ADDENDUM NO. 1

Irvington Housing Authority
Elevator Upgrades to 81 Union Ave.
June 9, 2025

THIS ADDENDUM NO. 1 IS BEING ISSUED TO ALL BIDDERS TO INFORM THEM OF CERTAIN CLARIFICATIONS, CHANGES, DELETIONS, AND ADDITIONS WHICH HAVE BEEN MADE TO THE CONTRACT DOCUMENTS AND WHICH SHALL BE INCLUDED IN THE CONTRACT AND SHALL SUPERSEDE ANYTHING CALLED FOR PREVIOUSLY.

1.0 RFI

a. The following question(s) were received during the walk thru and via email and are still applicable to this project:

1. Confirm that fire alarm devices are operational in the shaft and machine room. If they aren't, will the building handle this scope?
   Answer: Contractor shall be responsible for installation of supplemental devices and upgrades as required. See revised dwgs for clarification.

2. Confirm if fascia is required on rear side of shaft.
   Answer:
   Fascia shall be provided by the elevator contractor if required by Code based on the existing space between the car platform and the hoistway wall where there are no entrances. The type of car door lock being used should also be considered.

3. Is it acceptable to mount the condensing unit to the wall rather than mounting the roof on rails?
   Answer: Yes, Contractor shall provide wall mounting brackets with vibration isolators and run condensate discharge away from unit service area. Contractor to provide mounting detail for review and approval prior to installation.

4. Confirm who will provide internet connection to the machine room for 2-way audio visual communications.
   Answer: Contractor will provide all required communications.

5. Confirm who is providing a telephone line to the machine room.
   Answer: Contractor will provide all required communications.

6. Confirm rope grippers are required if dual brakes are on gearless machines
   Answer: Rope grippers are required. Dual brakes are not effective if traction is lost.

7. Confirm why isolation transformers are required; existing elevator doesn't have Iso transformers.
   Answer:
   Isolation transformers are required to protect the new elevator equipment from utility power irregularities.

8. Confirm cab will have single hung panel, or upper/lower panels with chair rail.
   Answer:
   Cabs shall have a design including an upper panel, lower panel, handrail and chair rail.

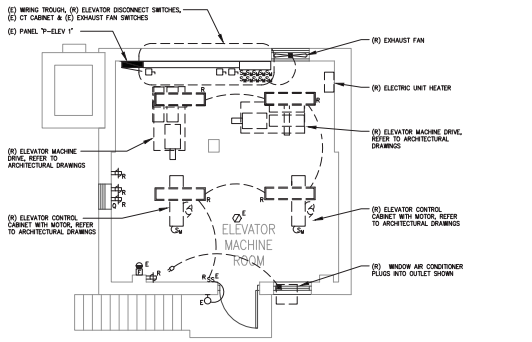
9. Confirm if winding drum safety is being retained or if this should be replaced.
   Answer:
   Existing winding drum safety shall be completely refurbished and retained. IHA has no objection if contractor chooses to replace existing safeties with a flexible guide clamp style safety as part of the work.

10. Confirm 5 years of maintenance after final acceptance.
    Answer:
    Confirmed. Provide per maintenance specifications issued in the bid package.

11. Confirm if interim maintenance is included upon NTP
    Answer:
    Confirmed. Provide per maintenance specifications issued in the bid package.

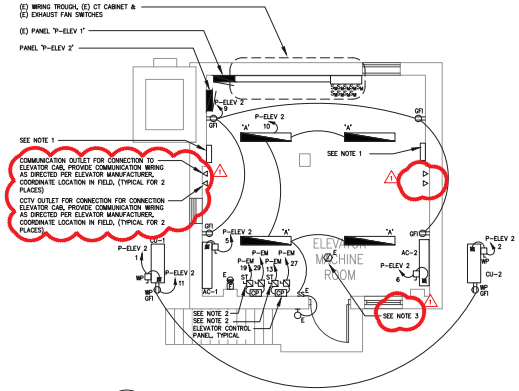
Additionally, the Bid Due date has been extended to June 24, 2026 at 11:00am.

END OF ADDENDUM #1



1 E-1 ELEVATOR MACHINE ROOM PLAN – ELECTRICAL DEMOLITION

SCALE 1/4" = 1'-0"

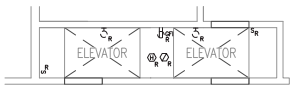


2 E-1 ELEVATOR MACHINE ROOM PLAN – ELECTRICAL

SCALE 1/4" = 1'-0"

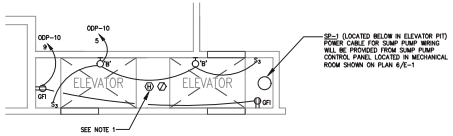
NOTES:

1. ELEVATOR FIRE ALARM MODULE WIRE TO FACP, INCLUDE "FIRE HAT", "ELEV. SHUTDOWN", "ALT FLOOR ELEV. RECALL" & "MAIN FLOOR ELEV. RECALL".
2. ELEVATOR DISCONNECT SWITCH WITH CURRENT-LIMITING, TIME DELAY FUSES AND SHUNT TRIP DEVICE. ELECTRICAL CONTRACTOR SHALL PROVIDE AUXILIARY DRY CONTACTS AS REQUIRED BY ELEVATOR COMPANY. ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR THE FAULT CURRENT STUDY, AS REQUIRED BY THE ELEVATOR MANUFACTURE, TO ENSURE THE FAULT CURRENT AVAILABLE AT ELEVATOR EQUIPMENT AT THE LOAD SIDE OF THE FUSED DISCONNECT (SUCH AS ELEVATOR CONTROLLER, MOTOR, ETC.) DOESN'T EXCEED THE SCCR RATING OF THE EQUIPMENT.
3. CONTRACTOR TO CONFIRM THE DEVICE IS OPERATIONAL, AND REPLACE IF NECESSARY.



