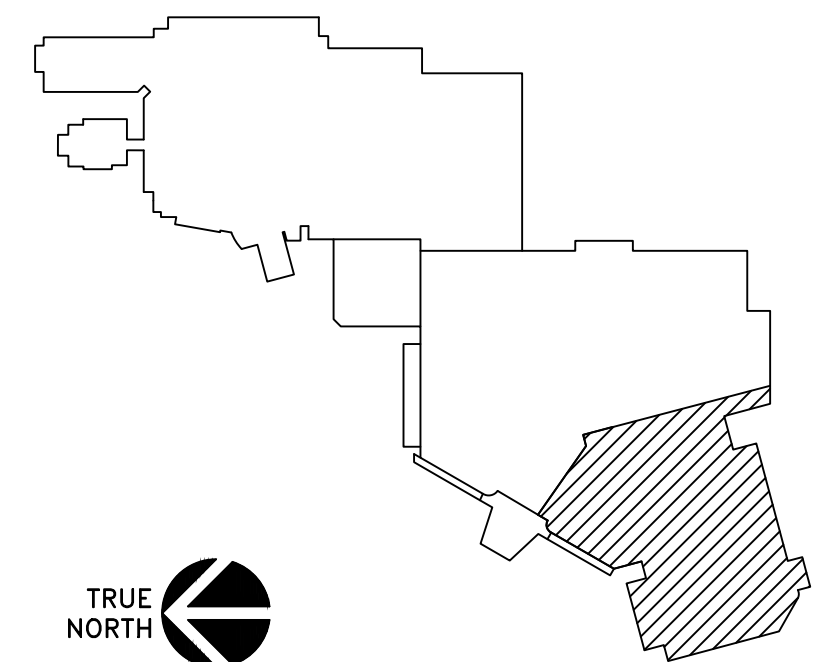
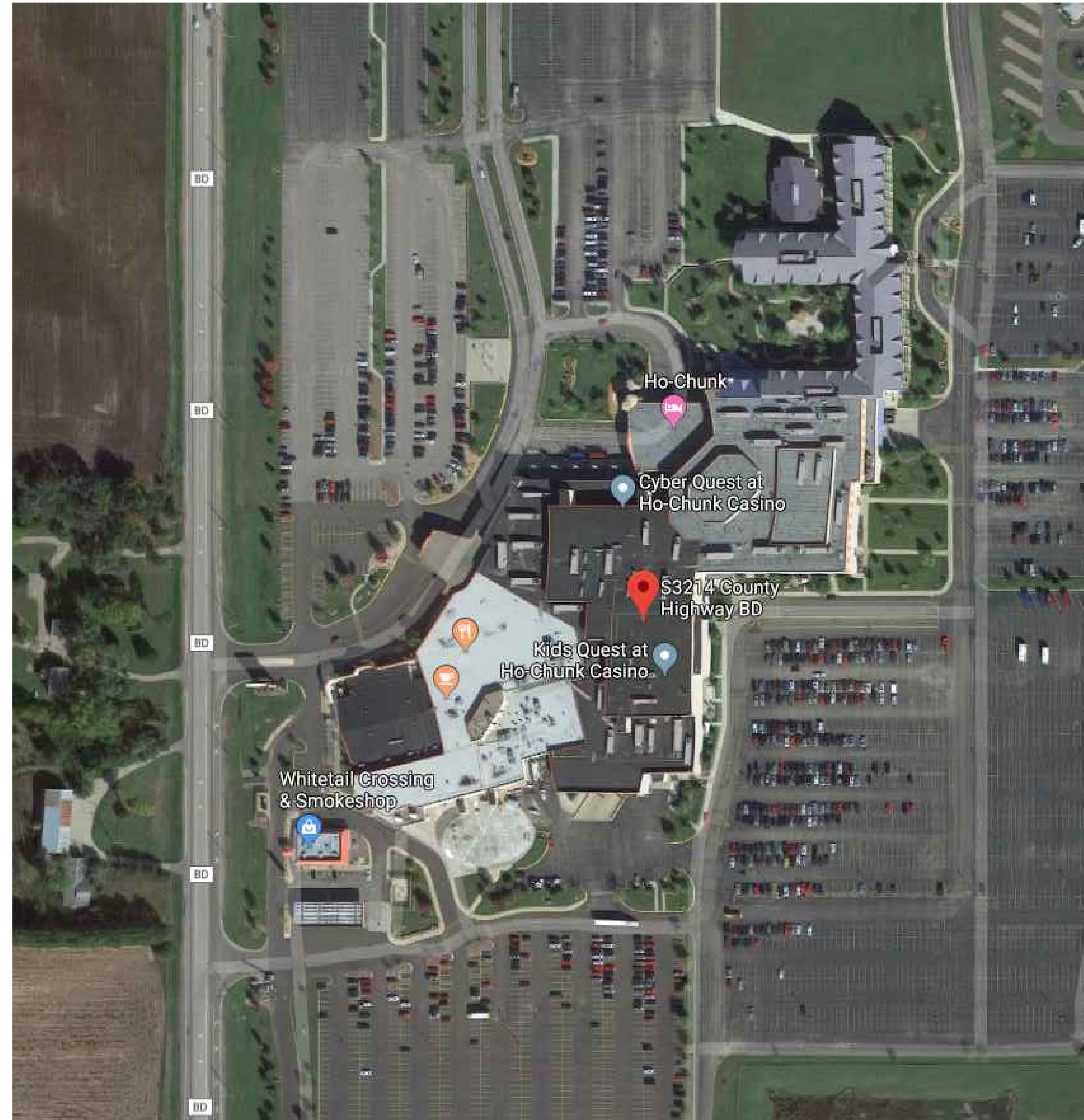


# Ho-Chunk Gaming

S3214 COUNTY HIGHWAY BD  
BARABOO, WI 53913



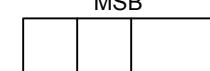


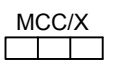
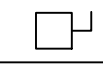
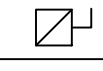


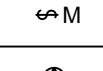

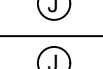
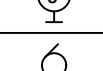
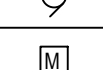
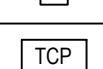


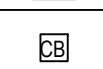
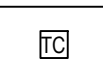


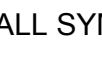


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SUBMITAL TYPE: DATE: 9/12/2019  
ISSUE FOR BID  
DESIGNED BY: PPD DRAWN BY: BMW CHECKED BY: PPD  
SHEET NUMBER: PPD

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TITLE SHEET T-0

POWER SYMBOLS	
	ELECTRICAL PANEL - REFER TO DRAWINGS FOR WIDTH AND PANEL SCHEDULES PANEL NAMING: <b>XXP-#X:</b> DENOTES PANEL FUNCTION: L = LIGHTING P = GENERAL POWER E = EMERGENCY S = OPTIONAL STANDBY C = CRITICAL LOADS  <b>XXP-#X:</b> DENOTES VOLTAGE: H = 480Y/277V L = 208Y/120V  <b>XXP-#X:</b> DENOTES FLOOR PANEL IS ON (1, 2, 3...) <b>XXP-#X:</b> DENOTES WHICH PANEL ON FLOOR (A, B, C...)
	DISTRIBUTION PANELBOARD - REFER TO DRAWINGS FOR WIDTH AND PANEL SCHEDULES
	MAIN SWITCHBOARD - REFER TO DRAWINGS FOR DIMENSIONS AND ONE LINE DIAGRAM
	BATTERY INVERTER - REFER TO DRAWINGS FOR WIDTH AND INVERTER SCHEDULES
	ELECTRICAL PANEL - REFER TO DRAWINGS FOR DIMENSIONS AND ONE LINE DIAGRAM
	MOTOR CONTROL CENTER - REFER TO DRAWINGS FOR DETAILS
	NON-FUSED DISCONNECT SWITCH
	FUSED DISCONNECT SWITCH
	MOTOR STARTER
	COMBINATION MOTOR STARTER-DISCONNECT
	MANUAL MOTOR STARTER W/ THERMAL OVERLOAD
	SPECIAL OUTLET - SEE SPECIAL OUTLET SCHEDULE
	JUNCTION BOX - FLOOR / CEILING MOUNTED
	JUNCTION BOX - WALL MOUNTED
	MOTOR
	MOTORIZED DAMPER
	TEMPERATURE CONTROL PANEL
	VARIABLE FREQUENCY DRIVE
	SURGE PROTECTIVE DRIVE
	ENCLOSED CIRCUIT BREAKER
	TIME CLOCK
	UNITERRUPTIBLE POWER SUPPLY
	AUTOMATIC TRANSFER SWITCH

