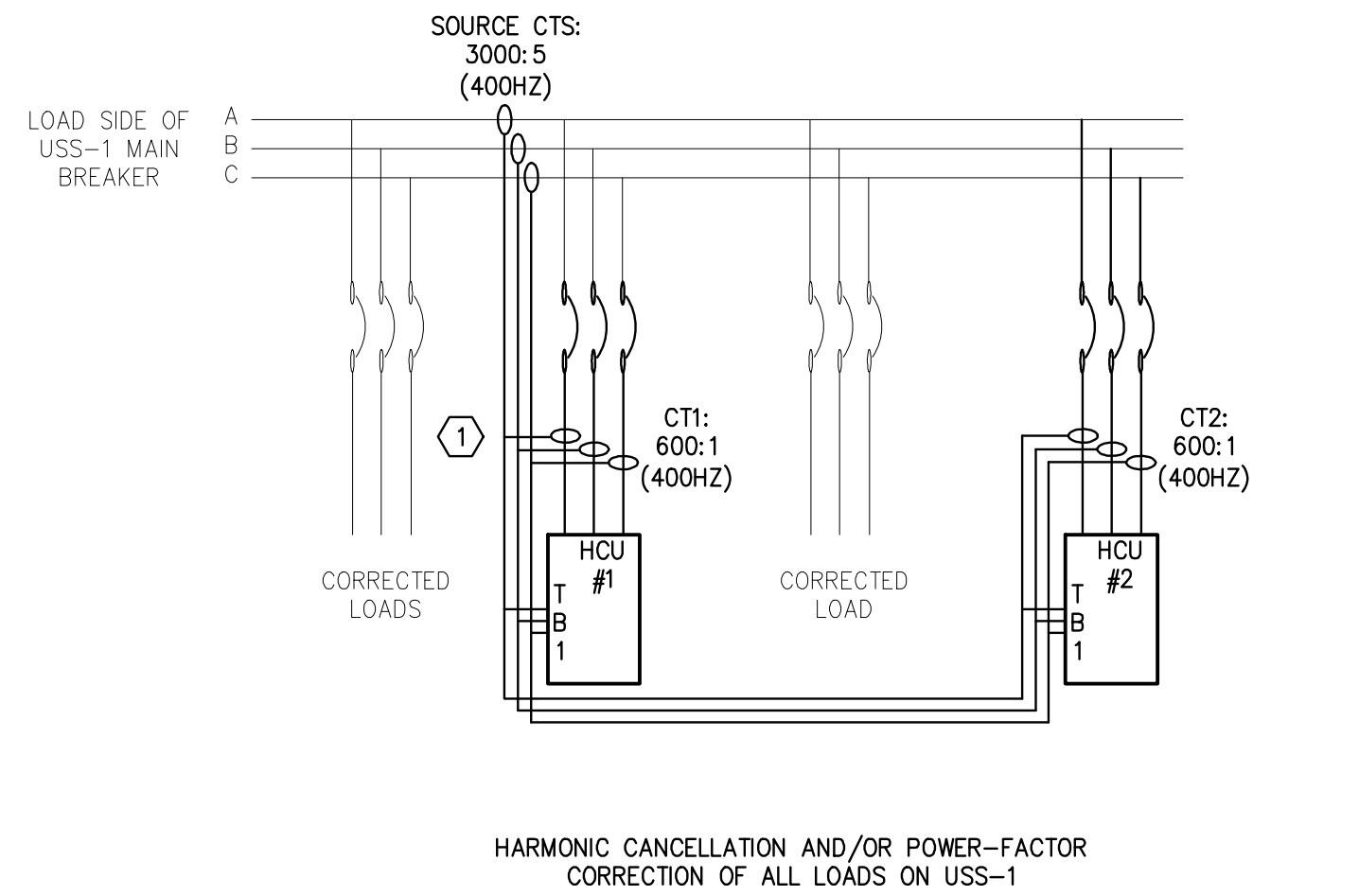


three eighths inch = one foot  
one eighth inch = one foot  
one quarter inch = one foot  
one half inch = one foot  
three quarters inch = one foot  
one inch = one foot  
one and one half inches = one foot  
two inches = one foot  
three inches = one foot  
four inches = one foot  
five inches = one foot  
six inches = one foot  
seven inches = one foot  
eight inches = one foot  
nine inches = one foot  
ten inches = one foot  
eleven inches = one foot  
twelve inches = one foot  
thirteen inches = one foot  
fourteen inches = one foot  
fifteen inches = one foot  
sixteen inches = one foot  
seventeen inches = one foot  
eighteen inches = one foot  
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twenty inches = one foot  
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seventy two inches = one foot  
seventy three inches = one foot  
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eighty one inches = one foot  
eighty two inches = one foot  
eighty three inches = one foot  
eighty four inches = one foot  
eighty five inches = one foot  
eighty six inches = one foot  
eighty seven inches = one foot  
eighty eight inches = one foot  
eighty nine inches = one foot  
ninety inches = one foot  
ninety one inches = one foot  
ninety two inches = one foot  
ninety three inches = one foot  
ninety four inches = one foot  
ninety five inches = one foot  
ninety six inches = one foot  
ninety seven inches = one foot  
ninety eight inches = one foot  
ninety nine inches = one foot  
one hundred inches = one foot

