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| 1 | FPL SERVICE – THE ELECTRIC SERVICE FOR THE S-470 SITE WILL BE INSTALLED BY FPL NEAR THE SOUTHWEST CORNER OF THE PROJECT SITE, AS SHOWN ON DWG. E1101. THE SINGLE PHASE SERVICE IS RATED 240/120 VAC, 200 AMPERES AND INCLUDES A HANDHOLE AT THE BASE OF THE POWER POLE. THE CONTRACTOR SHALL INSTALL THE UNDERGROUND SERVICE CONDUIT AND CABLES FROM THE SERVICE METER TO THE HANDHOLE AND SHALL COORDINATE TERMINATION OF THE NEW SERVICE CABLES IN THE HANDHOLE WITH FPL. | 58 | ICE BRIDGE SUPPORT COLUMN GROUNDING – INSTALL A #2 AWG GROUND WIRE TO EACH METAL SUPPORT COLUMN FOR THE ICE BRIDGE. BURY THE GROUND WIRE A MINIMUM OF 30" BELOW GRADE. ATTACH THE OTHER END OF THE GROUND WIRE TO THE COPPER STRAP INSTALLED FOR THE CROSS CONNECT DISCUSSED IN KEY NOTE 57 ABOVE. USE EXOTHERMIC WELDS EACH END.SEE SPECIFICATION 16451. |
| 2 | SERVICE METER --- PROVIDE AN OUTDOOR, SINGLE PHASE, 240 VAC, 200 AMPERE, NEMA 3R RATED METER ENCLOSURE. INSTALLATION SHALL BE AS PER FPL STANDARDS AND REQUIREMENTS. USE MYERS TYPE GROUNDING HUBS FOR CONDUIT INSTALLATIONS INTO ENCLOSURE. | 59 | GROUND WIRE CONDUCTOR – USE A #2 AWG, BARE, TIN-COATED, ANNEALED COPPER WIRE TO EXTEND THE PRIMARY GROUND TO THE PERIMETER FENCE AND TO THE BURIED LP TANK. PLACE THE GROUND WIRE A MINIMUM OF 30" BELOW GRADE. NOTE THAT A GROUND ROD IS ADDED TO THE GROUND WIRE FOR RUNS GREATER THAN 20' (OR WHERE SHOWN). USE EXOTHERMIC WELDS EACH END AND FOR GROUND ROD CONNECTIONS. |
| 3 | SERVICE DISCONNECT – FURNISH A HEAVY DUTY, TWO POLE, 3-WIRE, SERVICE ENTRANCE RATED, FUSED DISCONNECT SWITCH RATED FOR 240 VAC SERVICE AT 200 AMPERES. SWITCH ENCLOSURE SHALL BE STAINLESS STEEL, NEMA 4X CONSTRUCTION. USE SQUARE D CLASS 3110 OR DISTRICT APPROVED EQUAL SWITCH. FURNISH DISCONNECT SWITCH WITH CLASS R FUSE PROVISIONS AND CLASS RK1 FUSES RATED 200 AMPERES AT 250 VAC. IN ADDITION, FURNISH SQUARE D DOUBLE LUG KITS FOR THE SWITCH LUG CONNECTION. TYPE AL20DTF, TO ALLOW A SERVICE FEED TO THE ATS AND A TAP FEED TO THE SURGE SUPPRESSOR. PLACE A SIGN ABOVE SERVICE DISCONNECT SWITCH THAT READS: "CAUTION – UTILITY SERVICE. DISCONNECT ONLY. SEPARATE DISCONNECT FOR STANDBY GENERATOR LOCATED AT GENERATOR BUILDING." LOCATE THE SERVICE DISCONNECT SWITCH 5' MAXIMUM DISTANCE FROM THE CENTERLINE OF THE WAVEGUIDE ENTRY PLATE, AS SHOWN. USE