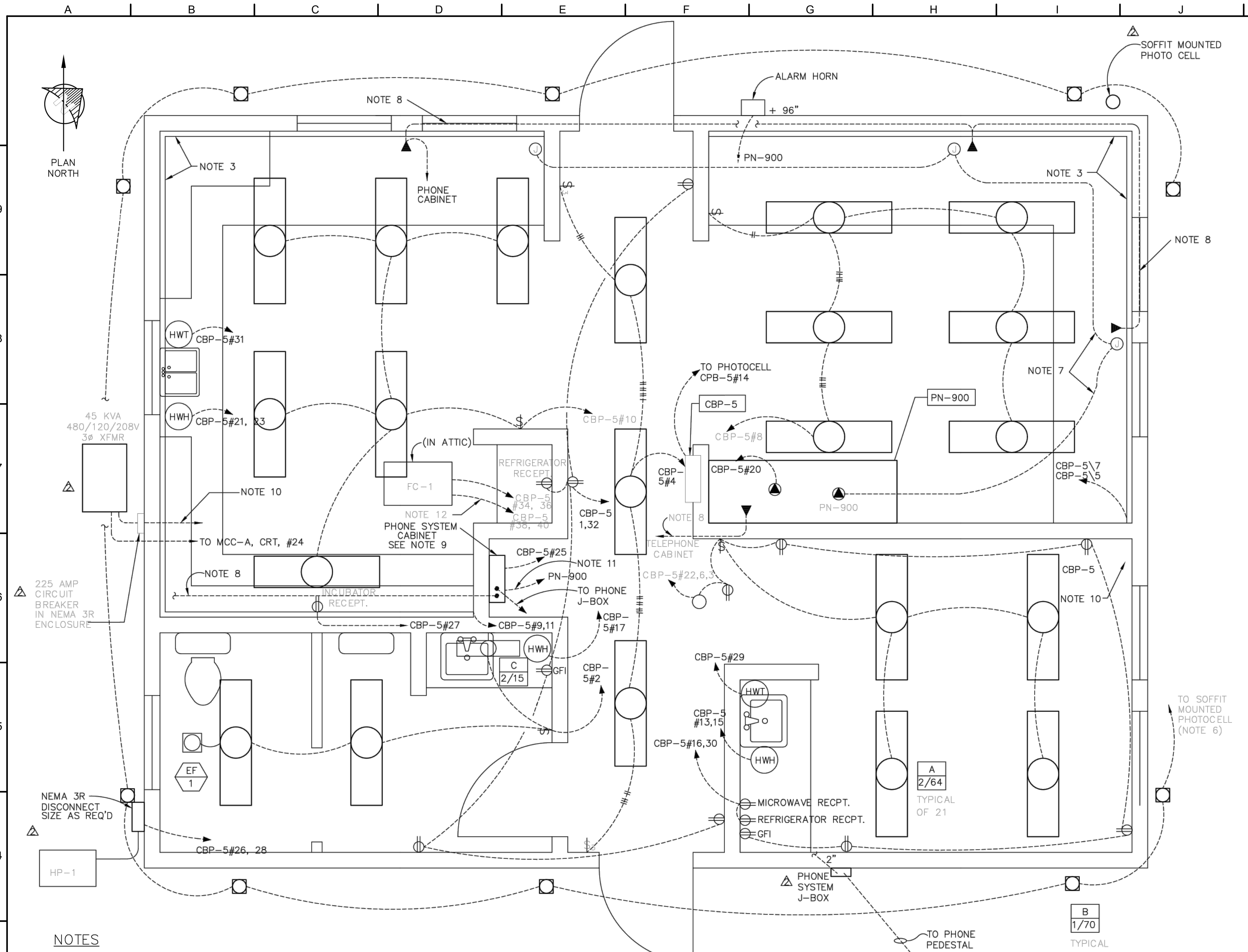


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PANEL CBP-5			AUTO CALCULATIONS		
HIGH VOLTAGE	208	SYM RMS AMPS	10,000	LOAD	36,922 VA
LOW VOLTAGE	120	BREAKER TYPE	NQOB	"D" DIVERSITY	0 VA
PHASE	3	MAIN BKR AMPS	NONE	25% "C" LOAD	9,231 VA
HERTZ	60	FEED TOP/BOTTOM	TOP	TOTAL WATTS	46,153 VA
NEUTRAL BUS Y/N	Y	MOUNTING	RECESSED	TOTAL KVA	46
GROUND BUS Y/N	Y	COVER TYPE	DOOR IN DOOR	CONN AMPS	128
GND WIRE Y/N	Y	MANUFACTURER	WESTINGHOUSE	FACTOR AMPS	26
WIRE THHN/THW	THW			TOTAL AMPS	154
FED FROM	MCC-A			DESIGN AMPS	225
# OF CIRCUITS	42			# OF CONDUITS	1
MIN. AMPS	225			CONDUIT SIZE	2-1/2"
% FACTOR	20			# OF CABLES	4
BUSSING	COPPER			SIZE OF CABLE	#4/0
ISOLATED GND	NO			SIZE OF GND	#4

CIR#	BREAKER	CIRCUIT DESCRIPTION	D	VOLT AMPS	L1	L2	L3	VOLT AMPS	D	CIRCUIT DESCRIPTION	BREAKER	CIR#
1	20A-1P	BATHRM & HALL RECPT	C	1,440	L1			128	C	BATHRM LIGHTS	20A-1P	2
3	20A-1P	STAFF RM RECPT	C	1,440		L2		192	C	HALL LIGHTS	20A-1P	4
5	20A-1P	OFFICE RECPT	C	1,440			L3	256	C	STAFF RM LIGHTS	20A-1P	6
7	20A-1P	OFFICE RECPT	C	1,440	L1			384	C	OFFICE LIGHTS	20A-1P	8
9	20A-1P	LAB RECPT	C	1,440		L2		384	C	LAB LIGHTS	20A-1P	10
11	20A-1P	LAB RECPT	C	1,440			L3	430	C	HEADWORKS LIGHTING	20A-1P	12
13	20A-1P	HOT WATER HEATER	C	700	L1			700	C	BLDG OUTDOOR LIGHTS	20A-1P	14
15	20A-1P	SAMPLER OUTLET-HEADWKS	C			L2		1,500	C	MICROWAVE	20A-1P	16
17	20A-1P	HOT WATER HEATER	C	700			L3	1,200	C	DISHWASHER	20A-1P	18
19	20A-1P	HOT WATER HEATER	C	700	L1			2,400	C	PANEL 900	30A-1P	20
21	20A-1P	HOT WATER HEATER	C	700		L2		280	C	ATTIC LIGHT AND RECPT	20A-1P	22
23	20A-1P	HOT WATER HEATER	C	700			L3	0	C	120/24V xfmr AC control	20A-1P	24
25	20A-1P	TELEPHONE CABINET	C	1200	L1			1,612	C	HP-1	25A-2P	26
27	20A-1P	INCUBATOR	C	1200		L2		1,612	C			28
29	20A-1P	HOT WATER TAP/STAFF RM	C	900			L3	300	C	STAFF ROOM REFRIG.	20A-1P	30
31	20A-1P	HOT WATER TAP/LAB	C	450	L1			300	C	LAB REFRIG.	20A-1P	32
33		SPACE				L2		562	C	FC-1	20A-2P	34
35		SPACE					L3	562	C			36
37	20A				L1			3,750	C	ELECTRIC HEATER COIL	40A-2P	38
39	3P					L2		3,750	C			40
41						L3				SPACE		42

OFFICE BUILDING PANEL SCHEDULE
NOT TO SCALE

SYMBOL LIST

- SURFACE FIXTURE
- WALL MOUNTED FIXTURE
- RECESSED FIXTURE
- SURFACE FLUORESCENT
- WALL MOUNTED FLUORESCENT
- ⊗ EXIT
- S SINGLE POLE SWITCH
- S₂ TWO POLE SWITCH
- S₃ THREE WAY SWITCH
- S₄ FOUR WAY SWITCH
- ⊕ DUPLEX RECEPTACLE
- ⊕ DUPLEX RECEPTACLE ABOVE COUNTER
- ⊕ HWT HOT WATER TAP
- ⊕ DOUBLE DUPLEX RECEPTACLE
- ⊕ DUPLEX RECEPTACLE (GFI)
- ⊕ OUTLET WITH NEMA CONFIGURATION
- ⊕ MOTOR CONNECT
- ⊕ SINGLE POINT CONNECTION
- ⊕ DISCONNECT SWITCH
- ⊕ FUSED DISCONNECT SWITCH
- ⊕ JUNCTION BOX
- ⊕ EQUIPMENT CONNECTION
- ⊕ GFI GROUND FAULT INTERRUPTER
- ⊕ TELEPHONE OUTLET
- ⊕ CONCEALED CONDUIT
- ⊕ EXPOSED CONDUIT
- ⊕ HWT HOT WATER HEATER

MARK NUMBER	EF
1	1
AREA	BATH ROOM
TYPE	CEILING
CFM	200
S.P.	0.10"
SEISMIC RESTRAINT	YES
ELECTRICAL	120/115 VAC
MFR/MODEL	BROAN/362

A 2/64	4-FOOT, SURFACE MOUNT, 2-LAMP FIXTURE WITH CLOSED TOP REFLECTOR AND ENERGY SAVING BALLAST. HUBBEL SURFACE LINE SSSCA021ECSA, OR APPROVED EQUAL.
B 2/7	OUTDOOR SOFFIT LIGHT HUBBEL/MARCO 8" PL LAMP DOWN LIGHT 7/9 WATT. HOUSING D407-120V-400W, OR APPROVED EQUAL.
C 2/15	HUBBEL MIRROR LIGHT ML215, 2 LAMPS, 15W

- NOTES**
- CONDUIT SIZE INDICATED IS MINIMUM SIZE FLEXIBLE OR RIGID CONDUIT TERMINATED AT FIXTURE.
 - XXX-### INDICATES EQUIPMENT/DEVICE TAG NO.
 - NON-METALLIC SURFACE RACEWAY, HUBBEL: PREMISETRAK PT1BC5 OR EQUAL W/ 10 DOUBLE RECEPTACLE BOXES, HUBBEL: PT12SBA OR APPROVED EQUAL.
 - ALL CONDUCTORS SHALL BE 2 #12 AWG W/ #12 AWG GRD UNLESS OTHERWISE INDICATED BY NOTE OR HASH MARKS. HASH MARKS DENOTE NUMBER OF #12AWG WIRE.
 - ALL CONDUIT AND CONDUCTOR SYMBOLS ARE UNIQUE TO THIS DRAWING.
 - ROOF MOUNTED PHOTOCELL TO BE LOCATED ON NORTHEAST END OF ROOF. PHOTOCELL TO HAVE: BUILT-IN DELAY, LIGHT SHIELD, SWIVEL & BE WEATHER TIGHT. INTERMATIC K4221C OR EQUAL.
 - COMPUTER AND INSTRUMENTATION SUPPLIER TO COORDINATE CONDUIT SIZES AND COMMUNICATION CABLE TYPES FOR COMPUTER INTERFACE WITH PLC IN PN-900 AND NETWORKING OF MULTIPLE COMPUTER WORK STATIONS.
 - 3/4" CONDUIT MINIMUM. CONDUCTORS TO BE AS REQUIRED BY PHONE SYSTEM SUPPLIER.
 - PHONE SYSTEM CABINET TO BE MOUNTED ON BACK OF CLOSET WALL. SIZE TO BE AS REQUIRED BY PHONE SYSTEM SUPPLIER. PROVIDE PHONE SERVICE TO BLOWER/MAINTENANCE BUILDING (E19), SECONDARY SLUDGE PUMPING BUILDING (E20) AND EFFLUENT PUMPING STATION (E21) FROM PHONE SYSTEM CABINET. CONDUIT AND CONDUCTORS TO BE SIZE AS REQUIRED.
 - CONDUCTOR FROM TRANSFORMER TO CBP-5 WILL BE 4#4/0 AWG WITH 1#4AWG GROUND.
 - RINGER CONTACT TO PLC INPUT IN PN-900, SEE DRAWING E30. (2) #16 AWG.
 - CONDUCTOR FROM ELECTRIC HEATER COIL TO CIRCUIT CBP-5 #38, 40 TO BE 2 #8 AWG WITH 1 #10 AWG GROUND.

AS CONSTRUCTED

A. CHANGE 225 AMP BREAKER AT 45 KVA TRANSFORMER TO 175 AMP BREAKER.

B. EXTERIOR LIGHTS, CLARIFICATION. LIGHTING SCHEDULE ITEM B. TO BE A TWO LAMP FIXTURE WITH LAMPS TO BE 7 OR 9 WATTS EACH. NOT A ONE 70 WATT FIXTURE AS NOTED IN THE DETAIL FOR THE 10 SOFFIT LIGHTS.

APPENDUM #1, ITEM 49

AS CONSTRUCTED SEPTEMBER 1998

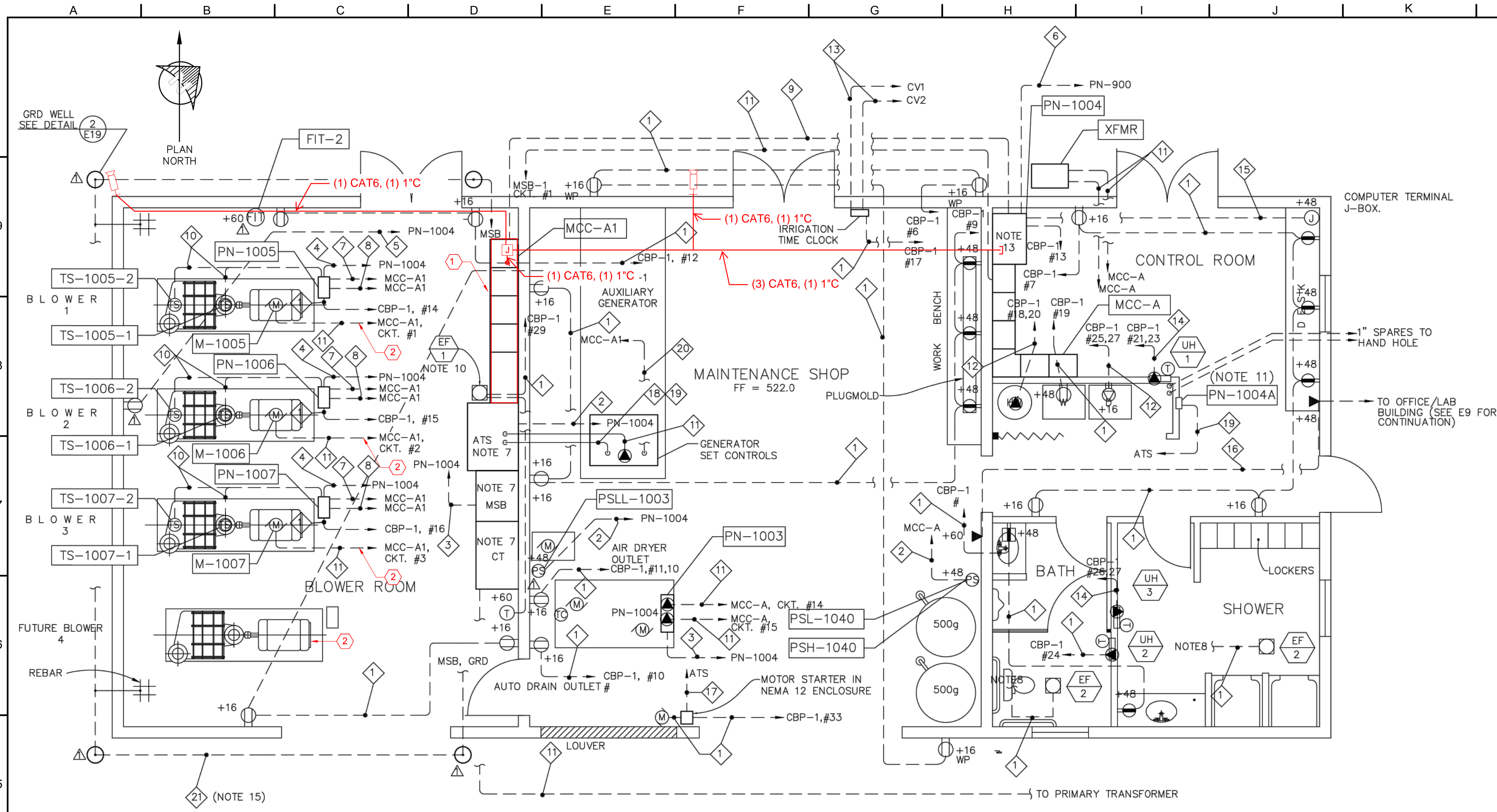
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THIS LINE IS 1 INCH AT FULL SCALE IF NOT SCALE ACCORDINGLY				
SCALE :	AS SHOWN			
DRAWN BY :	SMB			
DESIGNED BY :	WJS			
PROJ. MGR. :	PVM			
No.	ZONE	REVISIONS	BY	DATE



