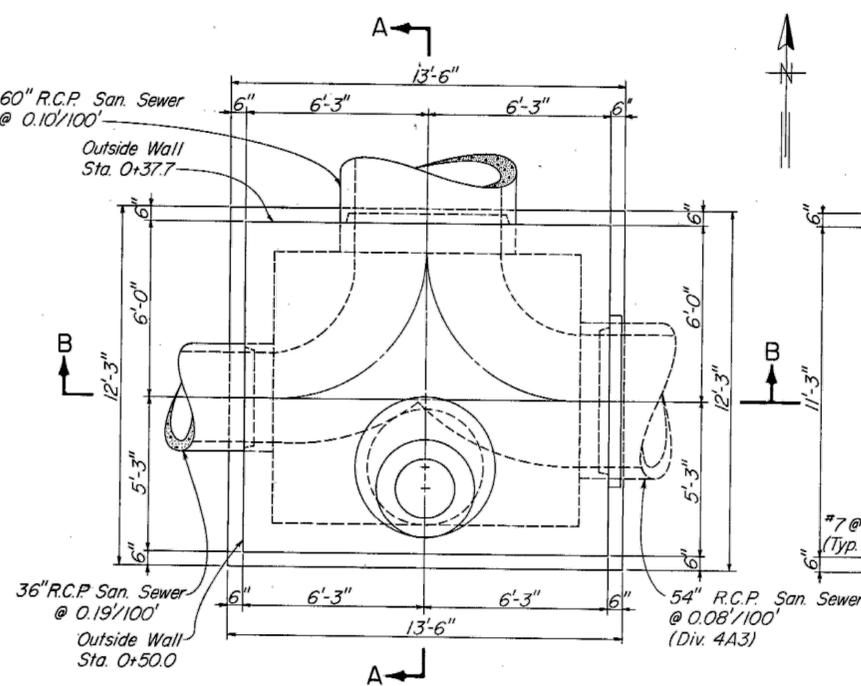
PROJECT:
**CITY OF TAMPA
UNIVERSITY PUMPING STATION
AUTOMATIC BAR SCREEN**

DESCRIPTION:
**ACTUATOR
DISCONNECT
DETAIL**

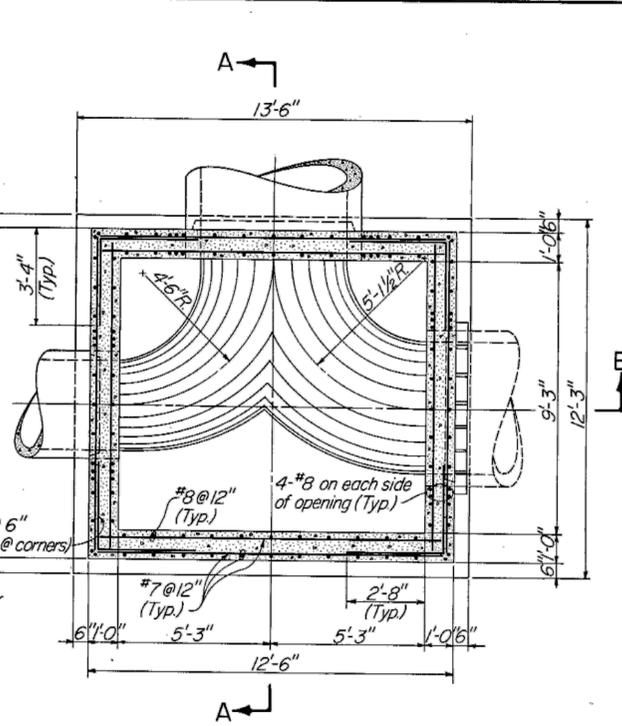
DATE:	AUGUST 2018
GSP JOB No.	4291800
SHEET:	E-10 25 OF 27



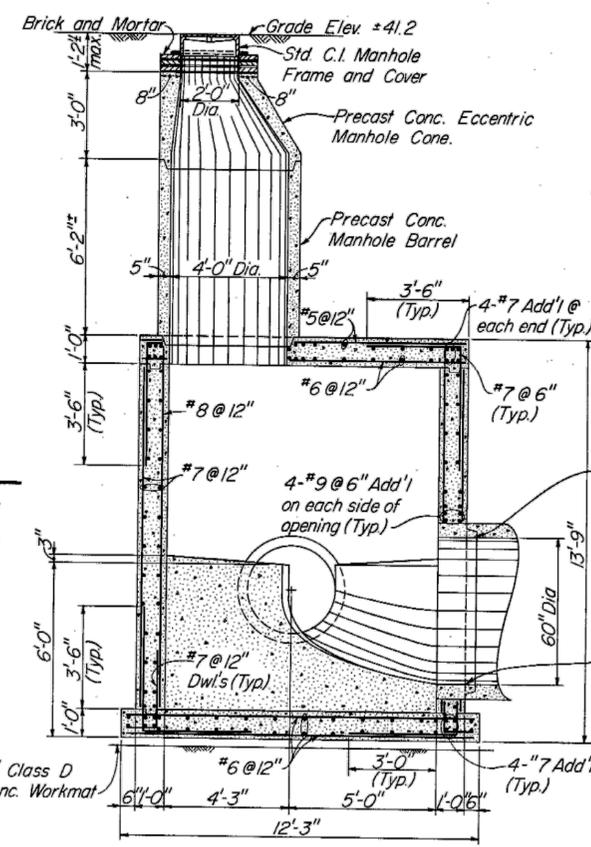
SITE PLAN
SCALE: 1"=20'