MYERS TYPE GROUNDING HUBS FOR CONDUIT INSTALLATIONS INTO ENCLOSURE. | 60 | SWING GATES – AT SWING GATES, CONNECT #2 AWG GROUND WIRE TAPS TO THE GROUND WIRE CONDUCTOR INSTALLED IN KEY NOTE 59 ABOVE. CONNECT THE GROUND WIRE TAPS TO THE GATE'S TWO STATIONARY POSTS AS SHOWN; USE EXOTHERMIC WELDS FOR EACH CONNECTION. IN ADDITION, INSTALL A #2 AWG FLEXIBLE GATE JUMPER AT EACH GATE FROM THE STATIONARY POST TO THE MOVEABLE POST USING HARGER TYPE GJX2524 FLEX JUMPERS WITH BURNDY TYPE GAR CONNECTORS. |
| 4 | TVSS1 DISCONNECT – FURNISH A HEAVY DUTY, TWO POLE, 3-WIRE, FUSED DISCONNECT SWITCH RATED FOR 240 VAC SERVICE AT 60 AMPERES. SWITCH ENCLOSURE SHALL BE STAINLESS STEEL, NEMA 4X CONSTRUCTION. USE SQUARE D CLASS 3110 OR DISTRICT APPROVED EQUAL SWITCH. FURNISH DISCONNECT SWITCH WITH CLASS R FUSE PROVISIONS AND CLASS RK1 FUSES RATED 60 AMPERES AT 250 VAC. INSTALL PHENOLIC PLASTIC NAMETAG "TVSS1 DISCONNECT SWITCH" TO SWITCH DOOR. USE STAINLESS STEEL MOUNTING SCREWS. USE MYERS TYPE GROUNDING HUBS FOR CONDUIT INSTALLATIONS INTO ENCLOSURE. | 61 | FENCE CORNER POSTS – AT FENCE CORNER POSTS, CONNECT THE #2 AWG GROUND WIRE CONDUCTOR INSTALLED IN KEY NOTE 59 ABOVE TO THE STATIONARY CORNER POST; USE AN EXOTHERMIC WELD. IN ADDITION, TAP #4 AWG BARE COPPER WIRES FROM THE #2 AWG GROUND WIRE CONDUCTOR (BELOW GRADE) AND INSTALL THE #4 AWG WIRES ONTO THE FENCE METAL FABRIC. WEAVE THE #4 AWG COPPER WIRE INTO THE FENCE FABRIC UP TO THE TOP BARB WIRE. ATTACH THE #4 AWG WIRE TO THE FENCE FABRIC WITH SPLIT BOLT CONNECTORS AT THE BOTTOM, MIDDLE, AND TOP OF THE FENCE AND AT EACH BARB WIRE STRAND. |
| 4A | SERVICE SURGE PROTECTIVE DEVICE (TVSS1) --- FURNISH A SINGLE-PHASE, 3-WIRE, 240/120 VAC SURGE PROTECTOR. FURNISH THE SURGE PROTECTOR DEVICE IN A NEMA 4 ENCLOSURE. USE TRANSTECH SYSTEMS INC. APEX IMAX SERIES, TYPE 1101-808-MMM-1. SURGE PROTECTOR SHALL BE LISTED TO UL 1449, SHALL BE MOTOROLA R56 COMPLIANT AND SHALL INCORPORATE MOV TYPE PROTECTION ONLY. FURNISH PHENOLIC PLASTIC NAMETAG WITH STAINLESS STEEL MOUNTING SCREWS "SERVICE SURGE PROTECTOR". | 62 | LP TANK GROUND – BECAUSE OF THE CATHODIC PROTECTION ANODES INSTALLED ON THE LP TANK, GROUND THE TANK THROUGH AN ISOLATOR DEVICE. USE AN OVERVOLTAGE PROTECTOR, MODEL OV2P-2 / 2-1.2-75 WITH MOUNTING BRACKET MANUFACTURED BY DAIRYLAND ELECTRICAL INDUSTRIES. INSTALL THE ISOLATOR ON