The Enclosed Document Is Provided For Your Convenience.

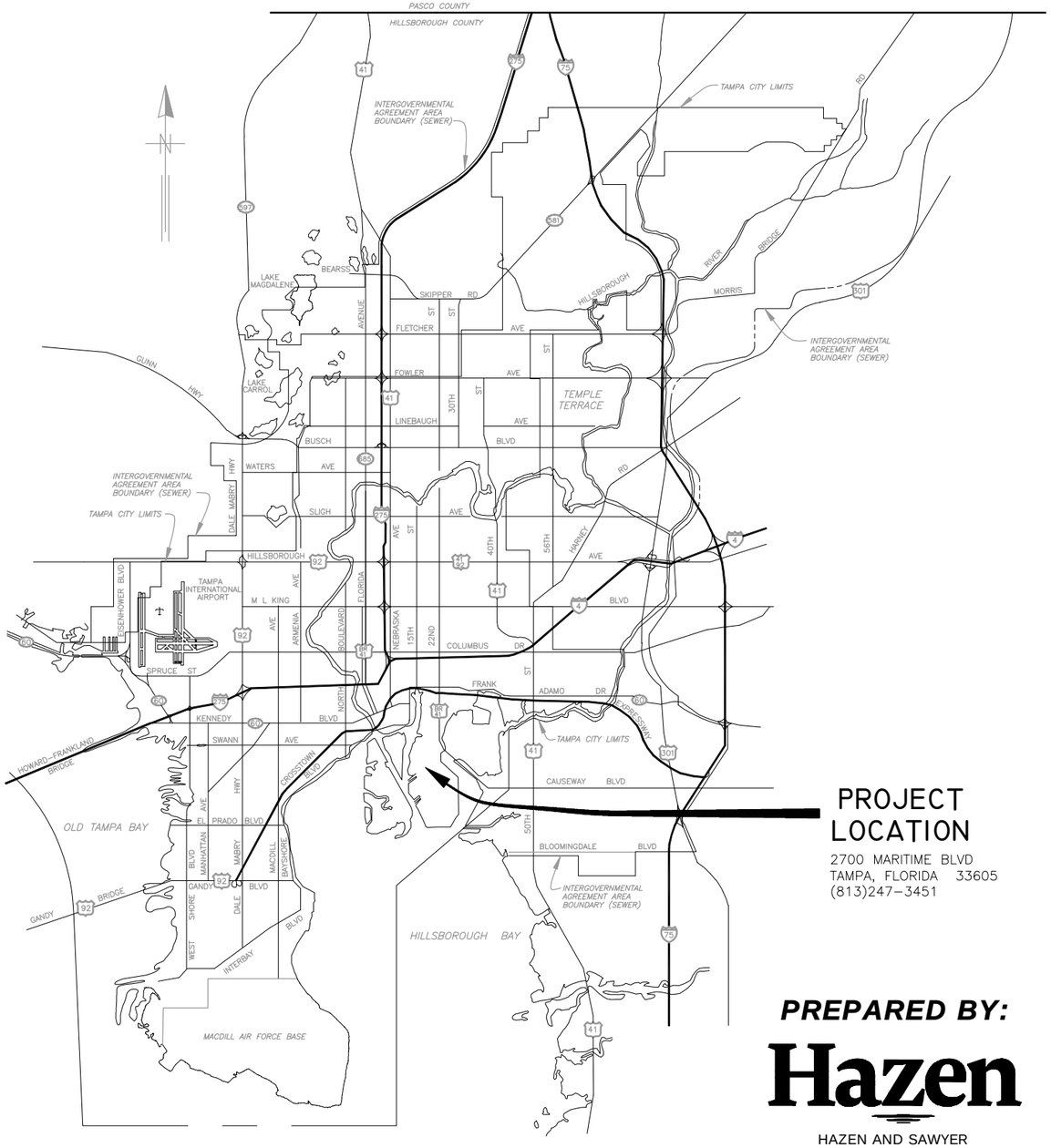
Please Email ALL Questions:

MailTo:ContractAdministration@TampaGov.net

Please Let Us Know If You Plan To Bid

City of Tampa
Contract Administration Department
306 E. Jackson St. #280A4N
Tampa, FL 33602
(813)274-8456

LOCATION MAP



PROJECT LOCATION

2700 MARITIME BLVD
TAMPA, FLORIDA 33605
(813)247-3451

PREPARED BY:

Hazen

HAZEN AND SAWYER
10002 PRINCESS PALM AVENUE, SUITE 200
TAMPA, FLORIDA 33619
CERTIFICATE OF AUTHORIZATION NO. : 2771

CITY of TAMPA

WASTEWATER DEPARTMENT

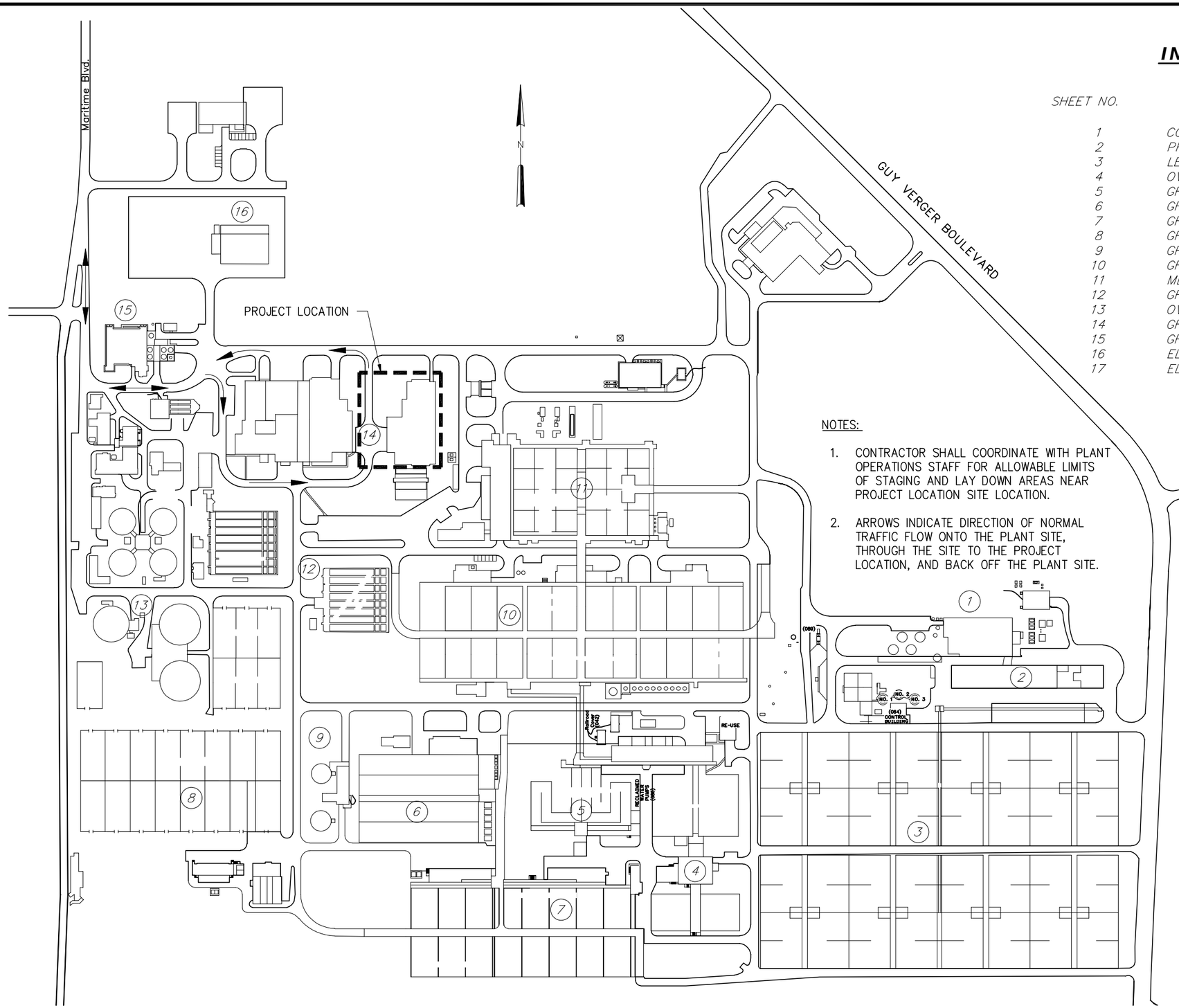
PLANS FOR

HOWARD F CURREN AWTP SCREEN AND GRIT BUILDING 2 GRIT WASHER REPLACEMENTS

CONTRACT No.

17-C-00031

MECHANICAL JACOB L. PORTER, PE 65453 ELECTRICAL DANIEL B. SCHMIDT, PE 40233	No.	DATE	REVISIONS	DES: JLP DRN: SMZ CKD: DBS DATE: AUG 2017	CITY of TAMPA WASTEWATER DEPARTMENT HOWARD F CURREN AWTP	HOWARD F. CURREN AWTP SCREEN AND GRIT BUILDING 2 GRIT WASHER REPLACEMENTS COVER SHEET	W.O. 14 SHEET 1 OF 17
	3						
	2						
	1	08/2017	BID SET				



INDEX OF DRAWINGS

NOTES:

1. CONTRACTOR SHALL COORDINATE WITH PLANT OPERATIONS STAFF FOR ALLOWABLE LIMITS OF STAGING AND LAY DOWN AREAS NEAR PROJECT LOCATION SITE LOCATION.
2. ARROWS INDICATE DIRECTION OF NORMAL TRAFFIC FLOW ONTO THE PLANT SITE, THROUGH THE SITE TO THE PROJECT LOCATION, AND BACK OFF THE PLANT SITE.

1. SLUDGE HEAT DRYING FACITLITY
2. SLUDGE DEWATERING BUILDING
3. SLUDGE DRYING BEDS
4. DENITRIFICATION FILTERS
5. POST–AERATION CHLORINATION TANKS
6. DIFFUSED AIR REACTORS
7. FINAL SEDIMENTATION TANKS
8. SLUDGE DRYING BEDS
9. SLUDGE THICKENING
10. FINAL SEDIMENTATION TANKS
11. HPO REACTOR TANKS
12. PRIMARY SEDIMENTATION TANKS
13. SLUDGE DIGESTION TANKS
14. SCREEN AND GRIT BUILDINGS
15. JUNCTION CHAMBER AND METER VAULT No. 1
16. WAREHOUSE

JACOB L. PORTER, PE
NO. 65453

No.	DATE	REVISIONS
3		
2		
1	08/2017	BID SET

DES: JLP
DRN: SMZ
CKD: DBS
DATE: AUG 2017

CITY of TAMPA
WASTEWATER DEPARTMENT
HOWARD F CURREN AWTP

HOWARD F. CURREN AWTP SCREEN AND GRIT BUILDING 2 GRIT WASHER REPLACEMENTS
PROJECT LOCATION MAP AND INDEX OF DRAWINGS

W.O. 14
SHEET 2 OF 17

SYMBOLS

MISCELLANEOUS SYMBOLS

- MAG METER
- PROPOSED PIPELINE (DOUBLE LINE IF SCALE OF DRAWING PERMITS)
- HARNESSED MECHANICAL COUPLING

FLANGED JOINT FITTINGS

- TEE (SIDE VIEW)
- TEE (TOP VIEW)
- TEE (BOTTOM VIEW)
- CROSS (SIDE VIEW)
- CROSS (TOP VIEW)
- 90 BEND (SIDE VIEW)
- 90 BEND (ROTATED DOWN)
- 90 BEND (ROTATED UP)
- 45 BEND (SIDE VIEW)
- 45 BEND (TOP VIEW)
- 22–1/2 BEND (SIDE VIEW)
- 22–1/2 BEND (TOP VIEW)
- 11–1/4 BEND (SIDE VIEW)
- 11–1/4 BEND (TOP VIEW)
- REDUCER
- ECCENTRIC REDUCER (SIDE VIEW)
- ECCENTRIC REDUCER (TOP VIEW)
- REDUCING ELBOW (SIDE VIEW)
- REDUCING ELBOW (TOP VIEW)

VALVES AND INSTRUMENTS

- AIR RELIEF VALVE
- BALL VALVE
- PLUG VALVE
- PINCH VALVE
- MOTOR OPERATED (M)
- 2" QUICK CONNECT

ABBREVIATIONS

PIPING

DIP	DUCTILE IRON PIPE
PVC	POLYVINYL CHLORIDE

VALVES, FITTINGS, ETC.

ARV	AIR RELIEF VALVE
BV	BALL VALVE
BF	BLIND FLANGE
CPLG	COUPLING
FT	FEET
FTG	FITTING
FLG/FL	FLANGE
FD	FLOOR DRAIN
FRC	FLEXIBLE RUBBER COUPLING
PV	PLUG VALVE
SOV	SOLENOID OPERATED VALVE
THD	THREADED

GENERAL

AL, ALUM	ALUMINUM
APPROX	APPROXIMATE
BLK	BLOCK
BOL	BOLLARD
BOTT	BOTTOM
BLDG	BUILDING
℄	CENTER LINE
COL	COLUMN
CONC	CONCRETE
CONT	CONTINUOUS
DIAG	DIAGONAL
DIA	DIAMETER
DIM	DIMENSION
DISCH	DISCHARGE
D	DRAIN
EA	EACH
EOP	EDGE OF PAVEMENT
EFF	EFFLUENT
ELEC	ELECTRIC
EL, ELEV	ELEVATION
EMBED	EMBEDDMENT
EQUIP	EQUIPMENT
EXH	EXHAUST
EXIST	EXISTING
FF	FINISHED FLOOR
JB	JUNCTION BOX
MAX	MAXIMUM
MECH	MECHANICAL
MISC	MISCELLANEOUS
NPW	NON POTABLE WATER
NTS	NOT TO SCALE
NO	NUMBER
PS	PRESSURE SWITCH
PW, W	POTABLE WATER
RAW	RAW WATER
RED	REDUCER

GENERAL

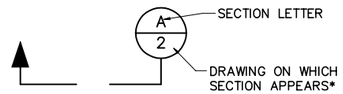
REINF	REINFORCING
REQ'D	REQUIRED
SECT	SECTION
SCH	SCHEDULE
SHT	SHEET
SPEC	SPECIFICATION
SQ	SQUARE
STL	STEEL
STRUC	STRUCTURAL
SST	STAINLESS STEEL
TYP	TYPICAL
TOP	TOP OF PIPE
W/	WITH

SECTION AND DETAIL IDENTIFICATION

SECTION AND DETAIL IDENTIFICATION

SECTION IDENTIFICATION

(1) SECTION CUT ON DRAWING 1:



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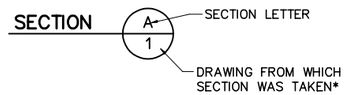

DETAIL IDENTIFICATION

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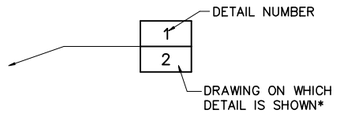
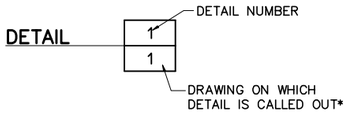
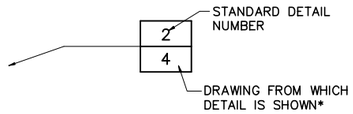


(2) ON DRAWING 2 THIS DETAIL IDENTIFIED AS:

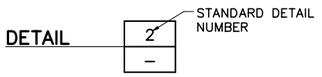


STANDARD DETAIL IDENTIFICATION

(1) DETAIL CALL–OUT ON PLAN OR SECTION:



(2) ON DRAWING 4 THIS DETAIL IDENTIFIED AS:



* NOTE: IF PLAN AND SECTION (OR DETAIL CALL–OUT AND DETAIL) ARE SHOWN ON SAME DRAWING, DRAWING NUMBER IS REPLACE BY A LINE.

NOTES:

(1) ELECTRICAL SYMBOLS SHOWN ON ELECTRICAL DWGS.

(2) FOR WELDING SYMBOLS USE AMERICAN WELDING SOCIETY STANDARD SYMBOLS. SEE AMERICAN INSTITUTE OF STEEL CONSTRUCTION MANUAL.

(3) EXISTING EQUIPMENT, STRUCTURES, AND BUILDINGS ARE SHOWN LIGHT LINED. NEW EQUIPMENT, PIPING, FITTINGS, AND VALVES ARE SHOWN DARK LINED.