3 E-1 ELEVATOR PIT PLAN – ELECTRICAL DEMOLITION

SCALE 1/4" = 1'-0"

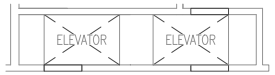


4 E-1 ELEVATOR PIT PLAN – ELECTRICAL

SCALE 1/4" = 1'-0"

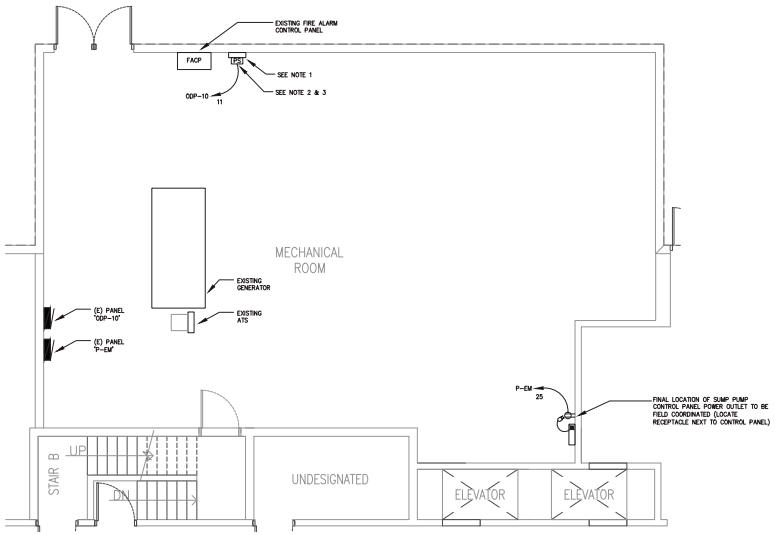
NOTES:

1. HEAT DETECTOR THAT HAS LOWER TEMPERATURE RATING AND HIGHER SENSITIVITY AS COMPARED TO THE SPRINKLER HEAD, WITHIN 2 FEET OF EACH SPRINKLER HEAD.



5 E-1 TYPICAL ELEVATOR LOBBY – ELECTRICAL

SCALE 1/4" = 1'-0"



6 E-1 MECHANICAL ROOM PLAN – ELECTRICAL

SCALE 1/4" = 1'-0"

NOTES:

1. TYPICAL FIRE ALARM MONITOR MODULES, WIRE TO FACP, SUPERVISING THE POWER & COMMUNICATION FAILURES OF TWO-WAY COMMUNICATION POWER SUPPLY, BASE STATION AND ALL CALL BOXES.
2. TWO-WAY COMMUNICATION SYSTEM POWER SUPPLY.
3. PER NFPA72, ARTICLE 10.6.7.3.1 PROVIDE APPROVED BACK-UP BATTERY AS SECONDARY POWER SOURCE.

DEMOLITION NOTES:

1. THESE DEMOLITION PLANS ARE INTENDED TO BE USED AS A GUIDE TO THE CONTRACTOR. ALL DEMOLITION WORK REQUIRED, OR NECESSARY FOR THE INSTALLATION OF NEW WORK OR THE REMOVAL OF EXISTING EQUIPMENT, IS HEREBY INCLUDED, WHETHER SHOWN ON THESE PLANS OR NOT. REFER TO DRAWINGS OF ALL TRADES FOR ADDITIONAL WORK, AND COORDINATE IN THE FIELD.
2. THE CONTRACTOR SHALL VERIFY ACTUAL SITE CONDITIONS PRIOR TO SUBMITTING HIS BID. THE CONTRACTOR SHALL INCLUDE ALL DEMOLITION WORK NECESSARY FOR THE EFFECTIVE INSTALLATION AND PERFORMANCE OF NEW SYSTEMS. THE CONTRACTOR SHALL ALSO INCLUDE TEMPORARY REMOVAL AND REINSTALLATION OF EXISTING WORK WHEREVER NECESSARY. THE OWNER SHALL NOT ACCEPT EXTRA COSTS ASSOCIATED WITH THE DEMOLITION AND/OR TEMPORARY REMOVAL/REINSTALLATION WORK FROM THE CONTRACTOR.
3. THIS CONTRACTOR SHALL REMOVE ALL LIGHTING FIXTURES AND ELECTRICAL DEVICES AS INDICATED ON THE DEMOLITION PLANS, OR THAT ARE NO LONGER NEEDED BY THE OWNER. ALL EXISTING WIRING AND CONDUIT WHERE NO LONGER REQUIRED SHALL BE REMOVED BACK TO EXISTING PANEL. ALL EXISTING DISCONNECTED CIRCUITS NOT BEING REUSED SHALL BE TURNED OFF AND LABELED "SPARE". WHERE CONDUITS ARE INACCESSIBLE, REMOVE WIRE AND ABANDON CONDUITS.
4. IT IS THE CONTRACTORS RESPONSIBILITY TO VERIFY POWER IS BEING PROVIDED TO ALL EXISTING EQUIPMENT REQUIRED TO REMAIN IN SERVICE. RECONNECT ALL DISTURBED FACILITIES WHICH ARE EXISTING TO REMAIN AND PLACE THEM IN OPERATIONAL CONDITION.
5. REMOVE ABANDONED OUTLET BOXES, SURFACE METAL RACEWAY AND CONDUIT THAT WOULD BE EXPOSED, AND REPAIR DISTURBED SURFACES TO MATCH ADJACENT AREAS.
6. MAJOR PIECES OF EQUIPMENT ARE TO BE TURNED OVER TO THE OWNER FOR HIS USE, OR AT THE OWNER'S DISCRETION, REMOVED FROM THE SITE AND DISPOSED OF, IF NO LONGER REQUIRED.
7. PATCH ALL WALLS TIGHT AT REMOVALS. MAINTAIN FIRE RATINGS AS REQUIRED.
8. THE CONTRACTOR SHALL REFER TO THE ARCHITECTURAL DRAWINGS FOR THE EXTENT OF WALL FINISHES AND CEILINGS TO BE REPLACED. ALL EXISTING DEVICES TO REMAIN SHALL BE TEMPORARILY DISCONNECTED AND REINSTALLED. WHERE TEMPORARY REMOVAL IS NOT POSSIBLE, THE CONTRACTOR SHALL PROVIDE TEMPORARY SUPPORT OF EXISTING EQUIPMENT IN PLACE.
9. THE EXISTING FIRE ALARM SYSTEM SHALL BE MAINTAINED THROUGHOUT DEMOLITION AND CONSTRUCTION. PROVIDE TEMPORARY SUPPORT OF EXISTING DEVICES AS REQUIRED. THE CONTRACTOR SHALL NOTIFY THE FIRE MARSHAL UPON ANY MODIFICATIONS TO OR ANY NECESSARY INTERRUPTION IN SYSTEM OPERATION. NOTE THAT COVERING DEVICES DURING CONSTRUCTION IS AN INTERRUPTION TO COVERAGE.