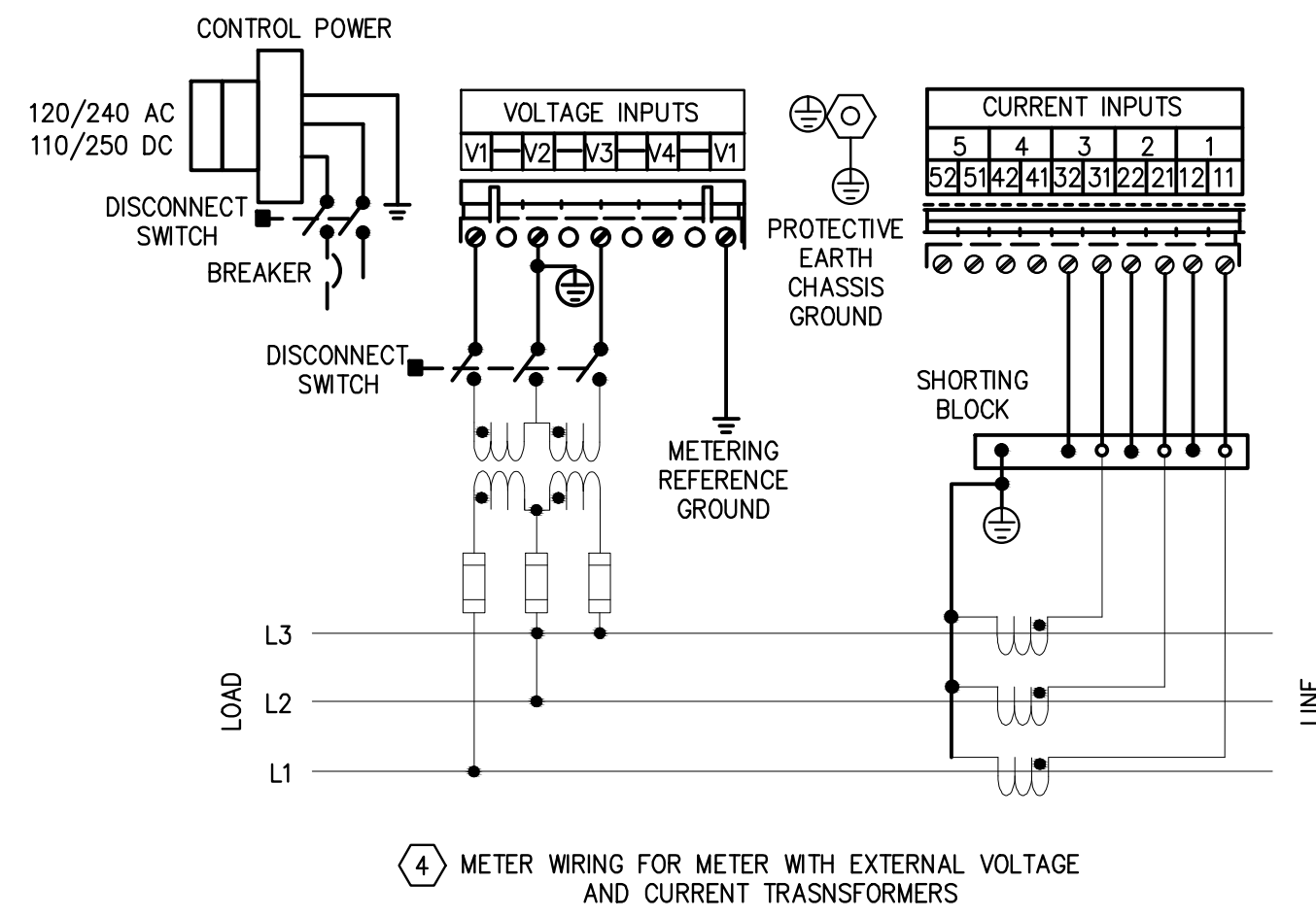
ABBREVIATIONS	
NOTE: NOT ALL ABBREVIATIONS MAY BE USED.	
(A)	EXISTING TO BE ABANDONED
(D)	EXISTING TO BE DEMOLISHED
(E)	EXISTING TO REMAIN
(F)	FUTURE
(R)	EXISTING TO BE RELOCATED
A	AMPERE
AC	ALTERNATING CURRENT OR AIR CONDITIONER
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AIC	AMPS INTERRUPTING CAPACITY
ANNC	ANNUNCIATOR
AWG	AMERICAN WIRE GAUGE
BPS	BOLTED PRESSURE SWITCH
C	CONDUIT
CB	CIRCUIT BREAKER
CCTV	CLOSED CIRCUIT TELEVISION
CKT	CIRCUIT
CM	CONSTRUCTION MANAGER
DC	DIRECT CURRENT
DP	DISTRIBUTION PANELBOARD
DTT	DOUBLE TWIN TUBE
EB	ELECTRONIC BALLAST
EC	ELECTRICAL CONTRACTOR
EM	EMERGENCY
EMT	ELECTRICAL METAL TUBING
EW	ELECTRIC WATER COOLER
FA	FIRE ALARM
FLA	FULL LOAD AMPS
G	GROUND
GC	GENERAL TRADES CONTRACTOR
GFCI	GROUND FAULT CIRCUIT INTERRUPTER
GEN	GENERATOR
HCU	HARMONIC CORRECTION UNIT
HOA	HAND-OFF-AUTOMATIC
HP	HORSEPOWER