GENERAL PROJECT NOTES:

1. CONTRACTOR SHALL REPLACE GRIT WASHERS IN THE EAST SCREEN AND GRIT BUILDING. REPLACE GRIT WASHERS, ASSOCIATED PIPING AND ALL OTHER COMPONENTS AS LISTED IN THE EQUIPMENT SPECIFICATIONS AND AS SHOWN ON THE DRAWINGS.
2. CONTRACTOR SHALL REPLACE ALL FITTINGS, AND VALVES AS SPECIFIED AND SHOWN.
3. CONTRACTOR SHALL REPLACE ALL EXISTING CONDUIT RUNS, RECEPTACLES, LIGHT FIXTURES, AND LOCAL CONTROL STATIONS TO THE EXTENT SHOWN ON THE DRAWINGS FOR THE GRIT WASHERS, USING NEW CABLE PULLED THROUGH THE NEW AND EXISTING CONDUIT SYSTEMS.
4. CONTRACTOR SHALL COORDINATE ALL CONSTRUCTION ACTIVITIES WITH TREATMENT PLANT PERSONNEL AND PLANT OPERATIONS. DUE TO THE NATURE OF THE WORK, ONLY ONE GRIT WASHER CAN BE REPLACED AT A TIME. CONTRACTOR SHALL ADD GRIT PIPING FLUSHING CONNECTIONS TO THE LINES ASSOCIATED WITH THE GRIT WASHER THAT IS OUT OF SERVICE DURING CONSTRUCTION.
5. EXISTING DIMENSIONS ARE BASED ON AS-BUILT DRAWINGS. TRUE DIMENSIONS SHALL BE DETERMINED IN THE FIELD PRIOR TO LAYOUT AND SHOP DRAWING SUBMITTAL.
6. SHOP DRAWINGS SHALL BE SUBMITTED FOR ALL PROPOSED NEW ITEMS. SHOP DRAWINGS, BOTH HARD COPIES OR ELECTRONIC IN PDF FORMAT, SHALL BE HIGH QUALITY AND EASILY READABLE. ELECTRONIC PDF FORMAT SHALL BE SEARCHABLE AND PROVIDED WITH BOOKMARKS.
7. CONTRACTOR IS RESPONSIBLE FOR MEETING ALL FEDERAL, STATE, AND LOCAL GOVERNMENT REGULATIONS IN REGARDS TO WORKING CONDITIONS AND MATERIALS HANDLING AND DISPOSAL.
8. CONTRACTOR SHALL MEET ALL REQUIREMENTS AS LISTED IN THE SPECIFIC PROVISIONS AND INDIVIDUAL SPECIFICATION SECTIONS INCLUDED IN THE CONTRACT DOCUMENTS.
9. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH FLORIDA BUILDING CODE 5TH EDITION 2014, CHAPTER 5 OF THE CITY OF TAMPA CODE AND NATIONAL ELECTRICAL CODE 2011 EDITION.

CONTROL OPERATION: Refer to Section 11412 for complete description of the operation of each grit washer unit as an individual process. Refer to Section 17000 for complete description of the entire grit removal process operation. A summary of the proposed controls is as follows:

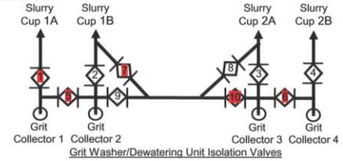
1. Grit Washer Control Panels: Each grit washer can be manually controlled through local control stations or can be placed in automatic operation, controlled through the control panel furnished with the equipment, both located in the Electrical Room. Automatic operation consists of a continuous flow of grit to the Slurry Cups on each grit washer for washing which then overflow to the grit washer's Escalator for separation of captured grit. Grit washers operate whenever a grit pump, or group of grit pumps is directed to a particular grit washer. Grit wash operation includes periodic backwashing and blowdown cycles. The grit washer belt escalator speed is adjustable to optimize grit capture and minimize grit return to the main process flow.
2. Grit Removal Process Local Control Panels: The two new Grit Removal System local control panels, each located in the process area above the grit pump galleries, allow operators to monitor and manually control operation of the Grit Collector Drives, the Grit Pumps, and the Grit Basin Isolation Gates, one panel for Basins 1 and 2, the other panel for Basins 3 and 4. These devices are manually started and stopped from these local panels.
3. Grit Removal System Main Control Panel: The Main Control Panel in the electrical room coordinates which Grit Washers operate and receive flow from which set of grit pumps. This panel opens and closes the 10 new grit washer isolation valves in accordance with an operator selected matrix for matching combinations of grit pumps to the each of two Grit Slurry Cups provided with each of the two Grit Washers. Selection depends on plant flow and what equipment is available to operate. The Main Control Panel also monitors and controls the rate of grit slurry flow to the selected grit washers. Selection matrix is as follows:

Grit Feed Matrix

	Slurry Cups			
	1A	1B	2A	2B
Grit Collector 1	☐	☐	☐	☐
Grit Collector 2	☐	☐	☐	☐
Grit Collector 3	☐	☐	☐	☐
Grit Collector 4	☐	☐	☐	☐

Operators are allowed to select one Slurry Cup per Collector by clicking on the appropriate square, however, no more than 2 Grit Collectors shall be allowed to be assigned to the same Slurry Cup. Once a selection has been made, the Main Control Panel opens the appropriate isolation valves to direct grit from each grit collector (grit pump feed line) to the selected Slurry Cup and maintains an appropriate flow rate based on the selection.

One example of a selection is when all four Grit Collectors must be operated but only Grit Washer 1 is available for operation (Slurry Cups 1A and 1B). In this case, all four grit feed control valves will operate to keep flow below 400 gpm to each Slurry Cup and isolation valves 1 and 5 would be open to feed Slurry Cup 1A from Grit Collectors 1 and 2 and isolation valves 6, 7, and 10 would be open to feed Slurry Cup 1B from Grit Collectors 3 and 4 as noted below:



Grit Washer/Dewatering Unit Isolation Valves

PIPE SCHEDULE

SERVICE	NOMINAL PIPE DIAMETER (INCHES)	MATERIAL	THICKNESS	WORKING PRESSURE (PSIG)	JOINTS	FITTINGS	PROTECTIVE COATING	
							PIPE INTERIOR	PIPE EXTERIOR
DRAIN	ALL	DIP	CLASS 53	50	FLG	DI	EL	P
GRIT WASHER FEED (INFLUENT)	ALL	DIP	CLASS 53	100	FLG	DI	GL	P
NON–POTABLE WATER (EFFLUENT)	< 2"	PVC	SCH 80	100	SW	DI	–	P
	> 2"	DIP	CLASS 53	100	FLG	DI	EL	P
COMPRESSED AIR SUPPLY TUBING	ALL	316 SS	SCH 40	200	PER W–30	SS	–	–

JACOB L. PORTER, PE
NO. 65453

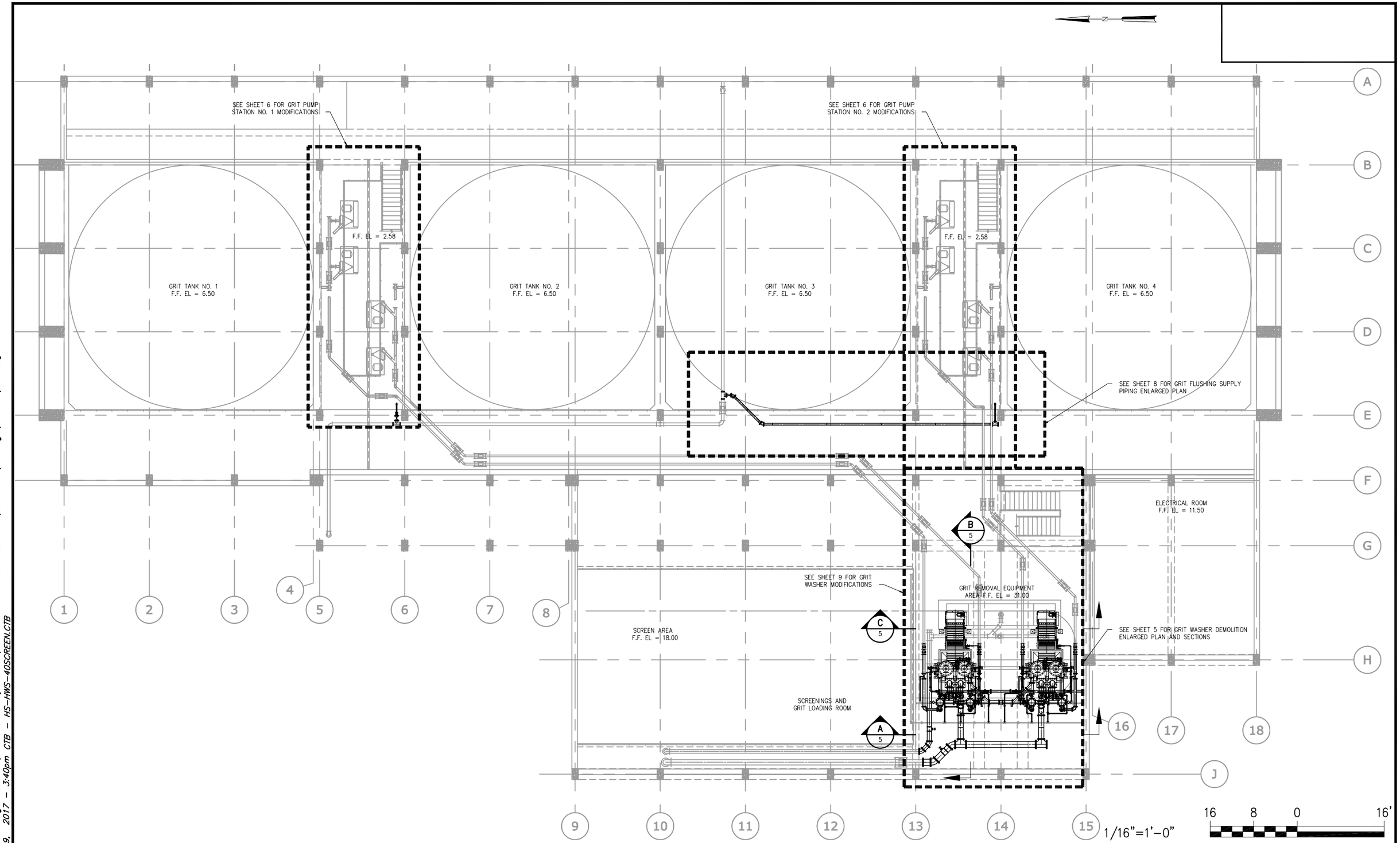
No.	DATE	REVISIONS
3		
2		
1	08/2017	BID SET

DES: JLP
DRN: SMZ
CKD: DBS
DATE: AUG 2017

CITY of TAMPA
WASTEWATER DEPARTMENT
HOWARD F CURREN AWTP

HOWARD F. CURREN AWTP SCREEN AND GRIT BUILDING 2 GRIT WASHER REPLACEMENTS
LEGENDS, SYMBOLS, ABBREVIATIONS AND GENERAL NOTES

W.O. 14
SHEET 3 OF 17



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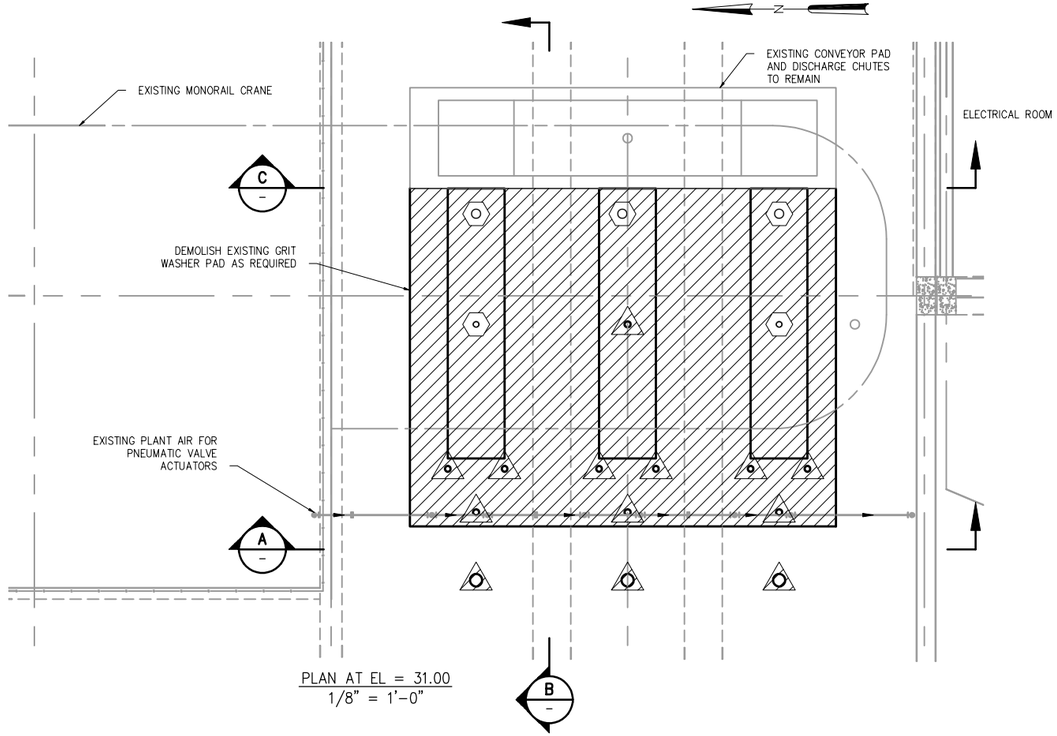
DATE: AUG 2017

CITY of TAMPA
WASTEWATER DEPARTMENT
HOWARD F CURREN AWTP

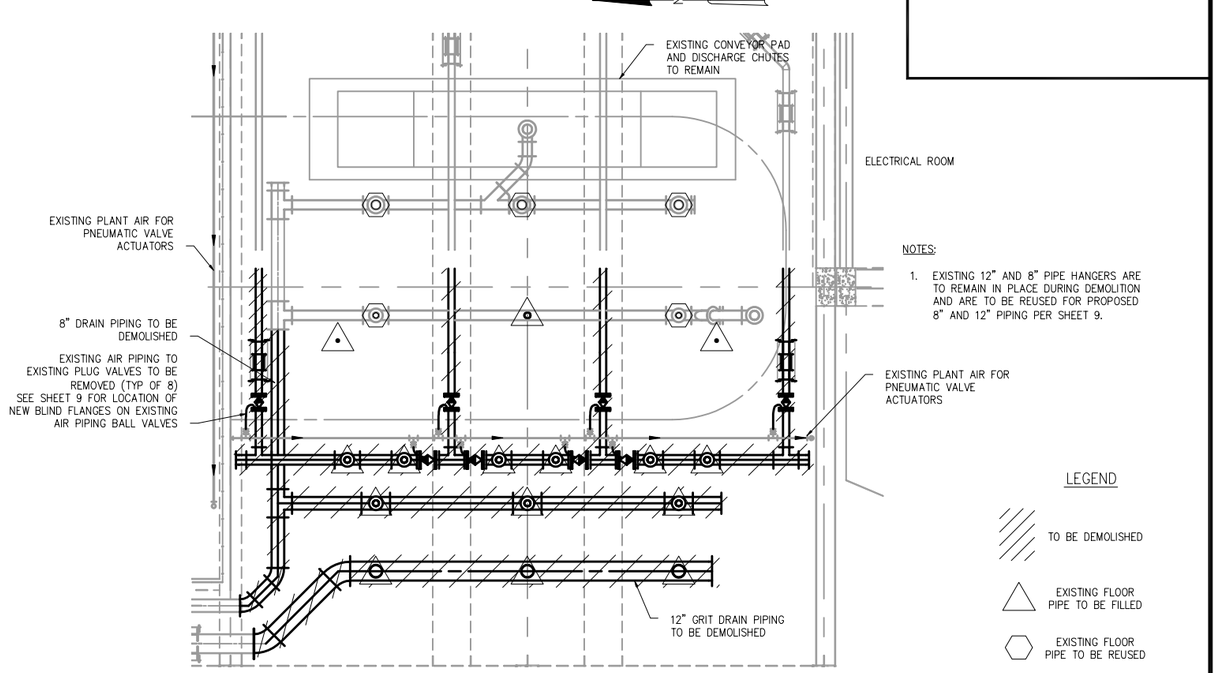
HOWARD F. CURREN AWTP SCREEN AND GRIT BUILDING 2 GRIT WASHER REPLACEMENTS

OVERALL EAST HEADWORKS BUILDING - KEY SHEET

W.O. 14
SHEET 4 OF 17



PLAN AT EL = 31.00
1/8" = 1'-0"



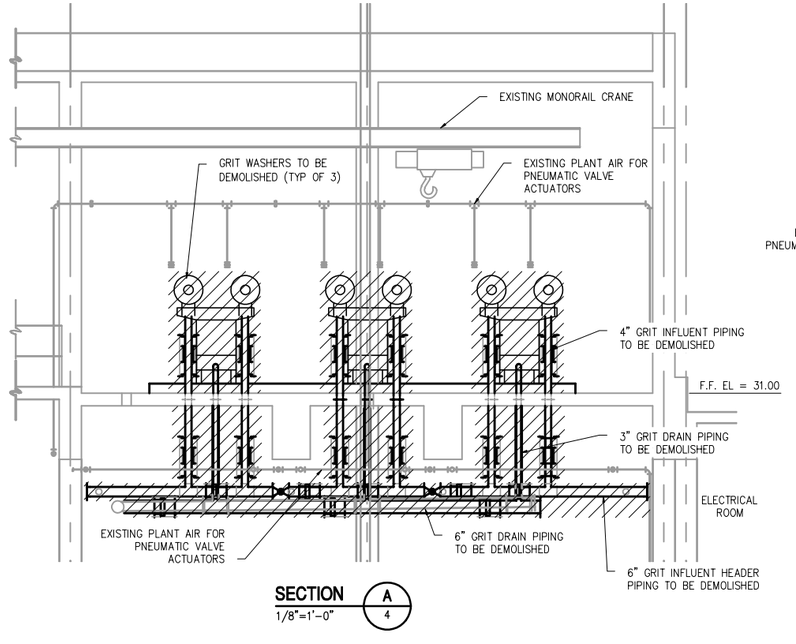
NOTES:

1. EXISTING 12" AND 8" PIPE HANGERS ARE TO REMAIN IN PLACE DURING DEMOLITION AND ARE TO BE REUSED FOR PROPOSED 8" AND 12" PIPING PER SHEET 9.

