

LIST OF DRAWINGS

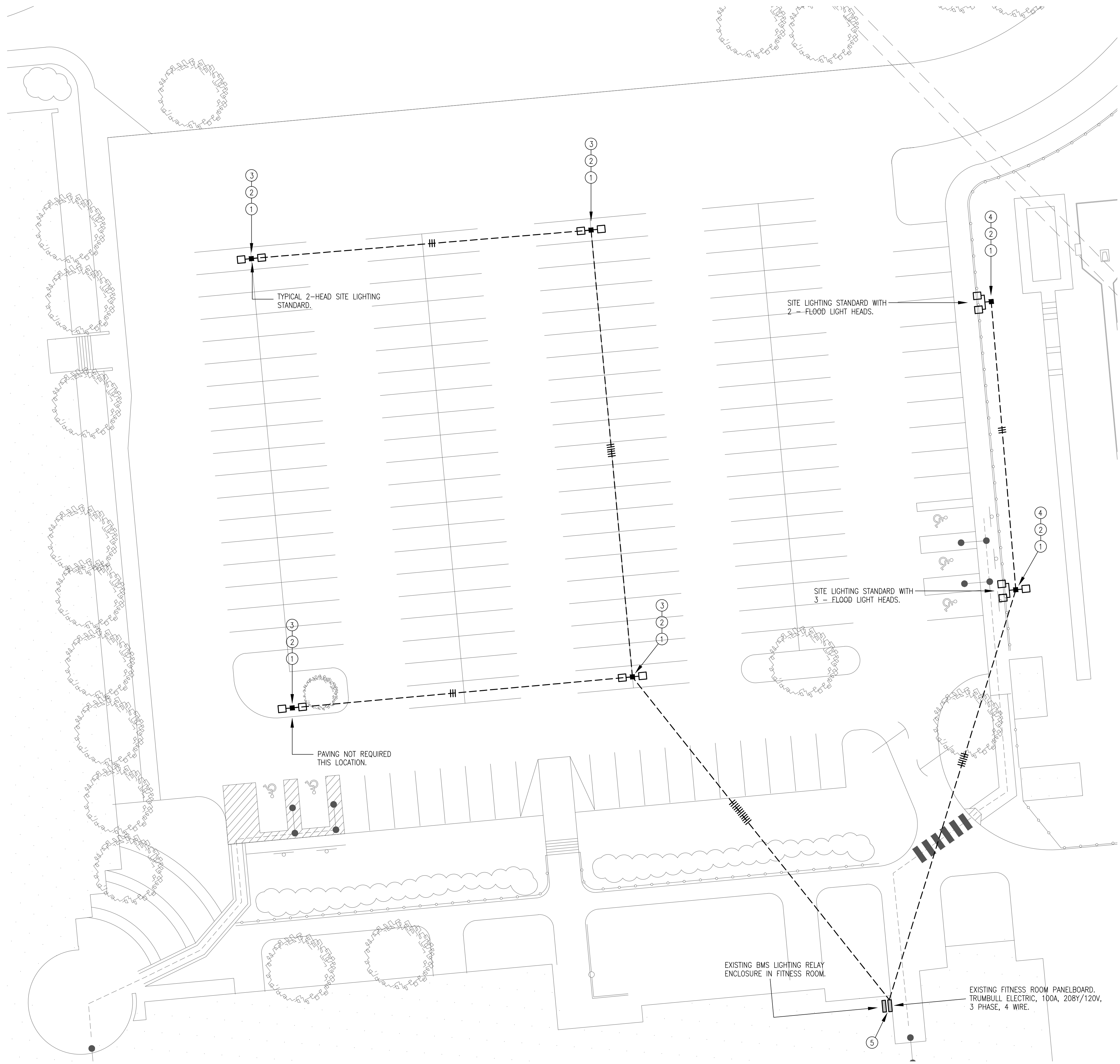
COVER	
SDL-1	SITE LIGHTING DEMOLITION PLAN
SL-1	SITE LIGHTING PLAN
E-1	POWER PLAN

