

# CITY OF NAPLES PORT ROYAL PUMP STATION IMPROVEMENTS

**MAYOR**  
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**STREETS AND STORMWATER DIRECTOR**  
GREGG STRAKALUSE, P.E.



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ISSUED FOR BIDDING  
DECEMBER 2013

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SIGNATURE \_\_\_\_\_ DATE \_\_\_\_\_

## GENERAL NOTES

- IT IS THE INTENT OF THE CONTRACT DRAWINGS TO PRESCRIBE A COMPLETE WORK OR IMPROVEMENT. THE CONTRACT DRAWINGS ARE COMPLEMENTARY, AND REFERENCE TO CONTRACT DOCUMENTS IS MADE TO DETERMINE HIERARCHY ORDER OF PRECEDENCE OF ALL CONTRACT DOCUMENTS, TO WHICH THE DRAWINGS ARE PART OF.
- IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY LOCATION, SIZE, AND DEPTH OF ALL UTILITIES PRIOR TO CONSTRUCTION.
- INTERRUPTION TO WATER AND OTHER EXISTING UTILITIES SHALL BE REQUESTED IN WRITING BY THE CONTRACTOR 3 DAYS IN ADVANCE OF THE WORK.
- ALL SIGNAGE, HEADWALLS, GUARD RAILS, GUARD POSTS, FENCES, CURBS, ROADWAYS, SIDEWALKS, LANDSCAPING, IRRIGATION AND ANY OTHER OBJECTS DISTURBED BY CONTRACTOR ACTIVITIES SHALL BE RETURNED TO PRE-CONSTRUCTION CONDITION AT NO ADDITIONAL COST TO THE OWNER.
- ALL UTILITY BOXES, FRAMES, GRATES, ETC. DISTURBED BY CONTRACTOR AND NOT TO BE ABANDONED SHALL BE RESET TO THE PROPER GRADE.
- THE CONTRACTOR SHALL PROVIDE 30 DAY NOTICE TO NOTIFY THE OWNER TO ACCOMPLISH LINE RELOCATIONS AS NECESSARY FOR CONSTRUCTION OF THIS PROJECT.
- ALL CONCRETE AND ASPHALT PAVEMENT SHALL BE SAW-CUT PRIOR TO EXCAVATION.
- ALL WORK SHALL BE IN ACCORDANCE WITH THE LATEST APPLICABLE FEDERAL, STATE, AND LOCAL AGENCY STANDARDS.
- MAINTAIN A FLUENT ENGLISH SPEAKING SUPERINTENDENT ON SITE AT ALL TIMES.
- THE CONTRACTOR SHALL COMPLY WITH THE "TRENCH SAFETY ACT", CHAPTER 90-96, FLORIDA STATUTES.
- ANY DISCREPANCIES ON THE DRAWINGS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER BEFORE COMMENCING WORK. NO FIELD CHANGES OR DEVIATION FROM DESIGN ARE TO BE MADE WITHOUT PRIOR WRITTEN APPROVAL BY THE OWNER AND THE ENGINEER.
- PROVIDE AT LEAST 48 HOURS NOTICE TO AFFECTED UTILITY COMPANIES IN ORDER TO ALLOW THE LOCATION OF THE EXISTING UNDERGROUND UTILITIES IN ADVANCE OF CONSTRUCTION.
- TREES, SHRUBS AND OTHER LANDSCAPING SHALL BE PROTECTED DURING CONSTRUCTION AS IDENTIFIED ON THE PROJECT DOCUMENTS.
- CONTRACTOR SHALL NOTIFY SUNSHINE STATE ONE CALL SERVICE (1-800-432-4770) 48 HOURS PRIOR TO COMMENCING EXCAVATION/TRENCHING. THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY WHEN CONFLICTS BETWEEN THESE DRAWINGS AND ACTUAL FIELD CONDITIONS ARE DISCOVERED.
- EROSION CONTROL
  - EMPLOY EVERY POSSIBLE MEANS TO CONTROL AND PREVENT EROSION AND TRANSPORT OF SEDIMENT MATERIALS TO THE INLETS, SURFACE DRAINS, WETLANDS AND LAKE AREAS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL RESTORATION EFFORTS THAT MAY BE REQUIRED.
  - MAINTAIN ALL EROSION CONTROL IN COMPLIANCE WITH THE FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION REQUIREMENTS THROUGHOUT THE DURATION OF THE PROJECT.
  - INSPECT EROSION CONTROL DAILY AND WITHIN 24 HOURS AFTER EACH RAINFALL EVENT OF 1 INCH OR GREATER. ALL NECESSARY MAINTENANCE SHALL BE PERFORMED WITHIN 24 HOURS AFTER INSPECTION. PREPARE AND MAINTAIN A BEST MANAGEMENT PLAN FOR SEDIMENT AND EROSION CONTROL AND MAINTAIN A COPY ON SITE WITH THE SUPERINTENDENT AT ALL TIMES.
- ALL UNIMPROVED AREAS DISTURBED BY CONSTRUCTION ACTIVITIES SHALL BE RESTORED TO PRE-CONSTRUCTION CONDITIONS. THIS SHALL INCLUDE SCARIFYING, GRADING, ROLLING, AND SODDING OR SEEDING. CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLING AND MAINTAINING TEMPORARY IRRIGATION FACILITIES FOR 6 WEEKS. SOD OR SEEDING AREAS NOT FULLY RESTORED AT THIS TIME SHALL BE RESODDED OR SEEDING AND THE MAINTENANCE PERIOD RESET. REFER TO SECTION 02400, CITY OF NAPLES UTILITIES SPECIFICATION MANUAL, FOR SOD AND SEED REQUIREMENTS.
- THE INFORMATION PROVIDED IN THESE PLANS IS SOLELY TO ASSIST THE CONTRACTOR IN ASSESSING THE NATURE AND EXTENT OF CONDITIONS WHICH WILL BE ENCOUNTERED DURING THE COURSE OF THE WORK. THE CONTRACTORS ARE DIRECTED, PRIOR TO CONSTRUCTION TO CONDUCT WHATEVER INVESTIGATIONS THEY DEEM NECESSARY TO ARRIVE AT THEIR OWN CONCLUSIONS REGARDING THE ACTUAL CONDITIONS THAT WILL BE ENCOUNTERED.
- WORK SHALL BE SCHEDULED FROM 7 A.M. TO 7:00 P.M. MONDAY THROUGH FRIDAY. NO WORK SHALL BE PERFORMED ON WEEKENDS OR HOLIDAYS OR OUTSIDE OF SPECIFIED HOURS WITHOUT NOTICE AND WRITTEN AUTHORIZATION FROM THE OWNER. DURING THE MONTHS NOVEMBER THROUGH APRIL WORK WILL BE RESTRICTED FROM 8:00 A.M. TO 6:00 P.M. MONDAY THROUGH FRIDAY.

## EXISTING STATION NOTES

- THE STRUCTURAL AND MECHANICAL BASE WAS CREATED USING FIELD MEASUREMENTS; THE LOCATION OF THE PIPING AND EQUIPMENT, INTERNAL AND EXTERNAL PUMP STATION DIMENSIONS SHALL BE VERIFIED BY THE CONTRACTOR.

## GRADING AND DRAINAGE NOTES

- TOPSOIL SHALL BE "STRIPPED" AND STOCKPILED. TOPSOIL SHALL BE USED TO ACHIEVE THE LAST 4"-6" OF FINISHED GRADE AS FINAL GRADING OPERATIONS PROGRESS. SEE DIVISION 31 OF THE SPECIFICATIONS.
- CONTOURS & FINISHED SPOT ELEVATIONS REPRESENT FINISHED GRADE, TOP OF CONCRETE, PAVEMENT, GRASSED AREAS, ETC.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS NOT PREVIOUSLY OBTAINED BY THE OWNER TO CONSTRUCT THIS PROJECT AS GOVERNED BY STATE & LOCAL AGENCIES, PRIOR TO STARTING CONSTRUCTION.
- EARTH EXCAVATION AND/OR EMBANKMENT SHALL BE PERFORMED IN ACCORDANCE WITH DIVISION 31 OF THE SPECIFICATIONS.

## MECHANICAL / PIPING / ELECTRICAL

- EQUIPMENT AND SYSTEMS DIMENSIONS, LOCATIONS AND PIPING SYSTEM LAYOUTS ARE BASED ON EQUIPMENT SELECTED BY THE ENGINEER. IF CONTRACTOR PROPOSES TO PROVIDE EQUIPMENT THAT REQUIRES AN ARRANGEMENT OR SPACING DIFFERING FROM THAT INDICATED OR SPECIFIED, THE CONTRACTOR SHALL PREPARE AND SUBMIT TO THE ENGINEER FOR REVIEW DETAILED ARCHITECTURAL, STRUCTURAL, MECHANICAL, PLUMBING, INSTRUMENTATION HVAC AND ELECTRICAL DRAWINGS AND EQUIPMENT LISTS SHOWING ALL NECESSARY CHANGES AND EMBODYING ALL FEATURES OF THE EQUIPMENT AND/OR PROCESS SYSTEMS PROPOSED. THIS INFORMATION SHALL INCLUDE BUT NOT BE LIMITED TO PLANS, SECTIONS DETAILS AND SCHEMATICS OF ALL PIPING SYSTEMS AND APPURTENANCES REQUIRED, ELECTRICAL CONTROLS, ETC.. SUCH CHANGES IF APPROVED BY THE ENGINEER SHALL BE AT NO ADDITIONAL COST TO THE OWNER AND NO TIME EXTENSION TO THE CONTRACT TIME TO COMPLETION. THE CONTRACTOR SHALL ASSUME THE COST OF AND THE RESPONSIBILITY FOR ACCOMPLISHING ALL THE NECESSARY CHANGES CORRESPONDING TO THE DIMENSIONS AND CHARACTERISTICS OF THE EQUIPMENT SUBMITTED AND APPROVED BY THE ENGINEER.
- THE CONTRACTOR SHALL MAKE ALL REQUIRED FIELD MEASUREMENTS TO VERIFY EXISTING AND CONTRACT INTERFACE DIMENSIONS, LOCATIONS, AND OTHER CONDITIONS.
- ALL DIMENSIONS LOCATING EQUIPMENT ARE FROM FINISHED WALL SURFACES OR COLUMN CENTERLINES.
- REFER TO INSTRUMENTATION DRAWINGS FOR INSTRUMENTATION AND CONTROL SYSTEMS. INSTRUMENT LOCATIONS ARE INDICATED ON MECHANICAL-PROCESS DRAWINGS IN APPROXIMATE LOCATION ONLY.
- FOR FLANGED SYSTEMS PROVIDE FLEXIBLE CONNECTORS WHERE NECESSARY, AND AS APPROVED TO FACILITATE PIPING INSTALLATION AND VALVE AND EQUIPMENT REMOVAL.
- ALL FLEXIBLE CONNECTORS, INCLUDING EXPANSION JOINTS AND SLEEVE COUPLINGS SHALL BE RESTRAINED AS INDICATED OR AS REQUIRED FOR EXPANSION AND FOR FLEXIBILITY.
- CONTRACTOR SHALL CONFIRM GENERATOR AND ELECTRICAL RACK DIMENSIONS, VERIFY PROPER CLEARANCE PRIOR TO CONSTRUCTING THE ELEVATED SLAB.

## SURVEY NOTES

- TOPOGRAPHIC AND EXISTING CONDITION SURVEY AND MAPPING PREPARED BY: E.F. GAINES SURVEYING SERVICES, INC. 5235 RAMSEY WAY, SUITE 10 FORT MYERS, FLORIDA 33907.
- HORIZONTAL CONTROL FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATE SYSTEM, FLORIDA WEST ZONE, NORTH AMERICAN DATUM OF 1983 (NAD 83) UTILIZING RTK GPS EQUIPMENT OPERATING ON THE TRIMBLE VRS NETWORK, U.S. SURVEY FEET.
- ELEVATIONS ARE BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88) AND WERE DERIVED FROM NATIONAL GEODETIC SURVEY BENCHMARK "COL30" USING THE PUBLISHED ELEVATION OF 3.73 FEET.
- THE CONTRACTOR SHALL EMPLOY THE SERVICES OF A PROFESSIONAL SURVEYOR REGISTERED IN THE STATE OF FLORIDA TO ESTABLISH RIGHT-OF-WAY LINES, EASEMENTS, BASELINES, BENCHMARKS AND STATIONING AS REQUIRED TO CONSTRUCT THIS PROJECT.
- THE CONTRACTOR IS RESPONSIBLE FOR STAKING THE RIGHT-OF-WAYS, EASEMENT LIMITS, AND CENTERLINE OF THE PIPE PRIOR TO CONSTRUCTION.
- ANY PUBLIC LAND CORNER, PROPERTY OR BENCHMARK WITHIN THE LIMITS OF CONSTRUCTION SHALL BE PROTECTED. IF A CORNER MONUMENT IS IN DANGER OF BEING DESTROYED, THE CONTRACTOR SHALL NOTIFY THE OWNER'S REPRESENTATIVE IMMEDIATELY. ANY CORNER MONUMENT DESTROYED OR DISTURBED SHALL BE RESET AND CERTIFIED BY A PROFESSIONAL SURVEYOR AND MAPPER REGISTERED IN THE STATE OF FLORIDA AT THE CONTRACTOR'S EXPENSE.

## FLOOD PLAIN

- THE FLOOD PLAIN ELEVATION IS 10.00 NAVD 88.
- ELECTRICAL PANELS INCLUDING BUT NOT LIMITED TO: LIFT STATION CONTROL PANEL, SURGE PROTECTION DEVICES, MAIN BREAKERS, JUNCTION BOXES, RTU, DISCONNECTS, METERS, AND GENERATOR FUEL TANK OPENINGS SHALL BE INSTALLED HIGHER THAN THE FLOOD PLAIN ELEVATION.

### VERIFY SCALES

BAR IS ONE INCH ON ORIGINAL DRAWING

IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

DESIGNED BY	JRR	PROJECT ENGINEER	DAWN M. JAKIELA, P.E.
DRAWN BY	MPL	REG NUMBER	75034
CHECKED BY	DMJ	PROJECT NUMBER	60289240
DATE	DEC 2013		



CITY OF NAPLES  
PORT ROYAL PUMP STATION

GENERAL NOTES

DRAWING

G-002

SHEET

2

OF SHEETS

DWG: X:\City of Naples\60289240-Port Royal and Public Works Pump Stations\000 CAD\Per\_Lroyal\Sheets\G-003.dwg Layout Name: G-003 - Plotted by: Reed, John Date: 12/11/2013 - 3:53 PM

<b>A</b> A AREA/AMP/AIR AB ANCHOR BOLT/AGGREGATE BASE/AUGER BORING ABAN ABANDON/ABANDONED ABS ACRYLONITRILE-BUTADIENE-STYRENE AC ALTERNATING CURRENT/ACTIVATED CARBON/ ACRE ASPHALTIC CONCRETE/ASBESTOS CEMENT ACP ASBESTOS CEMENT PIPE ACSR ALUMINUM CONDUCTOR STEEL REINFORCED ADDD ADDITIONAL AF AMP FRAME AFF ABOVE FINISHED FLOOR AFG ABOVE FINISHED GRADE A.G. ALLEY GRATE AHD AHEAD AHRD AIR HEADER AHH ANALOG HANDHOLE AICS AMPERE INTERRUPTING CAPACITY SYMMETRICAL AL ALUMINUM/ALUM.(CONCENTRATED) ALT ALTERNATE ALUM ALUMINUM ANCH ANCHOR ANG ANGLE APPROX APPROXIMATE ARCH ARCHITECTURE/ARCHITECTURAL ARV AIR-RELEASE VALVE ARVV AIR-RELEASE VALVE ASP ASPHALT ASR AQUIFER STORAGE RECOVERY ASSY ASSEMBLY AT AMP TRIP ATS AUTOMATIC TRANSFER SWITCH AVE AVENUE AWG AMERICAN WIRE GAGE	<b>B</b> BC BACK OF CURB/BEGINNING OF CURVE/ BOTTOM OF CURVE/BACK CONNECTED/BARE COPPER BF BLIND FLANGE BFV BUTTERFLY VALVE BK BACK/BRAKE/BLACK BKR BREAKER B/L BASE LINE BL BLUE BLDG BUILDING BLK BLOCK BLVD BOULEVARD BM BENCH MARK/BEAM BO BLOW OFF BOT BOTTOM BRG BEARING BT BURIED TELEPHONE BUR CBL BURIED CABLE BV BALL VALVE BW BLOCK WALL/BACKWASH	<b>C</b> C CONDUIT/CUT C&G CURB & GUTTER /C CONDUCTOR C/L CENTER LINE CAP CAPACITY CATCH CATCH BASIN/CIRCUIT BREAKER C-C CENTER TO CENTER CCP CONCRETE CYLINDER PIPE CD CROSS DRAIN/CONDENSATION DRAIN/ CORD/CEILING DIFFUSER CE CURB EDGE CEM CEMENT CFM CUBIC FEET PER MINUTE C.E.P. CITY ELECTRIC POLE CFS CUBIC FEET PER SECOND CHAM CHAMFER CHH COMMUNICATIONS HANDHOLE CI/CIPI CAST IRON PIPE CISP CAST IRON SOIL PIPE CJ CONSTRUCTION JOINT CKT CIRCUIT CL CENTER LINE/CHAIN LINK CLDI CEMENT LINED DUCTILE IRON CLF CHAIN LINK FENCE CLR CLEAR/CLEARANCE CL2 CHLORINE CM CONCRETE MONUMENT CM&L&C CEMENT MORTAR LINED AND COATED (STEEL PIPE) CMP CORRUGATED METAL PIPE CMPA CORRUGATED METAL PIPE ARCH CMU CONCRETE MASONRY UNIT CO CLEAN OUT/CONDUIT ONLY/ CUT OUT/CHANGE ORDER/COUNTY COL COLUMN COMPL COMPLETE CONC CONCRETE CONN CONNECTION CONSTR CONSTRUCT/CONSTRUCTION CONT CONTINUOUS/CONTINUE/CONTROL CONTR CONTRACTOR COORD COORDINATED COR CORNER CP CONTROL PANEL CPLG COUPLING CPT CONTROL POWER TRANSFORMER CPVC CHLORINATED POLYVINYL CHLORIDE CTEL COAT TAR ENAMEL-LINED STEEL CTG COATING/CARTRIDGE CTR CENTER/COOLING TOWER RETURN CTRL CONTROL CTV CABLE TELEVISION CTVR CABLE TELEVISION RISER CTXL&C COAL TAR EPOXY-LINED AND COATED STEEL PIPE CU COPPER/CUBIC CULV CULVERT C&G CURB & GUTTER CV CHECK VALVE CYL CUBIC YARD/CYCLE CYLINDER	<b>D</b> D DBL DOUBLE DBI DITCH BOTTOM INLET DCLR DECELERATE DEF DEFLECTION/DEFLECTIVE DEFLANG DEFLECTION ANGLE DELTA DELTA DEPT DEPARTMENT DET DETAIL/DETOUR DF DRINKING FOUNTAIN/DEMAND FACTOR DI DROP INLET/DRAINAGE INLET/DUCTILE IRON DIA DIAMETER DIAG DIAGONAL DIM DIMENSION DIP DUCTILE IRON PIPE DISCH DISCHARGE DMH DROP MANHOLE/DRAINAGE MANHOLE DN DOWN DR DRIVE/DOOR/DRAIN/DRIVEWAY DRWY DRIVEWAY DWC DRAWING DWL DOWEL/DESIGN WATER LEVEL DWV DRAIN,WASTE AND VENT PIPING DWY DRIVEWAY	<b>E</b> E EAST/EXTERNAL DISTANCE E/L EASEMENT LINE EA EACH ECC ECCENTRIC ED EQUIPMENT DRAIN EE EACH END EF EACH FACE/EXHAUST FAN EFF EFFLUENT EL ELEVATION/EACH LEVEL ELEC ELECTRIC/ELECTRICAL ELP ELLIPTICAL EMB EMBEDMENT ENC ENCASEMENT/ENCASED ENG ENGINE ENGR ENGINEER EOP EDGE OF PAVEMENT EQ EQUATION EQL EQUAL EQIP EQUIPMENT ERCP ELLIPTICAL REINFORCED CONCRETE PIPE ESMT EASEMENT EST ESTIMATE/ESTIMATED ETM ELAPSED TIME METER EW EACH WAY/ENDWALL EX EXPLOSION PROOF EXCAV EXCAVATE/EXCAVATION EXP JT EXPANSION JOINT EXST EXISTING EXT EXTERIOR/EXTENSION/EXTERNAL	<b>F</b> F F&I FURNISH AND INSTALL FAB FABRICATE FB FUSE BLOCK/FLAT BAR FBC FLORIDA BUILDING CODE FCA FLANGED COUPLING ADAPTER FCO FLOOR CLEAN OUT FCV FLOW CONTROL VALVE FD FLOOR DRAIN/FIRE DAMPER FDEP FL DEPT OF ENVIRONMENTAL PROTECTION FDN FOUNDATION FDOT FL DEPT OF TRANSPORTATION FF FINISHED FLOOR/FLAT FACE/FAR FACE FG FINISHED GRADE FH FIRE HYDRANT/FUME HOOD FHD FIRE HYDRANT FIG FIGURE FIT FITTING/FLOW INDICATING TRANSMITTER FL FLOOR/FLOW LINE/FLIGHT LEVEL/FLORIDA FLEX FLEXIBLE FLG FLANGE FM FORCE MAIN/FACTORY MUTUAL FMH FLEXIBLE METAL HOSE FNH FINISH FOC FACE OF CONCRETE/FIBER OPTIC CABLE FPC FLEXIBLE PIPE COUPLING FPM FEET PER MINUTE FPS FEET PER SECOND FS FLOW SWITCH FT FEET/FOOT FTG FOOTING/FITTING FUT FUTURE FV FUEL VENT/FACE VELOCITY FWD FORWARD FXLCSP FUSION BONDED EPOXY-LINED AND COATED STEEL PIPE	<b>G</b> G GAS GA GAGE/GAUGE GAL GALLON GALV GALVANIZED GCB GENERATOR CIRCUIT BREAKER GDR GUARD RAIL GDR GENERATOR GDF GROUND FAULT INTERRUPTER GL GLASS GLDI GLASS-LINED DUCTILE IRON (PIPE) GLSP GLASS-LINED STEEL GM GAS MAIN/GROSS MILE GND GROUND GPD GALLONS PER DAY GPM GALLONS PER MINUTE GR GRADE/GRIT SLURRY GRND GROUNDING GRTG GRATING GSP GALVANIZED STEEL PIPE GV GAS VALVE	<b>H</b> H HOB HOSE BIBB HC HEATING COIL/HOLDING COIL/HIGH CURE HD HEAVY DUTY HDPE HIGH DENSITY POLYETHYLENE PIPE HF HIGH FLO HH HANDHOLE HGT HEIGHT HOA HAND-OFF-AUTOMATIC HORIZ HORIZONTAL HP HORSEPOWER/HIGH PRESSURE HPS HIGH PRESSURE SODIUM HR HOUR/HANDRAIL HS HIGH STRENGTH HSA HEADED STUD ANCHOR HV HOSE VALVE/HIGH VOLTAGE HVAC HEATING,VENTILATING AND AIR CONDITIONING HW HEADWALL/HOT WATER(DOMESTIC) HWL HIGH WATER LEVEL HWY HIGHWAY HYD HYDRAULIC HZ HERTZ	<b>I</b> I INTERSECTION ANGLE ID INSIDE DIAMETER IF INSIDE FACE IG ISOLATED GROUND IN INCHES INF INFLEUNT INL INLET INS INSULATE/INSULATION INSTL INSTALL/INSULATE/INSTALLATION INT INTERIOR INV INVERT IP IRON PIPE/INTERFACE PANEL IRR IRRIGATION	<b>J</b> J JOIST J-BOX JUNCTION BOX JT JOINT J.W.W. JACKSONVILLE WATER WORKS	<b>K</b> KVA KILOVOLT-AMPERE KCMIL THOUSAND CIRCULAR MILLS KV KILOVOLT KWH KILOWATT-HOUR	<b>L</b> LA LENGTH OF CURVE/LEFT/LONG/LAMP LIQUID ALUM/LIMITED ACCESS/ LIGHTNING ARRESTOR LAM LAMINATE LATL LATERAL LAV LAVATORY LB LOAD LCP LIGHTING CONTROL PANEL LF LINEAR FEET/LOW FREQUENCY LG LENGTH/LONG LLH LONG LEG HORIZONTAL LLV LONG LEG VERTICAL LNTEL LNTEL LOS LOCKOUT STOP LOS LIGHT POLE/LIQUID PROPANE/ LIGHTING PANEL LPT LOW POINT LS LIFT STATION/LIMIT SWITCH LT LEFT/LIGHT LTG LIGHTING LPROT LIGHTNING PROTECTION LVR LOUVER LWL LOW WATER LEVEL LWR LOWER	<b>M</b> MATL MATERIAL MAX MAXIMUM MB MACHINE BOLT/MIXING BOX/MAILBOX/ MOP BASIN/MEGABYTE/MAILBOX MC METAL CHANNEL/MOMENTARY CONTACT MCB MAIN CIRCUIT BREAKER MCC MOTOR CONTROL CENTER MCP MOTOR CIRCUIT PROTECTION/ MAIN CONTROL PANEL ME MITERED END MECH MECHANICAL MFR MANUFACTURER MGD MILLION GALLONS PER DAY MH MANHOLE/METAL HALIDE MI MALLEABLE IRON/MILE MIN MINIMUM/MINUTE MISC MISCELLANEOUS MJ MECHANICAL JOINT MO MASONRY OPENING MOD MODIFY/MODIFIED MON MONUMENT/MOTOR OPERATOR MPC MINI-POWER CENTER MPC MOUNTED MTR MOTOR/METER MTU MASTER TERMINAL UNIT MV MERCURY VAPOR MW MANWAY	<b>N</b> N NORTH/NEUTRAL N&C NAIL AND CAP N/L NIGHT LIGHT NA NOT APPLICABLE/NOT AVAILABLE N/C NORMALLY CLOSED NE NORTHEAST NEC NATIONAL ELECTRIC CODE NFD5 NON-FUSED DISCONNECT SWITCH NFPA NATIONAL FIRE PROTECTION ASSOCIATION NIC NOT IN CONTRACT NO NUMBER/NORMALLY OPEN NOM NOMINAL NPT NATIONAL PIPE THREAD NRS NON-RISING STEAM NS NEAR SIDE NTS NOT TO SCALE NW NORTHWEST NY NYLON TUBING	<b>O</b> O/O ON/OFF OC ON CENTER/OVERCURRENT OCA OPEN/CLOSE/AUTO OD OUTSIDE DIAMETER/OVERFLOW DRAIN OE OR EQUAL/OVERHEAD ELECTRIC OF OUTSIDE FACE OHP OVERHEAD POWER OHT OVERHEAD TELEPHONE OL OVERLOAD OPER OPERATOR OPNG OPENING OPP OPPOSITE/OPOSED OPT OPTIONAL OSC OPEN/STOP/CLOSE OT OVERHEAD TELEPHONE OVFL OVERFLOW OVHD OVERHEAD	<b>P</b> P POLE P/L PROPERTY LINE PAV PAVING PB PULL BOX/PANIC BUTTON PC POINT OF CURVATURE/ PROGRAMMABLE CONTROLLER PCC POINT OF COMPOUND CURVATURE PCCP PERMANENT CONCRETE CYLINDER PIPE PCM PERMANENT CONTROL MONUMENT PE POLYETHYLENE TUBING/PRIMARY EFFLUENT/ PLAIN END PEP POLYETHYLENE PIPE PG PRESSURE GAUGE/PROFILE GRADE PHH POWER HANDHOLE PI POINT OF INTERSECTION /PRESSURE INDICATOR/PRIMARY INFLUENT PLC PLATE/PLUG/PLACE/PLANT PLDI PROGRAMMABLE LOGIC CONTROLLER PLDI POLYETHYLENE-LINED DUCTILE IRON PIPE PMS PAD MOUNTED SWITCH PNE PANEL POB POINT OF BEGINNING POJ PUSH ON JOINT PP POWER PANEL/POLYPROPYLENE P/P POWER POLE PPLS POLYPROPYLENE -LINED STEEL PAIR PAIR PRC POINT OF REVERSE CURVATURE PRESS PRESSURE PRM PERMANENT REFERENCE MONUMENT PRV PRESSURE REDUCING VALVE PRVC POINT OF REVERSE VERTICAL CURVE PSF POUNDS PER SQUARE FOOT PSI POUNDS PER SQUARE INCH PSIA POUNDS PER SQUARE INCH ABSOLUTE PT POINT OF TANGENCY/POINT/PART POTENTIAL TRANSFORMER/PRESSURE TREATED PV PLUG VALVE PVC POLYVINYL CHLORIDE PVDF POLYVINYLIDENE FLUORIDE PVDFLS POLYVINYLIDENE FLUORIDE LINED STEEL PIPE PVI POINT OF VERTICAL INTERSECTION PVMT PAVEMENT PW PER WALL PWR POWER	<b>Q</b> Q FLOW RATE/PEAK DISCHARGE R/R/R/W RIGHT OF WAY RC REINFORCED CONCRETE RCP REINFORCED CONCRETE PIPE RCPA REINFORCED CONCRETE PIPE ARCH RD ROAD/ROOF DRAIN/ROUND RDC REDUCER RECP RECEPTACLE REF REFERENCE REINF REINFORCE/REINFORCED REM REMOVE/REMOVABLE REQD REQUIRED REQT REQUIREMENT RGS RIGID GALVANIZED STEEL RJ RESTRAINED JOINT RM ROOM RMS ROOT MEAN SQUARE RND ROUND RP RELAY PANEL RPM REVOLUTIONS PER MINUTE RPMF REINFORCED PLASTIC MORTAR PIPE RPT RADIUS POINT RR RAILROAD RT RIGHT RTU REMOTE TERMINAL UNIT RV RELIEF VALVE RVS REVERSE RVT RIVETED RWL RAIN WATER LEADER RWM RECLAIMED WATER MAIN R/W RIGHT OF WAY	<b>S</b> S.S.B.T. SOUTH/SIGN /SLOPE(UNIT/UNIT) S/S START/STOP S/W SIDEWALK SE SANITARY SCHED SCHEDULE SE SOUTHEAST/SECONDARY EFFLUENT SECT SECTION SEW SEWER SF SUPPLY FAN SGL SINGLE SH SHEET/SHEETING/SHUNT SHLD SHIELD/SHIELDED SHLDR SHOULDER SIG SIGNAL SIG SIMILAR SLV SLEEVE SM SHEET METAL/STATUTE MILE SMH STORM MANHOLE SOF SOFFIT SOLENOID VALVE SOLV SPACE/SOIL PIPE/STEEL PIPE SP SET POINT/STATIC PRESSURE SPEC SPECIFICATION SPRT SUPPORT SQ SQUARE SQ SANITARY SEWER/SERVICE SINK/ SUSPENDED SOLIDS SST STAINLESS STEEL ST STREET/SURFACE TREATMENT/ SHUNT TRIP STA STATION (100 FT) STD STANDARD STK STAKE STL STEEL STP STEEL PIPE STR STRAIGHT/STRENGTH STRF STORM SEWER SURF SURFACE SW SOUTHWEST/SURFACE WASH/ SIDEWALK SWB SWITCHBOARD SYM SYMMETRICAL	<b>T</b> T&B TOP & BOTTOM T/B TOP OF BEAM T/O TOP OF T/P TOP OF PIPE TAN TANGENT TB TOP OF BANK/TERMINAL BOARD/ TERMINAL BOX TBM TEMPORARY BENCH MARK TC TOP OF CURB/TEMPERATURE CONTROL/ THERMOCOUPLE/TRIP COIL TCB TIE CIRCUIT BREAKER TE THERMAL ELEMENT TEFC TOTALLY ENCLOSED, FAN COOLED TEL TELEPHONE TEMP TEMPERATURE/TEMPORARY TENV TOTALLY ENCLOSED, NON-VENTILATED THD THREAD/THREADED THK THICK TINN TINNED TL TANGENT LENGTH TO TURNOUT TOF TOP OF FOOTING TOS TOP OF STEEL TOT TOTAL TOW TOP OF WALL TP TELEPHONE POLE TR TREAD/TELEPHONE RISER TRA TIE ROD ASSEMBLY TS TUBE STEEL/THICKENED SLUDGE TSP TWISTED SHIELDED PAIR TST TWISTED SHIELDED TRIAD TYP TYPICAL	<b>U</b> UCTV UNDERDRAIN CABLE TELEVISION UD UNDERDRAIN UCE UNDERGROUND ELECTRIC UGND UNDERGROUND UGP UNDERGROUND POWER CABLE/CONDUIT UGT UNDERGROUND TELEPHONE UL UNDERWRITERS' LABORATORIES, INC. ULT ULTIMATE UNG UNDERGROUND UN UNLESS OTHERWISE NOTED UPS UNINTERRUPTIBLE POWER SYSTEM USC&GS UNITED STATES COASTAL & GEODETIC SURVEY UTC UNDERGROUND TELEPHONE CABLE	<b>V</b> VAC VENT/VALVE/VOLT VAR VARIES/VARIABLE VC VERTICAL CURVE /VTRIFIED CLAY VCP VTRIFIED CLAY PIPE VEL VELOCITY VERT VERTICAL VFD VARIABLE FREQUENCY DRIVE VPC VERTICAL POINT OF CURVE VPI VERTICAL POINT OF INTERSECTION VPT VERTICAL POINT OF TANGENCY VTR VENT THROUGH ROOF	<b>W</b> W WEST/WIDTH/WATT/WATER /WIDE/WHITE/WIRE WITH WITH W/O WITHOUT WC WATER COLUMN/WATER CLOSET WCO WALL CLEANOUT WDF WOOD FENCE WF WIDE FLANGE WG WATER GAUGE WHC WELDED HALF COUPLING WL WATER LINE WLP WOODEN LIGHT POLE WM WATER MAIN/WATER METER/WIRE MESH WATERPROOF/WEATHER PROOF/WORKING POINT WATT METER WPP WOODEN POWER POLE WS WATER SURFACE/WEATHER SERVICE WSE WATER SURFACE ELEVATION WSP WELDED STEEL PIPE/WATER STOP WT WEIGHT/WATER TABLE WTP WOOD TELEPHONE POLE WV WATER VALVE WWF WELDED WIRE FABRIC WWW WELDED WIRE MESH	<b>X</b> XFMR COORDINATE DISTANCE (EAST-WEST)/CROSS TRANSFORMER XMR TRANSMITTER X-SEC CROSS SECTION	<b>Y</b> YD COORDINATE DISTANCE (NORTH-SOUTH) YARD
--	---	--	---	--	---	---	---	--	--	--	--	--	--	--	--	---	--	---	---	---	--	---	--

DESIGNED BY	JRR	PROJECT ENGINEER	DAWN M. JAKIELA, P.E.
DRAWN BY	MPL	REG NUMBER	75034
CHECKED BY	DMJ	PROJECT NUMBER	60289240
DATE	DEC 2013		

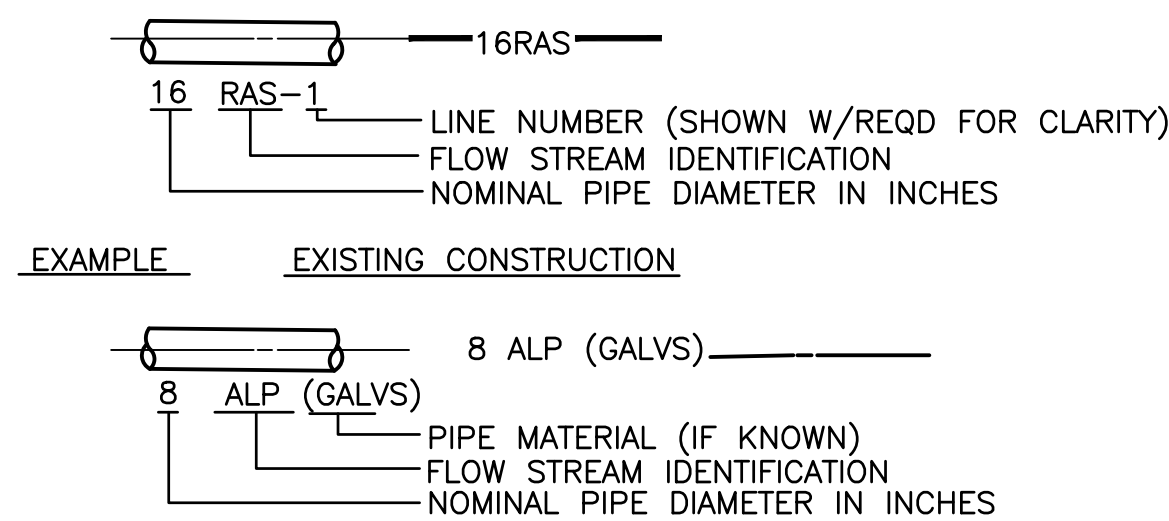
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CITY OF NAPLES PORT ROYAL PUMP STATION		DRAWING <b>G-003</b>
ABBREVIATIONS		SHEET <b>3</b>
		OF - SHEETS