STAINLESS STEEL MOUNTING STRUT, UNISTRUT TYPE P1000 OR DISTRICT APPROVED EQUAL, SET IN CONCRETE AS SHOWN. USE STAINLESS STEEL MOUNTING HARDWARE. INSTALL A #2 AWG BARE TIN-COATED, ANNEALED COPPER WIRE FROM THE GROUND GRID NETWORK (KEY NOTE 59 ABOVE) TO THE POSITIVE TERMINAL OF THE ISOLATOR. INSTALL A #2 AWG BARE TIN-COATED, ANNEALED COPPER WIRE FROM THE NEGATIVE TERMINAL OF THE ISOLATOR AND ROUTE TO THE GROUND WIRE STUD UNDER THE LP TANK COVER ASSEMBLY. KEEP WIRE LENGTHS AS SHORT AS POSSIBLE. TERMINATE THE GROUND WIRE AT THE ISOLATOR AND AT THE LP TANK WITH SINGLE-HOLE COPPER COMPRESSION TERMINALS AND STAINLESS STEEL MOUNTING HARDWARE. USE PVC CONDUIT TO PROTECT ALL ABOVE GROUND SECTIONS OF GROUND WIRE. VERIFY MANUFACTURER'S REQUIREMENTS FOR INSTALLATION DETAILS. DO NOT USE AN EXOTHERMIC WELD CONNECTION TO ATTACH THE GROUND WIRE TO THE LP TANK OR TO THE ISOLATOR DEVICE. ATTACH PHENOLIC PLASTIC NAMETAG "GROUND COUPLER/ISLOATOR" TO OV2P DEVICE. |
| 5 | AUTOMATIC TRANSFER SWITCH (ATS) --- FURNISH A 3-POLE, ONAN, AUTOMATIC TRANSFER SWITCH (ATS), TYPE APC, RATED 225 AMPERE, WITH A NEMA 1 ENCLOSURE AS SPECIFIED. FURNISH ONAN TYPE 2 CONTROLS WITH INTEGRAL 2 AMP BATTERY CHARGER. INSTALL PHENOLIC PLASTIC NAMETAG "AUTOMATIC TRANSFER SWITCH" TO SWITCH DOOR. USE STAINLESS STEEL MOUNTING SCREWS. | 63 | TOWER GROUND BUS (TGB) – FURNISH A ¼" THICK BY 4" WIDE BY 24" LONG, TINNED PLATED COPPER GROUND BUS, AS SPECIFIED. INSTALL THE BUS SECTION NEAR THE BOTTOM OF THE TOWER ON THE RF TRANSMISSION CABLE LADDER. JUST BELOW WHERE THE TRANSMISSION CABLES TRANSITION FROM A VERTICAL RUN TO A HORIZONTAL RUN, THE TGB IS USED TO GROUND THE PIGTAILS FROM THE WAVE GUIDE AND COAX CABLE GROUND KITS INSTALLED NEAR THE BOTTOM OF THE TOWER. FURNISH THE BUS BAR WITH TWO ROWS OF PRE-DRILLED HOLES FOR MOUNTING TWO HOLE LUGS FROM THE PIGTAILS; BURNDY COMPRESSION TYPE YGA HYUGS WITH 3/8" STUD SIZE AND 0.75" SPACING BETWEEN STUD HOLES. USE STAINLESS STEEL STANDOFFS AND MOUNTING HARDWARE TO MOUNT THE BUS TO A HORIZONTAL STRUT ON THE CABLE LADDER. BECAUSE OF DISSIMILAR METALS, THE TIN PLATED COPPER BUS CANNOT BE MOUNTED DIRECTLY TO THE GALVANIZED SURFACE OF THE LADDER STRUT. A #2 AWG SOLID COPPER WIRE IS ATTACHED FROM THE TGB TO THE TOWER GROUND RING, 30" BELOW GRADE. EXOTHERMIC WELDS ARE USED TO ATTACH THE WIRE AT BOTH ENDS. INSTALL THE #2 GROUND WIRE IN PVC CONDUIT FOR PROTECTION. |
