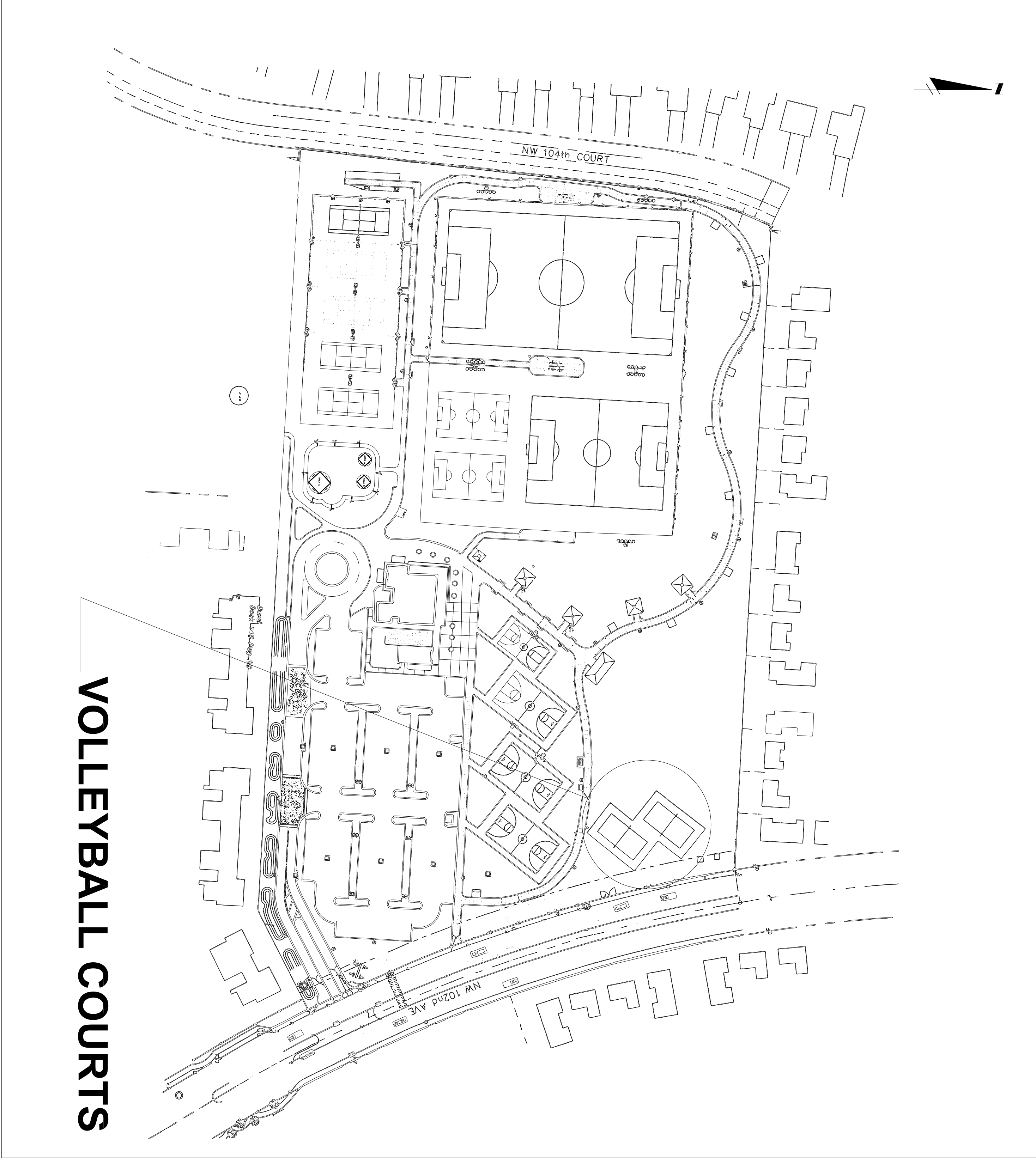


ELECTRICAL PLANS

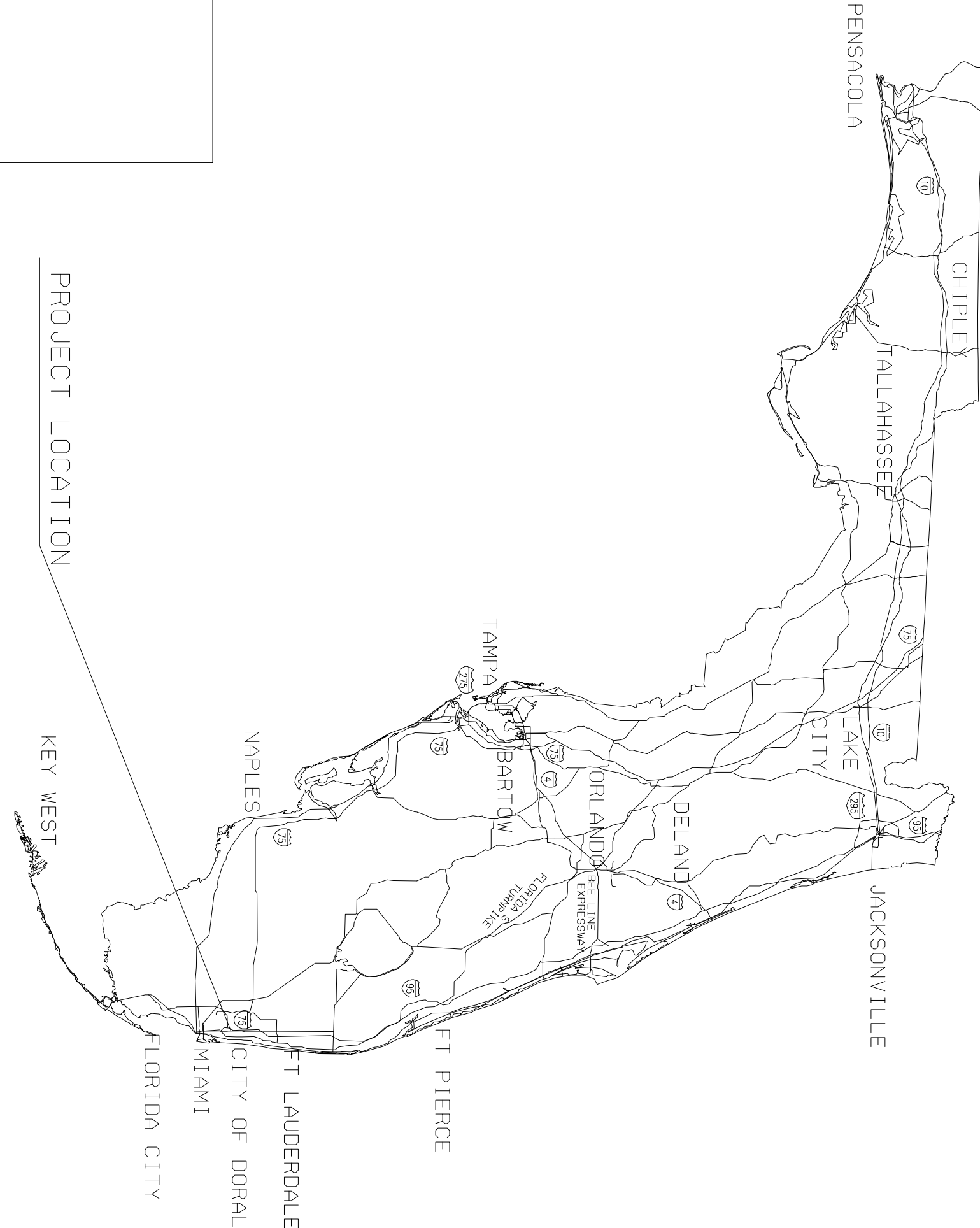
MORGAN LEVY PARK
VOLLEYBALL COURTS
5300 NW 102nd AVE.
DORAL, FLORIDA 33178

INDEX OF LIGHTING PLANS

SHEET NO.	SHEET DESCRIPTION
E-01	KEY SHEET
E-02	GENERAL NOTES
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VOLLEYBALL COURTS



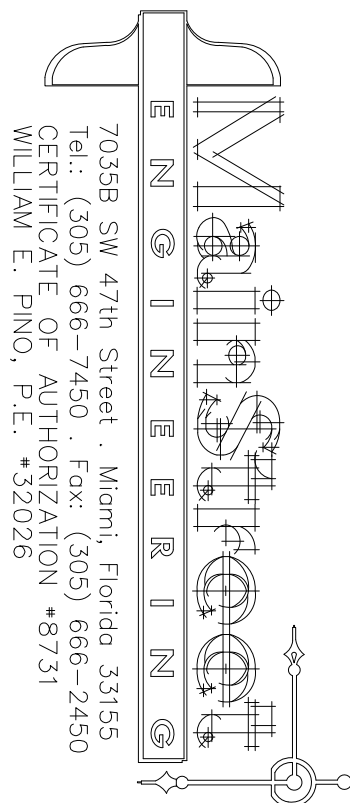
PROJECT LOCATION

KEY WEST

SHOP DRAWINGS
TO BE SUBMITTED TO:

WILLIAM E. PINO, P.E.,
MAIN STREET ENGINEERING, INC.,
7035-B SOUTHWEST 47TH STREET
MIAMI, FLORIDA 33155
PH. (305) 666-7450

PLANS PREPARED BY:



NOTE: THE SCALE OF THESE PLANS MAY
HAVE CHANGED DUE TO REPRODUCTION.

SHEET NUMBER E-01	DATE 08/24/2010 PROJECT NO.	PROJECT: MORGAN LEVY PARK VOLLEYBALL COURTS 5300 NW 102nd AVE. DORAL, FLORIDA 33178	DESCRIPTION: KEY SHEET	SCALE N.T.S. DESIGNED BY JB DRAWN BY DS CHECKED BY WP	ELECTRICAL ENGINEER: WILLIAM E. PINO FLORIDA P.E.: # 32026 SEAL		THE SIGNATURE AND SEAL HEREBY AFFIXED BY THIS ENGINEER CERTIFIES COMPLIANCE ONLY OF THE METHOD AND INPUT DATA USED IN GENERATION OF THIS COMPUTER PRINTOUT.			
							No.	REVISIONS	DATE	BY

GENERAL NOTES