CITY OF SANDY
WASTE WATER TREATMENT FACILITY IMPROVEMENTS
OFFICE/LABORATORY BUILDING LIGHTING AND POWER PLAN

JOB NUMBER	964-50-20-01
DRAWING NUMBER	E004
SHEET NUMBER	X OF XX
REVISION	



UNIT HEATER SCHEDULE			EXHAUST FAN SCHEDULE			
MARK NUMBER	UH 1	UH 2	UH 3	MARK NUMBER	EF 1	EF 2
AREA	CONTROL ROOM	BATH ROOM	SHOWER ROOM	AREA	BLOWER ROOM	SHOWER & BATH
TYPE	RECESSED WALL MOUNT BLOWER	RECESSED WALL MOUNT BLOWER	RECESSED WALL MOUNT BLOWER	TYPE	CEILING	CEILING
CAPACITY	2.0 KW	500 W	1.0 KW	CFM	750	200
SEISMIC RESTRAINT	---	---	---	SEISMIC RESTRAINT	YES	YES
ELECTRICAL	240/1	120/1	240/1	ELECTRICAL	1/2 HP 115VAC	120/1 115 W
MFR/MODEL	CHROMOLOX/WHC-2031AR WITH THERMOSTAT WHC-T2A	CHROMOLOX/WHC-0511AR WITH THERMOSTAT WHC-T1A	CHROMOLOX/WHC-1031AR WITH THERMOSTAT WHC-T2A	MFR/MODEL	BROAN 375 MULTIFAN/T15WD	BROAN/362

PANEL SCHEDULE									
PANEL: CBP-1		LOCATION: BLOWER/MAINTENANCE		VOLT 240/120		PHASE 1		MOUNTING: MCC-A	
CODE	DESCRIPTION	VA	A/P	NO	A	B	NO	A/P	VA
1	LIGHTS, EXTERIOR	1000	20/1	1	*		2	20/1	462
1	LIGHTS, SHOWER	414	20/1	3	*	*	4	20/1	708
1	LIGHTS, BLOWER RM	708	20/1	5	*	*	6	20/1(a)	1080
2	RECEPT, CONTROL (6)	2160	20/1	7	*	*	8	20/1(a)	720
2	RECEPT, SHOP (5)	1800	20/1(a)	9	*	*	10	20/1	360
5	RECEPT, AIR DRYER	373	20/1	11	*	*	12	20/1(a)	1080
6	PN-1004	1725	20/1	13	*	*	14	20/1	120
6	PN-1006	120	20/1	15	*	*	16	20/1	120
6	IRRIGATION TIMER	120	20/1	17	*	*	18	40/2	4500
5	WASHER	1500	20/1	19	*	*	20	4500	4500
3	HEATER, CONTROL RM	1000	20/2	21	*	*	22		
3	HEATER, CONTROL RM	1000	20/2	23	*	*	24	20/1	500
3	DRYER	2500	30/2	25	*	*	26	20/2	500
3	DRYER	2500	30/2	27	*	*	28	500	500
5	FAN, BLOWER ROOM	435	20/1	29	*	*	30	20/1	
1	LIGHT, ACCESS RD	600	20/1	31	*	*	32	20/1(a)	720
	MOTORIZED LOUVER	1127	20/1	33	*	*	34	20/1	
	SPACE			35	*	*	36	20/1	
	SPACE			37	*	*	38		
	SPACE			39	*	*	40		
	SPACE			41	*	*	42		

LOAD CODE	LINE A	LINE B	TOTAL	FACTOR	CODE LOAD
1. LIGHTS	2,170	1,722	3,892	1.25	4,865
2. RECEPT	3,240	4,680	7,920	1.0	7,920
3. HEATING	8,500	9,000	17,500	1.25	21,875
4. EQUIP	-	-	-	1.0	-
5. MOTORS	1,935	1,500	3,435	(1)	3,435
6. MISC	1,965	240	2,205	1.0	2,205
TOTALS	17,810	17,142	34,952		40,675

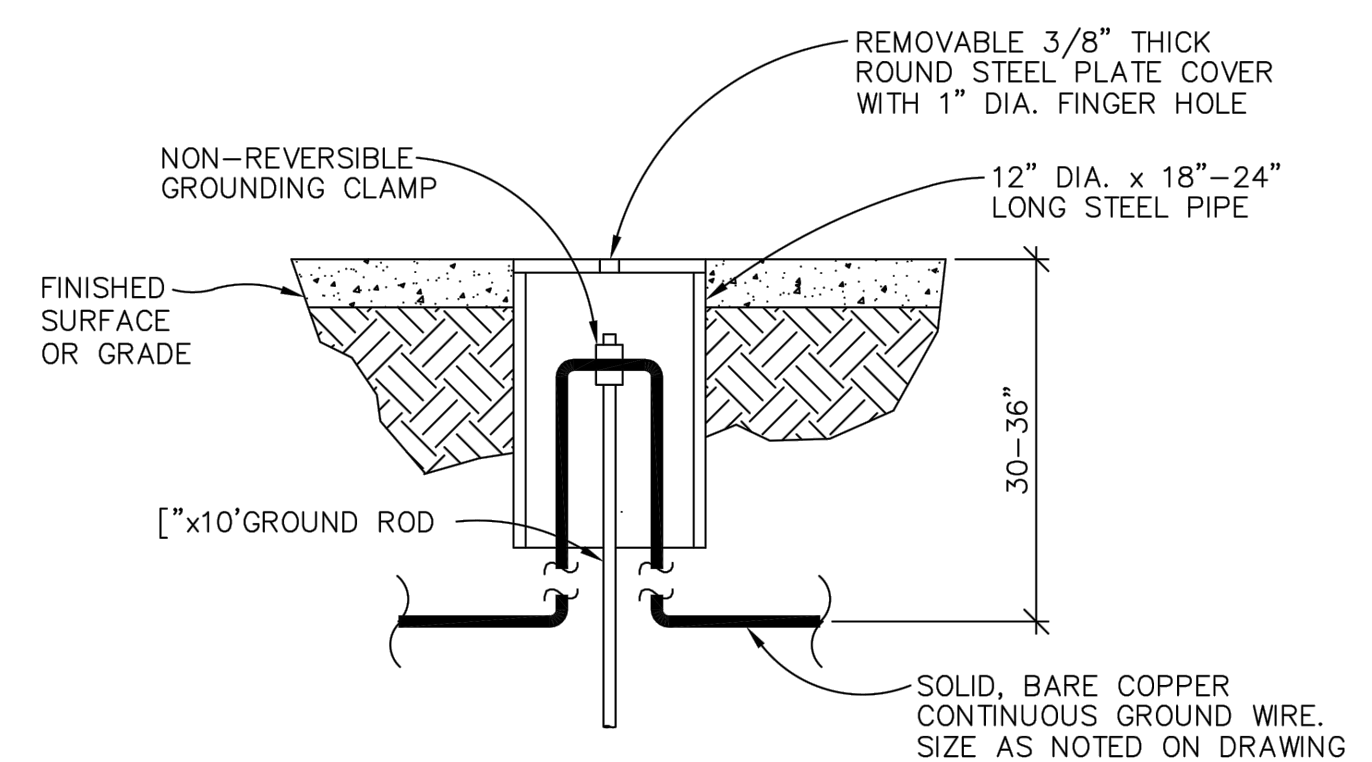
- KEYED NOTES**
- REMOVE EXISTING MCC. INSTALL NEW MCC IN SAME SPACE.
 - DISCONNECT EXISTING CONDUCTORS FROM VFD IN MCC-A1. REINSTALL EXISTING CONDUCTORS TO NEW VFD IN NEW MCC-A1.

1 BLOWER/MAINTENANCE BUILDING POWER PLAN
SCALE: 1" = 1'-0"

CONDUIT	CONDUCTORS	CONDUIT	CONDUCTORS
1	2 #12 AWG, P & N 1 #12 AWG, G	11	REFER TO ONE LINE WIRING DIAGRAM
2	2 #14 AWG, C 1 #14 AWG, G	12	3/4" 2 #8 AWG, P 1 #8 AWG, G
3	4 #16 AWG, C	13	3/4" (NOTE 9) 14-1 UF
4	2 #16 AWG, C 2 #16 AWG, C (SPARE)	14	3/4" 2 #12 AWG, P 1 #12 AWG, G
5	1-PAIR, #18 AWG, TWISTED SHIELDED W/DRAIN	15	1" AS REQUIRED BY COMPUTER NETWORK
6	1-PAIR, #22 TWISTED SHIELDED W/DRAIN TRADE #9182	16	3/4" AS REQUIRED BY PHONE SUPPLIER
7	4 #16 AWG, C	17	3/4" 2 #12 AWG, C
8	2 #12 AWG, P	18	1/2" 4 #14 AWG, C 2 #12 AWG, P
9	18 #16 AWG, C	19	1 1/2" 10-PAIR, #18 AWG (VERIFY WITH GEN. MANUFACTURER)
10	3-WIRE, #16 AWG, TWISTED SHIELDED W/DRAIN	20	1" REFER TO ONE LINE WIRING DIAGRAM
		21	N/A 1 #4/0 AWG, BARE SOLID COPPER, G

- ALL CONDUIT AND CONDUCTOR SYMBOLS ARE UNIQUE TO THIS DRAWING.
- PROCESS EQUIPMENT AND DEVICES ARE FURNISHED AND INSTALLED BY OTHERS. THE LOCATION OF THE EQUIPMENT IS APPROXIMATE. REFER TO MECHANICAL DRAWINGS FOR THE ACTUAL LOCATION OF THE EQUIPMENT.
- FOR CONDUCTOR AND CONDUIT SIZING FOR INTERCONNECTION OF "MCC-A1, ATS, CT AND MAIN SWITCHBOARD" REFER TO ONE-LINE DRAWINGS.
- SHOWER AND BATH EXHAUST FANS POWERED FROM RESPECTIVE LIGHTING CIRCUITS. REFER TO BLOWER/MAINTENANCE BUILDING LIGHTING PLAN.
- CONDUIT TO EXTEND BEYOND BUILDING TO EDGE OF CONCRETE WALK.
- BLOWER ROOM EXHAUST FAN TO DISCHARGE THROUGH "PLAN" SOUTH SOFFIT.
- GENERATOR REMOTE ALARM ANNUNCIATOR. RECESS MOUNT IN WALL. CONDUIT TO BE ROUTED THROUGH AUTOMATIC TRANSFER SWITCH (ATS) TO PICK UP AUX. SWITCHES FOR ATS POSITION. ROUTE ALARM SIGNALS FOR ATS TO GENERATOR SET CONTROL TERMINAL BLOCK.
- SEE DRAWING E12 FOR MOTOR CONTROL CENTERS MCC-A1 & MCC-A LAYOUTS
- FOR INTERCONNECTING WIRING BETWEEN PN-1004 & MCC-A REFER TO DRAWINGS E13, E14 & E24.
- PROVIDE HOUSE KEEPING PADS FOR ALL MOTOR CONTROL CENTERS, AUTOMATIC TRANSFER SWITCH, MAIN SWITCHBOARD, CT ENCLOSURE AND PN-1004
- COPPER GROUND WIRE TO BE INSTALLED IN CONTINUOUS LOOP FROM MSB TO FOUR (4) GROUND RODS AND RETURNED TO MSB GROUND BUS. CONNECT TO BUILDING REBAR AS REQUIRED (MINIMUM 2 PLACES)

NOTE: LARGEST MOTOR 1 1/2 HP
1.25 PERCENT OF LARGEST MOTOR PLUS BALANCE
(a) GROUND FAULT INTERRUPTER CIRCUIT BREAKER



2 GROUND WELL DETAIL
SCALE: 1" = 1'-0"

AS CONSTRUCTED SEPTEMBER 1998

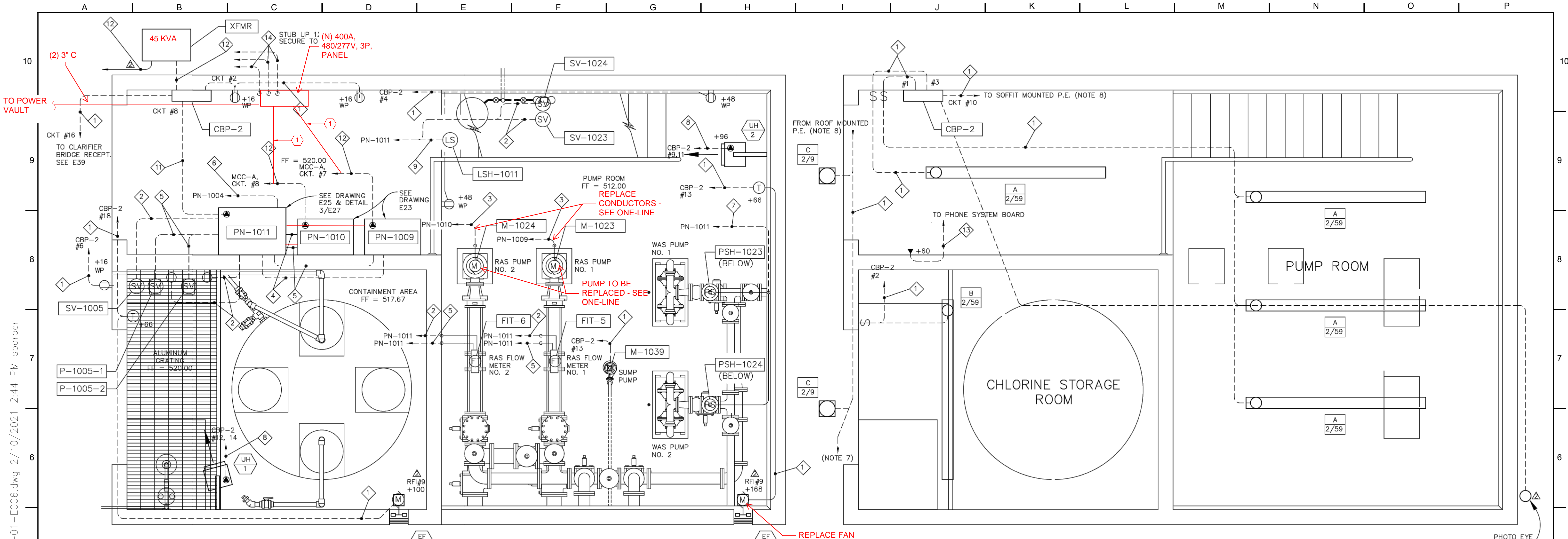
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SCALE: AS SHOWN	
DRAWN BY: SMB	
DESIGNED BY: WJS	
PROJ. MGR.: PVM	
No.	ZONE
REVISIONS	
BY	DATE



