

**REQUESTS FOR PROPOSAL  
ROSEWOOD HILLS SENIOR LIVING APARTMENT BUILDING  
GARAGE CEILING REPAIR**

**ADDENDIUM #1**

**ISSUED: January 05, 2023**

**DUE DATE: January 31, 2023, MIDNIGHT LOCAL TIME**

**REVISED DUE DATE: JANUARY 31, 2023 2:00 P.M.**

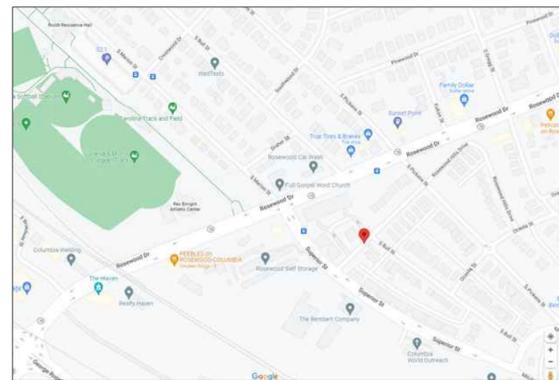
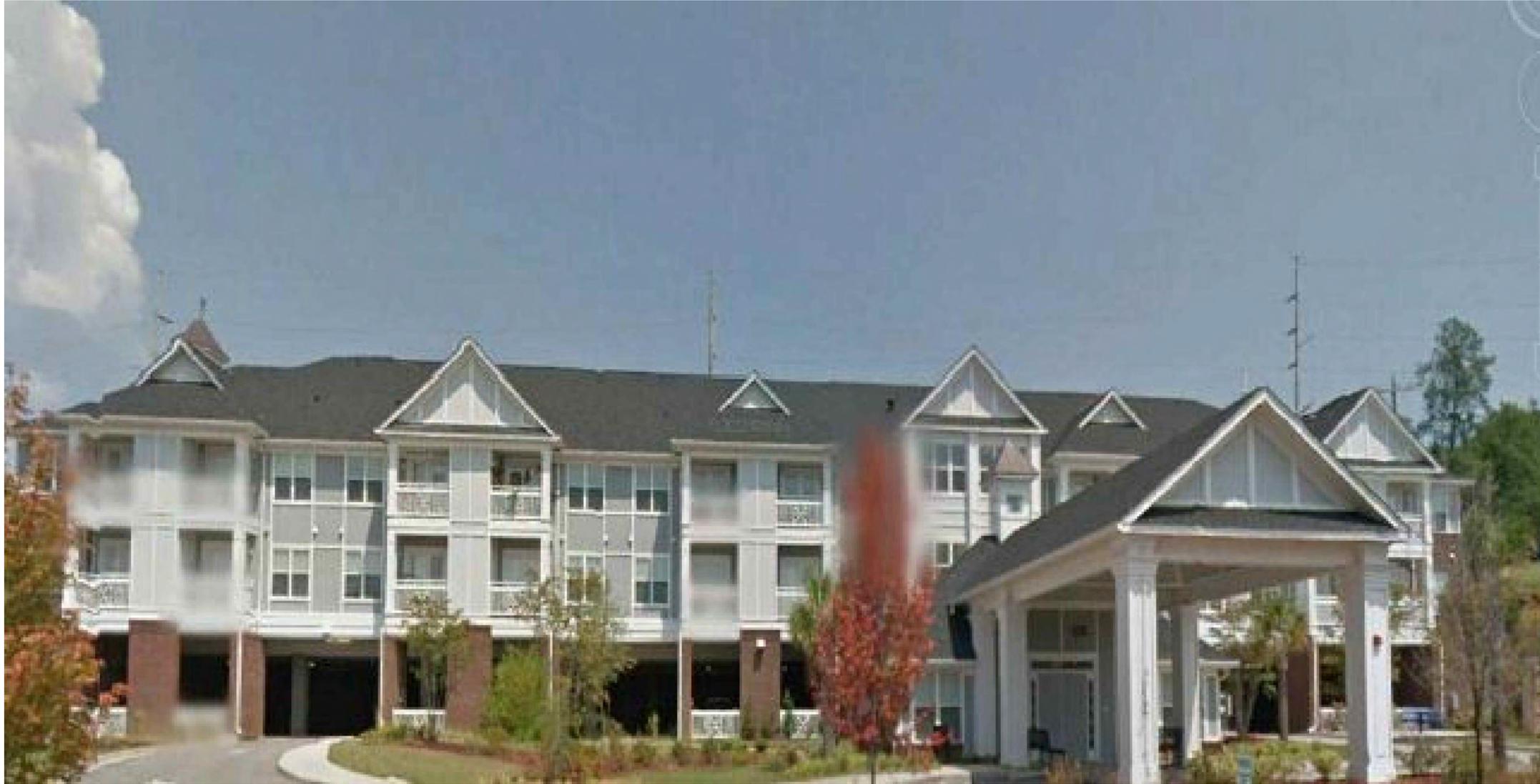
THE REQUEST FOR PROPOSALS FOR THIS SOLICITATION IS HEREBY AMENDED OR CLARIFIED AS SET OUT BELOW. THIS ADDENDUM IS A PART OF THE REQUEST FOR PROPOSALS AND MUST BE ACKNOWLEDGED ON THE "ACKNOWLEDGEMENT OF ADDENDA" FORM INCLUDED IN THE ATTACHMENTS TO THE RFP AND ATTACHED HERTO.

1. Revised proposal submission time January 31, 2023 at 2:00 p.m.
2. The drawings for the scope of work are attached.

**END OF ADDENDUM #1**

# Rosewood Hills Senior Living Apartment Building Garage Ceiling Repair

105 Rosewood Hills Drive  
Columbia, South Carolina



Project Location Map



Vicinity Map

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1917 Harden Street  
Columbia, South Carolina

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Project Name  
Columbia Housing Authority  
Rosewood Hills Senior Living Apartment Building  
Garage Ceiling Repair  
105 Rosewood Hills Drive  
Columbia, South Carolina  
Project Number 192250

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No.	Description	Date	By
1	Bid	12/12/22	SJ
2			
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Sheet Title

