



# CITY OF TAMPA

Bob Buckhorn, Mayor

CONTRACT ADMINISTRATION DEPARTMENT

Michael W. Chucran, Director

## ADDENDUM NO. 6

DATE: January 25, 2016

Contract 15-C-00022; Hanna Pumping Station Replacement

Bidders on the above referenced project are hereby notified that the following addendum is made to the Contract Documents. BIDS TO BE SUBMITTED SHALL CONFORM TO THIS NOTICE.

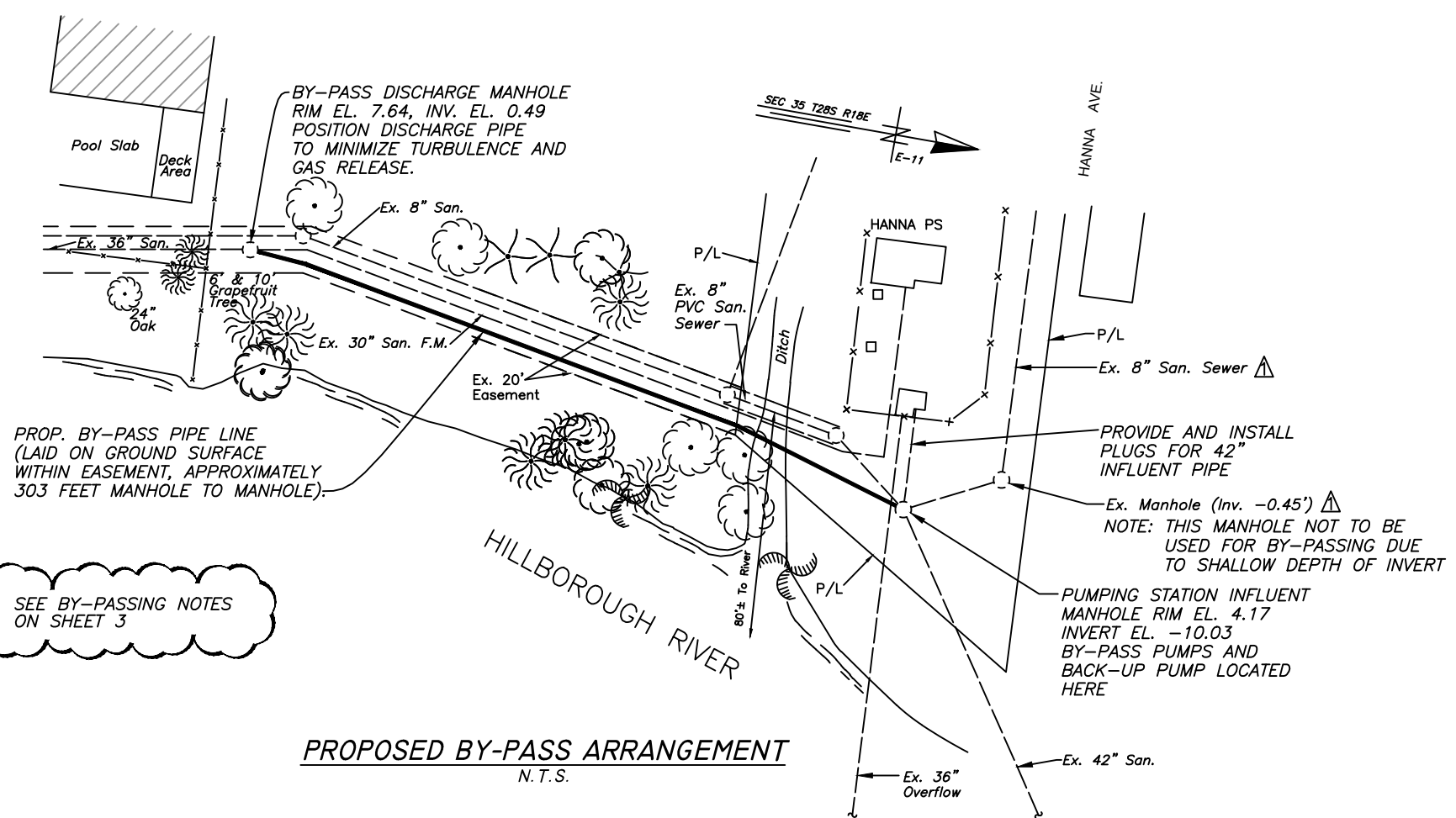
Item 1: Replace plan sheet nos. 2, 3, E3, E4, E5, E7, E8 and E9 with the attached plan sheet nos. 2, 3, E3, E4, E5, E7, E8 and E9.

Item 2: Insert the attached plan sheet no. E5A

All other provisions of the Contract Documents and Specifications not in conflict with this Addendum shall remain in full force and effect. Questions are to be e-mailed to Contract Administration@tampagov.net.

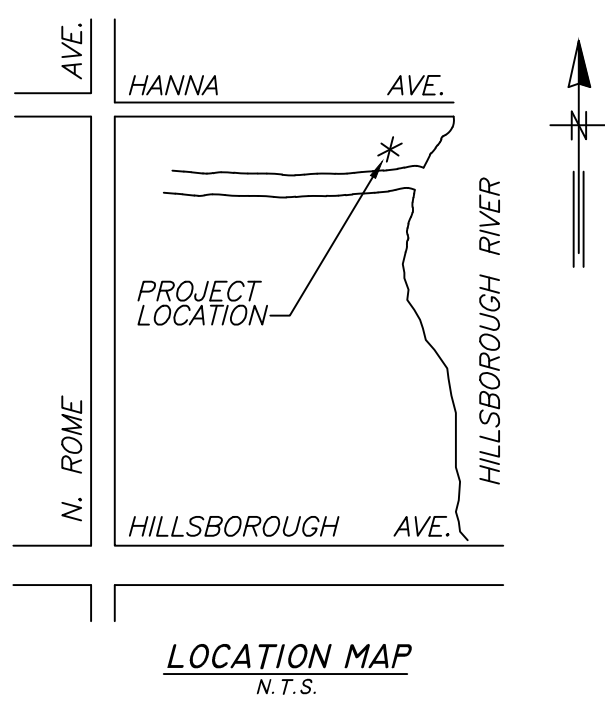
*Jim Greiner*

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Jim Greiner, P.E., Contract Management Supervisor

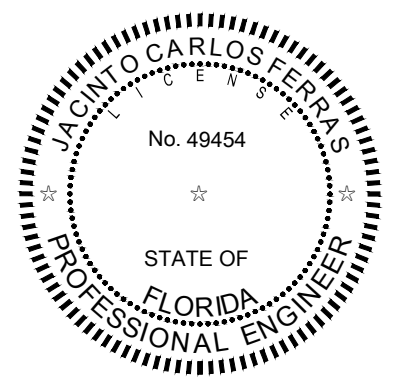


**PROPOSED BY-PASS ARRANGEMENT**  
N.T.S.

SEE BY-PASSING NOTES  
ON SHEET 3



INDEX	
SHT NO.	DESCRIPTION
1	COVER SHEET
2	INDEX, LOCATION MAP AND BY-PASSING DETAIL
3	GENERAL NOTES & BY-PASSING NOTES
4	PUMP ROOM DEMOLITION PLAN (EL. -8.00')
5	DEMOLITION SECTION (COMBINED SECTIONS A-A, B-B)
6	PROPOSED PUMP ROOM PLAN (EL. -8.00')
7	PROPOSED SECTION A-A
8	PROPOSED SECTION B-B
E-1	SYMBOL LEGEND (1 OF 2)
E-2	SYMBOL LEGEND 2 OF 2)
E-3	ELECTRICAL NOTES & SCOPE OF WORK
E-4	ONE LINE DIAGRAM (SHT. 1 OF 2)
E-5	ONE LINE DIAGRAM (SHT. 2 OF 2)
E-5A	EXISTING KEYED NOTES AND LOAD SUMMARY
E-6	MOTOR ROOM FLOOR PLAN
E-7	PUMP ROOM FLOOR PLAN
E-8	SECTIONS A-A AND B-B
E-9	ELECTRICAL DETAILS
E-10	ACTUATOR CONTROLS