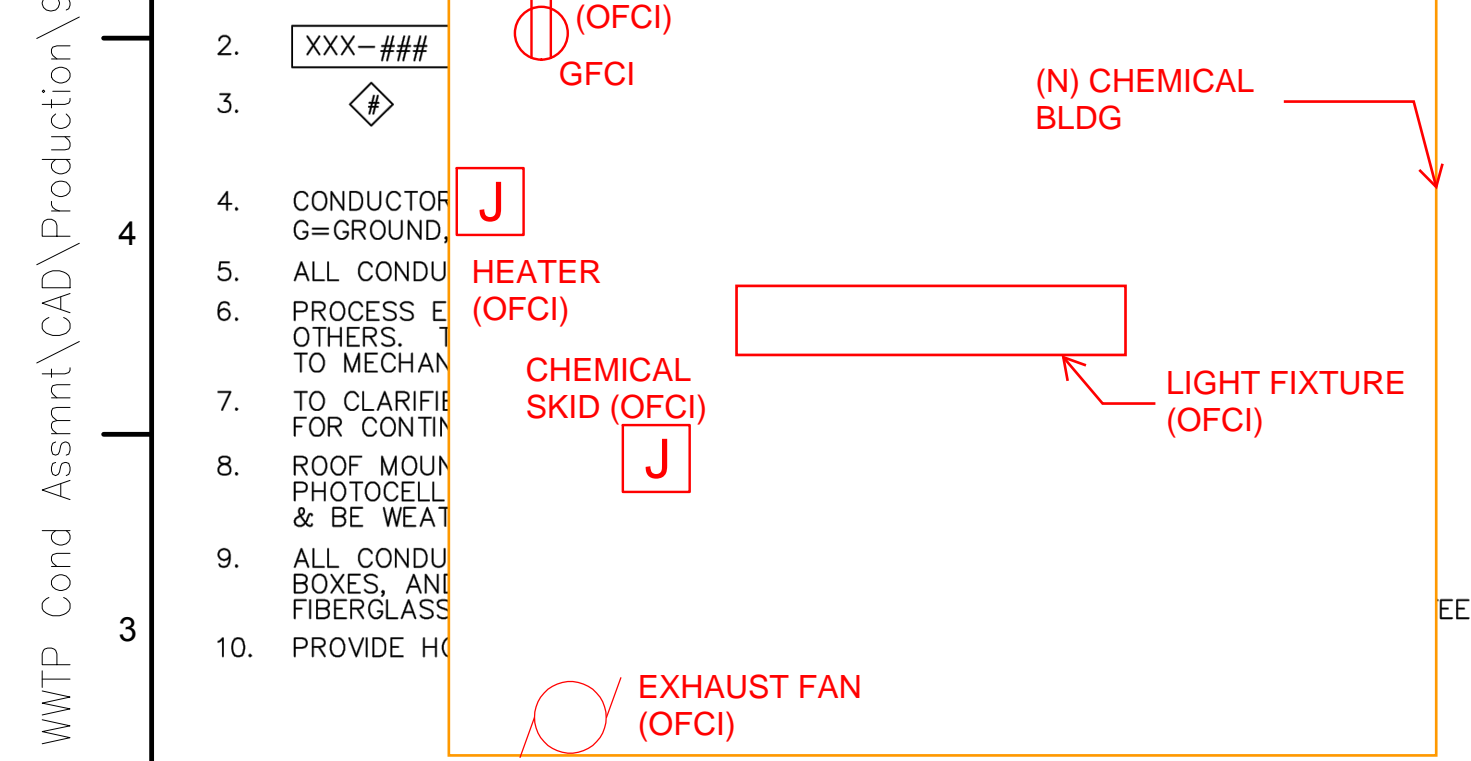
CITY OF SANDY
WASTE WATER TREATMENT FACILITY IMPROVEMENTS
BLOWER/MAINTENANCE BUILDING POWER PLAN

JOB NUMBER	964-50-20-01
DRAWING NUMBER	E005
SHEET NUMBER	X OF XX
REVISION	



NOTES

- CONDUIT SIZE IN COMBINED TERMINATED AT COMBINED
- XXX-### (OFCI) GFCI
- HEATER (OFCI)
- CONDUCTOR G=GROUND
- ALL CONDUIT TO MECHANICAL ROOM
- TO CLARIFIER FOR CONTINUOUS PHOTOCELL & BE WEAT
- ALL CONDUIT BOXES AND FIBERGLASS PROVIDE H



CHANGE MAIN BREAKER FROM 100 AMP TO 175 AMP.
ADDENDUM #1, ITEM 51

1 POWER PLAN
E20 SCALE: 1/4" = 1'-0"

2 LIGHTING PLAN
E20 SCALE: 1/4" = 1'-0"

KEYED NOTES

- REMOVE EXISTING CONDUCTORS BACK TO MCC-A. PROVIDE NEW CONDUCTORS AND CONDUIT TO MATCH EXISTING AND CONNECT COMPLETE TO NEW PANEL AS SHOWN.

CONDUIT	CONDUCTORS	CONDUIT	CONDUCTORS
1 3/4"	2 #12 AWG, P & N 1 #12 AWG, G	7 3/4"	4 #16 AWG, C 2 #16 AWG, G
2 3/4"	2 #14 AWG, P & N 1 #14 AWG, G	8 3/4"	2 #12 AWG, P 1 #12 AWG, G
3 3/4"	3 #12 AWG, P 1 #12 AWG, G	9 3/4"	2 #14 AWG, C
4 3/4"	4 #14 AWG, C	10 X	X #XX AWG, P X #XX AWG, G
5 3/4"	1-PAIR, #18 AWG, TWISTED SHIELDED W/DRAIN	11 3/4"	2 #10 AWG, P & N 1 #10 AWG, G
6 1"	2-PAIR, #22 AWG, TWISTED SHIELDED W/DRAIN TRADE #9182	12	SEE ONE LINE DIAGRAM
		13 3/4"	
		14 3/4"	

EXHAUST FAN SCHEDULE				UNIT HEATER SCHEDULE			
MARK NUMBER	EF 1	EF 2		MARK NUMBER	UH 1	UH 2	
AREA	CHLORINE STORAGE	PUMP ROOM		AREA	CHLORINE STORAGE	PUMP ROOM	
TYPE	10-INCH IMPELLER	12-INCH PROP.		TYPE	HOSE DOWN CORROSION RESISTANT BLOWER	HORIZ. BLOWER	
CFM	500	775		CFM			
S.P.	---	---		S.P.	2.0 KW	2.6 KW	
SEISMIC RESTRAINT	YES	YES		SEISMIC RESTRAINT	YES	YES	
ELECTRICAL	1/20 HP 115 VAC	1/30 HP 115 VAC		ELECTRICAL	208/1	208/1	
MFR/MODEL	DAYTON/SC529	DAYTON/2C710		MFR/MODEL	CHROMOLOX/HDH-A-200 WITH THERMOSTAT	CHROMOLOX/LUH-02-81 WITH THERMOSTAT	

PANEL SCHEDULE												
PANEL: CBP-2		VOLT 208/120		PHASE 3			WIRE 4W		MOUNTING: MCC-C BUS: 225 AMP MAIN: 100 AMP			
LOCATION: SEC SLUDGE PUMPING	DESCRIPTION	VA	A/P	NO	A	B	C	NO	A/P	VA	DESCRIPTION	CODE
1	LIGHTS, ENTRY	118	20/1	1	*	*	*	2	20/1	116	LIGHTS, CHLORINE RM	1
1	LIGHTS, PUMP AREA	354	20/1	3	*	*	*	4	20/1(a)	540	RECEPT, PUMP AREA	2
2	RECEPT, ENTRY (2)	360	20/1(a)	5	*	*	*	6	20/1(a)	180	RECEPT, OUTSIDE (1)	2
	SPARE		20/1	7	*	*	*	8	30/1	2710	PN-1004	6
3	HEATER, PUMP RM	2600	20/2	9	*	*	*	10	20/1	400	LIGHTS, EXTERIOR	1
3	HEATER, PUMP RM	2600	20/2	11	*	*	*	12	20/2	2000	HEAT, CHLORINE RM	3
5	FAN, PUMP ROOM	30	20/1	13	*	*	*	14	20/2	2000	HEAT, CHLORINE RM	3
5	SUMP PUMP	936	15/1	15	*	*	*	16	20/1	720	RECEPT, CLARIFIER	
	SPARE		20/1	17	*	*	*	18	20/1	50	FAN, CHLORINE ROOM	5
	SPACE			19	*	*	*	20	20/1		SPACE	
	SPACE			21	*	*	*	22			SPACE	
	SPACE			23	*	*	*	24			SPACE	
LOAD CODE	LINE A	LINE B	LINE C	TOTAL	FACTOR	CODE	LOAD					
1. LIGHTS	232	754	-	986	1.25		1,232					
2. RECEPT	-	1,260	540	1,800	0		1,800					
3. HEATING	2,000	2,600	4,600	9,200	1.25		11,500					
4. EQUIP	-	-	-	-	0		-					
5. MOTORS	30	936	50	996	(1)		1,250					
6. MISC	2,210	-	-	2,210	0		2,210					
TOTALS	4,972	5,550	5,190	15,692			18,492					

NOTE: LARGEST MOTOR 1/3 HP
1.25 PERCENT OF LARGEST MOTOR PLUS BALANCE
(a) GROUND FAULT INTERRUPTER CIRCUIT BREAKER

NOT FOR CONSTRUCTION

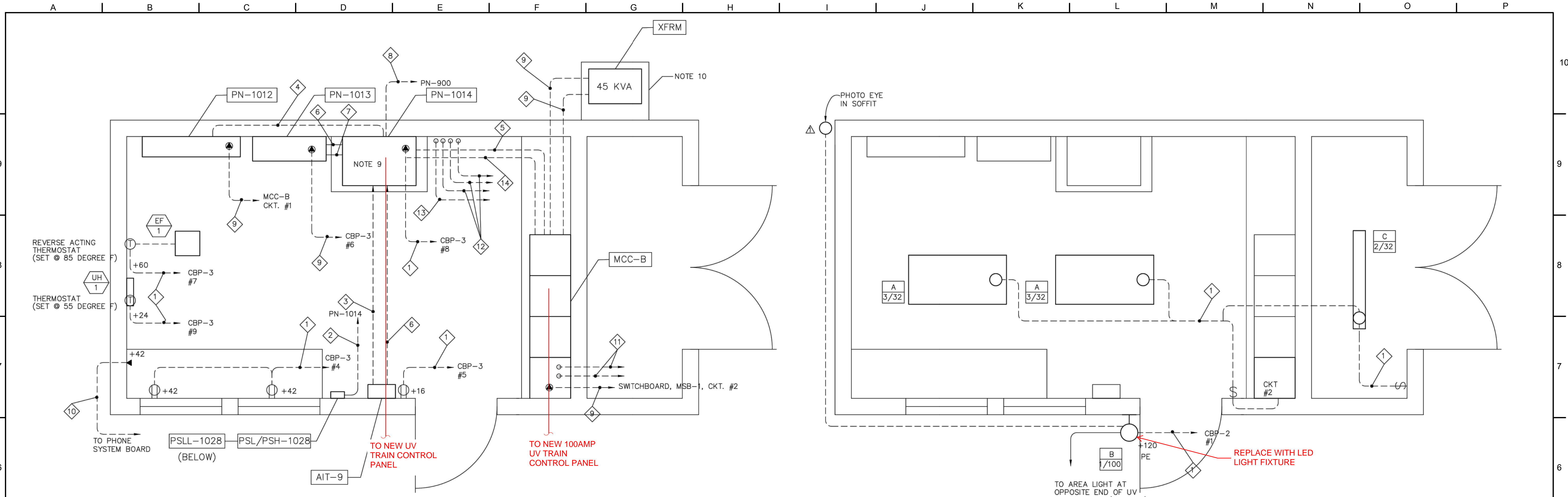
THIS LINE IS 1 INCH AT FULL SCALE IF NOT SCALE ACCORDINGLY	SCALE: AS SHOWN			
DRAWN BY: SMB	DESIGNED BY: WJS			
PROJ. MGR.: PVM				
No.	ZONE	REVISIONS	BY	DATE



CITY OF SANDY
WASTE WATER TREATMENT FACILITY IMPROVEMENTS
SECONDARY SLUDGE PUMPING BUILDING LIGHTING & POWER PLAN

JOB NUMBER 964-50-20-01
DRAWING NUMBER E006
SHEET NUMBER X OF XX
REVISION

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1 POWER PLAN
E21 SCALE: 1/4" = 1'-0"

2 LIGHTING PLAN
E21 SCALE: 1/4" = 1'-0"

CONDUIT	CONDUCTORS
1	3/4" 2 #12 AWG, P & N 1 #12 AWG, G
2	3/4" 3 #14 AWG, C 1 #14 AWG, G
3	3/4" 2 #13 AWG, C
4	3/4" 11 #14 AWG, C
5	1 1/2" 43 #14 AWG, C 8 #14 AWG, C (SPARE)
6	3/4" 1-PAIR, #18 AWG TWISTED SHIELDED W/DRAIN
7	3/4" 6 #14 AWG, C
8	3/4" 1-PAIR, #22 AWG, TWISTED SHIELDED W/DRAIN. TRADE #9182
9	REFER TO ONE-LINE DIAGRAM
10	3/4" AS REQUIRED BY PHONE SYSTEM SUPPLIER
11	3" SPARE. INSTALL PULL STRING & ROUTE TO UTILITY VAULT NO. 4
12	3/4" SPARE. INSTALL PULL STRING & ROUTE TO UTILITY VAULT NO. 4
13	3/4" SPARE. INSTALL PULL STRING & ROUTE TO HANDHOLE NO. 4
14	1 1/2" SPARE. INSTALL PULL STRING & ROUTE TO MCC-B FROM PN-1014

- NOTES**
- CONDUIT SIZE INDICATED IS MINIMUM SIZE FLEXIBLE OR RIGID CONDUIT TERMINATED AT FIELD DEVICE. CONDUIT RUNS TO PANELS MAY BE COMBINED FOR LIKE SIGNAL, CONTROL & POWER TYPES.
 - XXX-### INDICATES EQUIPMENT/DEVICE TAG NO.
 - CONDUIT AND CONDUCTOR SIZES ARE INDICATED WITH A DIAMOND SYMBOL. CONDUIT SIZES ARE FOR RUNS PRIOR TO COMBINING WITH OTHER CIRCUITS.
 - CONDUCTOR CONFIGURATIONS ARE CODED AS FOLLOWS: P=POWER, G=GROUND, N=NEUTRAL, C=CONTROL.
 - ALL CONDUIT AND CONDUCTOR SYMBOLS ARE UNIQUE TO THIS DRAWING.
 - PROCESS EQUIPMENT AND DEVICES ARE FURNISHED AND INSTALLED BY OTHERS. THE LOCATION OF THE EQUIPMENT IS APPROXIMATE. REFER TO MECHANICAL DRAWINGS FOR THE ACTUAL LOCATION OF THE EQUIPMENT.
 - SEE DRAWING E12 FOR MOTOR CONTROL CENTER MCC-B LAYOUT
 - PROVIDE HOUSEKEEPING PADS FOR MOTOR CONTROL CENTER & PN-1014.
 - SEE DRAWING E27, DETAILS 1/E27 & 2/E27 FOR PANEL ELEVATION & E26 FOR PANEL WIRING.
 - PROVIDE EQUIPMENT PAD FOR TRANSFORMER.

LIGHTING SCHEDULE

A	2' x 4' SURFACE MOUNT 3-LAMP MODULAR FIXTURE WITH ACRYLIC LENS AND ENERGY SAVING BALLIST. METALUX 2M-332A-120-LE3 OR APPROVED EQUAL.
B	100W HPS WALL PACK. LITHONIA LIGHTING: TWP100S120PE1, OR APPROVED EQUAL.
C	4' SURFACE MOUNT 2-LAMP MODULAR FIXTURE WITH REFLECTOR AND ENERGY SAVING LOW TEMPERATURE (0 DEG F) BALLIST. METALUX IC-232-120-LE3 OR APPROVED EQUAL.