MANCHESTER HIGH SCHOOL
SITE LIGHTING IMPROVEMENTS
135 MIDDLE TURNPIKE E.
MANCHESTER, CONNECTICUT

M/E/P ENGINEER
BEMIS ASSOCIATES LLC
185 MAIN STREET
FARMINGTON, CONNECTICUT
Phone: 860-667-3233
Fax: 860-321-7070

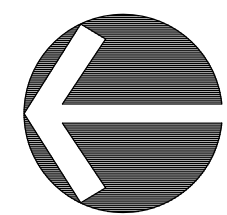
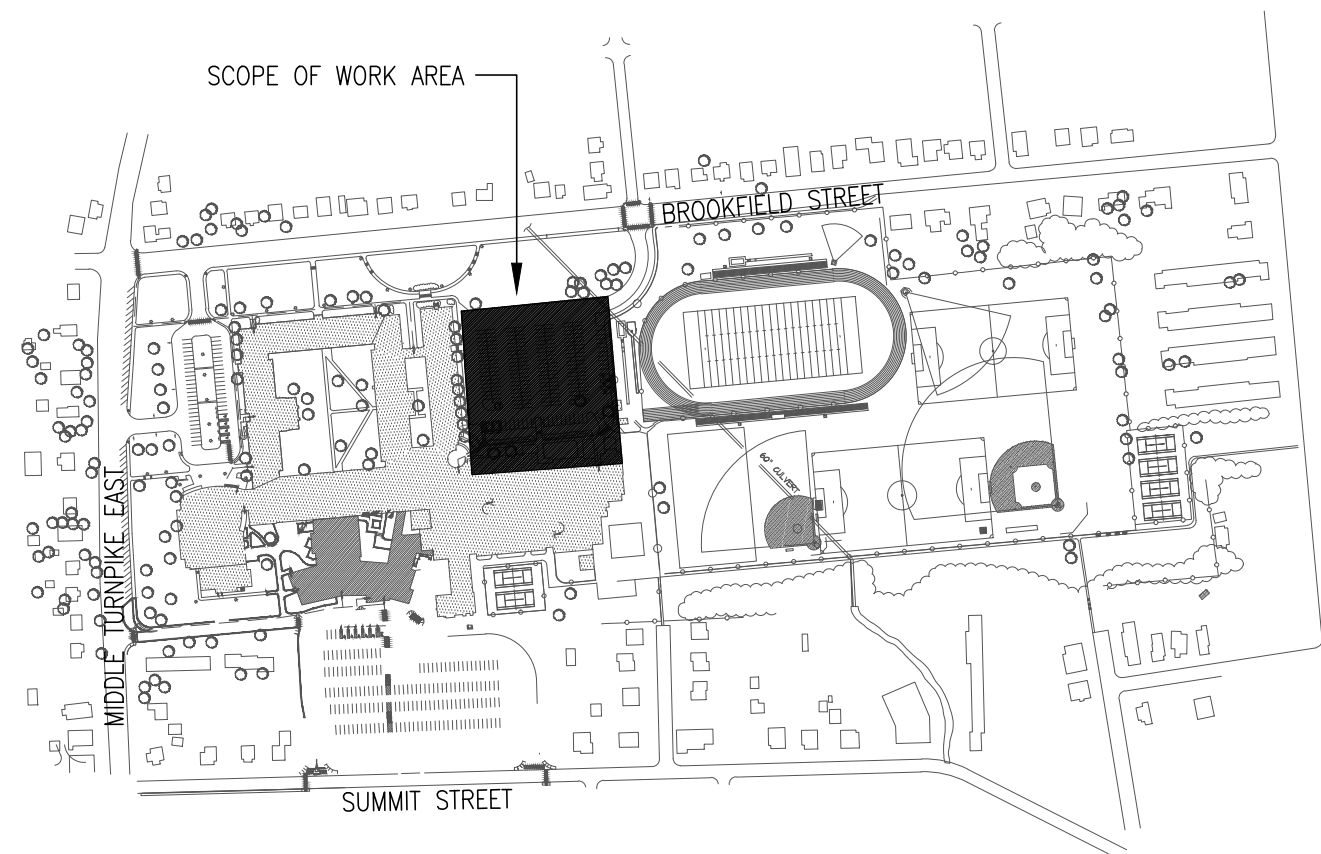
- ELECTRICAL DEMOLITION WORK SYMBOLS -	
TAG	ACTION
①	DISCONNECT AND REMOVE EXISTING SITE LIGHTING STANDARD POLE AND LUMINAIRES.
②	DISCONNECT AND REMOVE EXISTING SITE LIGHTING STANDARD CONCRETE BASE, CONDUIT STUB-OUTS, AND GROUND ROD. CUT EXISTING BRANCH CIRCUIT WIRING BACK AND ABANDON IN PLACE.
③	FILL IN HOLE LEFT OVER FROM REMOVED CONCRETE BASE WITH 3/4" AGGREGATE GRAVEL, COMPACT GRAVEL IN 12" LIFTS WITH COMPACTOR, AND PAVE WITH BINDER COURSE AND FINISH COURSE TO MATCH EXISTING ADJACENT PAVEMENT. SEAL CRACKS WITH DRIVEWAY SEALANT WHERE NEW PAVEMENT ABUTS EXISTING PAVEMENT. PAINT NEW PARKING SPACE LINES TO MATCH EXISTING.
④	PREPARE HOLE LEFT OVER FROM REMOVED CONCRETE BASE TO ACCEPT NEW CONCRETE BASE. DEEPEN HOLE AND SQUARE OFF AS NECESSARY.
⑤	DISCONNECT AND REMOVE EXISTING SITE LIGHTING BRANCH CIRCUIT CONDUCTORS FROM FITNESS ROOM BMS LIGHTING RELAY ENCLOSURE AND BRANCH CIRCUIT PANELBOARD. CUT BACK CONDUCTORS BELOW GRADE AND ABANDON IN PLACE.