NOTE: ALL SYMBOLS MAY NOT BE USED FOR THIS PROJECT

ELECTRICAL ABBREVIATIONS	
A	AMP
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AMP	AMPLIFIER
ATS	AUTOMATIC TRANSFER SWITCH
BFG	BELOW FINISHED GRADE
C	CONDUIT
CB, C/B	CIRCUIT BREAKER(S)
CD	CANDELA
CEF	CEILING EXHAUST FAN
CF	COMBINATION FUSIBLE FULL VOLTAGE STARTER
CKT	CIRCUIT
CM	CONSTRUCTION MANAGER
CO	CARBON MONOXIDE
CPT	CONTROL PANEL TRANSFORMER
CS	COMBINATION STARTER
CU	CONDENSING UNIT
CUH	CABINET UNIT HEATER
D, DS	DISCONNECT SWITCH
DD	DOUBLE DUPLEX
DM	DOOR MANUFACTURER
DN	DOWN
DP	DISTRIBUTION PANELBOARD
DRWGS	DRAWINGS
EC	BY ELECTRICAL CONTRACTOR
EDH	ELECTRIC DUCT HEATER
EF	EXHAUST FAN
EM	EMERGENCY
EP	EXPLOSION PROOF
ERL	EXISTING TO BE RELOCATED
ET	ELAPSED TIMER
ETR	EXISTING TO REMAIN
EUH	ELECTRIC UNIT HEATER
EWH	ELECTRIC WALL HEATER
EX	EXISTING
FB	FURNISHED BY
FC	FOOTCANDLE
FD	FUSIBLE DISCONNECT SWITCH
FLA	FULL LOAD AMPS
FS	FLOW SWITCH
FZS	FREEZE STAT

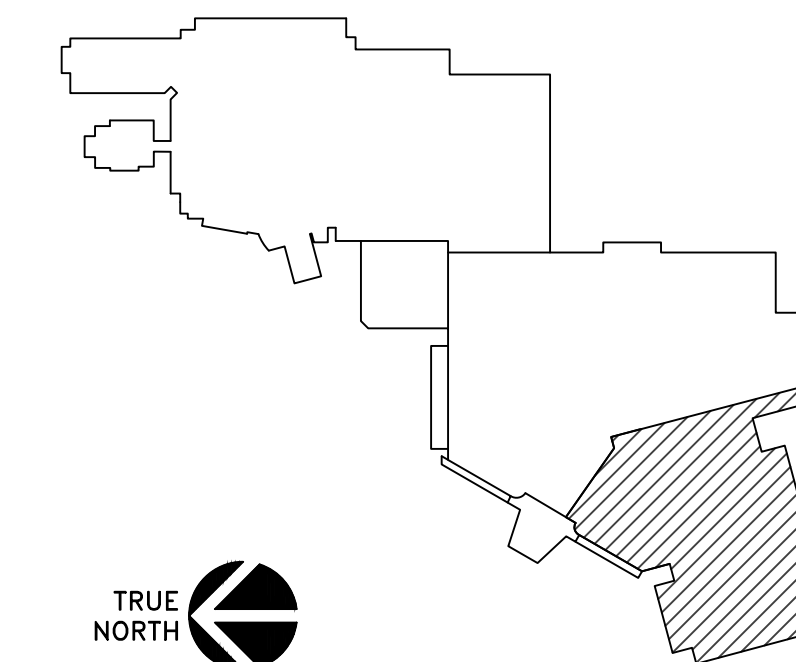
NOTE: ALL ABBREVIATIONS MAY NOT BE USED FOR THIS PROJECT

ELECTRICAL ABBREVIATIONS	
GC	PROJECT GENERAL CONTRACTOR
GEN	GENERATOR
GFI	GROUND FAULT INTERRUPTER TYPE
GRD	GROUND
H, HV	HEATING/VENTILATING CONTRACTOR
HOA	HAND/OFF/AUTO SELECTOR SWITCH
HP	HORSEPOWER
IG	ISOLATED GROUND
IU	IN UNIT
JB	JUNCTION BOX
KS	KEY SWITCH
KVA	KILOVOLT-AMPERES
KW	KILOWATT
LD	LOAD (KW OR HP)
LS	LIFE SAFETY
LV	LOW VOLTAGE
LVC	LOW VOLTAGE CONTRACTOR
LVT	LINE VOLTAGE THERMOSTAT (120V)
MAG	MAGNETIC STARTER
MC	MECHANICAL CONTRACTOR
MCA	MINIMUM CIRCUIT AMPACITY
MCB	MAIN CIRCUIT BREAKER
MCC	MOTOR CONTROL CENTER
MD	MOTORIZED DAMPER
MFR	MANUFACTURER
MLO	MAIN LUGS ONLY
MR#	MULTI-RECEPTACLE, # INDICATES MULTI-RECEPTACLE DESIGNATION
MS	MANUAL STARTER
MSB	MAIN SWITCHBOARD
MTD	MOUNTED
NFD	NON-FUSIBLE DISCONNECT SWITCH
NIC	NOT IN CONTRACT
NL	NIGHT LIGHT - 24 HOUR OPERATION
NP	NEAR PUMP (REFER TO HVAC & PLUMBING DRAWINGS FOR EXACT LOCATION)
NTS	NOT TO SCALE
NU	NEAR UNIT (REFER TO HVAC & PLUMBING DRAWINGS FOR EXACT LOCATION)
OOS	ON/OFF SWITCH
OU	ON UNIT

NOTE: ALL ABBREVIATIONS MAY NOT BE USED FOR THIS PROJECT

ELECTRICAL ABBREVIATIONS	
PCL#	PHOTOCELL, # INDICATES PHOTOCELL DESIGNATION
PBL	PUSH BUTTON WITH PILOT LIGHT
PBS	PUSH BUTTON STATION
PC	PLUMBING CONTRACTOR
PL	PILOT LIGHT
PRV	POWER ROOF VENTILATION
R	RECEPTACLE
RAF	RETURN AIR FAN
RAI	REMAIN AS IS
RD	REMOVE EXISTING AND DISPOSE OFF SITE
RESD	REMOVE EXISTING; SAVE AND/OR DISPOSE OFF SITE (OWNER'S OPTION)
RVS	REDUCED VOLTAGE STARTER
SB	SOUNDER BASE
SF	SUPPLY FAN
SPD	SURGE PROTECTION DEVICE
SPS	SELECTOR SWITCH
SS	SOFT START
SSP	START-STOP WITH PILOT LIGHT
SVS	SUPERVISORY SWITCH
SWBD	SWITCHBOARD
SWGR	SWITCH GEAR
T, XFMR	TRANSFORMER
T-STAT	THERMOSTAT
TC	TIME CLOCK
TCC	TEMPERATURE CONTROL CONTRACTOR
TCP	TEMPERATURE CONTROL PANEL
TL#	TRACK LIGHT, # INDICATES TRACK LIGHT DESIGNATION
TS	TAMPER SWITCH
TV	TELEVISION
TYP	TYPICAL
UFD	UNDERFLOOR DUCT
UG	UNDERGROUND
UGD	UNDERGROUND DUCT
UH	UNIT HEATER
UOI	UNLESS OTHERWISE INDICATED
UPS	UNINTERRUPTIBLE POWER SUPPLY
USS	UNIT SUBSTATION
V	VENDOR SUPPLYING EQUIPMENT
W	WATTS
W/	WITH
WP	WEATHERPROOF
WR	WEATHER RESISTANT