EXHAUST FAN SCHEDULE		UNIT HEATER SCHEDULE	
MARK NUMBER	EF 1	MARK NUMBER	UH 1
AREA	PUMP STATION	AREA	PUMP STATION
TYPE	CEILING VENT	TYPE	HORIZ. BLOWER SURFACE MOUNTED
CFM	128		
S.P.	0.25"	CAPACITY	1500 W
SEISMIC RESTRAINT	NA	SEISMIC RESTRAINT	NA
ELECTRICAL	79 W 115 VAC	ELECTRICAL	115/1
MFR/MODEL	DAYTON/ 2D065 MULTIFAN/ T15WD	MFR/MODEL	KING PAWS1215 W/ BUILTIN THERMOSTAT

PANEL SCHEDULE

PANEL: CBP-3
LOCATION: EFF. PUMPING STA.
VOLT: 208/120
PHASE: 3
WIRE: 4W
MOUNTING: MCC-B
BUS: 225 AMP
MAIN: 100 AMP

CODE	DESCRIPTION	VA	A/P	NO	A	B	C	NO	A/P	VA	DESCRIPTION	CODE
1	LIGHTS, EXTERIOR	200	20/1	1	*			2	20/1	192	LIGHTS, CONTROL & STORAGE RM	1
1	SPARE	-	-	3		*		4	20/1	360	RECEPT, CONTROL RM	2
2	RECEPT, ANALYZER	180	20/1	5		*		6	20/1	2000	PN-1013	6
5	EXHAUST FAN	79	20/1	7	*			8	20/1	1800	PN-1014	6
3	HEATER	1500	20/1	9		*		10	60/1	5,000	UV-MECH SYSTEM	4
2	COMPOSITE SAMPLER	180	20/1	11		*		12	20/1	500	UV-SAMPLER	4
	SPARE	-	20/1	13	*			14	-	720	RECEPT, UV BASIN (4)	2
	SPARE	-	20/1	15		*		16	20/1	-	SPARE	
	SPACE	-	-	17		*		18	20/1	-	SPACE	
	SPACE	-	-	19	*			20	-	-	SPACE	
	SPACE	-	-	21		*		22	-	-	SPACE	
	SPACE	-	-	23	*			24	-	-	SPACE	

LOAD CODE	LINE A	LINE B	LINE C	TOTAL	FACTOR	CODE LOAD
1. LIGHTS	392	64	-	456	1.25	570
2. RECEPT	720	360	360	1,440	0	1,440
3. HEATING	-	1,500	-	1,500	1.25	1,875
4. EQUIP	-	5,000	500	5,500	0	5,500
5. MOTORS	79	-	-	79	(1)	99
6. MISC	1,800	-	2,000	3,800	0	3,800
TOTALS	2,991	6,924	2,860	12,775		13,284

NOTE: LARGEST MOTOR 1 1/2 HP
1.25 PERCENT OF LARGEST MOTOR PLUS BALANCE

AS CONSTRUCTED SEPTEMBER 1998

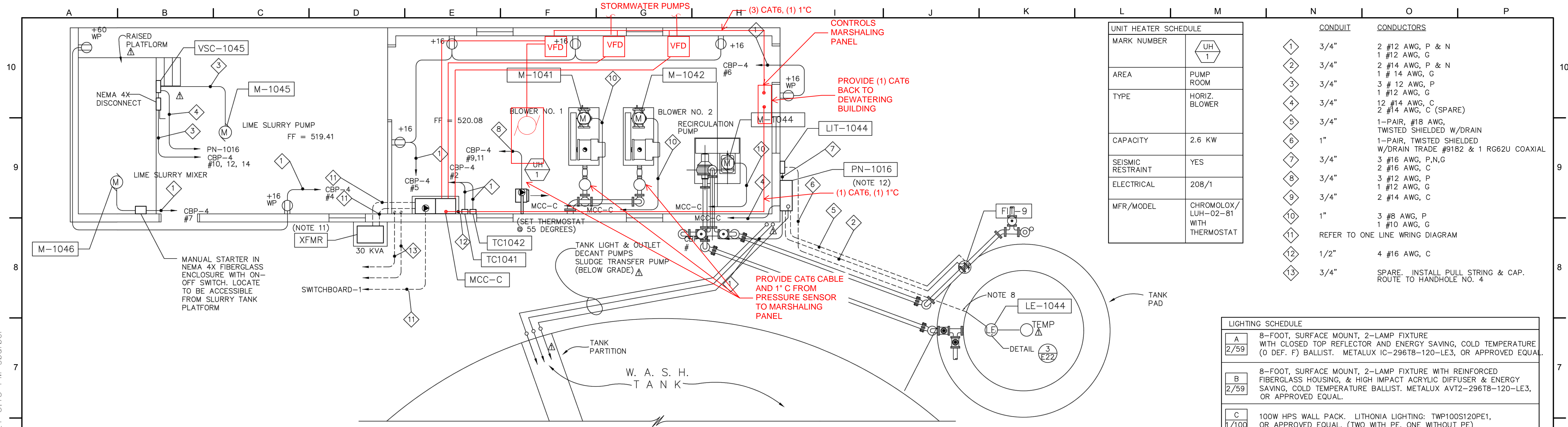
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SCALE: AS SHOWN	
DRAWN BY: SMB	
DESIGNED BY: WJS	
PROJ. MGR.: PVM	
No.	ZONE
REVISIONS	
BY	DATE



CITY OF SANDY
WASTE WATER TREATMENT FACILITY IMPROVEMENTS
EFFLUENT PUMP STATION POWER & LIGHTING PLAN

JOB NUMBER	964-50-20-01
DRAWING NUMBER	E007
SHEET NUMBER	X OF XX
REVISION	

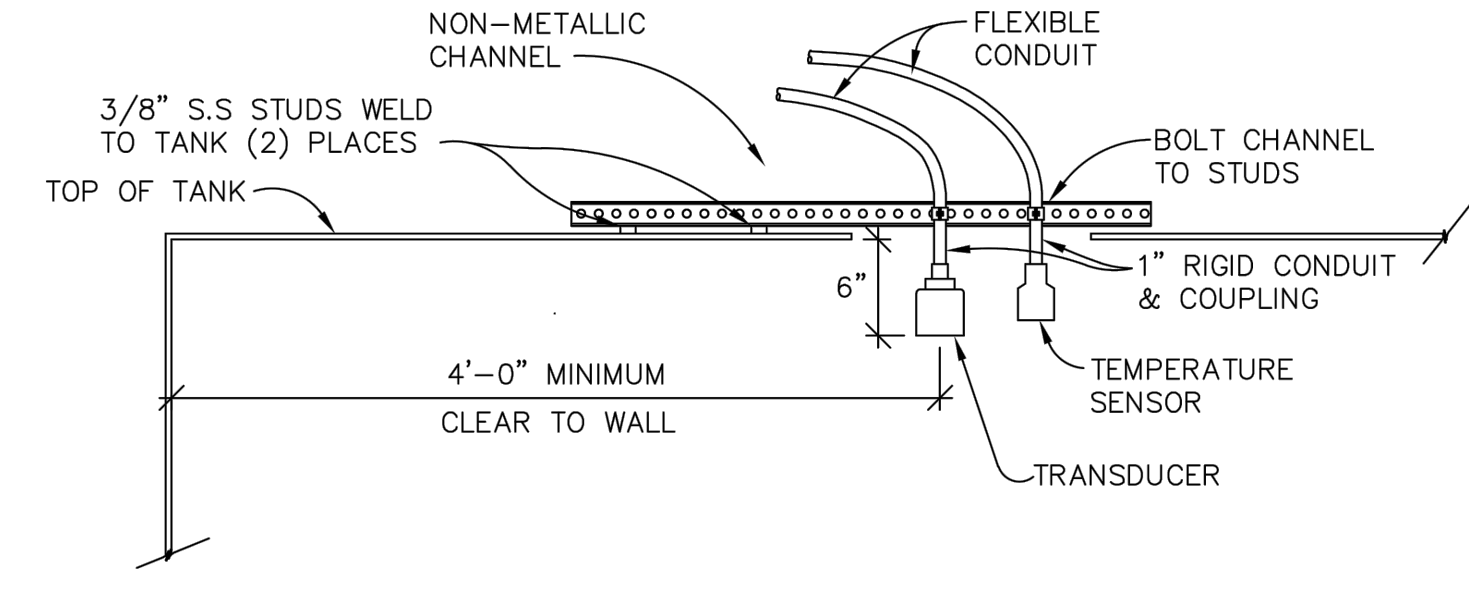


1 SOLIDS HANDLING BUILDING POWER PLAN
 E22 SCALE: 1" = 1'-0"

UNIT HEATER SCHEDULE	
MARK NUMBER	UH
AREA	PUMP ROOM
TYPE	HORIZ. BLOWER
CAPACITY	2.6 KW
SEISMIC RESTRAINT	YES
ELECTRICAL	208/1
MFR/MODEL	CHROMOLOX/ LUH-02-81 WITH THERMOSTAT

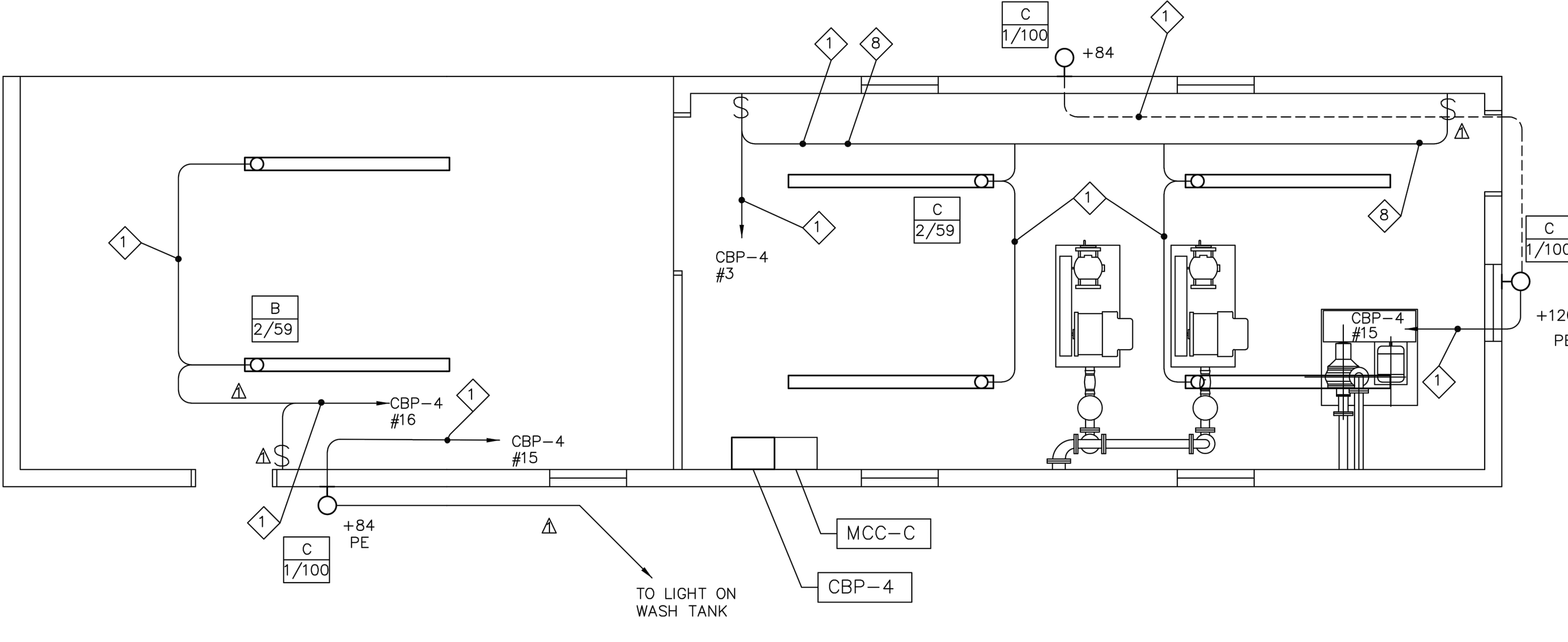
CONDUIT		CONDUCTORS	
1	3/4"	2	#12 AWG, P & N
2	3/4"	1	#12 AWG, G
3	3/4"	2	#14 AWG, P & N
4	3/4"	1	#14 AWG, G
5	3/4"	3	#12 AWG, P
6	3/4"	12	#14 AWG, C
7	3/4"	2	#14 AWG, C (SPARE)
8	1"	1-PAIR,	#18 AWG, TWISTED SHIELDED W/DRAIN
9	1"	1-PAIR,	TWISTED SHIELDED W/DRAIN TRADE #9182 & 1 RG62U COAXIAL
10	3/4"	3	#16 AWG, P,N,G
11	3/4"	2	#16 AWG, C
12	3/4"	3	#12 AWG, P
13	3/4"	1	#12 AWG, G
14	3/4"	2	#14 AWG, C
15	1"	3	#8 AWG, P
16	1"	1	#10 AWG, G
17	REFER TO ONE LINE WIRING DIAGRAM		
18	1/2"	4	#16 AWG, C
19	3/4"	SPARE. INSTALL PULL STRING & CAP. ROUTE TO HANDHOLE NO. 4.	

LIGHTING SCHEDULE	
A	8-FOOT, SURFACE MOUNT, 2-LAMP FIXTURE WITH CLOSED TOP REFLECTOR AND ENERGY SAVING, COLD TEMPERATURE (0 DEF. F) BALLIST. METALUX IC-296T8-120-LE3, OR APPROVED EQUAL.
B	8-FOOT, SURFACE MOUNT, 2-LAMP FIXTURE WITH REINFORCED FIBERGLASS HOUSING, & HIGH IMPACT ACRYLIC DIFFUSER & ENERGY SAVING, COLD TEMPERATURE BALLIST. METALUX AVT2-296T8-120-LE3, OR APPROVED EQUAL.
C	100W HPS WALL PACK. LITHONIA LIGHTING: TWP100S120PE1, OR APPROVED EQUAL. (TWO WITH PE, ONE WITHOUT PE)



3 LEVEL TRANSDUCER INSTALLATION
 E22 SCALE: 1" = 1'-0"

- NOTES**
- CONDUIT SIZE INDICATED IS MINIMUM SIZE FLEXIBLE OR RIGID CONDUIT TERMINATED AT FIELD DEVICE. CONDUIT RUNS TO PANELS MAY BE COMBINED FOR LIKE SIGNAL, CONTROL & POWER TYPES.
 - XXX-### INDICATES EQUIPMENT/DEVICE TAG NO.
 - ◇ CONDUIT AND CONDUCTOR SIZES ARE INDICATED WITH A DIAMOND SYMBOL. CONDUIT SIZES ARE FOR RUNS PRIOR TO COMBINING WITH OTHER CIRCUITS.
 - CONDUCTOR CONFIGURATIONS ARE CODED AS FOLLOWS: P=POWER, G=GROUND, N=NEUTRAL, C=CONTROL.
 - ALL CONDUIT AND CONDUCTOR SYMBOLS ARE UNIQUE TO THIS DRAWING.
 - PROCESS EQUIPMENT AND DEVICES ARE FURNISHED AND INSTALLED BY OTHERS. THE LOCATION OF THE EQUIPMENT IS APPROXIMATE. REFER TO MECHANICAL DRAWINGS FOR THE ACTUAL LOCATION OF THE EQUIPMENT.
 - ALL SURFACE MOUNTED CONDUIT RUNS TO BE MOUNTED PARALLEL TO STRUCTURE LINES. RUNS COMMON TO A GIVEN WALL SHALL BE GROUPED FOR A NEAT APPEARANCE.
 - VERTICAL CONDUIT TO BE SUPPORTED FROM TANK WALL. S.S. BOLT STUDS TO BE WELDED TO EXTERIOR FOR ATTACHMENT OF NON-METALLIC STRUCTURAL CONDUIT SUPPORTS. 1/2" DIAMETER PORT TO BE CUT IN TOP OF TANK FOR INSERTION OF TEMPERATURE SENSOR & TRANSDUCER.
 - SEE DRAWING E12 FOR MOTOR CONTROL CENTER MCC-C LAYOUT.
 - PROVIDE HOUSEKEEPING PAD FOR MOTOR CONTROL CENTER.
 - PROVIDE EQUIPMENT PAD FOR TRANSFORMER
 - SEE DRAWING E29 FOR PANEL PN-1016 LAYOUT & WIRING DIAGRAM.



