











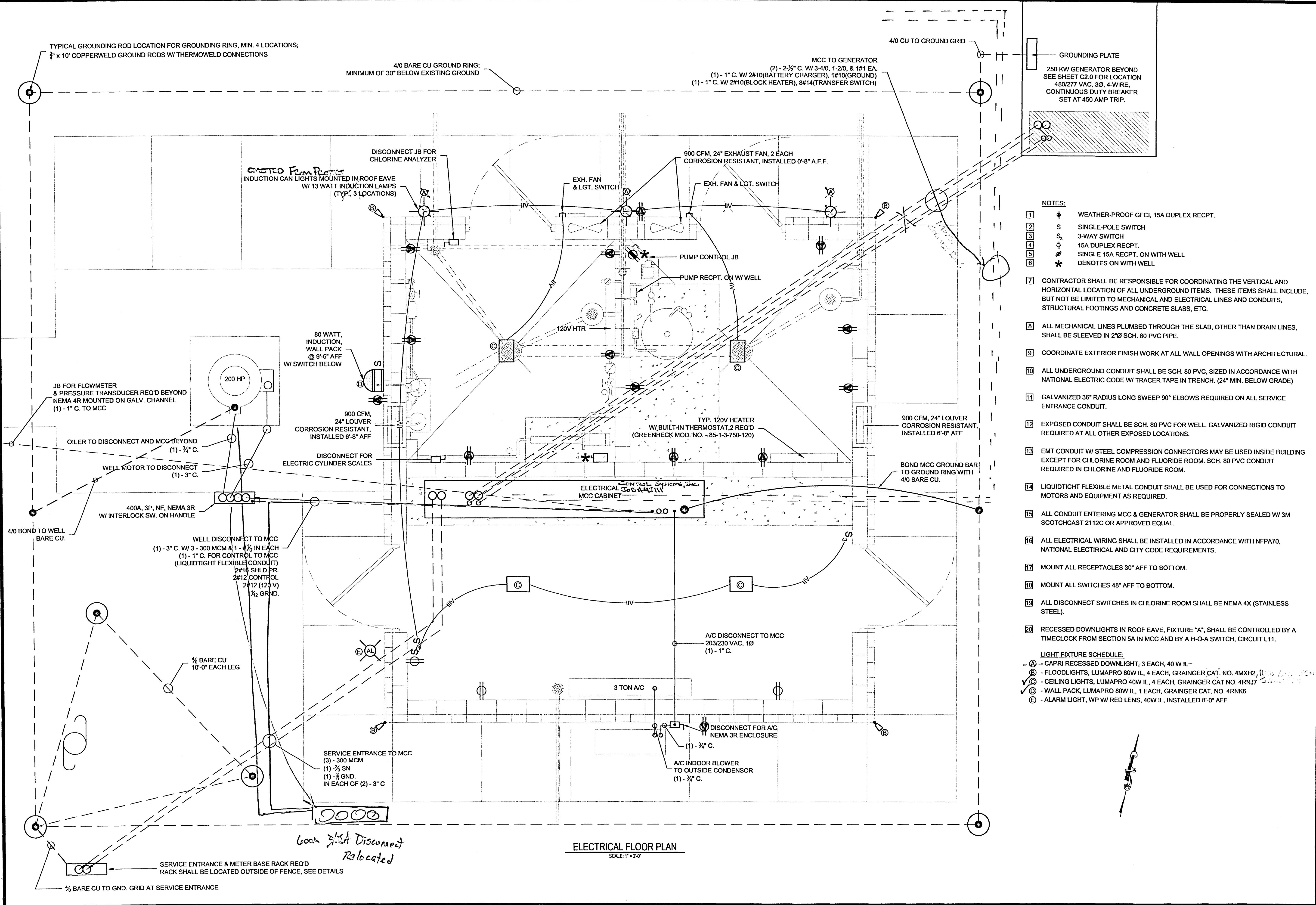








SAMUELS LANE WATER SUPPLY WELL  
CITY OF RIDGELAND, MISSISSIPPI



- NOTES:**
- 1 WEATHER-PROOF GFCI, 15A DUPLEX RECPT.
  - 2 SINGLE-POLE SWITCH
  - 3 3-WAY SWITCH
  - 4 15A DUPLEX RECPT.
  - 5 SINGLE 15A RECPT. ON WITH WELL
  - 6 \* DENOTES ON WITH WELL
  - 7 CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING THE VERTICAL AND HORIZONTAL LOCATION OF ALL UNDERGROUND ITEMS. THESE ITEMS SHALL INCLUDE, BUT NOT BE LIMITED TO MECHANICAL AND ELECTRICAL LINES AND CONDUITS, STRUCTURAL FOOTINGS AND CONCRETE SLABS, ETC.
  - 8 ALL MECHANICAL LINES PLUMBED THROUGH THE SLAB, OTHER THAN DRAIN LINES, SHALL BE SLEEVED IN 2" SCH. 80 PVC PIPE.
  - 9 COORDINATE EXTERIOR FINISH WORK AT ALL WALL OPENINGS WITH ARCHITECTURAL.
  - 10 ALL UNDERGROUND CONDUIT SHALL BE SCH. 80 PVC, SIZED IN ACCORDANCE WITH NATIONAL ELECTRIC CODE W/ TRACER TAPE IN TRENCH. (24" MIN. BELOW GRADE)
  - 11 GALVANIZED 36" RADIUS LONG SWEEP 90° ELBOWS REQUIRED ON ALL SERVICE ENTRANCE CONDUIT.
  - 12 EXPOSED CONDUIT SHALL BE SCH. 80 PVC FOR WELL. GALVANIZED RIGID CONDUIT REQUIRED AT ALL OTHER EXPOSED LOCATIONS.
  - 13 EMT CONDUIT W/ STEEL COMPRESSION CONNECTORS MAY BE USED INSIDE BUILDING EXCEPT FOR CHLORINE ROOM AND FLUORIDE ROOM. SCH. 80 PVC CONDUIT REQUIRED IN CHLORINE AND FLUORIDE ROOM.
  - 14 LIQUIDTIGHT FLEXIBLE METAL CONDUIT SHALL BE USED FOR CONNECTIONS TO MOTORS AND EQUIPMENT AS REQUIRED.
  - 15 ALL CONDUIT ENTERING MCC & GENERATOR SHALL BE PROPERLY SEALED W/ 3M SCOTCHCAST 2112C OR APPROVED EQUAL.
  - 16 ALL ELECTRICAL WIRING SHALL BE INSTALLED IN ACCORDANCE WITH NFPA70, NATIONAL ELECTRICAL AND CITY CODE REQUIREMENTS.
  - 17 MOUNT ALL RECEPTACLES 30" AFF TO BOTTOM.
  - 18 MOUNT ALL SWITCHES 48" AFF TO BOTTOM.
  - 19 ALL DISCONNECT SWITCHES IN CHLORINE ROOM SHALL BE NEMA 4X (STAINLESS STEEL).
  - 20 RECESSED DOWNLIGHTS IN ROOF EAVE, FIXTURE "A", SHALL BE CONTROLLED BY A TIMECLOCK FROM SECTION 5A IN MCC AND BY A H-O-A SWITCH, CIRCUIT L11.
- LIGHT FIXTURE SCHEDULE:**
- A - CAPRI RECESSED DOWNLIGHT, 3 EACH, 40 W IL
  - B - FLOODLIGHTS, LUMAPRO 80W IL, 4 EACH, GRAINGER CAT. NO. 4MXH2, 110V
  - C - CEILING LIGHTS, LUMAPRO 40W IL, 4 EACH, GRAINGER CAT. NO. 4RNJ7
  - D - WALL PACK, LUMAPRO 80W IL, 1 EACH, GRAINGER CAT. NO. 4RNK6
  - E - ALARM LIGHT, WP W/ RED LENS, 40W IL, INSTALLED 8'-0" AFF

ELECTRICAL FLOOR PLAN  
SCALE: 1" = 2'-0"

DRAWING REVISIONS		
NO.	REMARKS	DATE



DRAWN BY: OWS SCALE: 1" = 2'  
 DESIGNED BY: OWS DATE: August 2014  
 CHECKED BY: OWS PROJECT:  
 DRAWING TITLE:

Electrical Floor Plan

E1.0

SAMUELS LANE WATER SUPPLY WELL  
CITY OF RIDGELAND, MISSISSIPPI

DRAWING REVISIONS		
NO.	REMARKS	DATE
1		



DRAWN BY: CMB SCALE: None  
DESIGNED BY: CMB DATE: August 2014  
CHECKED BY: CMB PROJECT:  
DRAWING TITLE:

Electrical Legend,  
Panel Schedule  
& Details

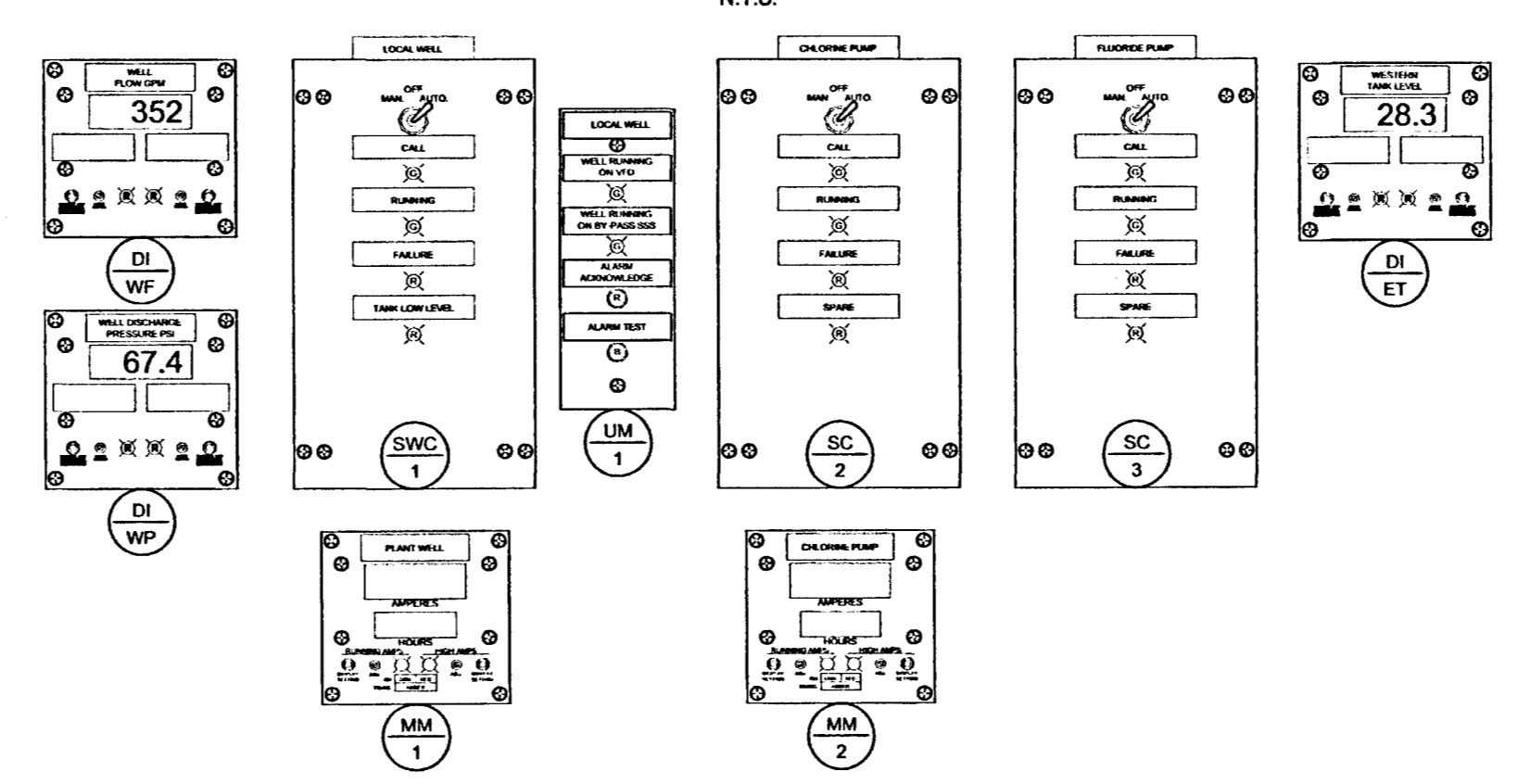
SHEET NUMBER  
**E2.0**

CONTROL SYSTEMS, INC. JOB # 48111

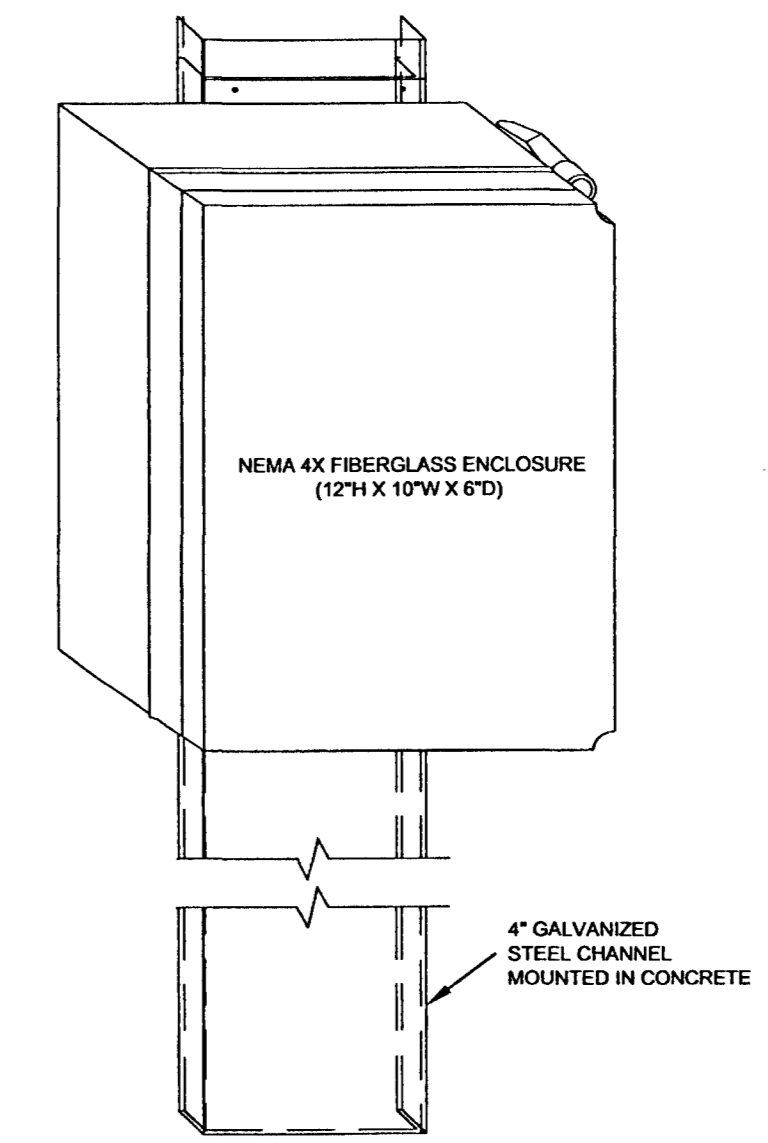
CIRCUIT NUMBER	WIRE SIZE	BREAKER SIZE	DESCRIPTION OF LOAD	LOAD	KVA PER PHASE		LOAD	DESCRIPTION OF LOAD	BREAKER SIZE	WIRE SIZE	CIRCUIT NUMBER	
					A	B						
1	#12	20A	CONTROL POWER					CL CYLINDER SCALES	20A	#12	2	
3	#12	20A	FLUORIDE FEEDER					VFD EXHAUST FANS	20A	#12	4	
5	#12	20A	CHLORINE ROOM, LIGHTS, RECEPT.					ELEC. ROOM RECEPT.	20A	#12	6	
7	#12	20A	BUILDING LIGHTS FOR ELEC. ROOM					FLUORIDE & CL ROOM EXHAUST FAN	15A	#12	8	
9	#12	20A	FLUORIDE ROOM LIGHTS, RECEPT.					CL CYLINDER SCALES / CL ANALYZER	20A	#12	10	
11	#12	20A	OUTSIDE BUILDING LIGHTS					FLOWMETER & PRESSURE TRANSDUCER	20A	#12	12	
13	#12	20A	CHLORINE ROOM HEATER					FLUORIDE ROOM HEATER	20A	#12	14	
15	#12	20A	GENERATOR BATTERY CHARGER					SPARE BREAKER	20A	#12	16	
17	#10	30A, 2P	GEN. BLOCK HEATER (4,000 WATT)					SPARE BREAKER	20A	#12	18	
19	#10	30A, 2P	GEN. BLOCK HEATER (4,000 WATT)					ELECTRICAL ROOM A/C	20A, 2P	#10	20	
21	#10	30A, 2P	CL BOOSTER PUMP CONTROL PANEL					ELECTRICAL ROOM A/C	20A, 2P	#10	22	
23	#10	30A, 2P	CL BOOSTER PUMP CONTROL PANEL					SPARE BREAKER	40A, 2P	200, 1810K, 1810G	24	
25	#12	20A	CL STORAGE EXH. FAN / MTR. LOUVER					SPARE BREAKER	40A, 2P	200, 1810K, 1810G	26	
27			SPACE					PANELBOARD MAIN BREAKER	25 120A 2P	#2	28	
29			SPACE					PANELBOARD MAIN BREAKER	25 120A 2P	#2	30	
POWER PANEL LP LOCATED IN MOTOR CONTROL CENTER					TOTAL KVA		GRAND CONNECTED TOTAL KVA		SERVICE CHARACTERISTICS: 120/240V - 1 PHASE - 3 WIRE - 60 Hz. 100 AMP. MAIN BREAKER WITH 100 AMP. BUS PROVIDE GROUND BUS COPPER BUS, BOLT-ON BREAKERS			

