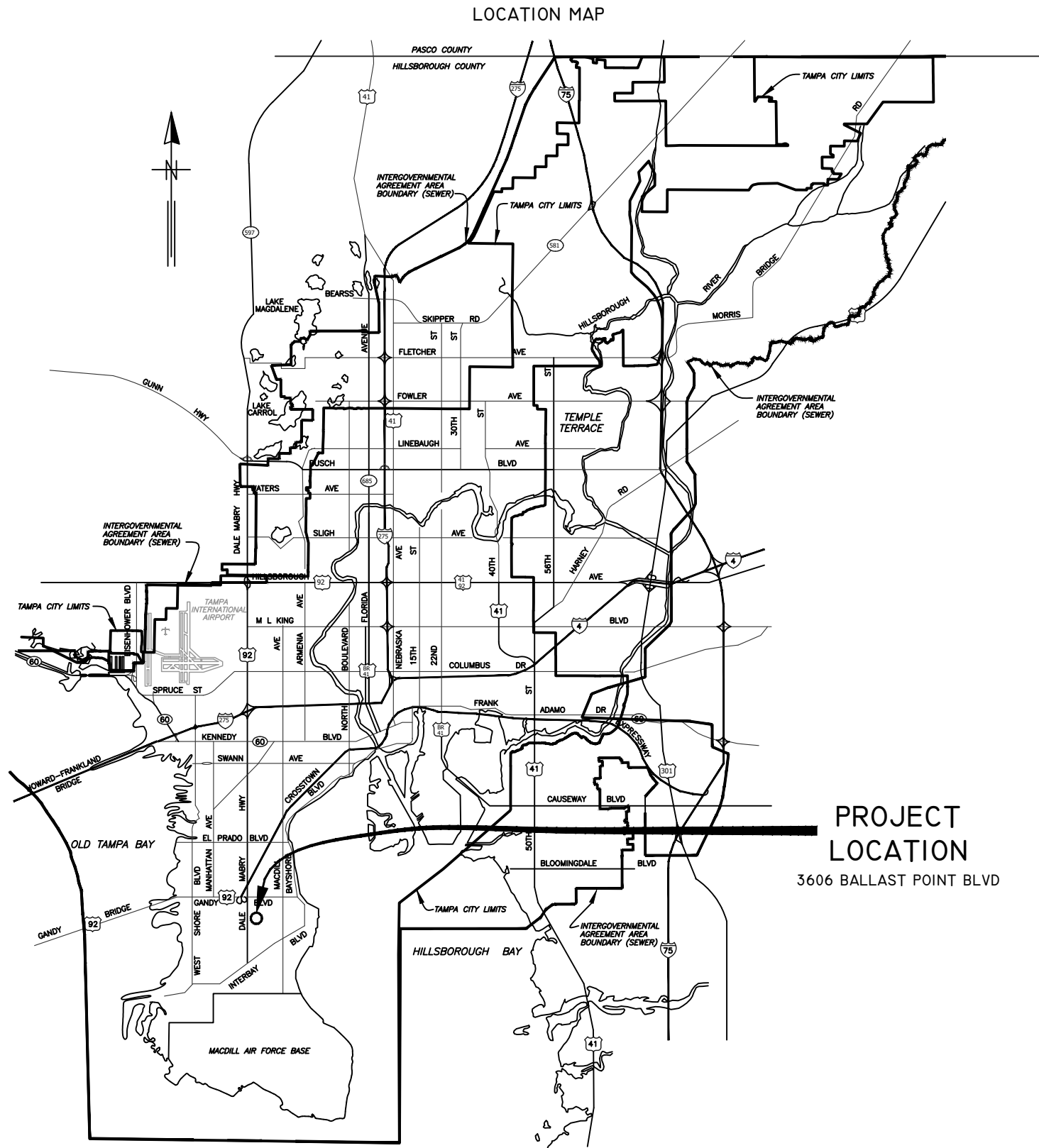


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CITY of TAMPA



WASTEWATER DEPARTMENT

PLANS FOR

BALLAST POINT PUMPING
STATION REHABILITATION

CONTRACT No.
22-C-00003

JACINTO CARLOS FERRAS, P.E. #49454
DESIGN DIVISION HEAD
WASTEWATER DEPARTMENT

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DRN: MRL
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CITY of TAMPA
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BALLAST POINT PUMPING STATION REHABILITATION

COVER

SHEET

1

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LEGEND

EX SEWERS

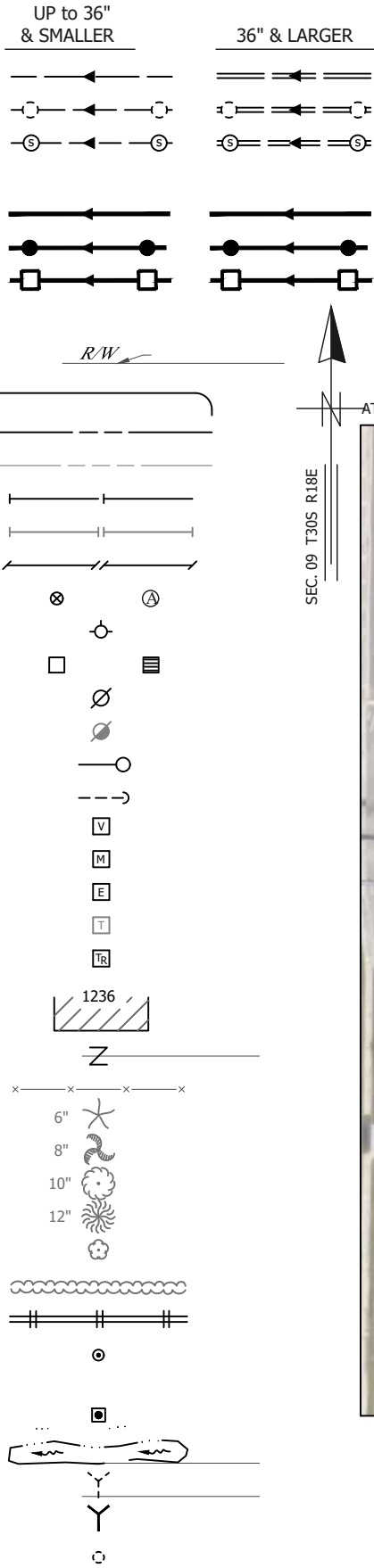
- EX FORCE MAIN
- EX SAN SEWER & MANHOLES
- EX STORM SEWER & MANHOLES

PROP SEWERS

- PROP FORCE MAIN
- PROP SANITARY SEWER & MANHOLES
- PROP STORM SEWER & MANHOLES

OTHER FEATURES

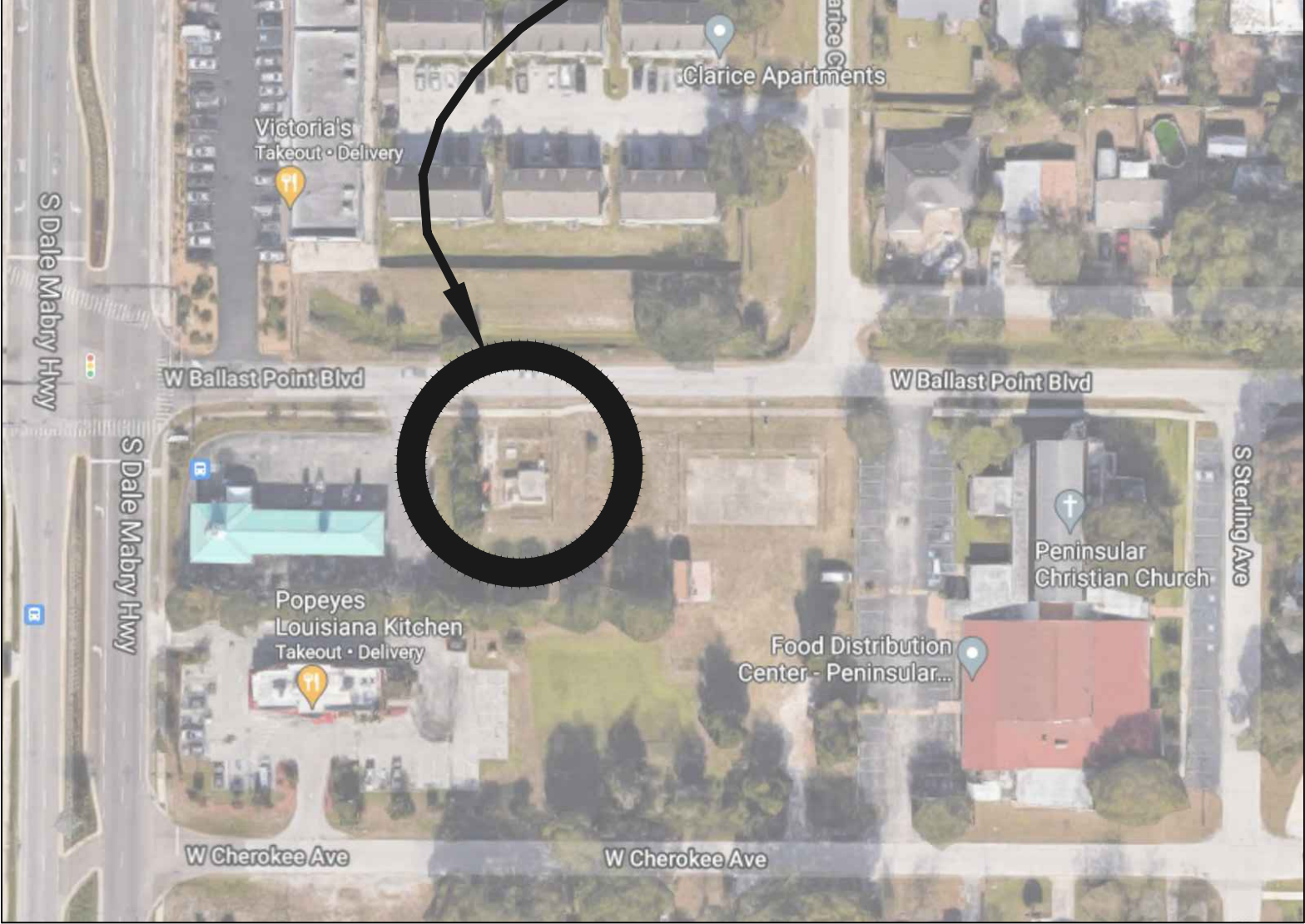
- RIGHT of WAY LINE
- EDGE of PAVEMENT
- WATER LINE
- GAS LINE
- ELECTRICAL CABLE or DUCT
- TELEPHONE CABLE or DUCT
- TV CABLE
- VALVE, AIR RELEASE VALVE
- HYDRANT
- CATCH BASIN, GRATE
- POWER POLE
- TELEPHONE POLE
- GUY POLE
- GUY WIRE
- VALVE VAULT
- WATER METER
- ELECTRICAL MANHOLE or VAULT
- TELEPHONE MANHOLE or VAULT
- TRAFFIC BOX or VAULT
- BUILDING LIMIT
- PROPERTY OWNERSHIP
- FENCE
- CONIFER
- PALM
- OAK
- OTHER
- SHRUB
- HEDGE
- RAILROAD TRACKS
- IRON PIPE
- CONTROL POINT
- CONCRETE MONUMENT
- OPEN DITCHES
- EXISTING WYE
- PROPOSED WYE
- CLEAN OUT



ABBREVIATIONS

- | | | | |
|---------------------------------|-----------|-----------------------------------|----------|
| AIR RELEASE VALVE | ARV | MAINTENANCE OF TRAFFIC | MOT |
| APPROXIMATE LOCATION | AL | MANHOLE | MH or MH |
| BENCH MARK | BM | PLUG VALVE | PV |
| BURIED TELEPHONE | BT | POINT of INTERSECTION | PI |
| CONCRETE PIPE | CP | POLYVINYL CHLORIDE PIPE | PVC |
| DIAMETER RATIO | DR | REINFORCED CONCRETE PIPE | RCP |
| DUCTILE IRON PIPE | DIP | RESTRAINED MECHANICAL JOINT | RMJ |
| EDGE OF PAVEMENT | EOP | RIGHT of WAY | R/W |
| FIBER OPTIC CABLE | FOC | TOP of PIPE | TOP |
| FLORIDA DEPT. OF TRANSPORTATION | FDOT | VERIFIED VERT. AND HORZ. LOCATION | Vvh |
| FORCE MAIN | FM | VITRIFIED CLAY PIPE | VCP |
| HIGH DENSITY POLYETHYLENE PIPE | HDPE | WASTEWATER | WW |
| EL INVERT ELEVATION | IE or INV | | |

BALLAST POINT P.S.
PROJECT LOCATION
3606 BALLAST POINT BLVD



LOCATION MAP

NOT TO SCALE

JACINTO CARLOS FERRAS, P.E. #49454
DESIGN DIVISION HEAD
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BALLAST POINT PUMPING STATION REHABILITATION

LOCATION MAP AND LEGEND

SHEET

2

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2		LOCATION MAP AND LEGEND							
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M.2		SITE PLAN							
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M.21		ELECTRICAL CONTROL PANEL							
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S2.0		EXISTING FOUNDATION LEVEL AND DEMO PLAN					E.4		SCOPE OF WORK
S2.1		MODIFIED FOUNDATION LEVEL PLAN					E.5		EXISTING ELECTRICAL PLAN (DEMOLITION SHEET)
S2.2		EXISTING INTERMEDIATE LEVEL AND DEMO PLAN					E.6		PROPOSED PARTIAL ELECTRICAL PLAN
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S2.6		SLAB LEVEL PLAN					E.10		MOTOR CONTROL PANEL "MCP" DETAILS
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S3.1		BUILDING SECTION					E.12		ONE LINE DIAGRAM
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S3.7		DEMOLITION SECTION					E.18		ELECTRICAL SCHEMATIC LEGEND
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JACINTO CARLOS FERRAS, P.E. #49454
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WASTEWATER DEPARTMENT

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BALLAST POINT PUMPING STATION REHABILITATION

INDEX

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DEMOLITION NOTES

- D-1
- SALVAGEABLE MATERIAL, AS DETERMINED BY DEPARTMENT PERSONNEL, SHALL BE DELIVERED TO THE PARTS WAREHOUSE LOCATED ON THE TREATMENT PLANT SITE (2700 MARITIME BLVD, TAMPA, FL 33605). NON-SALVAGEABLE MATERIALS ARE TO BE REMOVED FROM THE SITE AND PROPERLY DISPOSED OF AT THE CONTRACTOR'S EXPENSE. IN GENERAL, ALL PUMP AND CONTROLS EQUIPMENT SHALL REMAIN PROPERTY OF THE CITY AND BE CONSIDERED SALVAGEABLE.
- D-2
- THE CONSTRUCTION SITE SHALL BE MAINTAINED IN AS NEAT AND ORDERLY CONDITION AS POSSIBLE DURING CONSTRUCTION OPERATIONS. SITE SHALL BE SECURED WITH TEMPORARY FENCING AND STRUCTURES DURING HOURS WHEN CONTRACTOR IS NOT PRESENT TO ENSURE SAFETY OF CITY EMPLOYEES AND THE PUBLIC.
- D-3
- CONTRACTOR SHALL RESTORE ALL LANDSCAPING, SODDING, SPRINKLER SYSTEM PIPING AND PAVEMENT THAT MAY HAVE BEEN DAMAGED DURING CONSTRUCTION TO ITS ORIGINAL CONDITION OR BETTER. CONTRACTOR SHALL SOD ALL UNPAVED AREAS.
- D-4
- THE CITY OF TAMPA DOES NOT BELIEVE ASBESTOS IS PRESENT IN THE STRUCTURE. PRIOR TO DEMOLITION AND PER EPC REQUIREMENTS, THE CONTRACTOR WILL BE REQUIRED TO PROCURE A THIRD PARTY ASBESTOS SURVEY FROM A LICENSED ASBESTOS INSPECTION CONSULTANT. DEMOLITION OF THE STRUCTURE CANNOT BEGIN UNTIL (3) WEEKS AFTER THE ASBESTOS IS SUBMITTED TO THE ENGINEER. THE CITY WILL FURNISH EPC WITH THE REQUIRED NOTIFICATION. IF THE SURVEY DISCOVERS THE PRESENCE OF ASBESTOS, THE CITY WILL UTILIZE CONTINGENCY FUNDS FOR THE ASBESTOS REMOVAL IN ACCORDANCE WITH THE EPC STANDARDS BY A FLORIDA LICENSED ASBESTOS CONTRACTOR.
- D-5
- THE CITY DOES NOT BELIEVE LEAD PAINT IS PRESENT IN THE BUILDING. PER EPC REQUIREMENTS, CONTRACTOR WILL BE REQUIRED TO PROCURE A THIRD PARTY LEAD PAINT SURVEY FROM A CERTIFIED LEAD PAINT INSPECTION CONSULTANT. DEMOLITION OF PUMP STATION BUILDING CANNOT BEGIN UNTIL (3) WEEKS AFTER THE LEAD PAINT SURVEY IS SUBMITTED TO THE ENGINEER. THE CITY WILL FURNISH EPC WITH THE REQUIRED NOTIFICATION. IF THE SURVEY DISCOVERS THE PRESENCE OF LEAD PAINT, THE CITY WILL UTILIZE CONTINGENCY FUNDS FOR THE LEAD PAINT REMOVAL IN ACCORDANCE WITH EPC STANDARDS.
- D-6
- AT LOCATIONS WHERE EXISTING CONCRETE WILL BE CUT, EXPOSED REBAR SHALL BE GROUND BACK A MIN. OF 1/2" AND THE VOID FILLED WITH EPOXY. SURFACES SHALL THEN BE PAINTED TO MATCH EXISTING ADJACENT SURFACES.

GENERAL NOTES

- G-1
- CONTRACTOR SHALL COORDINATE ALL CONSTRUCTION ACTIVITIES WITH THE CONTRACT ADMINISTRATION DEPARTMENT, WASTEWATER PERSONNEL AND PUMPING STATION OPERATIONS.
- G-2
- CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL NECESSARY RIGHT-OF-WAY PERMITS FOR THE PUMPING STATION WORK.
- G-3
- THE CITY WILL OBTAIN ALL NECESSARY BUILDING PERMITS AND FDEP WASTEWATER PERMITS.
- G-4
- CONTRACTOR SHALL CALL SUNSHINE (1-800-432-4770) AT LEAST 48 HOURS PRIOR TO ANY CONSTRUCTION ACTIVITY.
- G-5
- NORMAL WORKING HOURS SHALL BE WEEKDAYS FROM 7:30 AM TO 4:00 PM UNLESS OTHERWISE APPROVED BY THE ENGINEER.
- G-6
- TWO NEW PUMPS SHALL BE SUPPLIED FOR THIS PROJECT. PROPOSED PUMPS ARE FLYGT, MODEL NP-3171.181 , 6-INCH, 34 HP, WITH 260mm IMPELLERS. PUMPS SHALL BE SUPPLIED WITH FLYGT MIX-FLUSH VALVES. ALL PROPOSED PUMP BASES SHALL BE 6-INCH DIAMETER DISCHARGE ELBOWS. PUMPS SHALL BE RATED FOR 1755 GPM AT 73 FT TDH. THIS EQUIPMENT IS A STANDARDIZED ITEM AT THIS FACILITY AND NO "OR EQUAL" SUBMITTALS WILL BE CONSIDERED.
- G-7
- CONTRACTOR SHALL VERIFY QUANTITIES OF ALL NECESSARY PIPES, REDUCERS, FITTINGS, SUPPORTS, AND ANY MISCELLANEOUS BRACKETS.
- G-8
- DIMENSIONS SHOWN ARE NOT NECESSARILY ACCURATE TO THE DEGREE REQUIRED FOR FABRICATION. EXISTING DIMENSIONS AND VIEWS ARE SHOWN BASED ON THE BEST INFORMATION AVAILABLE. CONTRACTOR SHALL FIELD VERIFY ALL PERTINENT DIMENSIONS AND REFLECT THEM ON DETAILED SHOP DRAWINGS FOR APPROVAL BEFORE ANY FABRICATION.
- G-9
- SHOP DRAWINGS SHALL BE SUBMITTED AND APPROVED BY THE CITY FOR ALL PROPOSED ITEMS. ALL SUBMITTALS AND SHOP DRAWINGS SHALL BE ORIGINALS OR HIGH QUALITY COPIES (CLEARLY LEGIBLE). NO FAXED SHEETS OR POOR QUALITY COPIES WILL BE ACCEPTED FOR SUBMITTAL REVIEW.
- G-10
- PUMP DISCHARGE PIPING IN WET WELL SHALL BE 10-INCH DIAMETER HDPE, DR-11, GREEN STRIPE, DIPS-OD. HDPE JOINTS SHALL BE FLANGED WITH 316 SS BACK UP RINGS.
- G-11
- PLUG VALVES SHALL BE DEZURIK, PEF 100% PORT, ECCENTRIC PLUG VALVES OR APPROVED EQUAL. ALL ABOVE GROUND PLUG VALVES SHALL BE PROVIDED WITH 2" NUTS AND NO HANDWHEELS.
- G-12
- CHECK VALVES SHALL BE APCO RUBBER FLAPPER SWING CHECK VALVES, SERIES 100. THIS EQUIPMENT IS A STANDARDIZED ITEM AT THIS FACILITY AND NO "OR EQUAL" SUBMITTALS WILL BE CONSIDERED.
- G-13
- ALL HARDWARE SHALL BE 316 STAINLESS STEEL. ALL BOLTED HARDWARE ON HDPE PIPE FLANGES OR HDPE PIPE SUPPORT BRACKETS SHALL BE SECURED WITH 316 SS NYLOCK NUTS.
- G-14
- PIPE SUPPORTS SHALL BE CONSTRUCTED AS SHOWN IN THE PIPE SUPPORT DETAIL.
- G-15
- ALL CEMENTITIOUS CONCRETE AND GROUT, UNLESS OTHERWISE NOTED, SHALL BE CLASS "B", 4000 PSI COMPRESSIVE STRENGTH AT 28 DAYS. ALL REINFORCING STEEL SHALL BE GRADE 60.
- G-16
- OSHA STANDARD SAFETY EQUIPMENT SUCH AS SAFETY HARNESES, GAS MONITORS, LOWER EXPLOSIVE LIMIT (LEL) DETECTORS, BREATHING APPARATUS, ETC. SHALL BE UTILIZED WHERE THE WORK DICTATES THEIR USE.
- G-17
- ALL METAL PIPE, FITTINGS, VALVES, ETC. SHALL RECEIVE:

1) SHOP COAT - ONE COAT, 4-6 MILS (DRY) TNE MEC N140-1211 EPOXY PRIMER.

2) FIELD COAT - ONE COAT, 5-7 MILS (DRY) TNE MEC SERIES 446 PERMA-SHIELD MCU

3) FIELD COAT

A) ABOVE GRADE : ONE COAT, 4-6 MILS (DRY) TNE MEC 1074U ENDURASHIELD (WITH FACTORY ADDED UV BLOCKER)

B) BELOW GRADE : ONE COAT, 5-7 MILS (DRY) TNE MEC SERIES 446 PERMA-SHIELD MCU

- G-18
- BACKFILL (NO CLAY OR CLAYEY MATERIAL) SHALL BE COMPACTED IN 6-INCH LAYERS (MAX.) TO 98% MAXIMUM DRY DENSITY OF MODIFIED PROCTOR IN CONFORMANCE WITH AASHTO T-180, METHOD A.
- G-19
- ALL STAINLESS STEEL PARTS TO BE WELDED SHALL BE THE LOW-CARBON VERSION OF THE GRADE OF STAINLESS STEEL THAT IS CALLED FOR, SUCH AS: T-316L OR T-304L.
- G-20
- CONTRACTOR SHALL POUR A NEW CONCRETE FILLET, AT THE BOTTOM OF THE WET-WELL, AS SHOWN IN THE PLANS WITH CLASS "B" (4,000 PSI @ 28-DAYS) CONCRETE.
- G-21
- ALL CONCRETE PAVEMENT, UNLESS OTHERWISE NOTED, SHALL BE MIN 6" THICK CONCRETE WITH 4X4 W2.1XW2.1 WWF STEEL REINFORCEMENT. CONCRETE SHALL BE CONSTRUCTED ON COMPACTED SUBBASE (MINIMUM 98% MODIFIED PROCTOR) WITH 1.5" DEEP CONTROL JOINTS SAWCUT @ 15' MAX, CUT WITHIN 12 HRS OF CONCRETE PLACEMENT.
- G-22
- CONTRACTOR TO SUBMIT METHOD FOR 100% WATERTIGHT SEALING AT PIPE PENETRATIONS THROUGH STRUCTURES. PROPOSED LINK SEAL OR APPROVED EQUAL.
- G-23
- CONTRACTOR SHALL PROVIDE A REDUCED PRESSURE BACKFLOW-PREVENTION DEVICE IN WATER SERVICE LINE, AS SHOWN IN DETAILS, AT A PLACE TO BE SPECIFIED DURING CONSTRUCTION. BACKFLOW PREVENTION DEVICE SHALL BE 1" WILKINS, MODEL #975 XL, OR EQUAL.
- G-24
- ALUMINUM ACCESS COVERS SHALL BE DESIGNED FOR A PEDESTRIAN LIVE LOADING OF 300 PSF WITH 316 STAINLESS STEEL HARDWARE, HINGES AND AUTOMATIC HOLD-OPEN ARM AS MANUFACTURED BY US FOUNDRY AND MANUFACTURING CORPORATION OR APPROVED EQUAL. THE PUMP ACCESS COVER SHALL BE A DOUBLE DOOR ARRANGEMENT WITH AN ANGLE FRAME FOR AN OVERALL OPENING OF 7 FT BY 4 FT. THE ACCESS DOOR SHALL ALSO BE EQUIPPED WITH A FLUSH LIFTING HANDLE, TAMPERPROOF FASTENERS AND EXPOSED PADLOCK STAPLES.
- G-25
- THE ACCESS COVER SHALL CLOSE FLUSH WITH THE FRAME. ALL ALUMINUM SURFACES THAT CONTACT CONCRETE SHALL BE COATED WITH TWO COATS OF COAL TAR EPOXY OR BITUMINOUS COATING OR EQUAL. THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS DETAILING THE INSTALLATION AND CONFIGURATION OF THE ACCESS COVERS.
- G-26
- ALL DIP PIPE AND FITTING SHALL BE CLASS 53 WITH PROTECTO 401 INTERIOR COATING.
- G-27
- PVC GRAVITY PIPE AND FITTINGS AND PVC FM PIPE AND FITTINGS SHALL BE C-900 (DR-18).
- G-28
- IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO PROTECT ALL TREES WITHIN THE VICINITY OF THE PROPOSED CONSTRUCTION IN ACCORDANCE WITH CHAPTER 13 OF THE CITY OF TAMPA CODE. PRUNING OF BRANCHES IS NOT AUTHORIZED WITHOUT PRIOR APPROVAL FROM THE CITY OF TAMPA PLANNING AND DEVELOPMENT DEPARTMENT, NATURAL RESOURCE SECTION, AND SHALL BE COMPLETED BY A CERTIFIED ARBORIST. EXCAVATION WITHIN THE PROTECTIVE RADIUS OF TREES WILL REQUIRE ROOT PRUNING WITH THE APPROPRIATE EQUIPMENT TO ASSURE ROOTS ARE SEVERED CLEAN AT THE APPROVED RADIUS. FOR QUESTIONS REGARDING THESE REQUIREMENTS, PLEASE CONTACT THE PLANNING AND DEVELOPMENT DEPARTMENT, NATURAL RESOURCE SECTION AT 274-3100, OPTION 4, OR 1400 N. BOULEVARD, TAMPA, FLORIDA 33607.
- G-29
- CONTRACTOR SHALL RESTORE ALL LANDSCAPING, SODDING, SPRINKLER SYSTEM PIPING, PAVEMENT AND FENCING THAT MAY HAVE BEEN DAMAGED DURING CONSTRUCTION TO ITS ORIGINAL CONDITION OR BETTER.
- G-30
- THE PROPOSED CURED IN PLACE PIPE LINER SHALL BE FOR THE 10" DIA. INFLUENT PIPE WITH A 7.5 MM THICKNESS AND INSTALLED IN ACCORDANCE WITH THE PLANS AND SPECIFICATIONS.
- G-31
- AUTOMATIC AIR RELEASE VALVE SHALL BE 2" APCO 400A (EPOXY COATED) WITH 1/2" ORIFICE OR APPROVED EQUAL CONTRACTOR SHALL INSTALL 2" STAINLESS STEEL BALL VALVE BETWEEN DISCHARGE PIPING AND AIR RELEASE VALVE.
- G-32
- CONTRACTOR SHALL PREPARE WET WELL WALLS, TOP & BOTTOM SLAB TO ACCEPT 125 MILS OF STRUCTURAL COATING SYSTEM (PER SPECIFICATIONS).
- G-33
- 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-34
- ELEVATION INFORMATION SHOWN ON THESE PLANS IS REFERENCED TO NAVD88. ELEVATION INFORMATION SHOWN ON SHEETS M.6, M.7, M.8, M.9, S3.0 & S4.0 IS REFERENCED TO N.G.V.D. 1929 AND ACQUIRED FROM AS-BUILT DRAWINGS. THE DIMENSIONS SHALL BE DETERMINED IN THE FIELD BY THE CONTRACTOR PRIOR TO LAYOUT AND SHOP DRAWING SUBMITTALS.

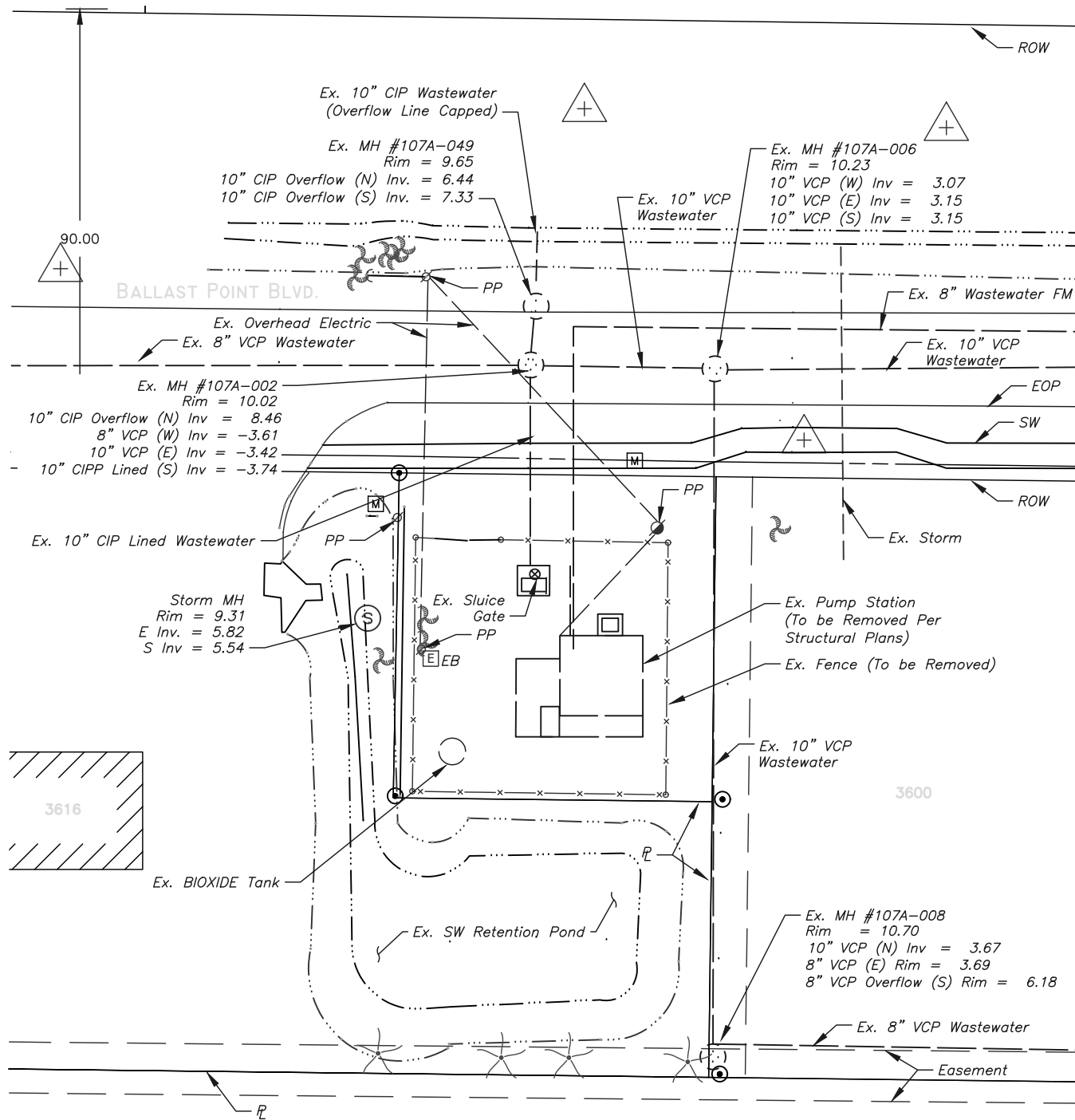
BYPASS PUMPING NOTES

- B-1
- SEWER SERVICE TO CUSTOMERS SHALL NOT BE DISRUPTED DURING CONSTRUCTION. CONTRACTOR SHALL SUBMIT DETAILED PROPOSAL FOR BYPASS PUMPING STRATEGY.
- B-2
- BYPASS PUMPS SHALL BE CAPABLE OF 2000 GPM. THE BYPASS PUMPS SHALL BE OF THE SELF PRIMING QUIET FLOW TYPE PUMPS. THE PUMPS SHALL SUCTION FROM A MIN. 8" PIPE CORED INTO THE SIDE OF THE MANHOLE IN MELROSE AVE. (SEE DETAIL, SHEET 20) AND DISCHARGE INTO THE EX. 8" FM.
- B-3
- BYPASS PUMPS NOISE SHALL STRICTLY COMPLY TO ALL LOCAL REGULATIONS AND ORDINANCES COVERING NOISE CONTROL THIS MAY REQUIRE CONSTRUCTING SOUND ATTENUATING ENCLOSURE AROUND PUMPS AND UTILIZATION OF ELECTRIC PUMP MOTORS MAY BE NECESSARY TO MEET THESE REQUIREMENTS.
- B-4
- THE CONTRACTOR WILL HAVE A MAXIMUM OF 2 HOURS SHUT DOWN TO INSTALL THE BYPASS TEE AND VALVE ASSEMBLY. CONTRACTOR SHALL PROVIDE THE CITY A MINIMUM OF 1 WEEK NOTICE OF THIS WORK. IF THE EXISTING VALVES WORK, AND WE HOT-TAP EX. FORCEMAIN, THE PUMPING STATION SHUT DOWN IS NOT NECESSARY.
- B-5
- IN ORDER TO MINIMIZE BYPASS PUMPING DURATION, CONTRACTOR SHALL HAVE ALL PROPOSED MATERIALS AND EQUIPMENT ON-SITE BEFORE PLACING PUMPING STATION ON BYPASS.

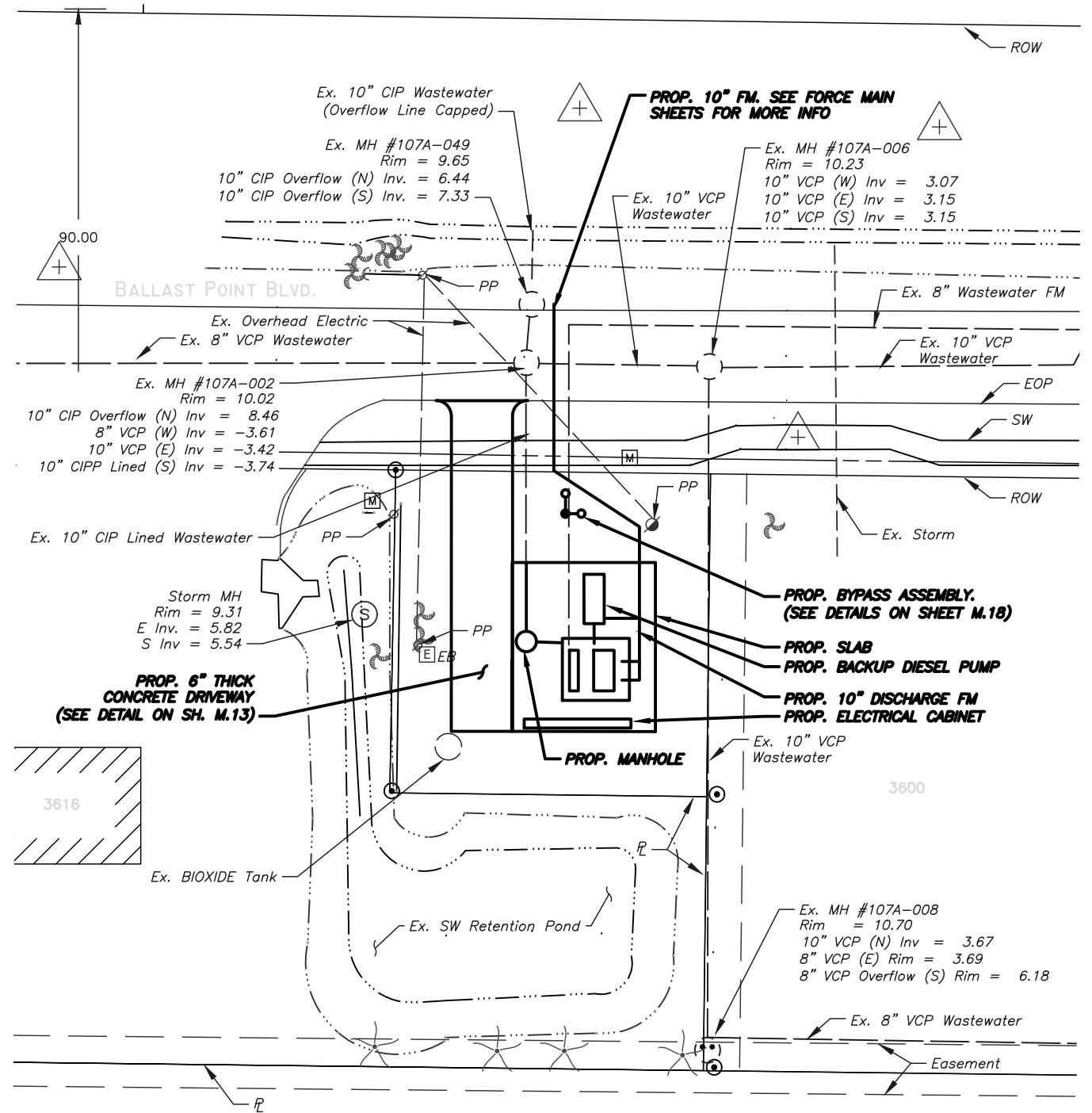
JACINTO CARLOS FERRAS, P.E. #49454 DESIGN DIVISION HEAD WASTEWATER DEPARTMENT	#	DATE	REVISIONS	DES: MS	CITY of TAMPA WASTEWATER DEPARTMENT	BALLAST POINT PUMPING STATION REHABILITATION GENERAL NOTES	SHEET M.1
	1			DRN: MRL			
	2			CKD:			
	3			DATE:			

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COT ATLAS M-9
SEC 09 T30S R18E



EXISTING SITE PLAN
SCALE: 1:30



PROPOSED SITE PLAN
SCALE: 1:30

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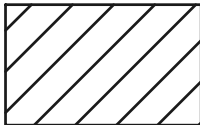
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CITY of TAMPA
WASTEWATER DEPARTMENT

BALLAST POINT PUMPING STATION REHABILITATION

SITE PLAN

SHEET
M.2



HATCHED AREAS ON THIS SHEET INDICATE PIPING,
EQUIPMENT AND STRUCTURES TO BE REMOVED

COT ATLAS I-12
SEC 29 T29S R18E



REMOVE ALL WALLS STAIRS AND STAIR
SUPPORTS DOWN TO 4' BELOW GRADE

LOCATION OF PROP.
4'Ø MANHOLE

REMOVE EX. ABOVE GROUND SLUICE
GATE ACTUATOR AND PLATFORM

STOP LOG
BLOCKS

HATCH
COVER
NO. 1

3/4" HDSE V
4" C.I.
1" DRAIN

COMPRESSORS & RECEIVER
ON 6" CONC. BASE
PNEU. CONTROL CENTER
POWER CONTROL CENTER

LOCATION OF
PROP. WET WELL

HATCH
COVER
NO. 1

VAC. REL. V.

FAN MOUNTED ON WALL

FIXED LOUVER

NOTES:

1. DEMOLISH ALL ITEMS DOWN TO 3' BELOW GROUND ELEVATION.
2. FILL VOIDS INSIDE EX. PUMPING STATION AS SPECIFIED ON PROPOSED PLANS
3. BACKFILL TOP 3± WITH CLEAN, COMPACTED EARTH TO MATCH EXISTING GROUND ELEVATIONS.

ENTRANCE FLOOR PLAN

N.T.S.

JACINTO CARLOS FERRAS, P.E. #49454
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DATE:

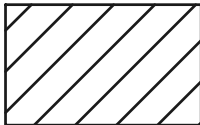
CITY of TAMPA
WASTEWATER DEPARTMENT

BALLAST POINT PUMPING STATION REHABILITATION

ENTRANCE FLOOR PLAN - DEMOLITION

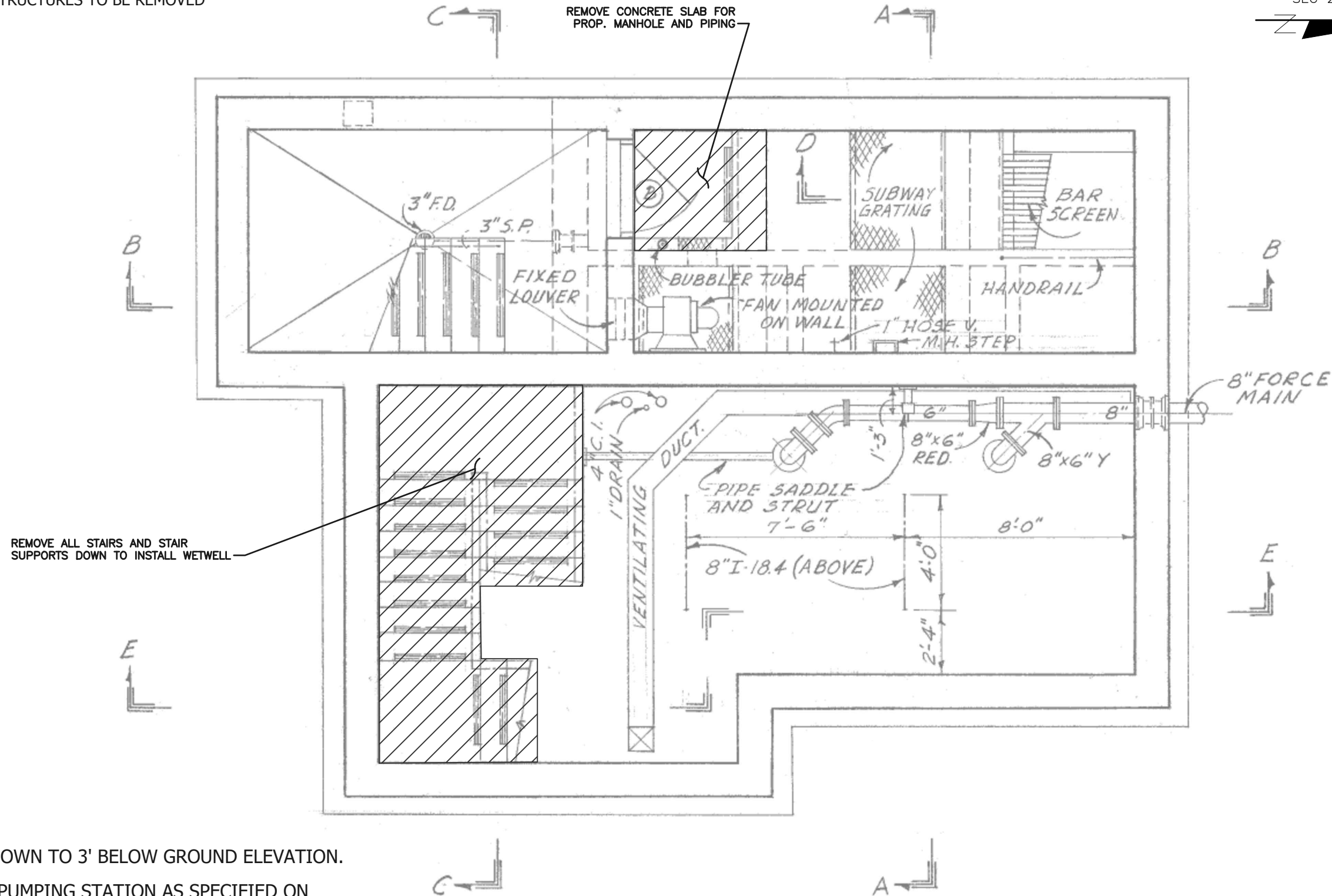
SHEET
M.3

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HATCHED AREAS ON THIS SHEET INDICATE PIPING,
EQUIPMENT AND STRUCTURES TO BE REMOVED

COT ATLAS I-12
SEC 29 T29S R18E



- NOTES:
1. DEMOLISH ALL ITEMS DOWN TO 3' BELOW GROUND ELEVATION.
 2. FILL VOIDS INSIDE EX. PUMPING STATION AS SPECIFIED ON PROPOSED PLANS
 3. BACKFILL TOP 3± WITH CLEAN, COMPACTED EARTH TO MATCH EXISTING GROUND ELEVATIONS.

INTERMEDIATE PLAN
N.T.S.

#	DATE	REVISIONS
1		
2		
3		

JACINTO CARLOS FERRAS, P.E. #49454
DESIGN DIVISION HEAD
WASTEWATER DEPARTMENT

DES: MS
DRN: MRL
CKD:
DATE:

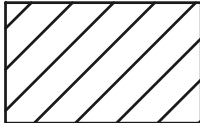
CITY of TAMPA
WASTEWATER DEPARTMENT

BALLAST POINT PUMPING STATION REHABILITATION

INTERMEDIATE PLAN - DEMOLITION

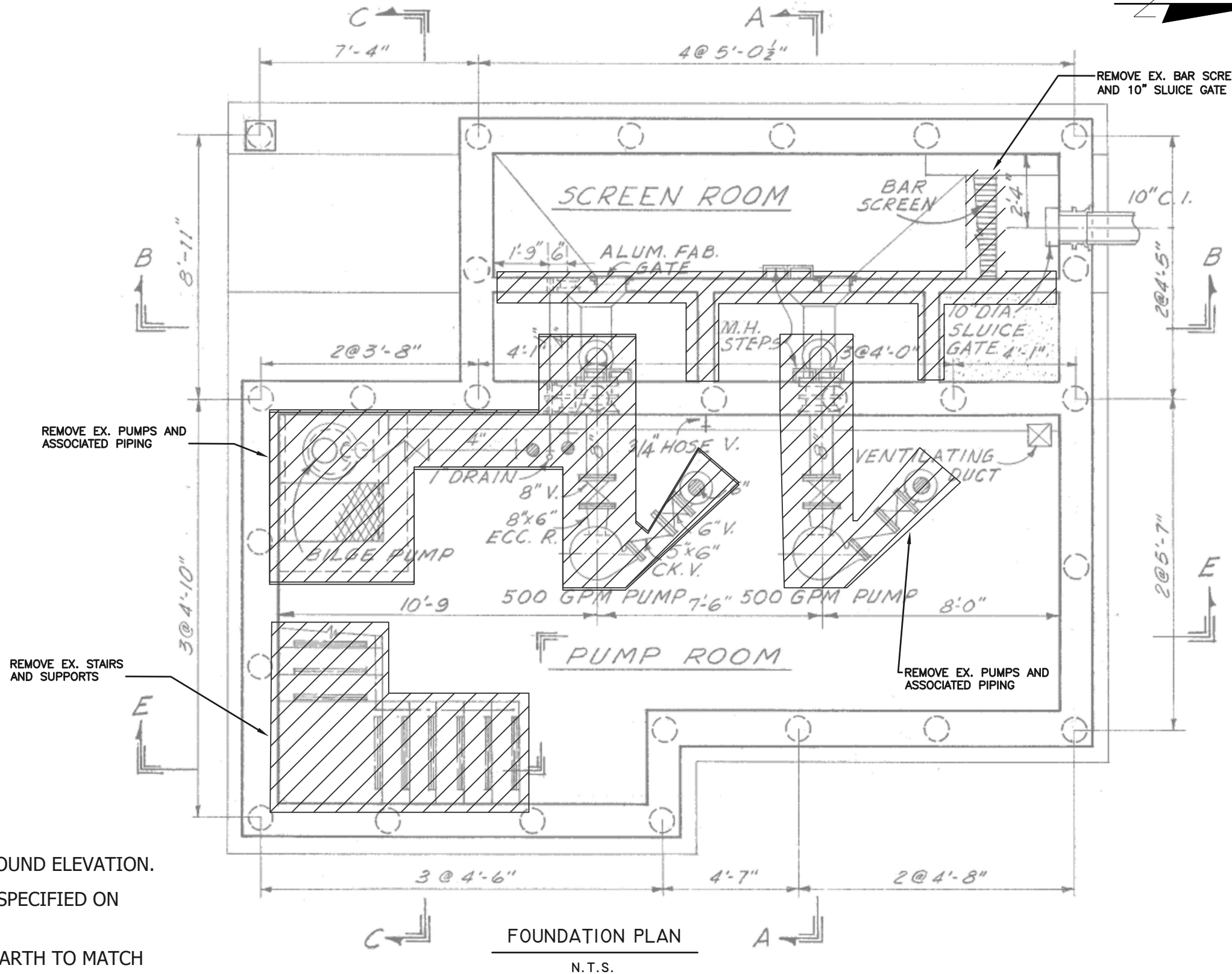
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M.4

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HATCHED AREAS ON THIS SHEET INDICATE PIPING,
EQUIPMENT AND STRUCTURES TO BE REMOVED

COT ATLAS I-12
SEC 29 T29S R18E



NOTES:

1. DEMOLISH ALL ITEMS DOWN TO 3' BELOW GROUND ELEVATION.
2. FILL VOIDS INSIDE EX. PUMPING STATION AS SPECIFIED ON PROPOSED PLANS
3. BACKFILL TOP 3± WITH CLEAN, COMPACTED EARTH TO MATCH EXISTING GROUND ELEVATIONS.

#	DATE	REVISIONS
1		
2		
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JACINTO CARLOS FERRAS, P.E. #49454
DESIGN DIVISION HEAD
WASTEWATER DEPARTMENT

DES: MS
DRN: MRL
CKD:
DATE:

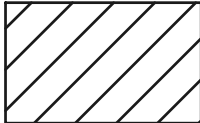
CITY of TAMPA
WASTEWATER DEPARTMENT

BALLAST POINT PUMPING STATION REHABILITATION

FOUNDATION PLAN - DEMOLITION

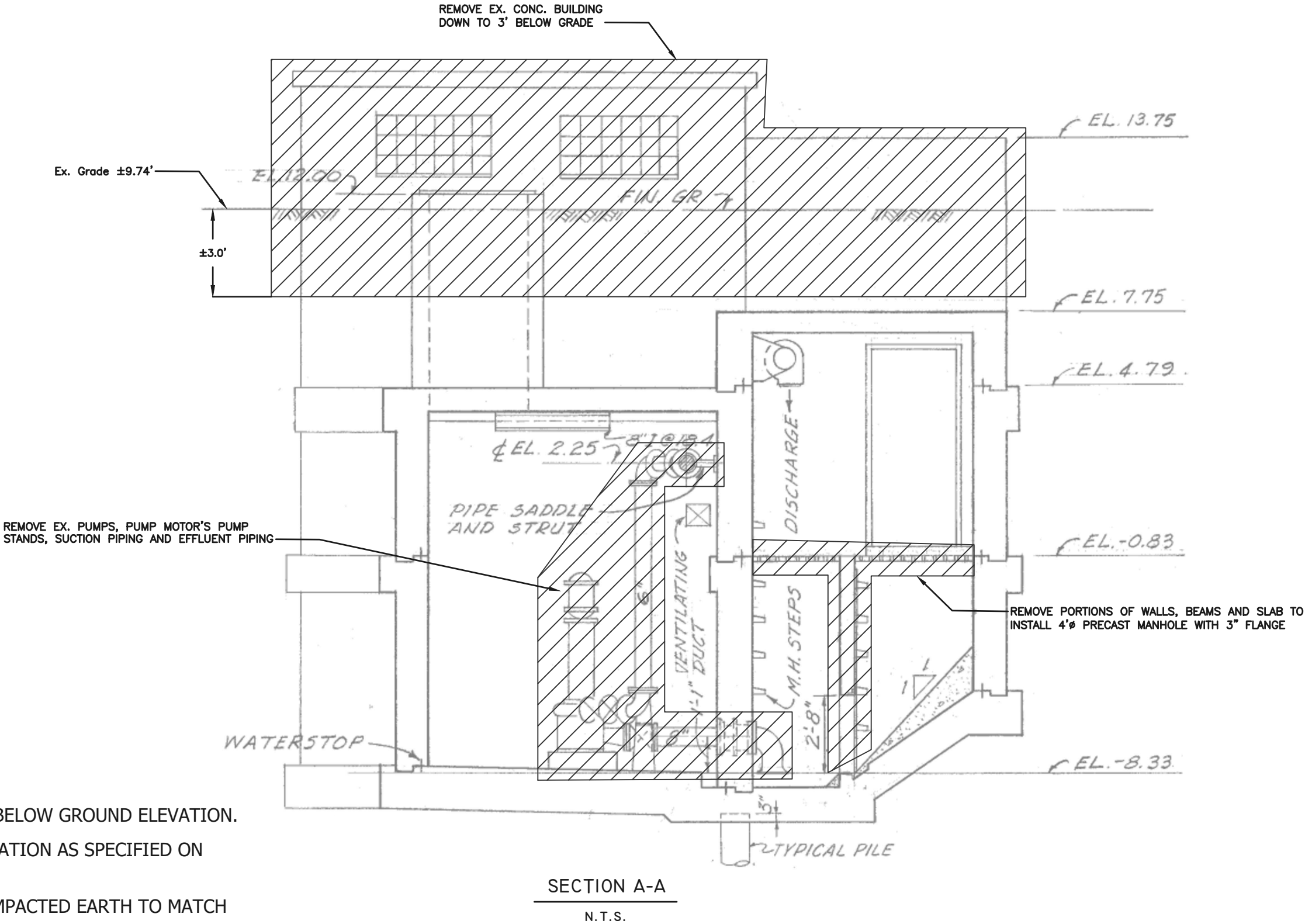
SHEET
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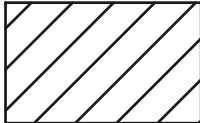
HATCHED AREAS ON THIS SHEET INDICATE PIPING,
EQUIPMENT AND STRUCTURES TO BE REMOVED

COT ATLAS I-12
SEC 29 T29S R18E



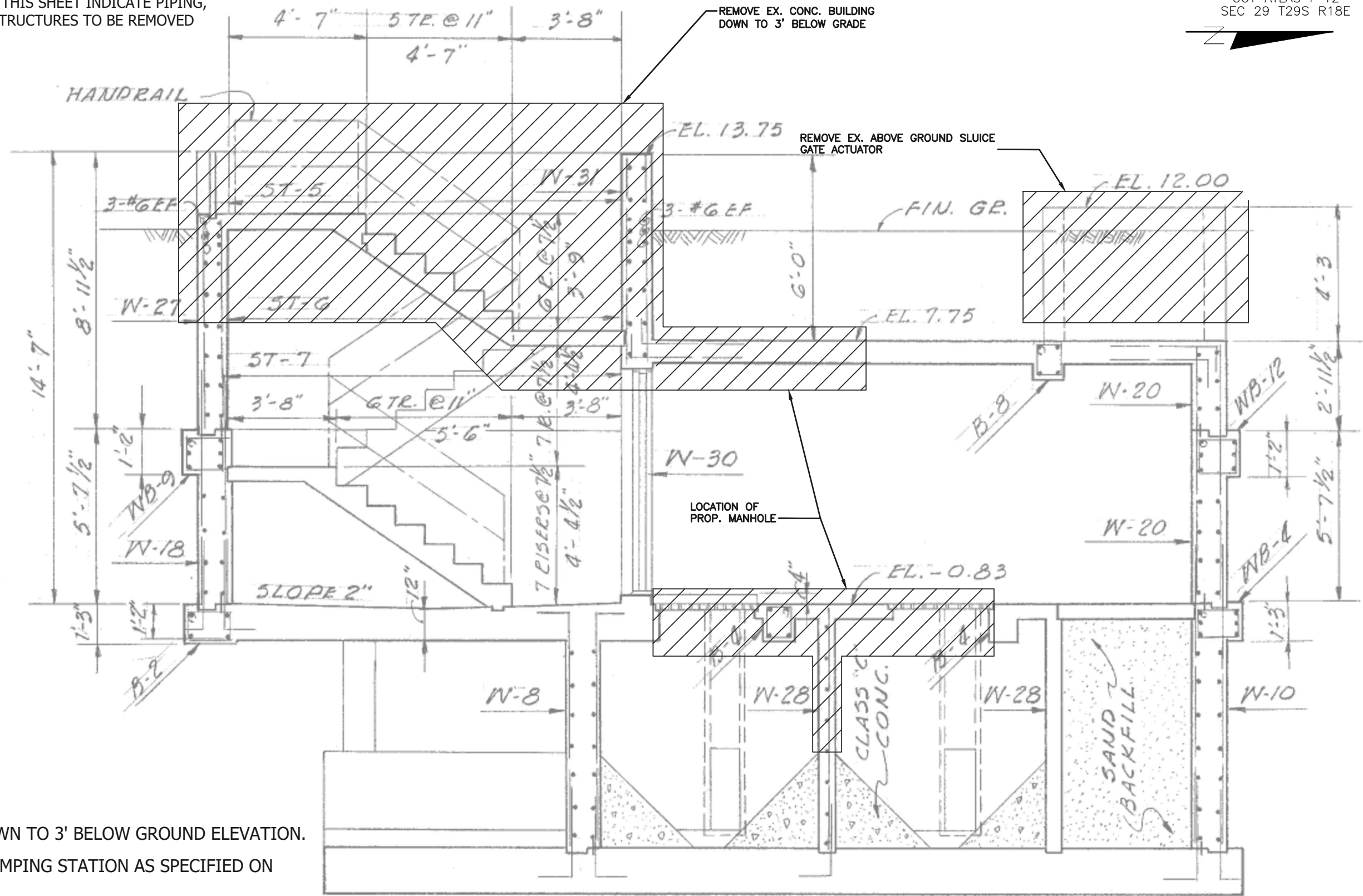
- NOTES:
- 1. DEMOLISH ALL ITEMS DOWN TO 3' BELOW GROUND ELEVATION.
 - 2. FILL VOIDS INSIDE EX. PUMPING STATION AS SPECIFIED ON PROPOSED PLANS
 - 3. BACKFILL TOP 3± WITH CLEAN, COMPACTED EARTH TO MATCH EXISTING GROUND ELEVATIONS.

JACINTO CARLOS FERRAS, P.E. #49454 DESIGN DIVISION HEAD WASTEWATER DEPARTMENT	#	DATE	REVISIONS	DES: MS	CITY of TAMPA WASTEWATER DEPARTMENT	BALLAST POINT PUMPING STATION REHABILITATION SECTION A-A - DEMOLITION	SHEET M.6
	1			DRN: MRL			
	2			CKD:			
	3			DATE:			



HATCHED AREAS ON THIS SHEET INDICATE PIPING,
EQUIPMENT AND STRUCTURES TO BE REMOVED

COT ATLAS I-12
SEC 29 T29S R18E



- NOTES:
1. DEMOLISH ALL ITEMS DOWN TO 3' BELOW GROUND ELEVATION.
 2. FILL VOIDS INSIDE EX. PUMPING STATION AS SPECIFIED ON PROPOSED PLANS
 3. BACKFILL TOP 3± WITH CLEAN, COMPACTED EARTH TO MATCH EXISTING GROUND ELEVATIONS.

SECTION B-B
N.T.S.

#	DATE	REVISIONS
1		
2		
3		

JACINTO CARLOS FERRAS, P.E. #49454
DESIGN DIVISION HEAD
WASTEWATER DEPARTMENT

DES: MS
DRN: MRL
CKD:
DATE:

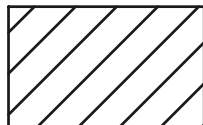
CITY of TAMPA
WASTEWATER DEPARTMENT

BALLAST POINT PUMPING STATION REHABILITATION

SECTION B-B - DEMOLITION

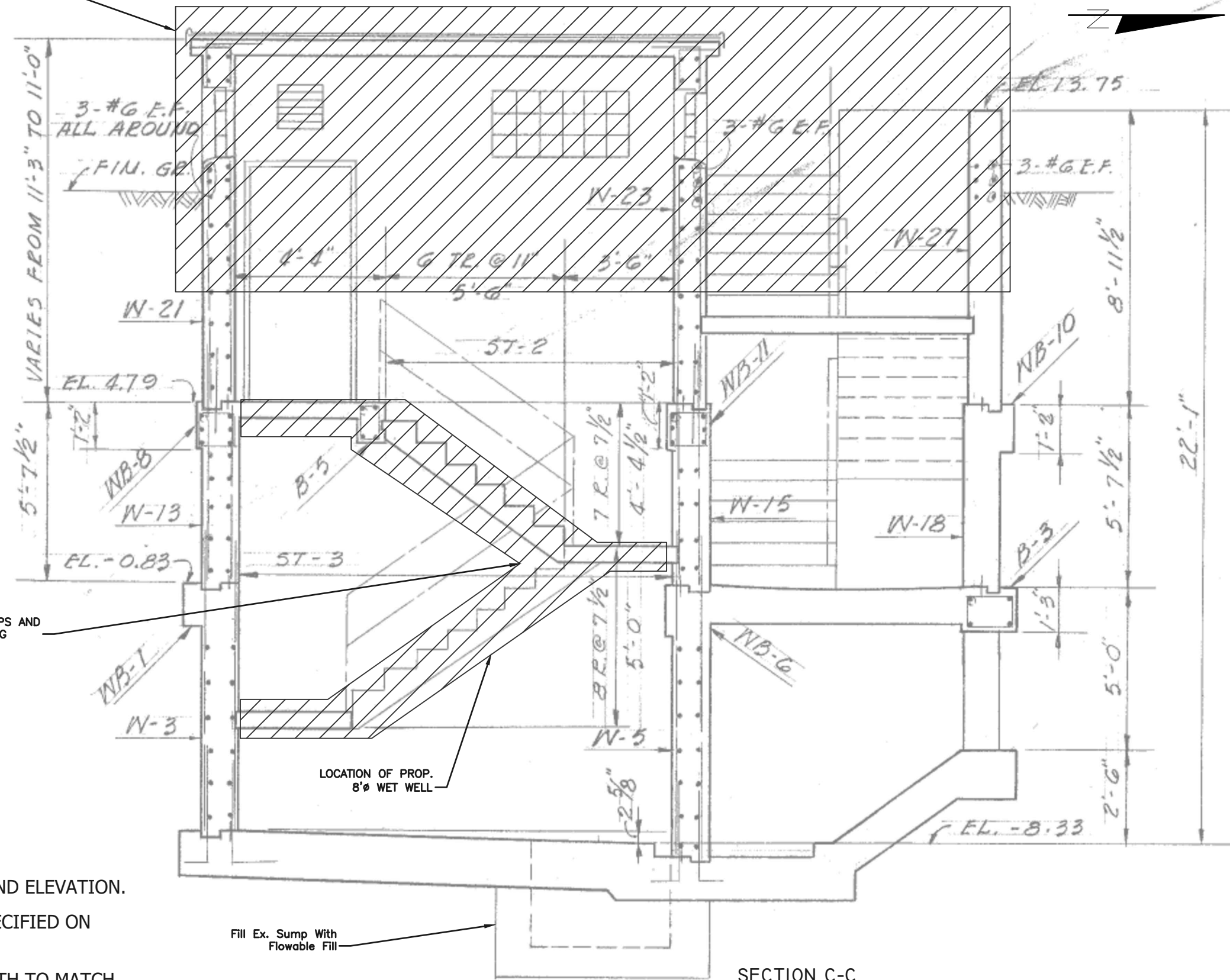
SHEET
M.7

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HATCHED AREAS ON THIS SHEET INDICATE PIPING,
EQUIPMENT AND STRUCTURES TO BE REMOVED

REMOVE EX. CONC. BUILDING
DOWN TO 3' BELOW GRADE



SECTION C-C

N.T.S.

NOTES:

1. DEMOLISH ALL ITEMS DOWN TO 3' BELOW GROUND ELEVATION.
2. FILL VOIDS INSIDE EX. PUMPING STATION AS SPECIFIED ON PROPOSED PLANS
3. BACKFILL TOP 3± WITH CLEAN, COMPACTED EARTH TO MATCH EXISTING GROUND ELEVATIONS.