2 SOLIDS HANDLING BUILDING LIGHTING PLAN
 E22 SCALE: 1" = 1'-0"

PANEL SCHEDULE												
PANEL: CBP-4		VOLT		PHASE			WIRE			MOUNTING: MCC-C		
LOCATION: SOLIDS HANDLING		208/120		3			4W			BUS: 225 AMP		
CODE	DESCRIPTION	VA	A/P	NO	A	B	C	NO	A/P	VA	DESCRIPTION	CODE
1	SPARE	-	20/1	1	*	*	*	2	20/1	50	TIME CLOCKS	4
1	LIGHTS, INTERIOR	472	20/1	3	*	*	*	4	20/1(g)	360	RECEPT, LIME AREA	2
2	RECEPT, INT (4)	1440	20/1(o)	5	*	*	*	6	20/1(o)	360	RECEPT, OUTSIDE (1)	2
5	SLURRY MIXER	1200	15/1	7	*	*	*	8	20/1	1800	PN-1016	6
3	HEATER	1300	40/2	9	*	*	*	10	20/3	720	LIME SLURRY PUMP	5
3	HEATER	1300	-	11	*	*	*	12	-	720	LIME SLURRY PUMP	5
	SPARE	-	20/1	13	*	*	*	14	-	720	LIME SLURRY PUMP	5
1	LIGHTS, EXTERIOR	300	20/1	15	*	*	*	16	20/1	236	LIGHTS, LIME AREA	1
5	DECANT PUMP NO. 1	1440	20/1	17	*	*	*	18	20/1	-	SPARE	
5	DECANT PUMP NO. 2	1440	20/1	19	*	*	*	20	20/1	-	SPARE	
5	DECANT PUMP NO. 3	1440	20/1	21	*	*	*	22	20/1	-	SPARE	
	SPACE	-	-	23	*	*	*	24	-	-	SPACE	
LOAD CODE		LINE A	LINE B	LINE C	TOTAL			FACTOR		CODE LOAD		
1. LIGHTS	-	1,008	-	-	1,008	-	-	1.25	-	-	1,260	
2. RECEPT	-	360	1,800	-	2,160	-	-	0	-	-	2,160	
3. HEATING	-	1,300	1,300	-	2,600	-	-	1.25	-	-	3,250	
4. EQUIP	-	50	-	-	50	-	-	0	-	-	50	
5. MOTORS	3,360	2,160	2,160	-	7,680	-	-	(1)	-	-	8,219	
6. MISC	1,800	-	-	-	1,800	-	-	0	-	-	1,800	
TOTALS		5,160	4,828	5,260			15,248				16,689	

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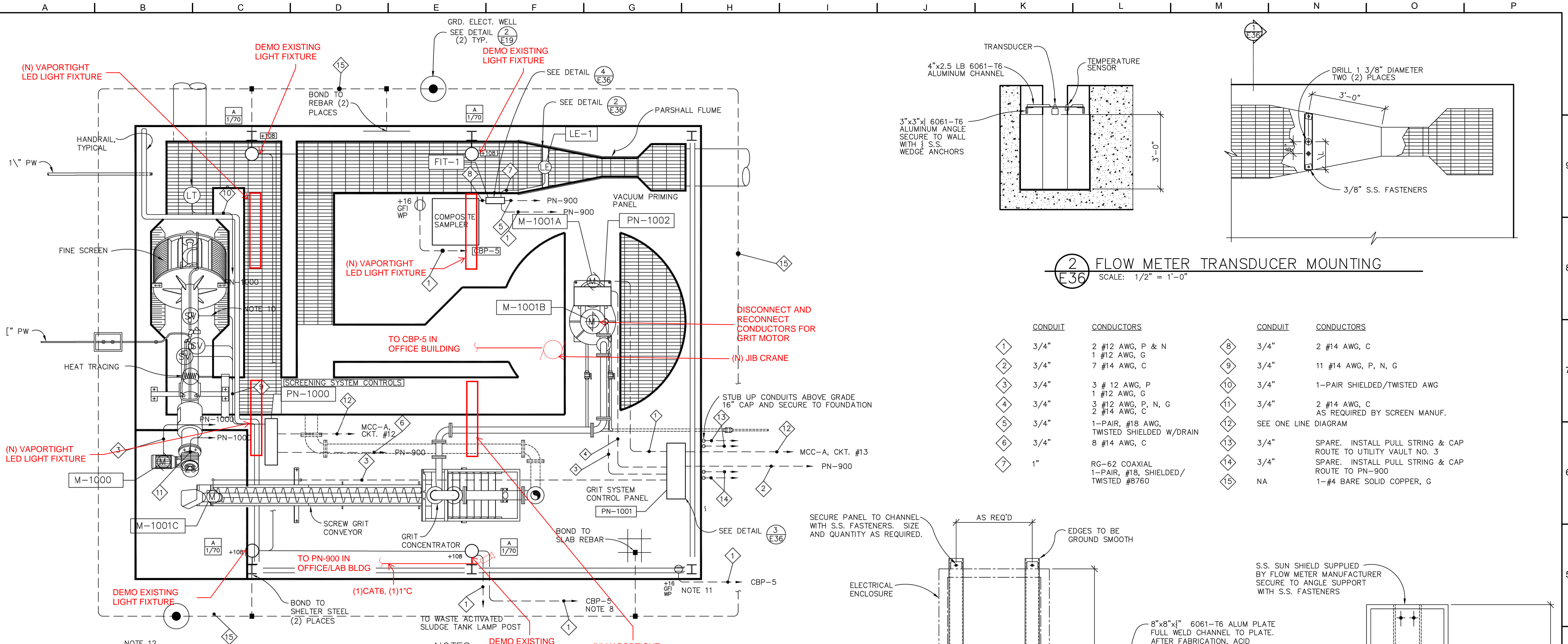
THIS LINE IS 1 INCH AT FULL SCALE IF NOT SCALE ACCORDINGLY				
SCALE: AS SHOWN				
DRAWN BY: SMB				
DESIGNED BY: WJS				
PROJ. MGR.: PVM				
No.	ZONE	REVISIONS	BY	DATE



CITY OF SANDY
WASTE WATER TREATMENT FACILITY IMPROVEMENTS
SOLIDS HANDLING BUILDING LIGHTING AND POWER PLAN

JOB NUMBER	964-50-20-01
DRAWING NUMBER	E008
SHEET NUMBER	X OF XX
REVISION	

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1 HEADWORKS ELECTRICAL PLAN
 E36 SCALE: 3/8" = 1'-0"

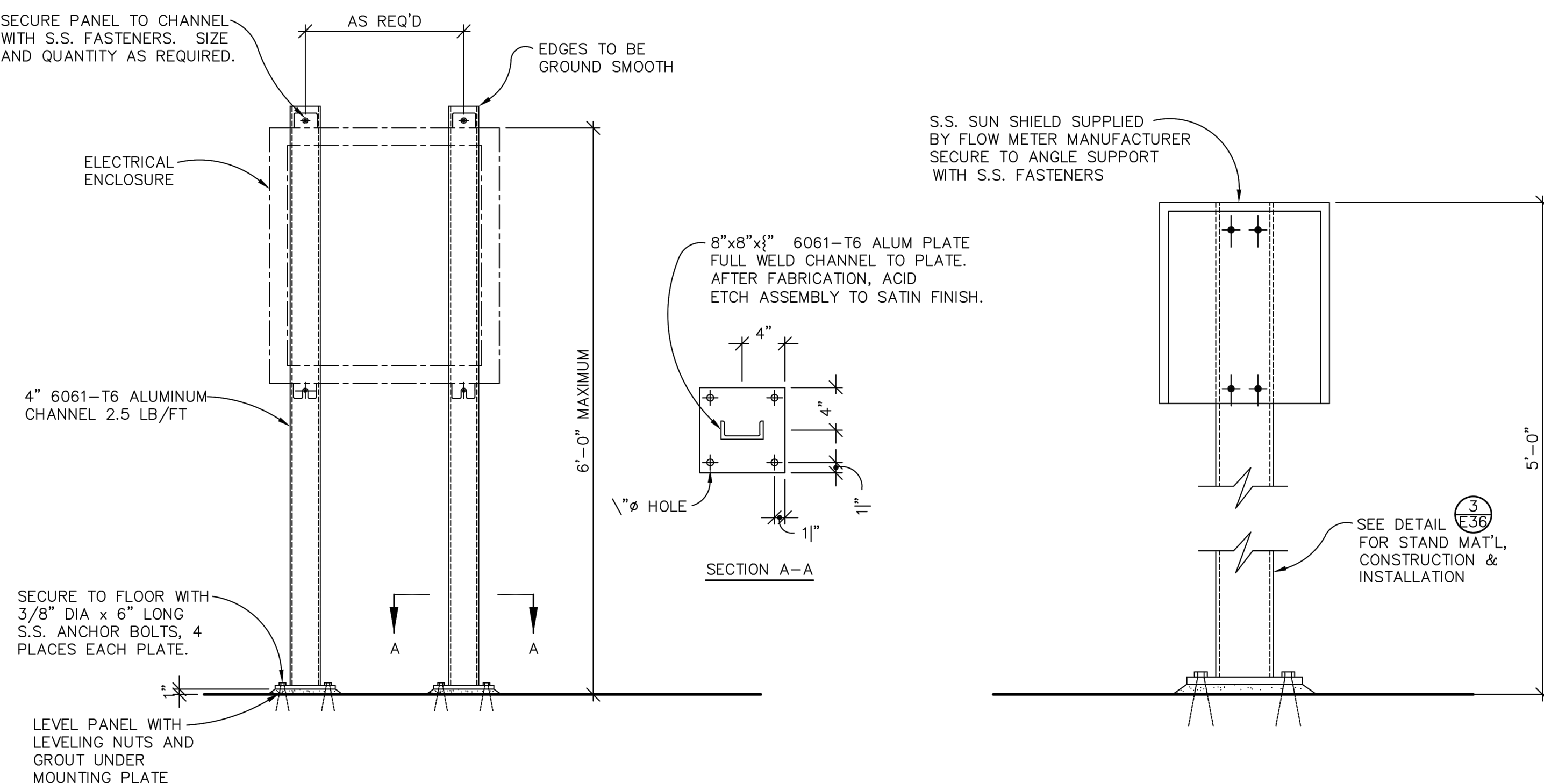
LIGHTING SCHEDULE

A	HIGH PRESSURE SODIUM, SURFACE MOUNT, 1-LAMP 70 WATT FIXTURE DIE CAST ALUMINUM BASE, POLYCARBONATE HOUSING AND REFRACTOR GENERAL ELECTRIC WL07S, OR APPROVED EQUAL.
1/70	

- NOTES**
- CONDUIT SIZE INDICATED IS MINIMUM SIZE FLEXIBLE OR RIGID CONDUIT TERMINATED AT FIELD DEVICE. CONDUIT RUNS TO PANELS MAY BE COMBINED FOR LIKE SIGNAL, CONTROL & POWER TYPES.
 - XXX-### INDICATES EQUIPMENT/DEVICE TAG NO.
 - ◇ CONDUIT AND CONDUCTOR SIZES ARE INDICATED WITH A DIAMOND SYMBOL. CONDUIT SIZES ARE FOR RUNS PRIOR TO COMBINING WITH OTHER CIRCUITS.
 - CONDUCTOR CONFIGURATIONS ARE CODED AS FOLLOWS: P=POWER, G=GROUND, N=NEUTRAL, C=CONTROL.
 - ALL CONDUIT AND CONDUCTOR SYMBOLS ARE UNIQUE TO THIS DRAWING.
 - PROCESS EQUIPMENT AND DEVICES ARE FURNISHED AND INSTALLED BY OTHERS. THE LOCATION OF THE EQUIPMENT IS APPROXIMATE. REFER TO MECHANICAL DRAWINGS FOR THE ACTUAL LOCATION OF THE EQUIPMENT.
 - ROOF MOUNTED PHOTOCELL LOCATED ON OFFICE/LABORATORY BUILDING TO ACTIVATE AREA LIGHTING FIXTURES AT HEADWORKS STRUCTURE. REFER TO "OFFICE LABORATORY BUILDING LIGHTING AND POWER PLAN."
 - ALL SURFACES MOUNTED CONDUIT, PULL BOXES, J-BOXES, CONDUIT OUTLET BOXES, AND FLEXIBLE WATER TIGHT CONDUIT URAL CHANNELS TO BE CORROSION RESISTANT PVC. STRUCTURAL SUPPORT CHANNELS AND CLAMPS TO BE FIBERGLASS.
 - ALL FLEXIBLE CONDUIT TO SOLENOID VALVES, MOTOR, PROXIMITY SENSOR AND HEAT TRACING TO BE OF SUFFICIENT LENGTH TO PERMIT PIVOTING OF SCREEN OUT OF CHANNEL WITHOUT DISCONNECTING SCREEN DEVICES.
 - MOUNT RECEPTACLE TO METAL SHELTER ROOF SUPPORT.
 - GROUNDING RING FOR STRUCTURAL STEEL SHALL BE INSTALL 30"-36" BELOW FINISHED GRADE. CONDUCTOR SHALL BE INSTALLED IN A CONTINUOUS UNBROKEN LOOP. MINIMUM DISTANCE FROM CONCRETE STRUCTURE SHALL BE 24". ALL CONNECTIONS TO BUILDING STEEL, GRD. RODS AND REBAR SHALL BE MADE WITH IRREVERSIBLE CONNECTORS.

2 FLOW METER TRANSDUCER MOUNTING
 E36 SCALE: 1/2" = 1'-0"

CONDUIT	CONDUCTORS	CONDUIT	CONDUCTORS
1	3/4" 2 #12 AWG, P & N 1 #12 AWG, G	8	3/4" 2 #14 AWG, C
2	3/4" 7 #14 AWG, C	9	3/4" 11 #14 AWG, P, N, G
3	3/4" 3 # 12 AWG, P 1 #12 AWG, G	10	3/4" 1-PAIR SHIELDED/TWISTED AWG
4	3/4" 3 #12 AWG, P, N, G 2 #14 AWG, C	11	3/4" 2 #14 AWG, C AS REQUIRED BY SCREEN MANUF.
5	3/4" 1-PAIR, #18 AWG, TWISTED SHIELDED W/DRAIN	12	SEE ONE LINE DIAGRAM
6	3/4" 8 #14 AWG, C	13	3/4" SPARE. INSTALL PULL STRING & CAP ROUTE TO UTILITY VAULT NO. 3
7	1" RG-62 COAXIAL 1-PAIR, #18, SHIELDED/ TWISTED #8760	14	3/4" SPARE. INSTALL PULL STRING & CAP ROUTE TO PN-900
		15	NA 1-#4 BARE SOLID COPPER, G