Cover Sheet &  
Index

Sheet Number

**G0.00**

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SJ/CW  
Checked By  
SJ



Plan North

Plotted: 19-Dec-22 11:56:44 AM by WALLACE, CHRISTOPHER

General Notes

1. **GENERAL REQUIREMENT:** THE DRAWINGS INDICATE THE GENERAL SCOPE OF THE PROJECT IN TERM OF AN ARCHITECTURAL DESIGN CONCEPT. THE DIMENSIONS OF THE BUILDING, THE MAJOR ARCHITECTURAL ELEMENTS AND THE TYPE OF STRUCTURAL SYSTEM. AS SCOPE DOCUMENTS, THE DRAWINGS DO NOT NECESSARILY INDICATE OR DESCRIBE ALL OF THE WORK REQUIRED FOR FULL PERFORMANCE AND COMPLETION OF THE REQUIREMENTS OF THE CONTRACT DOCUMENTS. ON THE BASIS OF THE GENERAL SCOPE INDICATED OR DESCRIBED, THE TRADE CONTRACTORS SHALL FURNISH ALL ITEMS REQUIRED FOR THE PROPER EXECUTION AND COMPLETION OF THE WORK.
2. **GENERAL REQUIREMENT:** ALL CONTRACT DOCUMENTS SHALL BE SUBMITTED TO SUBCONTRACTORS IN ENTIRE SETS TO MAINTAIN INTEGRITY AND COORDINATION OF THE PROJECT LIMITS. IT SHALL BE THE SPECIFIC DUTY AND RESPONSIBILITY OF EACH TRADE AND SUPPLIER TO EXAMINE ALL DRAWINGS, DETAILS AND SPECIFICATIONS AND TO PROVIDE AND FURNISH PROPER EQUIPMENT, HARDWARE, FIXTURES, MATERIALS, LABOR, ETC., PERTAINING TO THEIR PORTION OF THE WORK SHOWN OR LISTED IN ANY PART OF THE CONTRACT DOCUMENTS. SCHEDULES ARE FOR THE CONVENIENCE OF THE CONTRACTOR TO ASSIST THEM IN UNDERSTANDING AND CONSTRUCTING THE PROJECT. IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THAT ALL ITEMS IN THE SCHEDULES REFLECT THE PLANS AND DETAILS. ANY OMISSIONS OR CONTRADICTIONS IN THESE DOCUMENTS SHALL BE CALLED TO THE ATTENTION OF THE ARCHITECT PRIOR TO BID OPENING. BIDS RECEIVED SHALL BE CONSIDERED TO INCLUDE ALL ITEMS SHOWN AND/OR SPECIFIED OR SCHEDULED FOR A COMPLETE PROJECT.
3. **GENERAL REQUIREMENT:** THE CONTRACTOR SHALL VISIT THE JOB SITE AND BE KNOWLEDGEABLE OF ALL CONDITIONS THEREOF. THE CONTRACTOR SHALL INVESTIGATE, VERIFY AND BE RESPONSIBLE FOR ALL CONDITIONS OF THE PROJECT AND NOTIFY THE ARCHITECT OF ANY CONDITIONS REQUIRING MODIFICATION BEFORE PROCEEDING WITH THE WORK.
4. **GENERAL REQUIREMENT:** ALL WORK SHALL COMPLY WITH FEDERAL, STATE AND LOCAL CODES OR ORDINANCES.
5. **CONSTRUCTION MEANS, METHODS & PROCEDURES.** THE GENERAL CONTRACTOR SHALL MAN THE JOB PROPERLY AND WITH STAFF EXPERIENCED IN THE TYPE AND SCOPE OF THE WORK TO SUPERVISE AND DIRECT THE WORK USING THE GENERAL CONTRACTORS EXPERIENCE, SKILLS AND ATTENTION. THE GENERAL CONTRACTOR IS SOLELY RESPONSIBLE FOR AND HAS SOLE CONTROL OVER CONSTRUCTION MEANS, METHODS TECHNIQUES, SEQUENCES, AND PROCEDURES AND FOR COORDINATING ALL PORTIONS OF WORK UNDER THE CONTRACT. ANY WORK THAT REQUIRES TO BE RELOCATED, REMOVED OR REWORKED DUE TO A LACK OF PROPER SUPERVISION AND COORDINATION OF THE SUBCONTRACTING TRADES IS SOLELY THE RESPONSIBILITY OF THE GENERAL CONTRACTOR.
6. THE CONTRACTOR SHALL MAINTAIN A CLEAN SITE FREE OF TRASH AND DEBRIS THROUGHOUT THE CONSTRUCTION PROCESS. MATERIAL SECURITY IS THE RESPONSIBILITY OF THE CONTRACTOR.
7. **SCALING DRAWINGS:** DO NOT SCALE DRAWINGS. WRITTEN DIMENSIONS HAVE PRECEDENCE.
8. LARGER SCALE DRAWINGS HAVE PRECEDENCE OVER SMALLER SCALE DRAWINGS.
9. WHERE ONE DETAIL IS SHOWN FOR ONE CONDITION IT SHALL APPLY TO ALL LIKE OR SIMILAR CONDITIONS THOUGH NOT SPECIFICALLY MARKED.
10. IF AT ANY TIME AN ERROR IS FOUND WITHIN THESE DOCUMENTS PRIOR TO OR DURING CONSTRUCTION THAT MAY BE CRITICAL TO THE INTEGRITY OF THIS PROJECT, THE CONTRACTOR SHALL CONTACT THE ARCHITECT IMMEDIATELY TO RESOLVE THE ERROR PRIOR TO PROCEEDING WITH THE AFFECTED WORK.
11. THE COORDINATION OF ALL MATERIALS, LABOR AND THE SUB CONTRACTORS WORKMANSHIP IS THE SOLE RESPONSIBILITY OF THE GENERAL CONTRACTOR.
12. THE CONTRACTOR IS RESPONSIBLE FOR CONTACTING LOCAL BUILDING OFFICIALS AND INSPECTORS FOR PERMITS AND INSPECTIONS.
13. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL BRACING ALL WORK DURING CONSTRUCTION AND IMPLEMENTATION OF ALL SAFETY PROCEDURES IN ACCORDANCE WITH APPLICABLE CODES.
14. ALL FIXTURES, EQUIPMENT AND MATERIALS SHALL BE INSTALLED PER THE MANUFACTURER'S SPECIFICATIONS, RECOMMENDATIONS AND SUGGESTED INSTRUCTIONS.
15. ALL DISSIMILAR MATERIALS SHALL BE EFFECTIVELY ISOLATED FROM EACH OTHER BY GASKETS, COATINGS OR BOTH TO AVOID GALVANIC CORROSION.
16. ALL FERRIS METAL WORK LOCATED ON THE EXTERIOR OR IN UNCONDITIONED SPACES SHALL BE HOT-DIPPED GALVANIZED (G-90 MINIMUM)
17. MAINTAIN 7'-6" MINIMUM, FINISHED CLEAR HEIGHT THROUGH ALL EXIT PASSAGES, AT ALL LOCATIONS (UNDER LIGHTS, DUCTWORK, ETC.)
18. ALL WORK SHALL BE IN ACCORDANCE WITH THE QUALITY STANDARDS OF THE TRADE AND SHALL BE INSTALLED IN ACCORDANCE TO ALL APPLICABLE LOCAL, STATE AND FEDERAL CODES AND MANUFACTURERS RECOMMENDATIONS
19. ITEMS NOTED AS "N.I.C" (NOT IN CONTRACT), "BY OWNER" OR EXISTING" SHALL NOT BE INCLUDED IN THE CONTRACT. HOWEVER, PROVISIONS SHALL BE MADE BY RESPECTIVE TRADES TO ALLOW THE INSTALLATION OF ITEMS NOTED. ALL FINISHES OF FLOORS, BASES, WAINSCOTS, WALLS AND CEILINGS BEHIND, UNDER AND/ OR OVER THESE ITEMS SHALL BE INCLUDED IN THE GENERAL CONTRACT UNLESS NOTED OTHERWISE (U.N.O.)
20. THE JOB SITE SHALL BE KEPT "BROOM CLEAN" AND FREE OF EXCESSIVE DEBRIS. ALL REFUSE CREATED IN THE EXECUTION OF THE CONTRACT FOR CONSTRUCTION IS THE RESPONSIBILITY OF THE GENERAL CONTRACTOR. TRANSPORT TRASH, RUBBISH AND DEBRIS FROM THE SITE AND DISPOSE OF LEGALLY. THE MANNER OF THE REMOVAL SHALL BE CONFIRMED WITH AN OWNERS REPRESENTATIVE AND SHALL MEET CITY, COUNTY AND STATE REGULATIONS.
21. DIMENSIONS ARE NOMINAL AND ARE TAKEN FROM FACE OF BLOCK WALL, CENTERLINE OF COLUMN AND FACE OF STUD U.N.O.
22. ALL FIRE RESISTIVE JOINTS AND PENETRATION FIRESTOPPING SHALL BE INSTALLED BY A SINGLE FIRESTOPPING SUBCONTRACTOR.
23. THE CONTRACTOR SHALL COORDINATE ALL LIGHTING LOCATIONS WITH THE DUCTWORK AND SPRINKLER LAYOUT. ANY VARIATIONS WITH LAYOUT OR CEILING HEIGHT SHALL BE REVIEWED WITH THE ARCHITECT PRIOR TO INSTALLATION.
24. ALL CUTTING AND PATCHING SHALL BE COMPLETED BY THE GENERAL CONTRACTOR. PATCHES IN FINISH SURFACES SHALL MATCH THE ADJACENT SURFACES IN FINISH, MATERIAL AND QUALITY. SURFACES ARE TO BE SMOOTH AND CONTINUOUS.
26. ALL WORK SHALL BE COORDINATED WITH ALL TRADE DISCIPLINES TO ENSURE PROPER EXECUTION OF THE PROJECT.
27. DUE TO VARIATIONS IN MANUFACTURERS ACTUAL SIZE OF EQUIPMENT, CASEWORK, PLUMBING FIXTURES, ETC, ALL DIMENSIONS SHALL BE VERIFIED PRIOR TO INSTALLATION OR FABRICATION.



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 Garage. Ceiling Repair  
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Sheet Title

General Notes

Sheet Number

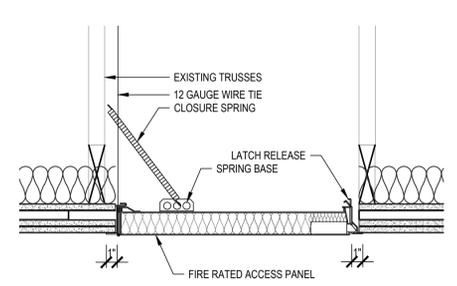
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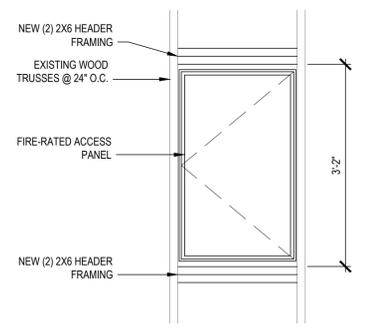
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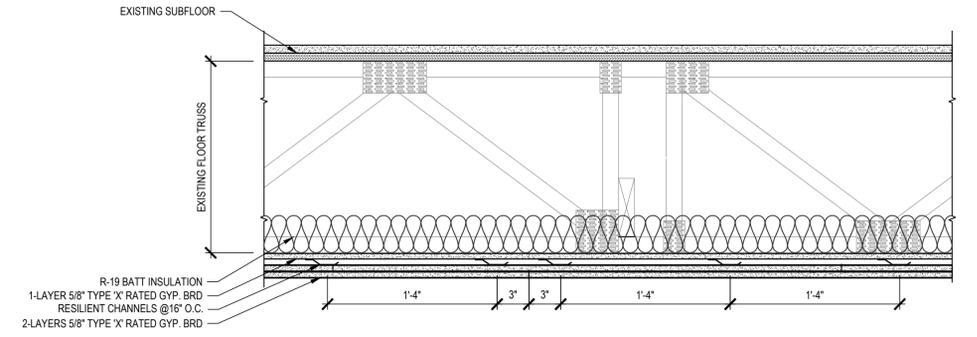