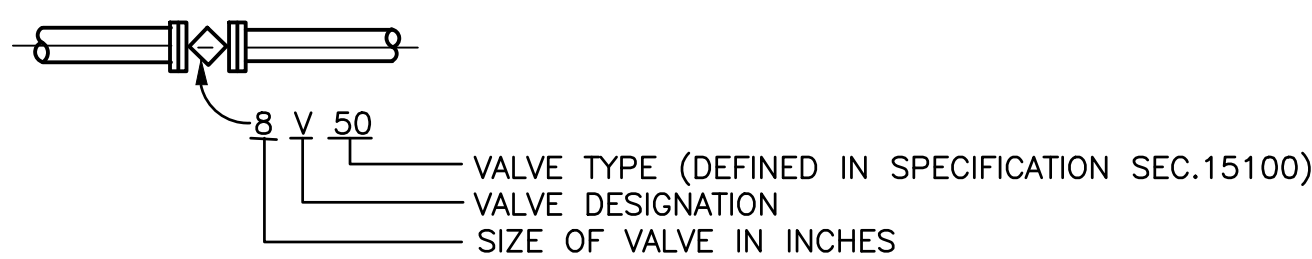
PUMP STATION CONSTRUCTION

CIVIL CONSTRUCTION

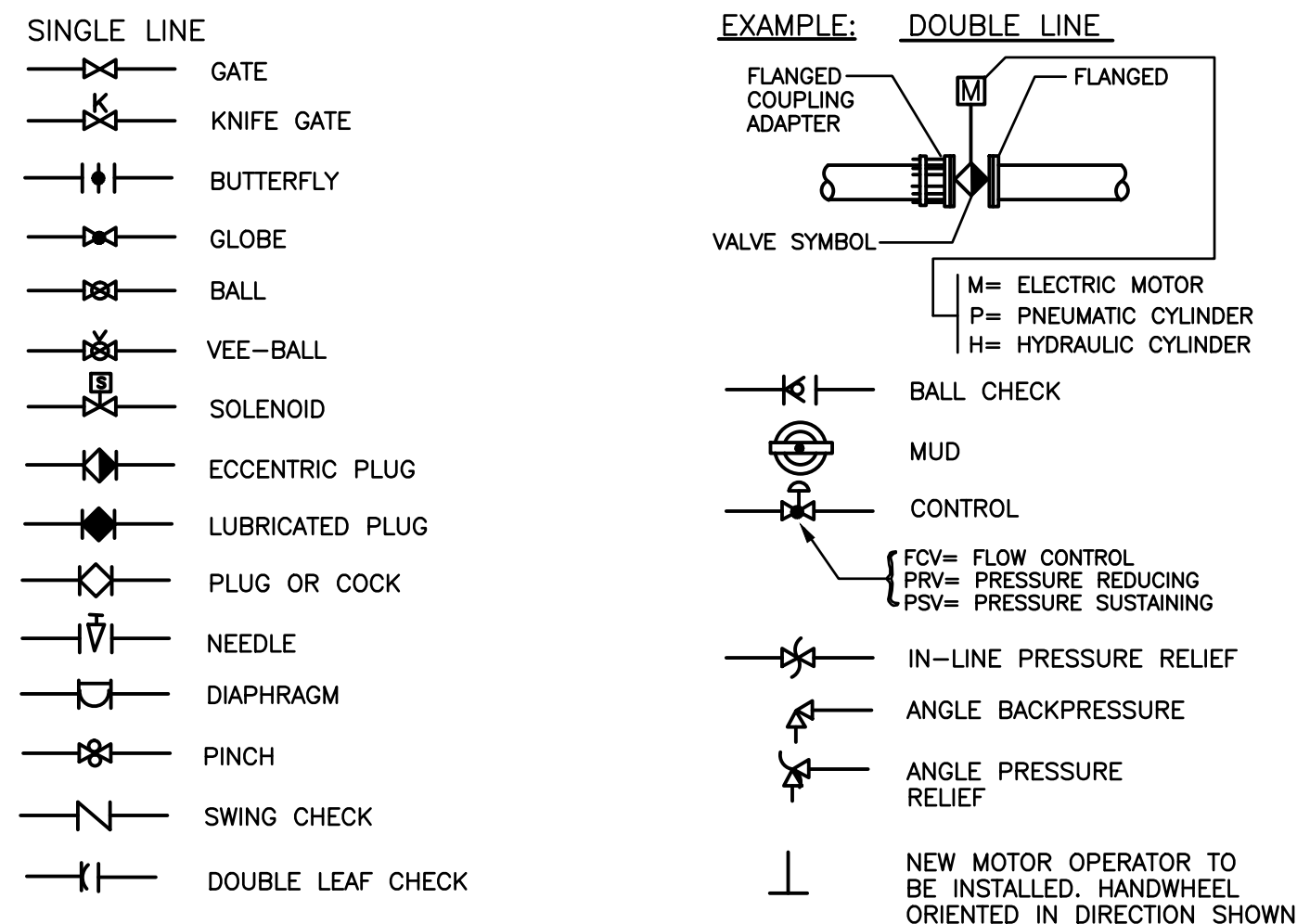
PIPING DESIGNATIONS



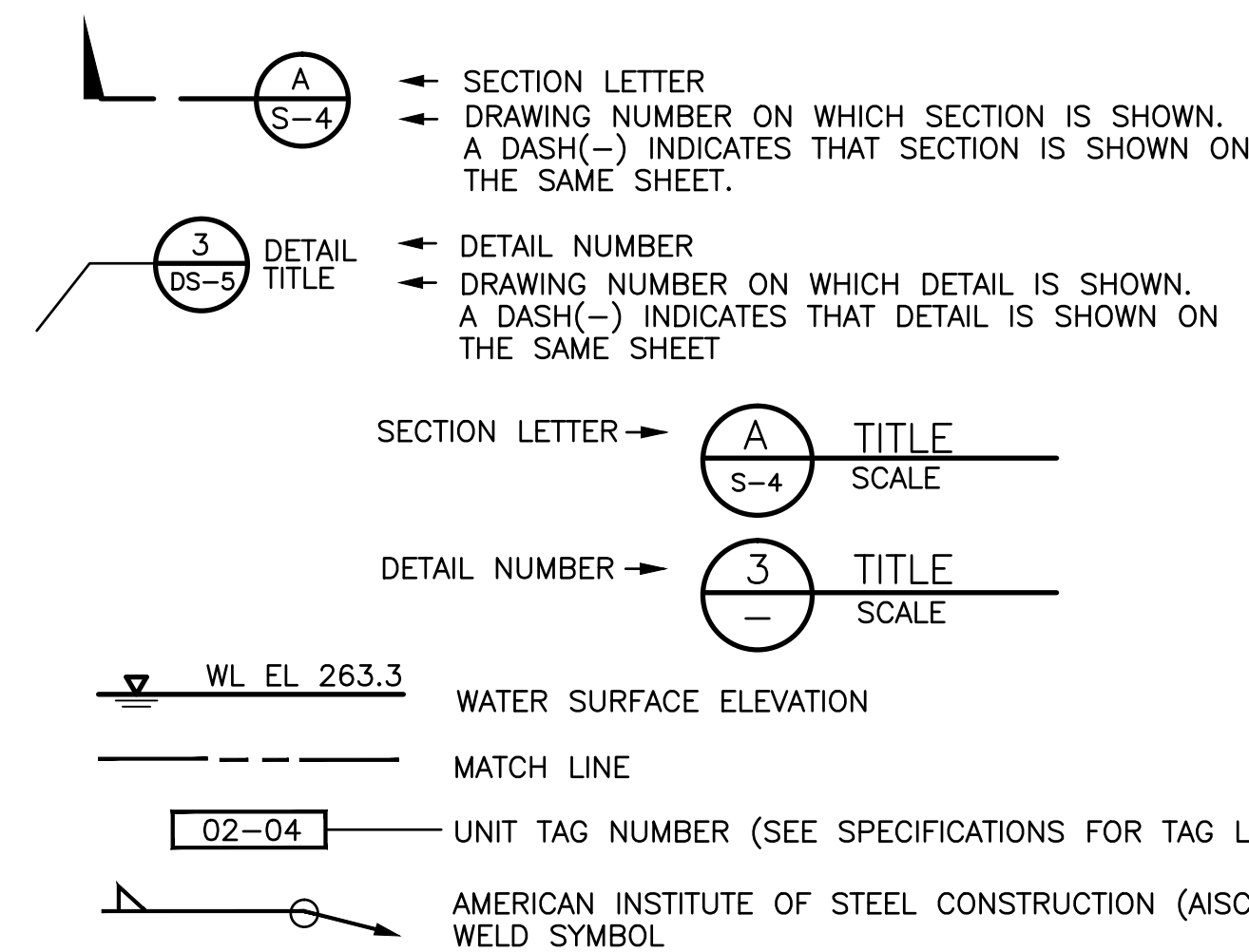
VALVE DESIGNATIONS



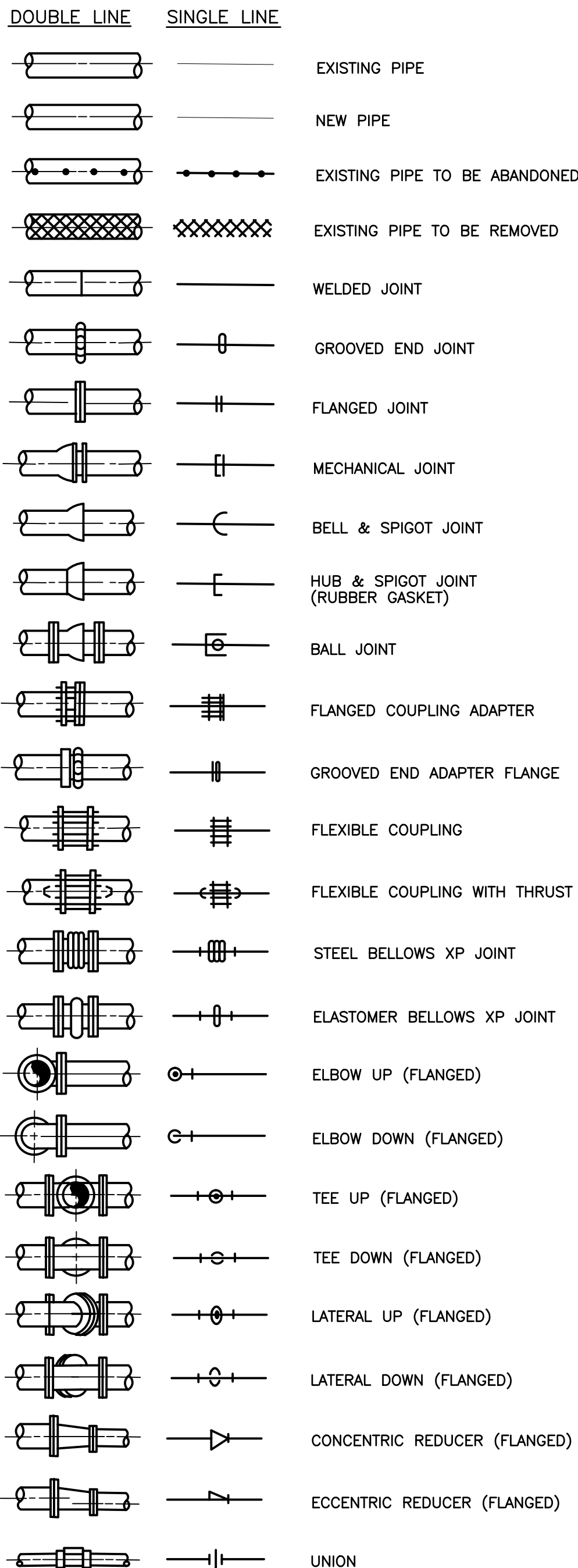
VALVE SYMBOLS



DRAFTING LEGEND

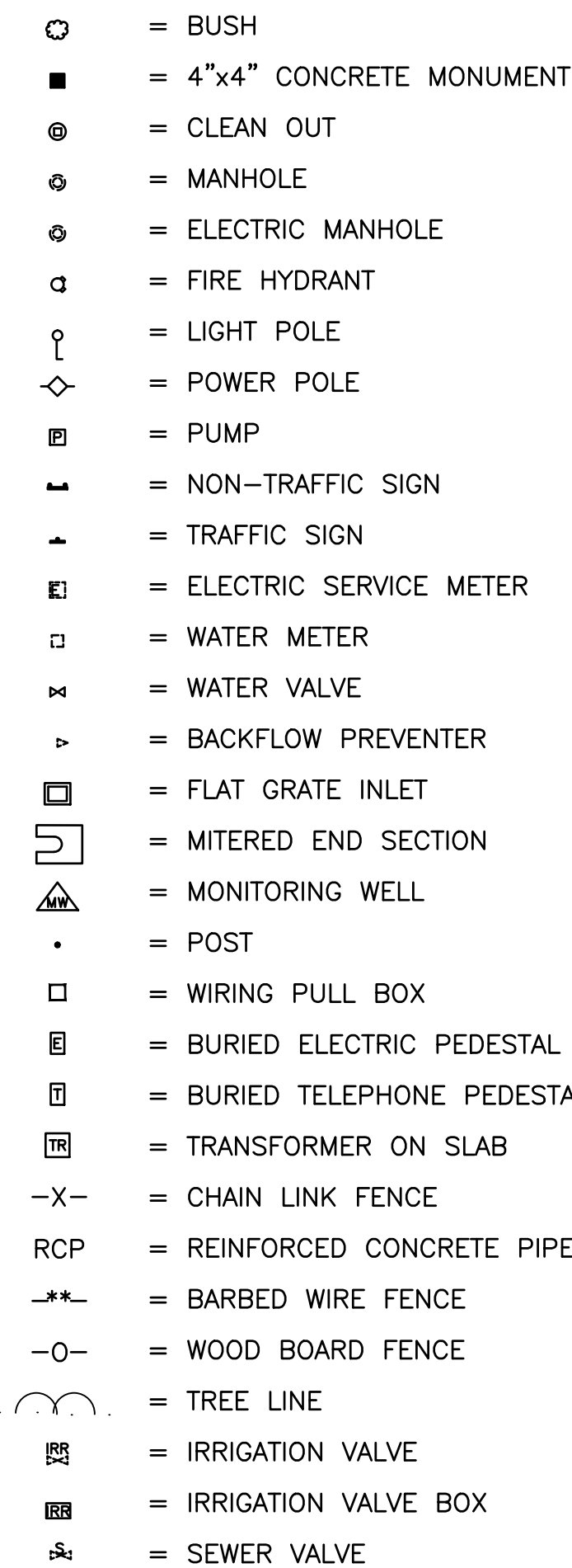


PIPE AND FITTING SYSTEM

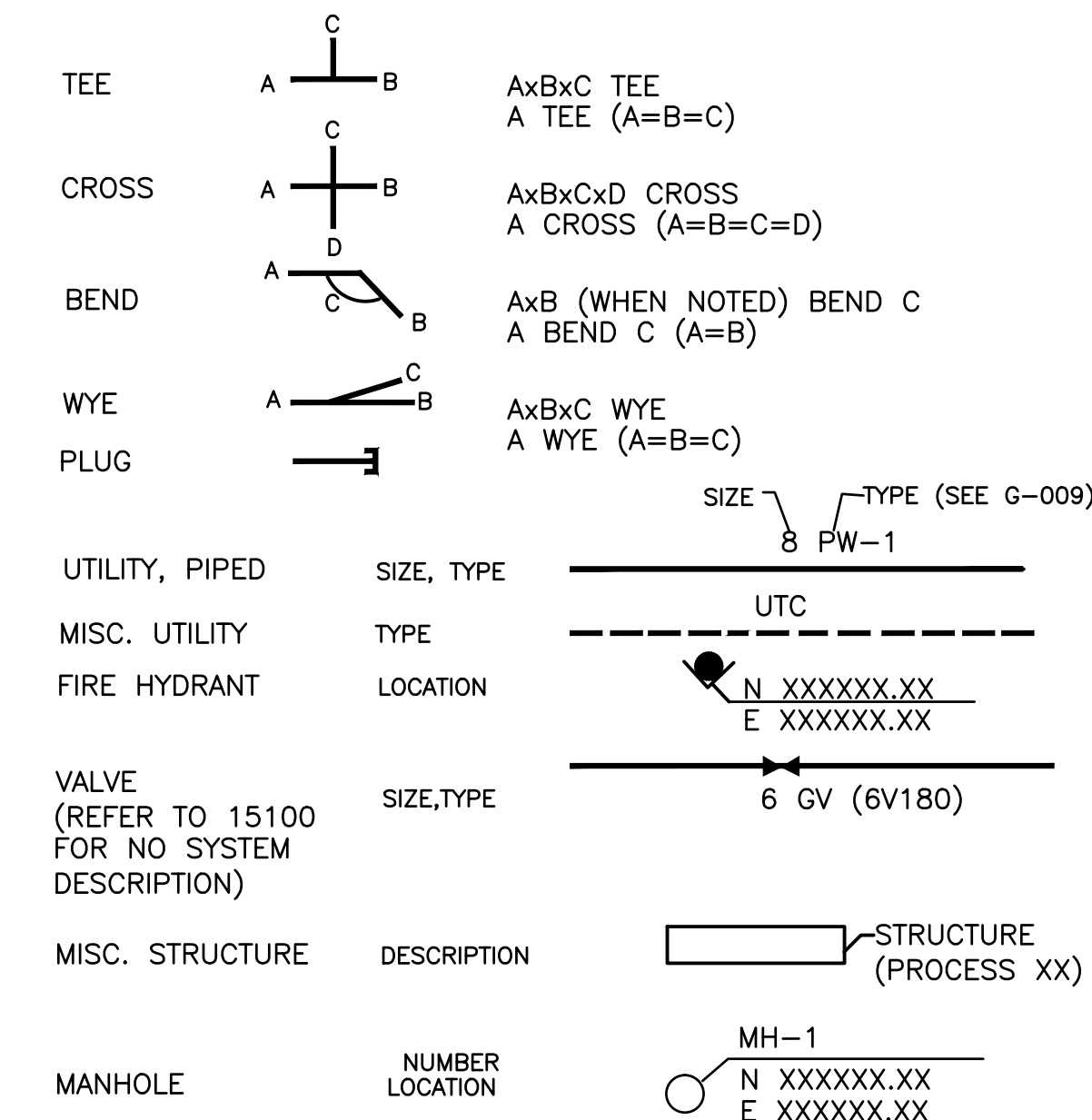


NOTES:  
 1. FLANGED FITTINGS ARE SHOWN IN THIS LEGEND. REFER TO THE DRAWINGS AND SPECIFICATIONS FOR REQUIRED END CONNECTIONS.  
 2. MATCH THE DIAMETER OF THE FITTING'S END CONNECTIONS TO THE DIAMETER OF THE CONNECTING PIPE, FITTINGS OR VALVES.  
 3. THE SIZE AND TYPE OF FITTINGS MAY BE INDICATED ON THE DRAWINGS. USE THIS LEGEND UNLESS OTHERWISE SHOWN ON THE DRAWINGS.

EXISTING



NEW



DWG: X:\City of Naples\60289240-Port Royal and Public Works Pump Stations\000 CAD\Per\_L\_Royal\Sheets\G-G-004.dwg Layout Name: G-004 - Plotted by: Reed, John Date: 12/11/2013 3:53 PM  
 AREAS: G-EB

DESIGNED BY JRR	PROJECT ENGINEER DAWN M. JAKIELA, P.E.
DRAWN BY MPL	REG NUMBER 75034
CHECKED BY DMJ	PROJECT NUMBER 60289240
DATE DEC 2013	

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CITY OF NAPLES PORT ROYAL PUMP STATION		DRAWING G-004
DRAFTING LEGEND		SHEET 4
		OF - SHEETS

**PROCESS PIPING SCHEDULE**

SYSTEM DESIGN CONDITIONS					PIPING					VALVING			TEST REQUIREMENTS				SPECS. SECTION NUMBER	PIPE COLOR (PER AWWA)	REMARKS	
LEGEND	SYSTEM	TEMP. (DEG. F)		PRESSURE (PSI)		MATERIAL	DIAMETER RANGE	SCH./CLASS	LINING/COATING (SPEC)	JOINT TYPE	BLOCK	CHECK	THROTTLING	PRESSURE (PSI)	MEDIUM	TEST DURATION (SPEC)				LEAKAGE ALLOWANCE (SPEC)
		OPER.	MAX.	WORK.	MAX.															
STS-1	STORM WATER	75	90	50	125	HDPE	8-12"	DR 11	---	FUSION/FLANGED/MJ	---	---	---	125	WATER	400515	400515	402097	BLACK	NOTES 1, 3, 4, 6
RW-1	RECLAIMED WATER	75	90	50	125	HDPE	1-2"	DR 11	---	FUSION/THREADED	---	---	---	125	WATER	400515	400515	402097	PURPLE	NOTES 1, 2, 3, 4

**PROCESS PUMP SCHEDULE**

TAG NO.	NUMBER OF UNITS	NAME	TYPE	RATING POINT				MIN. SUCTION/DISCHARGE SIZE (IN.)	PUMP RPM MAX.	SEAL TYPE	MOTOR DATA				DRIVE TYPE	SPEC. SECTION	BASIS OF DESIGN	REMARKS
				CAPACITY (GPM)	HEAD (FEET)	MIN. EFF. %	SHUTOFF HEAD FT.				HP	VOLTAGE	RPM (MAX.)	ENCL. TYPE				
P-1, P-2, & P-3	3	MAIN PUMP	SUBMERSIBLE	2,500	16	60	31	- / 10	1160	SEE SPEC	14	460	1160	SUB	VFD	432140	FLYGT CP3152	

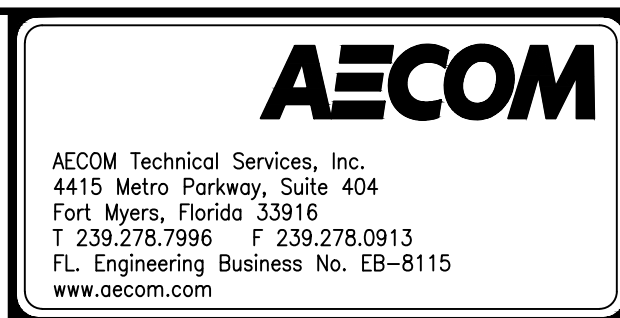
**NOTES:**

- TEST PIPING IN ACCORDANCE WITH SPEC SECTION 400515, UNLESS OTHERWISE NOTED.
- LABEL PIPING IN ACCORDANCE SPEC SECTION 400775.
- ALL PIPING IS TO HAVE A CONSTANT SLOPE BETWEEN THE INVERT OR CENTERLINE SHOWN ON THE DRAWINGS.
- ALL BURIED JOINTS ARE TO BE MECHANICALLY RESTRAINED UNLESS OTHERWISE NOTED.
- COORDINATE CONNECTIONS AND ELEVATIONS AT STRUCTURES WITH PROCESS AND STRUCTURAL DRAWINGS.
- PROVIDE MINIMUM SEPARATION OF PIPING AS IDENTIFIED ON DETAIL 3, DRAWING C-501.
- PROVIDE COATING SYSTEM PER SPEC SECTION 099000, UNLESS OTHERWISE NOTED.
- DO NOT COAT STAINLESS STEEL PIPE.

DWG: X:\City of Naples\60289240-Port Royal and Public Works Pump Stations\000 CAD\PerL\Royal\Sheets\G-G-005.dwg Layout Name: G-005 - Plotted by: Reed, John Date: 12/11/2013 - 3:53 PM

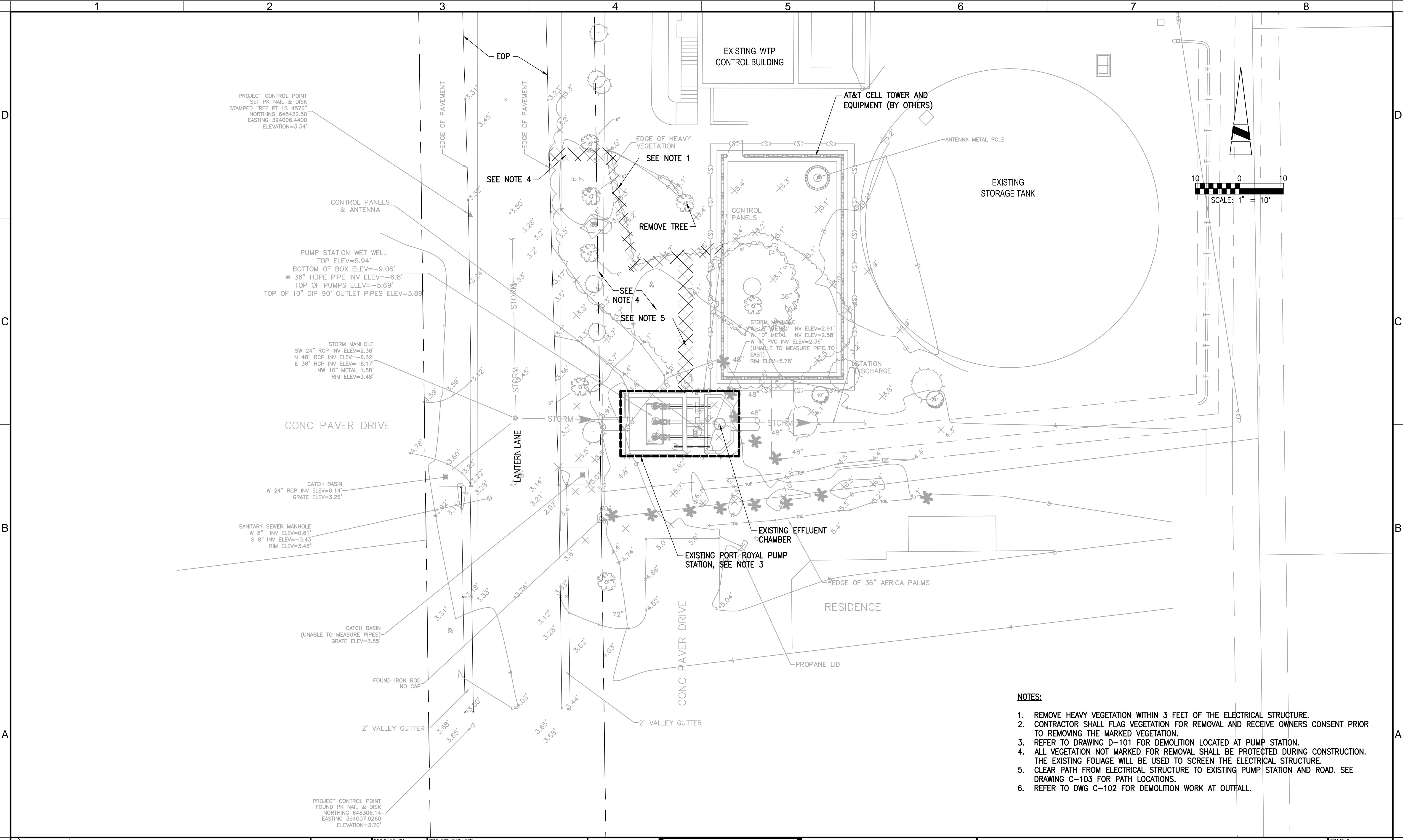
REV	DATE	DESCRIPTION	APPR

DESIGNED BY <b>JRR</b>	PROJECT ENGINEER <b>DAWN M. JAKIELA, P.E.</b>
DRAWN BY <b>MPL</b>	REG NUMBER <b>75034</b>
CHECKED BY <b>DMJ</b>	PROJECT NUMBER <b>60289240</b>
DATE <b>DEC 2013</b>	



CITY OF NAPLES PORT ROYAL PUMP STATION		DRAWING <b>G-005</b>
EQUIPMENT SCHEDULE		SHEET <b>5</b> OF -- SHEETS

DWG: X:\City of Naples\60289240-Port Royal and Public Works Pump Stations\000 CAD\Per\_LRoyol\Sheets\C-C-101.dwg Layout Name: C-101 - Plotted by: Reed, John Date: 12/11/2013 - 3:53 PM  
 AREA: C-BD - C-3F-068-001 - D-AP-PUMP\_STATION - PORT ROYAL PUMP - CAD IMAGES.



- NOTES:**
1. REMOVE HEAVY VEGETATION WITHIN 3 FEET OF THE ELECTRICAL STRUCTURE.
  2. CONTRACTOR SHALL FLAG VEGETATION FOR REMOVAL AND RECEIVE OWNERS CONSENT PRIOR TO REMOVING THE MARKED VEGETATION.
  3. REFER TO DRAWING D-101 FOR DEMOLITION LOCATED AT PUMP STATION.
  4. ALL VEGETATION NOT MARKED FOR REMOVAL SHALL BE PROTECTED DURING CONSTRUCTION. THE EXISTING FOLIAGE WILL BE USED TO SCREEN THE ELECTRICAL STRUCTURE.
  5. CLEAR PATH FROM ELECTRICAL STRUCTURE TO EXISTING PUMP STATION AND ROAD. SEE DRAWING C-103 FOR PATH LOCATIONS.
  6. REFER TO DWG C-102 FOR DEMOLITION WORK AT OUTFALL.

REV	DATE	DESCRIPTION	APPR

<b>VERIFY SCALES</b> BAR IS ONE INCH ON ORIGINAL DRAWING IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY	DESIGNED BY <b>JRR</b>	PROJECT ENGINEER <b>DAWN M. JAKIELA, P.E.</b>
	DRAWN BY <b>MPL</b>	REG NUMBER <b>75034</b>
	CHECKED BY <b>DMJ</b>	PROJECT NUMBER <b>60289240</b>
	DATE <b>DEC 2013</b>	

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CITY OF NAPLES PORT ROYAL PUMP STATION		DRAWING <b>C-101</b>
<b>EXISTING SITE PLAN PUMP STATION          AND DEMOLITION PLAN</b>		SHEET <b>6</b> OF -- SHEETS

1 2 3 4 5 6 7 8

D

D

C

C

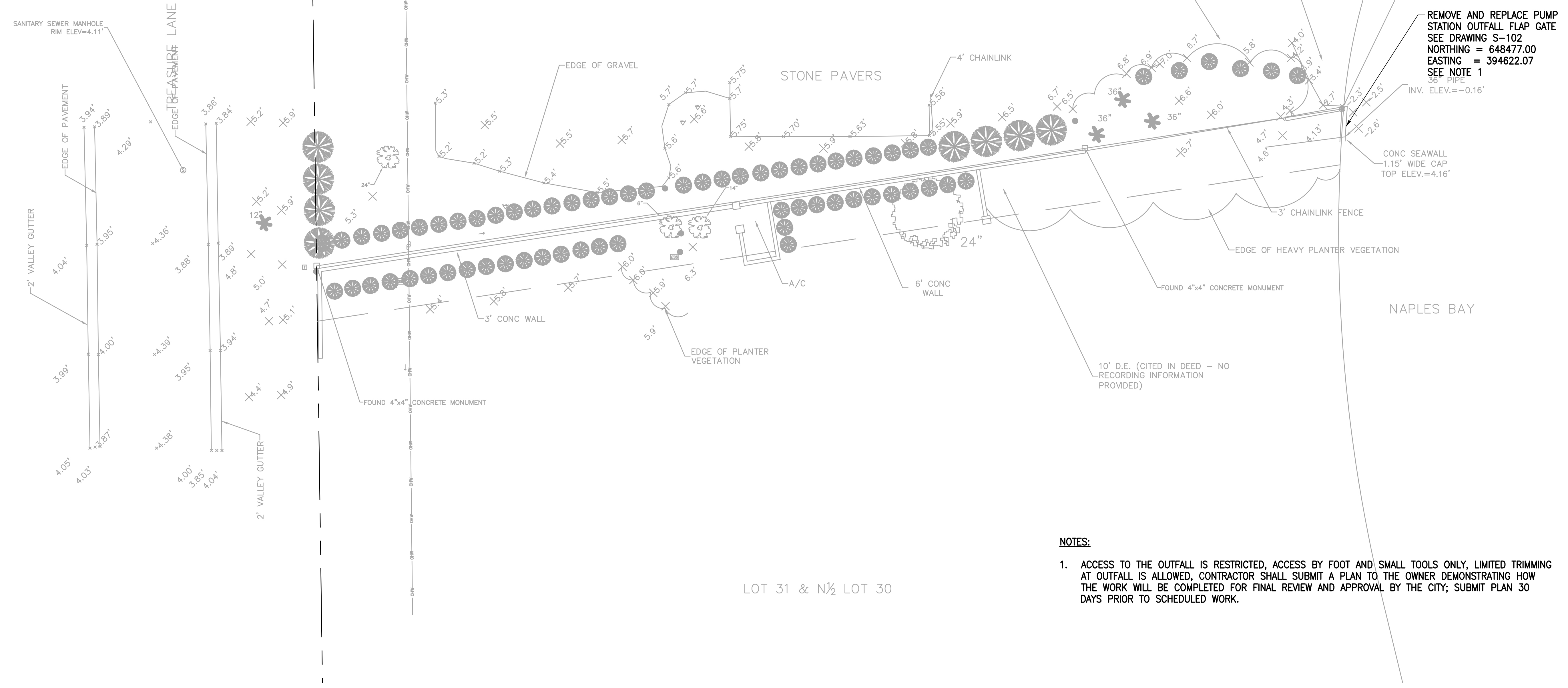
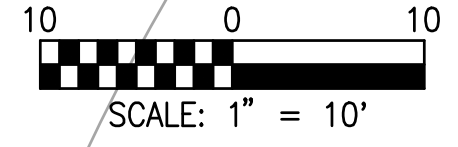
B

B

A

A

PROJECT CONTROL POINT  
SET PK NAIL & DISK  
STAMPED "EF GAINES REF PT LS 4576"  
NORTHING 648543.89  
EASTING 394413.0110  
ELEVATION=3.71'



- NOTES:**
- ACCESS TO THE OUTFALL IS RESTRICTED, ACCESS BY FOOT AND SMALL TOOLS ONLY, LIMITED TRIMMING AT OUTFALL IS ALLOWED, CONTRACTOR SHALL SUBMIT A PLAN TO THE OWNER DEMONSTRATING HOW THE WORK WILL BE COMPLETED FOR FINAL REVIEW AND APPROVAL BY THE CITY; SUBMIT PLAN 30 DAYS PRIOR TO SCHEDULED WORK.

DWG: X:\City of Naples\60289240-Fort Royal and Public Works Pump Stations\000 C40\PerLroyal\Sheets\C-C-102.dwg Layout Name: C-102 - Plotted by: Reed, John Date: 12/11/2013 - 3:53 PM  
 ARCS: G-BD - C-3F-069-001 BMCS:

REV	DATE	DESCRIPTION	APPR

<b>VERIFY SCALES</b> BAR IS ONE INCH ON ORIGINAL DRAWING  IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY	DESIGNED BY <b>JRR</b>	PROJECT ENGINEER <b>DAWN M. JAKIELA, P.E.</b>
	DRAWN BY <b>MPL</b>	REG NUMBER <b>75034</b>
	CHECKED BY <b>DMJ</b>	PROJECT NUMBER <b>60289240</b>
	DATE <b>DEC 2013</b>	

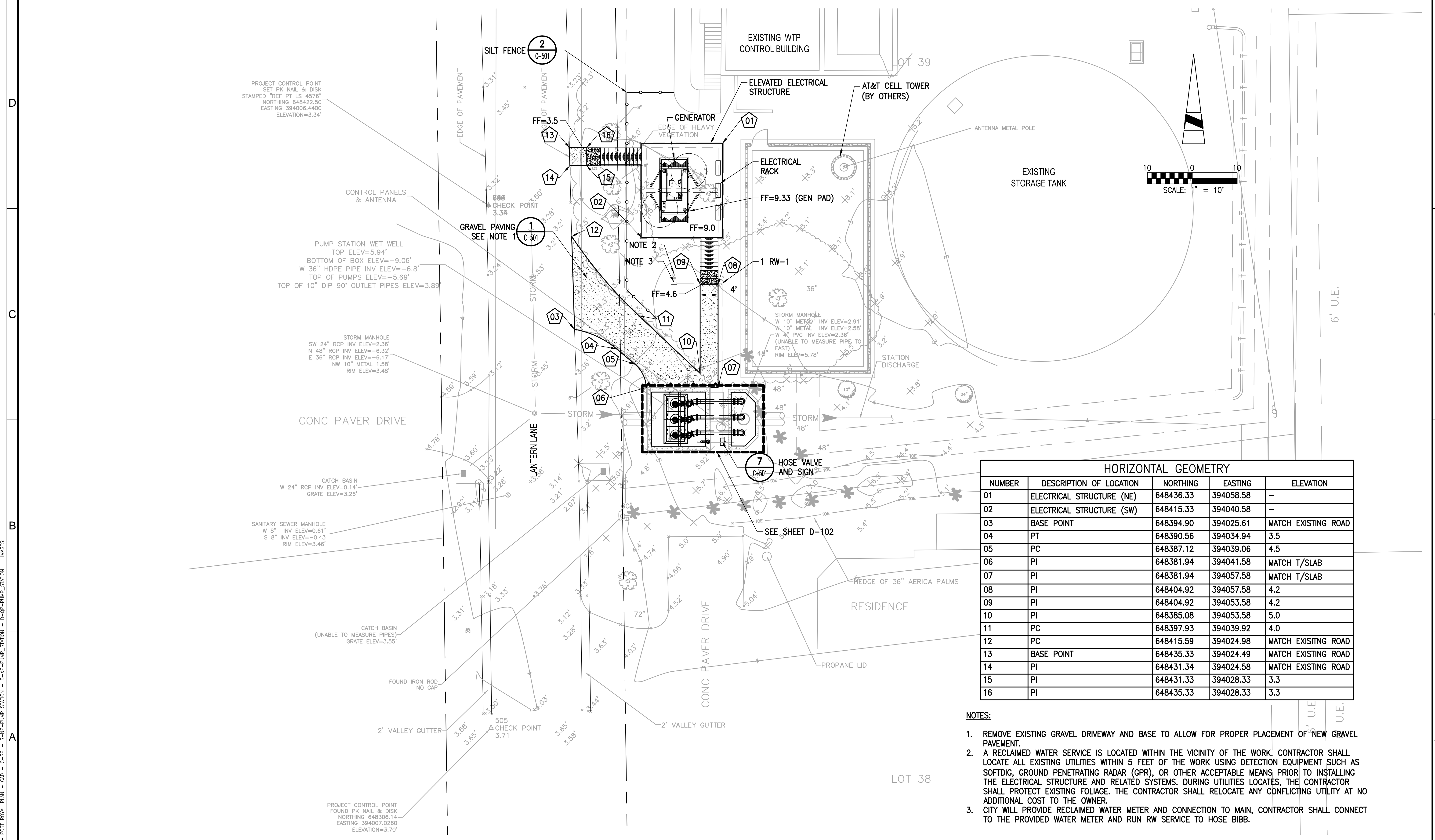
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CITY OF NAPLES PORT ROYAL PUMP STATION EXISTING SITE PLAN PUMP STATION OUTFALL	DRAWING <b>C-102</b>
	SHEET <b>7</b> OF - SHEETS

1 2 3 4 5 6 7 8

1 2 3 4 5 6 7 8



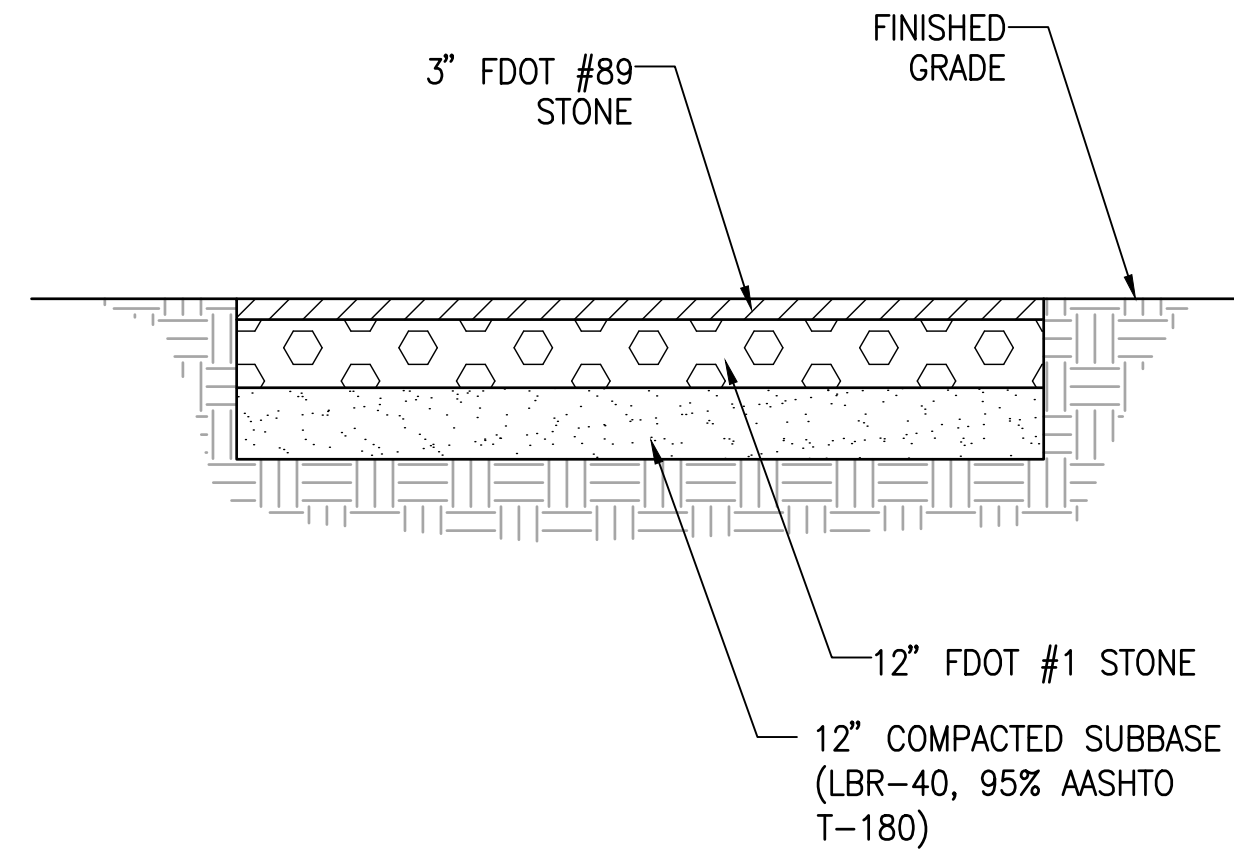
HORIZONTAL GEOMETRY				
NUMBER	DESCRIPTION OF LOCATION	NORTHING	EASTING	ELEVATION
01	ELECTRICAL STRUCTURE (NE)	648436.33	394058.58	-
02	ELECTRICAL STRUCTURE (SW)	648415.33	394040.58	-
03	BASE POINT	648394.90	394025.61	MATCH EXISTING ROAD
04	PT	648390.56	394034.94	3.5
05	PC	648387.12	394039.06	4.5
06	PI	648381.94	394041.58	MATCH T/SLAB
07	PI	648381.94	394057.58	MATCH T/SLAB
08	PI	648404.92	394057.58	4.2
09	PI	648404.92	394053.58	4.2
10	PI	648385.08	394053.58	5.0
11	PC	648397.93	394039.92	4.0
12	PC	648415.59	394024.98	MATCH EXISTING ROAD
13	BASE POINT	648435.33	394024.49	MATCH EXISTING ROAD
14	PI	648431.34	394024.58	MATCH EXISTING ROAD
15	PI	648431.33	394028.33	3.3
16	PI	648435.33	394028.33	3.3

- NOTES:**
- REMOVE EXISTING GRAVEL DRIVEWAY AND BASE TO ALLOW FOR PROPER PLACEMENT OF NEW GRAVEL PAVEMENT.
  - A RECLAIMED WATER SERVICE IS LOCATED WITHIN THE VICINITY OF THE WORK. CONTRACTOR SHALL LOCATE ALL EXISTING UTILITIES WITHIN 5 FEET OF THE WORK USING DETECTION EQUIPMENT SUCH AS SOFTDIG, GROUND PENETRATING RADAR (GPR), OR OTHER ACCEPTABLE MEANS PRIOR TO INSTALLING THE ELECTRICAL STRUCTURE AND RELATED SYSTEMS. DURING UTILITIES LOCATES, THE CONTRACTOR SHALL PROTECT EXISTING FOLIAGE. THE CONTRACTOR SHALL RELOCATE ANY CONFLICTING UTILITY AT NO ADDITIONAL COST TO THE OWNER.
  - CITY WILL PROVIDE RECLAIMED WATER METER AND CONNECTION TO MAIN, CONTRACTOR SHALL CONNECT TO THE PROVIDED WATER METER AND RUN RW SERVICE TO HOSE BIBB.