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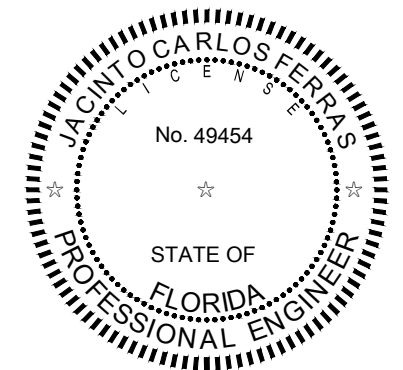
JACINTO CARLOS FERRAS, P.E. #49454 DESIGN DIVISION HEAD WASTEWATER DEPARTMENT	No.	DATE	REVISIONS	DES: J.H. DRN: W.A. CKD: DATE:	<b>CITY of TAMPA</b> WASTEWATER DEPARTMENT	<b>HANNA P.S. VALVE REPLACEMENT          BY-PASS, LOCATION MAP AND INDEX</b>	W.O. 1000426
	3						SHEET
	2						<b>2</b>
	10/30/15	8" SEWER IN HANNA AVE.					OF 18

A. GENERAL NOTES

B. BY-PASSING NOTES

- A-1. THE CONTRACTOR SHALL COORDINATE ALL CONSTRUCTION ACTIVITIES WITH THE ENGINEER AND PUMPING STATION OPERATIONS.
- A-2. THE INTENT IS TO REMOVE EXISTING KNIFE GATE VALVES, AND ASSOCIATED PIPING, ON EACH SIDE OF FOUR PUMPS (8 VALVES TOTAL) AND REPLACE THEM WITH FOUR 20-INCH KNIFE GATE VALVES, FOUR 16-INCH PLUG VALVES, AND ASSOCIATED PIPING. ALL EIGHT VALVES ARE TO BE EQUIPPED WITH ELECTRIC ACTUATORS.
- A-3. EXISTING DIMENSIONS AND ELEVATIONS ARE BASED ON THE ORIGINAL AS-BUILT DRAWINGS FROM 1962. THE DIMENSIONS SHALL BE DETERMINED IN THE FIELD BY THE CONTRACTOR PRIOR TO LAYOUT AND SHOP DRAWING SUBMITTALS.
- A-4. ALL SUBMITTALS AND SHOP DRAWINGS SHALL BE ORIGINALS OR HIGH QUALITY COPIES (EASILY READABLE). NO FAXED SHEETS OR POOR QUALITY COPIES WILL BE ACCEPTED FOR SUBMITTALS REVIEW.
- A-5. SALVAGEABLE MATERIAL AS DETERMINED BY DEPARTMENT PERSONNEL SHALL BE DELIVERED TO AND UNLOADED BY THE CONTRACTOR AT THE CITY OF TAMPA'S HOWARD F. CURREN AWTP LOCATED AT 2700 MARITIME BLVD. NON-SALVAGEABLE MATERIALS ARE TO BE REMOVED FROM THE SITE AND PROPERLY DISPOSED OF BY THE CONTRACTOR.
- A-6. THE CONTRACTOR SHALL TREAT ANY EXPOSED REBAR, OR OTHER METAL IN THE CONCRETE EXPOSED BY HIS ACTIONS, BY GRINDING THEM BACK A MINIMUM OF 1/2-INCH AND FILLING THE DEPRESSIONS(S) WITH EPOXY.
- A-7. ALL METAL SURFACES COMING IN CONTACT WITH CONCRETE SHALL BE PROVIDED WITH NEOPRENE PADS OR 2 COATS OF COAL TAR EPOXY WITH PROPER SURFACE PREPARATION. CONTRACTOR SHALL SUBMIT SYSTEM(S) FOR APPROVAL.
- △ A-8. CHECK VALVES SHALL BE APCO SERIES 100 RUBBER FLAPPER SWING CHECK VALVES WITH A BACK-FLOW DEVICE, OR APPROVED EQUAL.
- △ A-9. PLUG VALVES SHALL BE DEZURIK, 100% FULL PORT ECCENTRIC PLUG VALVES (PEF), OR APPROVED EQUAL. ACTUATORS FOR PLUG VALVES SHALL BE ROTORK, MODEL # IQ18\_IWD5R 460/3/60, OR APPROVED EQUAL.
- △ A-10. KNIFE GATE VALVES SHALL BE DEZURIK, MODEL #KGC,20,HD,F1,S2,SMP,S2-CR, OR APPROVED EQUAL. ACTUATORS FOR KNIFE GATE VALVES SHALL BE ROTORK, MODEL IQ20 460/3/60, OR APPROVED EQUAL.
- A-11. ALL HARDWARE, UNLESS OTHERWISE NOTED, SHALL BE TYPE 316 STAINLESS STEEL.
- A-12. ALL PUMP STATION PIPING SHALL BE CLASS 53 FLANGED DUCTILE IRON PIPE. ALL DUCTILE IRON PIPES AND FITTINGS SHALL BE LINED WITH PROTECTO 401 CERAMIC EPOXY OR EQUAL.
- △ A-13. ALL PAINTING SHALL BE LIMITED TO NEW PIPE, FITTINGS AND VALVES, ALONG WITH TOUCH-UP PAINTING ON EXISTING PIPE WHERE EXISTING COATINGS ARE DAMAGED DUE TO CONSTRUCTION ACTIVITIES. NO OTHER PAINTING IS REQUIRED ON THIS PROJECT. NEW DUCTILE IRON PIPE AND FITTINGS, VALVES, ETC. SHALL RECEIVE:
  - a) SHOP COAT-ONE COAT, 5 MILS (DFT), TNEMEC N140 POTA-POX PLUS EPOXY PRIMER, 1211-RED OXIDE IN COLOR.
  - b) 1ST FIELD COAT-ONE COAT, 3.5 MILS (DFT), TNEMEC N69 HI-BUILT EPOXOLINE II, 01-GRAY IN COLOR.
  - c) 2ND FIELD COAT-ONE COAT, 5 MIS (DFT), TNEMEC SERIES 1074U ENDURASHIELD, 09-GRAY IN COLOR.
- A-14. CONTRACTOR SHALL CUT THE FOUR EXISTING 16" DIAMETER STEEL VERTICAL DISCHARGE PIPES AT APPROX. ELEVATION -8.59 FEET AND JOIN THE PROP. FLANGED PLUG VALVES TO THE STEEL PIPE WITH "SERIES 2100 MEGAFLANGE" RESTRAINED FLANGE ADAPTERS.
- A-15. THE CONTRACTOR SHALL RESTORE ANY LANDSCAPING, FENCING, SODDING, SPRINKLER SYSTEM PIPING, PAVEMENT, DITCH BANK AND/OR FLOW LINE, ETC THAT IS ON RIGHT-OF-WAY, CITY PROPERTY OR PRIVATE PROPERTY THAT MAY HAVE BEEN DAMAGED OR ALTERED DURING CONSTRUCTION TO ITS ORIGINAL CONDITION OR BETTER.
- A-16. THE CONTRACTORS SHALL BE RESTRICTED TO WORKING ON ONLY ONE PUMP AT ANYTIME. THREE OF THE FOUR WASTEWATER PUMPS MUST BE KEPT OPERABLE AT ALL TIMES. SEE BYPASSING NOTES FOR FURTHER INFORMATION.
- A-17. NO WORK SHALL BEGIN UNTIL ALL MATERIALS AND EQUIPMENT ARE ON SITE.
- A-18. SUPPORTS FOR 20" INFLUENT PIPE SHALL BE STAINLESS STEEL STANCHION SADDLE SUPPORT FIGURE 59A, MODIFIED AS REQUIRED, AS MADE BY FM STAINLESS, LLC (@FMSTAINLESS.COM).
- △ A-19. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE FLORIDA BUILDING CODE 5TH EDITION 2014 AND CHAPTER 5 OF THE CITY OF TAMPA CODE.

