

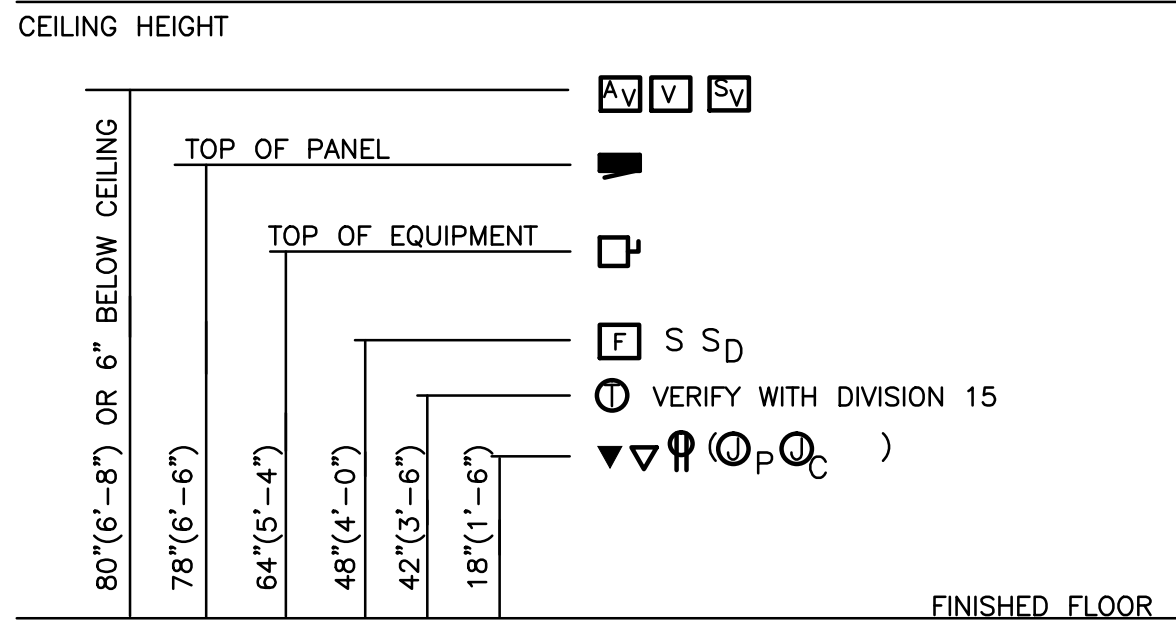
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ELECTRICAL SYMBOL LEGEND			
ALL SYMBOLS SHOWN IN THIS LEGEND ARE NOT NECESSARILY USED ON PLANS		NOTE: ALL SYMBOLS REPRESENTED BELOW BUT SHOWN ON PLANS IN A LIGHT LINE WEIGHT DENOTE EXISTING DEVICE	
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
<b>DIAGRAMS AND WIRING</b>			
	BRANCH CIRCUIT WIRING HOMERUN		FLUSH MOUNTED DUPLEX RECEPTACLE
	CONDUIT 'UP'		FLUSH MOUNTED DOUBLE DUPLEX RECEPTACLE
	CONDUIT 'DOWN'		FLUSH CEILING MOUNTED DUPLEX RECEPTACLE
	UNDERGROUND RACEWAY		FLUSH FLOOR OR COUNTER MOUNTED DUPLEX RECEPTACLE
	FUSED SWITCH, AMPERE SWITCH (AS) AND AMPERE FUSE (AF) RATING AS INDICATED		FLUSH MOUNTED, WEATHERPROOF, GROUND FAULT INTERRUPTER DUPLEX RECEPTACLE
	CIRCUIT BREAKER, 3 POLE (U.N.O.), AMPERE FRAME (AF) AND AMPERE TRIP (AT) RATING AS INDICATED		FLUSH DUPLEX RECEPTACLE HORIZONTALLY MOUNTED ABOVE COUNTER BACKSPASH
	GROUNDING ELECTRODE		FLUSH MOUNTED GROUND FAULT INTERRUPTER DUPLEX RECEPTACLE
	MEDIUM VOLTAGE DRAW-OUT CIRCUIT BREAKER		FLUSH MOUNTED SWITCHED DUPLEX RECEPTACLE
	LOW VOLTAGE DRAW-OUT CIRCUIT BREAKER		FLUSH MOUNTED ISOLATED GROUND DUPLEX RECEPTACLE, ORANGE
	MEDIUM VOLTAGE SWITCH		PLUG MOLD OR WIRE MOLD WITH RECEPTACLES
	LOW VOLTAGE SWITCH		SPECIAL EQUIPMENT RECEPTACLE
	INSTRUMENT / CONTROL FUSE		208V RECEPTACLE
	FUSE		ELECTRICAL POWER POLE
	REACTOR		JUNCTION BOX
	TRANSFORMER	<b>MECHANICAL EQUIPMENT &amp; CONTROLS</b>	
	CURRENT TRANSFORMER		MOTOR
	POTENTIAL TRANSFORMER		DISCONNECT SWITCH OR SAFETY SWITCH
	INVERTER		MOTOR STARTER
	AUTOMATIC TRANSFER / BYPASS ISOLATION SWITCH		WALL HEATER
	LIGHTNING ARRESTER		MOTOR AND DISCONNECT SWITCH
	CAPACITOR		MOTOR, STARTER AND DISCONNECT SWITCH
	METER		FIRE SMOKE DAMPER
	TRANSIENT VOLTAGE SURGE SUPPRESSER		MOTOR SNAP SWITCH WITH THERMAL OVERLOAD
	GROUND FAULT PROTECTOR		THERMAL OVERLOAD PILOT LIGHT SWITCH
	DIGITAL POWER METER		HORSE POWER RATED MOTOR SNAP SWITCH WITHOUT THERMAL OVERLOAD PROTECTION
	REACTOR OR HARMONIC FILTER		PUSHBUTTON
	VARIABLE FREQUENCY CONTROLLER		2-WAY START AND STOP PUSHBUTTON
<b>ELECTRICAL DISTRIBUTION EQUIPMENT</b>			"OPEN-CLOSE-STOP" PUSH-BUTTON, FURNISHED WITH POWER OPERATED DOOR, INSTALLED BY CONTRACTOR, +42" AFF.
	EXISTING BRANCH CIRCUIT PANELBOARD	<b>TELECOMMUNICATIONS</b>	
