### **ELECTRICAL GENERAL NOTES:**

- 1. DRAWINGS ARE DIAGRAMMATIC AND DEFINE THE INTENT OF THE WORK. LOCATIONS OF EQUIPMENT, FIXTURES, DEVICES, PANELBOARDS, DUCTS, PIPING, DIFFUSERS, PARTITIONS, OPENINGS, ETC. ARE APPROXIMATE AND ARE SUBJECT TO MODIFICATIONS CAUSED BY STRUCTURAL CONDITIONS AND EQUIPMENT PROVIDED BY OTHER CONTRACTORS, SUBCONTRACTORS OR THE OWNER. COORDINATE ALL WORK WITH THE WORK OF OTHER TRADES. DETERMINE ROUGHING LOCATIONS FROM APPROVED SHOP DRAWINGS. MINOR MODIFICATIONS OF LOCATIONS REQUIRED TO EFFECT SUCH COORDINATION SHALL BE MADE AT NO COST TO THE OWNER.
- 2. SPECIFICATIONS MAY REQUIRE WORK, EQUIPMENT, SYSTEMS, METHODS, ETC. THAT IS NOT INDICATED ON THE DRAWINGS.
- DRAWINGS AND SPECIFICATIONS ARE INTENDED TO BE COMPLEMENTARY TO EACH OTHER. WHERE DISCREPANCIES OR CONFLICTS OCCUR, THE CONTRACTOR SHALL INCLUDE THE MORE COSTLY METHOD IN THEIR PROPOSAL UNLESS CLARIFIED BY BULLETIN OR ADDENDUM ACKNOWLEDGED PRIOR TO RECEIPT OF BIDS.
- 4. DRAWINGS SHALL NOT BE SCALED. DRAWINGS ARE ESSENTIALLY DIAGRAMMATIC AND INDICATE THE GENERAL ARRANGEMENT OF SYSTEMS AND REQUIREMENTS OF THE WORK. ALTHOUGH SIZE AND LOCATION OF EQUIPMENT IS DRAWN TO SCALE WHEREVER POSSIBLE, CONTRACTOR SHALL MAKE USE OF ALL DATA IN ALL OF THE CONTRACT DOCUMENTS AND VERIFY INFORMATION AT THE PROJECT SITE.
- 5. EXISTING PROJECT CONDITIONS INDICATED ARE BASED ON FIELD OBSERVATION, EXISTING DESIGN / CONSTRUCTION DOCUMENTS AND EXISTING RECORD DOCUMENTS AND ARE INTENDED TO INDICATE THE SCOPE OF THE WORK AFFECTED BY THIS PROJECT.
- 6. THE TERM "OTHERS" SHALL BE UNDERSTOOD TO MEAN CONTRACTORS, SUBCONTRACTORS OR TRADESMEN ON THE PROJECT PERFORMING WORK ON THIS PROJECT UNDER SECTIONS OR DIVISIONS OTHER THAN DIVISION 26 ELECTRICAL WORK AND 28 FIRE ALARM WORK.
- 7. VERIFY THAT FIELD MEASUREMENTS AND CIRCUITING ARRANGEMENTS ARE AS INDICATED.
- 8. PRIOR TO BIDDING VISIT THE PROJECT SITE TO DETERMINE THE CONDITIONS UNDER WHICH THE WORK IS TO BE DONE. SCHEDULE SITE VISIT WITH OWNER.
- 9. PROVIDE ALL LABOR, MATERIALS AND EQUIPMENT REQUIRED FOR THE INSTALLATION, RELOCATION AND CONNECTION OF THE ELECTRICAL WORK.
- 10. ALL MATERIAL SHALL BE UNDERWRITERS' LABORATORIES LISTED FOR ITS APPLICATION WHERE SUCH LISTING IS APPLICABLE.
- 11. ALL EQUIPMENT SHALL BE AS INDICATED OR AS APPROVED BY THE ENGINEER.

CONTRACTORS ASSOCIATION (NECA) STANDARD OF INSTALLATION.

- 12. SUBMIT SHOP DRAWINGS, PRODUCT DATA SHEETS AND WIRING DIAGRAMS FOR ALL ELECTRICAL AND FIRE ALARM CONSTRUCTION MATERIALS, DEVICES, EQUIPMENT, APPLIANCES AND SYSTEMS. SUBMIT SUBMITTALS IN QUANTITY TO ALLOW DISTRIBUTION TO ARCHITECT (1), OWNER (2), ENGINEER (1), PRIME CONTRACTORS (1 EACH), AND CONTRACTOR'S OWN USE AS REQUIRED.
- 13. UNLESS SPECIFICALLY INDICATED OR REQUESTED OTHERWISE, BIND ALL RELATED PRODUCT DATA TOGETHER PROPERLY INDEXED AND IDENTIFIED AND WITH ALL PERTINENT CATALOG NUMBERS, OPTIONS, ETC. HIGHLIGHTED OR TARGETED.
- 14. OBTAIN SHOP DRAWINGS AND WIRING DIAGRAMS FROM OWNER AND OTHER CONTRACTORS FOR THE PROPER INSTALLATION OF RELATED ELECTRICAL WORK AND, UNLESS OTHERWISE NOTED, WIRE ALL CONTROL DEVICES, VALVES, THERMOSTATS, ETC. REQUIRED FOR THE PROPER OPERATION OF THEIR SYSTEMS.
- 15. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE CURRENT EDITION IN EFFECT OF THE NATIONAL ELECTRICAL CODE (NEC), NATIONAL ELECTRICAL SAFETY CODE (NESC), AMERICAN ELECTRICIANS' HANDBOOK, 2020 FIRE CODE OF NEW YORK STATE, 2020 BUILDING CODE

OF NYS, ACCESSIBLE & USABLE BUILDINGS & FACILITIES (ICC/ANSI A117.1) AND NATIONAL ELECTRICAL

- 16. OBTAIN ALL PERMITS REQUIRED, HAVE THE WORK INSPECTED FOR CODE COMPLIANCE AND PAY ALL FEES FOR INSPECTION AND CERTIFICATION.
- 17. MAKE THE NECESSARY ARRANGEMENTS, AND PAY ALL COSTS, FOR TEMPORARY AND/OR PERMANENT ELECTRIC SERVICE FOR THE PROJECT.
- 18. PROVIDE ADEQUATE TEMPORARY ELECTRICAL LIGHT AND POWER FOR THE PROJECT WORK OF ALL TRADES.
- THE THE TENT OF TH
- 19. EXACT LOCATION OF EQUIPMENT SHALL BE COORDINATED IN THE FIELD PRIOR TO INSTALLATION, CONTRACTOR TO CONFIRM LOCATION PROPOSED WITH ARCHITECT/ENGINEER.
- 20. REFER TO APPROVED REFLECTED CEILING PLANS FOR EXACT LIGHTING LAYOUTS.
- 21. REFER TO DRAWINGS AND SPECIFICATIONS OF OTHER TRADES FOR EQUIPMENT LOCATIONS AND CONTROLS.
- 22. GROUNDING AND BONDING SHALL MEET NEC AND EQUIPMENT / SYSTEM MANUFACTURER'S REQUIREMENTS.
- 23. CONTRACTOR SHALL BE RESPONSIBLE FOR THE REMOVAL OF DEBRIS GENERATED BY THEIR WORK AND WORKERS AT THE END OF EACH WORKING DAY AND FOR GENERAL GOOD HOUSEKEEPING BY THEIR WORKERS. CONTRACTOR SHALL PROVIDE REQUIRED REFUSE CONTAINERS.
- 24. DISCONNECT AND REMOVE FROM THE PREMISES, OR STORE ON THE PREMISES IF REQUESTED BY THE OWNER, ALL EQUIPMENT FIXTURES, DEVICES, RACEWAY, WIRING, CABLE, SUPPORTING DEVICES, ETC. REMOVED OR ABANDONED AS A RESULT OF THIS WORK. MAKE SAFE ALL WIRING AND CABLE WHICH MUST REMAIN IN SERVICE.
- 25. REMOVE AND REINSTALL CEILING SYSTEM AS REQUIRED FOR THE INSTALLATION OF ELECTRICAL WORK AND REPLACE IN KIND ANY COMPONENTS DAMAGED BY PERSONNEL OR EQUIPMENT DURING PERFORMANCE OF THE WORK. COORDINATE WITH ARCHITECT.
- 26. PERFORM ALL CUTTING AND PATCHING REQUIRED FOR THE INSTALLATION OF THE WORK. CUT NO STRUCTURAL MEMBER WITHOUT WRITTEN PERMISSION FROM THE ENGINEER. PATCH, PRIME AND PAINT AREA TO MATCH ADJACENT SURFACES WITH TWO COATS OF PAINT TO MATCH EXISTING SURFACES AS CLOSELY AS POSSIBLE. SEAL OPENINGS VERMIN AND WATER PROOF AND MAINTAIN FIRE RATING. USE SPECIFIED TECHNOLOGIES, INC. "SPECSEAL" SERIES LCI FOR SLEEVED PENETRATIONS (U. L. SYSTEM #C-AJ-1028; F = 3, T = 0) AND "SPECSEAL" PENSIL 300 SEALANT FOR CUT OR CORED PENETRATIONS (U. L. SYSTEM #C-AJ-1030; F = 3, T = 0). SLEEVES AND ACCESSORIES SHALL BE PER ASTM E 814.
- 27. ALL PENETRATIONS IN FOUNDATION WALLS AND FLOORS INCLUDING SLAB PENETRATIONS SHALL BE SUBSTANTIALLY SEALED BY UTILIZING A NON-CRACKING POLYURETHANE OR EQUIVALENT TO CLOSE OFF THE SOIL GAS ENTRY ROUTES AS REQUIRED BY THE NEW YORK STATE BUILDING CODE. ALL CONDUITS IN THE SPACE BELOW THE FOUNDATION FLOOR WHICH PENETRATE THESE BARRIERS SHALL HAVE THREADED OR SOLVENTED FITTINGS.
- 28. ALL NEW RACEWAY, WIRING AND CABLE IN NEW AND EXISTING FINISHED SPACES SHALL BE RUN CONCEALED IN NEW AND EXISTING CONSTRUCTION UNLESS OTHERWISE INDICATED; CUT AND PATCH AS REQUIRED. PROVIDE PULLBOXES, SIZE AND TYPE AS REQUIRED.
- 29. EXPOSED RACEWAY, IF PERMITTED, SHALL BE RUN TRUE, PLUMB AND PARALLEL OR PERPENDICULAR TO BUILDING LINES. EMT WITH RAINTIGHT STEEL FITTINGS, 3/4 INCH MINIMUM, SHALL BE USED OUTDOORS; ELECTRICAL METALLIC TUBING, 3/4 INCH MINIMUM, SHALL BE USED IN INDOOR UNFINISHED SPACES; SURFACE METAL RACEWAY (WIREMOLD) SHALL BE USED IN INDOOR FINISHED SPACES.
- 30. ALL WIRING SHALL BE COPPER CONDUCTOR WITH 600 VOLTS INSULATION IN METAL RACEWAY WITH APPROVED FITTINGS UNLESS OTHERWISE INDICATED.
- 31. FEEDERS AND BRANCH CIRCUITS UNDERGROUND IN RACEWAY: TYPE THHN-THWN 90 DEGREE C
- 32. INTERIOR FEEDERS AND BRANCH CIRCUITS IN RACEWAY: TYPE THHN 90 DEGREE C.
- 33. UNDERGROUND DIRECT BURIAL BRANCH CIRCUITS BEYOND BUILDING: TYPE UF, 75 DEGREE C.34. BRANCH CIRCUIT HOMERUNS TO FIRST OUTLET: TYPE THHN IN RACEWAY. AFTER THE FIRST OUTLET BOX,
- APPROVED CABLE MAY BE USED.

  35. FEEDERS SHALL BE MINIMUM #8 AWG; BRANCH CIRCUIT WIRING MINIMUM #12 AWG; CONTROL WIRING MINIMUM #14
- AWG; UNLESS OTHERWISE INDICATED. FEEDER AND BRANCH CIRCUIT WIRING LARGER THAN #10 AWG SHALL BE STRANDED CONDUCTOR; #10 AWG AND SMALLER, STRANDED CONDUCTOR OR SOLID CONDUCTOR; CONTROL WIRING, STRANDED CONDUCTOR.
- 36. METAL CLAD CABLE TYPE MC WITH 600 VOLT THHN INSULATION AND INSULATED GROUND CONDUCTOR FOR BRANCH CIRCUITS RUN IN HOLLOW SPACES, FISHED ABOVE EXISTING HUNG CEILINGS, FIXTURE CONNECTIONS AND ELSEWHERE AS PERMITTED BY THE NEC AND THE ENGINEER.
- CABLE FOR 120 VOLT CIRCUITS; #16 AWG FPLR OR FPLP FOR LOW VOLTAGE CIRCUITS IN NON AIR-HANDLING SPACES; AND #14 AWG FPLP FOR LOW VOLTAGE CIRCUITS IN PLENUM SPACES USED AS AIR-HANDLING APPLICATIONS.

37. FIRE ALARM WIRING SHALL BE APPROVED FOR ITS APPLICATION; #12 AWG IN RACEWAY OR #12 AWG METAL CLAD

- 38. DO NOT INSTALL CONDUCTORS, WIRES OR CABLES OF ANY OTHER SYSTEM IN THE SAME RACEWAY OR CABLE WITH FIRE ALARM POWER SUPPLY CIRCUITS, NON-POWER LIMITED FIRE ALARM CIRCUITS OR POWER LIMITED FIRE
- 39. MAKE FLEXIBLE CONDUIT CONNECTIONS TO MOTORS AND OTHER ROTATING / VIBRATING EQUIPMENT FOR INDOOR PUMP MOTORS AND ALL OUTDOOR LOCATIONS FLEXIBLE LIQUID-TIGHT CONDUIT CONNECTIONS SHALL BE MADE.
- 40. TAPS AND SPLICES FOR BRANCH CIRCUITS AND FEEDERS LARGER THAN #10 AWG SHALL BE MADE WITH BURNDY "INSUL-TAP" TYPE BIPC, OR APPROVED EQUAL, INSULATION PIERCING CONNECTORS OR BURNDY "HYLUG", OR APPROVED EQUAL, COMPRESSION SPLICES.
- 41. TAPS AND SPLICES FOR BRANCH CIRCUITS AND FEEDERS #10 AWG AND SMALLER SHALL BE MADE WITH IDEAL MODELS 410, 411 AND 412 CRIMP CONNECTORS, OR APPROVED EQUAL, WITH MODELS 415 OR 417 INSULATED CAPS.
- 42. BRANCH CIRCUIT AND FEEDER TAPS SHALL BE FULL CIRCUIT SIZE UP TO THEIR OVERCURRENT PROTECTION DEVICE.
- 43. CONNECTIONS TO FIXTURE AND MOTOR LEADS #10 AWG AND SMALLER SHALL BE MADE WITH 3M "SCOTCHLOK" PRE-INSULATED SPRING PRESSURE CONNECTORS TYPES Y, R OR G OR APPROVED EQUAL.
- 44. STRANDED WIRING CONDUCTORS SHALL BE MADE UP TO SCREW TERMINALS WITH 3M, T&B OR PANDUIT LOCKING FORK CRIMP TERMINALS WITH NYLON INSULATED GRIPS.
- 45. WIRE EXIT SIGNS AND EMERGENCY LIGHTING FIXTURES (UNIT EQUIPMENT) TO LOCAL AREA LIGHTING CIRCUIT SERVING THE RESPECTIVE AREA AHEAD OF SWITCH / DIMMER CONTROL.