SYMBOL LIST & ABBREVIATIONS

	LIGHT FIXTURE, REFER TO LIGHTING FIXTURE SCHEDULE
	LIGHT FIXTURE ON EMERGENCY CIRCUIT (OR) WITH EMERGENCY BATTERY BACKUP
S	SINGLE POLE SWITCH
S_3	THREE-WAY SWITCH
S_M	MANUAL MOTOR STARTER
ST	FUSED DISCONNECT SWITCH ST – INDICATES SHUNT TRIP DEVICE
	UNFUSED DISCONNECT SWITCH
GFI WP Q	DUPLEX RECEPTACLE, 20A, 125V, 2 POLE, U-GROUND SLOT, COMMERCIAL GRADE, COORDINATE ALL DEVICE LOCATIONS WITH ARCHITECT PRIOR TO ROUGH-IN. GFI – INDICATES GROUND FAULT INTERRUPTION WP – INDICATES WEATHERPROOF IN-USE COVER Q – INDICATES SOCKET FOR SECURITY RECEPTACLE
	VOICE/DATA/VIDEO OUTLET – 4" X 4" OUTLET BOX WITH 1-1/4"C STUBBED UP ABOVE NEAREST ACCESSIBLE CEILING VERIFY LOCATION IN FIELD
	208/120V PANELBOARD
	MOTOR
(H)	FIRE ALARM, HEAT DETECTOR FIXED TEMPERATURE AND RATE-OF-RISE
	FIRE ALARM, SMOKE DETECTOR PHOTOELECTRIC
	FIRE ALARM, AUDIO/VISUAL (SPEAKER/STROBE) DEVICE
	WIRE & CONDUIT, CONCEALED IN CEILING OR WALL
	HOMERUN TO PANEL, NUMERAL INDICATES CIRCUIT NUMBER
	CONNECTION TO EQUIPMENT
E	EXISTING
R	EXISTING TO BE REMOVED
WP	WEATHERPROOF

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B SQUARED ENGINEERING, LLC
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SUBMISSIONS

NO.	DATE	DESCRIPTION
1	4/30/26	ISSUED FOR BID

REVISIONS

1	6/08/26	ADDENDUM #1

PROFESSIONAL ENGINEER
NJ LICENSE NO. 39656
FRANK TINDALL, P.E.
DATE:

IRVINGTON HOUSING AUTHORITY
ELEVATOR UPGRADES
81 UNION AVE
IRVINGTON, NJ 07111

DATE: 04.28.26
SCALE: AS NOTED
DRAWN BY: HY
CHECKED BY: FT

SHEET TITLE:
PARTIAL FLOOR PLANS & DIAGRAM - ELECTRICAL

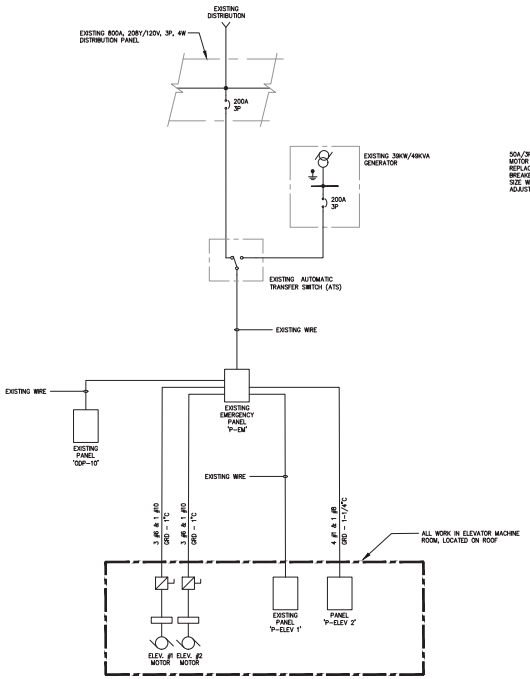
DRAWING NO.:
E1

CCH PROJECT NO: 2142.21

June 08, 2026 4:22:17 pm
Drawing: 2250 - E1.dwg

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P.O. BOX 777, 196 PRINCETON-HIGHTSTOWN RD.
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Frank Tindall, P.E.
Professional Engineer
NJ 39656



1 E-2 SINGLE LINE DIAGRAM
SCHEMATIC

50A/3P CIRCUIT BARKER & 8.5 HP MOTOR BASED UPON ELEVATOR REPLACED AT 624 NYE, VERIFY BREAKER, WIRE FEEDER SIZE AND HP SIZE WITH ELEVATOR VENDOR AND ADJUST ACCORDINGLY.

EXISTING EMERGENCY PANELBOARD 'P-EM'

208Y/120V, 3ϕ, 4W, S/N, SURFACE, 225A MAIN LUG ONLY, EXISTING KAIC

CKT#	DESCRIPTION	LOAD KVA	CIR. BREAKER AMP	CIR. BREAKER POLES	WIRE & CONDUIT	#A #B #C	WIRE & CONDUIT	CIR. BREAKER POLES	CIR. BREAKER AMP	LOAD KVA	DESCRIPTION	CKT#
1	(E) CIRCUIT TO REMAIN	–	90	3	EXISTING		EXISTING	3	100	–	(E) BOILER RM PNL	2
3												4
5												6
7	(E) PANEL 'ODP 10'	–	70	3	EXISTING		EXISTING	1	15	–	(E) CIRCUIT TO REMAIN	8
9							EXISTING	1	20	–	(E) OFFICE OUTLETS	10
11							EXISTING	1	20	–	(E) OFFICE OUTLETS	12
13	ELEV. #1	9.0	50	3	REFER TO SINGLE LINE DIAGRAM 1/E-2		EXISTING	2	50	–	(E) AC	14
15												16
17							EXISTING	1	20	–	(E) CIRCUIT TO REMAIN	18
19	ELEV. #2	9.0	50	3	REFER TO SINGLE LINE DIAGRAM 1/E-2		EXISTING	1	20	–	(E) CIRCUIT TO REMAIN	20
21							REFER TO SINGLE LINE DIAGRAM 1/E-2	3	100	9.70	PANEL 'P-ELEV 2'	22
23												24
25	ELEV. SUMP PUMP	1.13	20	1	2 #12 & 1 #12 GRD-3/4"C							26
27	ELEV. #1 CAR POWER	0.4	20	1	2 #12 & 1 #12 GRD-3/4"C		EXISTING	2	20	–	(E) CIRCUIT TO REMAIN	28
29	ELEV. #2 CAR POWER	0.4	20	1	2 #12 & 1 #12 GRD-3/4"C							30
	SUB TOTAL KVA	19.93								9.70	SUB TOTAL KVA	
		–	TOTAL CONNECTED LOAD									

NOTES:
1. (E) DENOTES EXISTING BRANCH CIRCUIT OR SPARE TO REMAIN, NO WORK PERFORMED. BRANCH CIRCUITS THAT ARE NOT DENOTED ARE NEWLY INSTALLED.
2. ALL NEWLY INSTALLED BREAKERS IN THE EXISTING PANEL SHALL MATCH THE EXISTING BREAKER TYPE AND AIC RATING.