HPC	HIGH PRESSURE CONTACT SWITCH
HZ	HERTZ
IG	ISOLATED GROUND
IMC	INTERMEDIATE METAL CONDUIT
INCD	INCANDESCENT
KVA	KILOVOLT AMPERE
KW	KILOWATT
LTC	LIGHTING OR LIGHT
LRA	LOCKED ROTOR AMPS
MCA	MAXIMUM CURRENT AMPACITY
MCB	MAIN CIRCUIT BREAKER
MCC	MOTOR CONTROL CENTER
MDP	MAIN DISTRIBUTION PANEL
MLO	MAIN LUGS ONLY
MOCP	MINIMUM OVERCURRENT PROTECTION
MSB	MAIN SWITCHBOARD
MH	METAL HALIDE
MTS	MANUAL TRANSFER SWITCH
NAC	NOTIFICATION APPLIANCE CIRCUIT
NC	NORMALLY CLOSED
NO	NORMALLY OPEN
NF	NON-FUSED
OCC	OCCUPANCY
PA	PUBLIC ADDRESS
PB	PULL BOX OR PUSH BUTTON
PVC	POLYVINYL CHLORIDE (PLASTIC PIPE)
PWR	POWER
RECP	RECEPTACLE
STP	SHIELDED, TWISTED PAIR
TC	TIME CLOCK
TRT	TRIPLE TUBE
TYP	TYPICAL
UNO	UNLESS NOTED OTHERWISE
UTP	UNSHIELDED, TWISTED PAIR
V	VOLT
W	WATT
WAP	WIRELESS ACCESS POINT
WH	WATTHOUR
WP	WEATHERPROOF, NEMA 3R UNLESS NOTED OTHERWISE
XFMR	TRANSFORMER
Z	IMPEDANCE
#	PHASE