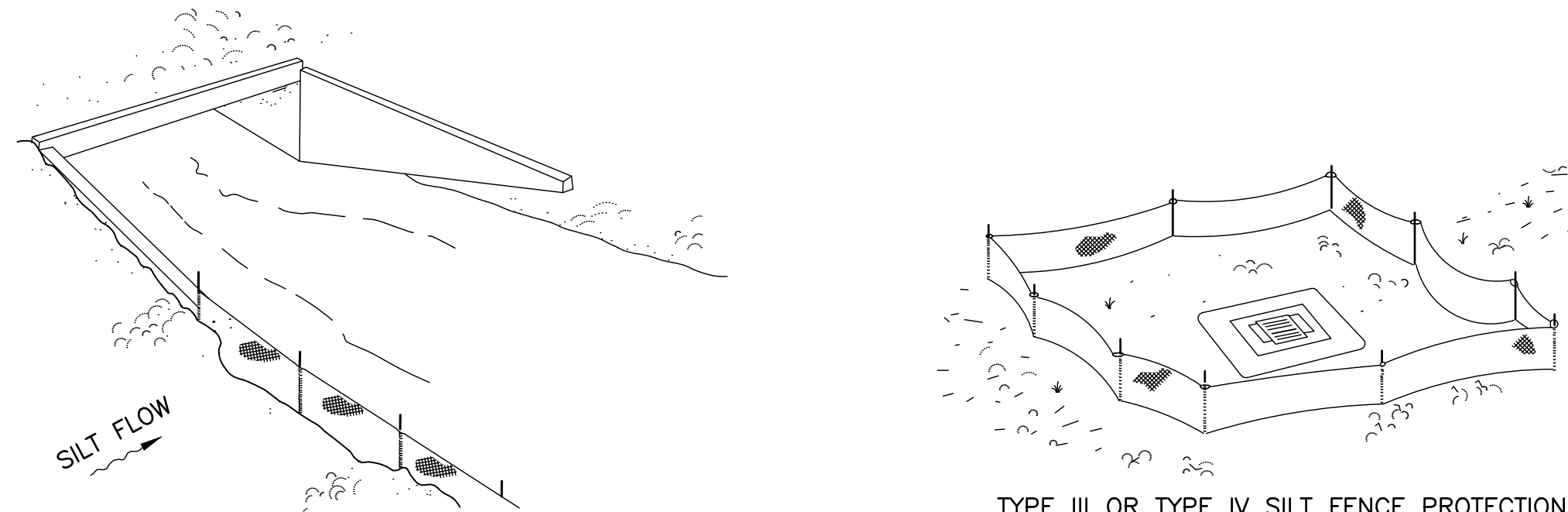
VERIFY SCALES BAR IS ONE INCH ON ORIGINAL DRAWING IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY	DESIGNED BY <b>JRR</b>	PROJECT ENGINEER <b>DAWN M. JAKIELA, P.E.</b>		CITY OF NAPLES PORT ROYAL PUMP STATION SITE PLAN	DRAWING <b>C-103</b>
	DRAWN BY <b>MPL</b>	REG NUMBER <b>75034</b>			
CHECKED BY <b>DMJ</b>	PROJECT NUMBER <b>60289240</b>	DATE <b>DEC 2013</b>	AECOM Technical Services, Inc. 4415 Metro Parkway, Suite 404 Fort Myers, Florida 33916 T 239.278.7996 F 239.278.0913 FL Engineering Business No. EB-8115 www.aecom.com	OF - SHEETS	

DWG: X:\City of Naples\60289240-Port Royal and Public Works Pump Stations\000\_CAD\Perf.Royal\Sheets\C-C-103.dwg Layout Name: C-103  
 AREAS: G-BD - C-SP-068-501 - PORT ROYAL PLAN - CAD - C-SP - SANITARY STATION - D-XP-FORM-STATION - D-CP-FORM-STATION  
 Plotted by: Reed, John Date: 12/11/2013 - 3:53 PM



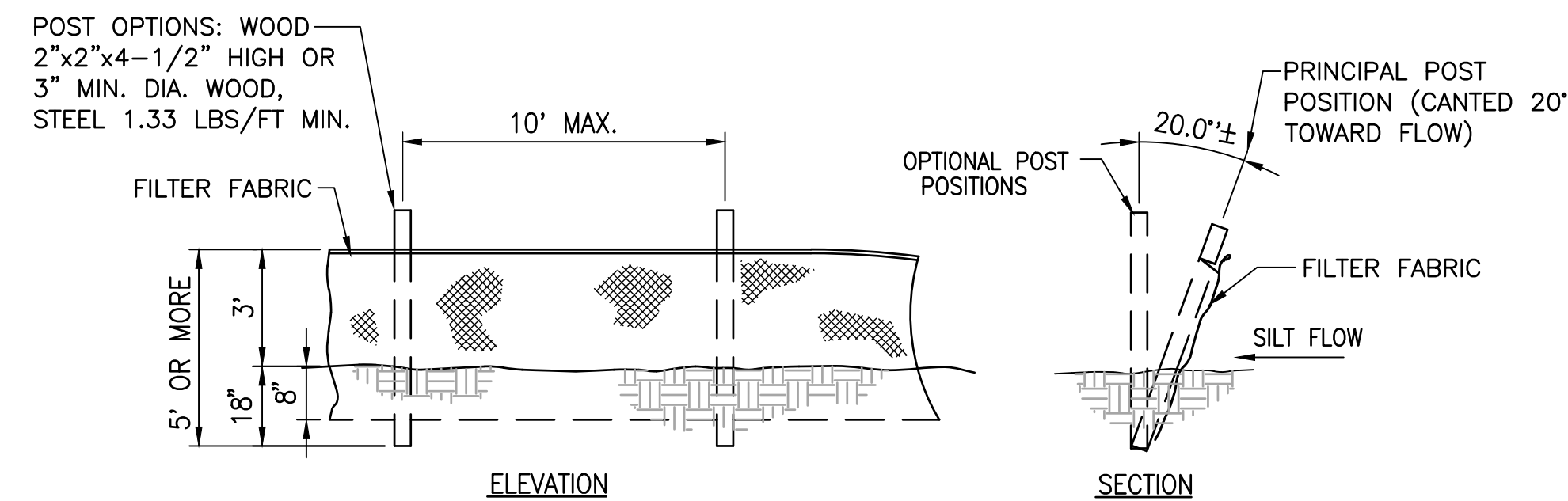


**1 GRAVEL PAVING**  
SCALE: NONE



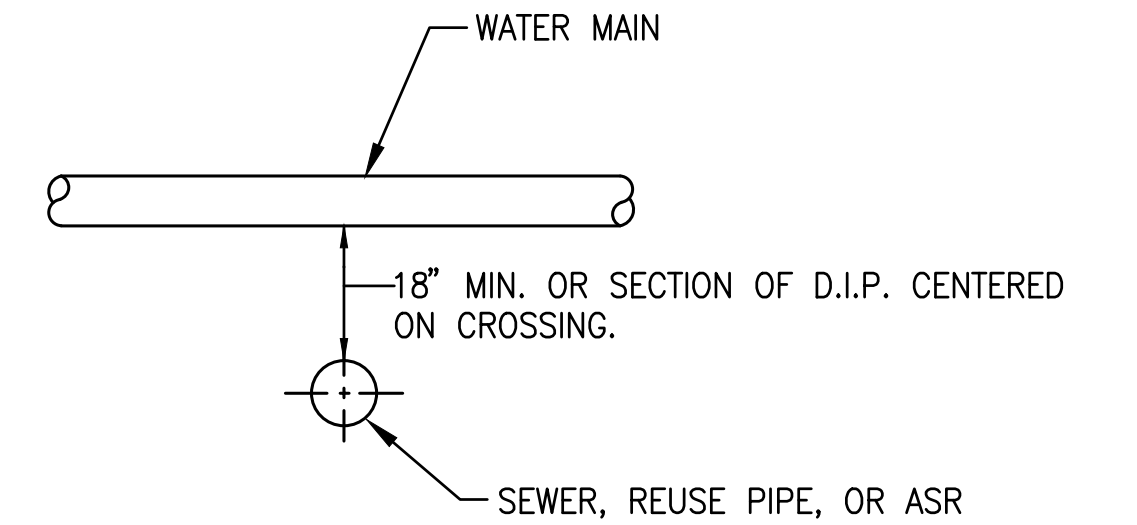
DO NOT DEPLOY IN A MANNER THAT SILT FENCES WILL ACT AS A DAM ACROSS PERMANENT FLOWING WATERCOURSES. SILT FENCES ARE TO BE USED AT UPLAND LOCATIONS AND TURBIDITY BARRIERS USED AT PERMANENT BODIES OF WATER.

**SILT FENCE APPLICATIONS**



**2 SILT FENCE**  
SCALE: NONE

**TEMPORARY EROSION CONTROL**  
CONTRACTOR TO INSTALL SILT SCREENS AROUND PERIMETER OF PROJECT AREA PRIOR TO CONSTRUCTION. ALL SILT AND EROSION SHALL BE CONFINED TO THE SITE.

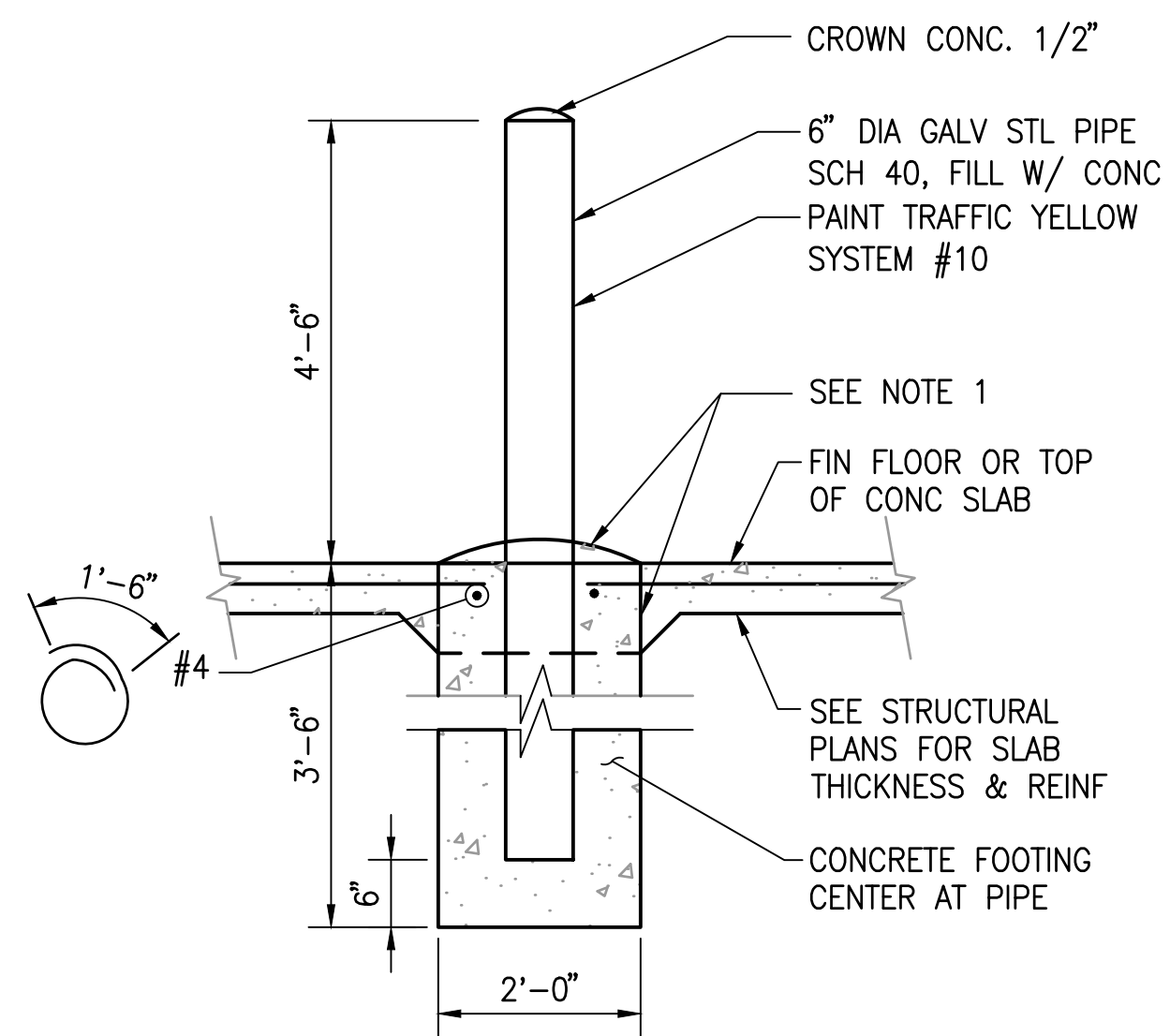


**CROSSING SECTION**

**NOTES:**

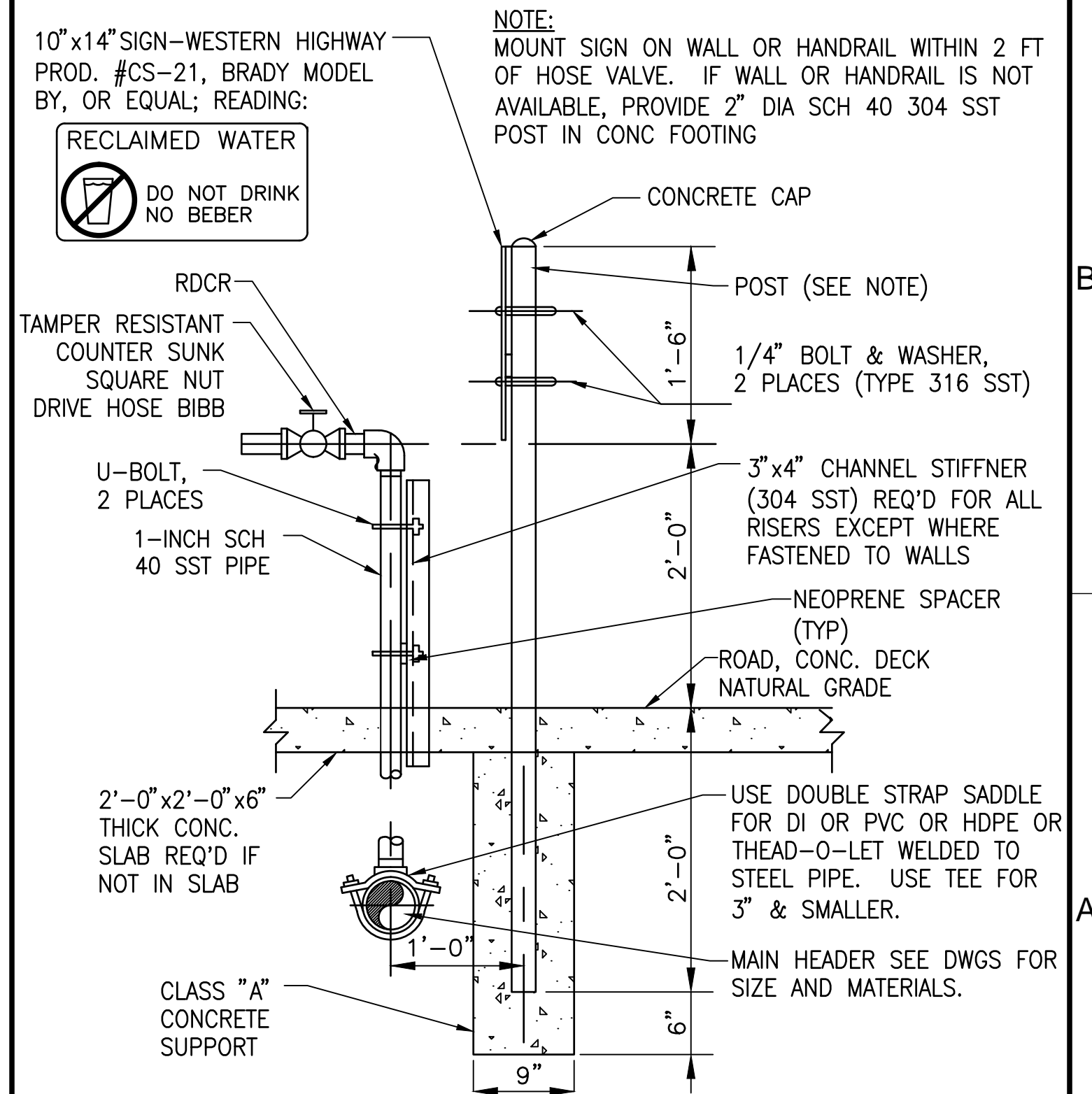
- IF WATERMAIN IS LESS THAN 18" ABOVE SEWER OR REUSE PIPE AT A CROSSING, THEN CENTER ONE JOINT OF D.I.P. ON CROSSING POINT.
- MAINTAIN 10' MINIMUM SEPARATION BETWEEN PARALLEL WATER AND SEWER PIPES. 5' BETWEEN WATER AND REUSE PIPES.
- DO NOT ENCASE SEWER IN CONCRETE UNLESS SPECIFICALLY AUTHORIZED.
- ALL PIPING SHALL CLEAR OTHER CONSTRUCTION BY 6" MINIMUM.
- DUCTILE IRON PIPE WITHIN 10' OF GAS MAIN SHALL BE POLYETHYLENE ENCASED.

**3 PIPING CLEARANCES**  
SCALE: NONE



**NOTE:**  
1. FOR BOLLARDS NOT SURROUNDED BY CONC SLAB, EXTEND FTG TO FINISH GRADE & CROWN CONC 1/2"

**4 BOLLARD**  
SCALE: NONE



**7 HOSE VALVE AND SIGN INSTALLATION**  
SCALE: NONE

DWG: X:\City of Naples\60289240-Port Royal and Public Works Pump Stations\000 CAD\PerL\Royal\Sheets\C-C-501.dwg Layout Name: C-501 - Plotted by: Reed, John Date: 12/11/2013 3:53 PM

REV	DATE	DESCRIPTION	APPR

DESIGNED BY	JRR	PROJECT ENGINEER	DAWN M. JAKIELA, P.E.
DRAWN BY	MPL	REG NUMBER	75034
CHECKED BY	DMJ	PROJECT NUMBER	60289240
DATE	DEC 2013		

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CITY OF NAPLES  
PORT ROYAL PUMP STATION

CIVIL DETAILS

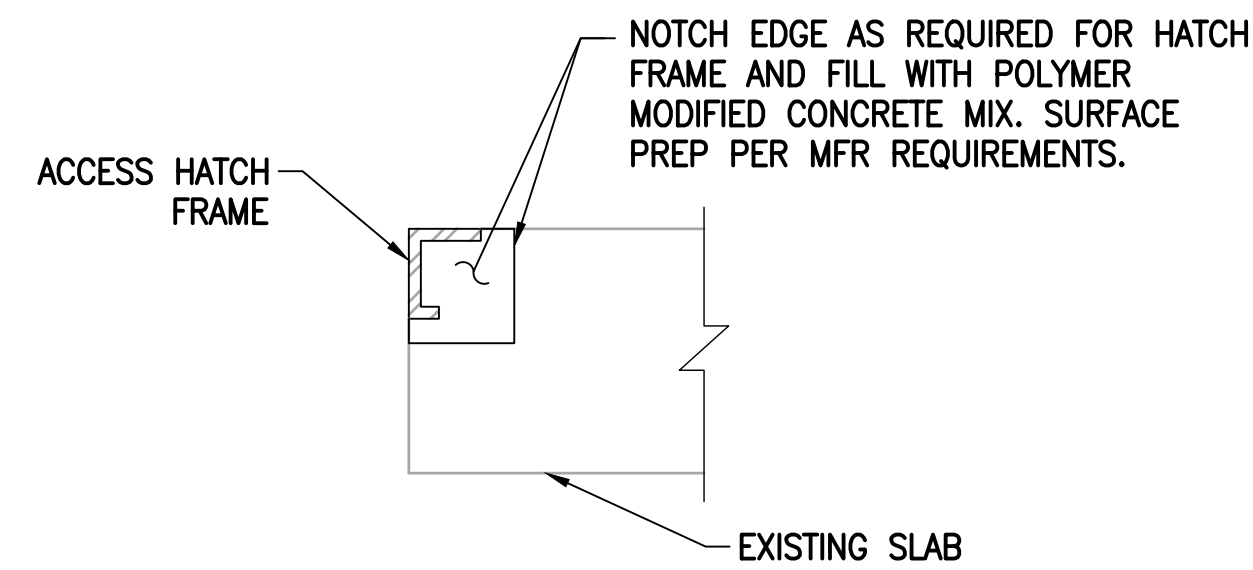
DRAWING	C-501
SHEET	9
OF SHEETS	



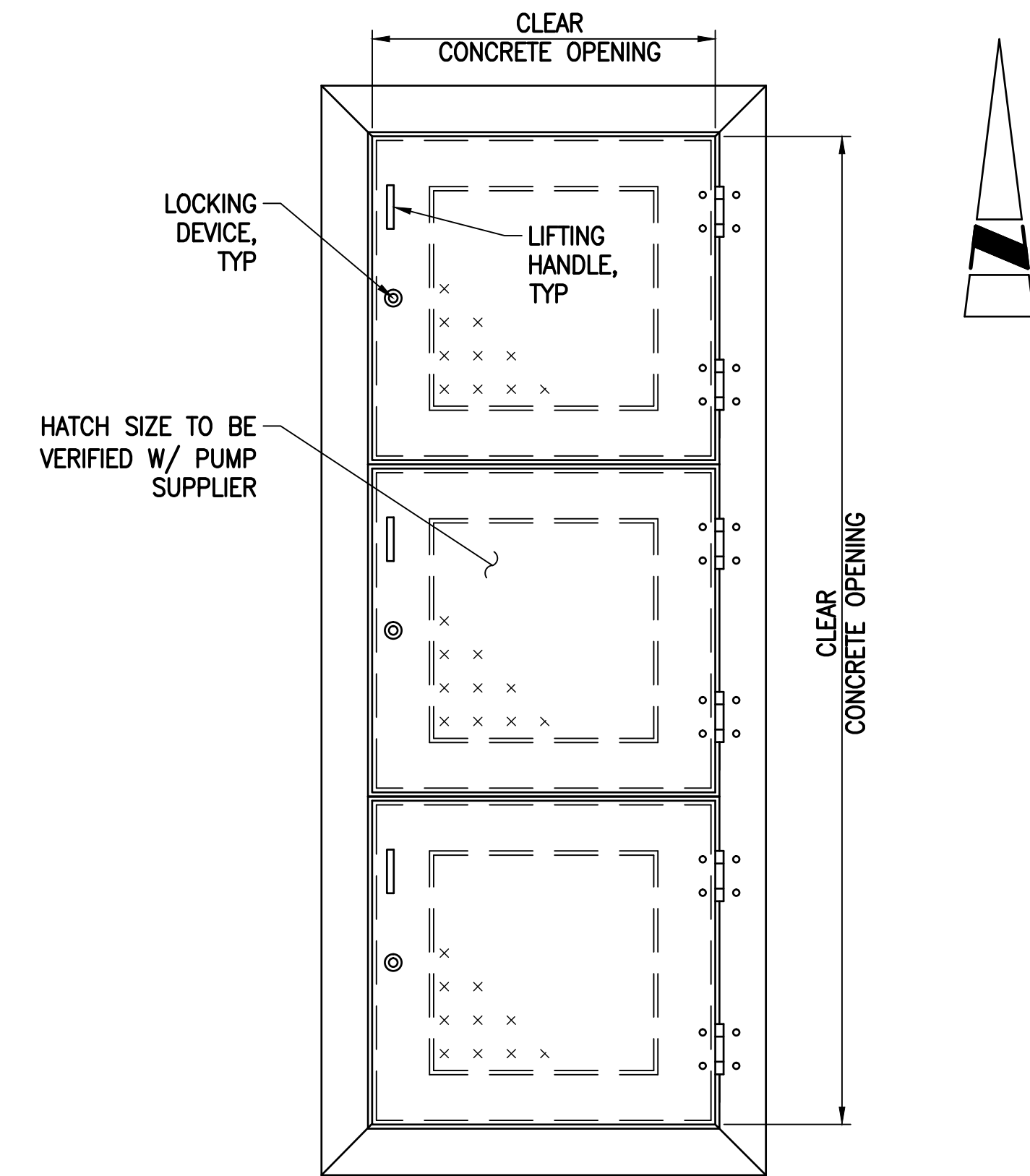
1 PHOTO  
SCALE: NONE



2 PHOTO  
SCALE: NONE



1 ACCESS HATCH FRAME REPAIR DETAIL  
SCALE: NONE



2 ACCESS HATCH DETAIL  
SCALE: NONE

**REMOVAL NOTES:**

1. REMOVE HATCH AND HATCH FRAME SHOWN IN PHOTOS 1 AND 2.
2. NOTCH AND REMOVE CONCRETE AT EDGE OF SLAB OPENING FOR NEW HATCH EMBEDDED FRAME, SEE DETAIL 1.
3. REMOVE CONCRETE ANCHORS, BOLTS, REINF AND OTHER EMBEDMENTS A MINIMUM OF 1 INCH BEYOND FINISHED SURFACE AND PATCH WITH PATCHING MORTAR TO MATCH EXISTING SURFACE.
4. FOR ENLARGING OF EXISTING HATCH OPENING SEE DWG D-102.

**GENERAL NOTES:**

1. ALUMINUM ACCESS HATCH:
  - 1.A. MANUFACTURER: HALLIDAY PRODUCTS, INC; OR EQUAL.
  - 1.B. DESIGN LIVE LOAD: 300 PSF.
  - 1.C. DOOR LEAVES SHALL BE 1/4 INCH DIAMOND PATTERN PLATE WITH REINFORCING ON UNDERSIDE TO WITHSTAND LIVE LOAD WITH MAXIMUM DEFLECTION OF L/150 OF SPAN.
  - 1.D. HATCH SHALL HAVE 3 DOORS, ALLOWING ANY ONE DOOR TO BE OPENED AT ONE TIME.
  - 1.E. ALL STAINLESS STEEL ACCESSORIES AND COMPONENTS.
  - 1.F. SPRING ASSISTED AUTOMATIC OPEN ARMS TO HOLD DOORS OPEN.
  - 1.G. DOORS SHALL HAVE RECESSED LOCKS WITH REMOVABLE KEYS.
  - 1.H. FACTORY FINISH ON ALUMINUM SURFACES SHALL BE MILL FINISH WITH COAL TAR EPOXY APPLIED TO SURFACES IN CONTACT WITH CONCRETE.
  - 1.I. MANUFACTURER SHALL WARRANTY IN WRITING AGAINST DEFECTS IN MATERIAL OR WORKMANSHIP FOR 5 YEARS.

DWS: X:\City of Naples\60289240-Fort Royal and Public Works Pump Stations\000 CAD\Per\_LRoy\Sheets\S\S-101.dwg Layout Name: S-101 - Plotted by: Reed, John Date: 12/11/2013 3:53 PM  
 AREAS: G-BD IMODES: PS Hatch 1.dwg PS Hatch 2.dwg

REV	DATE	DESCRIPTION	APPR

DESIGNED BY <b>CWA</b>	PROJECT ENGINEER <b>CLEMENT ANSON, P.E.</b>
DRAWN BY <b>MDW</b>	REG NUMBER <b>75167</b>
CHECKED BY <b>KM</b>	PROJECT NUMBER <b>60289240</b>
DATE <b>DEC 2013</b>	

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<b>CITY OF NAPLES</b> <b>PORT ROYAL PUMP STATION</b>	DRAWING <b>S-101</b>
<b>EXISTING PUMP STATION</b>	SHEET <b>10</b> OF - SHEETS



1 PHOTO  
SCALE: NONE



2 PHOTO  
SCALE: NONE

**GENERAL NOTES:**

1. REMOVE AND REPLACE EXISTING FLAP GATE, BACKING PLATE, AND CONCRETE ANCHORS SHOWN IN PHOTOS 1 AND 2 OF THE EXISTING OUTFALL STRUCTURE.
2. NEW FLAP GATE SHALL BE FOR 36" DIA RCP, FIELD VERIFY PIPE DIAMETER. PROVIDE FLAP GATE WITH 304L SST FRAME, FLAP, STIFFENERS AND HINGE ARMS; 304 SST HINGE PINS, NUTS AND BOLTS; UHMW BUSHINGS; NEOPRENE OR EPDM SEALS. MODEL 50C BY HYDRO GATE, MODEL 452 BY WHIPPS, OR EQUAL.
3. NEW BACKING PLATE SHALL BE 304 STAINLESS STEEL. MINIMUM BACKING PLATE DIMENSIONS SHALL MATCH THE EXISTING PLATE.
4. NEW CONCRETE ANCHORS SHALL BE 304 STAINLESS STEEL HILTI HIT-RE 500-SD ADHESIVE ANCHORS. QTY, SIZE AND EMBEDMENT OF CONCRETE ANCHORS SHALL BE DETERMINED BY FLAP GATE SUPPLIER. COORDINATE NEW ANCHOR LOCATIONS TO AVOID CONFLICT WITH EXISTING ANCHORS ABANDONED IN PLACE.
5. REMOVE EMBEDMENTS AND CONCRETE ANCHORS 1" BEYOND FINISHED SURFACE AND PATCH WITH PATCHING MORTAR TO MATCH EXISTING SURFACE.
6. AFTER REMOVAL OF EXISTING BACKING PLATE, REMOVE ANY DETERIORATED OR SPALLED CONCRETE TO SOUND CONCRETE AND PATCH WITH PATCHING MORTAR TO PROVIDE FLAT SURFACE FOR MOUNTING NEW BACKING PLATE. ANY EXPOSED CORRODED REINF SHALL BE CLEANED AND COATED WITH SIKA ARMATEC 110 EPOCEM IN ACCORDANCE WITH MANUFACTURER'S WRITTEN RECOMMENDATIONS.
7. FIELD VERIFY ALL DIMENSIONS AND ELEVATIONS.

DWS: X:\City of Naples\60289240-Fort Royal and Public Works Pump Stations\000 CAD\PerL\Royal\Sheets\S\S-102.dwg Layout Name: S-102 - Plotted by: Reed, John Date: 12/11/2013 - 3:53 PM  
 AREFS: 0-BD IMAGES: Flap Gate 1.rps = Flap Gate 2.rps =

REV	DATE	DESCRIPTION	APPR

**VERIFY SCALES**  
 BAR IS ONE INCH ON ORIGINAL DRAWING  
 IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

DESIGNED BY <b>CWA</b>	PROJECT ENGINEER <b>CLEMENT ANSON, P.E.</b>
DRAWN BY <b>MDW</b>	REG NUMBER <b>75167</b>
CHECKED BY <b>KM</b>	PROJECT NUMBER <b>60289240</b>
DATE <b>DEC 2013</b>	

**AECOM**

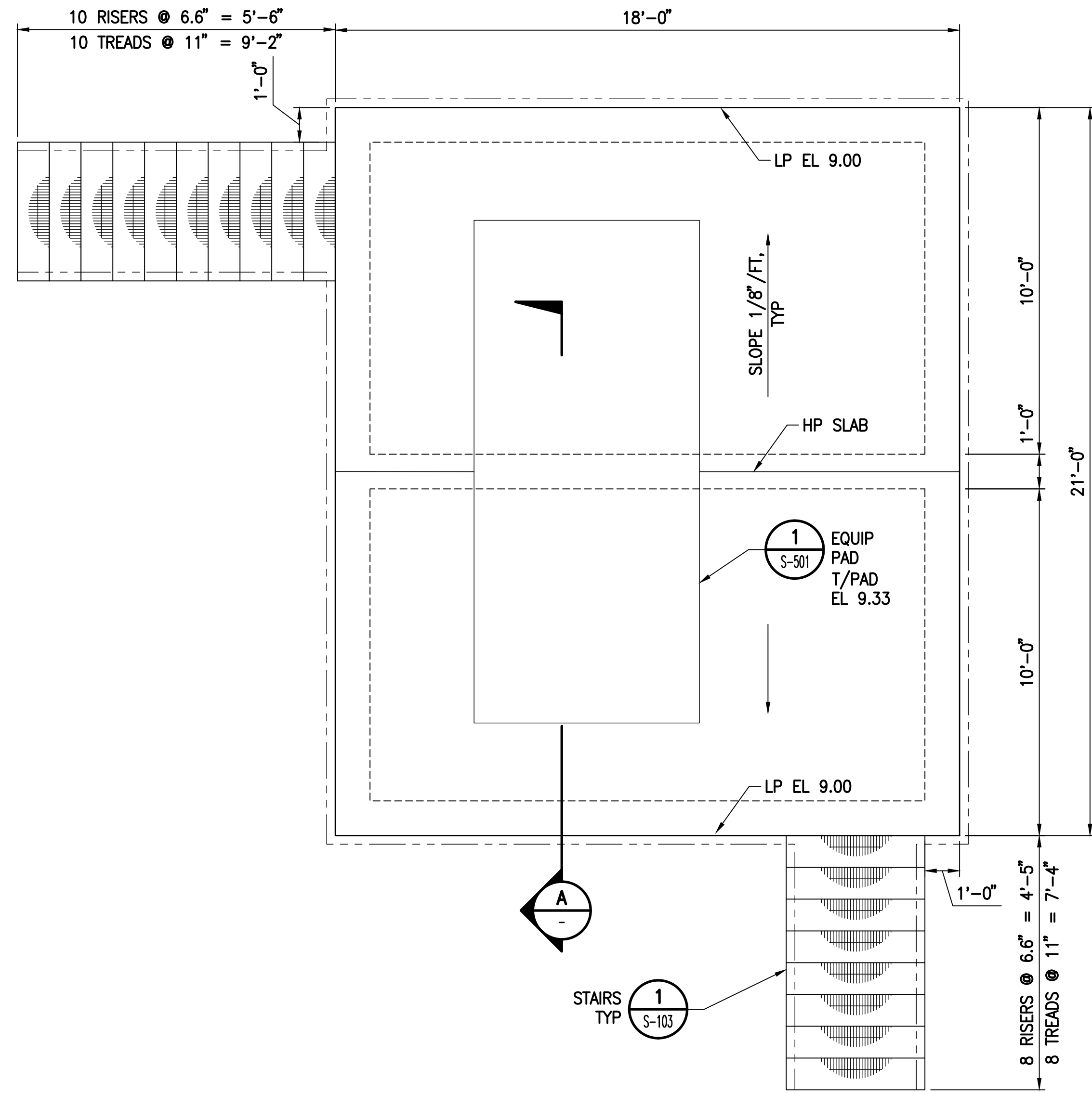
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**CITY OF NAPLES  
 PORT ROYAL PUMP STATION**

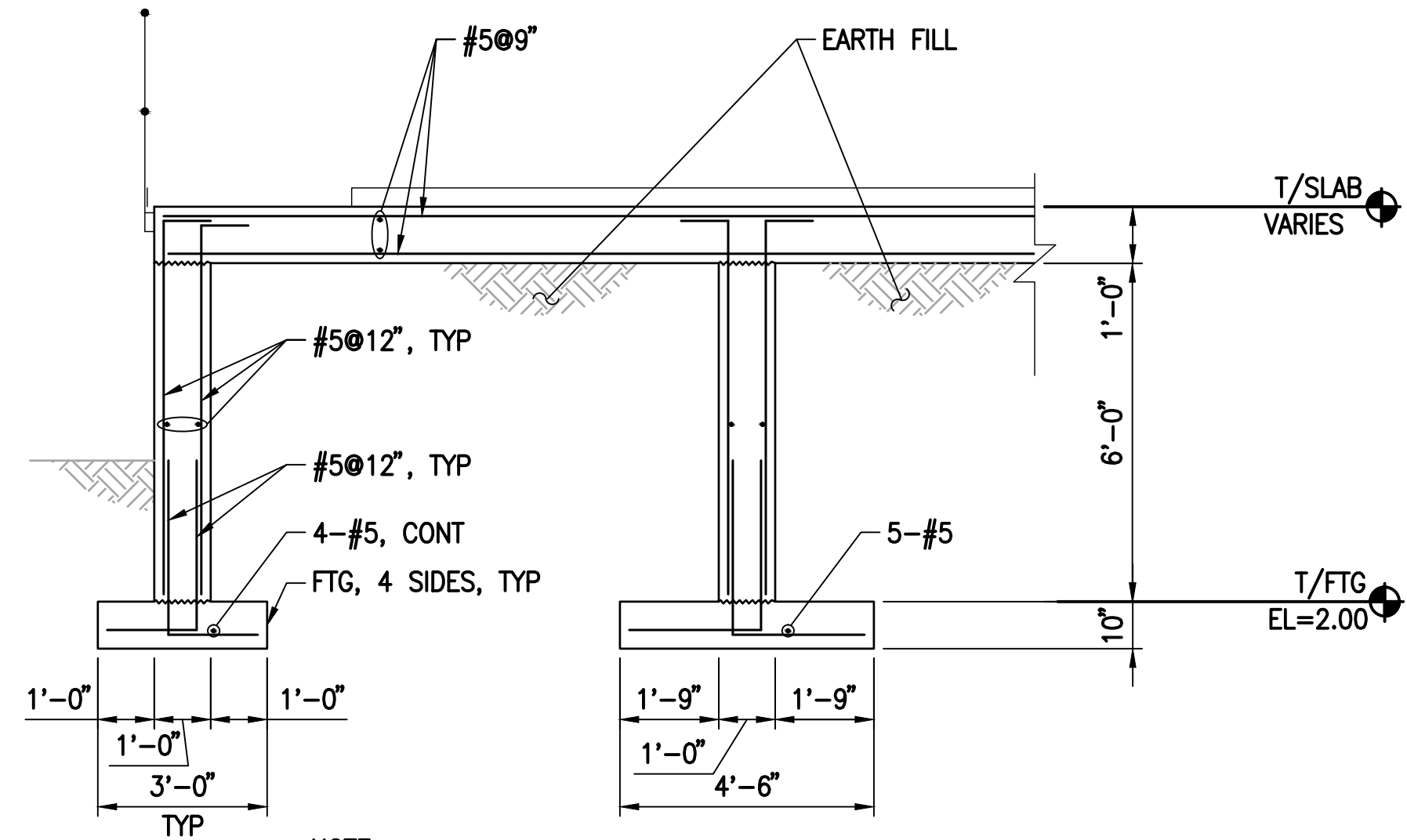
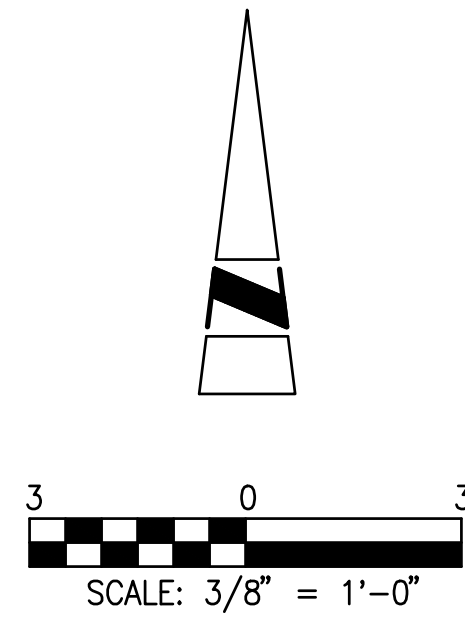
**EXISTING OUTFALL STRUCTURE**

DRAWING <b>S-102</b>
SHEET <b>11</b>
OF - SHEETS

DWS: X:\City of Naples\60289240-Port Royal and Public Works Pump Stations\000\_040\_PerL-Royal\Sheets\S\S-103.dwg Layout Name: S-103 - Plotted by: Reed, John Date: 12/11/2013 - 3:53 PM  
 AREAS: 0-ED - 3-HP-PUMP STATION - 5-HP-PUMP STATION IMAGES: Flap Gate 1.jpg - Flap Gate 2.jpg

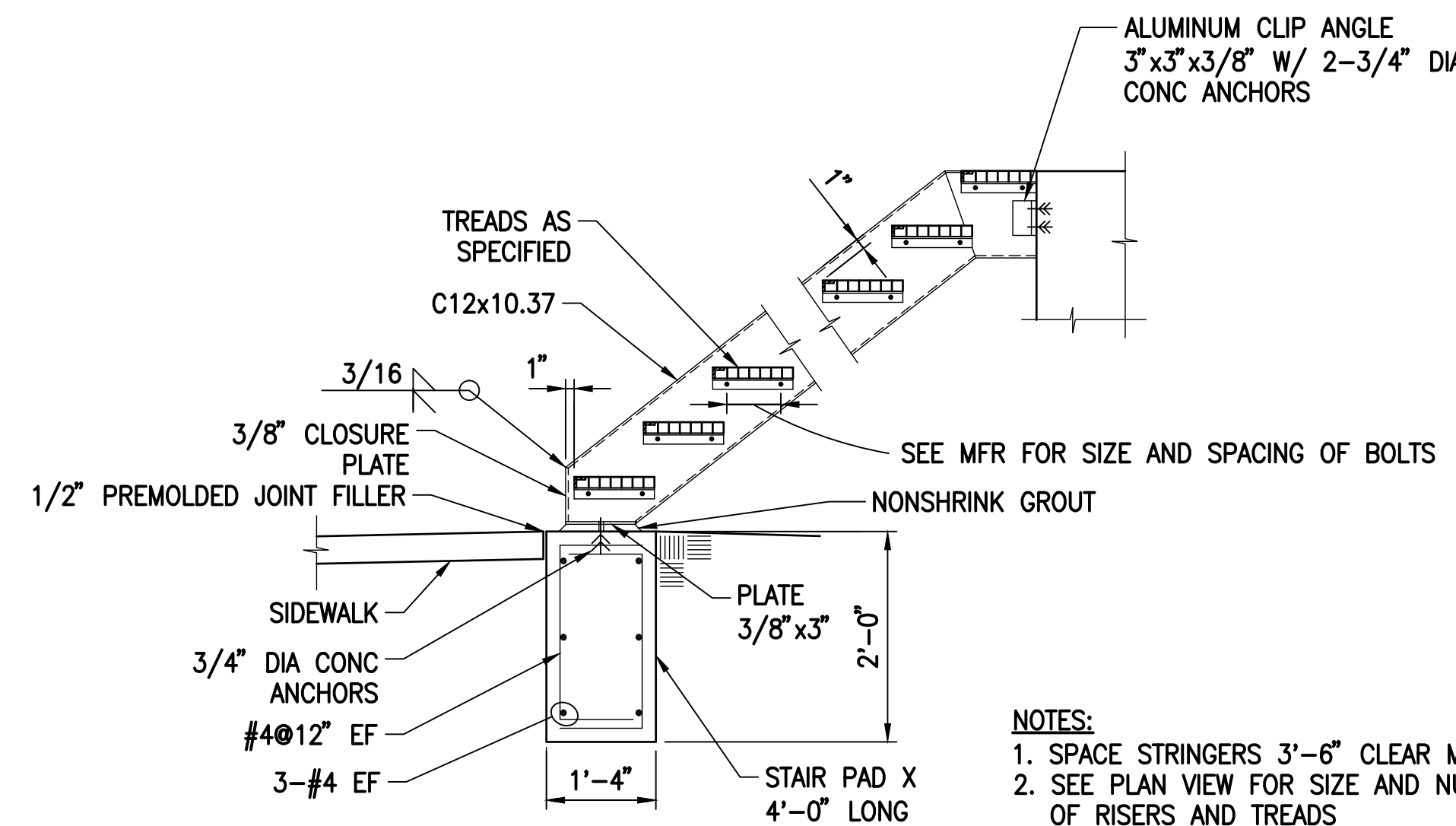


**GENERATOR FOUNDATION PLAN**  
SCALE: 3/8" = 1'-0"



NOTE:  
1. CONTRACTOR TO FIELD VERIFY NET ALLOWABLE SOIL BEARING PRESSURE OF 2 KSF AT FOOTING BEARING ELEVATION.

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



NOTES:  
1. SPACE STRINGERS 3'-6" CLEAR MIN.  
2. SEE PLAN VIEW FOR SIZE AND NUMBER OF RISERS AND TREADS  
3. RAILING NOT SHOWN  
4. STAIRS TO BE CONSTRUCTED OF ALUMINUM MEMBERS AND ALUMINUM GRATING

**1 ALUMINUM STAIR DETAIL**  
SCALE: NONE

REV	DATE	DESCRIPTION	APPR

DESIGNED BY CWA	PROJECT ENGINEER CLEMENS ANSON, P.E.
DRAWN BY MDW	REG NUMBER 75167
CHECKED BY KM	PROJECT NUMBER 60289240
DATE DEC 2013	

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CITY OF NAPLES PORT ROYAL PUMP STATION		DRAWING S-103
GENERATOR FOUNDATION		SHEET 12 OF - SHEETS

**STRUCTURAL NOTES**

**A. DESIGN CRITERIA**

1. FLORIDA BUILDING CODE: FBC 2010.
2. ASCE 7-10 MINIMUM DESIGN LOADS FOR BUILDINGS AND OTHER STRUCTURES.
3. AISC MANUAL OF STEEL CONSTRUCTION, THIRTEENTH EDITION.
4. ACI 318-08, BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE, BY THE AMERICAN CONCRETE INSTITUTE.