- ELECTRICAL DEMOLITION WORK NOTES
- 1 - PRIOR TO SUBMITTING BID, VISIT THE SITE AND IDENTIFY EXISTING CONDITIONS AND DIFFICULTIES THAT WILL AFFECT WORK TO BE PERFORMED. NO COMPENSATION WILL BE GRANTED FOR ADDITIONAL WORK CAUSED BY UNFAMILIARITY WITH SITE CONDITIONS THAT ARE VISIBLE OR READILY CONSTRUED BY EXPERIENCED OBSERVERS. INCLUDE IN THE BID ALL DEMOLITION WORK REQUIRED.
 - 2 - THE DEMOLITION DRAWINGS ARE INTENDED ONLY TO DEFINE THE GENERAL SCOPE OF DEMOLITION WORK AND TO ASSIST THE CONTRACTOR DURING BIDDING. THE DEMOLITION DRAWINGS MAY NOT SHOW EVERY ITEM, WHICH MUST BE DISCONNECTED, REMOVED, OR RELOCATED IN ORDER TO FACILITATE NEW WORK. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL DEMOLITION WORK REQUIRED WHETHER OR NOT SHOWN ON THE PLANS.
 - 3 - REMOVE AND/OR RELOCATE ALL EXISTING ELECTRICAL WORK AS NECESSARY FOR THE PERFORMANCE OF THE WORK OF THIS CONTRACT.
 - 4 - EXISTING ELECTRICAL EQUIPMENT, WIRING, AND RACEWAYS SHALL NOT BE REUSED UNLESS SPECIFICALLY NOTED OTHERWISE.
 - 5 - REMOVE ALL DEMOLITION MATERIAL FROM THE JOB SITE UNLESS NOTED DIFFERENTLY. MATERIAL REQUESTED BY THE OWNER FOR SALVAGE SHALL BE DELIVERED TO THE OWNER'S DESIGNATED MATERIAL STORAGE AREA.
 - 6 - PROVIDE WIRING AS REQUIRED AND RECONNECT EXISTING FIXTURES, DEVICES, OR EQUIPMENT THAT ARE TO REMAIN ACTIVE, BUT HAVE BEEN DISCONNECTED DURING DEMOLITION OF OTHER FIXTURES, DEVICES, OR EQUIPMENT.



SITE PLAN

1" = 20'



1 THE CONTRACTOR SHALL VERIFY AND OBTAIN ALL NECESSARY DIMENSIONS AT THE BUILDING AND SITE.

2 FINISHED WORK: THE INTENT OF THE SPECIFICATIONS AND DRAWINGS IS TO CALL FOR THE BEST WORK, COMPLETED, TESTED AND READY FOR OPERATIONS.

3 GOOD PRACTICE: IT IS NOT INTENDED THAT THE DRAWINGS SHOW EVERY CONDUIT, JUNCTION BOX, FITTING OR MINOR DETAIL AND IT IS UNDERSTOOD THAT WHILE THE DRAWINGS ARE PREPARED TO SHOW THE CLOSEST POSSIBLE CIRCUMSTANCES WILL PERMIT, THE SYSTEMS SHALL BE INSTALLED ACCORDING TO THE INTENT AND MEANING OF THE CONTRACT DOCUMENTS AND IN ACCORDANCE WITH GOOD PRACTICE.

4 ANY APPARATUS, APPLIANCE, MATERIAL OR WORK NOT SHOWN ON DRAWINGS BUT MENTIONED IN SPECIFICATIONS OR VICE VERSA, OR ANY INCIDENTAL ACCESSORIES NECESSARY TO MAKE THE WORK COMPLETE AND PERFECT IN ALL RESPECTS AND REGARDING OPERATION SHALL NOT PARTICULARLY SPECIFIED, SHALL BE FURNISHED AND INSTALLED BY CONTRACTOR AT NO ADDITIONAL COST TO OWNER. CODES AND STANDARDS - COMPLY WITH ALL FEDERAL, STATE AND LOCAL CODES AND STANDARDS. WHERE THERE IS A CONFLICT, THE 2011 INTERNATIONAL CONNECTICUT STATE BUILDING CODE SUPPLEMENT, 2012 INTERNATIONAL BUILDING CODE, 2005 CONNECTICUT FIRE SAFETY CODE, 2016 INTERNATIONAL FIRE CODE, 2014 NATIONAL ELECTRICAL CODE, IEC/ANSI A17.1-2003 ACCESSIBLE AND USABLE BUILDINGS AND FACILITIES, 2010 NFPA 70A, 2010 NFPA 70B, 2010 FACTORY MUTUAL INSURANCE COMPANY, NFPA STANDARDS 6 - NOTE THAT THE DRAWINGS ARE DIAGRAMMATIC AND INDICATE THE GENERAL ARRANGEMENT OF THE ELECTRICAL EQUIPMENT AND SYSTEMS, WITHOUT SHOWING EVERY DETAIL AND FITTING.

7 RACEWAYS

a. PROVIDE EMT CONDUIT FOR BRANCH CIRCUIT HOMERUNS & FOR WIRING EXPOSED TO VIEW, CONNECTORS AND COUPLINGS SHALL BE GALVANIZED STEEL SET-SCREW TYPE. PROVIDE GLAND COMPRESSION CONNECTORS AND COUPLINGS WHERE LOCATED IN DAMP AND WET LOCATIONS.

8 RIGID STEEL CONDUIT

a. SHALL BE MANUFACTURED FROM HIGH STRENGTH STRIP STEEL, SHALL BE HOT DIPPED GALVANIZED WITH THRENGTH GALVANIZED AFTER CUTTING, AND SHALL BE MANUFACTURED TO FORM AN ADDITIONAL PROTECTIVE LAYER. RIGID STEEL CONDUITS SHALL BE UL LISTED, SHALL MEET THE REQUIREMENTS OF ANSI C80.1 AND SHALL BE MANUFACTURED BY AN UL TYPE AND COMPLY WITH THE FOLLOWING REQUIREMENTS:

b. SHALL BE USED FOR UNDERGROUND WORK.

c. SHALL BE USED FOR HORIZONTAL AND VERTICAL UNDERGROUND SWEEPS. IF THRENGTH, COUPLINGS AND CONNECTORS SHALL BE THREADED AND GALVANIZED OR CADMIUM PLATED.

d. FITTING PVC CONDUIT.

e. SHALL BE HEAVY WALL SCHEDULE 40 PVC FOR UNDERGROUND WORK AND EXTRA HEAVY WALL SCHEDULE 80 PVC FOR UNDERGROUND WORK BELOW VEHICULAR TRAFFIC AREAS. JOINTS AND FITTINGS SHALL BE SWELED SOLVED ALL TO ASTM STANDARDS FOR UNDERGROUND INSTALLATION AND IN ACCORDANCE WITH ARTICLE 352 OF THE NATIONAL ELECTRIC CODE.