LEGEND					
	AUTOMATIC TRANSFER SWITCH -	SEE COMPONENT SPECIFICATIONS		PRESSURE TRANSMITTER -	SEE COMPONENT SPECIFICATIONS
	TRANSIENT VOLTAGE SURGE SUPPRESSOR -	SEE COMPONENT SPECIFICATIONS		FLOW METER -	SEE COMPONENT SPECIFICATIONS
	PHASE MONITOR -	SEE COMPONENT SPECIFICATIONS		SIMPLEX MOTOR CONTROLLER -	SEE COMPONENT SPECIFICATIONS
	SIMPLEX WELL CONTROLLER -	SEE COMPONENT SPECIFICATIONS		COMMON ALARM LIGHT -	SEE COMPONENT SPECIFICATIONS
	BACKSPIN TIMER -	SEE COMPONENT SPECIFICATIONS		LINE FILTER -	SEE COMPONENT SPECIFICATIONS
	SOLID STATE STARTER -	SEE COMPONENT SPECIFICATIONS		ANTENNA -	SEE COMPONENT SPECIFICATIONS
	LINELOAD REACTOR -	SEE COMPONENT SPECIFICATIONS		ANTENNA PROTECTOR -	SEE COMPONENT SPECIFICATIONS
	MOTOR MONITOR -	SEE COMPONENT SPECIFICATIONS		RADIO MODEM TRANSCEIVER -	SEE COMPONENT SPECIFICATIONS
	CURRENT TRANSFORMER -	SEE COMPONENT SPECIFICATIONS		REMOTE TELEMETRY UNIT -	SEE COMPONENT SPECIFICATIONS
	THERMOSTAT -	SEE COMPONENT SPECIFICATIONS		UNINTERRUPTIBLE POWER SUPPLY -	SEE COMPONENT SPECIFICATIONS
	COOLING FAN -	SEE COMPONENT SPECIFICATIONS		BACKUP BATTERY -	SEE COMPONENT SPECIFICATIONS
	SELECTOR SWITCH -	SEE COMPONENT SPECIFICATIONS		DC POWER SUPPLY -	SEE COMPONENT SPECIFICATIONS
	SPEED POTENTIOMETER -	SEE COMPONENT SPECIFICATIONS		DENOTES "ON WITH WELL"	
	DIGITAL INDICATOR -	SEE COMPONENT SPECIFICATIONS			