**B. WIND LOAD**

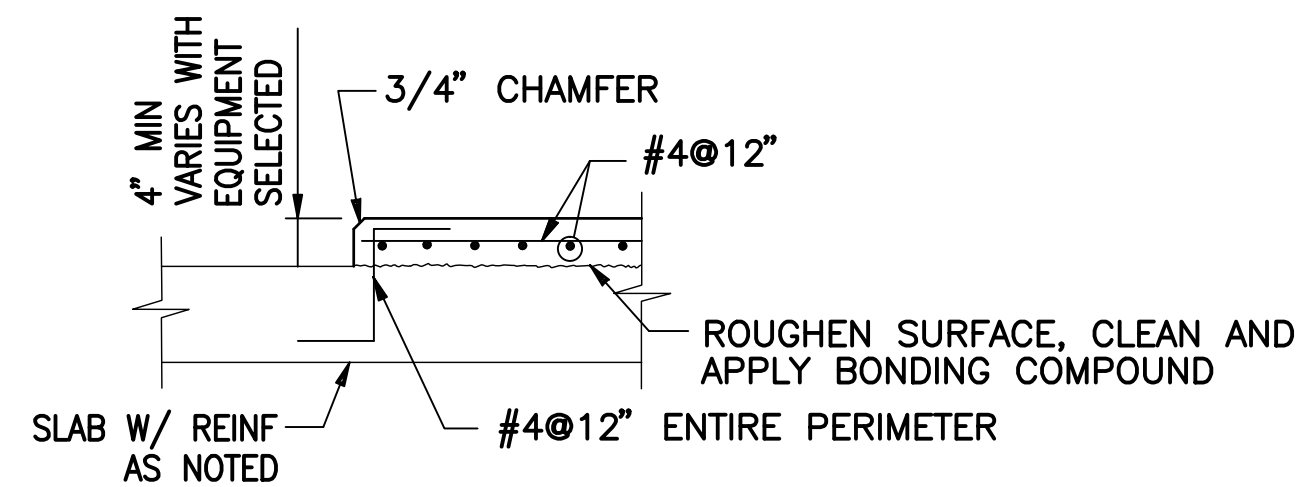
1. WIND LOADING PER FBC 2010
2. ULTIMATE WIND SPEED = 175 MPH
3. EXPOSURE C
4. RISK CATEGORY III

**C. GENERAL REQUIREMENTS**

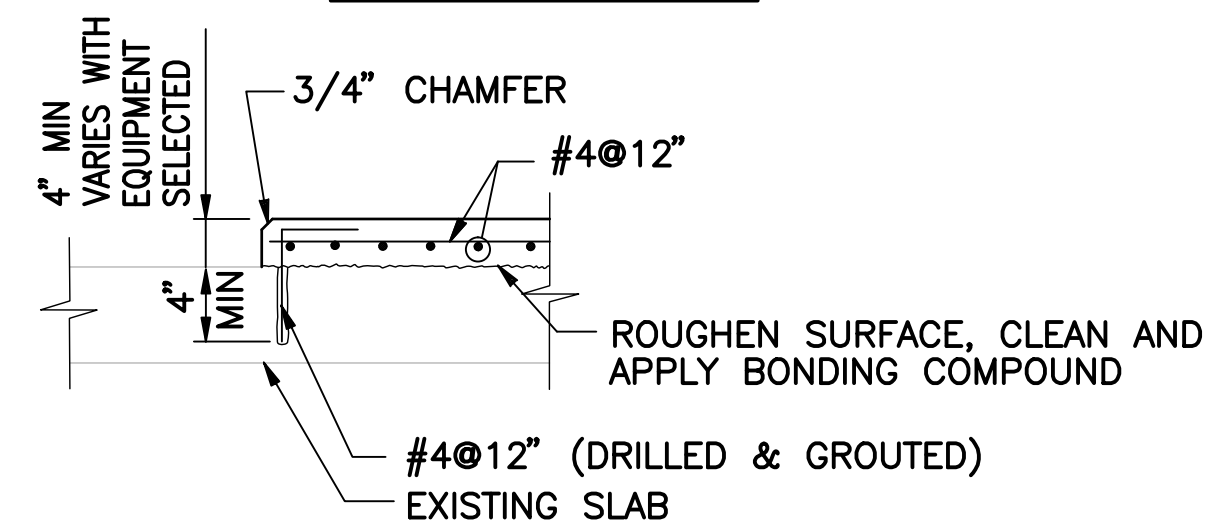
1. ALL DETAILS ARE TYPICAL. INCORPORATE INTO PROJECT AT APPROPRIATE LOCATIONS WHERE CONDITIONS ARE SIMILAR.
2. CONTRACTOR TO VERIFY ALL EXISTING CONDITIONS, DIMENSIONS AND ELEVATIONS PRIOR TO START OF CONSTRUCTION. NOTIFY ENGINEER OF ANY DISCREPANCIES OR CONFLICTS FOUND IN CONTRACT DOCUMENTS AND/OR FIELD CONDITIONS.
3. COORDINATE ALL REQUIRED OPENINGS WITH MECHANICAL, ELECTRICAL, AND PLUMBING CONTRACTORS. COORDINATE FINAL SIZE AND LOCATION OF ALL OPENINGS WITH THE ACTUAL EQUIPMENT SUPPLIED, PROJECT REQUIREMENTS, AND WITH FIELD CONDITIONS.

**D. CONCRETE AND REINFORCING**

1. CAST-IN-PLACE CONCRETE  $f'_c = 4000$  PSI @ 28 DAYS
2. ALL REINFORCING STEEL SHALL CONFORM TO ASTM A615 GRADE 60.
3. CONCRETE COVER:
  - A. SHALL BE 2", UNLESS OTHERWISE NOTED.
  - B. 3" CAST AGAINST GRADE.

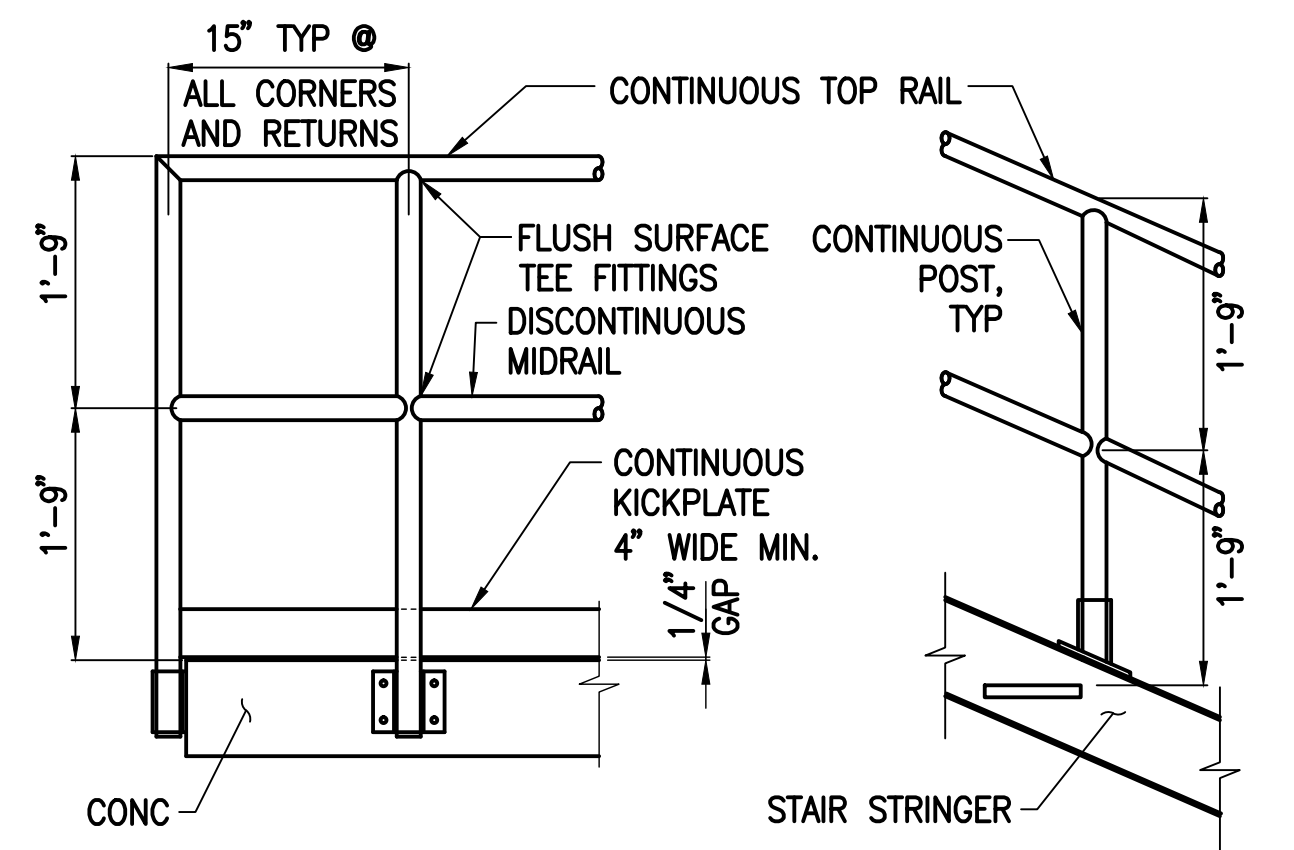


**NEW CONSTRUCTION**



**EXISTING CONCRETE**

**1 EQUIPMENT PAD DETAIL**  
SCALE: NONE



**SIDE MOUNTED**

**STAIR STRINGER MOUNTED**

**2 ALUMINUM RAILING DETAIL**  
SCALE: NONE

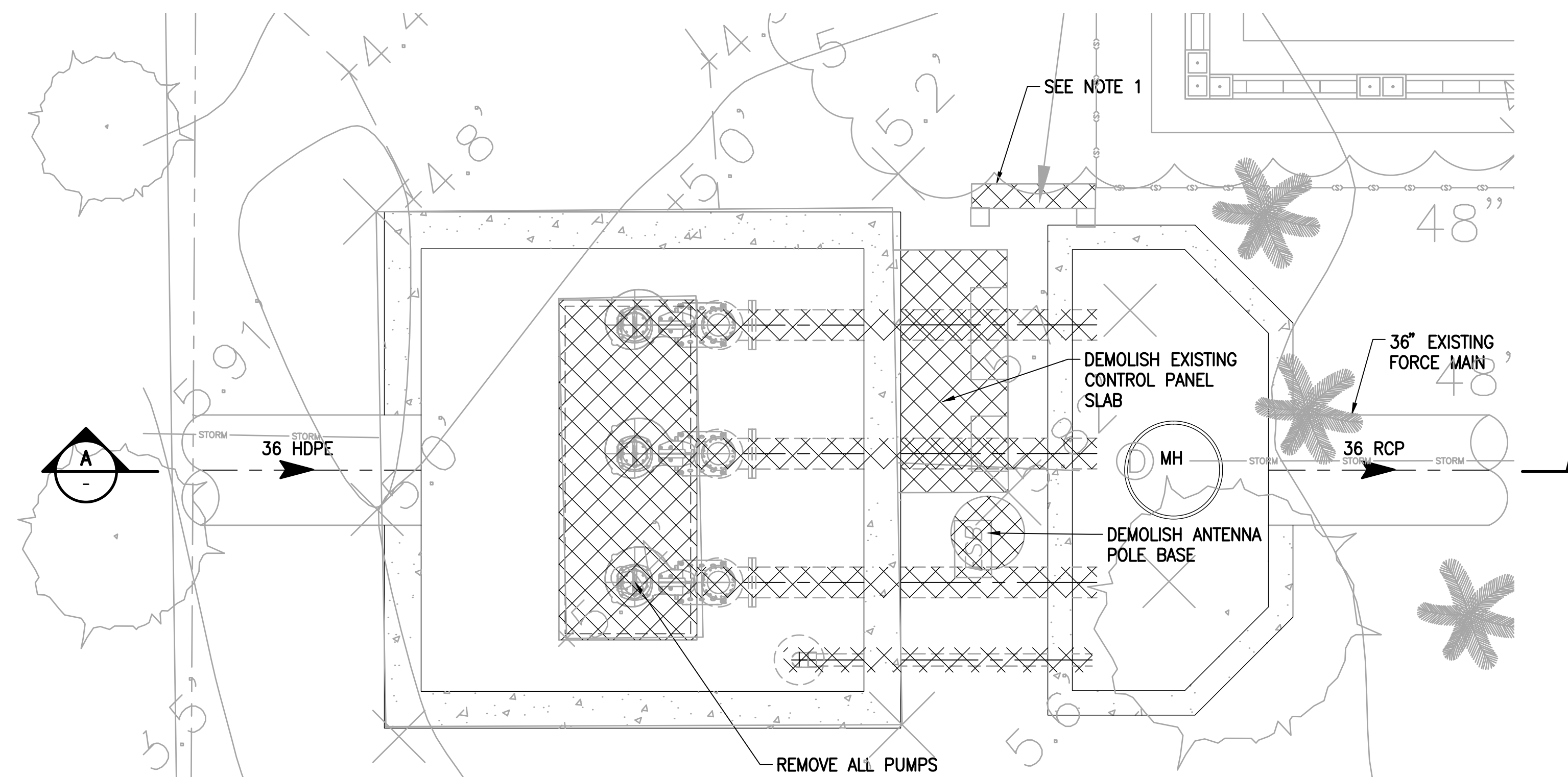
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 APPR: G-EB

REV	DATE	DESCRIPTION	APPR

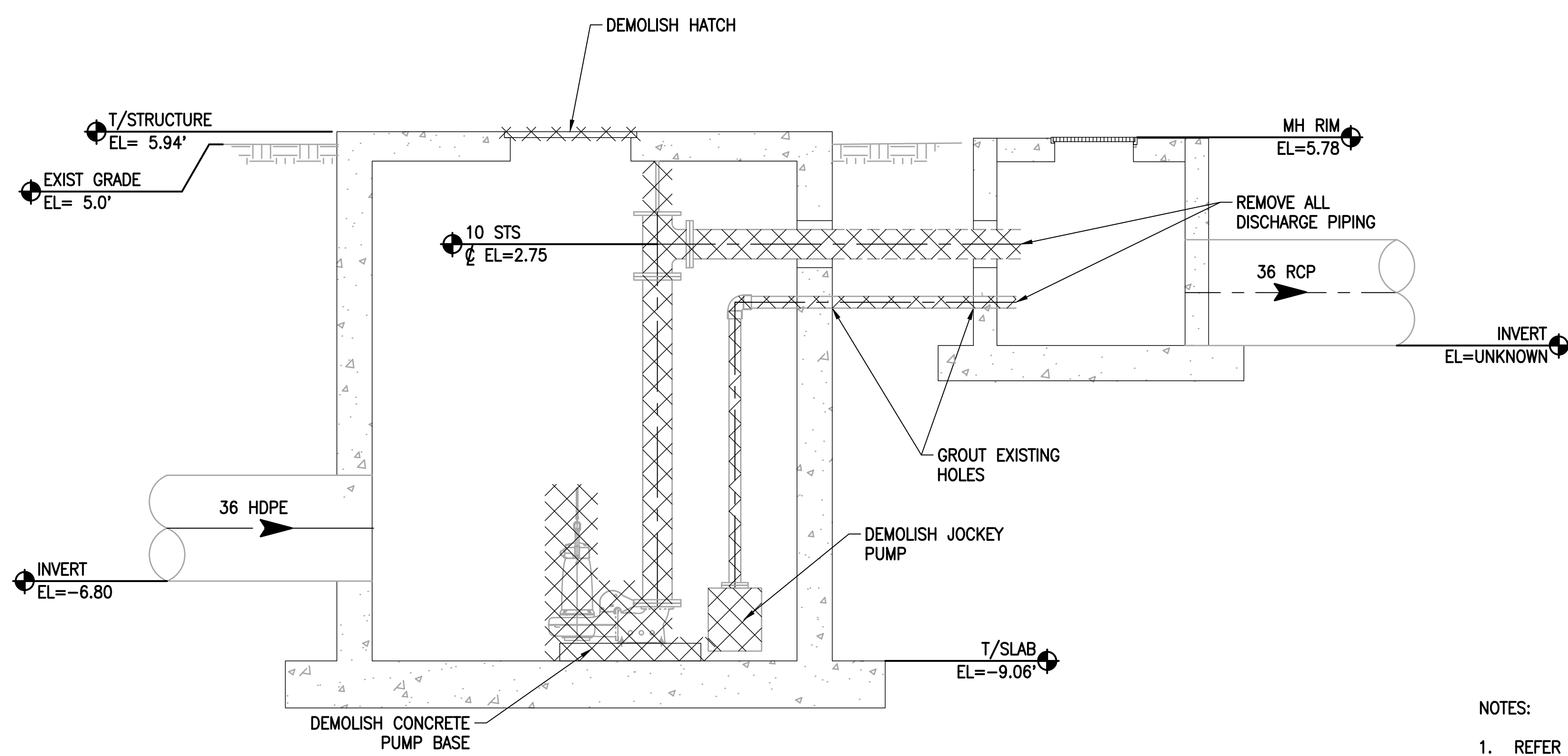
<b>VERIFY SCALES</b> BAR IS ONE INCH ON ORIGINAL DRAWING  IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY	DESIGNED BY <b>CWA</b>	PROJECT ENGINEER <b>CLEMENT ANSON, P.E.</b>
	DRAWN BY <b>MDW</b>	REG NUMBER <b>75167</b>
	CHECKED BY <b>KM</b>	PROJECT NUMBER <b>60289240</b>
	DATE <b>DEC 2013</b>	

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CITY OF NAPLES PORT ROYAL PUMP STATION		DRAWING <b>S-501</b>
STRUCTURAL NOTES AND DETAILS		SHEET <b>13</b> OF - SHEETS



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



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

- NOTES:
1. REFER TO DRAWING E-102 FOR ELECTRICAL DEMOLITION.
  2. DEMOLISH EXISTING EQUIPMENT PER SECTION 024100.

DWS: X:\City of Naples\60289240-Port Royal and Public Works Pump Stations\000 CAD\Port Royal\Sheets\1\101.dwg - Layout Name: D-101 - Plotted by: Reed, John Date: 12/11/2013 - 3:53 PM  
 AREA: G-BD - D-PA-PUMP-STATION - D-OS-PUMP-STATION - C-SF-0981-001 - PORT ROYAL PUM - CAD IMAGES

REV	DATE	DESCRIPTION	APPR

<b>VERIFY SCALES</b> BAR IS ONE INCH ON ORIGINAL DRAWING  IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY	DESIGNED BY	JRR	PROJECT ENGINEER	DAWN M. JAKIELA, P.E.
	DRAWN BY	MPL	REG NUMBER	75034
	CHECKED BY	DMJ	PROJECT NUMBER	60289240
	DATE	DEC 2013		

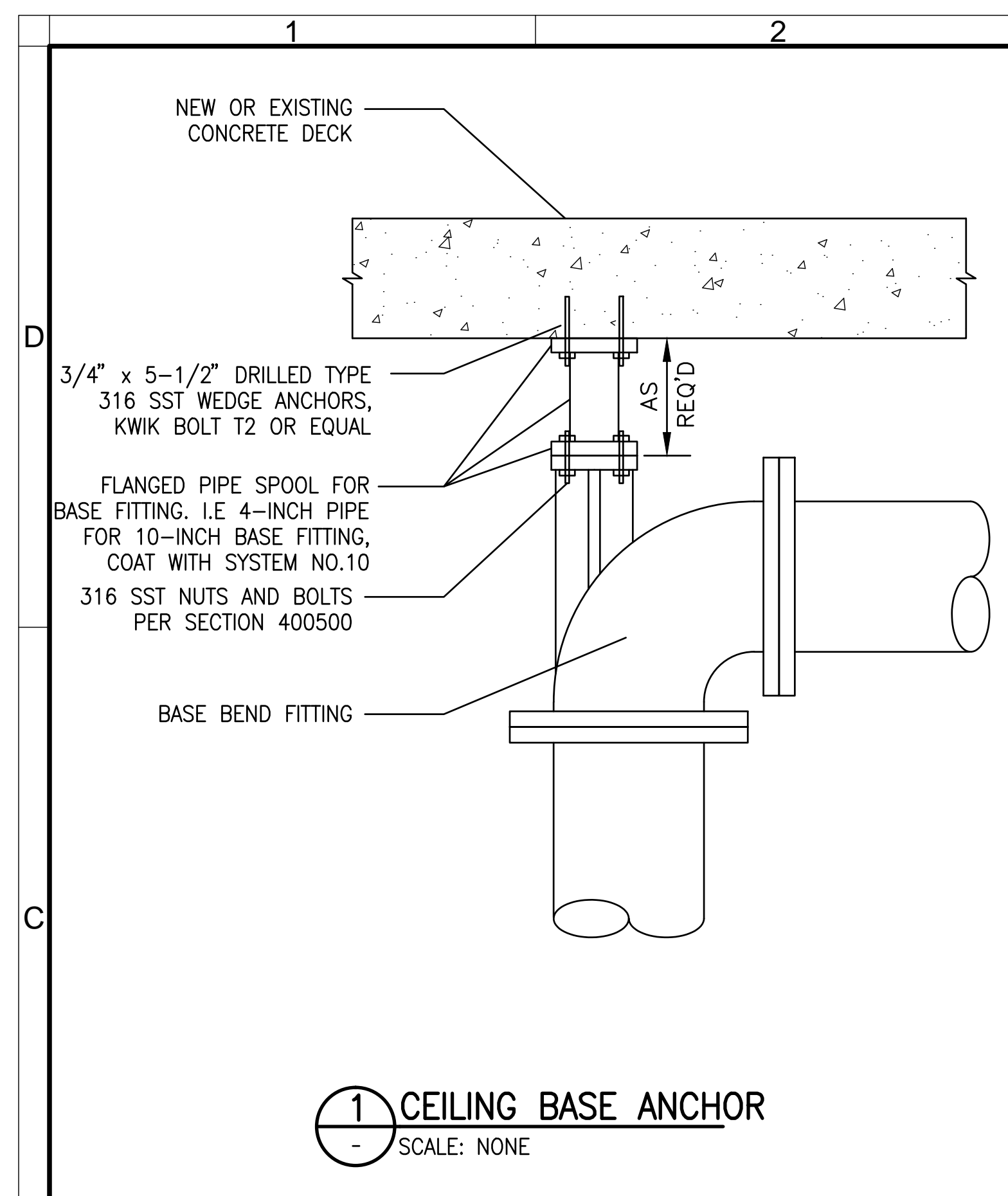
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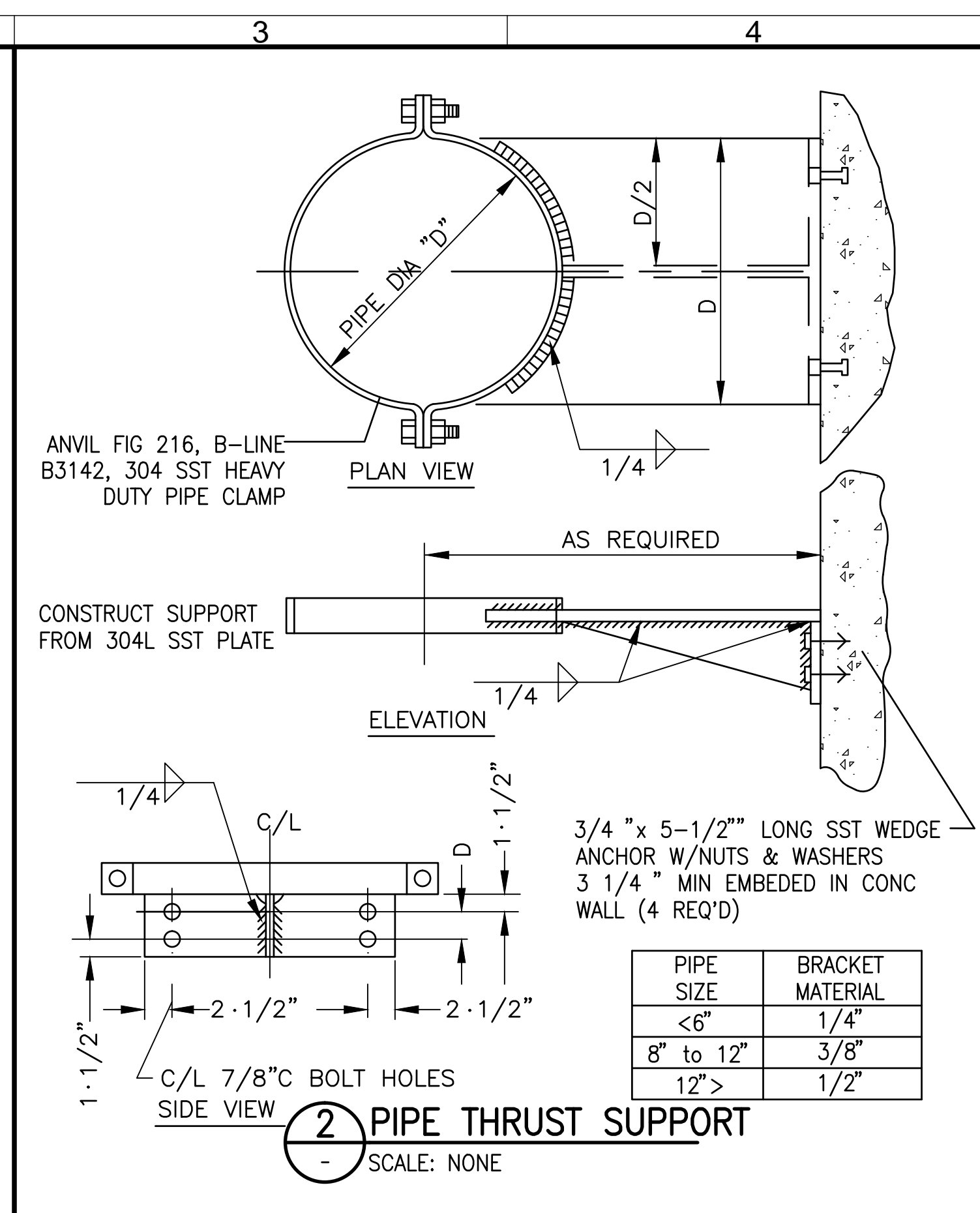
CITY OF NAPLES PORT ROYAL PUMP STATION		DRAWING	D-101
EXISTING PUMP STATION DEMOLITION PLAN AND SECTION		SHEET	14
		OF SHEETS	



DWS: X:\City of Naples\60289240-Port Royal and Public Works Pump Stations\000 CAD\PerL\Royal\Sheets\DD-501.dwg  
 PLOTTED BY: REED, JOHN  
 DATE: 12/11/2013 3:53 PM  
 LAYOUT NAME: D-501  
 REV: 0-EBD

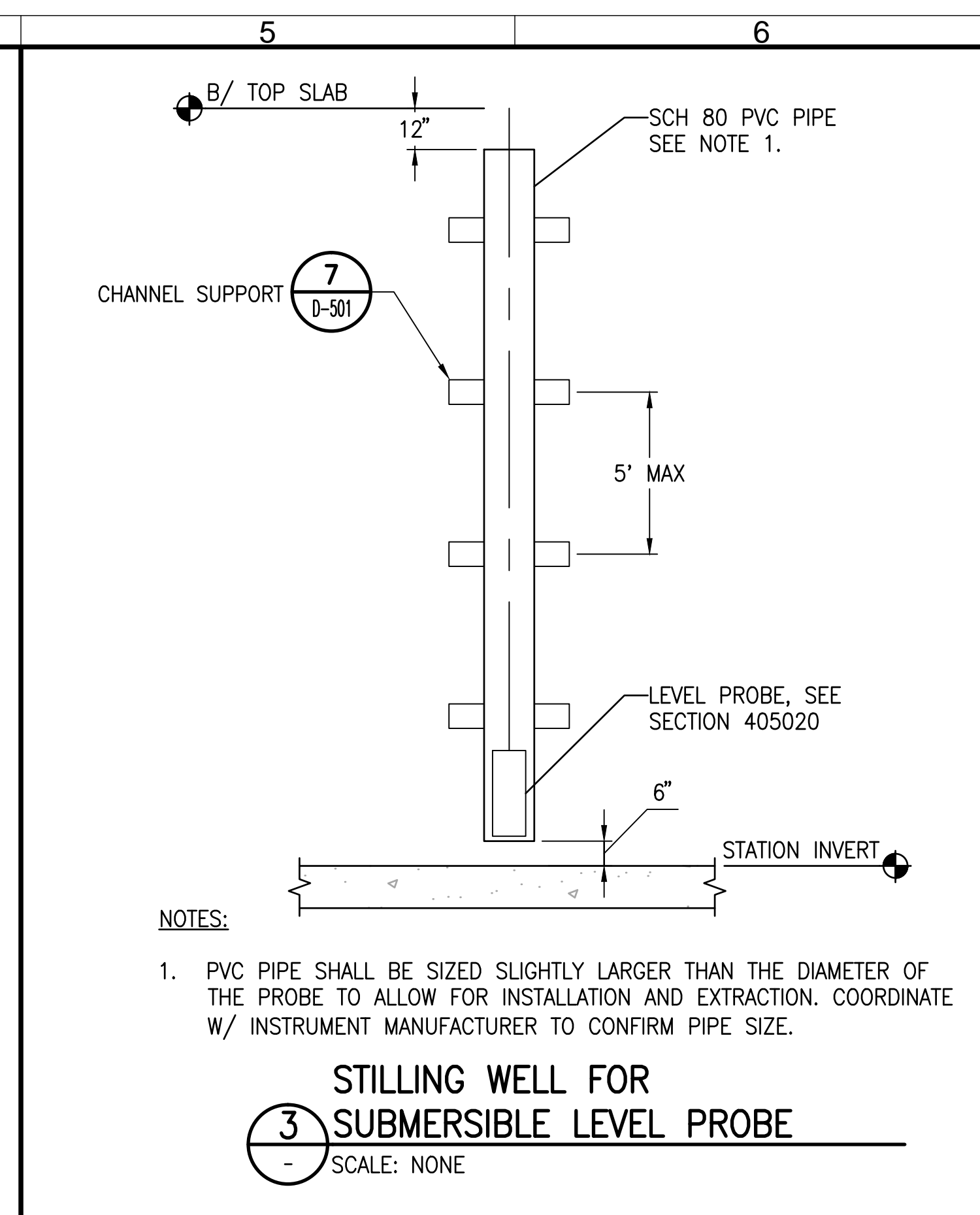


**1 CEILING BASE ANCHOR**  
SCALE: NONE

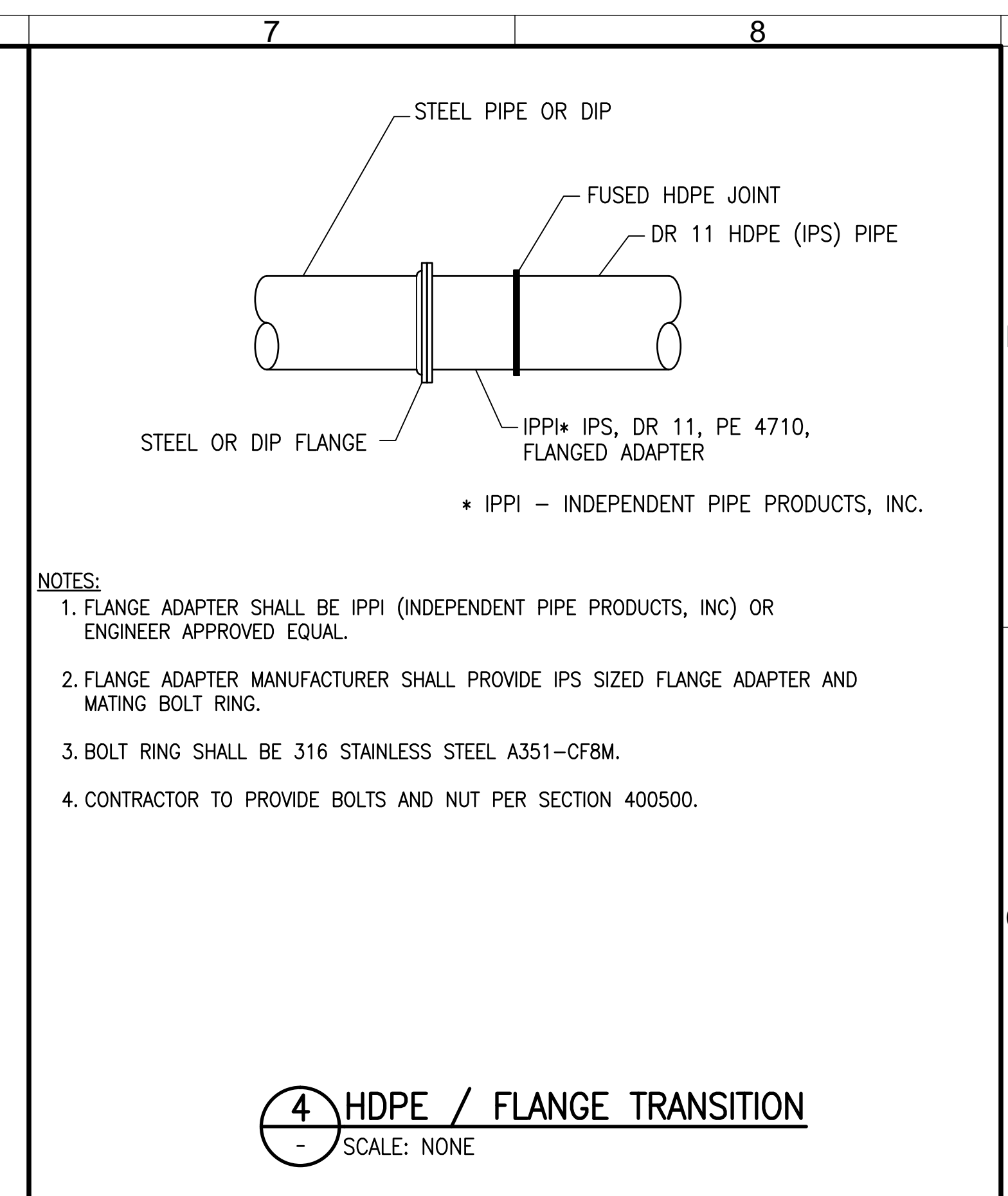


**2 PIPE THRUST SUPPORT**  
SCALE: NONE

PIPE SIZE	BRACKET MATERIAL
<6"	1/4"
8" to 12"	3/8"
12">	1/2"

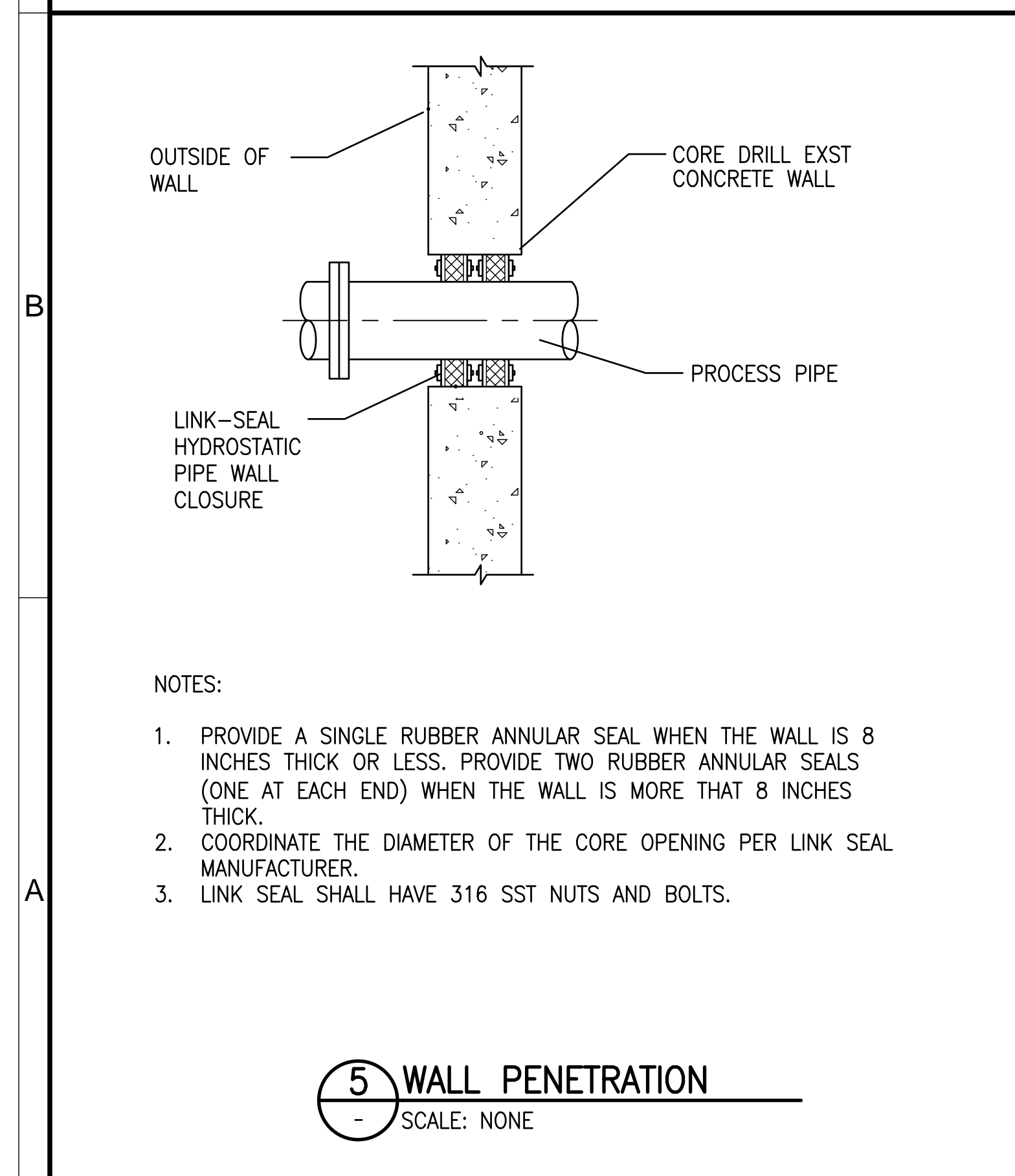


**3 SUBMERSIBLE LEVEL PROBE**  
SCALE: NONE



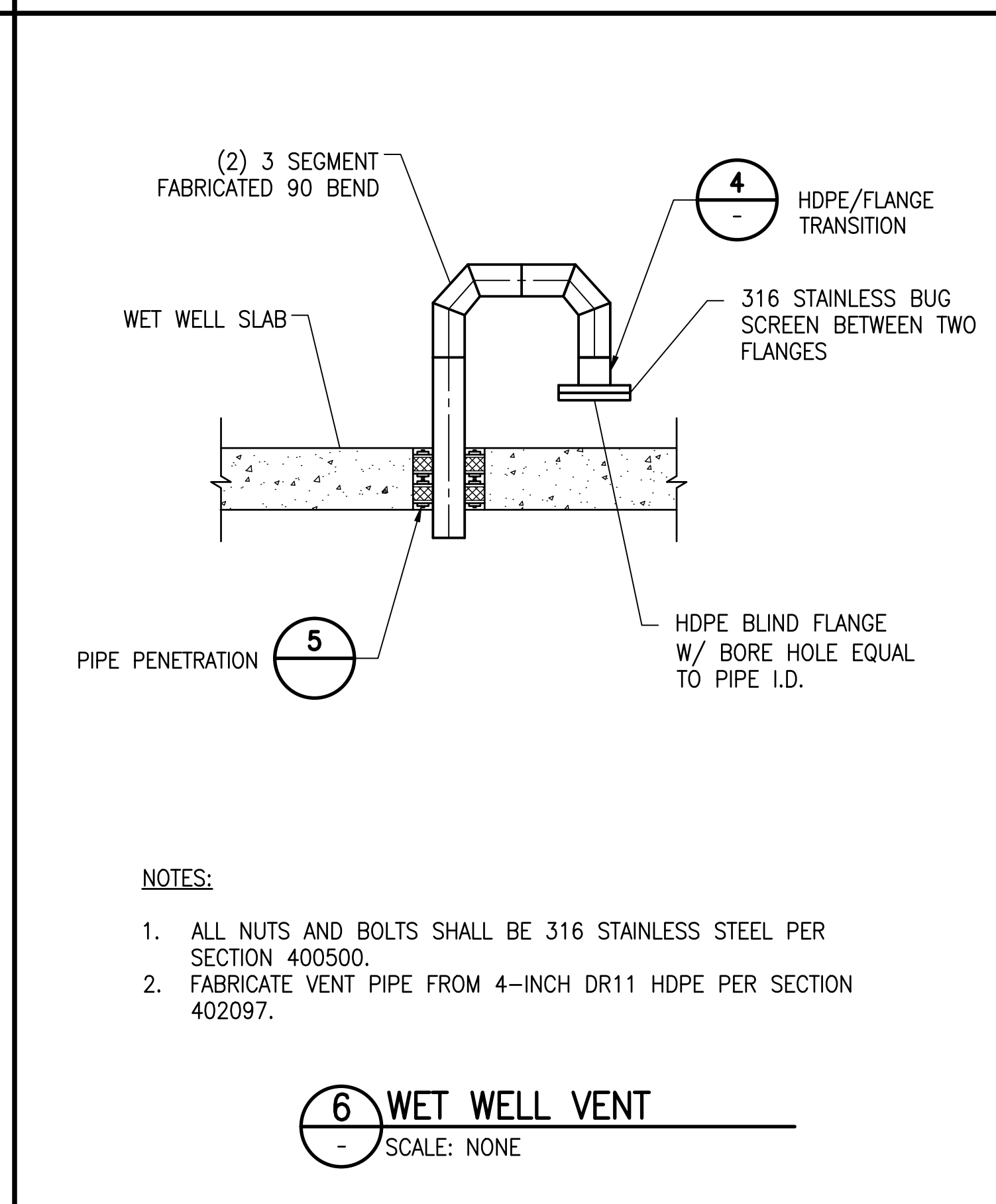
**4 HDPE / FLANGE TRANSITION**  
SCALE: NONE

- NOTES:**
- FLANGE ADAPTER SHALL BE IPPI (INDEPENDENT PIPE PRODUCTS, INC) OR ENGINEER APPROVED EQUAL.
  - FLANGE ADAPTER MANUFACTURER SHALL PROVIDE IPS SIZED FLANGE ADAPTER AND MATING BOLT RING.
  - BOLT RING SHALL BE 316 STAINLESS STEEL A351-CF8M.
  - CONTRACTOR TO PROVIDE BOLTS AND NUT PER SECTION 400500.