#	DATE	REVISIONS
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DES: MS
DRN: MRL
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CITY of TAMPA
WASTEWATER DEPARTMENT

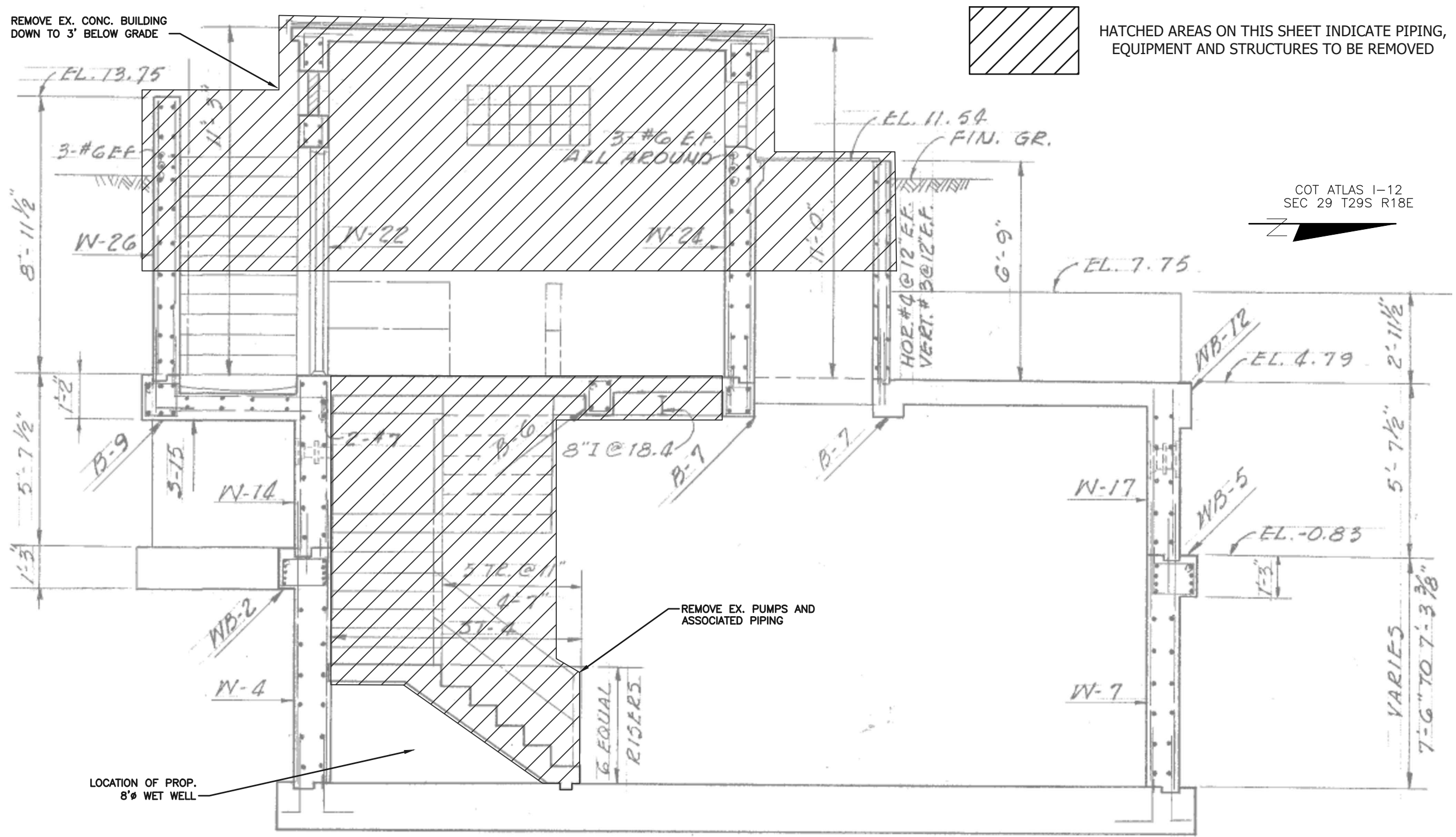
BALLAST POINT PUMPING STATION REHABILITATION

SECTION C-C - DEMOLITION

SHEET

M.8

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- NOTES:
- 1. DEMOLISH ALL ITEMS DOWN TO 3' BELOW GROUND ELEVATION.
 - 2. FILL VOIDS INSIDE EX. PUMPING STATION AS SPECIFIED ON PROPOSED PLANS
 - 3. BACKFILL TOP 3± WITH CLEAN, COMPACTED EARTH TO MATCH EXISTING GROUND ELEVATIONS.

SECTION E-E
N.T.S.

JACINTO CARLOS FERRAS, P.E. #49454 DESIGN DIVISION HEAD WASTEWATER DEPARTMENT	#	DATE	REVISIONS	DES: MS	CITY of TAMPA WASTEWATER DEPARTMENT	BALLAST POINT PUMPING STATION REHABILITATION SECTION E-E - DEMOLITION	SHEET M.9
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	2			CKD:			
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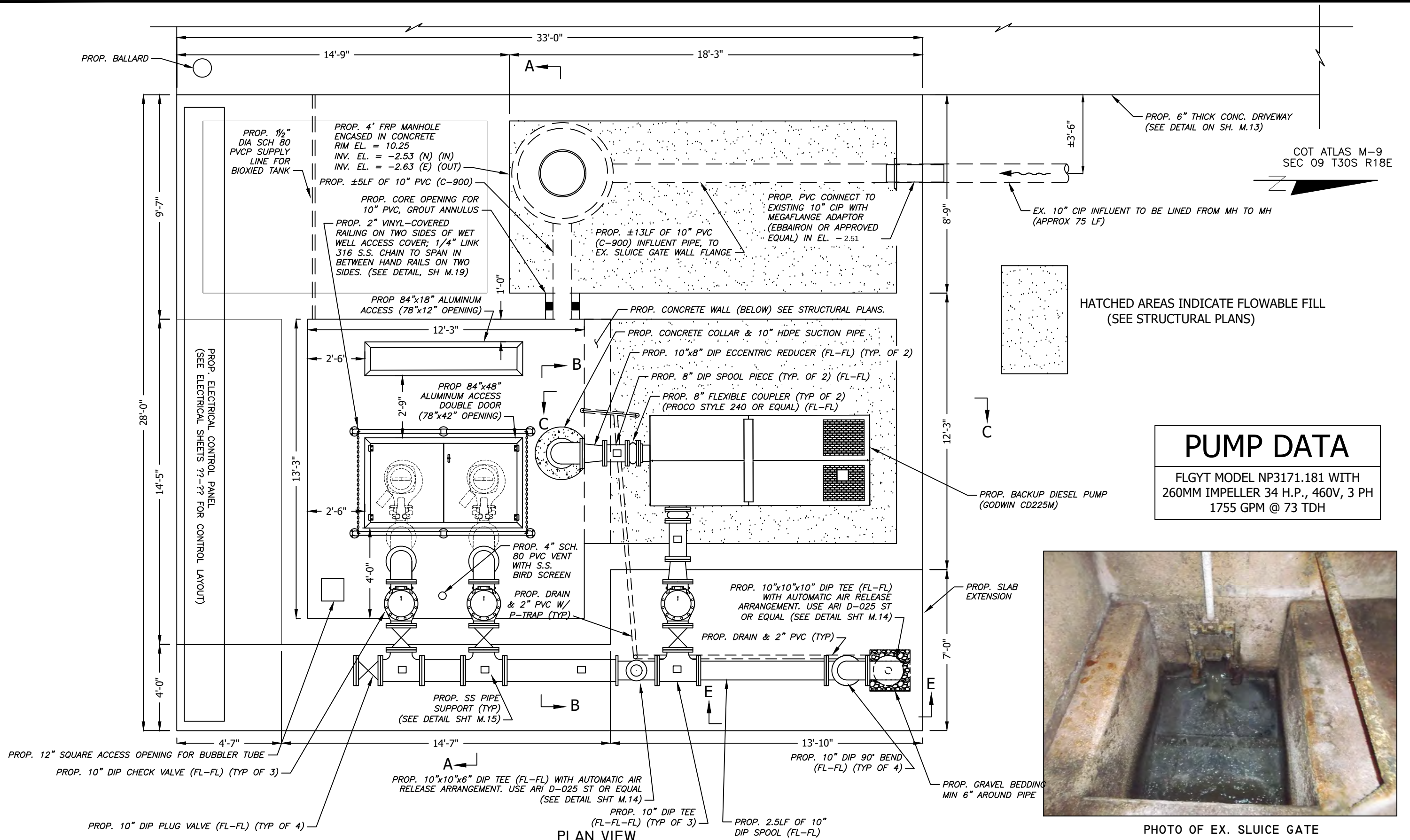


PHOTO OF EX. SLUDGE GATE
N.T.S.

#	DATE	REVISIONS
1		
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JACINTO CARLOS FERRAS, P.E. #49454
DESIGN DIVISION HEAD
WASTEWATER DEPARTMENT

DES: MS
DRN: MRL
CKD:
DATE:

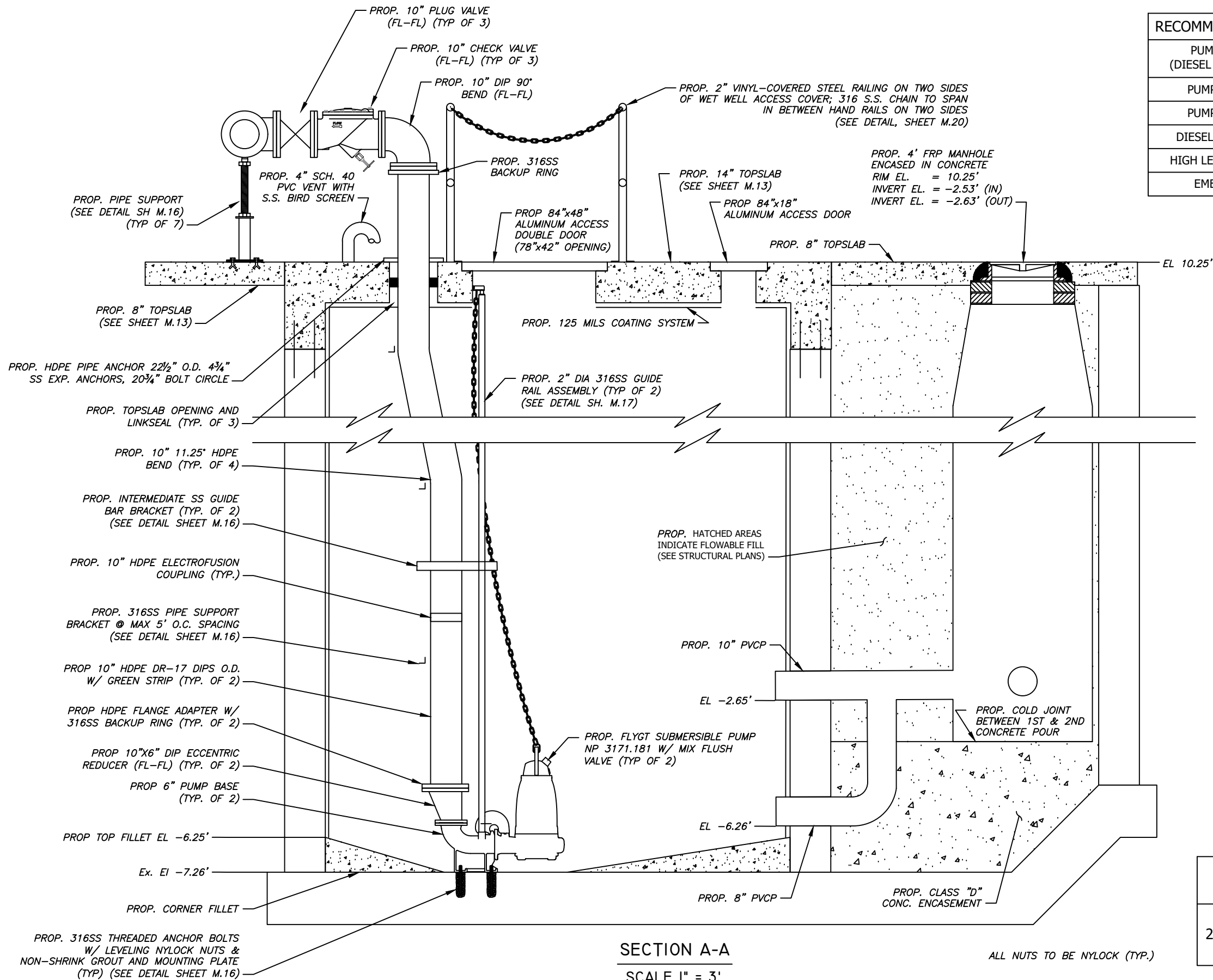
CITY of TAMPA
WASTEWATER DEPARTMENT

BALLAST POINT PUMPING STATION REHABILITATION

PROPOSED PLAN

SHEET
M.10

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DESIGN DIVISION HEAD
WASTEWATER DEPARTMENT

#	DATE	REVISIONS
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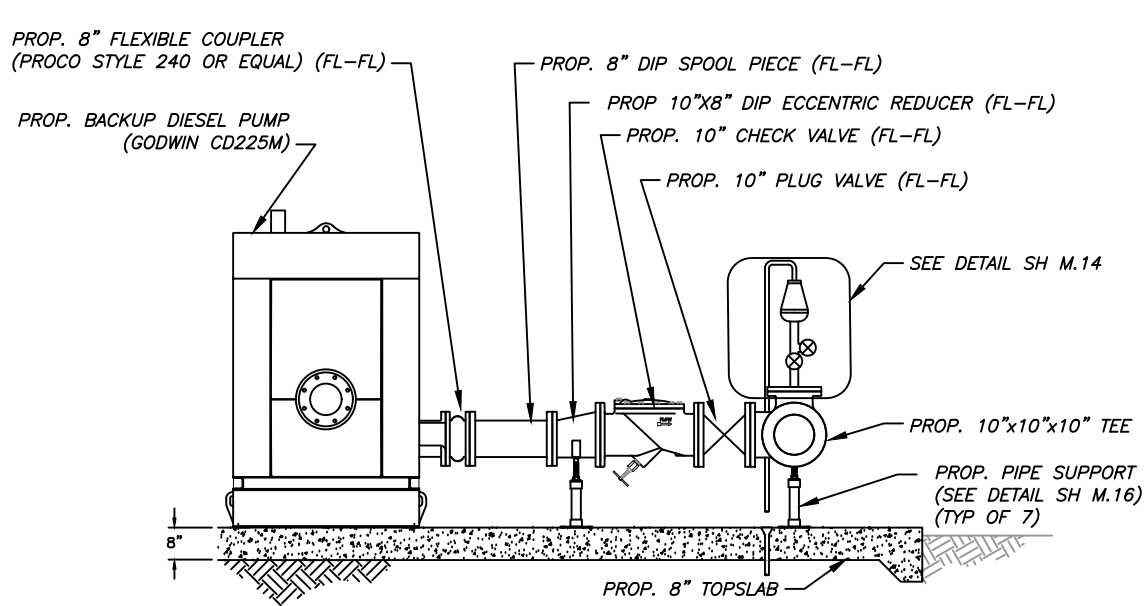
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CKD:
DATE:

CITY of TAMPA
WASTEWATER DEPARTMENT

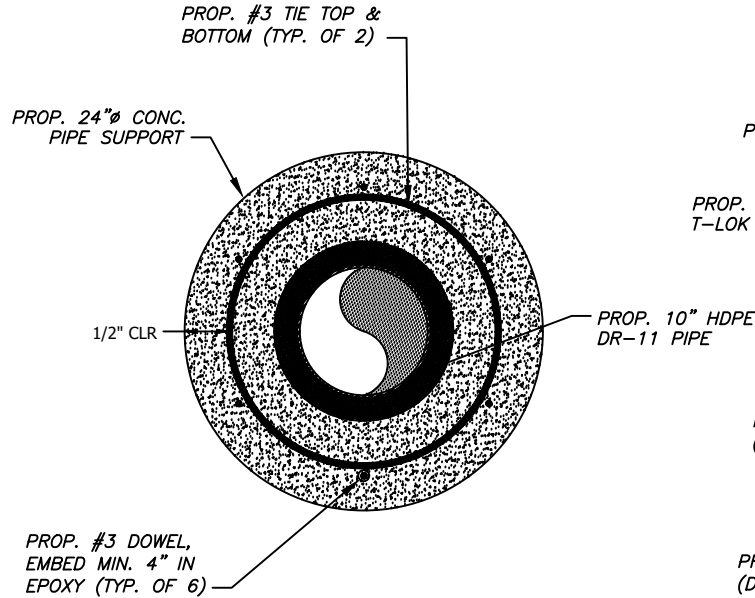
BALLAST POINT PUMPING STATION REHABILITATION

SECTION A-A

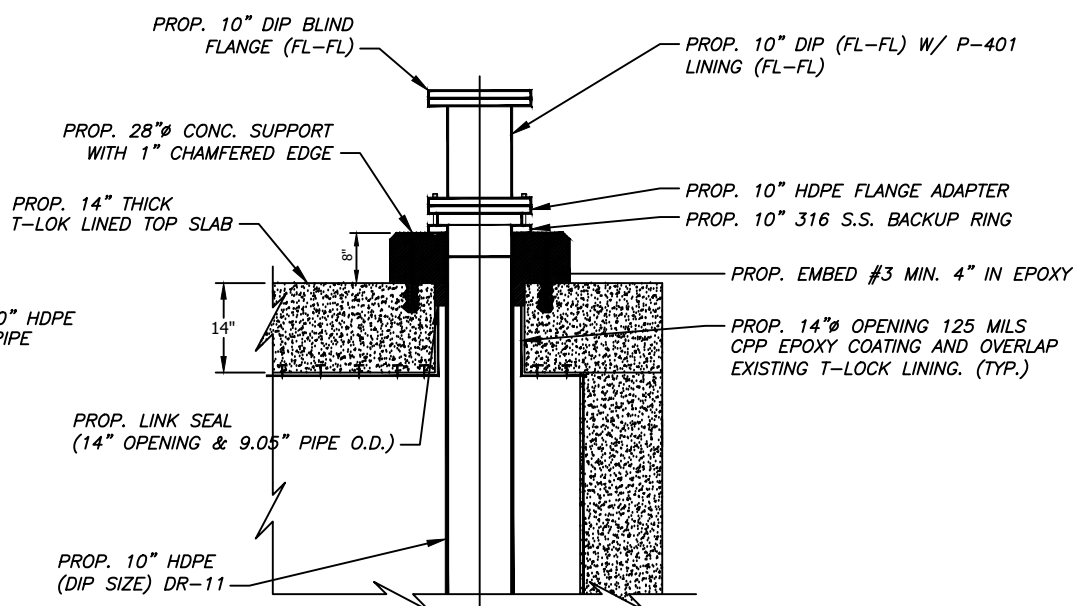
SHEET
M.11



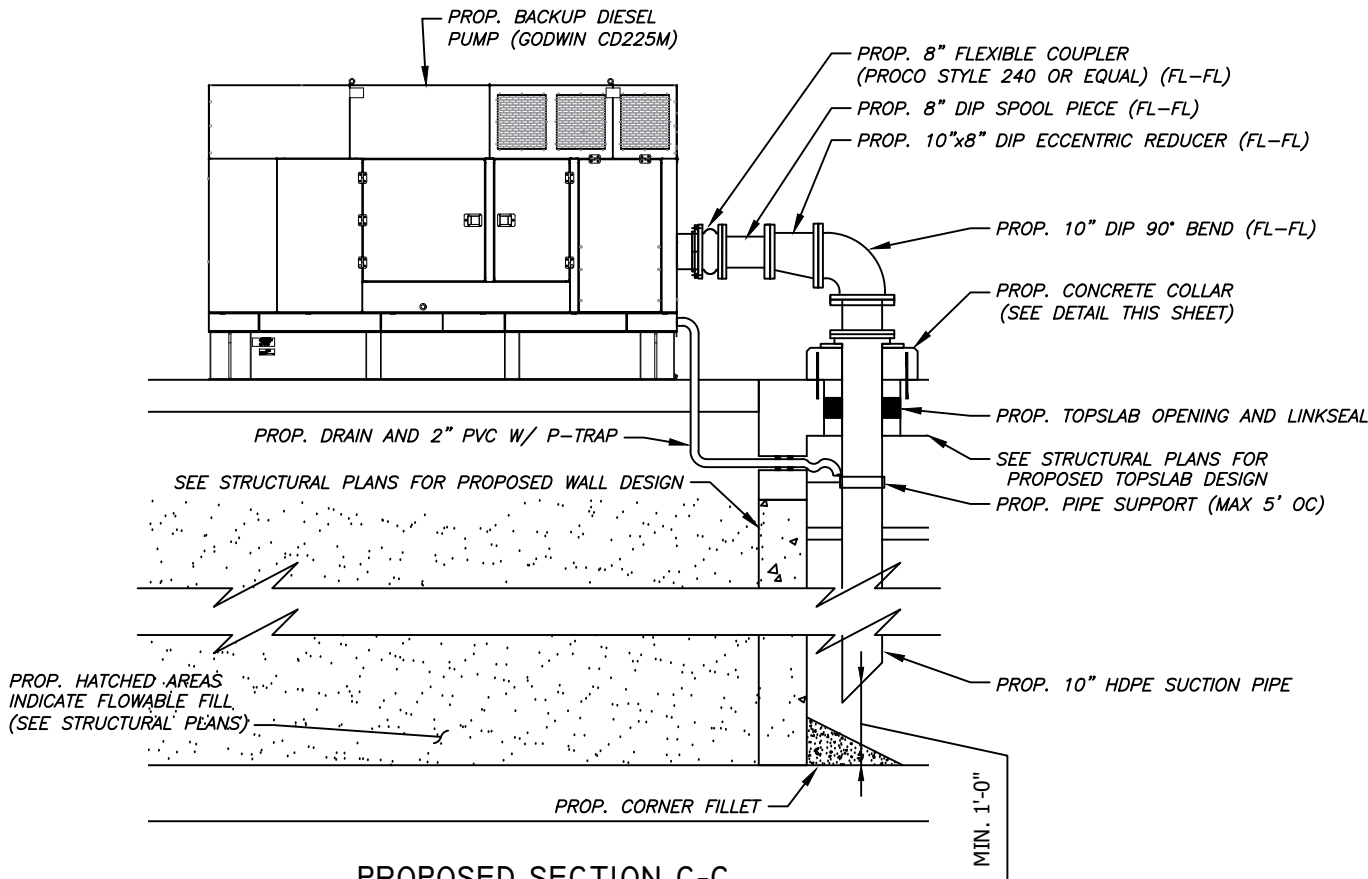
PROPOSED SECTION B-B
SCALE: 1" = 4'



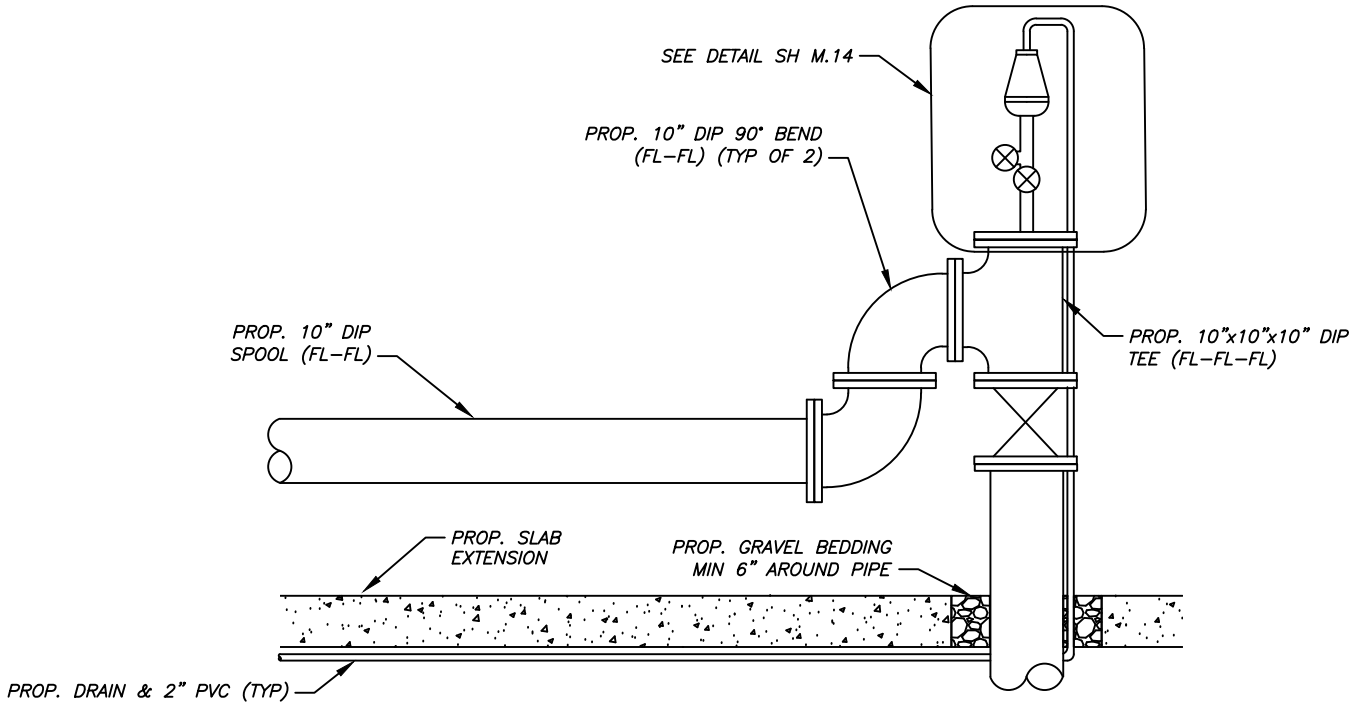
CONCRETE COLLAR PLAN VIEW
N.T.S.



CONCRETE COLLAR SECTION
N.T.S.



PROPOSED SECTION C-C
SCALE: 1" = 4'



PROPOSED SECTION E-E
N.T.S.

#	DATE	REVISIONS
1		
2		
3		

DES: MS
DRN: MRL
CKD:
DATE:

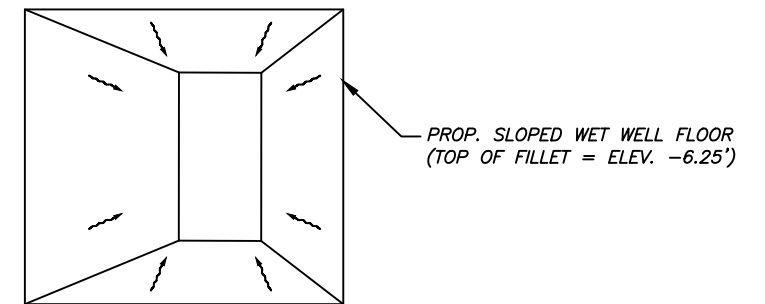
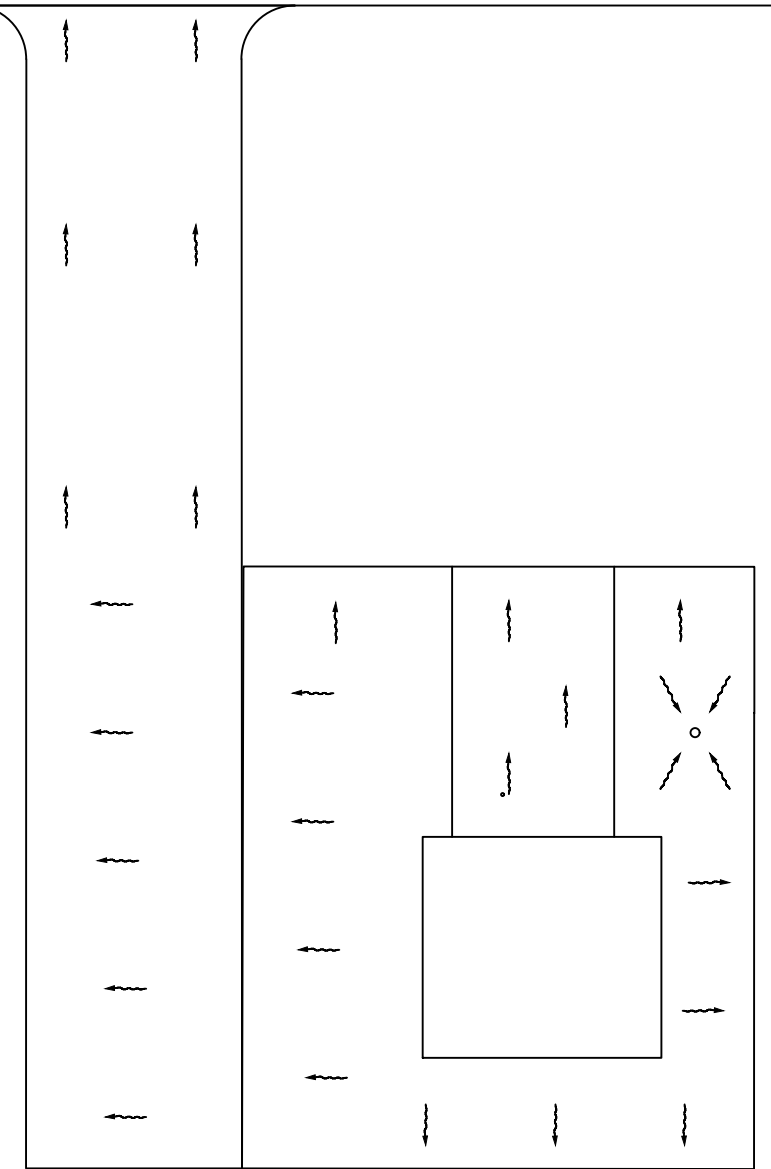
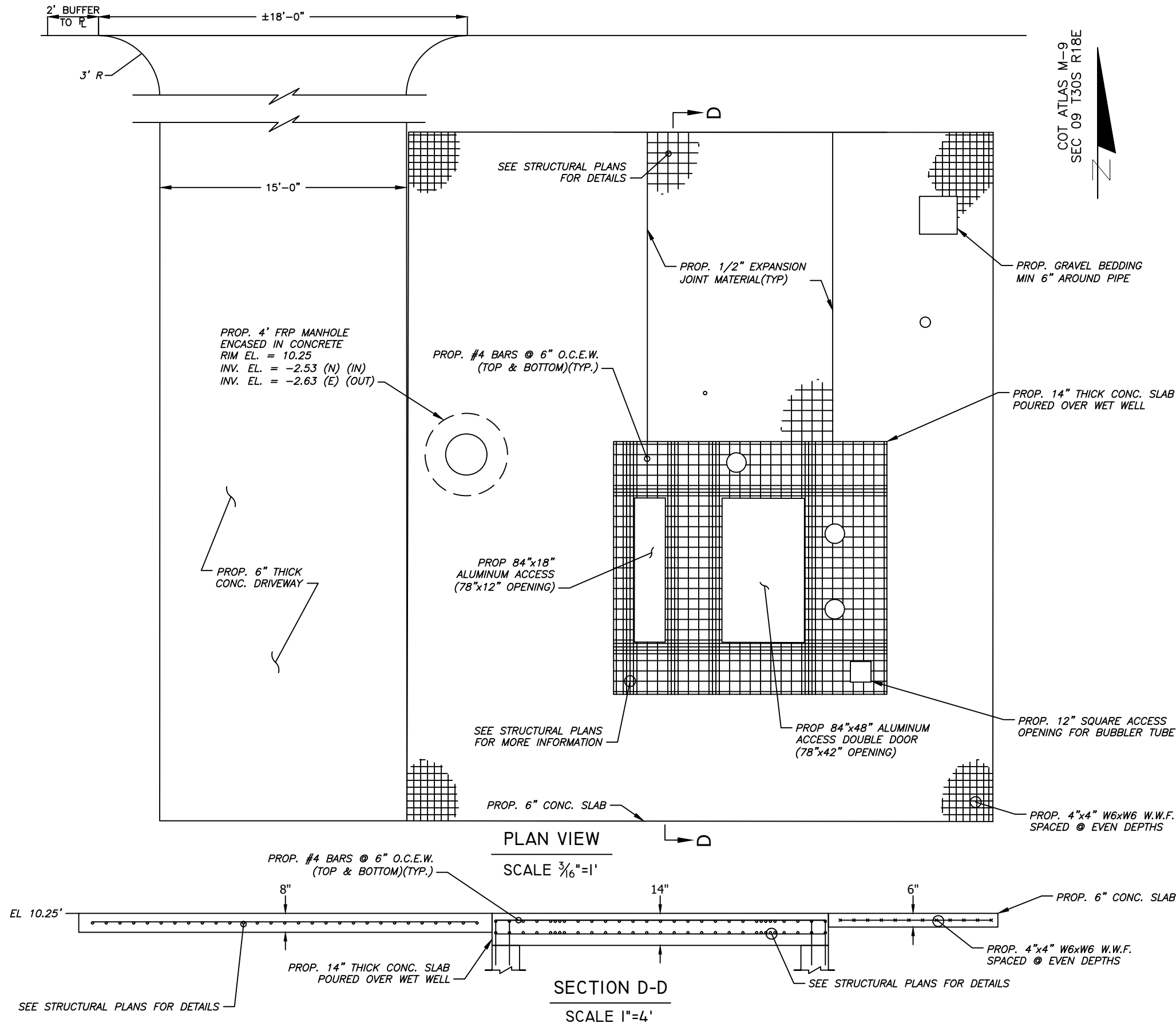
CITY of TAMPA
WASTEWATER DEPARTMENT

BALLAST POINT PUMPING STATION REHABILITATION

SECTIONS AND DETAILS

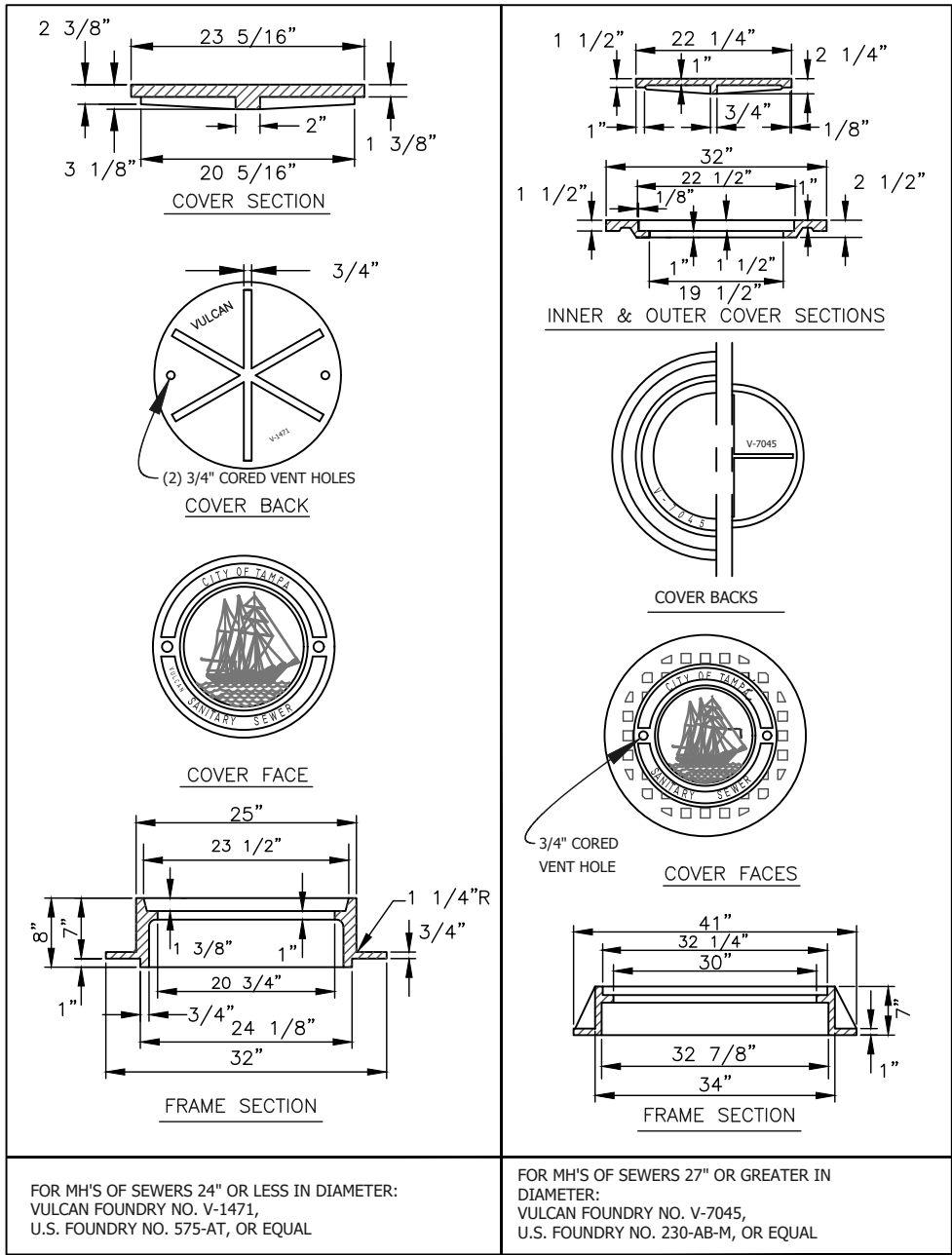
SHEET
M.12

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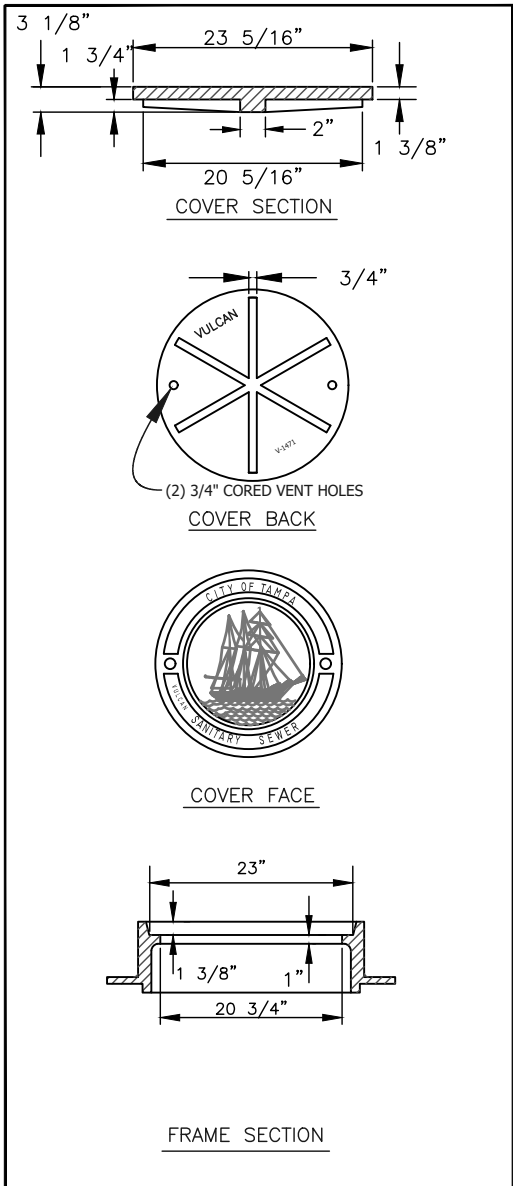


JACINTO CARLOS FERRAS, P.E. #49454 DESIGN DIVISION HEAD WASTEWATER DEPARTMENT	#	DATE	REVISIONS	DES: MS	CITY of TAMPA WASTEWATER DEPARTMENT	BALLAST POINT PUMPING STATION REHABILITATION TOPSLAB	SHEET M.13
	1			DRN: MRL			
	2			CKD:			
	3			DATE:			

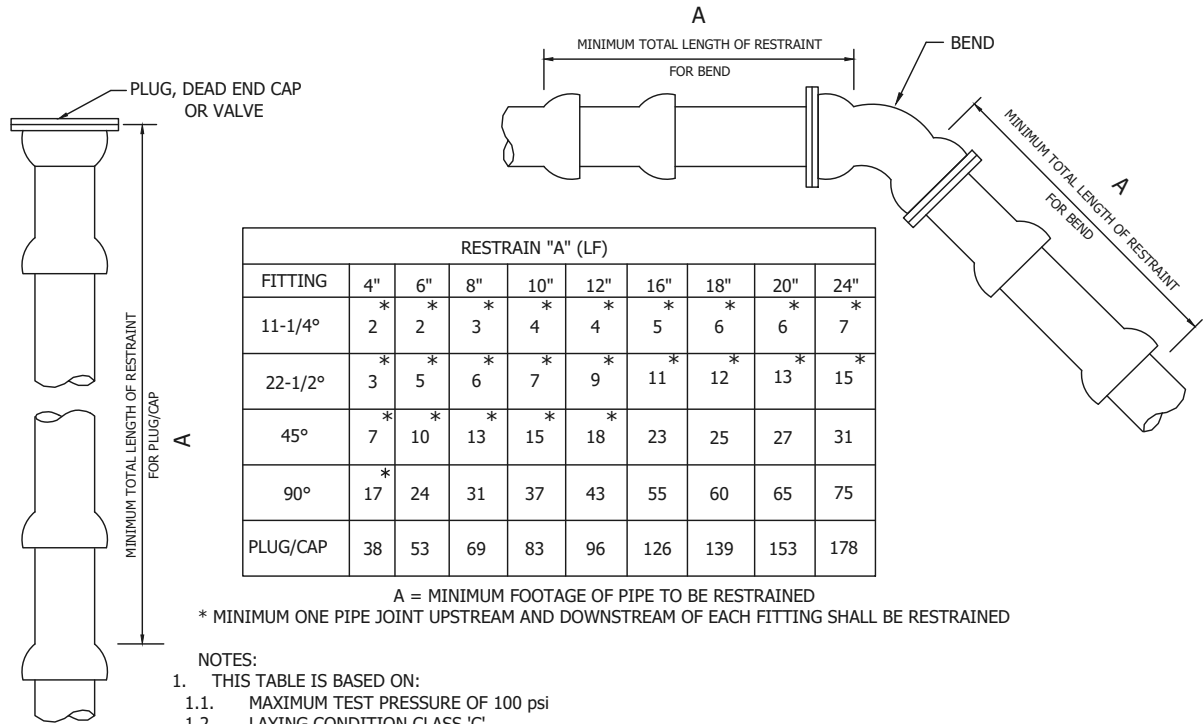
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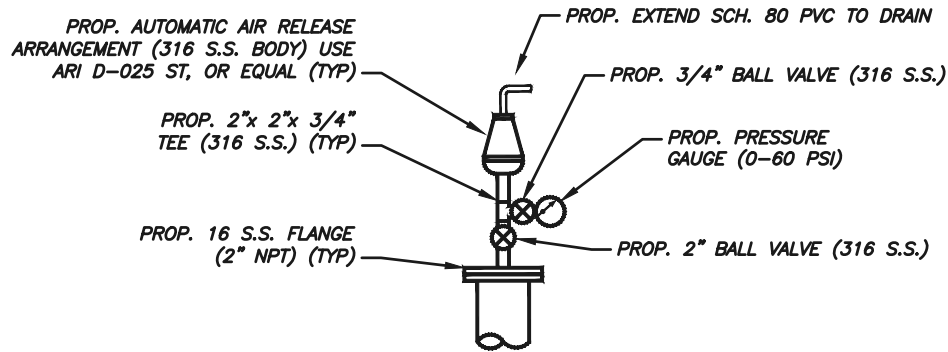
HEAVY DUTY CAST IRON MANHOLE
FRAME & COVER DETAILS
N.T.S.



HEAVY DUTY CAST IRON MANHOLE
FRAME & COVER DETAILS

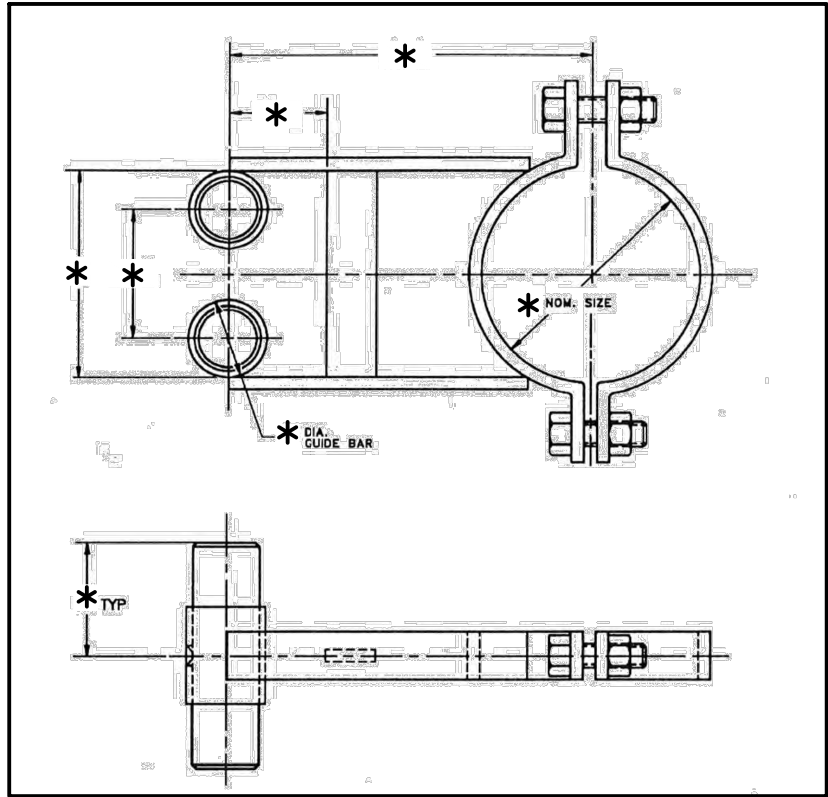


FITTING RESTRAINT DETAIL
(AWWA C900/C905 PVC PIPE)

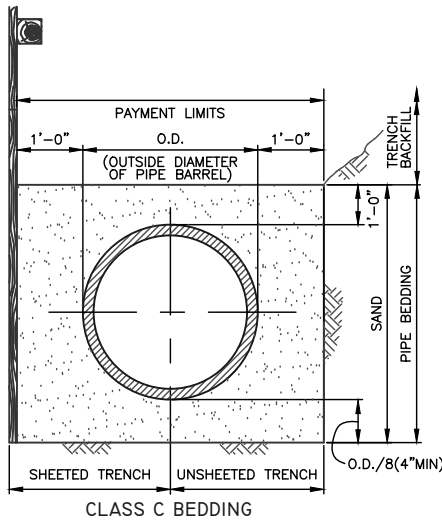


AIR RELEASE AND PRESSURE GAUGE
N.T.S.

JACINTO CARLOS FERRAS, P.E. #49454 DESIGN DIVISION HEAD WASTEWATER DEPARTMENT	#	DATE	REVISIONS	DES: MS	CITY of TAMPA WASTEWATER DEPARTMENT	BALLAST POINT PUMPING STATION REHABILITATION MISCELLANEOUS DETAILS	SHEET M.14
	1			DRN: MRL			
	2			CKD:			
	3			DATE:			

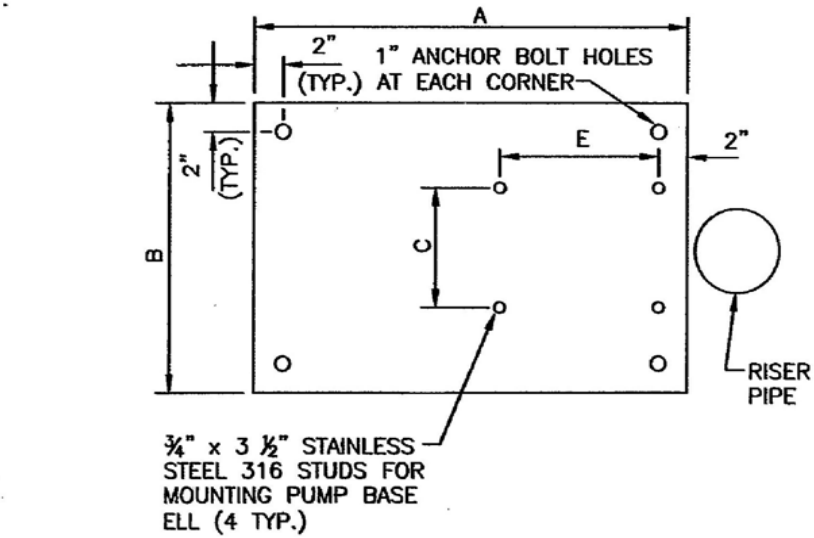


INTERMEDIATE GUIDE BAR BRACKETS
N.T.S.

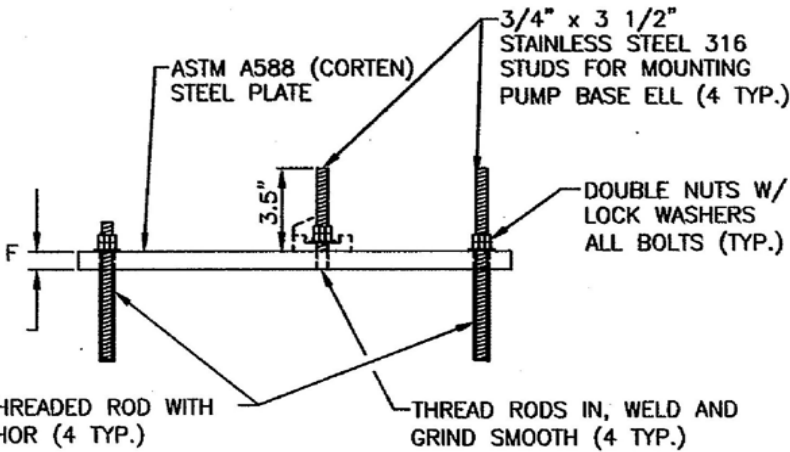


- NOTES:
1. ALL TYPES OF PIPE BEDDING SHALL EXTEND TO UNDISTURBED EARTH AT SIDES AND BOTTOM OF THE TRENCH.
 2. SAND AND CRUSHED STONE PIPE BEDDING SHALL BE PLACED AND COMPACTED IN ACCORDANCE WITH SPECIFICATIONS.

PIPE BEDDING DETAILS
N.T.S.



PLAN



PROFILE

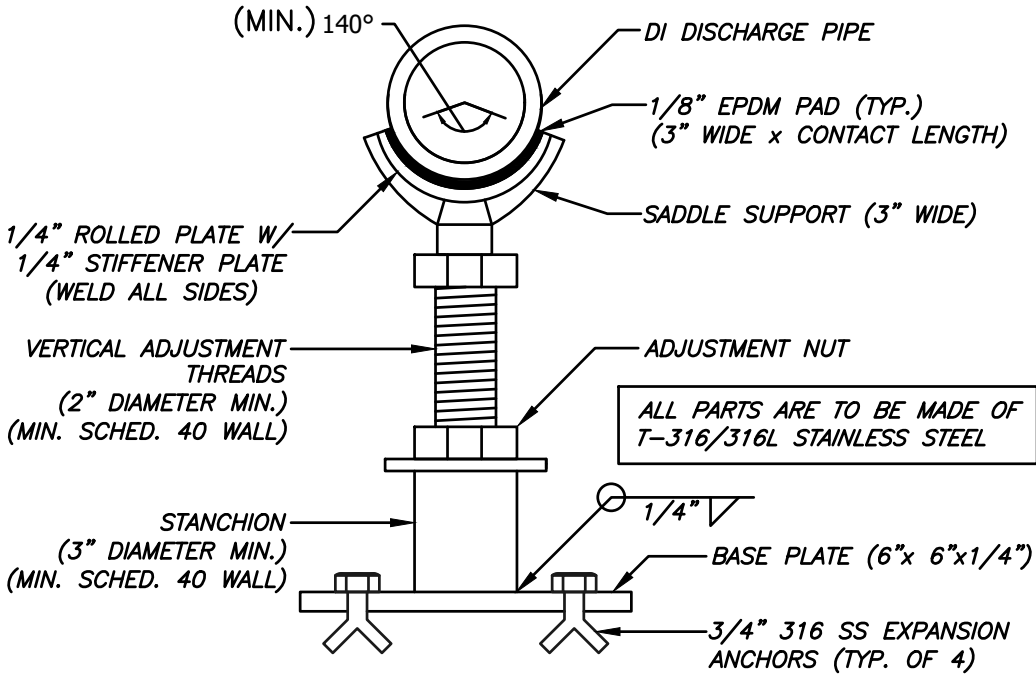
3/4" S.S. 316 THREADED ROD WITH
HILTI EPOXY ANCHOR (4 TYP.)

THREAD RODS IN, WELD AND
GRIND SMOOTH (4 TYP.)

PUMP BASE ELL MOUNTING PLATE DIMENSIONS							
DIMENSIONS	A	B	C	D	E	F	
FOR 6" PUMPS	24"	20"	*		*	3/4"	

- NOTES:
1. INSTALL DOUBLE NUTS ON ALL EIGHT (8) THREADED RODS.
 2. THE PLATE EDGES AND ALL HOLES SHALL BE GROUND SMOOTH TO REMOVE ALL BURRS.
- * ALIGNMENT OF ANCHOR BOLTS SHALL BE AS RECOMENDED BY PUMP MANUFACTURER.

PUMP BASE MOUNTING PLATE DETAIL
N.T.S.



SECTION VIEW - STAINLESS STEEL STANCHION SADDLE SUPPORT
N.T.S.

#	DATE	REVISIONS
1		
2		
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JACINTO CARLOS FERRAS, P.E. #49454
DESIGN DIVISION HEAD
WASTEWATER DEPARTMENT

DES: MS
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DATE:

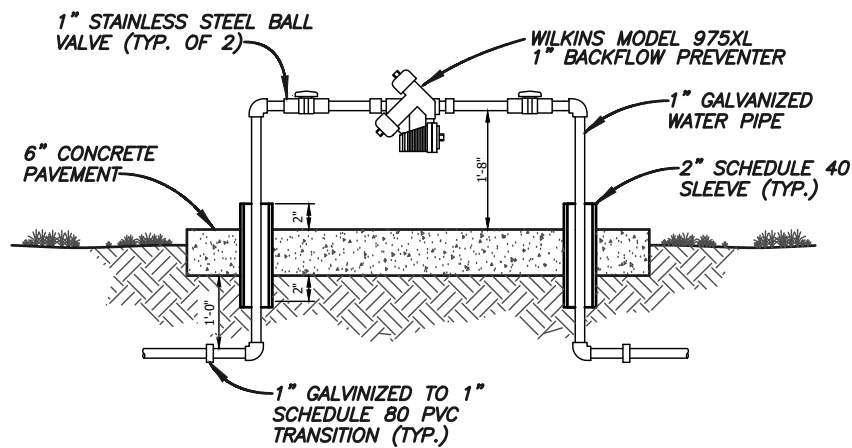
CITY of TAMPA
WASTEWATER DEPARTMENT

BALLAST POINT PUMPING STATION REHABILITATION
MISCELLANEOUS DETAILS

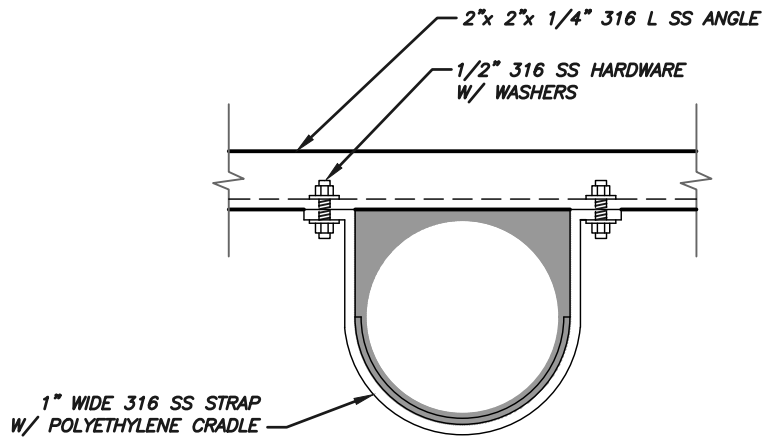
SHEET
M.15

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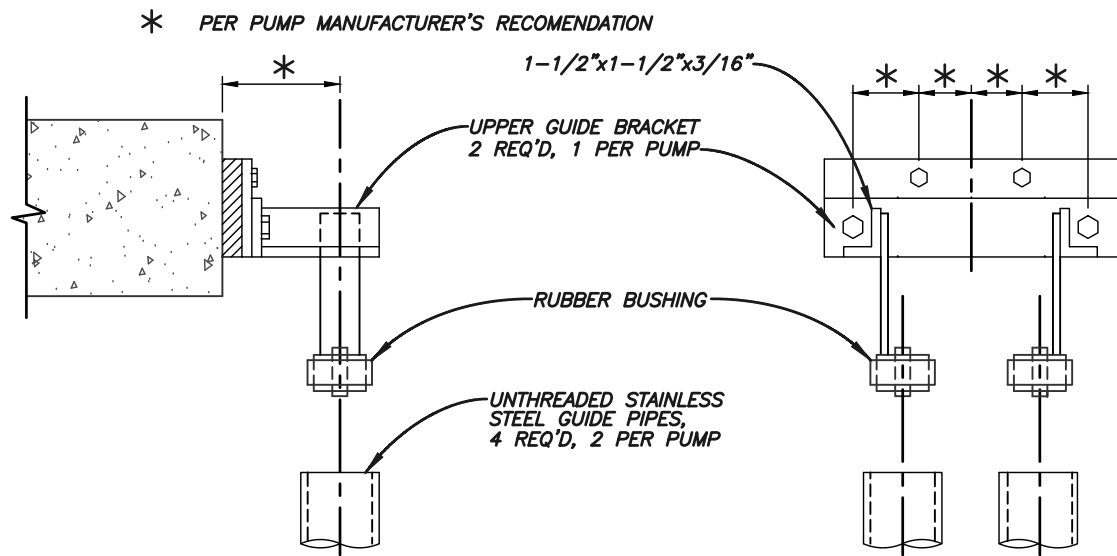
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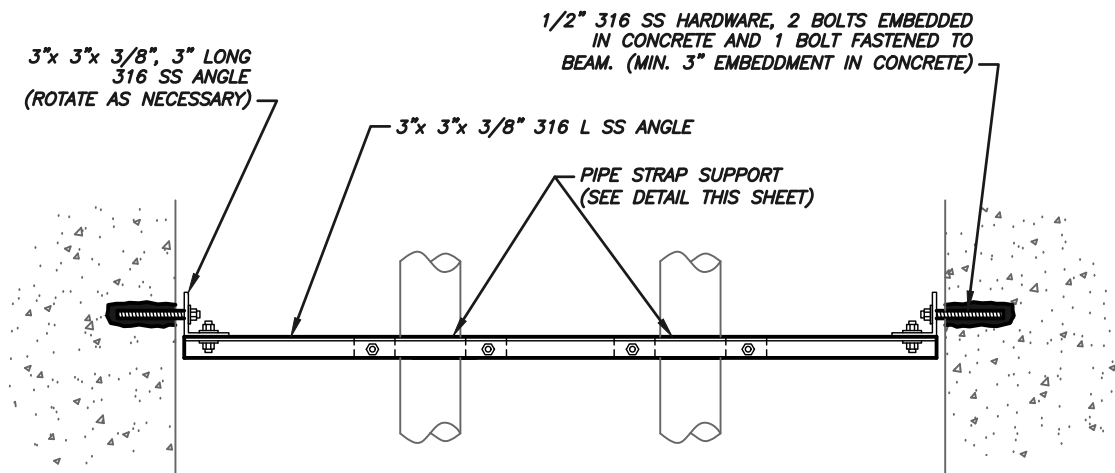
BACKFLOW PREVENTER DETAIL
N.T.S.



PIPE STRAP SUPPORT
N.T.S.

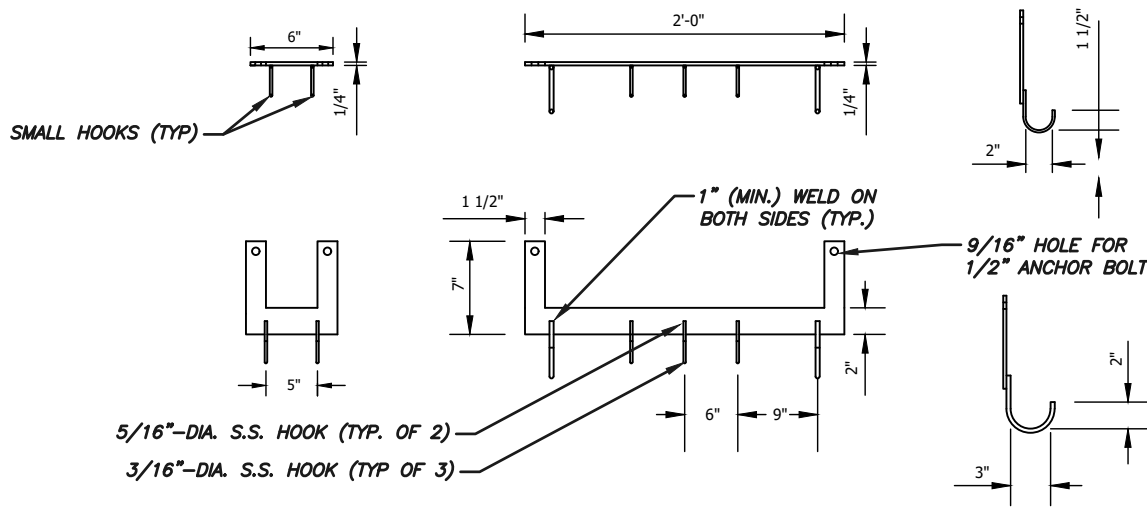


GUIDE BRACKET DETAIL (SUPPLIED WITH PUMPS)
N.T.S.



PIPE SUPPORT ASSEMBLY
N.T.S.

NOTE: ALL NUTS SHOULD BE 316SS NYLON LOCK NUTS WITH WASHERS. (TYP.)



PROP. STAINLESS STEEL HOOK RACKS
N.T.S.

JACINTO CARLOS FERRAS, P.E. #49454
DESIGN DIVISION HEAD
WASTEWATER DEPARTMENT

#	DATE	REVISIONS
1		
2		
3		

DES: MS
DRN: MRL
CKD:
DATE:

CITY of TAMPA
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BALLAST POINT PUMPING STATION REHABILITATION

MISCELLANEOUS DETAILS

SHEET

M.16

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NOTES

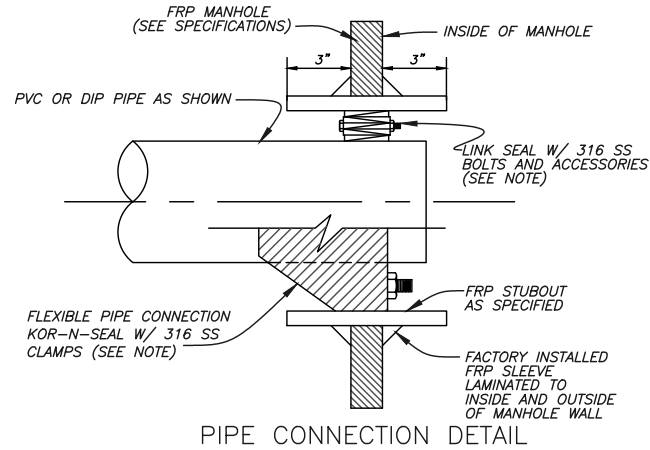
1. FIBERGLASS REINFORCED POLYESTER (FRP) MANHOLES SHALL CONFORM TO ASTM D-3753 LATEST EDITION.
2. THE MANHOLE BOTTOM SHALL BE INTEGRALLY JOINED TO THE BARREL SECTION AND SHALL BE A MINIMUM OF 1/2" THICK. TO ALLOW THE MANHOLE TO BE ANCHORED TO THE PRECAST BOTTOM SLAB, THE MANHOLE BOTTOM SHALL EXTEND 3 INCHES BEYOND THE OUTER EDGE OF THE BARREL.
3. FRP MANHOLES SHALL BE ANCHORED TO THE PRECAST CONCRETE BOTTOM SLAB WITH HILTI 316 STAINLESS STEEL KWIK BOLT II WEDGE ANCHORS OR APPROVED EQUAL. THE SIZE, NUMBER OF ANCHORS, EMBEDMENT DEPTH, ETC. SHALL BE AS INDICATED IN TABLE "A" AND SHALL BE BASED ON THE DEPTH OF THE MANHOLE. THE DEPTH OF THE MANHOLE SHALL BE MEASURED FROM THE RIM ELEVATION TO THE BOTTOM OF THE MANHOLE. THE ANCHORS SHALL BE INSTALLED A MINIMUM OF 1-1/2" FROM THE OUTER EDGE OF THE ANCHORING FLANGE AND SHALL BE EQUALLY SPACED AROUND THE CIRCUMFERENCE OF THE MANHOLE.
4. SEE SPECIFICATIONS FOR MATERIALS REQUIREMENTS AND PLACEMENTS AND COMPACTION OF PIPE AND STRUCTURE BEDDING.
5. ALL PIPE STUBS FROM MANHOLES FOR FUTURE CONNECTIONS OR OTHER CONTRACT DIVISIONS SHALL BE PROVIDED WITH WATERTIGHT PLUGS PLACED FROM WITHIN THE MANHOLE.

TECHNICAL DATA FOR HILTI 316 S.S. KWIK BOLT II

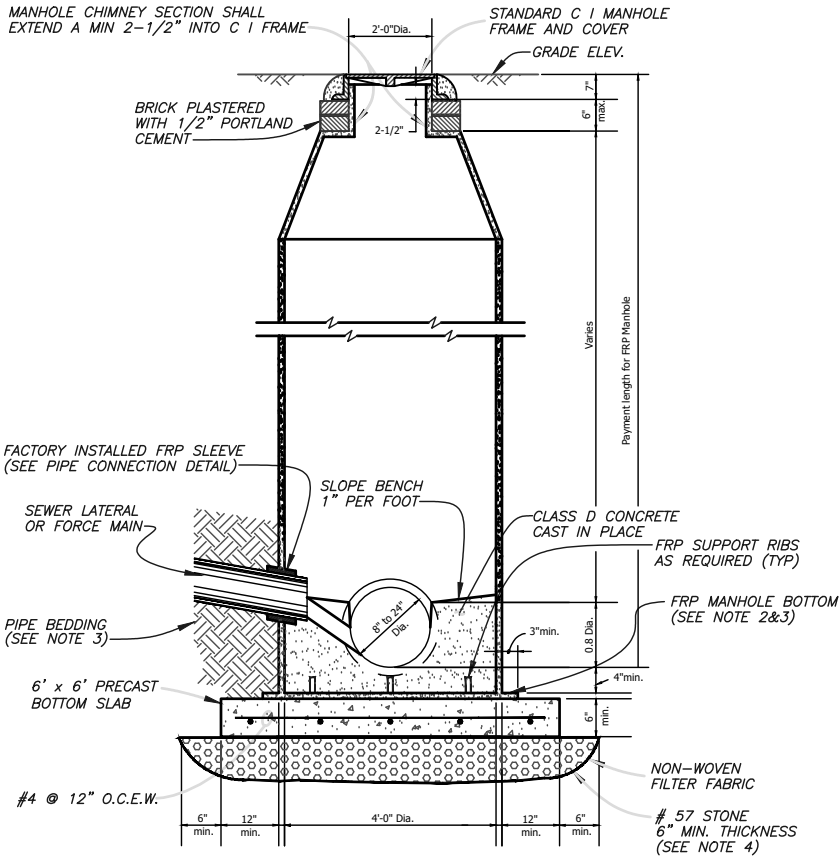
	ANCHOR BOLT SIZE		
	1/2"	5/8"	3/4"
MINIMUM PULL-OUT CAPACITY (LBS):	2130	2930	3870
MINIMUM EMBEDMENT DEPTH (IN):	3 1/2	4	4 3/4

* ABOVE DATA IS BASED ON 4000 PSI CONCRETE

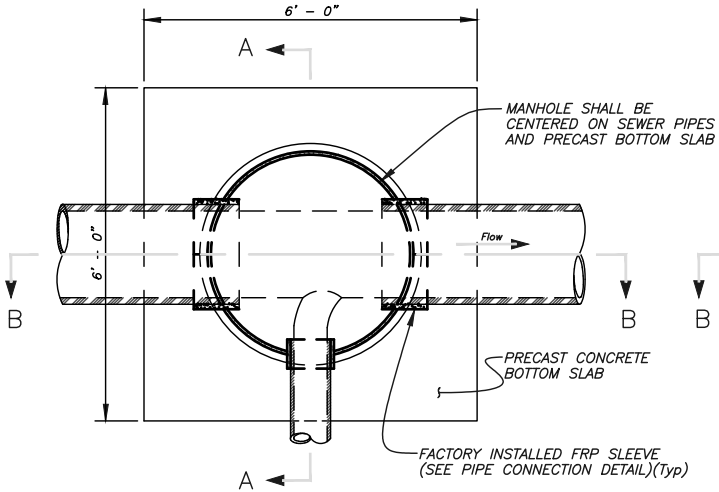
TABLE "A"		
MANHOLE DEPTH (FT)	ANCHOR SIZE (IN)	NUMBER OF ANCHORS
0 - 5	1/2	4
5 - 10	1/2	6
10 - 15	5/8	6
15 - 20	3/4	6
20 - 25	3/4	8



NOTE:
FORCE MAIN PIPE CONNECTIONS TO FRP MANHOLES SHALL BE MADE WITH "LINK SEAL."
GRAVITY SEWER PIPE CONNECTIONS SHALL BE MADE WITH "KOR-N-SEAL."