EXISTING PANELBOARD 'ODP-10'

208Y/120V, 3ϕ, 4W, S/N, SURFACE, 70A MAIN CIRCUIT BREAKER, EXISTING KAIC

CKT#	DESCRIPTION	LOAD KVA	CIR. BREAKER AMP	CIR. BREAKER POLES	WIRE & CONDUIT	#A #B #C	WIRE & CONDUIT	CIR. BREAKER POLES	CIR. BREAKER AMP	LOAD KVA	DESCRIPTION	CKT#
1	(E) CIRCUIT TO REMAIN	–	20	1	EXISTING		EXISTING	1	15	–	(E) FACP	2
3	(E) CIRCUIT TO REMAIN	–	20	1	EXISTING		EXISTING	1	15	–	(E) CIRCUIT TO REMAIN	4
5	ELEVATOR PIT LGT	0.1	20	1	2 #12 & 1 #12 GRD – 3/4"C		EXISTING	1	15	–	(E) CIRCUIT TO REMAIN	6
7	(E) BOILER ROOM LIGHTS	–	20	1	EXISTING		EXISTING	1	15	–	(E) CIRCUIT TO REMAIN	8
9	ELEVATOR PIT OUTLETS	0.36	20	1	2 #12 & 1 #12 GRD – 3/4"C		EXISTING	1	20	–	(E) OFFICE OUTLETS	10
11	EM COMM. CIRCUIT (NOTE 1)	0.3	20	1	2 #12 & 1 #12 GRD – 3/4"C		–	1	–	–	(E) SPACE	12
	SUB TOTAL KVA	0.76								–	SUB TOTAL KVA	
		–	TOTAL CONNECTED LOAD									

NOTES:
1. INSTALL AN APPROVED BREAKER LOCKING DEVICE AND MARK THE CIRCUIT BREAKER IN RED.
2. (E) DENOTES EXISTING BRANCH CIRCUIT OR SPARE TO REMAIN, NO WORK PERFORMED. BRANCH CIRCUITS THAT ARE NOT DENOTED ARE NEWLY INSTALLED.
3. ALL NEWLY INSTALLED BREAKERS IN THE EXISTING PANEL SHALL MATCH THE EXISTING BREAKER TYPE AND AIC RATING.

PANELBOARD 'P-ELEV 2'

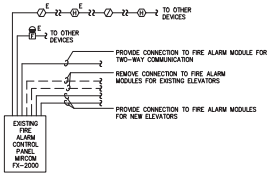
208Y/120V, 3ϕ, 4W, S/N, SURFACE, 100A MAIN LUG ONLY, 42 KAIC

CKT#	DESCRIPTION	LOAD KVA	CIR. BREAKER AMP	CIR. BREAKER POLES	WIRE & CONDUIT	#A #B #C	WIRE & CONDUIT	CIR. BREAKER POLES	CIR. BREAKER AMP	LOAD KVA	DESCRIPTION	CKT#
1	A/C OUTDOOR CU-1	4.12	20	2	2 #12 & 1 #12 GRD – 3/4"C		2 #12 & 1 #12 GRD – 3/4"C	2	20	4.12	A/C OUTDOOR CU-2	2
3												4
5	A/C INDOOR UNIT AC-1	0.13	15	2	2 #12 & 1 #12 GRD – 3/4"C		2 #12 & 1 #12 GRD – 3/4"C	2	15	0.13	A/C INDOOR UNIT AC-2	6
7												8
9	REC – ELEV RM	0.72	20	1	2 #12 & 1 #12 GRD – 3/4"C		2 #12 & 1 #12 GRD – 3/4"C	1	15	0.12	LGT – ELEV RM	10
11	REC – ROOF	0.36	20	1	2 #12 & 1 #12 GRD – 3/4"C		–	1	–	–	SPACE	12
13	SPARE	–	20	1	–		–	1	–	–	SPACE	14
15	SPARE	–	20	1	–		–	1	–	–	SPACE	16
17	SPACE	–	–	1	–		–	1	–	–	SPACE	18
19	SPACE	–	–	1	–		–	1	–	–	SPACE	20
21	SPACE	–	–	1	–		–	1	–	–	SPACE	22
23	SPACE	–	–	1	–		–	1	–	–	SPACE	24
	SUB TOTAL KVA	5.33								4.37	SUB TOTAL KVA	
		9.70	TOTAL CONNECTED LOAD									

LIGHTING FIXTURE SCHEDULE

ID	LAMPS	MANUF.	CAT. NO.	MOUNTING	DESCRIPTION
A	30W LED 4000 LUMEN SPX 40	METALUX (OR APPROVED EQUAL)	4VT2-LD5-4-DR-UNV-EL10W	SURFACE	8"X4' LED INDUSTRIAL FIXTURE, SEALED AND GASKETED VAPORTITE, FIBERGLASS HOUSING, UNIVERSAL 120-277V INPUT, 10W EMERGENCY BATTERY PACK
B	17W LED 900 LUMENS	SAYLITE (OR APPROVED EQUAL)	VPW-17W-900L-MV-50K-SN	SURFACE	VAPOR PROOF FIXTURE, UL LISTED FOR WET LOCATIONS, RIGHT ANGLE/BOX, CLEAR GLOBE, CAST GUARD, UNIVERSAL 120-277V INPUT

NOTE:
1. COORDINATE WITH ELEVATOR VENDOR TO PROVIDE AN ADEQUATE QUANTITY AND PROPER LOCATIONS OF FIXTURES IN ELEVATOR PIT TO MEET REQUIREMENTS OF ASME 17.1.2.2.25.



