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DATE:	11/01/2023	
DRAWN BY:	T.J.L	
CHECKED BY:	J.S	

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ELECTRICAL
GENERAL NOTES
AND LEGEND -
AT&T

E000

ELECTRICAL SYMBOLS			
THIS IS A MASTER LEGEND AND NOT ALL SYMBOLS OR ABBREVIATIONS ARE USED.			
STANDARD MOUNTING HEIGHTS		ANNOTATION	ELECTRICAL ONE-LINE & RISER DIAGRAM
AUDIBLE APPLIANCE (CENTERLINE)	84"	① MECHANICAL OR FIRE PROTECTION PLAN NOTE CALLOUT	SWITCH (RATING AND POLES AS INDICATED)
ALARM (TOP OF DEVICE)	46"	① PLUMBING PLAN NOTE CALLOUT	DRAWOUT CIRCUIT BREAKER (RATINGS, POLES, TRIP SIZE AND BREAKER TYPE AS INDICATED)
ANNUNCIATOR PANEL (TOP OF DISPLAY)	60"	① ELECTRICAL OR FIRE ALARM PLAN NOTE CALLOUT	FUSED SWITCH (RATING, POLES, FUSE SIZE AND TYPE AS INDICATED)
CONTROLS (TOP OF DEVICE)	46"	① TECHNOLOGY PLAN NOTE CALLOUT	COMBINATION FUSED SWITCH/STARTER (RATING, POLES, FUSE SIZE, FUSE TYPE, NEMA STARTER SIZE, NEMA ENCLOSURE TYPE AS INDICATED)
DATA WALL OUTLET	SAME AS ADJACENT DEVICE, UNO	① PLUMBING EQUIPMENT DESIGNATION. (CONTRACTOR FURNISHED AND INSTALLED, UNO). REFER TO PLUMBING FIXTURE OR EQUIPMENT SCHEDULES	CIRCUIT BREAKER (RATING, POLES, TRIP SIZE AND BREAKER TYPE AS INDICATED)
EXIT SIGN (WALL MOUNTED)	52"	① EQUIPMENT DESIGNATION (OWNER FURNISHED, CONTRACTOR INSTALLED, UNO)	COMBINATION CIRCUIT BREAKER/STARTER (RATING, POLES, TRIP SIZE, BREAKER TYPE, NEMA STARTER SIZE, NEMA ENCLOSURE TYPE AS INDICATED)
FIRE ALARM ANNUNCIATOR PANEL (TOP OF DISPLAY)	60"	① CONNECTION POINT OF NEW WORK TO EXISTING	PANELBOARD, SINGLE OR MULTI-SECTION (REFER TO SCHEDULES)
FIRE ALARM BELL (EXTERIOR) (CENTERLINE)	120"	① DETAIL REFERENCE UPPER NUMBER INDICATES DETAIL NUMBER LOWER NUMBER INDICATES SHEET NUMBER	ISOLATED POWER PANELBOARD W/ INTEGRAL TRANSFORMER (REFER TO SCHEDULES)
FIRE ALARM CONTROL PANEL/UNIT (TOP OF DISPLAY)	60"	① SECTION CUT DESIGNATION	TRANSFORMER (TYPE AND RATINGS AS INDICATED)
INTERCOM (TOP OF DEVICE)	46"	① DEDICATED EQUIPMENT ACCESS TILE	SHIELDED TRANSFORMER (TYPE AND RATINGS AS INDICATED)
PULL STATION (HANDLE)	46"	① ACCESS PANEL	TRANSFER SWITCH (RATINGS AS INDICATED) ATS = AUTOMATIC TRANSFER SWITCH MTS = MANUAL TRANSFER SWITCH NTS = NON-AUTOMATIC TRANSFER SWITCH
RECEPTACLE (ABOVE COUNTER) +6" ABOVE BACKSPLASH/COUNTER, 40" MAX	16"	① CIRCUITING & WIRING	TRANSFER SWITCH WITH BYPASS (RATINGS AS INDICATED)
RECEPTACLE (CLOCK) (CENTERLINE)	84"	① HOMERUN TO PANELBOARD. INFORMATION AT ARROWS ARE CIRCUIT NUMBERS AND PANELBOARD FOR TERMINATION. REFER TO PANELBOARD SCHEDULES FOR BRANCH CIRCUIT CONDUCTOR SIZES.	GENERATOR (RATINGS AS INDICATED)
RECEPTACLE (EQUIPMENT ROOMS) (TOP OF DEVICE)	46"	① INDICATES RELAY NUMBER	INDICATES CONNECTION TO GROUNDING ELECTRODE SYSTEM IF GENERATOR IS CONNECTED AS A SEPARATELY DERIVED SOURCE
RECEPTACLE (EXTERIOR)	24"	① CIRCUIT CONTINUATION OR PARTIAL CIRCUIT	MDP SWITCHBOARD ELEC ROOM
RECEPTACLE (GARAGES)	24"	① CONDUIT CONCEALED	SWITCHGEAR, SWITCHBOARD AND/OR DISTRIBUTION PANELBOARD (TYPE, RATING, DEVICES AND ACCESSORIES AS INDICATED)
REMOTE INDICATING LIGHT (EQUIPMENT ROOMS) (TOP OF DEVICE)	CEILING	① CONDUIT CONCEALED (EMERGENCY)	