1. INSTALLATION OF LIGHTNING SYSTEM SHALL COMPLY WITH NFPA 780: STANDARD FOR THE INSTALLATION OF LIGHTNING PROTECTION SYSTEMS AND NFPA 51B: STANDARD FOR FIRE PREVENTION DURING WELDING, CUTTING AND OTHER HOT WORK.

2. PRIOR TO ANY EQUIPMENT ORDER, THE CONTRACTOR SHALL SUBMIT FOR APPROVAL EQUIPMENT SPECIFICATION OF DESIGN DATA FOR ALL MATERIAL PROPOSED FOR THE PROJECT. THESE MUST SPECIFICALLY INCLUDE:

- A) LUMINAIRE PHOTOMETRICS, CATALOG DATA
- B) POLE STRENGTH CALCULATIONS AND POLE FOUNDATION CALCULATIONS. (WIND SPEED F.B.C. 146 MPH)
- C) POLE IDENTIFICATION TAG DETAIL
- D) BOLT SPECIFICATIONS AND BOLT CIRCLE DIAMETER
- E) LOAD CENTER EQUIPMENT
- F) LIGHT POLE MOUNTING HEIGHT DIAGRAMS

(7) COPIES OF SUBMITTAL DRAWINGS FOR THE ELECTRICAL SYSTEM SHALL BE SUBMITTED TO THE CONSTRUCTION MGR.

3. THE LOCATIONS OF EXISTING UTILITIES, AS SHOWN ON THESE PLANS, ARE APPROXIMATE AND BASED ON THE INFORMATION FURNISHED TO THE ENGINEER BY THE OWNER(S) AND ARE SHOWN AS NOTICE TO THE CONTRACTOR THAT THE UNDERGROUND UTILITIES EXIST. THE CONTRACTOR SHALL NOTIFY THE OWNER(S) FOR LOCATION AND STAKING OF UNDERGROUND FACILITIES BEFORE EXCAVATING.