**E7 Section @ Access Panel**  
Scale: 1" = 1'-0"

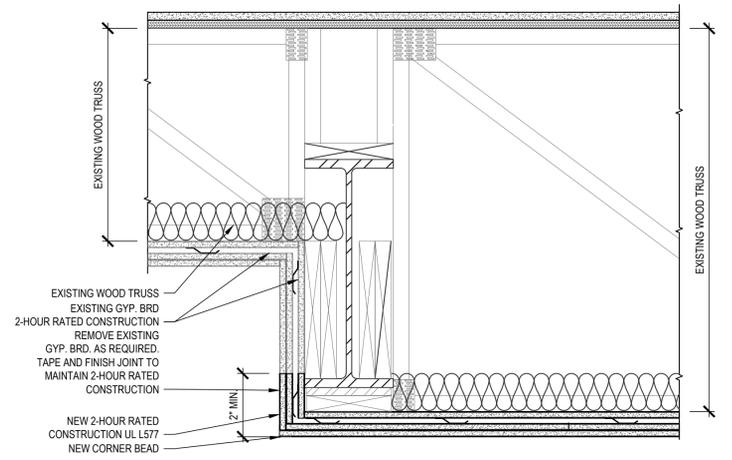


**D7 Framing @ Access Panel**  
Scale: 3/4" = 1'-0"

- ACCESS DOOR NOTES:
1. BASIS OF DESIGN - ELMODOR 22X36
    - 1.1. DOOR - 20 GA. GALVANNEALED STEEL WITH 2 INCHES OF INSULATION IN SANDWICH TYPE CONSTRUCTION.
    - 1.2. FRAME - 16 GA. GALVANNEALED STEEL WITH ANCHORS AND BOLT HOLES
    - 1.3. FINISH - PRIME COAT SUITABLE FOR PAINTING
    - 1.4. HINGE - CONCEALED PIANO HINGE
    - 1.5. LATCHES - KNURLED KNOB AND KEY OPERATION
    - 1.6. INSIDE PANEL RELEASE - FURNISHED ON ALL DOORS
  2. FIRE RATED ACCESS PANEL TO BE SELF-CLOSING
  3. MAINTAIN REQUIRED AIRSPACE AROUND DOOR/FRAME ASSEMBLY.



**E3 Typical Ceiling Detail**  
Scale: 1" = 1'-0"



**D3 Ceiling Detail @ Transition**  
Scale: 1" = 1'-0"

**Reflected Ceiling Plan Legend**

- EXISTING GYPSUM WALL BOARD CEILING TO REMAIN.
  - NEW GYPSUM WALL BOARD CEILING, 2-HOUR RATED CONSTRUCTION UL L577
  - NEW CEILING FIRE-RATED ACCESS PANEL. BASIS OF DESIGN: ELMODOR FRC22X36 2-HOUR RATED w/ KEY OPERATION
  - NEW LED LIGHTING FIXTURE. SEE ELECTRICAL PLANS
  - EXIT LIGHT. SEE ELECTRICAL PLANS
  - HEAT DETECTOR (REPLACE/REINSTALL AS REQUIRED)
  - CARBON MONOXIDE DETECTOR (REPLACE/REINSTALL AS REQUIRED)
  - SPRINKLER HEAD (REPLACE/REINSTALL AS REQUIRED)
  - EXISTING 3" HOLES IN PLYWOOD SUBFLOOR TO BE FILLED AS REQ'D. TO MAINTAIN 2-HOUR ASSEMBLY RATING
- NOTE: MECHANICAL AND ELECTRICAL CEILING MOUNTED DEVICES ARE SHOWN FOR LOCATION AND COORDINATION PURPOSES ONLY. REFER TO MECHANICAL AND ELECTRICAL DRAWINGS AND SPECIFICATIONS FOR MORE INFORMATION.

**General Notes**

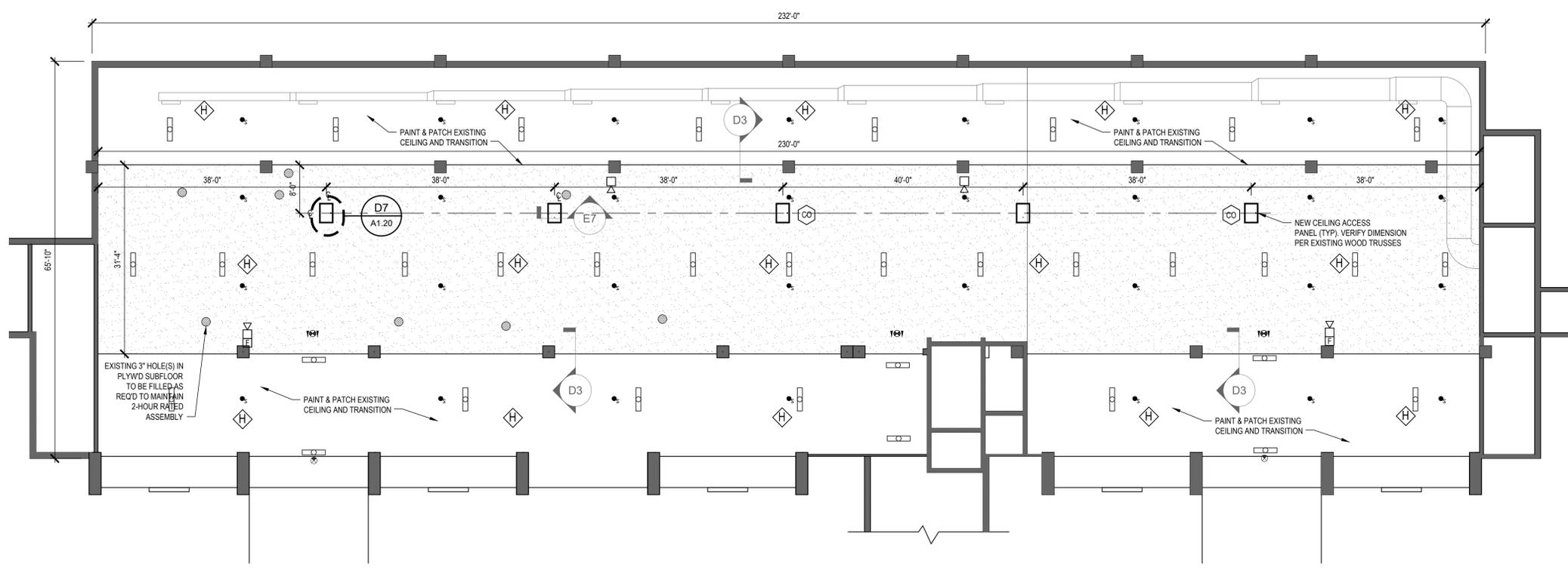
1. CONTRACTOR TO FIELD VERIFY ALL DIMENSIONS ON PLANS AND REPORT ANY DISCREPANCIES TO ARCHITECT IMMEDIATELY.
2. PREPARE ALL EXISTING CEILING FINISHES TO RECEIVE NEW FINISHES AS REQUIRED.
3. PATCH AND PAINT EXISTING GYP. BRD. CEILING AND TRANSITION AS REQUIRED.

**Drawing Conventions**

	SL	DIRECTION OF SLOPE
		FIRE EXTINGUISHER IN CABINET
		FIRE EXTINGUISHER WALL MOUNT
		HI-LOW-ADA ELECTRIC WATER COOLER

**Drawing References**

Room Name	101	DIRECTION	N#
ROOM IDENTIFICATION	see finish schedule	DETAIL NUMBER	W# / S# / E#
WINDOW IDENTIFICATION	01	SHEET NUMBER	S#
DOOR IDENTIFICATION	see door schedule	INTERIOR ELEV	
WALL IDENTIFICATION	see wall types	DIRECTION	
		SECTION NUMBER	1
		SHEET NUMBER	A1.1
		SECTIONS	
		AREA OF DETAIL	
		DETAIL NUMBER	1
		SHEET NUMBER	A1.1
		DETAILS	
SMOKE PARTITION	ONE HOUR		
	TWO HOUR		
	THREE HOUR		
WALL RATING IDENTIFICATION	SEE WALL TYPES FOR MORE INFORMATION		



**B4 Garage Level Reflected Ceiling Plan**  
Scale: 3/32" = 1'-0"



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Reflected Ceiling Plan

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**A1.20**

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CW/SJ

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Plumbing Reference Plan

Sheet Number

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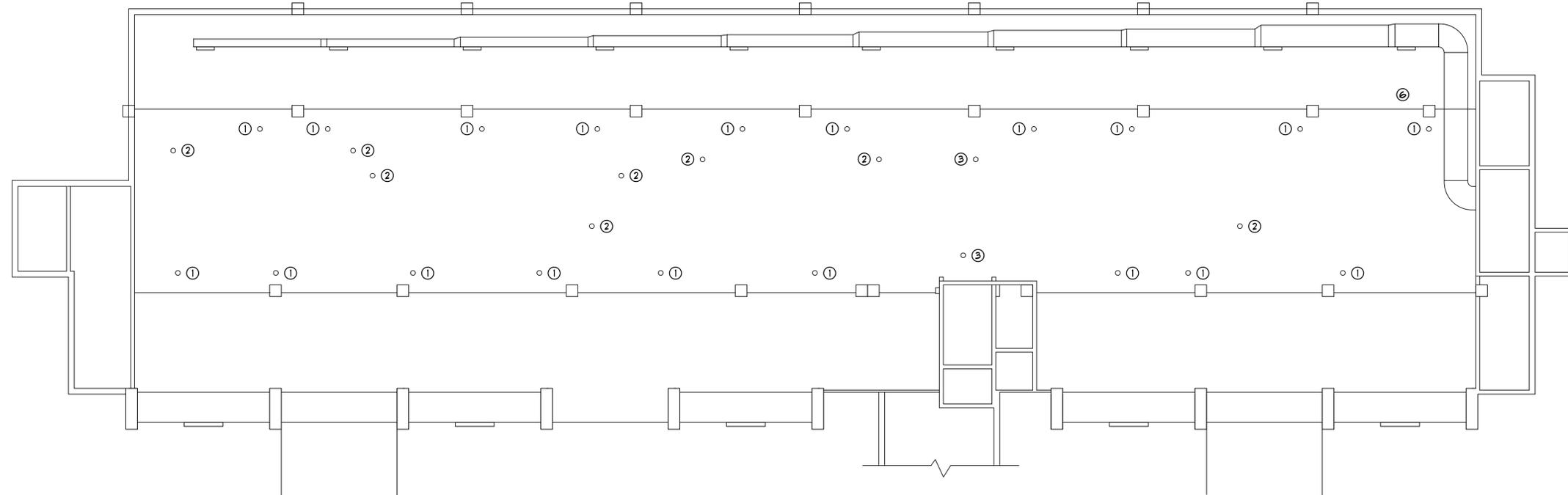
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**PLUMBING REFERENCE PLAN - PHASE 1**