| 8 | ENGINE GENERATOR -- FURNISH AND INSTALL A SKID MOUNTED SPARK IGNITED, PROPANE FUELED GEN-SET AS SPECIFIED. FURNISH WITH ENGINE BLOCK HEATER, GENERATOR ANTI-CONDENSATION HEATER, ETC. WORK INCLUDES FUEL SYSTEM, MUFFLER, EXHAUST PIPE, ETC. INSULATE EXHAUST PIPE AND MUFFLER AS SPECIFIED. | | |
| | <ul style="list-style-type: none"> FURNISH GEN-SET WITH TWO MOLDED CASE BREAKERS MOUNTED WITHIN THE GENERATOR ENCLOSURE. EACH BREAKER RATED FOR FULL UNIT LOAD. USE ONE BREAKER FOR OUTPUT FEED TO ATS AND ONE BREAKER FOR LOAD BANK TESTING. USE KIRK KEYS TO INTERLOCK OPERATION OF THE BREAKERS, SUCH THAT, ONLY ONE BREAKER CAN BE CLOSED AT A TIME. FURNISH GEN-SET WITH CAM-LOK RECEPTACLES CONNECTED TO THE LOAD SIDE OF THE INTERLOCKED BREAKER DISCUSSED IN THE ITEM ABOVE. USE 200 AMP CONTINUOUS RATED CAM-LOK J-SERIES RECEPTACLE, TYPE E1016, WITH NEMA 3R RECEPTACLES COVERS FOR L1 (RED), L2 (BLACK), AND GRD (GREEN). INSTALL THE RECEPTACLES ON THE OUTSIDE SURFACE OF THE GENERATOR LEAD ENCLOSURE. | | |
| 9 | DISTRIBUTION PANEL BOARD (DP1)--- FURNISH A 200 AMPERE, SINGLE-PHASE, 3-WIRE, NEMA TYPE 1 PANEL WITH 200 AMPERE MAIN BREAKER AND 42 POSITIONS, MAXIMUM SHORT CIRCUIT CURRENT RATING OF 22KA (RMS SYMMETRICAL). SEE PANEL BOARD SCHEDULE FOR FEEDER BREAKER REQUIREMENTS. USE BOLT ON BREAKERS. FILL ALL SPARE SPACES WITH SINGLE POLE, 20 AMPERE BREAKERS. | | |
| 10 | DISTRIBUTION PANEL BOARD (DP2)--- FURNISH A 100 AMPERE, SINGLE-PHASE, 3-WIRE, NEMA TYPE 1 PANEL WITH 100 AMPERE MAIN LUG INTERIOR AND 30 POSITIONS, MAXIMUM SHORT CIRCUIT CURRENT RATING OF 22KA (RMS SYMMETRICAL). SEE PANEL BOARD SCHEDULE FOR FEEDER BREAKER REQUIREMENTS. USE BOLT ON BREAKERS. FILL ALL SPARE SPACES WITH SINGLE POLE, 20 AMPERE BREAKERS. | | |
| 11 | PANEL BOARD SURGE PROTECTIVE DEVICE (TVSS2) --- FURNISH A SINGLE-PHASE, 3-WIRE, 240/120 VAC SURGE PROTECTOR. FURNISH THE SURGE PROTECTOR DEVICE IN A FIBERGLASS ENCLOSURE. USE TRANSTECH SYSTEMS INC. APEX IMAX SERIES, TYPE 1101-808-1. SURGE PROTECTOR SHALL BE LISTED TO UL 1449, SHALL BE MOTOROLA R56 COMPLIANT, AND SHALL INCORPORATE MOV AND SAD TYPE PROTECTION. FURNISH PHENOLIC PLASTIC NAMETAG WITH STAINLESS STEEL MOUNTING SCREWS "PANELBOARD SURGE PROTECTOR". | | |