- 46. CONTRACTOR SHALL COORDINATE ALL CONSTRUCTION AND INSTALLATION DETAILS AND VERIFY ALL MANUFACTURER'S REQUESTS PRIOR TO ANY SUBMISSION FOR CONSIDERATION BY THE ARCHITECT, ENGINEER OR OWNER.
- 47. WIRING RUNS INDICATED ON THE DRAWINGS EXPRESS THE INTENT OF CIRCUIT ASSIGNMENT AND SWITCH CONTROL. ACTUAL WIRING METHODS USED SHALL BE SUITED FOR THE CONSTRUCTION OF THE BUILDING. REFER TO DRAWINGS OF OTHER TRADES AND EXISTING CONDITIONS. REFER TO ARCHITECTURAL DRAWINGS FOR REFERENCE AND CONFIRM EXISTING CONDITIONS. THE NUMBER OF CONDUCTORS ARE NOT ALWAYS INDICATED ON THE DRAWINGS.
- 48. PROVIDE DISCONNECT SWITCHES OF REQUIRED TYPE AND RATINGS FOR ALL APPLIANCES, EQUIPMENT, MOTORS AND CONTROLLERS WHERE NOT FURNISHED WITH EQUIPMENT. WHERE DISCONNECT SWITCHES ARE FURNISHED AND INSTALLED WITH EQUIPMENT, INSTALL AND PROVIDE CONDUIT AND WIRING FOR SWITCHES. FOR FRACTIONAL HORSEPOWER MOTORS, PROVIDE MOTOR RATED TOGGLE TYPE DISCONNECT SWITCHES.
- 49. INSTALL MOTOR STARTERS, CONTROLLERS OR COMBINATION STARTERS FURNISHED FOR EACH MOTOR OR EQUIPMENT BY OTHERS. LOCATE AS DIRECTED IN THE FIELD BY THE CONTRACTOR SUPPLYING THE EQUIPMENT AND ACCORDING TO THE CODE.
- 50. PROVIDE UN-SWITCHED 125 VOLT 20 AMP RECEPTACLE OUTLETS LOCATED ON THE SAME LEVEL AND WITHIN 25 FEET OF ALL HEATING, AIR-CONDITIONING AND REFRIGERATION EQUIPMENT UNLESS OTHERWISE NOTED.
- 51. ROUTE RACEWAYS THROUGH ROOF USING DEDICATED ROOF JACKS OR PITCH POCKETS. RUN RACEWAY ON ROOF ON DEDICATED ROOF SUPPORTS EIGHT INCHES HIGH MINIMUM.
- 52. PROVIDE SEISMIC RESTRAINTS AND ANCHORS FOR ENGINE-DRIVEN GENERATORS, LIGHTING FIXTURES, MOTOR CONTROL CENTERS, FLOOR MOUNTED SWITCHBOARDS, SWITCHGEAR, TRANSFORMERS, WIREWAYS AND CONDUITS LARGER THAN 2-1/2" INCHES TRADE DIAMETER. PROVIDE SWAY BRACES FOR CONDUIT AND EQUIPMENT SUSPENDED FROM THE OVERHEAD. PROVIDE ANCHOR BOLTS FOR FLOOR AND WALL MOUNTED EQUIPMENT. COMPLY WITH THE 2020 BUILDING CODE OF NEW YORK STATE CHAPTERS 16 AND 17.
- 53. ALL 125 VOLT, SINGLE PHASE, 15- AND 20-AMPERE SINGLE AND DUPLEX RECEPTACLES WHICH DO NOT SERVE A DEDICATED APPLIANCE AND ARE WITHIN A 6 FOOT RADIUS OF A SINK, ARE INSTALLED IN WET LOCATIONS, ARE INSTALLED IN BATHROOMS, ON ROOFS, OR OUTDOORS WITH DIRECT GRADE ACCESS, SHALL BE GROUND FAULT CIRCUIT INTERRUPTING TYPE WHERE AVAILABLE OR SHALL BE PROTECTED BY GROUND FAULT CIRCUIT INTERRUPTING CIRCUIT BREAKERS.
- 54. DO NOT INSTALL EXPOSED WIRING, OR CABLE NOT U. L. LISTED FOR THE PURPOSE; WOOD SUPPORTS OR ANCHORAGES; NONMETALLIC CONDUIT, BOXES OR FITTINGS; OR VINYL, PLASTIC, NYLON, OR OTHER COMBUSTIBLE OR SMOKE PRODUCING IDENTIFICATION OR CONSTRUCTION MATERIALS IN THE SPACE ABOVE HUNG CEILINGS USED AS A PLENUM FOR THE RETURN OF ENVIRONMENTAL AIR.
- 55. DEMONSTRATE PRODUCT CAPABILITY AND COMPLIANCE WITH REQUIREMENTS OF ALL ELECTRICAL DEVICES,
- 56. PERFORM MANUFACTURER'S RECOMMENDED TESTS AND SUBMIT RESULTS TO THE ARCHITECT/ENGINEER..
- 57. VERIFY PROPER ROTATION OF ALL ROTATING ELECTRICAL MACHINERY.

AT NO COST TO THE OWNER.

- 58. TEST SWITCHBOARDS, PANELBOARDS, TRANSFORMERS, CABLES, BUS DUCTS, SWITCHES, CIRCUIT BREAKERS, GROUNDING SYSTEM, GROUND FAULT PROTECTION SYSTEM, SURGE ARRESTORS AND TVSS DEVICES, GENERATORS, AND TRANSFER SWITCHES IN ACCORDANCE WITH APPLICABLE SECTIONS OF INTERNATIONAL ELECTRICAL TESTING ASSOCIATION ACCEPTANCE TESTING SPECIFICATIONS FOR ELECTRIC POWER DISTRIBUTION EQUIPMENT AND SYSTEMS NETA ATS-1999. PERFORM EACH VISUAL AND MECHANICAL INSPECTION AND ELECTRICAL TEST LISTED.
- 59. PROVIDE FIVE SETS OF OPERATION AND MAINTENANCE MANUALS, BOUND AND INDEXED, WITH INSTRUCTIONS FOR ALL ELECTRICAL DEVICES, EQUIPMENT, APPLIANCES AND SYSTEMS.
- 60. PROVIDE ONE SET OF REPRODUCIBLE CONTRACT DRAWINGS, OR DIGITAL DATA FILES USING USING AUTOCAD MEP
- 61. DELIVER CERTIFICATES OF ELECTRICAL AND OTHER INSPECTIONS, OR COPIES THEREOF, TO THE OWNER AT THE COMPLETION OF THE PROJECT WITH COPIES TO THE ENGINEER.

2023 THAT HAVE BEEN REVISED AND ANNOTATED TO REFLECT THE AS-BUILT CONDITIONS OF THE PROJECT.

- 62. GUARANTEE ALL WORK IN WRITING TO THE OWNER AGAINST ANY AND ALL DEFECTS IN MATERIAL AND WORKMANSHIP FOR A PERIOD OF ONE YEAR FROM DATE OF ACCEPTANCE AND PERFORM ALL CORRECTIVE WORK
- 63. A CONTRACTOR MAKING A BID FOR WORK ON THIS PROJECT IS MADE AWARE BY THIS NOTE THAT IT IS THE INTENT OF THE OWNER TO HAVE A COMPLETELY INSTALLED JOB. THE CONTRACTOR MAKING A BID FOR THIS WORK WARRANTS THAT THEY WILL COMPLETE AND WIRE, PROVIDING ALL NECESSARY ELECTRICAL WORK FOR EQUIPMENT SHOWN AND / OR DETAILED ON ANY PROJECT DRAWINGS OR SPECIFICATIONS AND NOT JUST THOSE COMMONLY REFERRED TO AS A SINGLE TRADE DRAWING UNLESS SPECIFICALLY IDENTIFIED ELSEWHERE AS WORK OF OTHER TRADES. WHERE EQUIPMENT REQUIRING WIRING IS SPECIFIED OR SHOWN ON DRAWINGS OTHER THAN ELECTRICAL DRAWINGS, OR INDICATED, OR IMPLIED, SUCH AS ON SHOP DRAWINGS SUBMITTED LATER, THE CONTRACTOR CAN AND SHALL REQUEST DIRECTION REGARDING CIRCUIT SIZING PROTECTION AND ROUTING WHERE NECESSARY BUT SHALL UNDERSTAND ALL NECESSARY WORK TO COMPLETE THE INSTALLATION SHALL BE PERFORMED AT NO ADDITIONAL COST TO THE OWNER OR PROJECT.
- 64. INSTALL ALL EQUIPMENT IN ACCORDANCE WITH MANUFACTURER'S REQUIRED MAINTENANCE CLEARANCES, RECOMMENDATIONS, INSTALLATION INSTRUCTIONS, GOOD ENGINEERING PRACTICE, AND PREVAILING CODE.

			LIGHTING	FIXTURE SCHEDULE				
SYMBOL	TYPE	MANUFACTURER	CATALOG NUMBER	DESCRIPTION	MOUNTING	LAMPS	VOLTAGE	FIXTURE WATTAGE
	A	COLUMBIA DUAL-LITE	CBT22-LS35 EMERGENCY CBT-LS35 PLD10M PLRST	2X2 BACK-LIT TROFFER, 4400/3300/2750 SWITCHABLE LUMENS, 3500K CCT. EMERGENCY 10W EMERGENCY BATTERY PACK	RECESSED	LED	120	24-40
	В	COLUMBIA	LCAT22-35MLG-EU EMERGENCY LCAT22-35MLG-EU-ELL14ST	2' X 2' AMBIENT LED TROFFER, CURVED LENS, 3380 LM, 80 CRI 3500K. EMERGENCY 1400 LUMEN EMERGENCY BATTERY PACK	RECESSED	LED	120	29
	C	LITECONTROL	SAE106-P-LPA-8-SOF-C1-35K-155-2D- NDM-1C-UNV-FA1	8' DIRECT INDIRECT PENDANT, 80% UP 20% DOWN, 6394 LUMENS	PENDANT	LED	120	50
	(C1)	LITECONTROL	SAE106-P-LPA-8-SOF-C1-35K-187-2D- NDM-1C-UNV-FA1	8' DIRECT INDIRECT PENDANT, 80% UP 20% DOWN, 7607 LUMENS	PENDANT	LED	120	61
	D	LITECONTROL	SAE106-P-LPA-4-SOF-C1-35K-187-2D- NDM-1C-UNV-FA1	4' DIRECT INDIRECT PENDANT, 80% UP 20% DOWN, 7607 LUMENS	PENDANT	LED	120	61
	F	AXIS	(45° POSITIVE-2') SCRG 600 90 35 FL PP45X2 W UNV DP 1 MFTB15 (45° NEGATIVE-2') SCRG 600 90 35 FL PN45X2 W UNV DP 1 MFTB15	2' DIRECT RECESSED PARALLELOGRAM, 600 LUMENS / FOOT COMPATIBLE WITH ARMSTRONG DESIGNFLEX CEILING SYSTEM	RECESSED	LED	120	100
\$ ₩	X	DUAL LITE	EVEURWEI	EXIT SIGN, 6" RED LETTERS, PLASTIC HOUSING, BATTERY BACKUP	UNIVERSAL	LED	120	2
NOTES:					EMERGENC	Y TYPE LE	GEND:	
2. THI SEI REG	NSTRUCT E LIGHTIN LECTIONS QUIREME	TION FOR AVAILABLE S IG MANUFACTURERS A S FOR THIS PROJECT A NTS AND 2020 ENERGY	SPACE, CLEARANCE, ACCESSIBILITY, ETC.  AND CATALOG NUMBERS INDICATED IN THE AB  AND COMPLY WITH THE ILLUMINATING ENGINEE  Y CONSERVATION CONSTRUCTION CODE OF NE	OVE LIGHTING FIXTURE SCHEDULE REPRESENT THE BASIS OF DESIGN RING SOCIETY (IES) LIGHTING LIBRARY ILLUMINATION LEVEL WYORK STATE. SHOULD THE CONTRACTOR ELECT TO SUBSTITUTE AN	INTEG BATTE	RAL OR REN	HADED SHALL IOTE EMERGE PROVIDE A M IERGENCY LIG	NCY MINIMUM OF

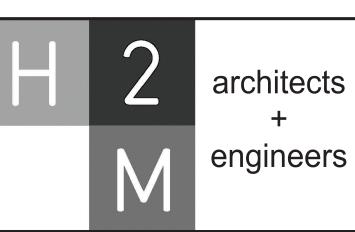
ALTERNATE MANUFACTURER FOR ANY OF THE LIGHT FIXTURE TYPES. PERFORMANCE OF THE FIXTURE IS CRITICAL AND PROVIDING PHOTOMETRIC

DATA IS AMONG REQUIREMENTS IN DETERMINING WHETHER THE SUBMITTED LIGHT FIXTURE CAN PROVIDE THE REQUIRED NORMAL AND EMERGENCY LIGHTING ILLUMINATION LEVELS BASED ON THE QUANTITY AND LOCATIONS OF THE LIGHT FIXTURES INDICATED ON THE CONTRACT LIGHTING PLAN

SYMBOL	DESCRIPTION	COMMENTS
S	SINGLE POLE TOGGLE SWITCH: 120V, 20A	46" AFF TO CL UC
S <sub>3</sub>	THREE - WAY SWITCH: 120V, 20A	46" AFF TO CL UC
S <sub>k</sub>	SINGLE POLE KEY SWITCH  GFCI RECEPTACLE: 120V, 20A.	46" AFF TO CL UC
	GFCI RECEPTACLE: 120V, 20A. MOUNTED 6" ABOVE COUNTER OR SINK	
HD	HAND DRYER	
(OS)	OCCUPANCY SENSOR - DUAL TECHNOLOGY - CEILING MOUNTED	
	2 #12 AWG + #12 AWG GND IN 3/4" E.C. CONCEALED IN WALL OR CEILING	
	3 #12 AWG + #12 AWG GND IN 3/4" E.C. CONCEALED IN OR BELOW SLAB	
PP	LIGHTING CONTROL RELAY POWER PACK	
— <u>□                                    </u>	DUPLEX RECEPTACLE: 120V, 20A.	FLUSH
	·	
<del>•</del>	DUPLEX RECEPTACLE: 120V, 20A. MOUNTED 6" ABOVE COUNTER	FLUSH
<b>+</b>	QUAD RECEPTACLE: 120V, 20A.	FLUSH
F	FIRE ALARM MANUAL PULL STATION	46" AFF
(SD)	FIRE ALARM SMOKE DETECTOR	
(H)	FIRE ALARM HEAT DETECTOR	
HAC	FIRE ALARM HEAT DETECTOR - MOUNTED ABOVE CEILING	
E⊲	FIRE ALARM HORN / STROBE	80" - 96" AFF
HQ	FIRE ALARM STROBE	80" - 96" AFF
DSD	DUCT SMOKE DETECTOR	
HS)	SPEAKER - WALL MOUNTED	
7/	ELECTRICAL PANEL, RECESSED; SEE PANEL SCHEDULE.	
·//////	ELECTRICAL PANEL, SURFACE MOUNT; SEE PANEL SCHEDULE.	
<u>C</u>	CONDUIT GOING UP.	
O	CONDUIT GOING DOWN.	
<b>A</b>	TELEPHONE OUTLET WITH CAT 3 CABLE RUN TO TELEPHONE DEMARC IN BASEMENT	
Δ	DATA OUTLET WITH CAT 6 CABLE RUN TO NETWORK SWITCH IN BASEMENT	
FO	FIRE ALARM BELL STROBE	
OB	PROGRAM BELL	
WAP	WIRELESS ACCESS POINT	
⊗ ⊗	EXIT SIGN	
44	EMERGENCY LIGHTING UNIT	
©	DIGITAL CLOCK DISPLAY	
s	SPEAKER - RECESSED CEILING MOUNTED	
8	CCTV CAMERA DOME	
	LIGHT FIXTURE	
• BB°	BELL BOX	
MD	MOTION DETECTOR	
<b>[</b> ]	LIGHT FIXTURE WITH EMERGENCY BATTERY PACK	
H	"HALO" SMART SENSOR DETECTOR	
SR	SECONDARY SERVER RACK	