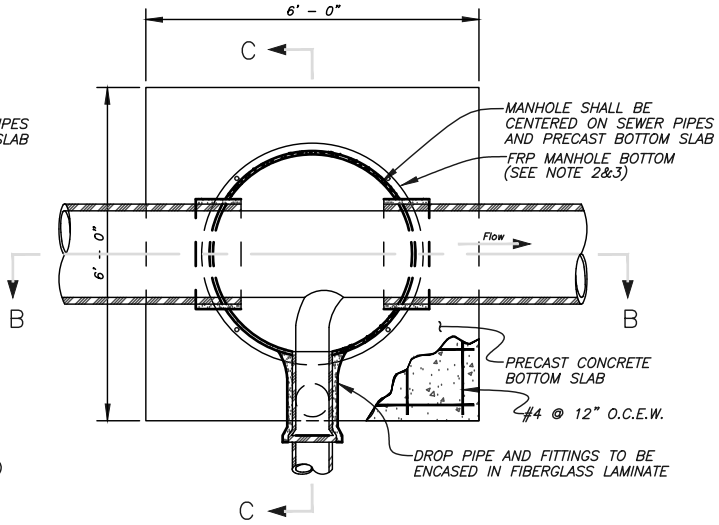


SECTION A-A



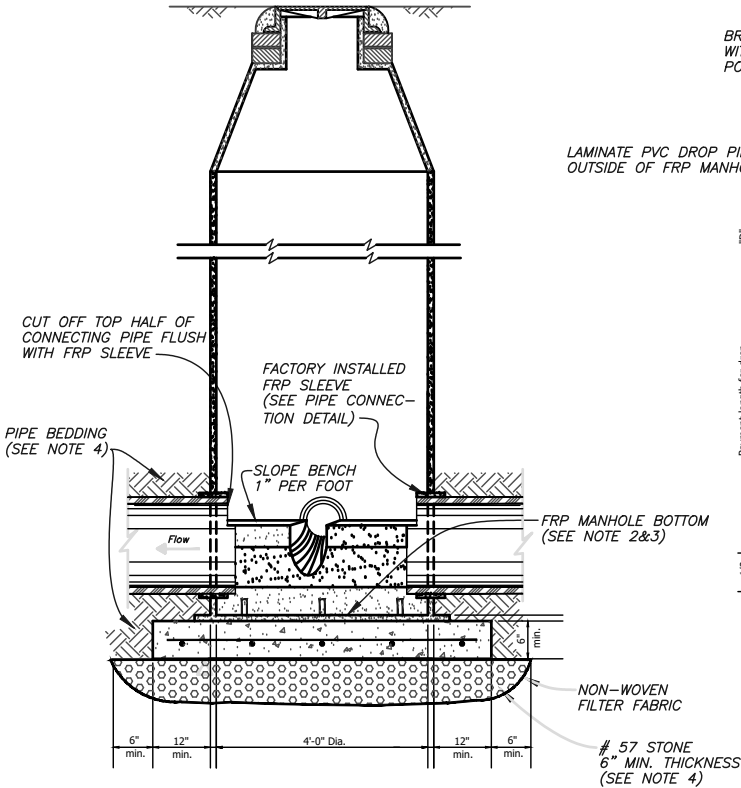
SECTIONAL PLAN

NOTE:
PRE-CAST BOTTOM SLAB AS SHOWN IN THESE DETAILS WILL NOT APPLY TO THIS PROJECT.

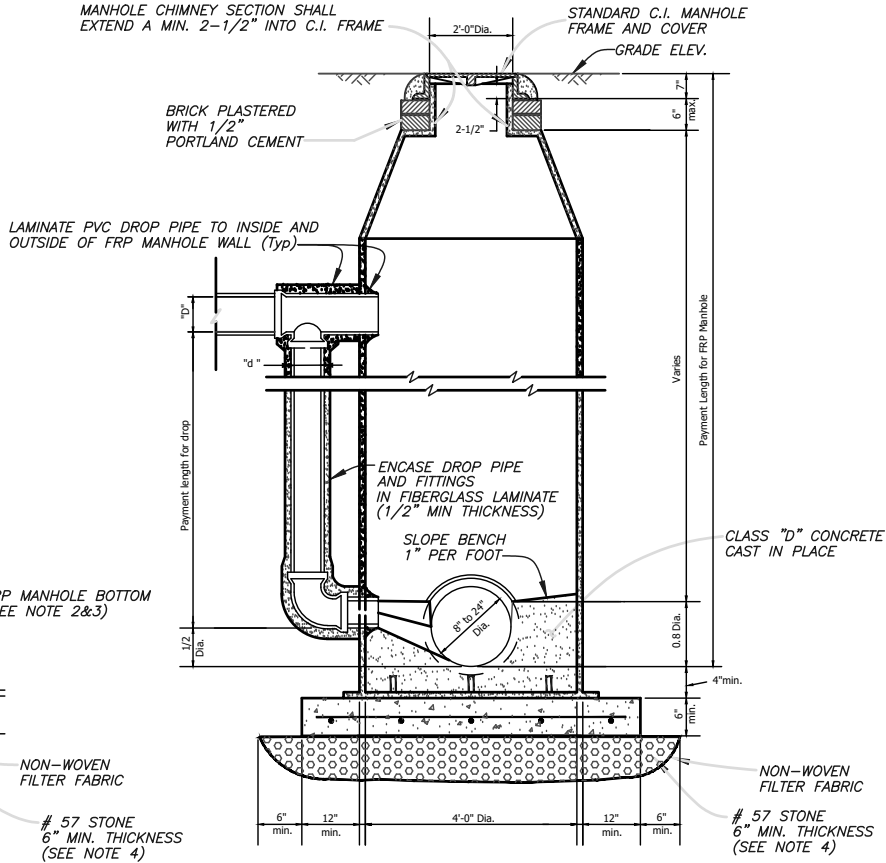


SECTIONAL PLAN
FRP DROP MANHOLE

SCHEDULE FOR DROP MANHOLE	
INLET PIPE DIAMETER "D"	DROP PIPE DIAMETER "d"
8"	8"
10"	8"
12"	10"
15"	12"
18"	15"
21"	18"
24"	18"
27"	18"



SECTION B-B



SECTION C-C

#	DATE	REVISIONS
1		
2		
3		

DES: MS
DRN: MRL
CKD:
DATE:

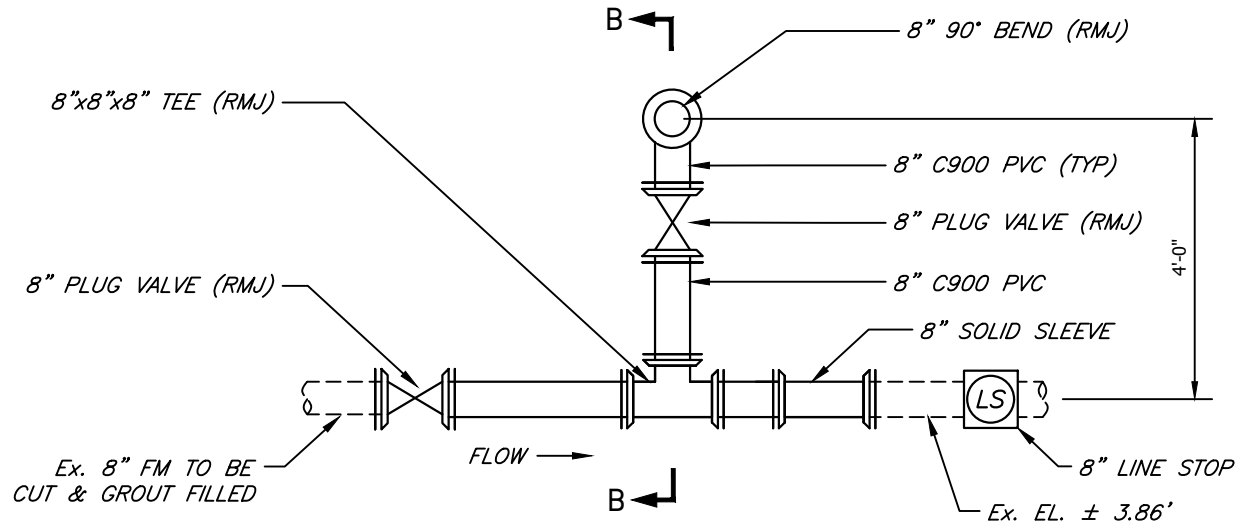
CITY of TAMPA
WASTEWATER DEPARTMENT

BALLAST POINT PUMPING STATION REHABILITATION

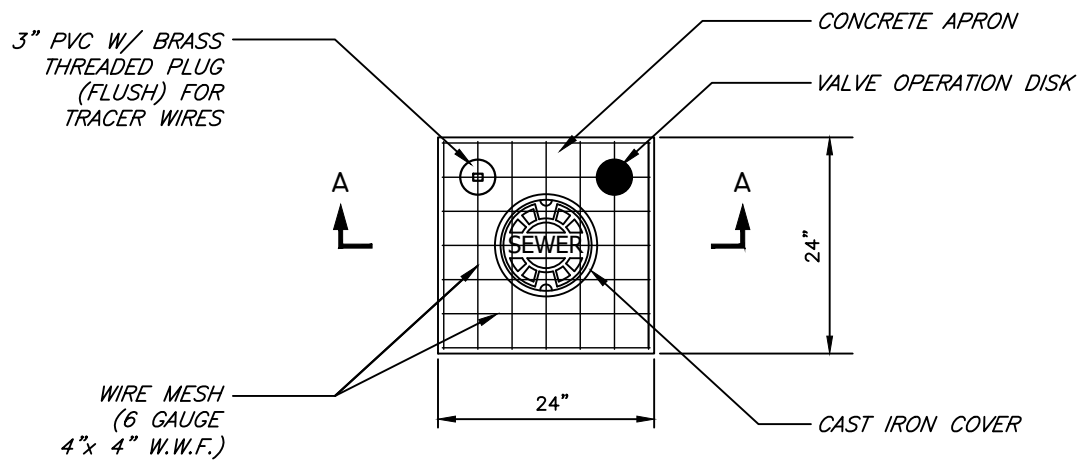
MISCELLANEOUS DETAILS

SHEET

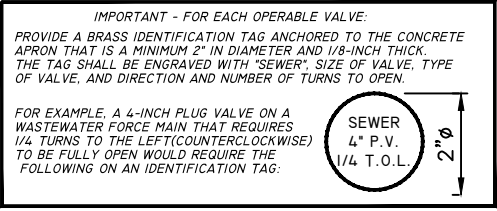
M.17



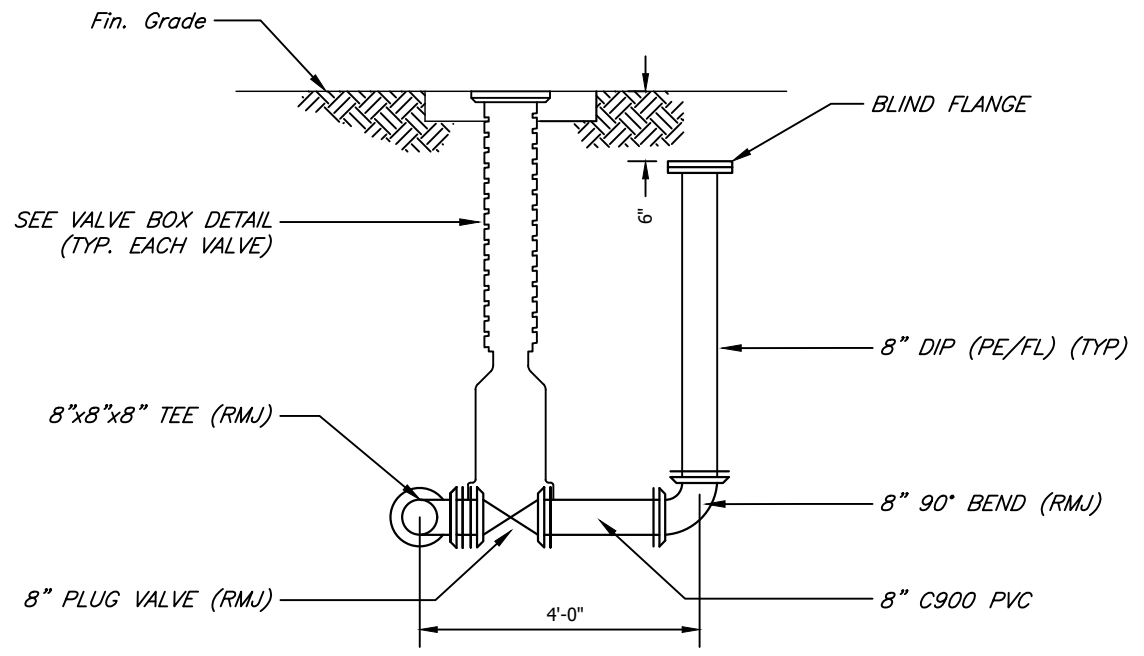
DETAIL A (PLAN VIEW)
SCALE: N.T.S.



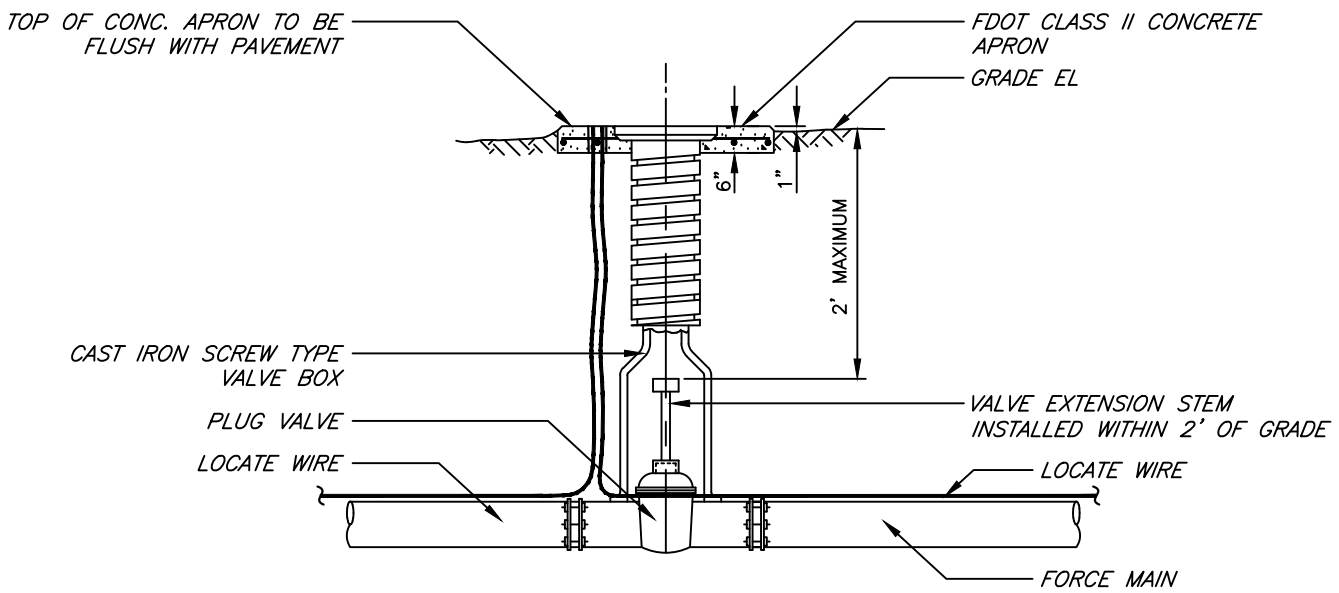
VALVE BOX DETAIL
SCALE: N.T.S.



VALVE OPERATION DISK
NOT TO SCALE



SECTION B-B
SCALE: N.T.S.

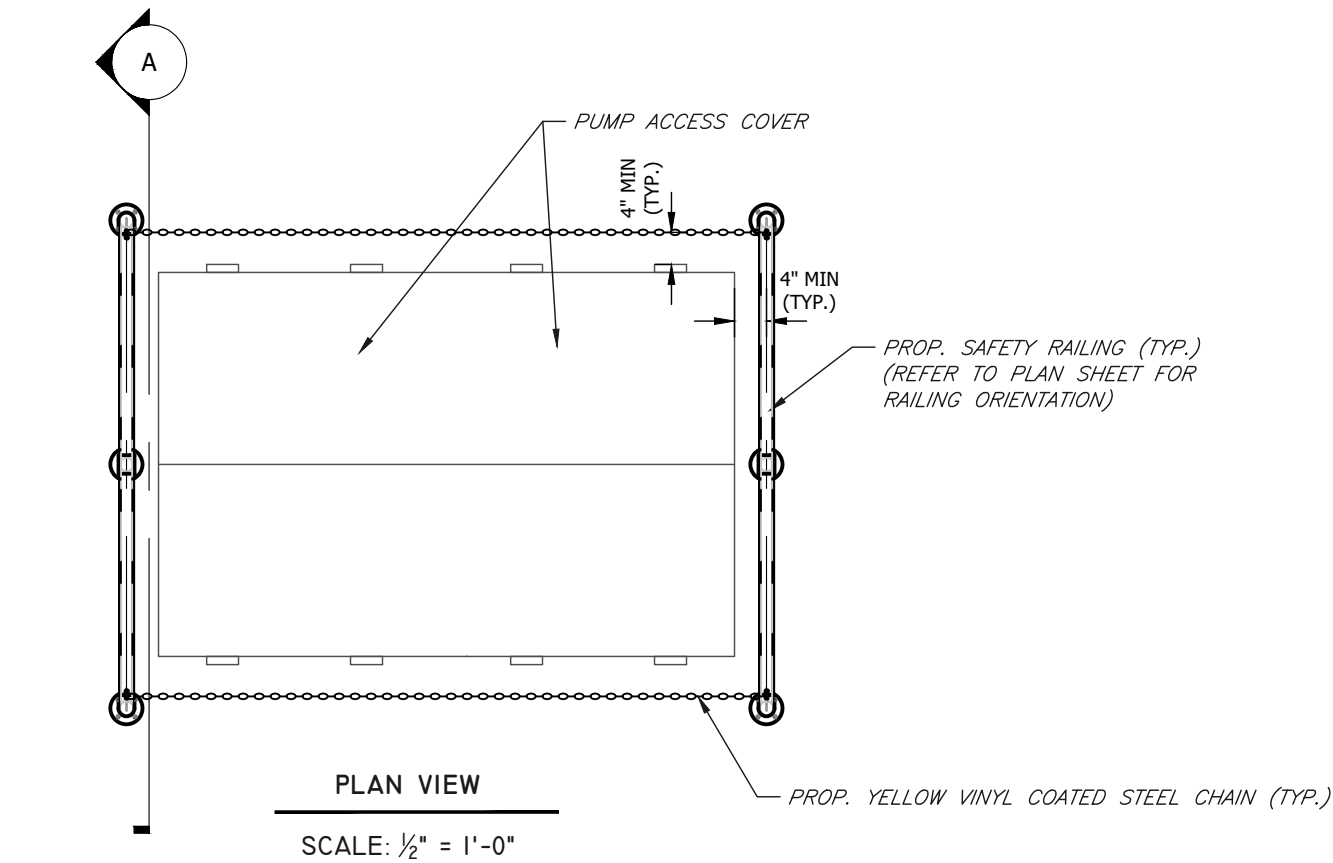


SECTION A-A
SCALE: N.T.S.

K:\WasteWater Projects\Ballast Point Pump Station Rehabilitation\Drafting\DWG\Ballast Pt prop sec.dwg, 8/2/2022 9:41:11 AM

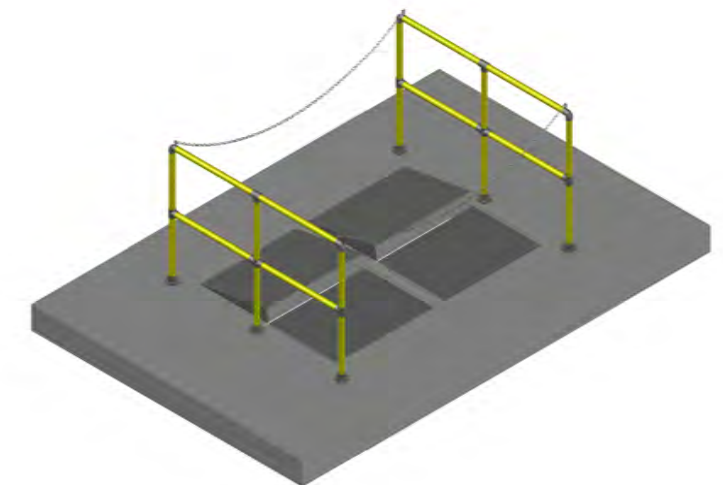
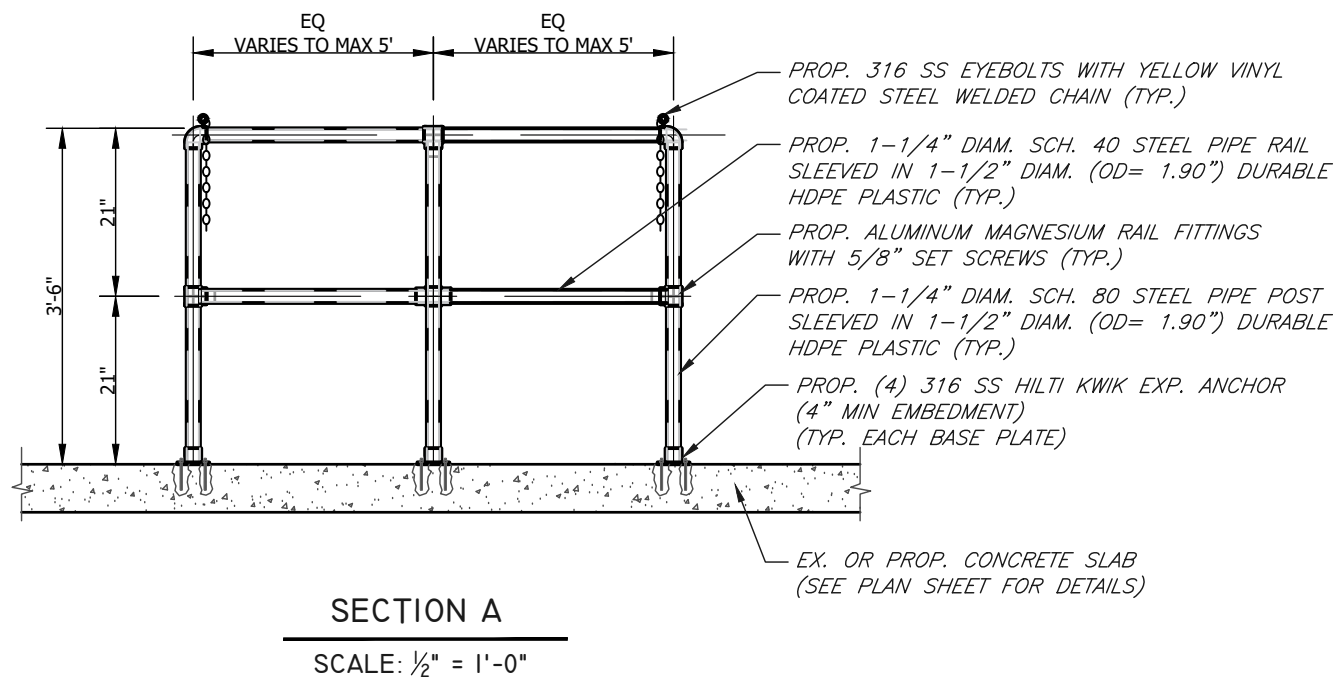
JACINTO CARLOS FERRAS, P.E. #49454 DESIGN DIVISION HEAD WASTEWATER DEPARTMENT	#	DATE	REVISIONS	DES: MS	CITY of TAMPA WASTEWATER DEPARTMENT	BALLAST POINT PUMPING STATION REHABILITATION BYPASS ASSEMBLY DETAILS	SHEET M.18
	1			DRN: MRL			
	2			CKD:			
	3			DATE:			

K:\WasteWater Projects\Ballast Point Pump Station Rehabilitation\Drafting\DWG\Safety Guard Rail Detail for Pump Stations.dwg, 8/2/2022 9:41:31 AM



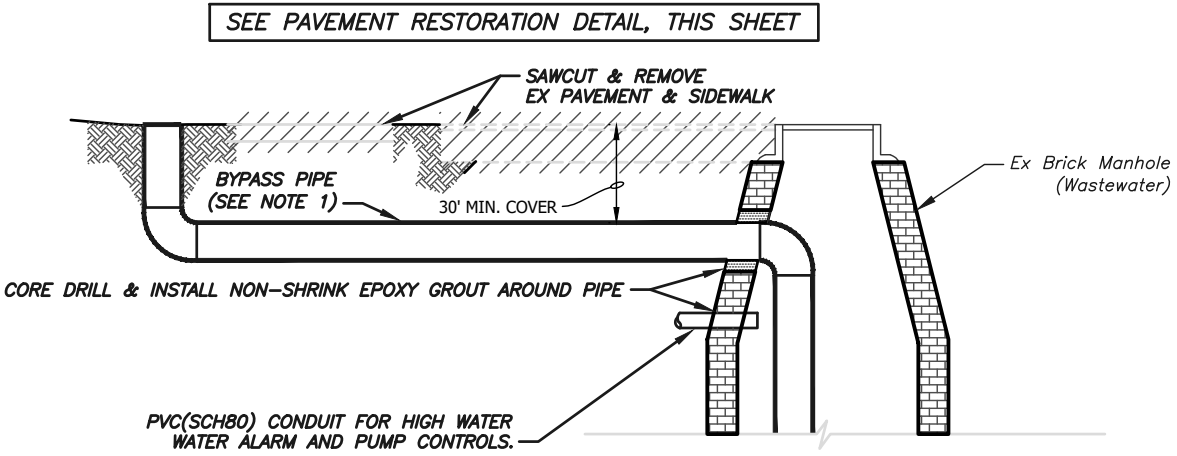
NOTES:

1. SAFETY RAILS AND PARTS SHALL BE STANDARD YELLOW, ULTRAVIOLET RESISTANT AND MANUFACTURED BY IDEAL SHIELD OR APPROVED EQUAL.
2. SAFETY CHAINS SHALL BE 1/4" DIAMETER WELDED YELLOW, ULTRAVIOLET RESISTANT, VINYL COATED STEEL WITH WORKING LOAD LIMIT OF 1,300 LBS WITH TWO 316 SS SPRING LOADED END SNAPHOOKS.



ISO VIEW
SCALE: N.T.S.

JACINTO CARLOS FERRAS, P.E. #49454 DESIGN DIVISION HEAD WASTEWATER DEPARTMENT	#	DATE	REVISIONS	DES: MS	CITY of TAMPA WASTEWATER DEPARTMENT	BALLAST POINT PUMPING STATION REHABILITATION SAFETY GUARD RAIL DETAIL	SHEET M.19
	1			DRN: MRL			
	2			CKD:			
	3			DATE:			

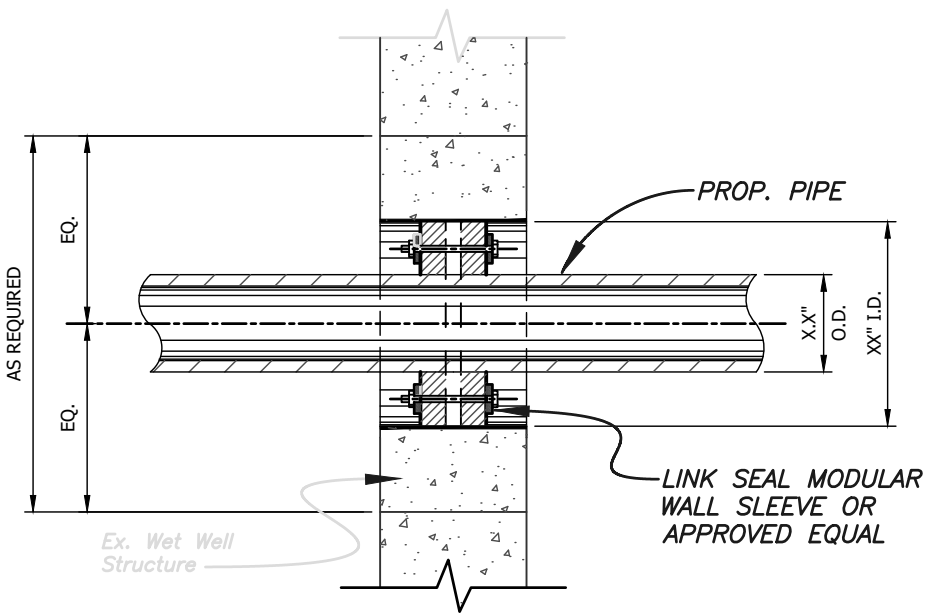


BURIED BYPASS PIPE DETAIL

NOT TO SCALE

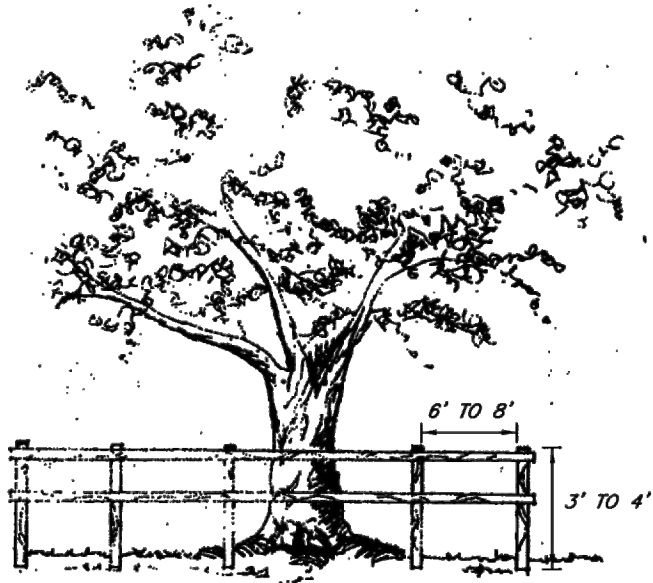
NOTES:

1. BYPASS PIPE AND FITTINGS UNDER THE ROADWAY AND INSIDE THE MANHOLE SHALL BE HDPE C-906, DR-11. ALL JOINTS SHALL BE BUTT-FUSED. ALTERNATE PIPE MATERIALS CAPABLE OF WITHSTANDING A H-20 LIVE LOAD MAY BE SUBMITTED FOR CONSIDERATION.
2. BYPASS PIPE SHALL BE EXTENDED TO THE MANHOLE BOTTOM AND SECURED TO THE MANHOLE. CONTRACTOR SHALL SUBMIT SHOP DRAWING ON PROPOSED INSTALLATION METHOD FOR APPROVAL.
3. UPON COMPLETION OF THE BYPASS OPERATION, CONTRACTOR SHALL COMPLETELY REMOVE BYPASS PIPE AND CONDUIT FROM INSIDE MANHOLE, AND CUT PIPE AT FACE OF WALL. PIPE UNDER ROADWAY SHALL REMAIN AND BE PLUGGED AT ENDS.
4. CONTRACTOR SHALL CALL SUNSHINE TO LOCATE UTILITIES IN EXCAVATION AREA.
5. EXISTING MANHOLE IN MELROSE AVE. IS A BRICK MANHOLE.



LINK SEAL DETAIL

NOT TO SCALE



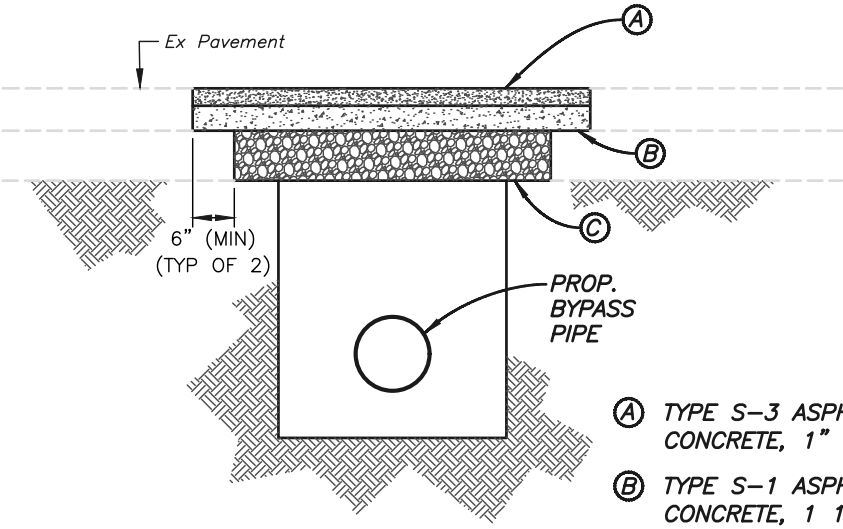
HORIZONTAL: WOOD MEMBER, ORANGE FENCING, CHAIN LINK FENCE OR OTHER APPROVED MATERIAL.

VERTICAL: WOOD MEMBER OR APPROVED MATERIAL.

BARRICADES PLACED AT DESIGNATED PROTECTIVE ROOT ZONE.

BARRICADE DETAIL FOR PROTECTED AND GRAND TREES DETAIL "J"

NTS



- A TYPE S-3 ASPHALTIC CONCRETE, 1" THICK
- B TYPE S-1 ASPHALTIC CONCRETE, 1 1/2" THICK
- C TYPE ABC-3 BASE, 6" THICK. OR CRUSHED CONCRETE BASE, 10" THICK

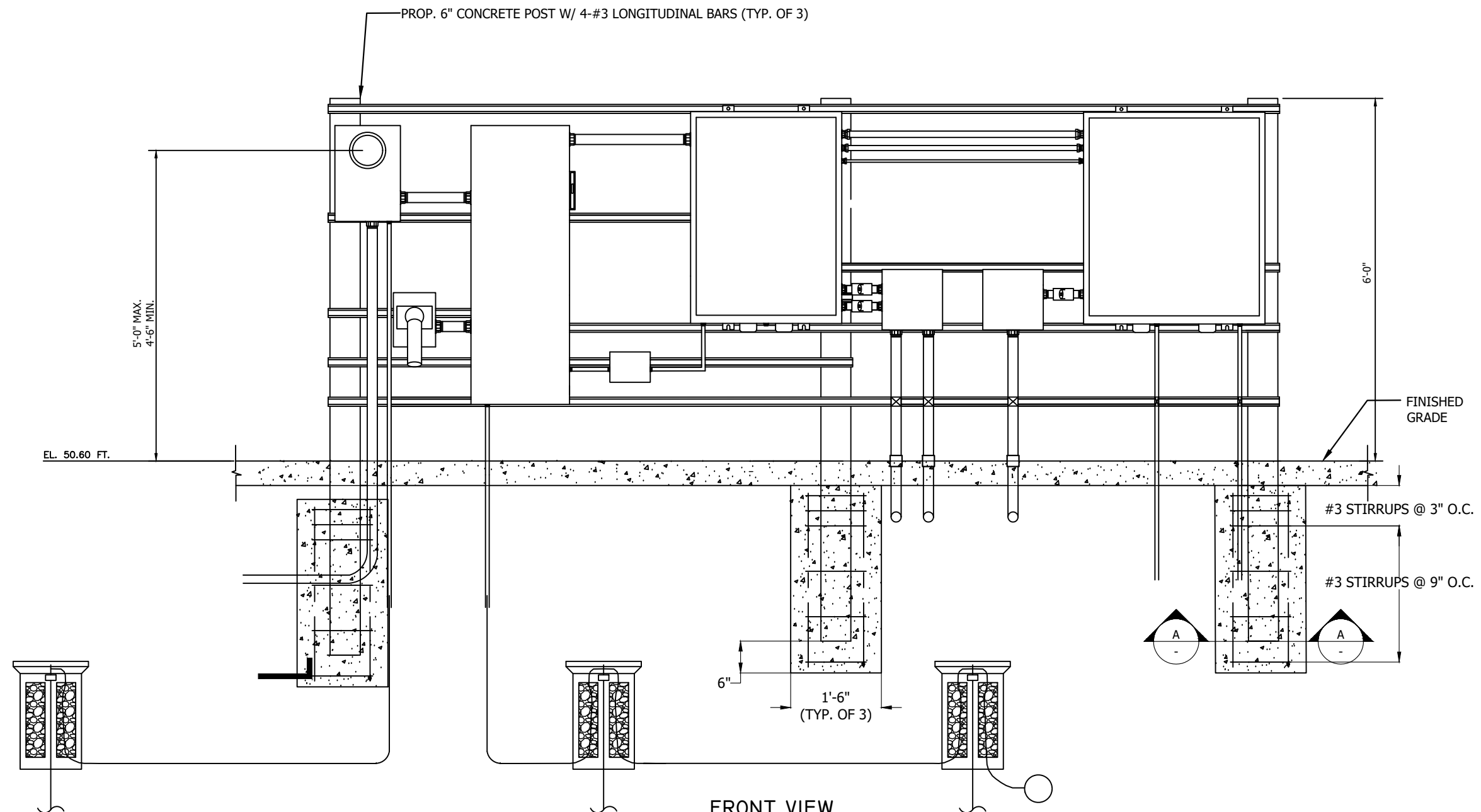
PAVEMENT RESTORATION DETAIL

NOT TO SCALE

K:\Water\Water Projects\Ballast Point Pump Station Rehabilitation\Drafting\DWG\Details.dwg, 8/2/2022 9:42:09 AM

JACINTO CARLOS FERRAS, P.E. #49454 DESIGN DIVISION HEAD WASTEWATER DEPARTMENT	#	DATE	REVISIONS	DES: MS	CITY of TAMPA WASTEWATER DEPARTMENT	BALLAST POINT PUMPING STATION REHABILITATION MISCELLANEOUS DETAILS	SHEET M.20
	1			DRN: MRL			
	2			CKD:			
	3			DATE:			

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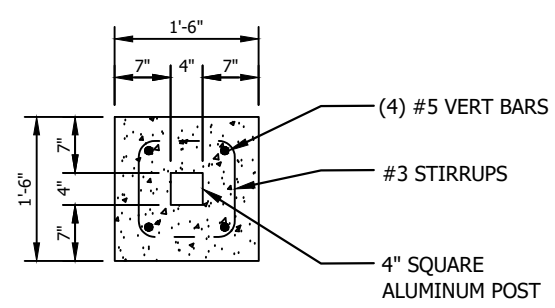


FRONT VIEW

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

STRUCTURAL GENERAL NOTES:

1. THE DETAILING, BENDING, AND PLACING OF REINFORCING STEEL SHALL BE IN ACCORDANCE WITH ACI STANDARD 318-14 CODE AND ACI DETAILING MANUAL, SP-66 (94). FIELD BENDING WILL NOT BE PERMITTED UNLESS APPROVED BY ENGINEER.
2. ALL REINFORCING STEEL SHALL BE NEW BILLET STEEL DEFORMED BARS CONFORMING TO ASTM A614, GRADE 60.
3. ALL CONCRETE SHALL HAVE A COMPRESSIVE STRENGTH OF 3,000 PSI @ 28 DAY UNLESS OTHERWISE NOTED.
4. ALL STIRRUPS AND TIES SHALL BE CLOSED TYPE WITH 135 DEGREE HOOKS, U.N.O.
5. CONCRETE COVER OVER REINFORCEMENT SHALL BE 2 INCHES MINIMUM, UNLESS NOTED OTHERWISE, AND 3-INCHES MINIMUM WHERE CAST AGAINST EARTH.
6. POST FOUNDATIONS WERE DESIGNED USING CONSTRAINED CRITERIA.



PROPOSED SECTION A-A

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

WIND DESIGN DATA:

CODE: FLORIDA BUILDING CODE 2017,
6TH EDITION AND ASCE/SEI 7-10

BASIC WIND SPEED (VULT): 152 MPH

NOMINAL WIND SPEED (VASD): 118 MPH

CATEGORY (RISK): III

WIND EXPOSURE: B

DESIGN AND WIND PRESSURE (PSF): 55.7

#	DATE	REVISIONS
1		
2		
3		

JACINTO CARLOS FERRAS, P.E. #49454
DESIGN DIVISION HEAD
WASTEWATER DEPARTMENT

DES: MS
DRN: MRL
CKD:
DATE:

CITY of TAMPA
WASTEWATER DEPARTMENT

BALLAST POINT PUMPING STATION REHABILITATION
ELECTRICAL CONTROL PANEL

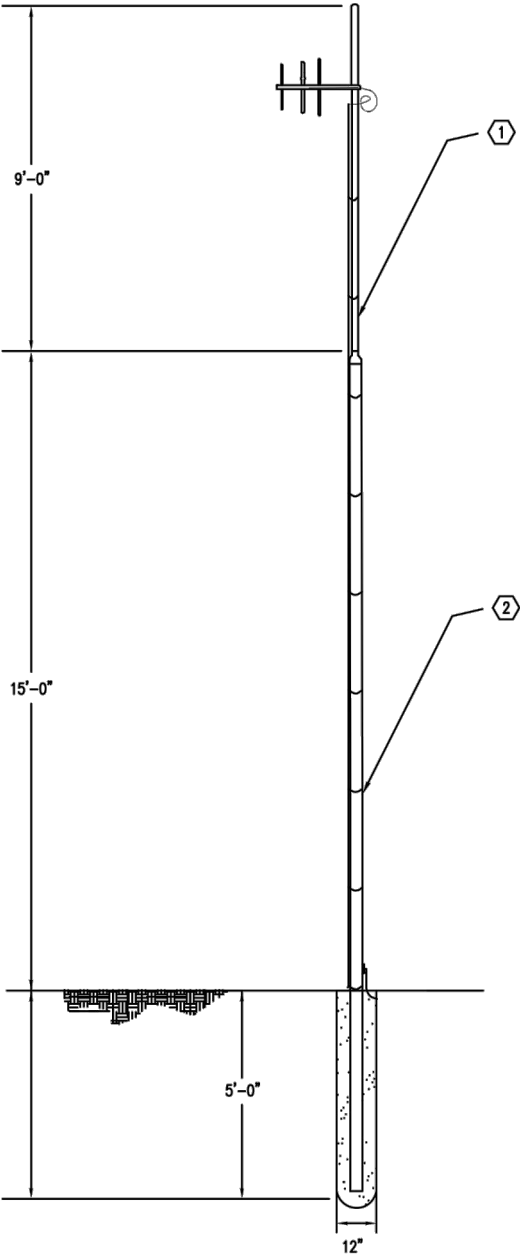
SHEET
M.21

K:\WasteWater Projects\Ballast Point Pump Station Rehabilitation\Drafting\DWG\Ballast Pt TOPSLAB.dwg, 8/2/2022 9:42:58 AM

WIND DESIGN DATA:
CODE: FLORIDA BUILDING CODE 2017, 6TH EDITION AND
ASCE/SEI 7-10

BASIC WIND SPEED(VULT) 152 MPH
NOMINAL WIND SPEED (Vasd) 118 MPH
CATEGORY (RISK) III
WIND EXPOSURE B

DESIGN WIND PRESSURE (PSF) 55.7 PSF



STRUCTURAL ANTENNA DETAIL
SCALE: N.T.S.

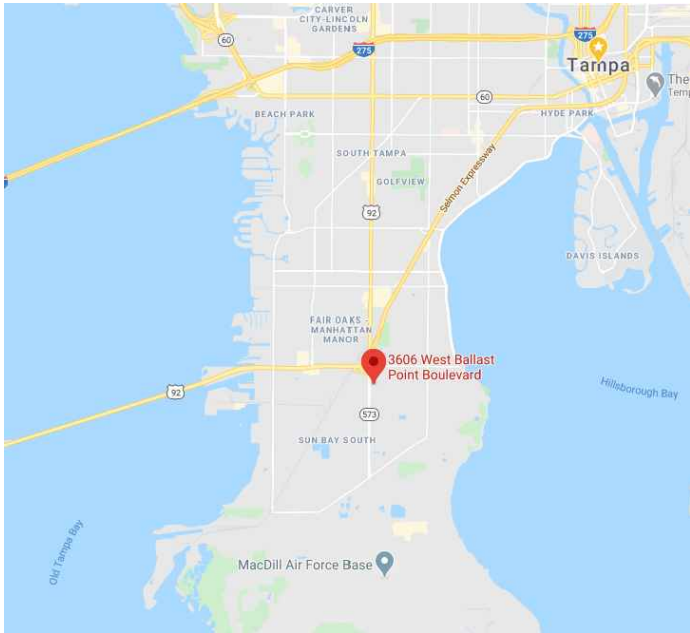
- NOTES
- (1) 1-1/4" GALVANIZED PIPE (SCH 40)
 - (2) 3" GALVANIZED PIPE (SCH 40)

JACINTO CARLOS FERRAS, P.E. #49454 DESIGN DIVISION HEAD WASTEWATER DEPARTMENT	#	DATE	REVISIONS	DES: MS	CITY of TAMPA WASTEWATER DEPARTMENT	BALLAST POINT PUMPING STATION REHABILITATION ANTENNA DETAIL	SHEET M.22
	1			DRN: MRL			
	2			CKD:			
	3			DATE:			

Modifications to Existing Wastewater Pumping Station Structure

Ballast Point Blvd. Pumping Station

3606 w. Ballast Point Blvd.
Tampa, FL 33611



1 SITE MAP
S0.0 NOT TO SCALE

STRUCTURAL DRAWING INDEX	
S0.0	COVER SHEET
S1.0	GENERAL GENERAL NOTES
S1.1	GENERAL GENERAL NOTES
S2.0	EXISTING FOUNDATION LEVEL AND DEMO PLAN
S2.1	MODIFIED FOUNDATION LEVEL PLAN
S2.2	EXISTING INTERMEDIATE LEVEL AND DEMO PLAN
S2.3	MODIFIED INTERMEDIATE LEVEL PLAN
S2.4	EXISTING ENTRANCE LEVEL AND DEMO PLAN
S2.5	MODIFIED ENTRANCE LEVEL PLAN
S2.6	NEW SLAB PLAN
S3.0	DEMOLITION SECTION
S3.1	BUILDING SECTION
S3.2	DEMOLITION SECTION
S3.3	BUILDING SECTION
S3.4	DEMOLITION SECTION
S3.5	BUILDING SECTION
S3.6	DEMOLITION SECTION AND BUILDING SECTION
S3.7	DEMOLITION SECTION
S3.8	BUILDING SECTION
S4.0	SECTIONS AND DETAILS
S4.1	SECTIONS AND DETAILS
S4.2	SECTIONS AND DETAILS
S4.3	SECTIONS AND DETAILS
S4.4	SECTIONS AND DETAILS
S4.5	SECTIONS AND DETAILS
S4.6	SECTIONS AND DETAILS
S4.7	SECTIONS AND DETAILS



2 LOCATION MAP
S0.0 NOT TO SCALE

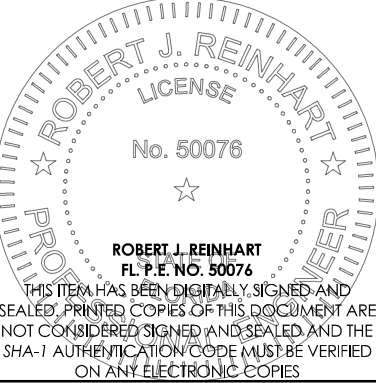
billerreinhardt
ENGINEERING GROUP INC.
3434 colwell avenue suite 100, tampa, florida 33614
telephone : 813.908.7203 fax : 813.931.5200
email : info@billerreinhardt.com
State of Florida Certificate of Authorization No. 9149

PROJECT NAME
MODIFICATIONS TO EXISTING WASTEWATER PUMPING STATION STRUCTURE

CLIENT
BALLAST POINT BLVD. PUMPING STATION
3606 W. BALLAST POINT BOULEVARD
TAMPA, FL 33611

NO.	DATE	COMMENTS

TO THE BEST OF THE ENGINEER'S KNOWLEDGE, THE PLANS AND SPECIFICATIONS COMPLY WITH THE APPLICABLE MINIMUM BUILDING CODES



DATE: 05-10-22 DRAWN BY: RC/RM
JOB NO: 20-001 DESIGN BY: RR

SHEET TITLE
COVER SHEET

SHEET NO.
S0.0

GENERAL STRUCTURAL NOTES

SCOPE OF WORK

1. WORK DETAILED ON THE DRAWINGS AND APPLICABLE ITEMS DESCRIBED IN THE GENERAL STRUCTURAL NOTES.

DRAWINGS AND SPECIFICATIONS

1. DO NOT SCALE DRAWINGS FOR DIMENSIONS NOT GIVEN.
2. ADVISE ENGINEER OF DIMENSIONAL DISCREPANCIES.
3. VERIFY ALL EXISTING FIELD CONDITIONS AND DIMENSIONS PRIOR TO COMMENCING CONSTRUCTION.
4. THE CONTRACTOR SHALL PERFORM NO PORTION OF THE WORK AT ANY TIME WITHOUT CONTRACT DOCUMENTS OR, WHERE REQUIRED, APPROVED SHOP DRAWINGS, PRODUCT DATA OR SAMPLES FOR SUCH PORTION OF THE WORK.

CONSTRUCTION SAFETY

1. THESE DRAWINGS DO NOT INCLUDE PROVISIONS TO SATISFY SAFETY REQUIREMENTS. CONTRACTOR IS SOLELY RESPONSIBLE FOR ENSURING SAFETY DURING CONSTRUCTION AND FOR CONFORMANCE TO ALL APPLICABLE OSHA STANDARDS AND OTHER APPLICABLE CODES. JOBSITE VISITS BY ENGINEER SHALL NOT CONSTITUTE APPROVAL, AWARENESS OR LIABILITY FOR ANY HAZARDOUS CONDITIONS.

SHORING AND SUPPORT

1. WHEN REMOVAL OF STRUCTURAL ELEMENTS FOR MODIFICATIONS MAY CAUSE TEMPORARY WEAKNESS, EXCESSIVE DEFLECTIONS OR STRUCTURAL INSTABILITY, SHORING OR OTHER SUITABLE SUPPORTS SHALL BE PROVIDED UNTIL COMPLETION AND ADEQUATE CURING OF MODIFICATIONS.
2. THE CONTRACTOR SHALL SUBMIT CUT SHEETS WITH CERTIFIED CAPACITIES FOR SHORING TO BE USED. SHORING PLANS SHALL BE PREPARED, SIGNED AND SEALED BY AN ENGINEER REGISTERED IN THE STATE OF FLORIDA.

VALUE ENGINEERING

1. ANY CHANGES TO THE STRUCTURE OR DESIGN SHALL HAVE BEEN REVIEWED AND APPROVED IN WRITING BY THE ENGINEER PRIOR TO COMMENCING WORK ON ITEMS AFFECTED.

FIELD MODIFICATIONS

1. ANY CHANGES TO THE STRUCTURE SHALL HAVE BEEN REVIEWED AND APPROVED IN WRITING BY THE ENGINEER PRIOR TO COMMENCING WORK ON ITEMS AFFECTED.
2. ANY CHANGES MADE WITHOUT PRIOR APPROVAL ARE SUBJECT TO REVIEW BY THE ENGINEER. CONTRACTOR SHALL PROVIDE SKETCHES, PHOTOGRAPHS AND WRITTEN DESCRIPTION OF EACH DEVIATION FROM THE PLANS FOR THE ENGINEER'S REVIEW.

BUILDING CODES AND SPECIFICATIONS

1. FLORIDA BUILDING CODE 7TH EDITION (2020) AND CHAPTER 5 OF THE CITY OF TAMPA CODE.
2. MINIMUM DESIGN LOADS FOR BUILDINGS AND OTHER STRUCTURES ASCE 7-16.
3. BUILDING CODE REQUIREMENTS FOR MASONRY STRUCTURES ACI 530-13 / ASCE 5-13 / TMS 402-16.
4. BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE ACI 318-14.
5. AISC MANUAL OF STEEL CONSTRUCTION, 15TH EDITION.
6. AWS STRUCTURAL WELDING CODE D1.1-2020.
7. CHAPTER 5 OF THE CITY OF TAMPA CODE.
8. CODE REQUIREMENTS FOR ENVIRONMENTAL ENGINEERING CONCRETE STRUCTURES ACI 350-20.

DESIGN LOADS

1. DEAD LOADS
A. TABLE C3-1: MINIMUM DESIGN LOADS, ASCE 7-16
B. SOIL.....150 PCF
C. GROUND WATER..... 63 PCF
D. FLOWABLE FILL..... ≤145 PCF
2. LIVE LOADS
A. STAIRS AND EXIT WAYS.....100 PSF
B. ELEVATED SLAB.....300 PSF
C. SURCHARGE.....100 PSF
3. WIND LOAD
A. DESIGN WIND SPEED, VULT155 MPH (3 SECOND GUST)
B. EXPOSURE CATEGORYC
C. RISK CATEGORY..... IV
D. ENCLOSED BUILDING
4. SNOW LOAD
A. GROUND SNOW LOAD, P_g.....0 < P_g < 10 PSF

FOUNDATIONS - REFER TO SPECIFICATION 03300

1. AT-GRADE SLABS OR SHALLOW FOUNDATIONS SHALL BE CONSTRUCTED OVER AT LEAST 12 INCHES OF COMPACTED EXISTING SOIL COMPACTED TO AT LEAST 98% OF MODIFIED PROCTOR MAXIMUM DRY DENSITY.
2. NOTIFY ENGINEER IF FOOTING EXCAVATION REVEALS UNSUITABLE OR UNSTABLE SOILS OR MATERIALS OR CONDITIONS NOT PREVIOUSLY ANTICIPATED.
3. CONTRACTOR SHALL CONSIDER THE POSSIBLE IMPACT OF GROUNDWATER ON CONSTRUCTION TECHNIQUES, SEASONAL VARIATIONS, ANY OTHER SITE INDICATORS AND HIS OWN JUDGMENT.
4. SOIL DIRECTLY BELOW FOUNDATIONS AND SLAB ON GRADE SHALL BE COMPACTED TO 98% OF THE ASTM D 1557 (MODIFIED PROCTOR) MAXIMUM DRY DENSITY.
5. PREPARE SITE AND SOILS IN ACCORDANCE WITH REPORT OF GEOTECHNICAL ENGINEERING SERVICES PREPARED BY AREHNA PROJECT NO. B-22-024 DATED APRIL 06, 2022.

PORTLAND CEMENT CONCRETE - REFER TO SPECIFICATION 03300

1. CONCRETE PROPERTIES
A. FOUNDATIONS, WALLS, BEAMS, COLUMNS AND ELEVATED SLABS 4000 PSI, 3" TO 5" SLUMP
B. FILLED CELLS IN CMU 3000 PSI, 8" TO 11" SLUMP, 3/8" PEA GRAVEL
C. SLABS ON GRADE 4000 PSI, 3" TO 5" SLUMP
2. FLY ASH SHALL NOT EXCEED 20 PERCENT BY WEIGHT OF TOTAL CEMENT, IF USED.
3. CONTRACTOR SHALL STRICTLY ADHERE TO SLUMP LIMITS. SUPERPLASTICIZER MAY BE USED AT THE CONTRACTORS OPTION TO INCREASE WORKABILITY.
4. MAXIMUM MIXING TIME (FROM BATCHING TO PLACEMENT)
A. AIR TEMPERATURE LESS THAN 85° F: 90 MINUTES
B. AIR TEMPERATURE 85° F TO 90° F: 75 MINUTES
C. AIR TEMPERATURE OVER 90° F: 60 MINUTES
5. MINIMUM COVER FOR REINFORCEMENT
A. FOOTINGS, 3 INCHES TO BOTTOM AND UNFORMED SIDES, 2 INCHES TO FORMED SIDES
B. OTHER, 2 INCHES TO MAIN REINFORCING, 1 ½" INCHES TO TIES AND STIRRUPS.
6. ALL REINFORCEMENT SHALL BE SECURELY HELD IN PLACE BY STANDARD ACCESSORIES DURING CONCRETE PLACEMENT.
7. REINFORCEMENT SHALL BE GRADE 60 CONFORMING TO ASTM A615.
8. WELDED WIRE FABRIC SHALL CONFORM TO ASTM A185.
9. DETAIL AND FABRICATE REINFORCEMENT IN ACCORDANCE WITH "MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES," ACI 315.
10. PROVIDE MINIMUM LAP SPLICES PER ACI 318-08 FOR ALL REINFORCING BARS, UNLESS OTHERWISE NOTED. STAGGER SPLICES IN ADJACENT BARS AT LEAST 24 INCHES, EXCEPT IN BEAMS AND COLUMNS.
11. IN WALL FOOTINGS, GRADE BEAMS AND BOND BEAMS, PROVIDE BENT BARS AT CORNERS AND INTERSECTIONS OF THE SAME NUMBER AND SIZE AS STRAIGHT BARS.
12. APPLY CURING COMPOUND TO SLAB WITHIN TWO HOURS OF COMPLETION OF FINISHING OPERATIONS. USE LIQUID MEMBRANE FORMING COMPOUND COMPLYING WITH ASTM C309 TYPE 1 CLASS A. APPLY IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.

CONCRETE SLAB ON GRADE - REFER TO SPECIFICATION 03300

1. THE INTENDED USE OF THE SLAB ON GRADE IS FOR LIGHT INDUSTRIAL TRAFFIC ONLY.
2. MINIMUM COMPRESSIVE STRENGTH AT 28 DAYS: 4000 PSI
3. MINIMUM THICKNESS: 6 INCHES
4. MAXIMUM SLUMP AT POINT OF DELIVERY: 5 INCHES
5. MAXIMUM AGGREGATE SIZE: 1 INCH
6. ENTRAINED AIR CONTENT: 4.5%
7. WELDED WIRE FABRIC SHALL BE WWF 6X6-W2.9xW2.9, UNLESS OTHERWISE NOTED, CONFORMING TO ASTM A 185.
8. THE WELDED WIRE FABRIC SHALL BE PLACED IN THE CENTER OF THE DEPTH OF SLAB ON GRADE UNLESS OTHERWISE NOTED. ALL MESH JOINTS SHALL BE LAPPED TWO FULL MESHES.
9. INTERRUPT TYPICAL SLAB REINFORCEMENT AT ALL CONSTRUCTION AND EXPANSION JOINTS.
10. CUT ALTERNATE WIRES ALONG THE LINE OF SAW CUT CONTROL JOINTS PRIOR TO PLACING CONCRETE. MAKE SAW CUTS WITHIN 12 HOURS OF CONCRETE PLACEMENT, OR AS SOON AS CUTTING CAN BE DONE SUCH THAT THE SAW BLADE DOES NOT DISLodge AGGREGATE AND THE EDGES OF THE CUT DO NOT RAVEL.
11. PROVIDE ½" PREFORMED EXPANSION JOINT MATERIAL WHERE SLAB ABUTS VERTICAL SURFACES SUCH AS WALLS AND COLUMNS.
12. PROVIDE TERMITE PROTECTION TO SOIL PER FLORIDA BUILDING CODE 2010 BEFORE SLAB PLACEMENT.
13. PROVIDE VAPOR RETARDER UNDER ALL SLABS ON GRADE IN ENCLOSED SPACE.
14. APPLY CURING COMPOUND TO SLAB WITHIN TWO HOURS OF COMPLETION OF FINISHING OPERATIONS. USE LIQUID MEMBRANE FORMING COMPOUND COMPLYING WITH ASTM C 309 TYPE 1 CLASS A. THE COMPOUND SHALL BE APPLIED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS.
15. THE CONTRACTOR SHALL CONFIRM THAT THE CURING COMPOUND WILL NOT INTERFERE WITH THE BONDING OF ANY APPLIED FLOOR SURFACE. IF THE CURING COMPOUND IS FOUND TO INTERFERE WITH BONDING, THE USE OF WET BURLAP AND TRICKLE HOSES IS ACCEPTABLE.
16. FOR LARGE SLABS, IT IS RECOMMENDED THAT THE SLAB BE CAST IN ALTERNATING LONG STRIPS AND SAW CUT TRANSVERSELY TO MINIMIZE SHRINKAGE CRACKING.



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PROJECT NAME

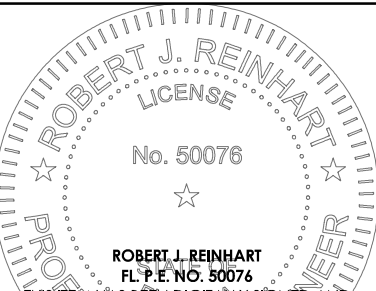
MODIFICATIONS TO
EXISTING
WASTEWATER
PUMPING STATION
STRUCTURE

CLIENT

BALLAST POINT
BLVD.
PUMPING STATION
3606 W. BALLAST POINT
BOULEVARD
TAMPA, FL 33611

NO.	DATE	COMMENTS

TO THE BEST OF THE ENGINEER'S KNOWLEDGE,
THE PLANS AND SPECIFICATIONS COMPLY WITH
THE APPLICABLE MINIMUM BUILDING CODES



THIS ITEM HAS BEEN DIGITALLY SIGNED AND
SEALED. PRINTED COPIES OF THIS DOCUMENT ARE
NOT CONSIDERED SIGNED AND SEALED AND THE
SHA-1 AUTHENTICATION CODE MUST BE VERIFIED
ON ANY ELECTRONIC COPIES

DATE: 05–10–22 DRAWN BY: RC/RM

JOB NO: 20–001 DESIGN BY: RR

SHEET TITLE

GENERAL
STRUCTURAL NOTES

SHEET NO.

S1.0

FLOWABLE FILL

1. LOW DENSITY CELLULAR CONCRETE SPECIFICALLY DESIGNED FOR FOR FILLING
ABANDONED PIPES AND STRUCTURES.
2. THE 28-DAY COMPRESSIVE STRENGTH OF THE FLOWABLE FILL SHALL BE MINIMUM OF 40 PSI
AND A MAXIMUM OF 100 PSI.
3. RANGE OF CAST DENSITY, 24 TO 30 PCF.
4. THE FLOWBALE FILL IS A CONTROLLED LOW-STRENGTH MATERIAL (CLSM) AND SHALL MEET
THE REQUIREMENTS OF ACI 229R (LATEST EDITION).
5. FLOW CONSISTENCY PER ASTM D6107 GREATER THAN 7 INCHES.