POWER SYMBOLS	
NOTE: NOT ALL SYMBOLS MAY BE USED.	
	20A DUPLEX RECEPTACLE WITH COVER PLATE: X=TYPE, Y=NON-STANDARD MOUNTING HEIGHT, Z=SPECIAL DESIGNATION, (18" AFF TYPICAL)
	DUPLEX RECEPTACLE ON EMERGENCY CIRCUIT WITH COVER PLATE: X=TYPE, Y=NON-STANDARD MTG HEIGHT, Z=SPECIAL DESIGNATION, (18" AFF TYPICAL)
	FLOOR OR CEILING MOUNTED DUPLEX RECEPTACLE: F=FLOOR, C=CEILING
	DUPLEX RECEPTACLE: ABOVE COUNTER (48" AFF TYPICAL)
	DOUBLE-DUPLEX RECEPTACLE WITH SINGLE COVER PLATE
	SIMPLEX RECEPTACLE WITH COVER PLATE
	WEATHER RESISTANT DUPLEX RECEPTACLE, GROUND FAULT CIRCUIT INTERRUPTING WITH IN-USE COVER
	WALL MOUNTED SPECIAL RECEPTACLE: REFER TO PLANS FOR ADDITIONAL INFORMATION
	FLOOR OR CEILING MOUNTED SPECIAL RECEPTACLE: F=FLOOR, C=CEILING REFER TO PLANS FOR ADDITIONAL INFORMATION
	SURFACE MOUNTED RACEWAY
	STANDARD DISCONNECT SWITCH: X=DISCONNECT SIZE, Y=NUMBER OF POLES
	STANDARD FUSED DISCONNECT SWITCH: X=DISCONNECT SIZE, Y=FUSE SIZE, Z=NUMBER OF POLES
	MOTOR STARTER: X=STARTER SIZE, Y=NUMBER OF POLES
	COMBINATION MOTOR STARTER/DISCONNECT SWITCH: X=STARTER SIZE, Y=FUSE SIZE, Z=NUMBER OF POLES
	MOTOR (BY OTHERS): PROVIDE POWER AS INDICATED
	UTILITY METER
	FRACTIONAL HORSEPOWER MANUAL MOTOR STARTER
	JUNCTION BOX
	TRANSFORMER
	HANDHOLE/POLE BOX: SEE DETAILS FOR ADDITIONAL INFORMATION
	CONTROL PANEL
	SURGE PROTECTIVE DEVICE
	PANELBOARD
	AUTOMATIC TRANSFER SWITCH
	VARIABLE FREQUENCY DRIVE
	PUSH BUTTON
	POWER POLE
	CORD REEL
	GROUND ROD
	POKE THROUGH SERVICE FITTING: X=TYPE