NOTE: ALL ABBREVIATIONS MAY NOT BE USED FOR THIS PROJECT



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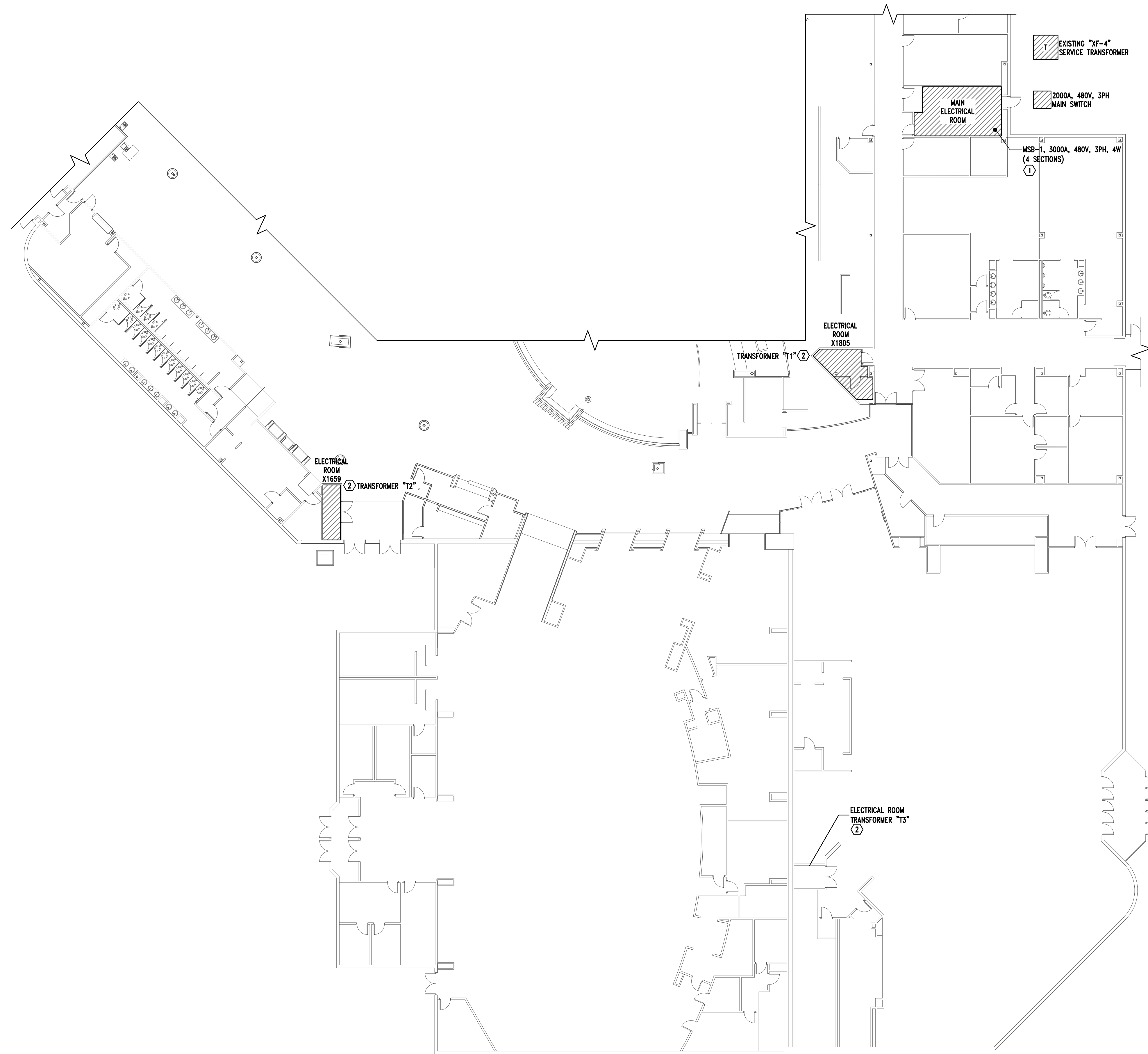
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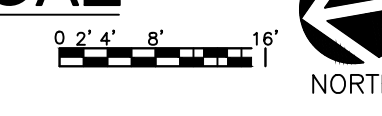
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SHEET INDEX	
E-1	ELECTRICAL SYMBOLS AND ABBREVIATIONS
E-2	OVERALL FLOOR PLAN
E-3	PROPOSED ELECTRICAL SINGLE LINE - MAIN ELECTRICAL ROOM & ELECTRICAL ROOM X1805
E-4	ELECTRICAL ROOM ELEVATIONS & FLOOR PLANS - ROOM X1659 & T3 ELECTRICAL ROOM FLOOR PLANS - MAIN ELECTRICAL ROOM & X1805

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SHEET TITLE: ELECTRICAL SYMBOLS AND ABBREVIATIONS



PARTIAL FLOOR PLAN - ELECTRICAL



**PROJECT SCOPE:**

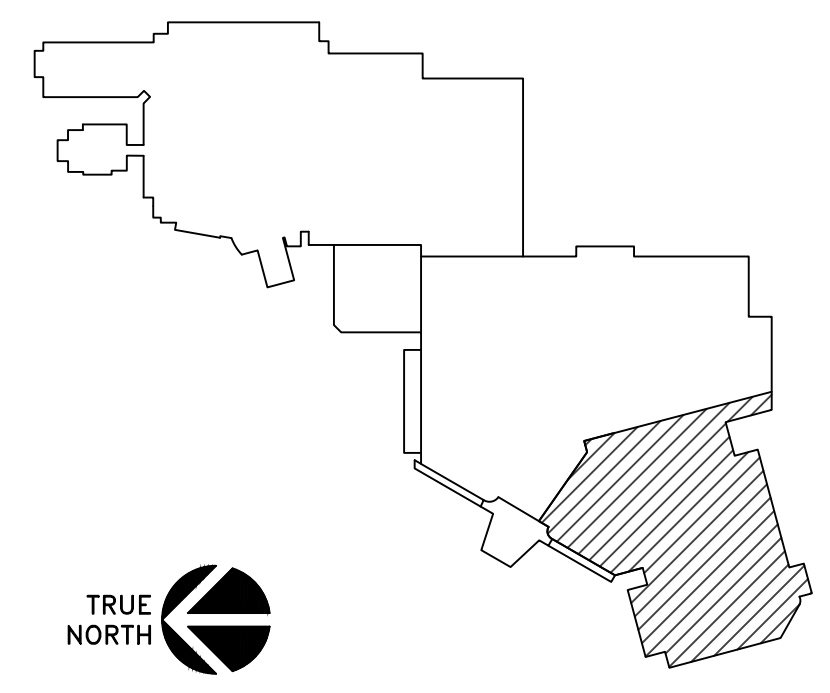
1. MAIN SWITCHBOARD MODIFICATIONS
2. INSPECT PHYSICAL AND MECHANICAL CONDITION INCLUDING ANCHORAGE, ALIGNMENT, GROUNDING, AND REQUIRED AREA CLEARANCES.
  - A. CLEAN INTERIOR AND EXTERIOR TIGHTEN LOOSE WIRING CONNECTIONS, SWITCH OPERATIONS, LUBRICATION ON MOVING PARTS AND SLIDING SURFACES, INSPECT INSULATORS FOR EVIDENCE OF PHYSICAL DAMAGE OR CONTAMINATED SURFACES. PERFORM THERMAL SCAN AND COMPLETE SWITCHBOARD MAINTENANCE OF EXISTING SWITCHBOARD "MSB" AS RECOMMENDED BY THE MANUFACTURER.
  - B. PERFORM LOAD MEASUREMENT FOR 30 DAYS (HIGHEST AVERAGE KW REACHED AND MAINTAINED FOR A 15 MINUTES INTERVAL) AND OBSERVE FUNCTIONAL EQUIPMENT TO PROVIDE OPTIMUM READING EITHER OF THE HEATING AND/OR COOLING.
  - C. INSPECT SERVICE FEEDERS AND PERFORM INSULATION RESISTANCE TEST.
  - D. FURNISH REPORT.
  - E. PROVIDE POWER MONITORING METERING FOR FEEDER CIRCUITS AS SHOWN ON SINGLE LINE DRAWING.
2. TRANSFORMER "T1" ELECTRICAL ROOM
  - A. CLEAN INTERIOR AND EXTERIOR TIGHTEN LOOSE WIRING CONNECTIONS, SWITCH OPERATIONS, INSPECT WIRING FOR EVIDENCE OF PHYSICAL DAMAGE, PERFORM THERMAL SCAN AND COMPLETE MAINTENANCE ON EXISTING PANELBOARDS AND TRANSFORMER(S) AS RECOMMENDED BY THE MANUFACTURER.
  - B. PERFORM LOAD MEASUREMENT FOR 30 DAYS (HIGHEST AVERAGE KW REACHED AND MAINTAINED FOR A 15 MINUTES INTERVAL) AND OBSERVE FUNCTIONAL EQUIPMENT TO PROVIDE OPTIMUM READING EITHER OF THE HEATING AND/OR COOLING.
  - C. PROVIDE POWER METERING FOR FEEDER CIRCUITS AS SHOWN ON SINGLE LINE.
3. TRANSFORMER "T2" AND "T3" ELECTRICAL ROOM
  - A. CLEAN INTERIOR AND EXTERIOR TIGHTEN LOOSE WIRING CONNECTIONS, SWITCH OPERATIONS, INSPECT WIRING FOR EVIDENCE OF PHYSICAL DAMAGE, PERFORM THERMAL SCAN AND COMPLETE MAINTENANCE ON EXISTING PANELBOARDS AND TRANSFORMER(S) AS RECOMMENDED BY THE MANUFACTURER.
  - B. PERFORM LOAD MEASUREMENT FOR 30 DAYS (HIGHEST AVERAGE KW REACHED AND MAINTAINED FOR A 15 MINUTES INTERVAL) AND OBSERVE FUNCTIONAL EQUIPMENT TO PROVIDE OPTIMUM READING EITHER OF THE HEATING AND/OR COOLING.
  - C. PROVIDE POWER METERING AS SHOWN ON SINGLE LINE DRAWING.

**GENERAL NOTES:**

- A. CONTRACTOR SHALL VISIT THE SITE PRIOR TO BID AND VERIFY EXISTING 480V, 2000AMP POWER DISTRIBUTION FOR ACCURACY. ANY DISCREPANCIES OBSERVED IN THIS DOCUMENTS AND FIELD CONDITIONS, CONTRACTOR SHALL NOTIFY ENGINEERS/OWNER FOR CORRECTIVE ACTIONS.
- B. EXISTING ELECTRICAL POWER DISTRIBUTION EQUIPMENT ARE MANUFACTURED BY SIEMENS WITHIN ALL OF THE ELECTRICAL ROOMS ARE SIEMENS.
- C. EXISTING 2000A, 480V, 3 PHASE SERVICE DISCONNECT IS SQUARE-D.
- D. ALL NEW ELECTRICAL WORK MUST BE INSTALLED IN COMPLIANCE WITH NEC AND STATE OF WISCONSIN ELECTRICAL CODES.
- E. OBTAIN ELECTRICAL PERMIT FROM THE LOCAL JURISDICTION, PAY FEES, AND HAVE FINAL INSPECTION BY THE AUTHORITY AS REQUIRED.
- F. CONTRACTOR SHALL DOCUMENT ELECTRICAL RATINGS OF EXISTING SWITCHBOARDS, PANELBOARDS, DISCONNECTS AND ASSOCIATED SERVICE FEEDERS AND WIRING. MARK ALL REQUIRED RATINGS IN AS-BUILT/RECORD DOCUMENTS. DATA GATHERED MUST INCLUDE ALL EQUIPMENT AND LOAD PARAMETERS TO PERFORM LOAD STUDY, SHORT CIRCUIT STUDY AND ARC FAULT ANALYSIS. EXISTING POWER STUDY REPORT WILL BE AVAILABLE ON REQUEST AND UPDATES TO THE STUDY WILL BE PERFORMED BY OTHERS OR AT AN ADDITIONAL COST TO THE CONTRACT.