2 E-2 FIRE ALARM SYSTEM RISER DIAGRAM
SCHEMATIC

FIRE ALARM SYSTEM NOTES:

1. PROVIDE ALL WIRING AS RECOMMENDED BY MANUFACTURER. ALL WIRING SHALL MATCH EXISTING.
2. CONTRACTOR IS RESPONSIBLE FOR INSURING THAT FIRE ALARM SYSTEM MODIFICATIONS MEET ALL APPLICABLE CODES AND FOR OBTAINING FINAL APPROVAL FROM LOCAL FIRE INSPECTOR(S).
3. PRIOR TO STARTING WORK, PREPARE SHOP DRAWINGS INCLUDING ALL INFORMATION REQUIRED UNDER IBC-2021, SECTION 907.1.2. SUBMIT SHOP DRAWINGS TO ENGINEER FOR REVIEW AND APPROVAL. ONCE APPROVED, SUBMIT SHOP DRAWINGS TO CODE REVIEWER/INSPECTOR(S) FOR APPROVAL. SHOP DRAWINGS TO BE SIGNED & SEALED BY A NEW JERSEY PROFESSIONAL ENGINEER.
4. EXPAND EXISTING FIRE ALARM SYSTEM AS REQUIRED TO CONNECT NEW DEVICES. PROVIDE ALL NEW HARDWARE, RELAYS, MODULES, WIRING, BATTERIES, ETC., AS NECESSARY FOR COMPLETE INSTALLATION. IF NECESSARY, PROVIDE A MIRCOM FX-2000 TO FX-4000N UPGRADE KIT.
5. PROVIDE ALL DETAILING BY ELECTRICAL CONTRACTOR AS REQUIRED TO MAKE THE NECESSARY MODIFICATION TO THE SYSTEM. INCLUDE ANY HARDWARE, WIRING, AND COMPONENTS NECESSARY FOR CONTINUED REUSE.
6. UPON COMPLETION OF FIRE ALARM WORK, PROVIDE A RE-ACCEPTANCE TEST OF THE ENTIRE SYSTEM PER NFPA 72.

Clarke Caton Hintz
Architecture
Planning
Landscape Architecture
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SUBMISSIONS

NO.	DATE	DESCRIPTION
1	4/30/26	ISSUED FOR BID

REVISIONS

1	6/08/26	ADDENDUM #1

PROFESSIONAL ENGINEER
NJ LICENSE NO 39656
FRANK TINDALL, P.E.
DATE:

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ELEVATOR UPGRADES
81 UNION AVE
IRVINGTON, NJ 07111

DATE:	04.28.26
SCALE:	AS NOTED
DRAWN BY:	HY
CHECKED BY:	FT

SHEET TITLE:
SINGLE LINE DIAGRAM, FIRE ALARM RISER DIAGRAM & SCHEDULES - ELECTRICAL

DRAWING NO.:
E2

CCH PROJECT NO: 2142.21

June 08, 2026 4:22:18 pm
Drawing: 2250 - E1.dwg

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Professional Engineer
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GENERAL REQUIREMENTS

This Section is coordinate with and complementary to the General Conditions and Special Requirements.

Drawings are diagrammatic. Sizes and locations of equipment are shown to scale where possible, but may be distorted for clarity on the Drawings. Final locations shall be as required or directed.

Light and power and system riser diagrams and schematic diagrams generally indicate equipment and connections to be used for various systems. System conduit and wiring shall be as required. Provide all work shown on diagrams whether or not it is duplicated on the plans.

SCOPE OF WORK

In general the work includes, but is not limited to the following:

1. Raceways and installation components.
2. Elevator installation
3. Wire and Cable.
4. Panelboard and Modifications
5. Fuses.
6. Safety and disconnect switches.
7. Manual motor starters.
8. Grounding.
9. Lighting fixtures.
10. Telephone data and communication conduit systems.
11. Electrical provisions for fire and life safety.
12. Fire alarm system (modifications).
13. Testing.
14. Seismic restraints.
15. Furnishing of access doors.
16. Furnishing and setting of all sleeves through the floors, roof, and walls where required, including waterproofing, and fireproof sealing, and cap flashing.
17. Cutting, drilling and boring associated with electrical work.
18. Prime painting, where required for electrical equipment and installation.
19. Final connection of all equipment unless otherwise noted.

QUALITY ASSURANCE AND STANDARDS

The complete installation shall be in accordance with NJUCC (The State Building Code).

Contractor to be responsible for securing all necessary permits and obtaining all necessary approvals. He shall complete all necessary forms and pay all necessary fees.

SUBMITTALS

The Contractor shall submit shop drawings for all systems and components with such promptness as to cause no delay in his own work or that of another contractor.

EXAMINATION OF EXISTING CONDITIONS ON PREMISES

Before submitting his bid, this Contractor shall visit the site of the work and shall thoroughly familiarize himself with the existing conditions affecting the work. By the act of submitting a bid, the Contractor shall be deemed to have made such an examination, to have accepted such conditions, and to have made allowance therefore in preparing his bid. No additional compensation will be granted on account of extra work made necessary by the Contractor's failure to investigate such existing conditions. Verify all grades, elevations, dimensions, and clearances at the site.

COORDINATION OF WORK WITH OTHER TRADES

The contractor shall coordinate the work of this Section with the work of all other Contracts and all the Utility Companies. It shall be so arranged that there will be no delay in the proper installation and completion of all work.

INSPECTION AND TESTS

The entire wiring system must test free from short and open circuits. Every ground shall be tested for compliance with standards listed below.

PROTECTION, MAINTENANCE AND PRODUCT HANDLING OF ELECTRICAL EQUIPMENT

Electrical equipment shall be delivered and stored at the site, properly packed and crated until finally installed.

Provide effective protection against damage for all material and equipment during shipment and storage at the Project Site.

This Contractor shall be responsible for the maintenance of all installed equipment and systems until final acceptance by the Owner.

GUARANTEE

This Contractor shall guarantee in writing to the Owner that all work installed by him shall be free of defects in workmanship and materials and that all apparatus will develop the capacities and characteristics as indicated, and that, if during a period of one year from date of final approval of work by the Architect, any defects in workmanship, materials or performance appear, he will remedy them without any cost to the Owner.

ACCESSIBILITY AND MEASUREMENTS

All work shall be installed so as to be readily accessible for operation, maintenance, and repair. Minor deviations from the plans may be made to accomplish this, subject to approval.

Before ordering any material or doing any work, the Contractor shall verify all measurements at the Building, and shall be responsible for the correctness of same as related to the work under this Contract.

IDENTIFICATION NAMEPLATES

Identify and mark all electrical equipment to meet OSHA standards and as specified herein.

Unless otherwise noted, nameplates shall be black laminate with white letters of uniform size consisting of reasonably large capital letters, 3/16 inch minimum.