TYPICAL DOOR DETAIL, MOTOR CONTROL CENTER, SECTION 6

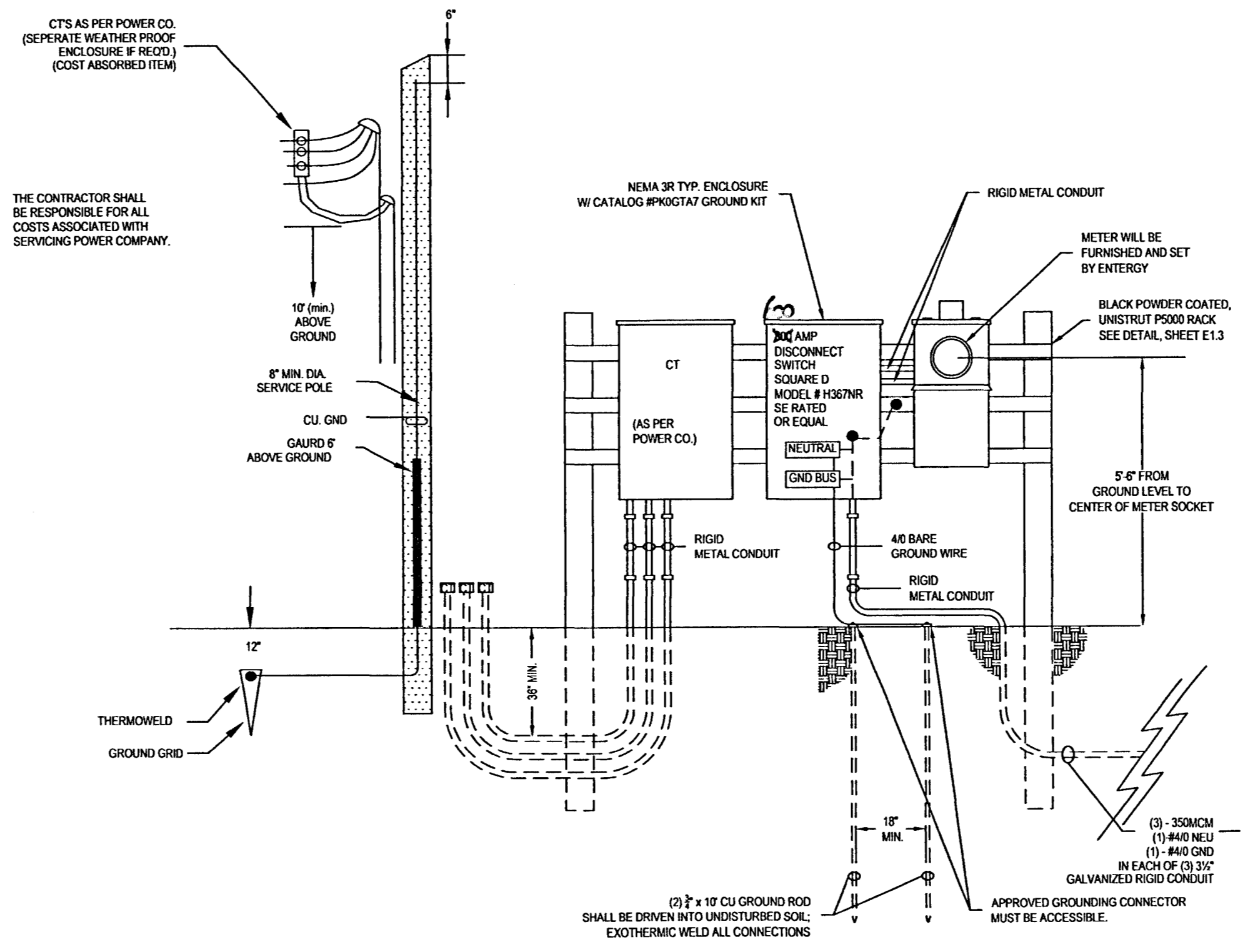


WELL DISCHARGE PRESSURE TRANSMITTER DETAIL

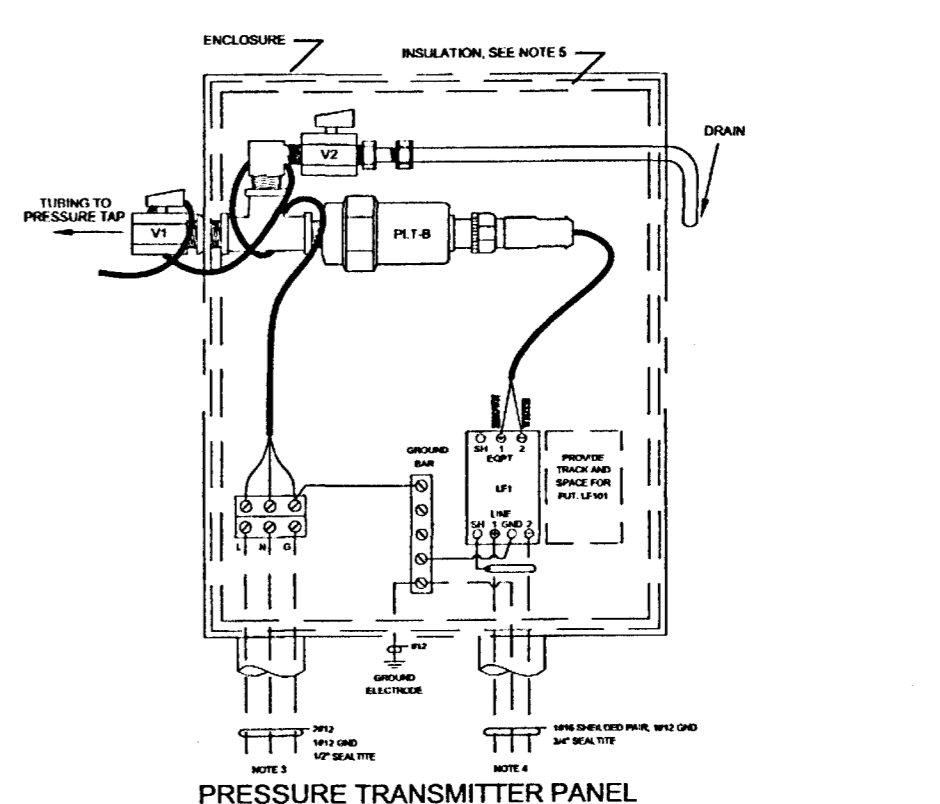


MOTOR CONTROL CENTER FRAME SPECIFICATIONS

- ENCLOSURE
  - NEMA TYPE 1 INDOOR
  - GASKETED DOORS  YES  NO
  - NEMA TYPE 3 WEATHER RESISTANT
    - WALK-IN  NON WALK-IN
    - OTHER TYPE (NEMA TYPE 12 NON WALK-IN)
- ARRANGEMENT
  - SINGLE FACE (FRONT ONLY) MOUNTING OF UNITS
  - DOUBLE FACE (FRONT & REAR) MOUNTING OF UNITS
  - STRAIGHT  L SHAPE  U SHAPE
  - ACCESSIBLE FROM REAR
  - NOT ACCESSIBLE FROM REAR
  - DOORS ON REAR
  - BACK PLATES ON REAR
- SUPPLY
  - 277/480 VOLTS 3 PHASE
  - 4 WIRE 60 CYCLES
  - AMPS RMS SYMMETRICAL FAULT
  - CURRENT AVAILABLE AT M.C.C. INCOMING TERMINALS < 500 AMPS TOTAL CONNECTED LOAD.
- INCOMING FEEDER CABLE
  - 300 MCM SIZE 2 NO. PER PHASE
  - TOP ENTRY FRAME NO.
  - BOTTOM ENTRY FRAME NO. 1E
- MAIN DISCONNECT
  - NONE REQUIRED
  - CIRCUIT BREAKER AMPS 800 TRIP AMPS
  - FUSED DISCONNECT AMPS
- BUSSING
  - A. BRACING  STANDARD 25,000 A. SYM.  42,000 A. SYM.  65,000 A. SYM. 50°C RATING
  - B. MAIN HORIZONTAL BUS:  ALUM.  COPPER  STANDARD 600 AMP  OTHER 800 AMP
  - C. VERTICAL BUS:  ALUM.  COPPER  FRONT ONLY 300A  FRONT & REAR 600A
  - D. GROUND BUS:  NONE REQUIRED  SIZE 300A  ALUM.  COPPER
- NEUTRAL BUS: LUGS ONLY, UNIT 1A OR 1C
  - NONE REQUIRED  AMPS  ALUM.  COPPER
- CLASS AND TYPE OF WIRING
  - NEMA CLASS I  TYPE A
  - NEMA CLASS II  TYPE B
  - TYPE C - TOP TERMINAL BLOCKS
  - TYPE C - BOTTOM TERMINAL BLOCKS
- STARTER TYPE
  - CIRCUIT BREAKER COMBINATION
  - CIRCUIT BREAKER TYPE \_\_\_\_\_ FEEDER \_\_\_\_\_
  - COMBINATION \_\_\_\_\_
  - FUSIBLE COMBINATION - FUSE CLIPS FOR
    - NEC  DUAL ELEMENT
    - CURRENT LIMIT FUSES
    - FUSES FURNISHED  YES  NO
- TERMINAL BLOCKS
  - FIXED  PULL-A-PART
  - OTHER
- CONTROL CIRCUITS 120 VOLTS
  - CONTROL VOLTAGE SAME AS SUPPLY VOLTAGE
  - UNFUSED  TWO CONTROL FUSES
  - INDIVIDUAL CONTROL TRANSFORMERS
    - UNFUSED PRIMARY  TWO PRIMARY FUSES
    - ONE SECONDARY FUSE & X2 GROUNDED
    - TWO SECONDARY FUSES
  - GROUP CONTROL TRANSFORMER \_\_\_\_\_ VOLTS
  - SEPARATE PURCHASER EXTERNAL CONTROL SOURCE \_\_\_\_\_ VOLTS
  - INTERLOCK ON (DISCONNECT) (UNIT DOOR) TO OPEN CONTROL CIRCUIT
  - SPECIAL VA \_\_\_\_\_
- PILOT DEVICES
- NOTES PROVIDE UL LABEL



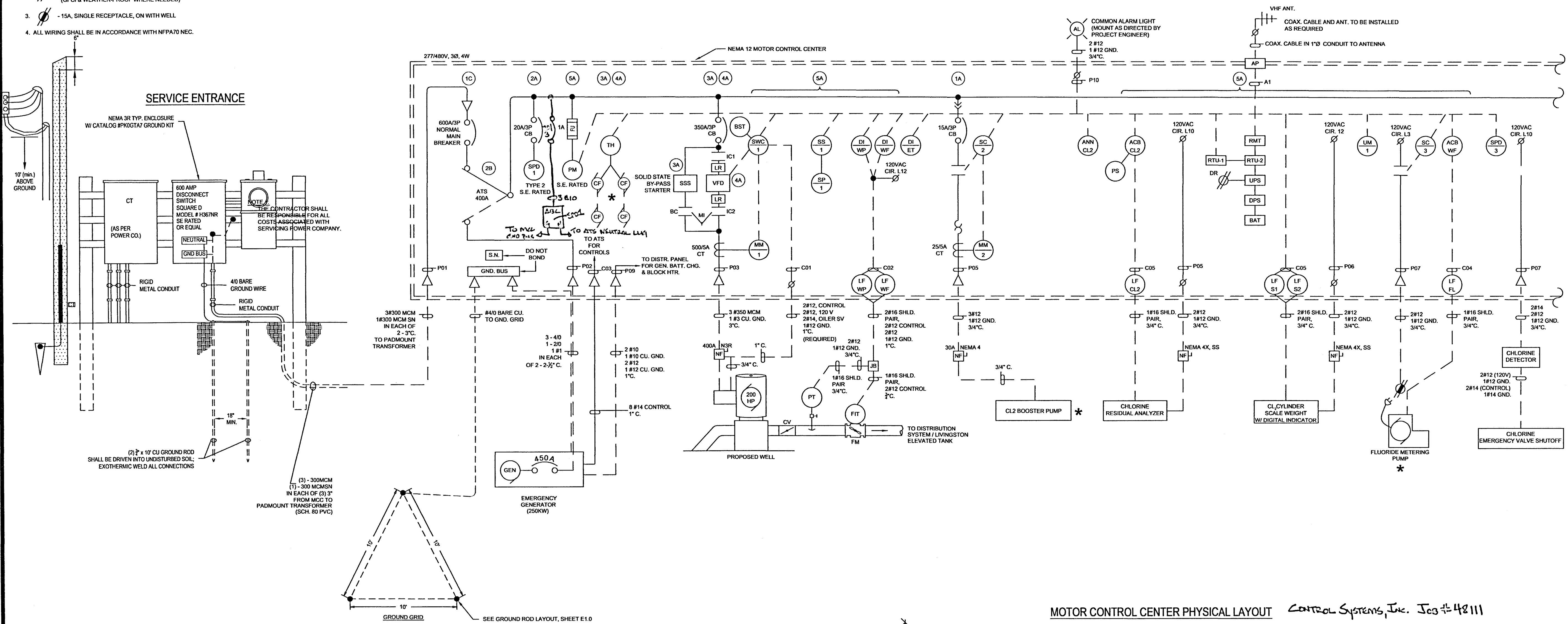
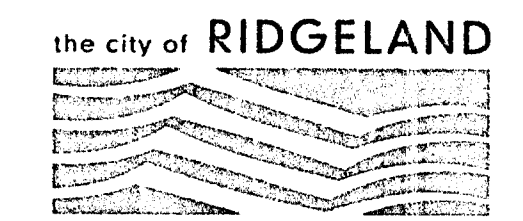
SERVICE ENTRANCE DETAIL



- NOTE 1 - WRAP HEAT TRACING TAPE AROUND ALL PRESSURIZED TUBING AND TRANSDUCER.
- NOTE 2 - DRILL HOLE IN SIDE OF ENCLOSURE, RUN HEAT TRACING TAPE AROUND VALVE W/ AND TUBING TO PRESSURE TAP. INSULATE OVER THE HEAT TRACING TAPE USING FIBER GLASS INSULATION AND SEAL WITH FOIL TAPE. SEAL HOLE IN SIDE OF ENCLOSURE WITH SILICONE AFTER INSTALLING THE HEAT TRACING TAPE.
- NOTE 3 - USE 1/2" SEALTITE TO GET EXISTING 120VAC POWER FROM NEAREST SOURCE.
- NOTE 4 - USE 3/4" SEALTITE TO GET SHIELDED CABLE TO CONTROL PANEL.
- NOTE 5 - INSULATE INTERIOR OF ENCLOSURE USING FIBERGLASS INSULATION.

