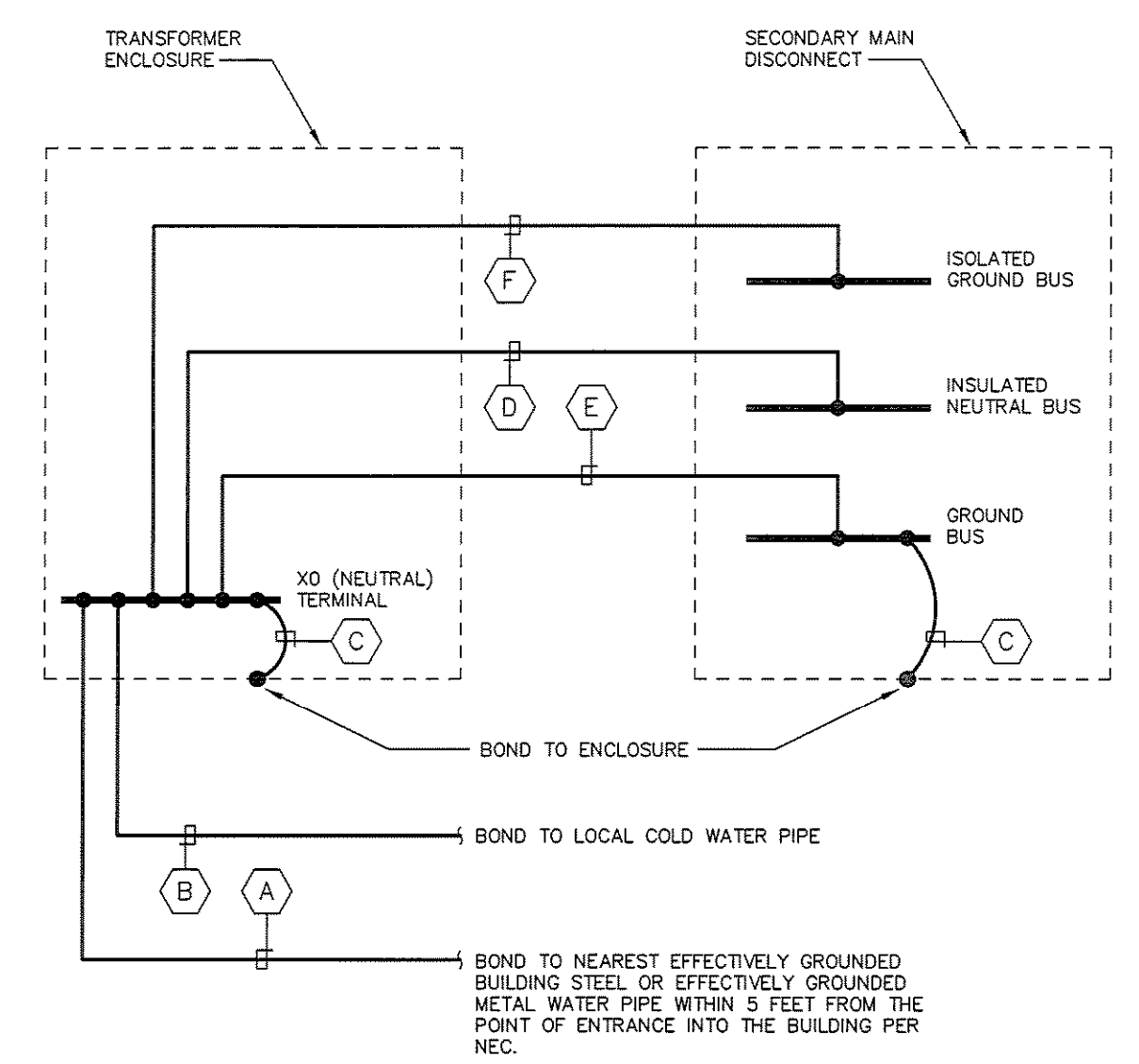


IF THIS SHEET IS NOT 24 X 36 IT IS A REDUCED SCALE PRINT - SCALE ACCORDINGLY



- 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 & CONDUIT' COLUMN IN TRANSFORMER SCHEDULES).
- D GROUNDED (NEUTRAL) CONDUCTOR (REFER TO 'SECONDARY FEEDER' COLUMN FOR CONDUCTOR SIZE).
- E MAIN BONDING JUMPER CONDUCTOR (REFER TO 'GROUND & CONDUIT' 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