SYMBO	OLS LEGEND
100	ROOM DESIGNATION
5 A2.2	BUILDING SECTION CUT
5 A2.2	WALL SECTION CUT
5 A22	DETAIL KEY
5 A2.2	ELEVATION KEY
—-—(H)	COLUMN GRID
<del>•</del>	ELEVATION LINE
Title SCALE:	DRAWING TITLE
3 4 5 A2.2 1	INTERIOR ELEVATION REFERENCE
# #	SEE NOTE # ON DWG #

	ABBREVIATIONS	
ABBREVIATION	DESCRIPTION	COMMENT
AFF	ABOVE FINISHED FLOOR	
AFC	ABOVE FINISHED CEILING	
AFCI	ARC FAULT CIRCUIT INTERRUPTER	
AFG	ABOVE FINISHED GRADE	
AHJ	AUTHORITY HAVING JURISDICTION	
AMP, A	AMPERE	
ATS	AUTOMATIC TRANSFER SWITCH; SEE TRANSFER SWITCH SCHEDULE	
AWG	AMERICAN WIRE GAUGE	
BFC	BELOW FINISHED CEILING	
CL	CENTERLINE	
СТ	COUNTER TOP	
EC	ELECTRICAL CONDUIT	
GFCI	GROUND FAULT CIRCUIT INTERRUPTER	
GFI	GROUND FAULT INDICATOR	
GND	GROUND	
PSEG	PUBLIC SERVICE ELECTRIC AND GAS COMPANY (LOCAL ELECTRIC UTILITY)	
МСВ	MAIN CIRCUIT BREAKER	
MLO	MAIN LUGS ONLY	
NTS	NOT TO SCALE	
TYP	TYPICAL	
UON	UNLESS OTHERWISE NOTED	
UC	UNDER COUNTER	
V	VOLT	
VAC	VOLTS ALTERNATING CURRENT	
VDC	VOLTS DIRECT CURRENT	
X-FMR	TRANSFORMER	
WP	WEATHERPROOF	



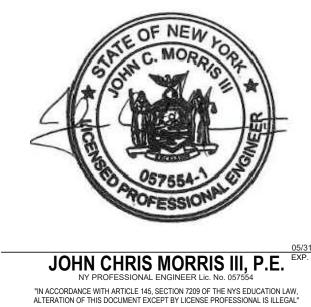
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 DESCRIPTION

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 1
 02-25-25
 SED ADDENDUM 1

 05-28-25
 FINAL BID SET



"IN ACCORDANCE WITH ARTICLE 145, SECTION 7209 OF THE NYS EDUCATION LAW, ALTERATION OF THIS DOCUMENT EXCEPT BY LICENSE PROFESSIONAL IS ILLEGAL"

IGNED BY: DRAWN BY: CHECKED BY: REVIEWED BY: SRF SRF SS SS

JECT No.: DATE: SCALE:

WPSD2401 MAY 2025 AS SHOWN

# White Plains City School District

Renovations at Rochambeau Alternate High School



228 Fisher Avenue White Plains, NY 10606

SED #66-22-00-01-0-015-020

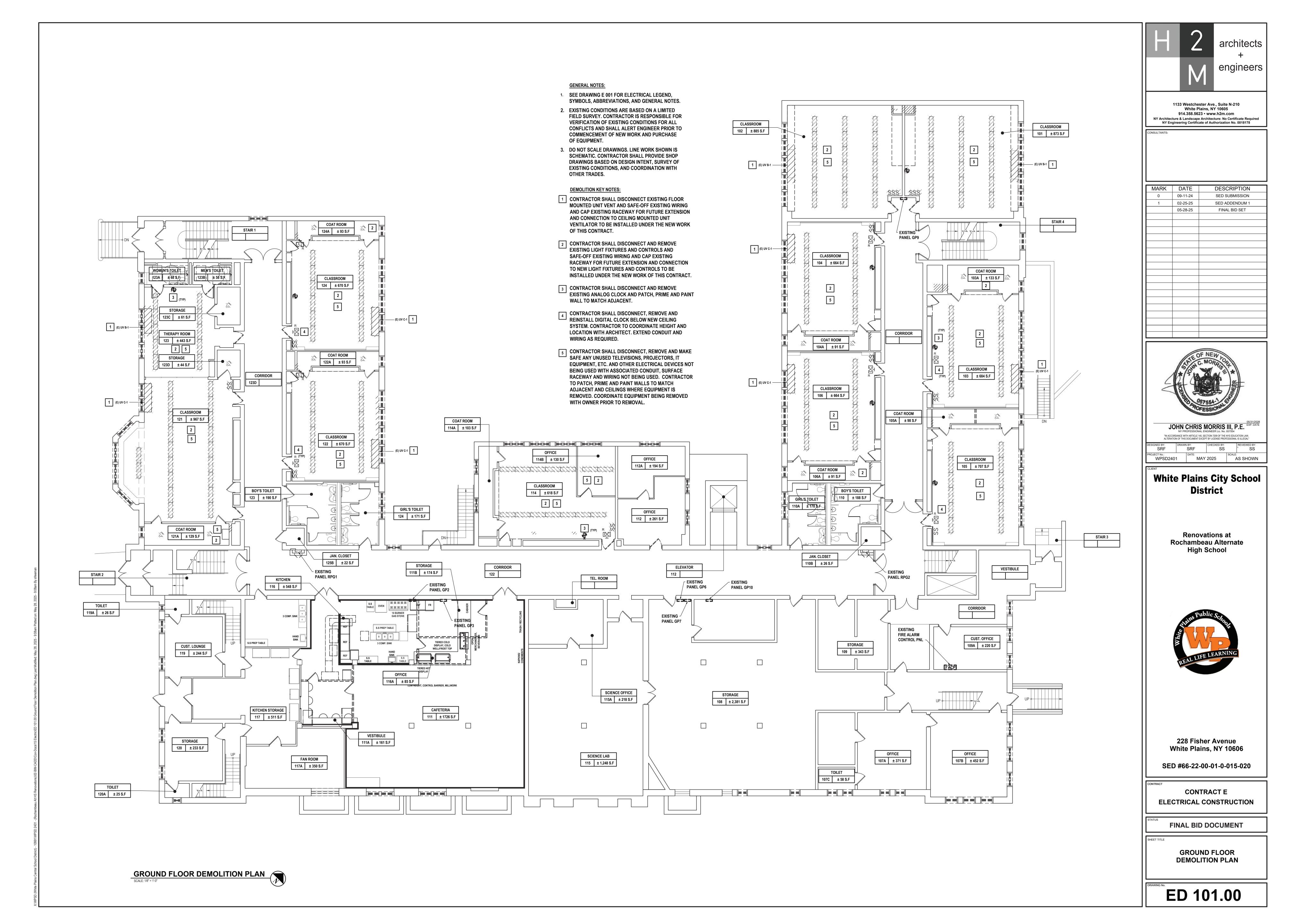
CONTRACT E
ELECTRICAL CONSTRUCTION

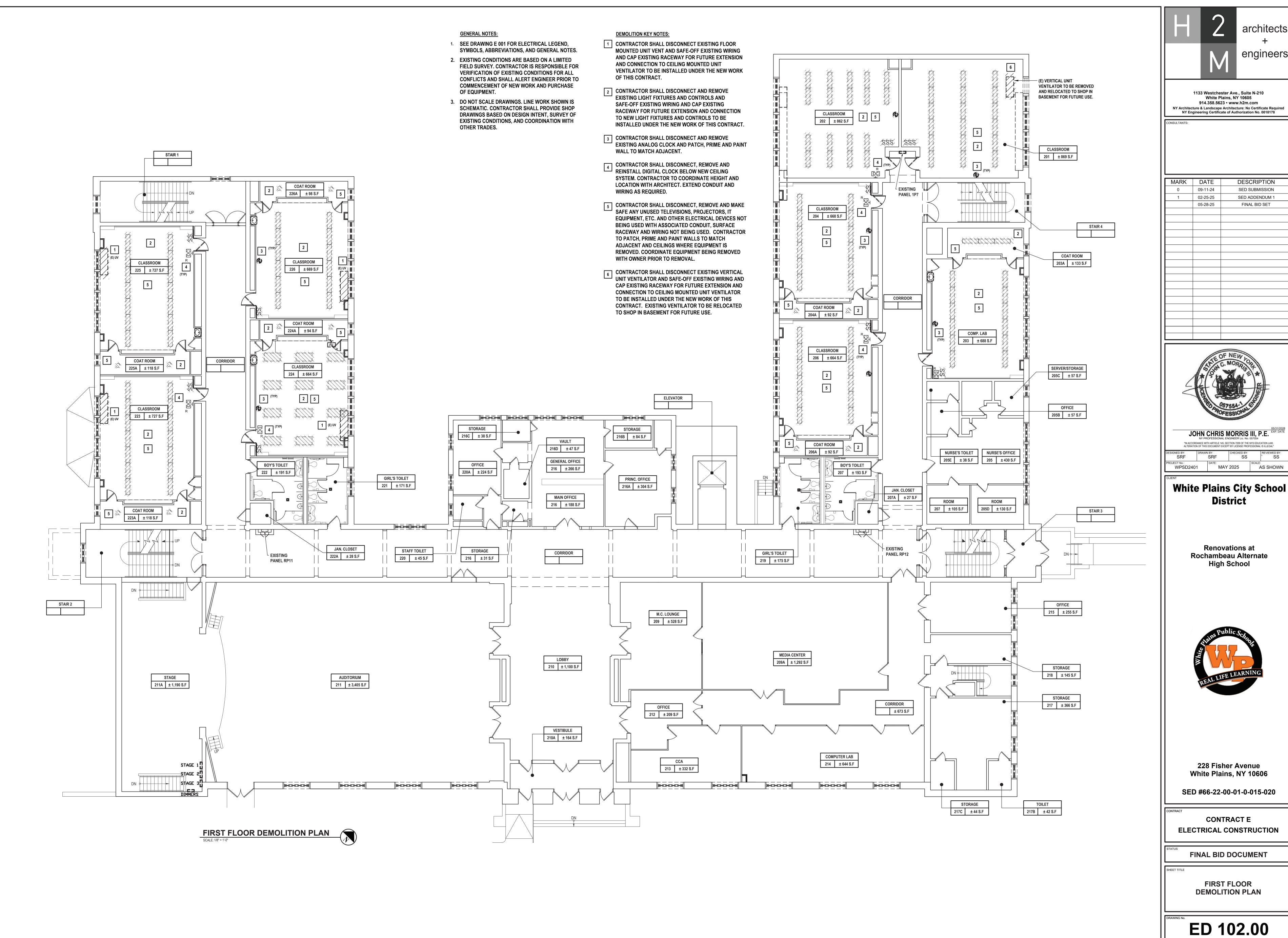
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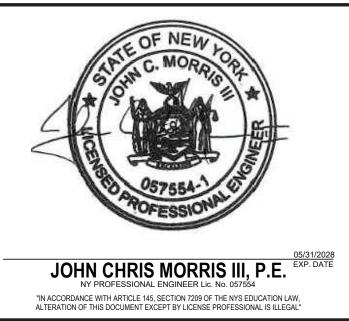
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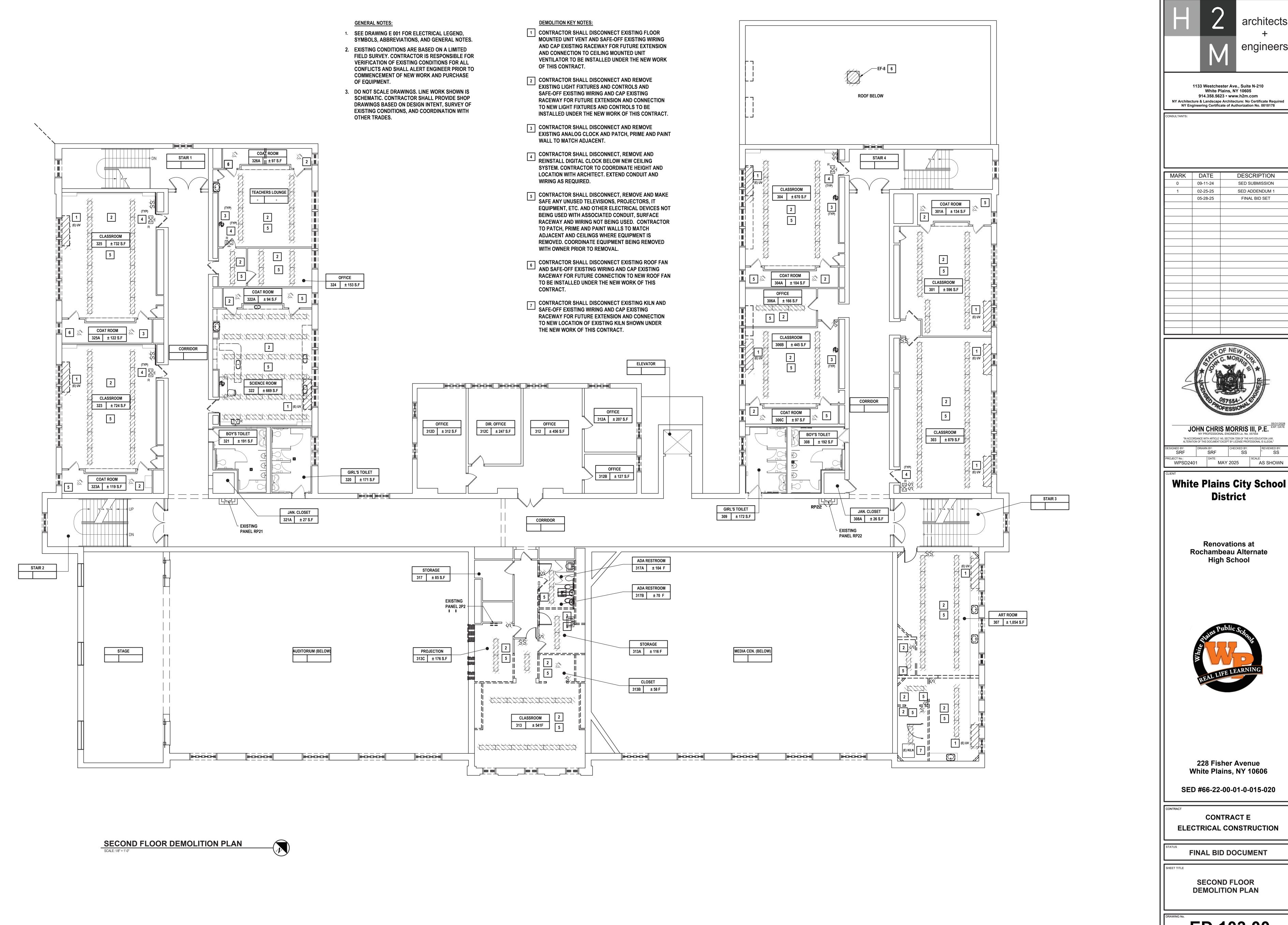
GENERAL NOTES AND LEGENDS

