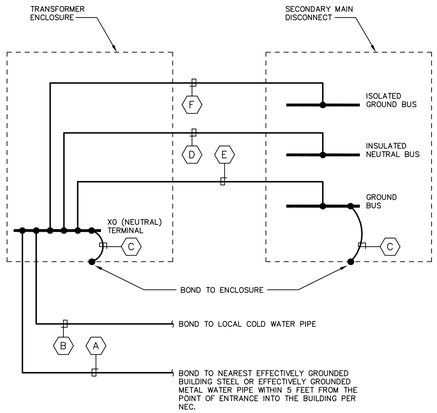


(A) GROUNDING ELECTRODE CONDUCTOR (REFER TO 'GROUND & CONDUIT' COLUMN IN TRANSFORMER SCHEDULES FOR CONDUCTOR AND CONDUIT SIZE).

(B) BONDING JUMPER (REFER TO 'GROUND & CONDUIT' COLUMN IN TRANSFORMER SCHEDULES FOR CONDUCTOR AND CONDUIT SIZE).

(C) BONDING JUMPER (REFER TO GROUND CONDUCTOR SIZE IN 'SECONDARY FEEDER' COLUMN IN TRANSFORMER SCHEDULES).

(D) GROUNDED (NEUTRAL) CONDUCTOR (REFER TO 'SECONDARY FEEDER' COLUMN FOR CONDUCTOR SIZE)

(E) MAIN BONDING JUMPER CONDUCTOR (REFER TO GROUND CONDUCTOR SIZE IN 'SECONDARY FEEDER' COLUMN IN TRANSFORMER SCHEDULES). MAIN BONDING JUMPER CONDUCTOR TO BE RUN IN EACH CONDUIT CONTAINING PHASE CONDUCTORS BETWEEN TRANSFORMER AND MAIN SECONDARY DISCONNECT.

(F) ISOLATED EQUIPMENT GROUND CONDUCTOR (REFER TO 'SECONDARY FEEDER' COLUMN IN TRANSFORMER SCHEDULES FOR ISOLATED GROUND CONDUCTOR SIZE).

NOTE:
ISOLATED GROUND BUS AND ASSOCIATED ISOLATED EQUIPMENT GROUND CONDUCTOR SHALL BE PROVIDED BETWEEN K-RATED TRANSFORMERS AND SECONDARY MAIN DISCONNECT SERVING ELECTRONIC GRADE PANELBOARDS WITH INTEGRAL TVSS.

1 DISTRIBUTION TRANSFORMER GROUNDING DETAIL

SCALE: NONE

K - RATED, THREE PHASE TRANSFORMER SCHEDULE

3PTRXK2004

XFMR NUMBER	480V. PRIMARY (Δ) 3PH.,3W. O.C.P.D.	PRIMARY FEEDER	208/120V. SECONDARY (Y) 3PH.,4W. O.C.P.D.	SECONDARY FEEDER	GROUND & CONDUIT	KVA RATING
TK15	30A	3#10, 1#10 G., 3/4" C.	50A	3#6, 2#6 N., 1#6 G., 1#6 I.G., 1-1/4" C.	1#6, 3/4" C.	15
TK30	60A	3#4, 1#10 G., 1-1/4" C.	100A	3#1, 2#1 N, 1#6 G., 1#6 I.G., 2"C.	1#6, 3/4" C.	30
TK45	100A	3#1, 1#8 G., 1-1/2" C.	150A	3#1/0, 2#1/0 N., 1#6 G., 1#6 I.G., 2"C.	1#6, 3/4" C.	45
TK75	150A	3#1/0, 1#6 G., 2" C.	225A	3#4/0, 2#4/0 N., 1#2 G., 1#2 I.G., 3" C.	1#2, 3/4" C.	75
TK112.5	200A	3#3/0, 1#6 G., 2" C.	400A	3#500KCMIL, 2#500KCMIL N., 1#1/0 G., 1#1/0 I.G., 4" C.	1#1/0, 1" C.	112.5
TK150	250A	3#250KCMIL, 1#4 G., 2-1/2" C.	500A	2 SETS OF 3#250KCMIL, 2#250KCMIL N., 1#1/0 G., 1#2 I.G., 3" C. EACH	1#1/0, 1" C.	150
TK225	400A	3#500KCMIL, 1#3 G., 3-1/2" C.	800A	2 SETS OF 3#500KCMIL, 2#500KCMIL N., 1#2/0 G., 1#2/0 I.G., 4" C. EACH	1#2/0, 1" C.	225
TK300	600A	2 SETS OF 3#350KCMIL, 1#1 G., 3" C. EACH	1000A	3 SETS OF 3#400KCMIL, 2#400KCMIL N., 1#3/0 G., 1#2/0 I.G., 3-1/2" C. EACH	1#3/0, 1" C.	300

K-RATED TRANSFORMER NOTES:

TK1. UNLESS OTHERWISE INDICATED ALL TRANSFORMERS HAVE A "K" RATING OF 13, REFER TO SPECIFICATIONS.