LIST OF ABBREVIATIONS

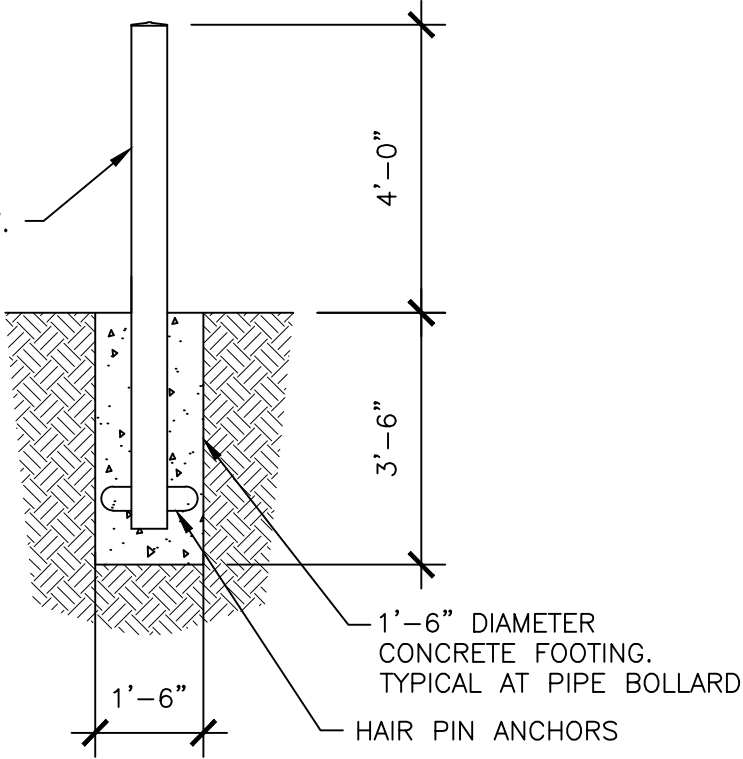
@	AT	(L)	LONG
ABUT.	ABUTMENT	LAT.	LATERAL
A.F.F.	ABOVE FINISH FLOOR	L.H.	LEFT HAND
AB.	ANCHOR BOLT	L.G.	LIGHT GAUGE
ARCH.	ARCHITECTURAL/	L.W.	LONG WAY
	ARCHITECT'S(DRAWINGS)	LIN. FT.	LINEAR FOOT
L.	ANGLE	LLO	LONG LEG OUT
L'S	ANGLES	LLV	LONG LEG VERTICAL
B.	BOTTOM	LONG.	LONGITUDINAL
B/	BOTTOM OF	MAT'L.	MATERIAL
B.B.	BOTTOM BAR	MAX.	MAXIMUM
B.J.	BAR JOIST	MECH.	MECHANICAL
BCK.	BACK	MIN.	MINIMUM
B	BASELINE	MSL	MEAN SEA LEVEL
BRIDG.	BRIDGING	MPH	MILES PER HOUR
BRNG.	BEARING	NO.	NUMBER
BOT.	BOTTOM	N.S.	NON-SHRINK
BLDG.	BUILDING	O.C.	ON CENTER
C	CENTERLINE	O.C.E.W.	ON CENTER EACH WAY
C. TO C.	CENTER TO CENTER	OPNG.	OPENING
C.I.P.	CAST IN PLACE	O.H.	OPPOSITE HAND
CLR.	CLEAR	O.D.	OUTSIDE DIAMETER
C.M.U.	CONCRETE MASONRY UNIT	O.F.P.	OUTSIDE FACE OF PANEL
COL.	COLUMN	PAV'T.	PAVEMENT
CONC.	CONCRETE	R	PLATE
CONT.	CONTINUOUS	PT.	POINT
CONST.	CONSTRUCTION	P.T.	PRESSURE TREATED
C.J.	CONSTRUCTION JOINT	PSF	POUND PER SQUARE FOOT
CU. FT.	CUBIC FOOT	PSI	POUNDS PER SQUARE INCH
CU. IN.	CUBIC INCH	P.G.	PROFILE GRADE
CU. YD.	CUBIC YARD	PROP.	PROPOSED
DET.	DETAIL	RAD.	RADIUS
DIA.	DIAMETER	REINF.	REINFORCING
Ø	DIAMETER STRUC. STL.	REQ.	REQUIRE
DWG.	DRAWING	REQ'D.	REQUIRED
DWGS.	DRAWINGS	REQMTS.	REQUIREMENTS
EA.	EACH	R.H.	RIGHT HAND
EL.	ELEVATION	(S)	SHORT
ELEV.	ELEVATION	SECT	SECTION
EQ.	EQUALLY/EQUAL	SIM.	SIMILAR
E.W.	EACH WAY	SPL.	SPLICE
EXP.	EXPANSION	SP.	SPACE OR SPACING
EXIST.	EXISTING	S.F.	SQUARE FOOT
EXT.	EXTERIOR	S.W.	SHORT WAY
F.B.	FIELD BEND	S.Y.	SQUARE YARD
FIN. FLR.	FINISH FLOOR	STD.	STANDARD
F.F.	FINISH FLOOR	STA.	STATION
FLR.	FLOOR	STL.	STEEL
FLNG.	FLANGE	STFNR.	STIFFENER
FT.	FOOT	STRUC.	STRUCTURAL
FTG.	FOOTING	SYMM.	SYMMETRICAL
FND.	FOUNDATION	T.	TOP
FRMG.	FRAMING	T/	TOP OF
GALV.	GALVANIZED	T.B.	TOP BAR
GA.	GAGE	T & B	TOP AND BOTTOM
G/B	GIRDER BEARING	T/J	TOP OF BAR JOIST
H.S.	HIGH STRENGTH	T/P	TOP OF PANEL
HK.	HOOK	TRANS.	TRANSVERSELY/TRANSVERSE
HORIZ.	HORIZONTAL	T/W	TOP OF WALL
H.S.A.	HEADED STUD ANCHOR	TYP.	TYPICAL
IN.	INCH	U.N.O.	UNLESS NOTED OTHERWISE
I.D.	INSIDE DIAMETER	V.I.F.	VERIFY IN FIELD
INT.	INTERIOR	WT.	WEIGHT
ISO.	ISOLATION	WWR	WELDED WIRE REINFORCING
J/B	JOIST BEARING	W.F.	WIDE FLANGE
JT.	JOINT	W/	WITH
KIP.	KILOPOUNDS (KIPS.)	W.P.	WORK POINT
K.O.	KNOCK-OUT	YD.	YARD

ACI TENSION LAP SPLICE LENGTHS (LAP CALSS B)							
BAR SIZE	db BAR DIAMETER (in.)	f'c = 3,000 psi		f'c = 4,000 psi		f'c = 5,000 psi	
		TOP BARS	OTHER BARS	TOP BARS	OTHER BARS	TOP BARS	OTHER BARS
#3	0.375	28	22	24	19	22	17
#4	0.5	37	29	32	25	29	22
#5	0.625	47	36	40	31	36	28
#6	0.75	56	43	48	37	43	33
#7	0.875	81	63	70	54	63	49
#8	1	93	72	80	62	72	55
#9	1.128	105	81	91	70	81	63
#10	1.27	118	91	102	79	91	70
#11	1.41	131	101	113	87	101	78
REQUIREMENTS:		MINIMUM COVER OF db IS PROVIDED ALONG WITH MINIMUM CLEAR SPACING OF 2db					
		OR MINIMUM CLEAR OF db AND A MINIMUM CLEAR SPACE OF db ARE PROVIDED ALONG WITH MINIMUM TIES OR STIRUPS					

ACI HOOK DEVELOPMENT LENGTHS				
BAR SIZE	db BAR DIAMETER (in.)	f'c = 3,000 psi	f'c = 4,000 psi	f'c = 5,000 psi
#3	0.375	9	7	7
#4	0.5	11	10	9
#5	0.625	14	12	11
#6	0.75	17	15	13
#7	0.875	19	17	15
#8	1	22	19	17
#9	1.128	25	22	19
#10	1.27	28	24	22
#11	1.41	31	27	24
#14	1.693	37	32	29
#18	2.257	50	43	39

REINFORCING MINIMUM DEVELOPMENT

6" OD. HOT-DIP GALV. STEEL PIPE BOLLARD, FILLED WITH CONCRETE, ROUND AT TOP. PAINT BOLLARD SAFETY YELLOW.



1 BOLLARD DETAIL
S1.1 NOT TO SCALE

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ENGINEERING GROUP INC.

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email : info@billerreinhardt.com
State of Florida Certificate of Authorization No. 9149

PROJECT NAME
**MODIFICATIONS TO
EXISTING
WASTEWATER
PUMPING STATION
STRUCTURE**

CLIENT
**BALLAST POINT
BLVD.
PUMPING STATION
3606 W. BALLAST POINT
BOULEVARD
TAMPA, FL 33611**

NO.	DATE	COMMENTS

TO THE BEST OF THE ENGINEER'S KNOWLEDGE,
THE PLANS AND SPECIFICATIONS COMPLY WITH
THE APPLICABLE MINIMUM BUILDING CODES

ROBERT J. REINHART

LICENSE

No. 50076

☆

PROFESSIONAL ENGINEER

ROBERT J. REINHART

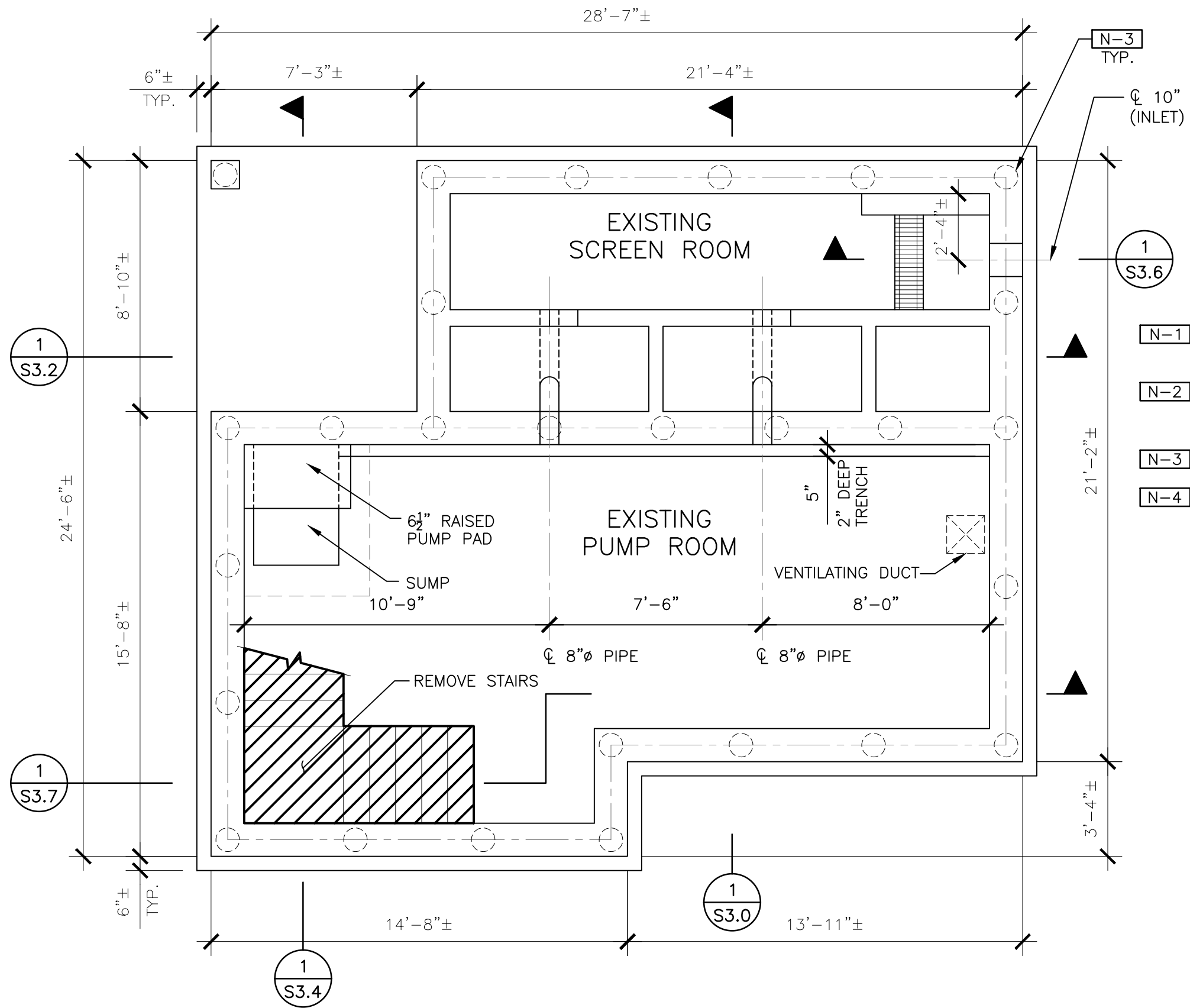
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DATE: 05-10-22 DRAWN BY: RC/RM
JOB NO: 20-001 DESIGN BY: RR

SHEET TITLE
**GENERAL
STRUCTURAL NOTES**

SHEET NO.
S1.1



PLAN NOTES

- FOR GENERAL STRUCTURAL NOTES SEE DRAWING S1 SHEETS
- EXISTING DIMENSIONS AND ELEVATIONS ARE FROM PROVIDED DOCUMENTS AND TO BE FIELD VERIFIED FOR ANY DISCREPANCIES.
- EXISTING 20 TON PILE.
- REMOVE ALL MECHANICAL EQUIPMENT AND ASSOCIATED PIPING, SUPPORTS, HANGERS, ETC. REMOVE VENTILATING DUCT WORK AND ASSOCIATED SUPPORTS AND HANGERS.

PROJECT NAME

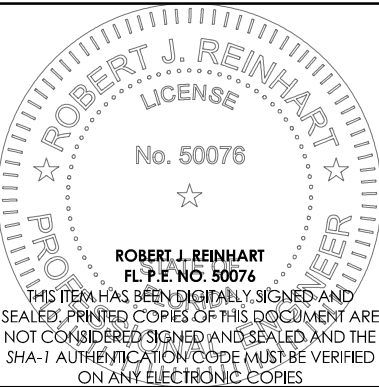
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DATE: 05-10-22 DRAWN BY: RC/RM
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SHEET TITLE

**EXISTING
FOUNDATION
LEVEL AND
DEMO PLAN**

SHEET NO.

S2.0

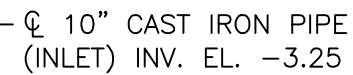
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S2.0

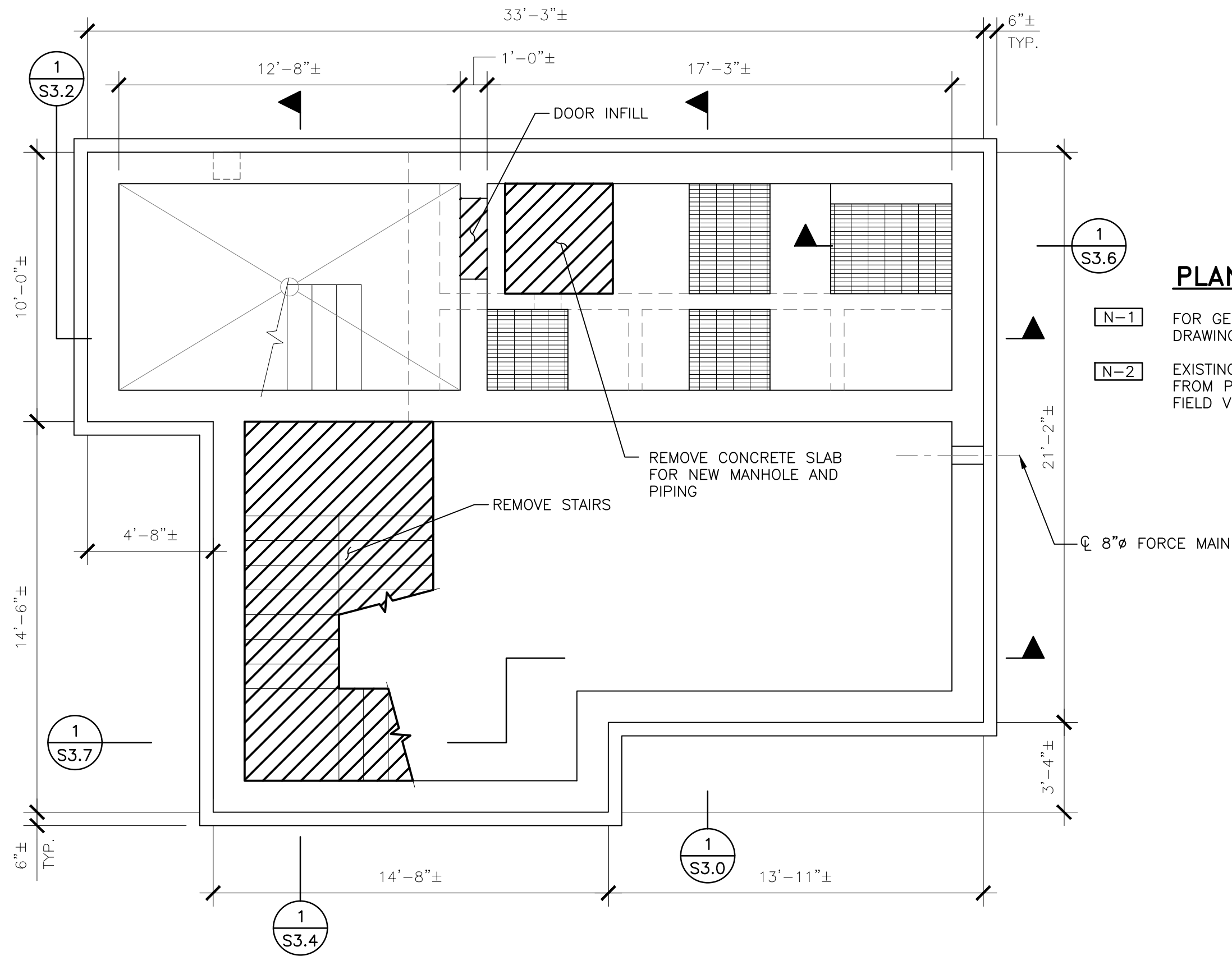
EXISTING FOUNDATION LEVEL AND DEMO PLAN

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

N



1 MODIFIED FOUNDATION LEVEL PLAN
S2.1 SCALE: 1/4" = 1'-0"



PLAN NOTES

N-1

FOR GENERAL STRUCTURAL NOTES SEE
DRAWING S1 SHEETS

N-2

EXISTING DIMENSIONS AND ELEVATIONS ARE
FROM PROVIDED DOCUMENTS AND TO BE
FIELD VERIFIED FOR ANY DISCREPANCIES.

CL 8"Ø FORCE MAIN

1 EXISTING INTERMEDIATE LEVEL AND DEMO PLAN
S2.2 SCALE: 1/4" = 1'-0"



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PROJECT NAME

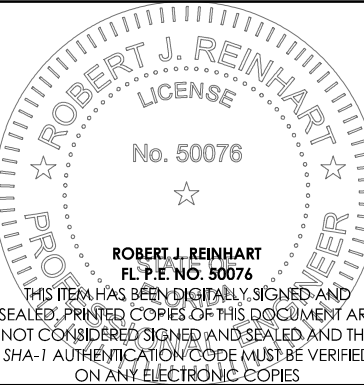
MODIFICATIONS TO
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WASTEWATER
PUMPING STATION
STRUCTURE

CLIENT

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NO.	DATE	COMMENTS

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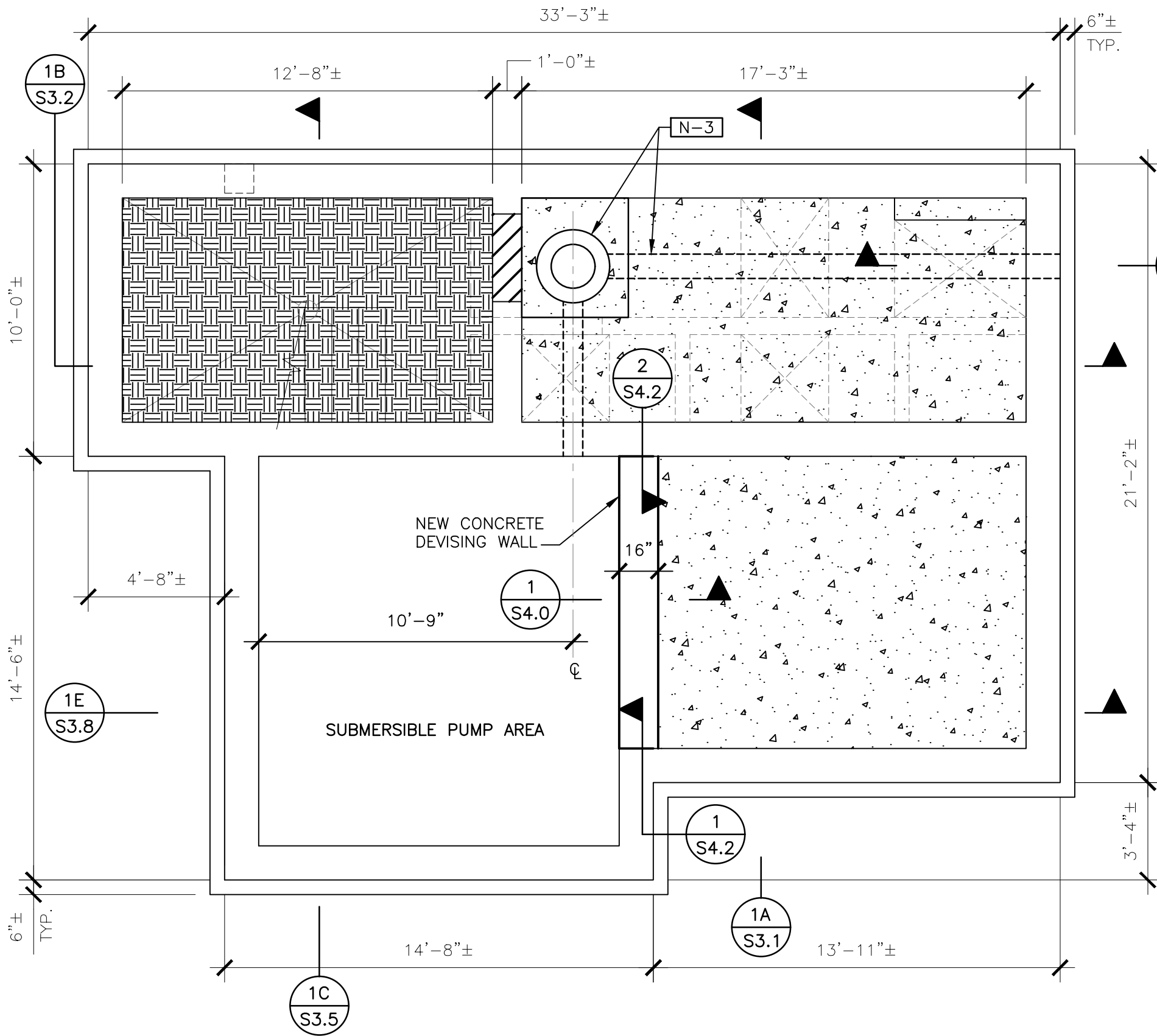
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SHEET TITLE

EXISTING
INTERMEDIATE
LEVEL AND
DEMO PLAN

SHEET NO.

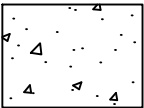
S2.2



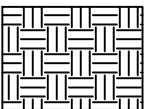
PLAN NOTES

- N-1 FOR GENERAL STRUCTURAL NOTES SEE DRAWING S1 SHEETS
- N-2 EXISTING DIMENSIONS AND ELEVATIONS ARE FROM PROVIDED DOCUMENTS AND TO BE FIELD VERIFIED FOR ANY DISCREPANCIES.
- N-3 NEW MANHOLE AND PIPING, REFERENCE MECHANICAL DRAWINGS FOR EXACT SIZE AND LOCATION.

LEGEND



INDICATES FLOWABLE FILL



INDICATES CLEAN FILL (SOIL)

1 MODIFIED INTERMEDIATE LEVEL PLAN
S2.3 SCALE: 1/4" = 1'-0"

PROJECT NAME
**MODIFICATIONS TO
EXISTING
WASTEWATER
PUMPING STATION
STRUCTURE**

CLIENT
**BALLAST POINT
BLVD.
PUMPING STATION
3606 W. BALLAST POINT
BOULEVARD
TAMPA, FL 33611**

NO.	DATE	COMMENTS

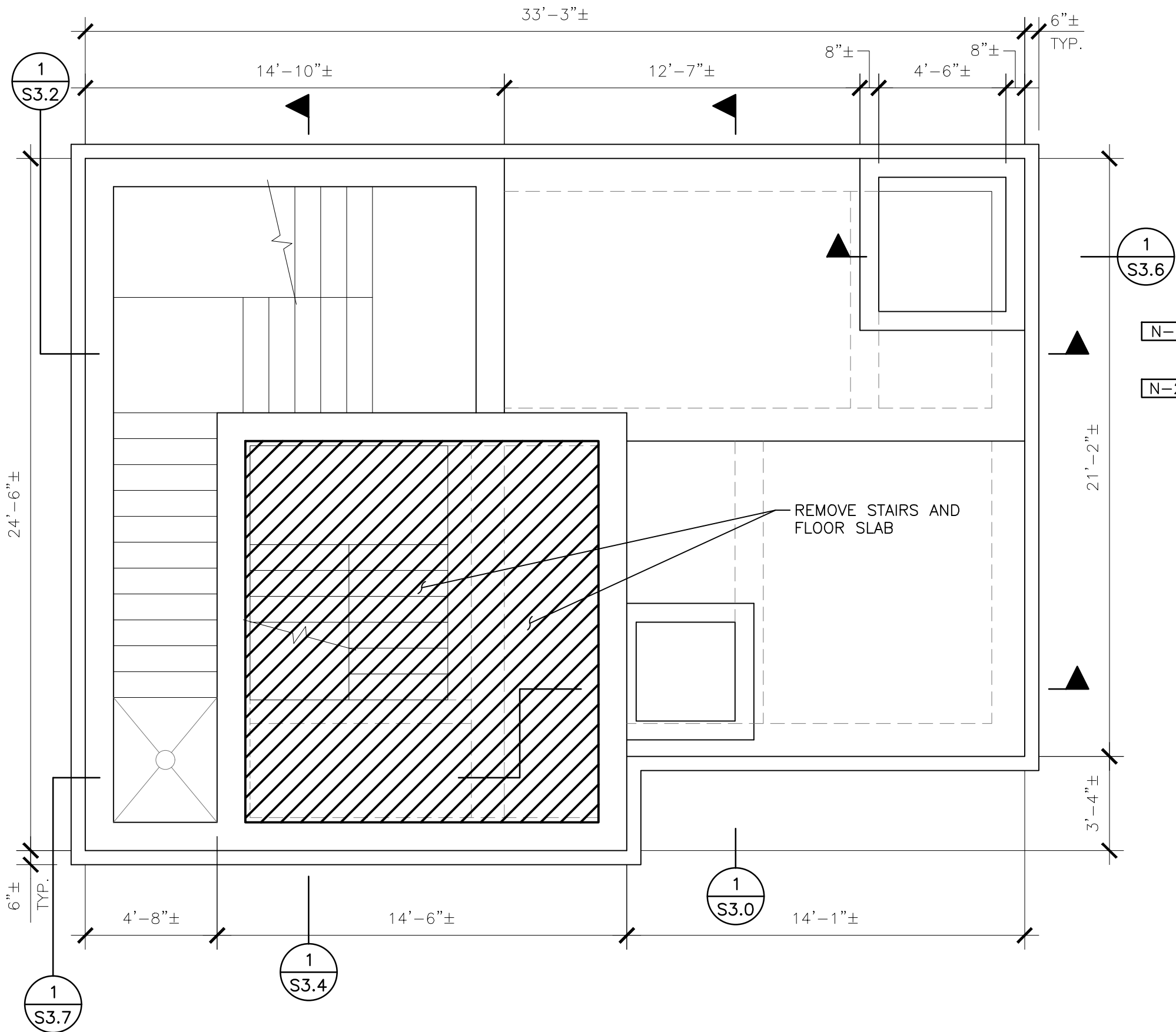
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No. 50076
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SHEET TITLE
**MODIFIED
INTERMEDIATE
LEVEL PLAN**

SHEET NO.
S2.3



PLAN NOTES

FOR GENERAL STRUCTURAL NOTES SEE DRAWING S1 SHEETS

EXISTING DIMENSIONS AND ELEVATIONS ARE FROM PROVIDED DOCUMENTS AND TO BE FIELD VERIFIED FOR ANY DISCREPANCIES.



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PROJECT NAME

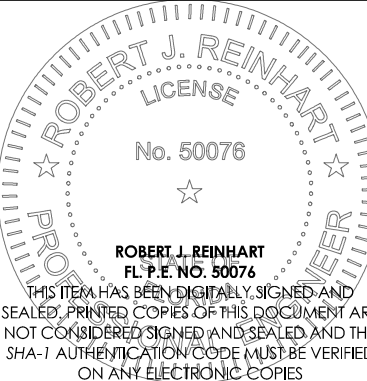
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PUMPING STATION
STRUCTURE**

CLIENT

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3606 W. BALLAST POINT
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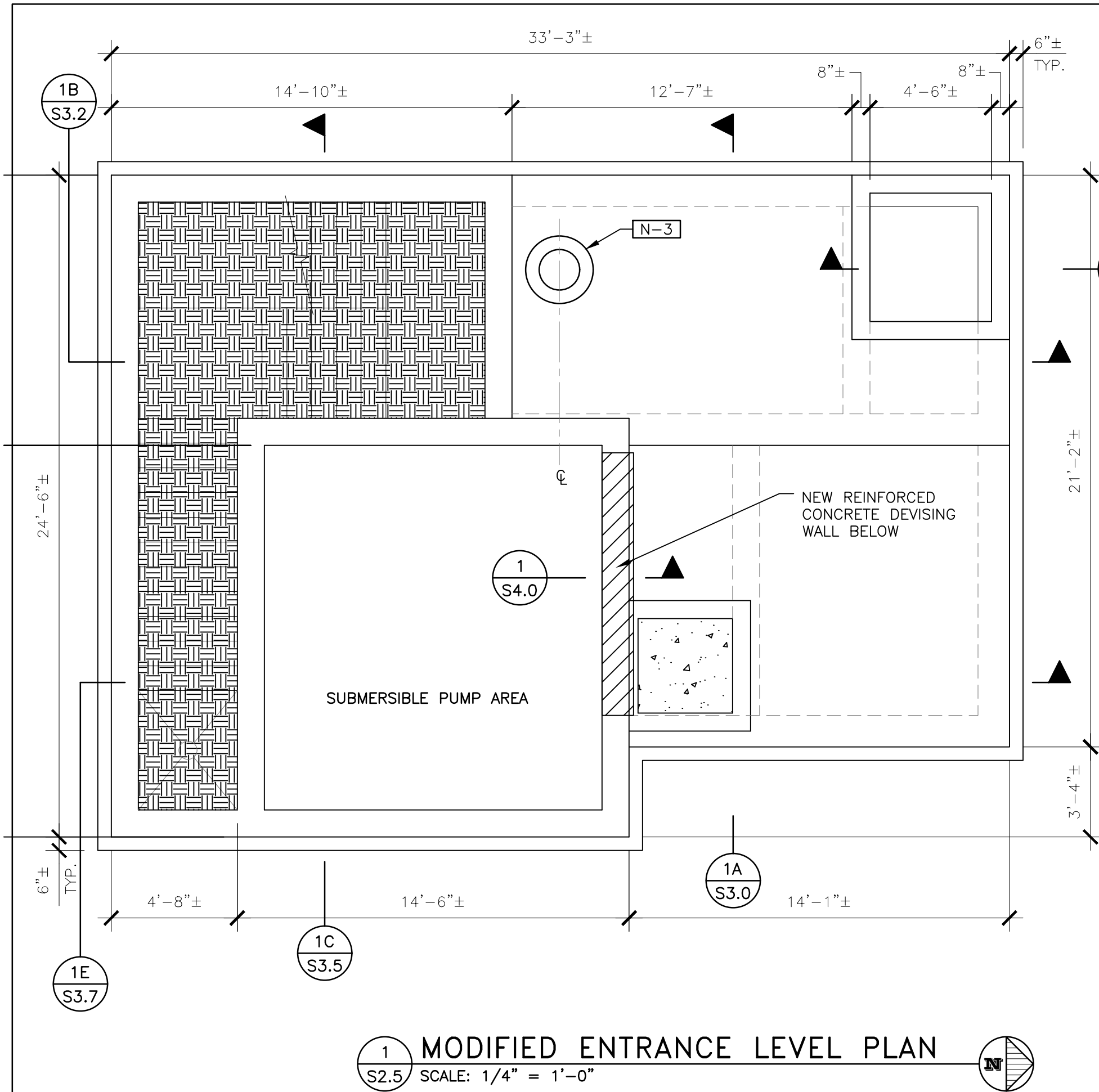
SHEET TITLE

**EXISTING
ENTRANCE
LEVEL AND
DEMO PLAN**

SHEET NO.

S2.4

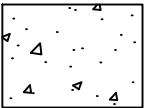
1 EXISTING ENTRANCE LEVEL AND DEMO PLAN
S2.4 SCALE: 1/4" = 1'-0" N



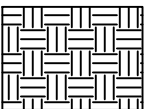
PLAN NOTES

- N-1
- FOR GENERAL STRUCTURAL NOTES SEE DRAWING S1 SHEETS
-
- N-2
- EXISTING DIMENSIONS AND ELEVATIONS ARE FROM PROVIDED DOCUMENTS AND TO BE FIELD VERIFIED FOR ANY DISCREPANCIES.
-
- N-3
- NEW MANHOLE AND PIPING, REFERENCE MECHANICAL DRAWINGS FOR EXACT SIZE AND LOCATION.

LEGEND



INDICATES FLOWABLE FILL



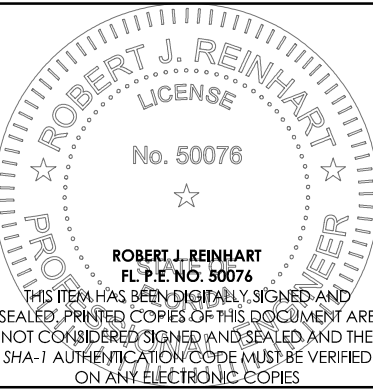
INDICATES CLEAN FILL (SOIL)

PROJECT NAME
**MODIFICATIONS TO
EXISTING
WASTEWATER
PUMPING STATION
STRUCTURE**

CLIENT
**BALLAST POINT
BLVD.
PUMPING STATION
3606 W. BALLAST POINT
BOULEVARD
TAMPA, FL 33611**

NO.	DATE	COMMENTS

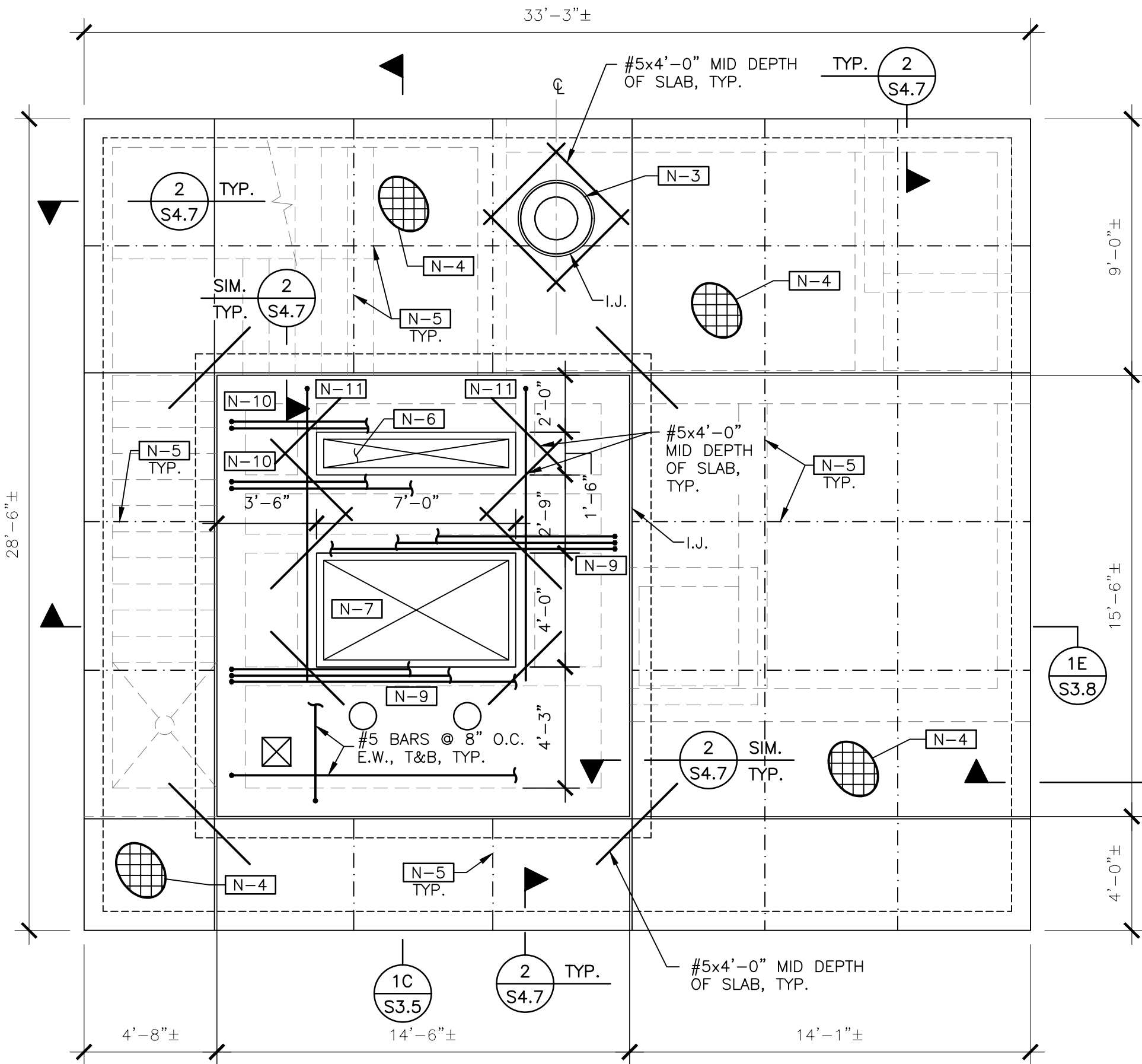
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SHEET TITLE
**MODIFIED
ENTRANCE
LEVEL PLAN**

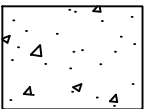
SHEET NO.
S2.5



PLAN NOTES

- N-1 FOR GENERAL STRUCTURAL NOTES SEE DRAWING S1 SHEETS
- N-2 EXISTING DIMENSIONS AND ELEVATIONS ARE FROM PROVIDED DOCUMENTS AND TO BE FIELD VERIFIED FOR ANY DISCREPANCIES.
- N-3 NEW MANHOLE AND PIPING, REFERENCE MECHANICAL DRAWINGS FOR EXACT SIZE AND LOCATION.
- N-4 6" SLAB ON GRADE REINFORCED WITH WWF 6x6-W2.9xW2.9 CENTERED IN SLAB THICKNESS
- N-5 CONTRACTION JOINT SEE 1/S4.7
- N-6 ALUMINUM ACCESS PANEL. SEE MECHANICAL DRAWINGS. INSTALL PER MANUFACTURER'S SPECIFICATIONS
- N-7 ALUMINUM ACCESS DOUBLE DOOR. SEE MECHANICAL DRAWINGS. INSTALL PER MANUFACTURER'S SPECIFICATIONS
- N-8 SEE MECHANICAL DRAWINGS FOR OTHER SLAB OPENINGS
- N-9 THREE ADDITIONAL CONTINUOUS #5 LONGITUDINAL TOP AND BOTTOM BARS
- N-10 TWO ADDITIONAL CONTINUOUS #5 LONGITUDINAL TOP AND BOTTOM BARS
- N-11 ONE ADDITIONAL CONTINUOUS #5 TRANSVERSE TOP AND BOTTOM BARS

LEGEND



INDICATES FLOWABLE FILL

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PUMPING STATION
3606 W. BALLAST POINT
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SHEET TITLE
SLAB LEVEL PLAN

SHEET NO.
S2.6

1 SLAB LEVEL PLAN
SCALE: 1/4" = 1'-0"
2
S2.6



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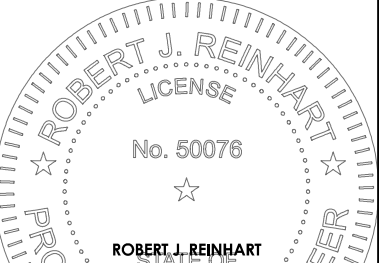
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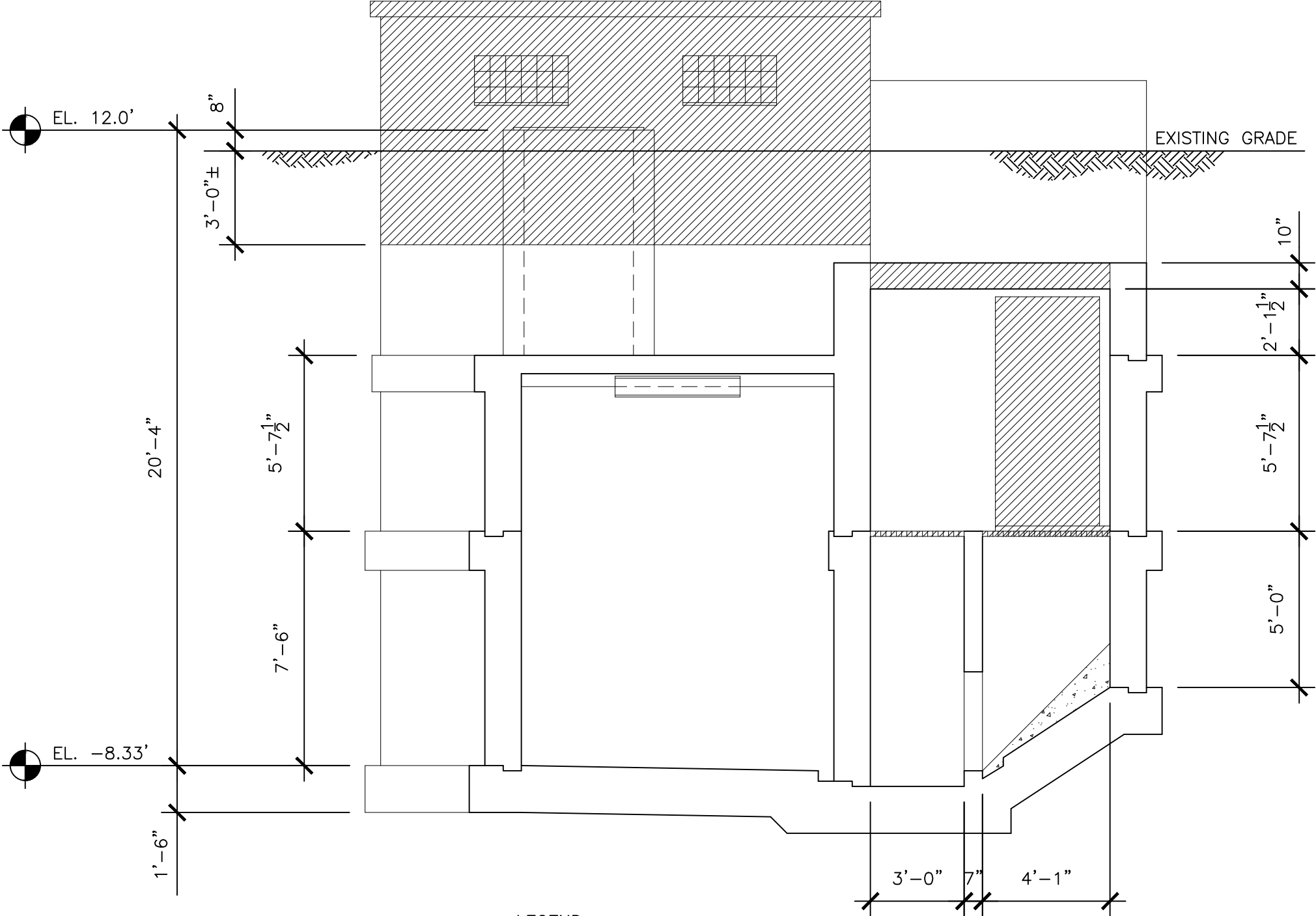
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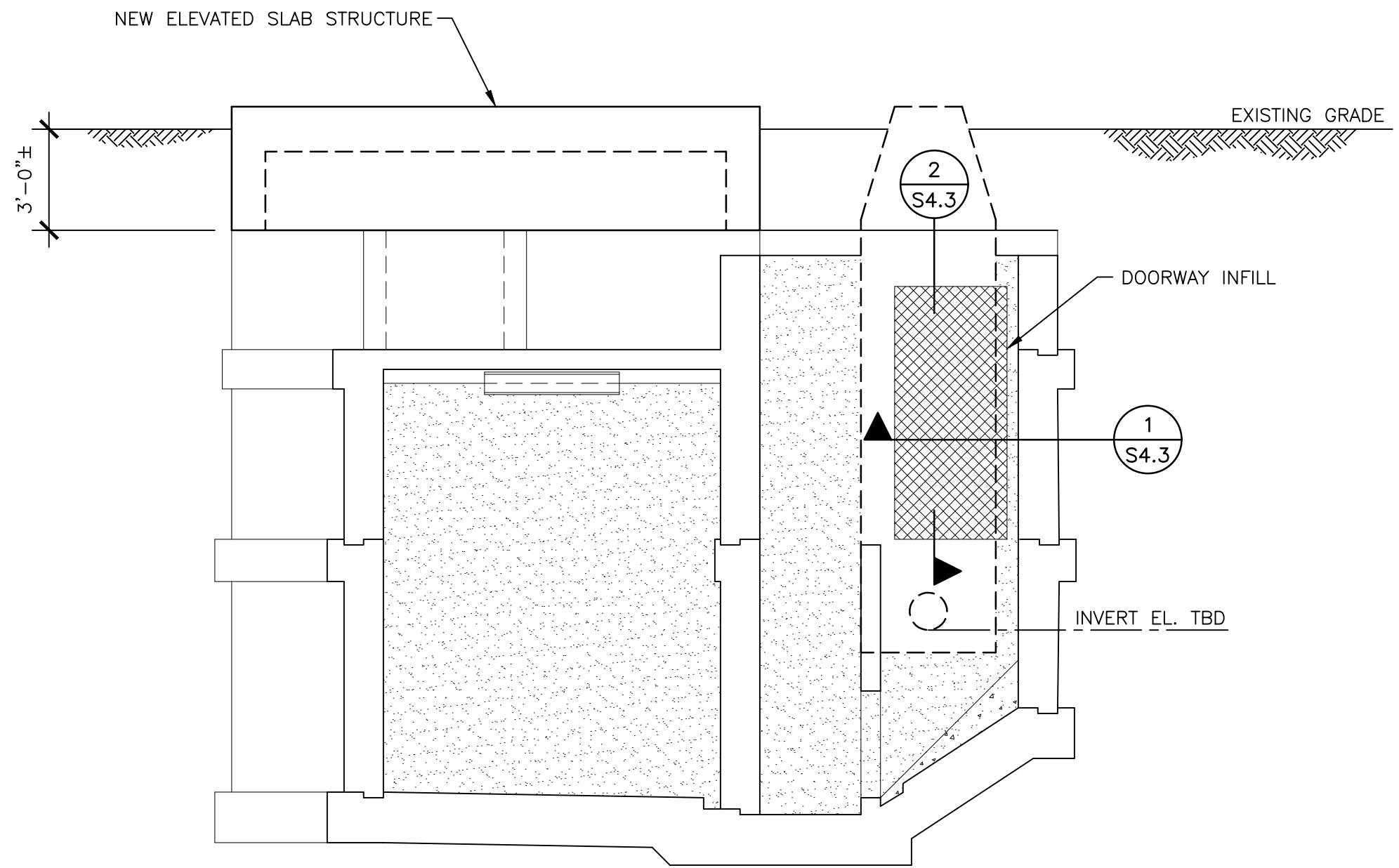
SHEET TITLE
**DEMOLITION
SECTION**

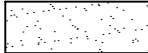
SHEET NO.
S3.0



LEGEND:
 INDICATES AREA TO BE DEMOLISHED

1
S3.0 **DEMOLITION SECTION A**
SCALE: 1/4" = 1'-0"



- LEGEND:**
-  INDICATES AREA TO INFILL WITH FLOWABLE FILL.
 -  INDICATES REINFORCED CONCRETE INFILL

BUILDING SECTION A
SCALE: 1/4" = 1'-0"

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CLIENT
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TAMPA, FL 33611**

NO.	DATE	COMMENTS

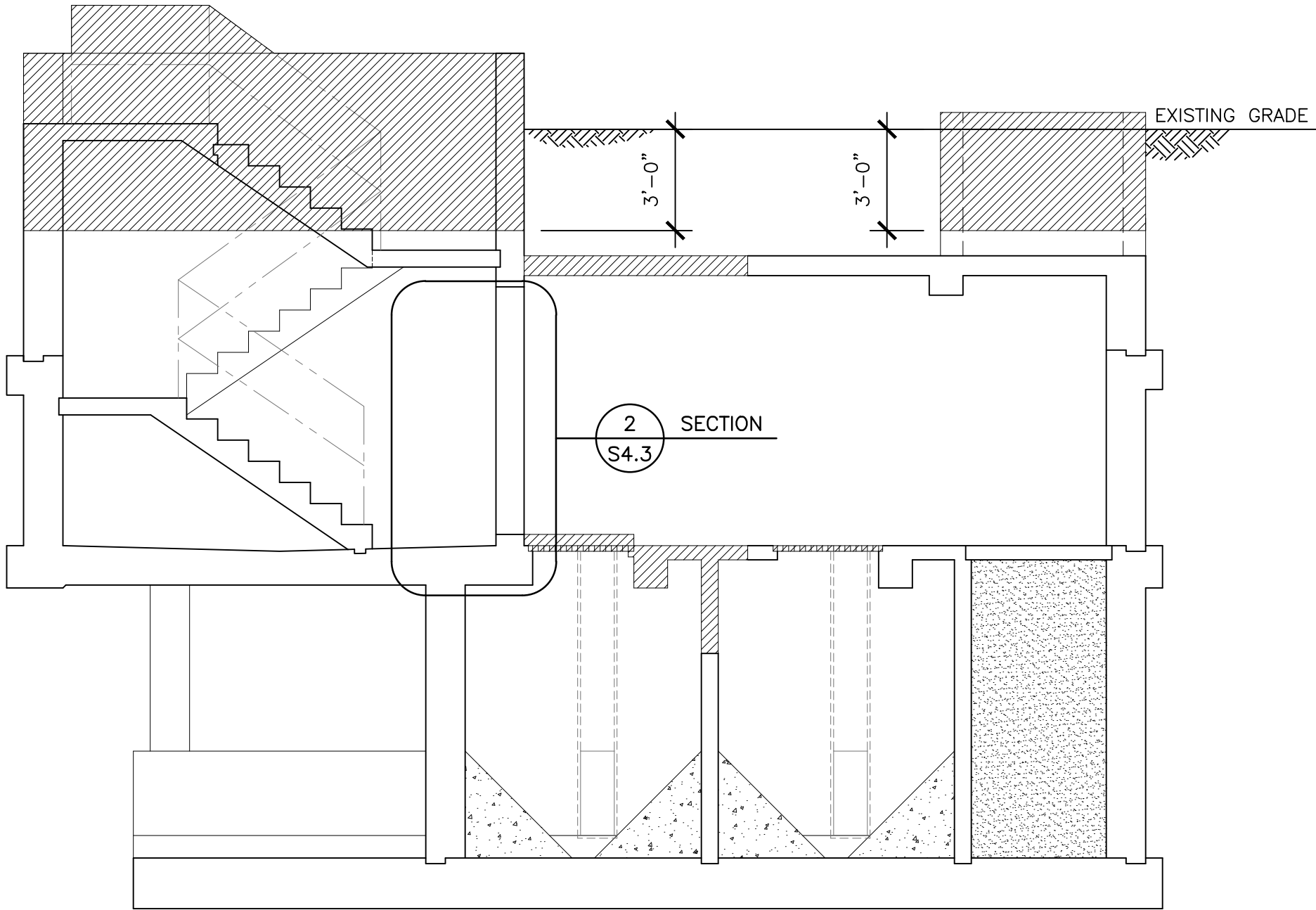
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SHEET TITLE
BUILDING SECTION

SHEET NO.
S3.1



LEGEND:

 INDICATES AREA TO BE DEMOLISHED

1
S3.2 **DEMOLITION SECTION B**
SCALE: 1/4" = 1'-0"

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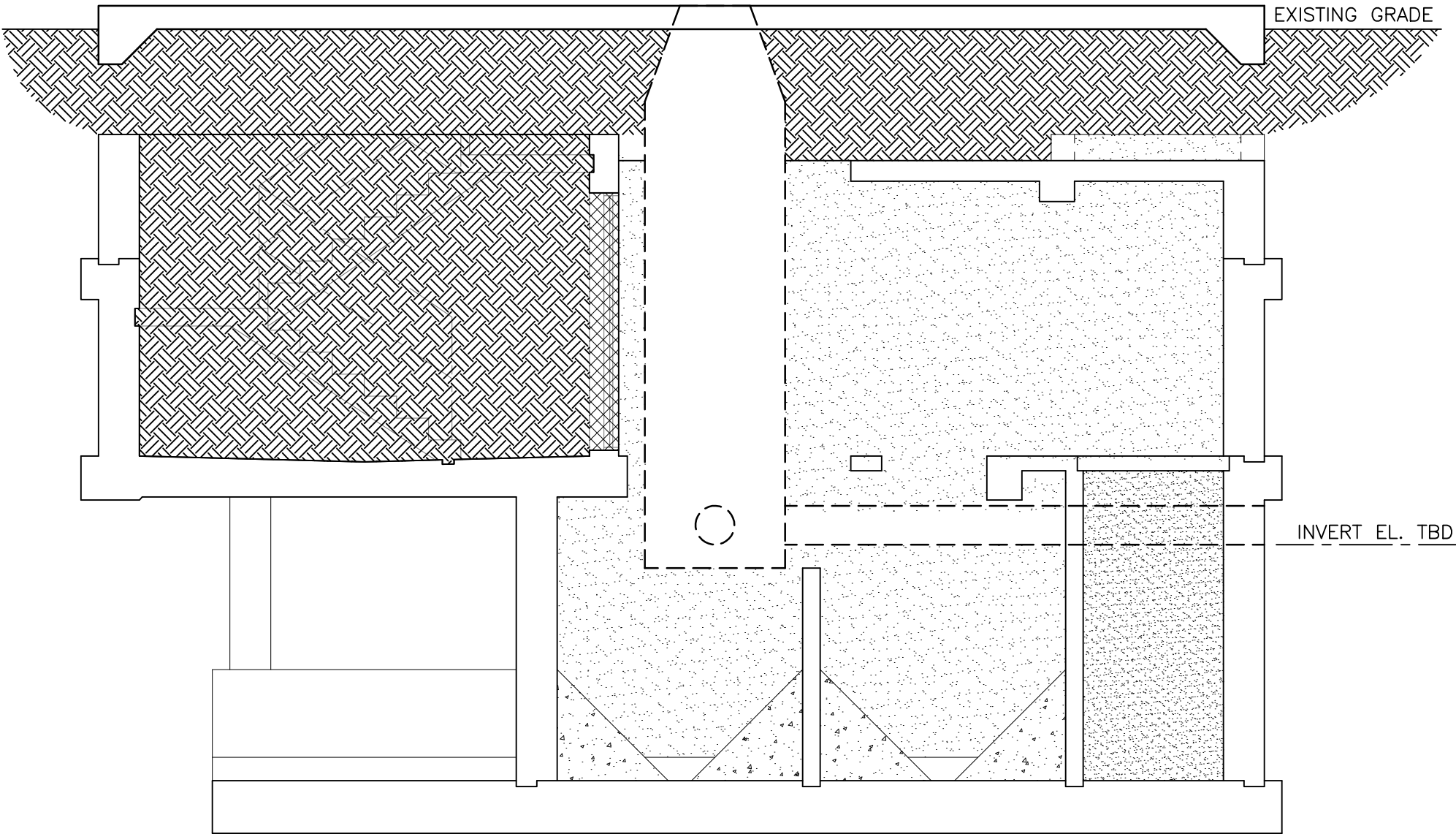
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SHEET TITLE

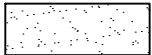
**DEMOLITION
SECTION**

SHEET NO.

S3.2



LEGEND:



INDICATES AREA TO INFILL WITH FLOWABLE FILL.



INDICATES REINFORCED CONCRETE INFILL



INDICATES CLEAN FILL (SOIL)

1B
S3.3

BUILDING SECTION B

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



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PROJECT NAME

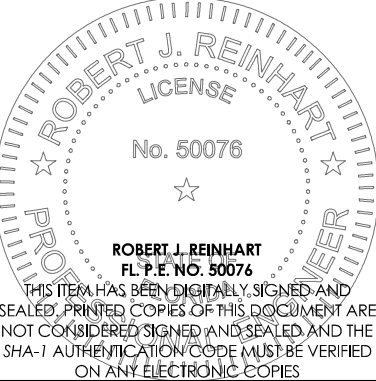
**MODIFICATIONS TO
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WASTEWATER
PUMPING STATION
STRUCTURE**

CLIENT

**BALLAST POINT
BLVD.
PUMPING STATION
3606 W. BALLAST POINT
BOULEVARD
TAMPA, FL 33611**

NO.	DATE	COMMENTS

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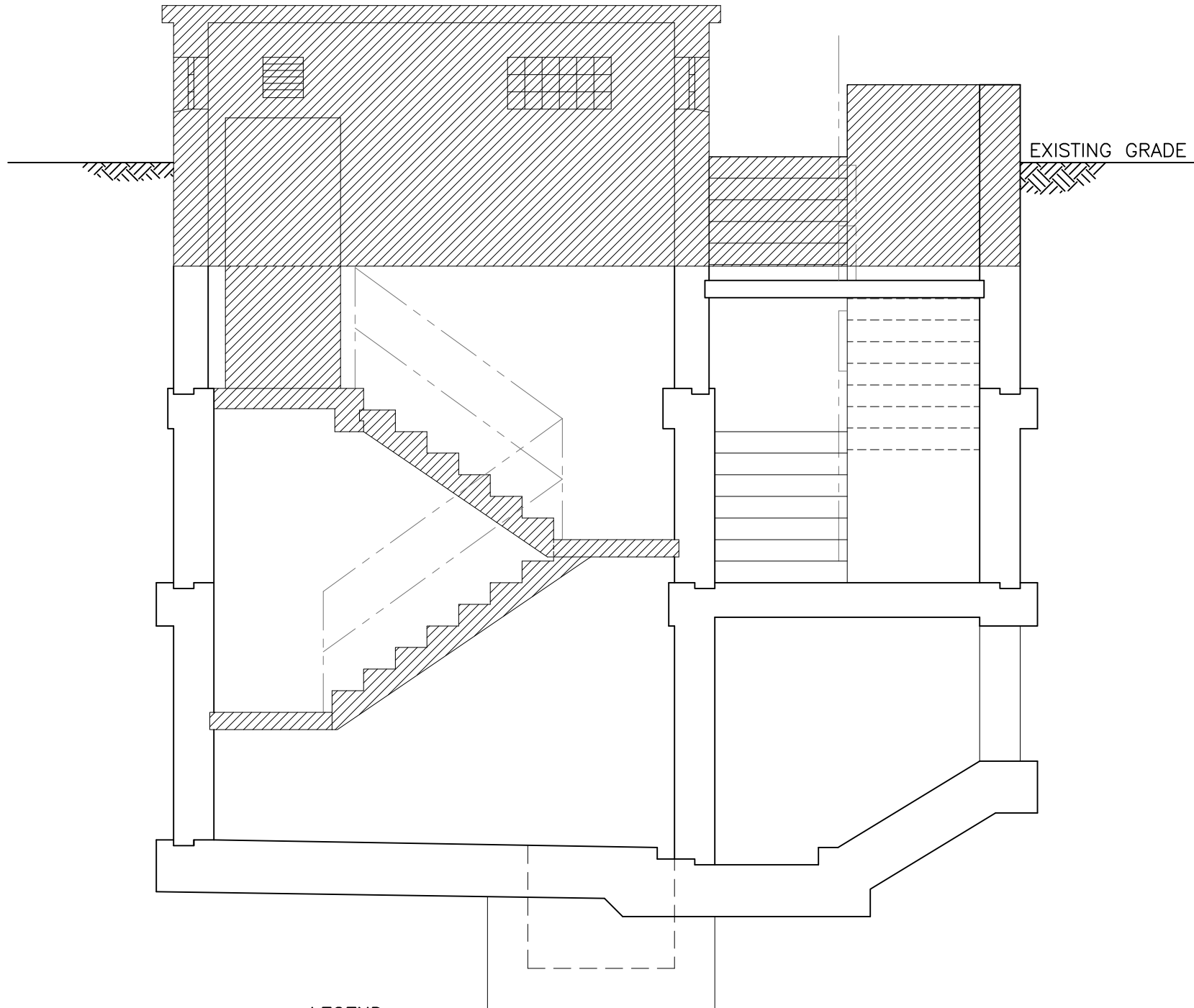
DATE: 05-10-22 DRAWN BY: RC/RM
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SHEET TITLE

BUILDING SECTION

SHEET NO.

S3.3



LEGEND:
 INDICATES AREA TO BE DEMOLISHED

1
S3.4 **DEMOLITION SECTION C**
SCALE: 1/4" = 1'-0"

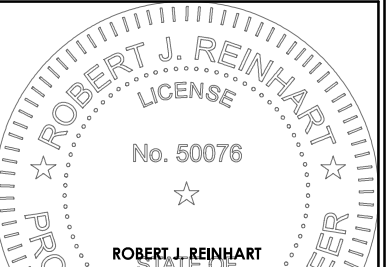
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ENGINEERING GROUP INC.
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telephone : 813.908.7203 fax : 813.931.5200
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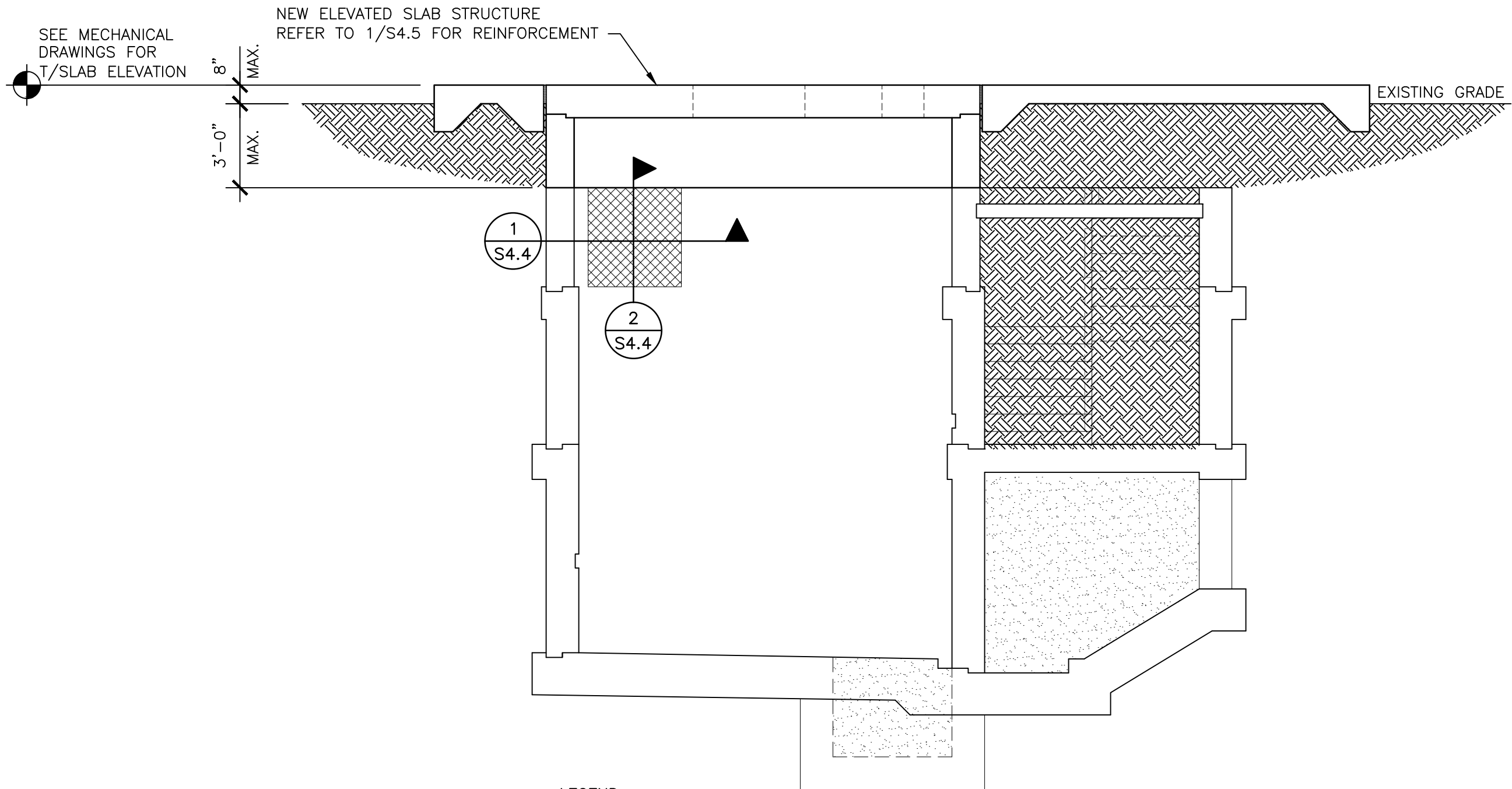
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SHEET TITLE
**DEMOLITION
SECTION**

SHEET NO.
S3.4



- LEGEND:**
- INDICATES AREA TO INFILL WITH FLOWABLE FILL.
 - INDICATES REINFORCED CONCRETE INFILL
 - INDICATES CLEAN FILL (SOIL)

1C
S3.5

BUILDING SECTION C

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

PROJECT NAME

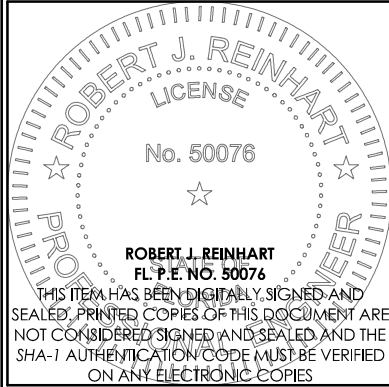
**MODIFICATIONS TO
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PUMPING STATION
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SHEET TITLE

BUILDING SECTION

SHEET NO.

S3.5



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PROJECT NAME

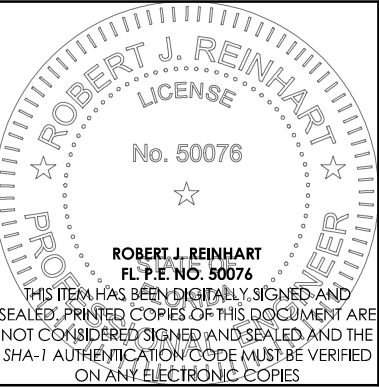
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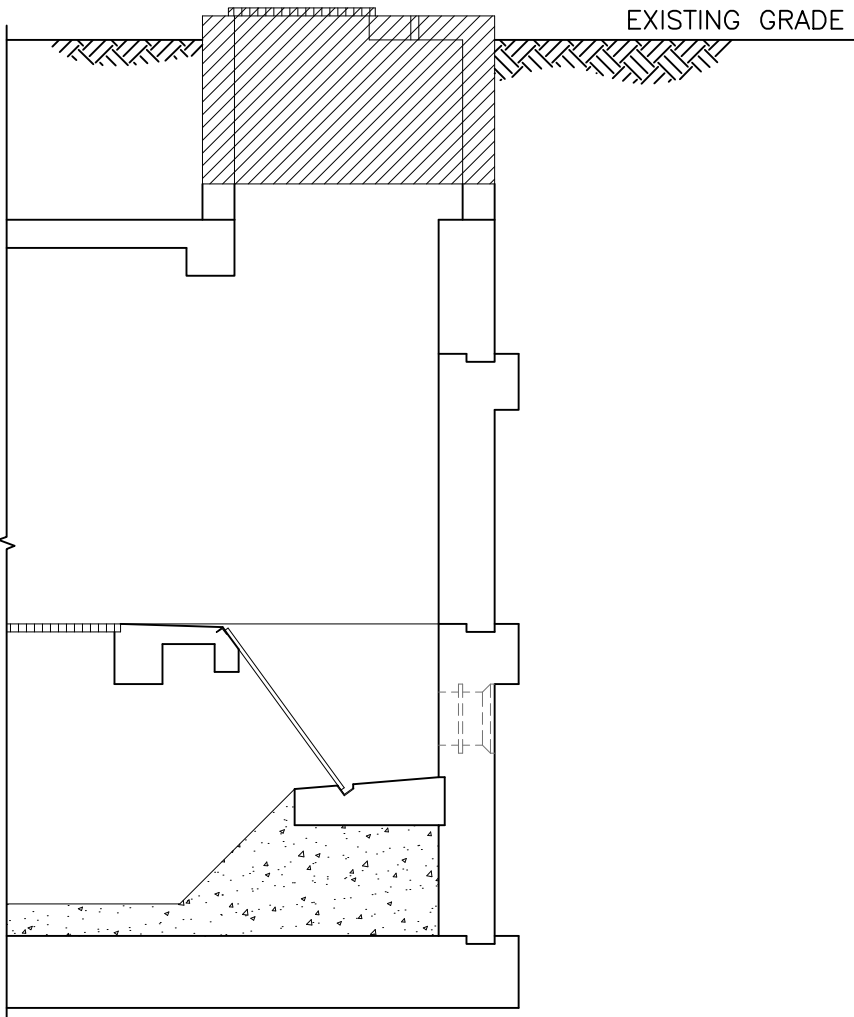
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SHEET TITLE

DEMOLITION
SECTION AND
BUILDING SECTION

SHEET NO.