	NEW BRANCH CIRCUIT PANELBOARD		VOICE ONLY OUTLET, SUBSCRIPT "H" DENOTES OUTLET SHALL BE HORIZONTALLY MOUNTED ABOVE COUNTER.
	MOTOR CONTROL CENTER		SAME AS SYMBOL ABOVE EXCEPT OUTLET SHALL BE MOUNTED IN FLOOR, CEILING OR COUNTER TOP, SUBSCRIPT SAME AS ABOVE.
	MAIN DISTRIBUTION PANEL		DATA ONLY OUTLET, SUBSCRIPT "H" DENOTES OUTLET SHALL BE HORIZONTALLY MOUNTED ABOVE COUNTER.
	TRANSFORMER		SAME AS SYMBOL ABOVE EXCEPT OUTLET SHALL BE MOUNTED IN FLOOR, CEILING OR COUNTER TOP, SUBSCRIPT SAME AS ABOVE.
	CONTACTOR		COMBINATION VOICE AND DATA OUTLET, SUBSCRIPT "H" DENOTES OUTLET SHALL BE HORIZONTALLY MOUNTED ABOVE COUNTER.
<b>INTERIOR AND EXTERIOR LIGHTING</b>			SAME AS SYMBOL ABOVE EXCEPT OUTLET SHALL BE MOUNTED IN FLOOR, CEILING OR COUNTER TOP, SUBSCRIPT SAME AS ABOVE.
	LIGHTING FIXTURE, UPPER CASE LETTER INDICATES TYPE, LOWER CASE LETTER INDICATES SWITCH LEG, NUMBER DENOTES CIRCUIT AND NL INDICATES NIGHT LIGHT. REFER TO LIGHTING FIXTURE SCHEDULE FOR DETAILS.		CABLE TV OR SATELLITE TV JACK
	EGRESS LIGHT FIXTURE 1 LAMP CONNECTED TO EMERGENCY POWER SOURCE. EMERGENCY LAMPS WIRED AHEAD OF LOCAL SWITCHING.	<b>LIGHTING CONTROLS</b>	
	EGRESS LIGHT FIXTURE CONNECTED TO EMERGENCY POWER SOURCE. WIRED AHEAD OF LOCAL SWITCHING.		FLUSH MOUNTED SINGLE POLE SWITCH, LOWER CASE LETTER DESIGNATES WHICH LIGHTING FIXTURE SWITCH IS CONTROLLING
	POLE MOUNTED LUMINAIRE, SINGLE HEAD		FLUSH MOUNTED THREE WAY SWITCH
	POLE MOUNTED LUMINAIRE, DOUBLE HEAD		FLUSH MOUNTED FOUR WAY SWITCH
	GROUND OR WALL MOUNTED FLOOD LIGHT		FLUSH MOUNTED ADJUSTABLE DIMMER SWITCH
	SELF-CONTAINED EMERGENCY LIGHTING UNIT WITH TWO HEADS. EXIT SIGN, FACES AND DIRECTIONAL ARROWS AS INDICATED ON PLANS		MOMENTARY CONTACT SWITCH
	EXIT SIGN WITH TWO EMERGENCY EGRESS HEADS, DIRECTIONAL ARROWS AS INDICATED ON PLANS		FLUSH MOUNTED KEY PROTECTED SWITCH
<b>GRAPHIC SYMBOLS</b>			FLUSH MOUNTED SWITCH WITH PILOT LIGHT
	NORTH ARROW		OCCUPANCY SENSOR - WALL MOUNTED
	KEYED NOTE		OCCUPANCY SENSOR - CEILING MOUNTED
	REVISION DIAMOND		DAYLIGHT SENSOR
	DETAIL BUBBLE		DIGITAL LIGHTING CONTROLLER WITH SEVEN DAY TIME CLOCK AND LITHIUM BATTERY BACK UP POWER SUPPLY. TORK DGLC SERIES. VOLTAGE TO MATCH LIGHTING BEING CONTROLLED.
	DETAIL TITLE		LIGHTING CONTACTOR, VOLTAGE TO MATCH LIGHTING BEING CONTROLLED.
	ELEVATION		
	SECTION		