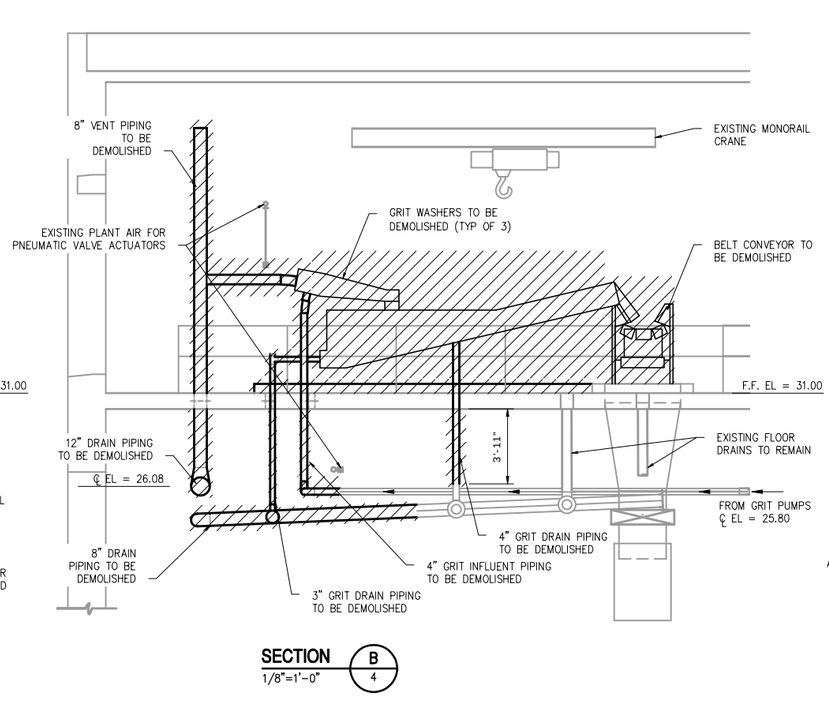
LEGEND

- TO BE DEMOLISHED
- EXISTING FLOOR PIPE TO BE FILLED
- EXISTING FLOOR PIPE TO BE REUSED

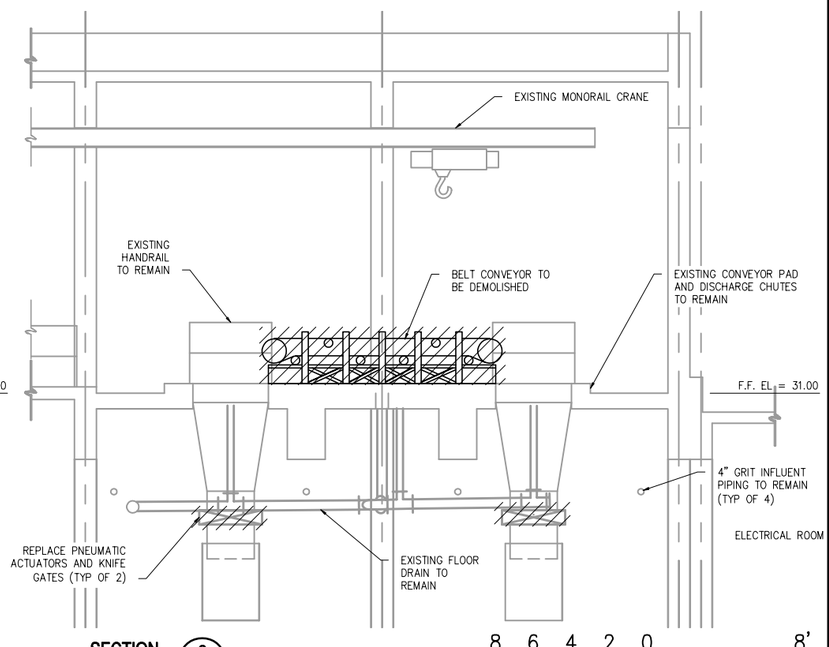
PLAN AT EL = 27.00
1/8" = 1'-0"



SECTION A 1/8"=1'-0" (4)



SECTION B 1/8"=1'-0" (4)



SECTION C 1/8"=1'-0" (4)

8 6 4 2 0 8'
1/8"=1'-0"

No.	DATE	REVISIONS
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JACOB L. PORTER, PE
NO. 65453

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DATE: AUG 2017

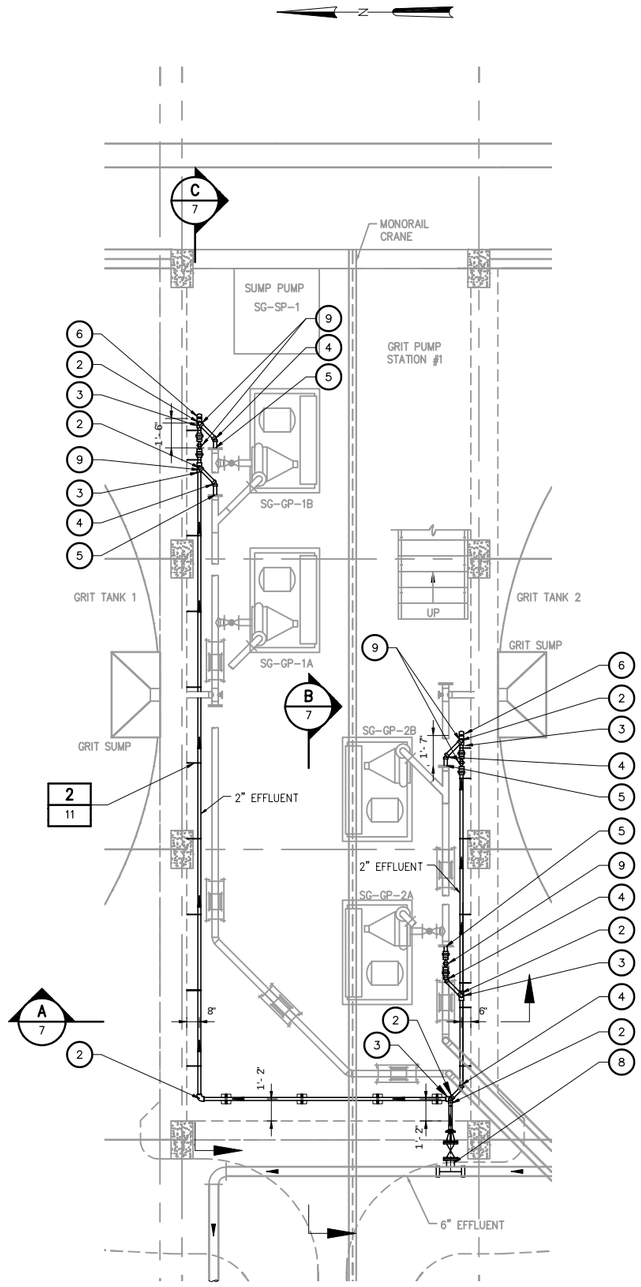
CITY of TAMPA
WASTEWATER DEPARTMENT
HOWARD F CURREN AWTP

HOWARD F. CURREN AWTP SCREEN AND GRIT BUILDING 2 GRIT WASHER REPLACEMENTS

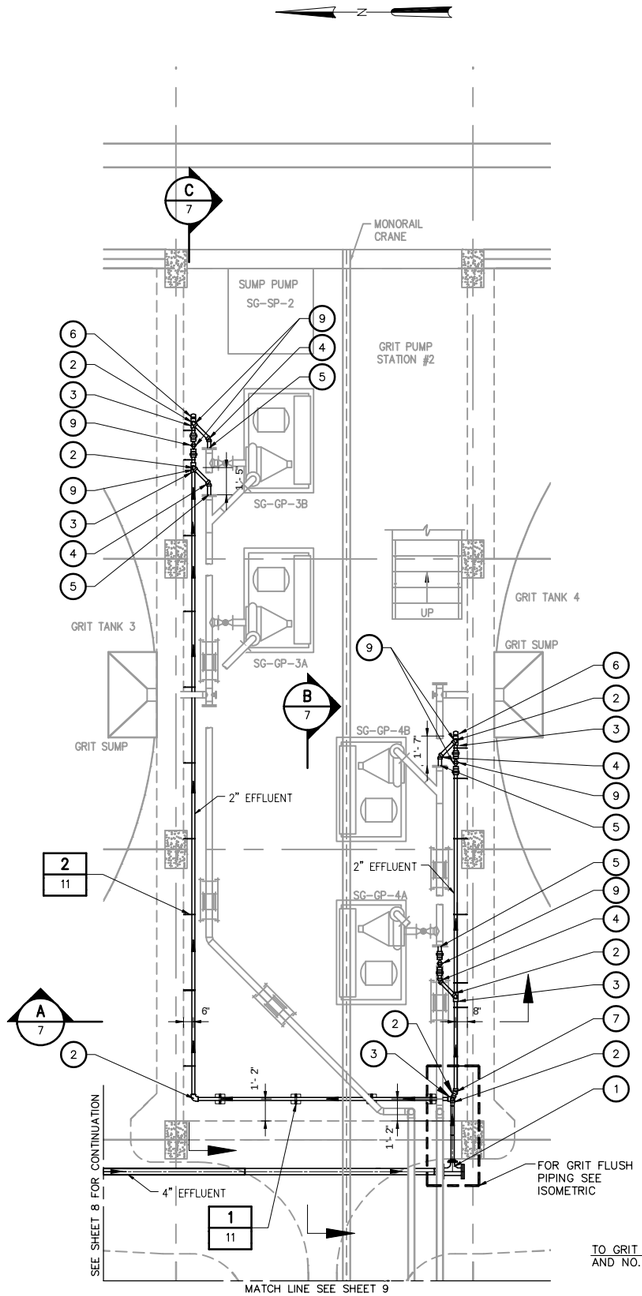
GRIT WASHER DEMOLITION SECTIONS

W.O. 14
SHEET 5 OF 17

User: szagurski Drawing Name: H:\41077-009 City Of Tampa - HFC AWTP Grit Washer Replacement\Drawings\General\G-5.dwg Layout- Aug 29, 2017 - 3:41pm CTB - HS-HWS-40SCREEN.CTB

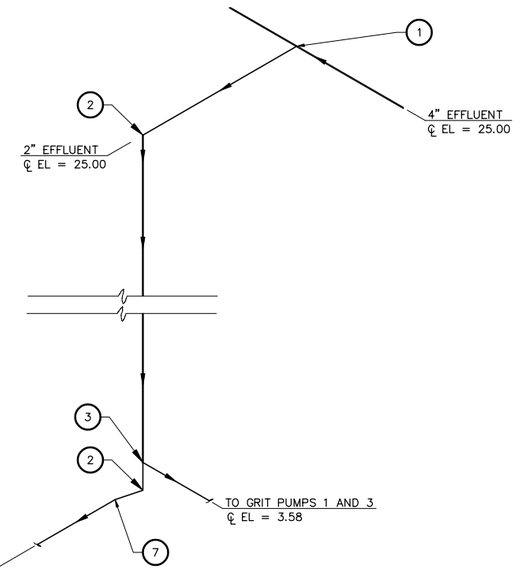


GRIT PUMP STATION #1 EL – 2.58
1/8" = 1'-0"



GRIT PUMP STATION #2 EL – 2.58
1/8" = 1'-0"

NUMBER	DESCRIPTION
1	4" X 2" TEE W/ DIP TO PVC ADAPTER AND 4" BLIND FLANGE
2	2" 90° BEND
3	2" X 2" TEE
4	2" 45° BEND
5	CONNECT 2" GRIT FLUSH WATER TO 4" BLIND FLANGE W/ 2" THREADED BOSS ON END OF EXISTING 4" LINE
6	2" THREADED PLUG
7	2" 22.5° BEND
8	6" X 4" SADDLE TAP AND VALVE AND 4" X 2" REDUCER
9	2" BALL VALVE



GRIT FLUSH PIPING ISOMETRIC
3/8" = 1'-0"

3/8"=1'-0"
12" 0 1 2 4'

1/8"=1'-0"
8 6 4 2 0 8'

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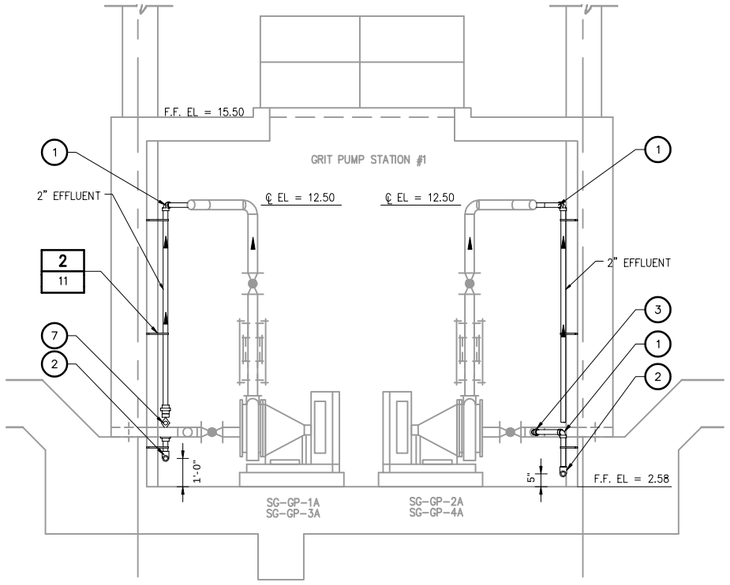
CITY of TAMPA
WASTEWATER DEPARTMENT
HOWARD F CURREN AWTP

HOWARD F. CURREN AWTP SCREEN AND GRIT BUILDING 2 GRIT WASHER REPLACEMENTS

GRIT PUMP PIPING IMPROVEMENTS PLAN

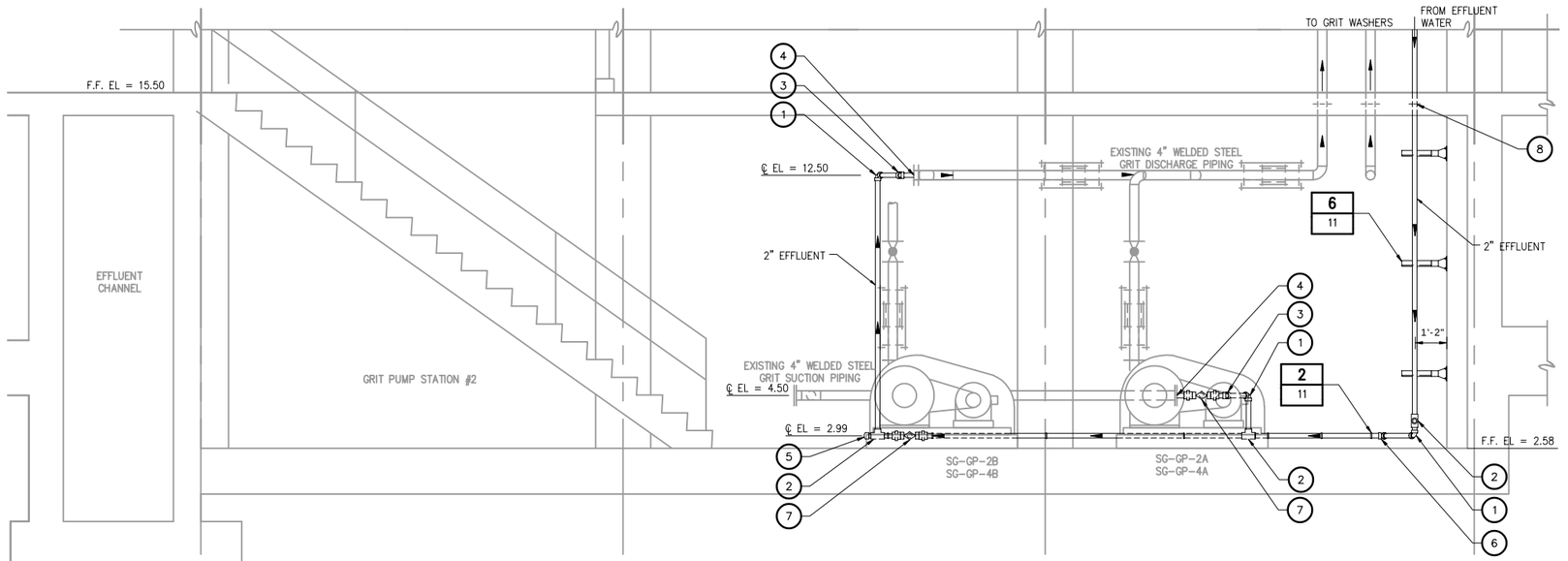
W.O. 14
SHEET 6 OF 17

User: szagurski Drawing Name: H:\41077-009 City Of Tampa - HFC AWTP Grit Washer Replacement\Drawings\Mechanical\6 Grit Pump Piping Improvements Plan.dwg
Layout– Aug 29, 2017 – 3:41pm



