

**METER CENTER #1 LOAD SUMMARY**

PANEL TYPE	KVA CONN PER PANEL	# OF PANELS	TOTAL KVA PER PANEL TYPE
A	39.6	2	79.2
B	45.1	3	135.3
C	46.6	0	-
D	44.4	4	177.6
DEMAND FACTOR PER NEC 220-84			0.43
TOTAL RESIDENTIAL DEMAND KVA			169.6
AMPS AT 240V/1PH.			702.5

**METER CENTER #2 LOAD SUMMARY**

PANEL TYPE	KVA CONN PER PANEL	# OF PANELS	TOTAL KVA PER PANEL TYPE
A	39.6	2	79.2
B	45.1	3	135.3
C	46.6	4	186.4
D	44.4	0	0.0
DEMAND FACTOR PER NEC 220-84			0.43
TOTAL RESIDENTIAL DEMAND KVA			172.4
AMPS AT 240V/1PH.			718.3

**1 RISER DIAGRAM**  
DIAGRAMMATIC ONLY

- RISER DIAGRAM NOTES:**
- 1A. UTILITY 240/120V SINGLE PHASE, PAD MOUNTED TRANSFORMER. PAD BY E.C. TO UTILITY REQUIREMENTS. COORDINATE EXACT UTILITY TRANSFORMER LOCATIONS, SIZE AND REQUIREMENTS WITH UTILITY COMPANY PRIOR TO INSTALLATION.
  - 1B. UTILITY 208Y/120V THREE PHASE, PAD MOUNTED TRANSFORMER. PAD BY E.C. TO UTILITY REQUIREMENTS. COORDINATE EXACT UTILITY TRANSFORMER LOCATIONS, SIZE AND REQUIREMENTS WITH UTILITY COMPANY PRIOR TO INSTALLATION.
  - 2A. SERVICE LATERAL CONDUCTORS PROVIDED AND INSTALLED BY UTILITY. COORDINATE CONDUIT REQUIREMENTS AND FINAL CONNECTIONS.
  - 2B. SERVICE ENTRANCE CONDUCTORS PROVIDED AND INSTALLED BY E.C. #4#3/0, IN 2 1/2" CONDUIT.
  3. #3/0 CU GROUNDING ELECTRODE CONDUCTOR TO GROUNDING SYSTEM PER 2/E10.
  4. METER CENTER AND BASES PROVIDED AND INSTALLED BY ELECTRICAL CONTRACTOR. METERS PROVIDED AND INSTALLED BY POWER CO. MOUNT METER CENTER AT THE MINIMUM HEIGHT ABOVE FINAL GRADE. COORDINATE REQUIREMENTS WITH POWER CO. METER CENTERS SHALL BE EQUAL TO SQUARE D EZ-METER CENTERS WITH 800A MINIMUM CROSS BUS. FIELD VERIFY EXACT METER CENTER SELECTED WITH ACTUAL WALL SPACE AVAILABLE. PROVIDE LANDING PADS AS REQUIRED BY UTILITY AND LOCAL AHJ.
  5. 2 POLE CIRCUIT BREAKER, UL LISTED FOR SERVICE ENTRANCE EQUIPMENT. TYPICAL FOR ALL UNIT PANELS. AIC RATING OF CIRCUIT BREAKERS SHALL MATCH METER CENTER MAIN.
  - 6A. 3#2/0 (AL), #4 GND (AL) TYPE SE SERVICE ENTRANCE CABLE (TYPICAL FOR 125A TENANT SERVICE).
  - 6B. 3#3/0 (AL), #4 GND (AL) TYPE SE SERVICE ENTRANCE CABLE (TYPICAL FOR 150A TENANT SERVICE).
  7. 4#3/0 (CU), #6 (CU) GND. IN 2" CONDUIT.
  8. 4#2 (CU), #8 (CU) GND. IN 1 1/2" CONDUIT.