9 MAY BE USED IN LIEU OF RIGID STEEL CONDUIT FOR UNDERGROUND WORK EXCEPT AS NOTED IN "B,C" ABOVE.

a. JOINTS SHALL BE MANUFACTURED TO FORM AN ADDITIONAL PROTECTIVE LAYER.

d. SHALL NOT BE USED ABOVE GROUND.

e. SHALL NOT BE USED FOR UNDERGROUND HORIZONTAL AND VERTICAL SWEEPS.

f. FURNISH CONDUIT SYSTEM IN CARBON, CEALON OR APPROVED EQUIV.

10 BRANCH CIRCUIT CONDUCTORS SHALL BE COPPER, RATED 600 VOLTS, 90 DEG C. COLOR CODED TO MEET THE REQUIREMENTS OF THE NATIONAL ELECTRICAL CODE.

11 WIRE SIZE #10 AWG AND LARGER SHALL BE STRANDED. WIRE OF SIZE SMALLER THAN #8 AWG SHALL BE SOLID.

12 MINIMUM SIZE CONDUCTORS FOR POWER AND LIGHTING SHALL BE #12 AWG. PROVIDE MINIMUM #10 AWG WIRE FOR RECEIVING AND TRANSMITTING SIGNALS. LENGTH OF #10 AWG WIRE FOR RUNS EXCEEDING 100 FEET IN CONDUCTOR LENGTH. PROVIDE LARGER SIZE CONDUCTORS AS NOTED ON THE DRAWINGS.

13 TYPE MC CABLE MAY ONLY BE USED FOR BRANCH CIRCUIT WIRING. WHERE EXPOSED TO VIEW, CONNECTORS SHALL BE MALLEABLE IRON SET-SCREW TYPE.

14 THE NUMBER OF WIRES ON A CONDUIT/CABLE RUN IS INDICATED ON THE DRAWINGS BY CROSS LINES ON THE CONDUIT/CABLE RUNS. PROVIDE CODE-SIZE CONDUIT OR CABLE RUN SIZE FOR ALL CONDUIT/CABLE RUNS. PROVIDE A LARGER SIZE IS SHOWN ON THE DRAWINGS. MINIMUM CONDUIT RUNS SHALL BE 3/4".

15 RACEWAYS AND CABLE SHALL BE CONCEALED WHEREVER POSSIBLE IN ALL FINISHED AREAS.

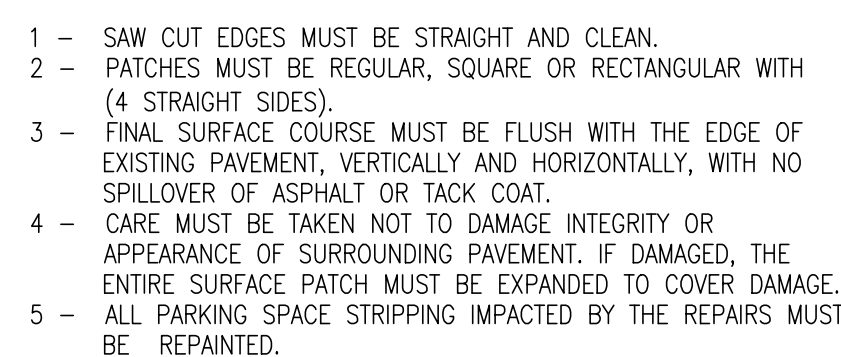
16 RACEWAYS AND CABLE SHALL BE RUN PARALLEL TO OR AT RIGHT ANGLES TO WALL LINES.

17 RACEWAYS AND CABLE SHALL BE SUPPORTED FROM THE STRUCTURE BY STRAP HANGERS, ROD HANGERS, OR RACK MOUNTS OR OTHER APPROVED ELECTRICAL MOUNTING.

18 PROVIDE FIRE STOPPING AT ALL FIRE AND/OR SMOKE RATED WALL OR CEILING PENETRATIONS.

19 BRANCH CIRCUIT WIRING AND ARRANGEMENT OF HOME RUNS HAS BEEN DESIGNED FOR MAXIMUM ECONOMY CONSISTENT WITH ADEQUATE SAFETY FOR VOLTAGE DROPS, CIRCUIT AMPERAGES, AND OTHER CONSIDERATIONS. SHALL THE WORKING DRAWINGS BE ARRANGED TO SHOW DOWN SIZES AS APPROVED IN ADVANCE BY THE ARCHITECT AND ENGINEER. DO NOT MAKE CHANGES WITHOUT PRIOR APPROVAL.