**KEYED NOTES:**

- ① MAIN SWITCHBOARD: REFER TO ENLARGED ELECTRICAL ROOM EQUIPMENT LAYOUT AND SINGLE LINE POWER DISTRIBUTION DRAWINGS FOR THE WORK ASSOCIATED WITH THE MAIN SWITCHBOARD.
- ② TRANSFORMER T1, T2 AND T3 ELECTRICAL ROOMS: REFER TO ENLARGED ELECTRICAL ROOM EQUIPMENT LAYOUT AND SINGLE LINE POWER DISTRIBUTION DRAWINGS FOR THE WORK ASSOCIATED WITH EACH OF THIS ELECTRICAL ROOM.

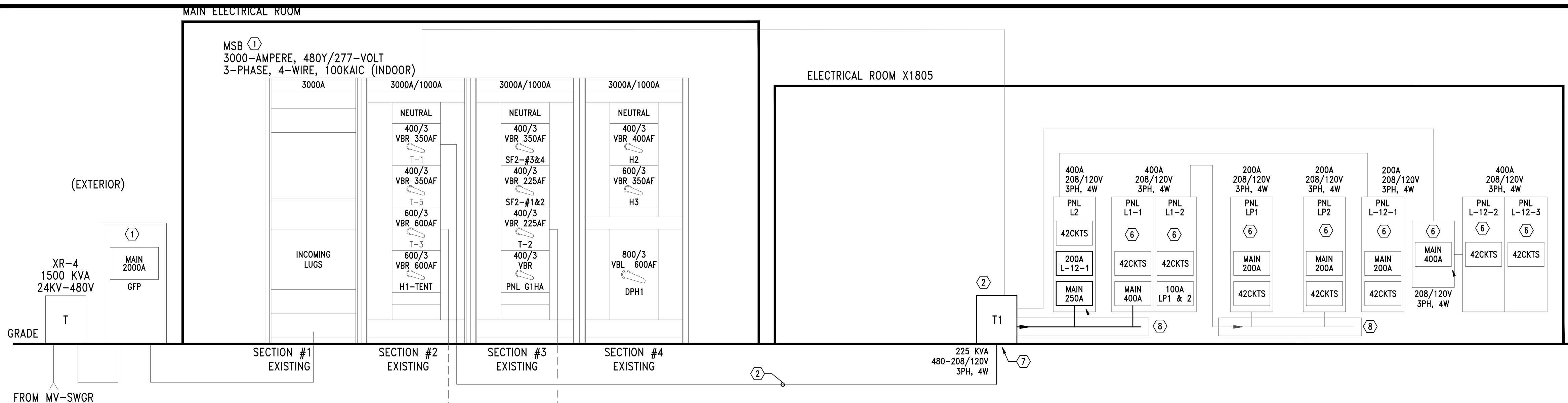


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DESIGNED BY	PPD
DRAWN BY	BWM
CHECKED BY	PPD
SHEET NUMBER	E-2

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**GENERAL NOTES:**

- A. IT IS VERY CRUCIAL THAT THE FACILITY OPERATES 24/7 AND POWER INTERRUPTIONS SHALL NOT BE ACCEPTABLE UNLESS APPROVED BY THE ENGINEERING MANAGER OF THE FACILITY.
- B. ALL NEW EQUIPMENT, FEEDERS, AND BRANCH CIRCUIT SHALL BE IDENTIFIED WITH TAGS COMPATIBLE TO THE STANDARDS USED THROUGHOUT THE FACILITY.
- C. PROVIDE "DMPH" (DIGITAL POWER METERING WITH HARMONICS MONITORING CAPABILITY) PRIOR TO ORDERING TRANSFORMER(S) AND DISCONNECTIONS OF EXISTING CIRCUITS. MONITOR POWER DEMAND LOAD AND COMPLETE HARMONICS WITH WAVEFORM FOR 30 DAYS. SUBMIT RESULTS AND REPORTS TO THE PROJECT ENGINEER.

**GENERAL NOTES - SWITCHBOARD:**

- A. EXAMINE EXISTING SWITCHBOARD AND ASSOCIATED POWER DISTRIBUTION PRIOR TO MAKE ANY CIRCUIT MODIFICATIONS.
- B. PERFORM IR SCAN AND COMPLETE MAINTENANCE ON EXISTING SWITCHBOARD AS RECOMMENDED BY THE MANUFACTURER.
- C. POWER MONITORING OF INDIVIDUAL SECTION LOAD FROM THIS SWITCHBOARD FOR 30 DAYS.
- D. PROVIDE LOAD MONITORING METER(S) TO MONITOR POWER FOR MINIMUM 30 DAYS.
- E. MODIFY INCOMING SERVICE SECTION, LOWER INCOMING PARALLEL FEEDS, ADD 2000A MAIN AND 800A TAP ON 3000AMP BUS FOR NEW POWER PANEL "HDP-1".
- F. ALTERNATE 1: PROVIDE 30 DAYS POWER MONITORING IN LIEU OF PROVIDING PERMANENT METERING.
- G. FIELD SERVICE AND METERING PRODUCTS ARE ACCEPTABLE FOR SIEMENS, GENERAL ELECTRIC, SQUARE-D, AND OR OTHER ELECTRICAL CONTRACTOR(S) AND SERVICE PROVIDER.