4. FLORIDA STATUTE 553.851 (1993) REQUIRES THAT BEFORE EXCAVATING, NOTICE BE GIVEN TO THE UTILITY OWNER A MIN. OF TWO (2) DAYS AND A MAXIMUM OF FIVE (5) DAYS, EXCLUDING SATURDAY, SUNDAY AND LEGAL HOLIDAYS, NOT ALL UTILITY COMPANIES ARE MEMBERS OF "SUNSHINE" 1-800-432-4770. SAME PROCEDURE SHALL APPLY TO UTILITIES OWNED BY THE PORT OF MIAMI.

5. THE LOCATION OF POLES, CONDUCTORS, CONDUITS, JUNCTION BOXES, AND SERVICE POLES ARE DIAGRAMMATIC ONLY AND MAY BE SHIFTED BY THE ENGINEER TO ACCOMMODATE LOCAL CONDITIONS AND EXISTING UTILITY LOCATIONS.

6. POLES, LUMINAIRES AND BASES SHALL BE FABRICATED IN ACCORDANCE WITH AASHTO'S "STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNALS", AND SHALL HAVE BEEN TESTED BY FHWA-APPROVED METHODS. CERTIFICATION FOR TESTS SHALL BE SUBMITTED WITH THE SHOP DRAWINGS.

7. SUBMITTAL DATA SHALL INCLUDE COMPUTER PRINTOUT SHOWING HORIZONTAL LIGHTING LEVELS TO BE OBTAINED USING THE SUBMITTED LUMINAIRES ON THIS PROJECT IF SUBMITTED LUMINAIRES DIFFER FROM THE SPECIFIED LUMINAIRE.

8. ALL ELECTRICAL WORK SHALL MEET ALL REQUIREMENTS OF THE LATEST EDITION OF THE NATIONAL ELECTRICAL CODE. THE NATIONAL ELECTRICAL SAFETY CODE, AND THE LATEST EDITION OF THE FLORIDA BUILDING CODE. ALL COMPONENTS SHALL BE PROPERLY GROUNDED BONDED AS PER N.E.C. REQUIREMENTS. IF ANY CONFLICT SHALL ARISE BETWEEN ANY OF THE MENTIONED DOCUMENTS THE MORE STRINGENT SHALL APPLY.

9. INSTALL LIGHTNING ARRESTORS, PROPERLY GROUNDED, IN POWER (SECONDARY) ENTRANCES.

10. IN ACCORDANCE W/ N.E.C., IDENTIFY ALL CIRCUITS AND EQUIPMENT WITH "LAMACOID TAGS". INSTALL SIMILAR TAGS OF STAINLESS STEEL IDENTIFYING CIRCUIT FOR EACH LUMINAIRE AT ACCESS HANDHOLE FOR EACH POLE. (ALSO SEE NOTE 15)

11. THE CONTRACTOR SHALL NOTIFY THE CITY OF DORAL AT LEAST 48 HOURS PRIOR OF ANY INSTALLATION WITHIN 10 FEET OF ENERGIZED ELECTRICAL CONDUCTORS. THE CITY SHALL ASSIST THE CONTRACTOR COVER UP ENERGIZED CONDUCTORS AT INSTALLATION SITE, OR TAKE OTHER SAFETY PRECAUTIONS AS NECESSARY. EXTREME CAUTION SHALL BE EXERCISED AT ALL TIMES IN PERFORMANCE OF WORK AROUND THE PRIMARY HIGH VOLTAGE COMPONENTS.

12. UTILITY OWNERS:

- WATER AND SANITARY SEWER – MDC WATER & SEWER
- ELECTRIC POWER – FPL
- TELEPHONE – BELL SOUTH
- GAS – CITY GAS
- TRAFFIC MONITORING STATIONS – MDPW

13. PULLING INSTRUCTIONS: CONNECT PULLING DEVICES TO COPPER WIRE AND NOT TO WIRE JACKET AND MEET MANUFACTURER'S REQUIREMENTS. USE PULLING COMPOUND AS PER MANUFACTURER'S REQUIREMENTS. ALL BENDS SHALL NOT BE LESS THAN RECOMMENDED BY N.E.C. OR N.E.S.C. FOR TYPE OF CABLE USED.

14. CONTRACTOR SHALL STAKE ALL POLE LOCATIONS AND REQUEST UTILITY COMPANIES TO LOCATE AND STAKE UNDERGROUND UTILITIES PRIOR TO EXCAVATING. REFERENCE IS MADE TO GENERAL NOTE 4 THIS SHEET.

15. FURNISH AND INSTALL AN ALUMINUM IDENTIFICATION TAG ON EACH LIGHTING POLE. TAGS SHALL BE 2" X 8" IN SIZE WITH BLACK LETTERS ON YELLOW BACKGROUND, ATTACHED WITH RIVETS (NO SCREWS). NUMBERS SHALL BE AS SHOWN ON THE POLE DATA SHEET. SUBMIT POLE IDENTIFICATION TAG DETAIL WITH POLE SHOP DRAWING. COSTS SHALL BE INCLUDED IN THE BID ITEMS FOR "LIGHT POLE COMPLETE".

16. THE CONCRETE PADS FOR LIGHT POLES AND PULL BOXES MAY BE ADJUSTED IN SIZE TO STAY WITHIN RIGHT OF WAY LINES AND TO AVOID OTHER STRUCTURES.

17. CONTRACTOR SHALL COORDINATE WITH FPL AND THE OWNER THE PLACEMENT OF SERVICE POINTS. ELECTRICAL EQUIPMENT AND ANY OTHER ITEMS NECESSARY FOR A COMPLETE WORKING SYSTEM AS INDICATED ON THESE DRAWINGS. THE COST OF EQUIPMENT AND FEES SHALL BE INCLUDED IN THE CONTRACTORS PROPOSAL.

18. AT FINAL INSPECTION, CONTRACTOR SHALL VERIFY THE HORIZONTAL FOOTCANDLE LEVELS WITH AN APPROVED CURRENT CALIBRATED LIGHT METER TO THE SATISFACTION OF THE ENGINEER.

