GENERAL NOTES

1. ALL WORK SHALL CONFORM TO THE 2007 CALIFORNIA ELECTRICAL CODE AND THE MUNICIPAL CODES. ELECTRICAL EQUIPMENT SHALL BE LISTED BY A RECOGNIZED ELECTRICAL TESTING LABORATORY OR APPROVED BY THE DEPARTMENT.
2. CONTROL WIRING FOR HVAC SYSTEM SHALL BE COPPER TYPE THHN.
3. ALL RELAYS, TIMECLOCKS, ETC. SHALL BE MOUNTED IN A HINGED, LOCKABLE CABINET ADJACENT TO RESPECTIVE PANEL.
4. ALL JUNCTION BOXES SHALL BE LABELED WITH RESPECTIVE CIRCUIT NUMBERS.
5. ALL EQUIPMENT SHALL BE LISTED BY A RECOGNIZED ELECTRICAL TESTING LABORATORY.
6. PROVIDE CABLE SUPPORTS ON ALL VERTICAL RUNS.
7. ALL WIRING SHALL BE COPPER TYPE THHN AND/OR THWN UNLESS OTHERWISE NOTED AND SHALL BE INSTALLED IN EMT CONDUIT.
8. ALL FUSES SHALL BE CURRENT LIMITING TYPE RATED FOR A MINIMUM OF 200,000 A.I.C. AND SHALL BE CLASS RK1 UP TO 600 AMPERES.
9. ALL ELECTRICAL DEVICES OUTSIDE SHALL BE WEATHERPROOF.
10. ALL EMPTY CONDUITS SHALL HAVE PULL STRINGS INSTALLED.
11. ELECTRICAL CONTRACTOR SHALL VISIT SITE AND FAMILIARIZE HIMSELF WITH EXISTING CONDITIONS PRIOR TO BIDDING.
12. ALL WORK SHALL BE NEW UNLESS OTHERWISE INDICATED.
13. SITE SHALL BE LEFT CLEAN, FREE FROM DEBRIS AND ACCEPTABLE TO THE OWNER.
14. ALL WORK SHALL BE GUARANTEED FOR ONE YEAR.
15. CONTRACTOR SHALL OBTAIN ALL PERMITS NECESSARY TO COMPLETE WORK. FEES FOR THE PERMIT SHALL BE PAID FOR THROUGH THE ALLOWANCE PROVIDED BY THE CITY AS STATED IN THE BID SHEET OF THE BID DOCUMENTS.
16. CONDUIT RUNS ARE SHOWN DIAGRAMMATICALLY. EXACT LOCATIONS AND ROUTING TO BE DETERMINED IN THE FIELD TO SUIT FIELD CONDITIONS.
17. ALL VERIFICATIONS SHALL BE PRIOR TO SUBMITTING BID.
18. INSTALL GROUND CONDUCTOR IN ALL P.V.C. CONDUITS.
19. THE ELECTRICAL CONTRACTOR SHALL INSTALL ALL CONTROLS AND MAKE REQUIRED CONNECTIONS TO EQUIPMENT FURNISHED BY OTHERS.
20. THE ELECTRICAL CONTRACTOR SHALL COORDINATE ALL ROUGH-IN AND FINISH WORK WITH THE OTHER TRADES.
21. A SET OF MARKED-UP PRINTS SHALL BE PREPARED SHOWING ALL CHANGES MADE DURING CONSTRUCTION AND TURN IT OVER TO THE ENGINEER AT THE END OF THE JOB. ALL CHANGES MUST HAVE ENGINEER'S APPROVAL.
22. ANY DISCREPANCY BETWEEN MATERIAL, DESCRIPTION AND/OR CATALOG NUMBERS SHALL BE BROUGHT TO THE ENGINEER'S OR OWNER'S ATTENTION IMMEDIATELY.
23. FURNISH AND INSTALL THE REQUIRED SUPPORT FOR INSTALLATION OF EQUIPMENT.
24. IT IS THE INTENT OF THESE DRAWINGS THAT THIS BE A COMPLETE ELECTRICAL JOB. ANY ERRORS OR OMISSIONS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER PRIOR TO BIDDING THE JOB.
25. PROVIDE TEMPORARY POWER AND LIGHTING AS REQUIRED TO PERFORM WORK.
26. ALL DISCONNECTS SHALL BE FUSED, UNLESS OTHERWISE NOTED.
27. ALL CONDUCTORS USED IN EXTERIOR WIRING SHALL BE RATED FOR WET LOCATIONS.
28. ALL ELECTRICAL TERMINATIONS SHALL BE 75 DEGREES C. RATED.