**GENERAL NOTES - TRANSFORMER "T1" ELECTRICAL ROOM:**

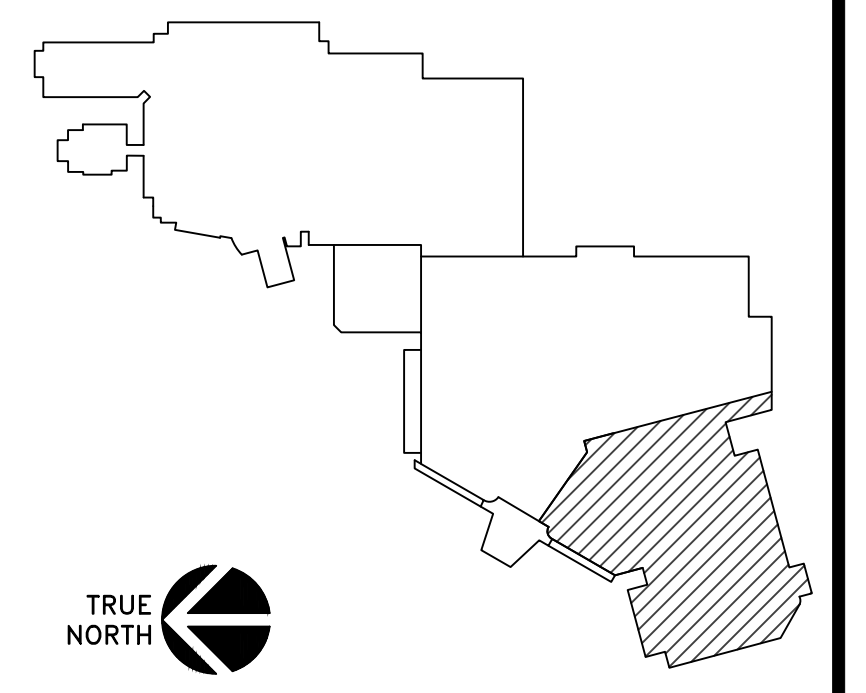
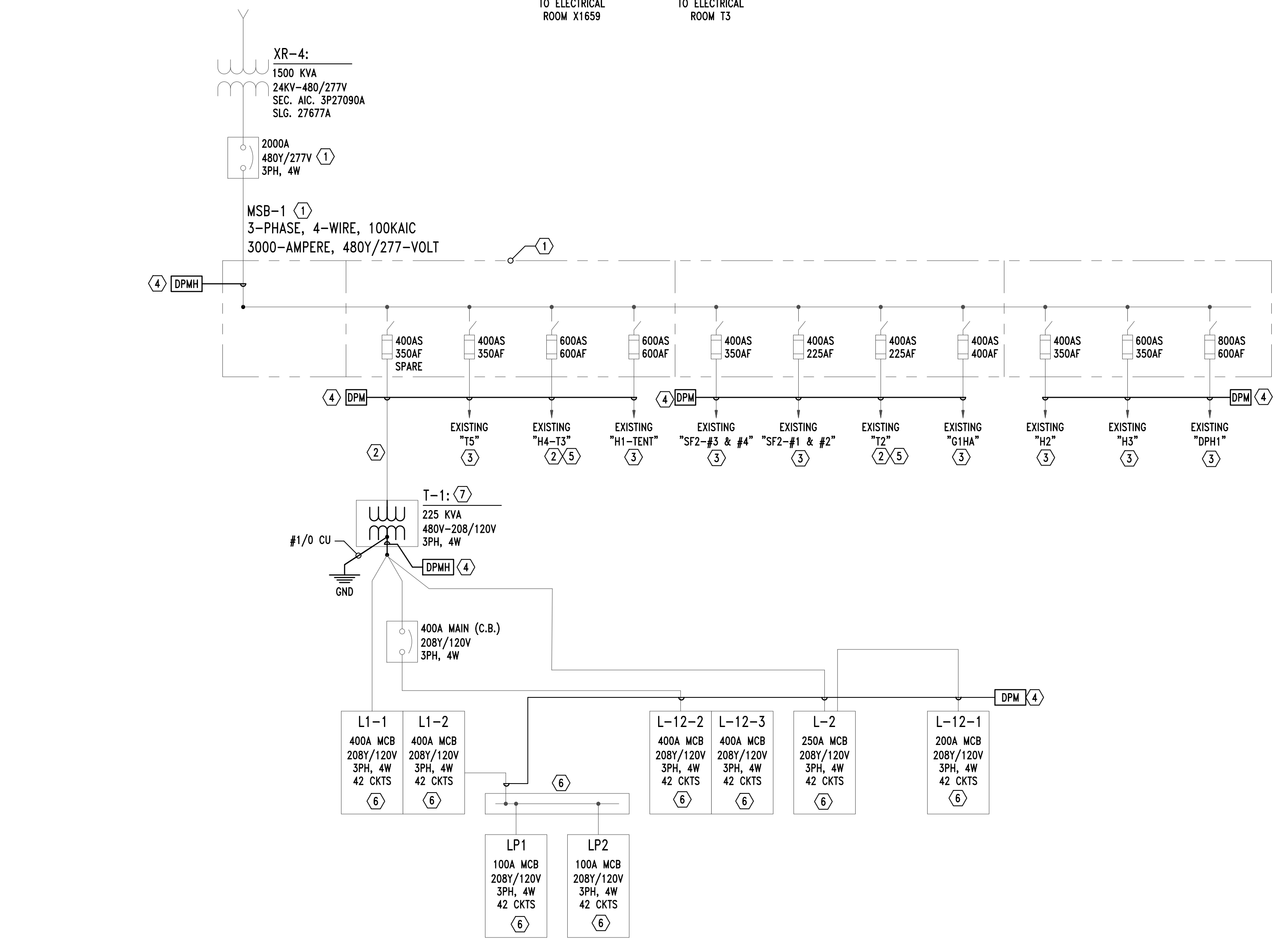
- A. EXAMINE EXISTING POWER EQUIPMENT AND ASSOCIATED POWER DISTRIBUTION PRIOR TO MAKE ANY CIRCUIT MODIFICATIONS.
- B. DISCONNECT AND REMOVE ALL UNUSED WIRING OBSERVED DURING THE LOAD TRANSFER.
- C. PROVIDE LOAD MONITORING METERS AS INDICATED ON A SINGLE LINE.
- D. ELECTRICAL ROOM HAS VERY LIMITED SPACE TO WORK WITH. SELECTED EQUIPMENT MUST HAVE ACCURATE DIMENSIONS AND CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING CODE REQUIRED CLEARANCES.

**GENERAL NOTES - POWER MONITORING METER:**

- A. DMP: DIGITAL POWER METER TO MONITOR PEAK DEMAND.
- B. DMPH: DIGITAL POWER METER WITH HARMONICS WAVEFORM MONITORING.
- C. PROVIDE INTERCONNECTION TO EACH OF THE METER, DAISSY CHAIN AND/OR ASSIGN IP ADDRESS WITH ETHERNET/BACKNET CONNECTION TO TRANSMIT THE DATA ON WORK DESK TOP IN FACILITY ENGINEERING OFFICE.
- D. SEPARATE PRICING MUST BE PROVIDED TO INCLUDE THIS ARRANGEMENT TO PROJECT SCOPE OF WORK.
- E. LOCATE POWER METER(S) NEAREST TO THE MONITORING LOAD. WIRING FROM THE CT SENSOR(S) TO METERING UNIT MUST BE SIZED IN ACCORDANCE WITH THE MANUFACTURER INSTALLATION MEANS AND METHODS.
- F. ACCEPTABLE MANUFACTURER: ELECTRO INDUSTRIES, SIEMENS, GENERAL ELECTRIC, AND SQUARE-D.

**KEYED NOTES:**

- (1) MAIN SWITCH, MAIN SWITCHBOARD, AND BRANCH FEEDER CIRCUITS: PERFORM THERMAL SCAN, POWER MEASUREMENT, AND MANUFACTURE RECOMMENDED MAINTENANCE ON BUS STRUCTURE. TEST EXISTING GROUNDING AND FUNCTIONALITY OF THE EXISTING SWITCHES. WHERE OBSERVED RESULTS IN NON-COMPLIANCE TO NEC AND MANUFACTURER EQUIPMENT STANDARD REQUIREMENTS, MAKE RECOMMENDATIONS ALONG WITH THE COST TO MEET THE REQUIREMENTS.
- (2) T1, T2, AND T3 FEEDERS: PERFORM INSULATION AND LOAD TESTING ON EXISTING FEEDER CIRCUIT(S).
- (3) OTHER BRANCH FEEDERS: FIELD VERIFY CIRCUIT CONNECTIONS AND PERFORM LOAD TESTING.
- (4) PROVIDE NEW DIGITAL POWER METER, INTERCONNECT COMMUNICATIONS CIRCUITS, AND INTERFACE WITH THE EXISTING BUILDING MANAGEMENT SYSTEM USING BACNET GATEWAY INTERFACE. GROUP METERS FROM THE NEAREST GATEWAY INTERFACE LOCATION. FIELD COORDINATE EXACT LOCATION FOR GATEWAY INTERFACE REQUIREMENTS WITH THE OWNER. PROXIMITY OF THE INTERFACE IS WITHIN 40 YARDS FROM THE WORK AREA.
- (5) REFER TO SHEET E-4 FOR ELECTRICAL ELEVATIONS FOR ELECTRICAL ROOMS T3 & 1659.
- (6) PANELBOARDS: PERFORM THERMAL SCAN, POWER MEASUREMENT, TEST FUNCTIONALITY OF THE EXISTING BRANCH CIRCUITS. DISCONNECT AND REMOVE UNUSED BRANCH CIRCUIT WIRING AND BALANCE LOAD ON EACH PHASE CIRCUITS.
- (7) TRANSFORMERS: PERFORM THERMAL SCAN, INSULATION TEST, POWER MEASUREMENT, TEST EXISTING GROUNDING AND VERIFY AND FIX ANY LOOSE CONNECTIONS. TEST PRIMARY AND SECONDARY FEEDERS AND GROUNDING. WHERE OBSERVED RESULTS IN NON-COMPLIANCE TO NEC AND MANUFACTURER EQUIPMENT STANDARD REQUIREMENTS, MAKE RECOMMENDATIONS ALONG WITH THE COST TO MEET THE REQUIREMENTS.
- (8) WIRWAYS: DISCONNECT REMOVE UNUSED BRANCH CIRCUIT WIRING. COORDINATE WITH THE OWNER PRIOR TO REMOVING AND OF THE UNUSED CIRCUIT(S). TEST VERIFY CIRCUIT CONNECTIONS WHICH SHALL REMAIN FUNCTIONAL.



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SHEET TITLE: PROPOSED ELECTRICAL SINGLE LINE - MAIN ELECTRICAL ROOM & ELECTRICAL ROOM X1805