19. ANY CONDUIT NOT INSTALLED PRIOR TO PLACING OF THE PAVEMENT BASE OR TO BE INSTALLED IN EXISTING PAVEMENT SHALL BE INSTALLED BY DIRECTIONAL BORING. THE COST TO BE INCLUDED IN THE COST OF THE UNDERGROUND CONDUIT. NO ADDITIONAL COMPENSATION IS TO BE GIVEN TO THE CONTRACTOR FOR THE COST OF DIRECTIONAL BORINGS

20. ALL CONDUCTORS (WIRING) SHALL HAVE THE TYPE RHW CROSSPOLYLINK JACKET ONLY. WIRING WITH ANY OTHER TYPE JACKET SHALL NOT BE USED. ALL WIRING SHALL BE STRANDED.

21. ALL CONDUCTORS (WIRING) SHALL BE RHW CROSSPOLYLINK AS SHOWN ON THE PLANS AND #6 THW GREEN GROUND, UNLESS OTHERWISE NOTED.

22. POLE HANDHOLES SHALL BE INSTALLED FACING AWAY FROM THE LUMINAIRE DIRECTION FOR MAINTENANCE ACCESSIBILITY.

23. LOCATION OF ELECTRICAL EQUIPMENT (INCLUDING POLES, LUMINAIRES, PULL BOXES, CONDUIT, SERVICE POINTS AND ALL MATERIAL RELATED TO THE ELECTRICAL WORK TO BE USED IN THIS CONTRACT) INDICATED ON THESE PLANS IS DIAGRAMMATIC. CONTRACTOR TO RUN CONDUIT AT THE BACK OF CURB ALONG THE BOTTOM OF PLANTER DEPTH. ACTUAL LOCATION SHALL BE DETERMINED AT THE FIELD AFTER VERIFYING THAT THERE ARE NO CONFLICTS WITH EXISTING CONDITIONS AND EXISTING UTILITIES AND OTHER DISCIPLINES INCLUDED IN THIS CONTRACT. SHALL ANY CONFLICT ARISE, THE CONTRACTOR, AT NO EXPENSE TO THE OWNER, SHALL ALTER AS REQUIRED AND APPROPRIATE, THE FINAL LOCATION OF THE EQUIPMENT IN CONFLICT.

24. UPON SUBMITTING A BID PROPOSAL TO THE OWNER FOR THE WORK INDICATED ON THESE PLANS, THE CONTRACTOR ACKNOWLEDGES THAT THESE PLANS ARE DIAGRAMMATIC AND REPRESENT THE INTENTION OF THE ELECTRICAL SYSTEM DESIRE AND REQUIRED BY THE OWNER, AND THAT THE CONTRACTOR HAS TAKEN THIS STATEMENT INTO CONSIDERATION PRIOR TO BID AND WILL INSTALL AT NO COST TO THE OWNER DURING THE CONSTRUCTION PROCESS ANY NECESSARY AND REQUIRED ADDITIONAL SUPPORT EQUIPMENT AND WORKMANSHIP AS PULL BOXES, WIRING, CONDUIT, FOUNDATIONS, LAMPS AND ALL OTHER POSSIBLE ELECTRICAL MATERIAL NOT INDICATED IN THE PLANS BUT REQUIRED TO COMPLY WITH THE INTENT OF THE DESIGN AND TO STRICTLY CONFORM WITH ALL APPLICABLE CODES AND REGULATIONS.

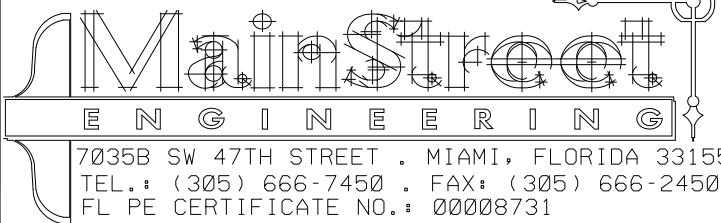
25. THE CONTRACTOR, PRIOR TO BID, SHALL INSPECT THE EXISTING SYSTEM AND UPON SUBMITTING THE PROPOSAL TO THE OWNER ACKNOWLEDGES THAT THE EXISTING SYSTEM IS IN PERFECT WORKING CONDITION. ALL MATERIAL AND WORKMANSHIP REQUIRED TO ACHIEVE ANY REQUIRED AND PROPER INTERCONNECTION BETWEEN THE EXISTING SYSTEM AND THE NEW SYSTEM SHALL BE PROVIDED AND INSTALLED BY THE CONTRACTOR AS PART OF HIS BID PROPOSAL.