20 PROVIDE 1/2" LIP OR MORE WALL PENETRATIONS AND PROVIDE "LINK-SEAL" WATERPROOF SEALS AROUND CONDUIT PENETRATIONS.



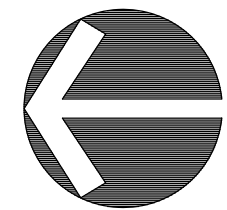
NTS



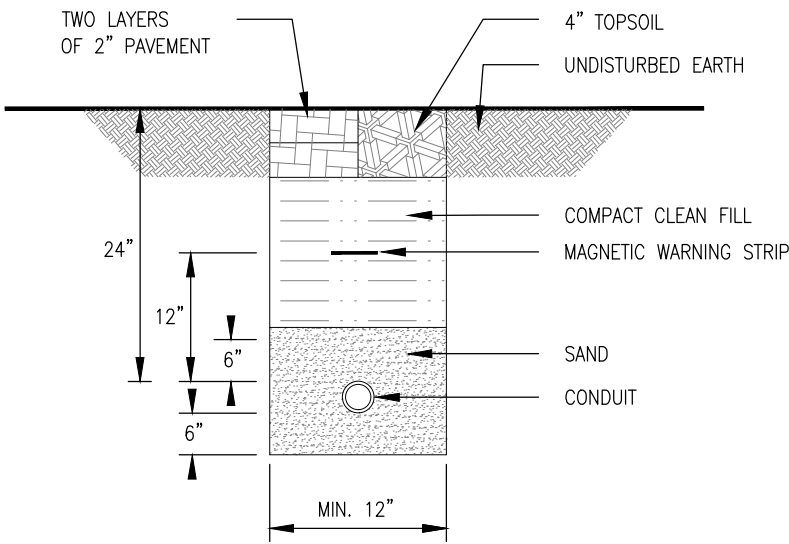
DRAWING LEGEND			
SYMBOLS		ABBREVIATIONS	
	SINGLE HEAD SITE LIGHTING STANDARD, TYPE AS DESIGNATED.	A	AMPS
	TWO HEAD SITE LIGHTING STANDARD, TYPE AS DESIGNATED.	AWG	AMERICAN WIRE GAUGE
	THREE HEAD SITE LIGHTING STANDARD, TYPE AS DESIGNATED.	C	CONDUIT
	PANELBOARD.	GND	GROUND
	BRANCH CIRCUIT WIRING. CROSS LINES INDICATE NUMBER OF CONDUCTORS.	NTS	NOT TO SCALE



TAC		ACTION	
1	PROVIDE TWO (2) 20A/2P C/B'S IN EXISTING PANEL JGA FOR NEW SITE LIGHTING BRANCH CIRCUITS. PROVIDE AN ENCLOSURE AREA LIGHTING CONTROLLER (ALC) FOR EACH BRANCH CIRCUIT. PROVIDE WIRING AND CONNECTIONS AS REQUIRED AND CONNECT THE ALC'S TO THE EXISTING ENCLOSURE COMMUNICATIONS NETWORK IN THE BUILDING. WIRE EACH BRANCH CIRCUIT THROUGH ITS ALC AND OUT TO THE LOAD. RUN WIRING CONCEALED FROM VIEW WHEREVER POSSIBLE.	7	2 x #6 THWN-2, 1 x #8 GND; 2 x #10 THWN-2, 1 x #10 GND IN 1 1/4" CONDUIT.
2	TRENCH THROUGH LAWN AREA AND UNDERNEATH SIDEWALK AS REQUIRED FOR INSTALLATION OF SITE LIGHTING BRANCH CIRCUIT CONDUIT. TRENCH TO REQUIRED DEPTH AND PREPARE SOIL AS REQUIRED FOR CONDUIT. PROVIDE MASONRY SAND ENCASEMENT, INSTALL CONDUIT, AND COMPACT WITH COMPACTOR. PROVIDE UNDERGROUND WARNING TAPE. FILL REMAINDER OF TRENCH WITH SOIL AND COMPACT WITH COMPACTOR. APPLY GRASS SEED AROUND DISTURBED AREA. COVER WITH STRAW AND APPLY WATER TO PROMOTE GROWTH.	8	2 x #6 THWN-2, 1 x #8 GND IN 1" CONDUIT.