SAFETY SWITCH (TOP OF DEVICE)	46"	① CONDUIT IN UNDER FLOOR/GROUND CONSTRUCTION	
STARTER (TOP OF DEVICE)	46"	① EXPOSED CONDUIT	
SWITCH (TOP OF DEVICE)	46"	① EXPOSED CONDUIT (EMERGENCY)	
TELEPHONE WALL OUTLET (TOP OF DEVICE)	46"	① FLEXIBLE CONDUIT	
TELECOMMUNICATIONS BACKBOARD	6"	① LOW VOLTAGE CABLE (NOT ROUTED IN CONDUIT)	
TELEVISION OUTLET	84"	① CONDUIT TURNING DOWN	
VISIBLE APPLIANCE (CENTERLINE)	84"	① CONDUIT TURNING UP	
INSTALL DEVICES/OUTLET BOXES AT THE MOUNTING HEIGHTS SHOWN ABOVE UNO IN THE CONSTRUCTION DOCUMENTS. MOUNTING HEIGHTS LISTED ABOVE, OR ELSEWHERE IN THE CONSTRUCTION DOCUMENTS, ARE AFF OR AFG TO BOTTOM, UNO, ALL DEVICES SHALL BE INSTALLED IN COMPLIANCE WITH CURRENT ADA AND LOCAL REQUIREMENTS.		① CONNECTION POINT OR EQUIPMENT TERMINATION	
ABBREVIATIONS		POWER EQUIPMENT	
AF AMPERE FUSE SIZE	MFR MANUFACTURER	① ELECTRICAL PANELBOARD (SURFACE OR FLUSH MOUNT)	① AMMETER SWITCH
AFC ABOVE FINISHED CEILING	MIN MINIMUM	① ELECTRICAL CABINET (SURFACE OR FLUSH MOUNT), TYPE AS NOTED	① VOLTMETER SWITCH
AFF ABOVE FINISHED FLOOR	MLO MAIN LUGS ONLY	① PLYWOOD TERMINAL BOARD FOR TELEPHONE SYSTEM, UNO, SIZE AS NOTED	① AMMETER (RANGE AS SPECIFIED OR REQUIRED)
AGF ABOVE FINISHED GRADE	MLV MAGNETIC LOW-VOLTAGE	① ELECTRICAL EQUIPMENT ON HOUSEKEEPING PAD	① COMBINATION DIGITAL VOLT METER/AMMETER
AHJ AUTHORITY HAVING JURISDICTION	MOCF MAXIMUM OVERCURRENT PROTECTION	① TRANSFORMER	① UTILITY METER (AS REQUIRED BY UTILITY)
AHU AIR HANDLING UNIT	MTD MOUNTED	① DISCONNECT SWITCH, 200/3/150/3R = AMPERES/POLE/FUSE/NEMA ENCLOSURE RATING	① WATT-HOUR METER, "D" DENOTES DEMAND REGISTER, "15" DENOTES MINUTES OF DEMAND INTERVAL
AIC AMPERE INTERRUPTING CAPACITY	N/A NOT APPLICABLE	① 200/3/150/3R	① CURRENT TRANSFORMER RATING AS SPECIFIED OR REQUIRED
AS AMPERE SWITCH SIZE	N/C NOT IN CONTRACT	① 30/3/15/1/3R	① POTENTIAL TRANSFORMER RATING AS SPECIFIED OR REQUIRED
AT AMPERE TRIP SETTING	NF NON-FUSED	① COMBINATION DISCONNECT (SAFETY) SWITCH AND MOTOR STARTER	① CIRCUIT/EQUIPMENT IDENTIFICATION (REFER TO SCHEDULE)
ATS AUTOMATIC TRANSFER SWITCH	NL NIGHT LIGHT (24HR ON)	① 30/3/15/1/3R	① ENERGY-REDUCING MAINTENANCE SWITCH
AV AUDIO VISUAL BUILDING AUTOMATION SYSTEM	NRTL NATIONALLY RECOGNIZED TESTING LABORATORY (CSA, ETL, NSF, UL)	① 200/3/150/3R	① GROUND FAULT RELAY
BAS BREAKER	NTS NOT IN SCOPE	① 30/3/15/1/3R	① PHASE FAILURE RELAY
BKR BREAKER	OS OCCUPANCY SENSOR	① 200/3/150/3R	① PHASE ROTATION MONITOR
CAT CATEGORY	P POLE	① 200/3/150/3R	① RELAY
CATV CABLE TELEVISION SYSTEM	PH/Ø PHASE	① 200/3/150/3R	① SHUNT TRIP
CCTV CLOSED CIRCUIT TELEVISION	PNL PANEL	① 200/3/150/3R	① SURGE-PROTECTIVE DEVICE
CD CANDELA	PNBD PANELBOARD	① 200/3/150/3R	① VARIABLE FREQUENCY DEVICE
CKT CIRCUIT	PROVIDE FURNISH AND INSTALL	① 200/3/150/3R	① GROUND CONNECTION
CODE APPLICABLE CODE	PT POTENTIAL TRANSFORMER	① 200/3/150/3R	① GROUND CONNECTION WITH TEST WELL
CT CURRENT TRANSFORMER	QTY QUANTITY	① 200/3/150/3R	① GROUND ROD
CTR CENTER	R/REL RELOCATE	① 200/3/150/3R	① LIGHTNING ARRESTER
CTRL CONTROL/CONTROLLED	RCPPT RECEPTACLE	① 200/3/150/3R	① CAPACITOR