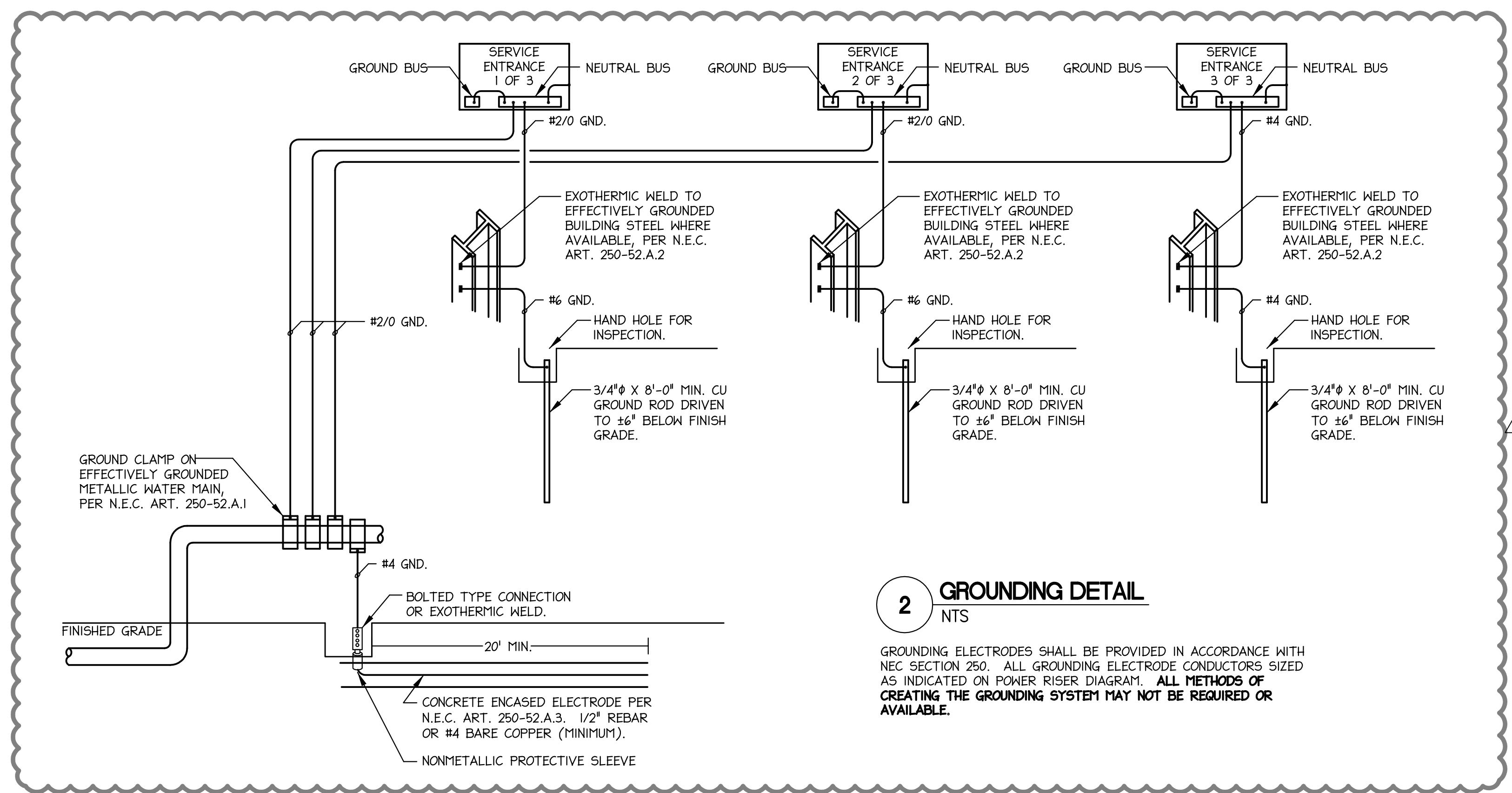
**PANEL "HPA" LOAD SUMMARY**

LOAD TYPE	KVA CONN	DEM FACT	KVA DEM
LOADS ON 200AMP MCB			
LIGHTS	6.5	1.25	8.1
RECEPTACLES	3.9	1.0	3.9
	REMAINDER	0.0	0.5
HVAC	3.8	1.25	4.8
	REMAINDER	3.7	1.0
ELEVATOR	7.5	1.25	9.4
MISCELLANEOUS	1.3	1.0	1.0
TOTALS	26.7		30.9
TOTAL AMPS @ 208V 3Ø	85.8		