3	SAWCUT EXISTING PAVEMENT AS REQUIRED FOR INSTALLATION OF SITE LIGHTING BRANCH CIRCUIT CONDUIT. TRENCH TO REQUIRED DEPTH AND PREPARE SOIL AS REQUIRED FOR CONDUIT. PROVIDE MASONRY SAND ENCASEMENT, INSTALL CONDUIT, AND COMPACT WITH COMPACTOR. PROVIDE UNDERGROUND WARNING TAPE. FILL REMAINDER OF TRENCH WITH SOIL AND COMPACT WITH COMPACTOR. PROVIDE BINDER COURSE AND FINISH COURSE TO MATCH EXISTING ADJACENT PAVEMENT. SEAL CRACKS WITH DRIVEWAY SEALANT WHERE NEW PAVEMENT ABUTS EXISTING PAVEMENT. PLANT NEW PARKING SPACE LINES TO MATCH EXISTING.	9	2 x #8 THWN-2, 1 x #10 GND IN 1" CONDUIT.
4	SAWCUT EXISTING PAVEMENT AS REQUIRED FOR INSTALLATION OF SITE LIGHTING STANDARD CONCRETE BASE. DIG TO REQUIRED DEPTH AND PREPARE SOIL AS REQUIRED FOR BASE. INSTALL BASE PER DETAIL. BACKFILL WITH SOIL, AND COMPACT WITH COMPACTOR. PAVE AROUND THE BASE WITH BINDER COURSE AND FINISH COURSE TO MATCH EXISTING ADJACENT PAVEMENT. SEAL CRACKS WITH DRIVEWAY SEALANT WHERE NEW PAVEMENT ABUTS CONCRETE BASE AND EXISTING PAVEMENT. PLANT NEW PARKING SPACE LINES TO MATCH EXISTING. INSTALL AND WIRE SITE LIGHTING STANDARD.	10	2 x #10 THWN-2, 1 x #10 GND IN 1" CONDUIT.
5	PREPARE HOLE TO ACCEPT NEW CONCRETE BASE. DIG TO REQUIRED DEPTH AND PREPARE SOIL AS REQUIRED FOR BASE. INSTALL BASE PER DETAIL. BACKFILL WITH SOIL, AND COMPACT WITH COMPACTOR. INSTALL AND WIRE SITE LIGHTING STANDARD. APPLY TOP SOIL AND GRASS SEED TO ENTIRE ISLAND AROUND THE CONCRETE BASE. COVER WITH STRAW AND APPLY WATER TO PROMOTE GROWTH.	11	POLYMER CONCRETE 36" SQUARE X 36" DEEP PULL BOX WITH COVER. QUATRIE, MODEL # PG3636BA36-PG3636H0017
6	PREPARE HOLE LEFT OVER FROM REMOVED CONCRETE BASE TO ACCEPT NEW CONCRETE BASE. SAWCUT EXISTING PAVEMENT AS REQUIRED, DIG TO REQUIRED DEPTH, AND PREPARE SOIL AS REQUIRED FOR BASE. INSTALL BASE PER DETAIL. BACKFILL WITH SOIL, AND COMPACT WITH COMPACTOR. PAVE AROUND THE BASE WITH BINDER COURSE AND FINISH COURSE TO MATCH EXISTING ADJACENT PAVEMENT. SEAL CRACKS WITH DRIVEWAY SEALANT WHERE NEW PAVEMENT ABUTS CONCRETE BASE AND EXISTING PAVEMENT. INSTALL AND WIRE SITE LIGHTING STANDARD.		