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
3#12&1#2G.	3/4"	4#12&1#2G.	3/4"
3#12&1#12G.	3/4"	4#12&1#12G.	3/4"
3#10&1#10G.	3/4"	4#10&1#10G.	3/4"
3#10&1#10G.	3/4"	4#10&1#10G.	3/4"
3#8&1#10G.	3/4"	4#8&1#10G.	1"
3#8&1#10G.	3/4"	4#8&1#10G.	1"
3#6&1#10G.	1"	4#6&1#10G.	1"
3#6&1#10G.	1"	4#6&1#10G.	1"
3#4&1#10G.	1 1/4"	4#4&1#10G.	1 1/4"
3#4&1#8G.	1 1/4"	4#4&1#8G.	1 1/4"
3#3&1#8G.	1 1/4"	4#3&1#8G.	1 1/4"
3#2&1#8G.	1 1/4"	4#2&1#8G.	1 1/2"
3#1&1#8G.	1 1/2"	4#1&1#8G.	2"
3#1&1#6G.	1 1/2"	4#1&1#6G.	2"
3#1/0&1#6G.	2"	4#1/0&1#6G.	2"
3#1/0&1#6G.	2"	4#1/0&1#6G.	2"
3#2/0&1#6G.	2"	4#2/0&1#6G.	2"
3#3/0&1#6G.	2"	4#3/0&1#6G.	2 1/2"
3#4/0&1#4G.	2 1/2"	4#4/0&1#4G.	2 1/2"
3#250KCM&1#4G.	2 1/2"	4#250KCM&1#4G.	3"
3#350KCM&1#4G.	3"	4#350KCM&1#4G.	3"
3#500KCM&1#3G.	3 1/2"	4#500KCM&1#3G.	4"
3#500KCM&1#3G.	3 1/2"	4#500KCM&1#3G.	4"

- 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.

K - RATED, THREE PHASE TRANSFORMER SCHEDULE

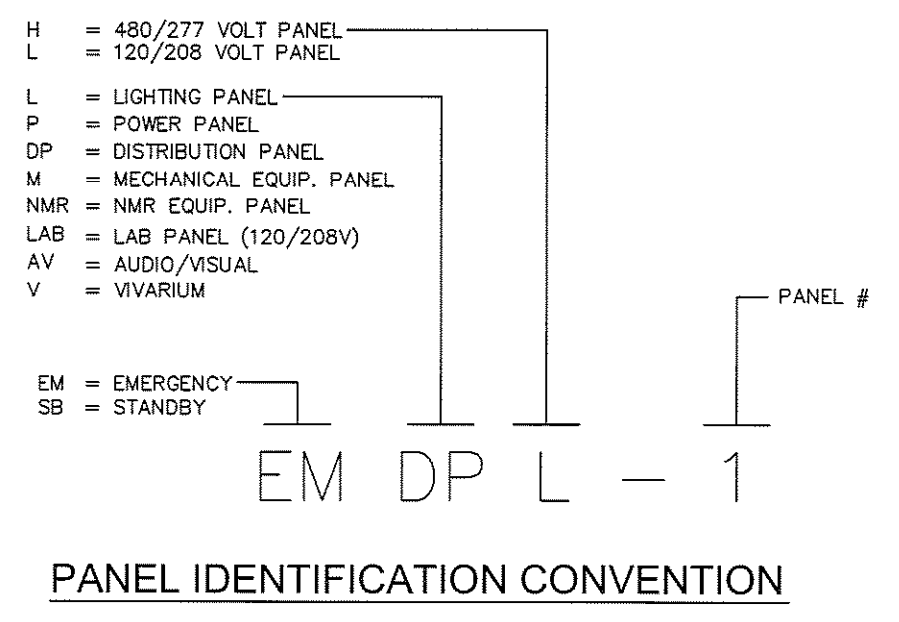
XFMR NUMBER	480V. PRIMARY (Δ) 3PH.,3W.		208/120V. SECONDARY (Y) 3PH.,4W.		GROUND & CONDUIT	KVA RATING
	O.C.P.D.	PRIMARY FEEDER	O.C.P.D.	SECONDARY FEEDER		
TK15	30A	3#10, 1#10 G., 3/4" C.	50A	3#6, 2#6 N., 1#6 G., 1#6 I.G., 1-1/4" C.	1#6 3/4" C.	15
TK30	60A	3#4, 1#10 G., 1-1/4" C.	100A	3#1, 2#1 N., 1#6 G., 1#6 I.G., 2" C.	1#6 3/4" C.	30
TK45	100A	3#1, 1#6 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 TERMINALS.