CVD CUMULATIVE VOLTAGE DROP	RLA RUNNING LOAD AMPS	① 200/3/150/3R	① CONTACT (OPEN OR CLOSED)
DDEMO DEMOLITION	RTU ROOFTOP UNIT	① 200/3/150/3R	① HEATER
DPDT DOUBLE-POLE, DOUBLE-THROW	SCCR SHORT-CIRCUIT CURRENT RATING	① 200/3/150/3R	① MOTOR
DPST DOUBLE-POLE, SINGLE-THROW	SD SMOKE DUCT DETECTOR	① 200/3/150/3R	① BLOCK LOAD KW OR KVA
E/ET/REX EXISTING TO REMAIN	SF SQUARE FEET	① 200/3/150/3R	① FAULT POINT REFERENCED IN SHORT CIRCUIT CURRENT AND VOLTAGE DROP SPREADSHEET
EC ELECTRICAL CONTRACTOR	SPDT SINGLE-THROW, DOUBLE-THROW	① 200/3/150/3R	
EF EXHAUST FAN	SPST SINGLE-POLE, SINGLE-THROW	① 200/3/150/3R	
EM EMERGENCY	SSBJ SUPPLY-SIDE BONDING	① 200/3/150/3R	
EMS ENERGY MANAGEMENT SYSTEM	ST SHUNT TRIP	① 200/3/150/3R	
ELV ELECTRONIC LOW-VOLTAGE	SWBD SWITCHBOARD	① 200/3/150/3R	
EWG ELECTRIC WATER COOLER	SWGR SWITCHGEAR	① 200/3/150/3R	
FAFP FIRE ALARM ANNUNCIATOR PANEL	TBB TELECOMMUNICATIONS BONDING BACKBONE TO BE DETERMINED	① 200/3/150/3R	
FACP FIRE ALARM CONTROL PANEL	TBD TELECOMMUNICATIONS BONDING BACKBONE TO BE DETERMINED	① 200/3/150/3R	
FCA FAULT CURRENT AMPS AVAILABLE	TGB TELECOMMUNICATIONS GROUND BUS BAR	① 200/3/150/3R	
FCU FAN COIL UNIT	TL TWISTLOCK	① 200/3/150/3R	
FF FINISHED FLOOR	TMGB TELECOMMUNICATIONS MAIN GROUND BUS BAR	① 200/3/150/3R	
FLA FULL LOAD AMPS	TX/FMR TRANSFORMER	① 200/3/150/3R	
FLR FLOOR	TYP TYPICAL	① 200/3/150/3R	
GC GENERAL CONTRACTOR	UF UNDERFLOOR	① 200/3/150/3R	
GEC GROUNDING ELECTRODE CONDUCTOR	UG UNDERGROUND	① 200/3/150/3R	
GES GROUNDING ELECTRODE SYSTEM	U/S UNDERSLAB	① 200/3/150/3R	
GFR GROUND FAULT RELAY	UH UNIT HEATER	① 200/3/150/3R	
IG ISOLATED GROUND	UPS UNINTERRUPTIBLE POWER SUPPLY	① 200/3/150/3R	
ISC SHORT CIRCUIT CURRENT	VD VOLTAGE DROP	① 200/3/150/3R	
JB/BOX JUNCTION BOX	VFD VARIABLE FREQUENCY DRIVE	① 200/3/150/3R	
LRA LOCKED ROTOR AMPS	VS VACANCY SENSOR	① 200/3/150/3R	
LTGLTS LIGHTING/LIGHTS	W WIRE	① 200/3/150/3R	
MAU MAKE-UP AIR UNIT	W/ WITH	① 200/3/150/3R	
MAX MAXIMUM	WP WEATHER PROOF	① 200/3/150/3R	
MCA MINIMUM CIRCUIT AMPACITY	WR WEATHER RESISTANT	① 200/3/150/3R	
MCB MAIN CIRCUIT BREAKER	WT WATERTIGHT	① 200/3/150/3R	
MCC MOTOR CONTROL CENTER	XP EXPLOSION PROOF	① 200/3/150/3R	
LINETYPE LEGEND		HATCHING LEGEND	
THROUGHOUT THE DRAWINGS DIFFERENT LINETYPES ARE USED IN COMBINATION WITH THE SYMBOLS TO INDICATE THE STATUS OF ITEMS AS EXISTING, TO BE DEMOLISHED, TO BE INCLUDED AS PART OF NEW WORK AND/OR ITEMS WHICH ARE ANTICIPATED TO BE PROVIDED IN THE FUTURE. THE STATUS OF ITEMS USING THESE LINETYPES ARE RELATIVE TO THE VIEW IN WHICH THEY APPEAR. PHASING SHOWN IN DRAWINGS IS NOT INTENDED TO FULLY DESCRIBE ALL NECESSARY CONSTRUCTION PHASING, WHICH IS DETERMINED BY THE CONTRACTOR AS PART OF THEIR RESPONSIBILITIES. ANY SUCH PHASES DESCRIBED IN THE CONSTRUCTION DOCUMENTS ARE GENERAL AND ONLY INTENDED TO INDICATE A BROAD ORDER FOR THE SAKE OF DESCRIBING THE PROJECT. THE FOLLOWING LINETYPES MAY BE USED ON ANY DEVICE, EQUIPMENT, NOTE, LINE, SHAPE, ETC.		① ENLARGED PLAN	
EXISTING	ARTICLE 700 OR LIFE SAFETY*	① NOT IN SCOPE (NIS)	
DEMOLISH	ARTICLE 701 OR CRITICAL / EQUIPMENT BRANCH*		
NEW	ARTICLE 702 OR OPTIONAL*		
FUTURE			
* APPLIES TO COLOR PLOTS ONLY			