TK2. CONNECT GROUNDING ELECTRODE CONDUCTOR TO THE NEAREST OF THE FOLLOWING:

1. AN EFFECTIVELY GROUNDED STRUCTURAL METAL MEMBER OF THE STRUCTURE.
2. AN EFFECTIVELY GROUNDED METAL WATER PIPE WITHIN 5 FEET FROM THE POINT OF ENTRANCE INTO THE BUILDING.

TK3. NEUTRAL CONDUCTOR IS RATED 200 PERCENT FOR HARMONIC CURRENTS.

TK4. REFER TO DISTRIBUTION TRANSFORMER GROUNDING DETAIL.

TK5. CONDUCTOR SIZES ARE BASED ON COPPER CONDUCTORS (TYPE THHN/THWN FOR CONDUCTOR SIZES SMALLER THAN #3 AWG AND TYPE XHHW FOR CONDUCTOR SIZES #3 AWG AND LARGER).

TK6. SECONDARY CONDUCTOR OVERCURRENT PROTECTIVE DEVICE SHALL BE LOCATED NO MORE THAN 25 FT FROM THE TRANSFORMER SECONDARY THERMINALS.

THREE PHASE TRANSFORMER SCHEDULE

XFMR NUMBER	480V. PRIMARY (Δ) 3PH.,3W. O.C.P.D.	PRIMARY FEEDER	208/120V. SECONDARY (Y) 3PH.,4W. O.C.P.D.	SECONDARY FEEDER	GROUND & CONDUIT	KVA RATING
T15	30A	3#10, 1#10 G., 3/4" C.	50A	3#6, 1#6 N., 1#6 G., 1-1/4" C.	1#6, 3/4" C.	15
T30	60A	3#4, 1#10 G., 1-1/4" C.	100A	3#1, 1#1 N, 1#6 G., 1-1/2" C.	1#6, 3/4" C.	30
T45	100A	3#1, 1#8 G., 1-1/2" C.	150A	3#1/0, 1#1/0 N., 1#6 G., 2" C.	1#6, 3/4" C.	45
T75	150A	3#1/0, 1#6 G., 2" C.	225A	3#4/0, 1#4/0 N., 1#2 G., 2-1/2" C.	1#2, 3/4" C.	75
T112.5	200A	3#3/0, 1#6 G., 2" C.	400A	3#500KCMIL, 1#500KCMIL N., 1#1/0 G., 3-1/2" C.	1#1/0, 1" C.	112.5
T150	250A	3#250KCMIL, 1#4 G., 2-1/2" C.	500A	2 SETS OF 3#250KCMIL, 1#250KCMIL N., 1#1/0 G., 2-1/2" C. EACH	1#1/0, 1" C.	150
T225	400A	3#500KCMIL, 1#3 G., 3-1/2" C.	800A	2 SETS OF 3#500KCMIL, 1#500KCMIL N., 1#2/0 G., 3-1/2" C. EACH	1#2/0, 1" C.	225
T300	600A	2 SETS OF 3#350KCMIL, 1#1 G., 3" C. EACH	1000A	3 SETS OF 3#400KCMIL, 1#400KCMIL N., 1#3/0 G., 3-1/2" C. EACH	1#3/0, 1" C.	300
T500	800A	2 SETS OF 3#500KCMIL, 1#1/0 G., 3-1/2" C. EACH	1600A	4 SETS OF 3#600KCMIL, 1#600KCMIL N., 1#250KCMIL G., 3-1/2" C. EACH	1#3/0, 1"C.	500

TRANSFORMER NOTES:

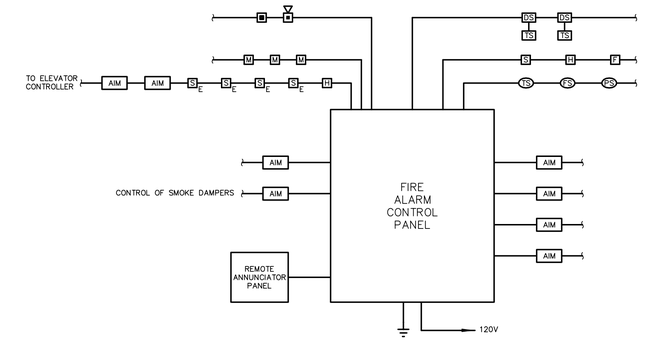
T1. CONNECT GROUNDING ELECTRODE CONDUCTOR TO THE NEAREST OF THE FOLLOWING:

1. AN EFFECTIVELY GROUNDED STRUCTURAL METAL MEMBER OF THE STRUCTURE.
2. AN EFFECTIVELY GROUNDED METAL WATER PIPE WITHIN 5 FEET FROM THE POINT OF ENTRANCE INTO THE BUILDING.

T2. REFER TO DISTRIBUTION TRANSFORMER GROUNDING DETAIL.

T3. CONDUCTOR SIZES ARE BASED ON COPPER CONDUCTORS (TYPE THHN/THWN FOR CONDUCTOR SIZES SMALLER THAN #3 AWG AND TYPE XHHW FOR CONDUCTOR SIZES #3 AWG AND LARGER).

T4. SECONDARY CONDUCTOR OVERCURRENT PROTECTIVE DEVICE SHALL BE LOCATED NO MORE THAN 25 FT FROM THE TRANSFORMER SECONDARY THERMINALS.

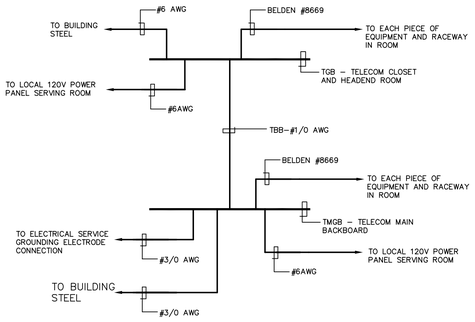


NOTES:

1. COORDINATE DEVICE QUANTITIES WITH FLOOR PLAN.
2. WIRING MAY VARY BETWEEN LISTED ACCEPTABLE MANUFACTURERS. ELECTRICAL CONTRACTOR SHALL COORDINATE.
3. REFER TO SPECIFICATION SECTION 28311 FOR ADDITIONAL REQUIREMENTS.

2 FIRE ALARM SYSTEM RISER DIAGRAM

SCALE: NONE



NOTES:

CONDUCTORS SHALL BE COPPER, INSULATED AND INSTALLED IN CONDUIT. CONDUCTORS SHALL BE INSTALLED ALONG THE SAME ROUTE AS THE INTERCONNECTING CLOSET RACEWAYS AND MAY BE INSTALLED IN THE RACEWAY. BOND AT EACH END TO GROUND BUS AND RACEWAYS.

REFER TO SPECIFICATION SECTION 260526 FOR ADDITIONAL REQUIREMENTS.

TELECOMMUNICATIONS GROUND BUS (TGB) REQUIRED IN EACH TELECOM CLOSET AT SOUND SYSTEM HEADENDS AND SECURITY SYSTEM HEADEND.

3 TELECOMMUNICATIONS GROUNDING RISER

SCALE: NONE

3 PHASE FEEDER SIZE SCHEDULE

(COPPER CONDUCTORS)

