ELECTRICAL LEGEND:

- MOTOR
- EARTH GROUND
- JUNCTION BOX
- PB — PULL BOX
- FUSE WITH RATING
- MOLDED CASE CIRCUIT BREAKER
- DISCONNECT SWITCH, FUSED
- DISCONNECT SWITCH, UNFUSED
- STARTER, COMBINATION WITH DISCONNECT SWITCH
- STARTER OR MOTOR CONTROLLER
- M — METER
- 20A 120V DUPLEX CEILING MOUNTED RECEPTACLE
- 20A 120V DUPLEX WALL MOUNTED RECEPTACLE; 18" A.F.F. UNLESS OTHERWISE NOTED
- 20A 120V DUPLEX WALL MOUNTED RECEPTACLE WITH GROUND FAULT CIRCUIT INTERRUPTER
- 20A 120V QUADRAPLEX RECEPTACLE
- WALL MOUNTED SPECIAL PURPOSE RECEPTACLE
- USB — 20A 120V WALL MOUNTED USB CHARGER RECEPTACLE TYPICAL OF HUBBELL USB20X OR ACCEPTABLE EQUAL
- F — FLOOR BOX WITH STAINLESS COVER TYPICAL OF LEW EECTRIC #OB-1-SP OR ACCEPTABLE EQUAL; PUSH BUTTON OPEN; FULLY IP66 RATED WATER PROOF (WHEN IN CLOSED POSITION); W/ 20A 125V E60120 GFCI RECEPTACLE (UNLESS OTHERWISE NOTED)
- W — WALL PHONE OUTLET MTD. 48" A.F.F.; 3/4" EMT CDT. IN WALL TO ABOVE CEILING W/ PULL CORD
- WALL BOX FOR TELEVISION CONNECTION; 1-1/4" EMT CDT. IN WALL TO ABOVE CEILING W/ PULL CORD
- TELEPHONE/DATA COMMUNICATION BOX W/ (2) 3/4" EMT CDT. IN WALL TO ABOVE CEILING W/ PULL CORD; NO FACE PLATE
- BRANCH CIRCUIT HOMERUN; LINES INDICATE NUMBER OF CIRCUITS, NEUTRAL, AND SWITCH LEG CONDUCTORS; ONE SEPARATE GROUNDING CONDUCTOR SHALL BE PROVIDED FOR EACH HOMERUN; NOT SHOWN
- $2 — SWITCH

BLANK = SINGLE POLE	2 = DOUBLE POLE
3 = THREE-WAY	4 = FOUR-WAY
D = DIMMER	K = KEY OPERATED
P = WITH PILOT LIGHT	PB= PUSH BUTTON
T = TIMER OPERATED	WP= WEATHER PROOF
X = EXPLOSION PROOF	OC= OCCUPANCY SENSOR

- HORN/STROBE DEVICE, ONE ASSEMBLY; MTD. 80" A.F.F. UNLESS OTHERWISE NOTED; 15 CANDELA UNLESS OTHERWISE NOTED
- STROBE DEVICE; MTD. 80" A.F.F. UNLESS OTHERWISE NOTED; 15 CANDELA UNLESS OTHERWISE NOTED
- MANUAL PULL STATION; MTD. 48" A.F.F.
- WF — WATER FLOW SWITCH
- TS — VALVE TAMPER SWITCH
- X — DETECTOR; LETTER INDICATES AS FOLLOWS:
  BLANK = SMOKE DETECTOR
  P = PHOTOELECTRIC SMOKE
  M = MULTIPLE STATION SMOKE ALARM
  D = PHOTOELECTRIC DUCT SMOKE DETECTOR
- H R — RATE OF RISE HEAT DETECTOR, 135°F
- CO — CARBON MONOXIDE DETECTOR; MTD. 60" A.F.F.
- FACP — ADDRESSABLE FIRE ALARM CONTROL PANEL
- FAAP — FIRE ALARM ANNUNCIATOR PANEL

ELECTRICAL NOTES:

1. ALL MATERIALS AND EQUIPMENT ARE TO BE NEW, UNUSED, AND FREE FROM DEFECTS OF ANY KIND. THE BASIS OF QUALITY SHALL BE THE LATEST REVISION OF ASTM, ANSI, OR OTHER ACCEPTABLE STANDARDS.
2. THESE DRAWINGS ARE DIAGRAMMATIC, AND INDICATE GENERAL ARRANGEMENT OF WORK. THE CONTRACTOR SHALL BE RESPONSIBLE TO HAVE REVIEWED THE SITE FOR HIS WORK PRIOR TO HAVING SUBMITTED HIS PROPOSAL. NO ADDITIONAL COMPENSATION WILL BE ALLOWED FOR CONDITIONS FOUND DURING THE COURSE OF THE CONTRACT.
3. THE CONTRACTOR SHALL COORDINATE HIS WORK WITH THAT OF ALL OTHER TRADES.
4. ALL WORK INCLUDING LABOR AND MATERIALS SHALL BE FULLY GUARANTEED FOR ONE (1) YEAR FROM THE DATE OF PAYMENT AND FINAL ACCEPTANCE BY THE OWNER AND ENGINEER.
5. ALL CUTTING, PATCHING, FIRE-STOPPING, AND SURFACE RESTORATION IN CONNECTION WITH THIS TRADE SHALL BE COMPLETED BY THIS CONTRACTOR.
6. A MINIMUM OF FOUR (4) COPIES OF SHOP DRAWINGS SHALL BE SUBMITTED TO THE ARCHITECT FOR APPROVAL PRIOR TO ORDERING AND INSTALLATION OF THE EQUIPMENT AND/OR MATERIALS. BY SUBMITTING SHOP DRAWINGS, THE CONTRACTOR REPRESENTS THAT ACTUAL FIELD CONDITIONS ARE VERIFIED BY HIM AND ARE REFLECTED ON HIS SUBMITTALS.
7. THIS CONTRACTOR SHALL PAY ALL FEES, GIVE ALL NOTICES, FILE ALL NECESSARY DRAWINGS, AND OBTAIN ALL PERMITS, INSPECTIONS AND CERTIFICATES OF APPROVAL REQUIRED IN CONNECTION WITH WORK UNDER THIS CONTRACT.
8. EQUIPMENT AND MATERIALS FOR WHICH UNDERWRITERS LABORATORIES INC. (UL) PROVIDES PRODUCT LISTING SERVICE SHALL BE LISTED AND BEAR THE LISTING MARK.
9. ALL WORK IN ASSOCIATION WITH THIS CONTRACT SHALL BE COMPLETED IN STRICT COMPLIANCE WITH THE 2017 NATIONAL ELECTRIC CODE, 2020 BUILDING CODE OF NEW YORK STATE, 2020 FIRE CODE OF NEW YORK STATE & 2020 ENERGY CONSERVATION CONSTRUCTION CODE OF NEW YORK STATE.
10. ALL NEW LIGHTING FIXTURES SHALL BE INSTALLED FULLY LAMPED AND OPERABLE. THE CONTRACTOR SHALL TURN OVER TO THE OWNER SPARE LAMPS OF EVERY TYPE ON THE PROJECT IN AN AMOUNT NOT LESS THAN 20% OF THE TOTAL NUMBER OF EACH TYPE (MINIMUM 1 PER TYPE).
11. THIS CONTRACTOR SHALL BE RESPONSIBLE FOR ALL COORDINATION, APPLICATIONS AND FEES OF ALL WORK ASSOCIATED WITH THE LOCAL UTILITY COMPANY AND/OR THE TELEPHONE COMPANY. ALL WORK INVOLVING THE UTILITY COMPANY SHALL BE COMPLETED IN ACCORDANCE WITH THEIR REGULATIONS AND GUIDELINES.
12. ALL CONDUCTORS SHALL BE COPPER, SHALL NOT BE LESS THAN #12 AWG, AND SHALL NOT EXCEED 70 FEET FROM PANEL BOARD TO FURTHEST CONNECTION UNLESS OTHERWISE NOTED ON PLANS.
13. LIGHTING LOADS SHALL NOT BE COMBINED ON THE SAME CIRCUIT AS ANY OTHER ELECTRICAL LOADS.
14. CONTRACTOR SHALL BE RESPONSIBLE TO FURNISH & INSTALL ALL SMALL DETAILS AND INCIDENTAL WORK NOT SHOWN OR SPECIFIED, BUT WHICH CAN BE REASONABLY INFERRED AS REQUIRED FOR A COMPLETE AND OPERATING SYSTEM OF HIGH QUALITY MEETING ALL APPLICABLE CODES AND REGULATIONS.
15. FOR EACH NEW OR MODIFIED ELECTRICAL PANEL, THE CONTRACTOR SHALL PROVIDE A TYPE WRITTEN DIRECTORY CARD TO REFLECT ALL CIRCUITING. ADDITIONALLY, THE CONTRACTOR SHALL LABEL (WITH A PERMANENT MARKER OR LABEL) EACH RECEPTACLE ON THE INSIDE OF EACH FACE PLATE WITH PANEL AND CIRCUIT NUMBER DESIGNATION.
16. MINIMUM REQUIREMENT FOR EQUIPMENT GROUNDING SHALL BE GOVERNED BY THE NEC. ALL GROUNDS, BONDING, ETC. SHALL MEET THESE REQUIREMENTS. THE CONTRACTOR SHALL FURNISH AND INSTALL ANY AND ALL ITEMS NECESSARY TO MEET THESE REQUIREMENTS AT NO EXTRA COST, EVEN IF SUCH ITEMS ARE NOT DETAILED ON THE DRAWINGS.
17. ALL CONDUIT AND CABLE SHALL BE PROPERLY SUPPORTED AND ROUTED PARALLEL OR PERPENDICULAR TO BUILDING WALLS. THE CONTRACTOR SHALL FURNISH AND INSTALL ALL SUPPORT HANGERS AND MISCELLANEOUS METALS REQUIRED FOR PROPER INSTALLATION OF WORK.
18. THE CONTRACTOR IS RESPONSIBLE TO TEST ALL EQUIPMENT, WIRING, DEVICES, AND SYSTEMS INSTALLED UNDER THIS CONTRACT TO ENSURE PROPER OPERATION PRIOR TO FINAL ACCEPTANCE BY THE OWNER AND ENGINEER.
19. THE CONTRACTOR IS RESPONSIBLE TO DETERMINE WHETHER SPECIAL LICENSING IS REQUIRED IN ORDER TO PERFORM THE REQUIRED WORK IN THE MUNICIPALITY WHERE THE PROJECT IS LOCATED. IF THE CONTRACTOR CANNOT OBTAIN THE REQUIRED LICENSING TO COMPLETE THE WORK WITHIN THE PROJECT SCHEDULE, THEN THE CONTRACTOR SHALL NOT BE PERMITTED TO BID ON THIS PROJECT.