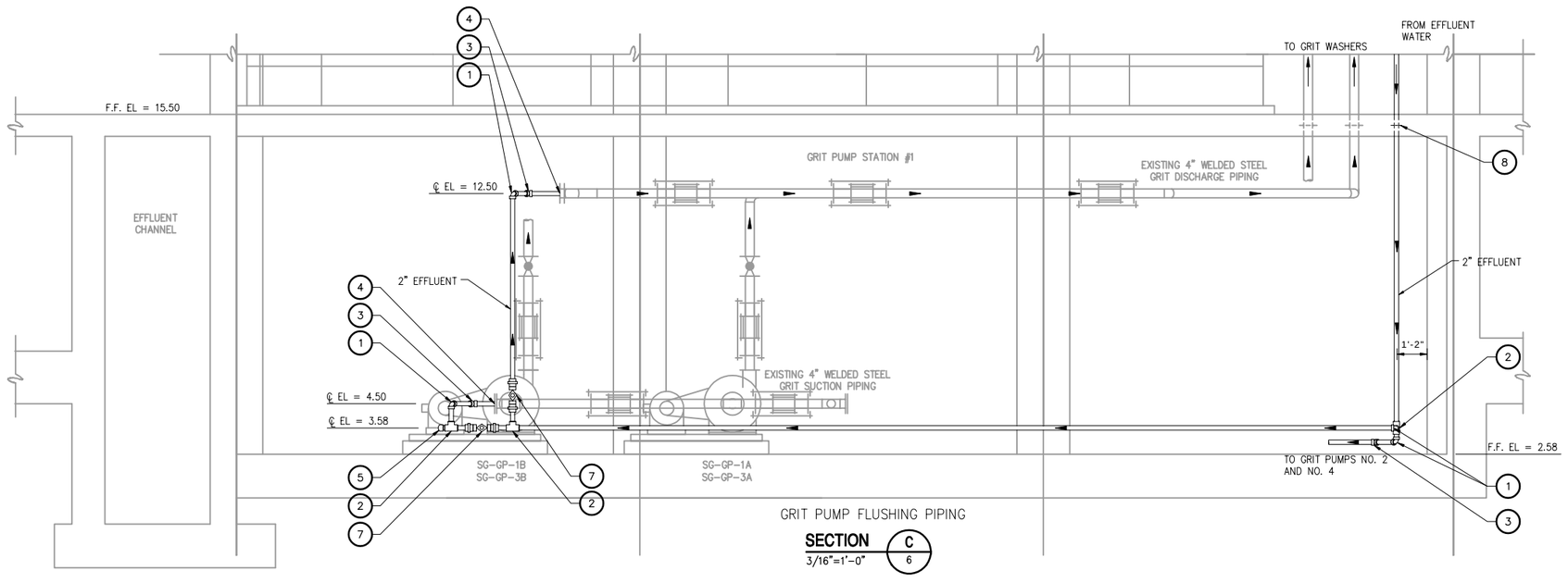
GRIT PUMP FLUSHING PIPING

SECTION A 6
3/16"=1'-0"



GRIT PUMP FLUSHING PIPING

SECTION B 6
3/16"=1'-0"



GRIT PUMP FLUSHING PIPING

SECTION C 6
3/16"=1'-0"

NUMBER	DESCRIPTION
1	2" 90° BEND
2	2" X 2" TEE
3	2" 45° BEND
4	CONNECT 2" GRIT FLUSH WATER TO 4" BLIND FLANGE W/ 2" THREADED BOSS
5	2" CAP
6	2" 22.5° BEND
7	2" BALL VALVE
8	CORE DRILL HOLE FOR 2" PIPE WALL SLEEVE 4 / 11

3/16"=1'-0"

6 4 2 0 5'

JACOB L. PORTER, PE
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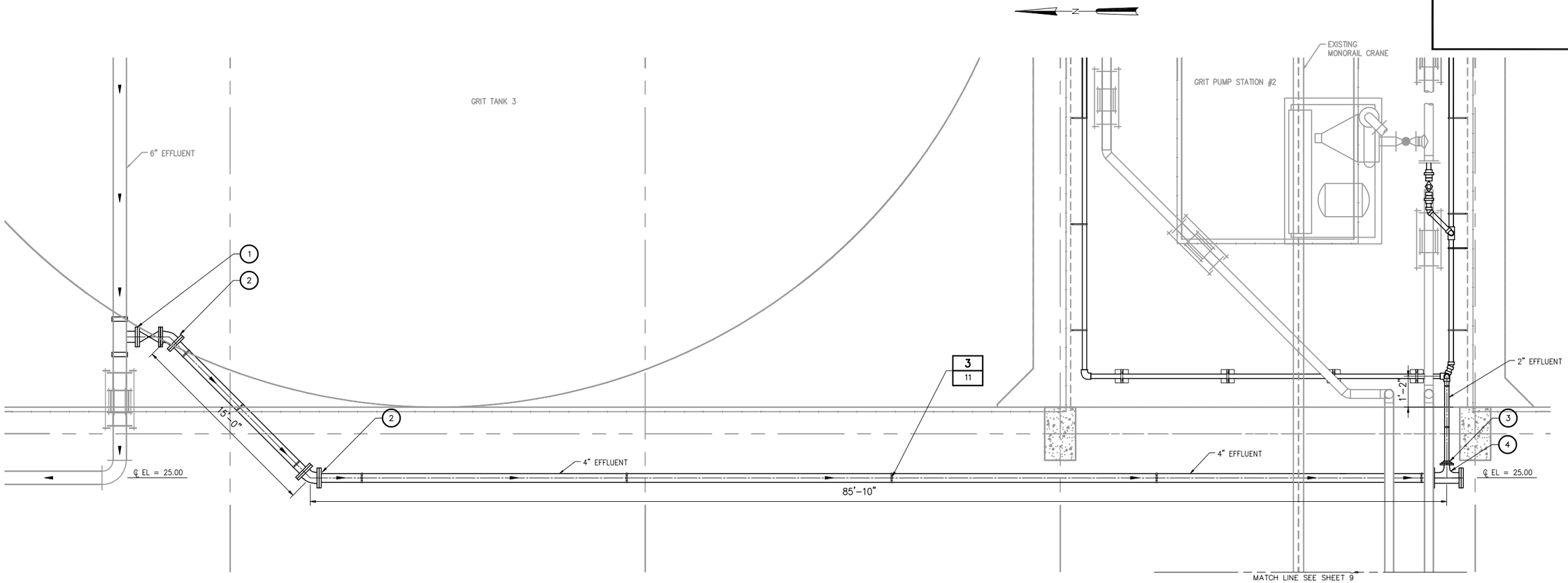
HOWARD F CURREN AWTP

HOWARD F. CURREN AWTP SCREEN AND GRIT BUILDING 2 GRIT WASHER REPLACEMENTS

GRIT PUMP PIPING IMPROVEMENTS SECTIONS

W.O. 14
SHEET 7 OF 17

User: szagurski Drawing Name: H:\41077-009 City Of Tampa - HFC AWTP Grit Washer Replacement\Drawings\Mechanical\7 Grit Pump Piping Improvements Sections.dwg
Layout- Aug 29, 2017 - 3:42pm



PLAN EL – 27.00
1/4" = 1'-0"

NUMBER	DESCRIPTION
1	6" X 4" TAPPING SLEEVE AND VALVE
2	4" 45° BEND
3	DUCTILE IRON TO PVC TRANSITION ADAPTER
4	4" x 2" TEE

1/4"=1'–0"

1 0 1 2 3 7'

JACOB L. PORTER, PE
NO. 65453

No.	DATE	REVISIONS
3		
2		
1	08/2017	BID SET

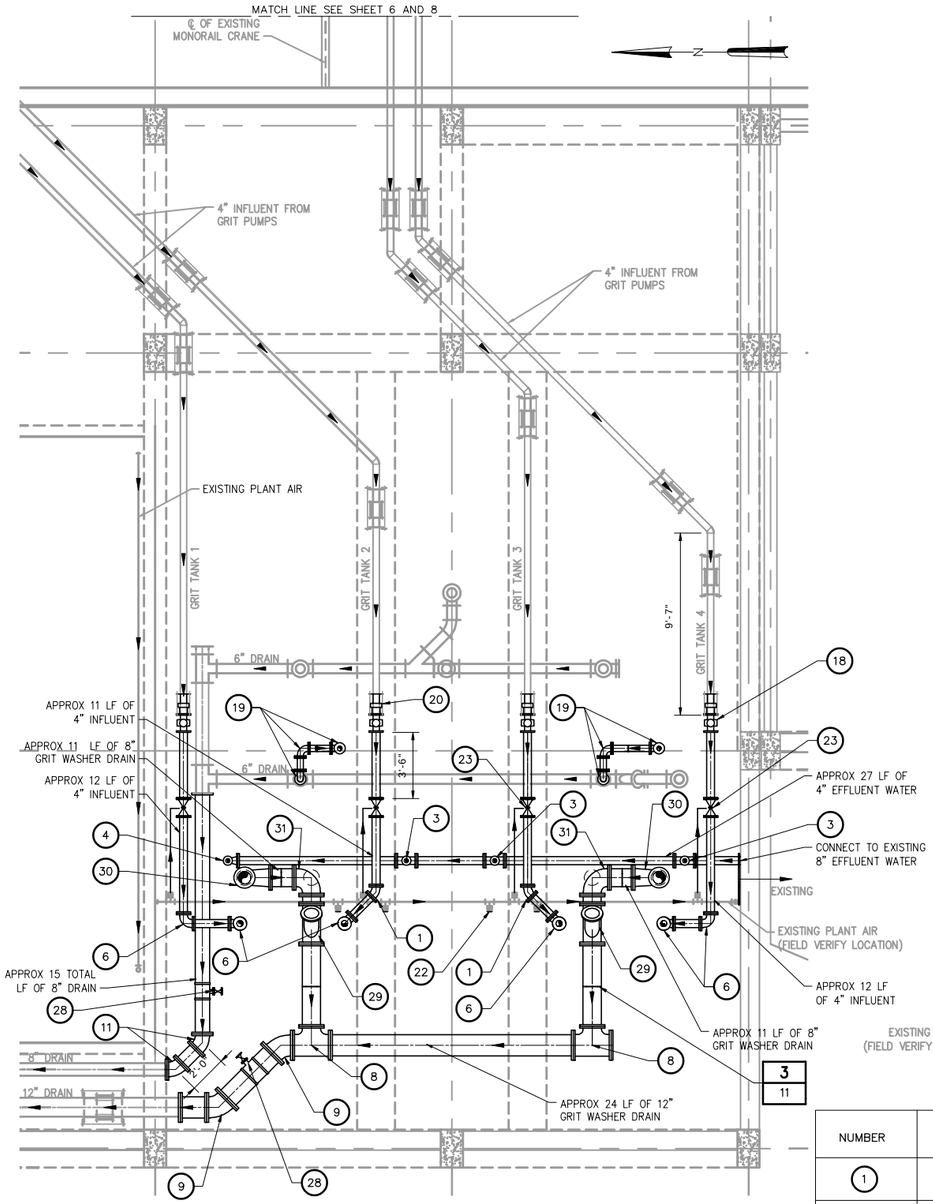
DES: JLP
DRN: SMZ
CKD: DBS
DATE: AUG 2017

CITY of TAMPA
WASTEWATER DEPARTMENT
HOWARD F CURREN AWTP

HOWARD F. CURREN AWTP SCREEN AND GRIT BUILDING 2 GRIT WASHER REPLACEMENTS

GRIT FLUSHING AND GRIT WASHER SUPPLY PIPING

W.O. 14
SHEET 8 OF 17



INTERMEDIATE PLAN EL – 27.00

1/8" = 1'-0"

NOTE:

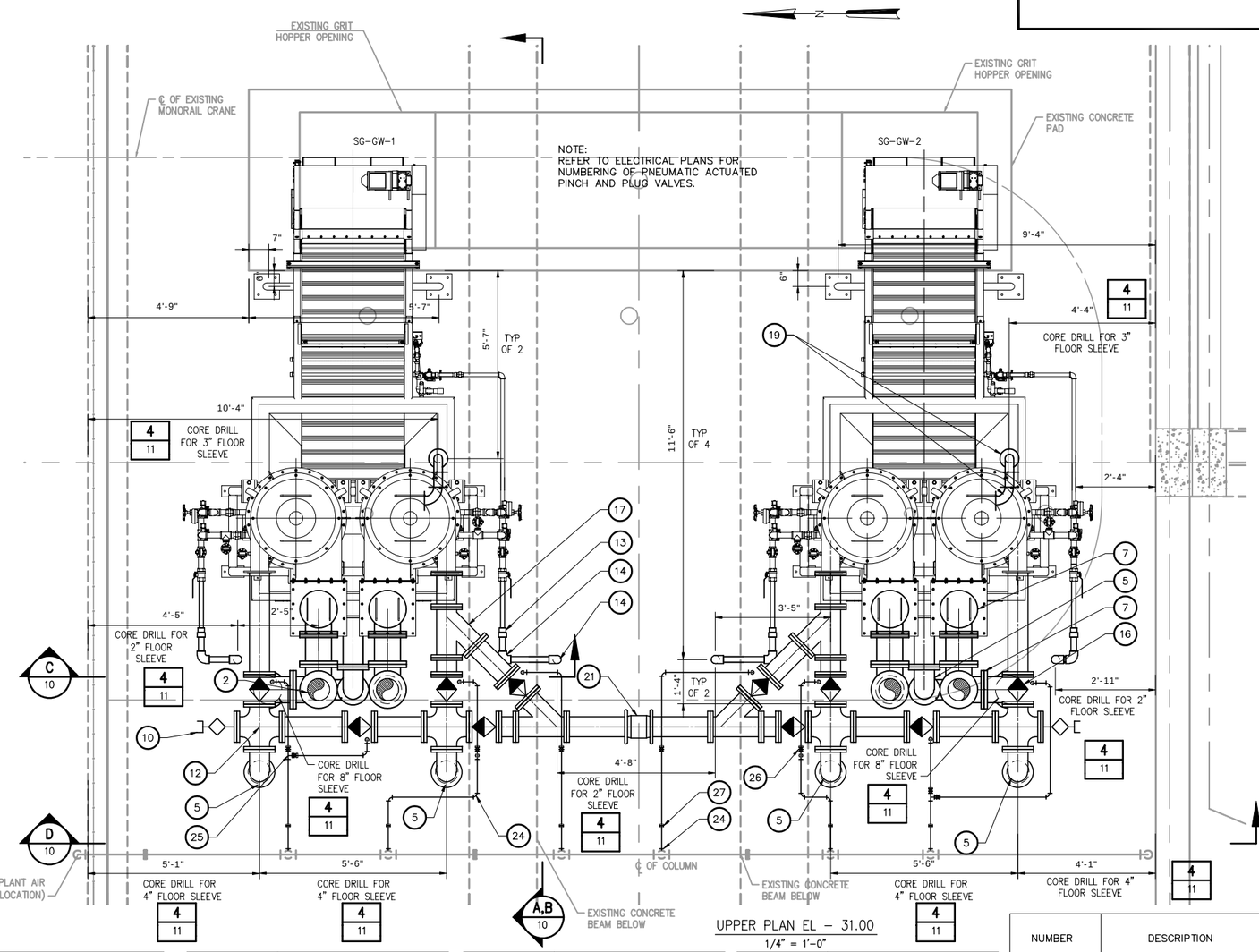
REPLACE EXISTING PIPE SUPPORTS WHERE EXISTING PIPE IS BEING REPLACED. FOR PIPE SUPPORT DETAIL SEE SHEET 3/11.