SEISMIC RESTRAINTS

Provide lateral restraints for all electrical equipment installed in project; e.g. cable trays, conduit, lighting fixtures, panels and transformers. Typically, lateral restraints shall consist of angle iron and "uni-strut" bracing, cross bracing, hanger rods, anchor clips, expansion shield anchor bolts, etc. The purpose of the restraints is to provide resistance to lateral (horizontal) movement during earthquake.

All equipment shall be anchored to the floor, ceiling structure or walls.

All suspended equipment, wiring trough and conduit trade size 2-1/2" or larger shall have (lateral) horizontal bracing capable of resisting 50% of the equipment weight. Horizontal bracing shall be placed at each point where vertical supports are specified or required.

All life safety equipment, and conduit shall have lateral bracing capable of resisting 100% of the equipment weight.

Stem mounted fixtures shall have stems and swivel canopies designed for seismic loads. Ceiling outlet boxes and hangers for stem-mounted fixtures shall have lateral bracing capable of withstanding full vertical load. Lateral bracing shall be attached to the ceiling (at an angle) or wall structure.

Recessed and surface mounted light fixtures must be secured to the ceiling system so as to resist 50% of their weight laterally; i.e. a 40 pound fixture must be resistant to a 20 pound lateral force. Life safety lighting fixture must be secured to the ceiling system so as to resist 100% of their weight laterally. Suitable anchor clips must be provided for all lay-in fixtures. Surface mounted fixtures must be supported at two points in addition to the outlet box.

RACEWAYS AND INSTALLATION COMPONENTS

The requirements of this Section apply to raceway work specified elsewhere in these specifications.

The work includes the providing of completely coordinated grounded raceway systems complete with boxes, fittings, flexible connections to vibrating equipment and accessories, as specified and as required for a complete system.

The work permits the use of metal-clad cable in conjunction with conduit. See below.

Raceways and fittings shall be manufactured by Triangle or approved equal by Allied or Republic.

Rigid steel conduit shall be full weight steel pipe, hot dip galvanized inside and outside, threaded, minimum 3/4 inch.

Intermediate metal conduit (IMC) shall be Intermediate steel pipe, hot dip galvanized, threaded, minimum 3/4 inch.

Electric metallic tubing (EMT) shall be steel thin wall pipe, galvanized, threadless, minimum 3/4 inch, maximum 2 inch.

Flexible steel conduit (Greenfield) shall be continuous single strip, galvanized, minimum 3/4 inch.

Liquid-tight flexible steel conduit (Steel-lite) shall be zinc coated, consist of flexible galvanized steel tubing over which is extruded a liquid-tight sheathing of polyvinyl chloride (PVC). Conduit shall be provided with a continuous copper bonding conductor would spirally between the convolutions.

Rigid steel and IMC conduit fittings shall be standard threaded couplings, locknuts, bushings, and elbows. Material shall be steel or malleable iron only.

Electrical metallic tubing fittings shall be compression waterproof connection type. Set screw or indent type connectors are not permitted.

Flexible steel conduit (Greenfield) fittings shall be multiple point type, threading into the internal wall of the conduit convolutions, and shall have insulated throat.

Liquid-tight flexible metal conduit fittings shall incorporate a threaded grounding cone, a steel or plastic compression ring, and a gland for tightening. Connectors shall have insulated throats.

Expansion and deflection couplings shall be manufactured by O-Z/Gedney, Crouse-Hinds, Appleton or approved equal.

Individual conduit hangers, shall be designed for the purpose, and have pre-assembled closure bolt and nut, and provisions for receiving hanger rod.

Multiple conduit (trapeze) hangers shall be not less than 1-1/2 by 1-1/2 inch, 12 gauge steel, cold formed, lipped channels. Hanger rods shall be not less than 3/8-inch diameter steel.

Solid masonry and concrete anchors shall be a type approved for the purpose.

Provide and assume responsibility for locating and maintaining in proper position all sleeves required for the work.

Openings through floors and walls in which cables, conduits, or pipe pass shall be sealed by U.L. classified smoke and fire stop fittings, and have an hourly rating equal to the fire rating of the floor or wall. Fittings shall be similar to O-Z/Gedney Type "CFS" or "CMFS".

Penetrations through fire-rated floors in which wiring for floor service outlets are routed shall be sealed by U.L. classified smoke and fire-stop fittings, and shall have an hourly rating equal to the floor rating. Fittings shall be similar to O-Z/Gedney Type "PTFS".

Outlet boxes shall be manufactured by Raco, RussellStoll, Steel City, Thomas & Betts or Crouse Hinds.

Outlet boxes for concealed work shall be galvanized steel, 4 in. square or octagon (except as otherwise required by construction, devices or wiring). Provide sufficient depth for application.

Outlet boxes located outdoors and in damp locations shall be weatherproof.

Offset back-to-back outlets shall have minimum 6 in. separation between them. In rated walls, they are to be separated by a stud

Junction, splice and pull boxes shall be made of code gauge sheet steel with removable covers fastened with brass or stainless steel screws, except as noted, and will include insulated supports for cables. Box dimensions shall conform to N.E.C. requirements.

Provide junction, splice and/or pull boxes as noted or as required to facilitate pulling of conductors or in raceway runs that have more than three (3) 90-degree bends.

For indoor applications, boxes shall have a gray enamel finish. For outdoor and damp locations, boxes shall be galvanized.

Wireways shall be as manufactured by Square D, General Electric, or approved equal.

Wireways shall be square, brake-formed of code gauge steel, furnished in standard 10-foot sections with knockouts as required. Wireways shall be of the screw cover type and all necessary offset and elbow fittings. They shall have a gray enamel finish. Size shall be as required for proper cable fill.

Install raceway and installation components as indicated, in accordance with manufacturer's written instructions, applicable requirements of NEC and in accordance with the recognized industry practices, to ensure that products serve intended function.

Raceway supports shall be provided by means of ceiling trapeze, strap hangers, or wall brackets. Use structural steel angles or channels, or manufactured steel support system. Spacing of supports shall be as per NEC and per manufacturer's recommendations but in no case shall exceed 8'-0" on centers. Provide U-bolts at each floor level for riser raceways and anchor to acceptable supports. Secure raceways to supports with pipe straps or U-bolts.

Mechanically join all metal raceways, enclosures and junction boxes to assure continuity.

Branch circuit conduits shall be supported by the building structure.

Conduits located underground beyond the building for branch wiring shall be installed with a minimum of 30 in. top cover as shown on the drawings.