APPLICABLE ELECTRICAL CODES:

NOTE: PROJECT IS DESIGNED IN COMPLIANCE WITH THE FOLLOWING CODES. THIS IS NOT AN EXHAUSTIVE LIST. PROJECT SHALL COMPLY WITH ALL APPLICABLE CODES, STANDARDS AND LOCAL REQUIREMENTS. REFER TO THE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

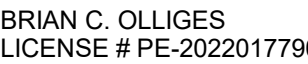
ELECTRICAL CODE: 2017 NATIONAL ELECTRICAL CODE (NFPA 70)
BUILDING CODE: 2018 INTERNATIONAL BUILDING CODE

COMMISSIONING / FUNCTIONAL TESTING:

CONTRACTOR'S BID SHALL INCLUDE PROVISIONS TO PROVIDE ALL SERVICES RELATED TO THE CODE REQUIRED BUILDING SYSTEMS COMMISSIONING INCLUDING A COMMISSIONING PLAN, FUNCTIONAL TESTING, AND RELATED DOCUMENTATION, REPORTS AND OWNER TRAINING. THIS INCLUDES RETAINING THE SERVICES OF A 3RD PARTY REGISTERED DESIGN PROFESSIONAL OR APPROVED AGENCY. REFER TO THE LATEST ADOPTED EDITION OF THE APPLICABLE ENERGY CODE FOR MORE INFORMATION. CONTRACTOR SHALL COMPLETE ALL RELATED COMMISSIONING REQUIREMENTS PRIOR TO FINAL INSPECTIONS IN ACCORDANCE WITH THE CONSTRUCTION DOCUMENTS, CODE AND MANUFACTURER'S INSTRUCTIONS.

ELECTRICAL SUPPLEMENTAL SPECIFICATIONS:

- PRIOR TO SUBMITTING BID, VISIT THE JOB SITE AND BECOME FULLY ACQUAINTED WITH THE EXISTING CONDITIONS, AS APPLICABLE, REVIEW THE LANDLORD CRITERIA, GENERAL NOTES, OTHER TRADE DRAWINGS AND SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS THAT MAY NOT BE CALLED OUT IN THIS PORTION OF THE CONSTRUCTION DOCUMENTS. NOTIFY ARCHITECT AND ENGINEER OF ANY CONFLICTS OR DISCREPANCIES PRIOR TO SUBMITTING BID.
- ALL WORK SHALL CONFORM TO ALL LOCAL CODES AND ORDINANCES AS WELL AS APPLICABLE INDUSTRY STANDARDS. ALL EQUIPMENT SHALL BEAR LABELS FOR THE USE INTENDED BY AN AHJ ACCEPTED NATIONALLY RECOGNIZED TESTING LABORATORY (NRTL), SUCH AS UL OR ETL. THE FINAL ELECTRICAL INSTALLATION OF THE FACILITY OCCUPIED BY OWNER SHALL BE FREE FROM ELECTRICAL DEFECTS TO THE SATISFACTION OF THE AHJ, OWNER, ARCHITECT AND ENGINEER.
- COORDINATE FINAL LOCATION AND INSTALLATION REQUIREMENTS OF ALL LIGHT FIXTURES, ELECTRICAL EQUIPMENT AND ELECTRICAL DEVICES WITH ARCHITECTURAL DRAWINGS, EXISTING CONDITIONS AND OTHER TRADES PRIOR TO ROUGH-IN. PROVIDE ALL NECESSARY RACEWAY ROUTING, BENDS, OFFSETS, PULL BOXES AND OBSTRUCTIONS. CONTRACTOR SHALL COORDINATE THE FINAL LOCATION OF EQUIPMENT AND WIRING DEVICES WITH OTHER TRADES PRIOR TO INSTALLATION AND INSTALL ALL WORK TO CONFORM TO THE OWNER REQUIREMENTS.
- ELECTRICAL DRAWINGS ARE DIAGRAMMATIC/SCHEMATIC IN NATURE AND REPRESENT THE GENERAL SCOPE OF WORK. IT IS NOT WITHIN THE SCOPE OF THE ELECTRICAL DRAWINGS TO SHOW ALL NECESSARY RACEWAY ROUTING, BENDS, OFFSETS, PULL BOXES AND OBSTRUCTIONS. CONTRACTOR SHALL COORDINATE THE FINAL LOCATION OF EQUIPMENT AND WIRING DEVICES WITH OTHER TRADES PRIOR TO INSTALLATION AND INSTALL ALL WORK TO CONFORM TO THE OWNER REQUIREMENTS.
- ALL CONDUCTOR AND CONDUIT LENGTHS SHOWN IN THESE DESIGN DOCUMENTS ARE INTENDED SOLELY FOR USE IN THE DESIGN CALCULATIONS BY THE DESIGN PROFESSIONAL, UNLESS NOTED OTHERWISE. LENGTHS SHOWN SHALL NOT BE USED TO ASSIST IN THE BIDDING TAKEOFF PROCESS. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR THE MATERIAL QUANTITIES REQUIRED TO BID AND CONSTRUCT THE COMPLETE PROJECT.
- PROVIDE PROPER FIRE PROOFING AND SEALANT FOR PENETRATIONS THROUGH FIRE RATED ASSEMBLIES. THE FIRE STOPPING METHOD, MATERIAL AND ITS APPLICATION SHALL BE NRTL LISTED, CODE COMPLIANT AND APPROVED BY AHJ.
- FOR CAST-IN-PLACE CONCRETE, TILT-UP WALLS, PRECAST OR SIMILAR PRE-ENGINEERED WALL SYSTEMS, COORDINATE THE FINAL LOCATION OF ALL ELECTRICAL DEVICES, RACEWAYS, LIGHT FIXTURES AND PENETRATIONS WITH ARCHITECT, WALL SUPPLIER AND OTHER TRADES PRIOR TO WALL CONSTRUCTION. CONDUIT/RACEWAY IMBEDDED IN CONCRETE WALLS SHALL BE SCHEDULE 80 PVC OR LFMC, OTHER TYPES MAY BE ALLOWED IF APPROVED BY WALL SYSTEM MANUFACTURER AND ENGINEER.
- WHEN CONCRETE TRENCHING/CORING IS REQUIRED, THE METHODS, DEPTHS, AND LOCATIONS SHALL BE PRE-APPROVED BY LANDLORD, ARCHITECT, AND STRUCTURAL ENGINEER PRIOR TO THE START OF WORK. X-RAY SLAB AS NECESSARY TO AVOID DAMAGING ANY UNDER-SLAB UTILITIES OR STRUCTURE. SLAB REPLACEMENT SHALL BE INSTALLED WITH DOWELLING AND REINFORCED CONCRETE AS DIRECTED BY THE STRUCTURAL ENGINEER. WHERE SLAB ON GRADE IS SAW-CUT AND REMOVED FOR TRENCHING THE CONTRACTOR SHALL INSTALL MOISTURE BARRIER PER LANDLORD'S REQUIREMENTS. PROVIDE 3/4" MINIMUM CONDUITS ROUTED THROUGH SLAB AND STUBBED UP INTO DEVICES. FOR SLAB ON DECK, THE FLOOR SHALL BE SLEEVED AND EQUIPPED WITH THE APPROPRIATE LISTED ASSEMBLY. PROVIDE 3/4" MINIMUM CONDUITS ROUTED BELOW SLAB, TIGHT TO STRUCTURE, AND STUBBED UP INTO DEVICES.
- WHERE PRACTICABLE, ALL UNDER-FLOOR/UNDER-GROUND CONDUITS/RACEWAY SHALL BE INSTALLED A MINIMUM OF 24" BELOW BOTTOM OF SLAB/PAVING/GRADE, UNLESS NOTED OTHERWISE. NOTE: THE DESIGN INTENT FOR INSTALLING ELECTRICAL CIRCUITRY AT THIS DEPTH IS TO PROTECT THE ELECTRICAL CIRCUITRY FROM DAMAGE DUE TO FUTURE WORK.



CITY OF LEE'S SUMMIT
LEE'S SUMMIT - MARKET PLAZA
LEE'S SUMMIT, MO

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ELECTRICAL SITE
PLAN - AT&T BLDG
& CELL TOWER

E010

E24 APPROXIMATE LOCATION OF EXISTING TO BE REMOVED UTILITY POWER POLE AND POLE MOUNTED TRANSFORMER. DISCONNECT AND REMOVE IN IT'S ENTIRETY THE EXISTING CONDUIT AND SERVICE ENTRANCE FEEDERS INDICATED. REF: E510.