WIRE COLOR CODING TABLE

PHASE	WIRES	VOLTAGE	L1	L2	L3	NEUTRAL	GROUND
1	2 (1)	120	BLACK	-	-	WHITE	-
1	2 (1)	208	BLACK	RED	-	-	-
1	3	120	BLACK	-	-	WHITE	GREEN (2)
1	3	208	BLACK	RED	-	-	GREEN (2)
3	4	208	BLACK	RED	BLUE	-	GREEN (2)
3	5	208	BLACK	RED	BLUE	WHITE	GREEN (2)
1	3	277	BROWN	-	-	GRAY	GREEN (2)
1	3	480	BROWN	ORANGE	-	-	GREEN (2)
3	4	480	BROWN	ORANGE	YELLOW	-	GREEN (2)
3	5	480	BROWN	ORANGE	YELLOW	GRAY	GREEN (2)

NOTES:
1. FOR DOUBLE INSULATED EQUIPMENT ONLY.
2. GREEN/YELLOW MAY BE USED:
   - GREEN/YELLOW SHALL BE GREEN WITH ONE OR MORE YELLOW STRIPES.
   - GREEN = 50 TO 70%, YELLOW = 50 TO 30%.
   - GREEN/YELLOW IS THE ONLY COLOR INTERNATIONALLY ACCEPTED FOR USE AS AN EQUIPMENT GROUNDING CONDUCTOR.
   - GREEN OR GREEN/YELLOW MUST ONLY BE USED FOR GROUNDING CONDUCTORS.

DEVICE MOUNTING HEIGHTS

POWER RECEPTACLES (INTERIOR)	18" A.F.F.
POWER RECEPTACLES (EXTERIOR)	36" A.F.G.
POWER RECEPTACLES (@ COUNTER)	44" A.F.F.
LIGHT SWITCHES	44" A.F.F. TO TOP OF DEVICE
DISCONNECT SWITCHES	SEE NEC 404.8(A)
TELEPHONE/DATA RECEPTACLES	18" A.F.F.
TELEPHONE/DATA RECEPTACLES (@ COUNTER)	44" A.F.F.
WALL TELEPHONE RECEPTACLES	48" A.F.F. TO TOP OF DEVICE
FIRE ALARM PULL STATIONS	42" A.F.F. MIN./44" A.F.F. MAX.
FIRE ALARM AUDIO/VISUAL DEVICES	80" A.F.F. MIN./96" A.F.F. MAX.
EXIT LIGHTS (WALL MOUNTED)	12" ABOVE DOOR
EMERGENCY LIGHTS (WALL MOUNTED)	90" A.F.F.
TV & A/V OUTLETS	18" A.F.F.

NOTE: ALL DIMENSIONS ARE TO CENTER OF DEVICE UNLESS OTHERWISE NOTED

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Project Title

HIGHLAND CENTRAL SCHOOL DISTRICT
HIGHLAND MIDDLE SCHOOL
2022 CAPITAL IMPROVEMENT PROJECT - PHASE 1

STATE OF NEW YORK · BRIAN GEORGE BLAKE · 089039 · LICENSED PROFESSIONAL ENGINEER

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ELECTRICAL NOTES, LEGEND SCHEDULES & DETAILS

Sheet No.

HMS
E101

CONSTRUCTION DOCUMENTS