**PANEL: HPA** 3 PHASE 4 WIRE SURFACE MOUNTED NEMA 1

DESCRIPTION	POLE	WIRE SIZE	LOAD PER PHASE			CCT #	BRK SIZE	WIRE SIZE	POLE	DESCRIPTION
			A	B	C					
AH-4	2	12	15	01/14		4	25	10	2	HP-4
AH-4	2	12	15	5	01/14		6	-	-	SPACE
AH-4	2	12	15	7	01/-		8	-	-	SPACE
AH-4	2	12	15	9	01/-		10	-	-	SPACE
AH-4	2	12	15	11	01/-		12	-	-	SPACE
AH-4	2	12	15	13	01/-		14	-	-	SPACE
AH-4	2	12	15	15	01/-		16	-	-	SPACE
SPACE	1	-	-	17	-/-		18	-	-	SPACE
SPACE	1	-	-	19	-/-		20	-	-	SPACE
SPACE	1	-	-	21	-/-		22	-	-	SPACE
SPACE	1	-	-	23	-/-		24	-	-	SPACE
SPACE	1	-	-	25	-/-		26	-	-	SPACE
SPACE	1	-	-	27	-/-		28	-	-	SPACE
SPACE	1	-	-	29	-/-		30	-	-	SPACE
SPACE	1	-	-	31	-/-		32	-	-	SPACE
SPACE	1	-	-	33	-/-		34	-	-	SPACE
SPACE	1	-	-	35	-/-		36	-	-	SHUNT TRIP SPACE
HPB	3	2	100	37	53/25		38			
				39	41/25		40	50	6	3 ELEVATOR, 6 1/2 HP
				41			42			
TOTAL CONNECTED KVA			26.7			DEMAND KVA: 30.9				
PANEL RMS SYM. AMPS: SEE RISER						DEMAND AMPS: 86				

1. PANEL SHALL BE SERVICE ENTRANCE RATED, EQUAL TO SQUARE D NWOD.
2. PROVIDE HACR BREAKERS FOR HVAC EQUIPMENT.
3. \* - DENOTES SHUNT TRIP BREAKER.



**2 GROUNDING DETAIL**  
NTS

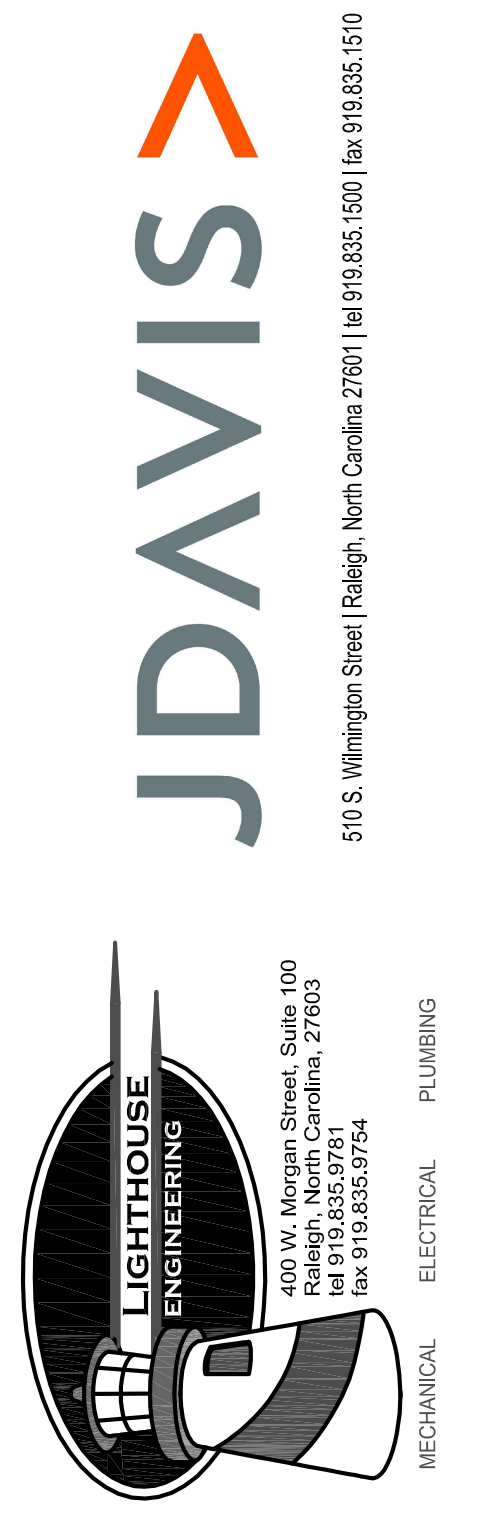
GROUNDING ELECTRODES SHALL BE PROVIDED IN ACCORDANCE WITH NEC SECTION 250. ALL GROUNDING ELECTRODE CONDUCTORS SIZED AS INDICATED ON POWER RISER DIAGRAM. ALL METHODS OF CREATING THE GROUNDING SYSTEM MAY NOT BE REQUIRED OR AVAILABLE.