S3.6



LEGEND:

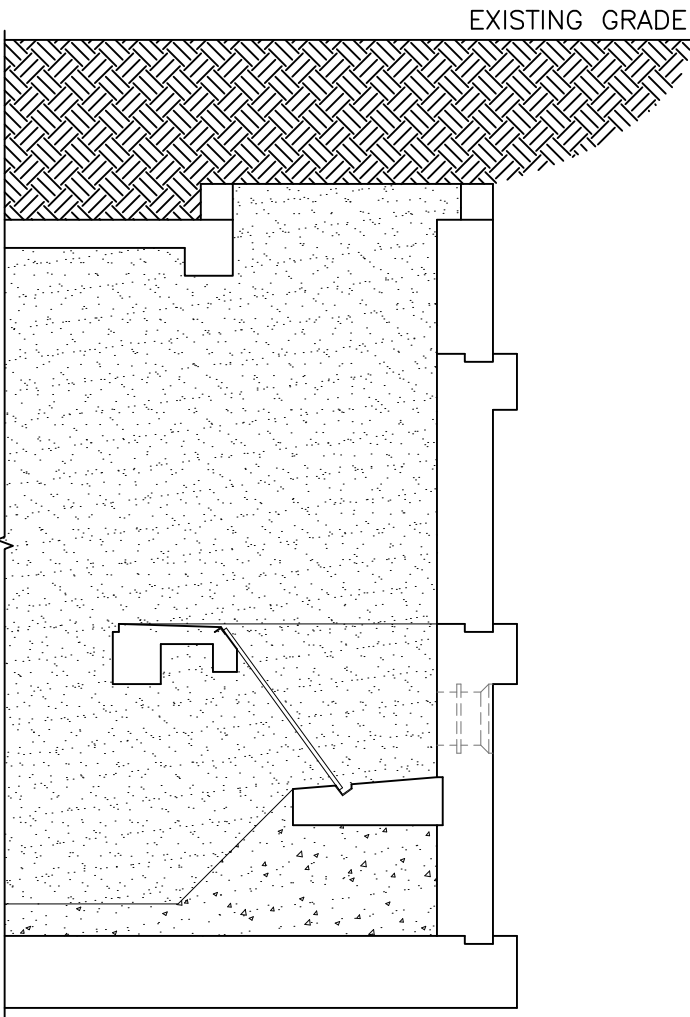


INDICATES AREA TO BE DEMOLISHED

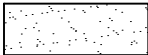


DEMOLITION SECTION D

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



LEGEND:



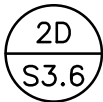
INDICATES AREA TO INFILL WITH FLOWABLE FILL.



INDICATES REINFORCED CONCRETE INFILL

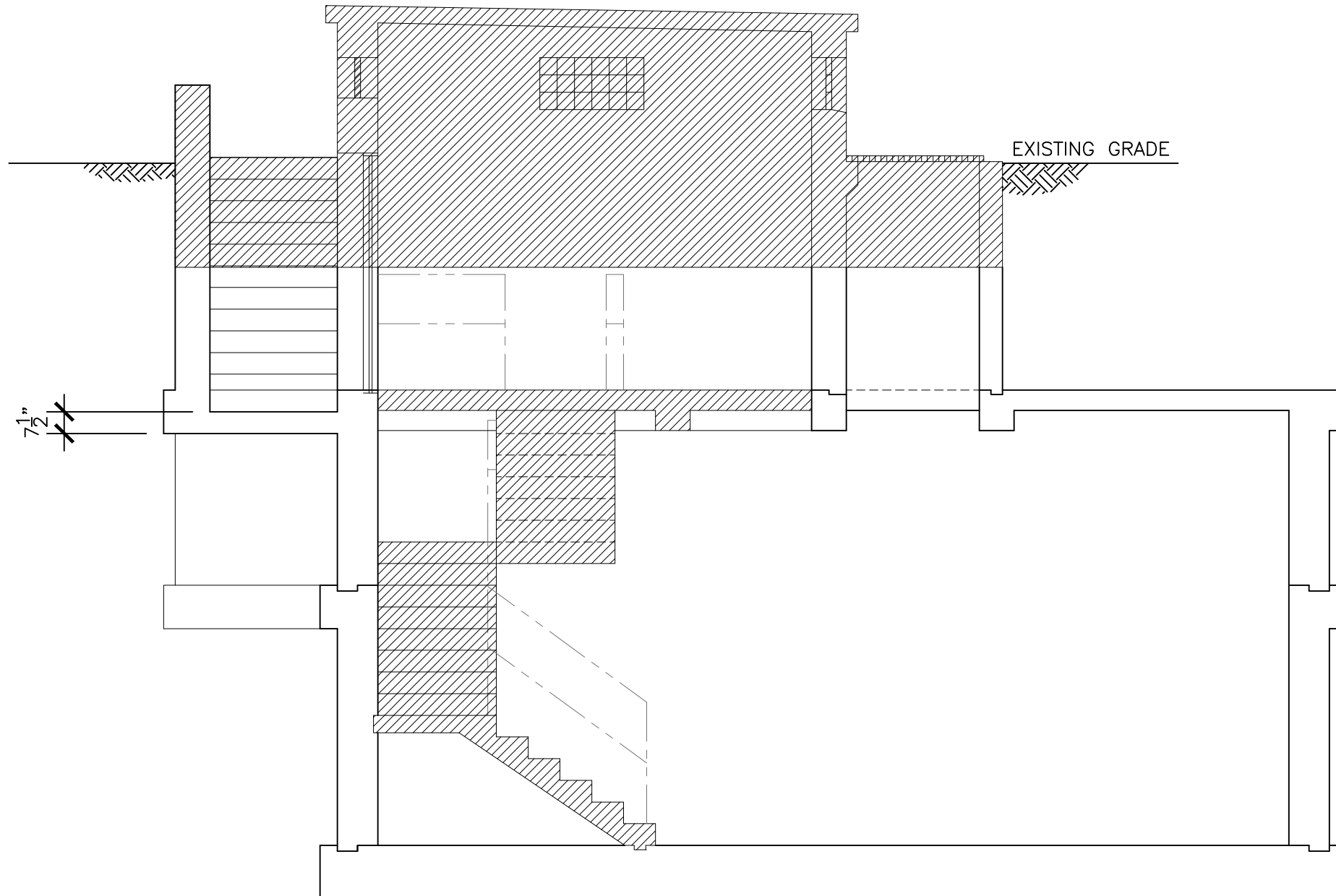


INDICATES CLEAN FILL (SOIL)



BUILDING SECTION D

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



LEGEND:

 INDICATES AREA TO BE DEMOLISHED

1
S3.7 **DEMOLITION SECTION E**
SCALE: 1/4" = 1'-0"

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PROJECT NAME

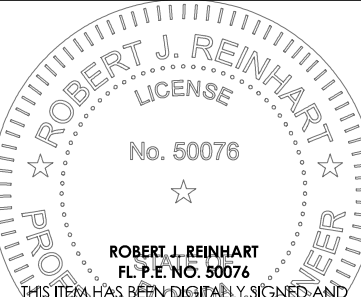
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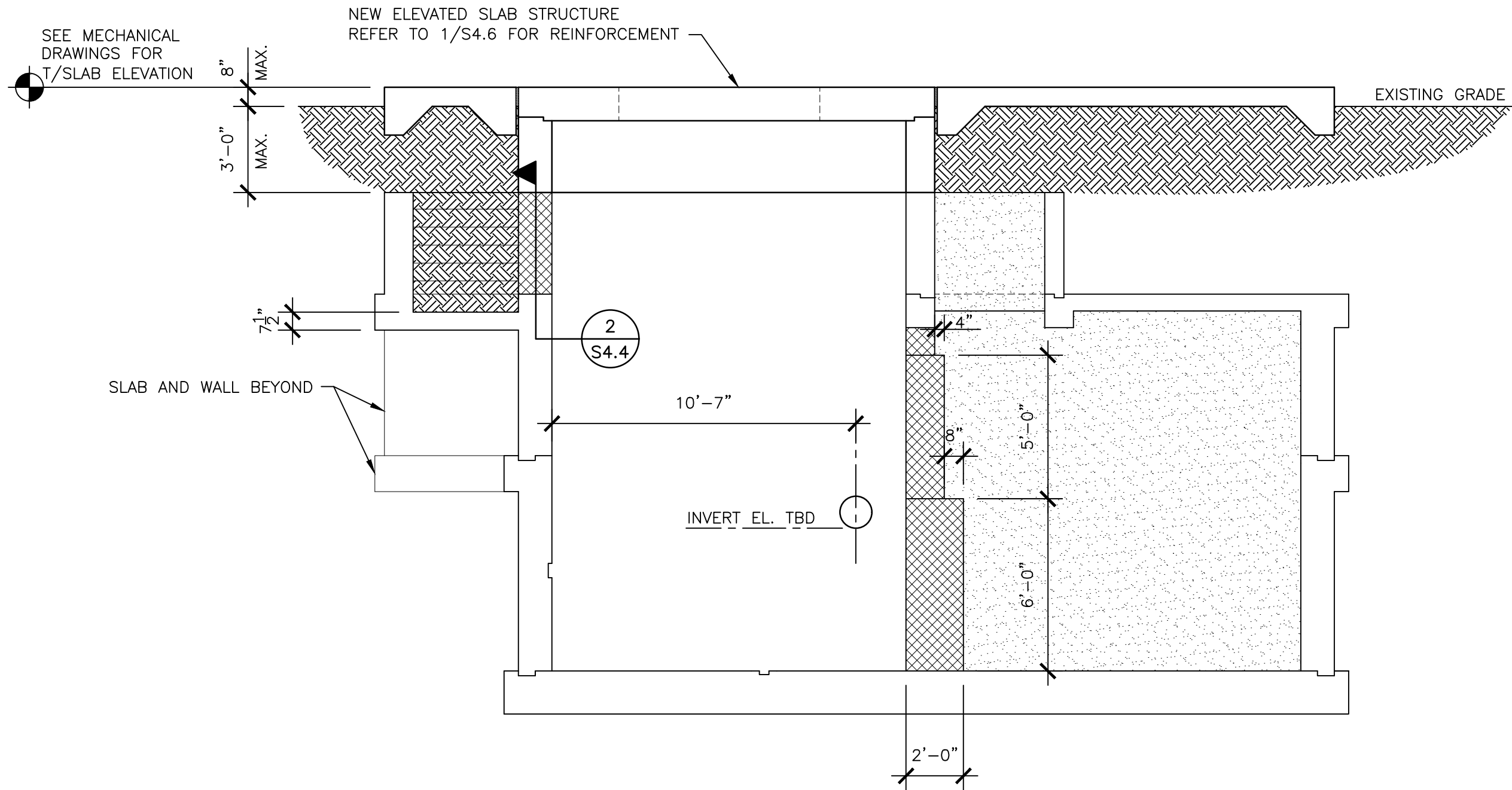
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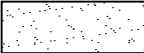
SHEET TITLE

**DEMOLITION
SECTION**

SHEET NO.

S3.7



- LEGEND:**
-  INDICATES AREA TO INFILL WITH FLOWABLE FILL.
 -  INDICATES REINFORCED CONCRETE INFILL
 -  INDICATES CLEAN FILL (SOIL)

BUILDING SECTION E
1E
S3.8 SCALE: 1/4" = 1'-0"

PROJECT NAME
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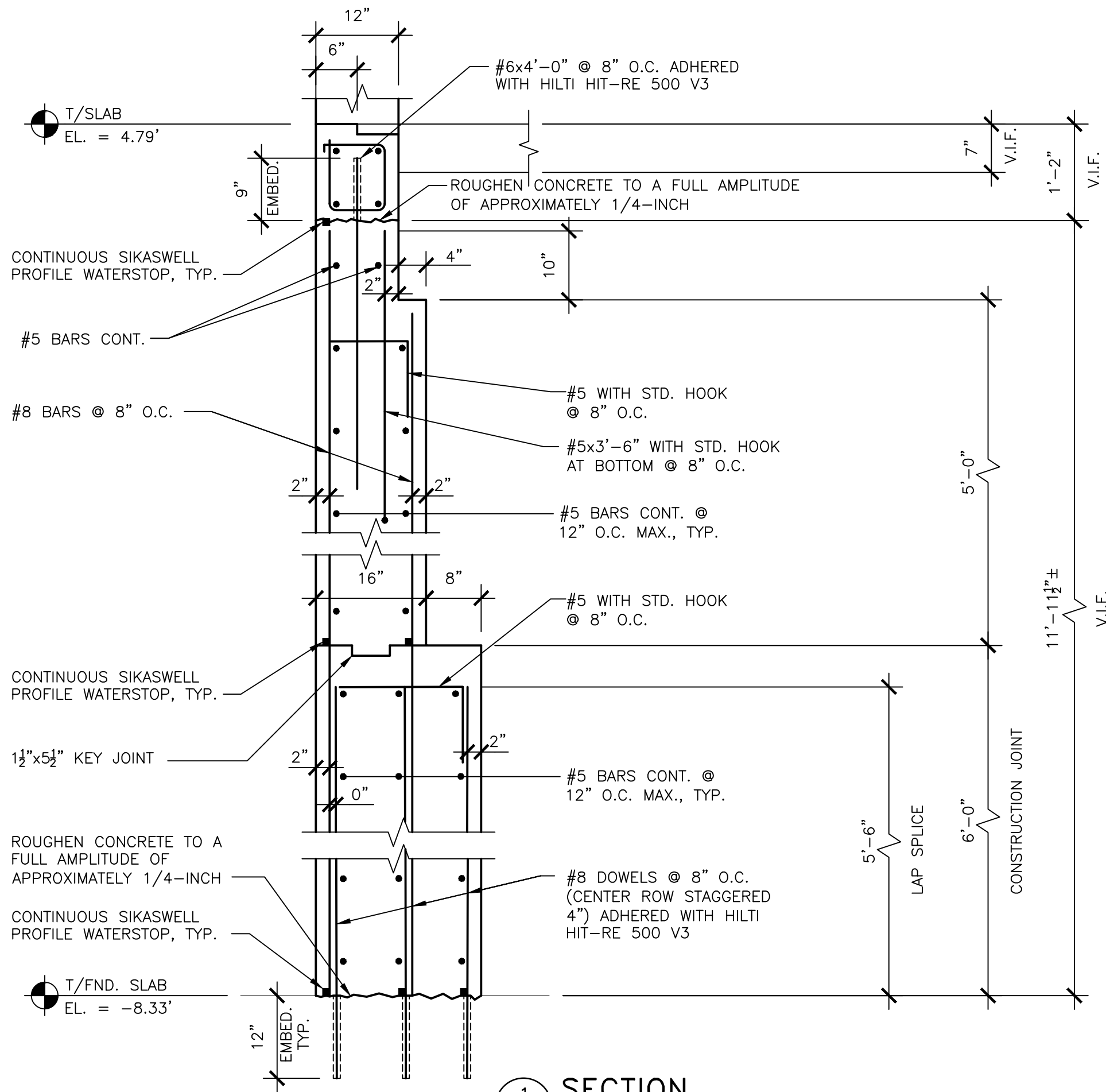
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SHEET TITLE
BUILDING SECTION

SHEET NO.
S3.8



1 SECTION
S4.0 SCALE: 3/4" = 1'-0"

PROJECT NAME
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SHEET TITLE
**SECTIONS AND
DETAILS**

SHEET NO.
S4.0

PROJECT NAME

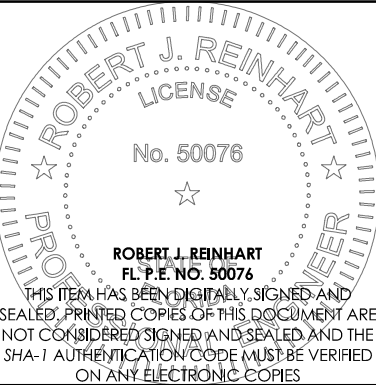
**MODIFICATIONS TO
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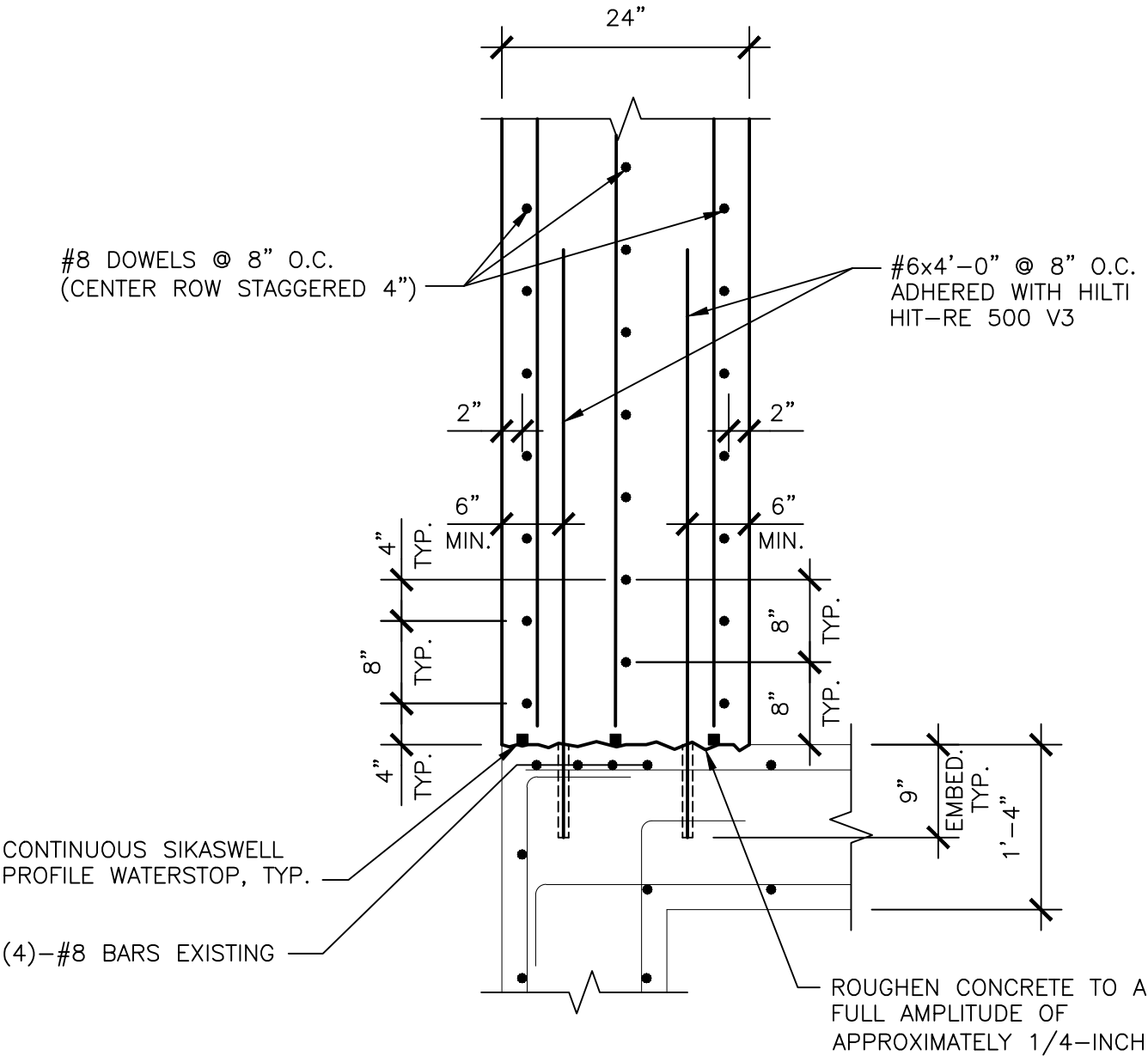
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JOB NO: 20-001 DESIGN BY: RR

SHEET TITLE

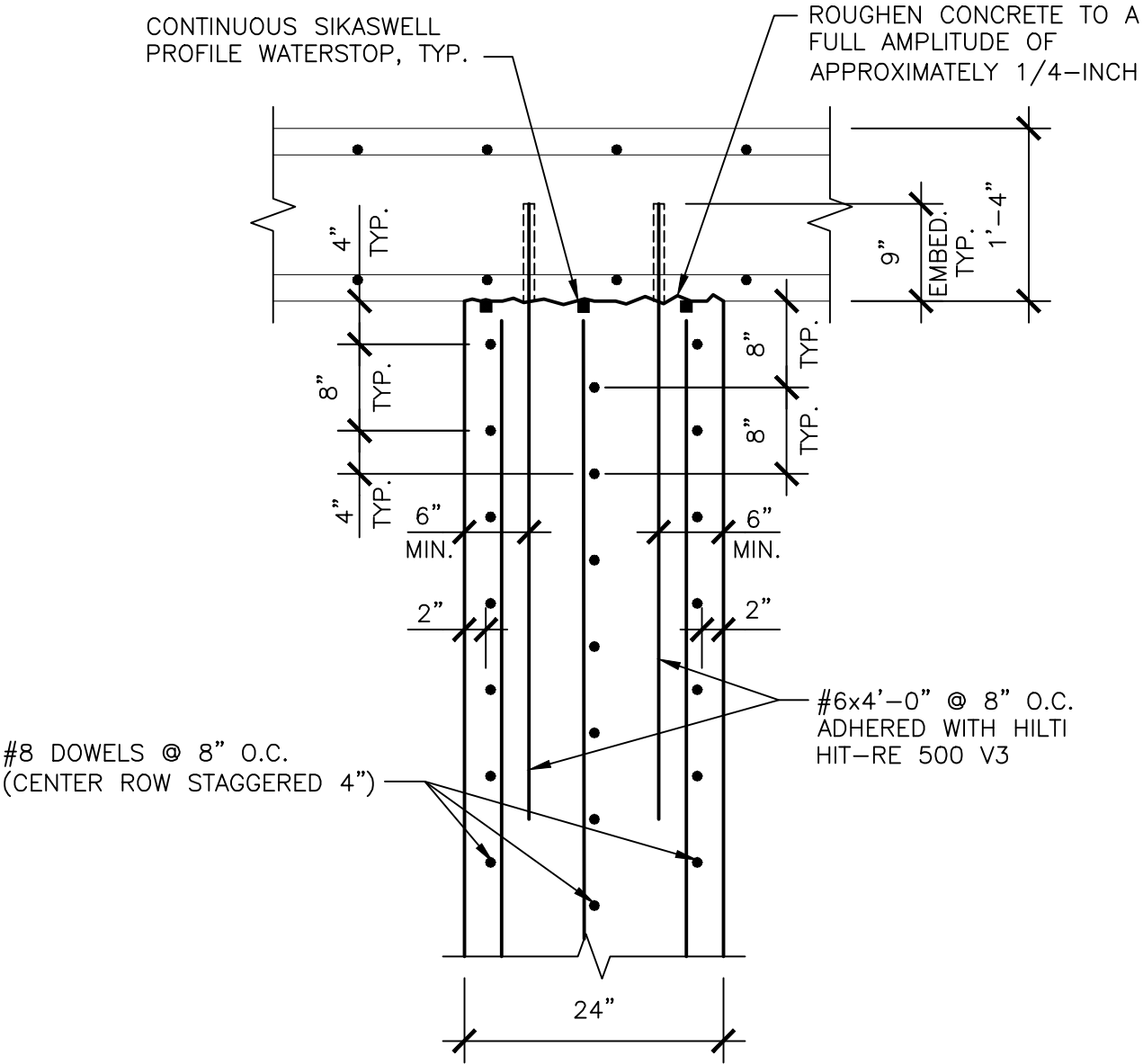
**SECTIONS AND
DETAILS**

SHEET NO.

S4.1



1 SECTION
S4.1 SCALE: 3/4" = 1'-0"



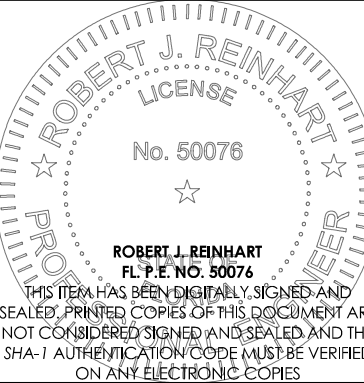
2 SECTION
S4.1 SCALE: 3/4" = 1'-0"

PROJECT NAME
**MODIFICATIONS TO
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**BALLAST POINT
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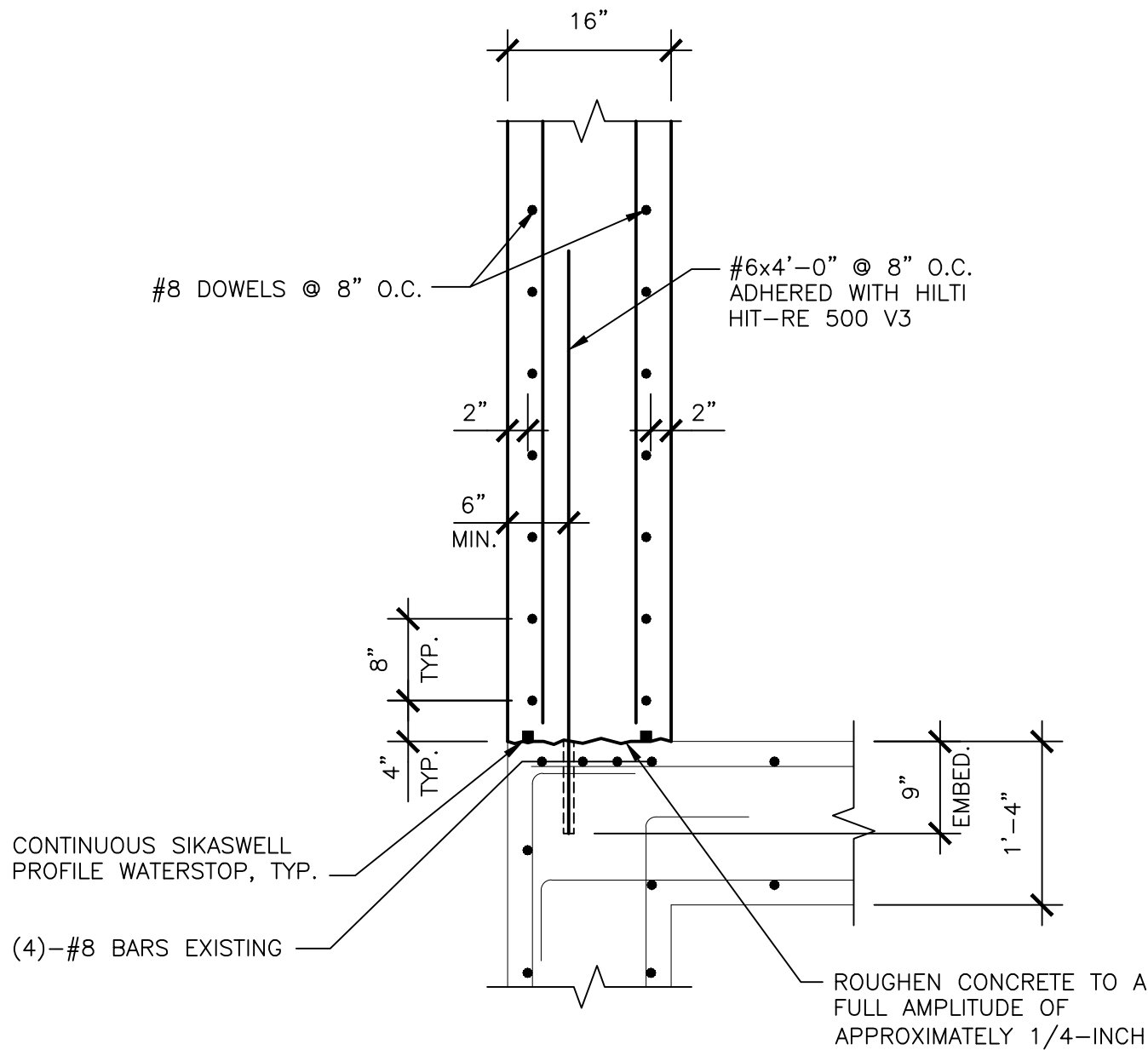
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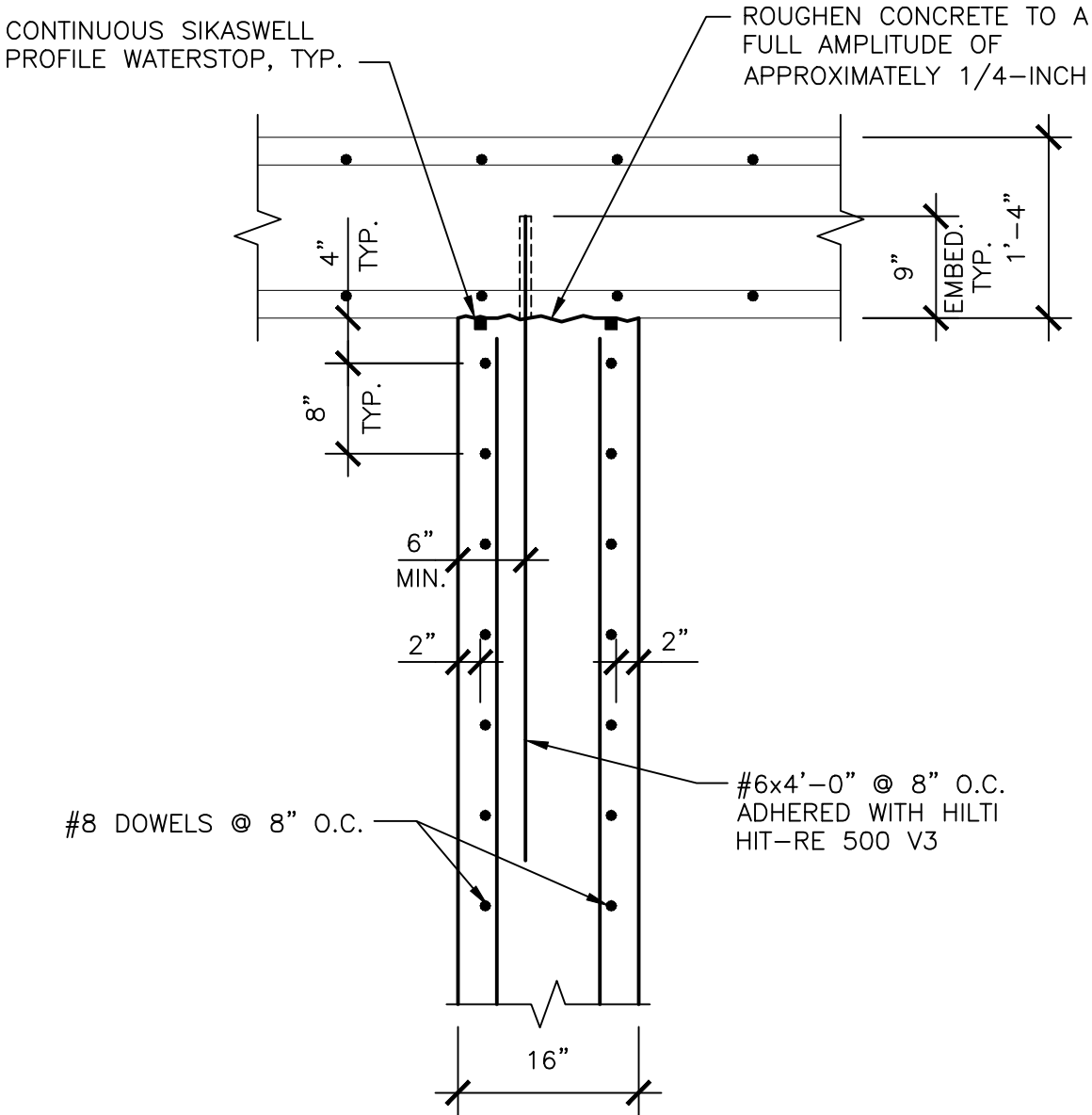
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SHEET TITLE
**SECTIONS AND
DETAILS**

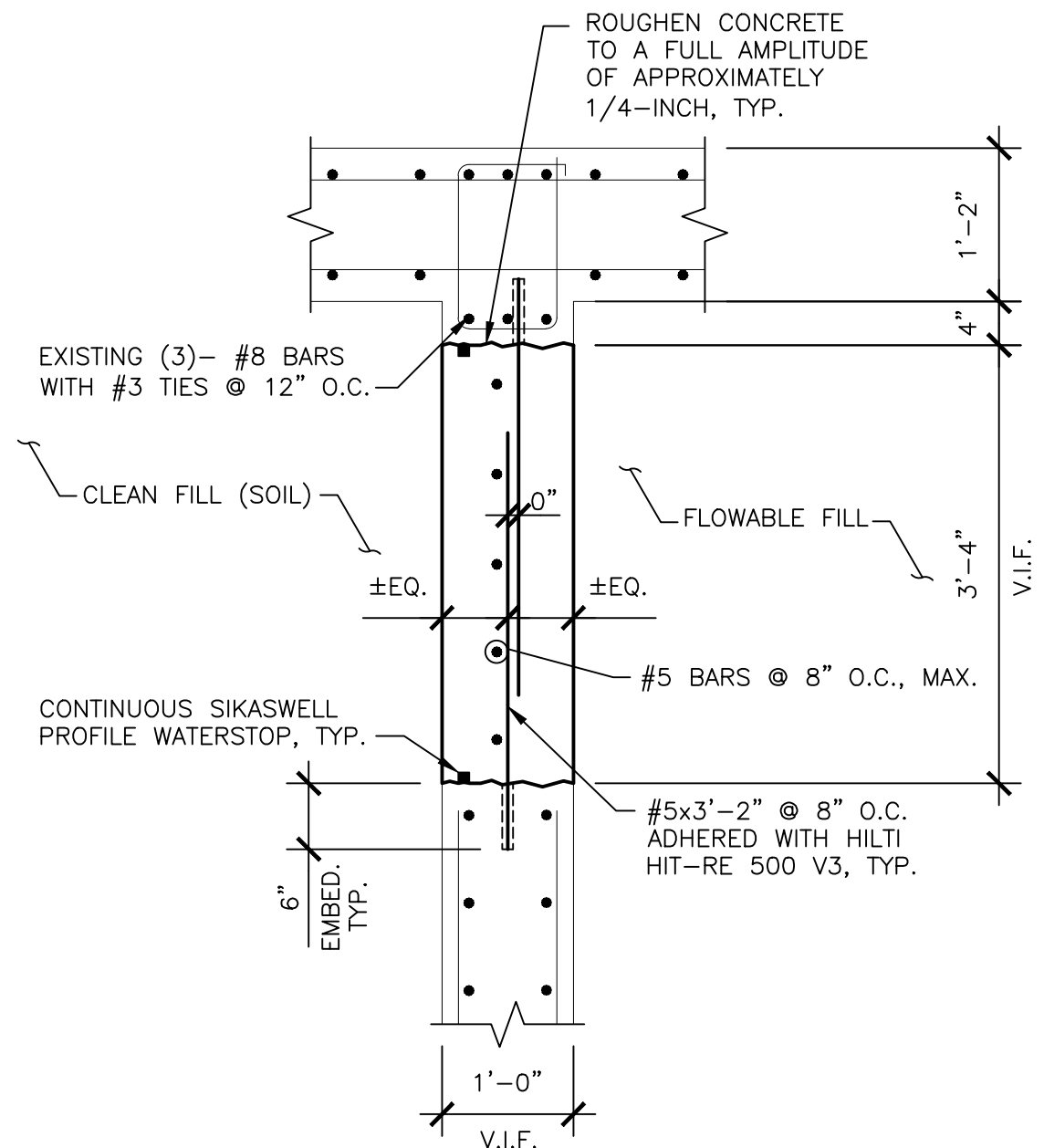
SHEET NO.
S4.2



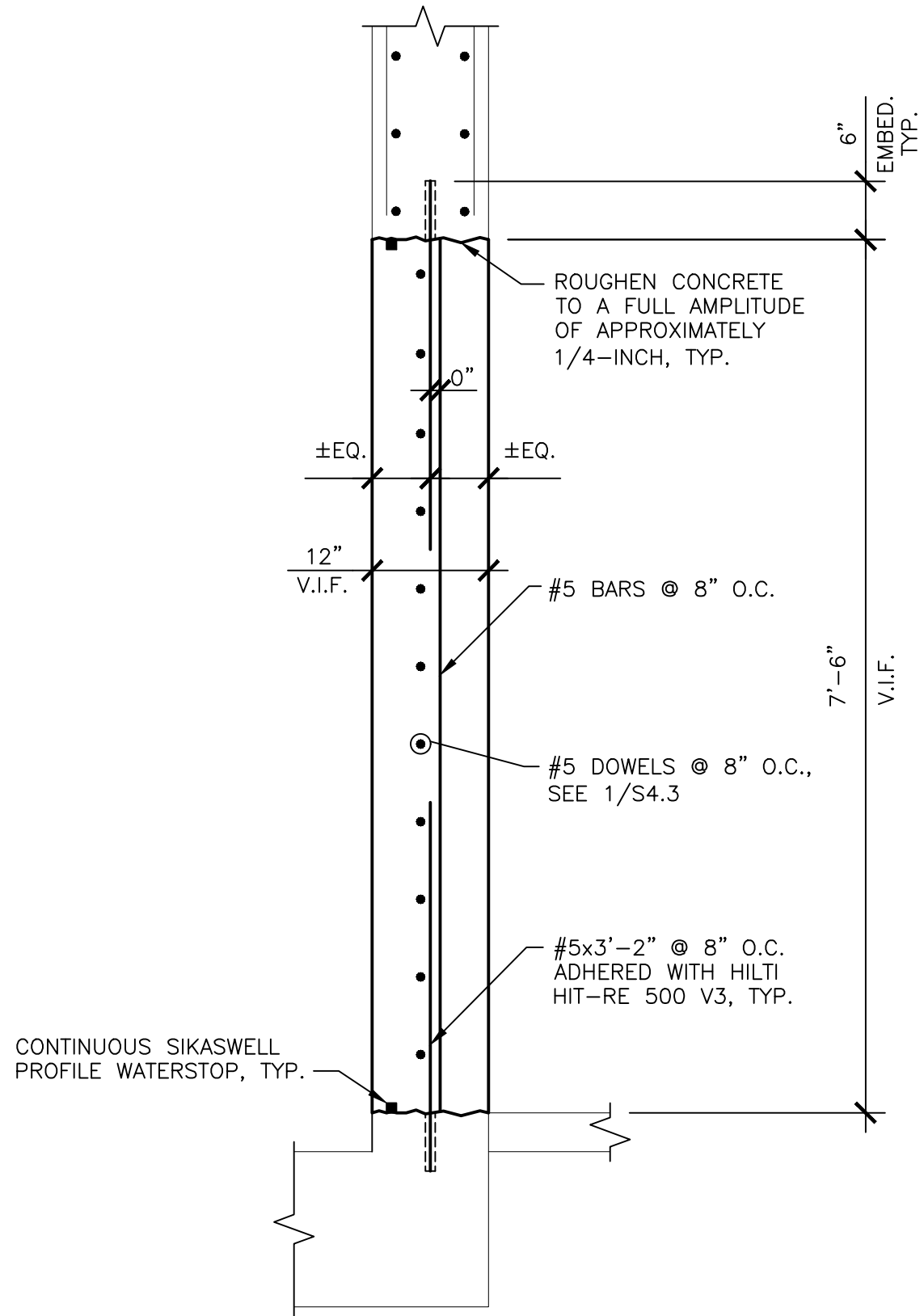
1 SECTION
S4.2 SCALE: 3/4" = 1'-0"



2 SECTION
S4.2 SCALE: 3/4" = 1'-0"



1 SECTION
S4.3 SCALE: 3/4" = 1'-0"



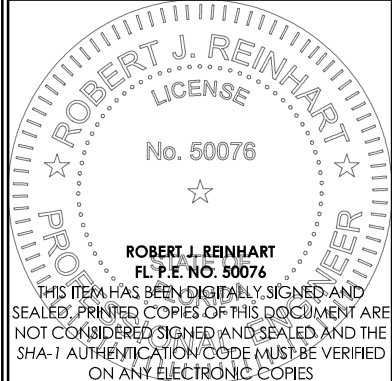
2 SECTION
S4.3 SCALE: 3/4" = 1'-0"

PROJECT NAME
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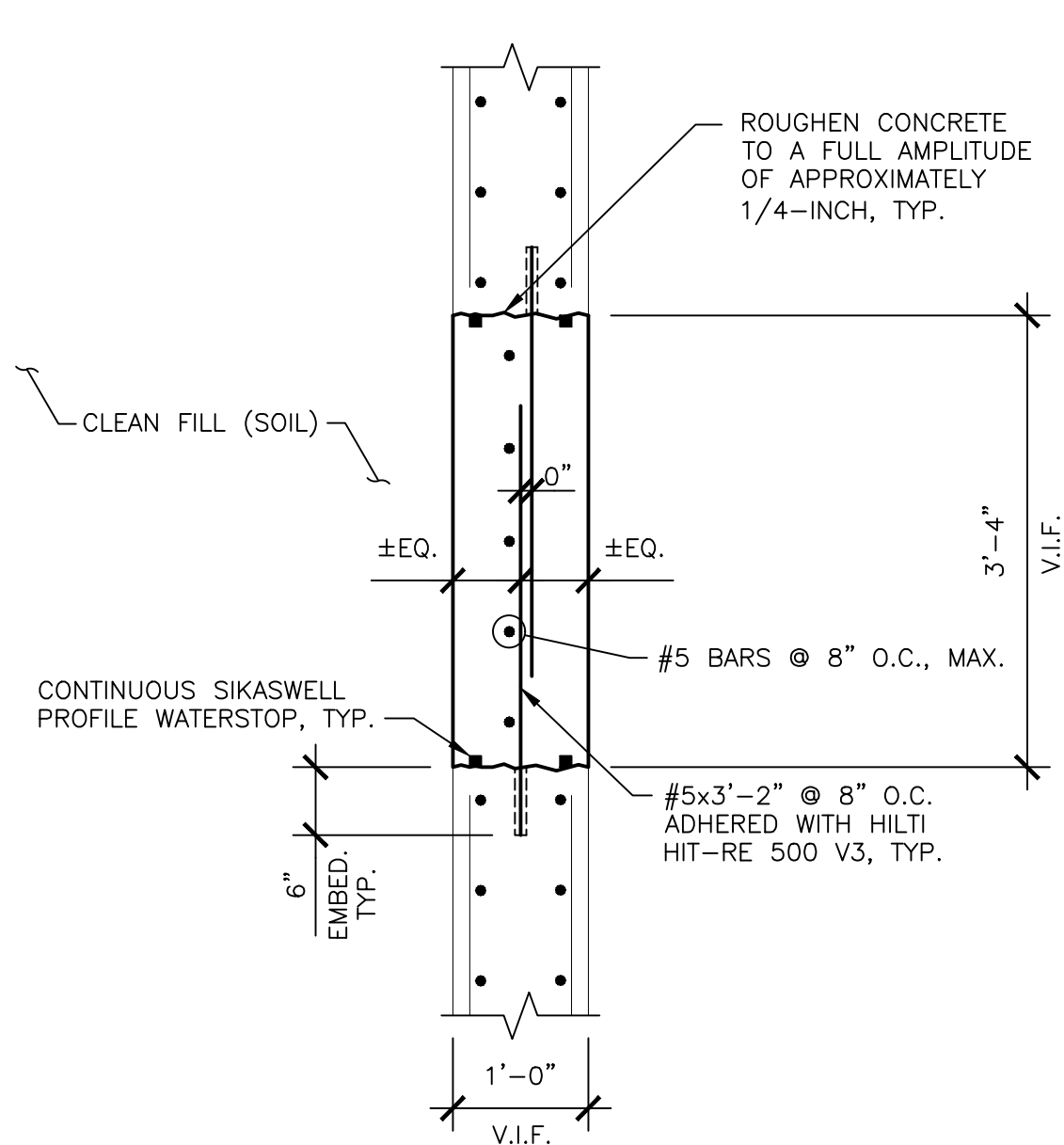
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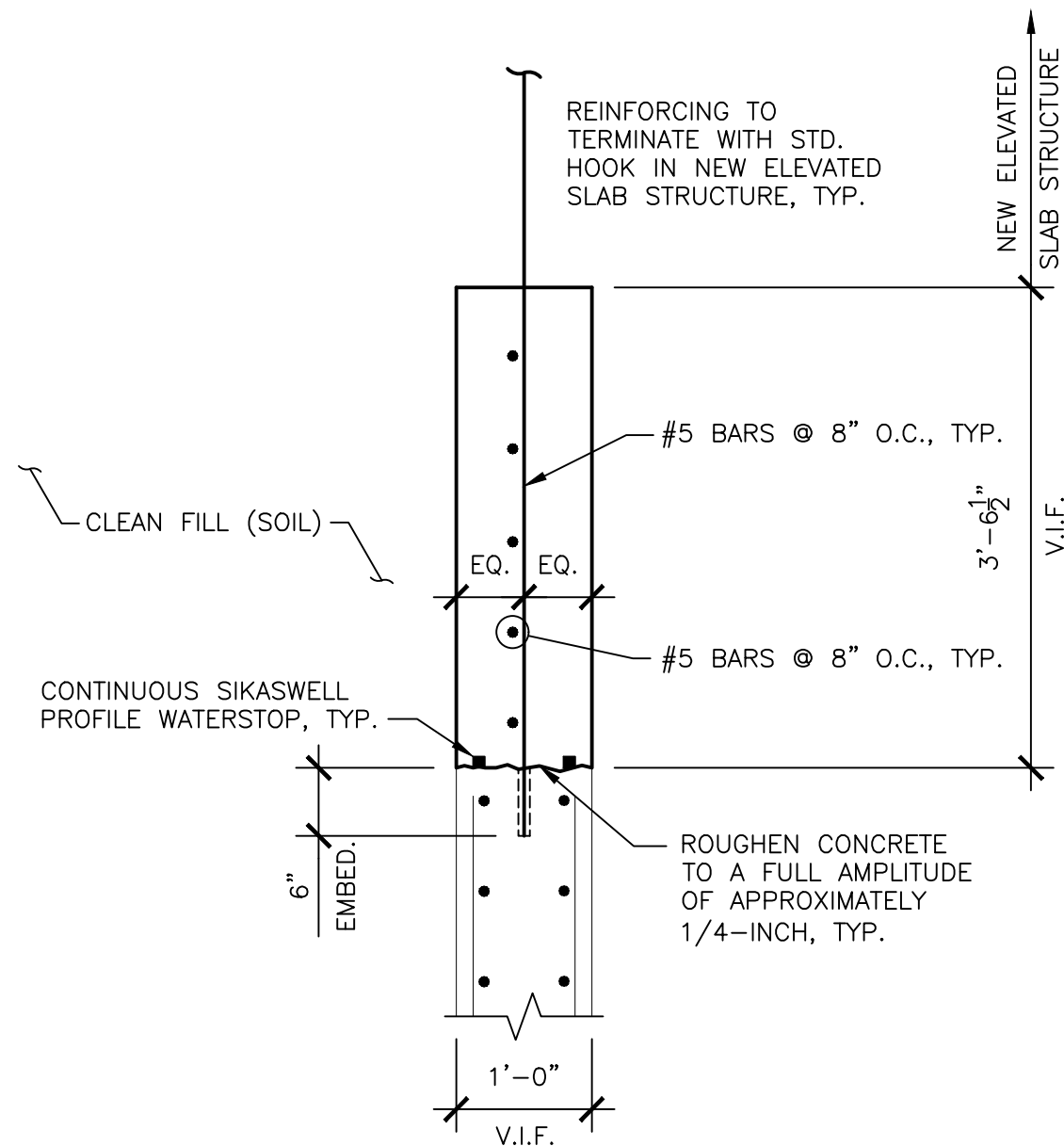
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SHEET TITLE
**SECTIONS AND
DETAILS**

SHEET NO.
S4.3



1 SECTION
S4.4 SCALE: 3/4" = 1'-0"



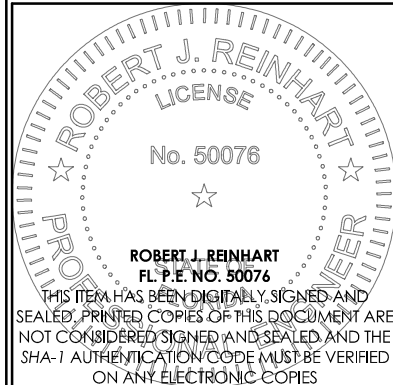
2 SECTION
S4.4 SCALE: 3/4" = 1'-0"

PROJECT NAME
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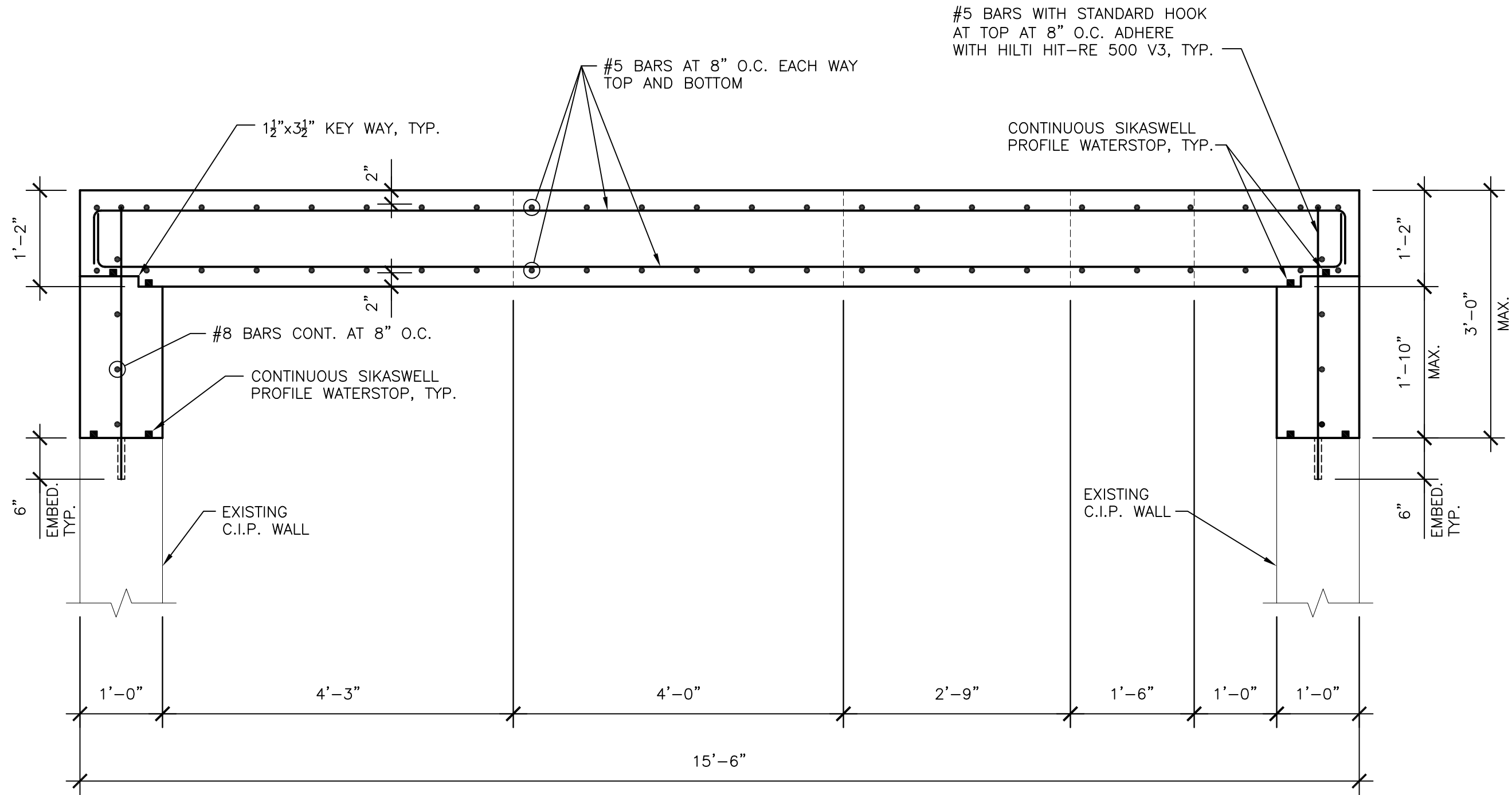
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SHEET TITLE
**SECTIONS AND
DETAILS**

SHEET NO.
S4.4



1 SECTION
S4.5 SCALE: 3/4" = 1'-0"

PROJECT NAME
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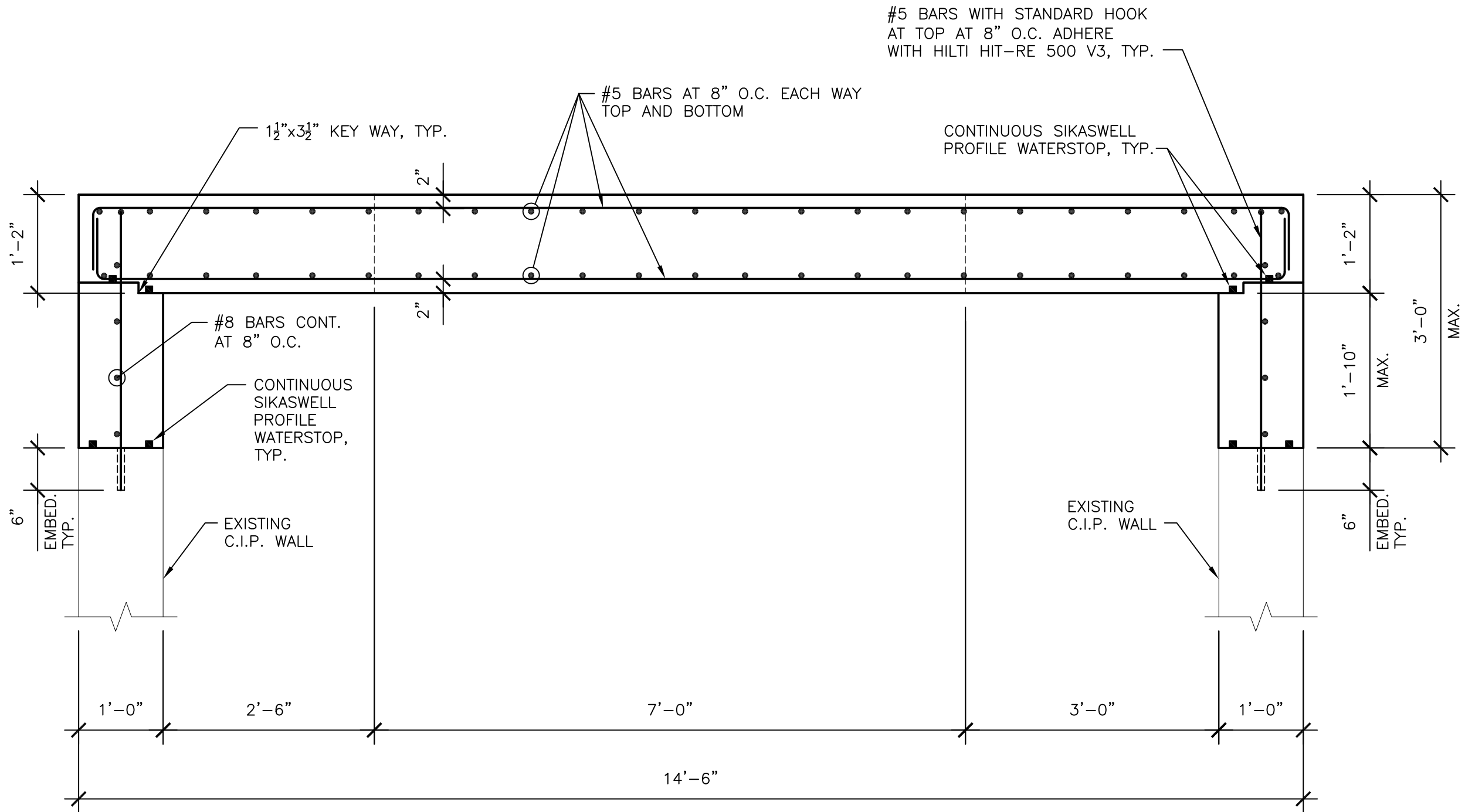
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**SECTIONS AND
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SHEET NO.
S4.5



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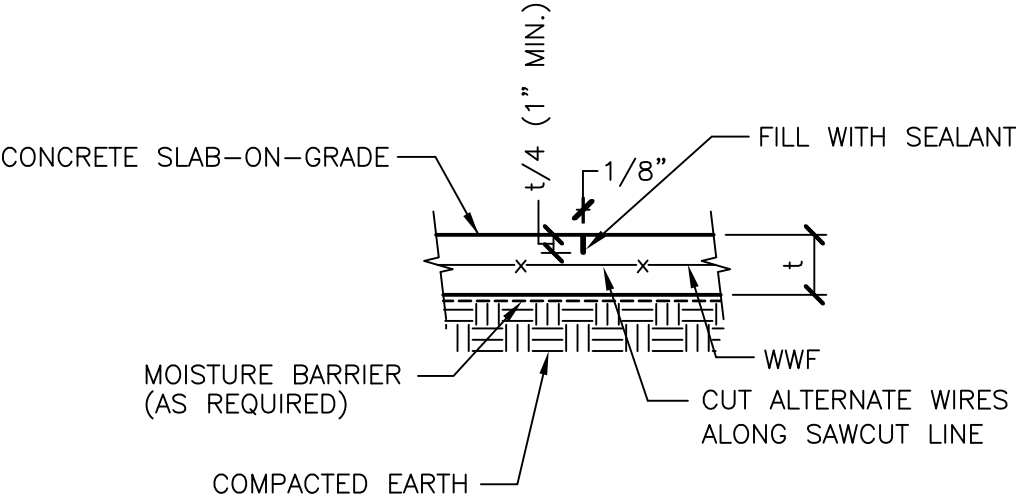
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SHEET TITLE
**SECTIONS AND
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SHEET NO.
S4.6



NOTE : MAKE CONTRACTION JOINTS IN SLABS ON GRADE BY SAWING A CONTINUOUS CUT IN THE TOP OF SLAB.

MAXIMUM SPACING OF CONTRACTION JOINTS IN FEET			
SLAB THICKNESS, INCHES	MAXIMUM-SIZE AGGREGATE LESS THAN 3/4 INCHES	MAXIMUM-SIZE AGGREGATE 3/4 INCHES AND LARGER	SLUMP LESS THAN 4 INCHES *
4	8	10	12
5	10	13	15
6	12	15	18
7	14	18	21
8	16	20	24
9	18	23	27
10	20	25	30

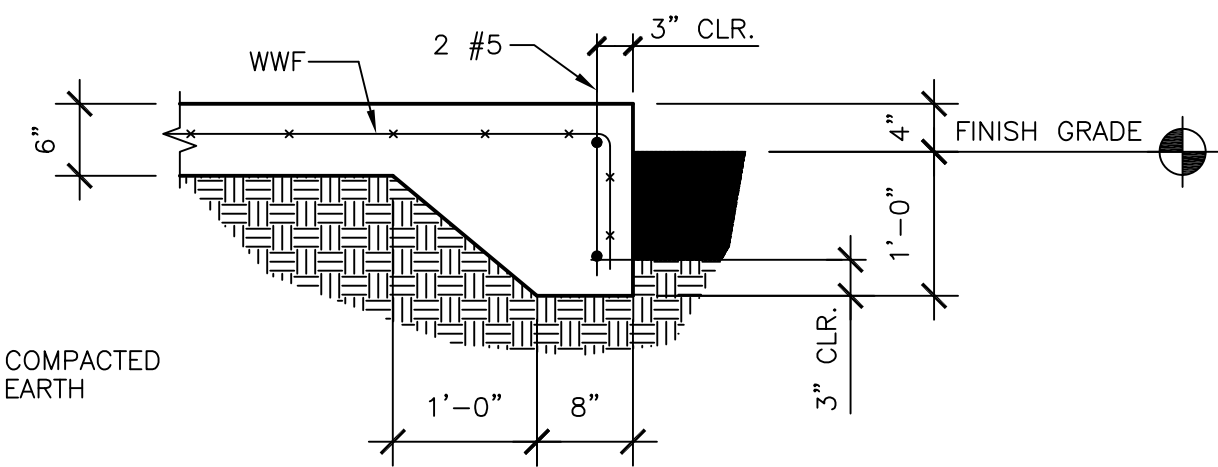
* 3/4 INCHES AND LARGER MAXIMUM SIZE AGGREGATE

1

S4.7

CONTRACTION JOINT DETAIL

SCALE: N.T.S.

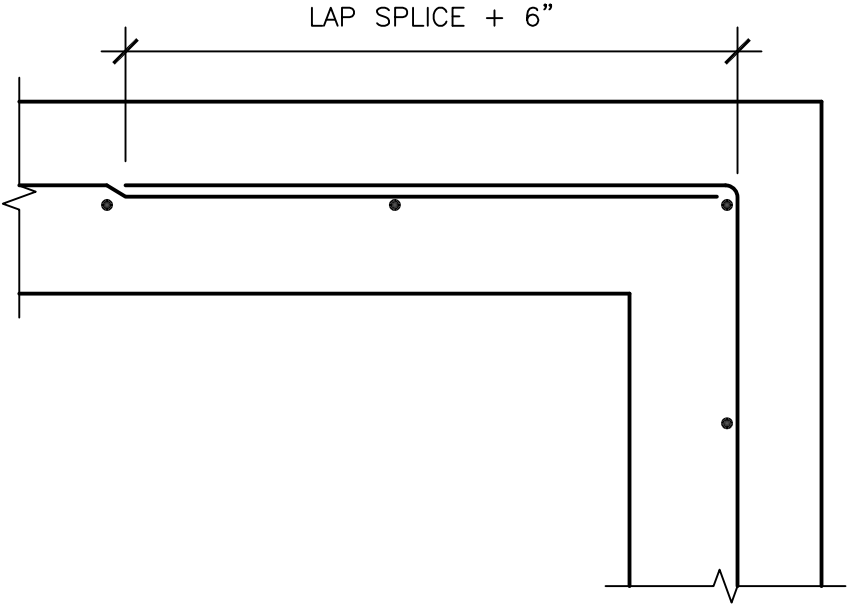


2

S4.7

THICKENED SLAB EDGE

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



NOTES:

- ALL HOOKS SHALL BE STANDARD 90 DEGREE HOOKS.
- SEE DRAWINGS FOR ADDITIONAL HORIZONTAL BARS. STAGGER BETWEEN TYPICAL REINF. SPACING, EXTEND TO 1/3 OF DISTANCE TO NEAREST ADJACENT WALL IN EACH DIRECTION, UNO.
- OPTIONAL LAP LOCATION, APPLIES TO BOTH DOUBLE AND SINGLE LAYER CONDITIONS, TYP.

3

S4.7

WALL REINFORCEMENT AT CORNERS

SCALE: N.T.S.



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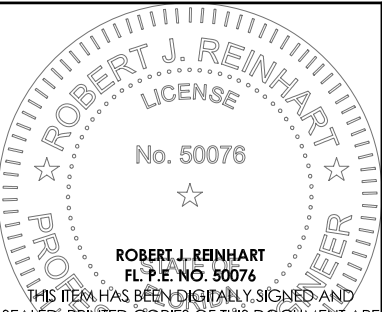
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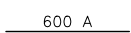
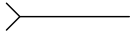
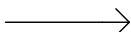
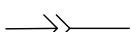
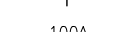
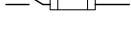
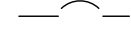
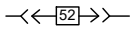
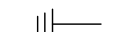
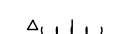
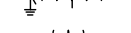
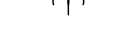
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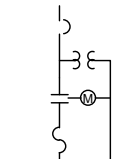
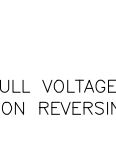
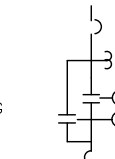
SECTIONS AND
DETAILS

SHEET NO.

S4.7

ONE LINE DIAGRAM SYMBOLS

	BUS—RATING AS SHOWN
	INCOMING LINE
	OUTCOMING LINE
	DISCONNECTING DEVICE
	CONDUCTORS CONNECTED
	CONDUCTORS NOT CONNECTED
	FUSE—RATING AS SHOWN
	SINGLE THROW DISCONNECT SWITCH—RATING AS SHOWN
	FUSED DISCONNECT SWITCH—100A SWITCH, 70A FUSE
	LOW VOLTAGE AIR CIRCUIT BREAKER WITHOUT TRIP DEVICE 100A FRAME
	LOW VOLTAGE AIR CIRCUIT BREAKER WITH 225A FRAME AND 125A TRIP
	MEDIUM VOLTAGE DRAWOUT TYPE AIR CIRCUIT BREAKER
	GROUND CONNECTION
	LIGHTNING OR SURGE ARRESTOR
	SURGE CAPACITOR
	POWER TRANSFORMER WITH WINDING CONNECTIONS INDICATED
	CONTROL POWER TRANSFORMER
	POTENTIAL TRANSFORMER
	CURRENT TRANSFORMER

	THERMAL OVERLOAD ELEMENT (OL)
	SQUIRREL CAGE MOTOR (INDICATE HORSEPOWER)
	GENERATOR
	INDICATING LIGHT (R—RED, G—GREEN, A—AMBER, B—BLUE, W—WHITE)
COMBINATION STARTER WITH CONTROL TRANSFORMERS AND OVERLOAD RELAYS AND MOTOR CIRCUIT PROTECTOR	
	FULL VOLTAGE NON REVERSING
	FULL VOLTAGE REVERSING
	FULL VOLTAGE TWO SPEED

SCHEMATIC AND WIRING DIAGRAM SYMBOLS

	OPERATING COIL	M—MOTOR STARTER	AR— AUXILIARY RELAY
		C— CONTACTOR	CR— CONTROL RELAY
		F— FORWARD	TR— TIME DELAY RELAY
		R— REVERSE	
	NORMALLY OPEN CONTACT (N.O.)		
	NORMALLY CLOSED CONTACT (N.C.)		
	NORMALLY OPEN CONTACT WITH TIME DELAY CLOSING (ON—DELAY)		
	INSTANT OPEN— TIME DELAY CLOSED CONTACT (OFF DELAY)		

	NORMALLY CLOSED CONTACT WITH TIME DELAY OPENING (ON—DELAY)
	INSTANT CLOSE— TIME DELAY OPEN CONTACT (OFF DELAY)
	INDICATING LIGHT— PUSH TO TEST (R—RED, G—GREEN, A—AMBER, B—BLUE, W—WHITE)
	3—POSITION SELECTOR SWITCH (SHOWN IN "H" POS.)
	NORMALLY OPEN PUSHBUTTON— MOMENTARY CONTACT
	NORMALLY CLOSED PUSHBUTTON— MOMENTARY CONTACT
	DOUBLE CIRCUIT PUSHBUTTON WITH SPRING RETURN TO NORMAL
	TRANSFORMER
	OVERLOAD RELAY CONTACT
	THERMAL OVERLOAD ELEMENT (OL)
	ON—OFF SWITCH
	GROUND BUS
	NEUTRAL BUS (INSULATED)
	SINGLE—POLE CIRCUIT BREAKER

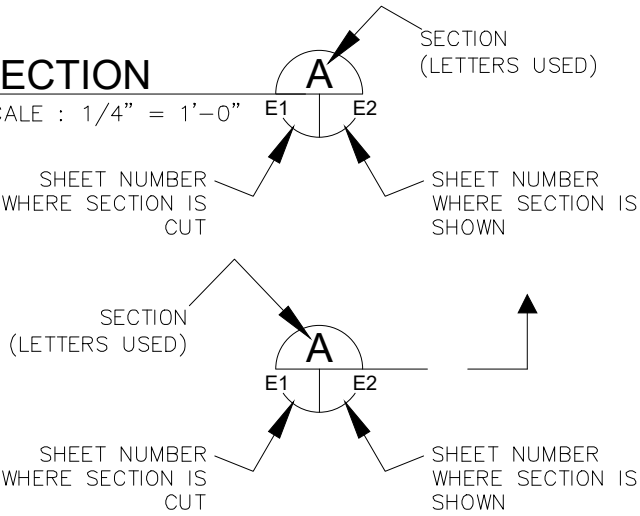
NORMALLY OPEN N.O.	NORMALLY CLOSED N.C.	
		LIMIT SWITCH
		FLOAT SWITCH
		PRESSURE SWITCH
		FLOW SWITCH
		TEMPERATURE

NOTE:
THE SYMBOLS SHOWN COMPRISE A GENERAL LEGEND
TO FACILITATE THE USE OF PLANS. REFER TO THE
PLANS AND SPECIFICATIONS FOR ITEMS REQUIRED.