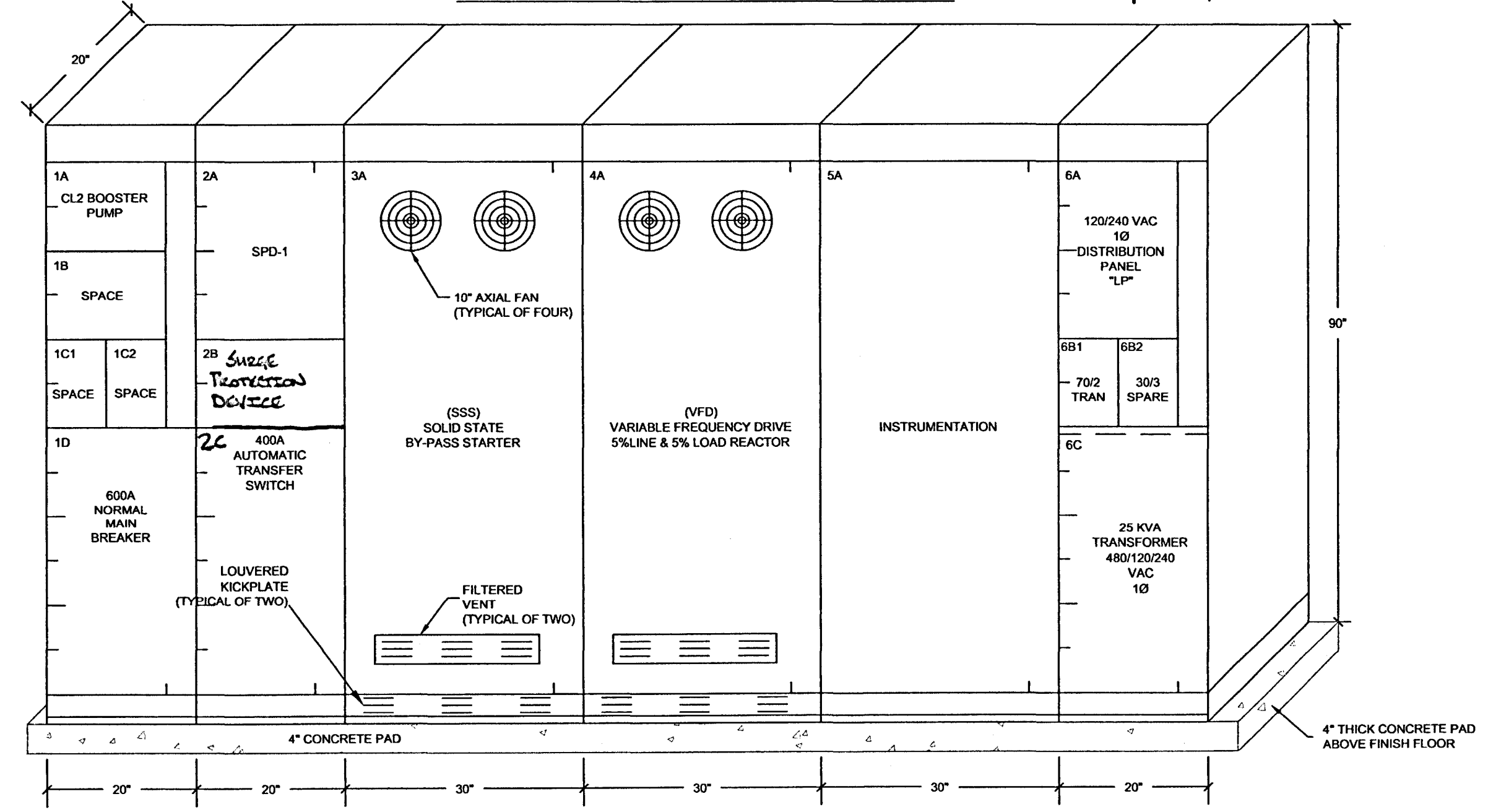
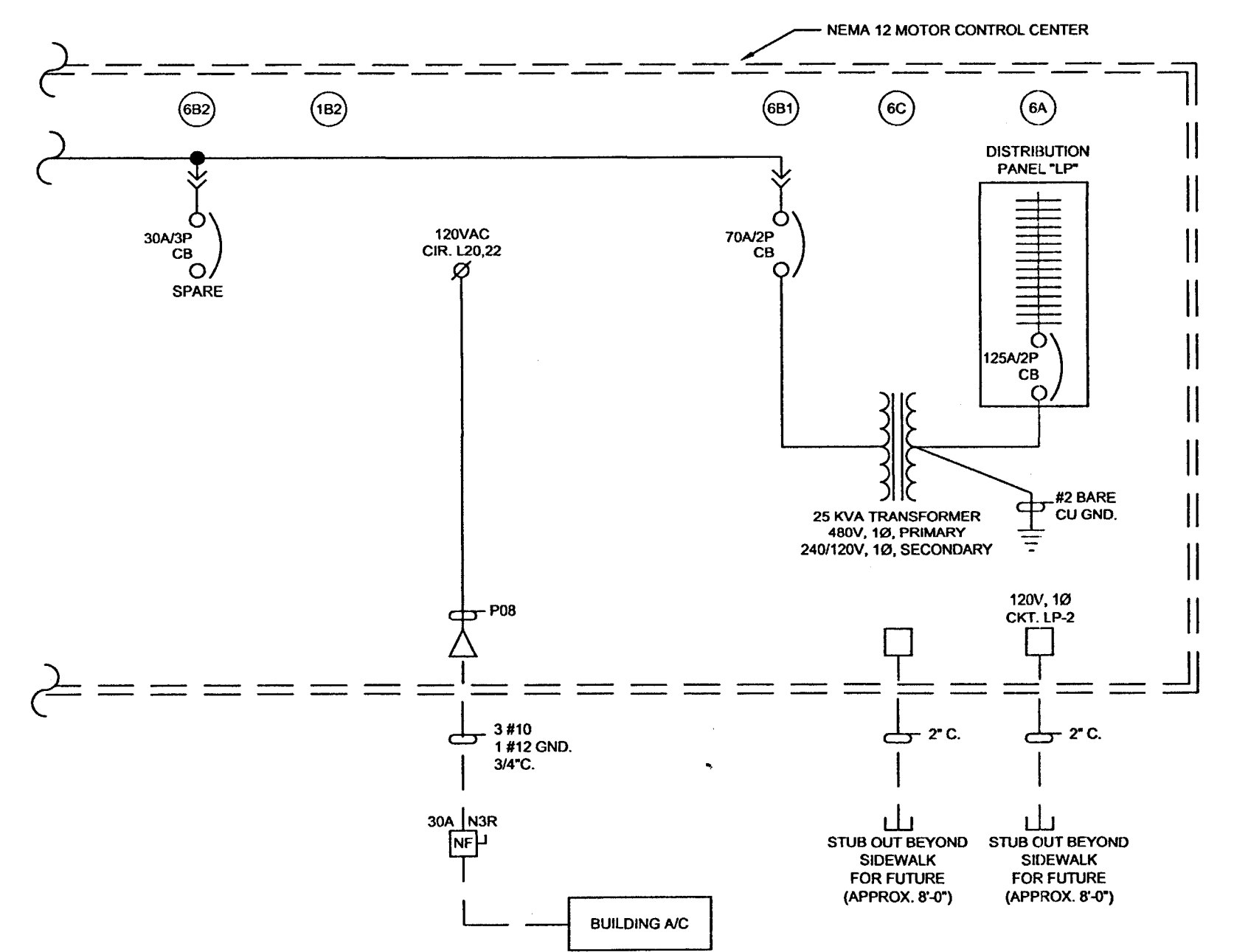
- NOTES:**
- ★ - ON WITH WELL
  - ⊘ - STANDARD 15A, DUPLEX RECEPTACLE (GFCI & WEATHER-PROOF WHERE NEEDED)
  - ⊘ - 15A, SINGLE RECEPTACLE, ON WITH WELL
  - ALL WIRING SHALL BE IN ACCORDANCE WITH NFPA70 NEC.