3 TYPICAL ELECTRICAL PANEL SUPPORT
 E36 SCALE: N.T.S.

4 FLOW METER SUPPORT
 E36 SCALE: N.T.S.

AS CONSTRUCTED SEPTEMBER 1998

NOT FOR CONSTRUCTION

THIS LINE IS 1 INCH
 AT FULL SCALE
 IF NOT SCALE ACCORDINGLY

SCALE: AS SHOWN
 DRAWN BY: SMB
 DESIGNED BY: WJS
 PROJ. MGR.: PVM

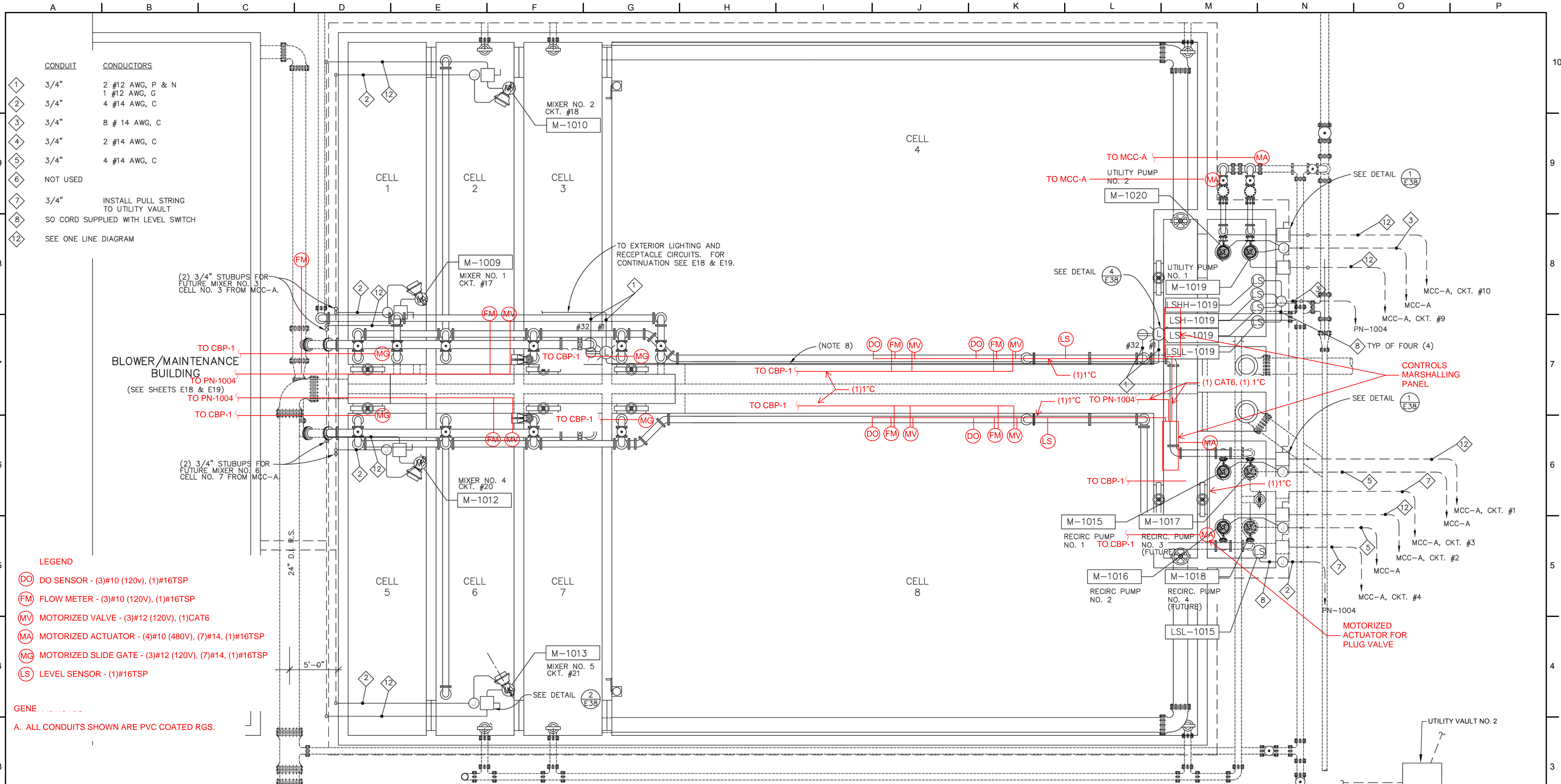
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CITY OF SANDY
WASTE WATER TREATMENT FACILITY
IMPROVEMENTS
ELECTRICAL DETAILS
HEADWORKS

JOB NUMBER 964-50-20-01
DRAWING NUMBER E009
SHEET NUMBER X OF XX
REVISION

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CONDUIT	CONDUCTORS
1	2 #12 AWG, P & N
2	1 #12 AWG, G
3	4 #14 AWG, C
4	8 # 14 AWG, C
5	2 #14 AWG, C
6	4 #14 AWG, C
7	NOT USED
8	3/4" INSTALL PULL STRING TO UTILITY VAULT
12	SO CORD SUPPLIED WITH LEVEL SWITCH
	SEE ONE LINE DIAGRAM

- LEGEND**
- DO DO SENSOR - (3)#10 (120V), (1)#16TSP
 - FM FLOW METER - (3)#10 (120V), (1)#16TSP
 - MV MOTORIZED VALVE - (3)#12 (120V), (1)CAT6
 - MA MOTORIZED ACTUATOR - (4)#10 (480V), (7)#14, (1)#16TSP
 - MG MOTORIZED SLIDE GATE - (3)#12 (120V), (7)#14, (1)#16TSP
 - LS LEVEL SENSOR - (1)#16TSP

GENE -----

A. ALL CONDUITS SHOWN ARE PVC COATED RGS.

1 AERATION BASIN ELECTRICAL PLAN
 E37
 SCALE: 1" = 5'

- NOTES**
- CONDUIT SIZE INDICATED IS MINIMUM SIZE FLEXIBLE OR RIGID CONDUIT TERMINATED AT FIELD DEVICE. CONDUIT RUNS TO PANELS MAY BE COMBINED FOR LIKE SIGNAL, CONTROL & POWER TYPES.
 - XXX-### INDICATES EQUIPMENT/DEVICE TAG NO.
 - CONDUIT AND CONDUCTOR SIZES ARE INDICATED WITH A DIAMOND SYMBOL. CONDUIT SIZES ARE FOR RUNS PRIOR TO COMBINING WITH OTHER CIRCUITS.
 - CONDUCTOR CONFIGURATIONS ARE CODED AS FOLLOWS: P=POWER, G=GROUND, N=NEUTRAL, C=CONTROL.
 - ALL CONDUIT AND CONDUCTOR SYMBOLS ARE UNIQUE TO THIS DRAWING.

- PROCESS EQUIPMENT AND DEVICES ARE FURNISHED AND INSTALLED BY OTHERS. THE LOCATION OF THE EQUIPMENT IS APPROXIMATE. REFER TO MECHANICAL DRAWINGS FOR THE ACTUAL LOCATION OF THE EQUIPMENT.
- QUANTITY & SIZE OF CONDUIT RUNS FROM PUMPS & LEVEL CONTROLS TO VAULT NO. 2 INDICATES THE MAXIMUM NUMBER OF INDIVIDUAL CONDUITS AND MINIMUM CONDUIT SIZE.
- MOUNT LIGHTING CONDUIT RUN TO EDGE OF CONCRETE WALKWAY. TRANSITION TO WALKWAY GRATING SUPPORT AT CELL NO. 3.
- ALL EXPOSED CONDUIT AND/OR RACEWAYS, PULL BOXES, J-BOXES, CONDUIT OUTLET BOXES, AND STRUCTURAL CHANNELS TO BE CORROSION RESISTANT PVC OR FIBERGLASS (AS APPLICABLE). ALL FASTENERS TO BE STAINLESS STEEL.
- ALL PUMPS & MIXERS ARE OF SUBMERSIBLE DESIGN. VARIATION IN MANUFACTURER DESIGN MAY ELIMINATE THE NEED FOR MOISTURE SENSOR AND/OR MOTOR WINDING THERMAL SENSOR SWITCHES.

AS CONSTRUCTED SEPTEMBER 1998

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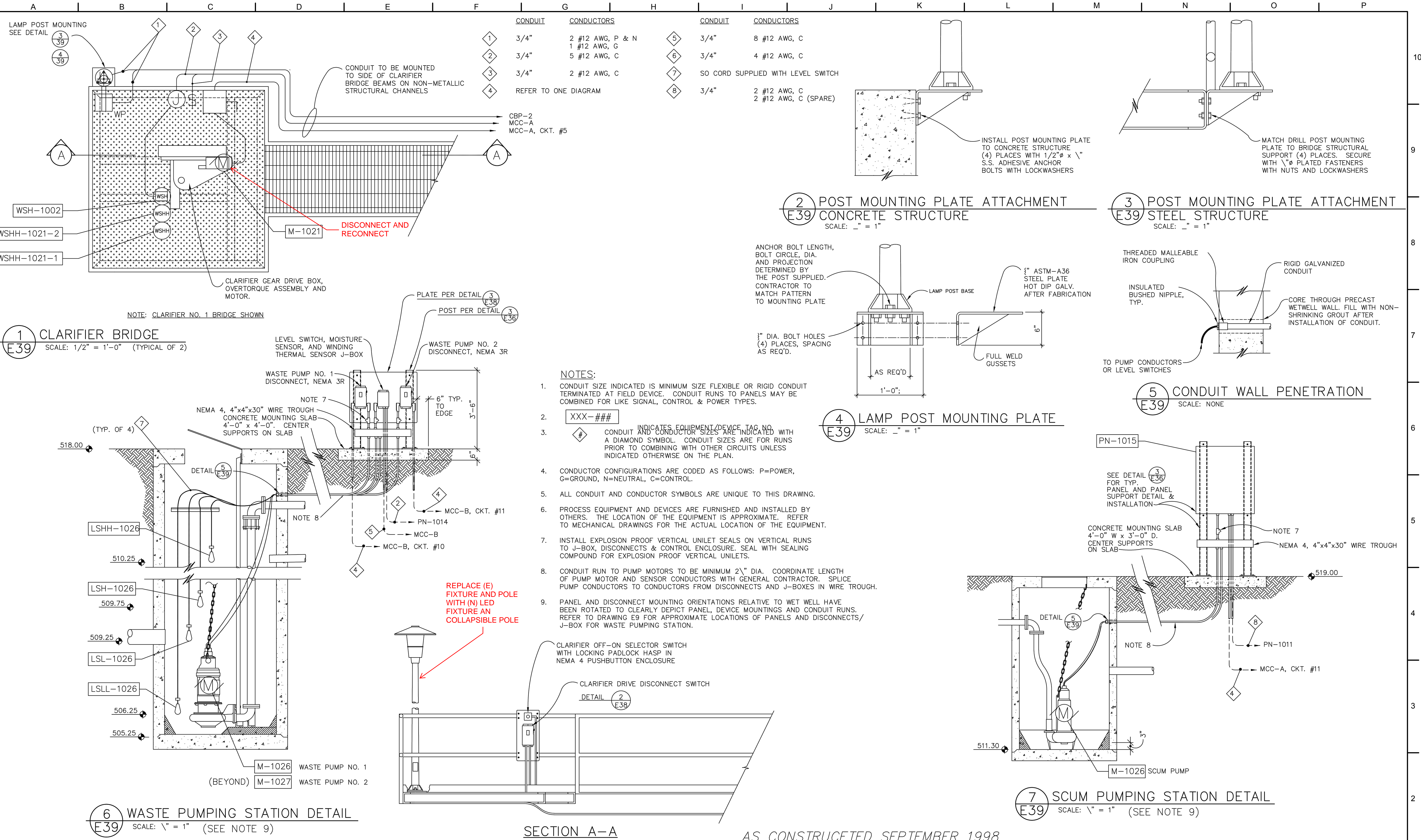
THIS LINE IS 1 INCH AT FULL SCALE IF NOT SCALE ACCORDINGLY				
SCALE :	AS SHOWN			
DRAWN BY :	SMB			
DESIGNED BY :	WJS			
PROJ. MGR. :	PVM			
No.	ZONE	REVISIONS	BY	DATE



CITY OF SANDY
WASTE WATER TREATMENT FACILITY IMPROVEMENTS
ELECTRICAL DETAILS
AERATION BASIN

JOB NUMBER	964-50-20-01
DRAWING NUMBER	E010
SHEET NUMBER	X OF XX
REVISION	

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CONDUIT	CONDUCTORS	CONDUIT	CONDUCTORS
1	3/4" 2 #12 AWG, P & N	5	3/4" 8 #12 AWG, C
2	3/4" 1 #12 AWG, G	6	3/4" 4 #12 AWG, C
3	3/4" 2 #12 AWG, C	7	SO CORD SUPPLIED WITH LEVEL SWITCH
4	REFER TO ONE DIAGRAM	8	3/4" 2 #12 AWG, C 2 #12 AWG, C (SPARE)

1 CLARIFIER BRIDGE
E39 SCALE: 1/2" = 1'-0" (TYPICAL OF 2)

2 POST MOUNTING PLATE ATTACHMENT
E39 CONCRETE STRUCTURE
SCALE: -" = 1"

3 POST MOUNTING PLATE ATTACHMENT
E39 STEEL STRUCTURE
SCALE: -" = 1"

4 LAMP POST MOUNTING PLATE
E39 SCALE: -" = 1"

5 CONDUIT WALL PENETRATION
E39 SCALE: NONE

6 WASTE PUMPING STATION DETAIL
E39 SCALE: -" = 1" (SEE NOTE 9)

7 SCUM PUMPING STATION DETAIL
E39 SCALE: -" = 1" (SEE NOTE 9)

- NOTES:**
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 - XXX-###
 - INDICATES EQUIPMENT/DEVICE TAG NO. CONDUIT AND CONDUCTOR SIZES ARE INDICATED WITH A DIAMOND SYMBOL. CONDUIT SIZES ARE FOR RUNS PRIOR TO COMBINING WITH OTHER CIRCUITS UNLESS INDICATED OTHERWISE ON THE PLAN.
 - CONDUCTOR CONFIGURATIONS ARE CODED AS FOLLOWS: P=POWER, G=GROUND, N=NEUTRAL, C=CONTROL.
 - ALL CONDUIT AND CONDUCTOR SYMBOLS ARE UNIQUE TO THIS DRAWING.
 - PROCESS EQUIPMENT AND DEVICES ARE FURNISHED AND INSTALLED BY OTHERS. THE LOCATION OF THE EQUIPMENT IS APPROXIMATE. REFER TO MECHANICAL DRAWINGS FOR THE ACTUAL LOCATION OF THE EQUIPMENT.
 - INSTALL EXPLOSION PROOF VERTICAL UNILET SEALS ON VERTICAL RUNS TO J-BOX, DISCONNECTS & CONTROL ENCLOSURE. SEAL WITH SEALING COMPOUND FOR EXPLOSION PROOF VERTICAL UNILETS.
 - CONDUIT RUN TO PUMP MOTORS TO BE MINIMUM 2" DIA. COORDINATE LENGTH OF PUMP MOTOR AND SENSOR CONDUCTORS WITH GENERAL CONTRACTOR. SPLICE PUMP CONDUCTORS TO CONDUCTORS FROM DISCONNECTS AND J-BOXES IN WIRE TROUGH.
 - PANEL AND DISCONNECT MOUNTING ORIENTATIONS RELATIVE TO WET WELL HAVE BEEN ROTATED TO CLEARLY DEPICT PANEL, DEVICE MOUNTINGS AND CONDUIT RUNS. REFER TO DRAWING E9 FOR APPROXIMATE LOCATIONS OF PANELS AND DISCONNECTS/J-BOX FOR WASTE PUMPING STATION.