EXAMPLE OF SECTION CUT AND DETAIL

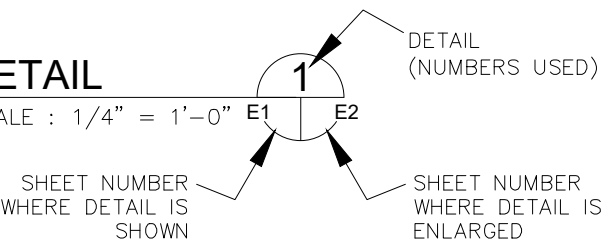
SECTION

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



DETAIL

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



TIMOTHY THOMAS, P.E. #47079	#	DATE	REVISIONS	DES: TDT	CITY of TAMPA WASTEWATER DEPARTMENT	BALLAST POINT PUMPING STATION REPLACEMENT ELECTRICAL SYMBOLS LEGEND (SHEET 1 OF 2)	SHEET E1
	1			DRN: JLH			
	2			CKD:			
	3			DATE:			

POWER AND LIGHTING SYMBOLS

	EXPOSED CONDUIT RUN
	CONDUIT RUN CONCEALED IN FLOOR OR UNDERGROUND
	OVERHEAD ELECTRICAL SERVICE CONDUCTORS OR OVERHEAD COMMUNICATIONS CONDUCTORS
	CONDUIT WITH HOT, NEUTRAL AND GROUND WIRES (LONG LINE IS NEUTRAL; LONG LINE WITH DOTS DENOTE GROUND)
	HOMERUN TO LIGHTING PANELBOARD (PNL-1 INDICATES PANELBOARD AND 1, 3, 5 INDICATES 20A-1P CKTS. 1, 3 AND 5)
	FLEXIBLE LIQUIDTIGHT CONDUIT
	CONDUIT-UP (OR TOWARDS VIEWER)
	CONDUIT-DOWN (OR AWAY FROM VIEWER)
	GROUNDING CONDUCTOR
	GROUND ROD
	LIGHTNING ROD
	CEILING MOUNTED INCANDESCENT OR MERCURY VAPOR FIXTURE. "A" INDICATES FIXTURE TYPE LISTED IN SCHEDULE
	WALL MOUNTED LIGHTING FIXTURE
	EXIT SIGN
	EMERGENCY INCANDESCENT OR MERCURY VAPOR LIGHTING FIXTURE
	FLUORESCENT FIXTURE
	EMERGENCY FLUORESCENT FIXTURE

	POLE MOUNTED LIGHTING FIXTURE
	DUPLEX RECEPTACLE- 20 A, 120 V, 3 WIRE (TO PNL- CIRCUIT No.4)
	SINGLE RECEPTACLE - 2 POLE, 3 WIRE, 240V, RATING NOTED
	3 POLE, 4 WIRE, 240V WELDING OUTLET (60 A)
	SINGLE POLE SWITCH
	TWO POLE SWITCH
	THREE WAY SWITCH
	OUTLET BOX WITH BLANK COVER
	JUNCTION BOX
	PULL BOX
	TERMINAL BOX
	START-STOP PUSHBUTTON
	ON-OFF MAINTAINED CONTACT PUSHBUTTON WITH LOCK ATTACHMENT
	INDICATING LIGHT AND START-STOP PUSHBUTTON WITH LOCK ATTACHMENT ON STOP
	PUSH/PULL BUTTON WITH STOP LOCK. (PULL TO RESUME- PUSH TO STOP)
	SELECTOR SWITCH ("HOA" INDICATES HAND, OFF, AND AUTO; "MOR" INDICATES MANUAL, OFF, AND REMOTE; ETC.)
	ON-OFF SWITCH WITH LOCK ATTACHMENT ON OFF POSITION

	FLOW SWITCH
	LIMIT SWITCH
	PRESSURE SWITCH
	SOLENOID OPERATED VALVE
	TEMPERATURE SWITCH
	FLOAT SWITCH
	LEVEL TRANSMITTER (PRESSURE ANALOG TYPE)
	LEVEL TRANSMITTER (FLOAT TYPE)
	TEMPERATURE TRANSMITTER
	FLOW TRANSMITTER
MH	DESIGNATES MOUNTING HEIGHT
WP	DESIGNATES WATERPROOF EQUIPMENT
XP	DESIGNATES EXPLOSIONPROOF EQUIPMENT
MOV	DESIGNATES MOTOR OPERATED VALVE
EX.	DESIGNATES EXISTING EQUIPMENT
PROP.	DESIGNATES PROPOSED EQUIPMENT

NOTE:
THE SYMBOLS SHOWN COMPRISE A GENERAL LEGEND TO FACILITATE THE USE OF PLANS. REFER TO THE PLANS AND SPECIFICATIONS FOR ITEMS REQUIRED.

GENERAL SYMBOLS

	START-STOP PUSHBUTTON
	ON-OFF MAINTAINED CONTACT PUSHBUTTON WITH LOCK ATTACHMENT
	INDICATING LIGHT AND START-STOP PUSHBUTTON WITH LOCK ATTACHMENT ON STOP
	PUSH/PULL BUTTON WITH STOP LOCK. (PULL TO RESUME- PUSH TO STOP)
	SELECTOR SWITCH ("HOA" INDICATES HAND, OFF, AND AUTO; "MOR" INDICATES MANUAL, OFF, AND REMOTE; ETC.)
	ON-OFF SWITCH WITH LOCK ATTACHMENT ON OFF POSITION

TIMOTHY THOMAS, P.E. #47079	#	DATE	REVISIONS	DES: TDT	CITY of TAMPA WASTEWATER DEPARTMENT	BALLAST POINT PUMPING STATION REPLACEMENT ELECTRICAL SYMBOLS LEGEND (SHEET 2 OF 2)	SHEET E2
	1			DRN: JLH			
	2			CKD:			
	3			DATE:			

GENERAL NOTES:

1. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR APPROVAL PRIOR TO PURCHASING EQUIPMENT OR COMMENCING CONSTRUCTION.
 2. ALL POWER CONDUCTORS SHALL BE STRANDED COPPER, #12 AWG MIN. W/XHHW-2 INSULATION, UNLESS OTHERWISE NOTED.
 3. ALL WIRING SHALL BE IDENTIFIED W/NUMBERS AT ALL TERMINALS AND ON WIRING DIAGRAMS.
 4. VERIFY ALL MECHANICAL EQUIPMENT SIZES AND RATING PRIOR TO CONNECTING.
 5. FIELD VERIFY ALL EQUIPMENT LOCATIONS AND CONNECTIONS PRIOR TO COMMENCING CONSTRUCTION.
 6. PLANS ARE DESIGNED IN ACCORDANCE WITH THE 7TH EDITION 2020 OF THE FLORIDA BUILDING CODE AND THE 2017 EDITION OF THE NATIONAL ELECTRICAL CODE. CONTRACTOR SHALL ENSURE THAT ALL ELECTRICAL WORK PERFORMED SHALL ADHERE TO THE SAME ACCORDANCE AND ALL APPLICABLE LOCAL ORDINANCES.
 7. ALL THREADED CONNECTIONS SHALL BE COATED W/ ALUMA-SHIELD ANTI-SIEZE COMPOUND MANUFACTURED BY THOMAS & BETTS (T & B) OR EQUAL.
 8. ALL PANELS, DISCONNECTS, SWITCHES, AND EQUIPMENT COVERPLATES SHALL BE LABELED W/ NAMEPLATES. NAMEPLATES SHALL BE THREE-PLY PHENOLIC BLACK-WHITE-BLACK ENGRAVED THROUGH THE FIRST BLACK LAYER. LETTERING SHALL BE 0.5 CM (3/16") MIN. EDGE OF NAMEPLATE SHALL BE BEVELED 45 DEG.
 9. ALL CONDUIT SHALL BE SUPPORTED AT MAXIMUM 5'-0" INTERVALS.
 10. ALL CIRCUITS SHALL HAVE A PROPERLY SIZED GROUNDING CONDUCTOR ROUTED INSIDE EACH CONDUIT W/ POWER CONDUCTORS.
 11. ALL CONDUCTOR LENGTHS SHALL BE CONTINUOUS, NO SPLICES OR CONDUCTOR TERMINATIONS SHALL BE PERMITTED UNLESS SPECIFICALLY DESIGNED IN THE DRAWINGS.
 12. NEATLY COIL ALL SPARE CONDUCTORS & TAPE W/ VINYL ELECTRICAL TAPE (SCOTCH 33+).
 13. PROVIDE A MINIMUM OF 3'-6" CLEARANCE IN FRONT OF ALL ELECTRICAL EQUIPMENT IN ACCORDANCE W/ ARTICLE 110 OF THE NEC.
 14. ALL FASTENING HARDWARE (SCREW, BOLTS, NUTS ETC.) SHALL BE 316-STAINLESS STEEL, FASTENING HARDWARE CONSTRUCTED OF FERROUS MATERIAL ARE NOT ACCEPTABLE.
 15. EXPOSED CONDUITS SHALL BE NON-COATED RIGID ALUMINUM CONDUIT, UNLESS OTHERWISE NOTED (UON). INSTALL PVC COATED RIGID ALUMINUM CONDUIT TO THE WET WELL, UNLESS OTHERWISE NOTED (UON).
 16. DIRECT BURIED AND CONCRETE ENCASED CONDUIT SHALL BE SCHEDULE 80 PVC, UNLESS OTHERWISE NOTED. TRANSITIONS FROM ABOVE-GRADE RIGID ALUMINUM CONDUIT TO NONMETALLIC CONDUIT SHALL BE ACCOMPLISHED WITH A THREADED ADAPTER. RIGID ALUMINUM CONDUIT INSTALLED ABOVE GRADE AND EXTENDING BELOW GRADE SHALL INCLUDE THE FIRST 90° ELBOW. ALL RIGID ALUMINUM CONDUITS EXTENDING BELOW GRADE SHALL BE COATED WITH TWO COATS OF ASPHALTUM-TYPE PAINT ALONG ITS ENTIRE LENGTH BELOW GRADE AND EXTENDING 6" ABOVE GRADE OR ABOVE THE TOP OF THE FINISHED SLAB.
 17. ABOVE GRADE INDOOR, AND NON-WASHDOWN AREAS, RIGID ALUMINUM CONDUIT CONNECTIONS TO CONTROL BOXES, ETC. SHALL BE MADE WITH ALUMINUM DOUBLE LOCKNUTS AND BUSHINGS. TURN DOWN ON THREADS TO SOLIDLY CONNECT RACEWAY TO BOX OR ENCLOSURE.
 18. ALUMINUM WATERTIGHT HUBS (MYERS HUBS) SHALL BE USED FOR CONNECTIONS TO CONTROL BOXES, ETC. MOUNTED OUTDOORS, BELOW GRADE, OR WASHDOWN AREAS.
 19. A 316-STAINLESS STEEL CHANNEL ERECTOR SYSTEM SHALL BE USED TO SUPPORT ALL CONDUITS, BOXES ETC. USE 316 STAINLESS STEEL MOUNTING HARDWARE.
 20. THE CONTRACTOR SHALL FIELD VERIFY EXISTING CONDITIONS AND MAKE ADJUSTMENTS AS NECESSARY TO EXECUTE THE PROPOSED INSTALLATIONS.
 21. ALL EXISTING INSTALLATIONS DENOTED ON THE DRAWINGS ARE FOR THE CONTRACTORS REFERENCE ONLY. ALL EXISTING INSTALLATIONS SHALL BE FIELD VERIFIED PRIOR TO SUBMITTING A BID AND PRIOR TO COMMENCING CONSTRUCTION.
 22. PULL BOXES SHALL BE INSTALLED AS NECESSARY TO FACILITATE WIRE PULLS AND AVOID EXCESSIVE PULLING TENSION ON WIRING. IN NO CASE SHALL CONDUIT LENGTHS EXCEED 150' OR THE EQUIVALENT OF FOUR QUARTER BENDS (360 DEGREES TOTAL) WITHOUT A PULL BOX. PULL BOXES SHALL BE SIZED IN ACCORDANCE WITH ARTICLE 314 OF THE NEC.
 23. THE WET WELL CLASSIFICATION IS CLASS 1, DIVISION 2, GROUP D, (HAZARDOUS AREA) NEC CHAPTER 5 IS APPLICABLE FOR INTERFACING WET WELL AND THE CONTROL ENCLOSURE.
 24. ALL ELECTRICAL WORK SHALL BE PERFORMED WITHIN 2017 NEC AND CITY OF TAMPA/ HILLSBOROUGH COUNTY CODES AND SHALL BE INSPECTED BY CITY OF TAMPA/ ELECTRICAL INSPECTORS AS APPLICABLE.
 25. ALL ELECTRICAL COMPONENTS SHALL BE UL LISTED AND AS SPECIFIED, OR AS APPROVED BY THE ENGINEER. THE PANEL BUILDER SHALL BE UL-508A CERTIFIED AND A UL LABEL SHALL BE ATTACHED TO THE INSIDE OF THE ENCLOSURE. THE DOUBLE THROW DISCONNECT MUST BE LABELED "SUITABLE FOR USE AS SERVICE EQUIPMENT."
 26. THE ENCLOSURES SHALL BE NEMA 4X, THEY SHALL BE CONSTRUCTED OF MINIMUM 14 GAUGE 304SS, THEY SHALL HAVE RAL 9003 WHITE POWDER COAT AND THE CLOSING SURFACES SHALL HAVE ROLLED LIPS. PROVIDE HINGED DOORS WITH 3-POINT LATCHED AND LOCKABLE HANDLES.
 27. ALL COMPONENTS TO BE MOUNTED ON PANEL USING TAPPED HOLES.
 28. ALL CONTROL WIRING SHALL BE STRANDED XHHW-2 COPPER, MINIMUM AWG #14. INSTALL FERRULES FOR ALL WIRE TERMINATIONS SMALLER THAN #8 AWG.
 29. ALARM FLOAT SWITCH WILL BE SUPPLIED BY THE CITY, BUT INSTALLED BY CONTRACTOR.
 30. DIMENSIONS, ITEMS, OR ELEVATIONS MARKED "*" TO BE DETERMINED AFTER EQUIPMENT SELECTION.
 31. ALL MECHANICAL CONNECTORS SHALL BE TORQUED PER NEC, UL OR MANUFACTURER'S SPECIFICATIONS.
 32. INSTALL LAMINATED SCHEMATIC, LAMINATED DATA SHEET AND LAMINATED SOFT STARTER SETUP PARAMETERS ON BACK FACE OF THE DOOR INSIDE THE ENCLOSURE.
 33. ENSURE THAT LINE CONNECTIONS TO METER SOCKET PROVIDE CORRECT MOTOR ROTATION.
 34. CONDUCTORS WITHIN THE ENCLOSURE AND NOT ROUTED IN WIREWAYS, SHALL BE SECURED TO THE BACK PANEL WITH MECHANICAL FASTENERS, FASTENERS SECURED WITH ADHESIVE ARE NOT ACCEPTABLE.
 35. ALL HINGED SURFACES SHALL BE GROUNDED WITH A BONDING JUMPER SECURED TO THE ENCLOSURE OR BACKPANEL.
 36. THE PCSR SHALL BE MOTOROLA ACE 3600 PACKAGE AS DISTRIBUTED BY STAR CONTROLS, AUTOMATED CONTROLS, CURRY CONTROLS, ROCHA CONTROLS, OR CAYZO CONSULTING, INC.. THE PUMPING STATION CONTRACTOR SHALL COORDINATE HIS EFFORTS WITH STAR CONTROLS, AUTOMATED CONTROLS, ROCHA CONTROLS, REVERE CONTROL SYSTEMS OR CAYZO CONSULTING, INC.. TO ENSURE SYSTEM COMPATIBILITY. THE PCSR SHALL STORE AND FORWARD SITE ID'S IF REQUIRED. THE CONTRACTOR SHALL PROVIDE AND INSTALL A COMPLETE DUPLEX CONTROL SYSTEM/SCADA PACKAGE, AS PROGRAMMED BY STAR CONTROLS, AUTOMATED CONTROLS, ROCHA CONTROLS, REVERE CONTROL SYSTEMS OR CAYZO CONSULTING, INC.. - THE EXISTING PUMPING STATION DCR CONTROLS SHALL REVERT TO THE CITY AS A SPARE.
 37. THE CONTRACTOR SHALL SCHEDULE A PUMP STATION SCADA TESTING DATE, PUMP STATION PRE-STARTUP DATE, AND PUMP STATION STARTUP DATE. THE CITY SHALL BE GIVEN 14 DAYS' NOTICE OF THE SCHEDULED SCADA TESTING DATE. ON THE SCADA TESTING DATE, THE SCADA PROGRAMMER SHALL PROVIDE TEMPORARY POWER TO THE CONTROL PANEL PLC, PLACE THE NEW PLC ON LINE WITH THE CITY'S VT SCADA SYSTEM, AND PERFORM ANY NEEDED TROUBLESHOOTING OR DEBUGGING. THE CITY SHALL PROVIDE REQUIRED ADDRESSING FOR TESTING. AFTER THE SCADA PROGRAMMER DETERMINES THAT THE NEW PLC AND THE VT SCADA ARE PROPERLY COMMUNICATING WITHOUT ISSUE, THE CONTRACTOR SHALL SCHEDULE AN ONSITE PLC WITNESS TEST BETWEEN THE CITY OR CITY REPRESENTATIVE, SCADA PROGRAMMER, AND ANY OTHER REQUIRED PARTIES. DURING THE PLC WITNESS TEST, THE SCADA PROGRAMMER MUST DEMONSTRATE THAT THE NEW PLC IS ONLINE, COMMUNICATING WITH VT SCADA, AND ALL LEVEL AND STATUS INDICATIONS ARE FREE FROM ERROR. ONCE THE CITY HAS WITNESSED AND APPROVED SCADA TESTING, THE CONTRACTOR SHALL SCHEDULE A PRE-STARTUP AND START UP DATE. THE CITY RESERVES THE RIGHT TO CANCEL THE PRE-STARTUP DATE, IF IT DEEMS THE PRE-STARTUP DATE IS NOT NECESSARY.
 38. THE CONTROL PANELS SHALL BE FACTORY TESTED. THE CONTRACTOR SHALL PROVIDE A CERTIFIED TESTING REPORT DETAILING ALL I/O POINTS, CONNECTION AND EQUIPMENT ARE IN WORKING ORDER. A COPY OF THE REPORT SHALL BE PROVIDED TO THE CITY PRIOR TO DELIVERY AND A COPY SHALL BE INCLUDED WITH THE CONTROL PANELS AT THE TIME OF THE DELIVERY.
 39. A WET WELL LEVEL DETECTION SYSTEM SHALL BE PROVIDED AND INSTALLED BY THE CONTRACTOR. THE OUTPUT SHALL BE A LINEAR 4-20mA SIGNAL WITH RANGE AND CALIBRATION SUITABLE FOR THIS APPLICATION. THE SYSTEM SHALL BE OF THE ULTRASONIC TYPE-PULSAR, INC. MODEL dB10 W/ ULTRA-4 TRANSMITTER. CITY INSTRUMENTATION PERSONNEL WILL ASSIST THE CONTRACTOR WITH SPECIFYING THE TRANSDUCER MOUNTING LOCATION AND CALIBRATION. THE dB10 TRANSDUCER SHALL BE MOUNTED USING A 2 1/2" x 1/4" S.S. BRACKET, SEE dB10 MOUNTING BRACKET DETAIL, SHEET E23.
 40. PROVIDE FINGER SAFE POWER DISTRIBUTION BLOCKS.
 41. XHHW-2 CONDUCTORS (3-#6 AWG + #8 AWG GND. CU FOR EACH MOTOR) SHALL EXTEND FROM THE JUNCTION BOX. PROVIDE SEAL-OFF BETWEEN MOTOR CONTROL CABINET TO PUMP MOTOR CONNECTION AND JUNCTION BOX AS INDICATED. THE SHOWN SEAL-OFFS SHALL BE ALUMINUM BODY, CROUSE-HINDS, OR EQUIVALENT.
 42. ALUMINUM CONDUIT SURFACES THAT ARE IN CONTACT WITH SOIL OR CONCRETE SHALL BE COATED WITH TWO COATS ASPHALT VARNISH (FED. SPEC. TT-V-51) EXTENDING 4" BEYOND FINAL CONTACT POINT.
 43. STAINLESS STEEL HANGERS TO SUPPORT THE EXCESS LENGTH OF MOTOR CABLES SHALL BE INSTALLED IN THE WET WELL. THESE HANGERS SHALL BE LOCATED IN A SEPARATE AREA FROM THE HANGERS SUPPORTING THE PUMP CHAINS.



TIMOTHY THOMAS, P.E. #47079	#	DATE	REVISIONS	DES:	TDT	CITY of TAMPA WASTEWATER DEPARTMENT	BALLAST POINT PUMPING STATION REPLACEMENT	SHEET
	1			DRN:	JLH			
	2			CKD:				
	3			DATE:				
							GENERAL NOTES	E3

ELECTRICAL SERVICE LOAD SUMMARY					
480 VAC, 3ø, 4W					
LOAD	CONNECTED	DEMAND	APPROX. PHASE CURRENTS		
			L1	L2	L3
PUMP #1	31.5 KVA	31.5 KVA	40.0 A	40.0 A	40.0 A
PUMP #2	31.5 KVA	31.5 KVA	40.0 A	40.0 A	40.0 A
MINI POWER-ZONE	7.5 KVA	7.5 KVA	0.0 A	15.6 A	15.6 A
TOTAL	70.5 KVA	70.5 KVA	80.0 A	95.6 A	95.6 A

PUMP MOTOR DATA
MAKE: FLYGT
MODEL: NP3171.181
H.P.: 34
480V, 3-PHASE, 40 FLA
TOTAL PUMP LOAD: 40 AMPS, 31.5 KVA

SHORT CIRCUIT CALCULATIONS
AVAILABLE SHORT-CIRCUIT CURRENT AT 480V UTILITY SERVICE IS 6,766 AMPERES. CONTRACTOR TO CONFIRM WITH TECO
TECO CONTACT: BROCK BLACKMORE (813) 228-1008
UTILITY SERVICE: 480/277, 3 PH, POLE-MOUNTED TRANSFORMERS AVAILABLE FAULT CURRENT AT SECONDARY SIDE OF TECO'S TRANSFORMERS: 9,021 AMP RMS SYM. SERVICE CONDUCTOR LENGTH: 140 FEET SERVICE CONDUCTOR SIZE: #1/0 XHHW CU. FUSE RATING: 150 AMPS
ISCA AT LINE SIDE OF FTDS:
ISCA= 1 + 1 (1.73)(140)(9,021) (7,460)(480) * 9,021=3,426
SHORT CIRCUIT CURRENT AVAILABLE AT LINE SIDE LUGS OF THE FUSED DOUBLE THROW SWITCH = 3,426 AMPS RMS. THE LET-THROUGH CURRENT OF THE FUSES = 3,200 AMPS WHICH IS THE SYMMETRICAL CURRENT AVAILABLE AT THE MOTOR CONTROL PANEL (MCP).

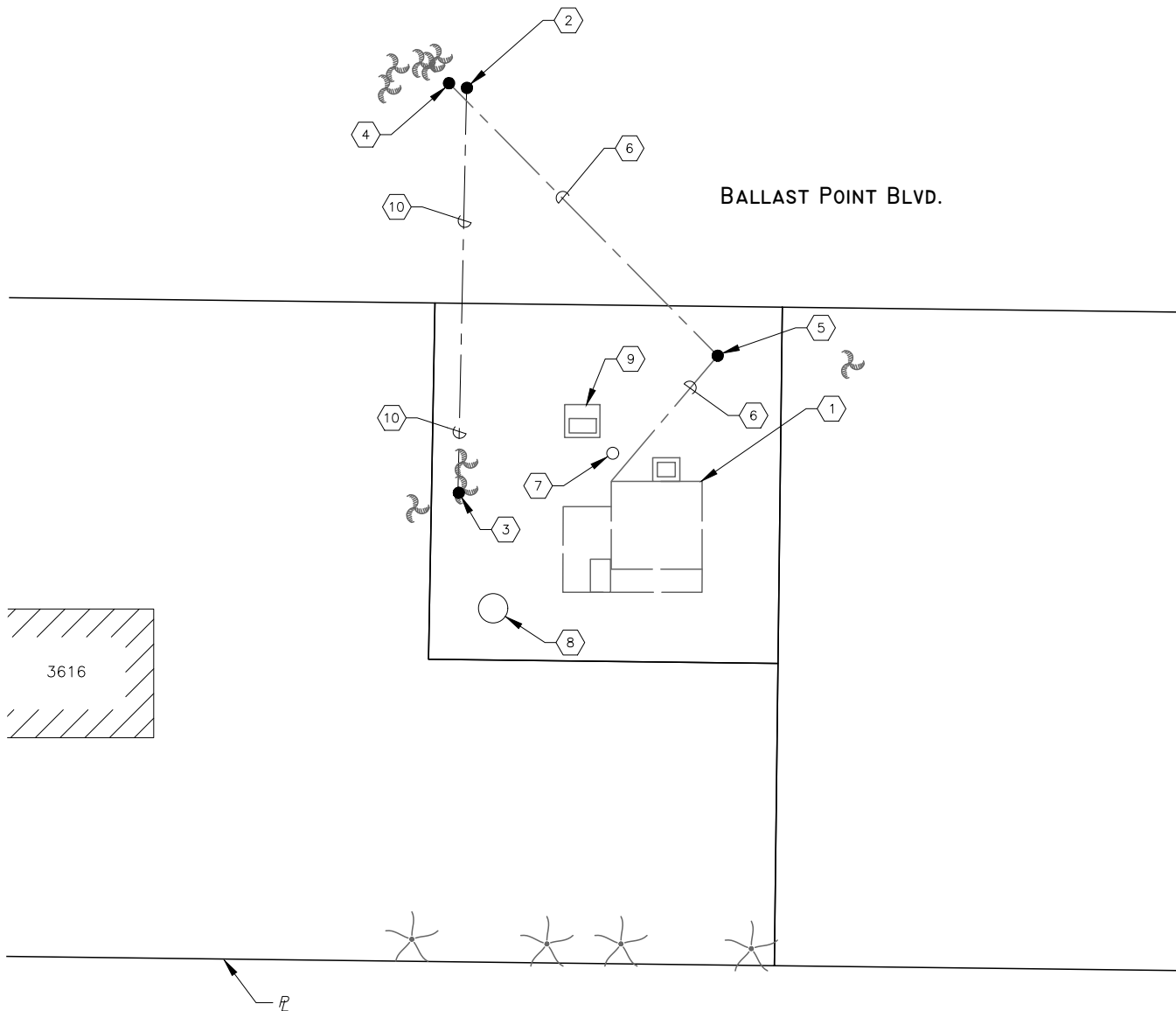
SCOPE OF WORK:

1. THE SERVICE VOLTAGE TO THIS FACILITY SHALL BE MODIFIED FROM 120/240 VAC, 3-PHASE, 4-WIRE, OPEN-DELTA SYSTEM TO A 277/480 VAC, 3-PHASE, 4-WIRE, WYE SYSTEM.
2. REMOVE THE EXISTING METER SOCKET, LIGHTNING ARRESTOR, CONTROL PANEL, CONCRETE PEDESTAL, AND ALL ASSOCIATED CONDUIT AND CONDUCTORS, AS SHOWN ON PLANS.
3. CAREFULLY REMOVE THE EXISTING DCR SCADA RTU CABINET. DELIVER THIS RTU PACKAGE TO THE CITY FOR MAINTENANCE INVENTORY.
4. ANY SALVAGEABLE MATERIALS, AS DETERMINED BY THE ENGINEER, SHALL BE DELIVERED, BY THE CONTRACTOR, TO THE HOWARD F. CURREN AWTP. THE CONTRACTOR SHALL PROPERLY DISPOSE OF ALL OTHER REMOVED EQUIPMENT.
5. PROVIDE AND INSTALL A NEW ELECTRICAL METER SOCKET, LIGHTNING ARRESTOR AND GROUNDING, AS SHOWN ON PLANS.
6. PREPARE THE SITE FOR THE INSTALLATION OF THE PROPOSED CONTROL EQUIPMENT.
7. PROVIDE AND INSTALL A NEW DUPLEX PUMP CONTROL PANEL. THE PUMP CONTROL PANEL SHALL CONTAIN CONTROL COMPONENTS, INDICATOR LIGHTS, AND SCADA RTU, AS SHOWN ON PLANS AND DETAILED IN SPECIFICATIONS.
8. PROVIDE AND INSTALL NEMA 4X WET WELL ISOLATION JUNCTION BOX FOR PUMP MOTOR CONNECTIONS.
9. PROVIDE AND INSTALL A NEW DUPLEX MOTOR CONTROL PANEL. THE MOTOR CONTROL PANEL SHALL CONTAIN CIRCUIT BREAKERS AND MOTOR STARTERS (REDUCED VOLTAGE SOLID STATE STARTERS) AS SHOWN ON PLANS AND DETAILED IN SPECIFICATIONS.
10. PROVIDE AND INSTALL NEMA 4X WET WELL ISOLATION BOX FOR INSTRUMENTATION AND CONTROL CONNECTIONS.
11. PROVIDE AND INSTALL A NEMA 4X, SERVICE ENTRANCE RATED, FUSED DOUBLE THROW SWITCH, AS SHOWN ON PLANS.
12. PROVIDE AND INSTALL A NEMA 4X, EMERGENCY POWER CONNECTOR AS SHOWN ON THE PLANS.
13. THE EXISTING SCADA ANTENNA AND ASSOCIATED MAST SHALL BE CAREFULLY REMOVED AND PROVIDED TO THE CITY FOR MAINTENANCE INVENTORY.
14. PROVIDE AND INSTALL A NEW ANTENNA AND MAST.
15. PROVIDE AND INSTALL AREA LIGHT, AS SHOWN ON PLANS.
16. PROVIDE AND INSTALL PROPOSED RAIN GAUGE.
17. CALIBRATE AND ADJUST SETPOINTS FOR ALL SENSING DEVICES, ALARM DEVICES, AND TIMERS. CALIBRATION AND SETPOINTS SHALL BE PROVIDED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
18. PROVIDE FOR PROPER GROUNDING AS SHOWN, SPECIFIED, AND REQUIRED.
19. PROVIDE AND INSTALL ALL NECESSARY CONDUITS AND CONDUCTORS, AS SHOWN, SPECIFIED AND REQUIRED.
20. ALL ELECTRICAL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE 2017 EDITION OF THE NATIONAL ELECTRIC CODE AND CHAPTER 5 OF THE CITY OF TAMPA CODE.
21. REFER TO CIVIL/MECHANICAL SHEETS FOR BYPASS PUMPING REQUIREMENTS. IF ELECTRICALLY DRIVEN BYPASS PUMPS ARE UTILIZED, THE CONTRACTOR SHALL COORDINATE ALL TEMPORARY ELECTRICAL SERVICE REQUIREMENTS WITH TAMPA ELECTRIC COMPANY (TECO). ANY COSTS ASSOCIATED WITH TEMPORARY ELECTRIC POWER ARE TO BE INCLUDED IN THE LUMP SUM PRICE AND NO SEPARATE PAYMENT WILL BE MADE.
22. AS PART OF THE SHOP DRAWING PROCESS, THE CONTRACTOR SHALL SUBMIT A PLAN TO ENSURE SCADA COMMUNICATIONS ARE MAINTAINED DURING CONSTRUCTION. COORDINATE ALL REQUIREMENTS WITH THE CITY OF TAMPA.



TIMOTHY THOMAS, P.E. #47079	#	DATE	REVISIONS	DES: TDT	CITY of TAMPA WASTEWATER DEPARTMENT	BALLAST POINT PUMPING STATION REPLACEMENT SCOPE OF WORK	SHEET E4
	1			DRN: JLH			
	2			CKD:			
	3			DATE:			

COT ATLAS M-9
SEC 09 T30S R18E



KEYED NOTES:

- 1 EXISTING PUMP STATION TO BE DEMOLISHED. REFER TO CIVIL PLANS FOR DETAILS.
- 2 EXISTING TECO POWER POLE. TECO REMOVE EXISTING POLE MOUNTED TRANSFORMERS AND PROVIDE NEW POLE-MOUNTED TRANSFORMERS IN ABLE TO SUPPLY A NEW 277/480V, 3 ϕ , 4-WIRE SERVICE.
- 3 EXISTING TECO STUB POLE. TECO TO PROVIDE NEW 277/480V, 3 ϕ , 4-WIRE SERVICE. CONTRACTOR TO COORDINATE REQUIREMENTS FOR NEW CONDUIT RISER UP POLE, REQUIREMENTS FOR A NEW HANDHOLE, ETC. WITH TECO.
- 4 EXISTING COMMUNICATIONS POLE TO REMAIN (VERIFY WITH UTILITY).
- 5 EXISTING COMMUNICATIONS POLE TO BE REMOVED. COORDINATE WORK WITH UTILITY.
- 6 EXISTING COMMUNICATIONS CONDUCTORS TO BE REMOVED. COORDINATE WORK WITH UTILITY.
- 7 APPROXIMATE LOCATION (CONTRACTOR TO FIELD LOCATE) OF EXISTING SCADA ANTENNA/MAST. EXISTING SCADA ANTENNA/MAST TO BE REMOVED. CONTRACTOR TO PROVIDE NEW SCADA MAST/ANTENNA TO BE LOCATED AS INDICATED ON SHEET E7.
- 8 EXISTING BIOXIDE TANK TO REMAIN.
- 9 EXISTING SLUICE GATE TO BE REMOVED.
- 10 EXISTING TECO OVERHEAD SECONDARY DISTRIBUTION CONDUCTORS. CONDUCTORS TO BE REUSED OR REPLACED AT TECO'S DISCRETION. ANY SECONDARY DISTRIBUTION CONDUCTOR WORK WILL BE EXECUTED BY TECO.

EXISTING ELECTRICAL PLAN
(DEMOLITION SHEET)

SCALE: 1"=30'-0"



TIMOTHY THOMAS, P.E. #47079

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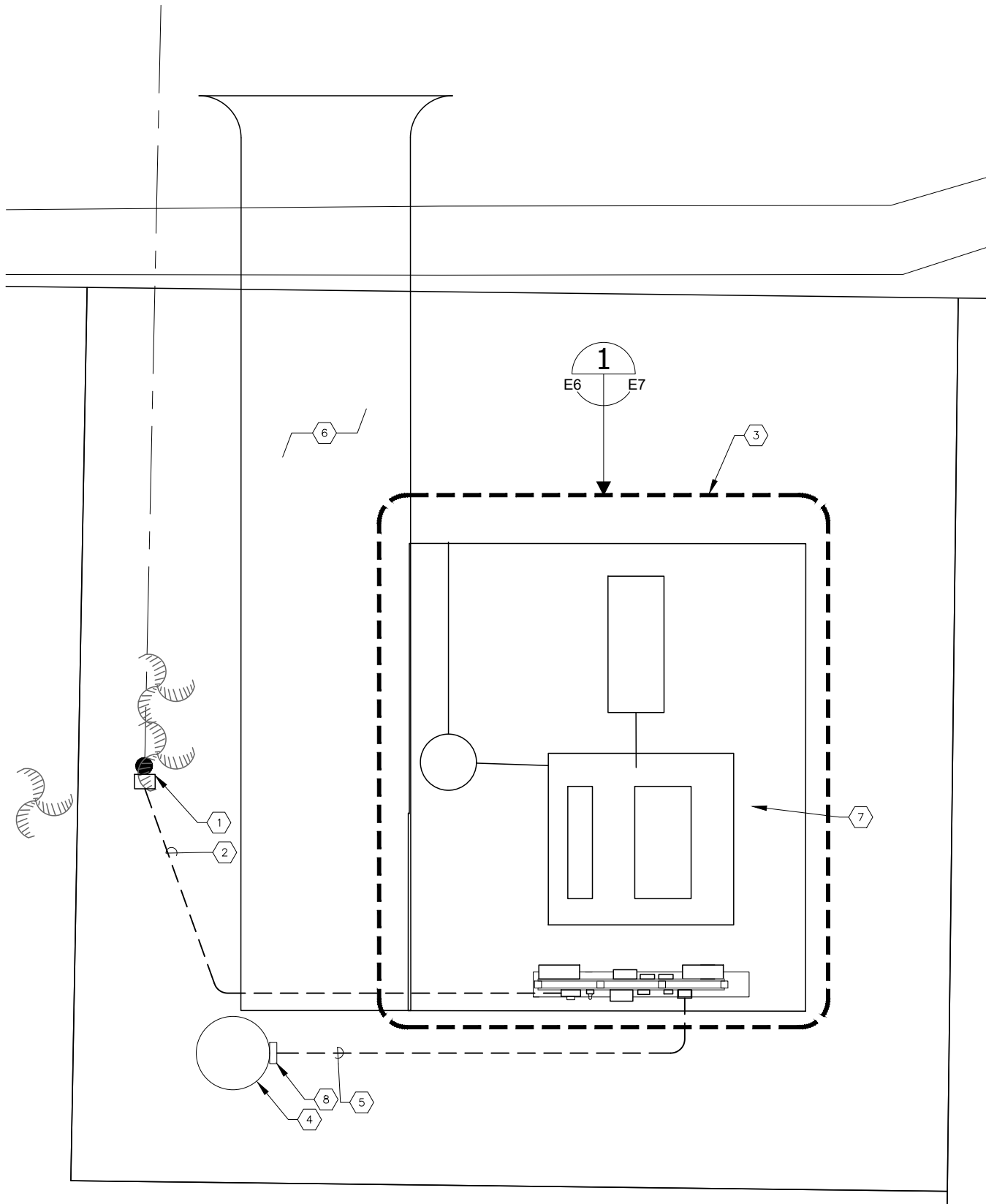
CITY of TAMPA
WASTEWATER DEPARTMENT

BALLAST POINT PUMPING STATION REPLACEMENT

EXISTING ELECTRICAL PLAN (DEMOLITION SHEET)

SHEET

E5



COT ATLAS M-9
SEC 09 T30S R18E
N

KEYED NOTES:

- 1 EXISTING TECO STUB POLE. TECO TO PROVIDE NEW 277/480V, 3 ϕ , 4-WIRE SERVICE. CONTRACTOR TO COORDINATE REQUIREMENTS FOR NEW CONDUIT RISER UP POLE, REQUIREMENTS FOR A NEW HANDHOLE, ETC. WITH TECO.
- 2 PROVIDE AND INSTALL 3-#1/0 XHHW-2 CU + 1-#2 XHHW-2 CU NEUTRAL IN 2" C. FROM TECO DISTRIBUTION POLE TO METER.
- 3 REFER TO SHEET E7 FOR PARTIAL ELECTRICAL PLAN.
- 4 EXISTING BIOXIDE TANK TO REMAIN.
- 5 PROVIDE AND INSTALL 2-#12 + 1-#12 GND IN 3/4" CONDUIT FROM MINI POWER-ZONE TO BIOXIDE TANK FOR BIOXIDE TANK 120V AC POWER.
- 6 PROPOSED DRIVEWAY. REFER TO CIVIL SHEETS FOR DETAILS.
- 7 PROPOSED CONCRETE SLAB. REFER TO CIVIL SHEETS FOR DETAILS.
- 8 EXISTING BIOXIDE CONTROL PANEL TO REMAIN. REFER TO KEYED NOTE #5 FOR NEW POWER REQUIREMENTS.

PROPOSED PARTIAL ELECTRICAL PLAN

SCALE: N.T.S.



TIMOTHY THOMAS, P.E. #47079

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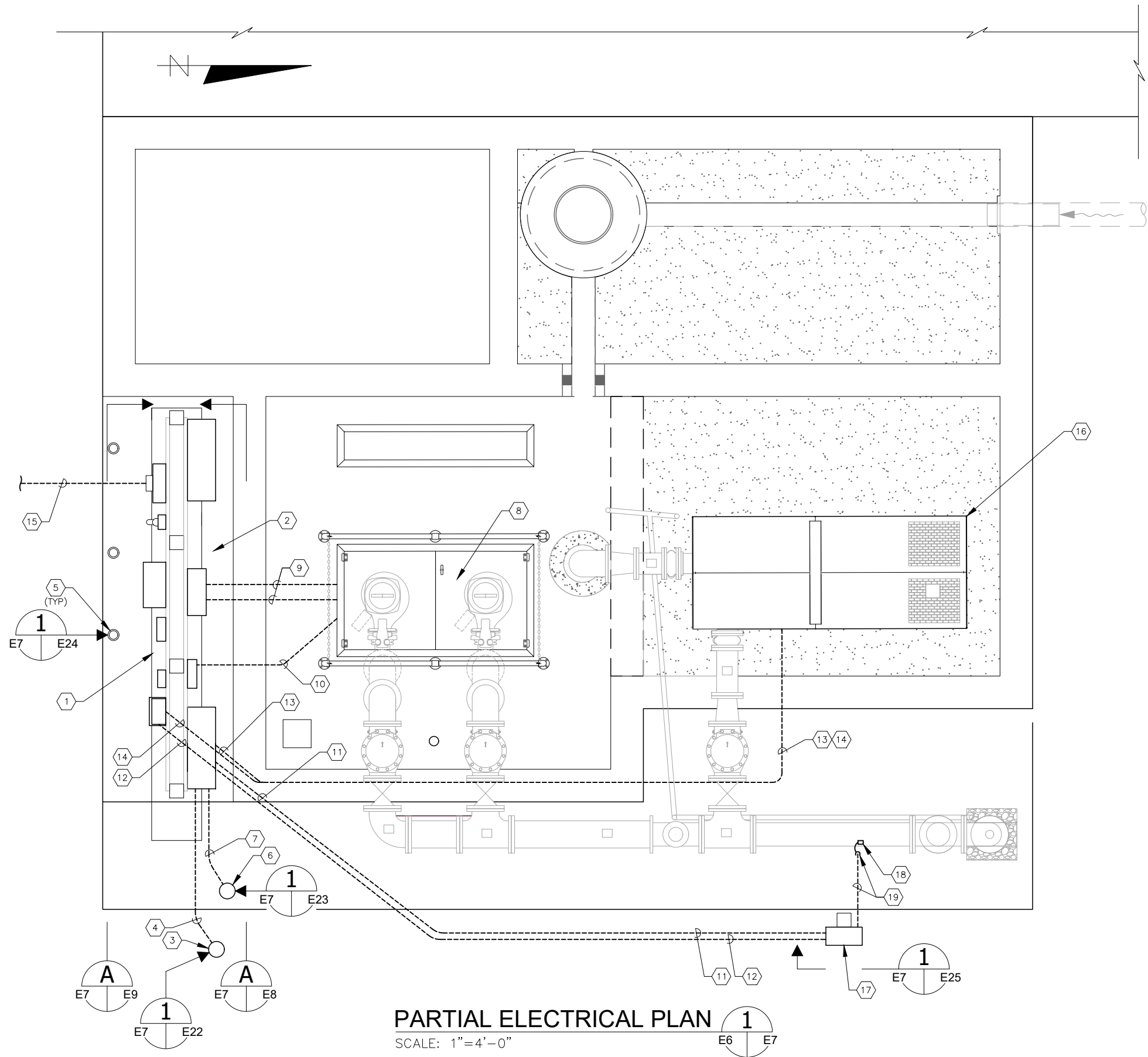
CITY of TAMPA
WASTEWATER DEPARTMENT

BALLAST POINT PUMPING STATION REPLACEMENT

PROPOSED PARTIAL ELECTRICAL PLAN

SHEET

E6



KEYED NOTES:

- 1 PROPOSED ELECTRIC METER, DOUBLE-THROW, FUSED DISCONNECT SWITCH, 200 AMP GENERATOR RECEPTACLE AND MINI POWER-ZONE. REFER TO ELEVATION ON SHEET E9.
- 2 PROPOSED MOTOR CONTROL PANEL, PUMP CONTROL PANEL AND ASSOCIATED DEMARCATION BOXES. REFER TO ELEVATION ON SHEET E8.
- 3 NEW SCADA ANTENNA/MAST. REFER TO DETAIL ON SHEET E22.
- 4 PROVIDE AND INSTALL NEW COAXIAL CABLE IN 1" CONDUIT FROM PUMP CONTROL PANEL TO RELOCATED SCADA ANTENNA/MAST.
- 5 PROVIDE AND INSTALL NEW GROUND ROD TEST WELL (TYPICAL OF 3). REFER TO SHEET E24 FOR GROUND TEST WELL DETAIL.
- 6 PROVIDE AND INSTALL NEW AREA LIGHT (AL), TYPE 'A'. REFER TO SHEET E23 FOR DETAIL.
- 7 PROVIDE AND INSTALL 2-#12 + 1-#12 GND BETWEEN NEW AREA LIGHT AND PUMP CONTROL PANEL (PCP).
- 8 PROPOSED WET WELL.
- 9 PROVIDE AND INSTALL TWO (2) 2" CONDUITS WITH MANUFACTURER SUPPLIED PUMP POWER CABLES TO WET WELL.
- 10 PROVIDE AND INSTALL 2" CONDUIT WITH MANUFACTURER SUPPLIED FLOAT AND LEVEL SENSOR CABLES TO WET WELL.
- 11 PROVIDE AND INSTALL NEW FLOW METER TRANSMITTER 4-20mA SIGNAL CABLE (BELDEN 8719) IN 1"C. TO NEW PUMP CONTROL PANEL.
- 12 PROVIDE AND INSTALL 2-#12 + 1-#12 GND BETWEEN NEW FLOW METER TRANSMITTER CABINET AND MINI POWER-ZONE 'LP'.
- 13 PROVIDE AND INSTALL 1-1/4"C. WITH 15-#14 + 2-#12 + 1-#12 GND + 2/C-#16 TWISTED SHIELDED (BELDEN 8719) BETWEEN DIESEL BACKUP PUMP AND PUMP CONTROL PANEL. COUNT INCLUDES SPARES. 2/C-#16 TWISTED SHIELDED CABLE SHALL NOT BE CONNECTED AT EITHER END. 2/C-#16 TWISTED SHIELDED CABLE WILL BE FOR FUTURE USE.
- 14 PROVIDE AND INSTALL 2-#12 + 1-#12 GND BETWEEN DIESEL BACKUP PUMP AND MINI POWER-ZONE 'LP' FOR DIESEL PUMP 120V AC POWER.
- 15 PROVIDE AND INSTALL 3-#1/0 XHHW-2 CU + 1-#2 XHHW-2 CU NEUTRAL IN 2"C. FROM HANDHOLE AT BASE OF TECO STUB POLE TO METER. REFER TO SHEET E6 FOR CONTINUATION.
- 16 PROPOSED DIESEL BACKUP PUMP.
- 17 PROPOSED REMOTE FLOW TRANSMITTER CABINET. REFER TO ELEVATION OF SHEET E25.
- 18 DOPPLER FLOW METER SENSOR. REFER TO MECHANICAL SHEETS FOR PROPOSED LOCATION.
- 19 PROVIDE 1" PVC CONDUIT FOR DOPPLER FLOW METER SENSOR CABLE. STUB CONDUIT 3' ABOVE CONCRETE SLAB. INSTALL FEMALE ADAPTER AND WATERTIGHT CABLE GLAND TO SENSOR END OF CABLE. PROVIDE 1-5/8" X 1-5/8" ALUMINUM UNISTRUT ON 1-5/8" ALUMINUM POST BASE FITTING (UNISTRUT P2942 OR EQUAL) WITH ALUMINUM CONDUIT CLAMPS TO SUPPORT SENSOR CONDUIT. SECURE BASE 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. COIL EXCESS SENSOR CABLE AND UTILIZE NYLON TIE WRAPS TO SECURE SENSOR CABLE TO UNISTRUT.

GENERAL NOTES:

1. NOT ALL CONDUCTORS AND CONDUIT SHOWN FOR CLARITY. REFER TO SHEETS E8, E9 AND DETAIL SHEETS FOR OTHER REQUIREMENTS.



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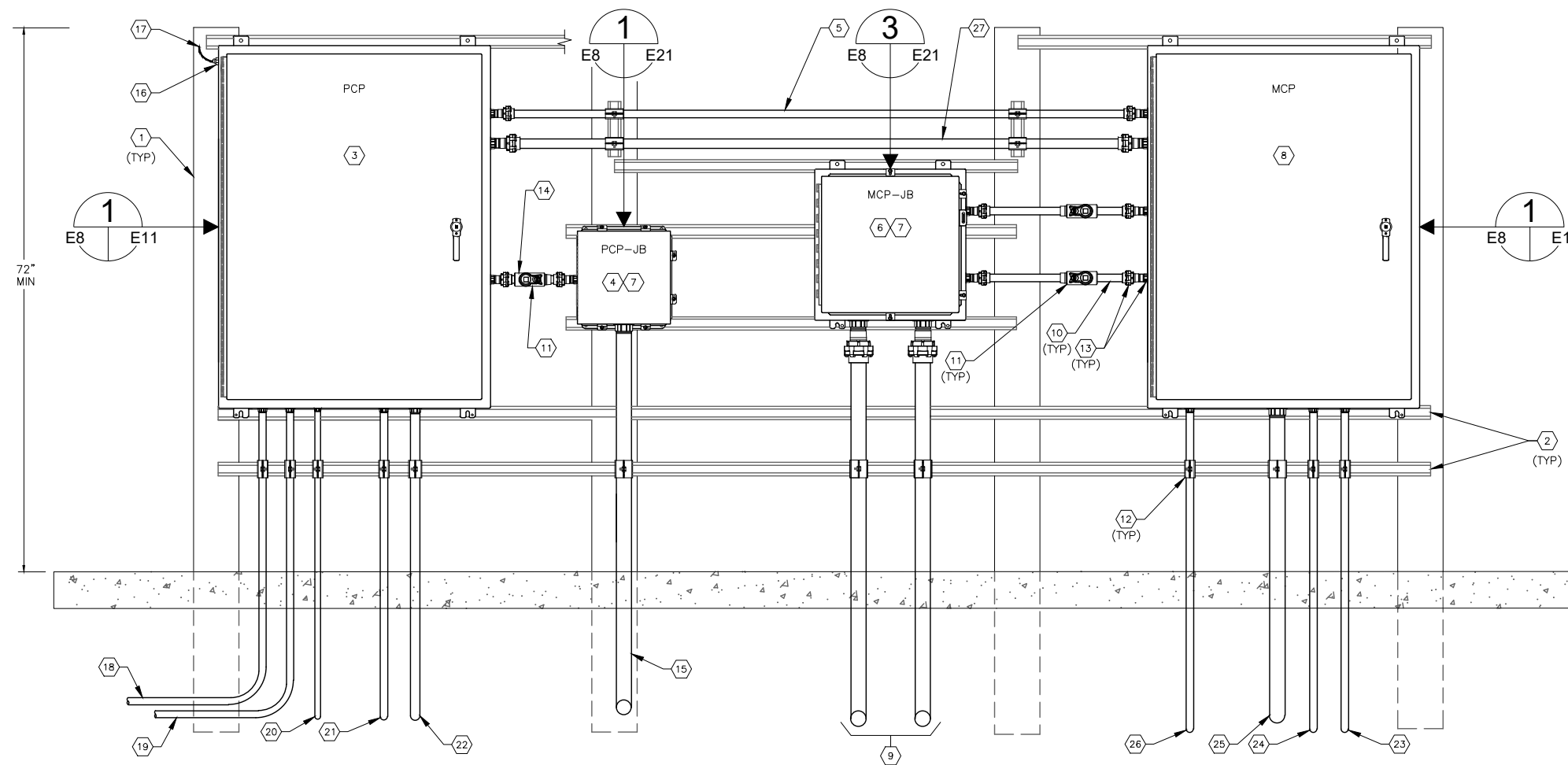
CITY of TAMPA
WASTEWATER DEPARTMENT

BALLAST POINT PUMPING STATION REPLACEMENT

PARTIAL ELECTRICAL PLAN

SHEET

E7



ELECTRICAL EQUIPMENT RACK FRONT ELEVATION **A**
SCALE: N.T.S.

KEYED NOTES:

- 1 PROVIDE AND INSTALL FOUR (4) 6" X 6" x 9' REINFORCED SQUARE CONCRETE POSTS.
- 2 PROVIDE AND INSTALL 1-5/8" x 1-5/8" 316 STAINLESS STEEL UNISTRUT WITH 316 STAINLESS STEEL HARDWARE. NOTE: INSTALL ALL BOLTS FOR UNISTRUT COMPLETELY THROUGH CONCRETE POSTS.
- 3 PROVIDE AND INSTALL PUMP CONTROL PANEL (PCP). REFER TO DETAIL ON SHEET E11.
- 4 INSTRUMENTATION AND CONTROLS J.B.--USED AS DEMARCATION BOX TO PROVIDE ISOLATION BETWEEN THE WET WELL AND PUMP CONTROLS. PROVIDE AND INSTALL A 12"x12"x6" NEMA 4X, STAINLESS STEEL JUNCTION BOX WITH HINGED DOOR, WIEGMANN #BN4121206CHSS. INSTALL A STAINLESS STEEL LOUVER PLATE KIT (4.75"x4.5") ON SIDE OF BOX TO PROVIDE NATURAL ASPIRATION, WIEGMANN #WAVK0304SSA. SEE SHEET E21 FOR JB DETAILS.
- 5 PROVIDE AND INSTALL 18-#14 XHHW-2 CU + 1-#14 XHHW-2 CU GND. IN 1" C. FOR 24V DC CONTROL SIGNALS. REFER TO MCP TO PCP INTERCONNECTION WIRING DIAGRAM ON SHEET E17.
- 6 PUMP MOTOR CONNECTIONS J.B.--USED AS A DEMARCATION BOX TO PROVIDE ISOLATION BETWEEN THE WET WELL AND PUMP CONTROLS. PROVIDE AND INSTALL A 16"x16"x6" NEMA 4X, STAINLESS STEEL JUNCTION BOX WITH HINGED DOOR, HAMMOND #1418N4SSG6. INSTALL A STAINLESS STEEL LOUVER PLATE KIT (4.75"x 4.5") ON SIDE OF BOX TO PROVIDE NATURAL ASPIRATION, WIEGMANN #WAVK0304SSA. TERMINATIONS SHALL BE MADE USING POWER DISTRIBUTION BLOCKS. SEE SHEET E21 FOR J.B. DETAILS.
- 7 PROVIDE DUCT SEALING COMPOUND IN ALL CONDUITS EXTENDING TO THE WET WELL.
- 8 PROVIDE AND INSTALL MOTOR CONTROL PANEL (MCP). REFER TO DETAIL ON SHEET E10.
- 9 PROVIDE AND INSTALL NEW 2" CONDUITS WITH NEW MANUFACTURER SUPPLIED SUBMERSIBLE PUMP POWER CABLES TO WET WELL. INSTALL PVC COATED RIGID ALUMINUM CONDUIT TO THE WET WELL.
- 10 PROVIDE AND INSTALL 3-#6 XHHW-2 CU + 1-#8 XHHW-2 CU GND + 2-#12 XHHW-2 CU (LEAK/TEMP) IN 1" CONDUIT FOR SUBMERSIBLE PUMP POWER.
- 11 PROVIDE AND INSTALL CROUSE-HINDS EYS TYPE SEALS W/CHICO COMPOUNDS.
- 12 PROVIDE AND INSTALL ALUMINUM CONDUIT CLAMPS (TYPICAL).
- 13 PROVIDE AND INSTALL WATER-TIGHT / DUST-TIGHT MYERS HUB AND UNION (TYP.).
- 14 PROVIDE AND INSTALL 3-#14 XHHW-2 CU + 1-#14 XHHW-2 CU GND + ONE 3/C-#18 TWISTED SHIELDED CABLE IN 1" CONDUIT FOR FLOAT AND WET WELL LEVEL TRANSMITTER.
- 15 MANUFACTURER SUPPLIED CABLES FOR FLOAT SWITCH AND WET WELL LEVEL TRANSMITTER INSTALL IN 2" CONDUIT TO WET WELL FROM JUNCTION BOX. INSTALL PVC COATED RIGID ALUMINUM CONDUIT TO THE WET WELL.
- 16 PROVIDE AND INSTALL WATERTIGHT GROMMET FOR RAIN GAUGE CABLE.
- 17 RAIN GAUGE CABLE. FOR CONTINUATION REFER TO SHEET E9.
- 18 PROVIDE AND INSTALL 1" CONDUIT FOR ANTENNA COAXIAL CABLE REFER TO SHEET E7 FOR CONTINUATION.
- 19 PROVIDE AND INSTALL 2-#12 XHHW-2 CU + 1-#12 XHHW-2 CU GND. IN 3/4" CONDUIT FROM PUMP CONTROL PANEL TO AREA LIGHT FOR 120V POWER CIRCUITS.
- 20 PROVIDE AND INSTALL 2-#12 XHHW-2 CU + 1-#12 XHHW-2 CU GND. IN 3/4" CONDUIT FROM MINI POWER-ZONE 'LP' TO PUMP CONTROL PANEL FOR 120V POWER CIRCUITS.
- 21 PROVIDE AND INSTALL NEW FLOW METER TRANSMITTER 4-20MA SIGNAL CABLE (BELDEN 8719) IN 1"C. TO NEW REMOTE FLOW TRANSMITTER CABINET. REFER TO SHEET E7 FOR FLOW METER LOCATION.
- 22 PROVIDE AND INSTALL 15-#14 XHHW-2 CU + 2-#12 XHHW-2 CU + 1-#12 XHHW-2 CU GND + 2/C-#16 TWISTED SHIELDED (BELDEN 8719) IN 1-1/4" CONDUIT FROM PUMP CONTROL PANEL TO DIESEL BACK-UP PUMP CONTROLLER. 2/C-#16 TWISTED SHIELDED CABLE SHALL NOT BE CONNECTED AT EITHER END. 2/C-#16 TWISTED SHIELDED CABLE WILL BE FOR FUTURE USE.
- 23 PROVIDE AND INSTALL 2-#12 XHHW-2 CU + 1-#12 XHHW-2 CU GND. IN 1" CONDUIT FROM MINI POWER-ZONE 'LP' TO MOTOR CONTROL PANEL FOR 120V POWER CIRCUITS.
- 24 PROVIDE AND INSTALL 2-#14 XHHW-2 CU + 1-#14 XHHW-2 CU GND. IN 3/4"C. TO PM1 JUNCTION BOX.
- 25 PROVIDE AND INSTALL 3-#1/0 XHHW-2 CU + 1-#2 XHHW-2 CU NEUTRAL + 1-#6 XHHW-2 CU GND IN 2"C. FROM DOUBLE-THROW, FUSIBLE DISCONNECT SWITCH TO MOTOR CONTROL PANEL FOR MOTOR CONTROL PANEL 480V FEEDER.
- 26 PROVIDE AND INSTALL 2-#10 XHHW-2 CU + 1-#10 XHHW-2 CU GND. IN 1" CONDUIT FROM MOTOR CONTROL PANEL TO MINI POWER-ZONE FOR 480V FEEDER.
- 27 PROVIDE AND INSTALL 32-#12 XHHW-2 CU + 1-#12 XHHW-2 CU GND. IN 1-1/4" C. FOR 120VAC CONTROL SIGNALS. REFER TO MCP TO PCP INTERCONNECTIONS WIRING DIAGRAM ON SHEET E17. COUNT INCLUDES SPARES.

GENERAL NOTES:

1. MAXIMUM ALLOWED POST SPACING = 5 FT.

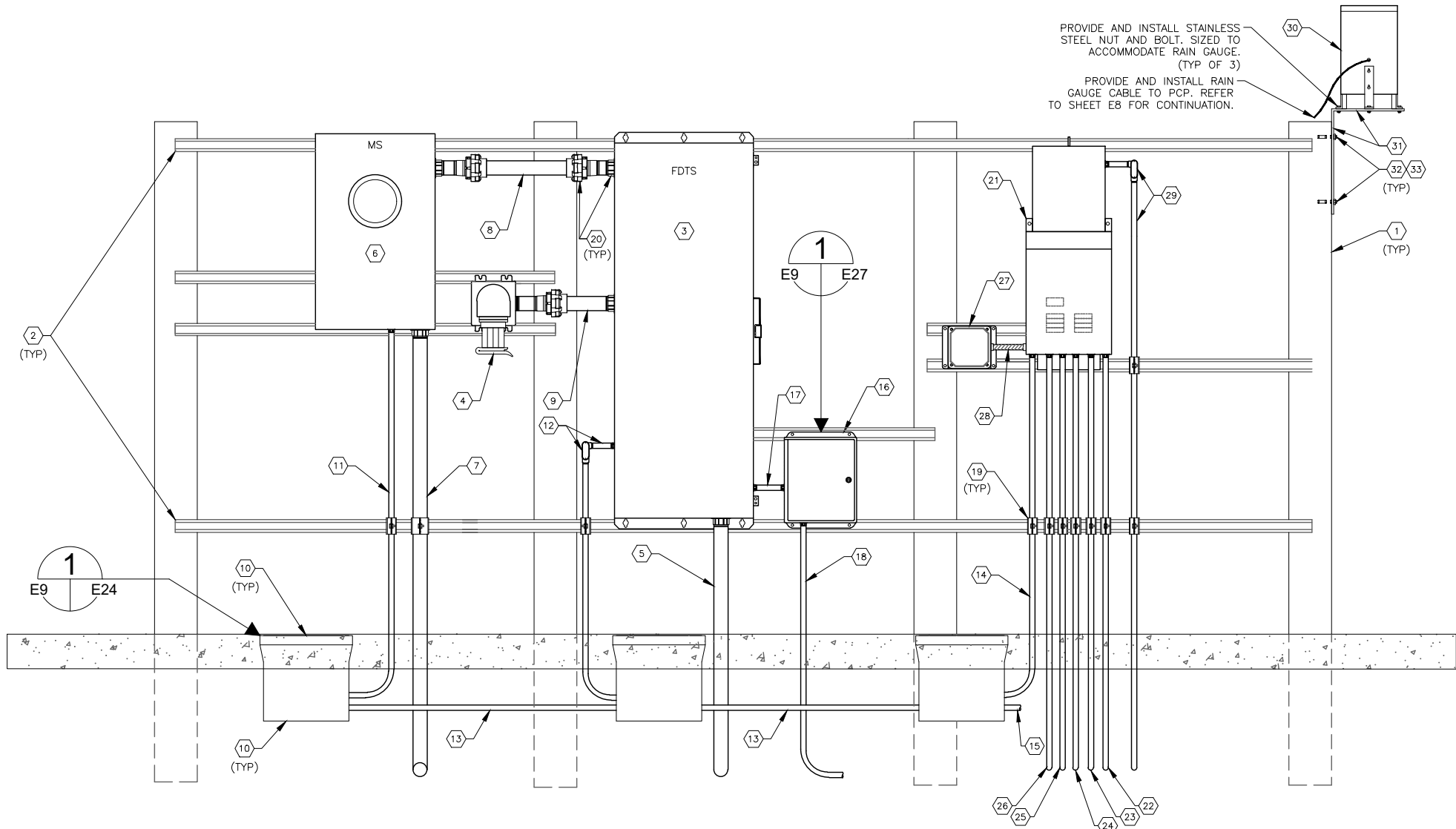
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CITY of TAMPA
WASTEWATER DEPARTMENT

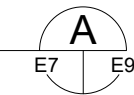
BALLAST POINT PUMPING STATION REPLACEMENT
ELECTRICAL EQUIPMENT RACK FRONT RACK ELEVATION

SHEET
E8



ELECTRICAL EQUIPMENT RACK BACK ELEVATION

SCALE: N.T.S.