SCALE: 3/32" = 1'-0"

**SPECIAL NOTE:**  
 THE REFERENCE PLAN IS TO BE USED IN CONJUNCTION WITH THE PLUMBING ANALYSIS FOR PHASE I. THIS PLAN IS NOT TO BE CONSTRUED AS AN AS-BUILT CONDITION AND LOCATIONS INDICATED ARE GENERAL IN NATURE. CONTRACTOR SHALL VISIT THE SITE PRIOR TO SUBMITTING A BID AND THOROUGHLY FAMILIARIZE HIMSELF WITH ALL EXIST CONDITIONS RELATING TO THIS PROJECT. SUBMISSION OF A BID WILL BE CONSIDERED AS EVIDENCE THAT THE CONTRACTOR HAS VISITED THE SITE OF WORK.



**GENERAL EXISTING CONDITION NOTES**

- 1 AREAS OF WORK EXIST FOR THIS PROJECT WHICH ARE NOT ACCESSIBLE OR HAVE LIMITED ACCESS DURING DESIGN. AS SUCH CONTRACTOR SHALL VERIFY ALL UTILITIES IN AREA OF WORK BEFORE DEMOLITION OF ANY SERVICE. ANY ELECTRICAL COMPONENTS NOT SHOWN SHALL BE IDENTIFIED AND THE ARCHITECT AND ENGINEER SHALL BE NOTIFIED AS SOON AS POSSIBLE. NO ELECTRICAL REWORK SHALL BE COMMENCED WITHOUT COORDINATION OF BOTH ARCHITECT AND ENGINEER.
- 2 IN AREAS WHERE THE EXISTING CEILINGS ARE NOT SLATED TO BE REMOVED, THE CONTRACTOR SHALL WORK THRU THE EXISTING CEILINGS (SEE ARCHITECTURAL REFLECTED CEILING PLAN FOR AREA OF WORK). THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPLACING ANY DAMAGED TILE OR GRID THAT IS A RESULT OF THEIR WORK.
- 3 SUPPORT ALL EXISTING CONDUITS AND JUNCTION BOXES ABOVE THE CEILING PER NEC IN THE CONSTRUCTION AREA.
- 4 PROVIDE JUNCTION BOX COVER PLATES ON ALL EXISTING JUNCTION BOXES ABOVE THE CEILING IN THE CONSTRUCTION AREA.
- 5 WHERE INFORMATION SHOWN ON THESE DRAWINGS CONFLICTS WITH VERIFIED FIELD CONDITIONS, IT SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER

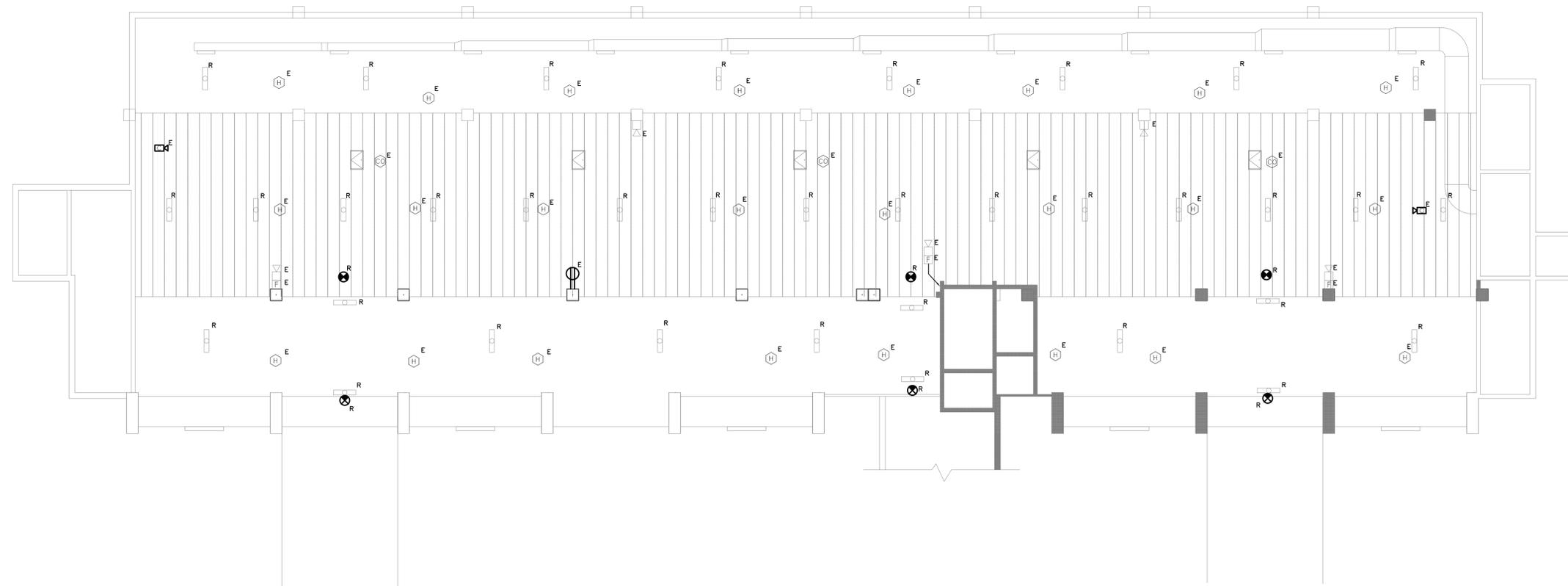
**GENERAL "DEMOLITION" NOTES**

- 1 ALL ELECTRICAL EQUIPMENT TO BE REMOVED SHALL REMAIN THE PROPERTY OF THE OWNER. THE CONTRACTOR SHALL NOT DISPOSE OF ANY MATERIALS UNTIL RELEASED BY OWNER'S PROJECT MANAGER. MATERIALS THAT OWNER'S PROJECT MANAGER CHOOSES TO RETAIN SHALL BE DELIVERED BY THE CONTRACTOR TO A LOCATION DESIGNATED BY THE PROJECT MANAGER. ALL OTHER MATERIALS SHALL BE PROPERLY DISPOSED OF BY THE CONTRACTOR.
- 2 ELECTRICAL DEVICES NOT SHOWN ON CEILINGS OR WALLS TO REMAIN SHALL REMAIN IN PLACE. PROTECT FROM DAMAGE DURING CONSTRUCTION
- 3 ELECTRICAL DEVICES NOT SHOWN ON CEILINGS TO BE REMOVED SHALL BE TEMPORARILY DISCONNECTED AND REMOVED DURING DEMOLITION AND RE-INSTALLED ON NEW CEILING IN SAME LOCATION.
- 4 REMOVE ALL CEILING MOUNT DEVICES SUCH AS FIRE ALARM DEVICES/DETECTORS, CARBON MONOXIDE DETECTORS, ETC. AND STORE IN SAFE LOCATION DURING CONSTRUCTION AND AND RE-INSTALL ON NEW CEILING IN SAME LOCATION.
- 5 CONTRACTOR SHALL FIELD VERIFY ALL LIGHTING BRANCH CIRCUITS BEFORE BEGINNING DEMOLITION.
- 6 LIGHTING FIXTURES ON THIS SHEET ARE SERVED FROM EXISTING PANEL 'G' LOCATED IN ELECTRICAL ROOM.
- 7 SEE 'ELECTRICAL RENOVATION PLAN' FOR RENOVATION WORK.

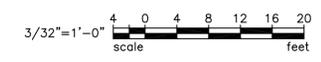
**DEMOLITION/RENOVATION NOTATION**

- \* IF NO ANNOTATION IS SHOWN ASSUME EXISTING TO REMAIN IN PLACE FOR SOLID LINES AND DEMOLISH FOR DASHED LINES.
- \* DEVICES AND EQUIPMENT NOT SHOWN SHALL BE ASSUMED TO BE EXISTING TO REMAIN IN PLACE.
- E EXISTING FIXTURE OR DEVICE TO REMAIN IN PLACE.
- R EXISTING FIXTURE OR DEVICE TO BE REMOVED BY THE ELECTRICAL CONTRACTOR. MAINTAIN CONTINUITY OF REMAINING PORTIONS OF BRANCH CIRCUIT.
- RE EXISTING DEVICE TO BE REMOVED BY THE ELECTRICAL CONTRACTOR. EXISTING CIRCUIT SHALL BE RETAINED. PROVIDE NEW DEVICE AS SHOWN ON RENOVATION PLANS.
- RN RELOCATED FIXTURE (NEW LOCATION).
- RR EXISTING FIXTURE TO BE RELOCATED BY THE ELECTRICAL CONTRACTOR TO NEW LOCATION SHOWN ON RENOVATION PLAN.