ELECTRICAL ABBREVIATIONS	
SYMBOL	DESCRIPTION
A/AMP	AMPERES
AC	ALTERNATING CURRENT
AFC	ABOVE FINISHED CEILING
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AIC	AMPERES INTERRUPTING CAPACITY (SYMMETRICAL)
BFC	BELOW FINISHED CEILING
BWE	BAKED WHITE ENAMEL
C	CONDUIT
CCT	CIRCUIT
DC	DIRECT CURRENT
(E), (EX), EX	EXISTING
EC	EMPTY CONDUIT
EMT	ELECTRICAL METALLIC TUBING
EPO	EMERGENCY POWER OFF
EXT.	EXTERIOR
FLA	FULL LOAD AMPS
FLEX	FLEXIBLE METALLIC CONDUIT
FPN	FUSED PER NAMEPLATE
FVNR	FULL VOLTAGE NON-REVERSING
(F)	FUTURE
GND	GROUND
GRC	GALVANIZED RIGID CONDUIT
HP	HORSEPOWER
IMC	INTERMEDIATE METALLIC CONDUIT
INT.	INTERIOR
J-BOX	JUNCTION BOX
KAIC	KILOAMPERES INTERRUPTING CAPACITY (SYMMETRICAL)
K.E.C.	KITCHEN EQUIPMENT CONTRACTOR
KV	KILOVOLTS
KVA	KILOVOLT-AMPS
KW	KILOWATT
LCP	LOCAL CONTROL PANEL
MA	MILLIAMPER
MCA	MINIMUM CIRCUIT AMPACITY
MCB	MAIN CIRCUIT BREAKER
MLO	MAIN LUGS ONLY
MM	MILLIMETER
MTD	MOUNTED
(N)	NEW
N	NEUTRAL CONDUCTOR (GROUNDED CIRCUIT CONDUCTOR)
N.C.	NORMALLY CLOSED
N.O.	NORMALLY OPEN
P	PHASE OR POLE
PANELBOARD	PANELBOARD
P.O.S.	POINT OF SALE SYSTEM
PVC	POLYVINYL CHLORIDE CONDUIT (SCHEDULE 40)
(R)	RELOCATED
SEC	SECTION
SPD	SURGE PROTECTION DEVICE a.k.a. TRANSIENT VOLTAGE SURGE SUPPRESSOR (TVSS)
T, XFMR	TRANSFORMER
U.N.O.	UNLESS NOTED OTHERWISE
V	VOLTAGE OR VOLTS
W	WATTS
WP	WEATHERPROOF
WT	WIRING TROUGH