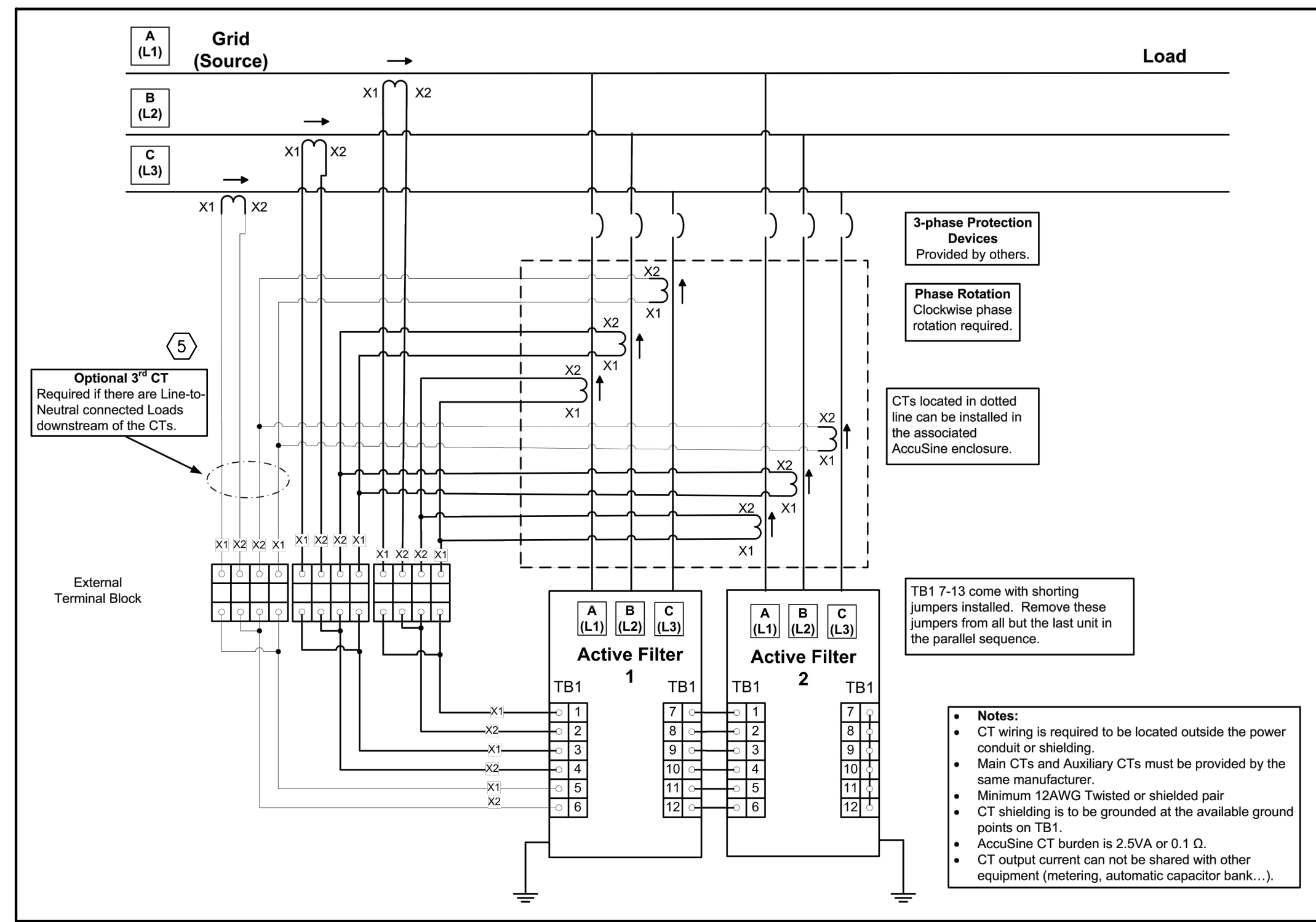
LINETYPE LEGEND	
	EXISTING
	DEMOLITION
	NEW WORK



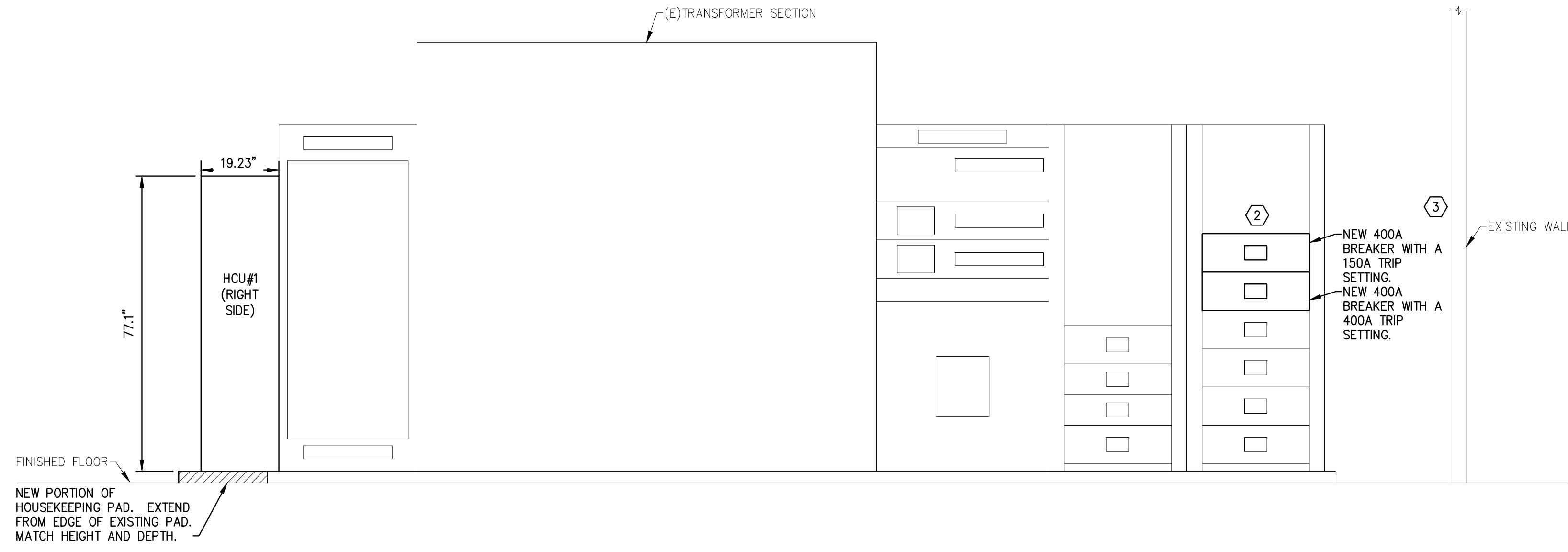
1 DIAGRAM - HCU INSTALLATION  
SCALE: NTS



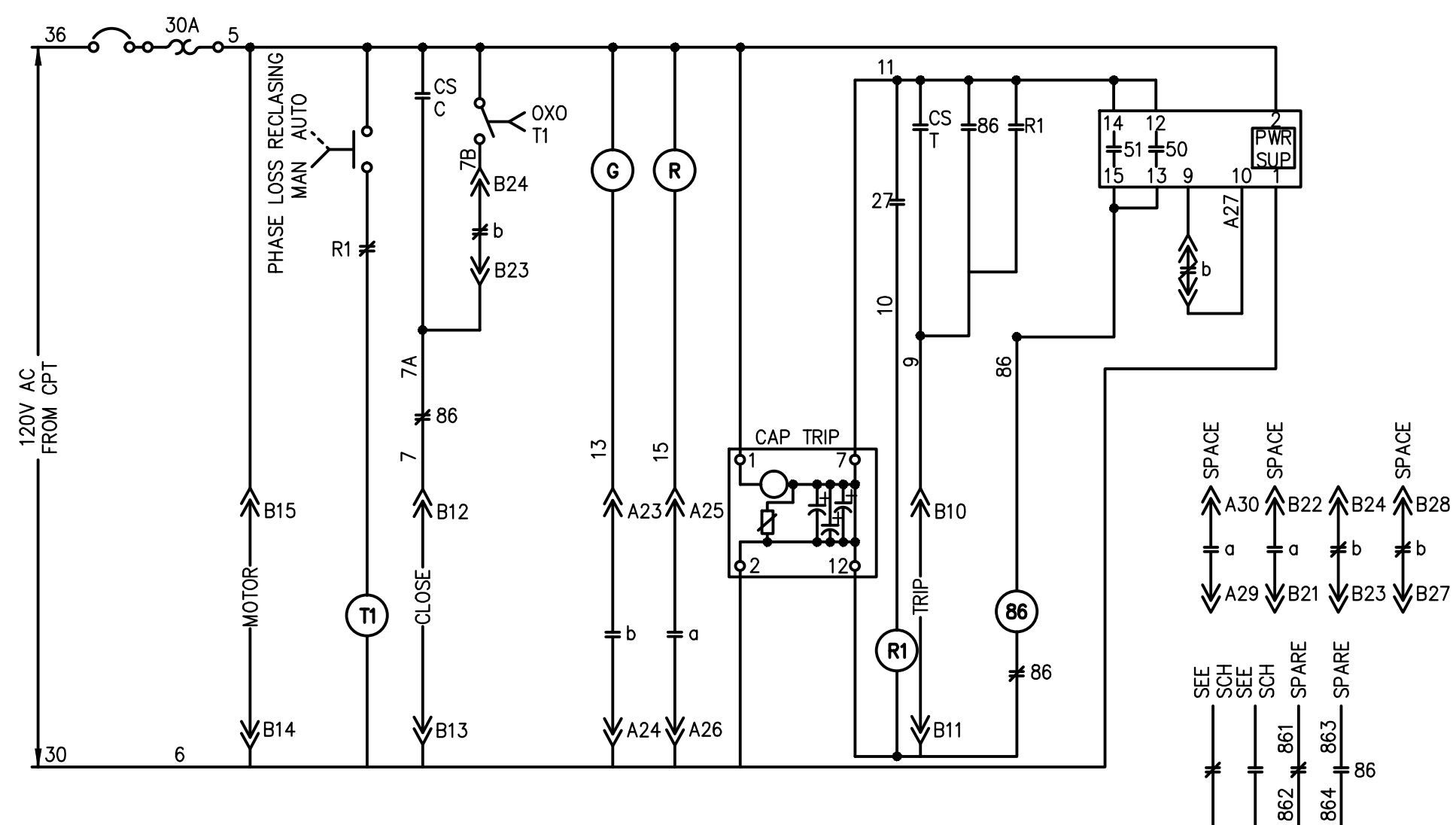
4 METER WIRING FOR METER WITH EXTERNAL VOLTAGE  