**MOTOR CONTROL CENTER ONE LINE POWER DIAGRAM AND PROCESS AND INSTRUMENTATION DIAGRAM (P&ID)**

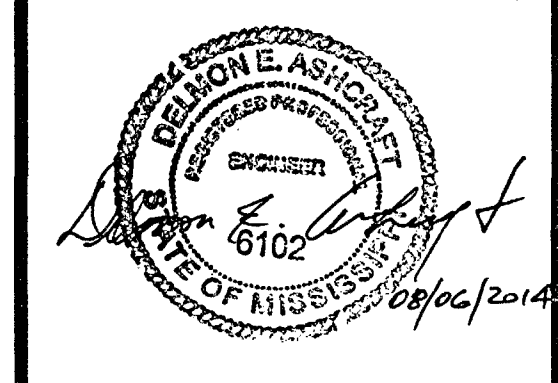


**SAMUELS LANE WATER SUPPLY WELL**  
**CITY OF RIDGELAND, MISSISSIPPI**

**MOTOR CONTROL CENTER PHYSICAL LAYOUT** *Control Systems, Inc. Jcs 4-48111*



DRAWING REVISIONS		
NO.	REMARKS	DATE



DRAWN BY: CWB    SCALE: None  
 DESIGNED BY: CWB    DATE: August 2014  
 CHECKED BY: CWB    PROJECT:  
 DRAWING TITLE:

**Motor Control Center Details**

SHEET NUMBER:  
**E3.0**



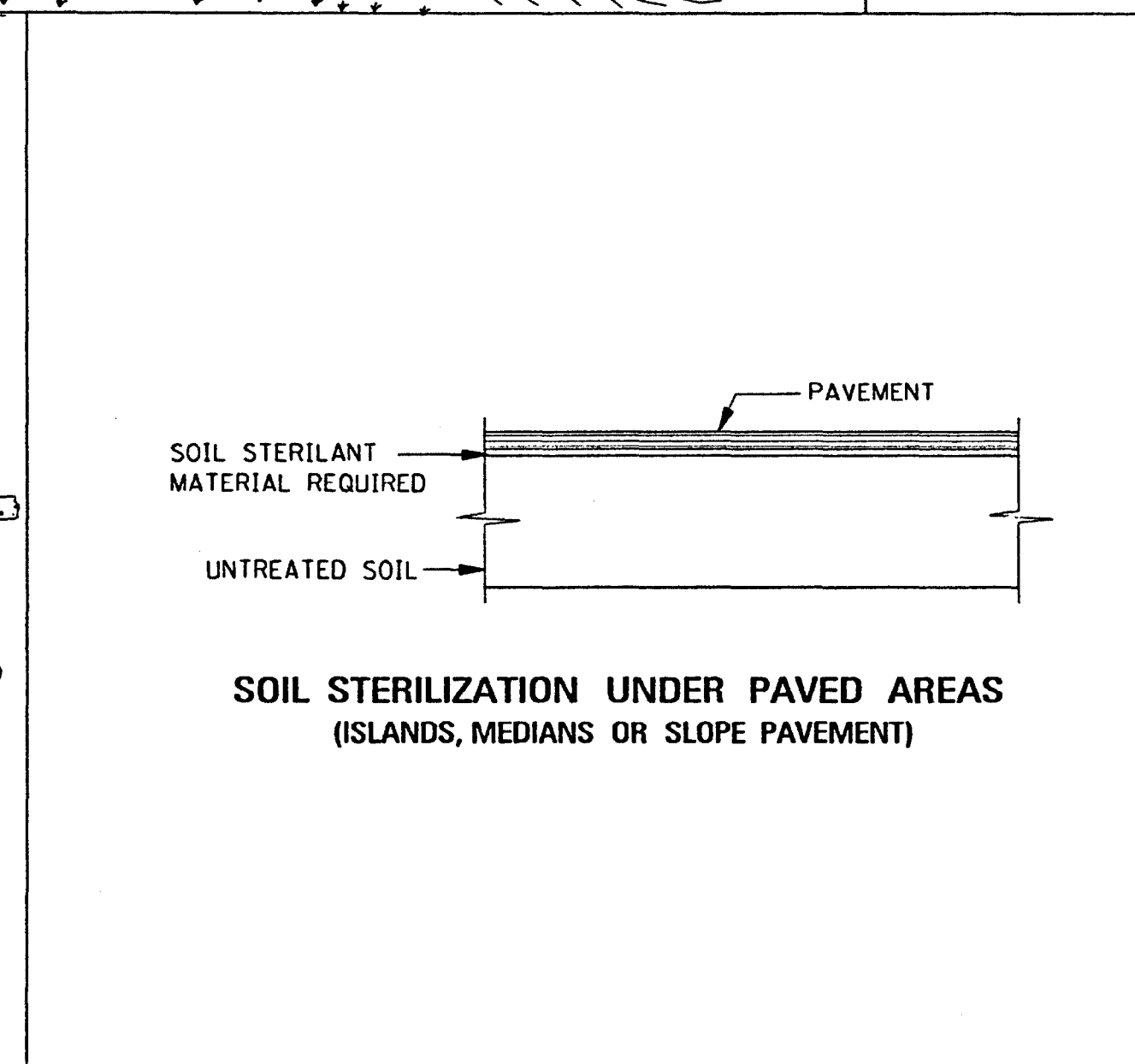
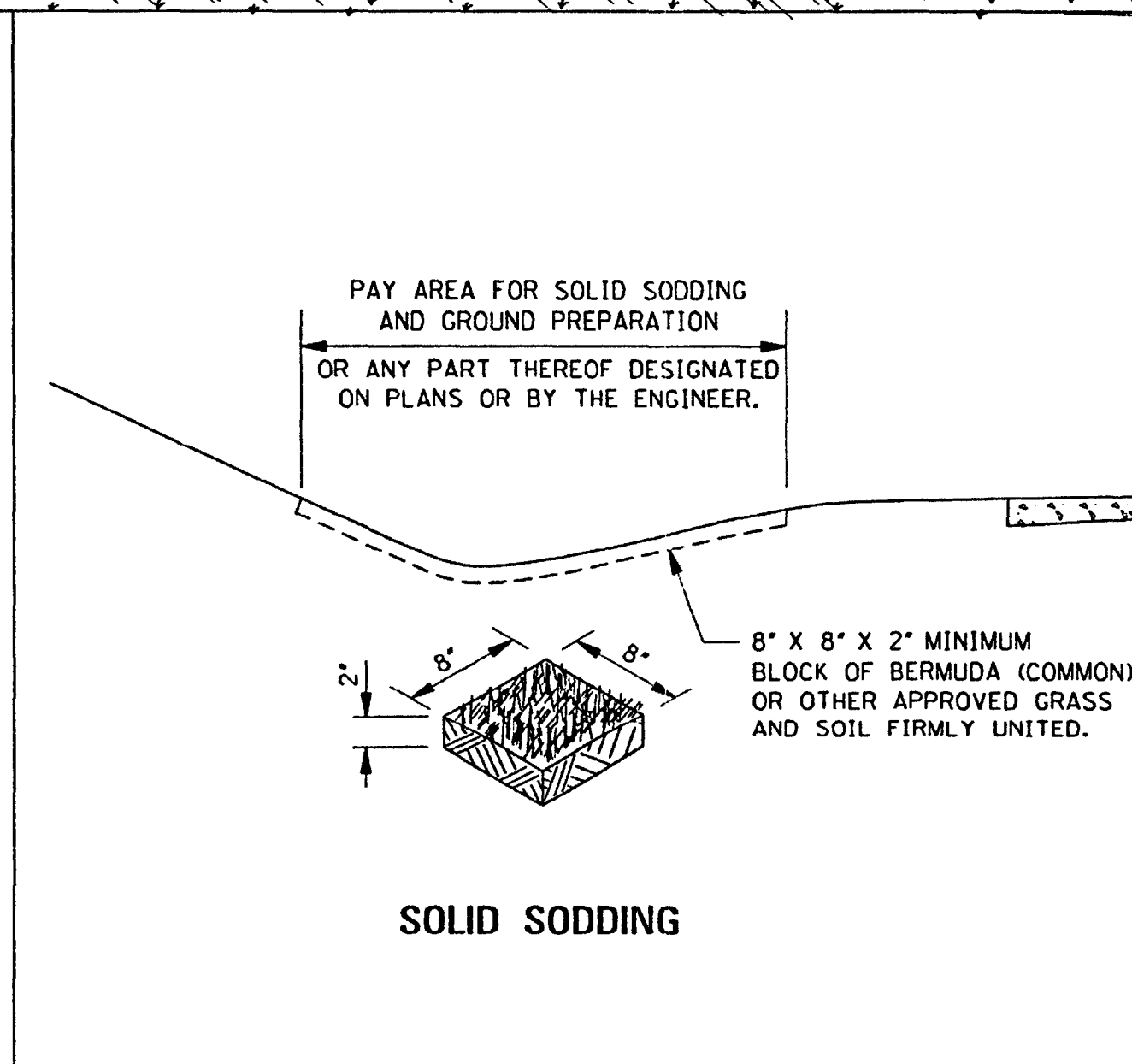
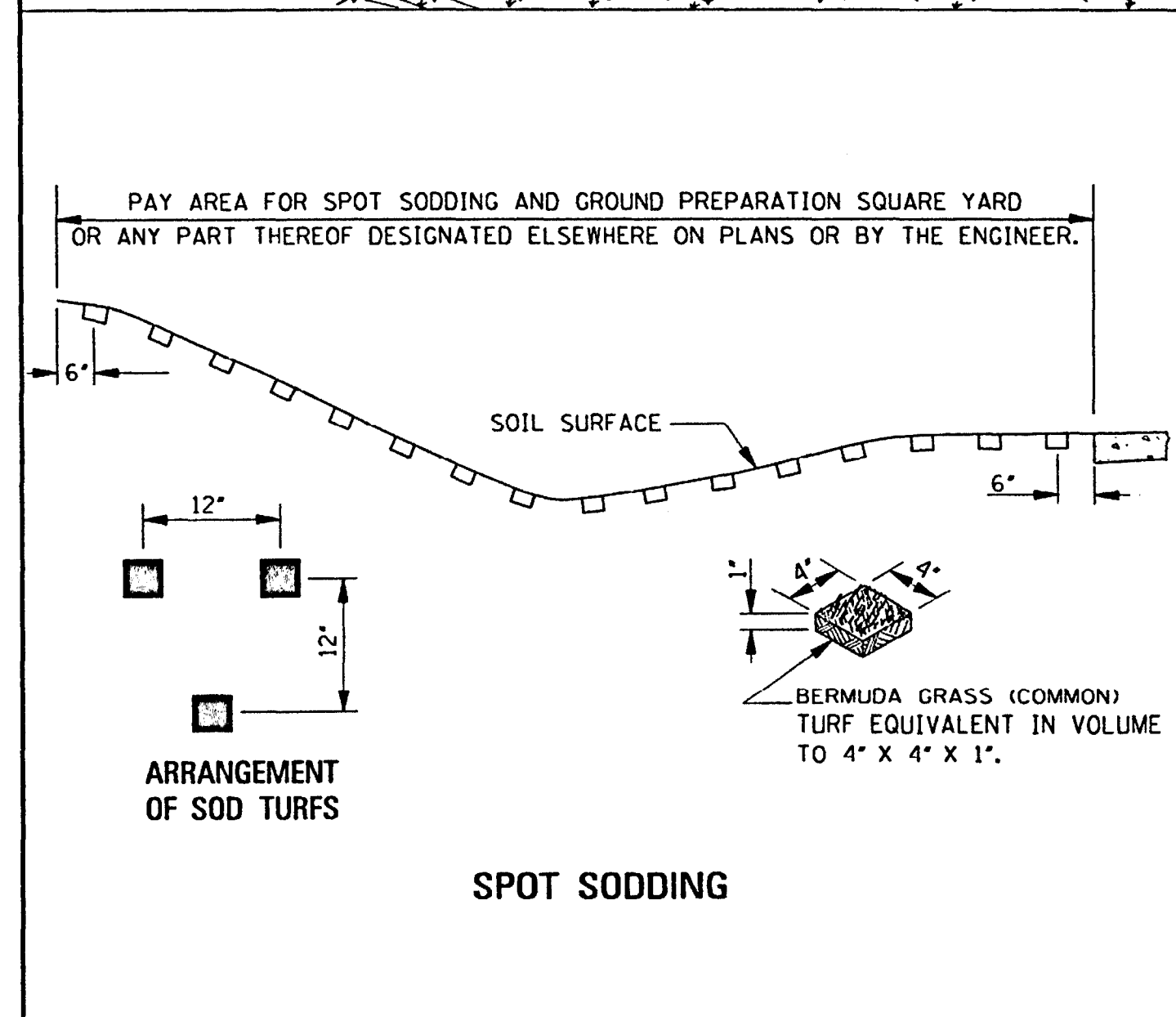
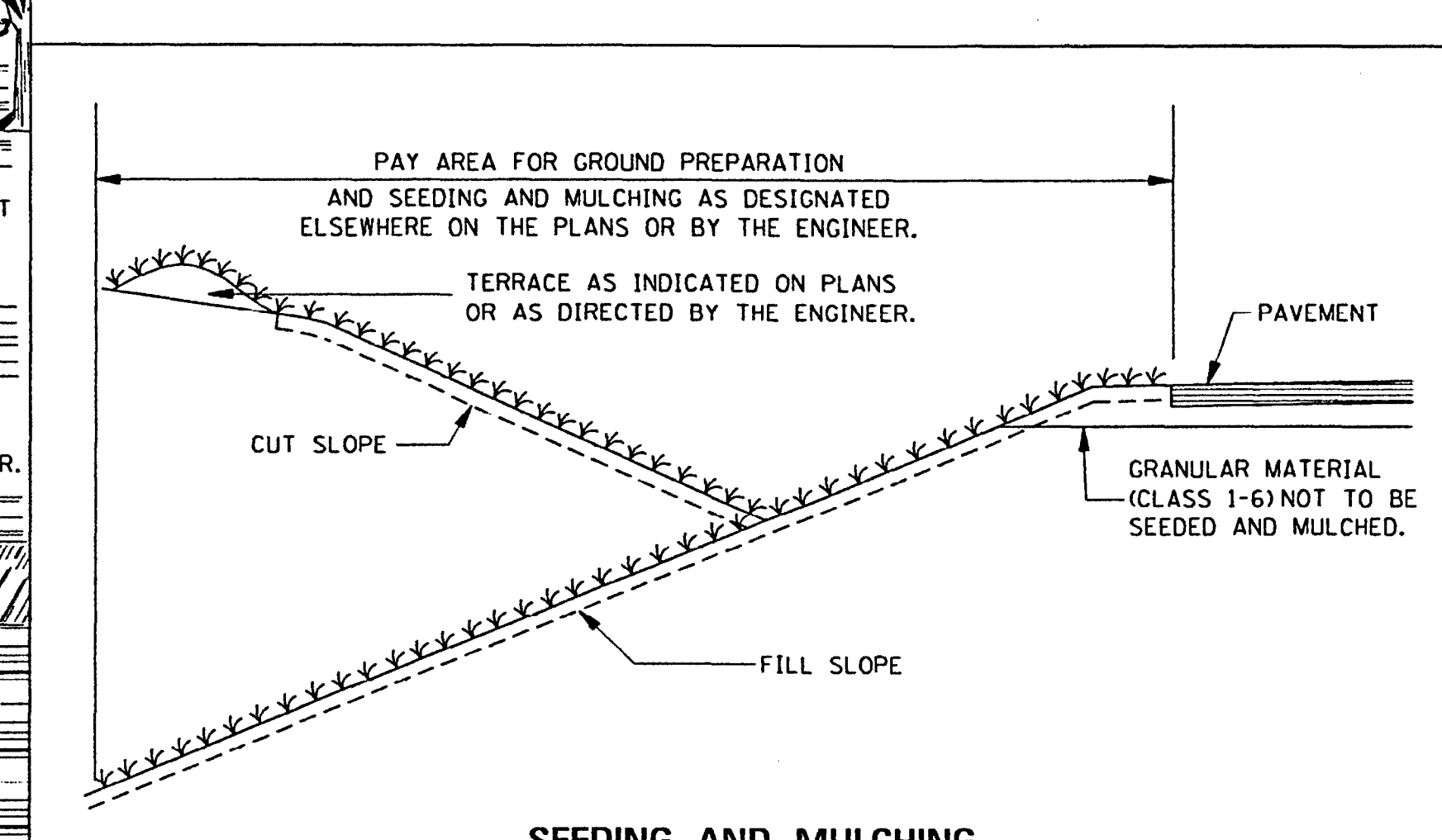
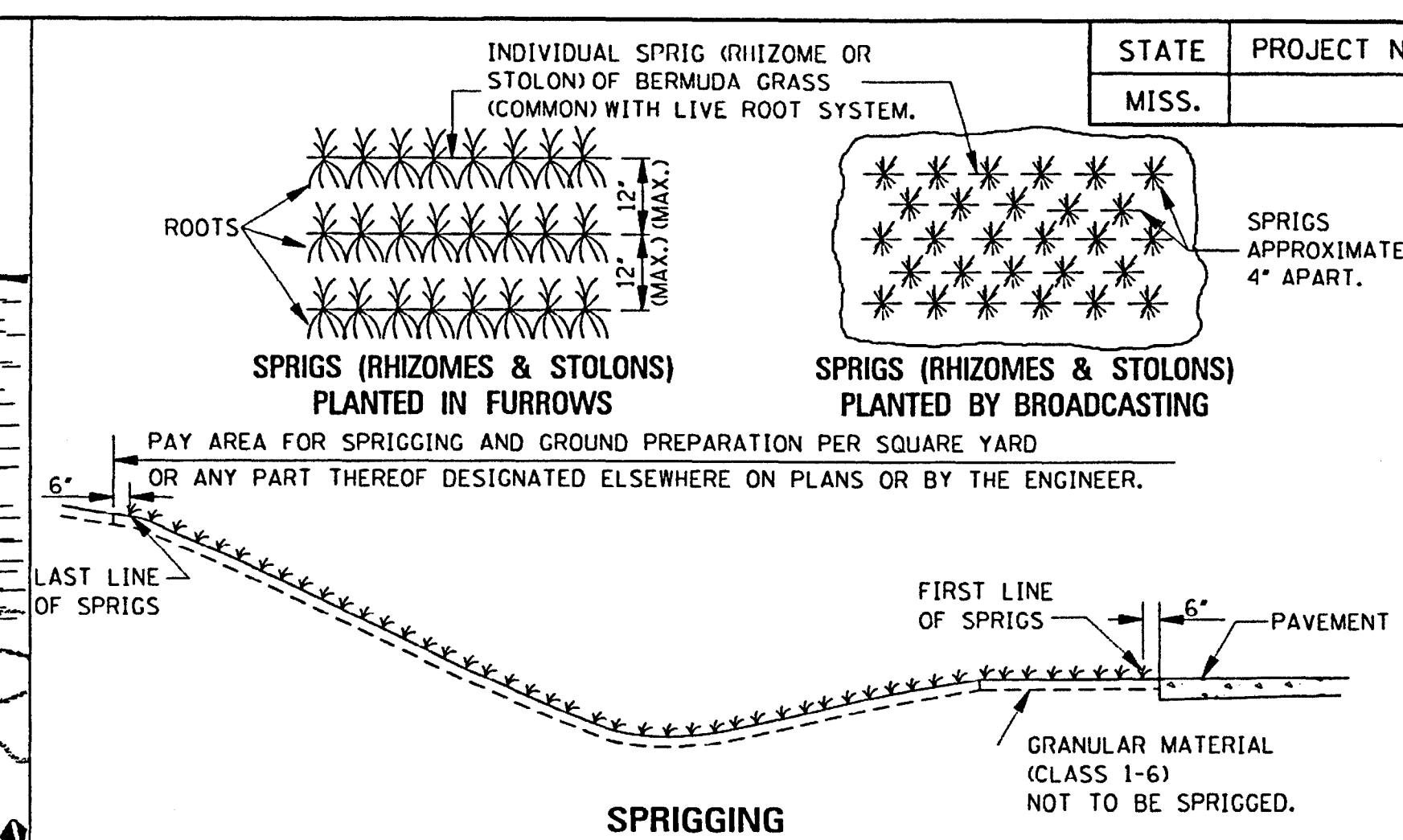
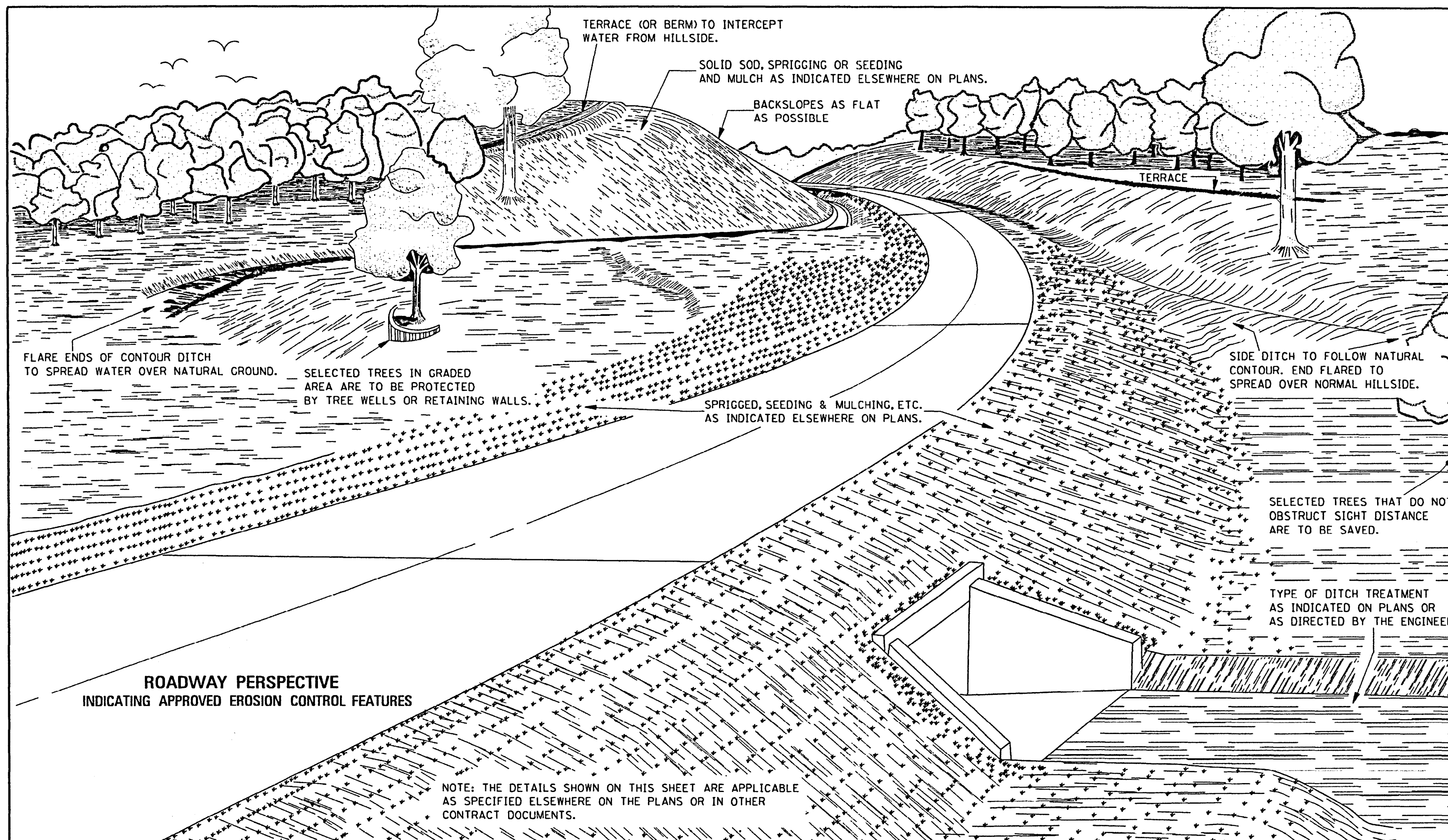
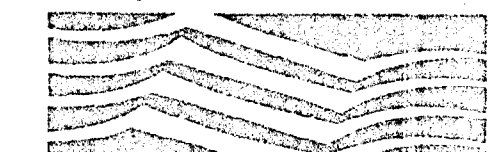












GENERAL NOTE:  
1. LONGITUDINAL AND TRANSVERSE MEASUREMENTS FOR THE PAY AREA SHALL BE TAKEN ALONG THE SLOPES.

BY	MISSISSIPPI DEPARTMENT OF TRANSPORTATION
REVISION	ROADWAY DESIGN DIVISION
DATE	STANDARD PLAN

**EROSION CONTROL**

WORKING NUMBER: EC-1  
SHEET NUMBER: 6140  
ISSUE DATE: OCTOBER 1, 1998

SAMUELS LANE WATER SUPPLY WELL  
CITY OF RIDGELAND, MISSISSIPPI

DRAWING REVISIONS		
NO.	REMARKS	DATE

DRAWN BY:	CMS	SCALE:	None
DESIGNED BY:	CMS	DATE:	August 2014
CHECKED BY:	CMS	PROJECT:	
DRAWING TITLE:			

CONSTRUCTION DETAILS

CD5.0