INDEX OF ELECTRICAL DRAWINGS	
SHEET	TITLE
*EL-1	GENERAL ELECTRICAL LEGEND
*ED-1	FACILITY ELECTRICAL ONE-LINE DIAGRAM
*ES-1	GENERAL ELECTRICAL SCHEDULES I
*ES-2	GENERAL ELECTRICAL SCHEDULES II
*ES-3	GENERAL ELECTRICAL SCHEDULES III
*ES-4	GENERAL ELECTRICAL SCHEDULES IV
ES-5	GENERAL ELECTRICAL SCHEDULES V
*ESP-1	MASTER ELECTRICAL SITE PLAN
ESP-2	ELECTRICAL SITE PLAN DETAILS
EHW-1	ELECTRICAL ONE-LINE DIAGRAM - HEADWORKS BUILDING
EHW-2	LIGHTING AND POWER PLAN - HEADWORKS BUILDING
EHW-3	ELECTRICAL GROUNDING PLAN - HEADWORKS BUILDING
EAB-1	AERATION BASINS AND AEROBIC DIGESTER BASINS ELECTRICAL GROUNDING PLAN
EAB-2	AERATION BASINS AND AEROBIC DIGESTER BASINS LIGHTING AND POWER PLAN
EAB-3	AERATION BASINS AND AEROBIC DIGESTER BASINS ELECTRICAL ONE-LINE DIAGRAM
ESC-1	ELECTRICAL ONE-LINE DIAGRAM - SECONDARY CLARIFIER COMPLEX
ESC-2	LIGHTING AND POWER PLAN - SECONDARY CLARIFIER COMPLEX
ESC-3	ELECTRICAL GROUNDING PLAN - SECONDARY CLARIFIER COMPLEX
EPD-1	ELECTRICAL ONE-LINE DIAGRAM - PUMPING AND DISINFECTION BUILDING
EPD-2	ELECTRICAL POWER PLAN - PUMPING AND DISINFECTION BUILDING
EPD-3	ELECTRICAL GROUNDING PLAN - PUMPING AND DISINFECTION BUILDING
EPD-4	ELECTRICAL FOUNDATION PLAN - PUMPING AND DISINFECTION BUILDING
EPD-5	ELECTRICAL FOUNDATION PLAN II - PUMPING AND DISINFECTION BUILDING
EPD-6	ELECTRICAL LIGHTING PLAN - PUMPING AND DISINFECTION BUILDING
EBB-1	ELECTRICAL POWER AND LIGHTING PLANS - BLOWER BUILDING
EBB-2	UNDERGROUND CONDUIT AND LIGHTNING PROTECTION PLANS - BLOWER BUILDING
EBB-3	ELECTRICAL ONE-LINE DIAGRAM - BLOWER BUILDING
*EBH-1	ELECTRICAL POWER AND SIGNAL PLAN - BIOSOLIDS HANDLING COMPLEX
*EBH-2	ELECTRICAL LIGHTING AND LIGHTNING PROTECTION PLANS - BIOSOLIDS HANDLING COMPLEX
EEM-1	ELECTRICAL GROUNDING PLAN - EQUIPMENT MAINTENANCE AND STORAGE BUILDING
EEM-2	ELECTRICAL LIGHTING AND LIGHTNING PROTECTION PLAN
EEM-3	ELECTRICAL POWER PLAN
EOP-1	ELECTRICAL LIGHTING AND LIGHTNING PROTECTION PLANS - OPERATIONS BUILDING
EOP-2	ELECTRICAL POWER AND SIGNAL PLAN - OPERATIONS BUILDING