- B-1. CONTRACTOR SHALL SUBMIT DETAILED PROPOSAL FOR PUMPING STATION BY-PASS OPERATION INCLUDING DESCRIPTION OF PUMPS, PLUGS, PIPELINE, HIGH-WATER ALARM, ON-SITE MONITORING PERSONNEL, ETC. IN ACCORDANCE WITH THE SPECIFICATIONS OF THIS CONTRACT.
- B-2. BY-PASS OPERATION SHALL BE DESIGNED TO HANDLE FLOWS UP TO 6000 GPM. SEE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS, INCLUDING NOISE LEVEL CONSTRAINTS.
- B-3. CONTRACTOR SHALL PROVIDE AND INSTALL A MINIMUM OF 2 PLUGS IN THE 42" INFLUENT SEWER TO MAINTAIN AN ADEQUATE FACTOR OF SAFETY.
- B-4. BY-PASS OPERATION SHALL BE MAINTAINED FOR THE DURATION OF ALL WORK INSIDE THE PUMPING STATION OR UNTIL THE ENGINEER DETERMINES BY-PASS OF THE STATION IS NO LONGER NECESSARY FOR COMPLETION OF THE WORK.
- B-5. CONTRACTOR'S BY-PASS PROPOSAL SHALL PROVIDE FOR THE FOLLOWING SPECIAL REQUIREMENTS DUE TO HIGH VOLUMES AND PROXIMTY TO THE HILLSBOROUGH RIVER.
  - a) MAINTAINING 24-HOUR HIGH WATER ALARM WITH ON-SITE AND REMOTE (HOWARD F. CURREN AWTP) ANNUNCIATION. REMOTE ALARM SHALL BE CONNECTED TO EXISTING ALARM SYSTEM, COORDINATE W/CITY PERSONNEL.
  - b) ON-SITE MONITORING OF BY-PASS SYSTEM BY PERSONNEL QUALIFIED TO MANUALLY CONTROL, ALTERNATE OR OPERATE PUMPS, AS REQUIRED IN AN EMERGENCY SITUATION, IS REQUIRED FOR A MINIMUM OF 24-HOURS OF CONTINUOUS AND TROUBLE FREE BYPASSING OPERATIONS PRIOR TO THE CONTRACTOR RUNNING THE BYPASS PUMPS UNATTENDED.
  - c) HANNA PUMPING STATION RECEIVES OVERFLOW FROM ANOTHER HIGH-VOLUME PUMPING STATION (SULPHUR SPRINGS P.S.) ON OCCASIONS. CONTRACTOR SHALL BE PREPARED TO REMOVE BYPASS PLUGS AT ALL TIMES, WITH SHORT NOTICE, IN ORDER TO UTILIZE THREE OF THE PUMPS IN THE PUMPING STATION TO ASSIST THE BYPASS PUMPS IN HANDLING THE ADDITIONAL INCOMING WASTEWATER FLOWS.
- B-6. CONTRACTOR SHALL PROVIDE HIS OWN POWER SUPPLY FOR BYPASS PUMPING; PUMPING STATION POWER SHALL NOT BE USED FOR BYPASS PUMPING. CONTRACTOR MUST PROVIDE BACK-UP POWER SUPPLY, SUCH AS A DIESEL GENERATOR, IF ELECTRIC PUMPS ARE USED.



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JACINTO CARLOS FERRAS, P.E. #49454 DESIGN DIVISION HEAD WASTEWATER DEPARTMENT	No.	DATE	REVISIONS	DES: J.H.	<b>CITY of TAMPA</b> WASTEWATER DEPARTMENT	GENERAL NOTES	W.O. 1000426
	3			DRN: W.A.			SHEET
	△	12/14/15	ADDED NOTE A-19	CKD:			3
	△	11/19/15	REVISED NOTES A-8, 9, 10 AND 13	DATE:			OF 18

GENERAL NOTES

1. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR APPROVAL PRIOR TO PURCHASING EQUIPMENT OR COMMENCING IN CONSTRUCTION.
2. ALL CONDUCTORS SHALL BE STRANDED COPPER, #12 AWG MIN. W/THWN 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 5TH EDITION OF THE FLORIDA BUILDING CODE AND THE 2014 EDITION OF THE NATIONAL ELECTRIC 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/ COPPER SHIELD ANTI-SEIZE 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 DESIGNATED 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 IN THE WET WELL.
14. 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 DEGREE ELBOW. ALL RIGID ALUMINUM CONDUITS EXTENDING BELOW GRADE SHALL BE COATED WITH TWO COATS OF AN ASPHALTUM-TYPE PAINT ALONG ITS ENTIRE LENGTH BELOW GRADE AND EXTENDING 6" ABOVE GRADE OR ABOVE THE TOP OF THE FINISHED SLAB.
15. CONDUIT CONNECTIONS SHALL BE MADE WITH RIGID CONDUIT IF THE EQUIPMENT IS FIXED AND NOT SUBJECT TO ADJUSTMENT, MECHANICAL MOVEMENT, OR VIBRATION. MYERS WATER-TIGHT /DUST-TIGHT HUBS SHALL BE USED FOR OUTDOOR, BELOW GRADE, OR WASH DOWN AREAS. RIGID CONDUIT CONNECTIONS SHALL HAVE UNION FITTINGS TO PERMIT REMOVAL OF EQUIPMENT WITHOUT CUTTING OR BREAKING THE CONDUIT.
16. CONDUIT CONNECTIONS SHALL BE MADE WITH APPROVED FLEXIBLE NONMETALLIC CONDUIT IF EQUIPMENT IS SUBJECT TO ADJUSTMENT, MECHANICAL MOVEMENT, OR VIBRATION. FLEXIBLE CONDUIT CONNECTIONS SHALL BE WATERTIGHT.
17. A 316-STAINLESS STEEL CHANNEL ERECTOR SYSTEM SHALL BE USED TO SUPPORT ALL CONDUITS, BOXES, ETC. USE 316-STAINLESS STEEL MOUNTING HARDWARE.
18. THE CONTRACTOR SHALL FIELD VERIFY EXISTING CONDITIONS AND MAKE ADJUSTMENTS AS NECESSARY TO EXECUTE THE PROPOSED INSTALLATIONS.
19. ALL EXISTING INSTALLATIONS DENOTED ON THE DRAWINGS ARE FOR THE CONTRACTOR'S REFERENCE ONLY. ALL EXISTING INSTALLATIONS SHALL BE FIELD VERIFIED PRIOR TO SUBMITTING A BID AND PRIOR TO COMMENCING CONSTRUCTION.
20. 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 AND BE AS SPECIFIED,

SCOPE OF WORK

1. REMOVE THE EXISTING SPARE, SECTION B5 MCC CUBICLE AND INSTALL TWO (2) NEW MCC CUBICLE BUCKETS, AS SHOWN, SPECIFIED AND REQUIRED. PROVIDE PROPER LEGEND PLATES AS SHOWN ON PLANS. PROPOSED LEGEND PLATE ENGRAVING, LETTERING SIZE, AND MATERIAL SHALL MATCH EXISTING LEGEND PLATES.
2. THE CONTRACTOR SHALL PROVIDE AND INSTALL PROPOSED ELECTRIC ACTUATORS FOR KNIFE GATE VALVES, KG1, KG2, KG3, AND KG4 AND PLUG VALVES PV1, PV2, PV3, AND PV4 AND ALL ASSOCIATED CONDUITS AND CONDUCTORS, AS SHOWN, SPECIFIED AND REQUIRED.
3. PROVIDE AND INSTALL TERMINAL BOXES, DISCONNECTS, AND JUNCTION BOXES AS SHOWN ON PLANS.
4. IF POSSIBLE, UTILIZE EXISTING CONCRETE OPENINGS TO INSTALL CONDUIT; OTHERWISE, CORE DRILL CONCRETE AS NEEDED. FILL ANNULAR SPACES USING APPROVED PRODUCTS AND FINISH TO MATCH EXISTING SURFACE.
5. ALL ELECTRIC WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE FLORIDA BUILDING CODE 5TH EDITION 2014, THE NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) SERIES 70/NATIONAL ELECTRICAL CODE (NEC) 2014 EDITION AND CHAPTER 5 OF THE CITY OF TAMPA CODE.