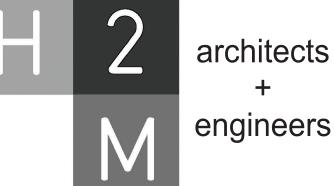
E 001.00



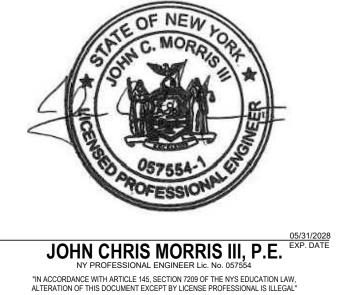




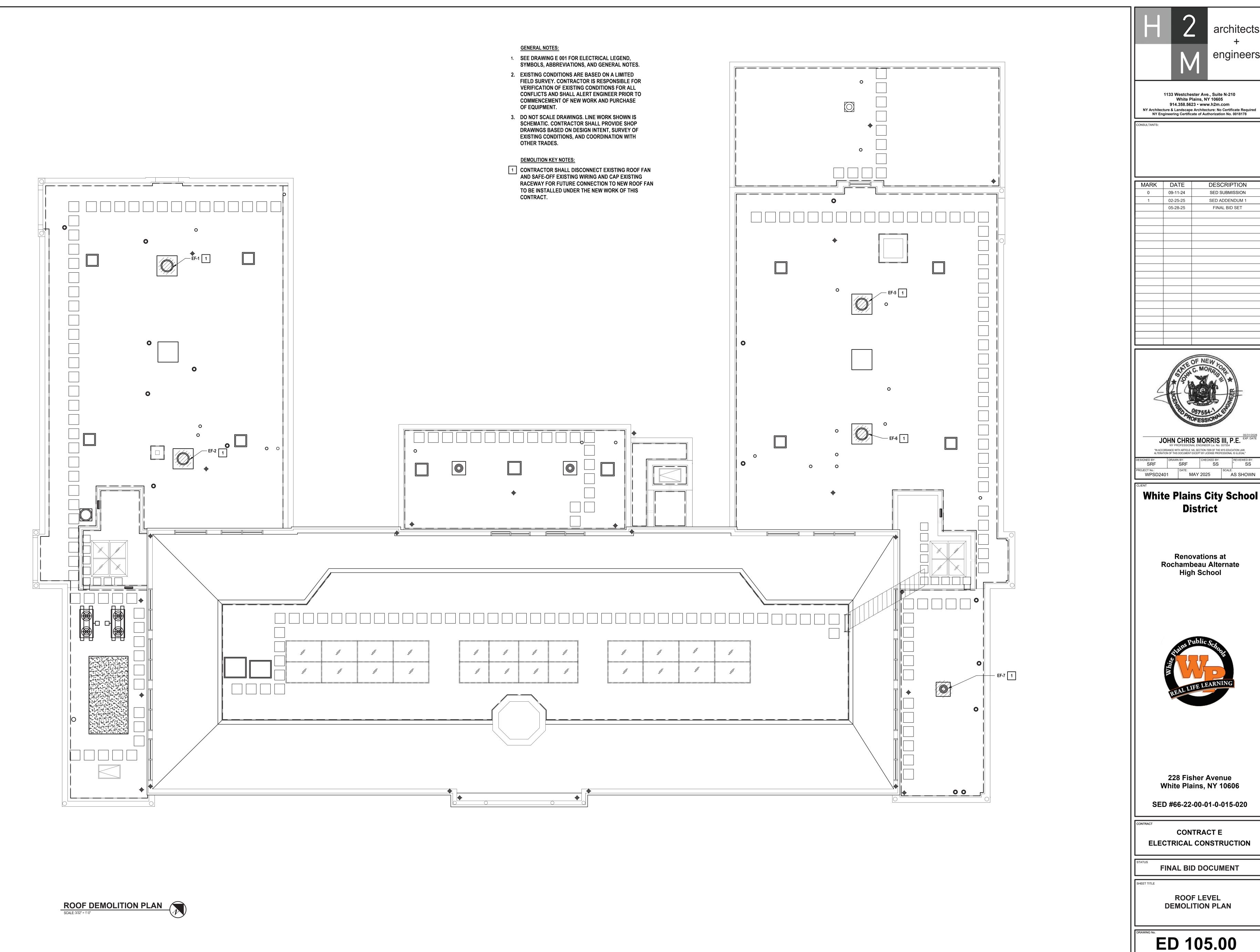




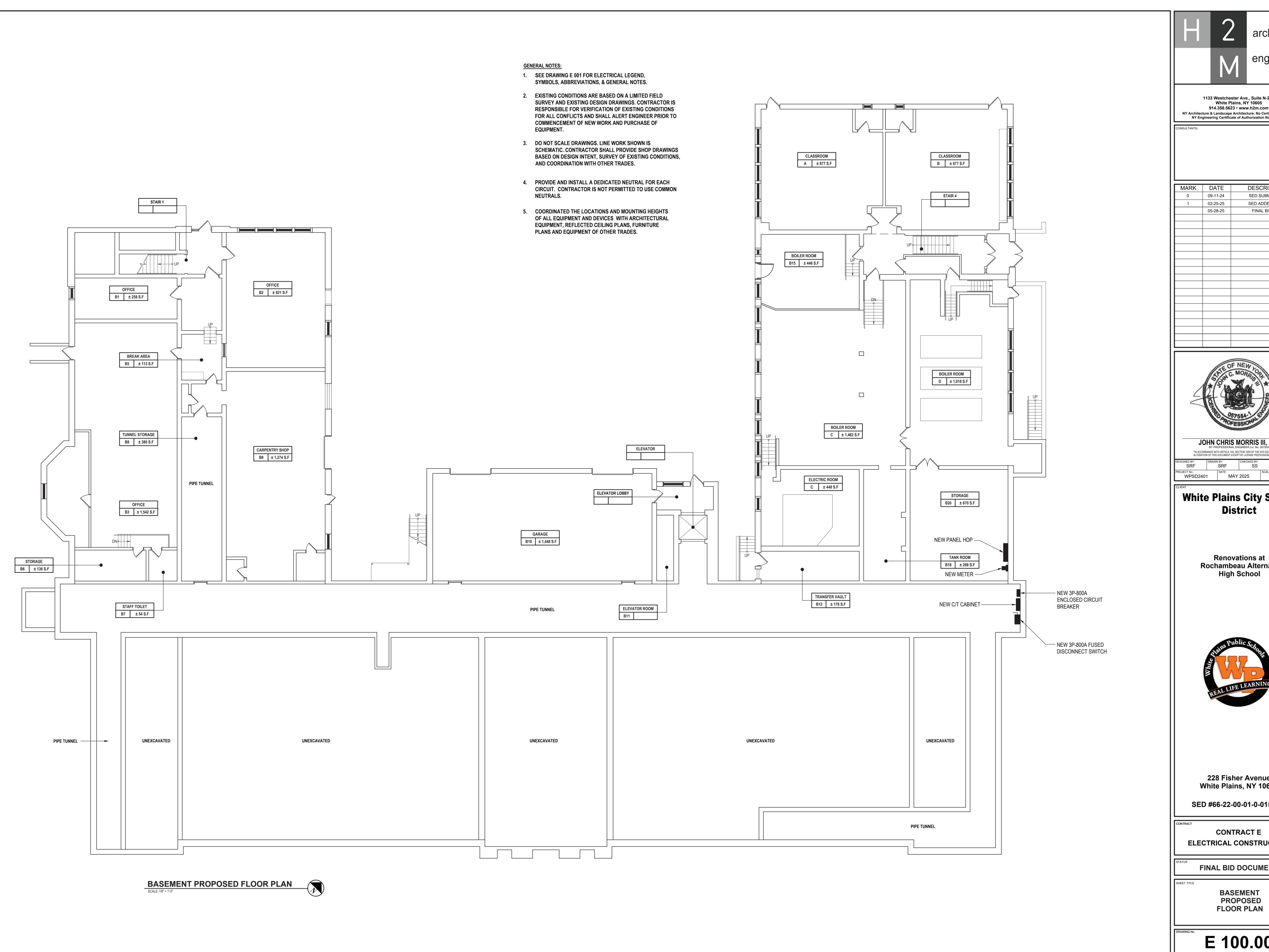
MARK	DATE	DESCRIPTION
0	09-11-24	SED SUBMISSION
1	02-25-25	SED ADDENDUM 1
	05-28-25	FINAL BID SET
	'	



ED 103.00

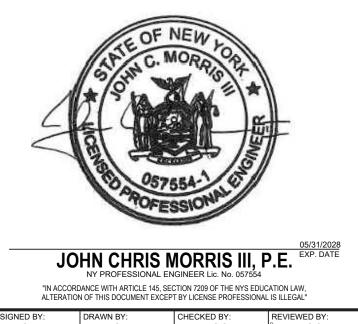


## **White Plains City School**



1133 Westchester Ave., Suite N-210 White Plains, NY 10605 914.358.5623 • www.h2m.com NY Architecture & Landscape Architecture: No Certificate Required NY Engineering Certificate of Authorization No. 0018178

DESCRIPTION SED SUBMISSION SED ADDENDUM 1 FINAL BID SET



## **White Plains City School District**

AS SHOWN

Rochambeau Alternate High School



228 Fisher Avenue White Plains, NY 10606

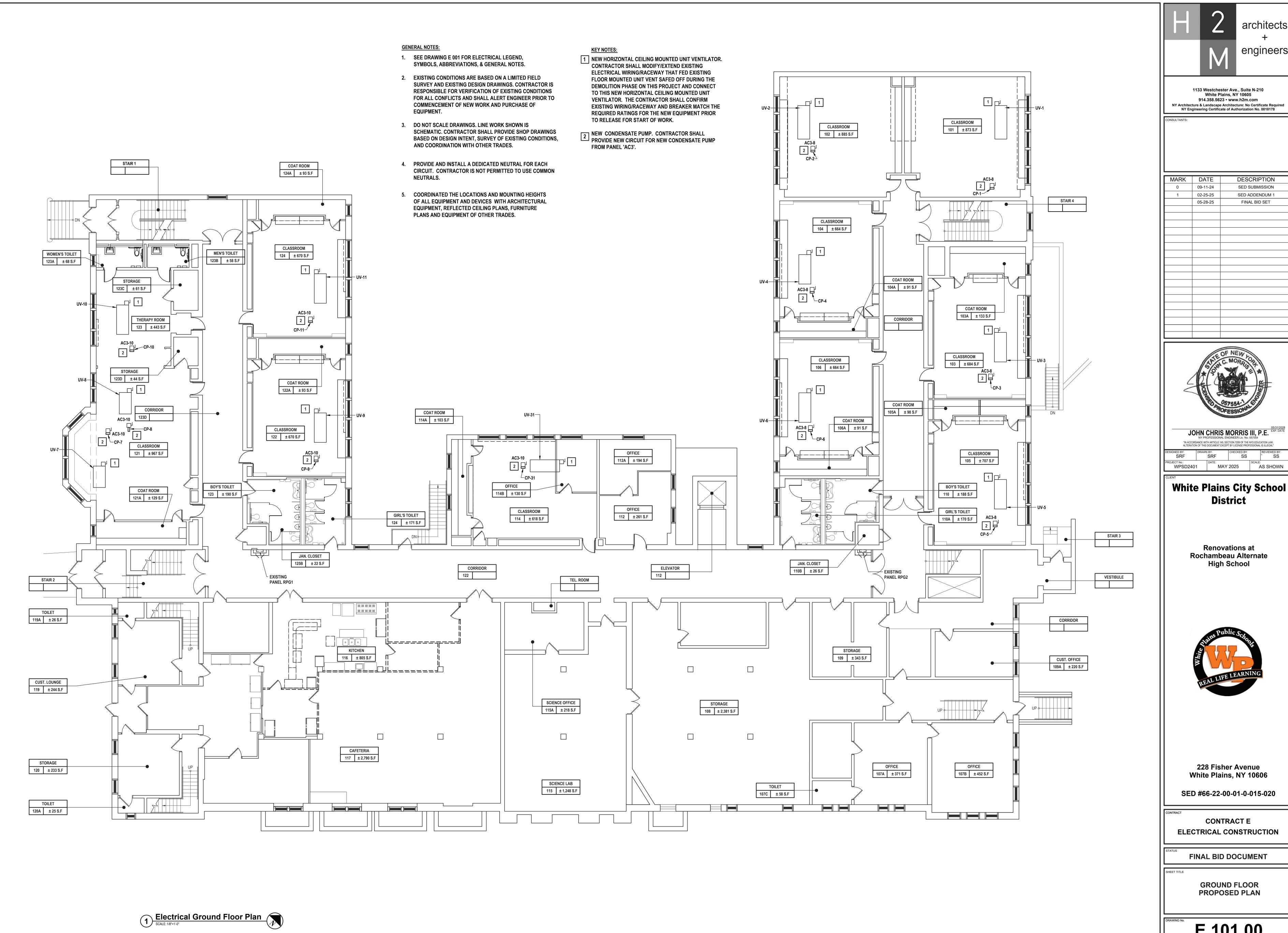
SED #66-22-00-01-0-015-020

**CONTRACT E ELECTRICAL CONSTRUCTION** 

FINAL BID DOCUMENT

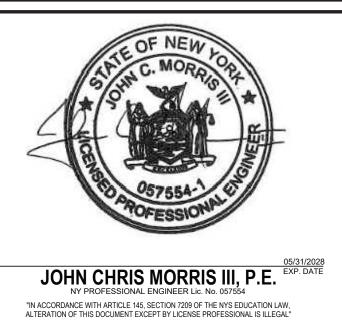
**BASEMENT** PROPOSED **FLOOR PLAN** 

E 100.00



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# **White Plains City School**

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Renovations at Rochambeau Alternate