PLAN
SCALE: 3/8"=1'-0"

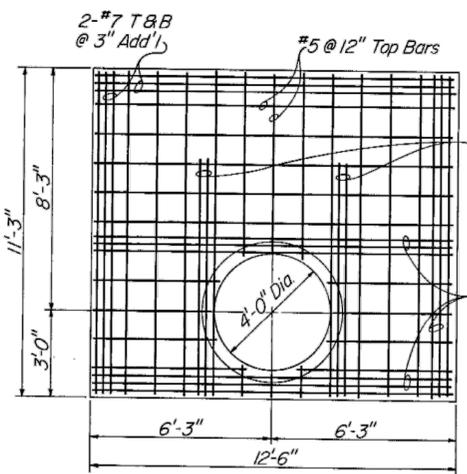


SECTIONAL PLAN C-C
SCALE: 3/8"=1'-0"

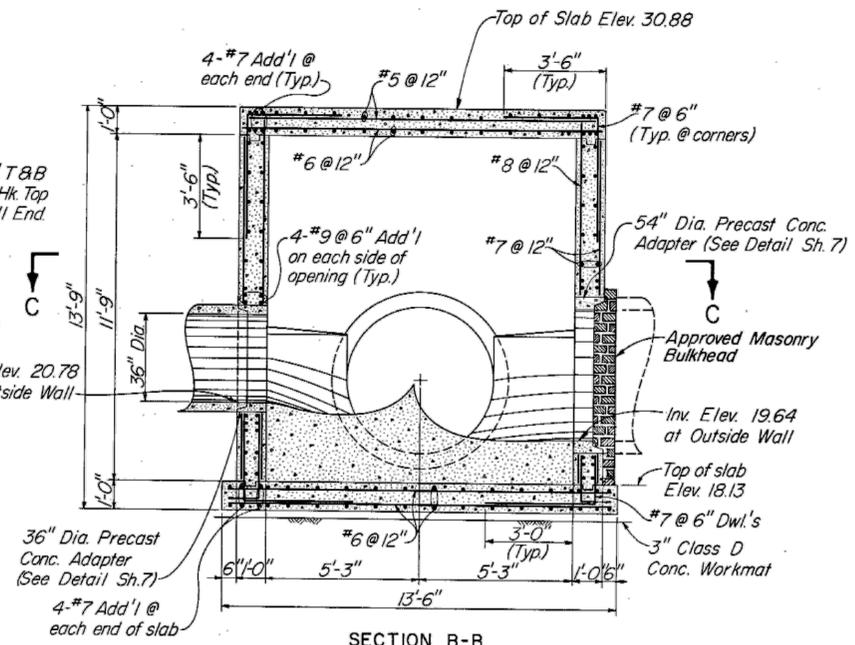


SECTION A-A
SCALE: 3/8"=1'-0"

- Notes:
1. Precast Concrete Eccentric Manhole Cone and Manhole Barrel shall conform to ASTM Des. C 478
 2. Interior surfaces of Junction Chamber shall be lined with plastic sheet lining as shown in detail on Sheet 7
 3. Install approved, continuous, 4-inch wide, flat, ribbed, center-bulb type P.V.C. waterstops in all construction joints. Waterstops shall not be less than 1/8-inch thick at the narrowest point and not less than 3/8-inch thick immediately adjacent to the bulb.



ROOF PLAN
SCALE: 3/8"=1'-0"



SECTION B-B
SCALE: 3/8"=1'-0"

AS BUILT
c.s/wa 10/02

GREELEY AND HANSEN ENGINEERS 222 S. RIVERSIDE PLAZA CHICAGO, ILLINOIS 60606	DESIGNED SMK, T.L.W. DRAWN K.E.F. CHECKED T.L.W.	APPROVED Supt., Dept. of Sanitary Sewers DATE: _____ GREELEY AND HANSEN, ENGINEERS	SCALE 0 20 40 FT 1" = 20' 0 1 2 3 4 5 6 7 FT 3/8" = 1'-0"	CITY OF TAMPA, FLORIDA SEWAGE DISPOSAL SYSTEM 131ST AVE. INTERCEPTING SEWER(WEST)	DIVISION 4A5 131ST AVE. JUNCTION CHAMBER DETAILS	PROJ. NO. S 202-70-30D 4A5 SHEET 6 OF 10. DATE SEPT. 1972 REV. 1
	REVISION NO. DATE APP.	REVISION NO. DATE APP.	REVISION NO. DATE APP.	REVISION NO. DATE APP.	REVISION NO. DATE APP.	REVISION NO. DATE APP.

INFORMATION PURPOSES ONLY

P:\4291800\REF-1.dwg, Aug 15, 2018 - 9:31am

DESIGNED: G DICK		302 Knights Run Avenue, Suite 900 Tampa, FL 33602 813.254.5838 FIRM'S FLORIDA CERT. NO. AAP000034/CA3806 IB26000797/LC26000381	APPROVED BY: _____		PROJECT: CITY OF TAMPA UNIVERSITY PUMPING STATION AUTOMATIC BAR SCREEN	DESCRIPTION: JUNCTION CHAMBER DETAILS	DATE: AUGUST 2018
DRAWN: O GOMEZ			JOSEPH B. BARKSDALE FLA. LIC. NO. 46545		DATE: _____		SHEET: REF-1 27 OF 27
REV. NO. DATE DESCRIPTION	REV. BY	CHECKED: G JACOB					