CONDUCTORS (3 PHASE, 3 WIRE) AND GROUND*	SIZE CONDUIT	CONDUCTORS (3 PHASE, 4 WIRE) AND GROUND*	SIZE CONDUIT	CIRCUIT OR OVERCURRENT RATING 3POLE
3#12&1#12G.	3/4"	4#12&1#12G.	3/4"	15A.
3#12&1#12G.	3/4"	4#12&1#12G.	3/4"	20A.
3#10&1#10G.	3/4"	4#10&1#10G.	3/4"	25A.
3#10&1#10G.	3/4"	4#10&1#10G.	3/4"	30A.
3#8&1#10G.	3/4"	4#8&1#10G.	1"	35A.
3#8&1#10G.	3/4"	4#8&1#10G.	1"	40A.
3#6&1#10G.	1"	4#6&1#10G.	1"	45A.
3#6&1#10G.	1"	4#6&1#10G.	1"	50A.
3#4&1#10G.	1 1/4"	4#4&1#10G.	1 1/4"	60A.
3#4&1#8G.	1 1/4"	4#4&1#8G.	1 1/4"	70A.
3#3&1#8G.	1 1/4"	4#3&1#8G.	1 1/4"	80A.
3#2&1#8G.	1 1/4"	4#2&1#8G.	1 1/2"	90A.
3#1&1#8G.	1 1/2"	4#1&1#8G.	2"	100A.
3#1&1#6G.	1 1/2"	4#1&1#6G.	2"	110A.
3#1/0&1#6G.	2"	4#1/0&1#6G.	2"	125A.
3#1/0&1#6G.	2"	4#1/0&1#6G.	2"	150A.
3#2/0&1#6G.	2"	4#2/0&1#6G.	2"	175A.
3#3/0&1#6G.	2"	4#3/0&1#6G.	2 1/2"	200A.
3#4/0&1#4G.	2 1/2"	4#4/0&1#4G.	2 1/2"	225A.
3#250KCM&1#4G.	2 1/2"	4#250KCM&1#4G.	3"	250A.
3#350KCM&1#4G.	3"	4#350KCM&1#4G.	3"	300A.
3#500KCM&1#3G.	3 1/2"	4#500KCM&1#3G.	4"	350A.
3#500KCM&1#3G.	3 1/2"	4#500KCM&1#3G.	4"	400A.

CIRCUIT SIZE SCHEDULE NOTES:

CS1. UNLESS OTHERWISE INDICATED, FEEDER SIZING SHALL MATCH THE SIZE INDICATED ABOVE FOR THE APPLICABLE OVERCURRENT DEVICE. PROVIDE LARGER FEEDER WHERE INDICATED.

CS2. SCHEDULE IS BASED ON TYPE THHN/THWN FOR CONDUCTOR SIZES SMALLER THAN #3 AWG AND TYPE XHHW FOR CONDUCTOR SIZES #3 AWG AND LARGER.

CS3. PROVIDE 4 WIRE CIRCUIT UNLESS DEVICE SERVED DOES NOT HAVE PROVISIONS FOR A NEUTRAL CONNECTION.

CS4. MINIMUM SIZE CONDUIT UNDERGROUND IS 4 INCH EXCEPT 1 INCH FOR SITE BRANCH CIRCUITS FOR LIGHTING AND MISCELLANEOUS POWER AND SYSTEMS, UNLESS SPECIFICALLY INDICATED OTHERWISE.

CS5. REFER TO TRANSFORMER SCHEDULE FOR CONDUCTOR AND CONDUIT SIZE REQUIREMENTS FOR PRIMARY AND SECONDARY FEEDERS.

CS6. REFER TO MOTOR CIRCUIT SCHEDULE FOR CONDUCTOR AND CONDUIT SIZE REQUIREMENTS FOR MOTOR LOADS.

H = 480/277 VOLT PANEL
L = 120/208 VOLT PANEL

L = LIGHTING PANEL
P = POWER PANEL
DP = DISTRIBUTION PANEL
M = MECHANICAL EQUIP. PANEL
NMR = NMR EQUIP. PANEL
LAB = LAB PANEL (120/208V)
AV = AUDIO/VISUAL
V = VIVARIUM

EM = EMERGENCY
SB = STANDBY

PANEL #

EM DP L - 1

PANEL IDENTIFICATION CONVENTION

IF THIS SHEET IS NOT 24 X 36 IT IS A REDUCED SCALE PRINT - SCALE ACCORDINGLY

SCALE 0 1" 2 3 1"=1' | SCALE 0 1' 2 3' 6' 1/2"=1' | SCALE 0 1' 2 3 4 3/4"=1' | SCALE 0 1' 2 4 8 12 1/4"=1' | SCALE 0 1' 2 10 20 1/8"=1' | SCALE 0 10 20 40 1/16"=1'

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SYTDesign CONSULTANTS CIVIL ENGINEERING & LANDSCAPE ARCHITECTURE
ALLIED/COOK CONSTRUCTION
Favreau ELECTRIC
Titan Mechanical, Inc. Design Build Engineering - Mechanical Contracting

#	DATE	DESCRIPTION
		PERMIT SET

Date Issued 01/24/08

Project Number 06506

SHEET NAME
LOW-VOLTAGE RISER DIAGRAMS AND SCHEDULES

Drawn By AMM

Checked By MER

E3.1

PERMIT SET - NOT FOR CONSTRUCTION