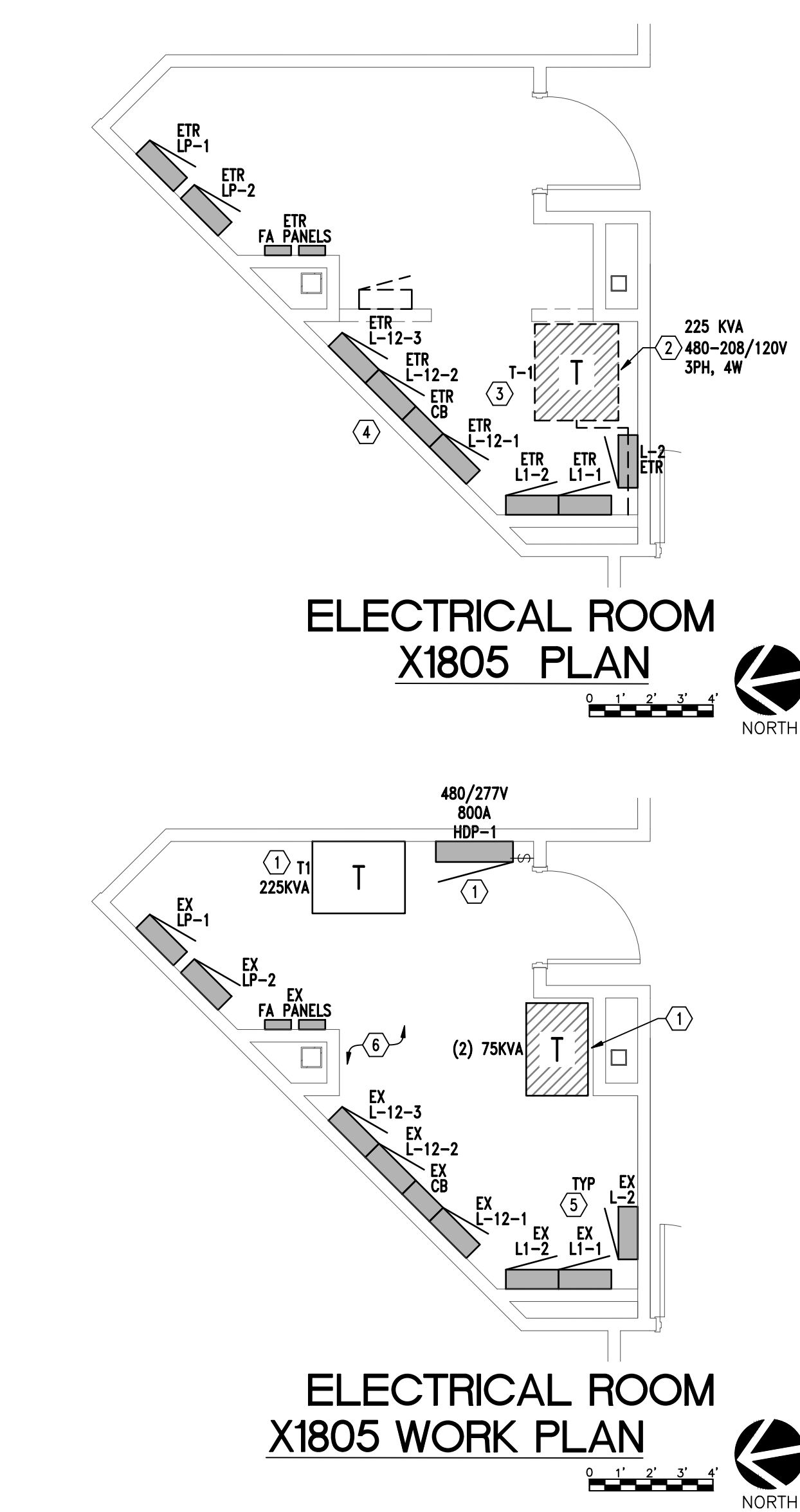
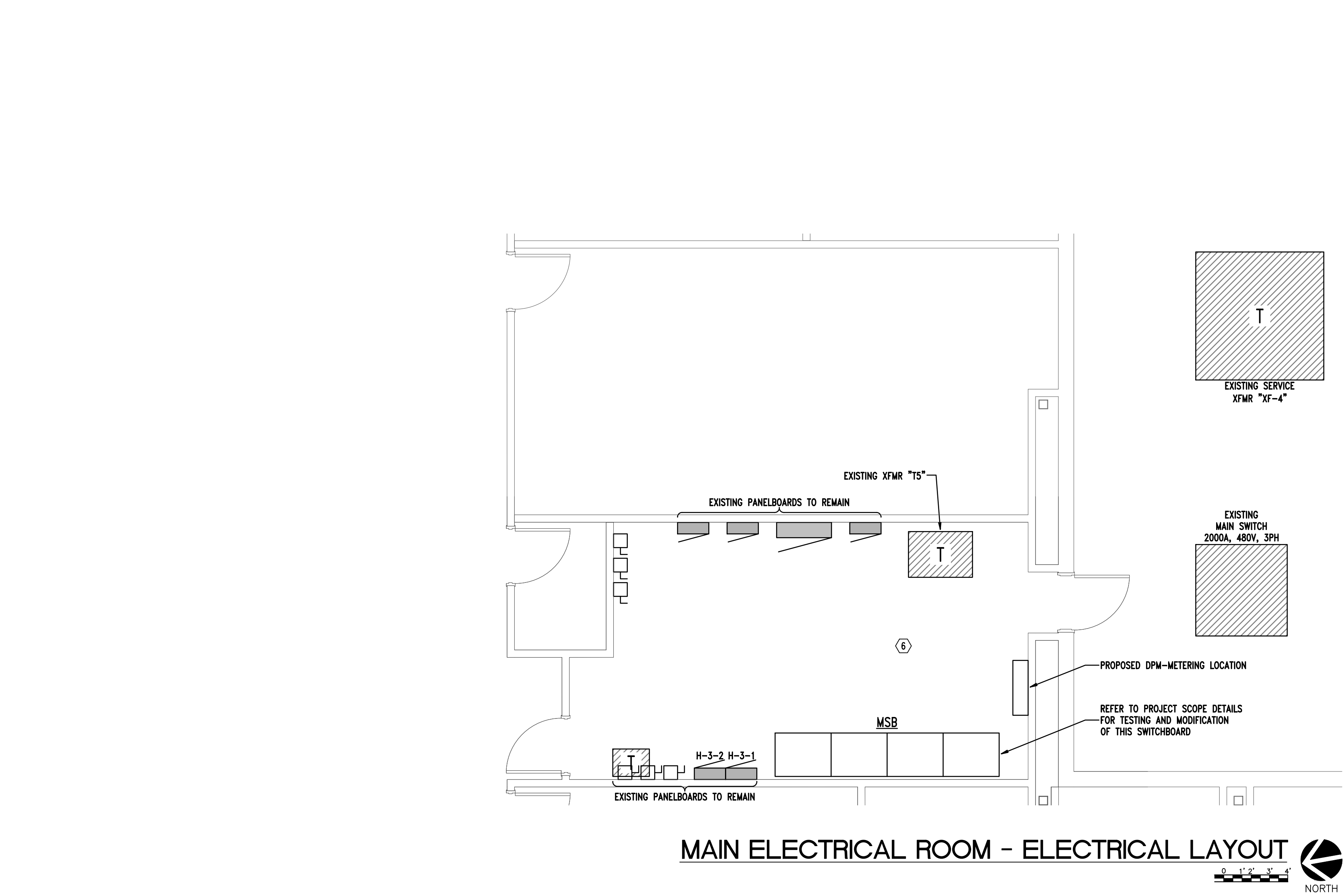
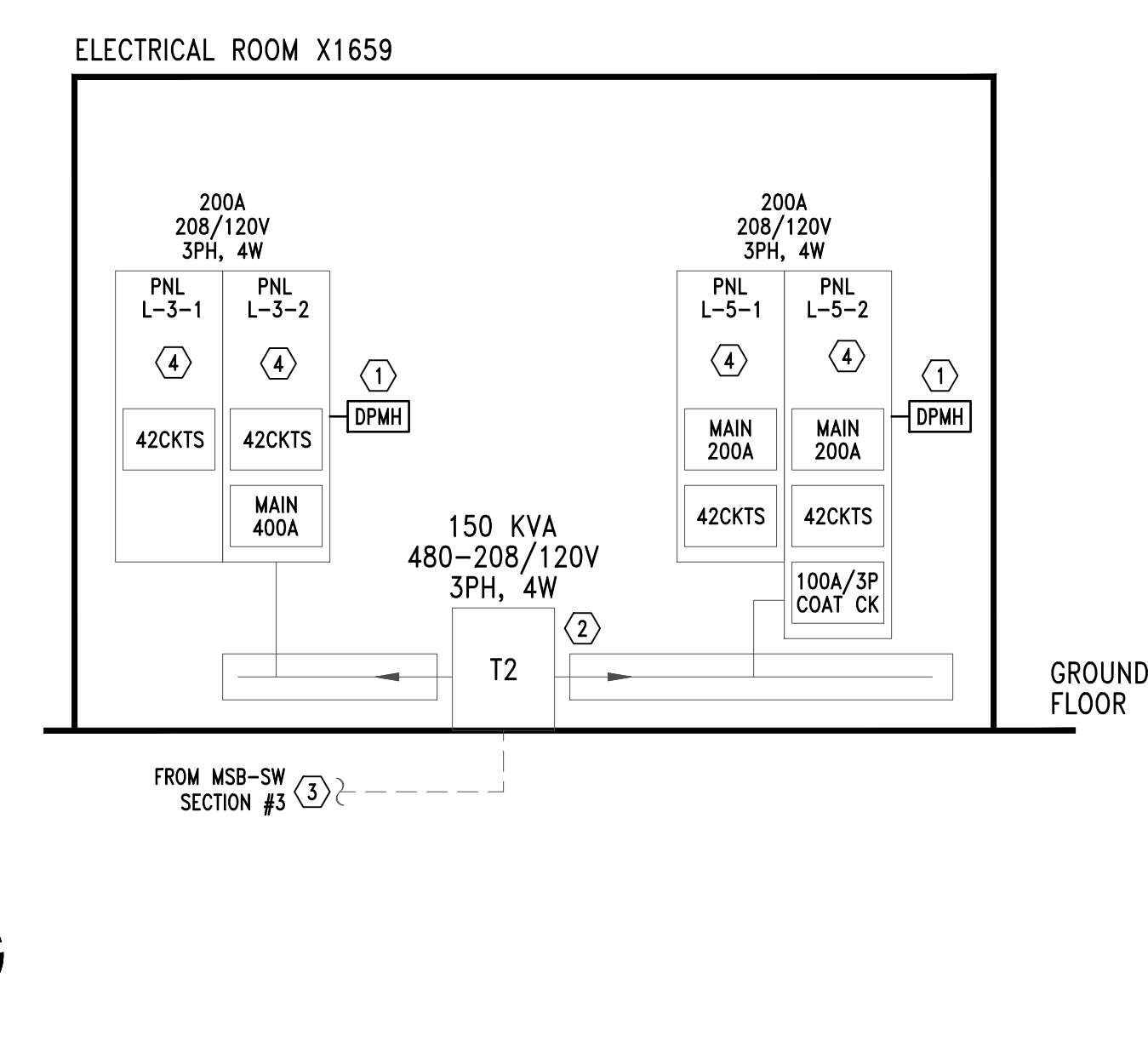