ROMAN D. KORCHAK, P.E. #42626  
ELECTRICAL SECTION HEAD  
WASTEWATER DEPARTMENT

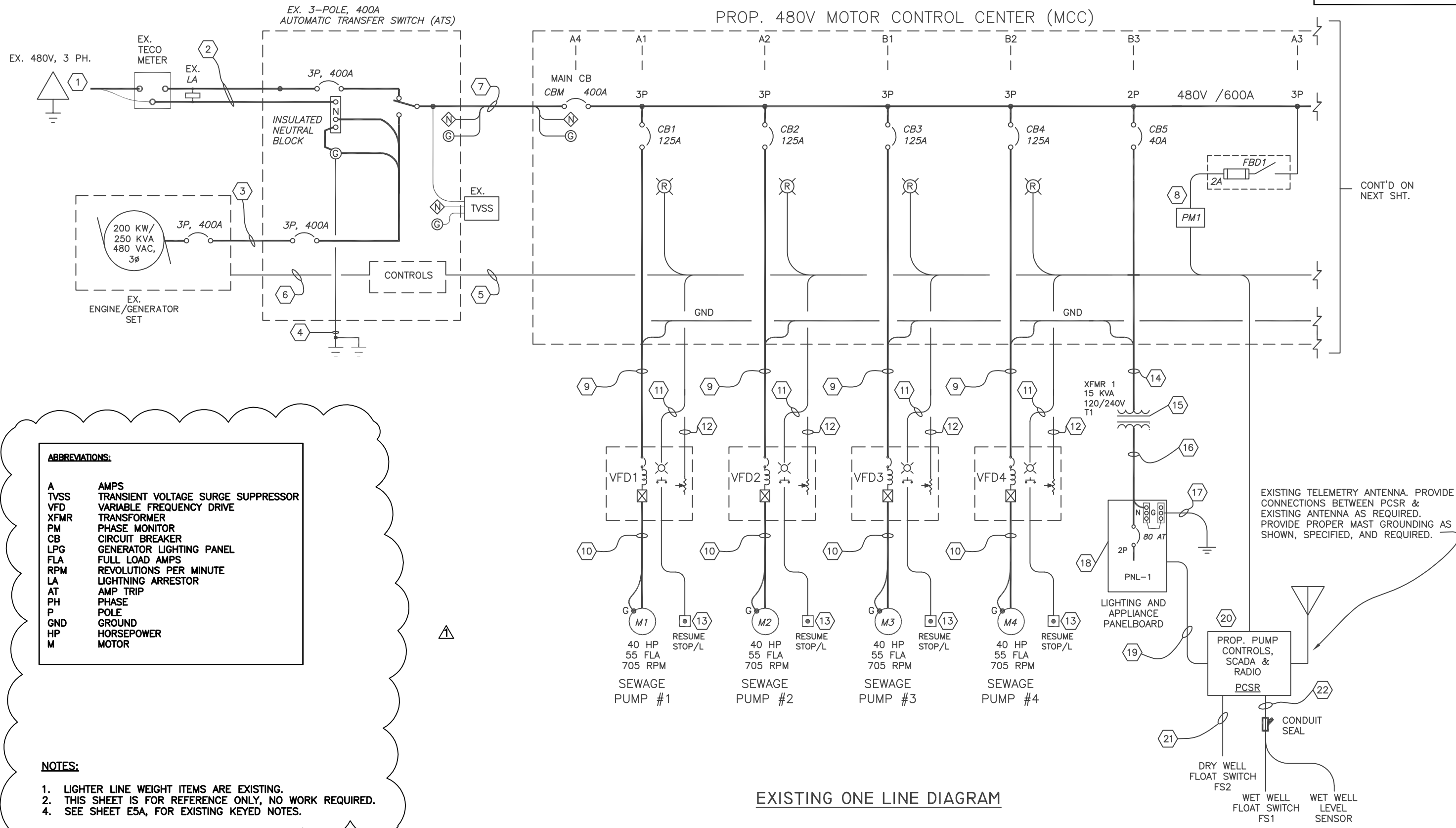
No.	DATE	REVISIONS
3		
2		
△ 1/19/16		REVISION 1

DES: LRG  
DRN: LRG  
CKD:  
DATE: 11/24/15

**CITY of TAMPA**  
WASTEWATER DEPARTMENT

**HANNA PUMPING STATION**  
**VALVE REPLACEMENT**  
**ELECTRICAL NOTES & SCOPE OF WORK**

W.O. 0426  
SHEET  
**E3**



**ABBREVIATIONS:**

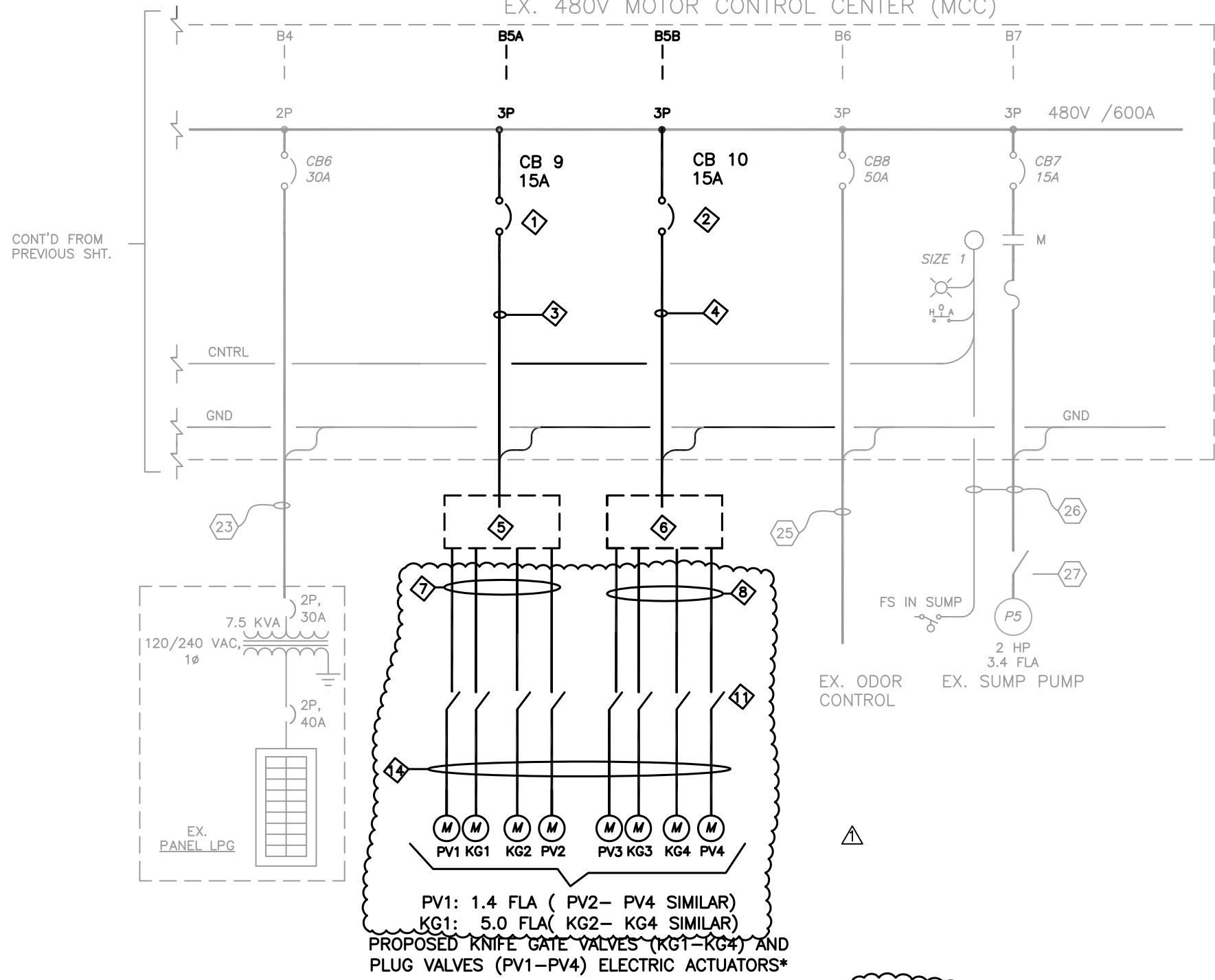
A	AMPS
TVSS	TRANSIENT VOLTAGE SURGE SUPPRESSOR
VFD	VARIABLE FREQUENCY DRIVE
XFMR	TRANSFORMER
PM	PHASE MONITOR
CB	CIRCUIT BREAKER
LPG	GENERATOR LIGHTING PANEL
FLA	FULL LOAD AMPS
RPM	REVOLUTIONS PER MINUTE
LA	LIGHTNING ARRESTOR
AT	AMP TRIP
PH	PHASE
P	POLE
GND	GROUND
HP	HORSEPOWER
M	MOTOR

- NOTES:**
1. LIGHTER LINE WEIGHT ITEMS ARE EXISTING.
  2. THIS SHEET IS FOR REFERENCE ONLY, NO WORK REQUIRED.
  4. SEE SHEET E5A, FOR EXISTING KEYED NOTES.