Provide expansion-deflection fittings at expansion joints in accordance with manufacturer's recommendations. Expansion-deflection fittings shall be used for all trade sizes 1-1/4" or larger. For trade sizes up to 1" in size, a suitable length of flexible conduit (or liquid-tight flexible conduit) with sufficient slack for movement and grounding conductor fastened on each side of joint shall be permitted.

Rigid steel conduit shall be used for underground installation; in wet, damp or wash down locations; for exposed runs on the exterior of the building; embedded in concrete or masonry or below concrete that is in contact with earth.

Intermediate metal conduit (IMC) may be used in place of rigid steel in dry locations only.

EMT is to be used for feeders and branch circuits in dry locations such as hung ceilings, interior hollow block walls and furred spaces.

Flexible steel conduit shall be used in dry locations for short connections where rigid conduits or tubing is impracticable, and for final connections to lights and equipment other than motors and transformers.

Liquid-tight flexible steel conduit shall be used in damp locations for final connections to motor terminal boxes, transformers, and other vibrating equipment in damp and dry locations.

In general, cutting and core drilling is to be avoided. Where it becomes necessary, locations are to be coordinated with other trades, the Owner and the structural engineer. There is to be no cutting or core drilling without prior approval.

Provide an outlet box for each lighting fixture and device shown, or required, in the wiring system.

Provide galvanized steel extension rings (depth as required) and raised cover plates in plaster, dry wall, masonry and tile walls.

Mount outlet boxes for similar equipment at uniform height within same or similar areas.

Outlet boxes for fixtures recessed in non-accessible ceilings shall be accessible through the opening created by the removal of the fixture or through access doors provided by this contractor.

All outlet boxes in finished areas for convenience receptacles or local switches shall be 4" square and 1-5/8" deep minimum. Provide with regular deep switch extension cover.

Boxes for use with surface mounted raceways shall be of the same construction and manufacture as the raceway.

Provide junction, splice and pull boxes where required to facilitate installation of wiring, whether or not shown on Drawings. Size boxes according to code, and provide interior partitions. Insulated supports, hot dip galvanized angle iron braces, screw-on one-piece or split covers, ground connectors, and other accessories as required.

All outdoor installations shall be weatherproof.

Support all material from the building structure in an approved manner.

Where electrical equipment is mounted in suspended ceiling panels, provide support members to span between runners of ceiling suspension system. Do not support electrical equipment from acoustical panels or other ceiling material; attach to this material for alignment only.

Where electrical outlet boxes, lighting fixtures, and other equipment is installed on tee bars of suspended ceilings, use independent support like with threaded studs. Do not attach to tee bar except for alignment; use clip similar to Caddy "ES" that snaps around tee bar and has provisions for independent support wire. Attach a suitable anchor in the structure above ceiling, and suspend a minimum No. 12 support wire to engage the clip.

Do not exceed manufacturer' load rating for mounting devices.

At drywall partitions, provide support members to carry weight of equipment; do not use drywall material to carry any weight.

WIRING DEVICES AND INSTALLATION COMPONENTS

All local switches near doors shall be located at strike side of door as finally hung, whether so indicated on the Drawings or not.

Wiring devices and installation components shall be manufactured by Hubbell, Bryant Electric, Pass & Seymour, Leviton, Cooper Industries-Arrow Hart, or General Electric.

Switches shall be heavy-duty specification grade, toggle, quiet type, fully enclosed in composition cases, color as selected by Architect at shop drawing stage. They shall be rated 20 amp, 120/277 volt, AC.

Receptacles shall be the grounding type, composition base, meeting NEMA standards, publication WD-1-1971, color as selected by Owner.

Duplex Convenience Receptacles shall be 20 amps, 125 volts, 2 pole, 3 wire, U ground slot type, Hubbell No. BR20.

Ground Fault Interrupter Duplex Receptacles: 20 amps, 125 volts, 2 pole, 3 wire, Hubbell No. GF-5352, with weatherproof cover, Hubbell No. 5221.

Where more than one switch or receptacle is being installed, provide multiple gang plates for number of devices as required.

Plates shall be beveled stainless steel satin chrome finish #302, of minimum .035" thickness.

Manual motor starters shall be Allen Bradley Bulletin 600 or approved equal by Square D or General Electric and shall be horsepower rated, and voltage rated for the motor load.

Wallboard and masonry shall fit snuggly to all sides of outlet boxes, grout and patch as required.

Convenience receptacles shall be mounted with ground pole up, except those mounted above counter levels.

Local wall switches and receptacles shall be mounted vertically unless otherwise indicated.

WIRE AND CABLE

The work includes providing wire and cable complete with all accessories in accordance with Drawings and Specifications and as required for a complete system. Wiring size referenced in this Section shall be AWG, except as noted

This project has been designed for copper conductors. Aluminum conductors are not acceptable and shall not be used. Cable shall be manufactured by Triangle or approved equal by Carol or Guardian Products.

No. 10 and smaller conductors shall be ASTM Standard, solid, copper; and, No. 8 and larger conductors shall be ASTM standard, stranded copper.

Minimum conductor size shall be No. 12 for lighting and power and No. 14 for control and alarm. Increase wire sizes as required for long runs to overcome voltage drop.

Communications and signal wiring shall conform to the recommendations of the manufacturer's communication and signal systems and shall be specified in respective Sections of these Specifications.

"THWN" or "XHHW" insulation shall be used for interior branch circuit and feeder wiring. Rating shall be 90°C in dry locations and 75°C in wet locations.

Green colored insulated wire shall be used for all grounding applications.

Phase wires shall be color-coded as follows:

1. 120/208 volt system: Black for A phase
   Red for B Phase
   Blue for C Phase

Neutral conductors shall be white for 120/208 volts.

Provide O-Z/Gedney Type "CSE" series or approved equal seal fittings between the wire and conduit for all cable and wire entering the building from underground, including service cables.

Not more than 3 current carrying conductors shall be in one (1) conduit unless otherwise indicated. Provide one neutral conductor for each 3 phase 4 wire homerun to a panelboard unless otherwise noted.

MC cable shall comply with the NEC article 330. MC cable shall be as manufactured by AFC or approved equal by Guardian Products.

MC cable shall include a green insulated ground wire of the same size as the other conductors.