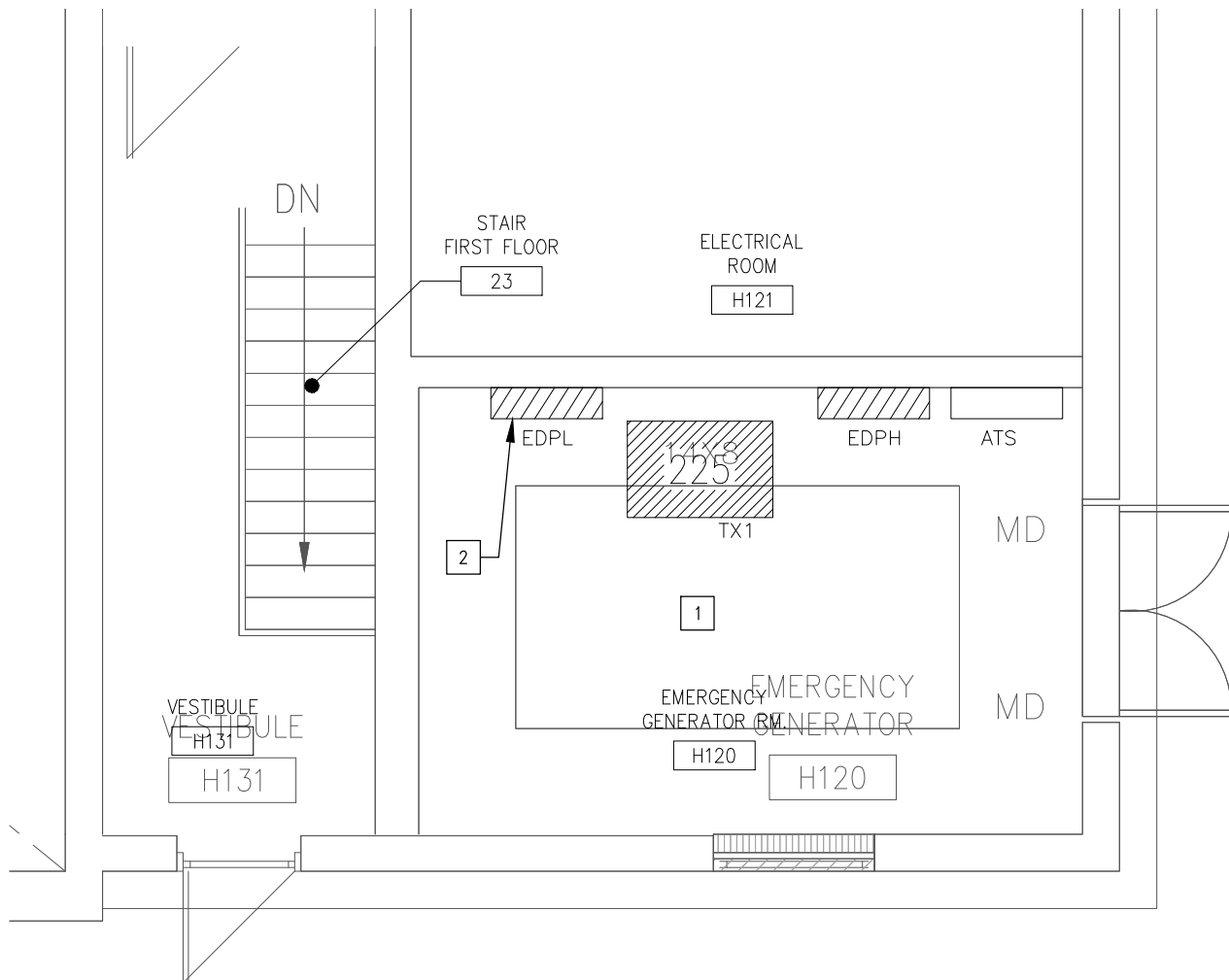
$$1'' = 20'$$


- ELECTRICAL NEW WORK NOTES -	
TAG	ACTION
1	EXISTING EQUIPMENT IN THIS ROOM TO REMAIN.
2	EXISTING SQUARE D, I-LINE, 208Y/120V, 3PH, 4W, 600A MCB EMERGENCY DISTRIBUTION PANELBOARD. PROVIDE 50A, 3P CIRCUIT BREAKER IN NEXT AVAILABLE SPACE FOR PANELBOARD JGA FEEDER.
3	PANELBOARD JGA FEEDER UNDERGROUND, UNDER NEW TENNIS COURTS, TO NEW 60A-3P DISCONNECT SWITCH IN ELECTRIC VAULT #5. 4 X #1/0 XHHW-2 AND 1 X #6 XHHW-2 GND. IN 2" C.
4	DISCONNECT FEED SERVING PANELBOARD JGA, FROM 50A-3P CIRCUIT BREAKER. EXTEND FEEDER TO NEW 60A-3P DISCONNECT SWITCH LOCATED WITHIN ROOM. EXTEND ALL WIRING, CONDUIT, ETC. AS REQUIRED FOR A COMPLETE AND OPERATIONAL SYSTEM.
5	NEW 60A-3P DISCONNECT SWITCH
6	EXISTING DISCONNECT SWITCH TO REMAIN
7	EXISTING LIGHTING DISTRIBUTION PANELBOARD #2, TO BE REMOVED. EXTEND EXISTING FEEDER AND CIRCUITS TO NEW LIGHTING DISTRIBUTION PANELBOARD #2. EXTEND ALL WIRING, CONDUIT, ETC. AS REQUIRED FOR A COMPLETE AND OPERATIONAL SYSTEM.
8	NEW 200A-3P-120/208V LIGHTING DISTRIBUTION PANELBOARD #2. PROVIDE PANELBOARD WITH (2)90A-3P AND (1)70A-3P CIRCUIT BREAKERS FOR EXTENDED LOADS FROM LIGHTING DISTRIBUTION PANELBOARD BEING REMOVED. PANELBOARD SHALL BE SQUARE D NO SERIES OR APPROVED EQUAL.
9	EXISTING POWER DISTRIBUTION PANELBOARD #1, TO BE REMOVED. EXTEND EXISTING FEEDER AND CIRCUITS TO NEW POWER DISTRIBUTION PANELBOARD #1. EXTEND ALL WIRING, CONDUIT, ETC. AS REQUIRED FOR A COMPLETE AND OPERATIONAL SYSTEM.
10	NEW 250A-3P-120/208V POWER DISTRIBUTION PANELBOARD #1. PROVIDE PANELBOARD WITH (1)125A-3P, (2)50A-3P AND (1)50A-3P CIRCUIT BREAKERS FOR EXTENDED LOADS FROM POWER DISTRIBUTION PANELBOARD BEING REMOVED. PANELBOARD SHALL BE SQUARE D NO SERIES OR APPROVED EQUAL.