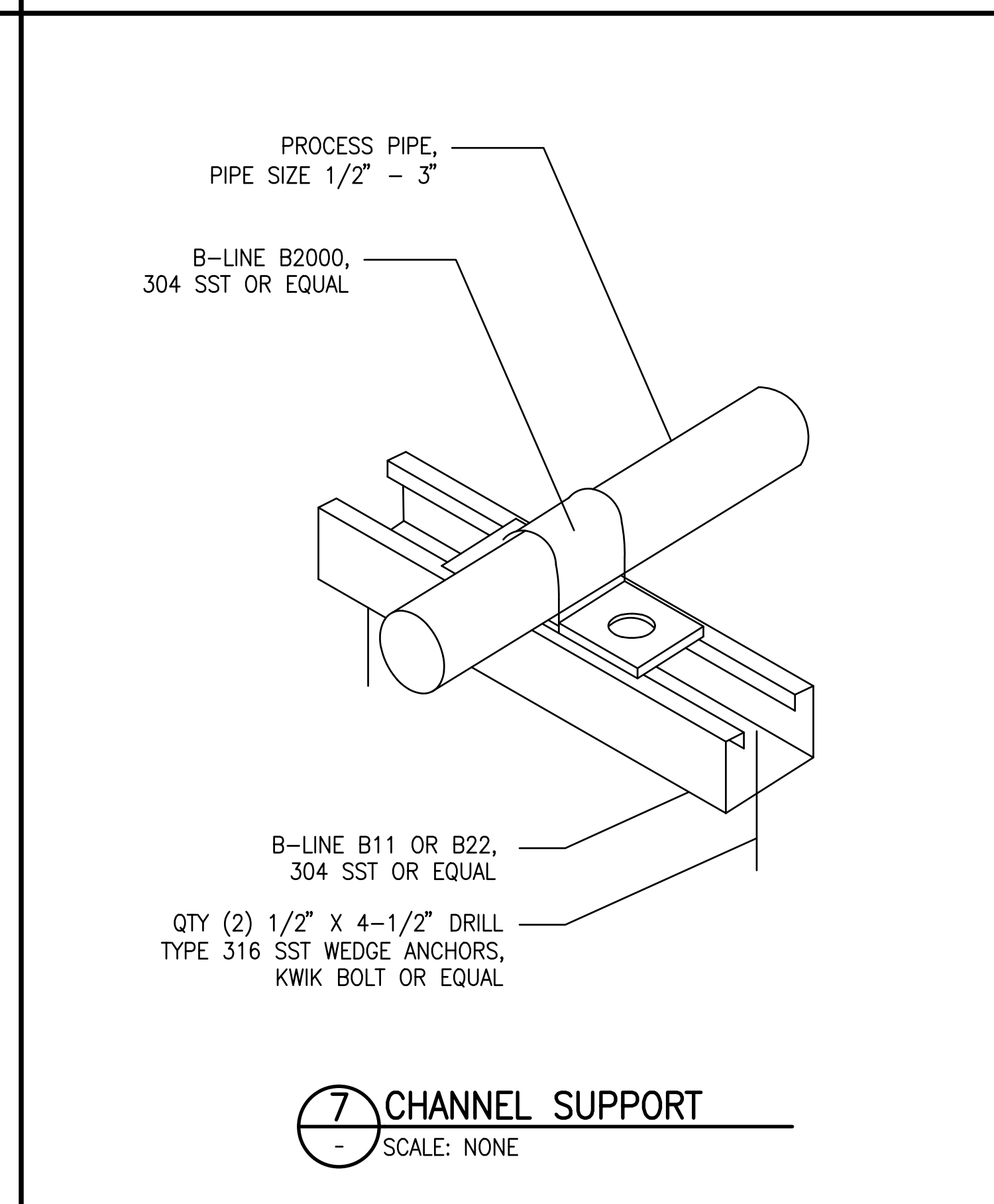
**5 WALL PENETRATION**  
SCALE: NONE

- NOTES:**
- PROVIDE A SINGLE RUBBER ANNULAR SEAL WHEN THE WALL IS 8 INCHES THICK OR LESS. PROVIDE TWO RUBBER ANNULAR SEALS (ONE AT EACH END) WHEN THE WALL IS MORE THAT 8 INCHES THICK.
  - COORDINATE THE DIAMETER OF THE CORE OPENING PER LINK SEAL MANUFACTURER.
  - LINK SEAL SHALL HAVE 316 SST NUTS AND BOLTS.

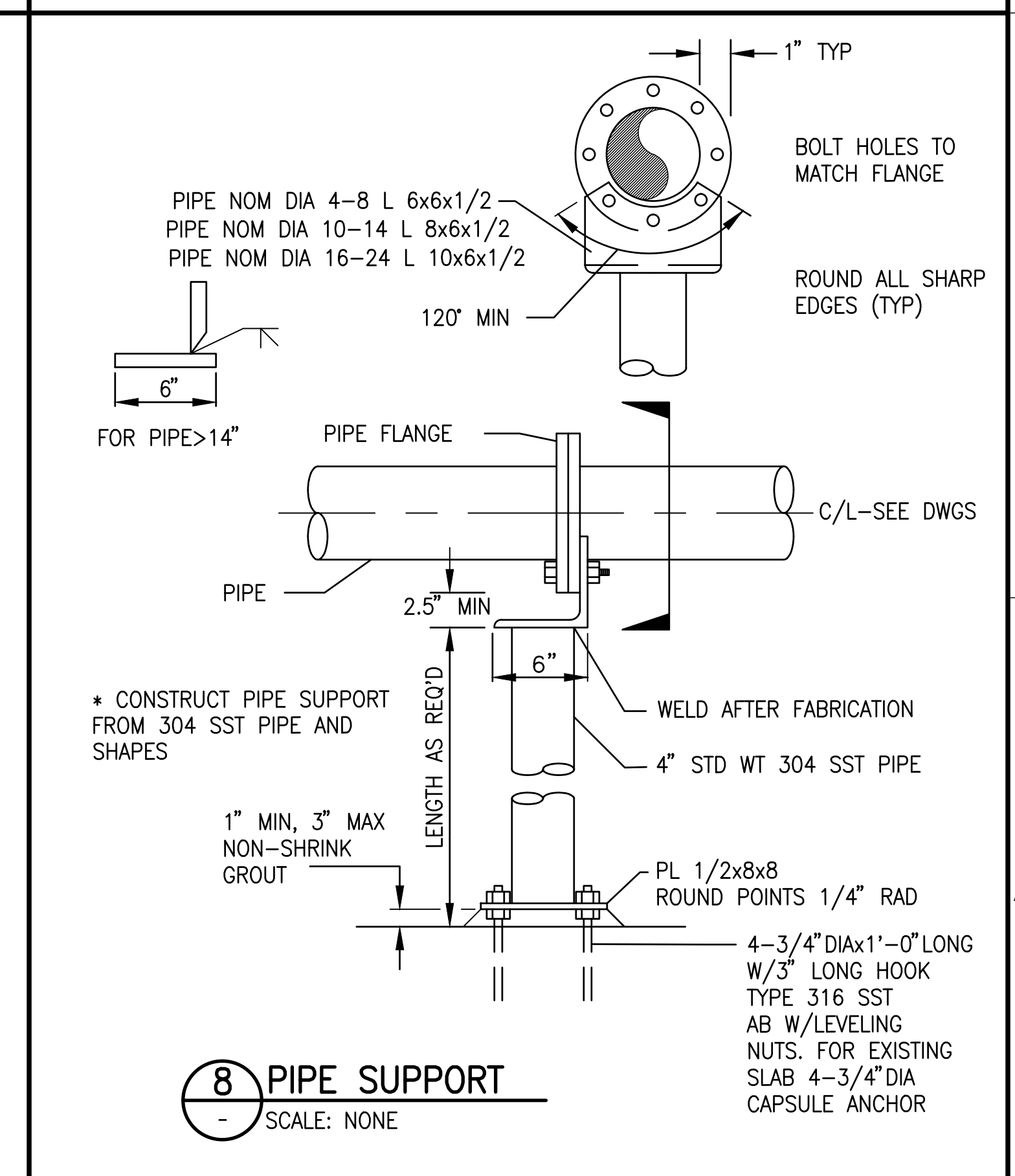


**6 WET WELL VENT**  
SCALE: NONE

- NOTES:**
- ALL NUTS AND BOLTS SHALL BE 316 STAINLESS STEEL PER SECTION 400500.
  - FABRICATE VENT PIPE FROM 4-INCH DR11 HDPE PER SECTION 402097.



**7 CHANNEL SUPPORT**  
SCALE: NONE



**8 PIPE SUPPORT**  
SCALE: NONE

<b>VERIFY SCALES</b> BAR IS ONE INCH ON ORIGINAL DRAWING IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY	DESIGNED BY: <b>JRR</b> DRAWN BY: <b>MPL</b> CHECKED BY: <b>DMJ</b> DATE: <b>DEC 2013</b>	PROJECT ENGINEER: <b>DAWN M. JAKIELA, P.E.</b> REG NUMBER: <b>75034</b> PROJECT NUMBER: <b>60289240</b>		<b>CITY OF NAPLES</b> <b>PORT ROYAL PUMP STATION</b> <b>PROCESS DETAILS</b>	DRAWING: <b>D-501</b> SHEET: <b>16</b> OF - SHEETS
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DWS: X:\City of Naples\60289240-Port Royal and Public Works Pump Stations\000 CAD\Per\_Lroyal\Sheets\ELE-001.dwg Date: 12/11/2013 - 3:53 PM  
 PLOTTED BY: REED, JOHN  
 REV: G-EBD

ELECTRICAL SYMBOLS - PLAN		ELECTRICAL SYMBOLS - PLAN		ELECTRICAL SYMBOLS - SCHEMATIC DIAGRAM/ SINGLE LINE DIAGRAM - CONT'D		ELECTRICAL ABBREVIATIONS	
	NON-FUSED SWITCH, SIZE AS INDICATED ON DRAWINGS		MOTION SENSOR		DRAW-OUT TYPE EQUIPMENT	A	A AMP
	FUSED SWITCH, SIZE AS INDICATED ON DRAWINGS		RECEPTACLE MOUNTED ABOVE COUNTER TOP		SURGE CAPACITOR	AF	AMP FRAME
	ENCLOSED MAGNETIC STARTER W/NEMA SIZE INDICATED		MAGNETIC CONTACT - SECURITY		LIGHTING ARRESTER	AFF	ABOVE FINISHED FLOOR
	ENCLOSED COMBINATION STARTER W/NEMA SIZE INDICATED		TIME CLOCK		MEDIUM VOLTAGE CIRCUIT BREAKER, DRAW-OUT TYPE	AFG	ABOVE FINISHED GRADE
	CONTROL STATION - SEE SCHEMATIC DIAGRAM		LIGHTNING PROTECTION CABLE		POTENTIAL TRANSFORMER, QUANTITY INDICATED	AISC	AMPERE INTERRUPTING CAPACITY, SYMMETRICAL
	TRANSFORMER		LIGHTING CONTACTOR		CIRCUIT BREAKER, 3 POLE UNLESS NOTED MCP INDICATES MOTOR CIRCUIT PROTECTION	AT	AMP TRIP
	CONDUIT NUMBER - SEE CONDUIT SCHEDULE		PHOTOELECTRIC CELL		MAGNETIC MOTOR STARTER, NEMA SIZE INDICATED RV=REDUCED VOLTAGE STARTING 2S, 2W=2 SPEED, 2 WINDING	ATS	AUTOMATIC TRANSFER SWITCH
	CONDUIT OR CONDUCTOR - EXPOSED		THERMOSTAT BY HVAC CONTRACTOR		KEY INTERLOCKING OF EQUIPMENT	AWG	AMERICAN WIRE GAUGE
	CONDUIT OR CONDUCTOR - DIRECT BURIAL OR IN SLAB		DATA OUTLET- 4"x4" OUTLET BOX MTD. AT 18" AFF W/1"C.O. UP TO CEILING SPACE		AUTOMATIC POWER FACTOR CORRECTION CAPACITOR	BKR	BREAKER
	CONDUIT - DIRECT BURIAL WITH CONCRETE ENCASUREMENT		SECURITY JUNCTION BOX-4"x4" FLUSH OUTLET BOX MTD. AT 48" AFF UON		<b>FIRE ALARM SYMBOLS</b> SPRINKLER FLOOR CONTROL VALVE HEAT DETECTOR, FIXED TEMPERATURE HEAT DETECTOR, RATE OF RISE SMOKE DETECTOR DUCT SMOKE DETECTOR FIRE ALARM PULL STATION FIRE ALARM HORN/LIGHT ALARM LIGHT FLOW SWITCH TAMPERS SWITCH FIRE ALARM CONTROL PANEL FIRE ALARM ANNUNCIATOR PANEL FIRE ALARM BELL SPEAKER		
	CONDUIT OR CONDUCTOR - TURNING UP		TELEPHONE OUTLET - FLOOR MOUNTED				
	CONDUIT OR CONDUCTOR - TURNING DOWN		TELEPHONE OUTLET - FLOOR MOUNTED				
	WIRE QUANTITIES - LONG LINES INDICATE NEUTRAL CONDUCTORS, SHORT LINES INDICATE HOT (SWITCHED OR UNSWITCHED) LEGS CONDUIT 3/4" U O N, #12 AWG U O N		TELEPHONE OUTLET +18"; TELEPHONE OUTLET +48" PROVIDE A 4"x4" OUTLET BOX, 1" CONDUIT WITH CAT. 5 TELEPHONE CABLE TO ITB				
	HOMERUN TO PANEL A, CIRCUITS 1 & 3	<b>ELECTRICAL SYMBOLS - SCHEMATIC DIAGRAM/ SINGLE LINE DIAGRAM</b>					
	CONDUIT - CAPPED	NORMALLY OPEN	NORMALLY CLOSED	DEVICE			
	JUNCTION BOX			CONTACT			
	INCANDESCENT, FLUORESCENT OR HID FIXTURE - "A" INDICATES TYPE, "2" INDICATES CIRCUIT, "a" INDICATES SWITCHING CONTROL (CALL - OUTS TYP FOR ALL FIXTURES)			TIMED CONTACT CONTACT ACTION RETARDED ON DE-ENERGIZATION			
	INCANDESCENT, FLUORESCENT OR HID FIXTURE - SURFACE MTD			TIMED CONTACT CONTACT ACTION RETARDED ON ENERGIZATION			
	FLUORESCENT FIXTURE			PUSHBUTTON SINGLE CIRCUIT MOMENTARY CONTACT			
	FLUORESCENT FIXTURE WITH BATTERY BACK-UP			PUSHBUTTON SINGLE CIRCUIT LOCK - OUT			
	FLUORESCENT STRIP LIGHT			LIMIT SWITCH			
	LIGHTING STANDARDS, POLE MOUNTED			LIQUID - LEVEL ACTUATED SWITCH			
	EXIT LIGHT - ARROWS AS INDICATED			PRESSURE OR VACUUM ACTUATED SWITCH			
	EMERGENCY LIGHT FIXTURE			FLOW ACTUATED SWITCH			
	POWER PANELBOARD			TEMPERATURE ACTUATED SWITCH			
	LIGHTING PANELBOARD			SELECTOR SWITCH			
S	SWITCH, SINGLE POLE			PANIC BUTTON, SINGLE CIRCUIT, MAINTAINED CONTACT, LARGE RED MUSHROOM HEAD			
S <sub>2</sub>	SWITCH, DOUBLE POLE			MOTOR OVERLOAD HEATERS			
S <sub>3</sub>	SWITCH, THREE WAY			PILOT LIGHT R=RED, W=WHITE, G=GREEN, A=AMBER, B=BLUE			
S <sub>4</sub>	SWITCH, FOUR WAY			PILOT LIGHT - PUSH TO TEST			
S <sub>a</sub>	SWITCH - "a" INDICATES DEVICE CONTROLLED			RELAY			
S <sub>D</sub>	SWITCH, DIMMER			STARTER COIL			
S <sub>M</sub> S <sub>MK</sub>	MANUAL MOTOR STARTER, MK = KEY OPERATED			SOLENOID OPERATED CONTROL VALVE			
S <sub>MT</sub>	SWITCH, MOMENTARY TYPE SPRING RETURN TO CENTER			ELAPSED TIME METER			
	DUPLEX RECEPTACLE			FUSE			
	DOUBLE DUPLEX RECEPTACLE			CONTROL POWER TRANSFORMER			
	DUPLEX RECEPTACLE FLOOR MOUNT FLUSH			GROUND			
	SPECIAL RECEPTACLE; NEMA TYPE AS INDICATED ON DRAWINGS			TERMINAL			
	BOND TO REINFORCING STEEL			OVERLOAD RELAY			
	MOTOR			UTILITY METERING			
	SURGE PROTECTION DEVICE			AMMETER			
	AIR TERMINAL			VOLTMETER			
	CONCRETE - ENCASED GROUND ELECTRODE			FREQUENCY METER			
	GROUND ROD			CURRENT TRANSFORMER, QUANTITY INDICATED			
	INDICATES GROUND CONDUCTOR						
	CAMERA						

<b>CITY OF NAPLES</b> <b>PORT ROYAL PUMP STATION</b>	DRAWING <b>E-001</b>
<b>ELECTRICAL SYMBOLS AND ABBREVIATIONS</b>	
SHEET <b>17</b> OF - SHEETS	

VERIFY SCALES BAR IS ONE INCH ON ORIGINAL DRAWING IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY	DESIGNED BY <b>DK</b> PROJECT ENGINEER <b>MARK A. PELLISH P.E.</b>	DRAWN BY <b>DK</b> REG NUMBER <b>46906</b>	CHECKED BY <b>MAP</b> PROJECT NUMBER <b>60289240</b>	DATE <b>DEC 2013</b>	 <small>           AECOM Technical Services, Inc.            4415 Metro Parkway, Suite 404            Fort Myers, Florida 33916            T 239.278.7996 F 239.278.0913            FL Engineering Business No. EB-8115            www.aecom.com         </small>
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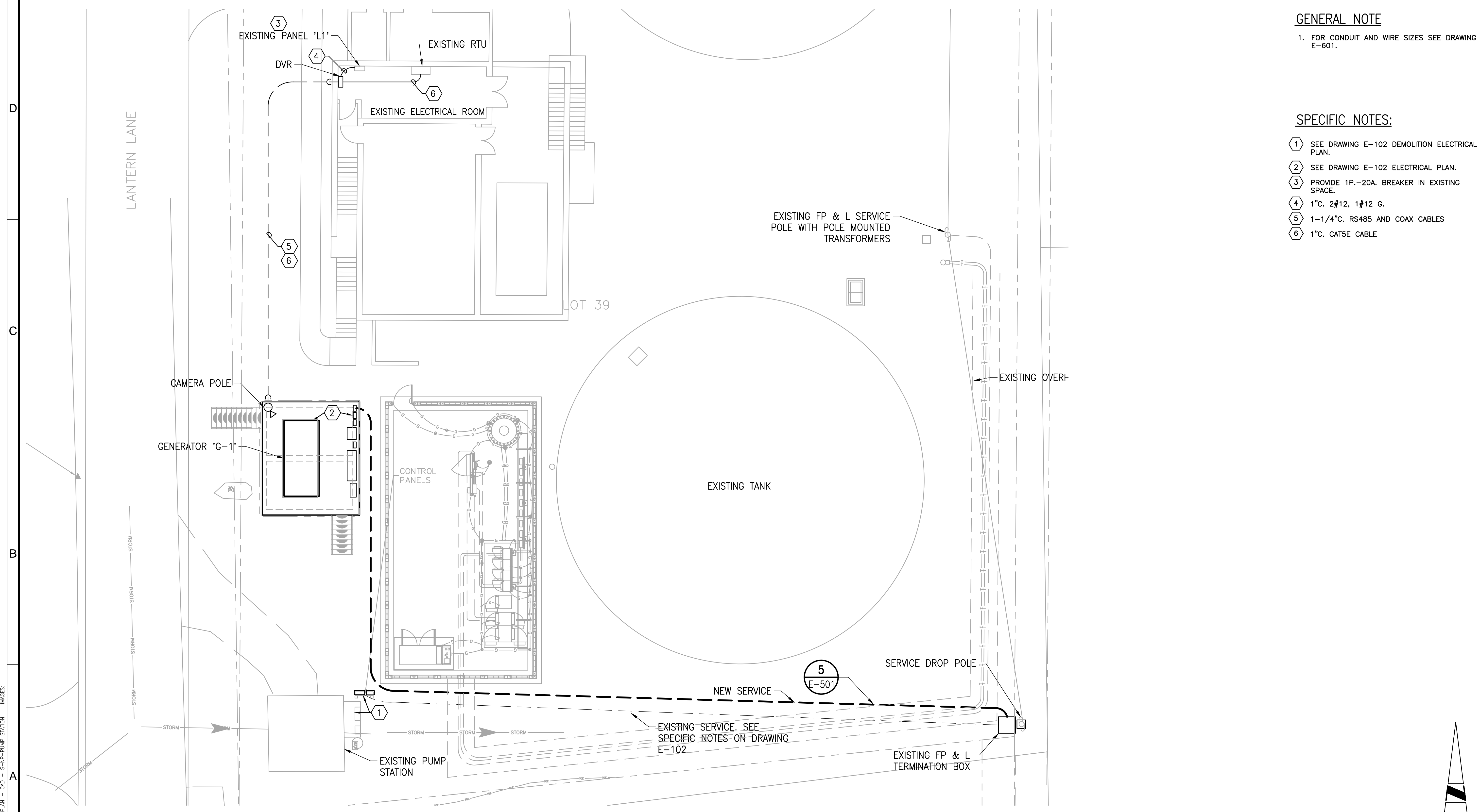
1 2 3 4 5 6 7 8

**GENERAL NOTE**

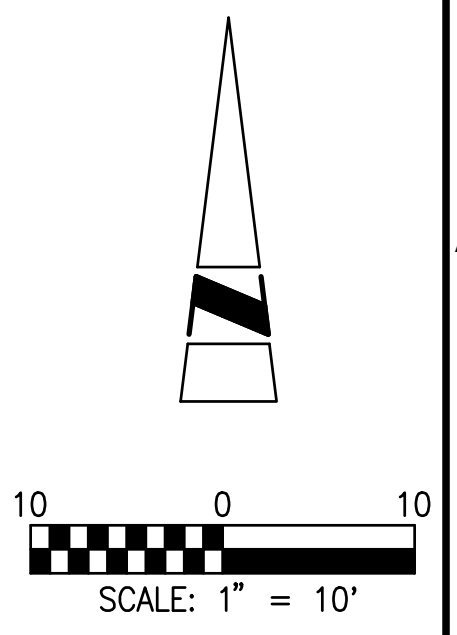
1. FOR CONDUIT AND WIRE SIZES SEE DRAWING E-601.

**SPECIFIC NOTES:**

- ① SEE DRAWING E-102 DEMOLITION ELECTRICAL PLAN.
- ② SEE DRAWING E-102 ELECTRICAL PLAN.
- ③ PROVIDE 1P.-20A. BREAKER IN EXISTING SPACE.
- ④ 1" C. 2#12, 1#12 G.
- ⑤ 1-1/4" C. RS485 AND COAX CABLES
- ⑥ 1" C. CAT5E CABLE



**ELECTRICAL SITE PLAN**  
SCALE: 1" = 10'-0"



DWS: X:\City of Naples\60289240-Fort Royal and Public Works Pump Stations\000\_040\For Royal\Sheets\E-E-101.dwg Layout Name: E-101 - Plotted by: Reed, John Date: 12/11/2013 - 3:53 PM  
 PLOTS: G-BD - C-SP-0485-001 - E-SP-FP - FORT ROYAL PUMP STATION IMAGES

REV	DATE	DESCRIPTION	APPR

DESIGNED BY <b>DK</b>	PROJECT ENGINEER <b>MARK A. PELLISH, P.E.</b>
DRAWN BY <b>DK</b>	REG NUMBER <b>46906</b>
CHECKED BY <b>MAP</b>	PROJECT NUMBER <b>60289240</b>
DATE <b>DEC 2013</b>	

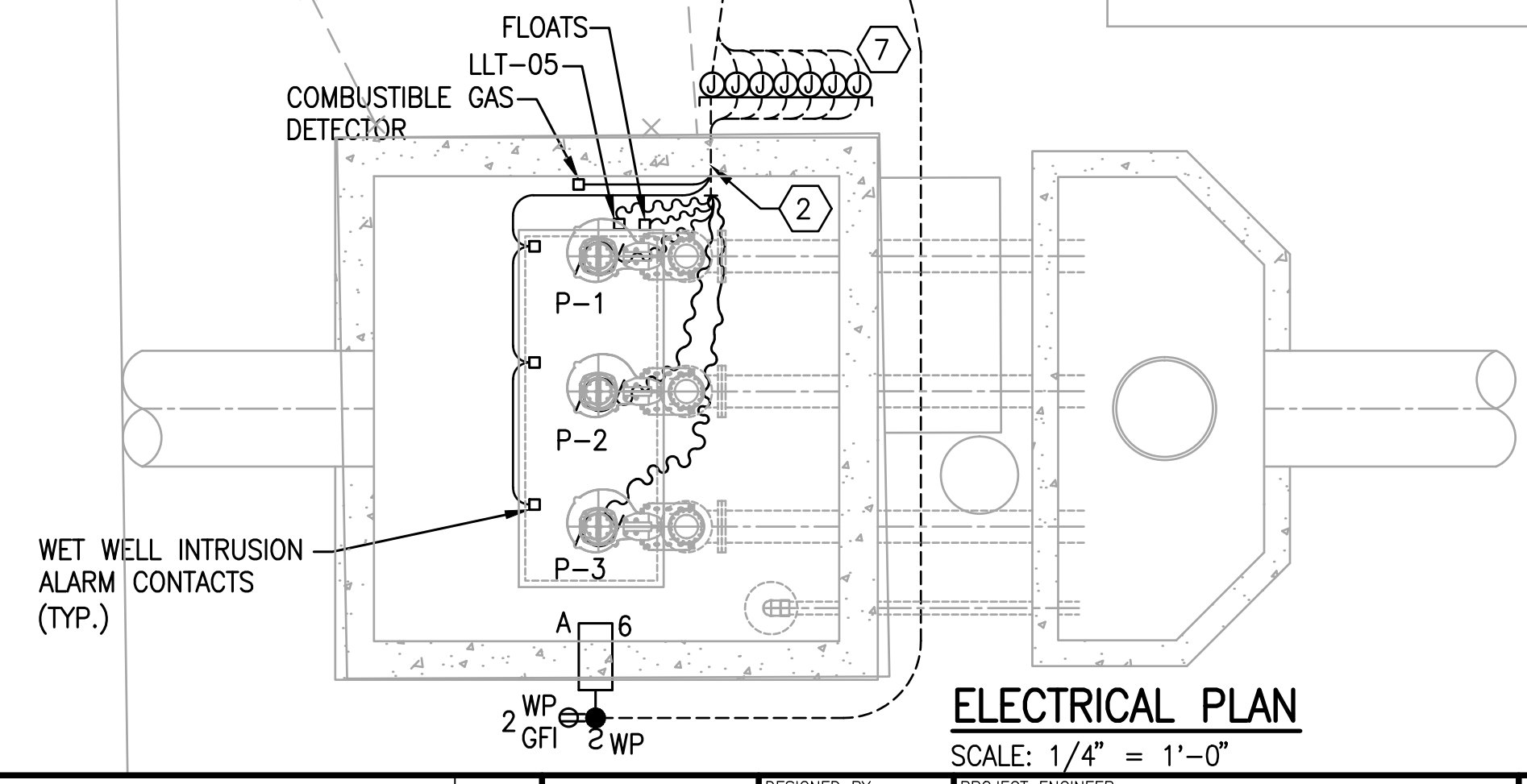
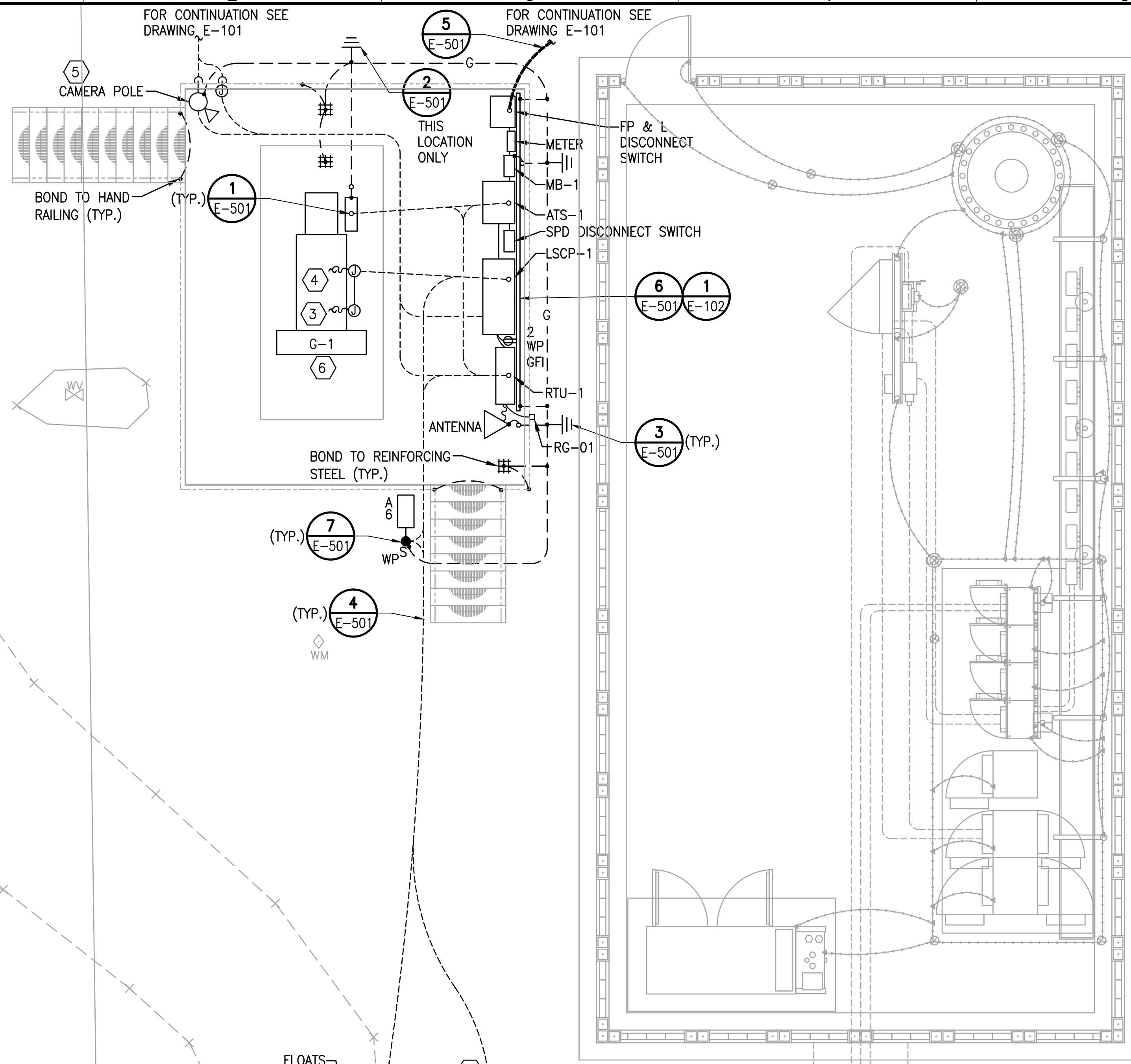
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<b>CITY OF NAPLES</b> <b>PORT ROYAL PUMP STATION</b>	DRAWING <b>E-101</b>
<b>ELECTRICAL SITE PLAN</b>	SHEET <b>18</b> OF -- SHEETS

1 2 3 4 5 6 7 8

DWS: X:\City of Naples\60289240-Fort Royal and Public Works Pump Stations\000 CAD\For Royal\Sheets\E-E-102.dwg - Layout Name: E-102 - Plotted by: Reed, John Date: 12/11/2013 - 3:54 PM  
 AREAS: G-BD - E-POWER-PUMP-STATION - PORT ROYAL PUMP STATION - C-3P-0409-001 - 3-AP-PUMP-STATION IMAGES:



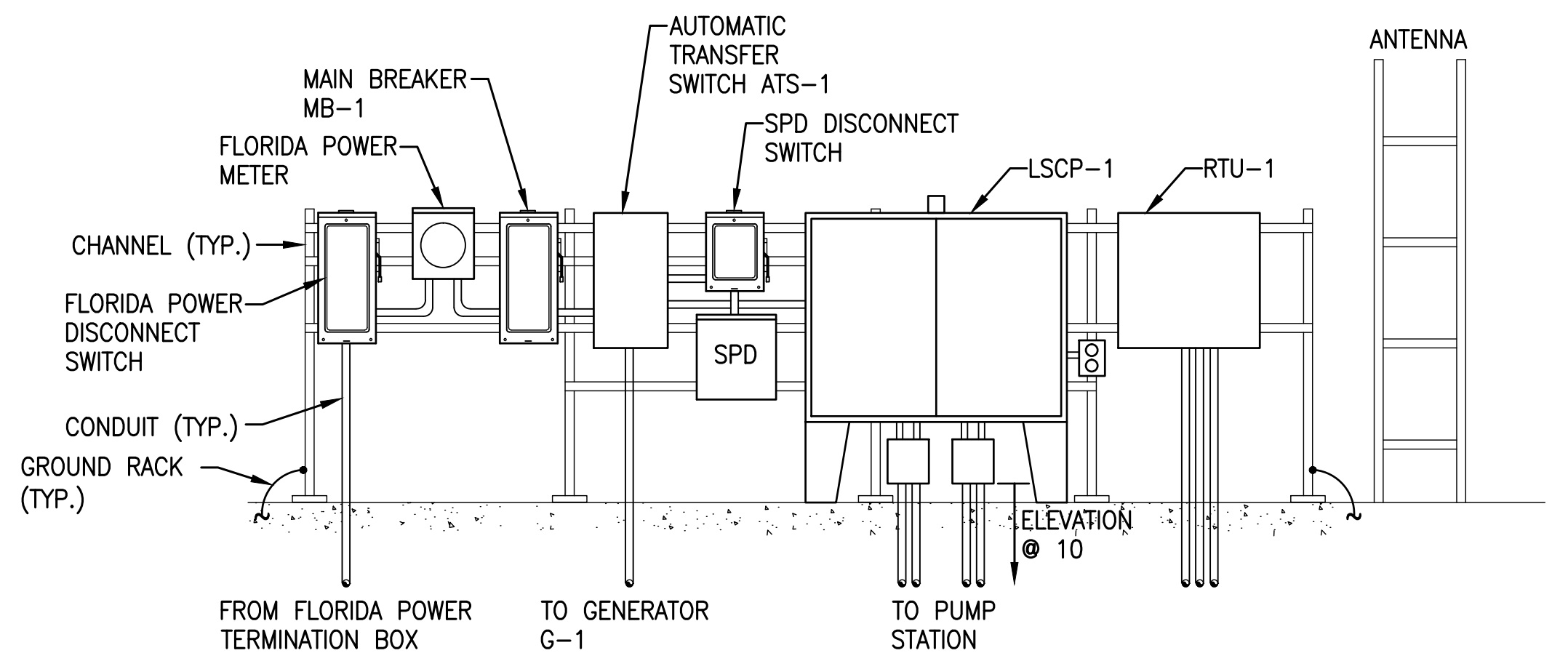
**ELECTRICAL PLAN**  
SCALE: 1/4" = 1'-0"

**GENERAL NOTE:**

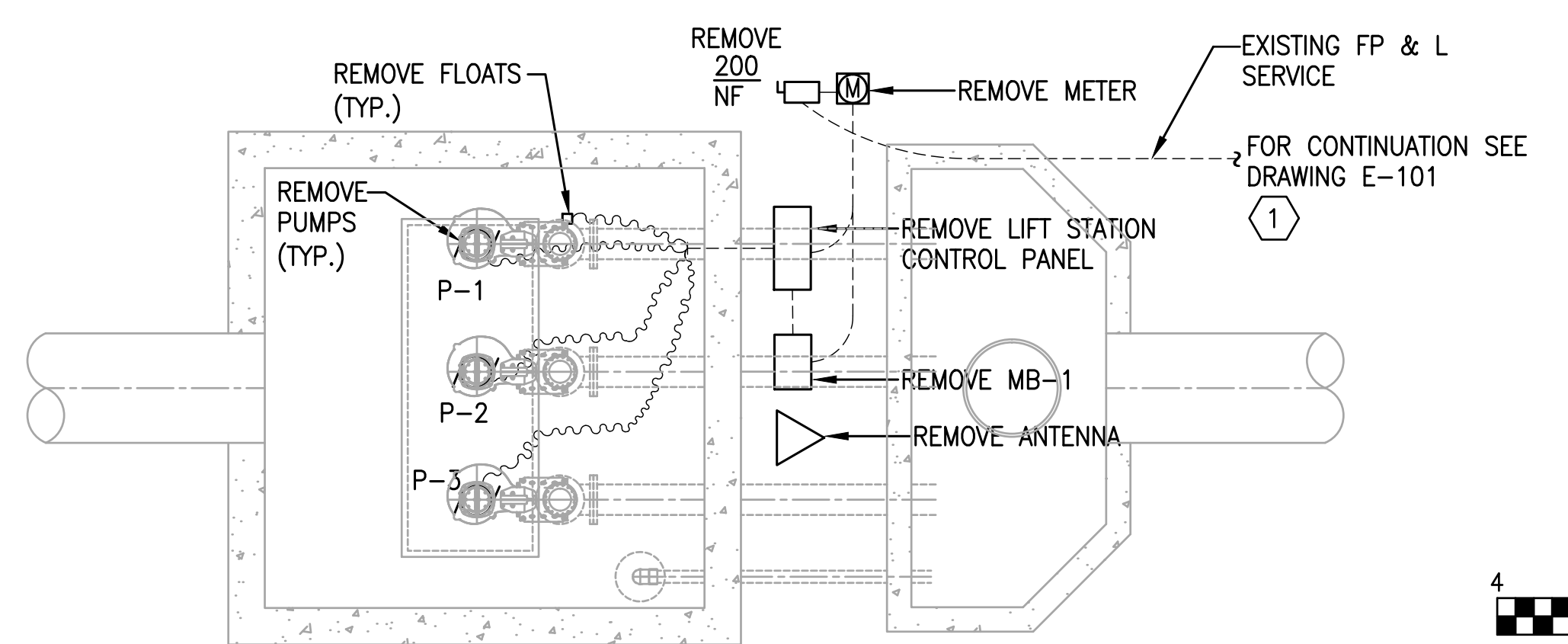
1. AREAS WITH-IN 36" OF ANY OPENING TO VENT OR OPENING IS CLASSIFIED AS CLASS 1, DIVISION 2. LOCATE ALL ELECTRICAL ITEMS OUTSIDE THE 36" AREA.
2. FOR CONDUIT AND WIRE SIZES SEE DRAWING E-601.
3. FOR LIGHT FIXTURE SCHEDULE SEE DRAWING E-601.
4. ANTENNA PROVIDED BY INSTRUMENTATION CONTRACTOR.

**SPECIFIC NOTES:**

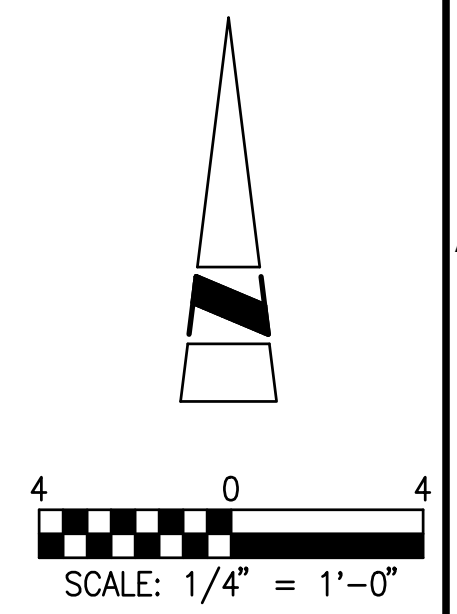
1. EXISTING SERVICE TO REMAIN UNTIL ALL PUMPS ARE POWERED FROM NEW LSCP-1.
2. CORE DRILL SIDE WALL OF PUMP STATION FOR POWER AND CONTROL CONDUIT ENTRIES.
3. JACKET WATER HEATER.
4. BATTERY CHARGER.
5. SECURITY CAMERA (SEE INSTRUMENTATION DRAWINGS)
6. TOP OF GENERATOR SUB-BASE FUEL TANK SHALL BE 3" ABOVE ELEVATION 10.
7. JUNCTION BOXES MOUNTED ON RACK SHALL BE NEMA TYPE 6P. ALL SPLICES WITH-IN BOXES SHALL BE WATER PROOF.