1/4"=1'-0"

1 0 1 2 3 7'

1/8"=1'-0"

8 6 4 2 0 8'



UPPER PLAN EL – 31.00

1/4" = 1'-0"

NUMBER	DESCRIPTION
1	4" 45° BEND
2	6" X 6" TEE (SEE SHEET 10 FOR TOTAL)
3	4" X 2" TEE
4	4" X 2" REDUCING ELBOW
5	6" 90° BEND
6	4" 90° BEND

NUMBER	DESCRIPTION
7	8" 90° BEND
8	12" X 10" TEE
9	12" 45° BEND
10	2" QUICK CONNECT FLUSHING CONNECTION (TYP OF 2)
11	8" 45° BEND
12	6" X 6" CROSS (TYP OF 4)

NUMBER	DESCRIPTION
13	2" X 1-1/2" REDUCER (TYP OF 4)
14	2" 90° BEND (TYP OF 8)
15	8" X 6" REDUCING ELBOW (TYP OF 4)
16	6" PNEUMATIC PLUG VALVE (TYP OF 10)
17	6" X 6" WYE (TYP OF 4)
18	4" FLOW METER (TYP OF 4)

NUMBER	DESCRIPTION
19	3" 90° BEND
20	4" FLANGE COUPLING ADAPTER (TYP OF 4)
21	6" STANDARD ROMAC ALPHA RESTRAINED COUPLING OR EQUAL
22	BLIND FLANGE EXISTING BALL VALVE (TYP OF 4)
23	4" PINCH VALVE (TYP OF 4)
24	3/8" 90° BEND (TYP OF 26)

NUMBER	DESCRIPTION
25	3/8" TEE (TYP OF 4)
26	3/8" BALL VALVE (TYP OF 10)
27	3/8" THREADED UNION (TYP OF 22)
28	1" SADDLE TAP W/ 1" BALL VALVE
29	10" X 8" WYE (TYP OF 2)
30	10" X 8" REDUCING ELBOW (TYP OF 2)
31	10" 90° BEND (TYP OF 2)

JACOB L. PORTER, PE
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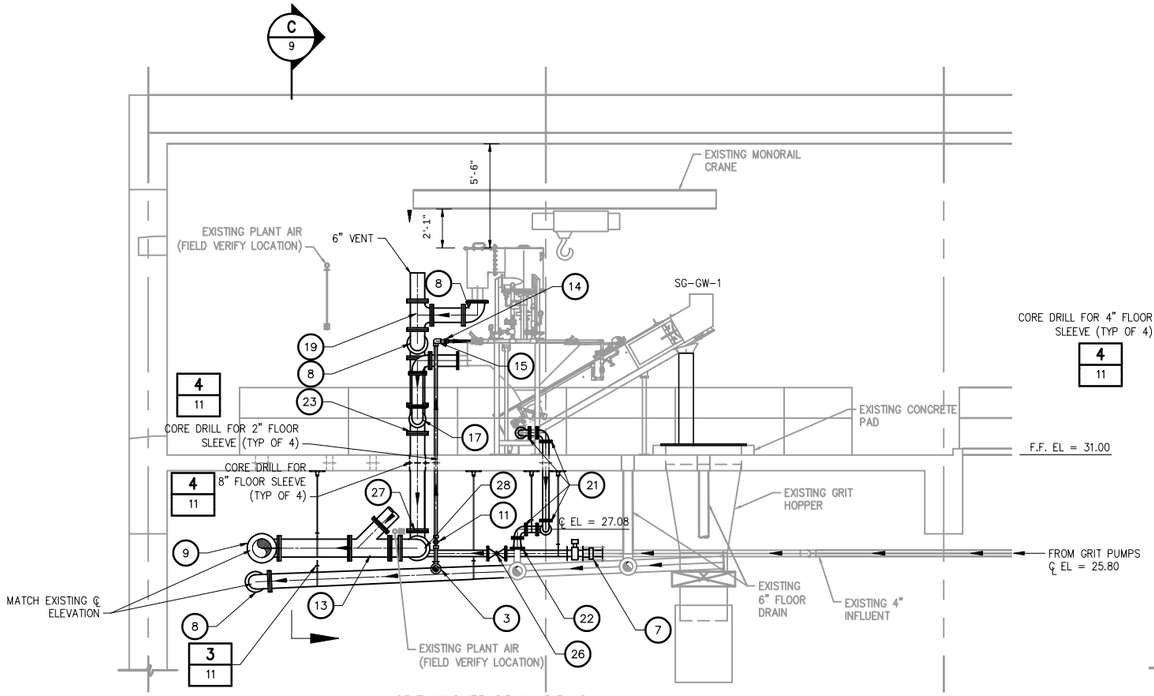
DATE: AUG 2017

CITY of TAMPA
WASTEWATER DEPARTMENT
HOWARD F CURREN AWTP

HOWARD F. CURREN AWTP SCREEN AND GRIT BUILDING 2 GRIT WASHER REPLACEMENTS

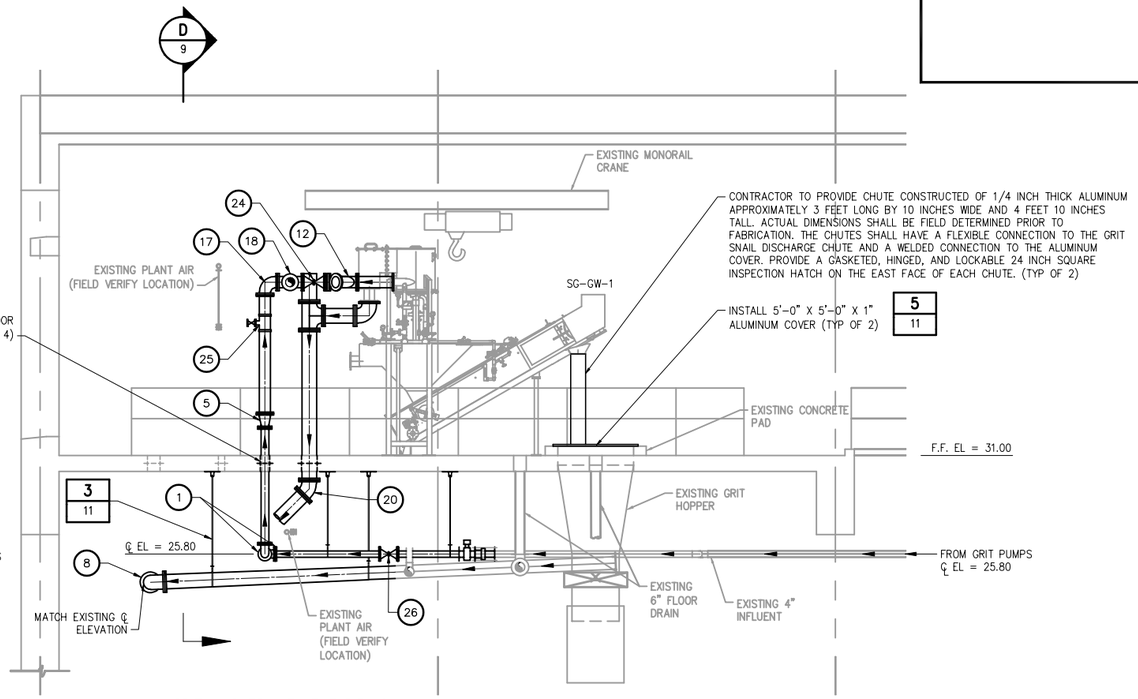
GRIT WASHER REPLACEMENT PLAN

W.O. 14
SHEET 9 OF 17



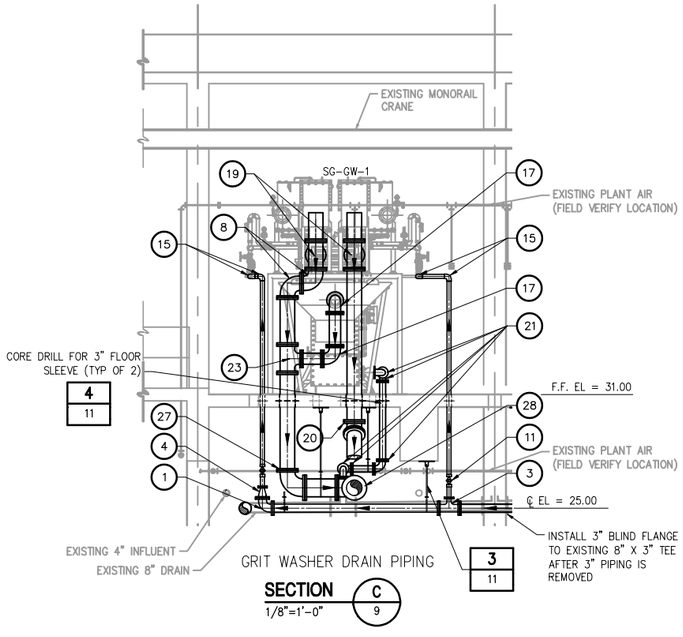
GRIT WASHER DRAIN PIPING

SECTION A 1/8"=1'-0" (9)



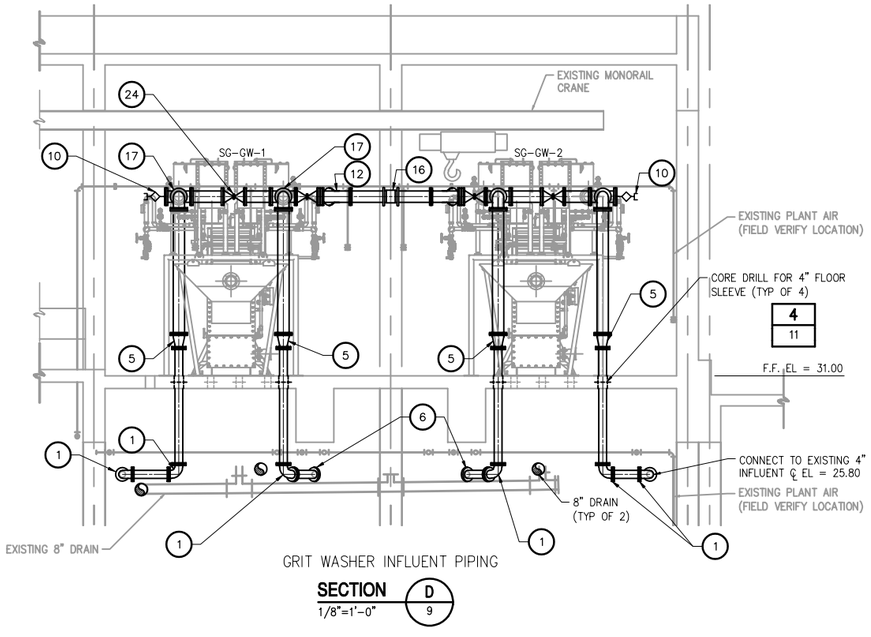
GRIT WASHER INFLUENT PIPING

SECTION B 1/8"=1'-0" (9)



GRIT WASHER DRAIN PIPING

SECTION C 1/8"=1'-0" (9)



GRIT WASHER INFLUENT PIPING

SECTION D 1/8"=1'-0" (9)

NUMBER	DESCRIPTION
1	4" 90° BEND
2	NOT USED
3	4" X 2" TEE
4	4" X 2" REDUCER
5	6" X 4" REDUCER
6	4" 45° BEND
7	4" COUPLING
8	8" 90° BEND
9	12" X 10" TEE
10	2" QUICK CONNECT FLUSHING CONNECTION
11	2" BALL VALVE (TYP OF 4)
12	6" X 6" WYE
13	10" X 8" WYE (TYP OF 2)
14	2" X 1-1/2" REDUCER (TYP OF 4)

NUMBER	DESCRIPTION
15	2" 90° BEND (TYP OF 8)
16	6" STANDARD ROMAC ALPHA RESTRAINED COUPLING
17	6" 90° BEND
18	6" X 6" CROSS
19	8" X 8" TEE (TYP OF 4)
20	8" 45° BEND (TYP OF 2)
21	3" 90° BEND
22	4" X 3" REDUCER
23	8" X 6" TEE
24	6" PNEUMATIC PLUG VALVE
25	1" SADDLE TAP W/ 1" BALL VALVE
26	4" PNEUMATIC PINCH VALVE
27	10" X 8" REDUCING ELBOW (TYP OF 2)
28	10" 90° BEND (TYP OF 2)

1/8"=1'-0"

8 6 4 2 0 8'

JACOB L. PORTER, PE
NO. 65453

No.	DATE	REVISIONS
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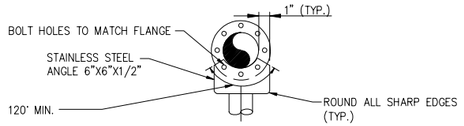
DATE: AUG 2017

CITY of TAMPA
WASTEWATER DEPARTMENT
HOWARD F CURREN AWTP

HOWARD F. CURREN AWTP SCREEN AND GRIT BUILDING 2 GRIT WASHER REPLACEMENTS

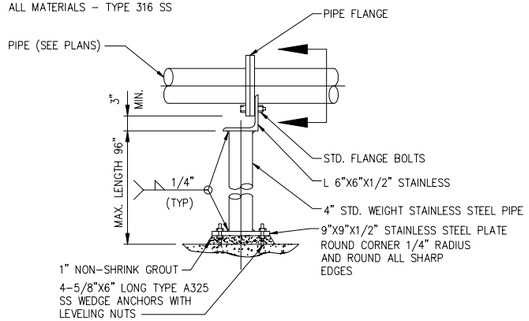
GRIT WASHER REPLACEMENT SECTIONS

W.O. 14
SHEET 10 OF 17



SECTION

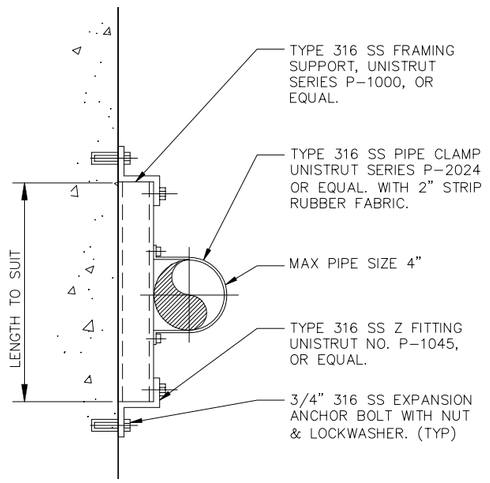
NOTE:
ALL MATERIALS – TYPE 316 SS



NOTES:
1. PIPE SUPPORT SUITABLE FOR FLANGED DIP PIPE SIZES 3" UP TO 24".