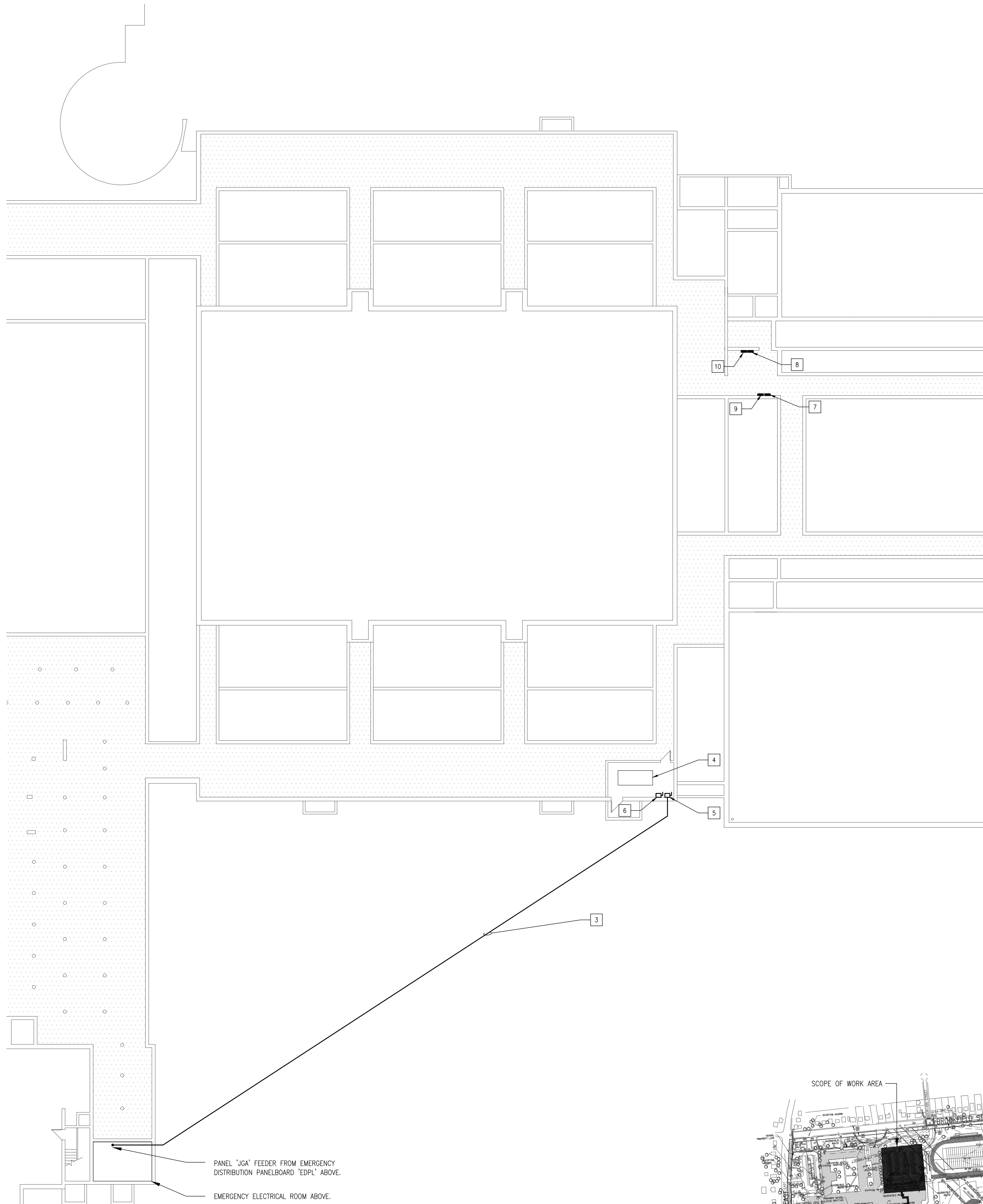
CONDUIT DETAIL - UNDER TENNIS COURTS

N.T.S.



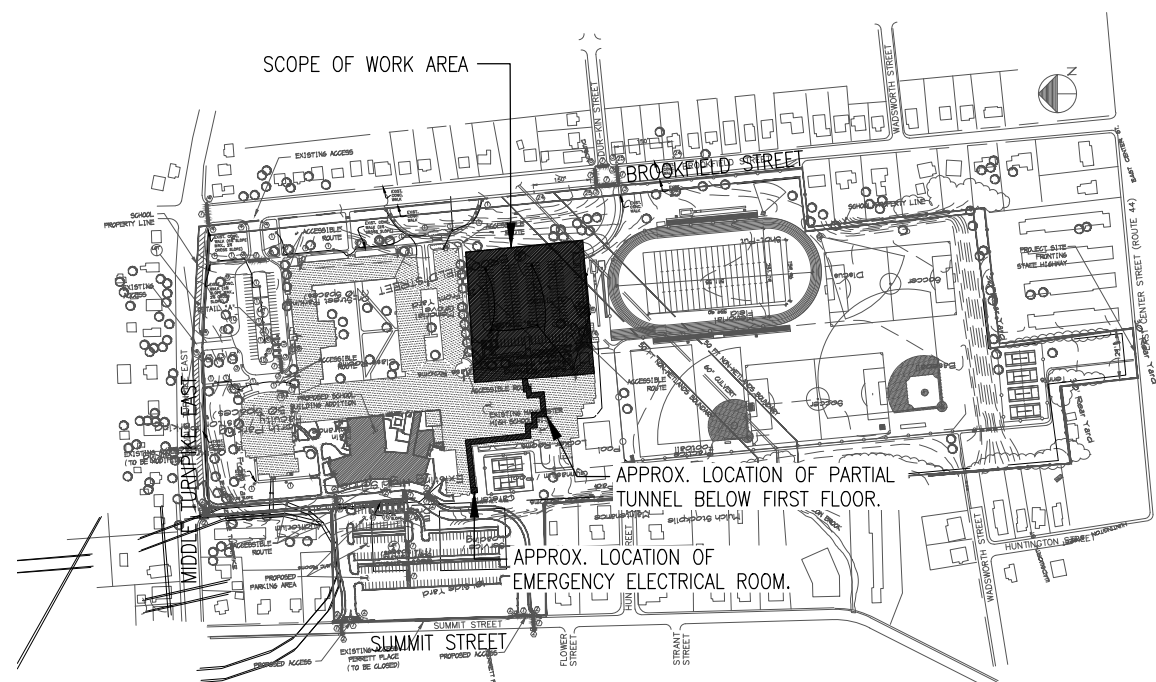
PARTIAL FIRST FLOOR PLAN -
EMERGENCY ELECTRICAL ROOM

1" = 1/4"



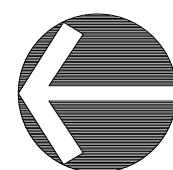
PARTIAL TUNNEL PLAN

1" = 1/16"



KEY PLAN

NTS



PROJECT NO.	00.000
DESIGNED BY:	KPS/RDN
CHECKED BY:	KPS
DRAWN BY:	KPS/RDN
DATE:	5/18/2017
SCALE:	AS NOTED
REVISIONS:	