① ELECTRICAL SITE PLAN - AT&T
1" = 30'-0"

ONE-LINE DIAGRAM GENERAL NOTES:

- THE INFORMATION SHOWN IN THE SHORT-CIRCUIT AND VOLTAGE DROP CALCULATIONS SCHEDULE IS SHOWN FOR CALCULATION PURPOSES ONLY. CONTRACTOR SHALL NOT USE THE CONDUIT TYPES, CONDUCTOR TYPES, SIZES, QUANTITIES OR LENGTHS FOR TAKEOFFS OR BIDDING PURPOSES. CONTRACTOR SHALL NOTIFY ENGINEER OF ANY CONFLICTS BETWEEN THIS SCHEDULE AND OTHER PORTIONS OF THE CONSTRUCTION DOCUMENTS. CONTRACTOR SHALL NOTIFY ENGINEER OF AS-BUILT CONDITIONS THAT CONSTITUTE A CHANGE FROM WHAT IS SHOWN BELOW. THIS INCLUDES CONDUCTOR LENGTHS DIFFERING BY MORE THAN 10%.
- REFER TO THE SHORT-CIRCUIT AND VOLTAGE DROP CALCULATIONS TABLE ON THIS SHEET. AVAILABLE FAULT CURRENT INFORMATION IS LISTED UNDER THE "FAULT CURRENT" COLUMN. VOLTAGE DROP VALUES ARE LISTED UNDER THE "CUMULATIVE VOLTAGE DROP" COLUMN. THE AIC/SCCR RATING OF THE EQUIPMENT SHALL NOT BE LESS THAN THE AVAILABLE 3-PHASE SYMMETRICAL FAULT CURRENT. ALL SERIES RATED EQUIPMENT SHALL BE PROPERLY LISTED AND LABELED PER CODE. REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION.
- FEEDER NUMBER DESIGNATIONS PRECEDED BY "V" INDICATE THAT THE CONDUCTORS ARE UP-SIZED DUE TO VOLT-DROP CONSIDERATIONS. PROVIDE LUG ADAPTERS AS NEEDED IN ORDER TO PROPERLY LAND CONDUCTORS AT TERMINATION(S).
- FEEDER SIZES ARE BASED ON COPPER (CU) THHN/THWN-2 INSULATION, UNLESS NOTED OTHERWISE. CONDUIT SIZES SHOWN ARE APPROPRIATE FOR SCHEDULE 40 PVC, EMT, GRP, IMC AND RMC. ADJUST SIZE AS NEEDED FOR OTHER RACEWAY TYPES. NUMBER DESIGNATIONS PRECEDED BY "X" INDICATE THAT THE SIZE IS BASED ON ALUMINUM (AL) WIRE. AL CONDUCTOR SIZES ARE BASED ON XHHW-2 INSULATION, UNLESS NOTED OTHERWISE. AL WIRE MAY BE SUBSTITUTED FOR CU FEEDERS AS ALLOWED BY CODE, SPECIFICATIONS AND OWNER. UNLESS NOTED OTHERWISE, AT CONTRACTOR'S OPTION, CU WIRE MAY BE SUBSTITUTED FOR AL, UNLESS NOTED OTHERWISE. ALL CONDUCTOR SIZES ARE BASED ON 75 DEG C RATED TERMINATIONS, UNLESS NOTED OTHERWISE. FOR ANY OTHER CONDITIONS MODIFY SIZES PER CODE. REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION.
- PROVIDE A PERMANENT LABEL ON FRONT OF EQUIPMENT ENCLOSURE. REFER TO SPECIFICATIONS FOR LABEL REQUIREMENTS. LABEL SHALL READ AS FOLLOWS (INCLUDE RESPECTIVE NAMES IN BLANKS):

ELECTRICAL UTILITY CONTACT NOTE:

UTILITY COMPANY: EVERGY
UTILITY CONTACT: RON DEJARNETTE
EMAIL: RON.DEJARNETTE@EVERGY.COM

FAULT CURRENT GENERAL NOTE (ESTIMATED VALUE):