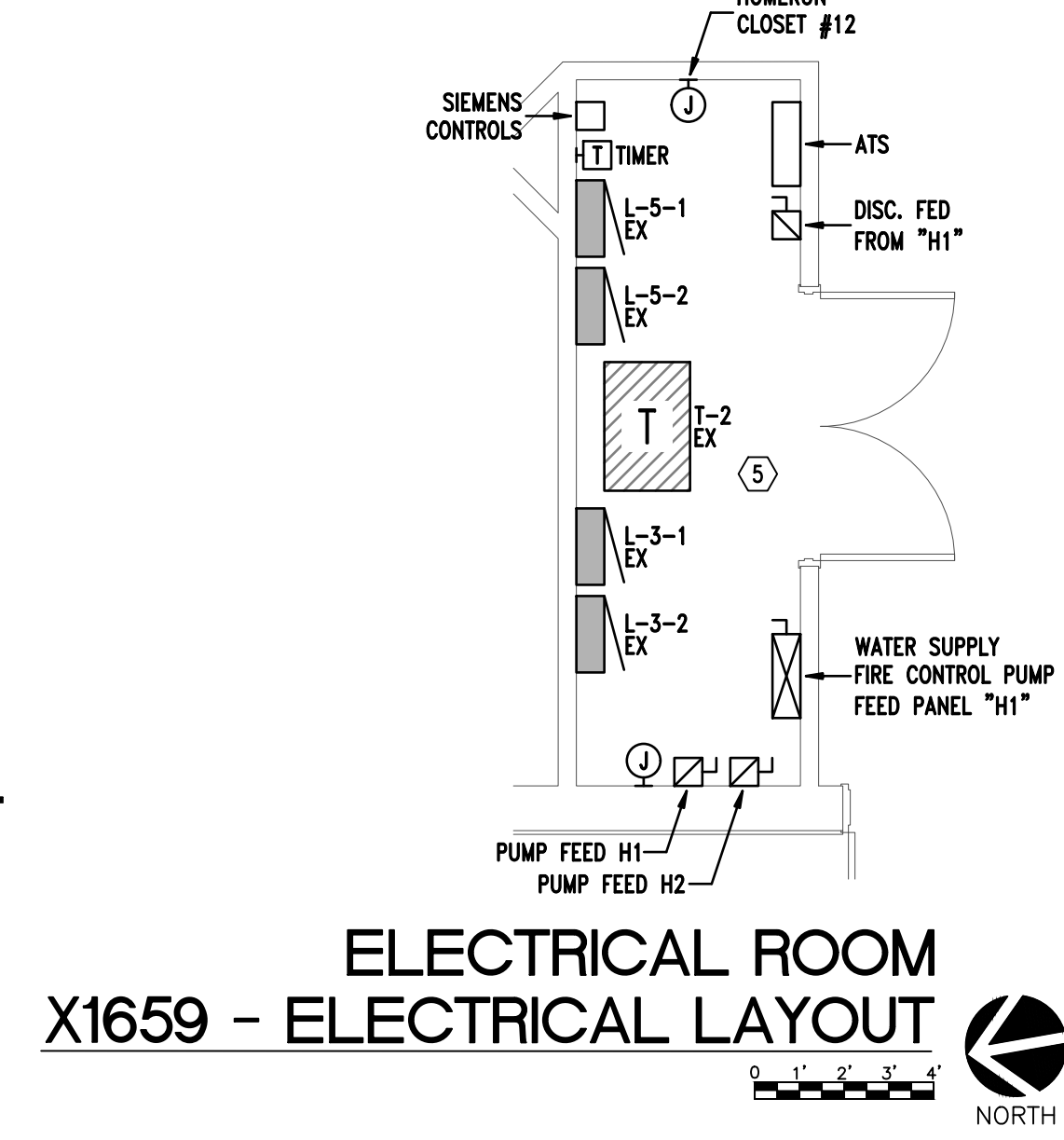
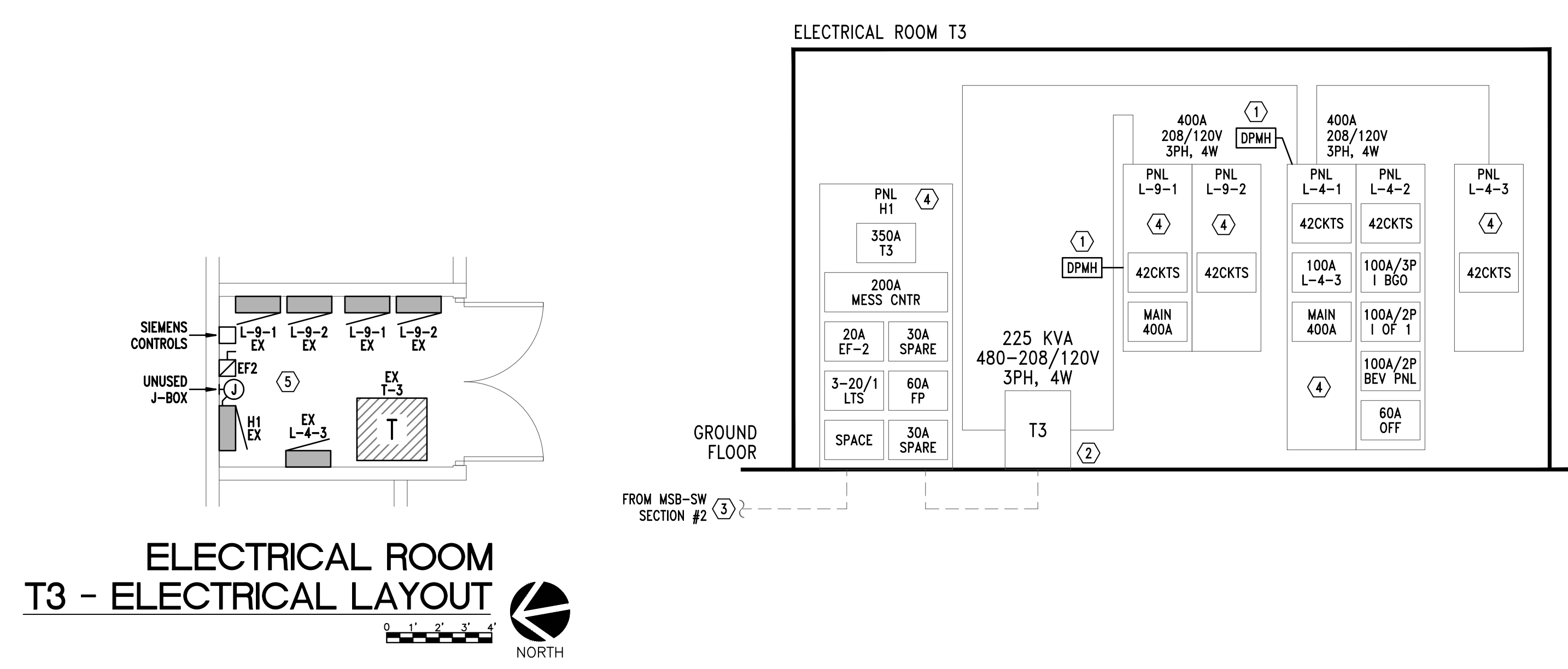
E-3