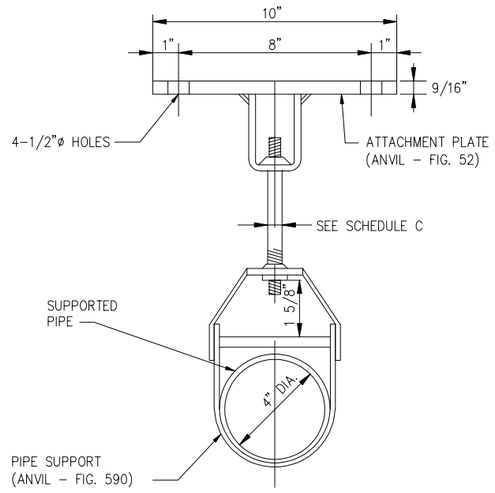
FLOOR MOUNTED FABRICATED PIPE SUPPORT

DETAIL 1
N.T.S. STD



WALL MOUNTED FABRICATED PIPE SUPPORT

DETAIL 2
N.T.S. STD



NOTES:

1. ALL TUBULAR MATERIAL TO BE TYPE 316 STAINLESS STEEL.
2. PLATES AND GUSSETS TO BE TYPE 316 STAINLESS STEEL.
3. BACK PLATES SHALL BE DESIGNED BY THE CONTRACTOR ACCORDING TO WALL TYPES AND THE WEIGHTS INVOLVED. BACK PLATE TO BE SUPPLIED BY SUPPORT MANUFACTURER

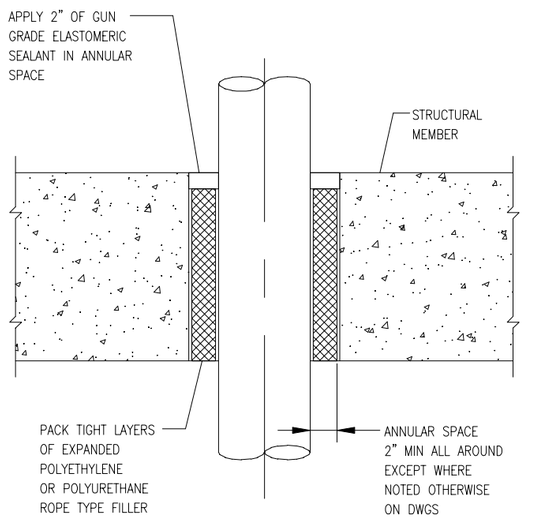
SCHEDULE C

SUPPORT RODS AND BRACKET SPACING (FOR STANDARD WEIGHT PIPE)

PIPE SIZE (INCHES)	BACK PLATE (INCHES)	MINIMUM ROD ? (INCHES)		MAX SPAN IN FEET (SEE NOTE 8)			
		PROCESS PIPING	STEEL AIR PIPING	COPPER	PLASTIC	STEEL	DIP (SEE NOTE 7)
UP TO 1	SEE NOTE 3	3/8	3/8	5	5	6	–
1 1/4–2	-	3/8	3/8	8	5	10	–
2 1/2–3 1/2	-	3/8	3/8	8	5	12	6
4–5	-	1/2	3/8	–	5	14	8
6	-	5/8	3/8	–	5	15	9
8–12	-	3/4	1/2	–	5	15	9
14–16	-	7/8	1/2	–	5	15	9
18	-	1	1/2	–	5	18	10
20–24	-	1 1/4	5/8	–	5	18	10

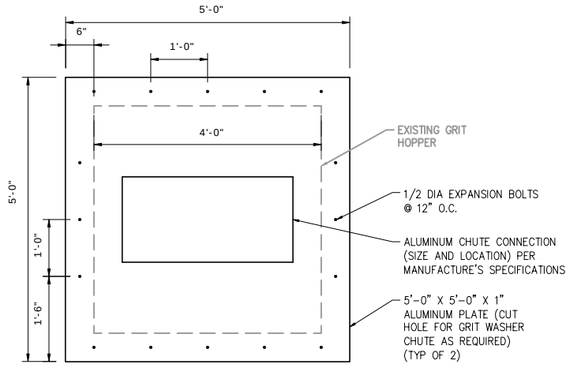
CEILING MOUNTED PIPE SUPPORT

DETAIL 3
N.T.S. STD

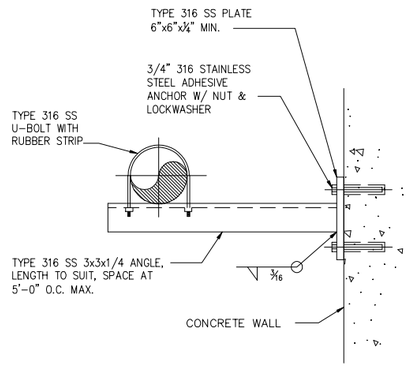


SLAB PENETRATION
SCALE: NONE

DETAIL 4
N.T.S. STD



DETAIL 5
3/8"=1'-0" STD



WALL-MOUNTED FABRICATED PIPE SUPPORT

DETAIL 6
N.T.S. STD

3/8"=1'-0"

12" 0 1 2 4'

No.	DATE	REVISIONS
3		
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1	08/2017	BID SET

JACOB L. PORTER, PE
NO. 65453

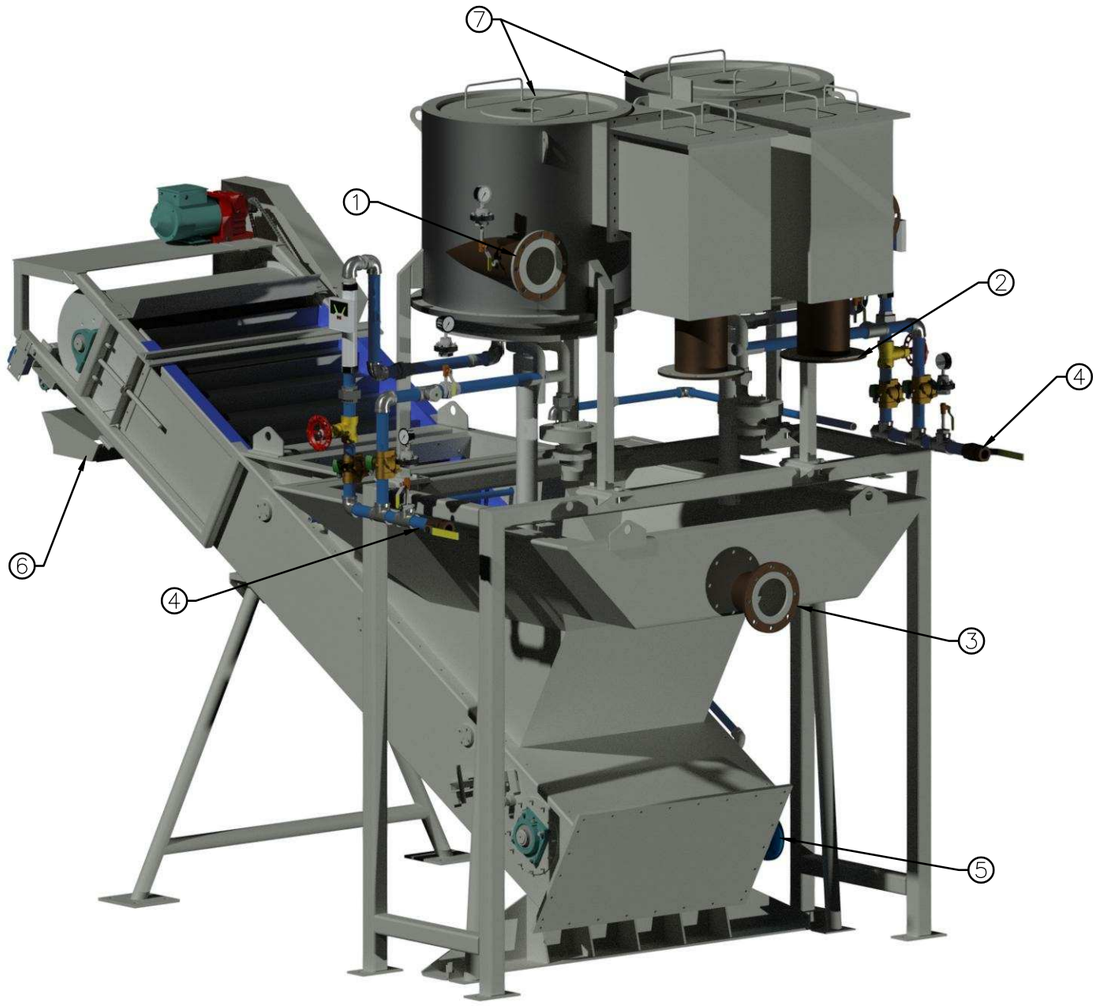
DES: JLP
DRN: SMZ
CKD: DBS
DATE: AUG 2017

CITY of TAMPA
WASTEWATER DEPARTMENT
HOWARD F CURREN AWTP

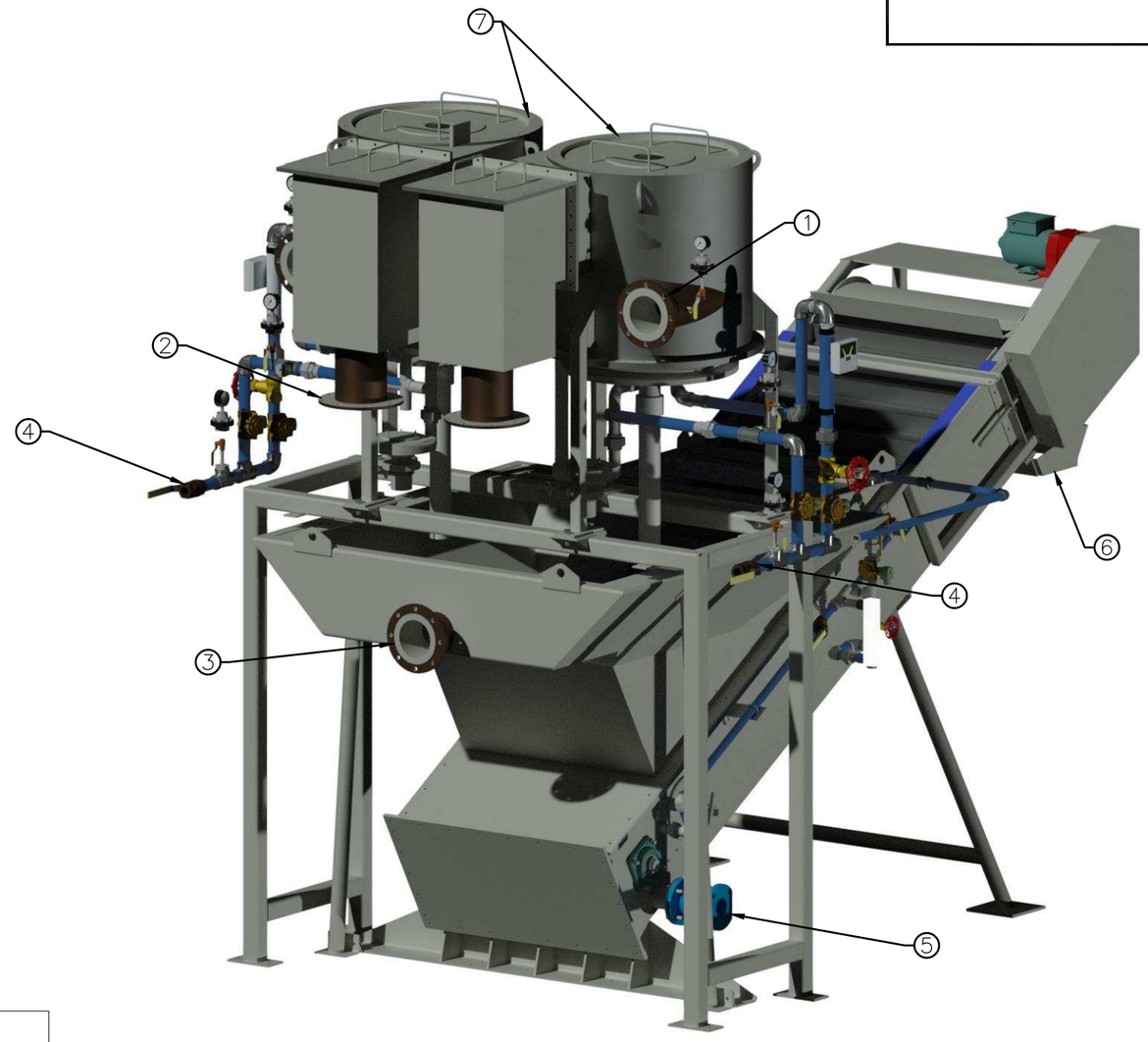
HOWARD F. CURREN AWTP SCREEN AND GRIT BUILDING 2 GRIT WASHER REPLACEMENTS

MECHANICAL DETAILS

W.O. 14
SHEET 11 OF 17



GRIT SNAIL ISOMETRIC 1
N.T.S.



GRIT SNAIL ISOMETRIC 2
N.T.S.

(*) CONTRACTOR TO PROVIDE CHUTE CONSTRUCTED OF 1/4 INCH THICK ALUMINUM APPROXIMATELY 3 FEET LONG BY 10 INCHES WIDE AND 4 FEET 10 INCHES TALL. ACTUAL DIMENSIONS SHALL BE FIELD DETERMINED PRIOR TO FABRICATION. THE CHUTES SHALL HAVE A FLEXIBLE CONNECTION TO THE GRIT SNAIL DISCHARGE CHUTE AND A WELDED CONNECTION TO THE ALUMINUM COVER. PROVIDE A GASKETED, HINGED, AND LOCKABLE 24 INCH SQUARE INSPECTION HATCH ON THE EAST FACE OF EACH CHUTE. (TYP OF 2)

NUMBER	DESCRIPTION
1	6" INFLUENT CONNECTION
2	8" EFFLUENT CONNECTION
3	6" OVERFLOW CONNECTION
4	1-1/2" SUPPLY WATER CONNECTION
5	3" DRAIN CONNECTION
6	DISCHARGE CHUTE (*)
7	32" DIA. SLURRY CUP

GRIT WASHING EQUIPMENT INFORMATION

MANUFACTURER: HYDRO INTERNATIONAL

GRIT WASHING/CLASSIFICATION UNITS: SLURRY CUP
MODEL: 32DSC
DESIGN FLOW: (RANGE) 330 CPM (280-400 GPM)

DEWATERING UNITS: GRIT SNAIL
MODEL: GS3672
CAPACITY: 6 CY/HR

JACOB L. PORTER, PE
NO. 65453

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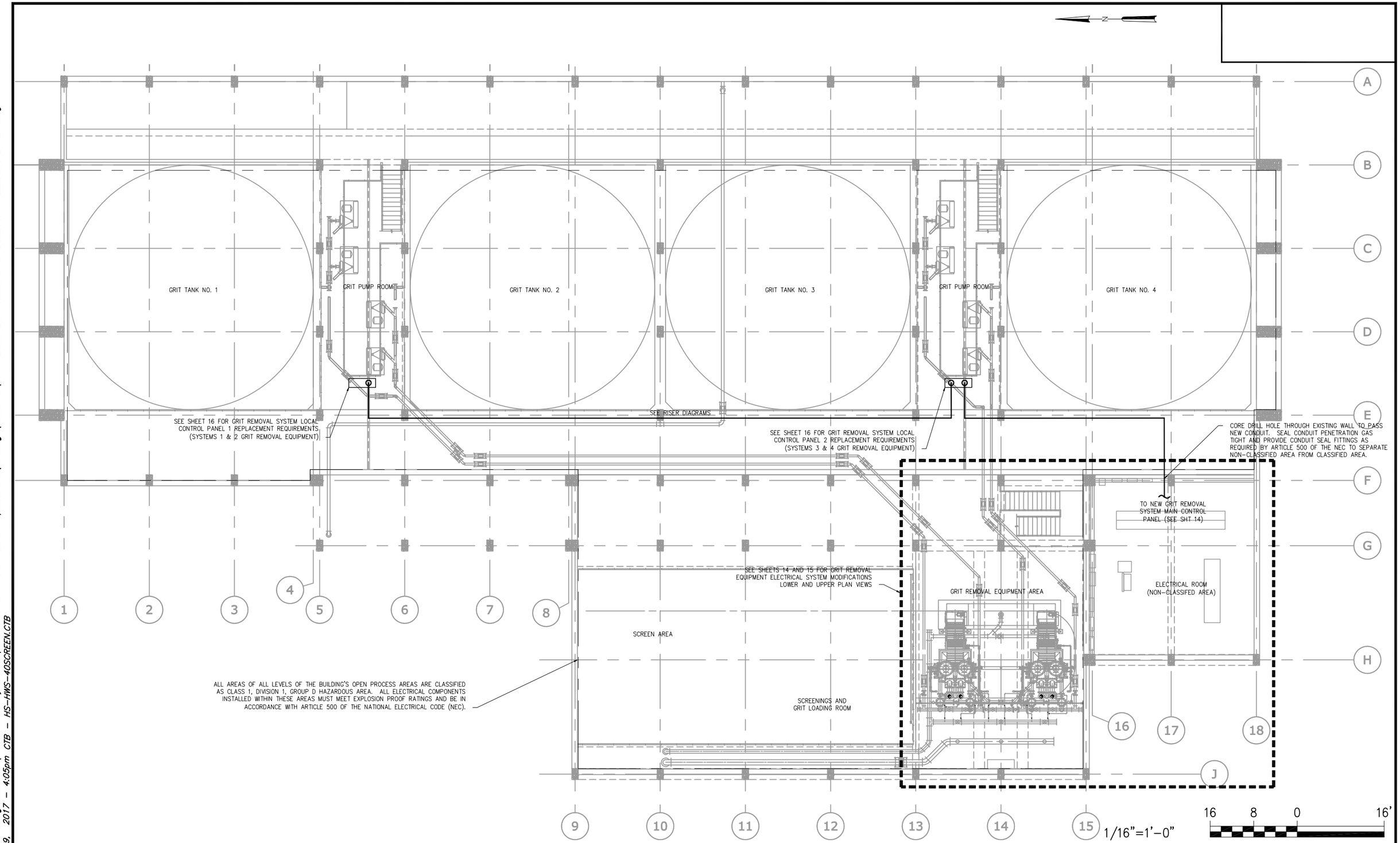
DATE: AUG 2017

CITY of TAMPA
WASTEWATER DEPARTMENT
HOWARD F CURREN AWTP

HOWARD F. CURREN AWTP SCREEN AND GRIT BUILDING 2 GRIT WASHER REPLACEMENTS
GRIT WASHER ISOMETRIC

W.O. 14
SHEET 12 OF 17



User: szogurski Drawing Name: H:\41077-009 City Of Tampa - HFC AWTP Grit Washer Replacement\Drawings\Electrical\13 OVERALL EAST HEADWORKS BUILDING - ELECTRICAL PLAN.dwg
Layout- Aug 29, 2017 - 4:05pm CTB - HS-HWS-40SCREEN.CTB

DANIEL B. SCHMIDT, PE
NO. 20433

No.	DATE	REVISIONS
3		
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DES: JLP
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CITY of TAMPA
WASTEWATER DEPARTMENT
HOWARD F CURREN AWTP

HOWARD F. CURREN AWTP SCREEN AND GRIT BUILDING 2 GRIT WASHER REPLACEMENTS OVERALL EAST HEADWORKS BUILDING - ELECTRICAL PLAN

W.O. 14
SHEET 13 OF 17

TO REPLACEMENT GRIT SYSTEM LOCAL PANELS (SEE BLDG OVERALL PLAN)

EXISTING MCC-21

1
13

1"C, OVERHEAD, ETHERNET CABLE BETWEEN THE NEW GRIT REMOVAL SYSTEM LOCAL PANELS AND THE GRIT REMOVAL SYSTEM MAIN CONTROL PANEL

3/4"C, 3-#12 1-#12G, OVERHEAD, FROM NEW 15A CIRCUIT BREAKER IN MCC-21, LEFT SIDE TO NEW GRIT WASHER NO. 1 CONTROL PANEL

3/4"C, 3-#12 1-#12G, OVERHEAD, FROM NEW 15A CIRCUIT IN MCC-21, RIGHT SIDE TO NEW GRIT WASHER NO. 2 CONTROL PANEL

NOTE: RUN ALL CONDUIT OVERHEAD SUSPENDED FROM AND MOUNTED TO EXISTING CONCRETE CEILING USING ALL STAINLESS STEEL OR ALUMINUM HANGERS, HARDWARE, AND ANCHOR BOLTS

GRIT REMOVAL EQUIPMENT AREA

ELECTRICAL ROOM

EXISTING ELECTRICAL SWITCHGEAR

CORE DRILL HOLES THROUGH EXISTING WALL TO PASS NEW CONDUIT. SEAL CONDUIT PENETRATIONS GAS TIGHT AND PROVIDE CONDUIT SEAL FITTINGS AS REQUIRED BY ARTICLE 500 OF THE NEC TO SEPARATE NON-CLASSIFIED AREA FROM CLASSIFIED AREA (TYP).