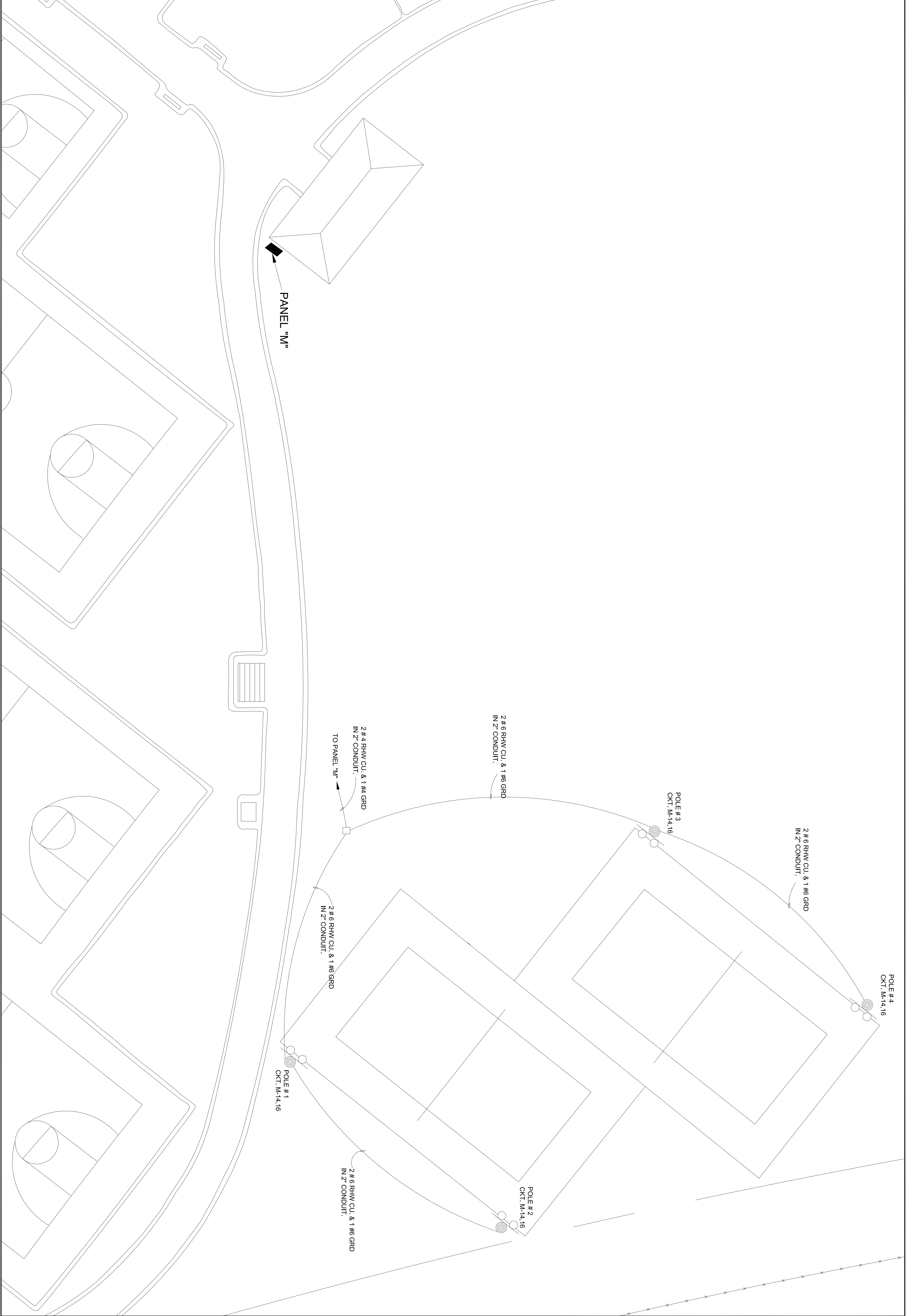
26. EQUIPMENT NOT AS SPECIFIED OR DIFFERENT FROM THE ONE SPECIFIED REQUIRES SUBMITTAL AND APPROVAL PRIOR TO CONTRACTOR, SUBMITTING THE PROPOSAL TO THE OWNER

27. THE CONTRACTOR SHALL PROTECT THE EXISTING CIRCUITS, CONDUITS, CONDUCTORS, PULL BOXES AND LIGHT POLES TO REMAIN. ANY DAMAGED COMPONENT TO REMAIN SHALL BE REPAIRED OR REPLACED BY CONTRACTOR AT NO ADDITIONAL COST TO THE CLIENT.

28. POLE CABLE DISTRIBUTION SYSTEM USED SHALL BE (MG SQUARE DOT 3), THE ONLY SPLICING DEVICE ACCEPTABLE TO THE MIAMI-DADE PUBLIC WORKS LIGHTING STANDARD, IS THE MOLDED SPLICE KIT TYCO-RAYCHEM CATALOG # GELCAP-SL-2/0-3 HOLE. WHERE CONVENTIONAL WIRING SYSTEMS ARE EMPLOYED OR THE EXISTING POLES ARE UTILIZED, CONDUCTORS SHALL BE SO ROUTED AND COORDINATE AS TO TERMINATE ON THE LINE SIDE OF THE FUSE-HOLDERS (HEBS & HEBR'S). PULL BOXES CONTAINING #4 AWG OR LARGER CONDUCTORS CONTAINING SPLICES OR U PULLS, THE DISTANCE BETWEEN RACEWAYS SHALL BE INCREASED SIX TIMES THE TRADE SIZE DIAMETER OF THE LARGEST RACEWAY.

SHEET NUMBER E-02		DATE 08/24/2010		PROJECT NO.		PROJECT:		DESCRIPTION:		SCALE		DESIGNED BY		DRAWN BY		CHECKED BY		ELECTRICAL ENGINEER:		FLORIDA P.E.: # 32026		SEAL		THE SIGNATURE AND SEAL HEREBY AFFIXED BY THIS ENGINEER CERTIFIES COMPLIANCE ONLY OF THE METHOD AND INPUT DATA USED IN GENERATION OF THIS COMPUTER PRINTOUT.		No		REVISIONS		DATE		BY	
						MORGAN LEVY PARK VOLLEYBALL COURTS		GENERAL NOTES																									
						5300 NW 102nd AVE.																											
						DORAL, FLORIDA 33178																											





E-03 SHEET NUMBER	DATE 08/24/2010 PROJECT NO.	PROJECT: MORGAN LEVY PARK VOLLEYBALL COURTS 5300 NW 102nd AVE. DORAL, FLORIDA 33178	DESCRIPTION: ELECTRICAL PLAN	SCALE 1" = 10' DESIGNED BY JB DRAWN BY DS CHECKED BY WP	ELECTRICAL ENGINEER: WILLIAM E. PINO FLORIDA P.E.: # 32026 SEAL	 7035B SW 47TH STREET • MIAMI, FLORIDA 33155 TEL.: (305) 666-7450 • FAX: (305) 666-2450 FL PE CERTIFICATE NO.: 00008731	THE SIGNATURE AND SEAL HEREBY AFFIXED BY THIS ENGINEER CERTIFIES COMPLIANCE ONLY OF THE METHOD AND INPUT DATA USED IN GENERATION OF THIS COMPUTER PRINTOUT. <table><tr><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td></tr></table> No. REVISIONS DATE BY																