ELECTRICAL SYMBOL LEGEND			
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
	JUNCTION BOX (WALL MTD)		EXISTING FIRE ALARM PULL STATION (TO REMAIN)
	JUNCTION BOX (CEILING)		EXISTING FIRE ALARM AUDIBLE/VISUAL DEVICE (TO REMAIN)
	EXISTING CCTV CAMERA (CEILING MOUNTED)		EXISTING HEAT DETECTOR (CEILING MOUNTED, TO REMAIN)
	EXISTING PANELBOARD (SURFACE MOUNTED)		EXISTING CARBON MONOXIDE DETECTOR (CEILING MOUNTED)
	EXISTING CONTROL PANEL (SURFACE MOUNTED)		DOUBLE FACED EXIT SIGN (CEILING MOUNTED)
	PHOTOCELL LIGHTING CONTROL		SINGLE FACED EXIT SIGN (CEILING MOUNTED)
	KEY NOTE CALLOUT (REFER TO KEY NOTES ON SHEET)		1X4 VAPORTIGHT LED LIGHT FIXTURE
			1X4 VAPORTIGHT LED EMERGENCY LIGHT FIXTURE (WITH BATTERY PACK)



**E1 ELECTRICAL DEMOLITION PLAN**  
Scale: 3/32" = 1'-0"



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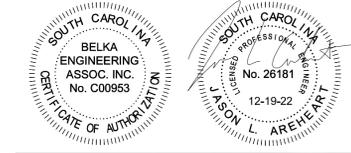


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**Electrical Demolition Plan**

Date 12/19/2022  
Sheet Number

**E1.01**

Drawn By  
HTT  
Checked By  
CES

LIGHT FIXTURE SCHEDULE										
SYMBOL	FIXTURE SPECIFICATIONS				LAMPING		ELECTRICAL		MOUNTING REMARKS	NOTES
	TYPE	FIXTURE DESCRIPTION	MANUFACTURER	CAT. #	LUMENS	COLOR TEMP	FIXT. LOAD	VOLTS		
	J4	4' VAPORTITE LED SURFACE FIXTURE	METALUX	4VT3-LD5-6-P-120V-L840-CD1-U	6000	3500K	49	120	SURFACE MOUNTED TO CEILING	1,2,3
	J4E	4' VAPORTITE LED SURFACE FIXTURE	METALUX	4VT3-LD5-6-P-120V-EL10W-L840-CD1-U	6000	3500K	49	120	SURFACE MOUNTED TO CEILING	1,2,3
	X1	SINGLE FACE EXIT SIGN	EXITRONIX	QCRT-R-WB-WH	-	-	3	120	SURFACE MOUNTED TO CEILING	2,3
	X2	DOUBLE FACE EXIT SIGN	EXITRONIX	QCRT-R-WB-WH	-	-	3	120	SURFACE MOUNTED TO CEILING	2,3

**LIGHT FIXTURE SCHEDULE NOTES**

- LUMENS LISTED IN SCHEDULE REPRESENT DELIVERED LUMENS OF FIXTURES.
- SEE ARCHITECTURAL RCP AND ELEVATIONS FOR EXACT LOCATION AND MOUNTING HEIGHTS.
- CONFIRM QUANTITIES OF FIXTURES SHOWN IN RCP MATCH QUANTITIES SHOWN ON ELECTRICAL PLANS PRIOR TO BID. IF NO DISCREPANCIES ARE NOTED PRIOR TO BID THE HIGHEST QUANTITY OF EACH FIXTURE TYPE SHOWN SHALL BE PROVIDED.

**GENERAL "ELECTRICAL" NOTES**

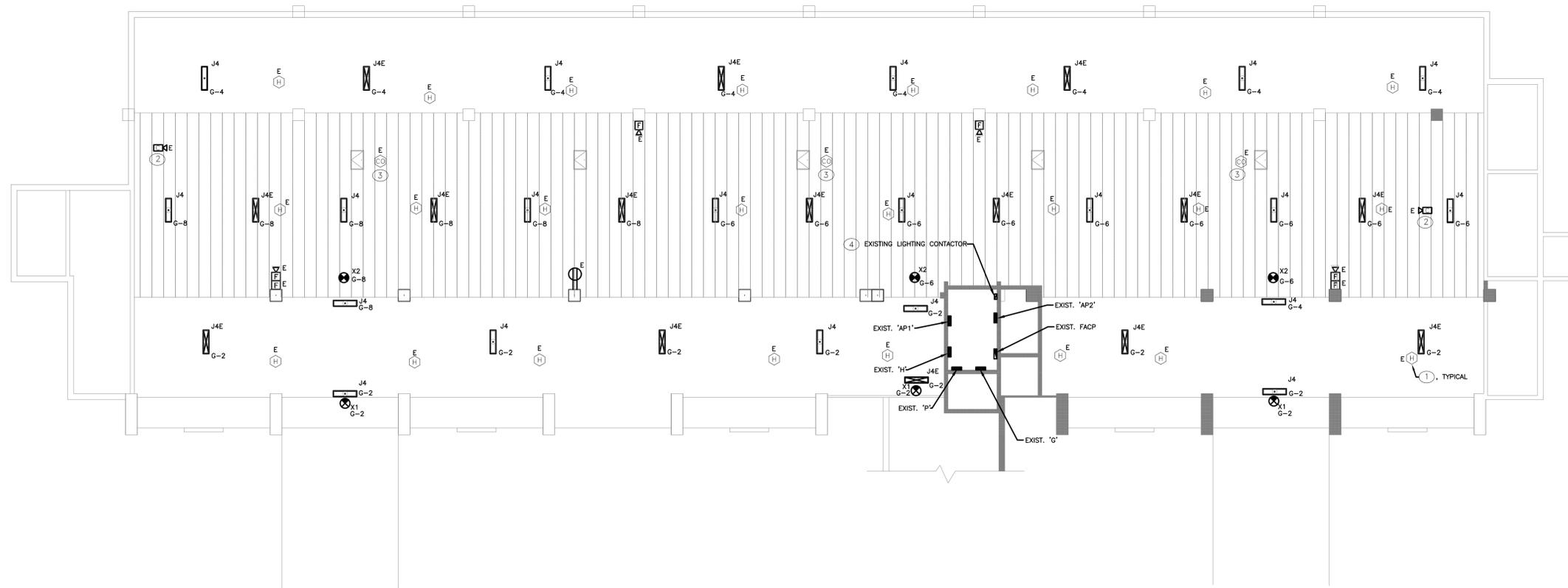
- CONTRACTOR SHALL REPLACE LIGHT FIXTURES IN EXISTING LOCATIONS SHOWN, AND CONNECT TO EXISTING BRANCH CIRCUIT WIRING. IF ADDITIONAL WIRING IS REQUIRED TO EXTEND CIRCUIT, MATCH SIZE TO THAT OF EXISTING BRANCH CIRCUIT WIRING, MINIMUM SIZE SHALL BE #12 AWG.
- 20A/120V BRANCH CIRCUITS EXCEEDING 100' IN LENGTH FROM PANEL TO FARTHEST DEVICE OR FIXTURE SHALL USE NO. 10 CONDUCTORS AND 3/4" C.
- EXISTING LIGHTING BRANCH CIRCUITS ARE FED FROM EXISTING PANEL 'G'. CONTRACTOR SHALL FIELD VERIFY ALL CIRCUITS BEFORE BEGINNING WORK.
- 20A/120V BRANCH CIRCUITS EXCEEDING 100' IN LENGTH FROM PANEL TO FARTHEST DEVICE OR FIXTURE SHALL USE NO. 10 CONDUCTORS AND 3/4" C.
- WHEREVER ON THE ELECTRICAL DRAWINGS THE WORD "PROVIDE" IS USED, IT SHALL BE INFERRED TO MEAN "FURNISH AND INSTALL".

**GENERAL "LIGHTING" NOTES**

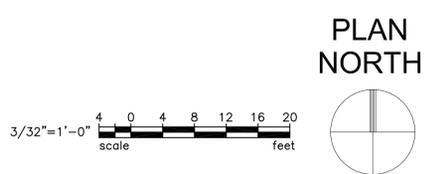
- SEE ARCHITECTURAL REFLECTED CEILING PLAN FOR THE EXACT LOCATION OF ALL CEILING MOUNTED LIGHTING FIXTURES.
- LIGHTING FIXTURE CATALOG NUMBERS ARE INDICATIVE OF THE STYLE OF FIXTURE REQUIRED. CONTRACTOR SHALL PROVIDE FIXTURES WITH THE PROPER TRIM, VOLTAGE AND OPTIONS NECESSARY FOR INSTALLATION.
- DOUBLE-FACED EXIT FIXTURES SHALL BE OF THE SAME MANUFACTURER & SERIES AS THE SINGLE TYPE SPECIFIED.
- REGARDLESS OF CATALOG NUMBER INDICATED IN SCHEDULE, PROVIDE BATTERY PACKS FOR ALL FIXTURES INDICATED ON THE DRAWINGS TO BE EMERGENCY TYPE.
- ALL EXIT SIGNS SHALL BE CONNECTED TO LOCAL LIGHTING CIRCUIT AHEAD OF ALL SWITCHING.
- REGARDLESS OF CATALOG NUMBER INDICATED IN SCHEDULE, ALL EXIT SIGNS SHALL BE PROVIDED WITH A BATTERY PACK, SHALL BE WIRED AHEAD OF LOCAL SWITCH AND SHALL NOT BE SWITCHED.