SPECIAL NOTES

(1) PROVIDE FACTORY "START-UP-AND-TEST" WITH CUMMINS.

(2) PROVIDE NEW STARTING BATTERY, MATCH EXISTING TYPE.

(3) PROVIDE NEW OIL, DRAIN EXISTING.

(4) PROVIDE NEW ANTIFREEZE, DRAIN EXISTING.

(5) OBTAIN AQMD APPROVAL FOR THE GENERATOR.

(6) PROVIDE AN ONAN "SECURITY GUARD" FOR ATS DOOR PANEL.

(7) PROVIDE UPGRADE CARD ONAN #FT-10 IN "POWER COMMAND" FOR WIRELESS MONITORING.

(8) PROVIDE ONAN "EYE WATCH MODULE" IN ATS CABINET FOR WIRELESS MONITORING BY CITY VIA "INTERNET EXPLORER".

(9) PROVIDE "ADD ALTERNATE" FOR REPLACEMENT OF THE GENERATOR'S WEATHERPROOF ENCLOSURE WITH ONAN "STAGE 2" ENCLOSURE TO BE INSTALLED BY CUMMINS PERSONNEL.

(10) PROVIDE CONCRETE GENERATOR PAD PER STRUCTURAL DETAIL (SEE SHEET S-1).

(11) PROVIDE ALL TRENCHING, BACKFILLING, COMPACTION, AND RESURFACING FOR NEW CONDUITS. MINIMUM COVER TO TOP OF CONDUIT SHALL BE 24".

(12) CONTRACTOR SHALL PROVIDE A DETAILED WRITTEN SEQUENCING SCHEDULE DESCRIBING THE PROPOSED DURATION OF OUTAGES NECESSARY FOR INSTALLATION OF NEW SWITCHBOARD AND RECONNECTION OF FEEDERS. CONTRACTOR SHALL PROVIDE TEMPORARY POWER (VIA PORTABLE GENERATORS) AND MINIMIZE DURATION OF OUTAGE.

(13) PROVIDE 5" ROUND CONCRETE FILLED BARRIER POSTS AROUND TANKS AND GENERATOR. SEE SHEET S-2 FOR DETAILS.

(14) ALL SWEEPS AND RISERS FROM BELOW GRADE TO ABOVE GRADE SHALL BE RIGID "COATED" STEEL GALVANIZED. ALL EXPOSED CONDUIT BELOW 7'-6" SHALL BE RIGID STEEL GALVANIZED.

(15) NOT USED.

(16) OBTAIN PLANNING DEPT. AND FIRE DEPT. APPROVALS OF THE PLANS.

(17) PROVIDE MINIMUM 15 FEET SEPARATION DISTANCE OF THE GENERATOR TO THE PROPANE TANKS AND PROVIDE THE ACCESS TO AND AROUND THE PROPANE TANKS AS REQUIRED BY THE FIRE DEPT.

(18) EXISTING BERM SHALL NOT BE EXCAVATED WITHOUT PRIOR WRITTEN APPROVAL FROM THE CITY.