GENERAL NOTES:

1. MAXIMUM ALLOWED POST SPACING = 5 FT.

KEYED NOTES:

- 1 PROVIDE AND INSTALL FOUR (4) 6" X 6" X 9' REINFORCED SQUARE CONCRETE POSTS.
- 2 PROVIDE AND INSTALL 1-5/8" X 1-5/8" 316 STAINLESS STEEL UNISTRUT WITH 316 STAINLESS STEEL HARDWARE. NOTE: INSTALL ALL BOLTS FOR UNISTRUT COMPLETELY THROUGH CONCRETE POSTS.
- 3 PROVIDE AND INSTALL HEAVY DUTY, DOUBLE THROW, SERVICE ENTRANCE RATED FUSIBLE SWITCH 'FDTS'. 3-POLE, 600 VAC, 200 AMP IN NEMA 4X TYPE ENCLOSURE PROVIDE 150A, 600 VOLT, DUAL-ELEMENT, TIME-DELAY CLASS RK5 FUSES; SWITCH--EATON DT364FWK, DT200NK-NEUTRAL KIT, DS200GK-GROUND LUG KIT, DS46FK-"R" FUSE ADAPTER KIT.
- 4 PROVIDE AND INSTALL GENERATOR RECEPTACLE 'EC'. 600V, 200 AMP, REVERSE SERVICE. CROUSE HINDS ARKTITE AREA20416-S22.
- 5 PROVIDE AND INSTALL 3-#1/0 XHHW-2 CU + 1-#2 XHHW-2 CU NEUTRAL + 1-#6 XHHW-2 CU GND IN 2" C. FROM DOUBLE-THROW, FUSIBLE DISCONNECT SWITCH TO MOTOR CONTROL PANEL FOR MOTOR CONTROL PANEL 480V FEEDER.
- 6 PROVIDE AND INSTALL 200 AMPERE METER SOCKET IN ALUMINUM ENCLOSURE. ELEVATION TO THE CENTER OF THE METER SHALL NOT EXCEED 5'-0" PER TECO STANDARDS. PROVIDE SURGE PROTECTION DEVICE PER TECO STANDARDS.
- 7 PROVIDE AND INSTALL 3-#1/0 XHHW-2 CU + 1-#2 XHHW-2 CU NEUTRAL IN 2" C. FROM TECO HANDHOLE TO METER. REFER TO SHEET E6 FOR CONTINUATION.
- 8 PROVIDE AND INSTALL 3-#1/0 XHHW-2 CU + 1-#2 XHHW-2 CU NEUTRAL IN 2" C. FROM METER TO DOUBLE THROW, SERVICE ENTRANCE RATED FUSIBLE SWITCH 'FDTS'.
- 9 PROVIDE AND INSTALL 3-#1/0 XHHW-2 CU + 1-#2 XHHW-2 CU NEUTRAL + 1-#6 XHHW-2 CU GND IN 2" C. FROM DOUBLE THROW, SERVICE ENTRANCE RATED FUSIBLE SWITCH 'FDTS' TO GENERATOR RECEPTACLE 'EC'.
- 10 PROVIDE AND INSTALL GROUND ROD TEST WELL, OLDCASTLE PRECAST ENCLOSURE SOLUTIONS #F08 BOX WITH #F08C CAST IRON LID MARKED "GROUND". MINIMUM SPACING BETWEEN GROUND ROD TEST WELLS/GROUND RODS SHALL BE 6'-0". PROVIDE AND INSTALL APPROVED GROUNDING ROD AND ATTACH BARE COPPER GROUND CONDUCTOR (AWG #4 MINIMUM) UTILIZING APPROVED GROUND CLAMPS. REFER TO SHEET E24 FOR GROUND TEST WELL DETAIL.
- 11 PROVIDE AND INSTALL #4 BARE COPPER GROUNDING ELECTRODE CONDUCTOR IN 3/4" SCHEDULE 80 PVC CONDUIT FROM METER TO GROUND ROD TEST WELL. CONFIRM CONDUCTOR SIZE WITH TECO.
- 12 PROVIDE AND INSTALL #4 BARE COPPER GROUNDING ELECTRODE CONDUCTOR IN 1" SCHEDULE 80 PVC CONDUIT FROM SERVICE DISCONNECT 'FDTS' TO GROUND ROD TEST WELL. PROVIDE CONDUIT L.B. AS REQUIRED.
- 13 PROVIDE AND INSTALL #4 BARE COPPER GROUNDING ELECTRODE CONDUCTOR IN 1" SCHEDULE 80 PVC CONDUIT BETWEEN GROUND ROD TEST WELLS.
- 14 PROVIDE AND INSTALL #8 BARE COPPER GROUNDING ELECTRODE CONDUCTOR IN 3/4" SCHEDULE 80 PVC CONDUIT FROM MINI POWER-ZONE 'LP' TO GROUND ROD TEST WELL.
- 15 PROVIDE AND INSTALL #4 BARE COPPER GROUNDING ELECTRODE CONDUCTOR IN 3/4" SCHEDULE 80 PVC CONDUIT FROM ANTENNA POLE TO GROUND ROD TEST WELL. REFER ALSO TO ANTENNA POLE DETAIL ON SHEET E22.
- 16 PROVIDE AND INSTALL A 3Ø, POWER MONITOR RELAY 'PM1' JUNCTION BOX WITH 480 VAC LINE INPUT - ALARM ON PHASE LOSS, UNDERVOLTAGE, OR WRONG ROTATION. PANEL MOUNT, ATC DIVERSIFIED MODEL SUA-440-ASA, FUSE BOX DISCONNECT (FBD1) - ALLEN BRADLEY 1492-FB3630-L WITH BUSSMAN KTK-R-2 FUSES IN NEMA 4X 316 STAINLESS STEEL 12" X 10" X 8" ENCLOSURE WITH CONTINUOUS HINGE - HAMMOND MANUFACTURING EJ12108S16. REFER TO DETAIL ON SHEET E27. PROVIDE AND INSTALL WARNING LABEL. LABEL TO READ: 'WARNING - PHASE MONITOR TO DETERMINE ELECTRIC UTILITY SERVICE AVAILABILITY - 480VAC MAY BE PRESENT REGARDLESS OF POSITION OF MAIN DISCONNECT OPERATOR.' REFER TO DETAIL ON SHEET E27.
- 17 PROVIDE AND INSTALL 3-#12 XHHW-2 CU + 1-#12 XHHW-2 CU GND. IN 3/4" C.
- 18 PROVIDE AND INSTALL 2-#14 XHHW-2 CU + 1-#14 XHHW-2 CU GND. IN 3/4" C. TO MOTOR CONTROL PANEL.
- 19 PROVIDE AND INSTALL ALUMINUM CONDUIT CLAMPS (TYPICAL).
- 20 PROVIDE AND INSTALL WATER-TIGHT / DUST-TIGHT MYERS HUB AND UNION (TYP.).
- 21 PROVIDE AND INSTALL 480V-120/240V, 7.5KVA MINI POWER-ZONE 'LP' IN NEMA 3R STAINLESS STEEL ENCLOSURE. SQUARE-D MPZB7S40FSS. REFER TO SHEET E24 FOR PANEL SCHEDULE.
- 22 PROVIDE AND INSTALL 2-#12 XHHW-2 CU + 1-#12 XHHW-2 CU GND. IN 3/4" CONDUIT FROM MINI POWER-ZONE 'LP' TO PUMP CONTROL PANEL FOR 120V POWER CIRCUIT.
- 23 PROVIDE AND INSTALL 2-#12 XHHW-2 CU + 1-#12 XHHW-2 CU GND. IN 3/4" CONDUIT FROM MINI POWER-ZONE 'LP' TO DIESEL BACKUP PUMP CONTROLLER FOR SPACE HEATER, BATTERY CHARGER, CONTROL AND LIGHTING 120V POWER CIRCUIT.
- 24 PROVIDE AND INSTALL 2-#12 XHHW-2 CU + 1-#12 XHHW-2 CU GND. IN 3/4" CONDUIT FROM MINI POWER-ZONE 'LP' TO BIOXIDE TANK FOR 120V POWER CIRCUIT.
- 25 PROVIDE AND INSTALL 2-#12 XHHW-2 CU + 1-#12 XHHW-2 CU GND. IN 3/4" CONDUIT FROM MINI POWER-ZONE 'LP' TO FLOW METER REMOTE TRANSMITTER CABINET DETAILS FOR 120V POWER CIRCUIT.
- 26 PROVIDE AND INSTALL 2-#12 XHHW-2 CU + 1-#12 XHHW-2 CU GND. IN 1" CONDUIT FROM MINI POWER-ZONE 'LP' TO MOTOR CONTROL PANEL FOR 120V POWER CIRCUIT.
- 27 PROVIDE AND INSTALL SURGE PROTECTION DEVICE (SPD) UNIT, 120/240V, 1Ø, TYPE 1, ASCO SERIES 430, IN NEMA 4X ENCLOSURE.
- 28 PROVIDE AND INSTALL 2-#10 THWN + 1-#10 THWN CU NEUTRAL + 1-#10 THWN CU GND IN 3/4" SEAL-TITE CONDUIT TO SPD CIRCUIT BREAKER.
- 29 PROVIDE AND INSTALL 2-#10 XHHW-2 CU + 1-#10 XHHW-2 CU GND. IN 1" CONDUIT FROM MOTOR CONTROL PANEL TO MINI POWER-ZONE FOR 480V FEEDER. PROVIDE CONDUIT L.B. AS REQUIRED.
- 30 PROVIDE AND INSTALL NEW RAIN GAUGE. NOVALYNX CORPORATION PART NO. 260-2501-A. 8' RAIN GAUGE, 0.01"/TIP WITH 25' CABLE.
- 31 PROVIDE AND INSTALL 1/2" THICK ALUMINUM BRACKET. 6" WIDTH, 14" LENGTH VERTICAL SECTION AT CONCRETE POST, WIDTH AS REQUIRED TO SECURE RAIN GAUGE.
- 32 PROVIDE AND INSTALL STAINLESS STEEL WEDGE ANCHORS (TYPICAL OF 4 TOTAL).
- 33 PROVIDE AND INSTALL 1/2" STAINLESS STEEL BOLTS (TYP.).

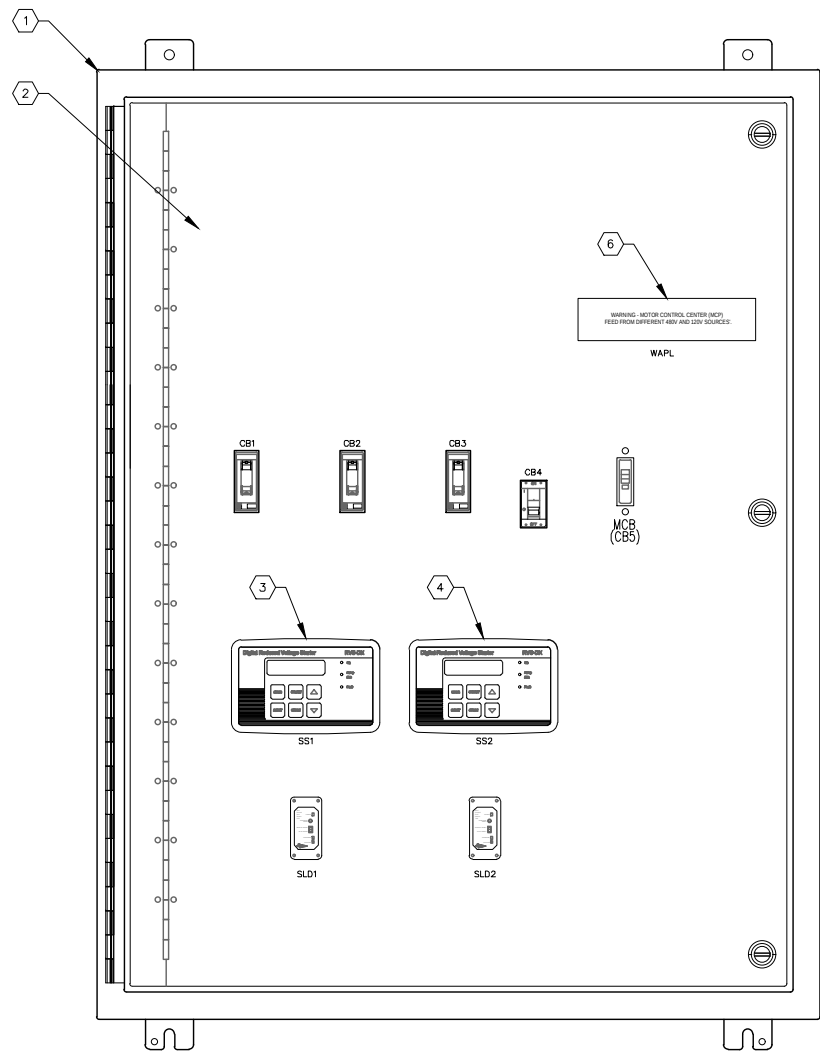
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CITY of TAMPA
WASTEWATER DEPARTMENT

BALLAST POINT PUMPING STATION REPLACEMENT
ELECTRICAL EQUIPMENT RACK BACK ELEVATION

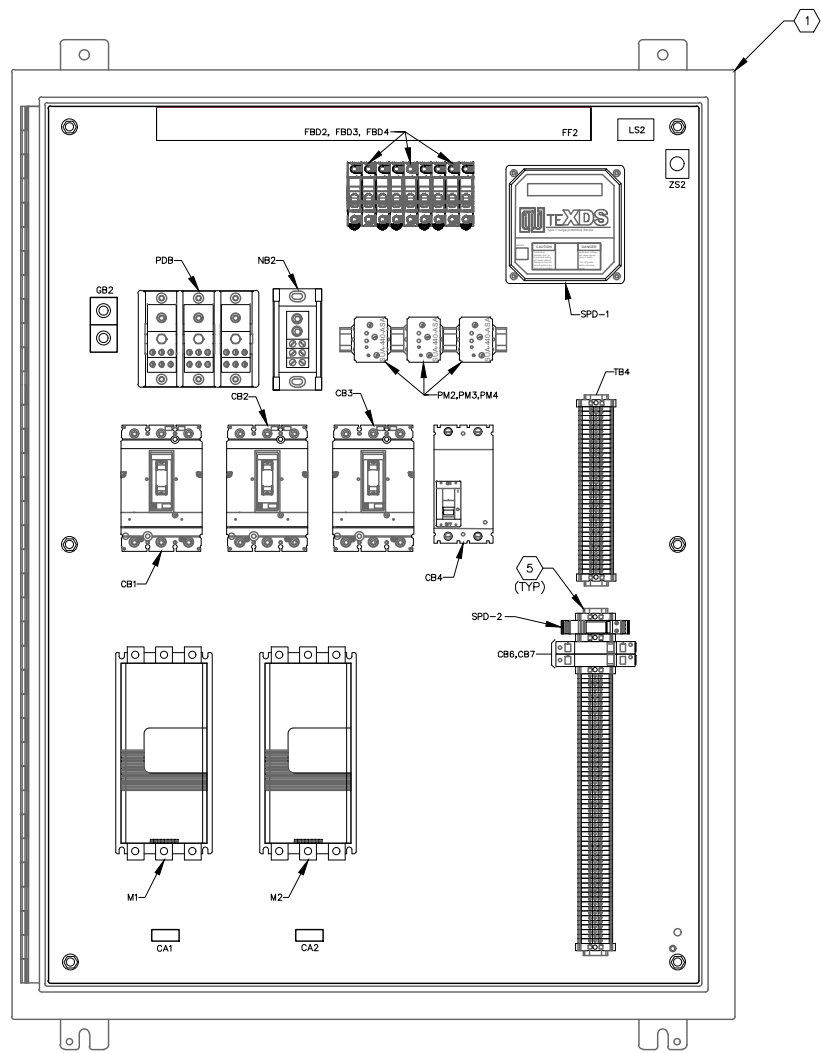
SHEET
E9



MOTOR CONTROL PANEL INTERIOR DOOR ELEVATION

SCALE: N.T.S.

1
E8 E10



MOTOR CONTROL PANEL INTERIOR ELEVATION

SCALE: N.T.S.



KEYED NOTES:

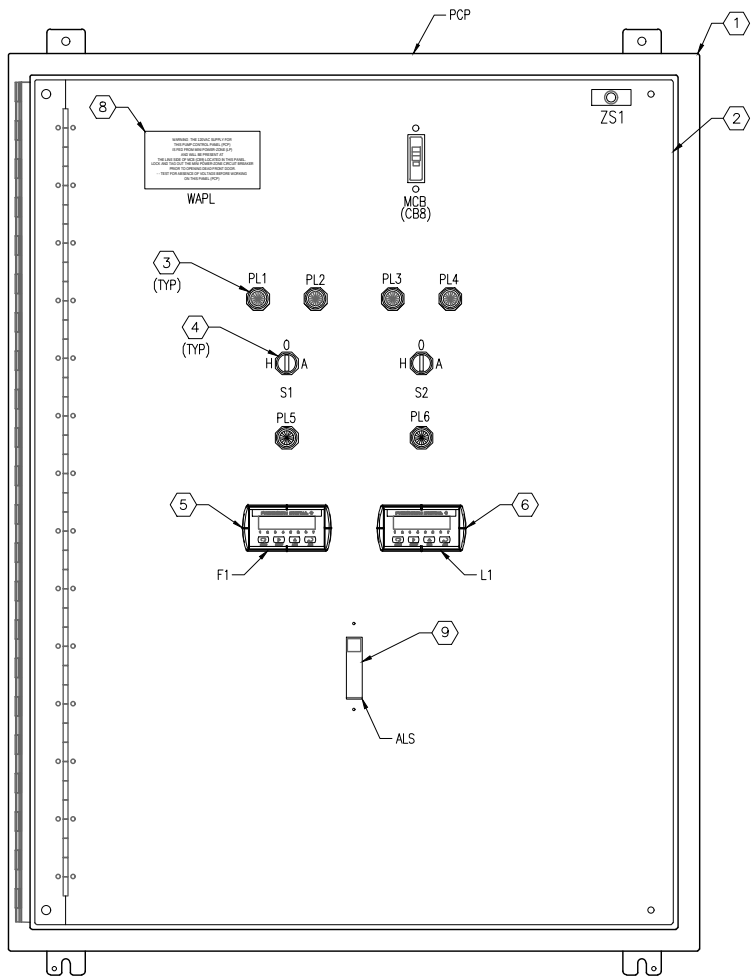
- 1 MOTOR CONTROL PANEL 'MCP'. 48" X 36" X 12" NEMA 4X SS, POWDER COAT WHITE.
- 2 PROVIDE AND INSTALL ALUMINUM DEADFRONT DOOR WITH STOP KIT.
- 3 PROVIDE AND INSTALL NEW KEYPAD FOR SOFTSTARTER #1. REFER ALSO TO PARTS SCHEDULE ON SHEET 19.
- 4 PROVIDE AND INSTALL NEW KEYPAD FOR SOFTSTARTER #2. REFER ALSO TO PARTS SCHEDULE ON SHEET 19.
- 5 PROVIDE AND INSTALL ALUMINUM RAIL WHERE REQUIRED.
- 6 PROVIDE AND INSTALL WARNING LABEL. LABEL TO READ: 'WARNING - MOTOR CONTROL CENTER FEED FROM DIFFERENT 480V AND 120V SOURCES'.

GENERAL NOTES:

- 1. ALL HINGED SURFACES SHALL BE GROUNDED WITH A #12 COPPER BOND CONDUCTOR (WITH GREEN INSULATION) SECURED TO THE ENCLOSURE OR BACKPANEL. THIS SHALL INCLUDE THE OUTER DOOR AND INNER DOOR.

LEGEND PLATE SCHEDULE

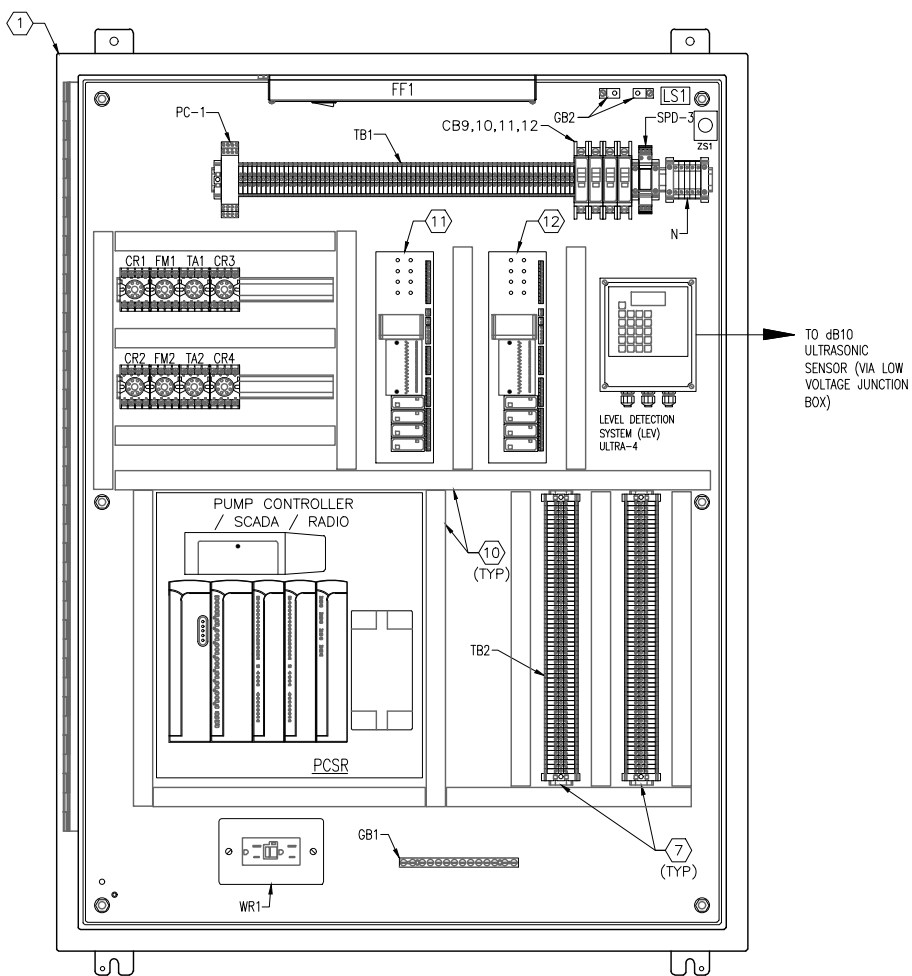
SYMBOL	DEVICE	LEGEND
CB1	CIRCUIT BREAKER	PUMP NO. 1 CIRCUIT BREAKER
CB2	CIRCUIT BREAKER	PUMP NO. 2 CIRCUIT BREAKER
CB3	CIRCUIT BREAKER	FUTURE ODOR CONTROL
CB4	CIRCUIT BREAKER	MINI POWER-ZONE 'LP' 480V FEEDER
SS1	SOFTSTARTER KEYPAD	SOFTSTARTER NO. 1 KEYPAD
SS2	SOFTSTARTER KEYPAD	SOFTSTARTER NO. 2 KEYPAD
SLD1	PUMP MONITORING UNIT	PUMP NO. 1 SEAL LEAK DETECTOR
SLD2	PUMP MONITORING UNIT	PUMP NO. 2 SEAL LEAK DETECTOR
WAPL	WARNING PLACARD	REFER TO NOTE 6 FOR VERBIAGE



PUMP CONTROL PANEL
INTERIOR DOOR ELEVATION

SCALE: N.T.S.

NOTE: FRONT ENCLOSURE DOOR NOT SHOWN FOR CLARITY



PUMP CONTROL PANEL
INTERIOR ELEVATION

SCALE: N.T.S.

LEGEND PLATE SCHEDULE

SYMBOL	DEVICE	LEGEND
PL1	YELLOW PILOT LIGHT	PUMP NO. 1 ON
PL2	RED ILLUMINATED PUSH BUTTON	PUMP NO. 1 TEMP. ALARM
PL3	YELLOW PILOT LIGHT	PUMP NO. 2 ON
PL4	RED ILLUMINATED PUSH BUTTON	PUMP NO. 2 TEMP. ALARM
PL5	RED PILOT LIGHT	PUMP NO. 1 SEAL LEAK ALARM
PL6	RED PILOT LIGHT	PUMP NO. 2 SEAL LEAK ALARM
S1	3 POSITION SWITCH	PUMP NO. 1 HAND-OFF-AUTO
S2	3 POSITION SWITCH	PUMP NO. 2 HAND-OFF-AUTO
MCB	PUMP CONTROL PANEL MAIN CIRCUIT BREAKER	MAIN CIRCUIT BREAKER (CB9)
L1	DIGITAL PROCESS METER	WET WELL LEVEL
F1	DIGITAL PROCESS METER	FLOW METER
WAPL	WARNING PLACARD	REFER TO NOTE 8 FOR VERBIAGE
ALS	TOGGLE SWITCH	AREA LIGHT SWITCH

KEYED NOTES:

- 1 PUMP CONTROL PANEL. 48" X 36 X 12" NEMA 4X SS, PAINTED WHITE.
- 2 PROVIDE AND INSTALL ALUMINUM DEADFRONT DOOR WITH STOP KIT.
- 3 PROVIDE AND INSTALL NEW PILOT LIGHT. REFER ALSO TO PARTS SCHEDULE ON SHEET E20.
- 4 PROVIDE AND INSTALL NEW SELECTOR SWITCH. REFER ALSO TO PARTS SCHEDULE ON SHEET E20.
- 5 PROVIDE AND INSTALL PRECISION DIGITAL PROCESS METER, MODEL PD765-6X3-00 WITH 4-20mA OUTPUT (FLOW METER). REFER ALSO TO PARTS SCHEDULE ON SHEET E20.
- 6 PROVIDE AND INSTALL PRECISION DIGITAL PROCESS METER, MODEL PD765-6X3-00 WITH 4-20mA OUTPUT (WET WELL LEVEL). REFER ALSO TO PARTS SCHEDULE ON SHEET E20.
- 7 PROVIDE AND INSTALL ALUMINUM DIN RAIL WHERE REQUIRED.
- 8 PROVIDE IN INSTALL WARNING PLACARD WHICH STATES: "WARNING: THE 120VAC SUPPLY FOR THIS PUMP CONTROL PANEL (PCP) IS FED FROM MINI POWER-ZONE 'LP' AND WILL BE PRESENT AT THE LINE SIDE OF MCB (CB8) LOCATED IN THIS PANEL. LOCK AND TAG OUT THE MINI POWER-ZONE CIRCUIT BREAKER PRIOR TO OPENING DEAD FRONT DOOR-- TEST FOR ABSENCE OF VOLTAGE, BEFORE WORKING ON THIS PANEL (PCP)."
- 9 PROVIDE AND INSTALL NEW SINGLE-POLE 120/277V, 20A LIGHT SWITCH TO CONTROL AREA LIGHTS. REFER ALSO TO PARTS SCHEDULE ON SHEET E20.
- 10 PROVIDE AND INSTALL PANDUIT WIRING DUCT. SIZE AS REQUIRED.
- 11 PROVIDE AND INSTALL MIXED I/O AUXILIARY INTERFACE #1. WILKERSON BOARD PART #SIB V245/V453. REFER ALSO TO PARTS SCHEDULE ON SHEET E20.
- 12 PROVIDE AND INSTALL MIXED I/O AUXILIARY INTERFACE #2. WILKERSON BOARD PART #SIB V245/V453. REFER ALSO TO PARTS SCHEDULE ON SHEET E20.

GENERAL NOTES:

1. ALL HINGED SURFACES SHALL BE GROUNDED WITH A #12 COPPER BOND CONDUCTOR (WITH GREEN INSULATION) SECURED TO THE ENCLOSURE OR BACKPANEL. THIS SHALL INCLUDE THE OUTER DOOR AND INNER DOOR.



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TIMOTHY THOMAS, P.E. #47079

#	DATE	REVISIONS
1		
2		
3		

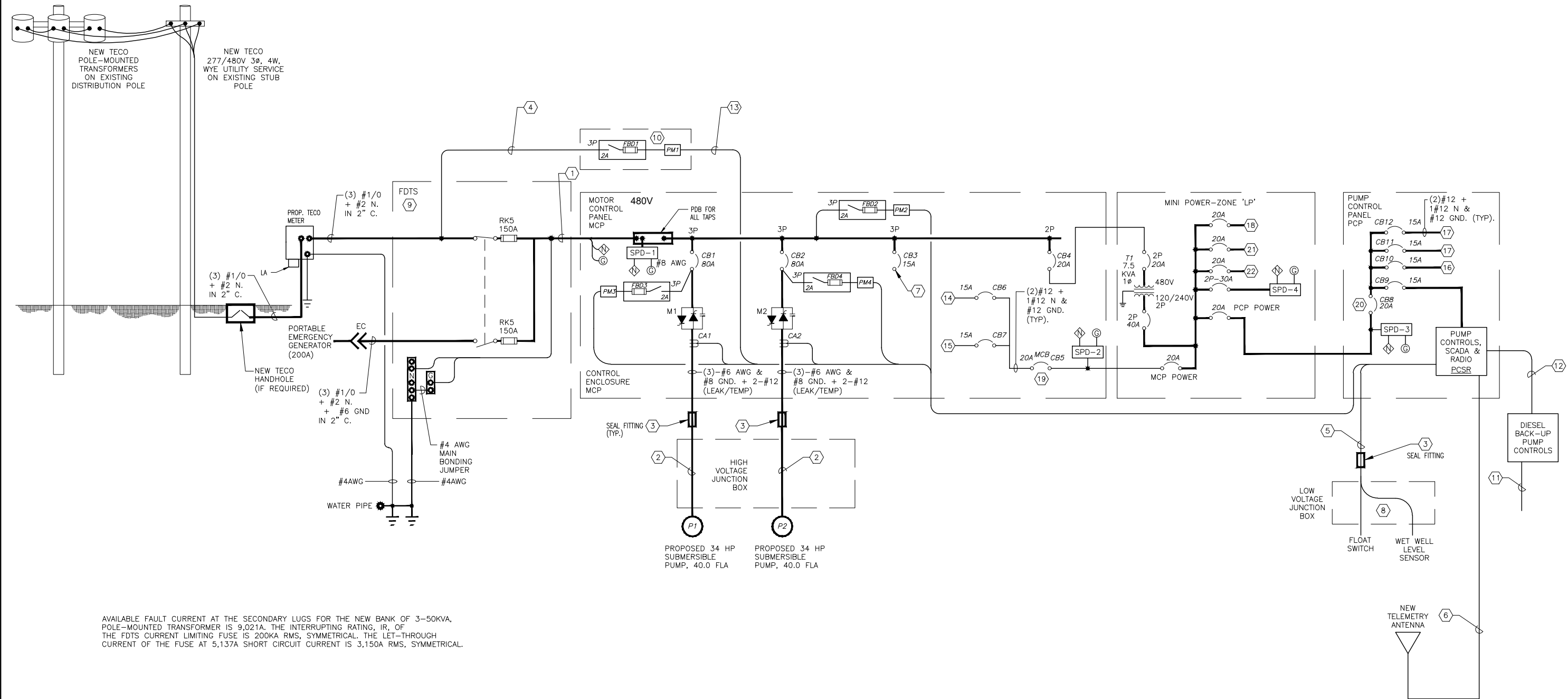
DES: TDT
DRN: JLH
CKD:
DATE:

CITY of TAMPA
WASTEWATER DEPARTMENT

BALLAST POINT PUMPING STATION REPLACEMENT

PUMP CONTROL PANEL 'PCP' DETAILS

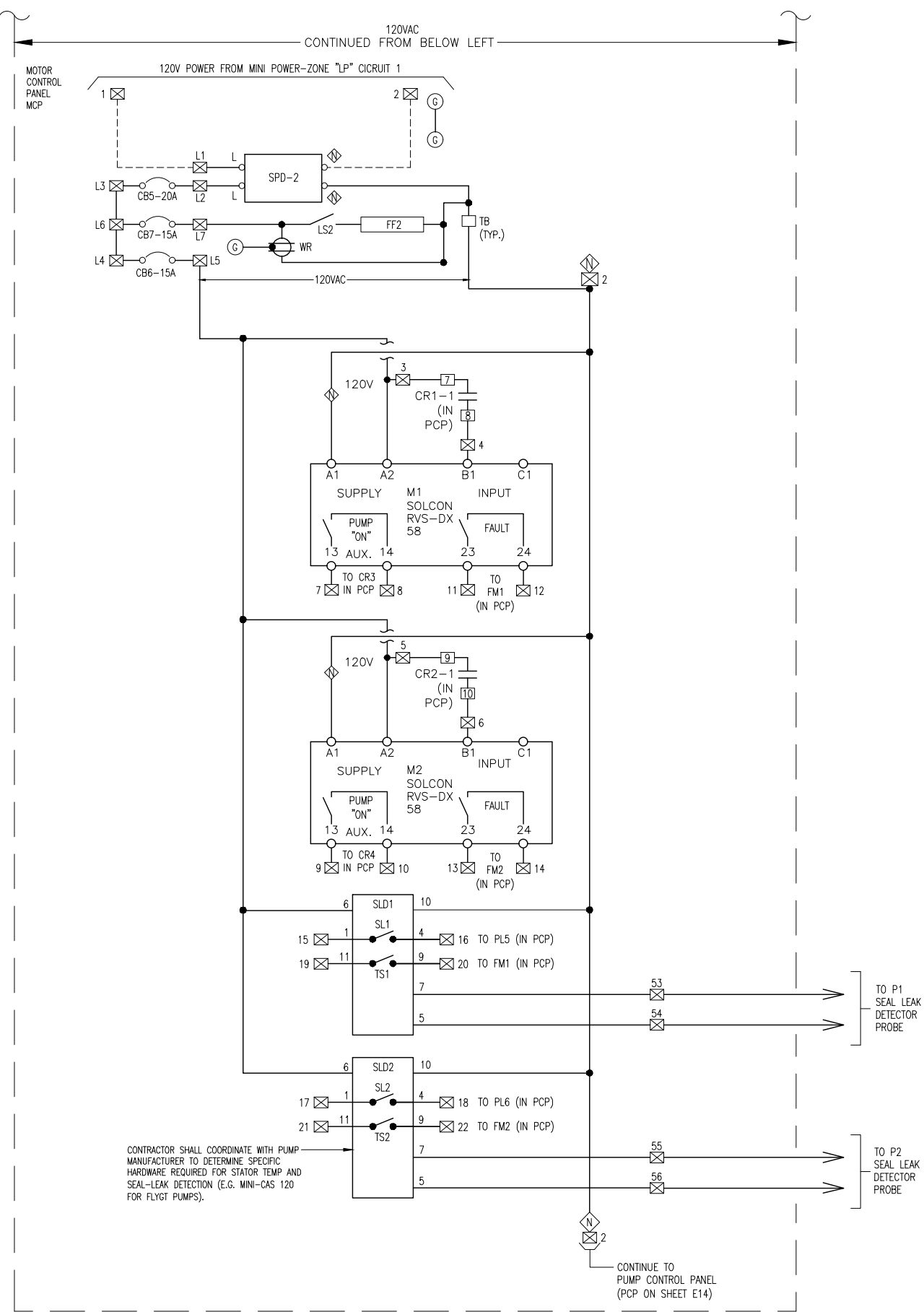
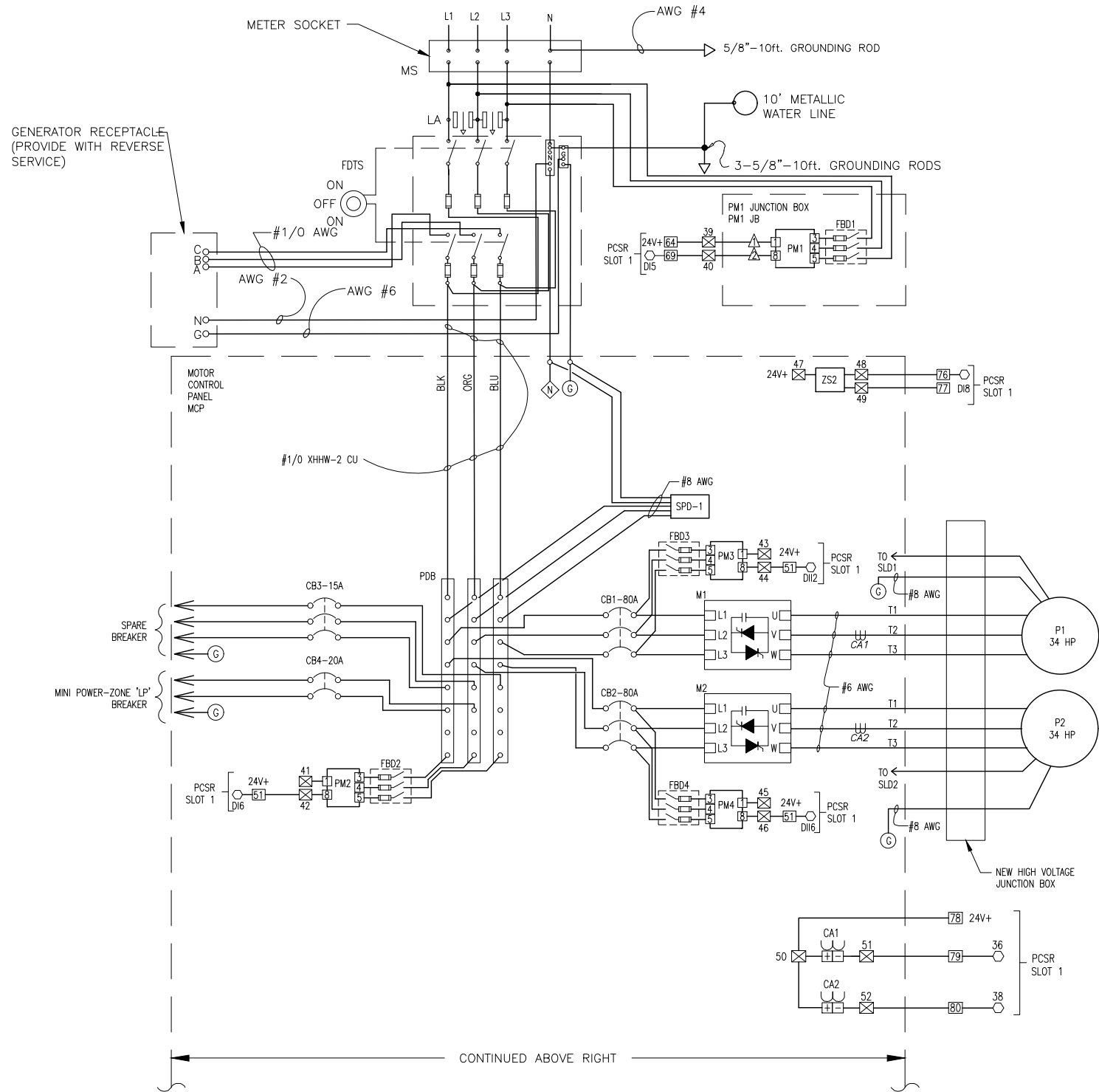
SHEET
E11



AVAILABLE FAULT CURRENT AT THE SECONDARY LUGS FOR THE NEW BANK OF 3-50KVA, POLE-MOUNTED TRANSFORMER IS 9,021A. THE INTERRUPTING RATING, IR, OF THE FDTS CURRENT LIMITING FUSE IS 200KA RMS, SYMMETRICAL. THE LET-THROUGH CURRENT OF THE FUSE AT 5,137A SHORT CIRCUIT CURRENT IS 3,150A RMS, SYMMETRICAL.

ONE LINE DIAGRAM NOTES:					
①	PROVIDE AND INSTALL 3-#1/0 + 1-#2 NEUTRAL + 1-#6 GND IN 2"C. CONDUIT,	⑧	SEE CONNECTION DETAILS ON SHEET E21.	⑭	SOFT STARTER CONTROL POWER.
②	NEW SUBMERSIBLE PUMP POWER CABLE IN NEW 2" CONDUIT.	⑨	SERVICE ENTRANCE RATED, FUSED DOUBLE THROW SWITCH.	⑮	RECEPTACLE & PANEL LIGHTS.
③	PROVIDE SEAL FITTING, REFER TO SHEETS E8 AND E9.	⑩	PM1 JUNCTION BOX, SEE SHEETS E9 AND E27 FOR DETAILS.	⑯	RECEPTACLE & PANEL LIGHTS AND AREA LIGHT.
④	PROVIDE AND INSTALL 3-#12 + 1-#12 IN 3/4"C. REFER TO DETAILS ON SHEET E9.	⑪	DIESEL BACKUP PUMP 120 VAC POWER, FOR BATTERY CHARGER, SPACE HEATERS AND CONTROLS. 2-#12 AWG + 1-#12 XHHW-2 IN 3/4" C. FROM MINI POWER ZONE "LP".	⑰	SPARE.
⑤	PROVIDE NEW 1" CONDUIT FROM NEW PUMP CONTROL PANEL TO PCP-JB FOR FLOAT SWITCH AND LEVEL SENSOR CABLES. REFER TO DETAILS ON SHEET E8.	⑫	PROVIDE AND INSTALL 15-#14 XHHW-2 CU + 2-#12 XHHW-2 CU + 1-#12 XHHW-2 CU GND + 2/C-#16 TWISTED SHIELDED (BELDEN 8719) IN 1-1/4" CONDUIT FROM PUMP CONTROL PANEL TO DIESEL BACK-UP PUMP CONTROLLER. 2/C-#16 TWISTED SHIELDED CABLE SHALL NOT BE CONNECTED AT EITHER END. 2/C-#16 TWISTED SHIELDED CABLE WILL BE FOR FUTURE USE.	⑱	BIOXIDE TANK POWER.
⑥	PROVIDE NEW 1" CONDUIT FROM NEW PUMP CONTROL PANEL TO NEW ANTENNA MAST FOR NEW COAX CABLE, REFER TO DETAIL ON SHEET E22.			⑲	MCP CONTROL POWER MAIN CIRCUIT BREAKER.
⑦	SPARE CIRCUIT BREAKER FOR FUTURE ODOR CONTROL UNIT.	⑬	PROVIDE AND INSTALL 2-#14 + 1-#14 GND IN 3/4" C. (24VDC CONTROLS).	⑳	PCP CONTROL POWER MAIN CIRCUIT BREAKER.
				㉑	FLOW METER CABINET.
				㉒	BACK-UP PUMP POWER AND CONTROLS.

TIMOTHY THOMAS, P.E. #47079	#	DATE	REVISIONS	DES: TDT	CITY of TAMPA WASTEWATER DEPARTMENT	BALLAST POINT PUMPING STATION REPLACEMENT ONE LINE DIAGRAM	SHEET E12
	1			DRN: JLH			
	2			CKD:			
	3			DATE:			



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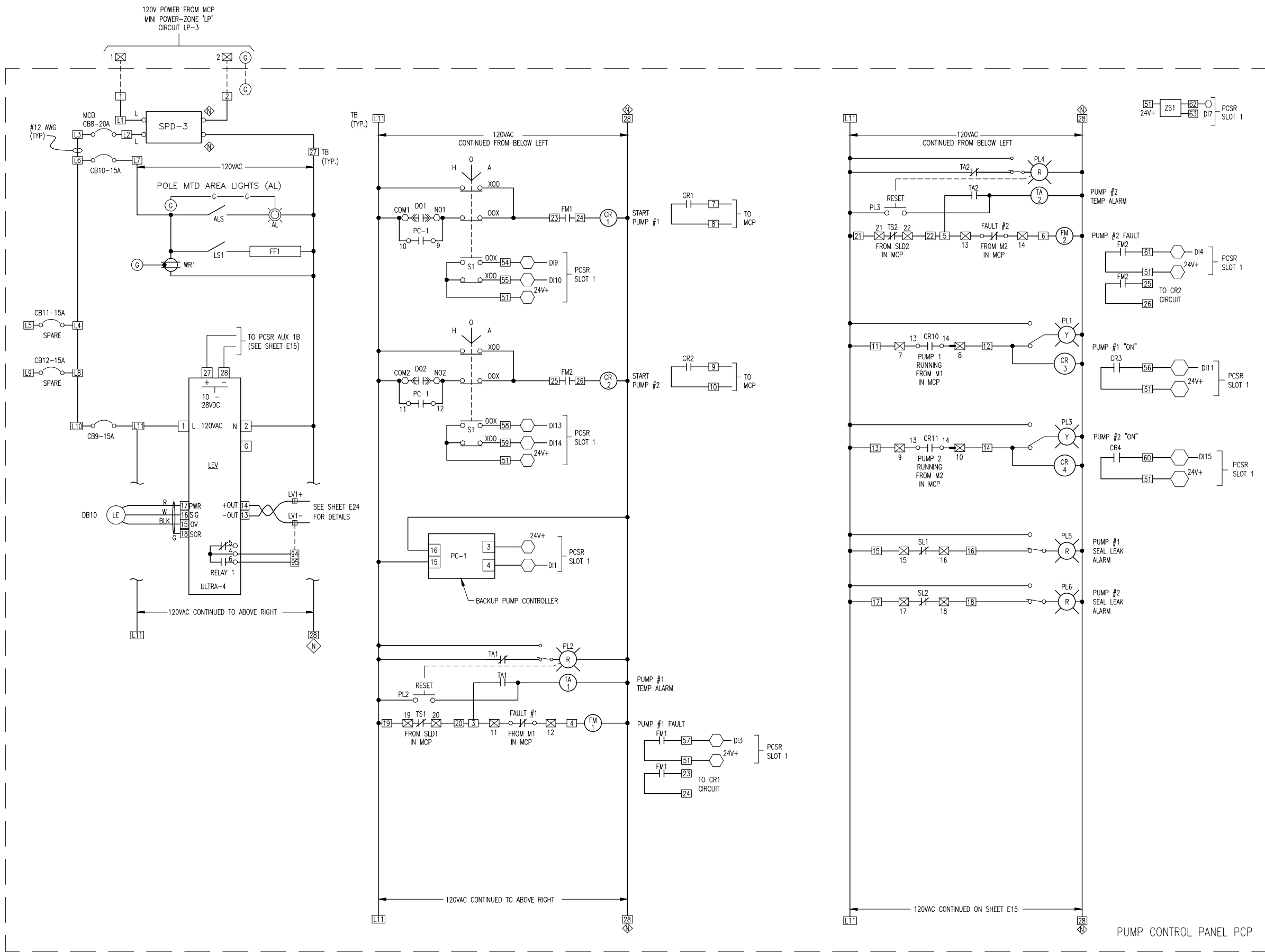
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DES: TDT
 DRN: JLH
 CKD:
 DATE:

CITY of TAMPA
 WASTEWATER DEPARTMENT

BALLAST POINT PUMPING STATION REPLACEMENT
 ELECTRICAL SCHEMATIC (SHEET 1 OF 4)
 MOTOR CONTROL PANEL (MCP)

SHEET
E13



- TERMINALS ON ACE I/O MODULE (GENERAL)
- TERMINALS IN PUMP CONTROL PANEL (PCP)
- ⊗ TERMINALS IN MOTOR CONTROL PANEL (MCP)
- △ TERMINALS IN PM1 JUNCTION BOX (PM1-JB)

#	DATE	REVISIONS
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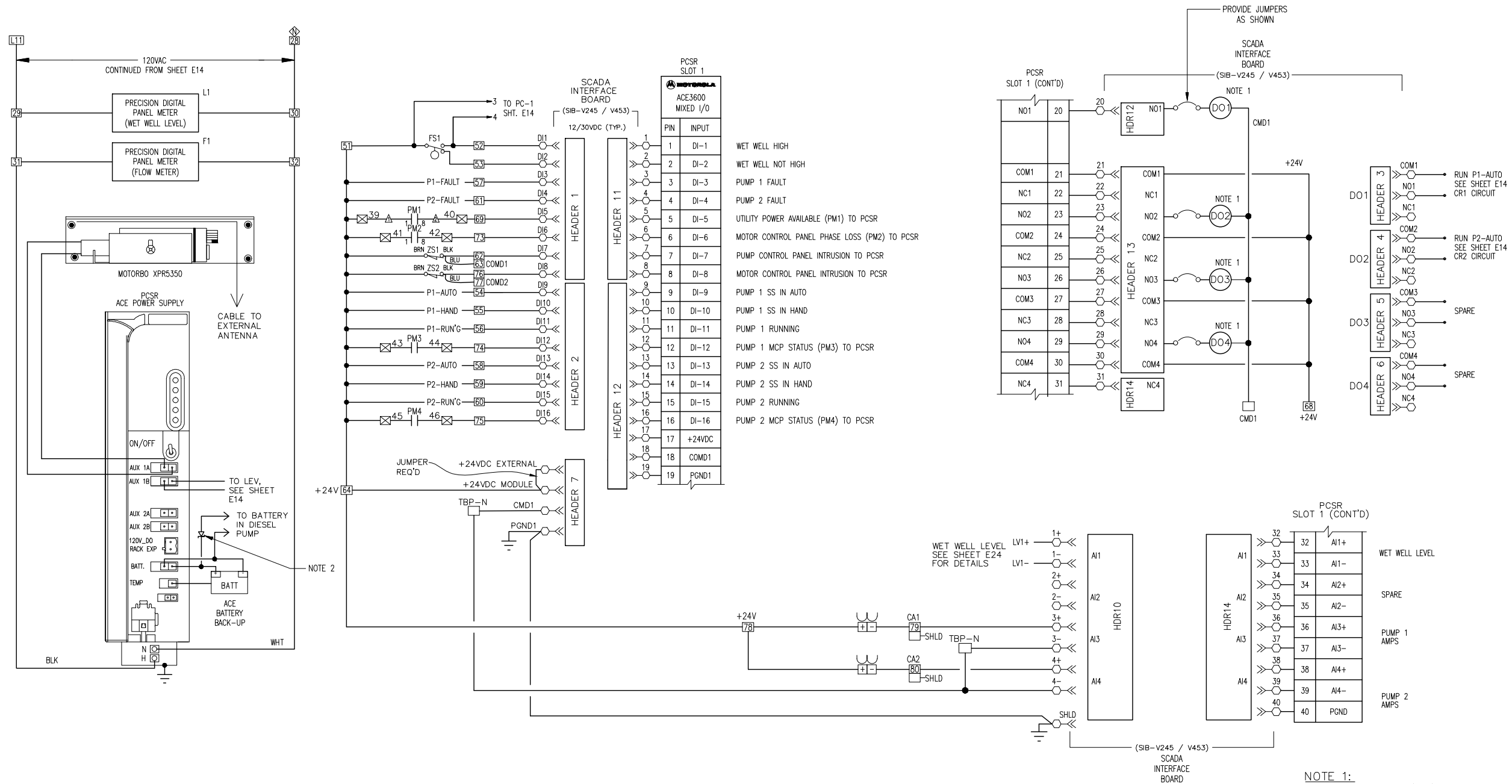
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 DRN: JLN
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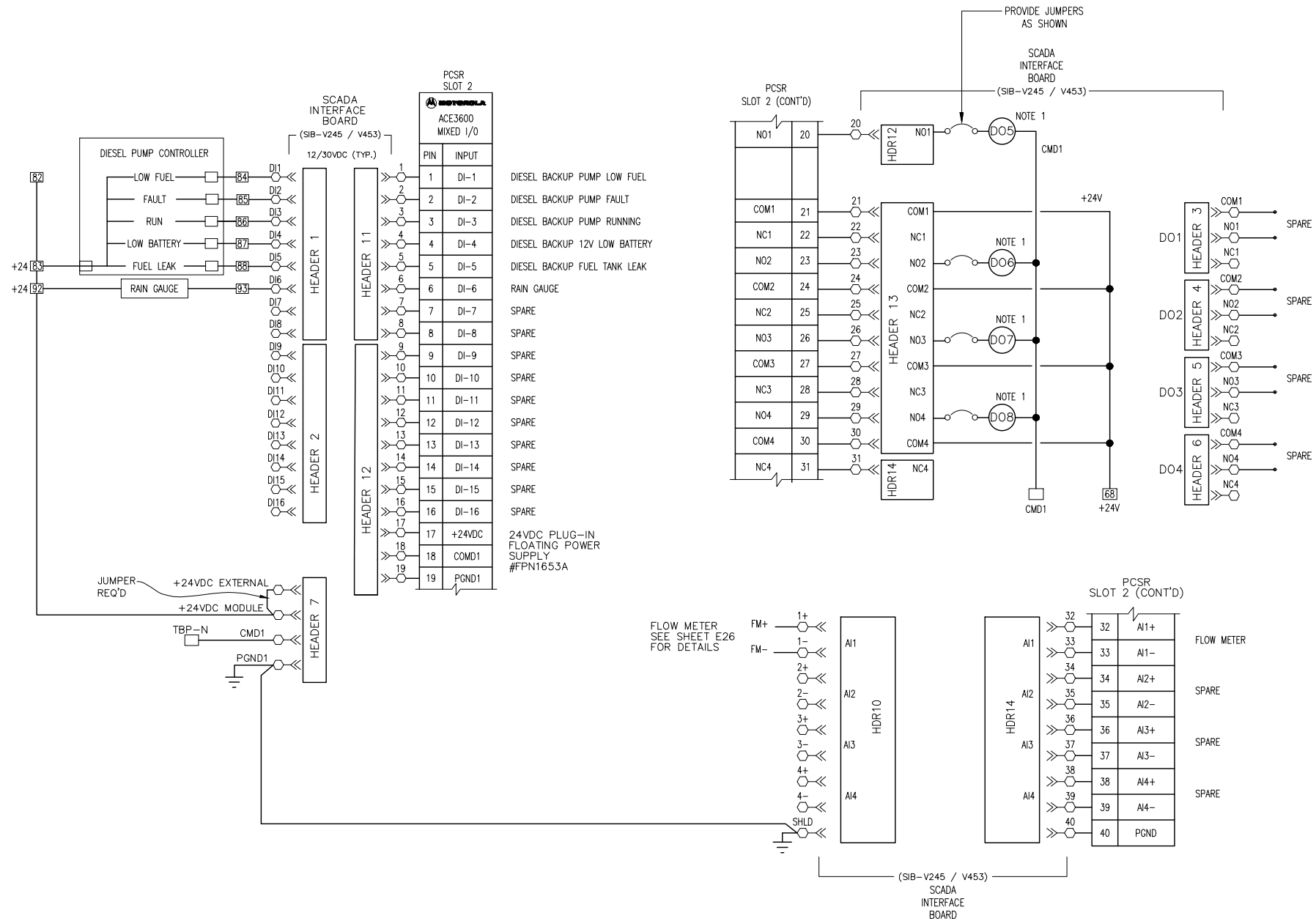
CITY of TAMPA
 WASTEWATER DEPARTMENT

BALLAST POINT PUMPING STATION REPLACEMENT

ELECTRICAL SCHEMATIC (SHEET 2 OF 4)
 PUMP CONTROL PANEL (PCP)

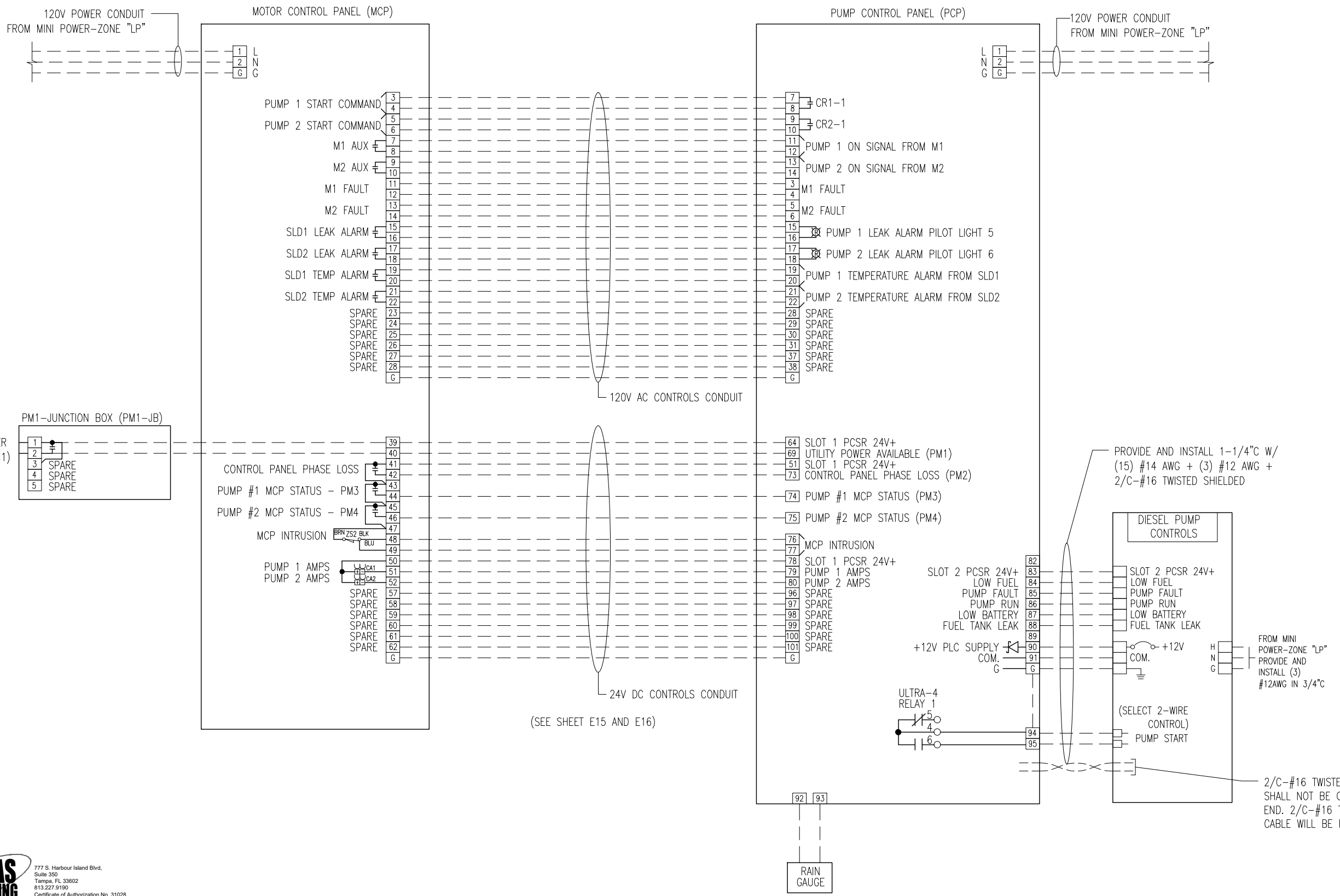
SHEET
E14





NOTE 1:
OUTPUT RELAYS (DO) ARE INTEGRAL TO THE WILKERSON MIXED I/O AUXILIARY INTERFACE BOARD

○ TERMINALS ON ACE I/O MODULE (GENERAL)
□ TERMINALS IN PUMP CONTROL PANEL (PCP)
⊠ TERMINALS IN MOTOR CONTROL PANEL (MCP)
△ TERMINALS IN PM1 JUNCTION BOX (PM1-JB)



TIMOTHY THOMAS, P.E. #47079	#	DATE	REVISIONS	DES: TDT	CITY of TAMPA WASTEWATER DEPARTMENT	BALLAST POINT PUMPING STATION REPLACEMENT MCP TO PCP INTERCONNECTION WIRING DIAGRAM	SHEET E17
	1			DRN: JLH			
	2			CKD:			
	3			DATE:			

TB1 (□) (120V AC) MOUNTED ON PUMP CONTROL PANEL (PCP)	
TERM.	DESCRIPTION
1	120V FROM MINI POWER ZONE
2	NEUTRAL FROM MINI POWER ZONE
3	SOFT STARTER NO. 1 FAULT FROM M1
4	SOFT STARTER NO. 1 FAULT FROM M1
5	SOFT STARTER NO. 2 FAULT FROM M2
6	SOFT STARTER NO. 2 FAULT FROM M2
7	PUMP 1 START COMMAND TO M1 (IN MCP)
8	PUMP 1 START COMMAND TO M1 (IN MCP)
9	PUMP 2 START COMMAND TO M2 (IN MCP)
10	PUMP 2 START COMMAND TO M2 (IN MCP)
11	P1 "ON" SIGNAL FROM M1 (IN MCP)
12	P1 "ON" SIGNAL FROM M1 (IN MCP)
13	P2 "ON" SIGNAL FROM M2 (IN MCP)
14	P2 "ON" SIGNAL FROM M2 (IN MCP)
15	PUMP 1 LEAK ALARM FROM MCP
16	PUMP 1 LEAK ALARM FROM MCP
17	PUMP 2 LEAK ALARM FROM MCP
18	PUMP 2 LEAK ALARM FROM MCP
19	PUMP 1 TEMPERATURE ALARM FROM MCP
20	PUMP 1 TEMPERATURE ALARM FROM MCP
21	PUMP 2 TEMPERATURE ALARM FROM MCP
22	PUMP 2 TEMPERATURE ALARM FROM MCP
23	PUMP 1 FAULT RELAY CONTACT
24	PUMP 1 FAULT RELAY CONTACT
25	PUMP 2 FAULT RELAY CONTACT
26	PUMP 2 FAULT RELAY CONTACT
27	SPD-3-NEUTRAL OUT
28	NEUTRAL
29	WET WELL LEVEL PANEL METER (L1)
30	NEUTRAL
31	FLOW METER PANEL METER (F1)
32	NEUTRAL
33-43	SPARE
L1	SPD-3 LINE
L2	CB8 LINE
L3	CB8 LOAD
L4	CB11 LINE
L5	CB11 LOAD
L6	CB10 LINE
L7	CB10 LOAD
L8	CB12 LINE
L9	CB12 LOAD
L10	CB9 LINE
L11	CB9 LOAD

TB2 (□) (24V DC) MOUNTED ON PUMP CONTROL PANEL (PCP)	
TERM.	DESCRIPTION
51	SLOT 1 PCSR 24V+
52	WET WELL HIGH
53	WET WELL NOT HIGH
54	PUMP 1 "AUTO" TO PCSR
55	PUMP 1 "HAND" TO PCSR
56	PUMP 1 "ON" TO PCSR
57	PUMP 1 "FAULT" TO PCSR
58	PUMP 2 "AUTO" TO PCSR
59	PUMP 2 "HAND" TO PCSR
60	PUMP 2 "ON" TO PCSR
61	PUMP 2 "FAULT" TO PCSR
62	} PUMP CONTROL PANEL INTRUSION
63	
64	
64	SLOT 1 PCSR 24V+
65	SPARE
66	SLOT 1 PCSR 24V+
67	SLOT 1 PCSR 24V+
68	SLOT 1 PCSR 24V+
69	UTIL POWER AVAILABLE (PM1) TO PCSR
70	SPARE
71	SPARE
72	SLOT 1 PCSR 24V+
73	MOTOR CONTROL PANEL PHASE LOSS (PM2)
74	PUMP #1 MCP STATUS (PM3) TO PCSR
75	PUMP #2 MCP STATUS (PM4) TO PCSR
76	} MOTOR CONTROL PANEL INTRUSION
77	
78	SLOT 1 PCSR 24V+
79	PUMP 1 AMPS
80	PUMP 2 AMPS
81	SPARE
82	SLOT 2 PCSR 24V+
83	SLOT 2 PCSR 24V+ BACK TO DIESEL PUMP
84	DIESEL BACKUP PUMP LOW FUEL
85	DIESEL BACKUP PUMP PUMP FAULT
86	DIESEL BACKUP PUMP RUNNING
87	DIESEL BACKUP PUMP 12V BATTERY LOW
88	DIESEL BACKUP PUMP FUEL TANK LEAK
90-91	+12V PLC SUPPLY
92-93	RAIN GAUGE
94-95	DIESEL PUMP START FROM ULTRA-4
96-101	SPARE

TB3 (⊞) (120V AC) MOUNTED ON MOTOR CONTROL PANEL (MCP)	
TERM.	DESCRIPTION
1	120VAC FROM MINI POWER ZONE
2	NEUTRAL FROM MINI POWER ZONE
3	PUMP 1 START COMMAND FROM CR1-1 (IN PCP)
4	PUMP 1 START COMMAND FROM CR1-1 (IN PCP)
5	PUMP 2 START COMMAND FROM CR2-1 (IN PCP)
6	PUMP 2 START COMMAND FROM CR2-1 (IN PCP)
7	PUMP 1 "ON" SIGNAL TO CR3 (IN PCP)
8	PUMP 1 "ON" SIGNAL TO CR3 (IN PCP)
9	PUMP 2 "ON" SIGNAL TO CR4 (IN PCP)
10	PUMP 2 "ON" SIGNAL TO CR4 (IN PCP)
11	SOFT START 1 FAULT SIGNAL TO PCP
12	SOFT START 1 FAULT SIGNAL TO PCP
13	SOFT START 2 FAULT SIGNAL TO PCP
14	SOFT START 2 FAULT SIGNAL TO PCP
15	PUMP 1 LEAK DETECTED TO PILOT LIGHT 5 (IN PCP)
16	PUMP 1 LEAK DETECTED TO PILOT LIGHT 5 (IN PCP)
17	PUMP 2 LEAK DETECTED TO PILOT LIGHT 6 (IN PCP)
18	PUMP 2 LEAK DETECTED TO PILOT LIGHT 6 (IN PCP)
19	PUMP 1 TEMPERATURE ALARM TO FM1 (IN PCP)
20	PUMP 1 TEMPERATURE ALARM TO FM1 (IN PCP)
21	PUMP 2 TEMPERATURE ALARM TO FM2 (IN PCP)
22	PUMP 2 TEMPERATURE ALARM TO FM2 (IN PCP)
23-38	SPARE
L1	SPD-2 LINE
L2	CB5 (MCB) LINE
L3	CB5 (MCB) LOAD
L4	CB6 LINE
L5	CB6 LOAD
L6	CB7 LINE
L7	CB7 LOAD

TB4 (⊞) (24V DC) MOUNTED ON MOTOR CONTROL PANEL (MCP)	
TERM.	DESCRIPTION
39	SLOT 1 PCSR 24+
40	UTILITY POWER AVAILABLE (PM1)
41	SLOT 1 PCSR 24V+
42	MOTOR CONTROL PANEL PHASE LOSS (PM2) TO PCSR
43	SLOT 1 PCSR 24V+
44	PUMP #1 MCP STATUS PHASE LOSS (PM3) TO PCSR
45	SLOT 1 PCSR 24V+
46	PUMP #2 MCP STATUS PHASE LOSS (PM4) TO PCSR
47	SLOT 1 PCSR 24V+
48	} MOTOR CONTROL PANEL INTRUSION
49	
50	SLOT 1 PCSR 24V+
51	PUMP 1 AMPS
52	PUMP 2 AMPS
53	PUMP 1 SEAL LEAK DETECTOR PROBE
54	PUMP 1 SEAL LEAK DETECTOR PROBE
55	PUMP 2 SEAL LEAK DETECTOR PROBE
56	PUMP 2 SEAL LEAK DETECTOR PROBE
57-66	SPARE

TB5 (△) (24V YOC) MOUNTED ON PM1-JUNCTION BOX (PM1-JB)	
TERM.	DESCRIPTION
1	SLOT 1 PCSR 24V+
2	UTIL POWER AVAILABLE (PM1) TO PCSR
3	SPARE
4	SPARE
5	SPARE

X-Y	TERMINAL POINT MOUNTED ON PCP (INTERFACE TO PCSR)
⊞	TERMINAL POINT ON PCSR
□	TERMINAL POINT IN PUMP CONTROL PANEL (PCP)
⊞	TERMINAL POINT IN MOTOR CONTROL PANEL (MCP)
△	TERMINAL POINT IN PM1 JUNCTION BOX (PM1-JB)



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TIMOTHY THOMAS, P.E. #47079	#	DATE	REVISIONS	DES: TDT	CITY of TAMPA WASTEWATER DEPARTMENT	BALLAST POINT PUMPING STATION REPLACEMENT ELECTRICAL SCHEMATIC LEGEND	SHEET E18
	1			DRN: JLH			
	2			CKD:			
	3			DATE:			