**KEY NOTES**

- RE-INSTALL EXISTING HEAT DETECTORS IN ORIGINAL LOCATION. MAINTAIN EXISTING FIRE ALARM CIRCUIT. CONTRACTOR SHALL CONFIRM OPERATION OF HEAT DETECTORS WITH FIRE ALARM MANUFACTURER CERTIFIED TECHNICIAN. RE-TEST ALL DEVICES ON THIS LEVEL. REPLACE ANY DEFECTIVE DEVICES.
- COORDINATE REMOVAL OF CAMERAS WITH OWNER'S SECURITY VENDOR BEFORE BEGINNING RENOVATION WORK. PROVIDE NEW J-BOXES AS NEEDED AND PROTECT CABLING DURING CONSTRUCTION. RE-INSTALL EXISTING CAMERAS IN ORIGINAL LOCATION. MAINTAIN EXISTING CONNECTIONS. COORDINATE RE-INSTALLATION AND RE-AIMING OF CAMERAS WITH OWNERS SECURITY VENDOR.
- RE-INSTALL EXISTING CARBON MONOXIDE DETECTOR IN ORIGINAL LOCATION. MAINTAIN EXISTING CONTROLS AND INTERLOCK TO EF-2 AND FIRE ALARM SYSTEM SUCH THAT EXHAUST FAN EF-2 TURNS "ON" AND HIGH CO CAUSES AN ALARM CONDITION ON FIRE ALARM SYSTEM. CONFIRM OPERATION OF CARBON MONOXIDE DETECTORS. REPLACE ANY DEFECTIVE DEVICES.
- REMOVE EXISTING CONTACTOR. MAINTAIN EXISTING LIGHTING CIRCUITS FROM EXISTING PANEL 'G' TO LIGHT FIXTURES.



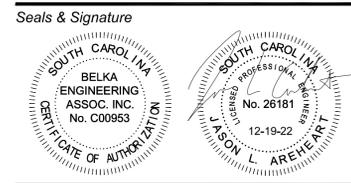
**E2 ELECTRICAL RENOVATION PLAN**  
Scale: 3/32" = 1'-0"



Client  
Columbia Housing Authority  
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Columbia, South Carolina



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Sheet Title  
**Electrical Renovation Plan**

Date 12/19/2022  
Sheet Number

**E1.02**  
Drawn By  
HTT  
Checked By  
CES

Plotted: 16-Dec-22 1:50:02 PM by HERS TURKETT





PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. Manufacturers listed below are basis of design, or can provide products equal to basis of design.
  1. Carlon Electrical Products.
  2. Hubbell Wiring Devices.
  3. Thomas & Betts Corp.
  4. Walker Systems Inc.
  5. The Wiremold Co.

2.2 METAL CONDUIT

- A. Intermediate Metal Conduit (IMC): Rigid steel.
- B. Fittings and Conduit Bodies: NEMA FB 1; material to match conduit.

2.3 LIQUIDTIGHT FLEXIBLE METAL CONDUIT

- A. Product Description: Interlocked steel construction with PVC jacket.
- B. Fittings: NEMA FB 1.

2.4 ELECTRICAL METALLIC TUBING (EMT)

- A. Product Description: ANSI C80.3; galvanized tubing.
- B. Fittings and Conduit Bodies: NEMA FB 1; steel compression type.
- C. All EMT conduit shall be Anodized with the following color coating:
  1. Normal Power: Silver
  2. Fire Alarm System: Red

2.5 WIREWAY

- A. Product Description: General purpose for interior locations, and Raintight type for exterior locations wireway.
- B. Cover: Hinged cover with full gaskets.
- C. Finish: Rust inhibiting primer coating with gray enamel finish.

2.6 OUTLET BOXES

- A. Sheet Metal Outlet Boxes: NEMA OS 1, galvanized steel.
  1. Luminaire and Equipment Supporting Boxes: Rated for weight of equipment supported; furnish 1/2 inch (13 mm) male fixture studs where required.

- E. Do not fasten boxes to ceiling support wires or other piping systems.
- F. Support boxes independently of conduit.
- G. Install gang box where more than one device is mounted together. Do not use sectional box.
- H. Install junction boxes or pull boxes at locations that can be accessed through existing ceiling with a standard ladder. Maximum height of junction boxes above accessible ceiling or through an access panel in a non-accessible is 4' above top of ceiling frame.

3.6 INTERFACE WITH OTHER PRODUCTS

- A. Locate outlet boxes to allow luminaires positioned as indicated on Drawings.

3.7 ADJUSTING

- A. Install knockout closures in unused openings in boxes.

3.8 CLEANING

- A. Clean interior of boxes to remove dust, debris, and other material.
- B. Clean exposed surfaces and restore finish.

END OF SECTION

- B. Wall Plates for Unfinished Areas: Furnish gasketed cover.

2.7 PULL AND JUNCTION BOXES

- A. Sheet Metal Boxes: NEMA OS 1, galvanized steel.
- B. Hinged Enclosures: As specified in Section 26 27 16.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Verify outlet locations and routing and termination locations of raceway prior to rough-in.

3.2 EXISTING WORK

- A. Remove exposed abandoned raceway, including abandoned raceway above accessible ceiling finishes. Cut raceway flush with walls and floors, and patch surfaces.
- B. Disconnect abandoned outlets and remove devices. Remove abandoned outlets when raceway is abandoned and removed. Install blank cover for abandoned outlets not removed.
- C. Maintain access to existing boxes and other installations remaining active and requiring access. Modify installation or provide access panel.
- D. Extend existing raceway and box installations using materials and methods compatible with existing electrical installations, or as specified.
- E. Clean and repair existing raceway and boxes to remain or to be reinstalled.

3.3 INSTALLATION

- A. Ground and bond raceway and boxes in accordance with Section 260526.
- B. Fasten raceway and box supports to structure and finishes in accordance with Section 260529.
- C. Identify raceway and boxes in accordance with Section 260553.

3.4 INSTALLATION - RACEWAY

- A. Raceway routing is shown in approximate locations unless dimensioned. Route to complete wiring system.
- B. Arrange raceway supports to prevent misalignment during wiring installation.

- C. Support raceway using coated steel or malleable iron straps, lay-in adjustable hangers, clevis hangers, and split hangers.

- D. Group related raceway; support using conduit rack. Construct rack using steel channel specified in Section 260529; provide space on each for 25 percent additional raceways.

- E. Do not support raceway with wire or perforated pipe straps.

- F. Do not attach raceway to ceiling support wires or other piping systems.

- G. Construct wireway supports from steel channel specified in Section 260529.

- H. Route exposed raceway parallel and perpendicular to walls.

- I. Maintain clearance between raceway and piping for maintenance purposes.

- J. Maintain 12 inch (300 mm) clearance between raceway and surfaces with temperatures exceeding 104 degrees F (40 degrees C).

- K. Cut conduit square using saw or pipe cutter; de-burr cut ends.

- L. Bring conduit to shoulder of fittings; fasten securely.

- M. Install no more than equivalent of three 90 degree bends between boxes for power systems. Install conduit bodies to make sharp changes in direction, as around beams. Install factory elbows for bends in metal conduit larger than 2 inch (50 mm) size.

- N. Avoid moisture traps; install junction box with drain fitting at low points in conduit system.

- O. Install fittings to accommodate expansion and deflection where raceway crosses seismic, control and expansion joints.

- P. Install suitable caps to protect installed conduit against entrance of dirt and moisture.

- Q. Close ends and unused openings in wireways, junction boxes, and pull boxes.

3.5 INSTALLATION - BOXES

- A. Install wall mounted boxes at elevations to accommodate mounting heights as indicated on Drawings.

- B. Install pull boxes and junction boxes above accessible ceilings and in unfinished areas only.

- C. Inaccessible Ceiling Areas: Install outlet and junction boxes no more than 6 inches (150 mm) from ceiling access panel or from removable recessed luminaire.

- D. Install adjustable steel channel fasteners for hung ceiling outlet box.

3.2 INSTALLATION

- A. Install identifying devices after completion of painting.

- B. Nameplate Installation:
  1. Install nameplate parallel to equipment lines.
  2. Install nameplate for each electrical distribution and control equipment enclosure with corrosive-resistant mechanical fasteners, or adhesive.
  3. Install nameplates for each control panel and major control components located outside panel with corrosive-resistant mechanical fasteners, or adhesive.
  4. Secure nameplate to equipment front using screws, or adhesive.
  5. Install nameplates for the following:
    - a. Disconnect Switches.

- C. Label Installation:
  1. Install label parallel to equipment lines.
  2. Install label for identification of branch circuit and panelboard supporting each wiring devices.
  3. Install labels for permanent adhesion and seal with clear lacquer.

- D. Wire Marker Installation:
  1. Install wire marker for each conductor at pull boxes, outlet and junction boxes, and each load connection.

END OF SECTION

SECTION 260553 - IDENTIFICATION FOR ELECTRICAL SYSTEMS

PART 1 GENERAL

1.1 SUMMARY

- A. Section Includes:
  1. Nameplates.
  2. Labels.
  3. Wire markers.

PART 2 PRODUCTS

2.1 NAMEPLATES

- A. Product Description: Laminated three-layer plastic with engraved letters on contrasting background color. See specification sections for specific equipment for nameplate color schemes. If no color scheme is specified for specific equipment, provide black letters on a white background.
- B. Letter Size:
  1. 1/8 inch (3 mm) high letters for identifying individual equipment and loads.
- C. Minimum nameplate thickness: 1/8 inch (3 mm).

2.2 LABELS

- A. Labels: Embossed adhesive tape, with 3/16 inch (5 mm) black letters on clear background.