Run MC cable in dry hollow metal partitions and above suspended ceilings. Install cable as slack span; do not pull tight. Maintain at least 6" clearance between parallel runs of light and power wiring to avoid inductive coupling. Maintain at least 24" clearance from hot water and steam piping. Provide conduit sleeves through walls and partitions that obstruct horizontal passage of wiring, and seal sleeves after installation of cables. Cable shall be secured by approved staples, hangers or similar fittings independent of ceiling grids or supports.

MC cable shall be used in conjunction with conduit. Cable shall only be permitted for single phase circuits in hollow metal walls and above accessible ceilings. Single phase cable runs shall be gathered into three phase conduit homeruns. In no case shall cable enter directly into panelboards.

Secure MC cable to ceiling structure at intervals not to exceed 6 feet and within 12 inches of every outlet box, junction box, or fitting.

Make wire splices electrically and mechanically secure. Install small wire connectors so that no bare conductor is exposed. Tighten bolts on large conductor connectors so that conductor is deformed, but do not break strands of wire. Use compression tool with proper die for compression connectors in accordance with manufacturer's recommendations, so that conductors are deformed but not broken. Apply insulation over splice so that insulation thickness is at least 1-1/2 times that on conductor. Lap applied insulation at least 1" over conductor insulation so that no bare conductor is exposed.

In general, all feeders No. 8 and larger shall be continuous from point of origin to equipment being served. Splices shall only be used where necessary and with prior written approval of the Engineer.

Terminate conductors on terminal strips in equipment where terminal strips are used. Provide appropriate connectors, or hook conductors around terminal screws as required.

Provide encapsulated splice kits (3-M type 85 series or approved equal) for all splices in areas subject to moisture, including wet locations inside buildings and underground handholes, manholes, and buried junction boxes. Install splice kit in accordance with manufacturer's recommendations, and make splice waterproof. Apply sealing putty to surround each cable. Install mold body so that resin covers each cable sheath by a minimum of one inch.

All copper conductors No. 8 & larger shall be terminated, spliced, and tapped with color-keyed compression connectors, as manufactured by Thomas & Betts Co., Series 54000, Ideal Industries Series 87000, or approved equal. The manufacturer's recommended tooling shall be used. Mechanical type connectors shall not be used.

All copper conductors No. 10 AWG & smaller shall be terminated and spliced with Ideal Industries wing-nut wire connectors or approved equal compression connectors. The flame-retardant thermoplastic insulated type shall be used to isolate the terminal from other metal parts and equipment.

Use insulating boots supplied for compression connectors or fill joint with "Scotchfill" insulating putty and serve (3) 1/2 lap layers of "Scotch" #33 electrical tape.

PANELBOARDS

The interior distribution system, in general, consists of 3-phase, 4-wire mains at 120/208 volts. The contractor shall balance the load on all feeders as nearly as possible on the three phases after the system is fully energized and all components are functioning.

Panelboards and distribution panels shall be General Electric "A" Series and CCB or approved equal by Square D, Cutler Hammer, or Siemens.

In multi-section panels, install suitable terminating lugs in one of the sections to permit the termination of the incoming feeder conductors as well as the extension of jumpers to the lugs of the other sections.

Panel circuit breaker overcurrent protective devices shall be as scheduled on the Drawings and as specified. All breakers shall be bolted-on thermal magnetic type

Panel circuit breakers shall be rated for 10,000 RMS symmetrical amperes minimum interrupting rating at 120/208 volts. Provide higher ratings as required or as scheduled on the Drawings.

Provide handle-locking attachments for all circuit breakers serving emergency lights, exit lights, clocks, and other functions indicated.

Cabinets and trim shall be fabricated of code gauge steel, with hinged door, lock and catch, and directory pocket covered with clear plastic shield over directory.

Furnish and install a typewritten circuit directory. Hand written will not be accepted.

Distribution panels shall be provided with molded case circuit breakers as specified for panelboards. Breakers through 225 ampere frame sizes shall be thermal-magnetic trip with inverse time current characteristics unless otherwise noted. Breakers 400 ampere frame and above shall have solid-state trip and rating ratings as indicated on Drawings.

SAFETY AND DISCONNECT SWITCHES

Switches shall be heavy-duty and service rated. They shall be General Electric Type "TH" or equal by Square D, Cutler Hammer, or Siemens. Switches shall include solid neutral where required. Provide auxiliary contacts where required to break motor control circuit power.

Interior enclosures shall be NEMA 1. Enclosures shall have interlocked doors and be capable of being positively padlocked in ON and OFF positions. For exterior installations, the enclosures shall be NEMA 4.

FUSES

Fused safety and disconnect switches shall be provided with fuses of class, type, and rating as required or shown on Drawings.

Install disconnect switches used with motor-driven appliances, and motors and controllers within sight of the controller location unless otherwise indicated.

Fuses sizes 0 to 600 Amperes shall be Buss Fusetron Type FRS-R or equal by Chase Shawmut or Cefco. They shall be U.L. Class "RK-5" Time-Delay dual element.

GROUNDING

Ground rods shall be copper clad steel not less than 3/4" diameter and 10 foot long. Provide at least two per location separated by at least 24". Ground clamps shall be bronze, solderless type with bronze screws suitable for receiving required or noted conductors.

Grounding equipment shall be manufactured by Chance, Burndy, Cadweld, Thomas & Betts, Blackburn, or O-Z/Gedney.

The complete electrical installation shall be permanently and effectively grounded in accordance with all code requirements, whether or not such connections are specifically shown or specified. Measured resistance to ground shall be 5 ohms, maximum. All parts of the electrical installation shall be grounded.

Ground conductors shall be sized in accordance with the National Electrical Code. Ground conductors shall be continuous without splices.

Ground rods shall be vertically driven with tops below grade. Where required to obtain the specified ground resistance, install multiple rods.

Where ground connections will be permanently concealed, make the connections by the exothermic process to form solid metal joints. Make accessible ground connections with mechanical pressure type ground connections.

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SUBMISSIONS

NO.	DATE	DESCRIPTION
1	4/30/26	ISSUED FOR BID

REVISIONS

1	6/08/26	ADDENDUM #1

PROFESSIONAL ENGINEER
NJ LICENSE NO 39656
FRANK TINDALL, P.E.
DATE:

IRVINGTON HOUSING AUTHORITY
ELEVATOR UPGRADES
81 UNION AVE
IRVINGTON, NJ 07111

DATE: 04.28.26
SCALE: AS NOTED
DRAWN BY: HY
CHECKED BY: FT

SHEET TITLE:
SPECIFICATIONS - ELECTRICAL

DRAWING NO.:
E3

CCH PROJECT NO: 2142.21