EXISTING ONE LINE DIAGRAM

ROMAN D. KORCHAK, P.E. #42626 ELECTRICAL SECTION HEAD WASTEWATER DEPARTMENT	No.	DATE	REVISIONS	DES: LRG DRN: LRG CKD: DATE: 11/23/15	<b>CITY of TAMPA</b> <b>WASTEWATER DEPARTMENT</b>	<b>HANNA PUMPING STATION</b> <b>VALVE REPLACEMENT</b> <b>ONE LINE DIAGRAM (SHT. 1 OF 2)</b>	W.O. 0426
	3						SHEET
	2						E4
	1	1/19/16	REVISION 1				

EX. 480V MOTOR CONTROL CENTER (MCC)



PV1: 1.4 FLA ( PV2- PV4 SIMILAR)  
 KG1: 5.0 FLA( KG2- KG4 SIMILAR)  
 PROPOSED KNIFE GATE VALVES (KG1-KG4) AND  
 PLUG VALVES (PV1-PV4) ELECTRIC ACTUATORS\*

PROP. ONE LINE DIAGRAM

\*ALL MOTOR OPERATED VALVE LOADS ARE INTERMITTENT (NON-CONTINUOUS). ONLY ONE MOTOR KNIFE GATE AND PLUG VALVE ACTUATOR PER CIRCUIT WILL BE UTILIZED AT ANY GIVEN TIME. PROPOSED 15 AMPERE CIRCUIT BREAKERS WILL ACCOMMODATE ALL ASSOCIATED MOTOR OPERATED VALVE LOADS.

NOTES:

1. LIGHTER LINE WEIGHT ITEMS ARE EXISTING.
2. MAKE MODIFICATIONS TO MCC AS SHOWN.
3. SEE SHEET E9, FOR PROPOSED KEYED NOTES.
4. SEE SHEET E5A, FOR EXISTING KEYED NOTES.

SECTION A	SECTION B
SEWAGE PUMP #1 125A FEEDER CB1	SEWAGE PUMP #3 125A FEEDER CB3
SEWAGE PUMP #2 125A FEEDER CB2	SEWAGE PUMP #4 125A FEEDER CB4
PHASE MONITOR PM1	XFMR 1 (T1) CB5
	LP-G CB6
400A MAIN CIRCUIT BREAKER CBM	12 5A
	13 5B
	ODOR CONTROL CB8
	SUMP PUMP CB7

EX. SIEMENS TIASTAR  
 MOTOR CONTROL CENTER (MCC)

(MODIFY B5A AND B5B AS SHOWN)

ROMAN D. KORCHAK, P.E. #42626  
 ELECTRICAL SECTION HEAD  
 WASTEWATER DEPARTMENT

No.	DATE	REVISIONS
3		
2		
1	1/19/16	REVISION 1

DES: LRG  
 DRN: LRG  
 CKD:  
 DATE: 11/6/15

CITY of TAMPA  
 WASTEWATER DEPARTMENT

HANNA PUMPING STATION  
 VALVE REPLACEMENT  
 ONE LINE DIAGRAM (SHT. 2 OF 2)

W.O. 0426  
 SHEET  
 E5

**EXISTING KEYED NOTES:**

- ① EXISTING (EX.) 480V/240V, 3-PHASE, 4W, DELTA UTILITY POWER-- HIGH LEG IS 416V TO GND AND SHALL BE MARKED WITH ORANGE TAPE.
- ② EX. (3)-500 KCMIL, & (1)-#1/0 NEU. IN 3" C.
- ③ EX. (3)-500 KCMIL, (1)-#1/0 NEU. & (1)-#2 GND IN 3" C.
- ④ 1/0 AWG TO (2) S.S. 5/8"x10' GROUNDING RODS (6 FT. MINIMUM SPACING)
- ⑤ PROVIDE AND INSTALL NEW 1" CONDUIT AND (8)-#14 AWG & (1)-#12 GND. TO EXTEND EX. ATS & GENERATOR STATUS SIGNALS TO PROP. PCSR.
- ⑥ EX. (2)-#12 AWG (GENERATOR ON/OFF CONTROL), (4)-#12 AWG (STATUS) & (1)-#12 GND. IN 1" C.
- ⑦ (3)-500 KCMIL, (1)-#1/0 NEU. & (1)-#2 GND IN 3" C.
- ⑧ 3-PHASE POWER MONITOR RELAY W/ 480VAC LINE INPUT-- ALARM ON PHASE LOSS, UNDERVOLTAGE, OR WRONG ROTATION. EIGHT PIN PLUG-IN W/ DIN RAIL SOCKET. MOTOR CONTROLS CORP. MODEL PM-440-118A. FUSE BLOCK DISCONNECT (FBD)-- ALLEN BRADLEY 1492-FB3C30-L W/ BUSSMANN KTK-R-2 FUSES.
- ⑨ (3)-#1 AWG, & (1)-#6 GND IN 1-1/4" C.
- ⑩ (3)-#3 AWG, & (1)-#6 GND IN 1-1/4" C.
- ⑪ (12)-#14 AWG, & (1)-#12 GND IN 3/4" C.
- ⑫ (4)-2/C #16 SHLD, & (1)-#12 GND IN 3/4" C.

- ⑬ (2)-#14 AWG & (1) #12 GND IN 3/4" C. TO TWO POSITION--MAINTAINED PULL / MAINTAINED PUSH, NEMA 4X OPERATOR STATION--SQUARE D 9001SKR9R W/ LEGEND PLATE: "PULL TO RESUME-- PUSH TO STOP" AND PADLOCK ATTACHMENT K62.
- ⑭ (1)-#6 AWG, (1)-#6 NEU. & (1)-#8 GND IN 1"C.
- ⑮ NEW SINGLE PHASE, 480-120/240 V, 60HZ, 15KVA EPOXY ENCAPSULATED TRANSFORMER W/ WALL MOUNTING BRACKETS-- REX MANUFACTURING MODEL #SC15HK/EP OR EQUAL. ENCLOSURE RATED NEMA 3R/ 4.
- ⑯ (2)-#4 AWG, (1)-#4 NEU., (1)-#8 B.C. IN 1"C.
- ⑰ (1)-#6 AWG, TO APPROVED GROUNDING ELECTRODE.
- ⑱ NEW SINGLE PHASE, 3-WIRE, 240VAC, 20 CIRCUIT PANELBOARD W/ 80A MAIN CIRCUIT BREAKER-- SQUARE D MODEL NQOD20M100CU IN NQB526 ENCLOSURE. PROVIDE CIRCUIT BREAKERS PER PANELBOARD SCHEDULE.
- ⑲ (1)-#12 AWG, (1)-#12 NEU. & (1)-#12 GND IN 3/4"C.
- ⑳ "PCSR" IS THE PROPOSED PUMP CONTROL / SCADA / RADIO PANEL (SEE SHTS. E10-E15).
- ㉑ (3) #14 AWG, (1) #12 GND 3/4"C.
- ㉒ (4)-3/C #16 SHLD (ULTRASONIC TRANSDUCER CABLE), (3)-#14 AWG & (1)-#12 GND GND IN 3/4" C.