DEMOLITION NOTES

1. ALL CONDUCTORS WHICH WILL NOT REMAIN IN SERVICE SHALL BE DISCONNECTED AND REMOVED BACK TO THE NEAREST DEVICE TO REMAIN IN SERVICE OR TO THE PANELBOARD. CONDUCTORS REMOVED BACK TO PANELBOARDS SHALL HAVE THEIR APPROPRIATE CIRCUIT BREAKER RELABELED "SPARE".
2. ALL CONDUITS SERVING DEVICES WHICH WILL NOT REMAIN IN SERVICE SHALL BE DEMOLISHED BACK TO A POINT WHERE THE NEW CONSTRUCTION WILL PROVIDE TOTAL CONCEALMENT.
3. BRANCH CIRCUITRY TO DEVICES WHICH WILL REMAIN IN SERVICE THAT IS DISRUPTED DURING DEMOLITION SHALL BE RESTORED BY THE CONTRACTOR. ALL WIRING SHALL BE COPPER TYPE THHN/THWN AND ALL JUNCTION BOXES SHALL BE LABELED WITH RESPECTIVE CIRCUIT NUMBERS.
4. EXTREME CARE SHALL BE TAKEN DURING DEMOLITION TO PRESERVE ITEMS WHICH WILL REMAIN IN SERVICE.
5. PROVIDE TEMPORARY POWER AND LIGHTING AS REQUIRED TO PERFORM WORK AND MAINTAIN SERVICE. WHEN POWER DISCONNECTION BECOMES NECESSARY FOR THE MAIN SWITCHBOARD (MS) AT THE CITY HALL BUILDING, TEMPORARY POWER SHALL BE PROVIDED IF WORK IS PERFORMED DURING THE CITY'S WORKING HOURS. WHEN POWER DISCONNECTION BECOMES NECESSARY FOR THE BUILDINGS ON THE CAMPUS THAT ARE SERVED BY MSA, TEMPORARY POWER SHALL BE PROVIDED AT ALL TIMES. POWER DISCONNECTION AND PROVIDING TEMPORARY POWER SHALL BE COORDINATED WITH THE CITY IN ADVANCE.
6. VISIT THE SITE AND VERIFY EXISTING CONDITIONS PRIOR TO SUBMITTING THE BID.
7. SEE TECHNICAL PROVISIONS PART 1 ITEM 5 FOR THE REMOVAL OF EXISTING GENERATOR & LPG TANK.

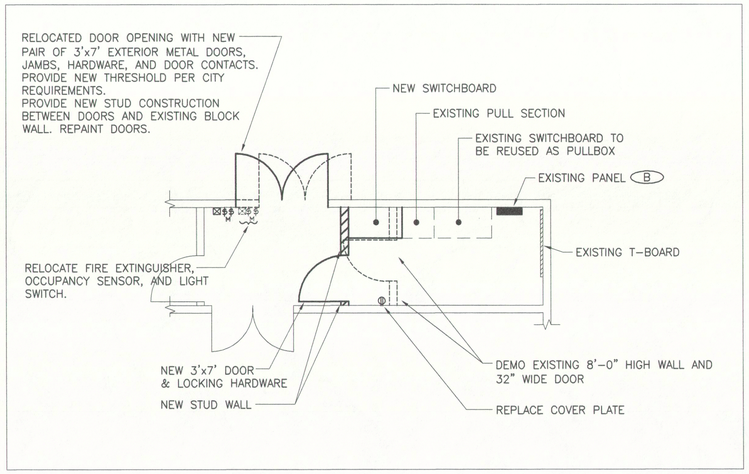
ADDITIONAL ITEMS

ADDITIONAL SCOPE UNDER THIS CONTRACT SHALL BE:

- TWO 2500 GALLON CAPACITY ABOVE GROUND LIQUID PROPANE GAS TANKS WITH 2 "PICK-UP" TUBES. LOW LEVEL SWITCH, PIPING AND CONNECTION TO GENERATOR, PERMITS AND TESTING. SEE TECHNICAL PROVISION PART 1 ITEM 4.

SHEET INDEX	
E1	NOTES
E2	SINGLE LINE DIAGRAM
E3	SITE ELECTRICAL PLAN
S-1	FOUNDATION PLAN
S-2	ELECTRICAL ROOM MODIFICATION

GENERATOR FUEL SUPPLY DURATION	
AT 100% LOADING WITH A 5000 GALLON PROPANE SUPPLY. DURATION =	
5000 GALLONS / 23.908 GALLONS PER HOUR =	209.135 HOURS



ELECTRICAL ROOM MODIFICATION

SCALE: 1/4" = 1'-0"

NOTE: SEE SHEET S-2 FOR DETAILS.

REV.	DESCRIPTION	DATE

Project

RPV GENERATOR
CITY OF RANCHO PALOS VERDES
30940 HAWTHORNE BLVD.
RANCHO PALOS VERDES, CA 90275

NIKOLAKOPULOS and ASSOC., INC.
CONSULTING ELECTRICAL ENGINEERS
2780 SKYPARK DRIVE, SUITE #280
TORRANCE, CA 90505
310/530-7277 FAX: 310/530-7283

LICENSED ENGINEER ALEX NIKOLAKOPULOS No. E 8243 REN. 09-30-10 STATE OF CALIFORNIA

Sheet Title

NOTES

Scale: AS SHOWN

Date 2/12/09

CAD File | Project Number

Sheet Number

E1R2