PARTS SCHEDULE (MOTOR CONTROL PANEL)						
SYMBOL	NAME	PART			RATING	REMARKS
		MAKE	TYPE	MODEL OR CAT. #		
CB 1	CIRCUIT BREAKER	SQUARE D	THREE POLE	HDL 36080	600 V, 80A	18 KAIC @ 480VAC
CB 2	CIRCUIT BREAKER	SQUARE D	THREE POLE	HDL 36080	600 V, 80A	
CB 3	CIRCUIT BREAKER	SQUARE D	THREE POLE	HDL 36015	600 V, 15A	
CB 4	CIRCUIT BREAKER	SQUARE D	TWO POLE	HDL26020	600 V, 20A	
CB 5	CIRCUIT BREAKER	SQUARE D	SINGLE POLE	QOU-120	120 V, 20A	
CB 6, 7	CIRCUIT BREAKER	SQUARE D	SINGLE POLE	QOU-115	120 V, 15A	
M1, 2	MOTOR STARTER	SOLCON	RVSS	RVS-DX 58-480-115-8-U-S	58 A	PROVIDE REMOTE KEYPAD
CA1, CA2	CIRCUIT SENSOR	ENERCORP INSTRUMENTS	4-20mA OUTPUT	SC200-2	0-100A, 0-150, 0-200A	ADJUSTABLE RANGE
ZS2	CONTROL PNL INTRUSION SENSOR	OMRON	CYLINDRICAL, SHORT BARREL	E2F-X5F1 (GRAINGER-1EA77)	12-24VDC, 3-WIRE PNP	W/ TELEMECANIQUE MTG. BRACKET (GRAINGER - 5B233)
FF2 & LS2	LED LIGHTING FIXTURE	HOFFMAN	LED	LEDA1S35	120 V, 5W	W/TOGGLE SWITCH-TS
SPD-1	SURGE PROTECTIVE DEVICE TYPE 1	ASCO POWER TECHNOLOGIES	MOTOR CONTROL PANEL SPD	430277YP20ACSJ10	277/480 V, 3ø, 4W	200 kA SURGE CAPACITY
TB3, TB4	TERMINALS	PHOENIX CONTACT		UK5N TERMINALS	30 A W/ ALUM. DIN RAIL	50 CONTACTS (MIN)
ITS	INSULATED TERMINAL STRIP	ALLEN-BRADLEY	STYLE AA	1492-15-T	600 V AC NEUTRAL BLOCK	4 CONTACTS (MIN) W/ SHORTING BARS
MCP	MOTOR CONTROL PANEL ENCLOSURE	SCHAEFER'S	NEMA 4X, 3P LATCH, 48"x36"x12"	SPN4SS-483612	304 SS, POWDER COATED WHITE	3P LATCH W/STOP KIT, EXTERNAL FINISH DURABLE RAL 9003 WHITE POWER COAT.
MP	ENCLOSURE PANEL	SCHAEFER'S	45" X 33", STEEL	SPP-4236	STEEL, 12 GAUGE	
PM2, PM3, PM4	3-PHASE POWER MONITOR	ATC DIVERSIFIED ELECTRONICS	8 PIN PLUG-IN	SUA-440-ASA	440 VAC	W/ OPTIONAL 5-SEC RELEASE AND DIN RAIL SOCKET-RB08PC
PDB	PWR DIST. BLOCK	BUSSMANN/EATON	THREE POLE	PDBFS330	600 V, 380 AMP	FINGER-SAFE, ENCLOSED
FBD 2, 3, 4	FUSE BLOCK / DISCONNECT	ALLEN BRADLEY	THREE PHASE- HIGH INTER. CAP.	1492-FB3C30-L	600 VAC, 200KAIC	W/ BUSSMANN KTK-R-2 FAST ACTING, REJECTION FUSES
FL	FLOAT SWITCH	ANCHOR SCIENTIFIC	SPDT	S2ONONC	10 A @ 120 V	PROVIDED BY THE CITY INSTALLED BY CONTRACTOR
FTB2	FUSED TERMINAL BLOCKS	PHOENIX CONTACT		UK 5-HESI	PROVIDE 1, 2, & 5A FUSES	PROVIDE COOPER BUSSMAN GDB SERIES FUSES
SLD1, SLD2	PUMP MONITORING UNIT	XYLEM		MINI-CAS 120	10A AT 240V AC	
GB2	GROUNDING BLOCK	ILSCO	AS REQUIRED	AS REQUIRED		
SPD-2	SURGE PROTECTION DEVICE TYPE 3	PHOENIX CONTACT	3 CONDUCTOR SYSTEM (L, N, G)	2905228	120V, 25A	

PARTS SCHEDULE (MISCELLANEOUS)						
PM1- JUNCTION BOX						
SYMBOL	NAME	PART			RATING	REMARKS
		MAKE	TYPE	MODEL OR CAT. #		
PM1	3-PHASE POWER MONITOR	ATC DIVERSIFIED ELECTRONICS	8 PIN PLUG-IN	SUA-440-ASA	440 VAC	W/ OPTIONAL 5-SEC RELEASE AND DIN RAIL SOCKET-RB08PC
FBD1	FUSE BLOCK / DISCONNECT	ALLEN BRADLEY	THREE PHASE- HIGH INTER. CAP.	1492-FB3C30-L	600 VAC, 200KAIC	W/ BUSSMANN KTK-R-2 FAST ACTING, REJECTION FUSES
PM1-JB	PHASE MONITOR JUNCTION BOX	HAMMOND MANUFACTURING	NEMA 4X, 12"x10"x8"	EJ12108S16	316 S.S.	INSTALL DIN RAILS TO MOUNT PM1 AND FBD1
TB5	TERMINALS	PHOENIX CONTACT		UK5N TERMINALS	30 A W/ ALUM. DIN RAIL	5 CONTACTS (MIN)
EXTERNAL ELECTRICAL						
SYMBOL	NAME	PART			RATING	REMARKS
		MAKE	TYPE	MODEL OR CAT. #		
FDTS	FUSED DOUBLE THROW DISCONNECT SWITCH	EATON	SERVICE ENTRANCE RATED, HEAVY DUTY	DT364FWK	200A, 600V, NEMA 4X, S/S	TIME DELAY CLASS RK5 FUSES (6) EDISON ECSR 150 PROVIDE (3) SPARES FOR EACH
				DH200NK NEUTRAL KIT DS200GK GROUND KIT DS46FK R FUSE ADADTOR KIT		
MS	METER SOCKET	MILBANK	7 TERMINAL, RINGLESS	UAP3306-X-HSP	600 VAC, 200 AMP	ALUMINUM CONSTRUCTION
EC	EMERGENCY CONNECTOR	CROUSE & HINDS	ARKTITE	AREA20416-S22 W/ BACK BOX, ANGLE ADAPTER, 2" HUB AND SPRING COVER	600V 200 AMP	
SPD-4	SURGE PROTECTIVE DEVICE TYPE 1	ASCO POWER TECHNOLOGIES	MINI POWER-ZONE SPD	430120SP10ACSJ10	120/240 V, 1ø, 3W	100 kA SURGE CAPACITY
MCP-JB	MOTOR CONTROL PANEL JUNCTION BOX	HAMMOND	NEMA 4X, 16"x16"x6"	#1418N4SSG6	304 S.S.	INSTALL S.S. LOUVER PLATE KIT WIEGMANN #WAVK0304SSA
PCP-JB	PUMP CONTROL PANEL JUNCTION BOX	WIEGMANN	NEMA 4X, 12"x12"x6"	BN4121206CHSS	304 S.S.	INSTALL S.S. LOUVER PLATE KIT WIEGMANN #WAVK0304SSA
DIESEL-JB	DIESEL BACKUP PUMP JUNCTION BOX	WIEGMANN	NEMA 4X, 12"x12"x6"	BN4121206CHSS	304 S.S.	INSTALL S.S. LOUVER PLATE KIT WIEGMANN #WAVK0304SSA
PDB	PWR DIST. BLOCK	BUSSMANN/EATON	THREE POLE	PDBFS220	600 V, 175 AMP	BARRIER TERMINAL BLOCKS
	SEAL FITTING	CROUSE-HINDS	COPPER-FREE ALUMINUM	AS REQUIRED		
	CONDUIT BODIES	CROUSE-HINDS	COPPER-FREE ALUMINUM, FORM 7 OR 9	AS REQUIRED		
LP	MINI POWER-ZONE	SQUARE D	NEMA 3R	MPZB7S40FSS	480V-120/240V, 7.5 KVA	18 KA INTERRUPT RATING



TIMOTHY THOMAS, P.E. #47079	#	DATE	REVISIONS	DES: TDT	CITY of TAMPA WASTEWATER DEPARTMENT	BALLAST POINT PUMPING STATION REPLACEMENT PARTS SCHEDULE (SHEET 1 OF 2)	SHEET E19
	1			DRN: JLH			
	2			CKD:			
	3			DATE:			

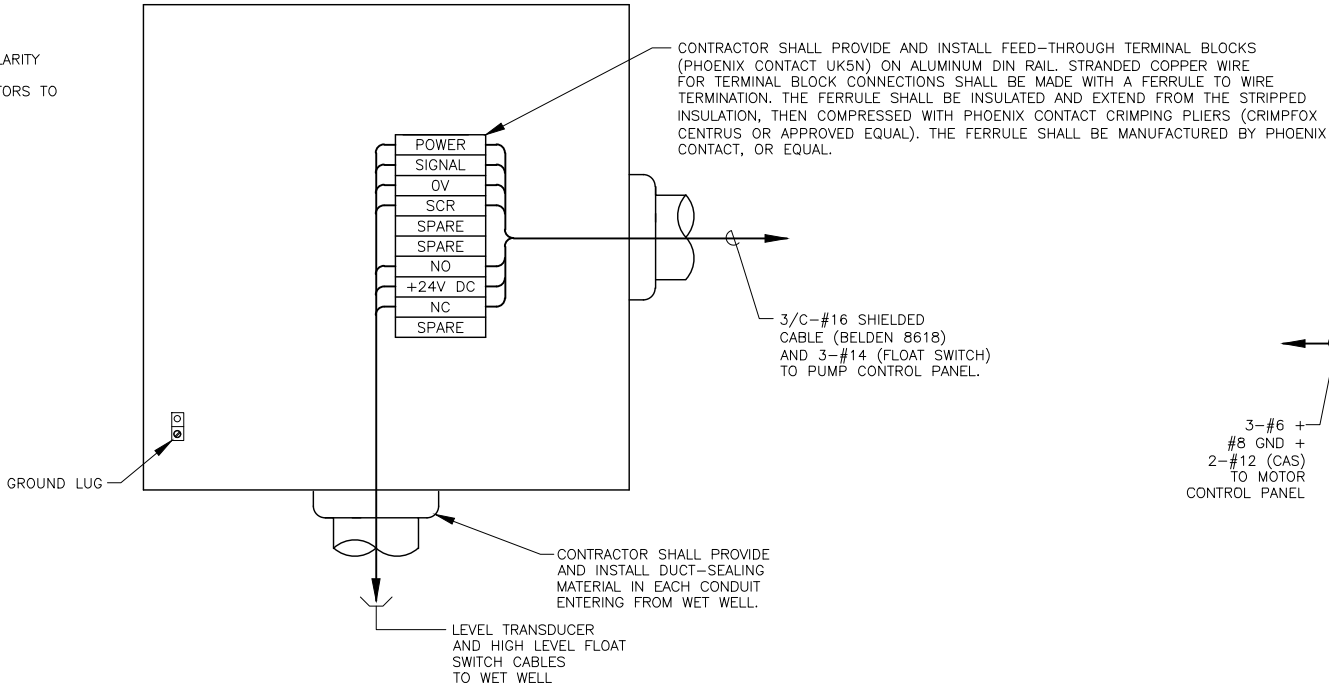
PARTS SCHEDULE (PUMP CONTROL PANEL)						
SYMBOL	NAME	PART				REMARKS
		PCSR PARTS LIST				
		MAKE	TYPE	MODEL OR CAT. #	RATING	
PCSR	PLC BASED PUMP CONTROLLER, SCADA, AND RADIO SYSTEM	MOTOROLA CORP.	DUPLEX PUMP CONTROLLER BASED ON ACE 3600 PROGRAM CONTROLLER	PART F7509	BASIC MODEL	PROVIDE (1) SPARE
		MOTOROLA CORP.	MOTORBO ANALOG RADIO INSTALLATION KIT	VA00194 (PART #FLN1059)		
		MOTOROLA CORP.	MOTORBO XPR5350 RADIO	VA00161 (PART #UE1078A)	UHF RI: 403-470MHZ	
		MOTOROLA CORP.	METAL CHASIS	PART #V214	MEDIUM 14" x 14"	
		MOTOROLA CORP.	AC POWER SUPPLY 85-264V	PART #V261	100-240 VAC W/ 12V SMART CHARGER	PROVIDE (1) SPARE
		MOTOROLA CORP.	BACKUP BATTERY	PART #V328	10.0 Ah SEALED LEAD-ACID	FITS IN SEPARATE LOCATION FROM METAL CHASSIS; INCLUDE: FKN8376 BATTERY POWER CABLE, FHN601 MOUNTING BRACKET, AND FNN7898 10 AH BACKUP BATTERY
		MOTOROLA CORP.	3-I/O SLOT FRAME	PART #V103		
		MOTOROLA CORP.	20 PIN TB HOLDER KIT	PART #V158		
		MOTOROLA CORP.	I/O SLOT COVER	PART #V20	BLANK MODULE	UTILIZE WHERE NEEDED
		MOTOROLA CORP.	16 DI + 4 DO (EE) + (4)± 20 mA AI	PART #V245	PART #V245	MIXED I/O, PROVIDE (2) SPARES
		MOTOROLA CORP.	24 VDC PLUG-IN POWER SUPPLY	PART #V260 (FPN1653A)	24V FLOATING MAX, 150 mA OUTPUT	FLOATING POWER SUPPLY
		WILKERSON	SCADA INTERFACE BOARD	PART #SIB-V 245/V453		PROVIDE (2) SPARES
SYMBOL	NAME	PART				REMARKS
		REMAINING PARTS LIST				
		MAKE	TYPE	MODEL OR CAT. #	RATING	
PC-1	BACKUP PUMP CONTROLLER	WILKERSON	DUPLEX LIFT STATION	DR1920	10 AMP CONTACTS	DIN RAIL MOUNTING
FTB1	FUSED TERMINAL BLOCKS	PHOENIX CONTACT		UK 5-HESI	PROVIDE 1, 2, & 5A FUSES	PROVIDE COOPER BUSSMAN GDB SERIES FUSES
F1, L1	PROCESS METER	PRECISION DIGITAL	4 DIGIT, 1.2" DISPLAY	PD765-6R3-10		PROVIDE 4-20 mA OUTPUT
CB 9, 10, 11, 12	CIRCUIT BREAKER	SQUARE D	SINGLE POLE	QOU-115	120 V, 15A	
CB 8	CIRCUIT BREAKER	SQUARE D	SINGLE POLE	QOU-120	120 V, 20A	
PL1, PL3	INDICATOR LIGHT	SQUARE D	CLASS 9001	SKT - 38LYA9	120 V, LED TYPE	YELLOW LENS & PRESS TEST
PL2, PL4	ILLUMINATED PUSH BUTTON	SQUARE D	CLASS 9001	SK2L38LRRH13	120 V, LED TYPE	RED LENS - 1 N.O., 1 N.C.
PL5, PL6	INDICATOR LIGHT	SQUARE D	CLASS 9001	SKT - 38LRR9	120 V, LED TYPE	RED LENS & PRESS TEST
S1, S2	HOA SWITCH ASSEMBLY	SQUARE D	OIL-TIGHT CLASS 9001	SKS - 43B H2	10A @ 120V	
ALS	AREA LIGHT SWITCH	HUBBELL	SINGLE POLE	HBL1221	277V, 20A	
ZS1	CONTROL PNL INTRUSION SENSOR	OMRON	CYLINDRICAL, SHORT BARREL	E2F-X5F1 (GRAINGER-1EA77)	12-24VDC, 3-WIRE PNP	W/ TELEMECANIQUE MTG. BRACKET (GRAINGER - 5B233)
FF1 & LS1	LED LIGHTING FIXTURE	HOFFMAN	LED	LEDA1S35	120 V, 5W	W/TOGGLE SWITCH-TS
WR	WALL RECEPTACLE	HUBBELL	DUPLEX W/GFI	GF5262	120V AC, 15A GFI	W/ALUMINUM OUTLET BOX AND COVER
TB1, TB2	TERMINALS	PHOENIX CONTACT		UK5N TERMINALS	30 A W/ ALUM. DIN RAIL	50 CONTACTS (MIN)
ITS	INSULATED TERMINAL STRIP	ALLEN-BRADLEY	STYLE AA	1492-15-T	600 V AC NEUTRAL BLOCK	4 CONTACTS (MIN) W/ SHORTING BARS
GB1	GROUND BAR SYSTEM	PANDUIT	12 PORT WITH MAIN LUG	UGB2/0-414-12		COPPER CONSTRUCTION
GB2	GROUNDING BLOCK	ILSCO	AS REQUIRED	AS REQUIRED		
TA1, TA2	CONTROL RELAY	POTTER & BRUMFIELD	8 PIN PLUG-IN	KRPA-11AG-120	120V AC COIL, 10A CONTACTS	DPDT W/ SOCKET AND HOLD DOWN SPRING
FM1, FM2	CONTROL RELAY	POTTER & BRUMFIELD	11 PIN PLUG-IN	KRPA-14AG-120	120V AC COIL, 10A CONTACTS	3PDT W/ SOCKET AND HOLD DOWN SPRING
LEV	WET WELL LEVEL SENSOR	PULSAR, INC.	ULTRASONIC	dB10 TRANSDUCER W/ ULTRA-4	1 TD 32.8 FT RANGE 115VAC/24VDC POWERED W/ 4-20MA AND (2) RELAY OUT W/ KEY PAD, DISPLAY, AND TROPICALIZATION	CITY FORCES WILL PROVIDE ASSISTANCE WITH MOUNTING AND CALIBRATION
CR1, CR2, CR3, CR4, CR5, CR6	CONTROL RELAY	POTTER & BRUMFIELD	14-BLADE SQUARE PLUG-IN	KUP-17A19-120	120V AC COIL, 10A CONTACTS	4PDT W/ SOCKET AND HOLD DOWN SPRING
PCP	PUMP CONTROL PANEL ENCLOSURE	SCHAEFER'S	NEMA 4X, 3P LATCH, 48"x36"x12"	SPN4SS-483612	304 SS, POWDER COATED WHITE	3P LATCH W/STOP KIT. EXTERNAL FINISH DURABLE RAL 9003 WHITE POWER COAT.
PP	ENCLOSURE PANEL	SCHAEFER'S	45" X 33", STEEL	SPP-4236	STEEL, 12 GAUGE	
NB1, 2	NEUTRAL DISTRIBUTION BLOCK	BUSSMAN	SINGLE POLE	16220-1	600V, 175A	
SPD-3	SURGE PROTECTION DEVICE TYPE 3	PHOENIX CONTACT	3 CONDUCTOR SYSTEM (L, N, G)	2905228	120V, 25A	



TIMOTHY THOMAS, P.E. #47079	#	DATE	REVISIONS	DES: TDT	CITY of TAMPA WASTEWATER DEPARTMENT	BALLAST POINT PUMPING STATION REPLACEMENT PARTS SCHEDULE (SHEET 2 OF 2)	SHEET E20
	1			DRN: JLH			
	2			CKD:			
	3			DATE:			

NOTES:

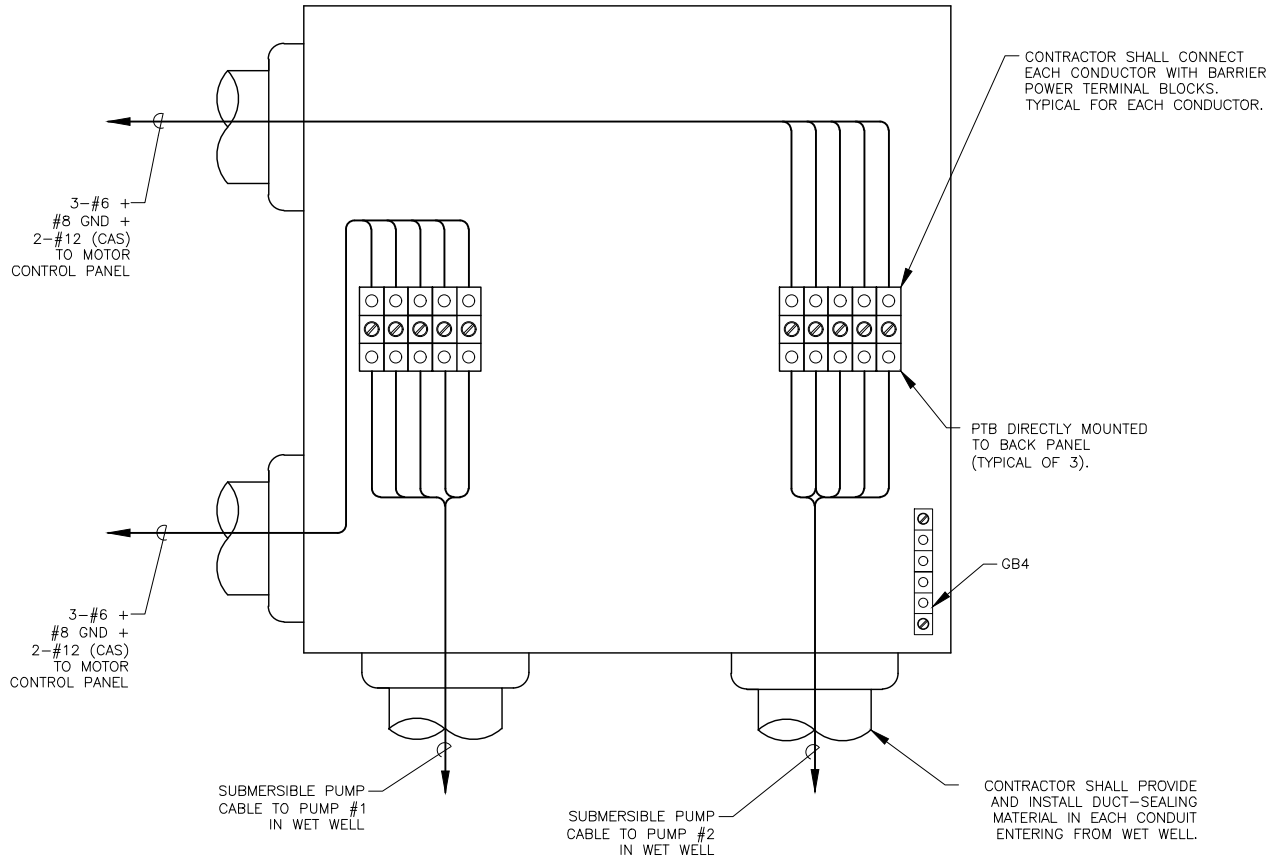
- COVER NOT SHOWN FOR CLARITY
- BOND GROUNDING CONDUCTORS TO ENCLOSURE BACK PANEL.



INSTRUMENTATION AND CONTROLS
JUNCTION BOX DETAIL

SCALE: N.T.S.

1
E9 E21



PUMP MOTOR CONNECTIONS
JUNCTION BOX DETAIL

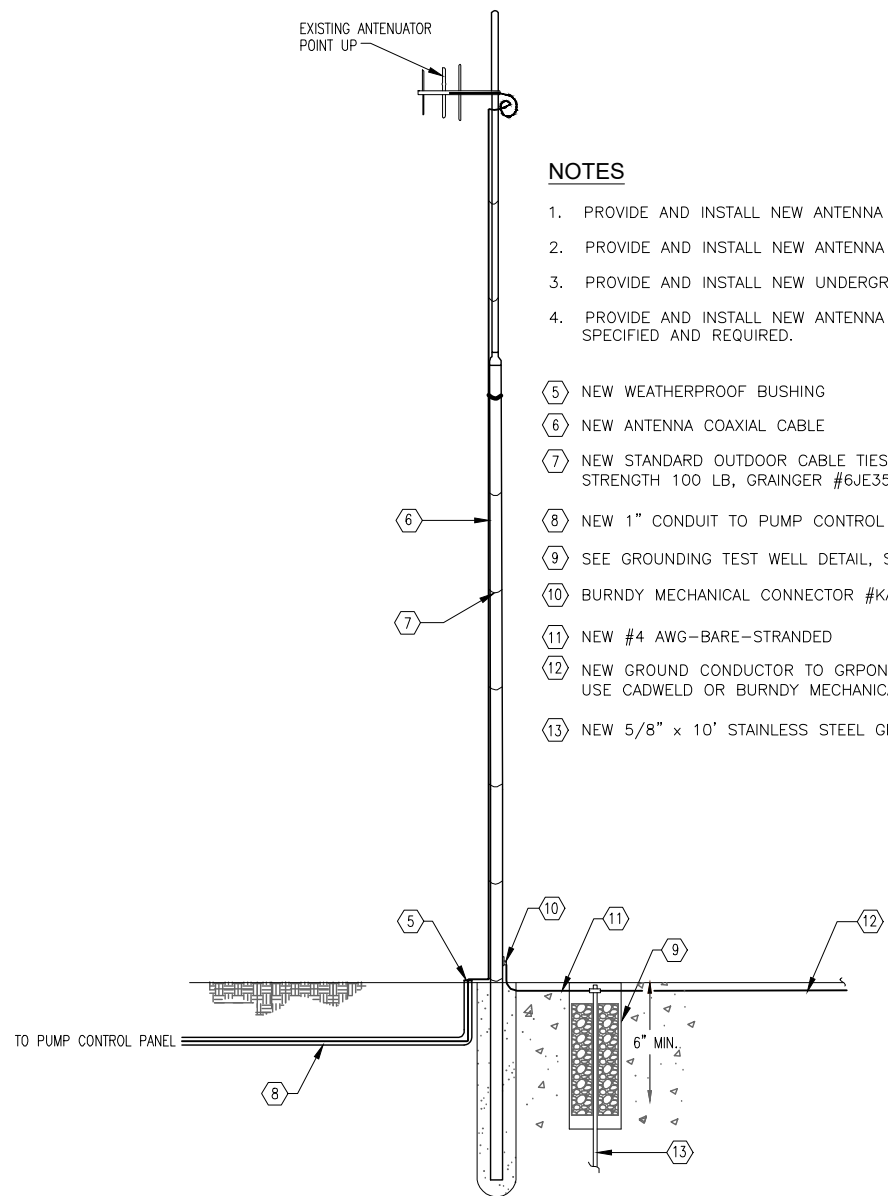
SCALE: N.T.S.

3
E8 E21

NOTES:

- COVER NOT SHOWN FOR CLARITY
- BOND GROUNDING CONDUCTORS TO ENCLOSURE BACK PANEL.

#	DATE	REVISIONS
1		
2		
3		



NOTES

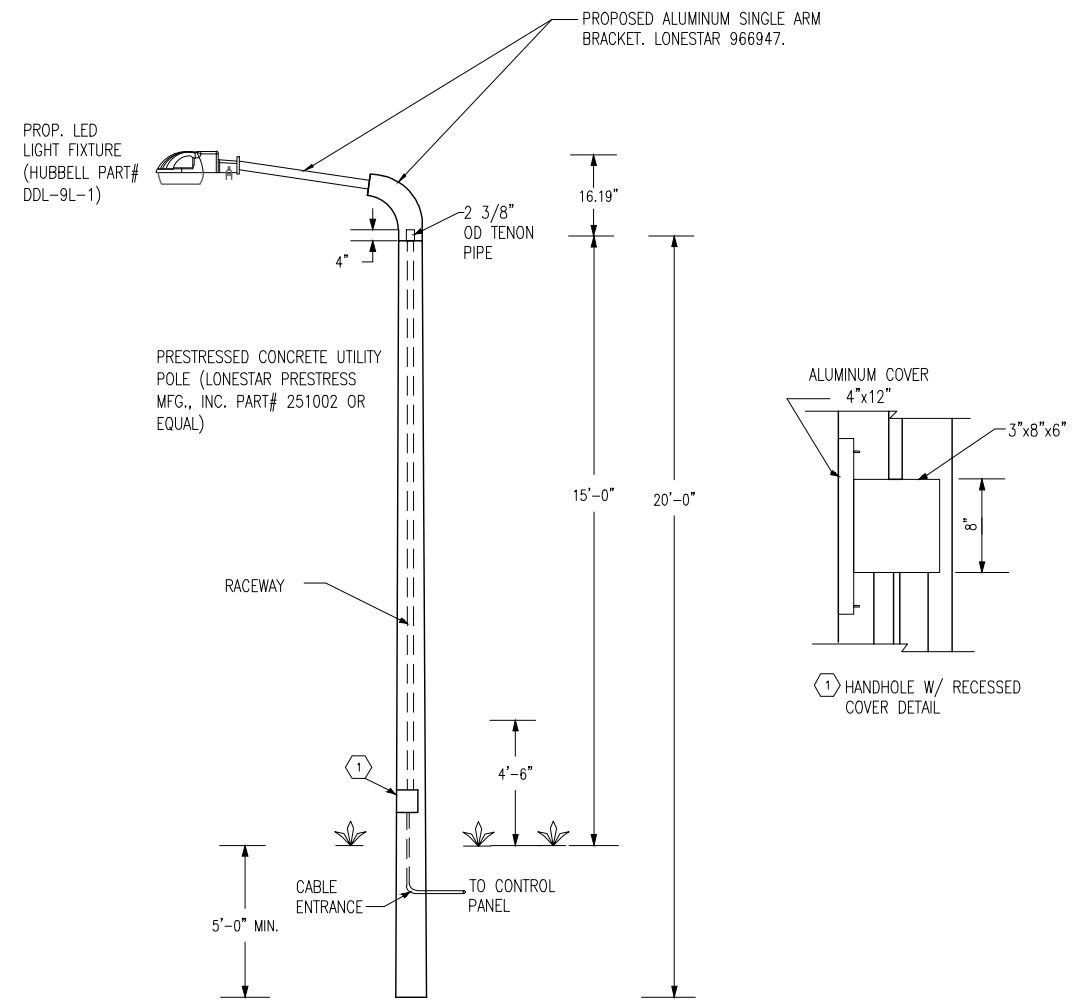
1. PROVIDE AND INSTALL NEW ANTENNA AND MAST.
 2. PROVIDE AND INSTALL NEW ANTENNA COAX CABLE, AS REQUIRED.
 3. PROVIDE AND INSTALL NEW UNDERGROUND CONDUIT, AS REQUIRED.
 4. PROVIDE AND INSTALL NEW ANTENNA GROUNDING SYSTEM, AS SHOWN, SPECIFIED AND REQUIRED.
- 5 NEW WEATHERPROOF BUSHING
6 NEW ANTENNA COAXIAL CABLE
7 NEW STANDARD OUTDOOR CABLE TIES, 304 STAINLESS STEEL, TENSILE STRENGTH 100 LB, GRAINGER #6JE35
8 NEW 1" CONDUIT TO PUMP CONTROL PANEL
9 SEE GROUNDING TEST WELL DETAIL, SHEET E27
10 BURNDY MECHANICAL CONNECTOR #KA25-4-1/0
11 NEW #4 AWG-BARE-STRANDED
12 NEW GROUND CONDUCTOR TO GRPONDING GRID SYSTEM, USE CADWELD OR BURNDY MECHANICAL CONNECTOR #VT2525
13 NEW 5/8" x 10' STAINLESS STEEL GROUND ROD

ANTENNA DETAIL

SCALE: N.T.S.



TIMOTHY THOMAS, P.E. #47079	#	DATE	REVISIONS	DES: TDT	CITY of TAMPA WASTEWATER DEPARTMENT	BALLAST POINT PUMPING STATION REPLACEMENT ELECTRICAL DETAILS (SHEET 2 OF 7)	SHEET E22
	1			DRN: JLH			
	2			CKD:			
	3			DATE:			

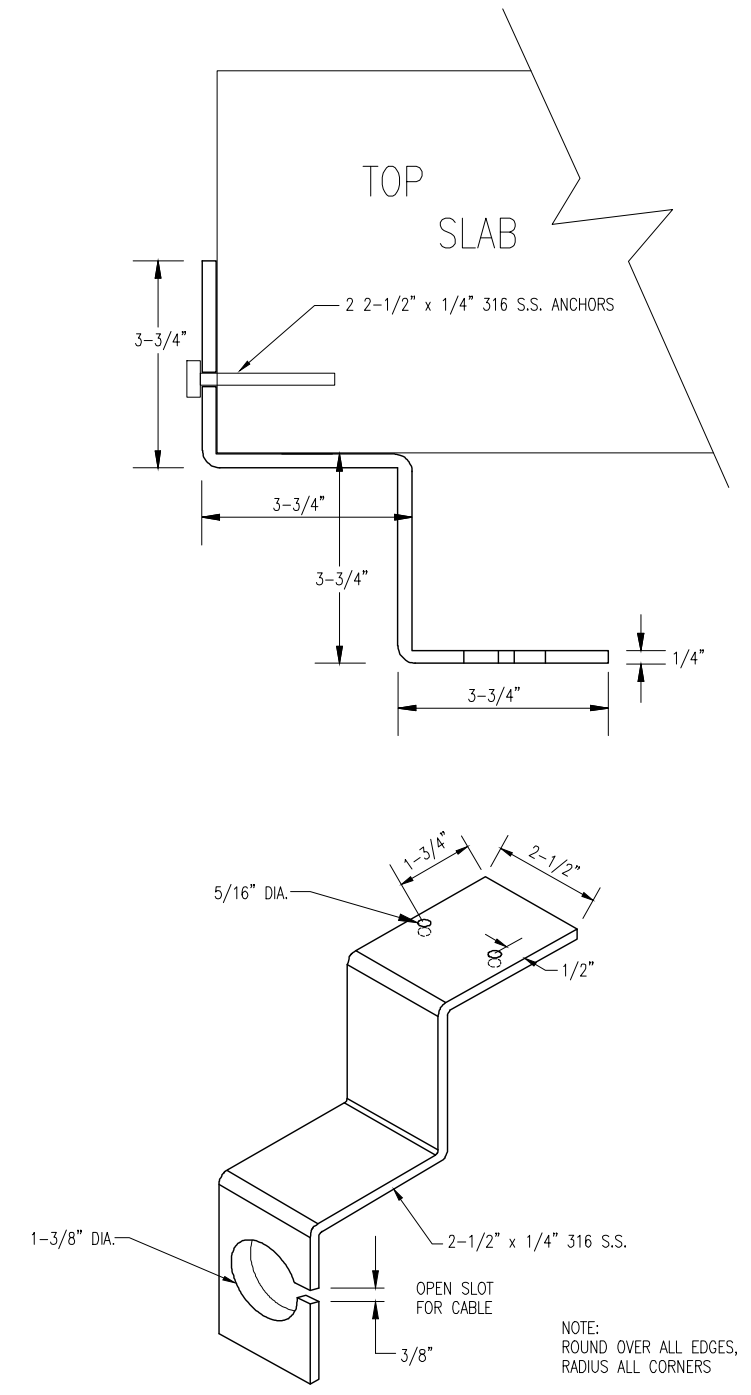


AREA LIGHT (AL) TYPE 'A' DETAIL

SCALE: NONE

1
E7 E23

- NOTES:
- OVERALL 20'-0" POLE HEIGHT
 - MIN. 5'-0" POLE BURIAL
 - COORDINATE LOCATION OF THE AREA LIGHT WITH PLANT PERSONNEL
 - USE STAINLESS STEEL PIPE STRAPS SPACED 2'-0" APART TO MOUNT CONDUIT



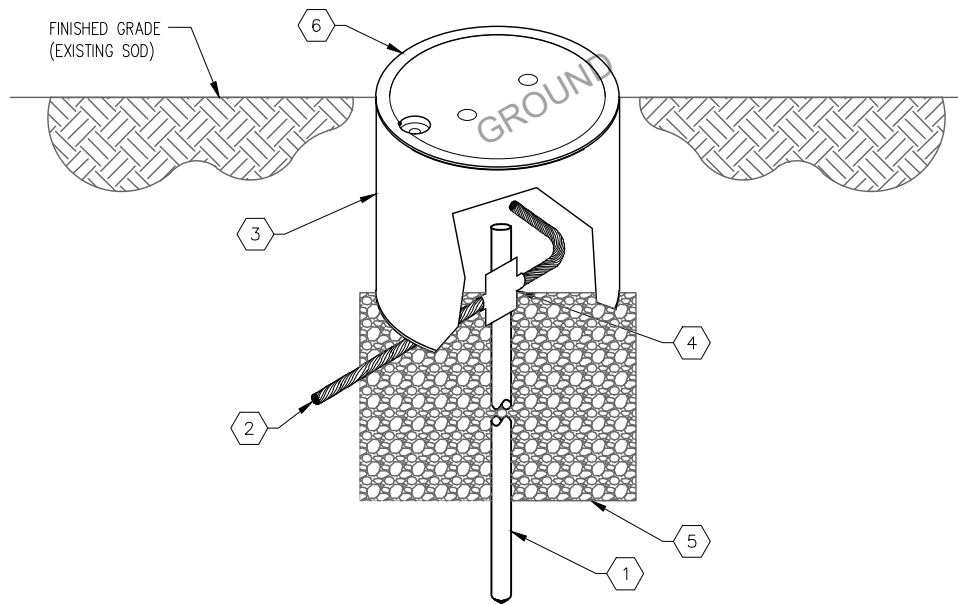
DB10 OR PULSAR MOUNTING BRACKET DETAIL

SCALE: NONE



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Certificate of Authorization No. 31028

TIMOTHY THOMAS, P.E. #47079	#	DATE	REVISIONS	DES: TDT	CITY of TAMPA WASTEWATER DEPARTMENT	BALLAST POINT PUMPING STATION REPLACEMENT ELECTRICAL DETAILS (SHEET 3 OF 7)	SHEET E23
	1			DRN: JLH			
	2			CKD:			
	3			DATE:			



GROUND TEST WELL DETAIL

SCALE: N.T.S.

1
E7 E24
E9

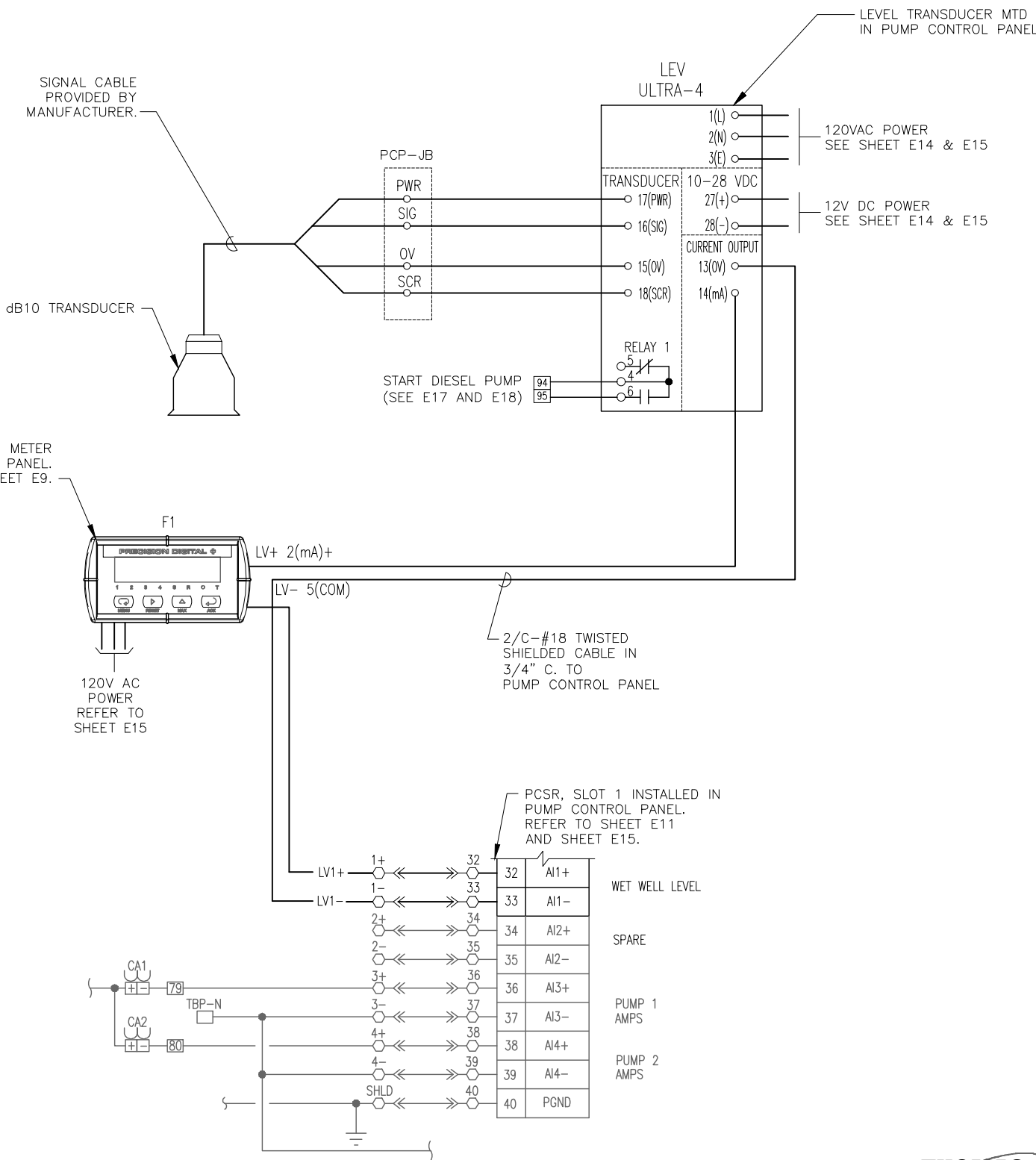
GROUND TEST WELL DETAIL KEYED NOTES:

- 1 NEW GROUND ROD, STAINLESS STEEL, 5/8" X 10'-0" (TYP).
- 2 #2, #4 OR #8 BARE STRANDED COPPER GROUNDING ELECTRODE CONDUCTOR AS REQUIRED.
- 3 PROVIDE AND INSTALL HARGER 362PS12CILS80, SCHEDULE 80 PVC GROUND TEST WELL (TYP).
- 4 EXOTHERMIC WELD.
- 5 PROVIDE 6" MINIMUM OF CRUSHED STONE.
- 6 GROUND TEST WELL CAST IRON COVER.

PROPOSED PANEL SCHEDULE

PANEL 'LP' ; SQUARE D CO. 120/240 VOLTS, 1Ø, 3W				40 AMP MAIN CIRCUIT BREAKER				PROVIDE EQUIPMENT GROUND BAR ;				SURFACE ENCLOSURE TOP AT 5'–6" AFF					
EQUIPMENT SERVED	CIRCUIT BREAKER			KVA/PHASE		CIRC. NO.	CIRC. NO.	KVA/PHASE		CIRCUIT BREAKER			EQUIPMENT SERVED				
	POLE	AMPS	FRAME	A	B			A	B	POLE	AMPS	FRAME					
MOTOR CONTROL PANEL	1	20	QOB	0.6		1	2	0.5		1	20	QOB	BIOXIDE TANK				
PUMP CONTROL PANEL	1	20	QOB		0.9	3	4		1.2	1	20	QOB	DIESEL BACKUP PUMP				
SPACE	--	--	--			5	6	0.1		1	20	QOB	FLOW METER				
SURGE PROTECTION DEVICE (SPD)	2	30	QOB			7	8			1	20	QOB	SPARE				
" "	–	–	–			9	10			1	20	QOB	SPARE				
SUB–TOTAL KVA				0.6	0.9			0.6	1.2								
TOTAL CONNECTED LOAD = 3.3 KVA														TOTAL DEMAND LOAD = 3.3 KVA			

PRECISION DIGITAL PROCESS METER
INSTALLED IN PUMP CONTROL PANEL.
REFER TO SHEET E9.



LEVEL TRANSDUCER WIRING SCHEMATIC

ALL WIRING TO BE VERIFIED/CONFIRMED WITH
MANUFACTURER PRIOR TO INSTALLATION

**THOMAS
ENGINEERING**

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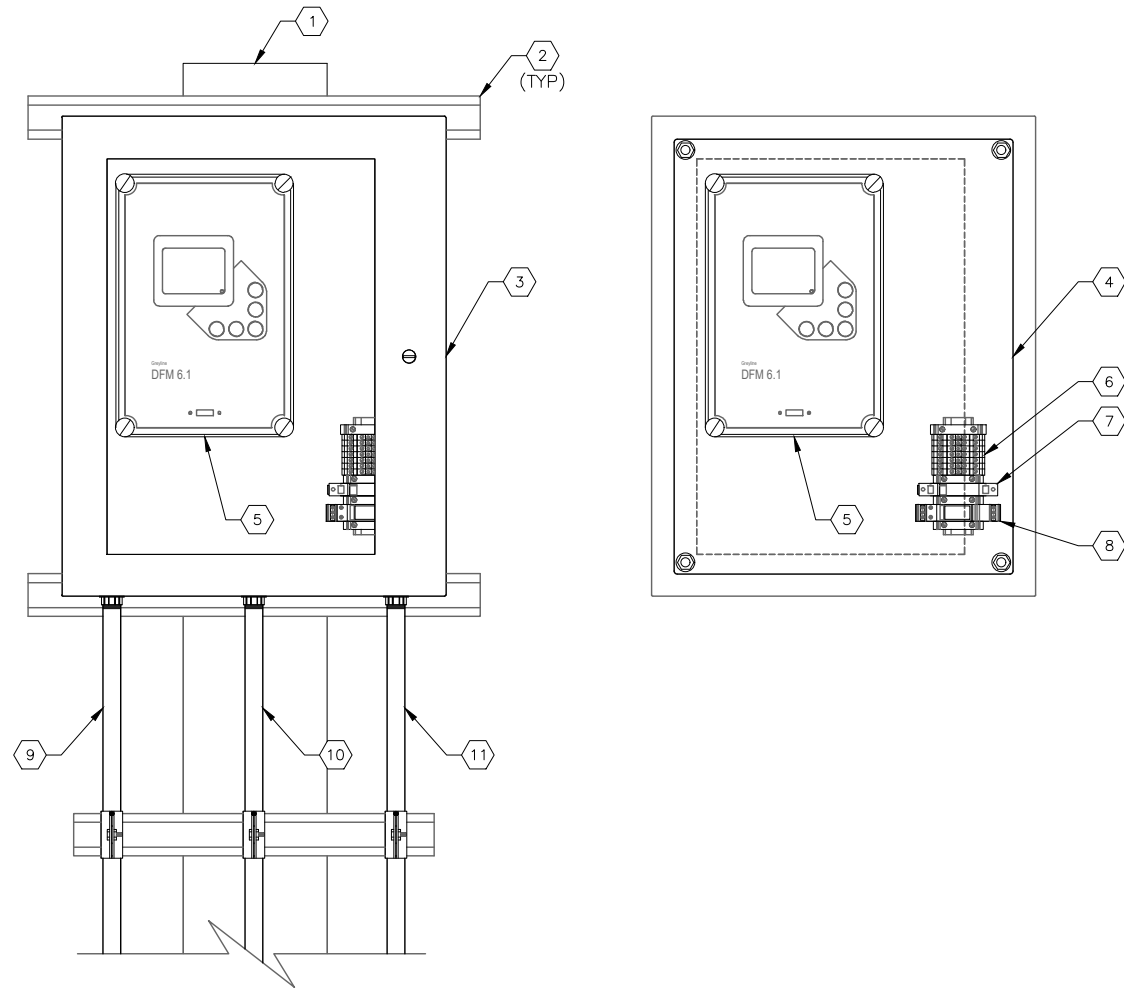
#	DATE	REVISIONS
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DES: TDT
DRN: JLH
CKD:
DATE:

CITY of TAMPA
WASTEWATER DEPARTMENT

BALLAST POINT PUMPING STATION REPLACEMENT
ELECTRICAL DETAILS (SHEET 4 OF 7)

SHEET
E24



REMOTE TRANSMITTER CABINET DETAILS

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

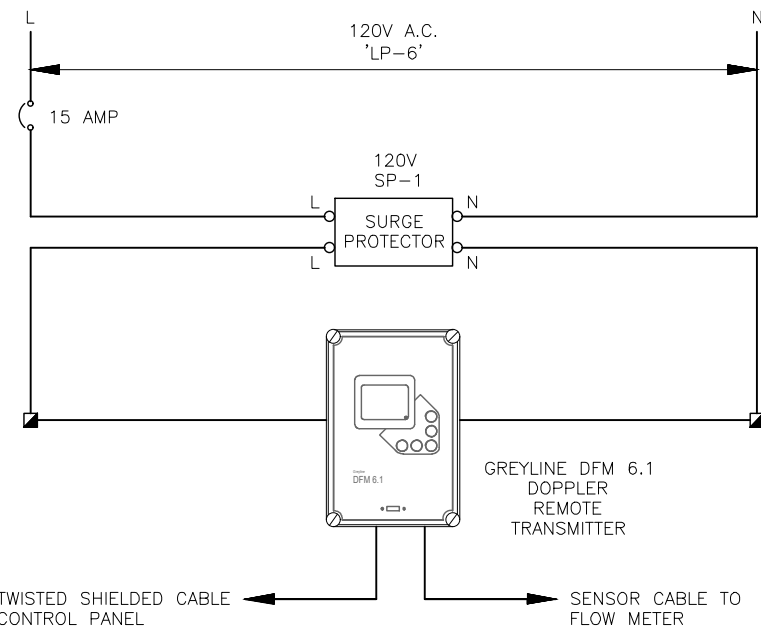
NOTE: FRONT ENCLOSURE DOOR NOT SHOWN FOR CLARITY.

GENERAL NOTES:

1. REFER TO SHEET E26 FOR REMOTER TRANSMITTER WIRING SCHEMATIC WHICH INCLUDES CONNECTIONS TO FLOW METER SENSOR, PROCESS METER AND PCSR (IN PUMP CONTROL PANEL).

KEYED NOTES:

- 1 6" X 6" X 9' REINFORCED SQUARE CONCRETE POST INSTALLED FOR REMOTE FLOW METER TRANSMITTER CABINET.
- 2 PROVIDE AND INSTALL 1-5/8" X 1-5/8" STAINLESS STEEL UNISTRUT WITH STAINLESS STEEL HARDWARE. NOTE: INSTALL ALL BOLTS FOR UNISTRUT COMPLETELY THROUGH CONCRETE POSTS.
- 3 PROVIDE AND INSTALL NEW REMOTE TRANSMITTER CABINET, 20" X 16" X 8" NEMA 4X STAINLESS STEEL WITH STAINLESS STEEL STOP KIT AND WINDOW. HOFFMAN CSD201608SS6.
- 4 PROVIDE AND INSTALL HOFFMAN CP2016G BACKPLATE.
- 5 PROVIDE AND INSTALL PULSAR GREYLINE DFM 6.1 DOPPLER FLOW METER REMOTE TRANSMITTER IN NEW REMOTE TRANSMITTER CABINET.
- 6 PROVIDE AND INSTALL TERMINAL BLOCKS WITH ALUMINUM DIN RAIL. PHOENIX CONTACT UK5N.
- 7 PROVIDE AND INSTALL SINGLE-POLE CIRCUIT BREAKER. 120V, 15A. SQUARE D QOU-115.
- 8 PROVIDE AND INSTALL INCOMING 120V POWER SURGE PROTECTION DEVICES. PHOENIX CONTACT #2905228.
- 9 PROVIDE AND INSTALL 2-#12 XHHW-2 CU + 1-#12 XHHW-2 CU GND IN 3/4" CONDUIT FROM MINI POWER-ZONE 'LP' TO REMOTE TRANSMITTER FOR 120V POWER. CIRCUIT LP-2. REFER TO SHEET E7 FOR MINI POWER-ZONE LOCATION.
- 10 PROVIDE AND INSTALL 2/C-#18 TWISTED SHIELDED CABLE IN 3/4"C. TO PUMP CONTROL PANEL FOR FLOW METER REMOTE TRANSMITTER 4-20mA SIGNAL. REFER TO SHEET E9 FOR PUMP CONTROL PANEL LOCATION.
- 11 CONTRACTOR SHALL PROVIDE AND INSTALL 1" PVC CONDUIT FOR MANUFACTURER SUPPLIED SENSOR CABLE (CONTRACTOR TO VERIFY CONDUIT SIZE REQUIREMENTS WITH MANUFACTURER). INSTALL CONDUIT/CABLE FROM FLOW METER SENSOR TO REMOTE TRANSMITTER. REFER TO SHEET E7 FOR TRANSMITTER LOCATION.



REMOTE TRANSMITTER CABINET WIRING SCHEMATIC

ALL WIRING TO BE VERIFIED/CONFIRMED WITH MANUFACTURER PRIOR TO INSTALLATION

#	DATE	REVISIONS
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2		
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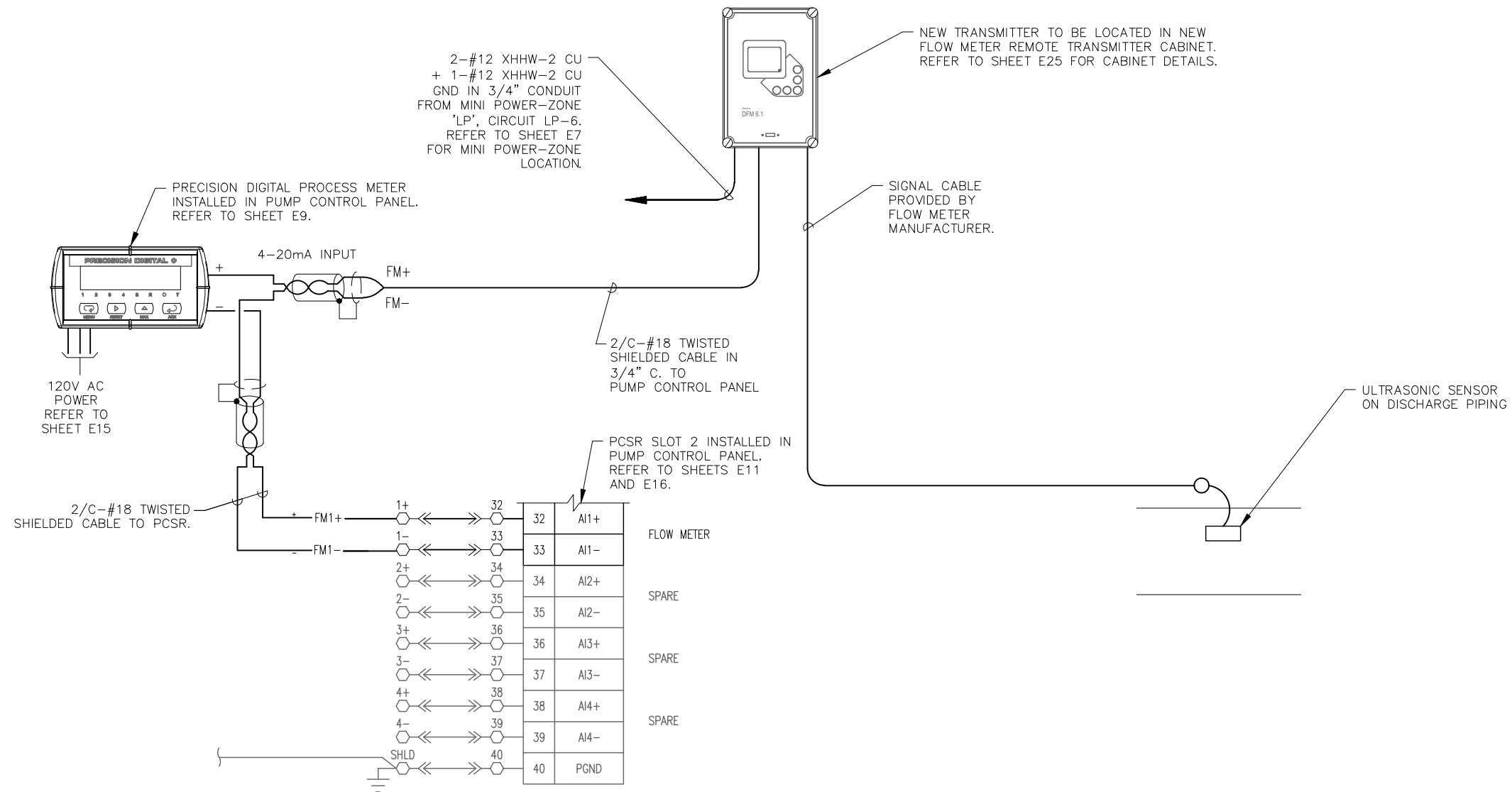
DES: TDT
DRN: JLH
CKD:
DATE:

CITY of TAMPA
WASTEWATER DEPARTMENT

BALLAST POINT PUMPING STATION REPLACEMENT

ELECTRICAL DETAILS (SHEET 5 OF 7)

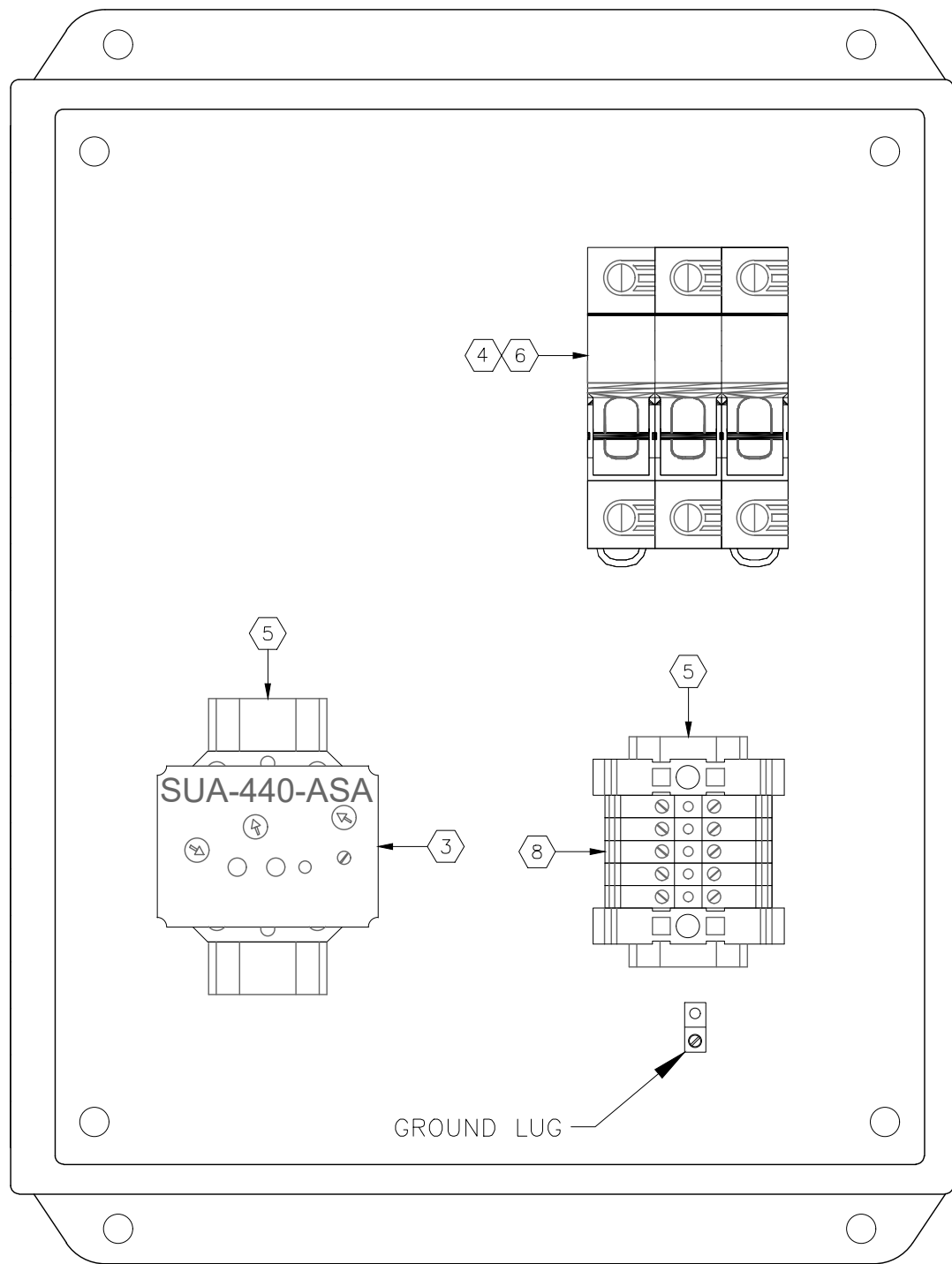
SHEET
E25



REMOTE TRANSMITTER WIRING SCHEMATIC

ALL WIRING TO BE VERIFIED/CONFIRMED WITH MANUFACTURER
PRIOR TO INSTALLATION

#	DATE	REVISIONS	DES: TDT	CITY of TAMPA WASTEWATER DEPARTMENT	BALLAST POINT PUMPING STATION REPLACEMENT ELECTRICAL DETAILS (SHEET 6 OF 7)	SHEET E26
1			DRN: JLH			
2			CKD:			
3			DATE:			
TIMOTHY THOMAS, P.E. #47079						



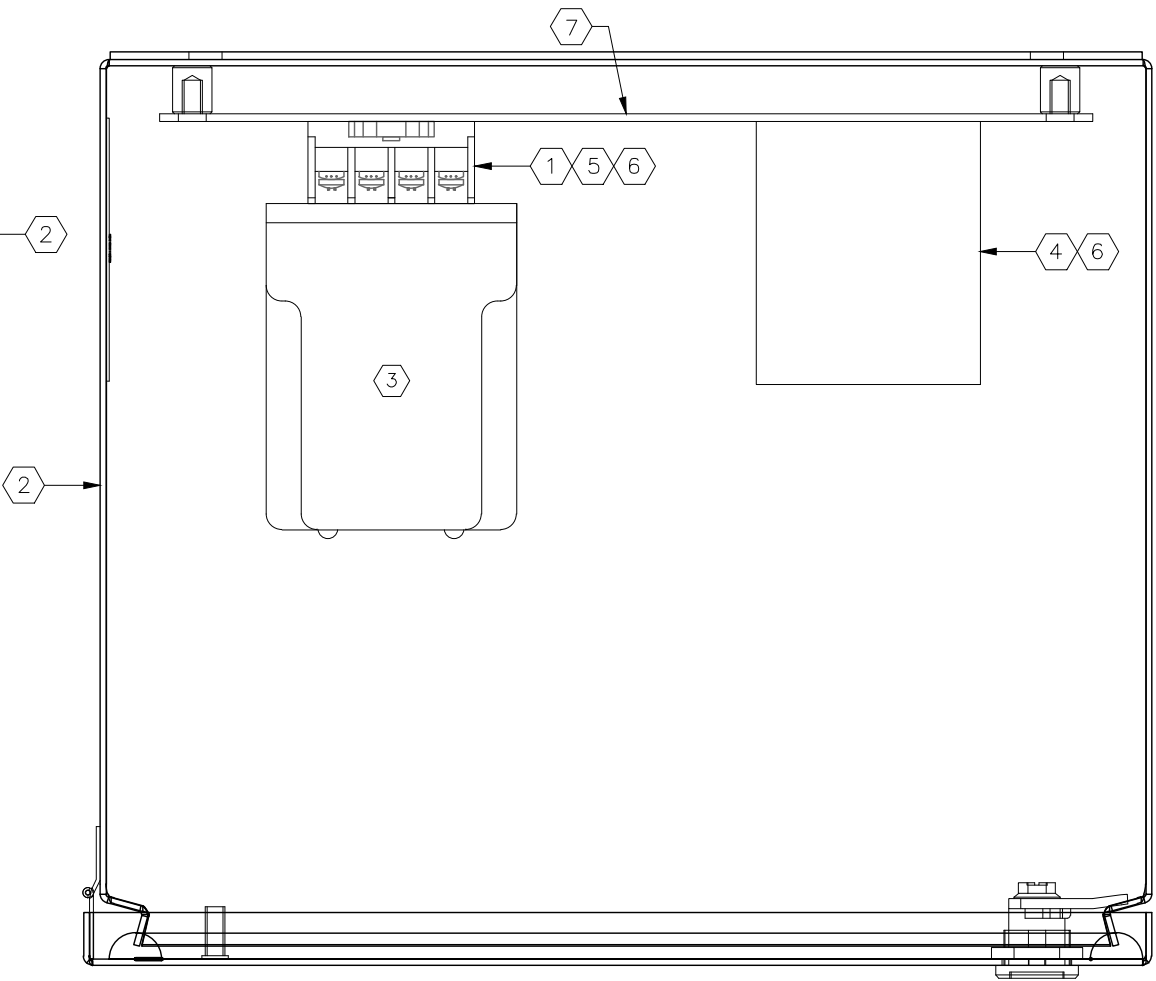
PM1 JUNCTION BOX FRONT ELEVATION

SCALE: N.T.S.

NOTE: ENCLOSURE SHOWN WITH OUTER DOOR OPEN

GENERAL NOTES:

- ALL HINGED SURFACES SHALL BE GROUNDED WITH A #12 COPPER BOND CONDUCTOR (WITH GREEN INSULATION) SECURED TO THE ENCLOSURE OR BACKPANEL. THIS SHALL INCLUDE THE OUTER DOOR AND INNER DOOR.



PM1 JUNCTION BOX TOP ELEVATION

SCALE: N.T.S.

KEYED NOTES:

- 8 PIN OCTAL SOCKET, DIN RAIL MOUNTED OT08
- NEMA 4X 316 STAINLESS STEEL, 12" x 10" x 8" ENCLOSURE, HAMMOND EJ12108S16 WITH BACK PANEL
- 3-PHASE POWER MONITOR, PM1
- FUSE DISTRIBUTION BLOCK, FDB1
- PROVIDE ALUMINUM DIN RAIL
- DIRECTLY MOUNTED TO BACK PANEL OF ENCLOSURE
- ENCLOSURE BACK PANEL
- PROVIDE A MINIMUM OF 5 (FIVE) TERMINAL BLOCKS

WARNING: OPENING FUSED
DOUBLE THROW SWITCH
DOES NOT DE-ENERGIZE
VOLTAGE TO THIS ENCLOSURE

**WARNING PLACARD
ON FRONT OF DOOR**

TIMOTHY THOMAS, P.E. #47079	#	DATE	REVISIONS	DES: TDT	CITY of TAMPA WASTEWATER DEPARTMENT	BALLAST POINT PUMPING STATION REPLACEMENT ELECTRICAL DETAILS (SHEET 7 OF 7)	SHEET E27
	1			DRN: JLH			
	2			CKD:			
	3			DATE:			