SECTION A-A

AS CONSTRUCTED SEPTEMBER 1998

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SCALE: AS SHOWN
DRAWN BY: SMB
DESIGNED BY: WJS
PROJ. MGR.: PVM

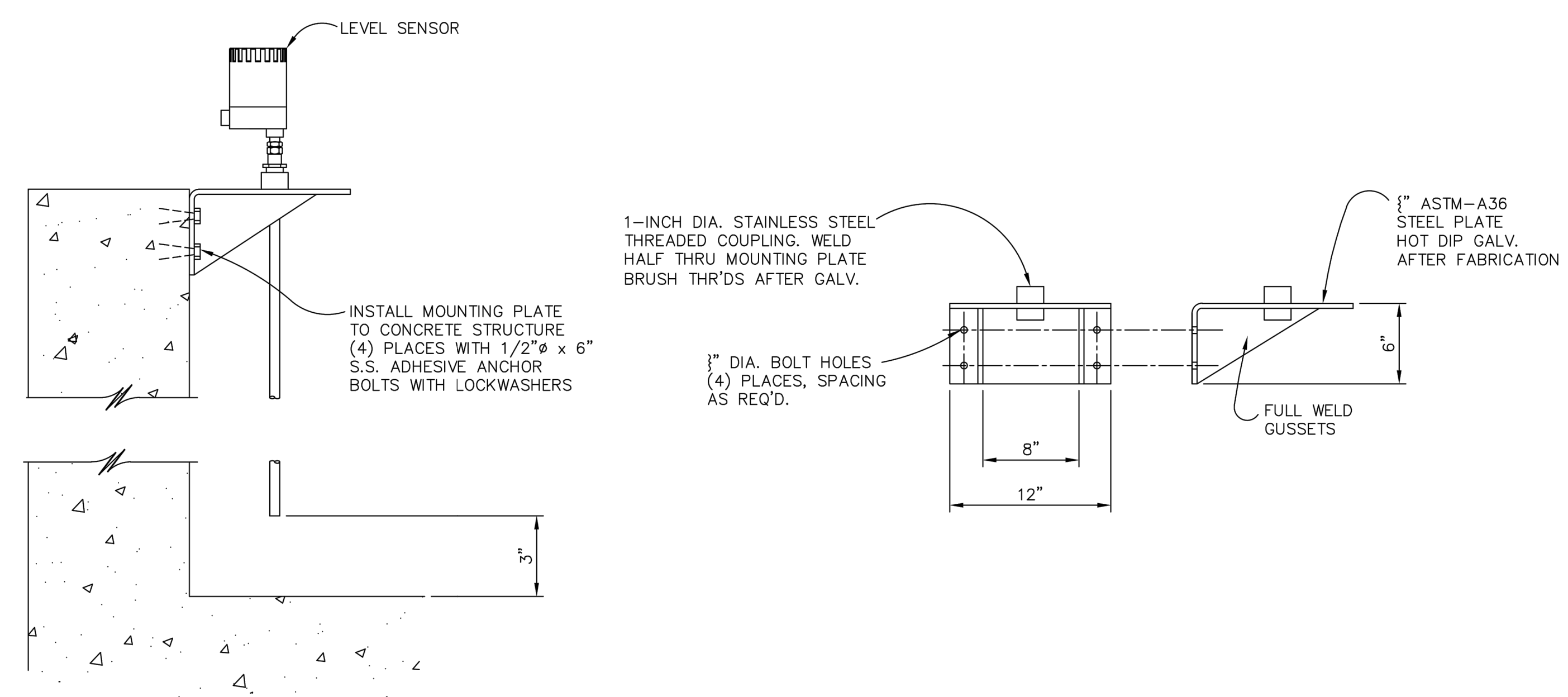
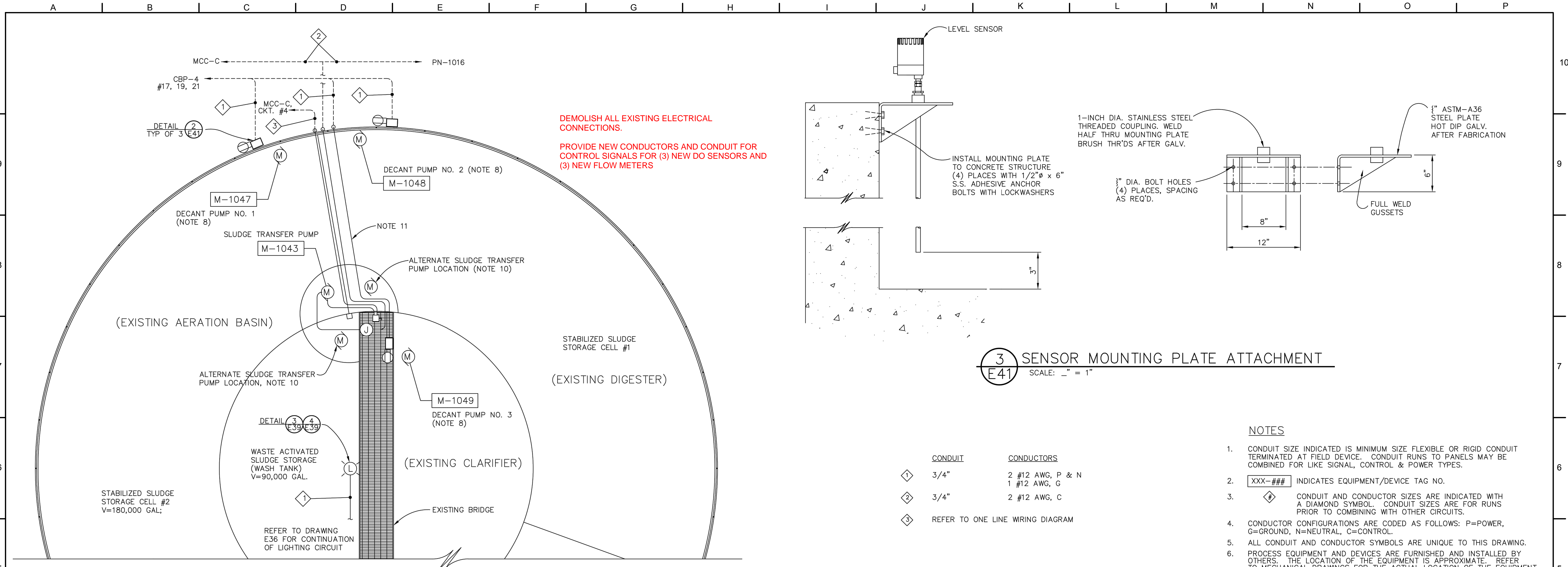
No.	ZONE	REVISIONS	BY	DATE



CITY OF SANDY
WASTE WATER TREATMENT FACILITY IMPROVEMENTS
ELECTRICAL DETAILS CLARIFIER BRIDGE, SCUM PUMP & WASTE PUMPING STATIONS

JOB NUMBER 964-50-20-01
DRAWING NUMBER E011
SHEET NUMBER X OF XX
REVISION

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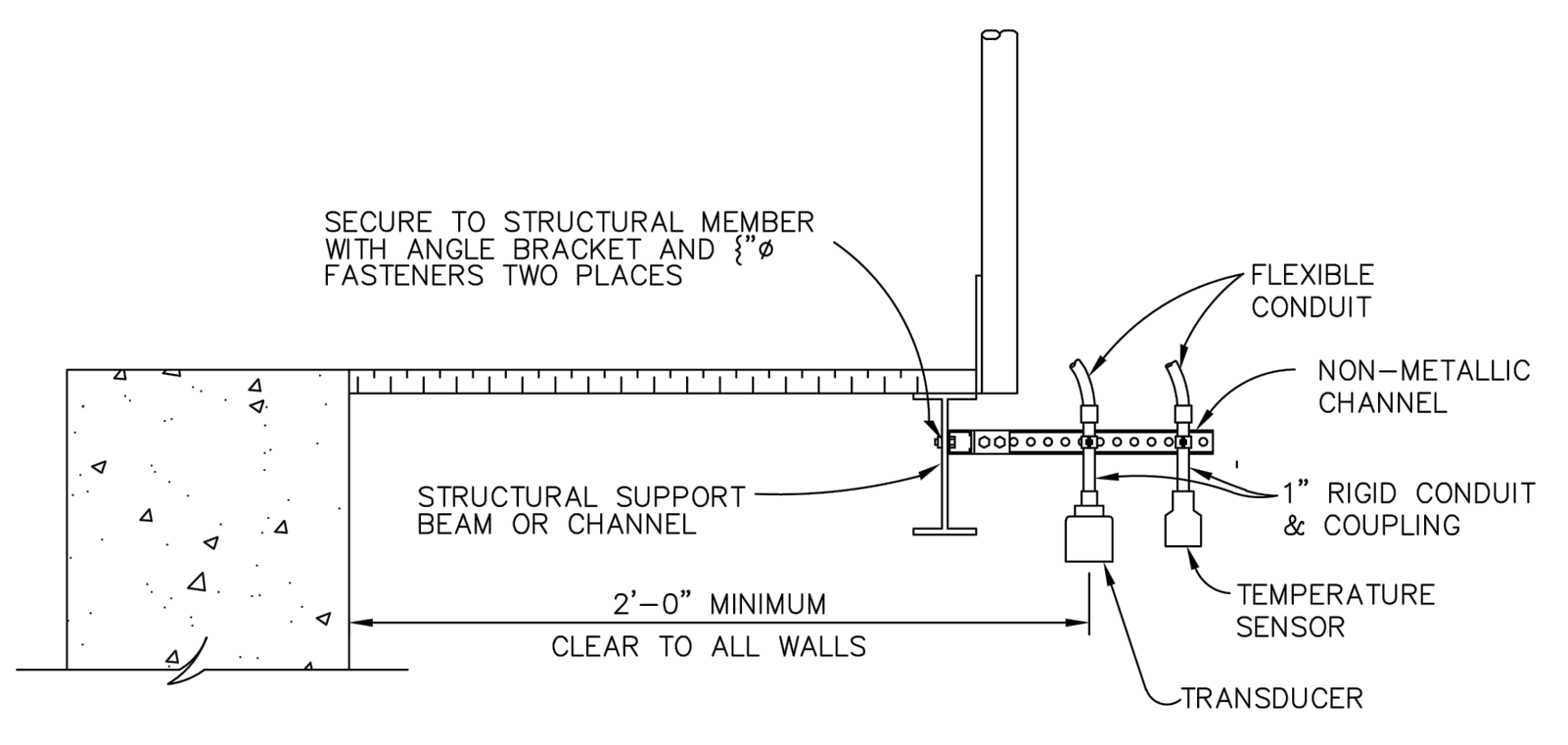
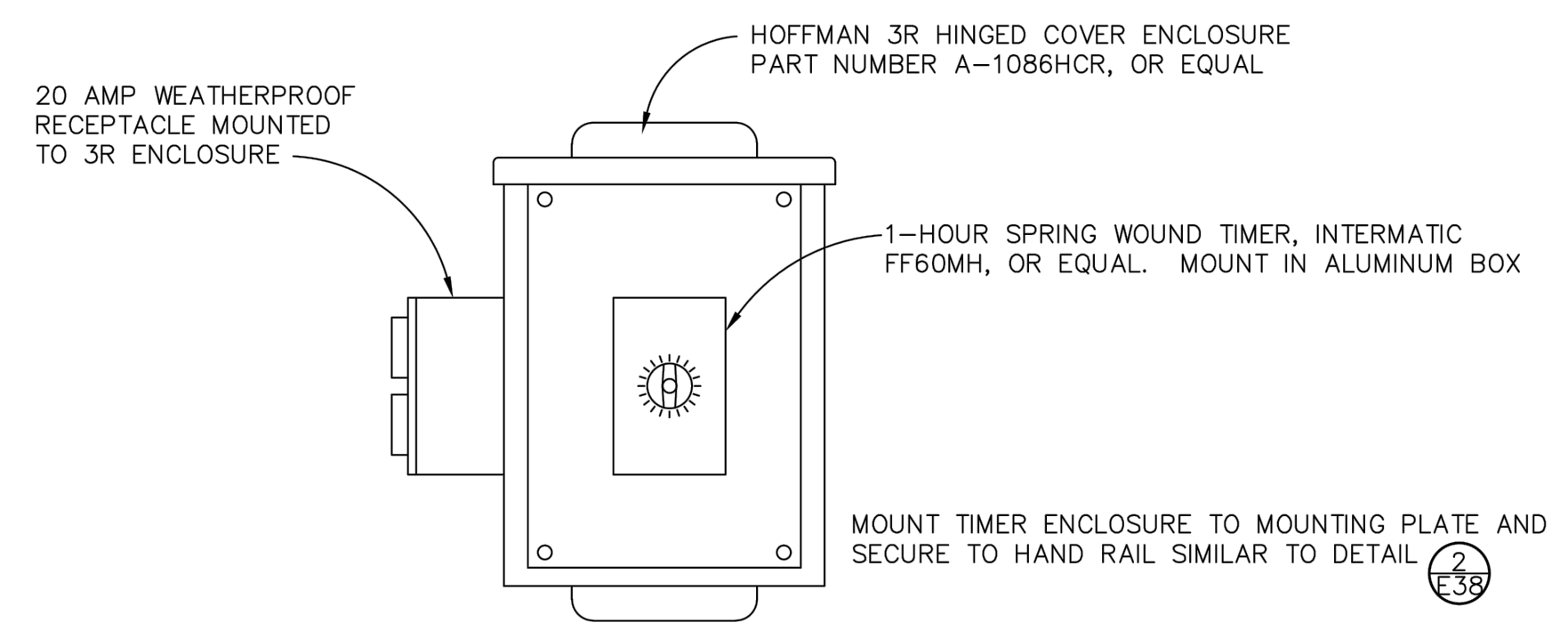
3 SENSOR MOUNTING PLATE ATTACHMENT
E41 SCALE: 1" = 1"

CONDUIT	CONDUCTORS
① 3/4"	2 #12 AWG, P & N 1 #12 AWG, G
② 3/4"	2 #12 AWG, C
③	REFER TO ONE LINE WIRING DIAGRAM

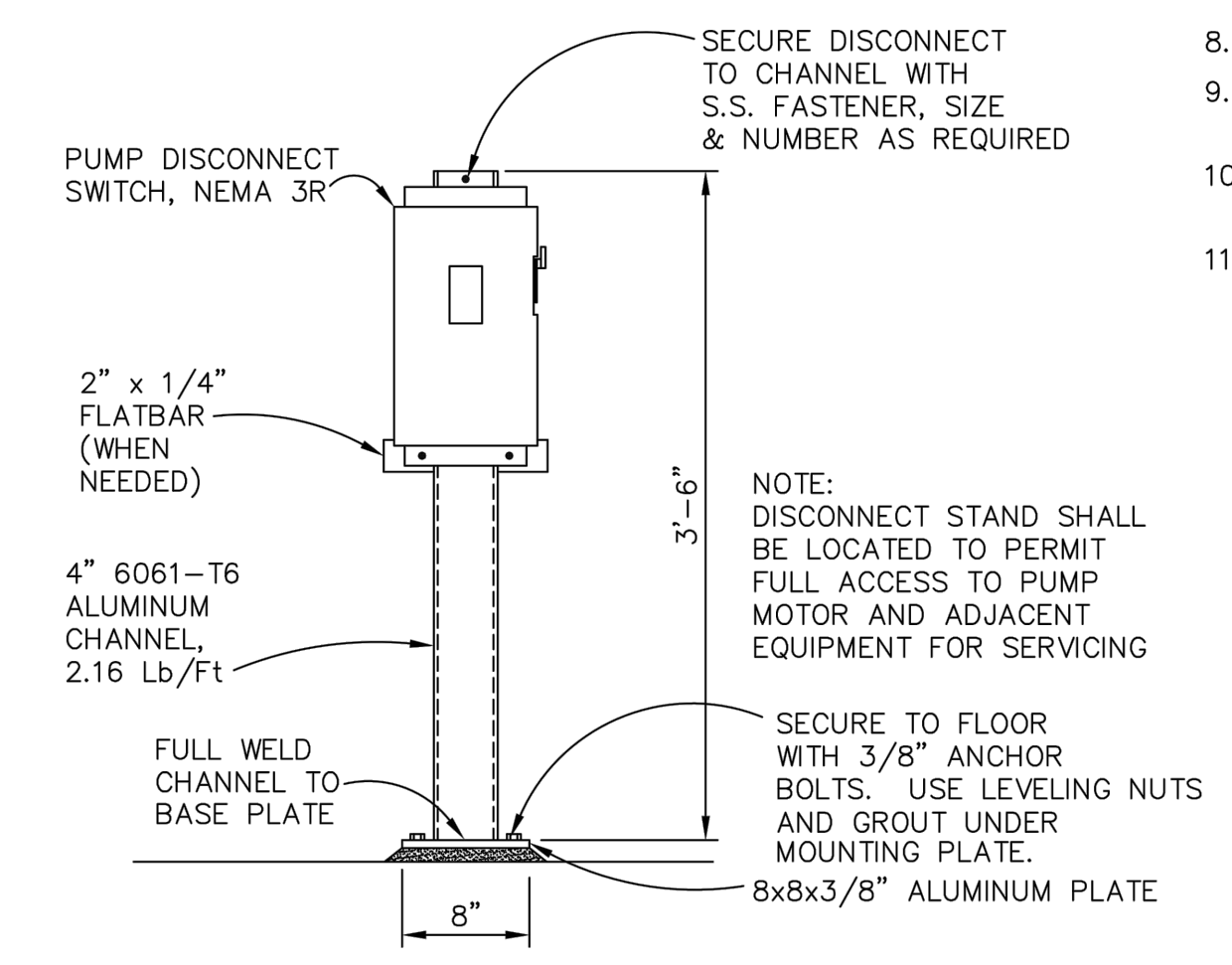
NOTES

- CONDUIT SIZE INDICATED IS MINIMUM SIZE FLEXIBLE OR RIGID CONDUIT TERMINATED AT FIELD DEVICE. CONDUIT RUNS TO PANELS MAY BE COMBINED FOR LIKE SIGNAL, CONTROL & POWER TYPES.
- XXX-### INDICATES EQUIPMENT/DEVICE TAG NO.
- ◇ CONDUIT AND CONDUCTOR SIZES ARE INDICATED WITH A DIAMOND SYMBOL. CONDUIT SIZES ARE FOR RUNS PRIOR TO COMBINING WITH OTHER CIRCUITS.
- CONDUCTOR CONFIGURATIONS ARE CODED AS FOLLOWS: P=POWER, G=GROUND, N=NEUTRAL, C=CONTROL.
- ALL CONDUIT AND CONDUCTOR SYMBOLS ARE UNIQUE TO THIS DRAWING.
- PROCESS EQUIPMENT AND DEVICES ARE FURNISHED AND INSTALLED BY OTHERS. THE LOCATION OF THE EQUIPMENT IS APPROXIMATE. REFER TO MECHANICAL DRAWINGS FOR THE ACTUAL LOCATION OF THE EQUIPMENT.
- ALL SURFACE MOUNTED CONDUIT RUNS TO BE MOUNTED PARALLEL TO STRUCTURE LINES. RUNS COMMON TO A GIVEN WALL SHALL BE GROUPED FOR A NEAT APPEARANCE.
- DECANT PUMPS PLUG INTO RECEPTACLE LOCATED ON TIMER ENCLOSURE.
- ALL CONDUIT, CONDUIT FITTINGS AND STRUCTURAL SUPPORT CHANNELS TO BE NON-METALLIC.
- SUBMERSIBLE SLUDGE TRANSFER PUMP MAY BE LOCATED IN ONE OF THREE POSITIONS. LEAVE ADEQUATE CONDUCTOR LENGTH TO PERMIT RELOCATION.
- SECURE CONDUIT TO TOP OF WALL PARTITION.