TYPE: SQUARE D MINIPOWER CATALOG # MP215540F										ENCLOSURE: NEMA 3R									
PRIMARY VOLTAGE 480 V										LOCATION: ELEC. AS SHOWN									
SECONDARY VOLTAGE 120/240										FEED FROM: 15 KVA TRANSF.									
EXISTING PANEL B										A.I.C.S.: 10000									
DESCRIPTION	WIRE/ CIRCUIT	LOAD	P.O.E TRIP NO.	CIR TRIP	A	B	CIR TRIP	P.O.E TRIP	LOAD	WIRE/ CIRCUIT	DESCRIPTION								
EXISTING RECEPT	#12 - 1/2"	180	20	1	2	2	2	2	3640	-	SECONDARY MAIN								
EXISTING RECEPT	#12 - 1/2"	180	20	3	-	4	6	80	3620	-	SECONDARY MAIN								
EXISTING RECEPT	#12 - 1/2"	180	20	5	-	6	20	5	180	#12 - 1/2"	EXISTING RECEPTS								
EXISTING RECEPT	#12 - 1/2"	180	20	7	-	8	20	7	180	#12 - 1/2"	EXISTING RECEPTS								
EXISTING RECEPT	#12 - 1/2"	180	20	9	-	10	20	9	180	#12 - 1/2"	EXISTING RECEPTS								
EXISTING RECEPT	#12 - 1/2"	180	20	11	-	12	20	11	180	#12 - 1/2"	EXISTING RECEPTS								
EXISTING RECEPT	#12 - 1/2"	180	20	13	-	14	2	20	4400	#4 - 2"	NEW COURT LIGHTS								
EXISTING RECEPT	#12 - 1/2"	180	20	15	-	16	50	16	4400	#4 - 2"	NEW COURT LIGHTS								
EXISTING RECEPT	#12 - 1/2"	180	20	17	-	18	-	-	-	-	SPACE								
EXISTING RECEPT	#12 - 1/2"	180	20	19	-	20	-	-	-	-	SPACE								
EXISTING RECEPT	#12 - 1/2"	180	20	21	-	22	-	-	-	-	SPACE								
EXISTING RECEPT	#12 - 1/2"	180	20	23	-	24	-	-	-	-	SPACE								
EXISTING RECEPT	#12 - 1/2"	180	20	25	-	26	-	-	-	-	SPACE								
SPACE	-	-	-	27	-	28	-	-	-	-	SPACE								
SPACE	-	-	-	29	-	30	-	-	-	-	SPACE								

FEEDER: EXISTING PRIMARY WIRE AT 480 VOLTS / 2#4 CU. & 1#6 CU. IN 1 1/2" C.

LEGEND

- PANEL M, SQUARE D MINI POWER ZONE MP215540F, PRIMARY VOLTAGE 480V, SECONDARY VOLTAGE 120/240V.
- PULL BOX.
- 40 FT. ABOVE GRADE STAIN STEEL POLE WITH 2 LAMP LUMINAIRE ASSEMBLY COMPLETE WIREMOTE BALLAST BOXES & MOUNTING HARDWARE LIGHT FIXTURES DOUBLE FUSED 1000 W. M.H. MUSCO OR APPROVED EQUAL.