2.3 WIRE MARKERS

- A. Plenum-Rated Cable Ties: Self extinguishing, UV stabilized, one piece, self locking.
  1. Width: 3/16 inch (5 mm).
  2. Tensile Strength at 73 deg F (23 deg C), According to ASTM D 638: 7000 psi (48.2 MPa).
  3. UL 94 Flame Rating: 94V-0.
  4. Temperature Range: -50 deg F to +284 deg F (-46 deg C to +140 deg C).

PART 3 EXECUTION

3.1 PREPARATION

- A. Degrease and clean surfaces to receive adhesive for identification materials.



Client  
Columbia Housing Authority  
1917 Harden Street  
Columbia, South Carolina



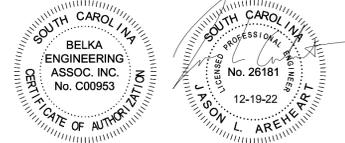
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Project Number 192250

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Electrical Specifications

Date 12/19/2022

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SECTION 260923 - LIGHTING CONTROL DEVICES

PART 1 GENERAL

1.1 SUMMARY

- A. Section Includes:
  1. Lighting contactors.
  2. Switches.
  3. Switch plates.
  4. Photocell control unit.

1.2 SYSTEM DESCRIPTION

- A. Lighting controls shall be based on lighting control scheme as defined on the drawings. Contractor is responsible for providing system, components, wiring, and programming as required to provide all automatic and manual control functions as defined.

1.3 WARRANTY

- A. Furnish five year manufacturer warranty for all control devices and panels.

1.4 EXTRA MATERIALS

- A. Furnish two of each switch type.
- B. Furnish two of each photocell type.

PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. Lighting Controls Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
  1. Lutron
  2. Wattstopper
  3. Hubbell Automation
  4. Leviton
  5. nLight
  6. Cooper
  7. Crestron
  8. Intermatic
  9. Tork

2.2 LIGHTING CONTACTORS

- A. Manufacturers:
  1. GE
  2. Cutler-Hammer
  3. Square D
  4. Siemens
- B. Product Description: NEMA ICS 2, magnetic lighting contactor.
- C. Configuration: Electrically held, 3 wire control.
- D. Coil Operating Voltage: 120 volts, 60 Hertz.
- E. Poles: To match circuit configuration and control function.
- F. Contact Rating: Conductor overcurrent protection, considering derating for continuous loads.
- G. Accessories:
  1. Selector Switch: ON/OFF/AUTOMATIC function, with rotary action.
  2. Indicating Light: Red.
  3. Auxiliary Contacts: One, field convertible in addition to seal-in contact.
  4. Relays: NEMA ICS 2.
  5. Control Power Transformers: 120 volt secondary, in each enclosed contactor. Furnish fused primary and secondary, and bond unfused leg of secondary to enclosure.
- H. Enclosure: NEMA ICS 6, to meet conditions. Fabricate enclosure from steel finished with manufacturer's standard gray enamel.
  1. Interior Dry Locations: Type 1.
  2. Exterior Locations: Type 3R.

2.3 SWITCHES

- A. Wall Switch: Specification Grade, momentary pushbutton type for overriding relays.
  1. Color: See wiring devices Section 262726.
- B. Switch may be low-voltage type, tied to lighting control system, or line-voltage type with integral relay. See plans for additional information on lighting control scheme.

2.4 SWITCH PLATES

- A. Product Description: Specification Grade.
  1. Color: See wiring devices Section 26 27 26.

2.5 PHOTOCELLS

- A. Exterior: Rated for exterior lighting voltage as indicated on plan. Mount high on wall and aim north.

PART 3 EXECUTION

3.1 INSTALLATION

- A. Provide electrical connection to time clocks, or other controllers that require powered connections. Coordinate all connection points with system shop drawings.
- B. Mount switches and photocells to provide system control to match scheme indicated on drawings.
- C. Install wiring in accordance with Section 260519 and manufacturers written instructions.
- D. Label each low voltage wire clearly indicating connecting relay panel.
- E. Mount relay as indicated on final shop drawings. Wire numbered relays in panel to control power to each load. Install relays to be accessible. Allow space around relays for ventilation and circulation of air.
- F. Identify power wiring with circuit breaker number controlling load. When multiple circuit breaker panels are feeding into relay panel, label wires to indicate originating panel designation.
- G. Label each low voltage wire with relay number at each switch or sensor.

3.2 ADJUSTING

- A. Test each system component after installation to verify proper operation.
- B. Confirm correct loads are recorded on directory card in each panel.

END OF SECTION

SECTION 262726 - WIRING DEVICES

PART 1 GENERAL

1.1 SUMMARY

- A. Section includes wall switches; wall dimmers; receptacles; multioutlet assembly; and device plates and decorative box covers.

1.2 EXTRA MATERIALS

- A. Furnish two of each style, size, and finish wall plate.

PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following manufacturers:
  1. Arrow Hart
  2. Eagle
  3. Hubbell
  4. Leviton
  5. Legrand
  6. Lutron

2.2 WALL SWITCHES

- A. Product Description: NEMA WD 1, UL20 and Fed Spec WS-896 AC only snap switch. Switch shall have back and side wire options.
- B. Body and Handle: Nylon with toggle handle. Color as selected by architect.
- C. Ratings: Match branch circuit and load characteristics.

2.3 WALL PLATES

- A. Weatherproof Cover Plate: All devices installed outdoor and indoor devices specifically indicated, shall be provided with weatherproof covers. Covers shall be metallic and of the type that maintain weatherproof integrity when in-use and not in-use, as required by the NEC.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Verify wall openings are neatly cut and completely covered by wall plates.

3.2 PREPARATION

- A. Clean debris from outlet boxes.

3.3 INSTALLATION

- A. Install devices plumb and level.
- B. Install switches with OFF position down.
- C. Connect wiring device grounding terminal to outlet box with bonding jumper and branch circuit equipment grounding conductor.
- D. Connect wiring devices by wrapping solid conductor around screw terminal. Install stranded conductor for branch circuits 10 AWG and smaller. When stranded conductors are used in lieu of solid, use crimp on fork terminals for device terminations. Do not place bare stranded conductors directly under device screws.
- E. Use jumbo size plates for outlets installed in masonry walls.
- F. Install galvanized steel plates on outlet boxes and junction boxes in unfinished areas, above accessible ceilings, and on surface mounted outlets.

3.4 FIELD QUALITY CONTROL

- A. Inspect each wiring device for defects.
- B. Operate each wall switch with circuit energized and verify proper operation.

3.5 ADJUSTING

- A. Adjust devices and wall plates to be flush and level.

3.6 CLEANING

- A. Clean exposed surfaces to remove splatters and restore finish.

END OF SECTION

SECTION 265100 - INTERIOR LIGHTING

PART 1 GENERAL

1.1 SUMMARY

- A. Section includes interior luminaires, lamps, ballasts, and accessories.

1.2 SUBMITTALS

- A. Shop Drawings: Indicate dimensions and components for each luminaire not standard product of manufacturer.
- B. Product Data: Submit dimensions, ratings, and performance data.
- C. Submittal Data for LED fixtures shall be based on the specified "basis-of-design" fixture and shall include the following:
  1. Wattage
  2. Color Temperature
  3. CRI
  4. Distribution Pattern
  5. Total Lumen Output for Fixture Assembly based on the data above.
  6. Submit US DOE LED Lighting Facts label, or other 3rd party testing reports that include the information above.

1.3 FIELD MEASUREMENTS

- A. Verify field measurements prior to fabrication.

1.4 MAINTENANCE MATERIALS

- A. Furnish two of each plastic lens type.
- B. Furnish a minimum of one replacement lamps for each lamp installed.
- C. Furnish one of each ballast type.

PART 2 PRODUCTS

2.1 INTERIOR LUMINAIRES

- A. See Lighting fixture schedule on plans for information on luminaires.
  1. Basis-of-Design Product: The design for each lighting fixture is based on the product named from the first manufacturer listed in the schedule. Subject to compliance with requirements, provide either the named product or a comparable product by one of the other manufacturers specified, or a prior approved manufacturer.



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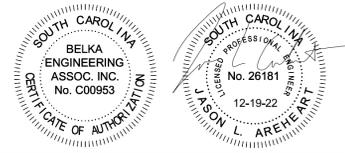
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- 2. A prior approved manufacturer does not specifically approve a fixture. It only indicates that the manufacturer can provide a fixture equal to the specified.
- B. Product Description: Provide complete interior luminaire assemblies, with features, options, and accessories as required to provide a complete working system mounted to or recessed in wall or ceiling system as described on Architectural Reflected Ceiling Plans.

2.2 LED LUMINAIRES

- A. LED light fixtures shall be in accordance with IES, NFPA, UL standards as shown on the drawings and as specified.
- B. All electrical components shall be RoHS compliant.
- C. LED fixtures shall be complete assemblies. Fixtures designed around a different lamp source with an LED type replacement lamp shall not be accepted.
- D. Lighting shall be completely diffused through internal shielding, or fixture lens. Multiple Individual Diodes shall not be visible through the lens of the fixture.
- E. LED modules shall include the following features unless otherwise indicated:
  1. Comply with LM-79 and LM-80 requirements.
  2. Minimum CRI of 80 unless otherwise specified in the Lighting Fixture Schedule.
  3. Color Temperatures for each fixture shall be enclosed inside a 3-step MacAdam ellipse.
  4. Minimum Rated Life: 50,000 hours per IES L70.
  5. Total Fixture Light Output in lumens within ±5% of Lumens listed in Lighting Fixture Schedule.
  6. Total Fixture Efficacy in Lumens / Watt within ±5% of "Basis-of-Design" fixture.
- F. LED drivers, modules, and reflectors shall be accessible for servicing and replacement from below the ceiling.