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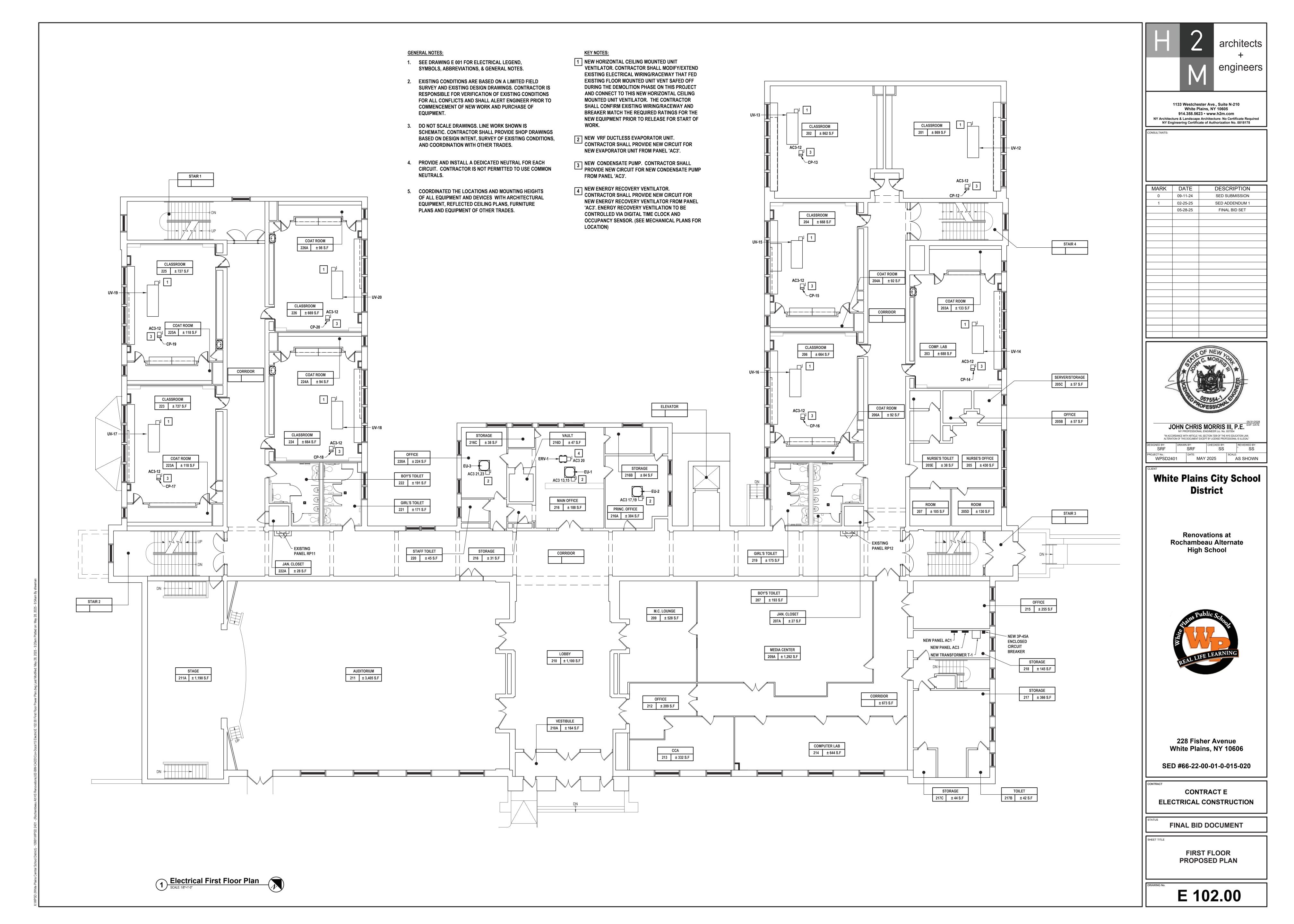
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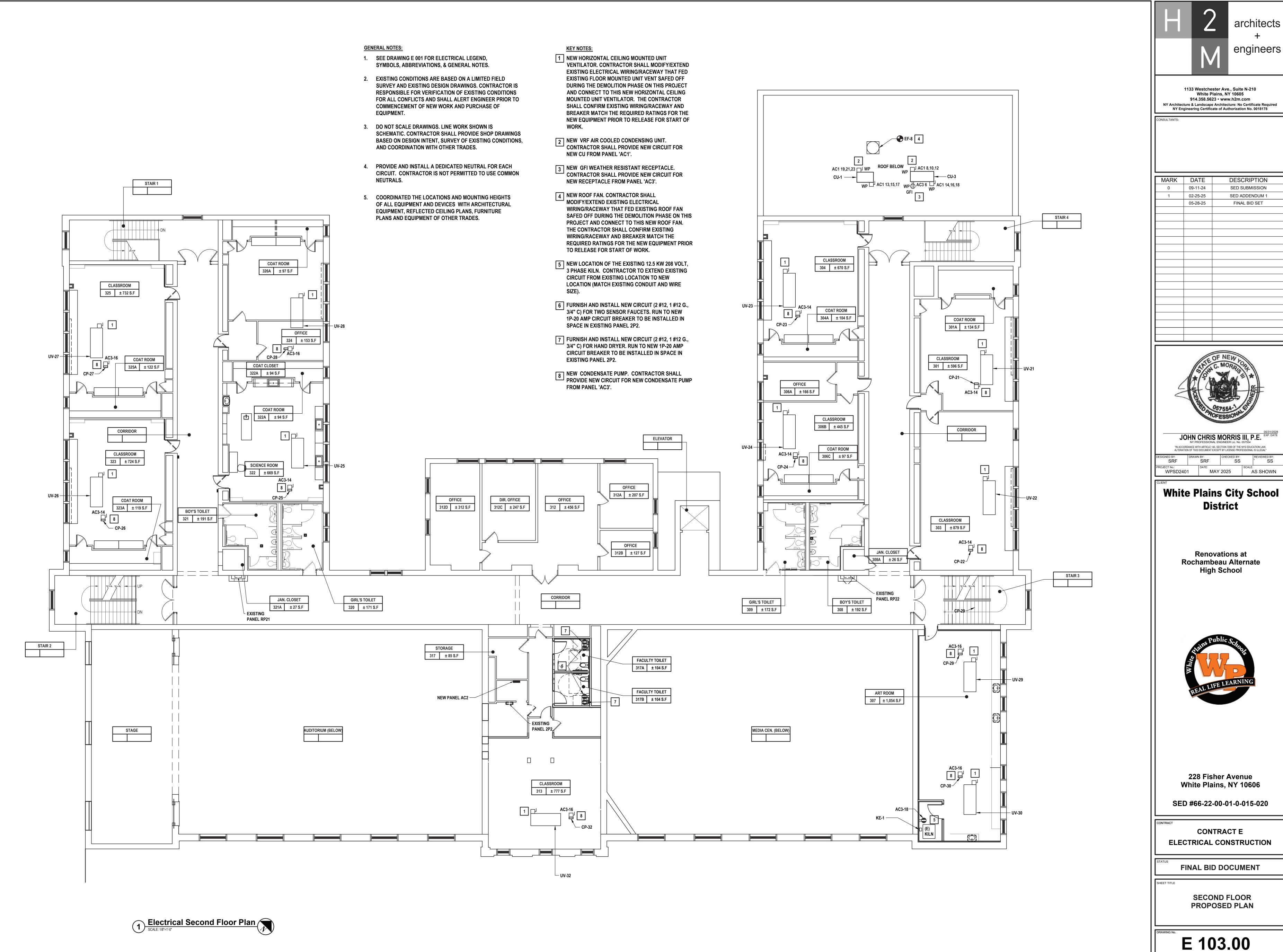
**CONTRACT E ELECTRICAL CONSTRUCTION** 

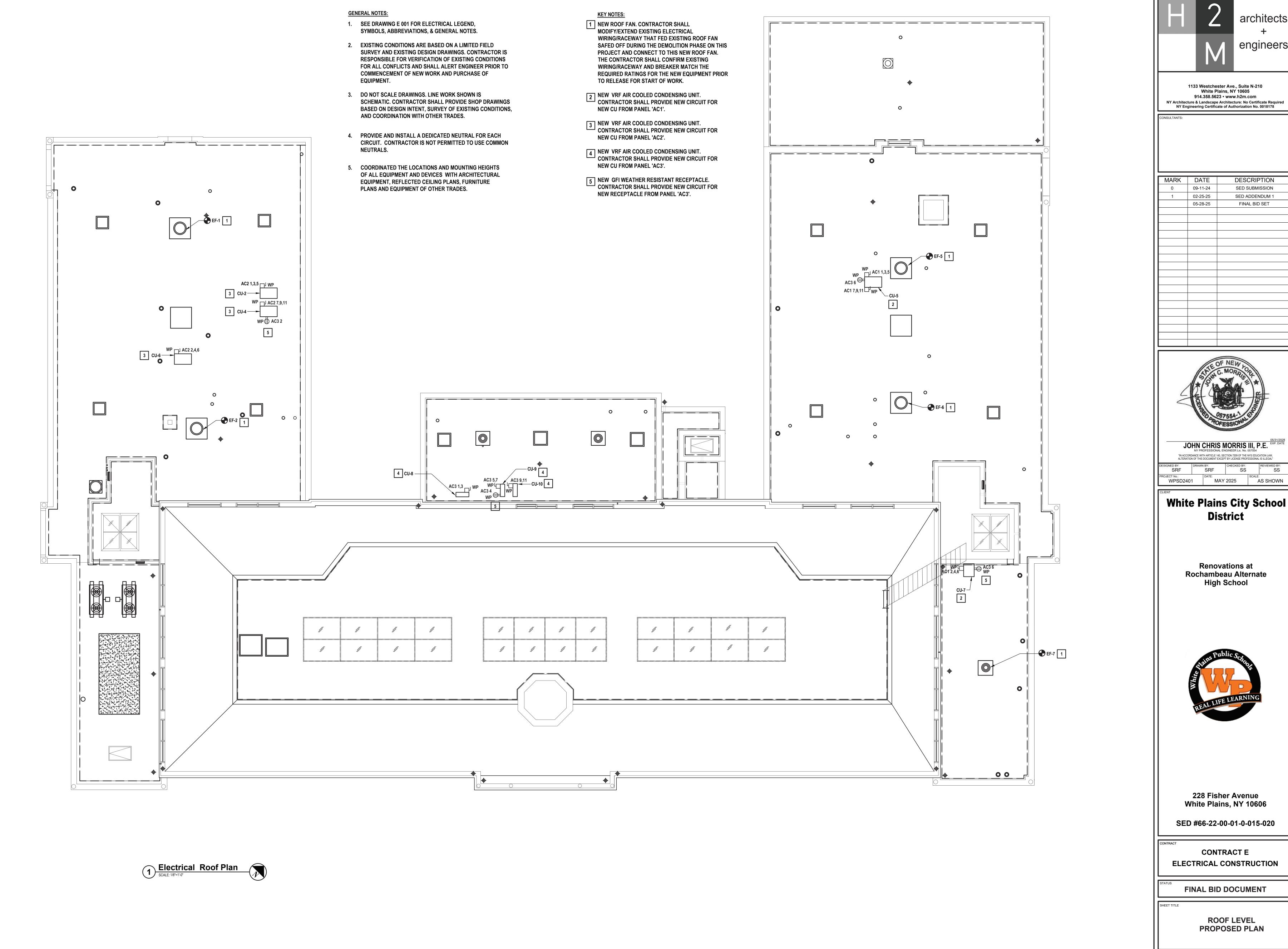
FINAL BID DOCUMENT

GROUND FLOOR PROPOSED PLAN

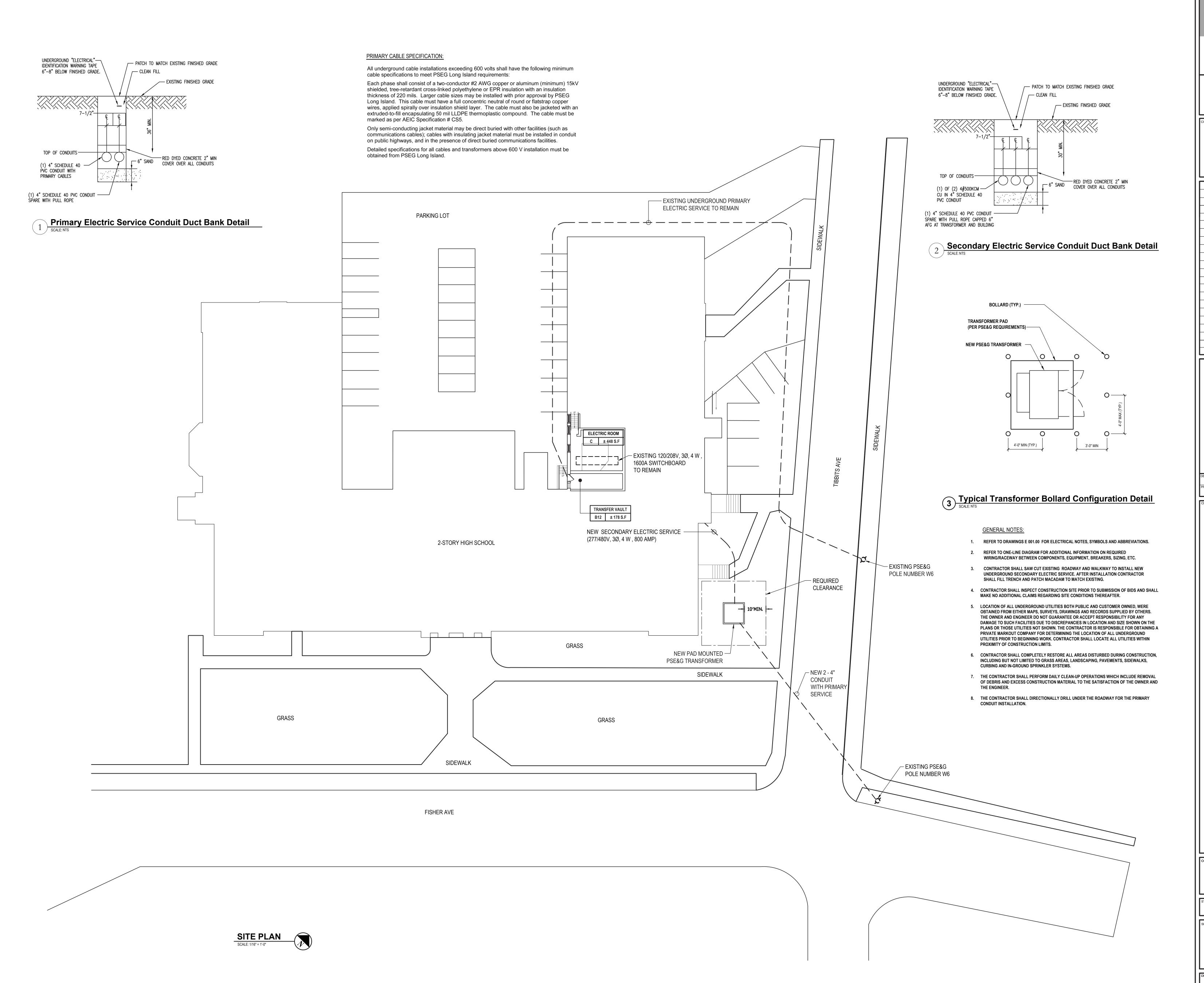
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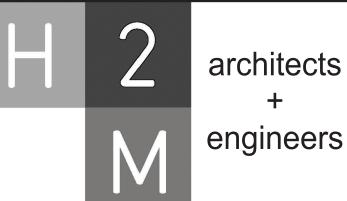






E 105.00





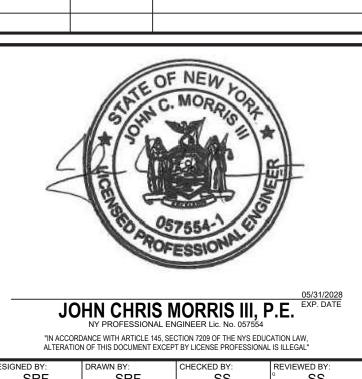
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White Plains, NY 10605
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NY Architecture & Landscape Architecture: No Certificate Required
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 MARK
 DATE
 DESCRIPTION