**1 ELECTRICAL SERVICE RACK**  
SCALE: NTS



**DEMOLITION ELECTRICAL PLAN**  
SCALE: 1/4" = 1'-0"

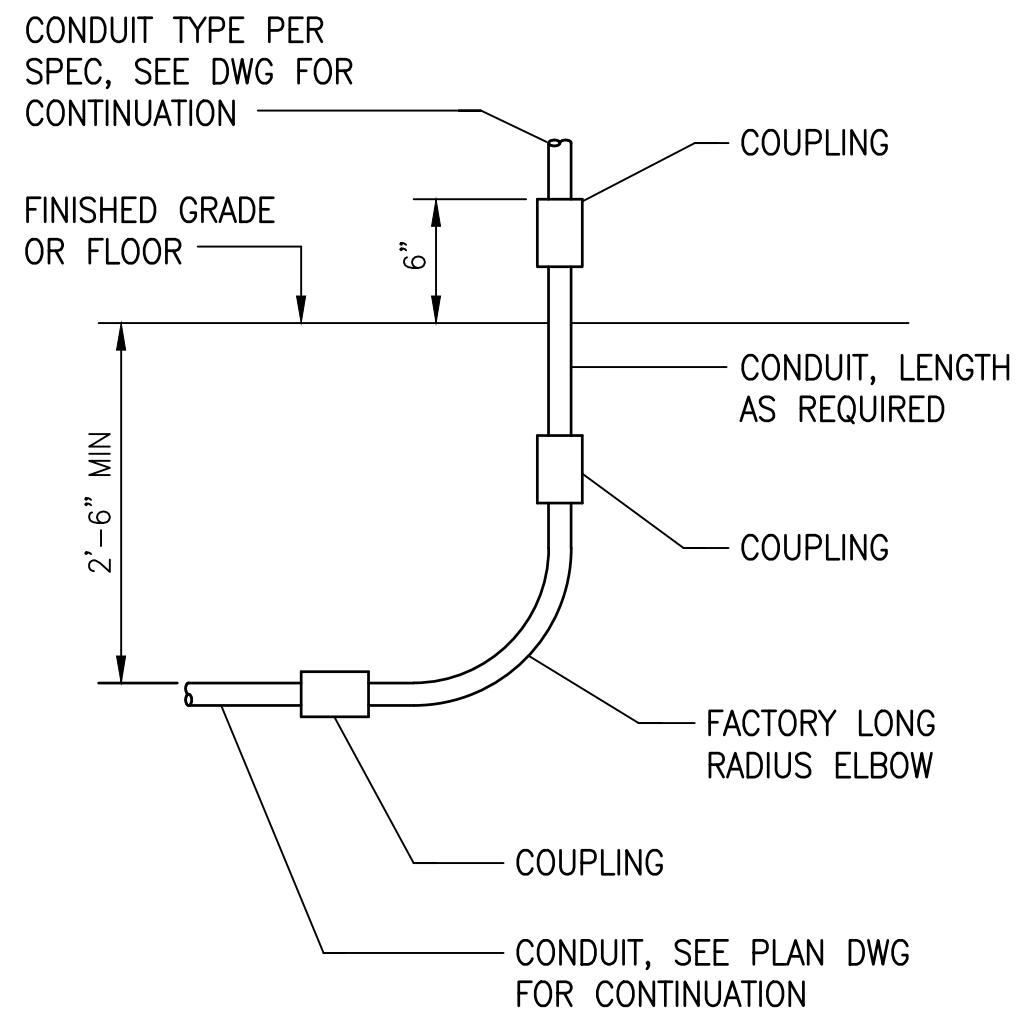


REV	DATE	DESCRIPTION	APPR

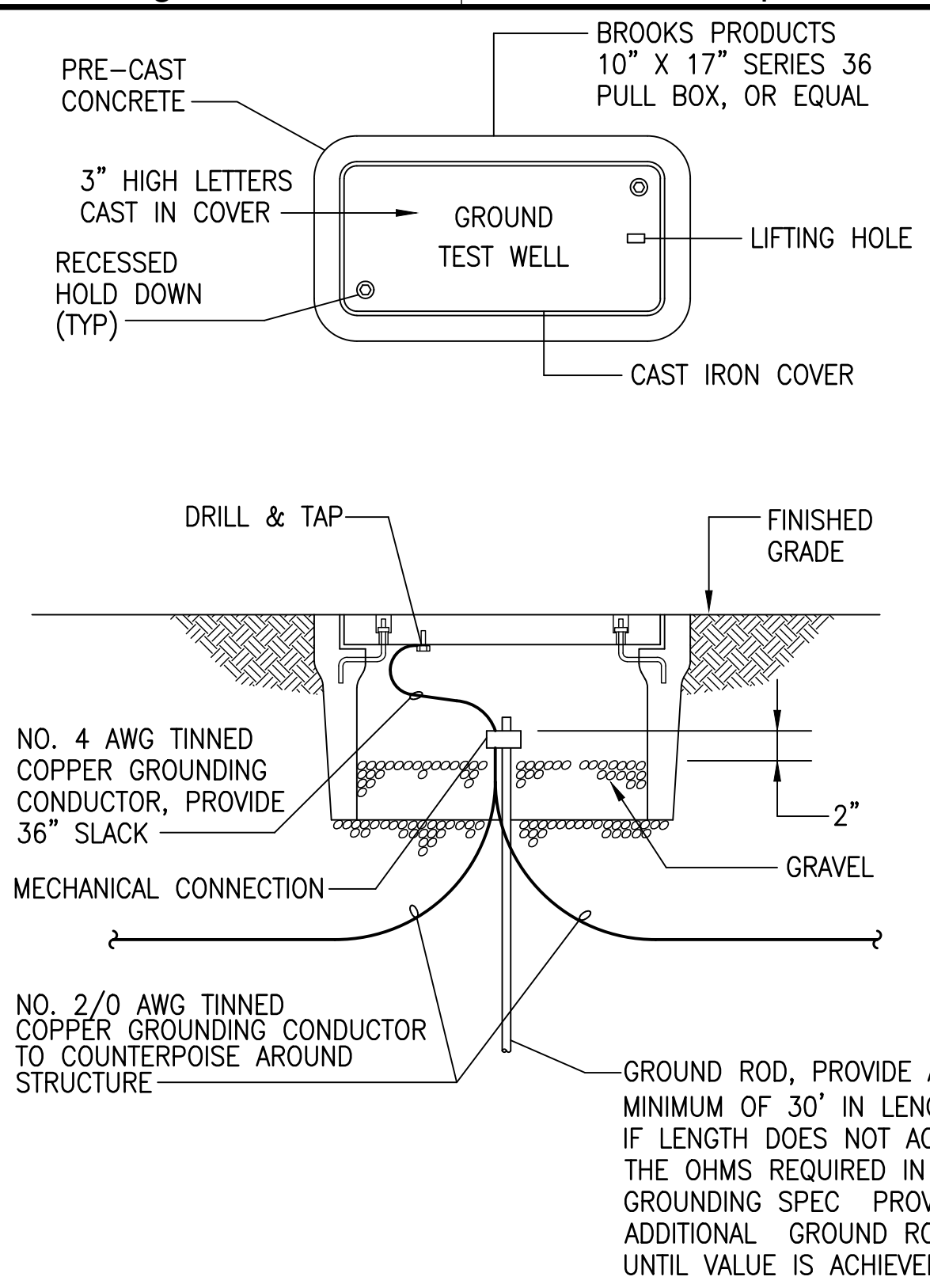
DESIGNED BY DK PROJECT ENGINEER MARK A. PELLISH, P.E.	DRAWN BY DK REG NUMBER 46906	CHECKED BY MAP PROJECT NUMBER 60289240	DATE DEC 2013
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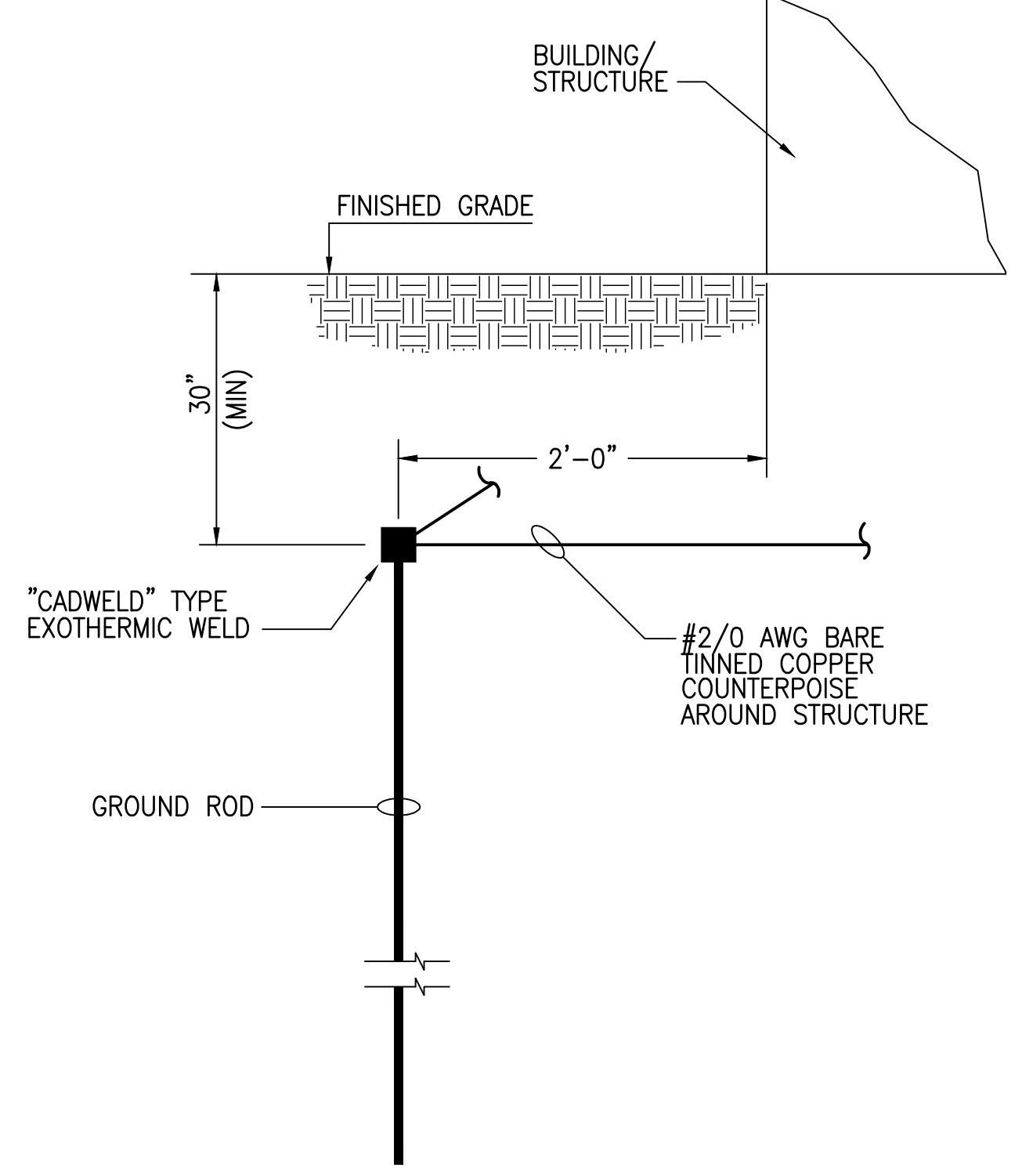
CITY OF NAPLES PORT ROYAL PUMP STATION		DRAWING <b>E-102</b>
ELECTRICAL SITE PLAN II		SHEET <b>19</b> OF -- SHEETS



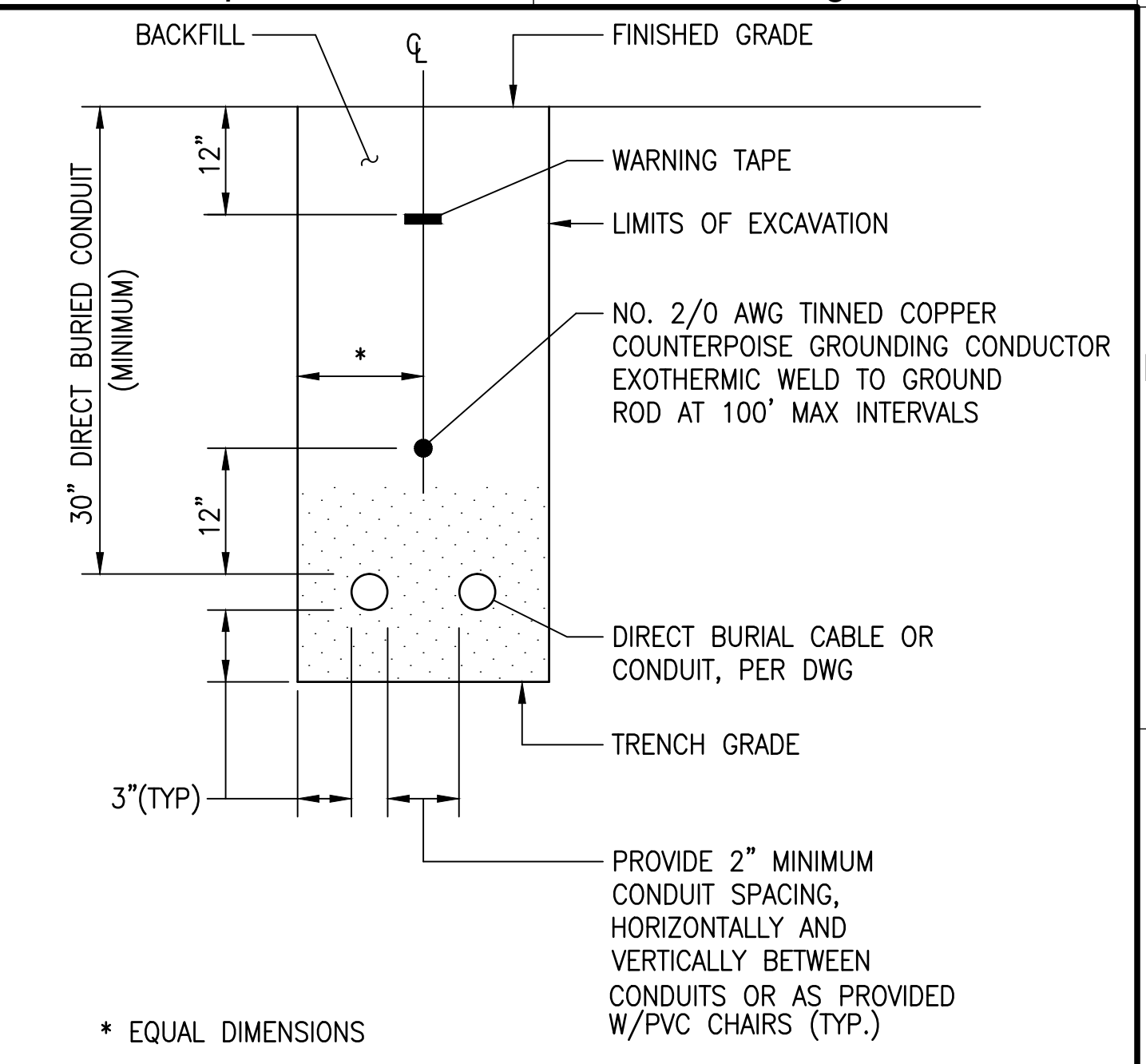
**1** CONDUIT TRANSITION DETAILS  
SCALE: NONE



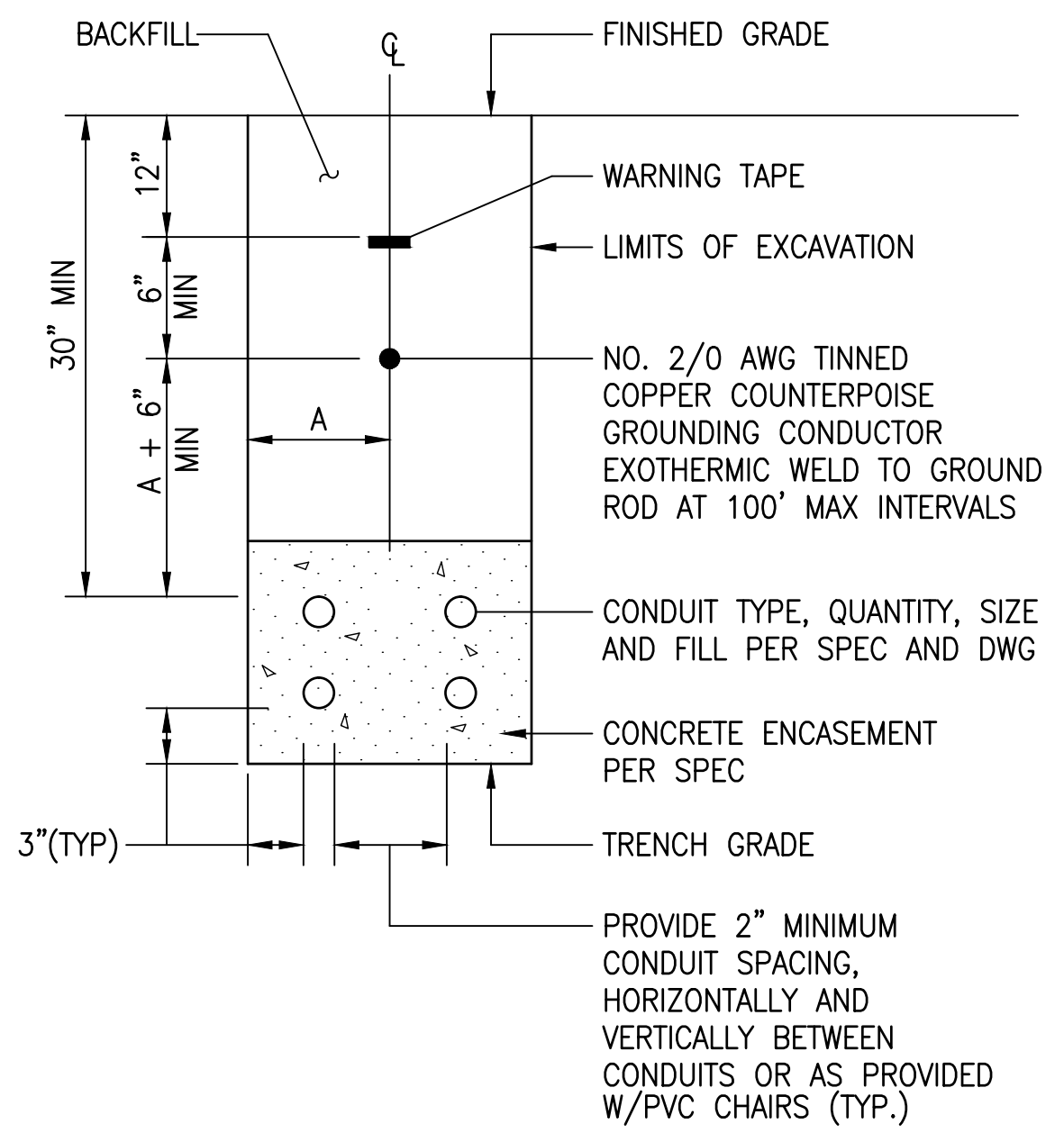
**2** GROUND TEST WELL  
SCALE: NONE



**3** TYPICAL COUNTERPOISE/GROUND ROD INSTALLATION DETAIL  
SCALE: NONE

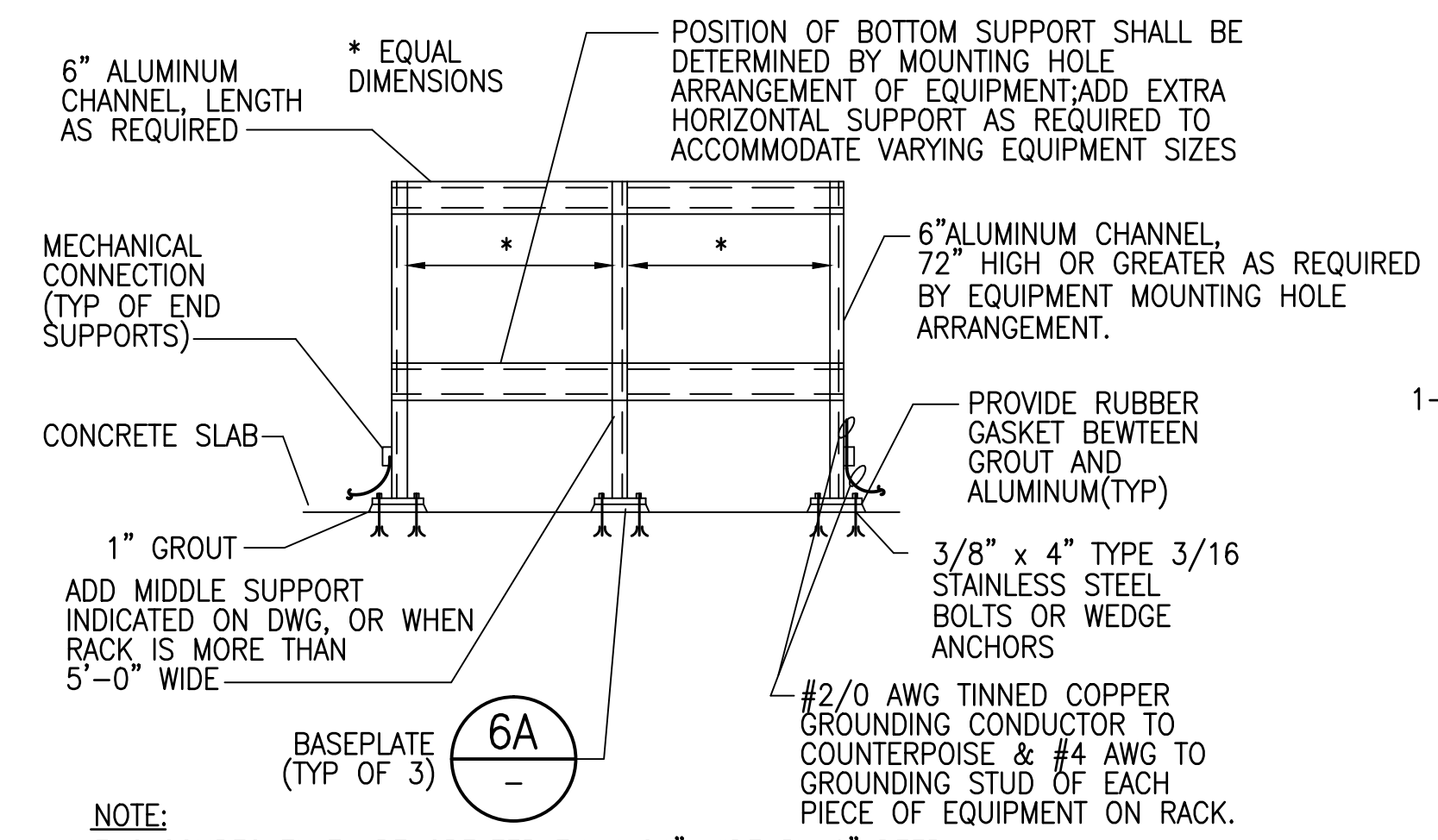


**4** DIRECT BURIAL INSTALLATION  
SCALE: NONE



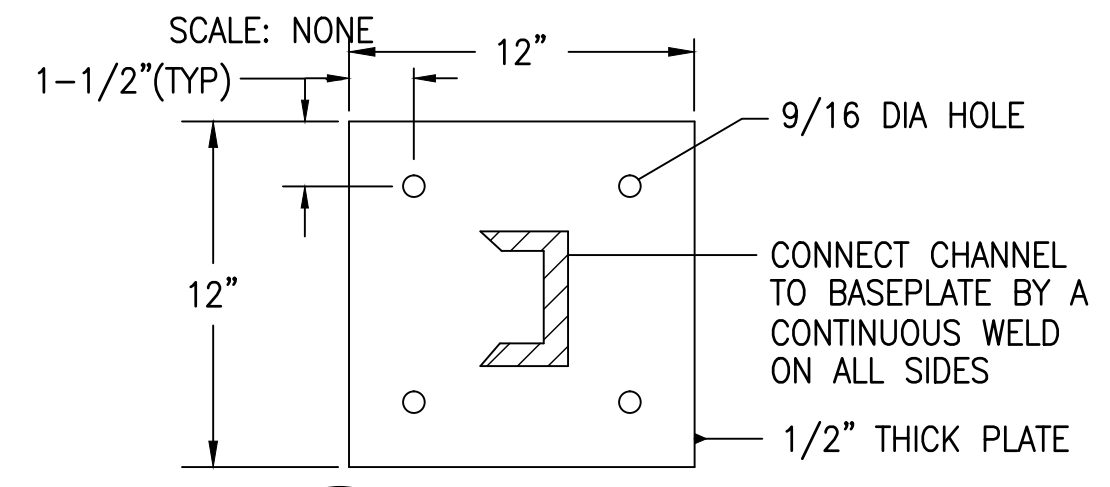
- NOTES:**
- SEE "EARTHWORK AND TRENCHING" SPECIFICATION FOR EXCAVATION AND BACKFILL.
  - THERE SHALL BE A MINIMUM 18" BETWEEN POWER AND ANALOG CONDUIT RUNS.

**5** CONCRETE-ENCASED  
SCALE: NONE

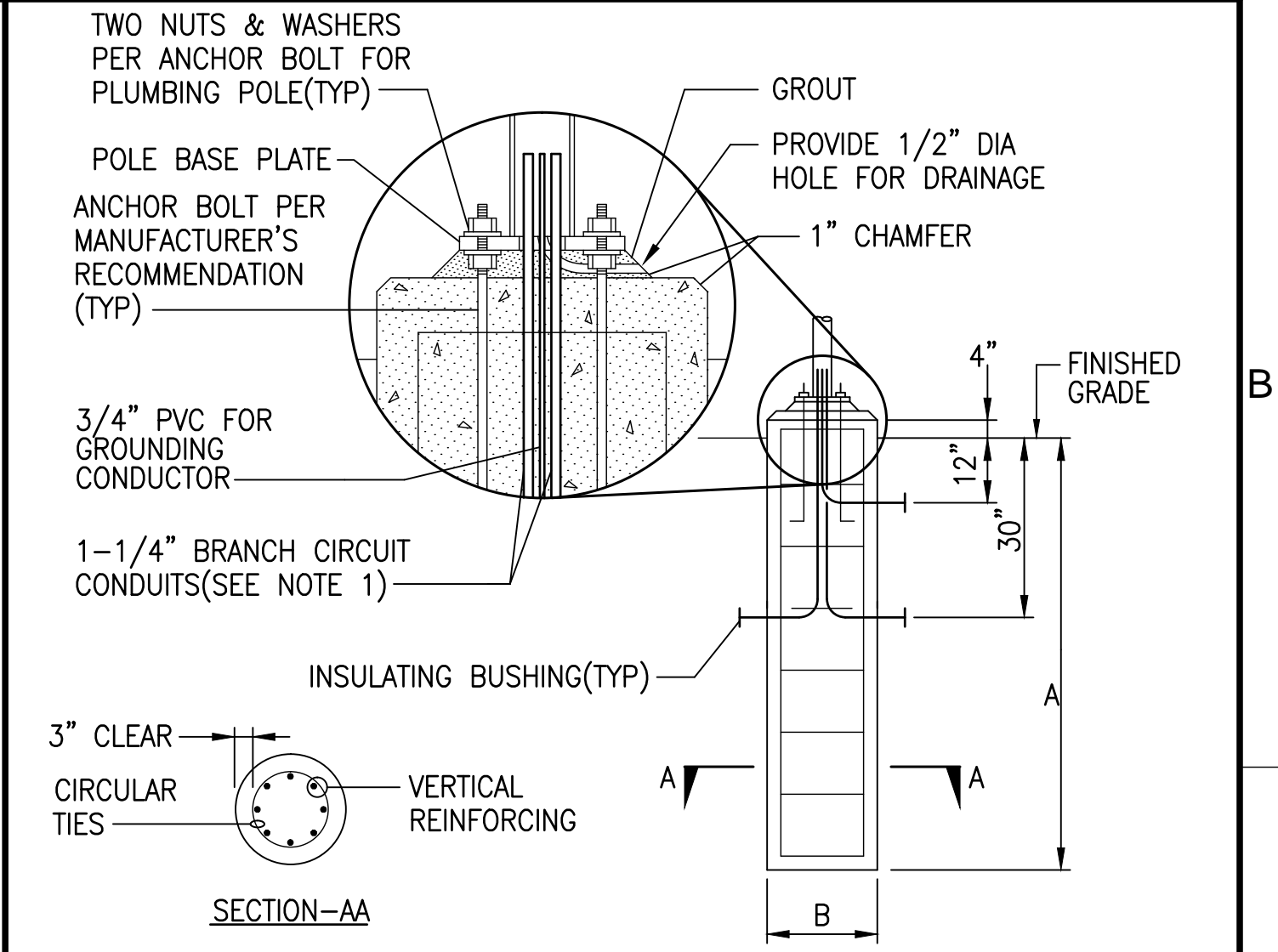


- NOTE:**
- ENCLOSURES THAT ARE GREATER THAN 24" WIDE BY 6" DEEP SHALL BE PROVIDED WITH ADDITIONAL ENCLOSURE SUPPORTS. PROVIDE 1" ALUMINUM CONDUIT WITH ALUMINUM POST BASES AT EACH END AND SECURE THEM TO THE BASE OF THE ENCLOSURE AT EACH FRONT CORNER AND SECURE THE BOTTOM OF THE POST TO CONCRETE PAD OR STRUCTURE.
  - ALL HARDWARE TO ASSEMBLE RACK AND TO MOUNT EQUIPMENT SHALL BE 316 STAINLESS STEEL.

**6** EQUIPMENT RACK DETAIL  
SCALE: NONE



**6A** BASEPLATE  
SCALE: NONE



LIGHT POLE BASE SCHEDULE				
POLE HEIGHT	A	B	VERTICAL REINFORCING	CIRCULAR TIES
20'	4'-9"	2'-0"	8-#5	#3@10"

- NOTES:**
- REFER TO DWG FOR CONDUIT ARRANGEMENT & QUANTITY.
  - 2500 PSI MINIMUM CLASS 1 CONCRETE.
  - WHERE FIXTURE OCCURS AT SIDEWALK/DECK, TOP OF CONC BASE TO BE FLUSH WITH SIDEWALK/DECK
  - PROVIDE GROUND ROD FOR EACH POLE BASE AND CONNECT WITH #6 GROUND CABLE TO POLE ANCHOR BOLTS.

**7** LIGHT POLE BASE SECTIONS & DETAIL  
SCALE: NONE

DWG: X:\City of Naples\60289240-Port Royal and Public Works Pump Stations\000 CAD\Per-L\Royal\Sheets\E-E-501.dwg Layout Name: E-501 - Plotted by: Reed, John Date: 12/11/2013 - 3:54 PM  
 APPR: G-EB

REV	DATE	DESCRIPTION	APPR

DESIGNED BY <b>DK</b>	PROJECT ENGINEER <b>MARK A. PELLISH P.E.</b>
DRAWN BY <b>DK</b>	REG NUMBER <b>46906</b>
CHECKED BY <b>MAP</b>	PROJECT NUMBER <b>60289240</b>
DATE <b>DEC 2013</b>	

**AECOM**

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CITY OF NAPLES PORT ROYAL PUMP STATION		DRAWING <b>E-501</b>
ELECTRICAL DETAILS		SHEET <b>20</b> OF -- SHEETS

**SPECIFIC NOTES:**

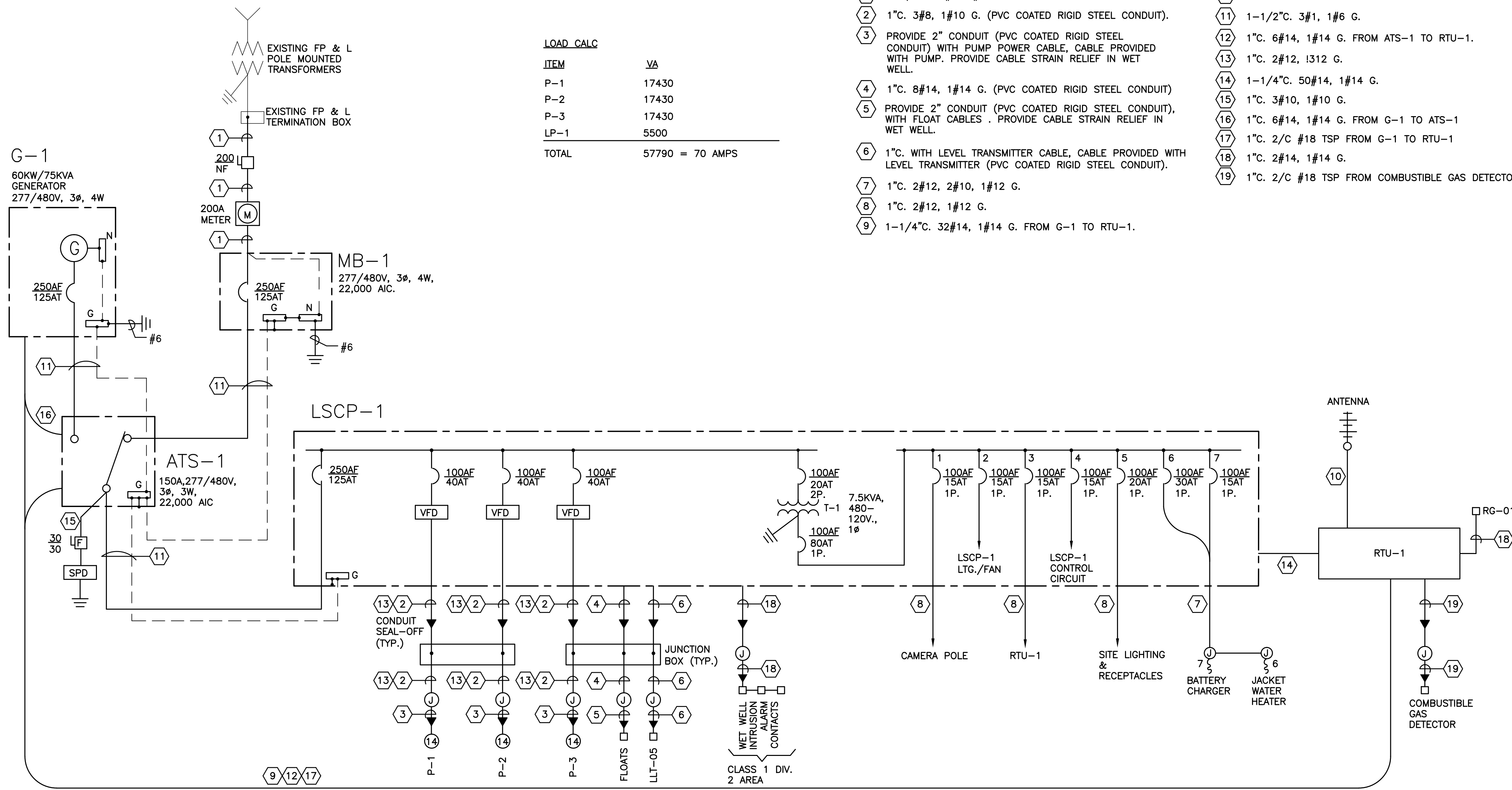
- 1 1-1/2" C. 3#1, 1#6 N.
- 2 1" C. 3#8, 1#10 G. (PVC COATED RIGID STEEL CONDUIT).
- 3 PROVIDE 2" CONDUIT (PVC COATED RIGID STEEL CONDUIT) WITH PUMP POWER CABLE, CABLE PROVIDED WITH PUMP. PROVIDE CABLE STRAIN RELIEF IN WET WELL.
- 4 1" C. 8#14, 1#14 G. (PVC COATED RIGID STEEL CONDUIT)
- 5 PROVIDE 2" CONDUIT (PVC COATED RIGID STEEL CONDUIT), WITH FLOAT CABLES. PROVIDE CABLE STRAIN RELIEF IN WET WELL.
- 6 1" C. WITH LEVEL TRANSMITTER CABLE, CABLE PROVIDED WITH LEVEL TRANSMITTER (PVC COATED RIGID STEEL CONDUIT).
- 7 1" C. 2#12, 2#10, 1#12 G.
- 8 1" C. 2#12, 1#12 G.
- 9 1-1/4" C. 32#14, 1#14 G. FROM G-1 TO RTU-1.
- 10 1" C. ANTENNA CABLE.
- 11 1-1/2" C. 3#1, 1#6 G.
- 12 1" C. 6#14, 1#14 G. FROM ATS-1 TO RTU-1.
- 13 1" C. 2#12, 1312 G.
- 14 1-1/4" C. 50#14, 1#14 G.
- 15 1" C. 3#10, 1#10 G.
- 16 1" C. 6#14, 1#14 G. FROM G-1 TO ATS-1
- 17 1" C. 2/C #18 TSP FROM G-1 TO RTU-1
- 18 1" C. 2#14, 1#14 G.
- 19 1" C. 2/C #18 TSP FROM COMBUSTIBLE GAS DETECTOR TO RTU-1

**GENERAL NOTE**

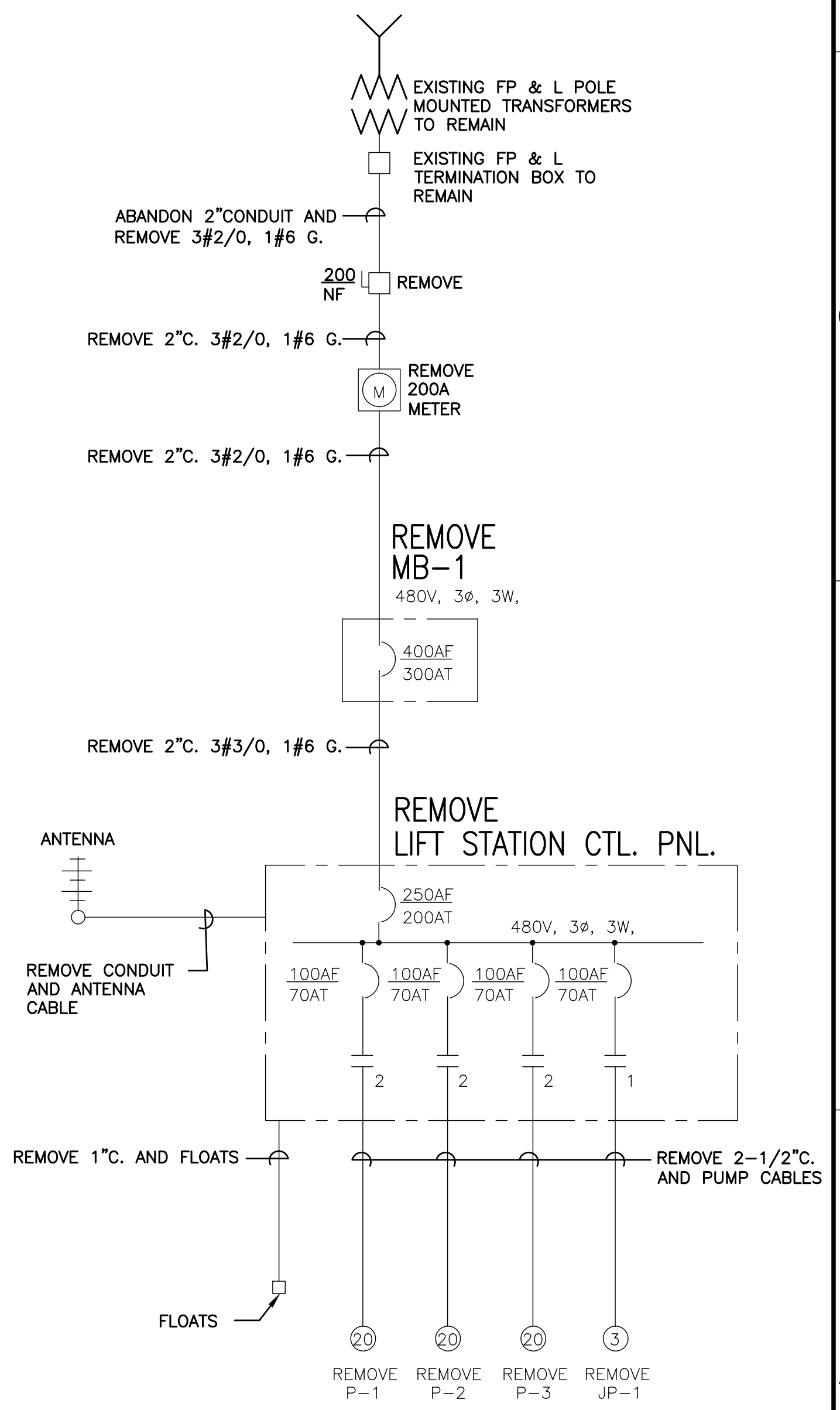
1. CONTRACTOR SHALL CONTACT FP & L AT START OF PROJECT TO COORDINATE SERVICE ROUTING, TERMINATIONS, SERVICE OUTAGE AND SHORT CIRCUIT AVAILABLE.