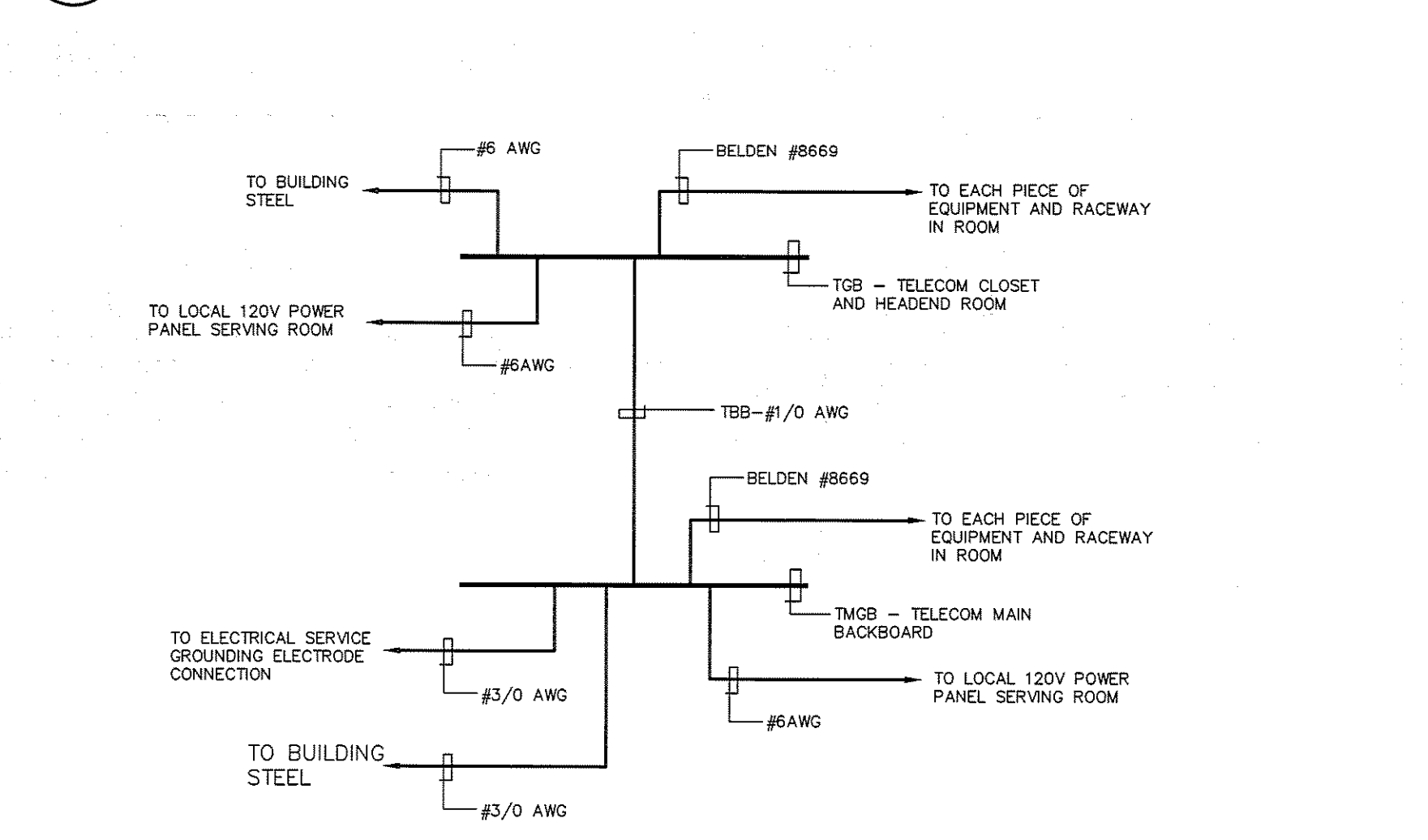
THREE PHASE TRANSFORMER SCHEDULE

XFMR NUMBER	480V. PRIMARY (Δ) 3PH.,3W.		208/120V. SECONDARY (Y) 3PH.,4W.		GROUND & CONDUIT	KVA RATING
	O.C.P.D.	PRIMARY FEEDER	O.C.P.D.	SECONDARY FEEDER		
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#6 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. EACH	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., 3-1/2" 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 TERMINALS.

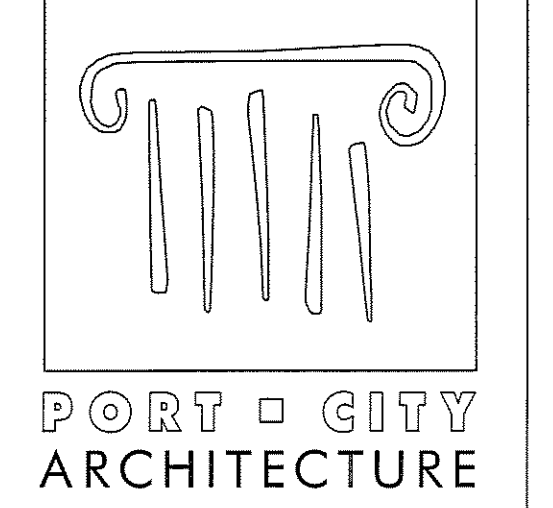


2 FIRE ALARM SYSTEM RISER DIAGRAM
SCALE: NONE



- 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.
- 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

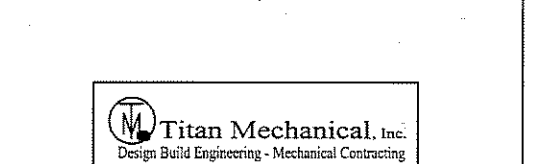


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PROJECT NO.: 2007120.00



UNIVERSITY OF NEW ENGLAND

COLLEGE OF PHARMACY

716 STEVENS AVENUE,
PORTLAND, ME

#	DATE	DESCRIPTION
		BID SET
	02/08/08	Date Issued
	06306	Project Number

SHEET NAME
LOW-VOLTAGE RISER DIAGRAMS AND SCHEDULES

Drawn By
AMM

Checked By
MER

E3.1

BID SET - NOT FOR CONSTRUCTION