AND CURRENT TRANSFORMERS



5 DIAGRAM - EATON HCU GRID (SOURCE) SIDE CT POSITION PARALLEL UNITS  
SCALE: NTS



2 ELEVATION - EXISTING USS-1  
SCALE: NTS



4 DIAGRAM - INCOMING LINE BREAKER  
SCALE: NTS

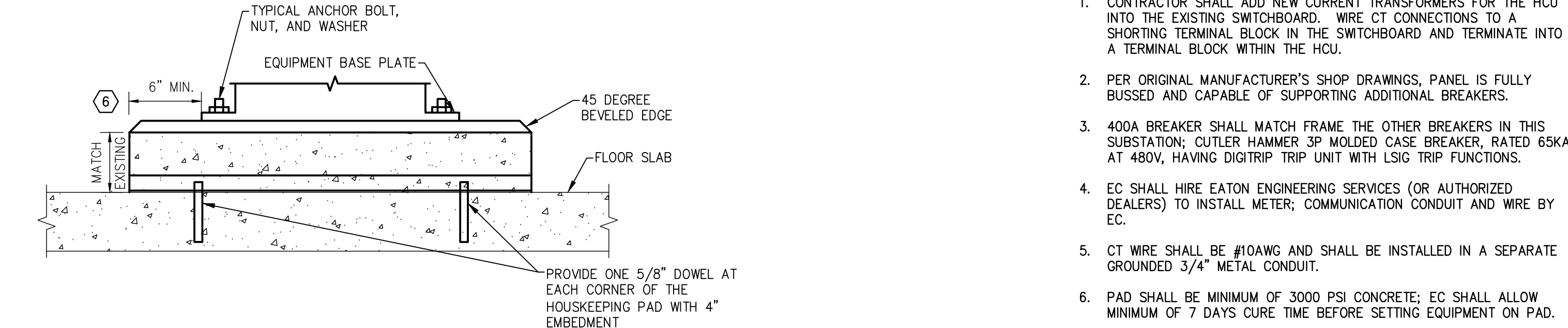
SCHEMATIC REPRESENTS MODIFICATIONS TO THE MEDIUM VOLTAGE SWITCH CABINET BY EATON ENGINEERING SERVICES ON 3 DEC 2008. FOLLOWING METER INSTALLATION, EATON ENGINEERING SERVICES (OR AUTHORIZED DEALERS) SHALL PROVIDE MARKUPS TO ALLOW FOR UPDATE OF RECORD DRAWINGS.