 0
 09-11-24
 SED SUBMISSION

 1
 02-25-25
 SED ADDENDUM 1

 05-28-25
 FINAL BID SET



# White Plains City School District

AS SHOWN

MAY 2025

WPSD2401

Renovations at Rochambeau Alternate High School



228 Fisher Avenue White Plains, NY 10606

SED #66-22-00-01-0-015-020

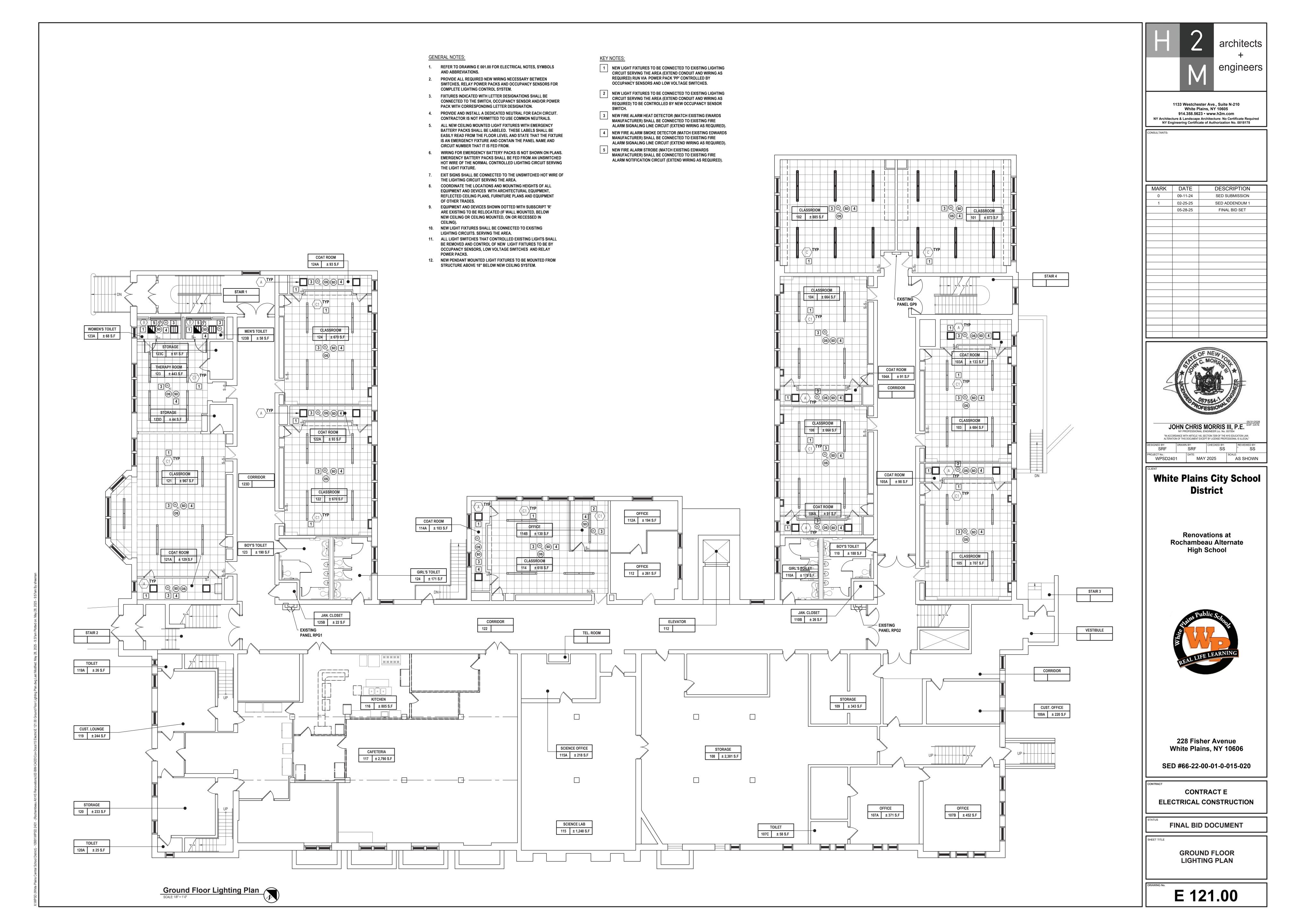
CONTRACT E
ELECTRICAL CONSTRUCTION

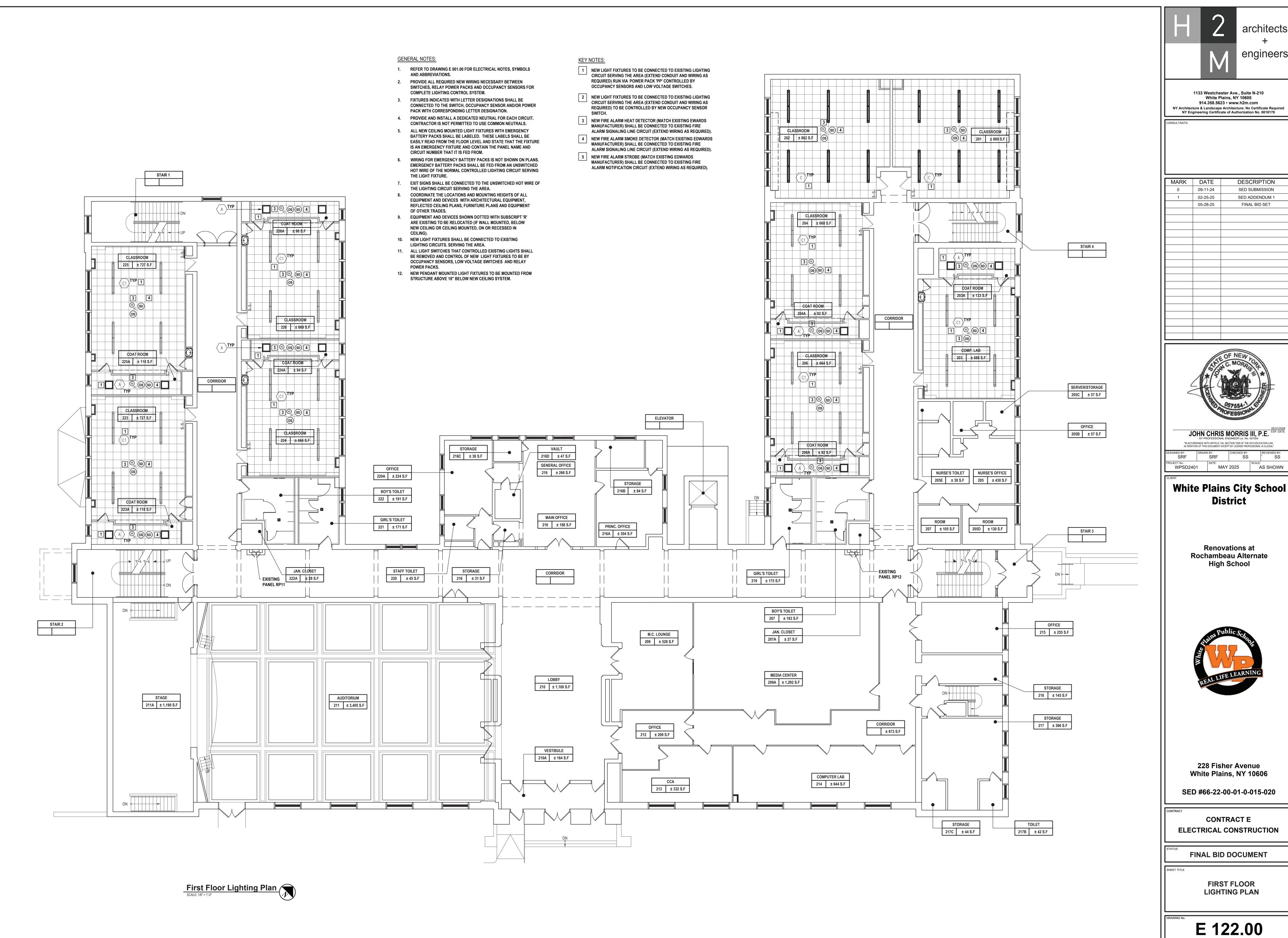
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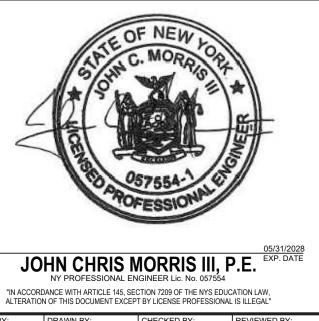
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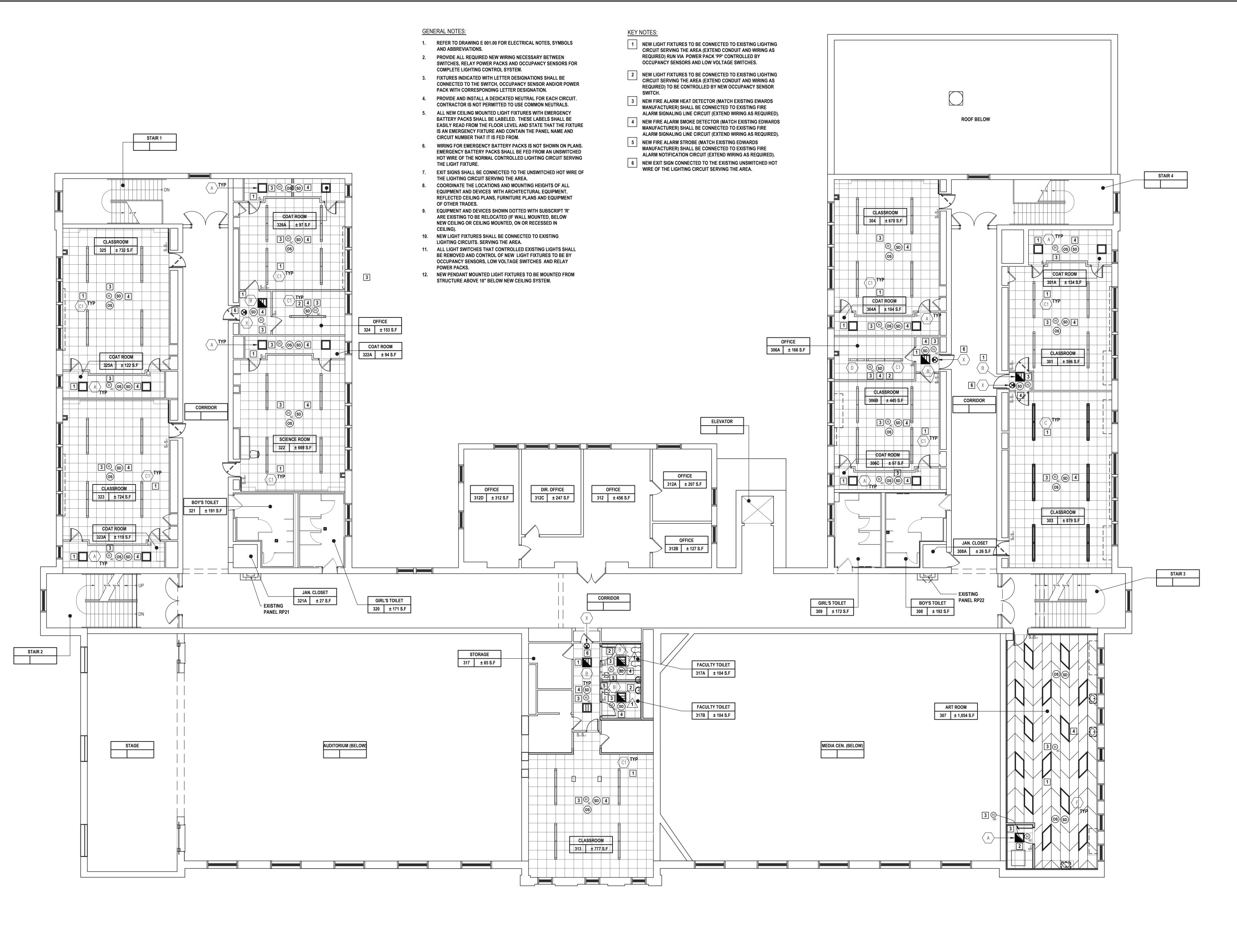
ELECTRICAL SITE PLAN

E 110.00

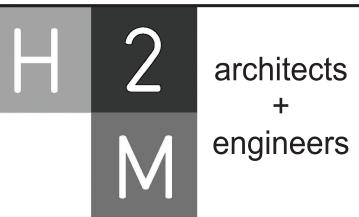








Second Floor Lighting Plan
SCALE: 3/32" = 1'-0"



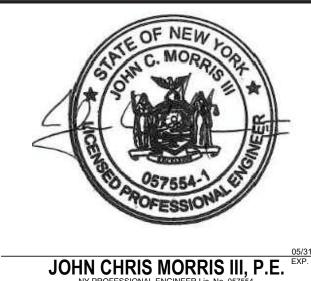
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 05-28-25
 FINAL BID SET



JOHN CHRIS MORRIS III, P.E.

NY PROFESSIONAL ENGINEER Lic. No. 057554

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SIGNED BY: DRAWN BY: CHECKED BY: REVIEWED BY:

SRF SR SS SS

MAY 2025

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Renovations at Rochambeau Alternate High School



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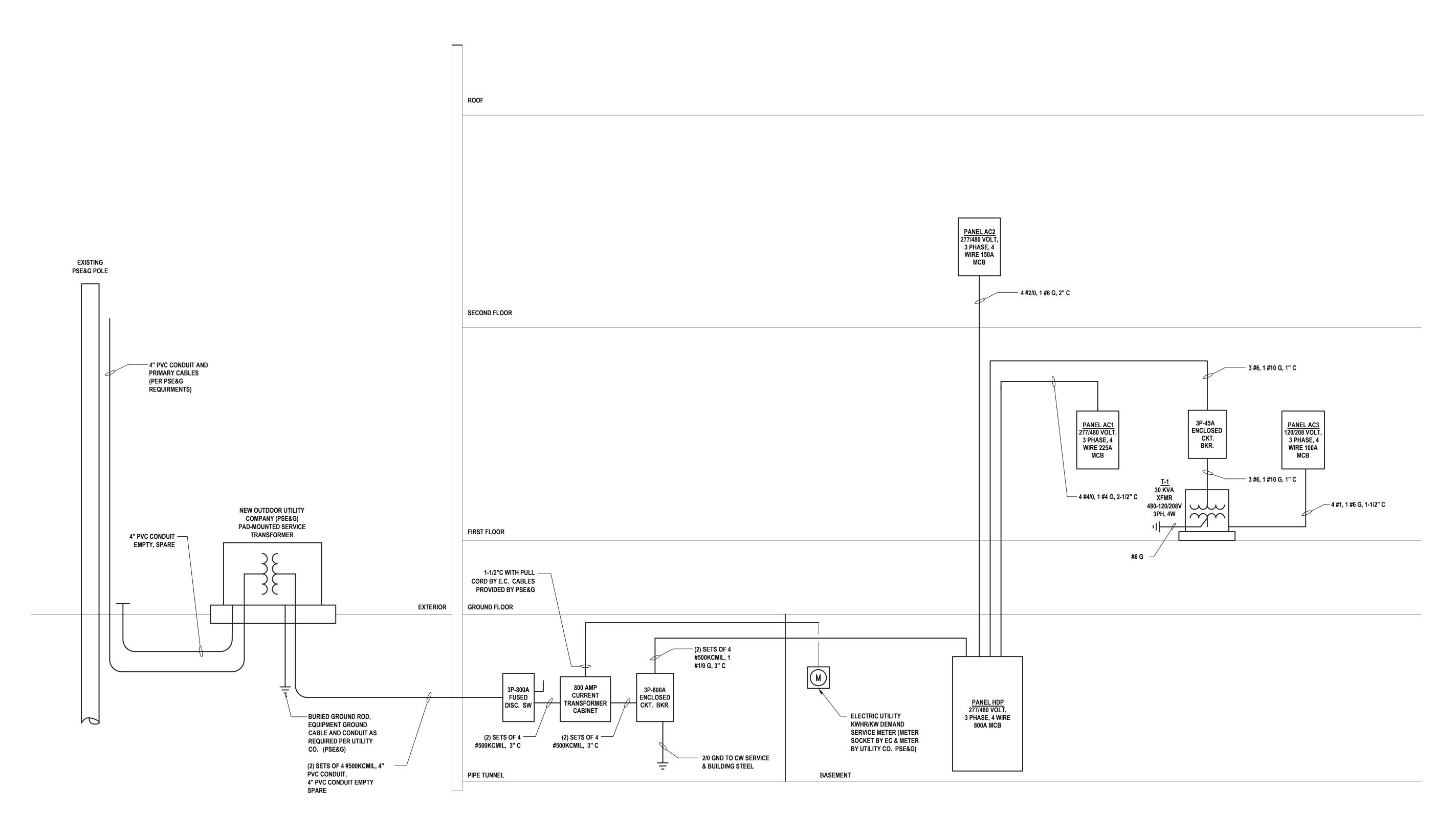
CONTRACT E
ELECTRICAL CONSTRUCTION

FINAL BID DOCUMENT

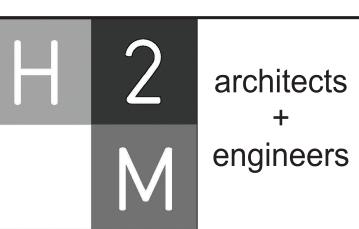
SHEET TITLE

SECOND FLOOR LIGHTING PLAN

E 123.00



1 Electrical Power One Line Riser Diagram
SCALE: NONE



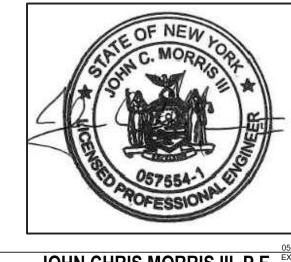
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DESIGNED BY:

SRF

SRF

SRF

SRF

SS

PROJECT No.:

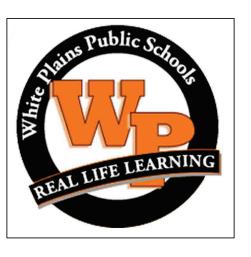
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MAY 2025