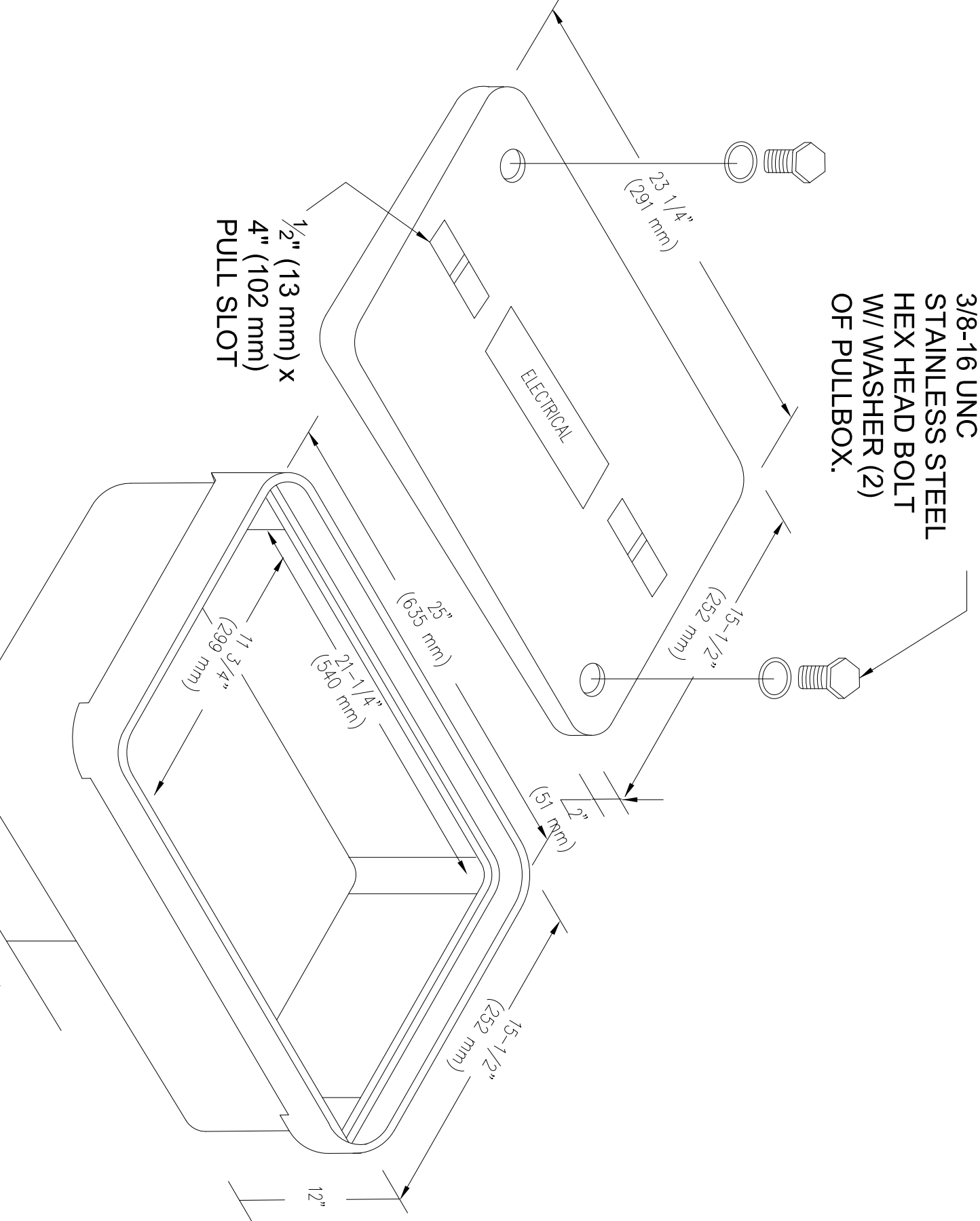
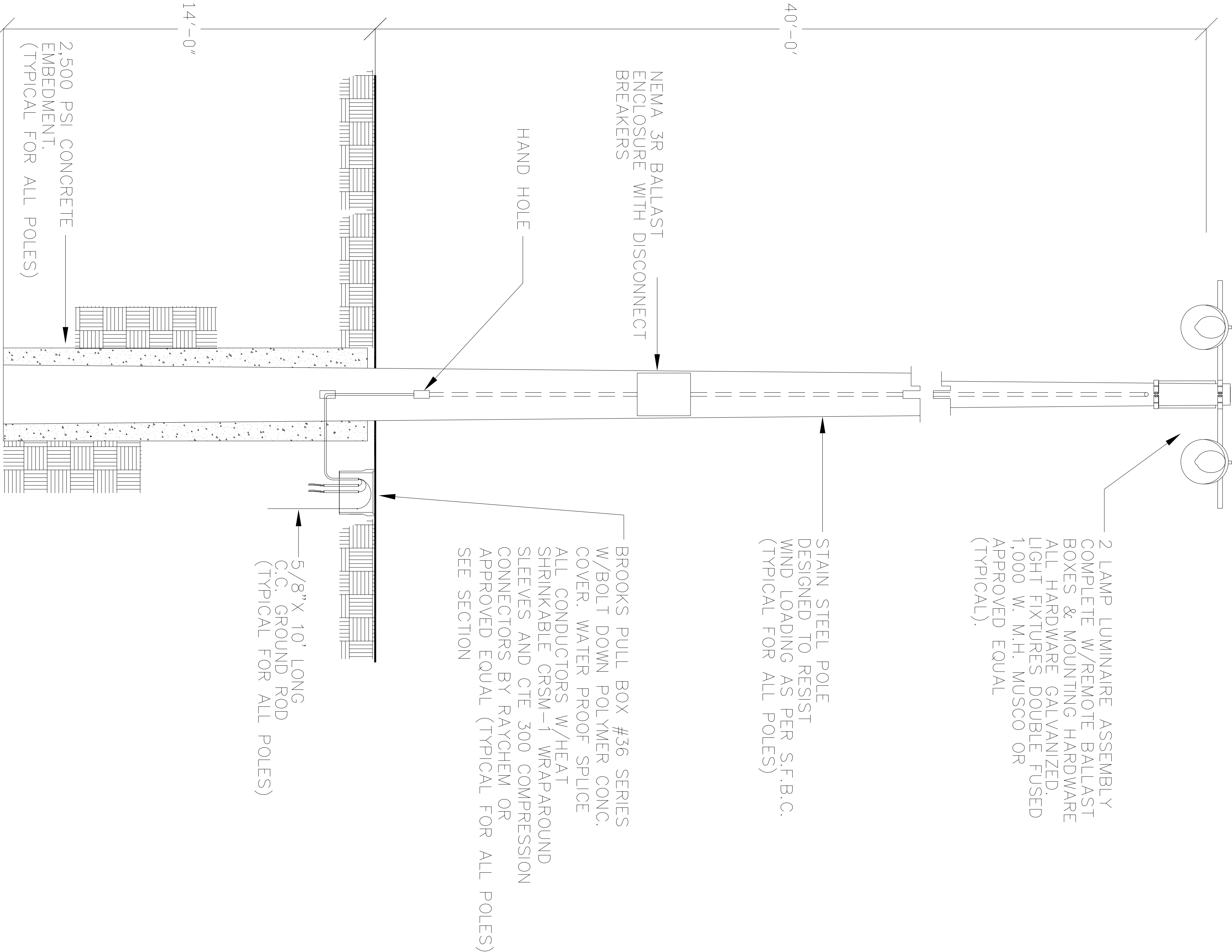
2" SCHEDULE 40 P.V.C. CONDUIT WITH RHW INSULATED CIRCUIT CONDUCTORS.

PULL BOX SPECIFICATION

- ALL STREET LIGHT PULLBOXES SHALL HAVE AN OPEN-BOTTOM, DESIGN CONSTRUCTED OF CLASS I CONCRETE HAVING MARKED "STREET LIGHTING" OR "ELECTRIC / MAMMADE HD". MATERIALS SHALL BE ACCEPTABLE. PULLBOX COVERS SHALL BE EQUIVALENT. NO OTHER DESIGN, SIZE, MODIFICATION OR QUAZITE PRODUCT NO. PG1324HA00 OR APPROVED FURNISHED AND INSTALLED SHALL BE POLYMER CONCRETE CHANGABLE WITH EITHER PULLBOX. ALL PULLBOX COVERS BELOW SPECIFIED PULLBOX COVER SHALL BE FULLY INTER-SIZE. MATERIALS AND PERFORMANCE SPECIFICATIONS. THEREFORE, SHALL BE CONSTRUCTED PER ABOVE SPECIFIED MANUFACTURERS OR APPROVED EQUIVALENT. IN EITHER CASE, BOTH PULLBOXES CONCRETE PULLBOX SHALL BE BROOKS 38 SERIES QUAZITE PRODUCT NO. PG1324BA12 OR APPROVED EQUIVALENT. EIGHT (8) DAYS. POLYMER CONCRETE PULLBOX SHALL BE A MINIMUM COMPRESSIVE STRENGTH OF 2,500 PSI AT TWENTY-QUAZITE POLYMER CONCRETE DESIGN OR PRECAST CONCRETE
- IN SITUATIONS WHERE PULLBOX IS LOCATED OUTSIDE OF SIDEWALK, I.E. SWALE AREA, THE PULLBOX IS TO HAVE A 3" CONCRETE APRON (6" THICK) PLACED AROUND IT. COST OF CONCRETE APRON IS TO BE INCLUDED IN THE PULLBOX INSTALLATION COST.