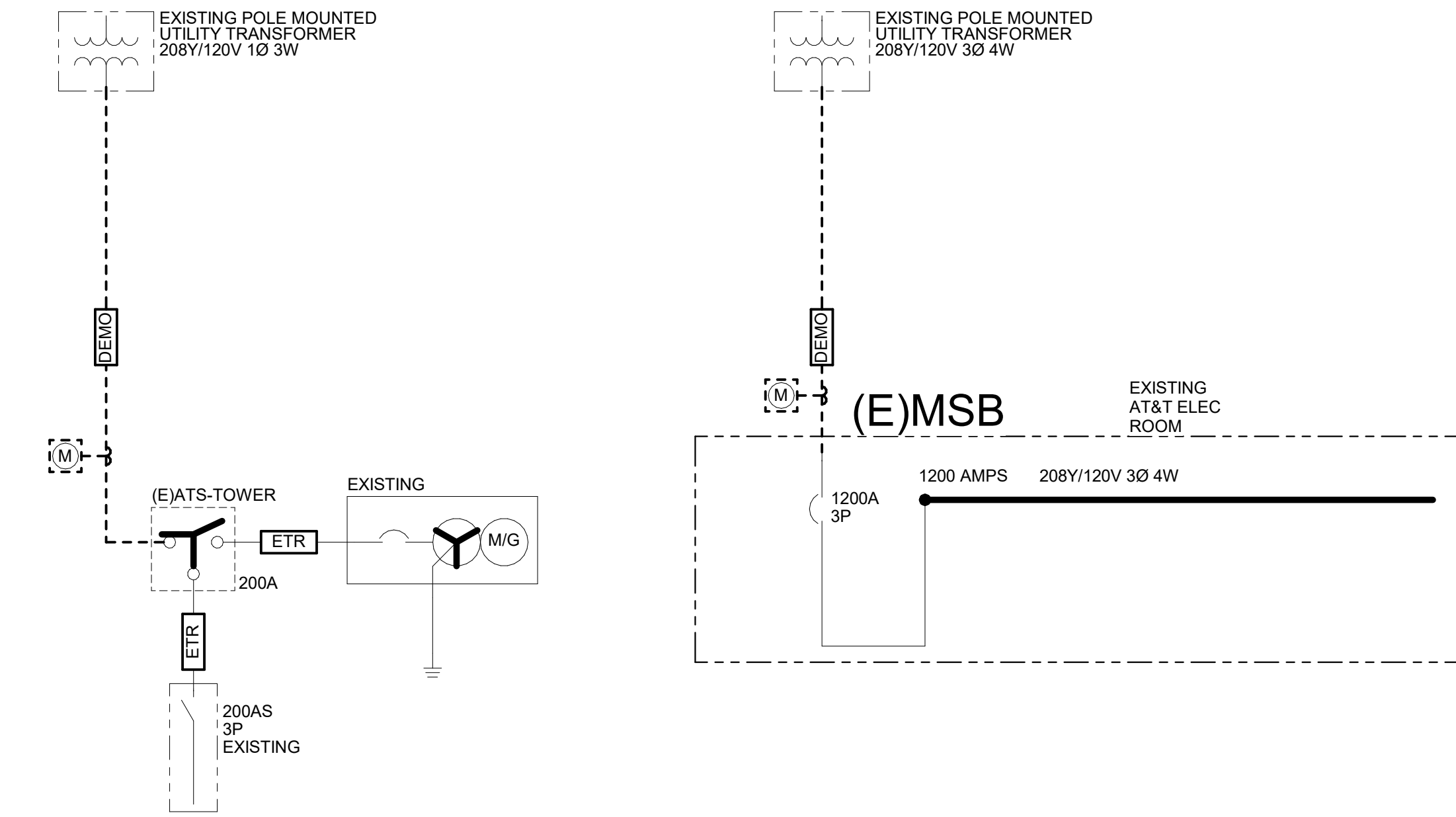
THE MAXIMUM AVAILABLE 3-PHASE SYMMETRICAL FAULT CURRENT VALUE AT THE UTILITY TRANSFORMER SECONDARY POINT OF SERVICE COULD NOT BE DETERMINED AT THE TIME OF THIS SUBMITTAL. THE ESTIMATED WORST CASE VALUE OF 27,757A IS BASED ON AN INFINITE BUS CALCULATION AT THE UTILITY TRANSFORMER. CONTRACTOR SHALL VERIFY ACTUAL AVAILABLE FAULT CURRENT VALUE WITH UTILITY. NOTIFY ENGINEER IF ACTUAL VALUE EXCEEDS ESTIMATED CALCULATED VALUE. ESTIMATED DESIGN VALUE IS BASED ON THE FOLLOWING:

UTILITY TRANSFORMER SECONDARY VOLTAGE: 208Y/120V 3Ø, 4W
UTILITY TRANSFORMER SIZE: 500KVA, Z=5.0%

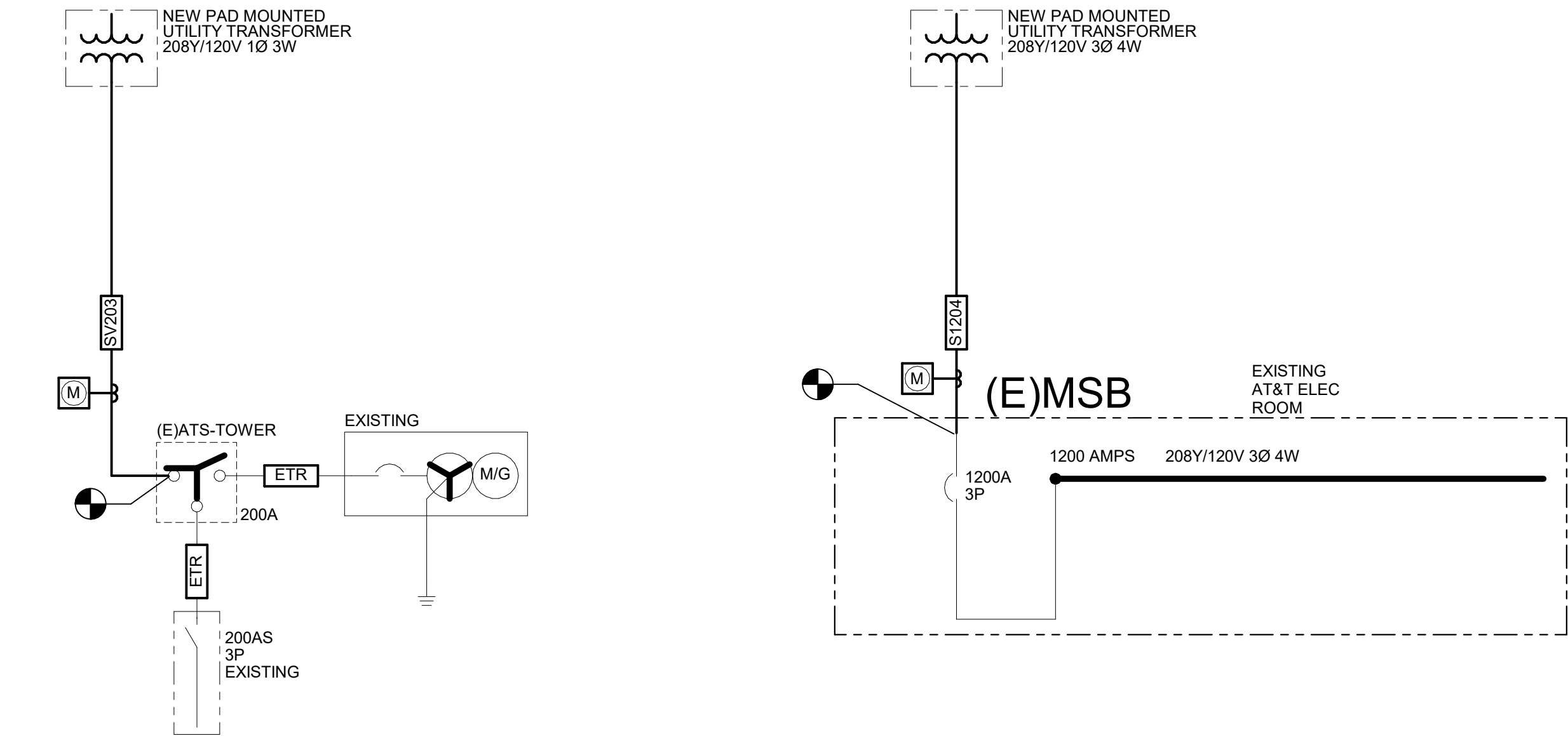
ONE-LINE DIAGRAM SUPPLEMENTAL SPECIFICATIONS:

- GROUNDING ELECTRODE SYSTEM SHALL BE PER LOCAL REQUIREMENTS AND SHALL NOT BE LESS STRINGENT THAN THAT SPECIFIED IN THE CONSTRUCTION DOCUMENTS.
- PROVIDE PROPERLY SIZED LUGS FOR ALL EQUIPMENT, CIRCUIT BREAKERS, AND OTHER ELECTRICAL DEVICES TO ACCOMMODATE INSTALLED CONDUCTORS. A LARGER FRAME, OVERSIZED LUGS OR NON-STANDARD PRODUCT MAY BE REQUIRED IN SOME INSTANCES. UTILIZE PIN ADAPTERS ONLY IF NECESSARY AND ONLY AS ALLOWED BY MANUFACTURER AND AHJ.

FEEDER TAG	FEEDER DESCRIPTION
ETR	EXISTING TO REMAIN
S1204	(3) 3" C, EACH W/ (3)-500 kcmil
SV203	(1) 2" C, W/ (2)-4/0, (1)-4/0 GND



① ELECTRICAL ONE-LINE DIAGRAM - AT&T - DEMO
12" = 1'-0"



③ ELECTRICAL ONE-LINE DIAGRAM - AT&T - NEW
12" = 1'-0"

Short-Circuit and Voltage Drop Calculations

Distances are for calculation purposes only and shall not be used for contractor takeoffs nor bidding - Contractor shall notify Engineer of any field condition that results in a change of 10% or greater circuit distance

The following calculations are based on the "Point-by-Point" method where:

ISC (2) = ISO(1) x M(1)

M= 1/(1+f)

ISC (1) = short circuit current at fault point 1

ISC (2) = short circuit current at fault point 2

E = Line to line volts

IP = Primary short circuit current

Vp = Primary voltage

IS= Secondary short circuit current

Vs= Secondary voltage

L = Length of circuit

C = "C" Factor from Bussman table where "C" = 1 / impedance per linear foot

Feeder Types: NM - Non Magnetic Conduit, M - Magnetic Conduit, FB - Feeder Busway, PB - Plug-in Busway, TX - Transformer

System Voltage: 208Y/120V - 3 phase

Fault Point (#)	Bus/Feeder Description	Source (Fault Point)	Phase	Source Isc (amps)	Feeder		Conductor "C" Value	Busway "C" Value	L-L Voltage (E)	Circuit Length (L)	Load Power Factor (pf)	Circuit Load (Amperage)	Resistance (R)	Conductor Reactance (X)	Arccos (pf) (Radians)	Type	Degree Rise	kVA	Transformer		Secondary Voltage	Tap Setting	f	M	Fault Current (amps)	Voltage Drop (%VD)	Cumulative Voltage Drop (%VD)	Fault Point (#)
					Quantity of Parallel Sets and Bus/Phase & Neutral Size	Material													New Xfmr Z	Existing Xfmr Z								
1	Utility Service Point			27,757	at the secondary of the utility transformer																							1
	Motor Contribution			480	The connected full load motor amps (includes compressors) on the system																							
2	(E)MSB	1	3	30,637	NM	CU	3	Set(s) of 500 kcmil	26706	--	208	165	0.9	960	0.000027	0.000039	0.451027						0.525	0.66	20,084	-1.82%	-1.82%	2
4	(E)ATS	1	1	30,637	NM	CU	1	Set(s) of 4/0 AWG	16673	--	208	175	0.9	160	0.000062	0.000041	0.451027						3.092	0.24	7,487	-1.98%	-1.98%	4