AS SHOWN

# White Plains City School District

Renovations at Rochambeau Alternate High School



228 Fisher Avenue White Plains, NY 10606

SED #66-22-00-01-0-015-020

CONTRACT E
ELECTRICAL CONSTRUCTION

FINAL BID DOCUMENT

SHEET TITLE

ELECTRICAL
ONE LINE DIAGRAM

E 500.00

C/B TRIP			08V, 3P, 3 0/208V, 3P				2P, 2W V, 2P, 3W				120V,	1P, 2W		
15	DISTANCE IN FEET MINIMUM WIRE SIZE	177 12	273 10	429 8	153 12	236 10	371 8	578 6	88 12	136 10	214 8	333 6	500	
	MINIMUM WIRE SIZE	12	10	•	12	10			12	10		0	<u> </u>	
20	DISTANCE IN FEET	132	205	322	115	177	279	433	66	102	161	250	375	
	MINIMUM WIRE SIZE	12	10	8	12	10	8	6	12	10	8	6	4	
30	DISTANCE IN FEET	136	214	334	118	186	289	433	68	107	167	250	313	
	MINIMUM WIRE SIZE	10	8	6	10	8	6	4	10	8	6	4	3	
40	DISTANCE IN FEET	161	250	375	139	217	325	406	80	125	188	234	281	_
	MINIMUM WIRE SIZE	8	6	4	8	6	4	3	8	6	4	3	375 4 313 3	
50	DISTANCE IN FEET	129	200	300	111	173	260	325	64	100	150	188	225	_
	MINIMUM WIRE SIZE	8	6	4	8	6	4	3	8	6	4	3	2	
60	DISTANCE IN FEET	167	250	313	144	217	271	325	83	125	156	188	234	
	MINIMUM WIRE SIZE	6	4	3	6	4	3	2	6	4	3	2	1	
70	DISTANCE IN FEET	214	268	322	186	232	279	348	107	134	161	201		
	MINIMUM WIRE SIZE	4	3	2	4	3	2	1	4	3	2	1		
80	DISTANCE IN FEET	188	235	281	163	203	244	305	94	117	141	176		
	MINIMUM WIRE SIZE	4	3	2	4	3	2	1	4	3	2	1		
90	DISTANCE IN FEET	208	250	313	181	217	271		104	125	156			
	MINIMUM WIRE SIZE	3	2	1	3	2	1		3	2	1			
100	DISTANCE IN FEET	188	225	281	163	195	244		94	113	141			
	MINIMUM WIRE SIZE	] 3	2	1	3	2	1		3	2	1			

### NOTES:

- READ ACROSS TO THE RIGHT FROM C/B TRIP TO DESIRED VOLTAGE CHARACTERISTICS AND NEXT GREATER DISTANCE THAN CIRCUIT IN QUESTION.
- 2. READ DOWN TO MINIMUM WIRE SIZE.
- DISTANCES ARE TO THE CENTER OF CONCENTRATED LOAD SUCH AS CLASSROOM LIGHTING OR THE MIDPOINT OF DISTRIBUTED LOAD SUCH AS CORRIDOR LIGHTING.
- 4. EQUIPMENT GROUNDING CONDUCTORS SHALL BE INCREASED IN SIZE PROPORTIONATELY PER N.E.C.

### NOTES TO PANELBOARD SCHEDULES AND BRANCH CIRCUIT WIRE SIZING TABLES

NUMBER OF CONDUCTORS

UNLESS OTHERWISE INDICATED, MINIMUM WIRE AMPACITY SHALL BE GREATER THAN OR EQUAL TO THE BRANCH CIRCUIT TRIP BASED ON COPPER CONDUCTOR WITH 90-DEGREE C THHN INSULATION APPLIED AT ITS 75-DEGREE C AMPACITY.

REFER TO THE BRANCH CIRCUIT WIRE SIZING TABLES FOR DISTANCE LIMITATIONS FOR THE MINIMUM WIRE SIZE AND FOR SELECTING THE PROPER WIRE SIZE FOR THE DISTANCE AND VOLTAGE DROP INVOLVED.

UNLESS OTHERWISE INDICATED, QUANTITIES OF WIRES SHALL BE BASED ON AN INDIVIDUAL HOMERUN FOR EACH CIRCUIT AS FOLLOWS.

	PHASE		FULL CIRCUIT	FULL CIRCUIT
	CONDUCTOR		· ·	SIZE ISOLATED
		CONDUCTOR	GROUNDING	GROUND
			CONDUCTOR	CONDUCTOR
1 POLE CIRCUIT	1	1	1	0
1 POLE DATA/ COMPUTER CIRCUIT	1	1	1	1
2 POLE CIRCUIT	2	1	1	0
3 POLE CIRCUIT	3	1	1	0
3 POLE MOTOR CIRCUIT DELTA	3	0	1	0
3 POLE MOTOR CIRCUIT	3	1	1	0

### CONSECUTIVE INDIVIDUAL 20 AMP LINE TO NEUTRAL BRANCH CIRCUITS MAY NOT BE COMBINED INTO MULTIWIRE BRANCH CIRCUITS HAVING HOMERUNS WITH A COMMON NEUTRAL CONDUCTOR.

SINGLE PHASE, TWO POLE, TWO WIRE, LINE TO LINE, BRANCH CIRCUITS AND SINGLE PHASE, TWO POLE, THREE WIRE, LINE TO LINE PLUS NEUTRAL, BRANCH CIRCUITS SHALL HAVE INDIVIDUAL UNCOMBINED HOMERUNS.

COMBINED TWO AND THREE CIRCUIT HOMERUNS SHALL HAVE SEPARATE NEUTRALS FOR EACH CIRCUIT BUT A COMMON EQUIPMENT GROUNDING CONDUCTOR AND A COMMON ISOLATED GROUNDING CONDUCTOR MAY BE USED.

	PHASE CONDUCTOR	FULL CIRCUIT SIZE NEUTRAL CONDUCTOR	FULL CIRCUIT SIZE EQUIPMENT GROUNDING CONDUCTOR	FULL CIRCUIT SIZE ISOLATED GROUND CONDUCTOR
TWO 1 POLE HOMERUNS	2	2	1	0
TWO 1 POLE DATA/COMP. CIRCUIT HOMERUNS	2	2	1	1
THREE 1 POLE HOMERUNS	3	3	1	0
THREE 1 POLE DATA/COMP. CIRCUIT HOMERUNS	3	3	1	1

### **WIRE DERATING**

- COMBINED HOMERUNS SHALL HAVE THE MINIMUM BRANCH CIRCUIT WIRE SIZE INCREASED IN ACCORDANCE WITH CURRENT NATIONAL ELECTRICAL ADJUSTMENT FACTORS FOR NUMBER OF CURRENT CARRYING CONDUCTORS IN A
- NEUTRAL CONDUCTORS FOR FLUORESCENT AND HIGH INTENSITY DISCHARGE LIGHTING CIRCUITS ARE CURRENT CARRYING
- INDIVIDUAL NEUTRAL CONDUCTOR FOR COMBINED HOMERUNS FOR DATA / COMPUTER OUTLETS ARE CURRENT CARRYING

### 4. NEUTRAL CONDUCTORS FOR DIMMING CIRCUITS ARE CURRENT CARRYING CONDUCTORS. RACEWAY SIZING

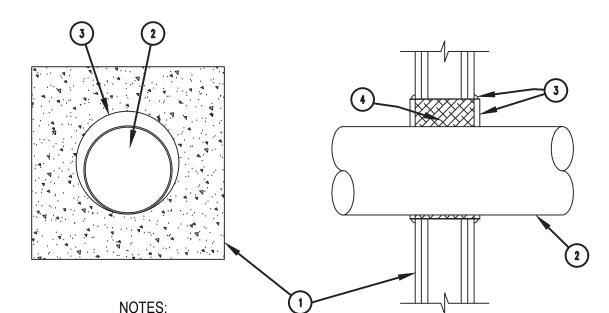
\*\*Ground

1. ALL RACEWAYS SHALL BE SIZED IN ACCORDANCE WITH THE CURRENT NATIONAL ELECTRICAL CODE IN EFFECT AS A M INIMUM SIZE. THE MORE COMMON SIZES ARE INCLUDED HERE FOR THE CONTRACTOR'S CONVENIENCE.

BZ-250

Power Pack

WIRE SIZE	NO. OF CONDUCTORS	MINIMUM CONDUIT SIZE	WIRE SIZE	NO. OF CONDUCTORS	MINIMUM CONDUIT SIZE
12	3	3/4"	8	3	3/4"
12	4	3/4"	8	4	3/4"
12	5	3/4"	8	5	3/4"
12	6	3/4"	8	6	1"
12	7	3/4"	8	7	1"
12	8	3/4"	8	8	1"
10	3	3/4"	6	3	3/4"
10	4	3/4"	6	4	3/4"
10	5	3/4"	6	5	1"
10	6	3/4"	6	6	1"
10	7	3/4"	6	7	1-1/4"
10	8	3/4"	6	8	1-1/4"



- 1 RATED GYPSUM WALL BOARD ASSEMBLY.
- (2) MAXIMUM 10" TRADE SIZE STEEL CONDUIT OR EMT.
- 3 STI SPECSEAL SERIES 100 SEALANT INSTALLED TO A 1/2" DEPTH FLUSH TO THE END OF THE SLEEVE WITH AN ADDITIONAL 1/4" CROWN APPLIED AROUND THE SLEEVE / WALL INTERFACE. ANNULUS RANGING FROM 1/8" MINIMUM TO 2 1/4" MAXIMUM.

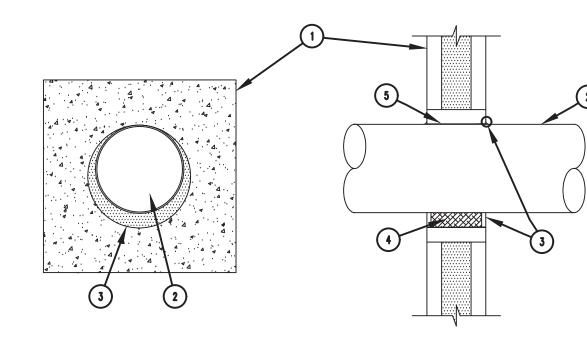
1#2/O GND-1"C -----

4 STEEL SLEEVE PACKED WITH MINERAL WOOL BATT, TO FULL THICKNESS RECESSED FROM BOTH SIDES TO ACCOMMODATE

### 1 OR 2 HOUR RATED FIRESTOP FOR METALLIC CONDUIT THRU **GYPSUM BOARD WALLS**

To Other

Light Fixtures



- 1) CONCRETE SLAB OR CONCRETE OVER STEEL DECK.
- 2 MAXIMUM 8" TRADE SIZE STEEL CONDUIT. ANNULUS RANGING FROM POINT CONTACT\* TO 1.4" MAXIMUM.
- 3 STI SPECSEAL SERIES 100 SEALANT INSTALLED TO A 1/2" DEPTH. \*\*
- (4) MINERAL WOOL BATT, NOMINAL 4PCF. TO FULL THICKNESS RECESSED FROM BOTH SIDES TO ACCOMMODATE FILL MATERIAL.
- 5 STEEL SLEEVE.

NEW INDOOR MAIN SERVICE PANEL 277/480 VOLT, 3 PHASE, 4 WIRE, 800 AMP

BARE COPPER **GROUND DIRECT** 

SERVICE GROUNDING SYSTEM RISER DIAGRAM

SCALE: NONE

MAIN SERVICE

IN BJ G

PANEL

DISTRIBUTION OR

BRANCH CIRCUIT

BURIED. ———

TYPICAL GROUNDING AND BONDING DETAIL ASSOCIATED

WITH SEPARATELY DERIVED DISTRIBUTION SYSTEMS

SCALE: NONE

\_\_\_

FURNISH AND ----

INSTALL 1#2/O BARE COPPER GROUND

BRANCH CIRCUIT PANEL

LOCK NUT AND

BUSHING. (TYP.) -

RECEPTACLE

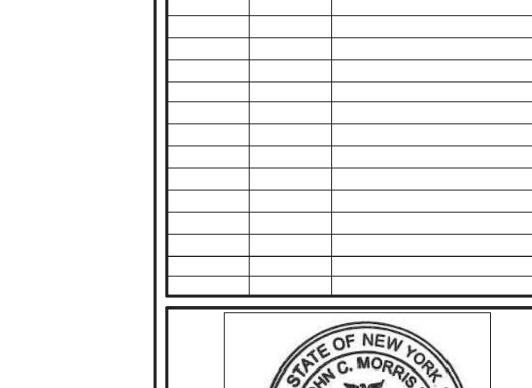
(TYPICAL)

DIRECT BURIED.

\*NOTE: A MINIMUM ANNULAR SPACE OF 1/4" AND A 28 GAUGE STEEL COVER PLATE ARE REQUIRED FOR A 4 HOUR RATING. \*\*NOTE: AT POINT CONTACT APPLY A 3/8" COVE BEAD OF SEALANT BETWEEN PIPE AND BOTH SURFACES OF WALL.

## 2 HOUR RATED FIRESTOP FOR METALLIC CONDUIT THRU

**MASONRY WALLS** 



MARK | DATE

09-11-24

02-25-25

05-28-25



engineers

DESCRIPTION

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## **White Plains City School District**

MAY 2025

AS SHOWN

WPSD2401

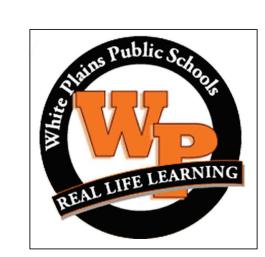
- FURNISH AND INSTALL

1#2/O BARE COPPER

FURNISH AND INSTALL TYPICAL (1) OF (3) 3/4" DIA. X 10'-0" LONG COPPERWELD GROUND RODS IN A TRIAD CONFIGURATION.

GROUND DIRECT

Renovations at Rochambeau Alternate **High School** 



228 Fisher Avenue White Plains, NY 10606

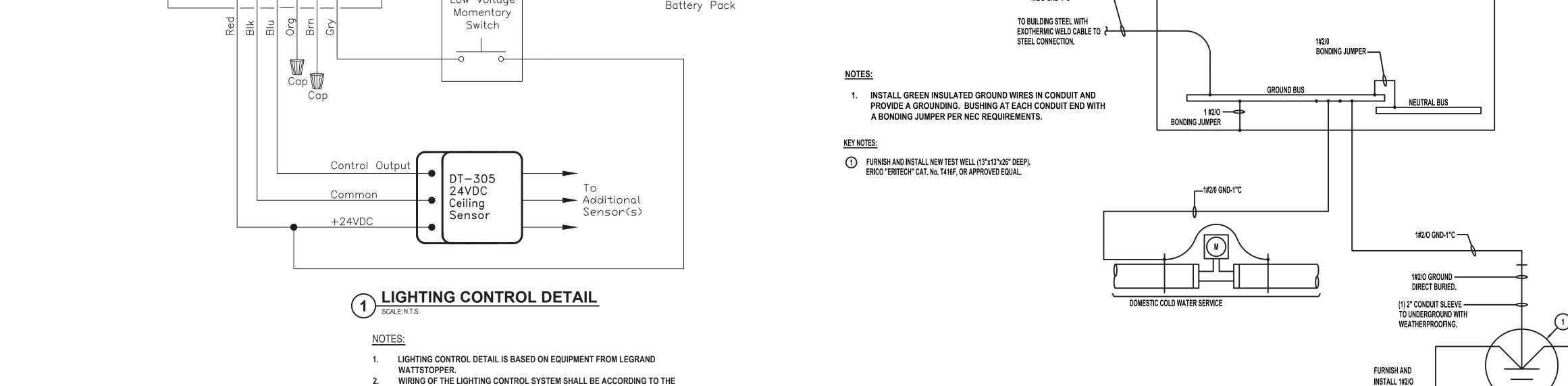
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**CONTRACT E ELECTRICAL CONSTRUCTION** 

FINAL BID DOCUMENT

**ELECTRICAL DETAILS** 

E 501.00



Fixture With Emergency

## **GROUNDING NOTES:**

MANUFACTURES RECOMMENDATIONS.