- ㉓ (2)-#10 AWG & 1-#10 GND IN 3/4" C.
- ㉔ RESERVED.
- ㉕ (3)-#8 AWG & (1)-#8 GND. IN 1"C.
- ㉖ (5)-#12 AWG & (1)-#12 GND. IN 3/4"C.
- ㉗ NEW NEMA 4X, 30 AMP., NON-FUSED DISCONNECT

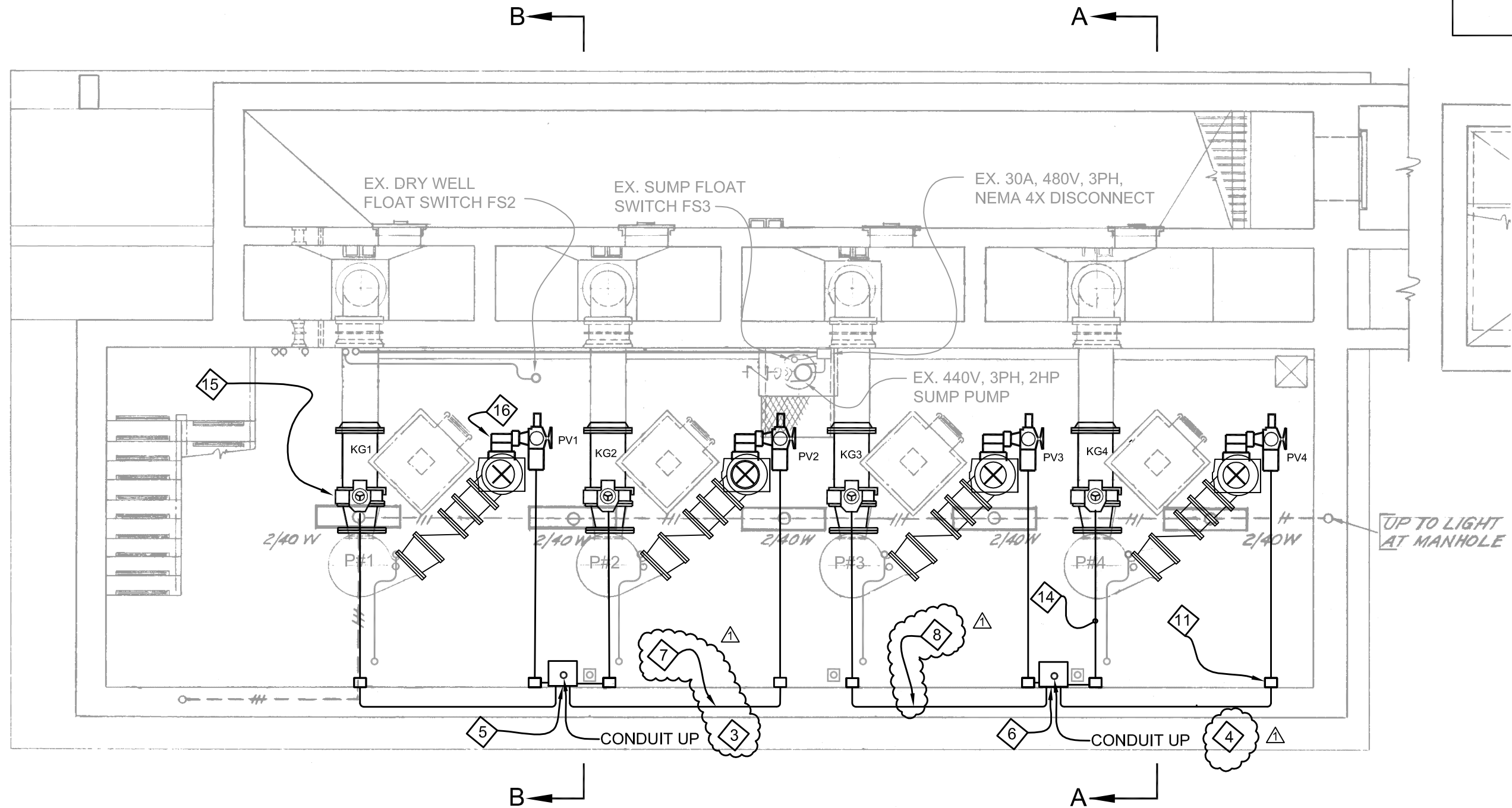
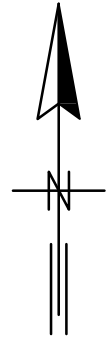
**NOTES:**

- 1. ALL EXISTING ITEMS ARE SHOWN WITH A LIGHTER LINE WEIGHT.
- 2. EXISTING KEYED NOTES ARE TO BE USED WITH THE EXISTING PORTIONS OF THE ONE-LINE ON SHEETS E4 AND E5.

SHEET E5A IS AN ADDED SHEET TO THE PLANS. ⚠

<b>LOAD SUMMARY</b>		
480 VAC, 3Ø, 4W		
<u>LOAD</u>	<u>CONNECTED</u>	<u>DEMAND</u>
PUMP #1	45.7 KVA	45.7 KVA
PUMP #2	45.7 KVA	45.7 KVA
PUMP #3	45.7 KVA	45.7 KVA
PUMP #4	45.7 KVA	—
<b>ELEC. ACTUATORS</b>	<b>21.3 KVA</b>	<b>10.6 KVA</b>
ODOR CONTROL	8.3 KVA	8.3 KVA
LP1	15.0 KVA	15.0 KVA
LPG	7.5 KVA	7.5 KVA
<b>TOTAL</b>	<b>234.9 KVA</b>	<b>178.5 KVA</b>

ROMAN D. KORCHAK, P.E. #42626 ELECTRICAL SECTION HEAD WASTEWATER DEPARTMENT	No.	DATE	REVISIONS	DES: LRG	<b>CITY of TAMPA</b> WASTEWATER DEPARTMENT	<b>HANNA PUMPING STATION</b> VALVE REPLACEMENT EX. KEYED NOTES & LOAD SUMMARY	W.O. 0426
	3			DRN: LRG			SHEET
	2			CKD:			<b>E5A</b>
	⚠	1/19/16	REVISION 1	DATE: 11/24/2015			



**PUMP ROOM FLOOR PLAN, FL. EL -16.33**

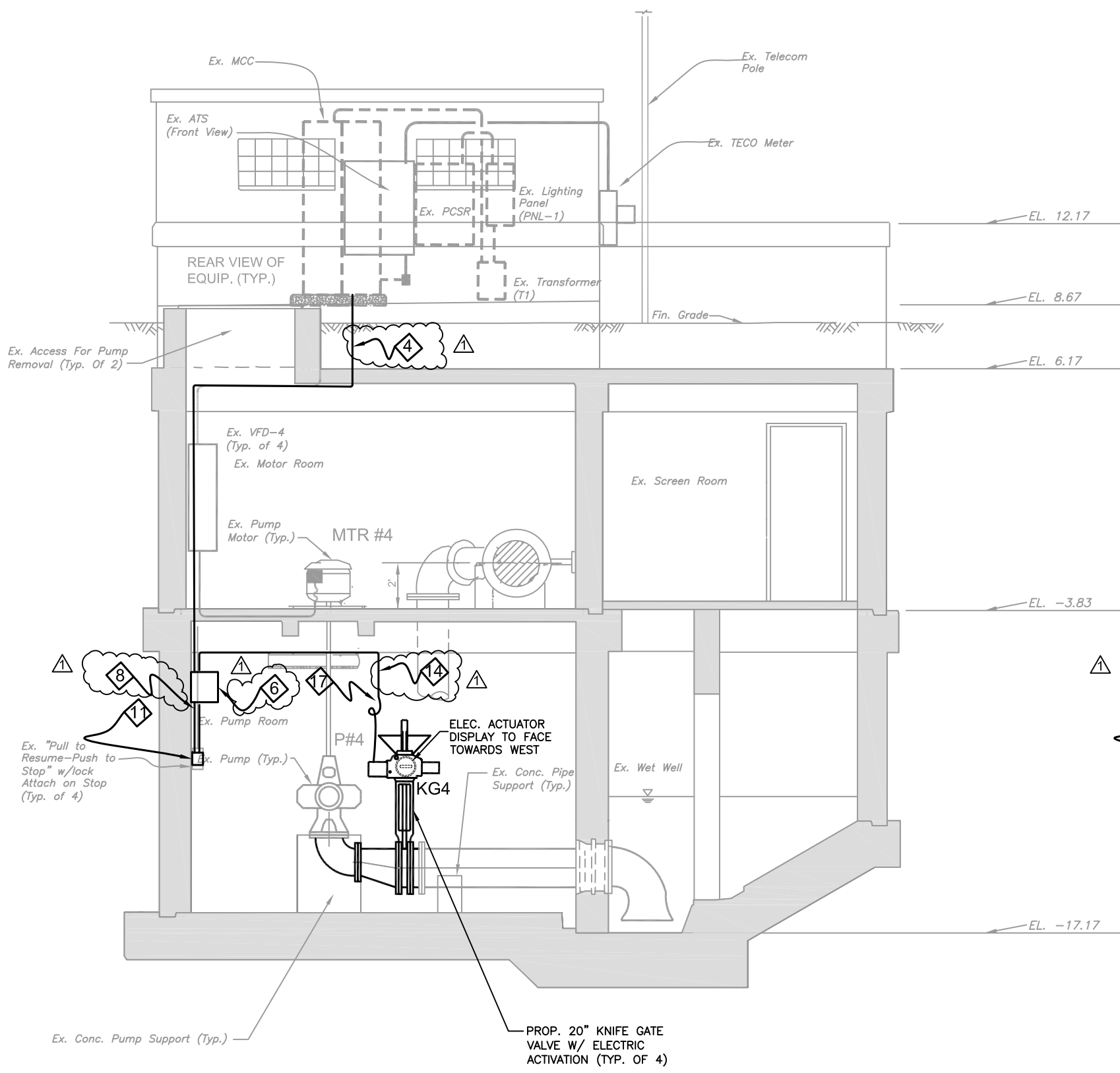
SCALE: 3/16"=1'-0"