CONDUITS FROM UPPER FLOOR, SEE GRIT UNIT ELECTRICAL UPPER PLAN (TYP)

SEE ELECTRIC SCHEMATIC DIAGRAM

SEE ELECTRIC SCHEMATIC DIAGRAM

WIREWAY BELOW TRANSMITTERS

3/4"C, 2-#12 1-#12G, OVERHEAD, FROM NEAREST LIGHTING PANEL WITH NEW 20A BREAKER TO FEED THE NEW GRIT SYSTEM MAIN CONTROL PANEL

GRIT FEED 1 FLOW METER (FM)

GRIT FEED 2 FLOW METER (FM)

GRIT FEED 3 FLOW METER (FM)

GRIT FEED 4 FLOW METER (FM)

GRIT FEED 1 FLOW VALVE (SV)

GRIT FEED 2 FLOW VALVE (SV)

GRIT FEED 3 FLOW VALVE (SV)

GRIT FEED 4 FLOW VALVE (SV)

SEE ELECTRIC SCHEMATIC DIAGRAM

NEW GRIT FEED FLOW TRANSMITTER (TYPE) MOUNTED TO EXISTING BLOCK WALL – SEE WIRING RISER DIAGRAM FOR CONDUIT AND CABLE REQUIREMENTS

NEW GRIT REMOVAL SYSTEM MAIN CONTROL PANEL MOUNTED TO EXISTING BLOCK WALL

NEW GRIT WASHER / DEWATERING UNIT CONTROL PANELS 1 AND 2 MOUNTED TO EXISTING BLOCK WALL

EXISTING GRIT PUMP DISCHARGE LINE VALVE CONTROL PANEL

16 17 18

J

NOTE: THE ENTIRE SCREEN AND GRIT FACILITY (EAST GRIT BUILDING), WITH THE EXCEPTION OF THE ELECTRICAL ROOM SHOWN ON THIS SHEET, IS CLASSIFIED AS A CLASS 1, DIVISION 1, GROUP D HAZARDOUS AREA AND ARTICLE 500 OF THE NATIONAL ELECTRICAL CODE (NEC) APPLIES.

3/16"=1'-0"

6 4 2 0 5'

User: szagurski Drawing Name: H:\41077-009 city of tampa - hfc awtp grit washer replacement\Drawings\Electrical\14 GRIT UNIT ELECTRICAL LOWER PLAN.dwg
Layout- Sep 25, 2017 - 11:46amCTB - HS-HWS-40SCREEN.CTB

DANIEL B. SCHMIDT, PE
NO. 20433

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CITY of TAMPA
WASTEWATER DEPARTMENT
HOWARD F CURREN AWTP

HOWARD F. CURREN AWTP SCREEN AND GRIT BUILDING 2 GRIT WASHER REPLACEMENTS

GRIT UNIT ELECTRICAL LOWER PLAN

W.O. 14
SHEET 14 OF 17

GRIT REMOVAL EQUIPMENT AREA

ELECTRICAL ROOM ON GROUND LEVEL

GRIT SNAIL 1 MOTOR

GRIT SNAIL 2 MOTOR

LCS

MOUNT DISCONNECT 42" AFF ON ALUMINUM SUPPORT ADJACENT TO CHUTE CURB, CORE DRILL THROUGH FLOOR TO PASS CONDUIT, AND SEAL GAS TIGHT (TYP)

ROUTE CONDUITS DOWN TO PASS THROUGH ELECTRICAL ROOM WALL AND ONTO NEW GRIT UNIT CONTROL PANEL. SEE GRIT UNIT ELECTRICAL LOWER PLAN (TYP)

GRIT REMOVAL UNIT 1

GRIT REMOVAL UNIT 2

GRIT SNAIL 1 SPRAY SOLENOID

GRIT SNAIL 2 SPRAY SOLENOID

SEE ELECTRICAL SCHEMATIC DIAGRAMS

SLURRY CUP 1A

SLURRY CUP 1B

SLURRY CUP 2A

SLURRY CUP 2B

SLURRY CUP 1A BACKWASH SOLENOID

SLURRY CUP 1A SUPPLY WATER SOLENOID

SLURRY CUP 1B BACKWASH SOLENOID

SLURRY CUP 1B SUPPLY WATER SOLENOID

SLURRY CUP 2A BACKWASH SOLENOID

SLURRY CUP 2A SUPPLY WATER SOLENOID

SLURRY CUP 2B BACKWASH SOLENOID

SLURRY CUP 2B SUPPLY WATER SOLENOID

GRIT SNAIL 1 MOTION SENSOR

GRIT SNAIL 2 MOTION SENSOR

NO.1 NO.2 NO.3 NO.4 NO.5 NO.6 NO.7 NO.8 NO.9 NO.10

SLURRY CUP ISOLATION VALVE SOLENOID (TYP OF 10)

LOCAL CONTROL STATION (LCS), EXPLOSION PROOF, TYP OF 8. SEE DIVISION 17 SPECIFICATIONS FOR GENERAL REQUIREMENTS AND SHEET 16 FOR NUMBER AND TYPE OF CONTROL SWITCHES REQUIRED

RUN NEW CONDUITS BELOW SLAB SUSPENDED FROM CEILING (TYP)

LOCATE EACH JUNCTION BOX ADJACENT TO A RISER PIPE TO AVOID BLOCKING ACCESS PATHS, CORE DRILL THROUGH THE FLOOR TO PASS CONDUIT, AND SEAL GAS TIGHT (TYP)

16 17 18

J

NOTE: THE ENTIRE SCREEN AND GRIT FACILITY (EAST GRIT BUILDING), WITH THE EXCEPTION OF THE ELECTRICAL ROOM SHOWN ON THIS SHEET, IS CLASSIFIED AS A CLASS 1, DIVISION 1, GROUP D HAZARDOUS AREA AND ARTICLE 500 OF THE NATIONAL ELECTRICAL CODE (NEC) APPLIES.

3/16"=1'-0"

6 4 2 0 5'

DANIEL B. SCHMIDT, PE
NO. 20433

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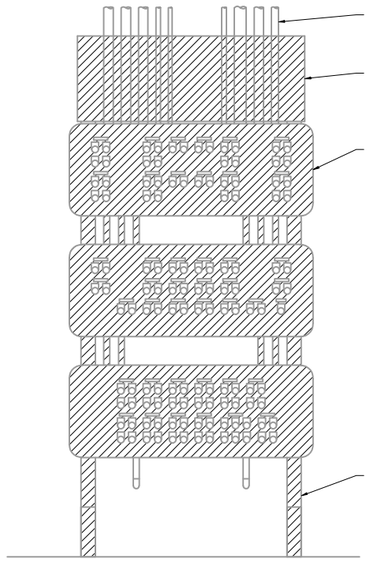
CITY of TAMPA
WASTEWATER DEPARTMENT
HOWARD F CURREN AWTP

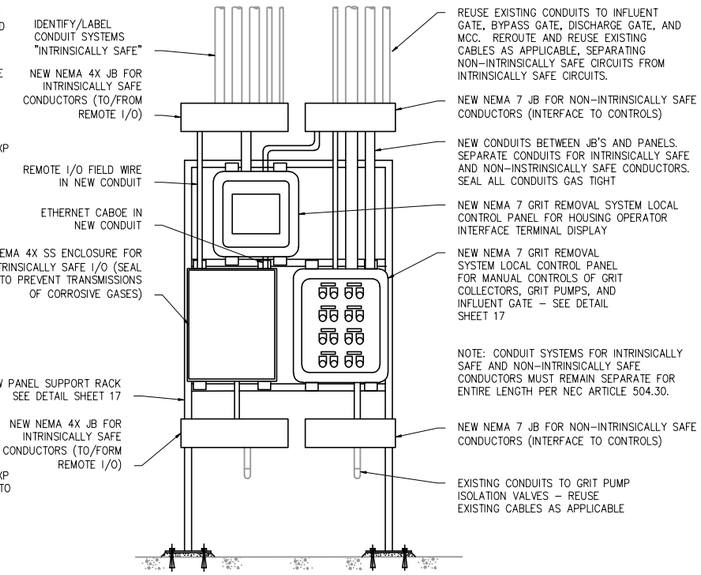
HOWARD F. CURREN AWTP SCREEN AND GRIT BUILDING 2 GRIT WASHER REPLACEMENTS

GRIT UNIT ELECTRICAL UPPER PLAN

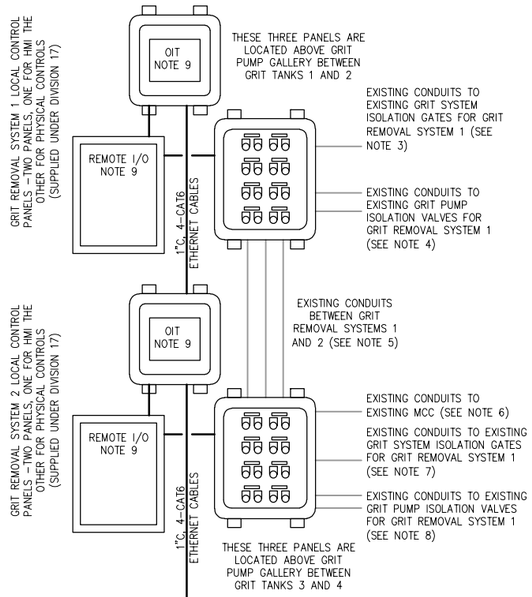
W.O. 14
SHEET 15 OF 17



EXISTING GRIT SYSTEM XP LOCAL CONTROL PANEL ELEVATION (TYP OF 2)



REPLACEMENT GRIT SYSTEM XP LOCAL CONTROL PANEL ELEVATION (TYP OF 2)



NOTES:

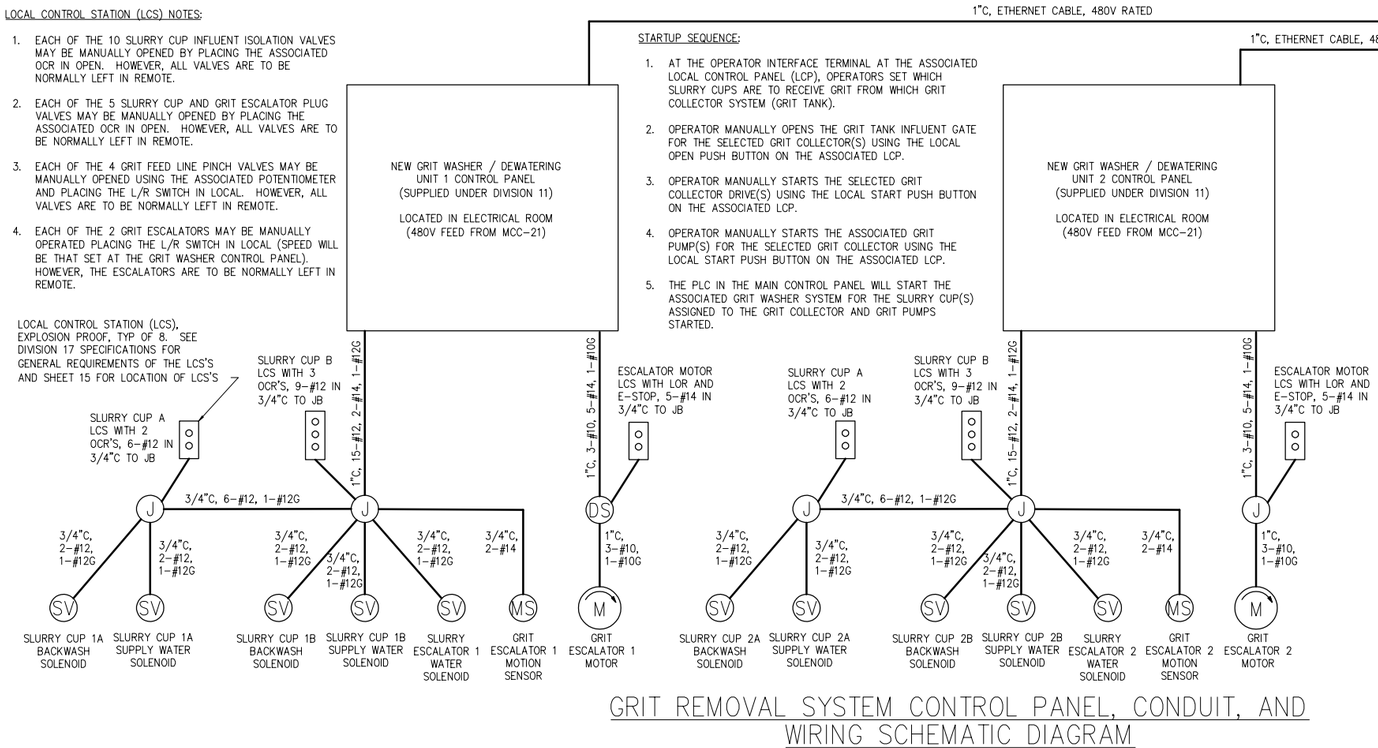
1. LOCAL CONTROL STATIONS (LCS's) PROVIDED UNDER DIVISION 17.
2. ETHERNET CABLE SUPPLIED UNDER DIVISION 17 AND INSTALLED UNDER DIVISION 16.
3. PROVIDE INTERFACE WITH THE EXISTING GRIT COLLECTOR 1 AND GRIT COLLECTOR 2 INFLUENT GATE ACTUATORS FROM A NEW SET OF OPEN/CLOSE PUSHBUTTONS AND PROVIDE REMOTE I/O WITHIN GRIT REMOVAL SYSTEM 1 LOCAL CONTROL PANEL TO PICK UP LIMIT SWITCH SIGNALS FROM THESE GATES (3-WIRE CONTROL & O/C LIMIT SWITCHES AND REUSING EXISTING WIRE AND CONDUITS).
4. PROVIDE REMOTE I/O WITHIN GRIT REMOVAL SYSTEM 1 LOCAL CONTROL PANEL TO PICK UP LIMIT SWITCH SIGNALS FROM THE FOLLOWING VALVES (REUSING EXISTING WIRE AND CONDUITS):
   GRIT PUMPS 1A AND 1B SUCTION AND DISCHARGE VALVES (O/C LIMIT SWITCHES)
   GRIT PUMPS 2A AND 2B SUCTION AND DISCHARGE VALVES (O/C LIMIT SWITCHES)
5. PROVIDE INTERFACE WITH THE FOLLOWING GRIT REMOVAL SYSTEM 1 EQUIPMENT STARTERS IN MCC21 FROM NEW SETS OF START/STOP PUSHBUTTONS ON GRIT REMOVAL SYSTEM 1 LOCAL CONTROL PANEL (REUSING EXISTING WIRE AND CONDUITS THROUGH GRIT REMOVAL SYSTEM 2 LOCAL CONTROL PANEL):
   GRIT COLLECTORS 1 AND 2 (3-WIRE CONTROL)
   GRIT PUMPS 1A AND 1B (3-WIRE CONTROL)
   GRIT PUMPS 2A AND 2B (3-WIRE CONTROL)
6. PROVIDE INTERFACE WITH THE FOLLOWING GRIT REMOVAL SYSTEM 2 EQUIPMENT STARTERS IN MCC21 FROM NEW SETS OF START/STOP PUSHBUTTONS ON GRIT REMOVAL SYSTEM 2 LOCAL CONTROL PANEL (REUSING EXISTING WIRE AND CONDUITS ALONG WITH WIRING FOR EQUIPMENT FROM GRIT REMOVAL SYSTEM 1 LOCAL CONTROL PANEL):
   GRIT COLLECTORS 3 AND 4 (3-WIRE CONTROL)
   GRIT PUMPS 3A AND 3B (3-WIRE CONTROL)
   GRIT PUMPS 4A AND 4B (3-WIRE CONTROL)
7. PROVIDE INTERFACE WITH THE EXISTING GRIT COLLECTOR 3 AND GRIT COLLECTOR 4 INFLUENT GATE ACTUATORS FROM A NEW SET OF OPEN/CLOSE PUSHBUTTONS AND PROVIDE REMOTE I/O WITHIN GRIT REMOVAL SYSTEM 1 LOCAL CONTROL PANEL TO PICK UP LIMIT SWITCH SIGNALS FROM THESE GATES (3-WIRE CONTROL & O/C LIMIT SWITCHES AND REUSING EXISTING WIRE AND CONDUITS).
8. PROVIDE REMOTE I/O WITHIN GRIT REMOVAL SYSTEM 1 LOCAL CONTROL PANEL TO PICK UP LIMIT SWITCH SIGNALS FROM THE FOLLOWING VALVES (REUSING EXISTING WIRE AND CONDUITS):
   GRIT PUMPS 3A AND 3B SUCTION AND DISCHARGE VALVES (O/C LIMIT SWITCHES)
   GRIT PUMPS 4A AND 4B SUCTION AND DISCHARGE VALVES (O/C LIMIT SWITCHES)
9. OIT AND REMOTE I/O PANELS TO BE POWERED THROUGH COMBINATION OF POE TO NETWORK COMPONENTS AND 120V THROUGH NEW BREAKERS IN NEAREST LIGHTING PANEL(S).