**LOAD\_CALC**

ITEM	VA
P-1	17430
P-2	17430
P-3	17430
LP-1	5500
<b>TOTAL</b>	<b>57790 = 70 AMPS</b>



**SINGLE LINE DIAGRAM**



**DEMOLITION SINGLE LINE DIAGRAM**

**LIGHT FIXTURE SCHEDULE**

TYPE	MANUFACTURER CATALOG NO.	DESCRIPTION	LAMPS		MOUNTING	REMARKS
			VOLTS	NO. TYPE		
A	LSI #XPT3-3-LED-128-350-CW-VE-BRZ SPAULDING #CL1-A-30L-U-5K-3-DB	ZOW LED SHOEBOX TYPE LIGHT FIXTURE, IES TYPE III, CLEAR GLASS LENS	120	30 LED 5K	POLE	20'-0" SQUARE ALUMINUM POLE

DWG: X:\City of Naples\60289240-Port Royal and Public Works Pump Stations\000 CAD\Per\_L\_Royal\Sheets\E-E-601.dwg  
 PLOTTED BY: REED, JOHN DATE: 12/11/2013 3:54 PM  
 LAYOUT NAME: E-601

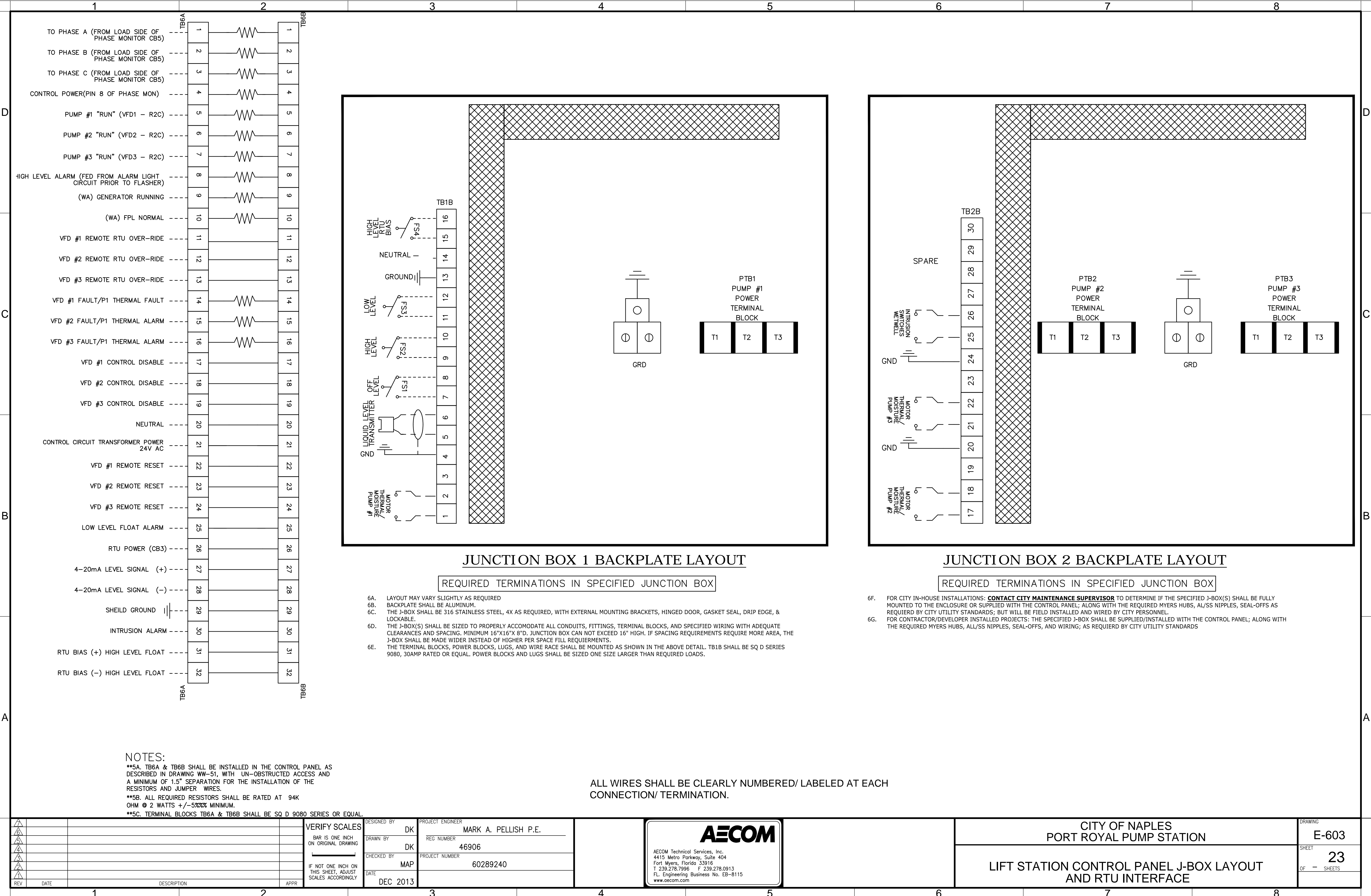
VERIFY SCALES BAR IS ONE INCH ON ORIGINAL DRAWING IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY	DESIGNED BY DK MARK A. PELLISH P.E.	PROJECT ENGINEER
DRAWN BY DK 46906	REG NUMBER	
CHECKED BY MAP 60289240	PROJECT NUMBER	
DATE DEC 2013		



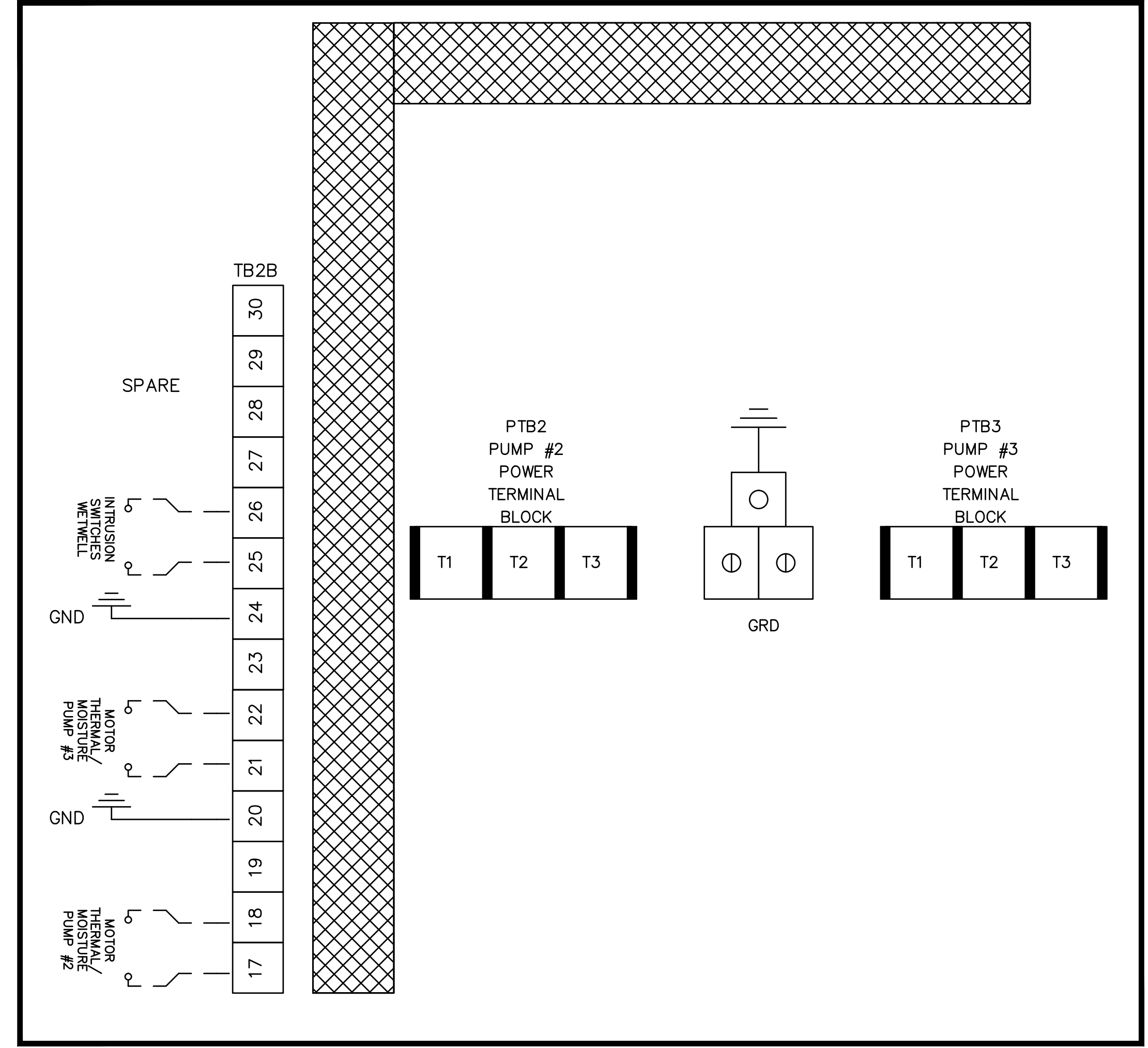
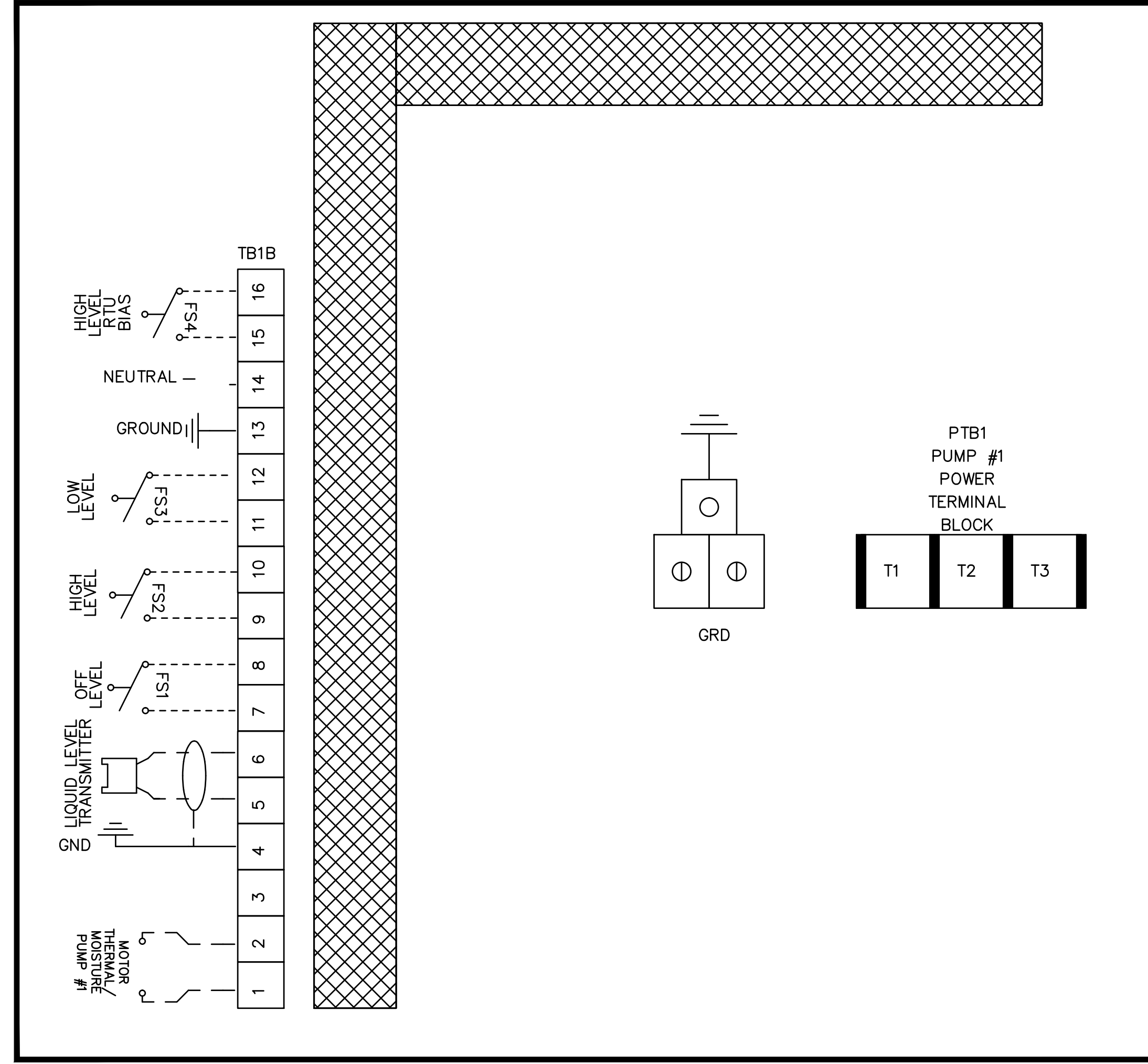
CITY OF NAPLES PORT ROYAL PUMP STATION		DRAWING E-601
SINGLE LINE DIAGRAM		SHEET 21 OF -- SHEETS



DWG: X:\City of Naples\60289240-Fort Royal and Public Works Pump Stations\000 C40\Per\_Lroyal\Sheets\E-E-603.dwg  
 PLOTTED BY: REED, JOHN  
 DATE: 12/11/2013 3:54 PM  
 LAYOUT NAME: E-603



TO PHASE A (FROM LOAD SIDE OF PHASE MONITOR CB5)	1	1
TO PHASE B (FROM LOAD SIDE OF PHASE MONITOR CB5)	2	2
TO PHASE C (FROM LOAD SIDE OF PHASE MONITOR CB5)	3	3
CONTROL POWER (PIN 8 OF PHASE MON)	4	4
PUMP #1 "RUN" (VFD1 - R2C)	5	5
PUMP #2 "RUN" (VFD2 - R2C)	6	6
PUMP #3 "RUN" (VFD3 - R2C)	7	7
HIGH LEVEL ALARM (FED FROM ALARM LIGHT CIRCUIT PRIOR TO FLASHER)	8	8
(WA) GENERATOR RUNNING	9	9
(WA) FPL NORMAL	10	10
VFD #1 REMOTE RTU OVER-RIDE	11	11
VFD #2 REMOTE RTU OVER-RIDE	12	12
VFD #3 REMOTE RTU OVER-RIDE	13	13
VFD #1 FAULT/P1 THERMAL FAULT	14	14
VFD #2 FAULT/P1 THERMAL ALARM	15	15
VFD #3 FAULT/P1 THERMAL ALARM	16	16
VFD #1 CONTROL DISABLE	17	17
VFD #2 CONTROL DISABLE	18	18
VFD #3 CONTROL DISABLE	19	19
NEUTRAL	20	20
CONTROL CIRCUIT TRANSFORMER POWER 24V AC	21	21
VFD #1 REMOTE RESET	22	22
VFD #2 REMOTE RESET	23	23
VFD #3 REMOTE RESET	24	24
LOW LEVEL FLOAT ALARM	25	25
RTU POWER (CB3)	26	26
4-20mA LEVEL SIGNAL (+)	27	27
4-20mA LEVEL SIGNAL (-)	28	28
SHEILD GROUND	29	29
INTRUSION ALARM	30	30
RTU BIAS (+) HIGH LEVEL FLOAT	31	31
RTU BIAS (-) HIGH LEVEL FLOAT	32	32



**NOTES:**

\*\*5A. TB6A & TB6B SHALL BE INSTALLED IN THE CONTROL PANEL AS DESCRIBED IN DRAWING WW-51, WITH UN-OBSTRUCTED ACCESS AND A MINIMUM OF 1.5" SEPARATION FOR THE INSTALLATION OF THE RESISTORS AND JUMPER WIRES.

\*\*5B. ALL REQUIRED RESISTORS SHALL BE RATED AT 94K OHM @ 2 WATTS +/-5% MINIMUM.

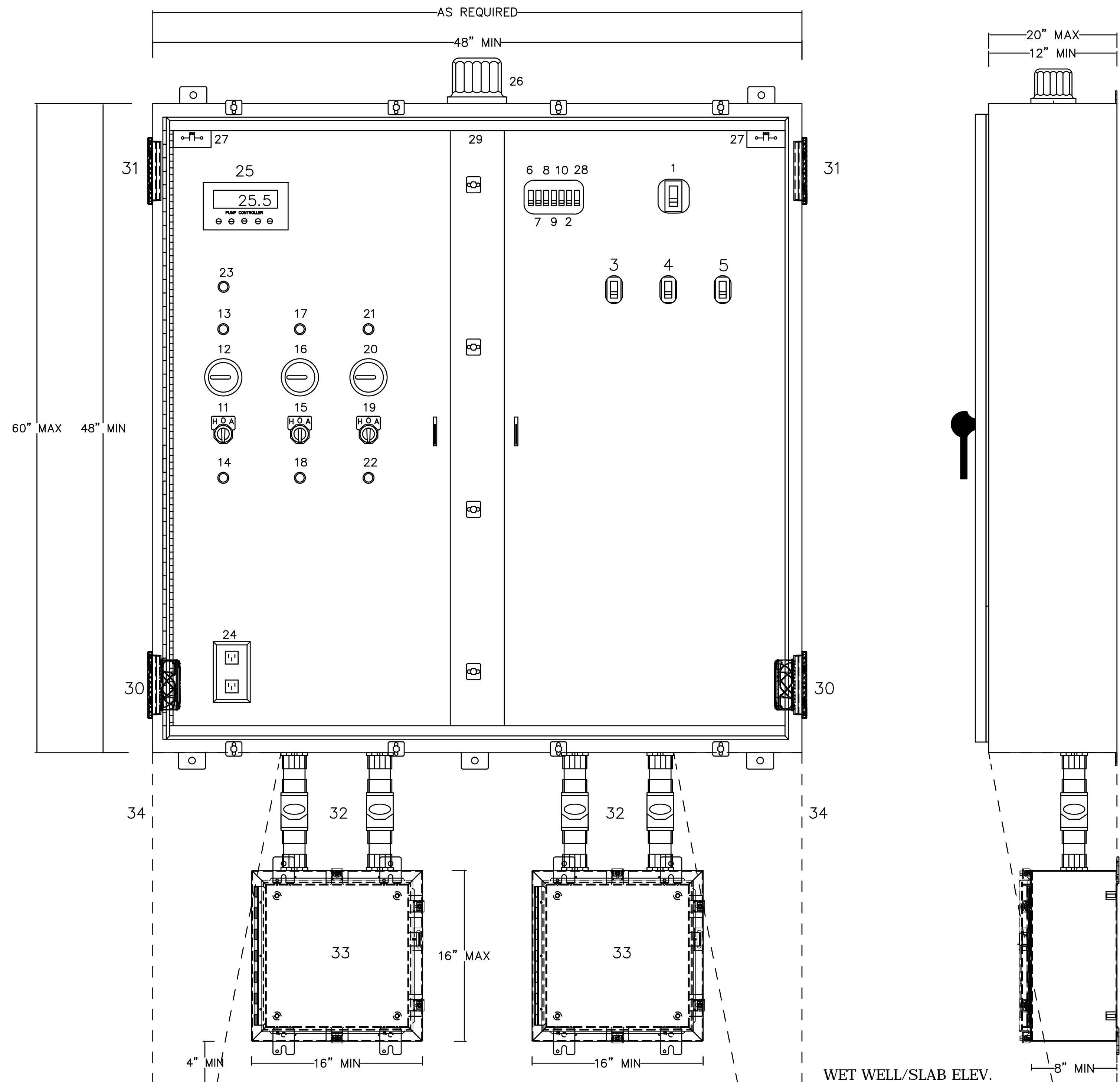
\*\*5C. TERMINAL BLOCKS TB6A & TB6B SHALL BE SQ D 9080 SERIES OR EQUAL.

ALL WIRES SHALL BE CLEARLY NUMBERED/ LABELED AT EACH CONNECTION/ TERMINATION.

DESIGNED BY	DK	PROJECT ENGINEER	MARK A. PELLISH P.E.
DRAWN BY	DK	REG NUMBER	46906
CHECKED BY	MAP	PROJECT NUMBER	60289240
DATE	DEC 2013		

CITY OF NAPLES PORT ROYAL PUMP STATION		DRAWING E-603
LIFT STATION CONTROL PANEL J-BOX LAYOUT AND RTU INTERFACE		SHEET 23 OF - SHEETS

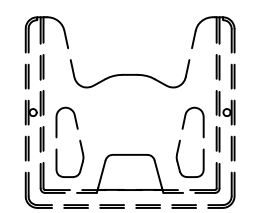
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**KEY NOTES:**

- \* OUTER DOOR(S) HAVE BEEN REMOVED FOR CLARITY
- \* PANEL ENCLOSURE SIZE SHALL BE DETERMINED BY PROPER SPACING & CODE REQUIREMENTS OF ALL SPECIFIED COMPONENTS TO BE INSTALLED. CONFIGURATION MAY VARY. MAINTAIN A 1.5" SEPARATION BETWEEN COMPONENTS & CABLE TRAYS.
- \* PROJECTS WITH HP RATINGS GREATER THAN 20 HP MAY REQUIRE LARGER ENCLOSURES UP TO 60'H MAX X AS REQUIRED"W X 16"-20" D, AND REQUIRE SUPPORT LEGS TO DISTRIBUTE THE WEIGHT OF THE ENCLOSURE.
- \* THE SUB-PANEL DOOR SHALL BE EQUIPPED WITH A WIND (HOLD OPEN) RESTRAINT MECHANISM.
- \* THE PANEL ENCLOSURE SHALL BE SUPPLIED WITH A CONTINUOUS DRIP EDGE.
- \* THE ENCLOSURE SHALL BE 316 STAINLESS STEEL NEMA 3R AS REQUIRED, GASKET SEAL DOORS, A MINIMUM OF A THREE POINT LATCH SYSTEM, LOCKING HASP, AND STAINLESS STEEL HINGES & HARDWARE.
- \* SINGLE DOOR ENCLOSURES SHALL REQUIRE ONE (1) EA INTRUSION DOOR SWITCH. PANEL INTRUSION DOOR SWITCH: SWITCH SHALL BE CLEANLY AND SECURELY MOUNTED. SWITCH SHALL BE WEATHER RESISTANT, NON-EXPOSED CONTACTS/TERMINALS, IMPACT RESISTANT. SWITCH CAN BE MAGNETIC, MECHANICAL, ETC.
- \* DOUBLE DOOR ENCLOSURES SHALL REQUIRE ONE (1) EA INTRUSION DOOR SWITCH FOR EACH DOOR, DOUBLE DOOR ENCLOSURES SHALL REQUIRE ONE (1) EA INTRUSION DOOR SWITCH FOR EACH DOOR, PANEL INTRUSION DOOR SWITCH(S): SWITCH SHALL BE CLEANLY AND SECURELY MOUNTED. SWITCH SHALL BE WEATHER RESISTANT, NON-EXPOSED CONTACTS/TERMINALS, IMPACT RESISTANT. SWITCH CAN BE MAGNETIC, PREFERABLY MECHANICAL, ETC.
- \* ITEM 29 PANEL CONVIENENCE LIGHT BAR: THE SPECIFIED PORTFOLIO 27" LED LIGHT STRIP SHALL BE MOUNTED:
  - SINGLE DOOR PANEL: BEHIND THE SUB-DOOR AND UNDER THE TOP OF PANEL.
  - DOUBLE DOOR PANEL: BEHIND THE CENTER DEVIDER SUPPORT.
- \* PROVIDE INTRINSICALLY SAFE BARRIER IN CONTROL PANEL TO ISOLATE FLOAT LEVEL SWITCH RELAYS AND WIRING FROM OTHER COMPONENTS AND WIRING WITHIN CONTROL PANEL ENCLOSURE.

- |   |   |  |
|---|---|--|
| 1 - MAIN CIRCUIT BREAKER                                | 14 - P-1 MOTOR THERMAL ALARM P.L. (RED)             | 26 - EXTERNAL ALARM LIGHT  |
| 2 - CB7 JACKET WATER HEATER CIRCUIT BREAKER (30A)       | 15 - P-2 HOA SELECTOR SWITCH                        | 27 - PANEL INTRUSION ALARM SWITCH(S)   |
| 3 - P-1 MOTOR CIRCUIT BREAKER                           | 16 - P-2 ELAPSED TIME METER                         | 28 - CB6 BATTERY CHARGER CIRCUIT BREAKER (15A)   |
| 4 - P-2 MOTOR CIRCUIT BREAKER                           | 17 - P-2 RUN PILOT LIGHT (GREEN)                    | 29 - PANEL CONVIENENCE LIGHT BAR   |
| 5 - P-3 MOTOR CIRCUIT BREAKER                           | 18 - P-2 MOTOR THERMAL ALARM P.L. (RED)             | 30 - COOLING FAN ASSEMBLIES  |
| 6 - CB1 CAMERA POLE CIRCUIT BREAKER (15A)               | 19 - P-3 HOA SELECTOR SWITCH                        | 31 - COOLING EXHAUST ASSEMBLIES  |
| 7 - CB2 LIGHTING/FANS CIRCUIT BREAKER (15A)             | 20 - P-3 ELAPSED TIME METER                         | 32 - PANEL(S) SEAL-OFF ASSEMBLIES  |
| 8 - CB3 RTU POWER CIRCUIT BREAKER (15A)                 | 21 - P-3 RUN PILOT LIGHT (GREEN)                    | 33 - JUNCTION BOXES  |
| 9 - CB4 CONTROL CIRCUIT BREAKER (15A)                   | 22 - P-3 MOTOR THERMAL ALARM P.L. (RED)             | 34 - SUPPORT LEGS FOR ENCLOSURES REQUIRING SUFFICIENT SUPPORT FOR PANEL WEIGHT DISTRIBUTION. |
| 10 - CB5 SITE LIGHTING/RECEPTACLES CIRCUIT BREAKER(20A) | 23 - HIGH LEVEL ALARM PILOT LIGHT (RED)             | 35 - MAIN/GENERATOR BREAKER INTERLOCK  |
| 11 - P-1 HOA SELECTOR SWITCH                            | 24 - GFCI DUPLEX RECEPTACLE                         |  |
| 12 - P-1 ELAPSED TIME METER                             | 25 - PUMP LEVEL CONTROLLER W/SUBMERSIBLE TRANSDUCER |  |
| 13 - P-1 RUN PILOT LIGHT (GREEN)                        |   |  |

 A DATA POCKET SHALL BE MOUNTED TO THE INSIDE OF THE PANEL ENCLOSURE OUTER DOOR. NO PENETRATIONS THROUGH THE DOOR SHALL BE ALLOWED FOR MOUNTING. THE DATA POCKET SHALL BE HOFFMAN ADP2 OR APPROVED EQUAL. DOUBLE DOOR ENCLOSURES SHALL BE SUPPLIED WITH 1 EA DATA PACKET PER DOOR.

WET WELL/SLAB ELEV.

DWG: X:\City of Naples\60289240-Fort Royal and Public Works Pump Stations\000 CAD\Per\_Lroyal\Sheets\E-E-604.dwg Layout Name: E-604 - Plotted by: Reed, John Date: 12/11/2013 - 3:54 PM

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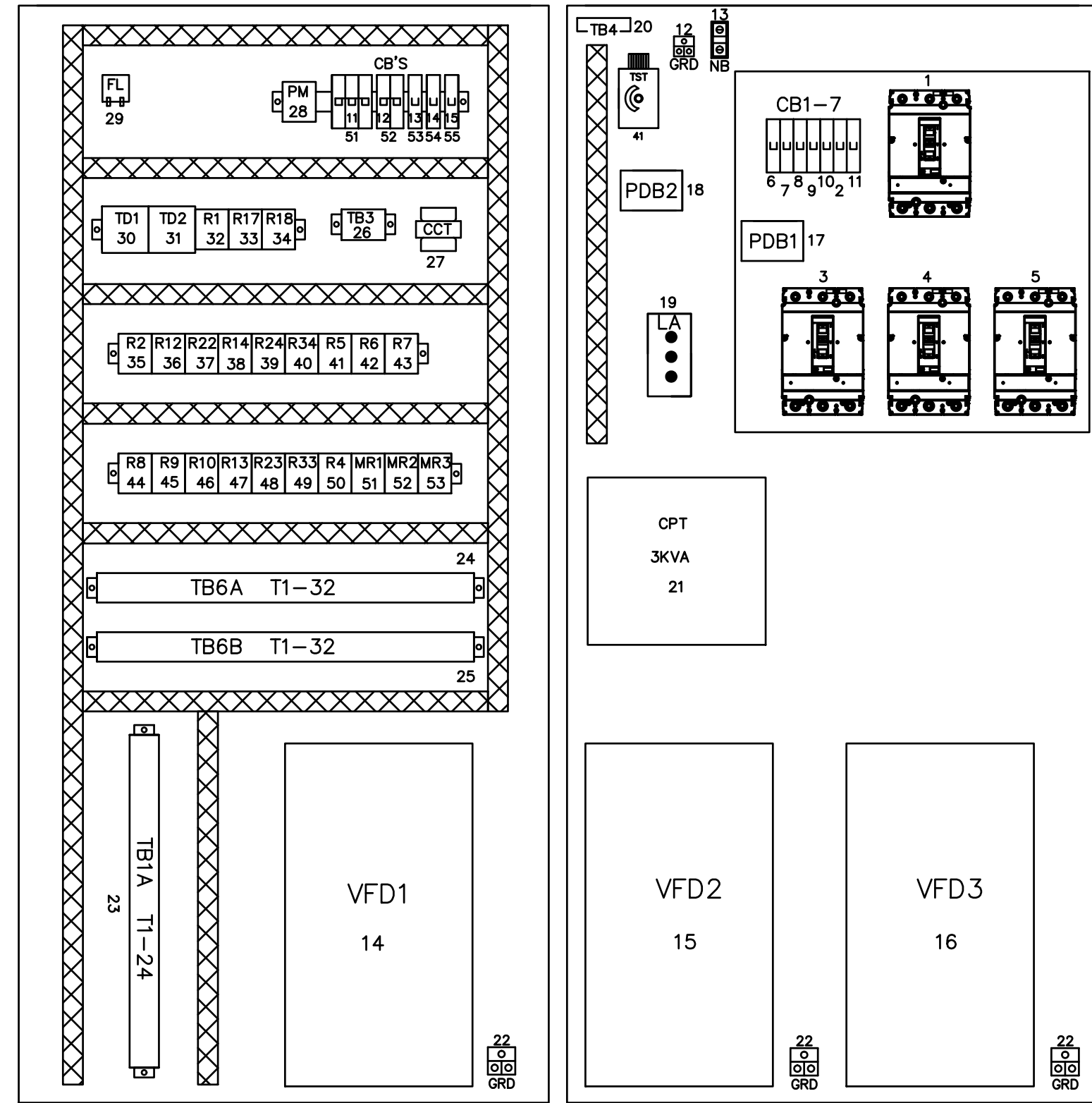
DESIGNED BY DK PROJECT ENGINEER MARK A. PELLISH P.E.	REG NUMBER 46906
DRAWN BY DK	PROJECT NUMBER 60289240
CHECKED BY MAP	DATE DEC 2013

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CITY OF NAPLES PORT ROYAL PUMP STATION		DRAWING E-604
LIFT STATION CONTROL PANEL		SHEET 24 OF - SHEETS



DWG: X:\City of Naples\60289240-Port Royal and Public Works Pump Stations\000 CAD\Per\_L\Royal\Sheets\E-E-605.dwg Layout Name: E-605 - Plotted by: Reed, John Date: 12/11/2013 - 3:54 PM  
 AREFS: G-BD



LAYOUT MAY VARY AS DETERMINED BY SIZE & SPACING REQUIREMENTS

- 1 - MCB - MAIN CIRCUIT BREAKER
- 2 - CB7 - JACKET WATER HEATER CIRCUIT BREAKER 1P/30 AMP
- 3 - PCB1 - P-1 CIRCUIT BREAKER
- 4 - PCB2 - P-2 CIRCUIT BREAKER
- 5 - PCB3 - P-3 CIRCUIT BREAKER
- 6 - CB1 - CAMERA POLE CIRCUIT BREAKER 1P/15 AMP
- 7 - CB2 - LIGHTING/FAN CIRCUIT BREAKER 1P/15 AMP
- 8 - CB3 - RTU POWER CIRCUIT BREAKER 1P/15 AMP
- 9 - CB4 - CONTROL CIRCUIT BREAKER 1P/15 AMP
- 10 - CB5 - SITE LTG/RECEPTACLES CIRCUIT BREAKER 1P/20 AMP
- 11 - CB6 - BATTERY CHARGER CIRCUIT BREAKER 1P/15 AMP
- 12 - GTB - GROUND TERMINAL BLOCK
- 13 - NTB - NEUTRAL TERMINAL BLOCK
- 14 - VFD1 - P-1 VARIABLE FREQUENCY DRIVE
- 15 - VFD2 - P-2 VARIABLE FREQUENCY DRIVE
- 16 - VFD3 - P-3 VARIABLE FREQUENCY DRIVE
- 17 - PDB1 - POWER DISTRIBUTION BLOCK 3 POLE MULTI-TAP
- 18 - PDB2 - POWER DISTRIBUTION BLOCK 1 POLE MULTI-TAP
- 19 - LA - LIGHTNING ARRESTER
- 20 - TB4 - TERMINAL BLOCK 4: ALARM LIGHT
- 21 - CPT - CONTROL POWER TRANSFORMER (480V-120V)
- 22 - PGRD - GROUND LUG(S)
- 23 - TB1A - TERMINAL BLOCK 1A
- 24 - TB6A - TERMINAL BLOCK 6A
- 25 - TB6B - TERMINAL BLOCK 6B
- 26 - TB3 - TERMINAL BLOCK 3
- 27 - CCT - CONTROL CIRCUIT TRANSFORMER (120V-24V)
- 28 - PM - PHASE MONITOR 480V, 8PIN AS REQ.
- 29 - FL - FLASHER (110V SOLID STATE)
- 30 - TD1 - HIGH LEVEL TIME DELAY RELAY 2ND PUMP (24V, 8PIN)
- 31 - TD2 - HIGH LEVEL TIME DELAY RELAY 3RD PUMP (24V, 8PIN)
- 32 - R1 - FLOAT PUMP START/LATCH RELAY (24V, 8PIN)
- 33 - R17 - PANEL INTRUSION RELAY (24V, 8PIN)
- 34 - R18 - LOW LEVEL CUT OFF RELAY (24V, 11PIN)
- 35 - R2 - VFD-1 RUN COMMAND (110V, 11PIN)
- 36 - R12 - VFD-2 RUN COMMAND (110V, 11PIN)
- 37 - R22 - VFD-3 RUN COMMAND (110V, 11PIN)
- 38 - R14 - VFD-1 REMOTE RESET RELAY (110V, 8PIN)
- 39 - R24 - VFD-2 REMOTE RESET RELAY (110V, 8PIN)
- 40 - R34 - VFD-3 REMOTE RESET RELAY (110V, 8PIN)
- 41 - R5 - P-1 CALL RELAY (110V, 8PIN)
- 42 - R6 - P-2 CALL RELAY (110V, 8PIN)
- 43 - R7 - P-3 CALL RELAY (110V, 8PIN)
- 44 - R8 - P-1 DISABLE RELAY (110V, 8PIN)
- 45 - R9 - P-2 DISABLE RELAY (110V, 8PIN)
- 46 - R10 - P-3 DISABLE RELAY (110V, 8PIN)
- 47 - R13 - P-1 MOTOR THERMAL FAIL RELAY (110V, 11PIN)
- 48 - R23 - P-2 MOTOR THERMAL FAIL RELAY (110V, 11PIN)
- 49 - R33 - P-3 MOTOR THERMAL FAIL RELAY (110V, 11PIN)
- 50 - R4 - HIGH LEVEL ALARM CONTROLLER RELAY (110V, 8 PIN)
- 51 - CB11 - PM MINI CIRCUIT BREAKER 3 POLE, 460V DIN 1A
- 52 - CB12 - CPT LINE MINI CIRCUIT BREAKER 2 POLE 460V DIN 25A
- 53 - CB13 - CPT LOAD MINI CIRCUIT BREAKER 1 POLE 460V DIN 30A
- 54 - CB14 - CCT LINE MINI CIRCUIT BREAKER 1 POLE 120V DIN 1A
- 55 - CB15 - CCT LOAD MINI CIRCUIT BREAKER 1 POLE 24V DIN 3A
- 56 - MR1 - MINI-CAS RELAY (110V)
- 57 - MR2 - MINI-CAS RELAY (110V)
- 58 - MR3 - MINI-CAS RELAY (110V)

QTY	TAG LABEL	ITEM DESCRIPTION	ITEM PART NO.
2	MCB	SQD MAIN CIRCUIT BREAKER 3POLE, ___AMP, ___VAC SIZED FOR TOTAL LOAD	FAL34_____
3	PCB1/PCB2\PCB3	SQD PUMP1/PUMP2/PUMP3 CIRCUIT BREAKER 3POLE, ___AMP, ___VAC SIZED FOR PUMP LOAD	FAL34_____
5	CB2/CB3/CB4/CB1/CB6	SQD: 1POLE, 15AMP, 120VAC	QUO115 15 AMP
1	CB5	SQD: 1POLE, 20AMP, 120VAC	QUO120 20 AMP
1	CB11	SQ D DIN MOUNT MINI 3 POLE- PHASE MONITOR BREAKER	MG SERIES 0.5 AMP 480V
1	CB12	SQ D DIN MOUNT MINI 2 POLE - CP TRANSFORMER LINE BKR	MG SERIES ___ AMP 480V
1	CB13	SQ D DIN MOUNT MINI 1 POLE - CP TRANSFORMER LOAD BKR	MG SERIES ___ AMP 120V
1	CB14	SQ D DIN MOUNT MINI 1 POLE - CC TRANSFORMER LINE BKR	MG SERIES ___ AMP 120V
1	CB15	SQ D DIN MOUNT MINI 1 POLE - CC TRANSFORMER LOAD BKR	MG SERIES ___ AMP 24V
1	PDB1	3POLE,600V, MULTI-TAP (SIZED AS REQUIRED)	AS REQUIRED
1	PDB2	MULTI-TAP (SIZED AS REQUIRED)	AS REQUIRED
1	LA	ADVANCE PROTECTION TECHNOLOGIES: 480V, 3 PHASE	TE04XCS104X
3	VFD1/VFD2/VFD3	SQD/SCHNIDERELECT: ALTVAR312 FOR <20HP, 61AR FOR >=20HP	ALTVAR NO EQUAL
1	PM	PHASE MONITOR 8-PIN, 480VOLT/3 PHASE AS REQUIRED	AS REQUIRED
1	CPT	SQD: CONTROL POWER TRANSFORMER 460V-120V, ___KVA, 1PH , AS REQUIRED BY LOAD.	9070-K_____
1	CCT	SQD: CONTROL CIRCUIT TRANSFORMER 50VA, 120V-24V, 1 PH	9070-KF50D23
1	FL	SSAC FLASHER - 90 FPM, 120V, SS	FS127
1	AL	ALARM LIGHT RED 120V	LRX40
1	DLPC	DEVAR, INC.: DUPLEX PUMP CONTROLLER	3020-4
14	RB8	OMRON 8 PIN OCTAL RELAY BASE	PF083A
5	RB11	OMRON 11 PIN OCTAL RELAY BASE	PF113A
1	R1	8 PIN,24V W/LAMP FLOAT PUMP "ON" RELAY	AS REQUIRED
1	R17	11 PIN,24V W/LAMP PANEL INTRUSION RELAY	AS REQUIRED
3	R2/R12/R22	8 PIN,115V W/LAMP VFD1/2/3 RUN COMMAND RELAY	AS REQUIRED
3	R14/R24/R34	8 PIN,115V W/LAMP VFD1/2/3 REOMTE RESET RELAY	AS REQUIRED
1	R5/R6/R7	8 PIN,115V W/LAMP P1/P2/P3 CALL RELAY	AS REQUIRED
3	R8/R9/R10	8 PIN,115V W/LAMP P1/P2/P3 DISABLE RELAY	AS REQUIRED
3	MR1/MR2/MR3	MINI-CAS RELAY	AS REQUIRED
3	R13/R23/R33/R18	11 PIN, 24V W/LAMP P1/P2/P3 VFD FAULT/THERMAL, LOW LEVEL FLOAT CUT OFF RELAY & FLOAT OVERRIDE RELAYS	AS REQUIRED
2	TD1/TD2	SSAC: 60SEC,24VAC, SS, ON, 8-PIN, 24V TIME DELAY RELAY	PRM-23
3	SS1/2/3	SQD: H.O.A. PUMP 1, 2, & 3 SELECTOR SWITCH	9001-SKS43BH1
3	RL13/17/21	SQD: PUMP 1, 2, & 3 RUN PILOT LIGHTS "GREEN" 110V	9001-SKP38C9
3	PL14/18/22	SQD: PUMP 1, 2, & 3 THERMAL ALARM PILOT LIGHTS "RED" 110V	9001-SKP38R9
1	PL23	SQD: HIGH LEVEL ALARM PILOT LIGHT "RED" 24V	9001-SKP35R9
3	ETM1/2/3	P1/2/3 ELAPSE TIME HOUR METER	480-2079-ND
4	GRDL	ANDERSON: DOUBLE GROUND LUG	3306-DU-0
AR	TB1A,TB1B, TB2B, TB6A,TB6B,TB4	SQD: TERMINAL BLOCKS 30AMP	9080-GM6
AR	TBEB	SQD: TERMINAL BLOCK END BARRIER	9080-GM6B
AR	TBEC	SQD: TERMINAL BLOCK END CLAMP	9080-GH10
1	DR	DUPLEX RECEPTICLE 20AMP GFCI W/COVER PLATE	AR
AR	DS	DOOR SWITCH(S): INTRUSION ALARM. HD MAGNETIC OR MECHANICAL	AR
1	LB	LIGHT BAR: 27" LED STRIP	PORTFOLIO 29125
1	NEU	BUCHANAN: #12-1/0 WIRE 1 POLE	824 OR EQUAL
AR	RES	RESISTORS: 94K OHM, 2 WATT, =/- 5% MIN.	AS REQUIRED
3	PTB1/2/3	3 POLE, 600 VOLT, SIZED TO WIRE REQUIREMENTS	AS REQUIRED
1	FAN	COOLING FAN ASSEMBLY. BY HOFFMAN OR APPROVED EQUAL.	TFP41
1	EXH	EXHAUST ASSEMBLY. BY HOFFMAN OR APPROVED EQUAL.	TEP4
AR	EYE	CAST ALUMUNUM: SEAL OFF SIZED AS REQUIRED BY FILL CODE. 2" MIN	AS REQUIRED
AR	HB	MYERS HUBS: SIZED AS REQUIRED BY FILL. 2" MIN. (1 PER PUMP, 1 FOR CONTROLS)	AS REQUIRED
AR	NP	S.S. OR AL THREADED NIPPLES. 2" MIN	AS REQUIRED
AR	J-BOX	BY MANUFACTURER (MIN 16"x16"x8") MIN SIZE PER FILL REQUIREMENT. NEMA 3, 4, OR 4X AS REQUIRED AL, SS HINGES, GASKETED, & DRIP EDGE. (LARGER UNITS MAY REQUIRE 2 J-BOX)	AS REQUIRED
1	ENC	BY MANUFACTURER: SIZED PER ALIGNMENT, SPACING, AND FILL REQUIREMENTS. NEMA 3, 4 OR 4X AS REQUIRED. 3 POINT LATCH SYSTEM ON DOOR. AL BACKPLATE, SS HARDWARE.	AS REQUIRED
1	CB7	SQD: 1POLE, 30AMP, 120VAC	QUO130 30 AMP
1	MISC HARDWARE	ALL DIN RAIL, SCEWS, BOLTS, NUTS, SEALANTS, ADHEASIVES, AND MISC. HARWARE AND SUPPLIES NECESSARY FOR JOB.	
1	R4	8 PIN, 115V W/LAMP CONTROLLER HIGH LEVEL ALARM RELAY	AS REQUIRED

AR = AS REQUIRED

**PANEL MANUFACTURER MUST PROVIDE SUBMITTALS FOR ALL MATERIALS AND COMPONENTS TO BE UTILIZED FOR THIS PROJECT BEFORE ANY ASSEMBLY IS INITIATED. THE CITY RESERVES THE RIGHT TO REJECT ANY AND ALL MATERIAL OR COMPONENT NOT MEETING STANDARDS.**

VERIFY SCALES BAR IS ONE INCH ON ORIGINAL DRAWING IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY	DESIGNED BY <b>DK</b> DRAWN BY <b>DK</b> CHECKED BY <b>MAP</b> DATE <b>DEC 2013</b>	PROJECT ENGINEER <b>MARK A. PELLISH P.E.</b> REG NUMBER <b>46906</b> PROJECT NUMBER <b>60289240</b>	<p style="font-size: 8px;">           AECOM Technical Services, Inc.            4415 Metro Parkway, Suite 404            Fort Myers, Florida 33916            T 239.278.7996 F 239.278.0913            FL Engineering Business No. EB-8115            www.aecom.com         </p>	<b>CITY OF NAPLES</b> <b>PORT ROYAL PUMP STATION</b>  <b>LIFT STATION CONTROL PANEL BACKPLATE</b>	DRAWING <b>E-605</b> SHEET <b>25</b> OF - SHEETS								
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>REV</th> <th>DATE</th> <th>DESCRIPTION</th> <th>APPR</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>	REV	DATE	DESCRIPTION	APPR									
REV	DATE	DESCRIPTION	APPR										

## CONTROL PANEL NOTES:

Panel designer may make changes in materials and component manufacturer, with City Utilities Engineer's approval only.