**NOTES:**

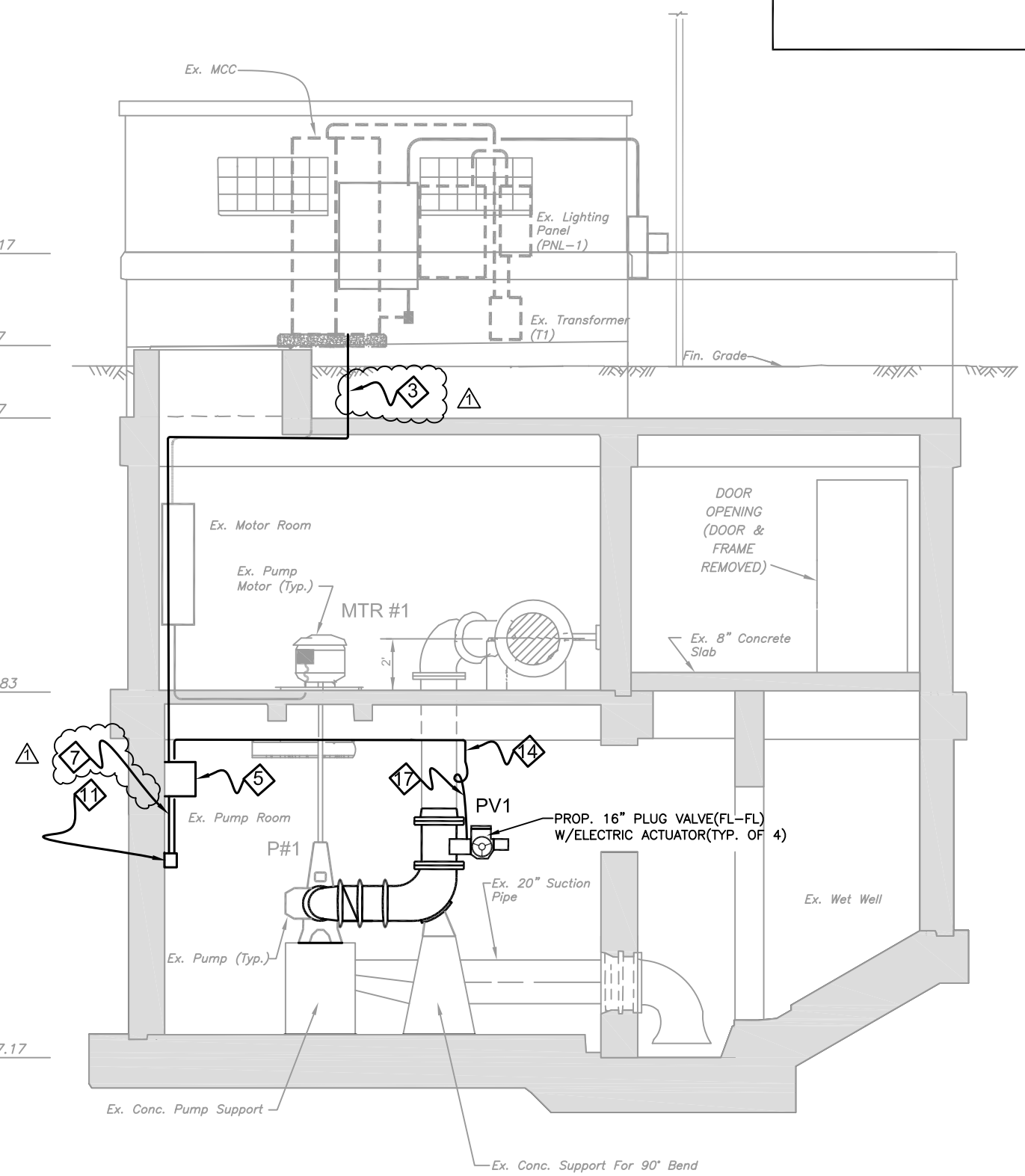
1. MODIFICATIONS ARE SHOWN DARKENED, UNLESS OTHERWISE NOTED.
2. SEE SHEET E9, FOR KEYED NOTES.

ROMAN D. KORCHAK, P.E. #42626 ELECTRICAL SECTION HEAD WASTEWATER DEPARTMENT	No.	DATE	REVISIONS	DES: LRG	<b>CITY of TAMPA</b> WASTEWATER DEPARTMENT	HANNA PUMPING STATION VALVE REPLACEMENT PUMP ROOM FLOOR PLAN	W.O. 0426
	3			DRN: LRG/WA			SHEET
	2			CKD:			<b>E7</b>
	⚠	1/19/16	REVISION 1	DATE: 10/29/15			