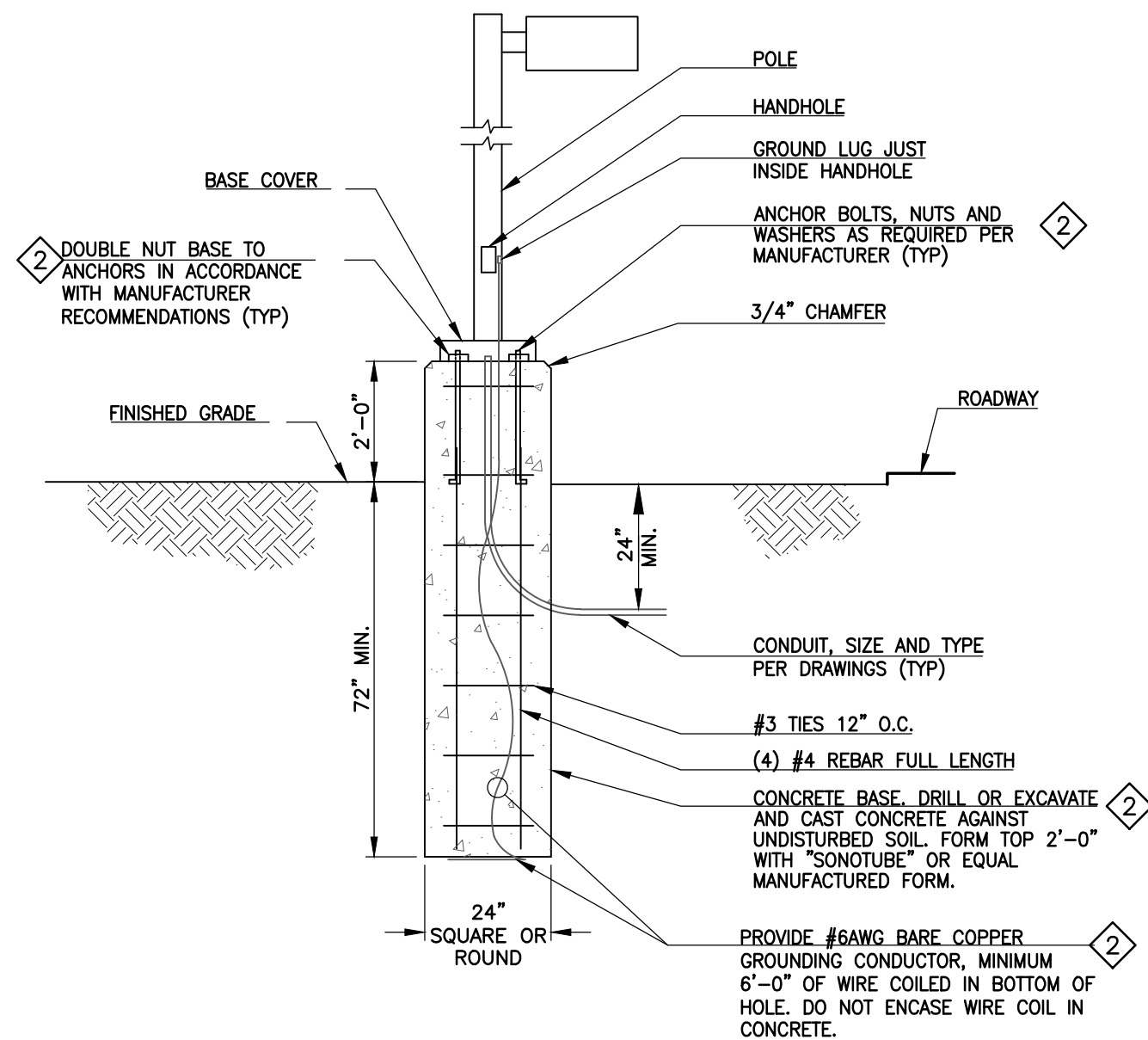
\* INDICATES DRAWINGS INCLUDED IN THE 01/07/2013 BUILDING PERMIT SUBMITTAL TO PPRBD FOR THE BIOSOLIDS HANDLING COMPLEX.