**PANEL: HPB** 3 PHASE 4 WIRE SURFACE MOUNTED NEMA 1

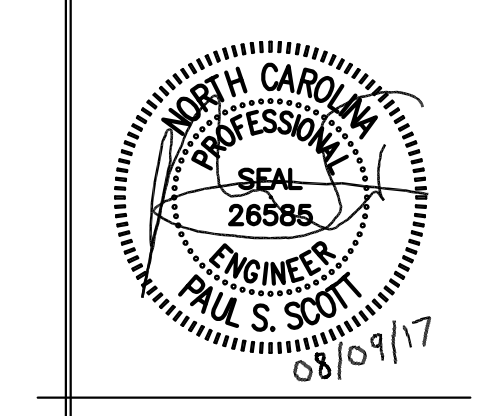
DESCRIPTION	POLE	WIRE SIZE	LOAD PER PHASE			CCT #	BRK SIZE	WIRE SIZE	POLE	DESCRIPTION
			A	B	C					
LTS: GARAGE	1	12	20	12/02		2	20	12	1	FACP
LTS: STORAGE	1	12	20	3	12/02		4	20	1	LTS # REC SPRINKLER
LTS: STAIRS	1	12	20	5			6	20	12	1 UH-1
LTS: EXTERIOR	1	12	20	7	04/04		8	20	12	1 TELEPHONE BOARD
LTS: GROUND	1	12	20	9	03/04		10	20	12	1 CATV BOARD
LTS: 1ST FL	1	12	20	11	05/03		12	20	12	1 LTS # REC ELEC RM
LTS: 2ND FL	1	12	20	13	05/04		14	20	12	1 REC: EXTERIOR
LTS: 3RD FL	1	12	20	15	05/05		16	20	12	1 REC: GARAGE
SPACE	1	-	-	17	-/-		18	20	12	1 REC: GROUND FL
SPACE	1	-	-	19	-/-		20	20	12	1 REC: 1ST FL
SPACE	1	-	-	21	-/-		22	20	12	1 REC: 2ND FL
SPACE	1	-	-	23	-/-		24	20	12	1 REC: 3RD FL
SPACE	1	-	-	25	-/-		26	20	12	1 EQ: EXHAUST FANS
SPACE	1	-	-	27	-/-		28	20	12	1 TWO-WAY CONT. SYS.
SPACE	1	-	-	29	-/-		30	20	12	1 UH-1
SPACE	1	-	-	31	-/-		32	20	12	1 UH-1
ELEV. SMOKE CURTAIN	1	12	20	33	03/-		34	20	-	1 SPACE
LTS # REC ELEV. PIT	1	12	20	35	05/-		36	-	-	1 SPACE
SUMP PUMP	1	12	20	37	05/-		38	-	-	1 SPACE
LTS # REC ELEV. MACH	1	12	20	39	03/-		40	-	-	1 SPACE
LTS: ELEV. CAB	1	12	20	41	05/-		42	-	-	1 SPACE
TOTAL CONNECTED KVA			14.6			DEMAND KVA: 16.4				
PANEL RMS SYM. AMPS: SEE RISER						DEMAND AMPS: 46				

1. PANEL SHALL BE SERVICE ENTRANCE RATED, EQUAL TO SQUARE D NWOD.
2. GFI - PROVIDE GFCI BREAKER FOR CIRCUIT.
3. L - INDICATES LOCK-ON ATTACHMENT REQUIRED.
4. PROVIDE SMD/HID RATED BREAKERS FOR LIGHTING CIRCUITS.
5. PROVIDE HACR BREAKERS FOR HVAC EQUIPMENT.
6. PC/TC - CIRCUIT THROUGH 120V 2000W PHOTO-CELL AND 7-DAY TIMELOCK FOR PHOTOCELL ON, TIMELOCK OFF CONTROL. LOCATE TIMELOCK ADJACENT TO PANEL AND LOCATE PHOTOCELL ON NORTH SIDE OF BUILDING.

© 2016 LIGHTHOUSE ENGINEERING, P.A. EXPRESSLY RESERVES ITS COMMON LAW COPYRIGHT AND OTHER PROPERTY RIGHTS IN THESE PLANS. THESE PLANS ARE NOT TO BE REPRODUCED, CHANGED OR COPIED IN ANY FORM OR MANNER WHATSOEVER, NOR ARE THEY TO BE ASSIGNED TO ANY THIRD PARTY WITHOUT FIRST OBTAINING THE EXPRESSED WRITTEN PERMISSION AND CONSENT OF LIGHTHOUSE ENGINEERING, P.A.



Concordia Building Company  
Nantucket Condominiums  
700 Waterford Lake Drive Cary, NC



PROJECT:	WOP-05115	DATE	06.16.2017
REVISIONS:			
1	CITY COMMENTS		08.07.17
DRAWN BY:	PSS		
CHECKED BY:	PSS		
CONTENT:	ELECTRICAL RISER AND PANEL SCHEDULES		