OVERLAP.

OCCUPANCY SENSOR LAYOUT / SPACING COVERAGE SHALL HAVE A 20%

Low Voltage

- 1. DETAIL IS TYPICAL AND IS INTENDED TO ILLUSTRATE METHODS OF GROUNDING AND BONDING OF ELECTRICAL DISTRIBUTION SYSTEM COMPONENTS AND BUILDING ELEMENTS. CONTRACTOR SHALL ADAPT DETAIL TO SUIT THE PARTICULAR APPLICATION AND MAY SUBMIT ALTERNATIVE METHODS TO THE ENGINEER FOR CONSIDERATION.
- DETAIL IS TYPICAL FOR METALLIC RACEWAY AND BOX SYSTEMS. FOR METALLIC RACEWAY SYSTEMS WITH U.L. LISTED AND APPROVED BONDING LOCKNUTS OR BUSHINGS AND NONMETALLIC RACEWAYS AND/OR BOXES, ELIMINATE THE BONDING JUMPERS BETWEEN THE RACEWAY AND THE BOX.
- INSTALLATION AND CONNECTION OF DRIVEN GROUND RODS MUST BE WITNESSED BY THE AUTHORITY HAVING JURISDICTION AND THE LOCATION(S) DOCUMENTED BY RECORDING THE DEPTH OF COVER AND MEASURED DISTANCES FROM TWO FIXED PERMANENT OBJECTS OR BUILDING APPURTENANCES.
- 4. GROUNDED NEUTRAL CONDUCTORS (GNC) AND EQUIPMENT GROUNDING CONDUCTORS (EGC) SHALL ALL BE INSULATED. GNC SHALL BE WHITE (OR GRAY). EGC SHALL BE GREEN.
- GROUNDING ELECTRODE CONDUCTORS (GEC) SHALL BE INSULATED AND SHALL BE GREEN.
- 6. BONDING JUMPERS (BJ) MAY BE BARE WHERE COMPLETELY CONTAINED WITHIN AN ENCLOSURE OR INSTALLED EXPOSED IN LENGTHS OF SIX FEET OR LESS. WHERE INSTALLED IN RACEWAY OR EXPOSED IN LENGTHS GREATER THAN SIX FEET THEY SHALL BE INSULATED AND SHALL BE GREEN.
- 7. BONDING JUMPERS (BJ) MAY BE BARE WHERE COMPLETELY CONTAINED WITHIN AN ENCLOSURE OR INSTALLED EXPOSED IN LENGTHS OF SIX FEET OR LESS. WHERE INSTALLED IN RACEWAY OR EXPOSED IN LENGTHS GREATER THAN SIX FEET THEY SHALL BE INSULATED AND SHALL BE GREEN.
- REFER TO NATIONAL ELECTRICAL CODE "GROUNDING ELECTRODE CONDUCTORS" TABLE (2020 NEC 250-66) AND "EQUIPMENT GROUNDING CONDUCTORS" TABLE (2020 NEC 250-122) FOR SIZING OF GROUNDING AND BONDING CONDUCTORS THAT ARE NOT INDICATED IN THE SCHEDULES OR DIAGRAMS.
- 9. CONTRACTOR SHALL GROUND THE BUILDING STEEL OR BOND IT TO THE SERVICE ENTRANCE EQUIPMENT.
- 10. REFER TO PROJECT STRUCTURAL STEEL DRAWINGS TO DETERMINE THE QUANTITY AND LOCATION OF BONDING JUMPERS ACROSS EXPANSION JOINTS IN THE INTERIOR STRUCTURAL STEEL FRAMING SYSTEM. WHERE PORTIONS OF THE BUILDING HAVING INTERIOR STRUCTURAL STEEL FRAMING ARE PHYSICALLY CONNECTED BUT SEPARATED BY CONNECTING CORRIDORS, BREEZEWAYS, ETC. THAT DO NOT CONTAIN INTERIOR STRUCTURAL STEEL, THE CONTRACTOR SHALL PROVIDE BONDING JUMPER(S) BETWEEN ELEMENTS OF THE INTERIOR STRUCTURAL STEEL FRAMING. NOTE: METAL ROOF DECKS AND METAL ROOF AND FLOOR JOISTS IN MASONRY BUILDINGS DO NOT CONSTITUTE INTERIOR STRUCTURAL STEEL.
- 11. ELECTRICALLY CONTINUOUS METAL BAR JOISTS IN MASONRY CONSTRUCTION SHALL BE BONDED TO THE SERVICE ENTRANCE EQUIPMENT ENCLOSURE OR TO INTERIOR, GROUNDED, STRUCTURAL STEEL IN OTHER PORTIONS OF THE
- 12. THE EQUIPMENT GROUNDING CONDUCTOR OF CONDUITS SERVING GAS APPLIANCES MAY SERVE AS THE REQUIRED BONDING
- 13. BONDING JUMPER IS NOT REQUIRED FOR RECEPTACLES IF U.L. LISTED AUTO-GROUND WIRING DEVICES ARE USED.
- 14. CONCRETE ENCASED ELECTRODE SHALL BE ELECTRICALLY CONDUCTIVE ALONG ITS ENTIRE LENGTH. PIGTAIL SHALL BE SAME SIZE AND MATERIAL AS GROUNDING ELECTRODE CONDUCTOR. COORDINATE INSPECTION OF PIGTAIL, SLEEVE AND CONNECTION TO ELECTRODE WITH AUTHORITY HAVING JURISDICTION.
- 15. REFER TO SERVICE GROUNDING SYSTEM RISER DIAGRAM ON THIS DRAWING.

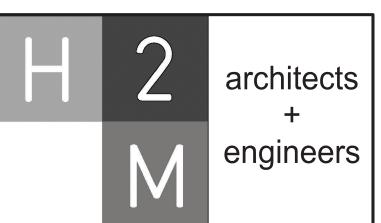
SCHEDULE FOR DISTRIBUTION BOARD: HDP											
SYSTEM: <b>480Y/277V, 3Ø, 4W</b>	NUMB	ER OF PO	OLES:	CONT	INUOUS	BUS	AREA SERVED:	HVAC SYSTEM	ИS		
BUS RATING: <b>800 A</b> MINIMUM CB IC: <b>65kA RMS SYM</b>	EQUIP	GROUN	D BU	S: <b>YES</b>			PANEL LOCATION:	: STORAGE ROOM			
MAINS TYPE: MCB MAINS RATING: 800 A	ISOLAT	ED GND	BUS	: NO			MOUNTING:	SURFACE	SUPPLIED FROM:	UTILITY	
CIR. SERVES	LC	LOAD		CIRCUIT BREAKER		MINIMUN	1 FEEDER	COMMENTS			
#	kVA	AMP	Р	FRAME	TRIP	AND CONDUIT SIZE					
1 AC1	121	146	3	250	225	SEE RISER	DIAGRAM				
2 AC2	65	78	3	225	150	SEE RISER	DIAGRAM				
3 AC3 VIA TRANSFORMER T1	29	35	3	100	45	SEE RISER	DIAGRAM				
4 FUTURE CUH-1	14	17	3	100	25						
5 FUTURE CUH-2	14	17	3	100	25						
6 FUTURE CUH-3	14	17	3	100	25						
7 SPARE			3	250	175						
8 SPARE			3	225	100						
9 SPACE			3								
10 SPACE			3								
11 SPACE			3								
12 SPACE			3								
	·					•		•			
TOTAL CONNECTED LOAD (	kVA) 2	57	]								
TOTAL CONNECTED LOAD (AI	MPS) 3	09	1								

NOTES:

YSTEM:	480Y/277V, 3Ф	, 4W		NU	MBER C	F POLES:	30				AREA SERVED: HVAC	SYSTEMS	<b>;</b>	
SUS RATING:	250 A	MINIMUM CB IC:	42kA RMS SYM	EQI	JIP GRO	UND BUS	: YES				PANEL LOCATION: STORA	AGE ROO	M	
AAINS TYPE:	МСВ	MAINS RATING:	150 A	ISO	LATED (	GND BUS:	NO				MOUNTING: SURFA	ACE	SUPPLIED FROM: HDP	
CIR. SERVES		LOAD	MINIMUM BRANCH	BR	EAKER		PHASE		BREA	KER	MINIMUM BRANCH	LOAD	SERVES	CIR
#			CIRCUIT & CONDUIT SIZE	Р	TRIP	Α	В	С	TRIP	Р	CIRCUIT & CONDUIT SIZE			#
1		7175				14350						7175		2
3 CU-2		7175	3#8, #10 G, 3/4" C	3	35		14350		35	3	3#8, #10 G, 3/4" C	7175	CU-6	4
5		7175						14350				7175		6
7		7175				7175			-	1			SPACE	8
9 CU-4		7175	3#8, #10 G, 3/4" C	3	35		7175		-	1			SPACE	10
11		7175						7175	-	1			SPACE	12
13						0			-	1			SPACE	14
15 SPARE				3	35		0		-	1			SPACE	16
17								0	-	1			SPACE	18
19 SPARE				1	20	0			-	1			SPACE	20
21 SPACE				1	-		0		-	1			SPACE	22
23 SPACE				1	-			0	-	1			SPACE	24
25 SPACE				1	-	0			-	1			SPACE	26
27 SPACE				1	-		0		-	1			SPACE	28
29 SPACE				1	-			0	-	1			SPACE	30
	-					21525	21525	21525	VA P	ER P	PHASE			
						78	78	78	ΔΜΡ	SPF	R PHASE	78	TOTAL CONNECTED LOA	D (ANADC)

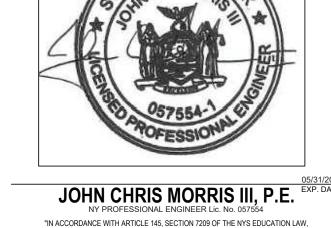
IAINS TYPE: MCB MA  IR. SERVES  #  1  3 CU-5  5  7  9 CU-5	SINS RATING:  LOAD  5707  5707  5707	42kA RMS SYM  225 A  MINIMUM BRANCH CIRCUIT & CONDUIT SIZE  3#10, #10 G, 3/4" C	ISO BR		OUND BUS:						GE ROOM		
# 1	5707 5707 5707	MINIMUM BRANCH CIRCUIT & CONDUIT SIZE	BR	EAKER							CE	011001150 50014 1100	
# CU-5  CU-5  CU-5  CU-5	5707 5707 5707	CIRCUIT & CONDUIT SIZE		1		PHASE				MOUNTING: SURFA	CE	SUPPLIED FROM: HDP	
1	5707 5707		Р	TRIP				BREAI	KER	MINIMUM BRANCH	LOAD	SERVES	CIR.
3 CU-5 5 7 9 CU-5	5707 5707	3#10, #10 G, 3/4" C		-	Α	В	С	TRIP	Р	CIRCUIT & CONDUIT SIZE			#
5 7 9 CU-5	5707	3#10, #10 G, 3/4" C			9115						3408		2
7 9 CU-5		_	3	25		9115		20	3	3#12, #12 G, 3/4" C	3408	CU-7	4
9 CU-5	5707						9115				3408		6
11					11414						5707		8
	5707	3#10, #10 G, 3/4" C	3	25		11414		25	3	3#10, #10 G, 3/4" C	5707	CU-3	10
	5707						11414				5707		12
.3	5707				11414						5707		14
.5 CU-1	7175	3#8, #10 G, 3/4" C	3	35		12882		25	3	3#10, #10 G, 3/4" C	5707	CU-3	16
7	7175						12882				5707		18
9	7175				7175			-	1			SPACE	20
1 CU-1	7175	3#8, #10 G, 3/4" C	3	35		7175		-	1			SPACE	22
23	7175						7175	-	1			SPACE	24
5					0			-	1			SPACE	26
SPARE			3	25		0		-	1			SPACE	28
9							0	-	1			SPACE	30
31					0			-	1			SPACE	32
SPARE			3	35		0		-	1			SPACE	34
35							0	-	1			SPACE	36
SPARE			1	20	0			_	1			SPACE	38
SPARE			1	20		0		-	1			SPACE	40
SPARE			1	20			0	-	1			SPACE	42
					39118	40586	40586	VA PI	ER P	HASE			
TOTAL CONNECTED LOAD (VA)	120290				141	147	147	AMP:	S PE	R PHASE	145	TOTAL CONNECTED LOAD	(AMPS)

SYSTEM: 208Y/120V, 3Φ, 4W BUS RATING: 100 A MINIMUM CB IC: 22kA RMS SYM										AREA SERVED: HVAC SYSTEMS  PANEL LOCATION: STORAGE ROOM			
MAINS TYPE: MCB	MAINS RATING:	100 A	ISOLATED GND BUS: NO							MOUNTING: SURFACE SUPPLIED FROM: HDP VIA T1			
CIR. SERVES	LOAD	MINIMUM BRANCH	BR	EAKER		PHASE		BREAK	KER	MINIMUM BRANCH	LOAD	SERVES	CIR
#		CIRCUIT & CONDUIT SIZE	Р	TRIP	Α	В	С	TRIP	Р	CIRCUIT & CONDUIT SIZE			#
1 CU-8	3026	2#8, #10 G, 3/4" C	2	35	3206			20	1	2#12, #12 G, 3/4" C	180	RECEPTACLE - ROOF	2
3	3026					3206		20	1	2#12, #12 G, 3/4" C	180	RECEPTACLE - ROOF	4
5 CU-9	3026	2#8, #10 G, 3/4" C	2	35			3566	20	1	2#12, #12 G, 3/4" C	540	RECEPTACLES - ROOF	6
7	3026				4106	]		20	1	2#12, #12 G, 3/4" C	1080	CP-1 THRU 6	8
9 CU-10	3026	2#8, #10 G, 3/4" C	2	35		4106		20	1	2#12, #12 G, 3/4" C	1080	CP-7 THRU 11 AND CP-31	10
11	3026						4646	20	1	2#12, #12 G, 3/4" C	1620	CP-12 THRU CP-20	12
13 EU-1	63	2#12, #12 G, 3/4" C	2	15	1143			20	1	2#12, #12 G, 3/4" C	1080	CP-21 THRU 26	14
15	63					963		20	1	2#12, #12 G, 3/4" C	900	CP-27 THRU 30 AND CP-32	16
17 EU-2	42	2#12, #12 G, 3/4" C	2	15			1218	20	1	2#12, #12 G, 3/4" C	1176	KE-1	18
19	42				1767	]		15	1	2#12, #12 G, 3/4" C	1725	ERV-1	20
21 EU-3	63	2#12, #12 G, 3/4" C	2	15		63		20	1			SPARE	22
23	63						63	-	1			SPACE	24
25 SPARE			1	20	0			-	1			SPACE	26
27 SPARE			1	20		0		-	1			SPACE	28
29 SPACE			1	-			0	-	1			SPACE	30
	•				10222	8338	9493	VA PI	ER P	HASE			•
TOTAL CONNECTED LOAD (VA) 28053					85 69 79 AMPS PER		R PHASE	78	TOTAL CONNECTED LOAD (A	AMPS)			



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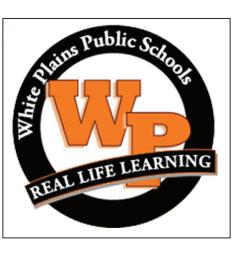
MARK	DATE	DESCRIPTION
0	09-11-24	SED SUBMISSION
1	02-25-25	SED ADDENDUM 1
	05-28-25	FINAL BID SET



ROJECT No.: DATE: SCALE: MAY 2025 AS SHOWN

## White Plains City School **District**

Renovations at Rochambeau Alternate High School



228 Fisher Avenue White Plains, NY 10606

SED #66-22-00-01-0-015-020

**CONTRACT E ELECTRICAL CONSTRUCTION** 

FINAL BID DOCUMENT

ELECTRICAL SCHEDULES

E 600.00