1 WASTE ACTIVATED SLUDGE HOLDING (WASH) TANK
E41 SCALE: 1" = 5'



4 LEVEL TRANSDUCER INSTALLATION
E41 SCALE: 1" = 1"



5 DISCONNECT MOUNTING DETAIL
E41 SCALE: 1" = 1'-0"

2 DECANT PUMP TIMER ENCLOSURE
E41 SCALE: 1/4" = 1" (TYPICAL OF 3)

AS CONSTRUCTED SEPTEMBER 1998

NOT FOR CONSTRUCTION

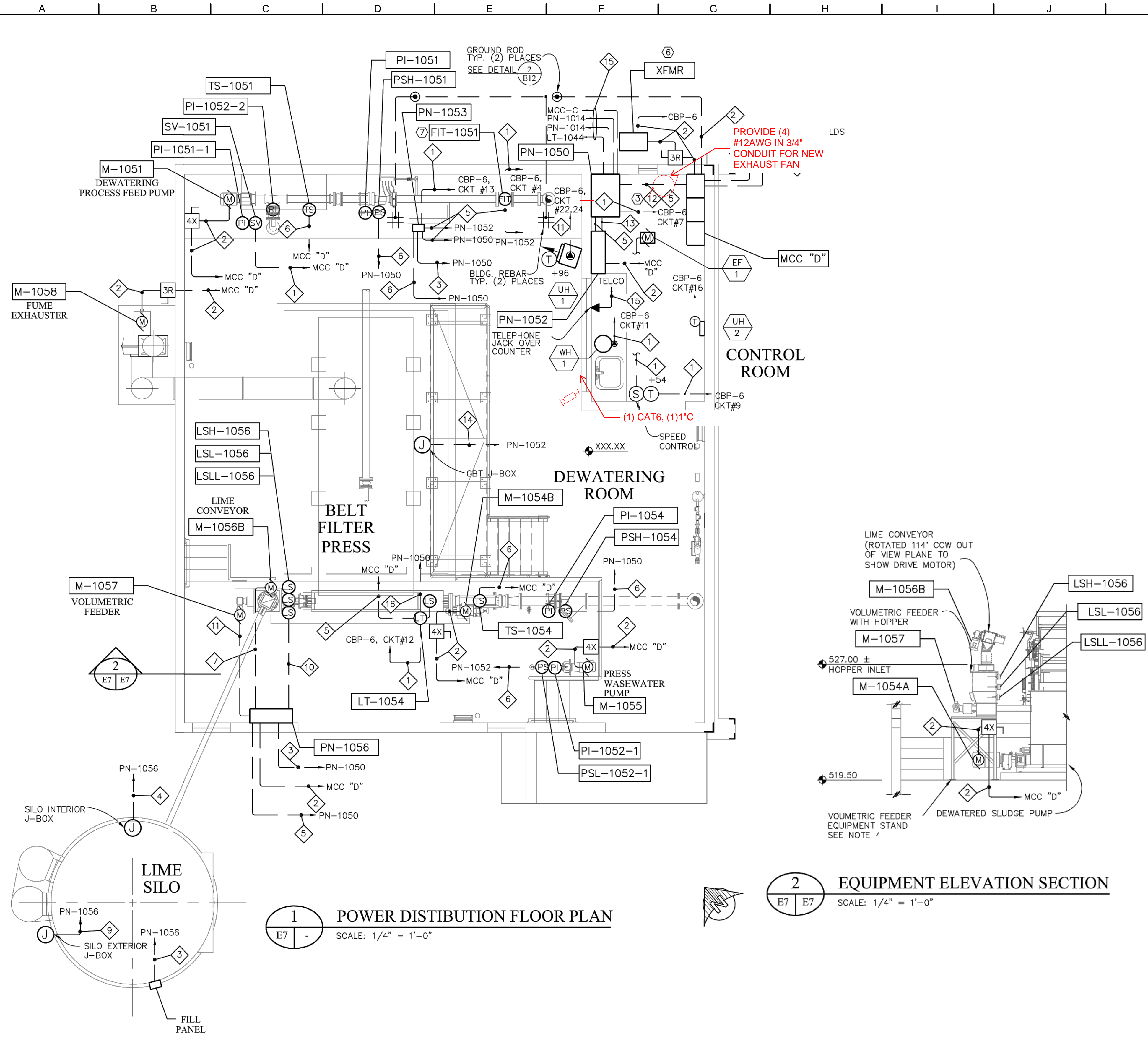
THIS LINE IS 1 INCH AT FULL SCALE IF NOT SCALE ACCORDINGLY				
SCALE :	AS SHOWN			
DRAWN BY :	SMB			
DESIGNED BY :	WJS			
PROJ. MGR. :	PVM			
No.	ZONE	REVISIONS	BY	DATE



CITY OF SANDY
WASTE WATER TREATMENT FACILITY IMPROVEMENTS
ELECTRICAL DETAILS
WASH TANK & EFF. FILTRATION

JOB NUMBER	964-50-20-01
DRAWING NUMBER	E012
SHEET NUMBER	X OF XX
REVISION	

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1 POWER DISTRIBUTION FLOOR PLAN
SCALE: 1/4" = 1'-0"

2 EQUIPMENT ELEVATION SECTION
SCALE: 1/4" = 1'-0"

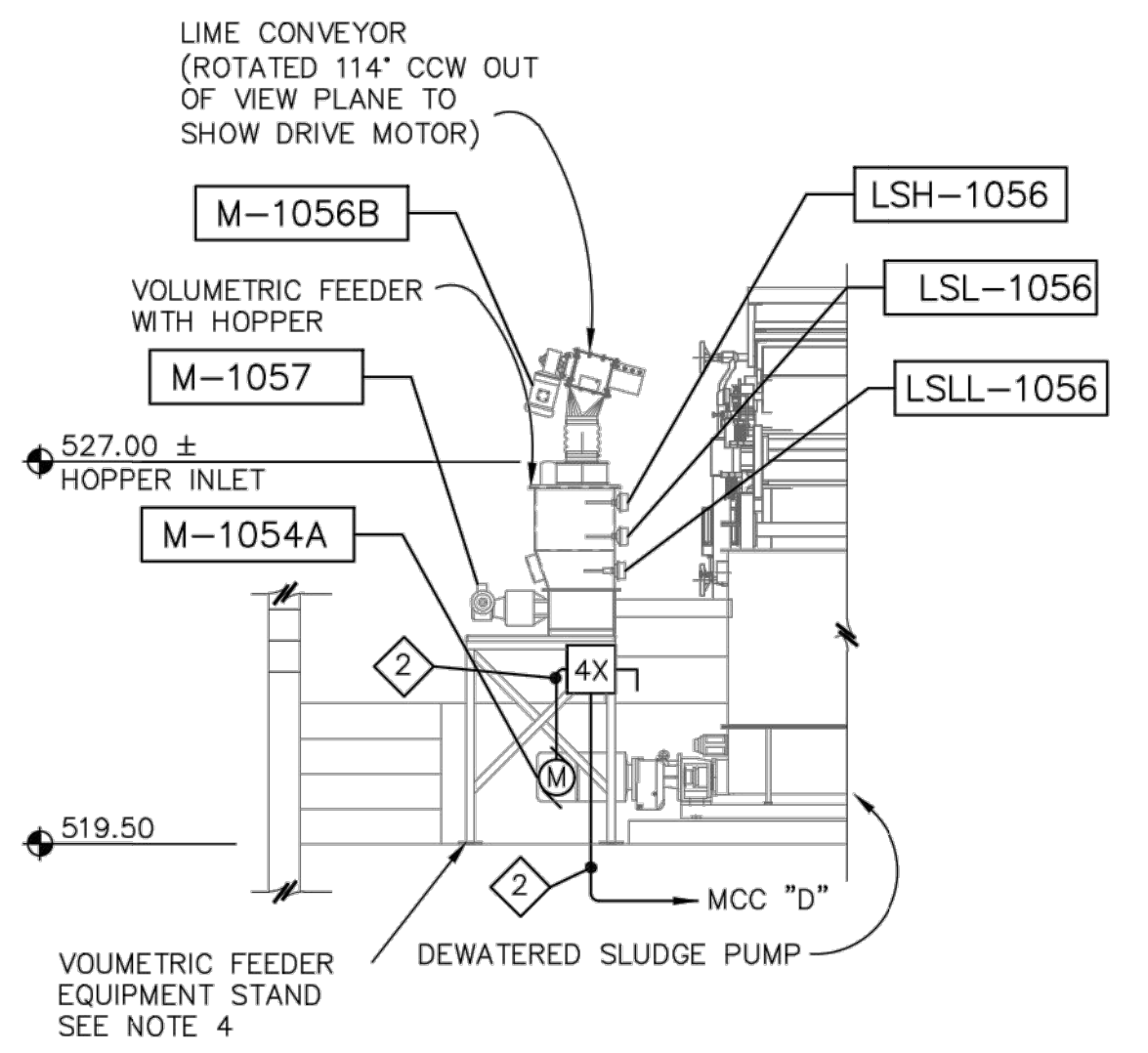
UNIT HEATER SCHEDULE				EXHAUST FAN SCHEDULE	
MARK NUMBER	UH 1	UH 2	WH 1	MARK NUMBER	EF 1
AREA	DEWATERING AREA	CONTROL ROOM	CONTROL ROOM	AREA	CONTROL ROOM
TYPE	316 S.S. CORROSION RESISTANT BLOWER	304 S.S. CORROSION RESISTANT WALL MOUNT	ELECTRIC UNDER COUNTER	TYPE	INLINE CABINET
CAPACITY	2 KW	250 WATT	6 GALLON	CFM	157
SEISMIC RESTRAINT	YES	NA	YES	SEISMIC RESTRAINT	YES
ELECTRICAL	208/1	120/1	120/1	ELECTRICAL	0.9 AMP 115VAC
MFR/MODEL	CHROMALOX HDH-A-200 WITH INTERNAL THERMOSTAT AND DISCONNECT, POWER PILOT LIGHT, 3 POSITION SWITCH	KING/PAW1215-SS-ST, PAWG-SS PT-1-SS	BRADFORD WHITE LD-6U3-1A015	MFR/MODEL	PENN/ Z6H-TDA W/ LT30 SPD CONTROL & MULTIFAN/T15WD

CONSTRUCTION NOTES:

- ① SEE GENERAL NOTES ① THRU ⑥ ON DRAWING E6.
- ② SEE MOTOR CONTROL CENTER DRAWING FOR MCC "D" LAYOUT ON DRAWING E4.
- ③ FOR WIRING BETWEEN PN-1050 & MCC "D" REFER TO CONTROL LINE WIRING DIAGRAMS E9 & E10.
- ④ PROVIDE HOUSEKEEPING PAD FOR MCC "D" & PN-1050.
- ⑤ COPPER GROUND WIRE TO BE INSTALLED IN CONTINUOUS LENGTH FROM MCC "D" TO TWO (2) GROUND RODS. CONNECT TO BUILDING REBAR A MINIMUM OF TWO (2) PLACES. ALL CONNECTIONS TO BLDG. REBAR AND GRD. RODS SHALL BE MADE WITH IRREVERSIBLE CONNECTIONS.
- ⑥ PROVIDE CONCRETE EQUIPMENT PAD FOR TRANSFORMER. PAD TO PROJECT MINIMUM OF 6" BEYOND FRONT AND SIDES OF TRANSFORMER. BEHIND TRANSFORMER EXTEND CONCRETE PAD TO BUILDING.
- ⑦ FLOWMETER MOUNTED IN HORIZONTAL RUN OF DEWATERING PROCESS FEED PUMP DISCHARGE. SEE MECHANICAL DRAWINGS FOR FLOWMETER LOCATION IN PIPING.
- ⑧ REFER TO MECHANICAL DRAWINGS FOR LOCATION OF EQUIPMENT.
- ⑨ DEWATERED SLUDGE PUMP DRIVE MOTOR WIRING NOT SHOWN IN PLAN VIEW REFER TO ELEVATION SECTION VIEW ② FOR MOTOR LOCATION AND WIRING.

CONDUIT AND CONDUCTOR SCHEDULE

CONDUIT	CONDUCTORS	CONDUIT	CONDUCTORS
① 3/4"	2 #12 AWG, P & N 1 #12 AWG, G	⑩ 1"	8 #14 AWG, P, N, C 1 #14 AWG, G
② REFER TO ONE LINE DIAGRAMS		⑪ 1"	2 #12 AWG, P 1 #12 AWG, G
③ 1"	10 #14 AWG, C (3 SPARE)	⑫ 2"	24 #14 AWG, C (4 SPARE)
④ 1 1/2"	9 #12 AWG, P 3 #12 AWG, G 4 #14 AWG, C (2 SPARE)	⑬ 1 1/2"	17 #14 AWG, C (4 SPARE)
⑤ 3/4"	1-PAIR, #18 AWG, TWISTED SHIELDED W/ DRAIN	⑭ 1 1/2"	16 #12 AWG, C (6 SPARE)
⑥ 3/4"	2 #14 AWG, C 1 #14 AWG, G	⑮	SEE DRAWING E1 CONDUIT AND CONDUCTOR SCHEDULES
⑦ 3/4"	3 #12 AWG, P 1 #12 AWG, G	⑯ 3/4"	4 #14 AWG, C
⑧ CONDUIT AND WIRING AS REQUIRED BY MANUF.			
⑨ 1 1/2"	6 #14 AWG, C (2 SPARE) 1 #14 AWG, G		



NOT FOR CONSTRUCTION

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SCALE: AS SHOWN
DRAWN BY: SMB
DESIGNED BY: WJS
PROJ. MGR.: PVM

No.	ZONE	REVISIONS	BY	DATE



CITY OF SANDY
WASTE WATER TREATMENT FACILITY IMPROVEMENTS
DEWATERING BUILDING POWER PLAN

JOB NUMBER
964-50-20-01
DRAWING NUMBER
E013
SHEET NUMBER
X OF XX
REVISION