Manufacturer shall list any additional equipment necessary to provide a clean, neat, professional, and Code compliant control panel; such as: Lugs, distribution terminals, wire races, etc..

The panel manufacturer shall provide two (2) sets of As-Built drawings in hard copy, and the drawings shall be provided in Dwg 2004 format, on a CD.

A laminated As-Built Ladder Diagram shall be attached to the inside of the outer control panel door.

The Control Panel Enclosure shall be Type 14 gauge minimum 316 stainless steel, NEMA 3R as required, gasketed, with: A padlockable hasp, three point latch system ( one each per door if more than one door is required), wind restrainer arm(s) that includes all hardware to restrain both the main and dead front door(s) when open; backplate(s), and drip edge that extends the entire length of the top of the enclosure.

The Junction Box Enclosure shall be Type 14 gauge minimum 316 stainless steel, NEMA 4X as required, gasketed, with: A padlockable hasp, hinged door. The Junction Box shall have an Aluminum back plate for component mounting. The Junction Box shall have industrial grade terminal strips of sufficient size and spacing, as required by these specifications. The Junction Box shall be isolated from the Control Panel with the properly sized seal-off fittings (not to exceed 80% capacity), pre-wired, and supplied with epoxy sealant per manufacturer recommendations. The epoxy sealant shall be supplied with but installed on site after all connections are made, confirmed, and accepted by the City. The J-Box shall be mounted to the panel using Myers Hubs at both panels, Al or SS threaded nipples, and Cast AL Vertical EYE fittings.

The Control Panel Enclosure and the Junction Box Enclosure shall be shipped: Pre-wired, Pre-tested, and complete as one unit, unless this creates a shipping hazard. If the J-Box requires removal for shipping, all wires shall be properly tagged and protected during shipping. The enclosures and components shall be properly packed to prevent damage and loss during shipment to our Naples location.

All Panduit (or equal) wire raceways shall not be filled in excess of 80% capacity. All wires extending outside of a raceway in excess of 5" shall be held in place with plastic wire ties. All wiring shall be neat and un-tangled.

All wires shall be properly labeled at each termination point. All wires and terminals shall be rated according to NEC standards.

## CONTROL PANEL MINIMUM LABELING REQUIREMENTS

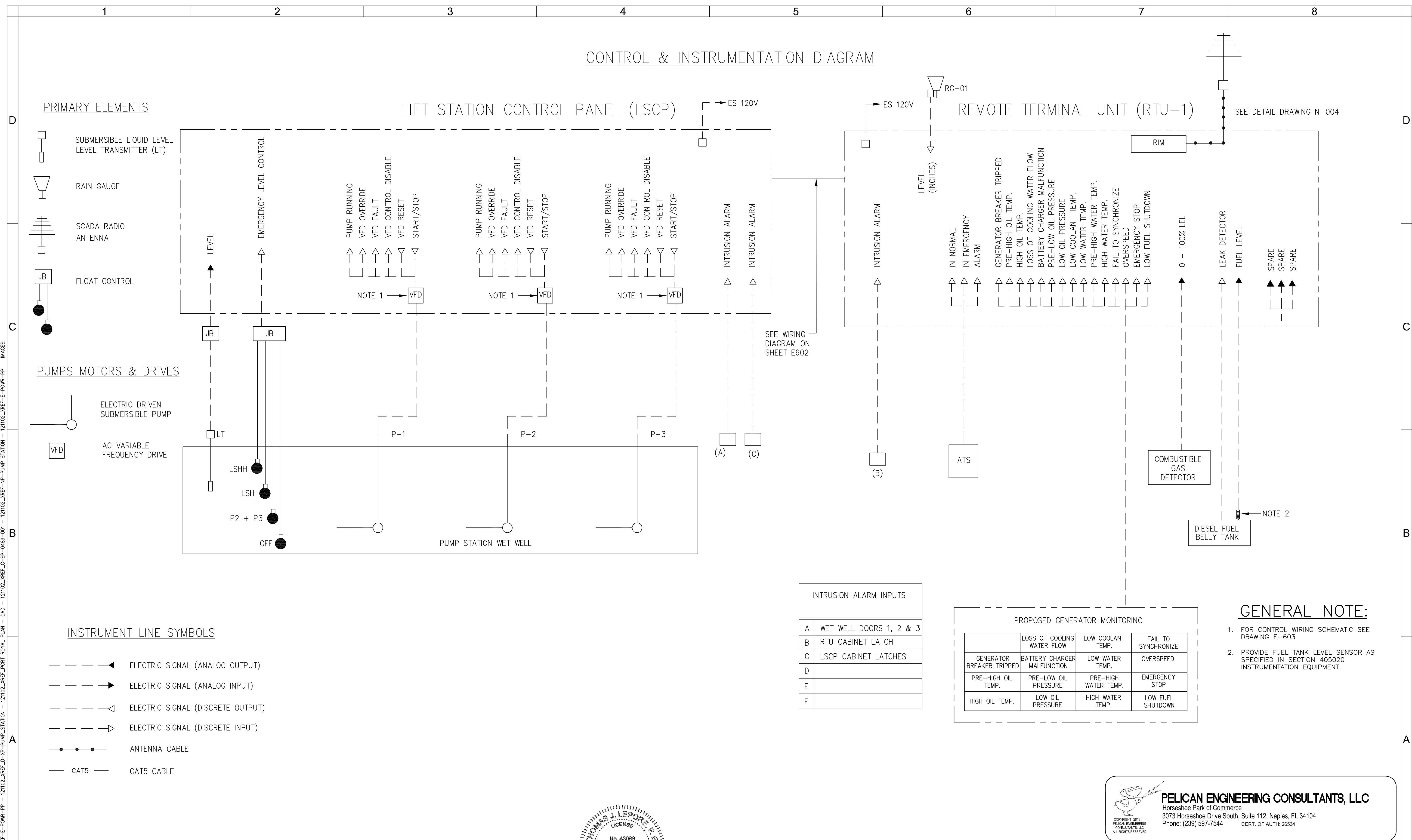
LABEL	QUANT	COLOR	DESCRIPTION
CB7	1	BLACK	JACKET WATER HEATER CIRCUIT BREAKER
MCB	2	BLACK	MAIN CIRCUIT BREAKER
CB6	1	BLACK	BATTERY CHARGER CIRCUIT BREAKER
PCB1	2	BLACK	PUMP 1 CIRCUIT BREAKER
PCB2	2	BLACK	PUMP 2 CIRCUIT BREAKER
PCB3	2	BLACK	PUMP 3 CIRCUIT BREAKER
CB1	1	BLACK	CAMERA POLE CIRCUIT BREAKER
CB2	1	BLACK	LIGHTING/FAN CIRCUIT BREAKER
CB3	1	BLACK	RTU POWER CIRCUIT BREAKER
CB4	1	BLACK	CONTROL CIRCUIT BREAKER
CB5	1	BLACK	SITE LIGHTING/RECEPTACLES CIRCUIT BREAKER
VFD1	1	BLACK	VARIABLE FREQUENCY DRIVE 1
VFD2	1	BLACK	VARIABLE FREQUENCY DRIVE 2
VFD3	1	BLACK	VARIABLE FREQUENCY DRIVE 3
CB11	1	BLACK	PHASE MONITOR CIRCUIT BREAKER
CB12	1	BLACK	CONTROL POWER TRANSFORMER LINE CIRCUIT BREAKER
CB13	1	BLACK	CONTROL POWER TRANSFORMER LOAD CIRCUIT BREAKER
CB14	1	BLACK	CONTROL CIRCUIT TRANSFORMER LINE CIRCUIT BREAKER
CB15	1	BLACK	CONTROL POWER TRANSFORMER LOAD CIRCUIT BREAKER
PM	1	BLACK	PHASE MONITOR
CPT	1	BLACK	CONTROL POWER TRANSFORMER
CCT	1	BLACK	CONTROL CIRCUIT TRANSFORMER
R1	1	BLUE	FLOAT PUMP START/LATCH RELAY
R17	1	BLUE	PANEL INTRUSION RELAY
R2	1	BLUE	VFD1 RUN COMMAND RELAY
R12	1	BLUE	VFD2 RUN COMMAND RELAY
R22	1	BLUE	VFD3 RUN COMMAND RELAY
R14	1	BLUE	VFD1 REMOTE RESET RELAY
R24	1	BLUE	VFD2 REMOTE RESET RELAY
R34	1	BLUE	VFD3 REMOTE RESET RELAY
R5	1	BLUE	P1 CALL RELAY
R6	1	BLUE	P2 CALL RELAY
R7	1	BLUE	P3 CALL RELAY
MR1	1	BLUE	MOTOR TEMP/MOISTURE RELAY
MR2	1	BLUE	MOTOR TEMP/MOISTURE RELAY
MR3	1	BLUE	MOTOR TEMP/MOISTURE RELAY
R8	1	BLUE	P1 DISABLE RELAY
R9	1	BLUE	P2 DISABLE RELAY
R10	1	BLUE	P3 DISABLE RELAY
R13	1	BLUE	P1 VFD FAULT/THERMAL FAIL ALARM RELAY
R23	1	BLUE	P2 VFD FAULT/THERMAL FAIL ALARM RELAY
R33	1	BLUE	P3 VFD FAULT/THERMAL FAIL ALARM RELAY
R18	1	BLUE	LOW LEVEL FLOAT CUT OFF RELAY
R4	1	BLUE	HIGH LEVEL ALARM (CONTROLLER) RELAY
TD1	1	BLUE	FLOAT OPERATED SECOND PUMP ON TIME DELAY RELAY
TD2	1	BLUE	FLOAT OPERATED THIRD PUMP ON TIME DELAY RELAY
TB4	1	BLUE	ALARM LIGHT TERMINAL BLOCK
TB1A	1	BLUE	PANEL CONTROLS TERMINAL BLOCK
TB1B	1	BLUE	J-BOX1 CONTROLS TERMINAL BLOCK
TB2B	1	BLUE	J-BOX2 CONTROLS TERMINAL BLOCK
TB6A	1	BLUE	RTU INTERFACE TERMINAL BLOCK A
TB6B	1	BLUE	RTU INTERFACE TERMINAL BLOCK B
P1 RUN	1	BLUE	P1 RUN PILOT LIGHT
P2 RUN	1	BLUE	P2 RUN PILOT LIGHT
FLASH	1	RED	FLASHER FOR HIGH LEVEL
P1 THERML	1	RED	P1 THERMAL OVERLOAD ALARM PILOT LIGHT
P2 THERML	1	RED	P2 THERMAL OVERLOAD ALARM PILOT LIGHT
HIGH LEVEL	1	RED	HIGH LEVEL ALARM PILOT LIGHT

Each switch, circuit breaker, indicating light, push button, relay, etc., shall have an engraved laminated plastic color coded nameplate mounted above of below the device for proper identification; RED for alarm, BLACK for Power, and BLUE for level and controls. Letters shall be a minimum of 1/4" in height. A quality, long lasting adhesive shall be used for mounting the labels.

DWS: X:\City of Naples\60289240-Port Royal and Public Works Pump Stations\000 CAD\Per\_L\_Royal\Sheets\E-E-606.dwg Layout Name: E-606 - Plotted by: Reed, John Date: 12/11/2013 3:54 PM

	VERIFY SCALES BAR IS ONE INCH ON ORIGINAL DRAWING IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY	DESIGNED BY DK PROJECT ENGINEER MARK A. PELLISH P.E.	AECOM Technical Services, Inc. 4415 Metro Parkway, Suite 404 Fort Myers, Florida 33916 T 239.278.7996 F 239.278.0913 FL Engineering Business No. EB-8115 www.aecom.com	CITY OF NAPLES PORT ROYAL PUMP STATION		DRAWING E-606
	CHECKED BY MAP DATE DEC 2013	REG NUMBER 46906 PROJECT NUMBER 60289240		LIFT STATION CONTROL PANEL NOTES AND LABELING		SHEET 26 OF -- SHEETS

# CONTROL & INSTRUMENTATION DIAGRAM



INTRUSION ALARM INPUTS	
A	WET WELL DOORS 1, 2 & 3
B	RTU CABINET LATCH
C	LSCP CABINET LATCHES
D	
E	
F	

PROPOSED GENERATOR MONITORING			
GENERATOR BREAKER TRIPPED	LOSS OF COOLING WATER FLOW	LOW COOLANT TEMP.	FAIL TO SYNCHRONIZE
PRE-HIGH OIL TEMP.	BATTERY CHARGER MALFUNCTION	LOW WATER TEMP.	OVERSPEED
HIGH OIL TEMP.	PRE-LOW OIL PRESSURE	PRE-HIGH WATER TEMP.	EMERGENCY STOP
	LOW OIL PRESSURE	HIGH WATER TEMP.	LOW FUEL SHUTDOWN

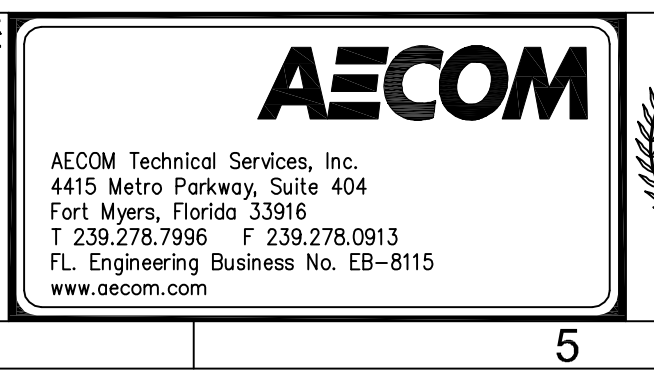
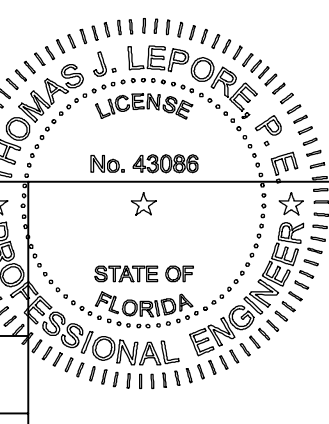
**GENERAL NOTE:**

- FOR CONTROL WIRING SCHEMATIC SEE DRAWING E-603
- PROVIDE FUEL TANK LEVEL SENSOR AS SPECIFIED IN SECTION 405020 INSTRUMENTATION EQUIPMENT.

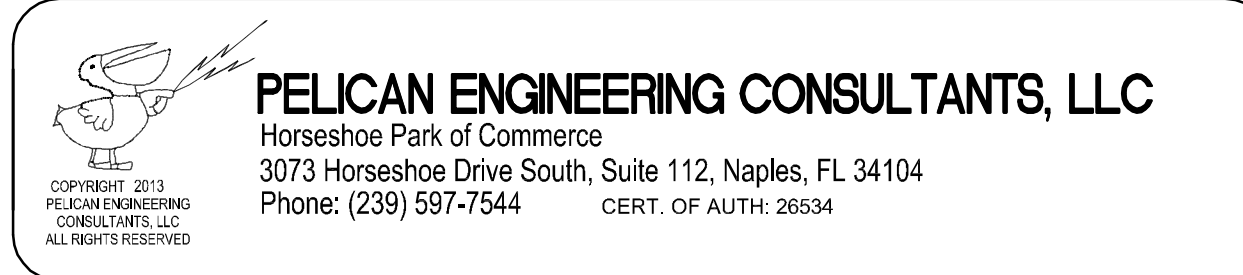
DWG: T:\Projects\2012 PROJECTS\21102 PORT ROYAL PUMP STATIONS\DRAWINGS\21102 N-001 002 003 PLANS 100% 12.11.13.dwg Layout Name: N-001 Plotted by: J. Date: 12/17/2013 10:02 AM  
 AREA: 21102\_ARE-E-PUMP-PP = 21102\_ARE-E-PUMP-STATION - CAD = 21102\_ARE-E-PUMP-PP IMAGES: 21102\_ARE-E-PUMP-PP

REV	DATE	DESCRIPTION	APPR

<b>VERIFY SCALES</b>	DESIGNED BY JS	PROJECT ENGINEER THOMAS J. LEPORE, P.E.
BAR IS ONE INCH ON ORIGINAL DRAWING	DRAWN BY LM	REG NUMBER 43086
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY	CHECKED BY TJL	PROJECT NUMBER 121102
	DATE DEC 2013	

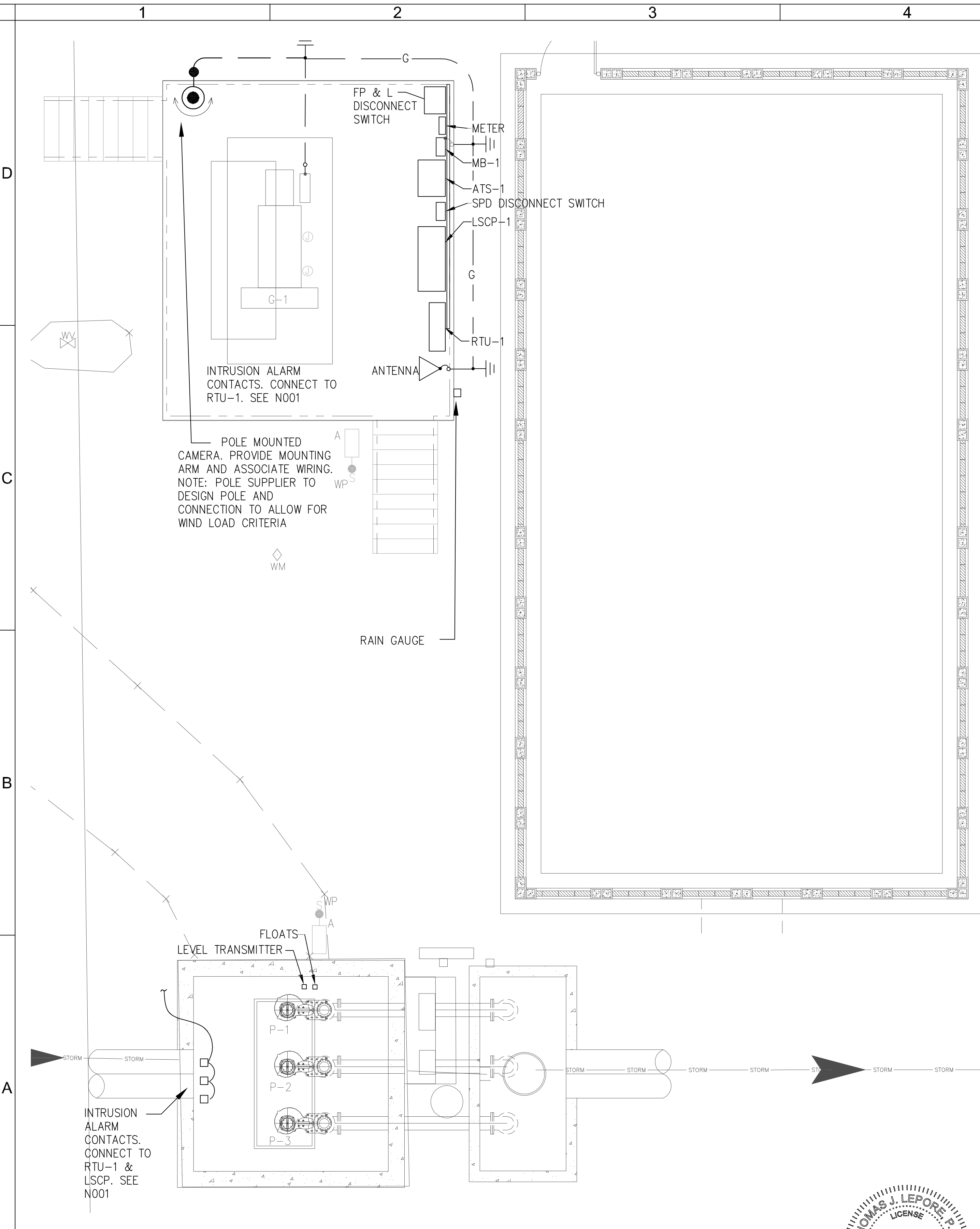


CITY OF NAPLES  
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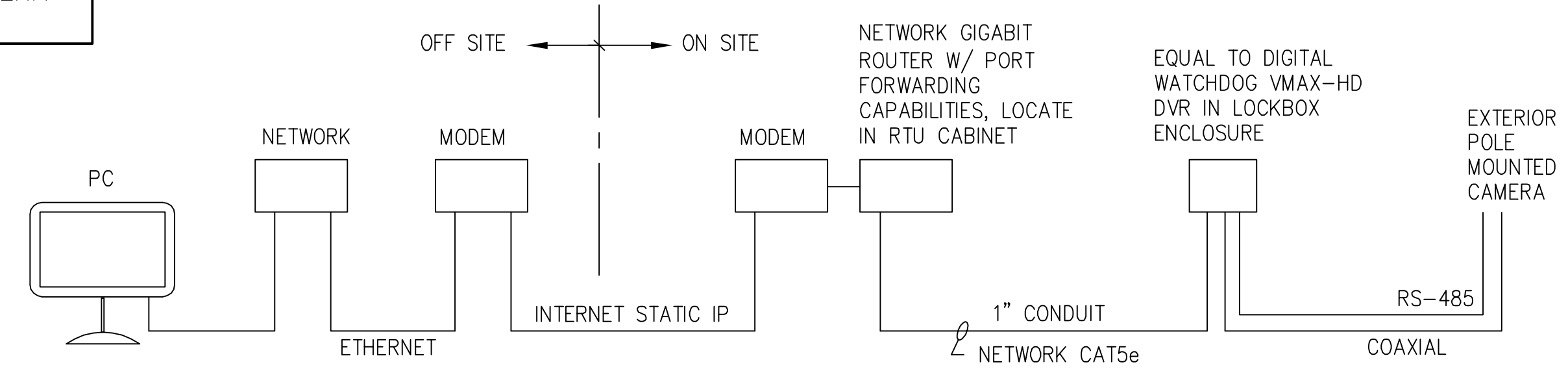
<b>CITY OF NAPLES PORT ROYAL PUMP STATION</b>		DRAWING <b>N-001</b>
<b>CONTROL &amp; INSTRUMENTATION DIAGRAM</b>		SHEET <b>27</b>
		OF — SHEETS

DWG: T:\Projects\2012 PROJECTS\21102 PORT ROYAL PUMP STATIONS\DRAWINGS\21102 N-001 002 003 PLANS 1009 12.11.13.dwg Layout Name: N-002 Plotted by: 4 Date: 12/17/2013 10:02 AM  
 AREAS: 121102\_ARE-E-POWER-PP = 121102\_ARE-E-POWER-PP STATION - CAD = 121102\_ARE-D-PP-PUMP STATION - CAD = 121102\_ARE-D-PP-PUMP STATION - IMAGES:



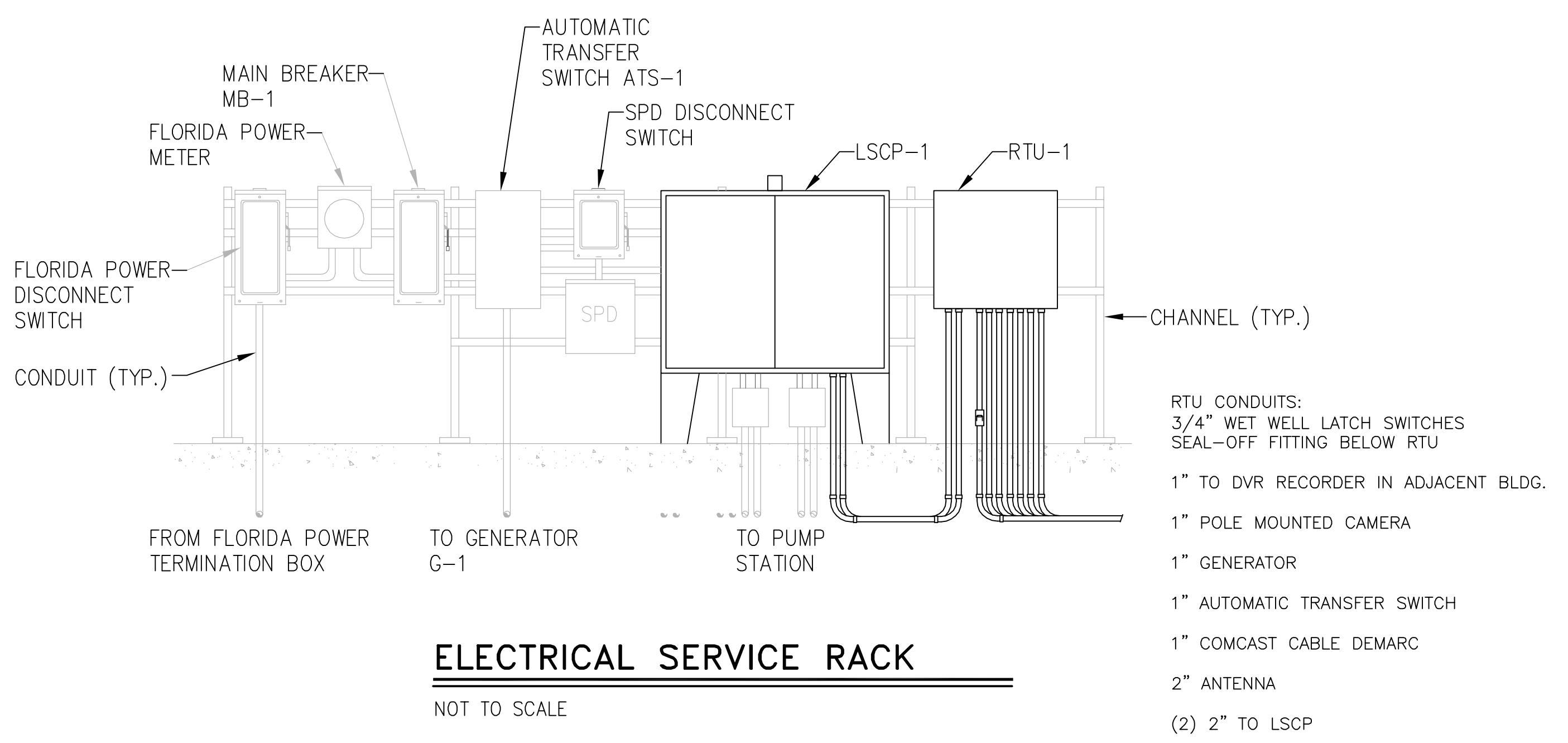
PROVIDE 120VAC TO 12VDC RECTIFIER AND L-COM CAT # AL-D15P12DW, WITH RS-485 CONTROL + 12VDC POWER LINE PROTECTION, LOCATE AS CLOSE TO CAMERA AS POSSIBLE.

PROVIDE COAXIAL CABLE SURGE PROTECTION DEVICE LEA INTERNATIONAL BASE-BAND COAXIAL PROTECTOR CAT # IS-75BB/18, INSTALL IN A WEATHERPROOF JUNCTION BOX FOR POLE MOUNT CAMERA.



### VIDEO SURVEILLANCE SYSTEM

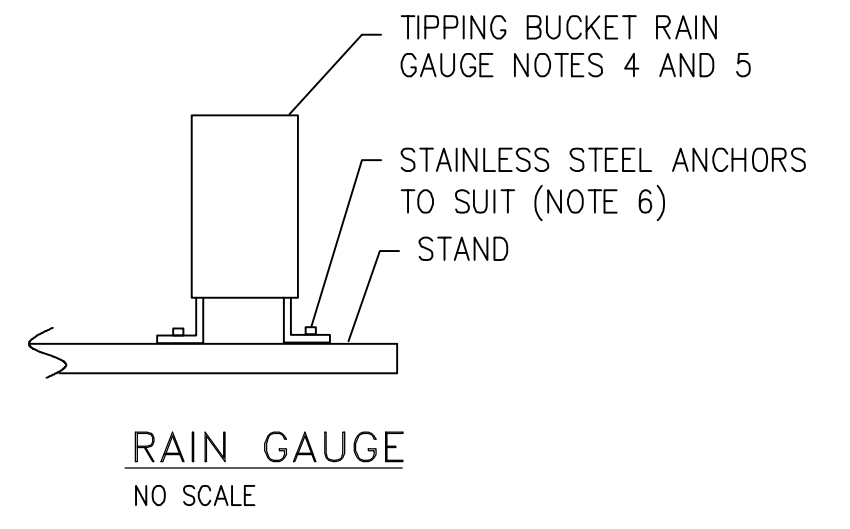
NOT TO SCALE



### ELECTRICAL SERVICE RACK

NOT TO SCALE

- NOTES:**
- MOUNTING STANDOFF PVC PIPE SUPPORT SHALL BE MADE ENTIRELY OF 316 STAINLESS STEEL. PROVIDE ANGLE, U-BOLTS, WALL PLATE, WALL ANCHORS AND FITTINGS SHALL BE STAINLESS STEEL.
  - JUNCTION BOX SHALL BE NEMA 4X, 316 STAINLESS STEEL WITH SCREW COVER, GASKET AND BACK MOUNTING PLATE TO SUIT. PROVIDE (2) 6 POINT 30A TERMINAL BLOCKS FOR WIRING TERMINATIONS.
  - PROVIDE 316 STAINLESS STEEL UNISTRUT SUPPORTS AS REQUIRED. ALL FITTINGS SHALL BE STAINLESS STEEL.
  - TIPPING BUCKET RAIN GAUGE LOCATION SHALL BE DETERMINED BY ENGINEER. PROVIDE ELECTRICAL CONNECTIONS PER MANUFACTURER'S RECOMMENDATIONS AND INSTRUCTIONS.
  - TIPPING BUCKET RAIN GAUGE SHALL BE ANCHORED TO RESIST WIND LOADS DEFINED ON DRAWING S-501.
  - ANCHORS AND BOLTS SHALL BE SEALED WITH APPROVED WATER AND WEATHERPROOF SEALANT.
  - COORDINATE DVR LOCKBOX CABINET LOCATION WITH ELECTRICAL SEE DWG. E-101. MIDDLE ATLANTIC 'DLBX' ENCLOSURE WITH 'FC-2-215-1C' FAN WITH (2) 15A OUTLETS, 'DLBX-FSK' SECURITY KIT, 'DLBX-WM' WALL MOUNTING BRACKET. DIMENSIONS: 23"W x 28.25"D x 11"H

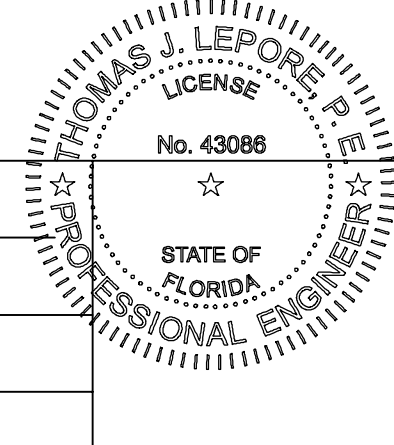


RAIN GAUGE  
NO SCALE

**PELICAN ENGINEERING CONSULTANTS, LLC**  
 Horseshoe Park of Commerce  
 3073 Horseshoe Drive South, Suite 112, Naples, FL 34104  
 Phone: (239) 597-7544 CERT. OF AUTH: 26534

REV	DATE	DESCRIPTION	APPR

DESIGNED BY JS	PROJECT ENGINEER THOMAS J. LEPORE, P.E.
DRAWN BY LM	REG NUMBER 43086
CHECKED BY TJL	PROJECT NUMBER 121102
DATE DEC 2013	



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**CITY OF NAPLES  
 PORT ROYAL PUMP STATION**

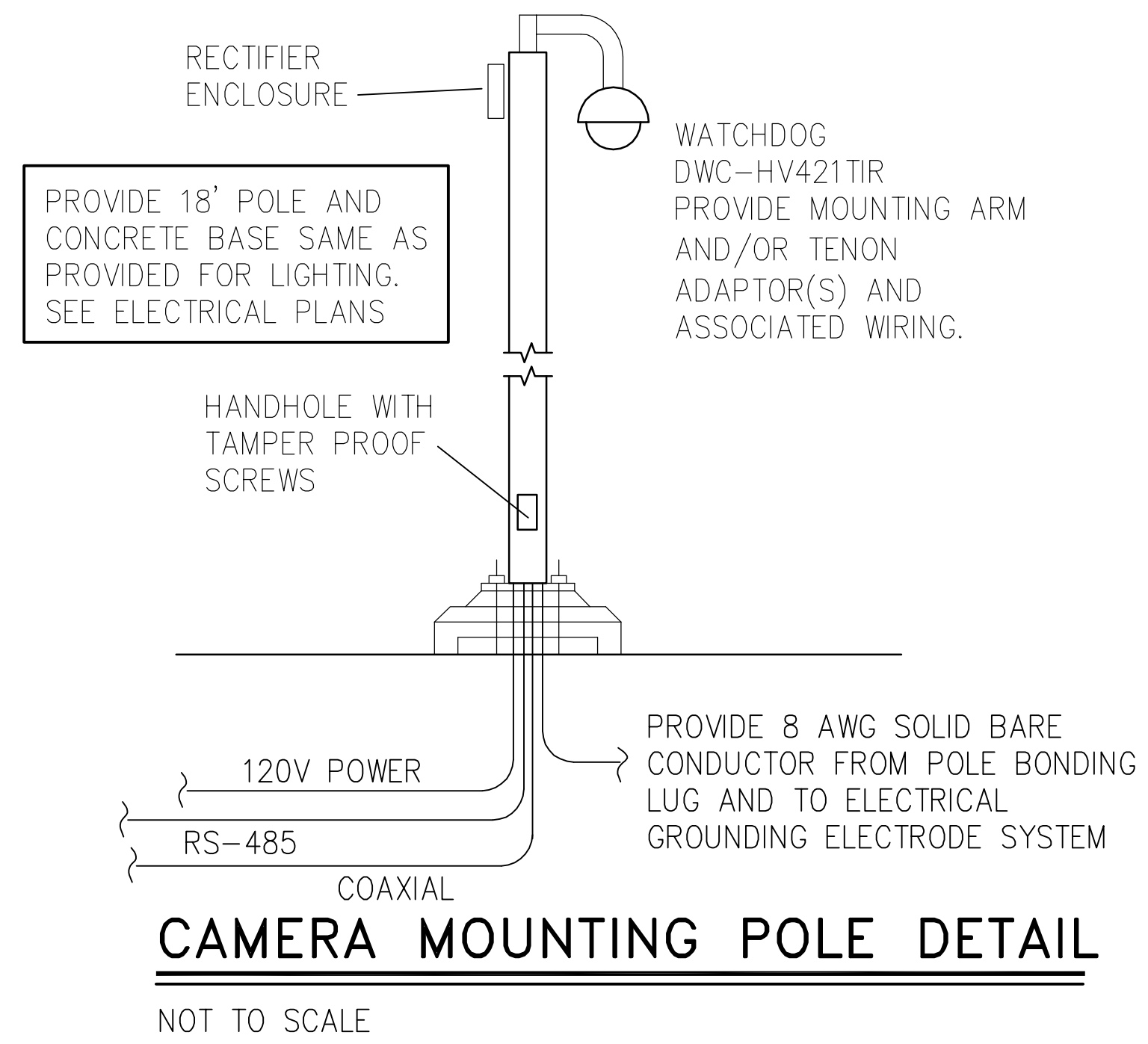
**SURVEILLANCE PLAN VIEW**

DRAWING  
N-002  
SHEET  
28  
OF SHEETS

DIGITAL WATCHDOG DWC-HV421TIR	
IMAGE DEVICE	1/2.8
IMAGE PIXELS TOTAL	2000 (H) 1241 (W)
MIN. SCENE ILLUMINATION	F1.6 (30IRE): 0.1 LUX [COLOR], 0.01 LUX [B/W]
IR DISTANCE	70 FEET
FUNCTIONS	BLC, AGC, WDR, AWB, MIRROR, MOTION DETECTION, 3D-DMR, HME, DIGITAL ZOOM, RS485, TDN, AUTO ZOOM, MIRROR IMAGE, DSS
LENS	3.5 ~ 16MM
HORIZONTAL RESOLUTION	2.1 MEGAPIXELS (1920X1080) @30FPS
VIDEO OUTPUT	HD-SDI
OPERATING TEMPERATURE	-10°C ~ 50°C (14°F ~ 122°F)
POWER REQUIREMENTS	DC12V ONLY (10V ~ 16V)
POWER CONSUMPTION	2.0W, 166.7mA / LED ON 3.5W, 291.7mA
DIMENSIONS (W x H)	139 X 118.8mm (5.47 X 4.7 in.)
WARRANTY	TWO (2) YEAR
WEIGHT	2.05 LBS

DVR VMAXHD, 1080p	
OPERATING SYSTEM	LINUX
VIDEO INPUT	4CH HD-SDI
VIDEO LIVE	FRAME RATE = 1~30fps, RESOLUTION 1920X1080/1280X720
VIDEO OUTPUT	HDMI, VGA, CVBS
AUDIO OUTPUT	INPUT 4CH LINE INPUT, 1CH LINE OUTPUT, AUDIO CODE G.711
ALARM SENSOR INPUT	4CH INPUT, NO/NC
ALARM OUT	1CH OUTPUT, ACTIVATED BY MOTION DETECTION OR VIDEO LOSS
SERIAL	(2) RS485 CONNECTORS FOR PTZ & CONTROLLER
RECORDING	COMPRESSION - H.264, RATE - UP TO 60 FPS @ 1920X1080
PLAYBACK	FAST FORWARD - X1/4, X1/2, X2, X4, X8, X16, FRAME BY FRAME REWIND - X2, X4, X8, X16, X32, FRAME BY FRAME
STORAGE	HDD INTERFACE, INTERNAL HDDs (4)
NETWORK CONNECTION	RJ-45, 10/100/1000 BASE-T, AUTO MDI-MDIX
STREAMING	TRANSMISSION SPEED LIVE, 1280X720 @ 120fps, 640X360 @ 100fps
SEARCH	TRANSMISSION SPEED PLAYBACK, H.248 @ 120/100fps
PROTOCOLS	HTTP, DDNS, NTP, SMTP
ACCESS	WEB VIEWER - LIVE, SEARCH/PLAYBACK, BACKUP, PTZ CONTROL REMOTE MONITORING SOFTWARE - REMOTE SETUP & UPGRADE
ELECTRICAL (VOLTAGE)	AC 100 ~ 120V
WEIGHT	14.6 LBS
DIMENSIONS	17" X 16.92" X 3.86"
WARRANTY (LIMITED)	FIVE (5) YEAR LIMITED

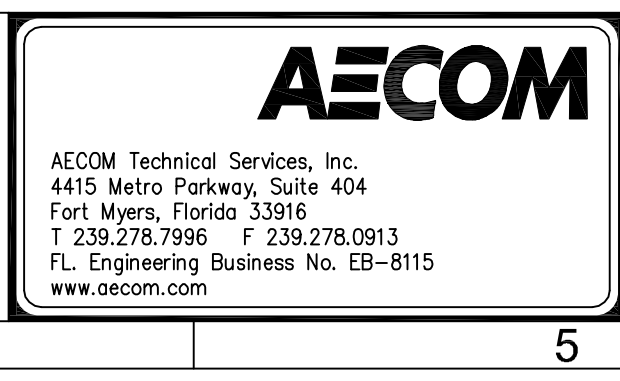
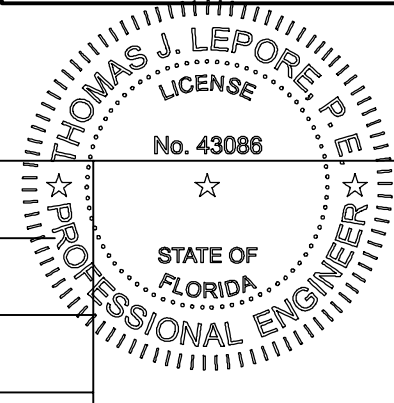
NETWORK ROUTER SPECIFICATIONS	
<b>HARDWARE FEATURES:</b>	
WAN:	GIGABIT ETHERNET (10/100/1000) WAN PORT
LAN:	4-PORT, FULL-DUPLEX 10/100/1000 ETHERNET SWITCH
<b>SOFTWARE FEATURES:</b>	
WAN TYPE:	DYNAMIC/STATIC IP/PPPOE
ROUTING:	STATIC ROUTING, ROUTING INFORMATION PROTOCOL (RIPv1 & RIPv2)
NETWORK:	DHCP SERVER, DHCP CLIENT, DHCP ADDRESS RESERVATION, NETWORK ADDRESS TRANSLATION (NAT)
QUALITY OF SERVICE:	IP/PORT-BASED BANDWIDTH CONTROL
PORT FORWARDING:	VIRTUAL SERVER, PORT TRIGGERING, UPNP, DMZ
ACCESS CONTROL LIST:	IP/MAC/DOMAIN NAME FILTERING
SECURITY:	SPI FIREWALL, VPN PASSTHROUGH, DOS DEFENSE, IP/MAC ADDRESS BINDING



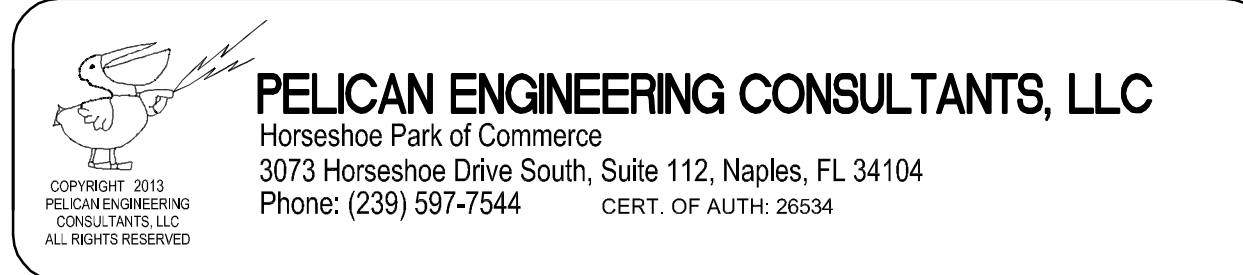
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REV	DATE	DESCRIPTION	APPR

DESIGNED BY	JS	PROJECT ENGINEER	THOMAS J. LEPORE, P.E.
DRAWN BY	LM	REG NUMBER	43086
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CITY OF NAPLES PORT ROYAL PUMP STATION		DRAWING	N-003
SURVEILLANCE EQUIPMENT SPECIFICATION		SHEET	29
		OF - SHEETS	