**GENERAL NOTES:**

- A. IT IS VERY CRUCIAL THAT THE FACILITY OPERATES 24/7 AND POWER INTERRUPTIONS SHALL NOT BE ACCEPTABLE UNLESS APPROVED BY THE ENGINEERING MANAGER OF THE FACILITY.
- B. EXAMINE EXISTING POWER DISTRIBUTION IN BOTH THE 'T2' AND 'T3' ROOMS AND ASSOCIATED POWER DISTRIBUTION FROM THE MAIN SWITCHBOARD PRIOR TO PERFORMING REQUIRED MAINTENANCE ON EXISTING TRANSFORMER(S) AND DISTRIBUTION PANELBOARDS.
- C. PERFORM IR SCAN AND COMPLETE MAINTENANCE ON EXISTING TRANSFORMER(S) AND PANELBOARDS AS RECOMMENDED BY THE MANUFACTURER.
- D. CONTRACTOR SHALL OBTAIN MONITORED POWER DEMAND LOAD DATA AND COMPLETE HARMONICS WITH WAVEFORM FOR 30 DAYS AND SUBMIT RESULTS AND REPORTS TO THE PROJECT ENGINEER.

**KEYED NOTES:**

- ① PROVIDE 'DPMH' (DIGITAL POWER METERING WITH HARMONICS MONITORING CAPABILITY). LOCATE POWER METER(S) NEAREST TO THE MONITORING LOAD. WIRING FROM THE CT SENSOR(S) TO METERING UNIT MUST BE SIZED IN ACCORDANCE WITH THE MANUFACTURER INSTALLATION MEANS AND METHODS. DPMH METER AND ACCESSORIES MUST BE MANUFACTURED BY ELECTRO INDUSTRIES.
- ② EXISTING TRANSFORMERS MUST BE TESTED FOR ITS OPTIMUM PERFORMANCE IN ACCORDANCE WITH THE MANUFACTURERS' SPECIFICATIONS AND NEC FOR GRINDING. ANY DEFICIENCIES OBSERVED WITHIN THE TRANSFORMER UNITS MUST BE CORRECTED AT NO ADDITIONAL COST TO THE OWNER.  
  
USE THE FOLLOWING ACTIONS TO ELIMINATE TRANSFORMER NOISE AS RECOMMENDED BY THE MANUFACTURER:  
i) VERIFY INCOMING VOLTAGE IS NEAR 480V DESIRED VOLTAGE ON TAP SETTINGS. OVER VOLTAGE ON PRIMARY MAY CAUSE EXCESS NOISE.  
ii) VERIFY ALL LOADS ARE BALANCED.  
iii) CHECK FOR LOOSE CORE PLATE LAMINATIONS. TORQUE ADJUSTMENT TO TIGHTEN CORE CLAMPS PLATES.
- ③ REFER TO SHEET E-3 FOR ELECTRICAL ELEVATIONS AND SINGLE LINE DIAGRAM FOR MSB-SW.
- ④ PANELLOADS: PERFORM THERMAL SCAN, POWER MEASUREMENT, TEST FUNCTIONALITY OF THE EXISTING BRANCH CIRCUITS. DISCONNECT AND REMOVE UNUSED BRANCH CIRCUIT(S) WIRING AND BALANCE THE LOAD ON EACH PHASE CIRCUITS.
- ⑤ HVAC: CONTRACTOR SHALL VERIFY FUNCTIONALITY OF THE ROOM VENTILATION. WHERE OBSERVED NON-FUNCTIONAL REPORT TO THE FACILITY TO PERFORM REQUIRED MAINTENANCE.

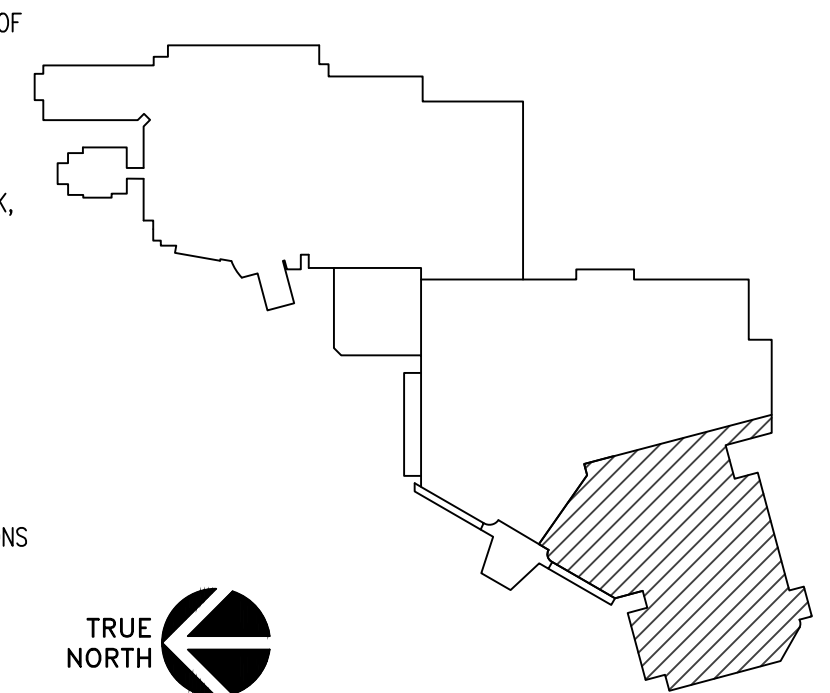


**GENERAL NOTES:**

- A. IT IS VERY CRUCIAL THAT THE FACILITY OPERATES 24/7 AND POWER INTERRUPTIONS SHALL NOT BE ACCEPTABLE UNLESS APPROVED BY THE ENGINEERING MANAGER OF THE FACILITY.
- B. EXAMINE EXISTING POWER DISTRIBUTION WITHIN T1 ELECTRICAL ROOM AND ASSOCIATED POWER DISTRIBUTION FROM THE MAIN SWITCHBOARD, INSTALL NEW TRANSFORMER(S) AND ASSOCIATED FEEDERS FOR NEW WORK AND GRADUALLY TRANSFER OVER THE CIRCUITS TO NEW TRANSFORMERS PRIOR TO REMOVING EXISTING TRANSFORMER.
- C. PERFORM IR SCAN AND COMPLETE MAINTENANCE ON EXISTING TRANSFORMER(S) AND ALL OF THE PANELBOARDS AS RECOMMENDED BY THE MANUFACTURER.
- D. ALL NEW EQUIPMENT, FEEDERS, AND BRANCH CIRCUIT SHALL BE IDENTIFIED WITH TAGS COMPATIBLE TO THE STANDARDS USED THROUGHOUT THE FACILITY.
- E. PROVIDE 'DPMH' (DIGITAL POWER METERING WITH HARMONICS MONITORING CAPABILITY. PRIOR TO ORDERING TRANSFORMER(S) AND DISCONNECTIONS OF EXISTING CIRCUITS, MONITOR POWER DEMAND LOAD AND COMPLETE HARMONICS WITH WAVEFORM FOR 30 DAYS AND SUBMIT RESULTS AND REPORTS TO THE PROJECT ENGINEER.
- F. THIS CONTRACTOR SHALL BE RESPONSIBLE TO COORDINATE WORK ASSOCIATED WITH THE WALL REMOVAL, DOOR REPLACEMENT, CEILING WORK, AND HVAC RELATED WORK FOR EXHAUST AND SUPPLY AIR REQUIREMENTS AND REPLACE FAN MOTORS AS NECESSARY.

**KEYED NOTES:**

- ① PROVISIONAL SPACE FOR FUTURE EQUIPMENT.
- ② EXISTING TRANSFORMERS MUST BE TESTED FOR ITS OPTIMUM PERFORMANCE IN ACCORDANCE WITH THE MANUFACTURERS' SPECIFICATIONS AND NEC FOR GRINDING. ANY DEFICIENCIES OBSERVED WITHIN THE TRANSFORMER UNITS MUST BE CORRECTED AT NO ADDITIONAL COST TO THE OWNER.
- ③ USE THE FOLLOWING ACTIONS TO ELIMINATE TRANSFORMER NOISE AS RECOMMENDED BY THE MANUFACTURER:  
A. VERIFY INCOMING VOLTAGE IS NEAR 480V DESIRED VOLTAGE ON TAP SETTINGS. OVER VOLTAGE ON PRIMARY MAY CAUSE EXCESS NOISE.  
B. VERIFY ALL LOADS ARE BALANCED.  
C. CHECK FOR LOOSE CORE PLATE LAMINATIONS. TORQUE ADJUSTMENT TO TIGHTEN CORE CLAMPS PLATES.
- ④ REFER TO SHEET E-3, ELECTRICAL SINGLE LINE TO PERFORM MAINTENANCE ON EXISTING POWER DISTRIBUTION EQUIPMENT.
- ⑤ PANELLOADS: PERFORM THERMAL SCAN, POWER MEASUREMENT, TEST FUNCTIONALITY OF THE EXISTING BRANCH CIRCUITS. DISCONNECT AND REMOVE UNUSED BRANCH CIRCUIT WIRING AND BALANCE LOAD ON EACH PHASE CIRCUITS.
- ⑥ HVAC: CONTRACTOR SHALL VERIFY FUNCTIONALITY OF THE ROOM VENTILATION. WHERE OBSERVED NON-FUNCTIONAL REPORT TO THE FACILITY TO PERFORM REQUIRED MAINTENANCE.



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MAIN SW.BD. & DISTRIBUTION MAINTENANCE & POWER MONITORING	
ADDRESS	S3214 COUNTRY HIGHWAY BD. BARABOO, WI 53913
ISSUE FOR BID	DATE 9/12/2019
DESIGNED BY PPD	DRAWN BY BMW
CHECKED BY PPD	
SHEET NUMBER	
E-4	

NOT FOR CONSTRUCTION  
 ELECTRICAL ROOM ELEVATIONS & FLOOR PLANS - X1659 & T3  
 ELECTRICAL ROOM FLOOR PLANS - MAIN ELEC ROOM & X1805  
 SCALE: 1/4" = 1'-0"