| 12 | POWER FAILURE ALARM – FURNISH VOLTAGE MONITOR RELAY FOR DP-1 DISTRIBUTION PANEL. RELAY SHALL MONITOR BOTH THE L1 AND THE L2 PANEL POLES (240 VAC) AND SHALL SIGNAL A LOSS OR A REDUCTION OF VOLTAGE AT EITHER POLE. USE ABB TYPE CM-EFS.2S | | |
| 13 | LP TANK MONITOR – FURNISH LP TANK MONITOR, MICRO-DESIGN, INC. MODEL 94442A-LPG WITH ADJUSTABLE SET POINT ALARM AND A ROCHESTER TYPE REMOTE SENDER UNIT (HALL EFFECT MODULE). INSTALL THE SENDER UNIT ONTO THE EXISTING LEVEL GAUGE ATOP THE TANK. ORDER THE SENDER UNIT WITH APPROPRIATE LENGTH FACTORY INSTALLED CABLE TO REACH FROM THE MONITOR TO THE LP TANK. MONITOR IS POWERED FROM GEN BATT VOLTAGE VIA THE GEN ROOM SENSOR BOX. (SEE E6507). | 22 | EQUIPMENT ROOM SENSOR BOX – FURNISH AND INSTALL A SINGLE DOOR, METAL ENCLOSURE WITH BACK PLATE AND TERMINAL BLOCKS THAT WILL BE USED TO GATHER THE SENSOR CIRCUITS IN THE EQUIPMENT ROOM AND FROM THE GENERATOR ROOM. USE A PAINTED, NEMA 12, 30" TALL BY 20" WIDE BY 6" DEEP ENCLOSURE WITH CONTINUOUS HINGE; HOFFMAN TYPE A-30206LP OR DISTRICT APPROVED EQUAL. WITHIN THE ENCLOSURE, INSTALL ONE COLUMN OF 100 TERMINAL POINTS FOR CABLE TERMINATIONS. USE DIN RAIL MOUNTED WEIDMULLER BLOCK, TYPE WDU2.5 WITH END PLATES AND BRACKETS AND TERMINAL MARKERS. TO THE LEFT OF THE TERMINAL BLOCKS, INSTALL ONE BUILDING ENTRANCE TERMINAL (BET). USE CIRCA TYPE 2850QC/QC WITH 66 STYLE TERMINAL BLOCKS. IN ADDITION, FURNISH 50, 5-PIN SURGE PROTECTION MODULES FOR THE BETS. USE CIRCA TYPE 4B6S-75E. CONTRACTOR IS RESPONSIBLE FOR INPUT CIRCUITS TO THE SENSOR BOX AND FOR THE TERMINATION OF THE INPUT CIRCUITS AT BOTH ENDS. THE DISTRICT WILL PROVIDE INTERCONNECTING WIRING BETWEEN THE WEIDMULLER BLOCKS AND THE BETS. CONTRACTOR WILL PROVIDE CONDUIT AND CABLE (S40A) FROM BET TO NET GUARDIAN PANEL. DISTRICT WILL TERMINATE CABLE S40A. |
| 13A | LP TANK MONITOR SURGE PROTECTOR – FURNISH A SURGE PROTECTOR FOR THE 0 – 5 V SIGNAL CIRCUIT FROM THE LP TANK SENDER UNIT SPECIFIED IN KEY NOTE 13 ABOVE. USE PHOENIX CONTACT TYPE PT-IQ-1X2-12DC-PT WITH DIN RAIL MOUNTING SURGE PROTECTOR. INSTALL THE SURGE PROTECTOR IN AN 8" X 6" X 6" NEMA 12 ENCLOSURE WITH CONTINUOUS HINGED DOOR AND BACK PLATE; USE HOFFMAN TYPE A-8066CH OR DISTRICT APPROVED EQUAL ENCLOSURE. (SEE E6507). | 22A | PLYWOOD BACKBOARD – FURNISH (2) 4' X 8' X 3/4" PLYWOOD BACKBOARDS, TYPE "AC" WITH FINISHED SURFACE PAINTED WITH WHITE FIRE RETARDANT PAINT. USE SHERWIN WILLIAMS FLAME CONTROL PAINT, TYPE |