NOTES:

- HEIGHTS SHOWN ARE TYPICAL TO CENTERLINE OF BOX UNLESS NOTED OTHERWISE.
- DEVICES ABOVE DOORS SHALL BE CENTERED BETWEEN TOP OF DOOR TRIM AND CEILING LINE, UNO.
- MOUNTING HEIGHTS SHOWN ON DETAIL ELEVATIONS SHALL GOVERN OVER THOSE SHOWN ABOVE.
- FOR CEILING HEIGHTS HIGHER THAN 7'-2", INSTALL FIRE ALARM NOTIFICATION APPLIANCES AND EXIT SIGNAGE AT 90" A.F.F., OTHERWISE INSTALL AT 6" BELOW CEILING OR AS REQUIRED PER CODE.
- OVER COUNTER RECEPTACLES SHALL BE MOUNTED HORIZONTAL AND 10" ABOVE TOP OF COUNTER, UNO.

1 TYPICAL DEVICE MOUNTING HEIGHTS  
EL-1 SCALE: NONE



2 TYPICAL AREA LIGHTING POLE BASE DETAIL  
EL-1 SCALE: NONE

REVISIONS			REVISIONS		
NO.	DATE	DESCRIPTION	NO.	DATE	DESCRIPTION
13	06/29/2012	ISSUED FOR BUILDING PERMIT SUBMITTAL TO PPRBD (OPERATIONS BUILDING)	1	03/30/2011	ISSUED FOR BUILDING PERMIT SUBMITTAL TO PPRBD (SECONDARY CLARIFIER COMPLEX)
14	08/15/2012	ISSUED FOR CONSTRUCTION PER PPRBD BUILDING PERMIT #135220 (OPERATIONS BLDG)	2	05/17/2011	ISSUED FOR PREPARATION OF CMO
15	11/29/2012	ISSUED FOR VALUE ENGINEERING REVIEW AND PRICING	3	06/20/2011	ISSUED FOR BUILDING PERMIT SUBMITTAL TO PPRBD (HEADWORKS BUILDING)
16	12/12/2012	ISSUED FOR BUILDING PERMIT SUBMITTAL TO PPRBD (AERATION BASINS)	4	06/10/2011	ISSUED FOR CONSTRUCTION (SECONDARY CLARIFIER COMPLEX)
17	01/07/2013	ISSUED FOR BUILDING PERMIT SUBMITTAL TO PPRBD (BIOSOLIDS HANDLING COMPLEX)	5	08/09/2011	ISSUED FOR CONSTRUCTION PER PPRBD BUILDING PERMIT #8810 (HEADWORKS BLDG)
18	01/29/2013	ISSUED FOR CONSTRUCTION PER PPRBD PERMIT #H84746 (AERATION BASINS)	6	11/23/2011	ISSUED FOR BUILDING PERMIT SUBMITTAL TO PPRBD (EQUIP. MAINT. & STOR. BLDG)
19	03/14/2013	ISSUED FOR CONSTRUCTION PER PPRBD BLDG PERMIT #H5132 (BIOSOLIDS HANDLING COMPLEX)	7	01/06/2012	ISSUED FOR VALUE ENGINEERING
			8	01/09/2012	ISSUED FOR CONSTRUCTION PER PPRBD BUILDING PERMIT #H3002 (EQUIP. MAINT. & STOR. BLDG)
			9	01/29/2012	ISSUED FOR PD BUILDING VALUE ENGINEERING REVIEW AND COMMENTS
			10	04/19/2012	ISSUED FOR BUILDING PERMIT SUBMITTAL TO PPRBD (PUMPING AND DISINFECTION BLDG)
			11	05/21/2012	ISSUED FOR CONSTRUCTION PER PPRBD BLDG PERMIT #8893 (PUMP AND DISINFECTION BLDG)
			12	06/21/2012	ISSUED FOR BUILDING PERMIT SUBMITTAL TO PPRBD (BLOWER BUILDING)

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GENERAL ELECTRICAL LEGEND		
HAROLD D. THOMPSON REGIONAL WATER RECLAMATION FACILITY LOWER FOUNTAIN METROPOLITAN SEWAGE DISPOSAL DISTRICT		
DRAWN _____ MAM	GMS, INC. CONSULTING ENGINEERS 611 N. WEBER, SUITE 300 COLORADO SPRINGS, COLORADO 80903	
DESIGNED _____ AFS		
CHECKED _____ MR		
DATE _____ 2010		
PROJECT NO. _____ 20166.330	SHEET EL-1 OF -	
GMS FILE NO. _____ 2599		

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