NOTES:

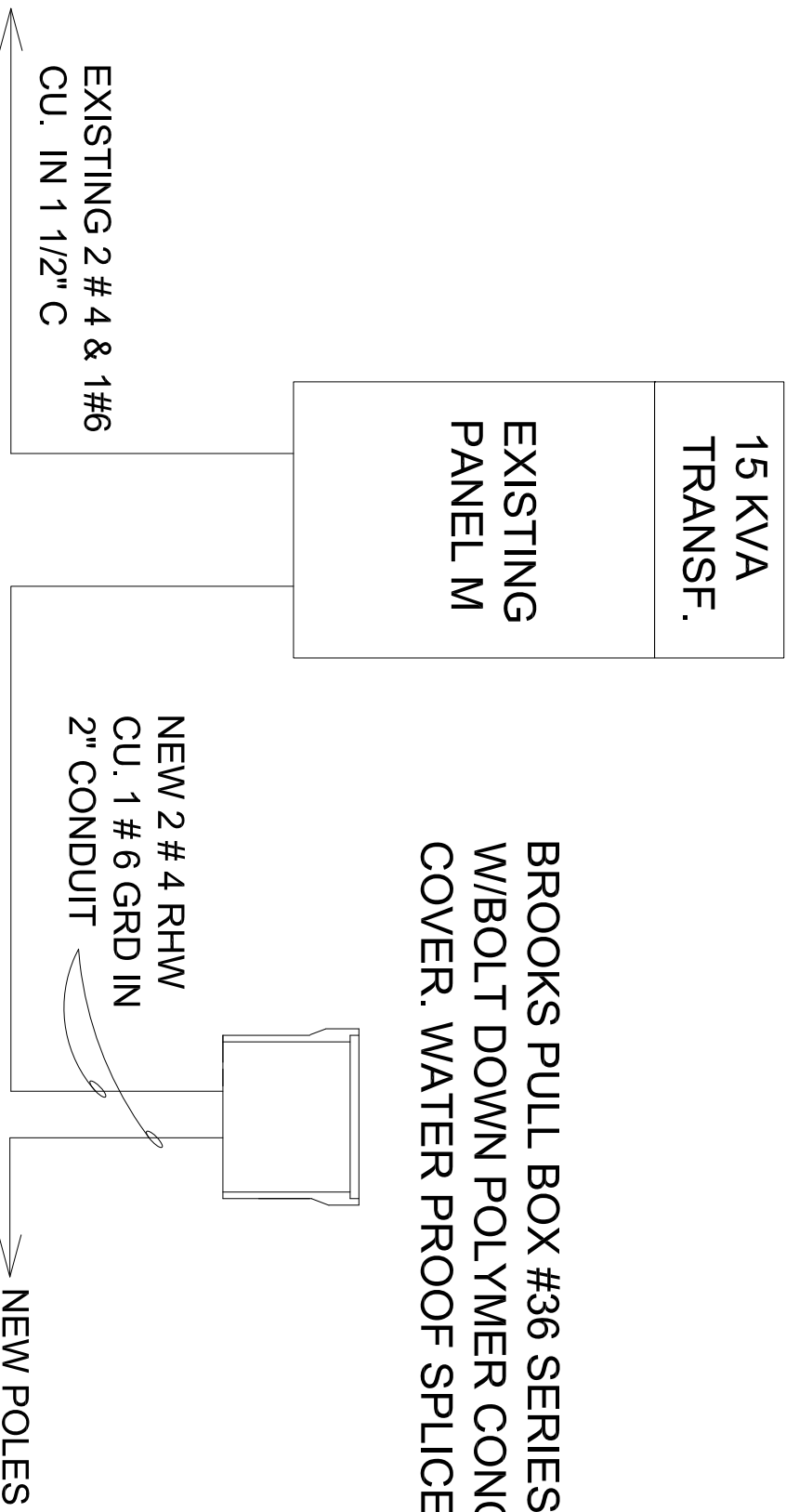
- POLE SHALL BE DESIGNED TO WIDTHSTAND 146 MPH PER F.B.C. CONTRACTOR SHALL SUBMIT, AS PART OF THE POLES SHOP DRAWING, FOUNDATION CALCULATIONS SIGNED AND SEALED BY A FLORIDA STRUCTURAL ENGINEER.
- FOUNDATION SHALL BE DESIGNED TO WIDTHSTAND 146 MPH PER F.B.C. CONTRACTOR SHALL SUBMIT, AS PART OF THE POLES SHOP DRAWING, FOUNDATION CALCULATIONS SIGNED AND SEALED BY A FLORIDA STRUCTURAL ENGINEER. THE GEOTECH INFORMATION SHALL BE OBTAINED BY THE CONTRACTOR AND ITS COST SHALL BE PART OF THE CONTRACTORS PROPOSAL.



PULL BOX DETAIL

5/8" X 8 GROUND ROD
(TYPICAL 9 POLES)

RISER DIAGRAM



POLE DETAIL

SHEET NUMBER E-04		DATE 08/24/2010 PROJECT NO.		PROJECT: MORGAN LEVY PARK VOLLEYBALL COURTS 5300 NW 102nd AVE. DORAL, FLORIDA 33178		DESCRIPTION: ELECTRICAL DETAILS		SCALE N.T.S. DESIGNED BY JB DRAWN BY DS CHECKED BY WP	DESIGNED BY JB DRAWN BY DS CHECKED BY WP	Electrical Engineer: WILLIAM E. PINO FLORIDA P.E.: # 32026 SEAL	 7835B SW 47TH STREET • MIAMI, FLORIDA 33155 TEL. • (305) 666-7450 • FAX: (305) 666-2450 FL PE CERTIFICATE NO. • 00008731		THE SIGNATURE AND SEAL HEREBY AFFIXED BY THIS ENGINEER CERTIFIES COMPLIANCE ONLY OF THE METHOD AND INPUT DATA USED IN GENERATION OF THIS COMPUTER PRINTOUT.		No.	REVISIONS	DATE	BY
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