LOCAL CONTROL STATION (LCS) NOTES:

1. EACH OF THE 10 SLURRY CUP INFLUENT ISOLATION VALVES MAY BE MANUALLY OPENED BY PLACING THE ASSOCIATED OCR IN OPEN. HOWEVER, ALL VALVES ARE TO BE NORMALLY LEFT IN REMOTE.
2. EACH OF THE 5 SLURRY CUP AND GRIT ESCALATOR PLUG VALVES MAY BE MANUALLY OPENED BY PLACING THE ASSOCIATED OCR IN OPEN. HOWEVER, ALL VALVES ARE TO BE NORMALLY LEFT IN REMOTE.
3. EACH OF THE 4 GRIT FEED LINE PINCH VALVES MAY BE MANUALLY OPENED USING THE ASSOCIATED POTENTIOMETER AND PLACING THE L/R SWITCH IN LOCAL. HOWEVER, ALL VALVES ARE TO BE NORMALLY LEFT IN REMOTE.
4. EACH OF THE 2 GRIT ESCALATORS MAY BE MANUALLY OPERATED PLACING THE L/R SWITCH IN LOCAL (SPEED WILL BE THAT SET AT THE GRIT WASHER CONTROL PANEL). HOWEVER, THE ESCALATORS ARE TO BE NORMALLY LEFT IN REMOTE.

STARTUP SEQUENCE:

1. AT THE OPERATOR INTERFACE TERMINAL AT THE ASSOCIATED LOCAL CONTROL PANEL (LCP), OPERATORS SET WHICH SLURRY CUPS ARE TO RECEIVE GRIT FROM WHICH GRIT COLLECTOR SYSTEM (GRIT TANK).
2. OPERATOR MANUALLY OPENS THE GRIT TANK INFLUENT GATE FOR THE SELECTED GRIT COLLECTOR(S) USING THE LOCAL OPEN PUSH BUTTON ON THE ASSOCIATED LCP.
3. OPERATOR MANUALLY STARTS THE SELECTED GRIT COLLECTOR DRIVE(S) USING THE LOCAL START PUSH BUTTON ON THE ASSOCIATED LCP.
4. OPERATOR MANUALLY STARTS THE ASSOCIATED GRIT PUMP(S) FOR THE SELECTED GRIT COLLECTOR USING THE LOCAL START PUSH BUTTON ON THE ASSOCIATED LCP.
5. THE PLC IN THE MAIN CONTROL PANEL WILL START THE ASSOCIATED GRIT WASHER SYSTEM FOR THE SLURRY CUP(S) ASSIGNED TO THE GRIT COLLECTOR AND GRIT PUMPS STARTED.



GRIT REMOVAL SYSTEM CONTROL PANEL, CONDUIT, AND WIRING SCHEMATIC DIAGRAM

No.	DATE	REVISIONS
3		
2		
1	08/2017	BID SET

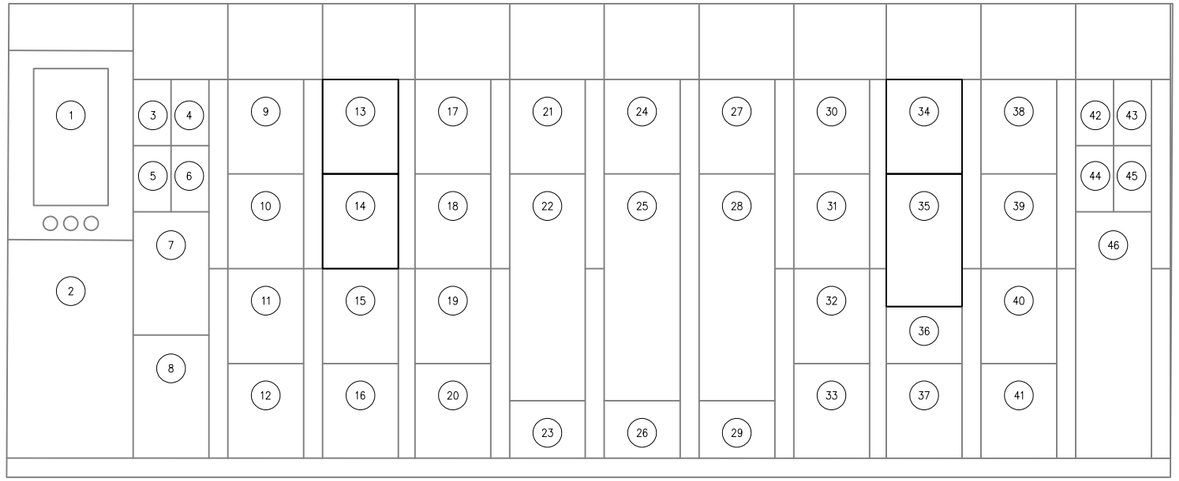
DANIEL B. SCHMIDT, PE
NO. 20433

DES: JLP
DRN: SMZ
CKD: DBS
DATE: AUG 2017

CITY of TAMPA
WASTEWATER DEPARTMENT
HOWARD F CURREN AWTP

HOWARD F. CURREN AWTP SCREEN AND GRIT BUILDING 2 GRIT WASHER REPLACEMENTS
ELECTRICAL SCHEMATIC DIAGRAMS

W.O. 14
SHEET 16 OF 17



EXISTING MCC-21 FRONT ELEVATION (1/12)

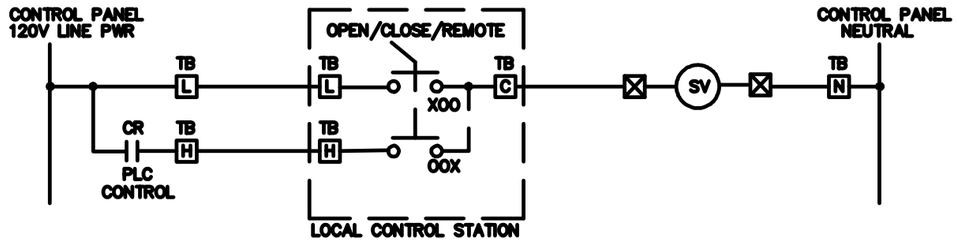
MCC-21 GRIT WASHER FEEDER CALCULATIONS			
GRIT WASHER LOAD BREAKDOWN	LOAD CURRENT (AMPS) FOR WIRE SIZE	CURRENT FOR CB SIZE	COMMENT
GRIT WASHER NO. 1 CONTROL PANEL			
ESCALATOR (1/2 HP)	0.6	1.5	250% FLA
CONTROLS	3.2	3.2	700VA CONTROLS
SOLENOID VALVES	4.5	4.5	5, 20W VALVES
TOTAL AMPS	8.3	9.2	
WIRE SIZE	3-#12, 1-#12G		
BREAKER SIZE		15	
GRIT WASHER NO. 2 CONTROL PANEL			
ESCALATOR (1/2 HP)	0.6	1.5	250% FLA
CONTROLS	3.2	3.2	700VA CONTROLS
SOLENOID VALVES	4.5	4.5	5, 20W VALVES
TOTAL AMPS	8.3	9.2	
WIRE SIZE	3-#12, 1-#12G		
BREAKER SIZE		15	

NET MCC-21 LOAD (LEFT SIDE) CHANGE:
ELIMINATE TWO, 2HP GRIT WASHERS
ADD ONE, 1/2 HP GRIT WASHER
-3.8 AMPS, LEFT SIDE

CALCULATED VOLTAGE DROP FOR 50 FEET OF CONDUCTOR = 0.59%

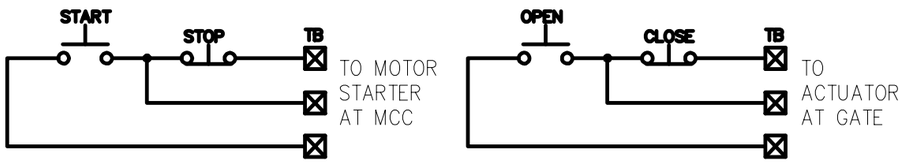
NET MCC-21 LOAD (LEFT SIDE) CHANGE:
ELIMINATE TWO, 2HP MOTORS (GRIT WASHER, GRIT CONVEYOR)
ADD ONE, 1/2 HP GRIT WASHER
-3.8 AMPS, LEFT SIDE

CALCULATED VOLTAGE DROP FOR 50 FEET OF CONDUCTOR = 0.59%



TYPICAL OCR WIRING FOR SOLENOID VALVE

NOTE: CONTROL VOLTAGE AT STARTER OR ACTUATOR

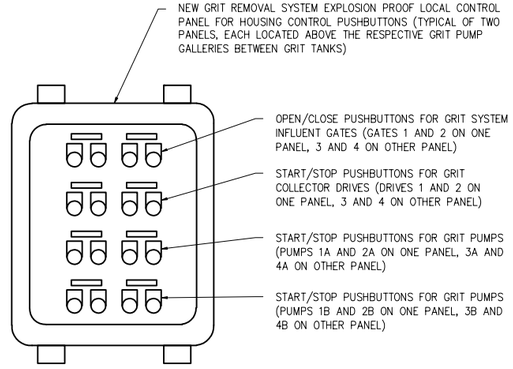


TYPICAL S/S AND O/C PUSHBUTTON WIRING FOR EXISTING EQUIPMENT

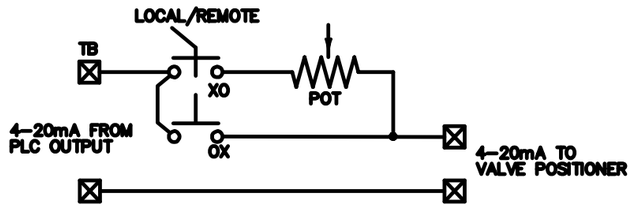
MCC-21 MODIFICATIONS

ITEM	EXISTING LOAD	MODIFICATIONS
1.	ANNUNCIATOR	
2.	SCANNER	
3.	SLUICE GATE 1 & 2	
4.	SLUICE GATE 5 & 6	
5.	SLIDE GATE 1	
6.	SPACE	
7.	SPACE	
8.	GAS MONITOR	
9.	MECH SCREEN 1	
10.	SCREEN 1 CONVEYOR	
11.	SPARE BREAKER	
12.	SPACE	
13.	GRIT WASHER 1 (NOTE 2)	REUSE FOR NEW GRIT ESCALATOR 1
14.	GRIT WASHER 3	CONVERT TO A SPARE
15.	GRIT COLLECTOR 1	SEE NOTE 1
16.	GRIT COLLECTOR 3	SEE NOTE 1
17.	GRIT PUMP 1A	SEE NOTE 1
18.	GRIT PUMP 1B	SEE NOTE 1
19.	GRIT PUMP 3A	SEE NOTE 1
20.	GRIT PUMP 3B	SEE NOTE 1
21.	METERING	
22.	MAIN BREAKER 1	
23.	SPACE	
24.	ALARM MODULE	
25.	TIE BREAKER	
26.	SPACE	
27.	METERING	
28.	MAIN BREAKER 2	
29.	SPACE	
30.	GRIT PUMP 2A	SEE NOTE 1
31.	GRIT PUMP 2B	SEE NOTE 1
32.	GRIT PUMP 4A	SEE NOTE 1
33.	GRIT PUMP 4B	SEE NOTE 1
34.	GRIT WASHER 2 (NOTE 2)	REUSE FOR NEW GRIT ESCALATOR 2
35.	GRIT CONVEYOR	CONVERT TO A SPARE
36.	SPACE	
37.	SPARE	
38.	GRIT COLLECTOR 2	SEE NOTE 1
39.	GRIT COLLECTOR 4	SEE NOTE 1
40.	MECH SCREEN 2	
41.	SPACE	
42.	SLUICE GATE 3 & 4	
43.	SLUICE GATE 7 & 8	
44.	SLIDE GATE 2	
45.	LTG PNL XFMR	
46.	SPACE	

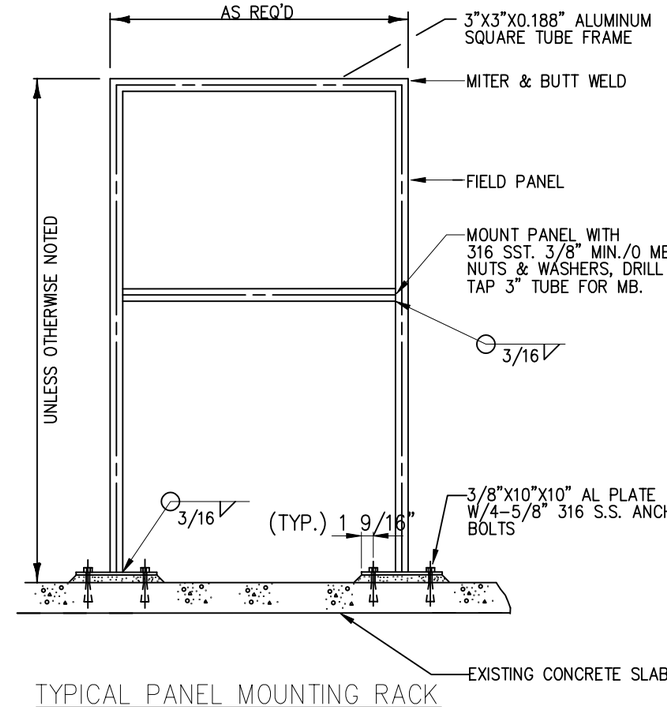
NOTES:
1. REWIRE THE STARTER RUN CONTACTS TO SEND MOTOR RUNNING SIGNAL AS AN INPUT TO THE NEW GRIT REMOVAL SYSTEM MAIN CONTROL PANEL. PLC. STARTER START AND STOP COMMANDS TO BE FROM NEW START/STOP PUSHBUTTONS IN THE NEW GRIT REMOVAL SYSTEM LOCAL CONTROL PANELS IN PLACE OF EXISTING DEVICES AT THE REPLACED PANELS.
2. REPLACE EXISTING MCP WITHIN THIS CUBICLE WITH A NEW CIRCUIT BREAKER COMPATIBLE WITH THE EXISTING MCC EQUIPMENT AND ADEQUATELY SIZED TO FEED THE GRIT WASHER CONTROL PANEL AS SUPPLIED BY THE MANUFACTURER.



GRIT REMOVAL SYSTEM LOCAL CONTROL PANEL LAYOUT FOR CONTROL PUSHBUTTONS



MODULATING PINCH VALVE WIRING



TYPICAL PANEL MOUNTING RACK

No.	DATE	REVISIONS
3		
2		
1	08/2017	BID SET

DANIEL B. SCHMIDT, PE
NO. 20433

DES: JLP
DRN: SMZ
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CITY of TAMPA
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HOWARD F CURREN AWTP

HOWARD F. CURREN AWTP SCREEN AND GRIT BUILDING 2 GRIT WASHER REPLACEMENTS
ELECTRICAL DETAILS

W.O. 14
SHEET 17 OF 17