**PROPOSED SECTION A-A**  
SCALE: 3/16" = 1'-0"



**PROPOSED SECTION B-B**  
SCALE: 3/16" = 1'-0"

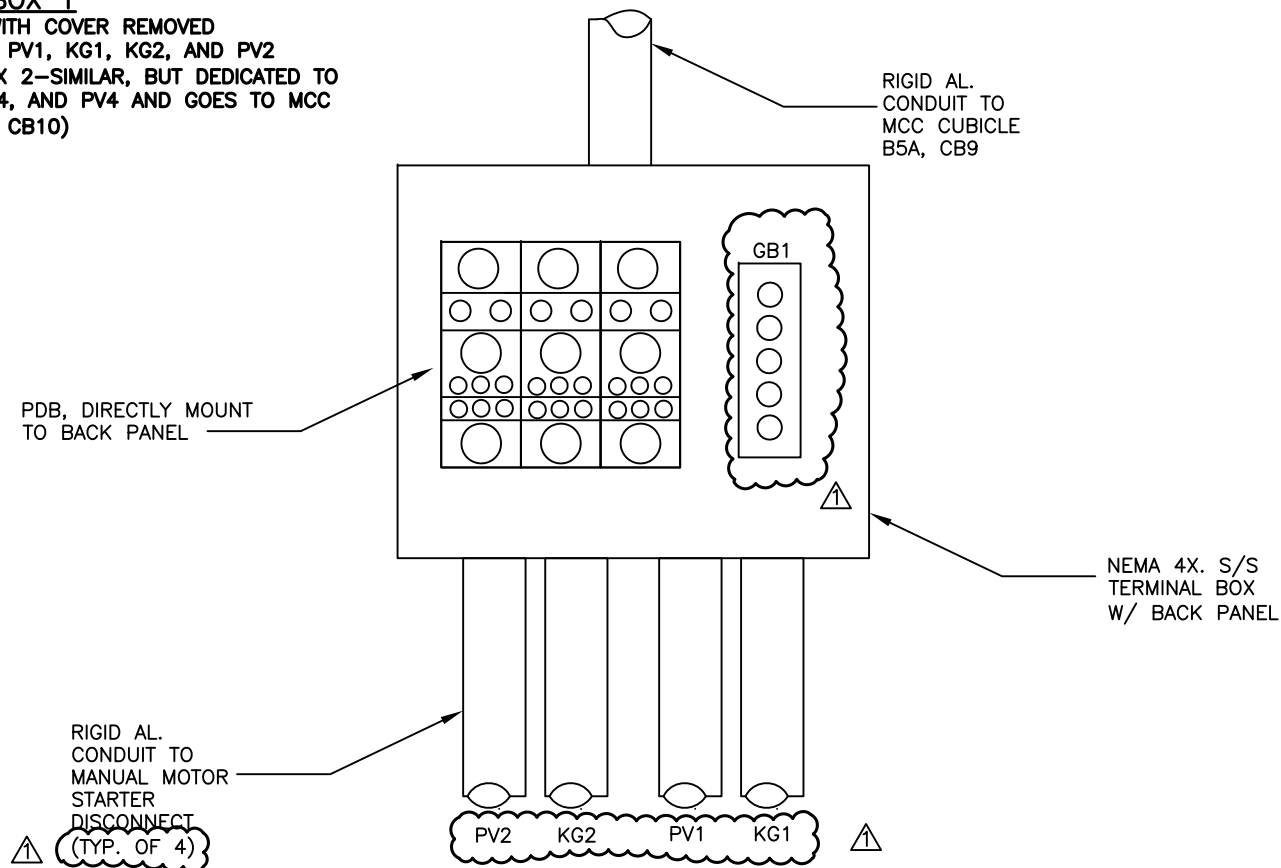
- NOTES:**  
 1. ELECTRICAL MODIFICATIONS ARE SHOWN DARKENED, UNLESS OTHERWISE NOTED.  
 2. SEE KEYED NOTES ON SHEET E9.

ROMAN D. KORCHAK, P.E. #42626 ELECTRICAL SECTION HEAD WASTEWATER DEPARTMENT	No.	DATE	REVISIONS	DES: LRG	<b>CITY of TAMPA</b> <b>WASTEWATER DEPARTMENT</b>	<b>HANNA PUMPING STATION</b> <b>VALVE REPLACEMENTS</b> <b>SECTIONS A-A &amp; B-B</b>	W.O. 0426
	3			DRN: LRG/WA			SHEET
	2			CKD:			<b>E8</b>
	⚠	1/19/16	REVISION 1	DATE: 11/23/15			

PARTS SCHEDULE			
SYMBOL	NAME	MAKE/TYPE/RATING	MODEL OR CAT#
CB 9, 10	CIRCUIT BREAKER	SIEMENS/3-POLE (15 AMP TRIP)	HEG 125A FRAME, 65 KAIC
PDB	POWER DISTRIBUTION BLOCK	ILSCO/3-POLE/600 VAC	PDB-26-2/0-3
	NEMA 4 MANUAL MOTOR STARTER DISCONNECT	SQUARE D/3-POLE	2510 KW2H
	NEMA 4X ALUMINUM TERMINAL BOX	HOFFMAN/16" X 14 X 6" W/ALUMINUM BACK PANEL	A-1614NFAL A-16P14AL
GB1	GROUNDING BLOCK	PANDUIT/UGB2/0-4 14-12	

**PARTS SCHEDULE**  
FOR USE WITH SHT. E5 &  
NEMA 4X TERMINAL BOX DETAIL,  
THIS SHEET.

**TERMINAL BOX 1**  
FRONT VIEW WITH COVER REMOVED  
DEDICATED TO PV1, KG1, KG2, AND PV2  
(TERMINAL BOX 2—SIMILAR, BUT DEDICATED TO  
PV3, KG3, KG4, AND PV4 AND GOES TO MCC  
CUBICLE B5B, CB10)



**KEYED NOTES:**

- ① PROPOSED CB-9. 3-POLE, 15 AMP CIRCUIT BREAKER
- ② PROPOSED CB-10, 3-POLE, 15 AMP CIRCUIT BREAKER
- ③ PROPOSED 3/4" CONDUIT, (3)#12 AWG. & (1)#12 GND. (FROM PROPOSED TERMINAL BOX 1 TO MCC CUBICLE B5A, CIRCUIT BREAKER CB-9)
- ④ PROPOSED 3/4" CONDUIT, (3)#12 AWG. & (1)#12 GND. (FROM PROPOSED TERMINAL BOX 2 TO MCC CUBICLE B5B, CIRCUIT BREAKER CB-10)
- ⑤ PROPOSED NEMA 4X TERMINAL BOX 1, FOR USE WITH PV1, PV2, KG1, AND KG2
- ⑥ PROPOSED NEMA 4X TERMINAL BOX 2, FOR USE WITH PV3, PV4, KG3, AND KG4.
- ⑦ PROPOSED 3/4" CONDUIT, (3)#12 AWG. & (1)#12 GND. FROM PROPOSED TERMINAL BOX 1 TO PROPOSED MOTOR STARTER DISCONNECT (TYP. OF 4)
- ⑧ PROPOSED 3/4" CONDUIT, (3)#12 AWG. & (1)#12 GND. FROM PROPOSED TERMINAL BOX 2 TO PROPOSED MOTOR STARTER DISCONNECT (TYP. OF 4)
- ~~⑨ PROPOSED 3/4" CONDUIT, (3)#12 AWG. & (1)#12 GND. (FROM PROPOSED MOTOR STARTER DISCONNECTS PV3 TO PROPOSED TERMINAL BOX 2)~~
- ~~⑩ PROPOSED 3/4" CONDUIT, (3)#12 AWG. & (1)#12 GND. (FROM PROPOSED MOTOR STARTER DISCONNECTS PV4 TO PROPOSED TERMINAL BOX 2)~~
- ⑪ PROPOSED NEMA 4 MANUAL MOTOR STARTER DISCONNECTS, TYPICAL OF 8
- ⑫ REMOVE EXISTING 12" SPACE COMBINATION STARTER AND PROVIDE AND INSTALL A 6" HIGH DENSITY CIRCUIT BREAKER, UNIT CUBICLE 5A LABEL SHALL READ:  
PLUG VALVE 1  
KNIFE GATE VALVE 1  
PLUG VALVE 2  
KNIFE GATE VALVE 2
- ⑬ SEE KEYED NOTE 12 AND PROVIDE AND INSTALL A 6" HIGH DENSITY CIRCUIT BREAKER, UNIT CUBICLE 5B LABEL SHALL READ:  
PLUG VALVE 3  
KNIFE GATE VALVE 3  
PLUG VALVE 4  
KNIFE GATE VALVE 4
- ⑭ PROPOSED 3/4" CONDUIT, (3)#12 AWG. & (1)#12 GND. (FROM PROPOSED ACTUATOR TO PROPOSED MANUAL MOTOR STARTER DISCONNECT (TYP. OF 8))
- ⑮ PROPOSED KNIFE GATE VALVE ACTUATOR (TYP. OF 4)
- ⑯ PROPOSED PLUG GATE VALVE ACTUATOR (TYP. OF 4)
- ⑰ PROPOSED 3/4" NON-METALLIC FLEXIBLE CONDUIT, TRANSITION TO 3/4" RIGID ALUMINUM

**KEYED NOTES**  
FOR USE WITH SHEETS E5 THRU E8

ROMAN D. KORCHAK, P.E. #42626  
ELECTRICAL SECTION HEAD  
WASTEWATER DEPARTMENT

No.	DATE	REVISIONS
3		
2		
①	1/19/16	REVISION 1

DES: LRG  
DRN: LRG  
CKD:  
DATE: 10/29/15

**CITY of TAMPA**  
WASTEWATER DEPARTMENT

**HANNA PUMPING STATION**  
VALVE REPLACEMENT  
ELECTRICAL DETAILS

W.O. 0426  
SHEET  
**E9**