GENERAL NOTES:

- CONTRACTOR SHALL HIRE EATON ENGINEERING SERVICES OR AUTHORIZED DEALERS FOR THE INSTALLATION OF THE EATON XPERT POWER METER AND OVERSIGHT OF INSTALLATION OF HARMONIC CORRECTION UNITS. EATON ENGINEERING SERVICES (OR AUTHORIZED DEALERS) SHALL ALSO PERFORM VERIFICATION AND REPROGRAMMING OF THE HARMONIC CORRECTION UNITS AS NECESSARY SIX (6) MONTHS FOLLOWING PROJECT COMPLETION. THE EATON POINT OF CONTACT FOR THIS PROJECT IS:  
KEVIN R FREEMAN  
EATON CORPORATION  
600 NORTH CLEVELAND AVENUE, SUITE 150  
WESTERVILLE, OH 43082  
(614) 899-4106  
KEVINRFREEMAN@EATON.COM
  - EQUIPMENT AND SERVICES TO BE PROVIDED BY EATON ENGINEERING SERVICES (OR AUTHORIZED DEALERS) ARE AS FOLLOWS:
    - 300A HARMONIC CORRECTION UNIT, 480V
    - 100A HARMONIC CORRECTION UNIT, 480V
    - SET OF 3 CURRENT TRANSFORMERS FOR INPUT TO HCU
    - STARTUP SERVICE INCLUDING 6-MONTH FOLLOW-UP FOR HCU
    - 400A FRAME MOLDED CASE CIRCUIT BREAKERS WITH MICROPROCESSOR BASED TRIP UNITS, ONE WITH 400A TRIP, ONE WITH 150A TRIP. INCLUDES ALL MOUNTING HARDWARE, COPPER STRAPS AND DEADFRONT COVERS.
    - EATON IQ2290 SERIES POWER QUALITY METER
    - PARTS AND LABOR TO MOUNT IQ2290 METER TO EXISTING MV SWITCH
    - MODIFICATIONS TO EXISTING EQUIPMENT AS REQUIRED FOR INSTALLATION OF IQ2290 METER
    - SET UP AND PROGRAMMING FOR HARMONIC MONITORING
- INSTALLATION OF ALL ABOVE-MENTIONED EQUIPMENT (EXCEPT POWER METER) SHALL BE BY EC.

CODED NOTES:

- CONTRACTOR SHALL ADD NEW CURRENT TRANSFORMERS FOR THE HCU INTO THE EXISTING SWITCHBOARD. WIRE CT CONNECTIONS TO A SHORTING TERMINAL BLOCK IN THE SWITCHBOARD AND TERMINATE INTO A TERMINAL BLOCK WITHIN THE HCU.
- PER ORIGINAL MANUFACTURER'S SHOP DRAWINGS, PANEL IS FULLY BUSSED AND CAPABLE OF SUPPORTING ADDITIONAL BREAKERS.
- 400A BREAKER SHALL MATCH FRAME THE OTHER BREAKERS IN THIS SUBSTATION; CUTLER HAMMER 3P MOLDED CASE BREAKER, RATED 25KA AT 480V, HAVING DIGITRIP TRIP UNIT WITH LSIG TRIP FUNCTIONS.
- EC SHALL HIRE EATON ENGINEERING SERVICES (OR AUTHORIZED DEALERS) TO INSTALL METER; COMMUNICATION CONDUIT AND WIRE BY EC.
- CT WIRE SHALL BE #10AWG AND SHALL BE INSTALLED IN A SEPARATE GROUNDING 3/4" METAL CONDUIT.
- PAD SHALL BE MINIMUM OF 3000 PSI CONCRETE; EC SHALL ALLOW MINIMUM OF 7 DAYS CURE TIME BEFORE SETTING EQUIPMENT ON PAD.



6 DETAIL - INTERIOR EQUIPMENT HOUSEKEEPING CONCRETE PAD  
SCALE: NTS

100 PERCENT SUBMISSION

ENGINEERS:		ARCHITECT:		Drawing Title		Project Title		Project Number		Office of and Facilities Management	
				ELECTRICAL GENERAL INFORMATION		CHALMERS P. WYLIE VA AMBULATORY CARE CLINIC HARMONIC REMEDIATION		757-13-104			
Electrical - Mechanical - Plumbing - Fire Protection 1310 DUBLIN ROAD COLUMBUS, OHIO 43215		emersion DESIGN LLC 1775 Mentor Ave Suite 202 Cincinnati, Ohio 45212 513 841 9100 emersiondesign.com		Approved:		Location		Drawing Number		Department of Veterans Affairs	
Date		Date		Date		COLUMBUS OH		E-001			
Revisions:		Revisions:		Revisions:		Date		Checked		Drawn	
Date		Date		Date		2013/08/16		QL		KC	
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