2.3 LED DRIVERS

- A. LED drivers shall include the following features unless otherwise indicated:
  1. Minimum efficiency: 85% at full load.
  2. Minimum operating Ambient Temperature: -20° C (-4° F)
  3. Include integral short circuit, open circuit, and overload protection.
  4. Power Factor: ≥ 0.95.
  5. Total Harmonic Distortion: ≤ 20%
- B. Provide dimming drivers where noted on fixture schedule. Dimming systems shall conform to the following:
  1. Compatibility: Certified by manufacturer for use with specific dimming control system indicated.
  2. Maximum inrush current of 2 amperes for 120V drivers.
  3. Class A sound Rating.

- 4. Drivers shall track evenly across multiple fixtures at all light levels.
- 5. Dimming Range shall be continuous from 100 percent to 10 percent relative light output minimum. See drawings for other applications that may require a more stringent dimming range.

PART 3 EXECUTION

3.1 EXISTING WORK

- A. Disconnect and remove abandoned luminaires, lamps, and accessories.
- B. Extend existing interior luminaire installations using materials and methods compatible with existing installations, or as specified.
- C. Clean and repair existing interior luminaires to remain or to be reinstated.

3.2 INSTALLATION

- A. Install suspended luminaires using pendants supported from swivel hangers. Install pendant length required to suspend luminaire at indicated height.
- B. Support luminaires independent of ceiling framing as follows:
  1. Surface-mounted lighting fixtures shall be attached to the ceiling system with a positive clamping device that completely surround the supporting members. Safety wires shall be attached between the clamping device and the adjacent ceiling hanger to the structure above. In no case shall the fixture exceed the design carrying capacity of the supporting members.
  2. Lighting fixtures weighing less than 10 lbs. (5 kg) shall have one (1) slack #12-gauge safety wire connected from the fixture housing (not the detachable end plates) to the structure above.
  3. Flexible conduit is required for attachment of the fixtures. Direct connection with Rigid or EMT or other hard-piped solution is not allowed.
  4. All support wires shall connect directly to structure. Do not connect to support systems for any other systems. Support wires must be arranged so that they are not touching sprinkler piping and would not touch sprinkler piping in the event the ceiling was removed and the cables were the sole support for the fixtures.
- C. Install surface mounted luminaires plumb and adjust to align with building lines and with each other. Secure to prevent movement.
- D. Install accessories furnished with each luminaire.
- E. Connect luminaires to branch circuits using flexible conduit.
- F. Make wiring connections to branch circuit using building wire with insulation suitable for temperature conditions within luminaire.
- G. Install specified lamps in each luminaire.

- H. Ground and bond interior luminaires in accordance with Section 260526.

3.3 FIELD QUALITY CONTROL

- A. Operate each luminaire after installation and connection. Inspect for proper connection and operation.

3.4 CLEANING

- A. Remove dirt and debris from enclosures.
- B. Clean photometric control surfaces as recommended by manufacturer.
- C. Clean finishes and touch up damage.

3.5 PROTECTION OF FINISHED WORK

- A. Relamp luminaires having failed lamps at Substantial Completion.

END OF SECTION 265100

SECTION 265200 - EMERGENCY LIGHTING

PART 1 GENERAL

1.1 SUMMARY

- A. Section includes emergency lighting units and exit signs.

1.2 SUBMITTALS

- A. Product Data: Submit dimensions, ratings, and performance data.

1.3 MAINTENANCE MATERIALS

- A. Furnish one replacement lamps for each lamp installed.
- B. Furnish one replacement battery for each battery type and size.

PART 2 PRODUCTS

2.1 EXIT SIGNS

- A. Manufacturers: See Lighting fixture schedule on plans for information on luminaires.
  1. Basis-of-Design Product: The design for each lighting fixture is based on the product named from the first manufacturer listed in the schedule. Subject to compliance with requirements, provide either the named product or a comparable product by one of the other manufacturers specified, or a prior approved manufacturer.
  2. A prior approved manufacturer does not specifically approve a fixture. It only indicates that the manufacturer can provide a fixture equal to the specified.
  3. Substitutions: Division 01 Specifications - Product Requirements.
- B. Product Description: Exit sign fixture.
- C. Housing: As indicated on drawings.
- D. Face: As indicated on Drawings.
- E. Directional Arrows: As indicated on Drawings with Universal type for field adjustment.
- F. Battery: 1.5 hour capacity.
- G. Battery Charger: Dual-rate type, with sufficient capacity to recharge discharged battery to full charge within twelve hours.
- H. Lamps: LED.

2.2 LED SYSTEM EMERGENCY POWER SUPPLY

- A. Product Description: Emergency battery power supply suitable for installation in ballast compartment of luminaire.
  1. Battery packs shall be installed at the factory inside the ballast compartment.
  2. For recessed downlights, battery packs shall be installed on the fixture frame to allow for access from below. The charging light and test switch shall be discreetly installed on the top of the reflector and shall be accessible/visible from below.
- B. Emergency ballast shall contain a maintenance-free, sealed high-temperature nickel-cadmium or nickel-metal hydride battery with an expected service life of not less than 10 years.
- C. Emergency Battery Packs:
  1. Constant Power 5-watt, 7-watt, 10-watt, or 12-watt unit as defined in contract documents.
  2. The emergency driver shall accommodate an LED load with a forward voltage requirement ranging from 10 to 60 VDC.
  3. The output voltage sensing shall be automatic and instantaneous with a resulting, inversely-proportional current to maintain constant power to the LED array with an output tolerance of +/- 3%. The unit shall supply the rated load for a minimum of 1 1/2 hours.
  4. The output power to the LED load during emergency operation shall be held constant from the start throughout the entire emergency run time resulting in no loss or degradation of the light source during emergency operation.
- D. The unit shall be furnished with an electronic, AC-lockout circuit which will connect the battery when the AC circuit is activated, and an electronic brownout circuit which will enable a transfer to emergency operation when utility power dips below an acceptable level.
- E. Include TEST switch and AC ON indicator light, installed to be operable and visible from outside of assembled luminaire.
- F. Where field installation of emergency ballasts are specifically noted on drawings, provide emergency ballast with 2-wire AC input. Ballasts shall be universal voltage type compatible with 120 VAC, 50/60 Hz and be UL listed to Category Control Number (CCN) FTBV, Emergency Lighting-Emitting-Diode Drivers for field installation. Maximum remote mounting distance of the emergency driver shall be 50-feet.

PART 3 EXECUTION

3.1 EXISTING WORK

- A. Disconnect and remove abandoned emergency lighting units, exit signs, lamps, and accessories.

- B. Extend existing emergency lighting and exit sign installations using materials and methods compatible with existing installations, or as specified.
- C. Clean and repair existing emergency lighting units and exit signs remaining or are to be reinstated. Provide full 90-minute test on all battery backed lighting systems and exit signs noted to remain in place. Indicate to Architect all units that do not pass test.

3.2 INSTALLATION

- A. Install surface-mounted emergency lighting units and exit signs plumb and adjust to align with building lines and with each other. Secure to prevent movement.
- B. Install wall-mounted emergency lighting units and exit signs at height as indicated on Drawings.
- C. Install accessories furnished with each emergency lighting unit and exit sign.
- D. Connect emergency lighting units and exit signs to branch circuits as indicated on Drawings.
- E. Make wiring connections to branch circuit using building wire with insulation suitable for temperature conditions within unit.
- F. Install specified lamps in each emergency lighting unit and exit sign.
- G. Ground and bond emergency lighting units and exit signs in accordance with Section 260526.

3.3 FIELD QUALITY CONTROL

- A. Operate each unit after installation and connection. Inspect for proper connection and operation.

3.4 ADJUSTING

- A. Position exit sign directional arrows as indicated on Drawings.

3.5 PROTECTION OF FINISHED WORK

- A. Relamp emergency lighting units having failed lamps at Substantial Completion.

END OF SECTION



Client  
Columbia Housing Authority  
1917 Harden Street  
Columbia, South Carolina



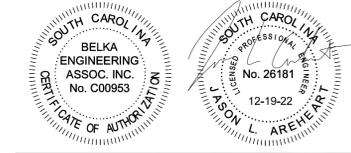
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Project Name  
Columbia Housing Authority  
Rosewood Hills Senior Living Apartment Building  
Garage. Ceiling Repair  
105 Rosewood Hills Drive  
Columbia, South Carolina

Project Number 192250

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Sheet Title

Electrical Specifications

Date 12/19/2022

Sheet Number

E2.05

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SECTION 283110 – FIRE DETECTION AND ALARM

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes modifications to existing fire alarm control panels, manual fire alarm stations, automatic smoke and heat detectors, fire alarm signaling appliances, and auxiliary fire alarm equipment and power and signal wire and cable.

1.2 SYSTEM DESCRIPTION

A. General: Provide modifications to existing fire alarm system with initiating devices, notification appliances, and monitoring and control devices as indicated on the drawings and as specified herein.

B. Software: Provide all modifications required to incorporate changes as defined in contract documents.  
1. Provide any available software updates as required to bring system software up-to-date.

C. Provide additional circuit cards, power supplies, and other miscellaneous equipment, and components as required to support additional devices indicated in contract documents.

D. Wiring/Signal Transmission:  
1. Transmission shall be hard-wired, dedicated to fire alarm service only.

E. Power Requirements: Update battery calculations based on added devices.

1.3 SUBMITTALS

A. General: Submit the following in accordance with Section 260500. The contractor shall not begin the installation of any raceways or boxes for the fire alarm system until shop drawings and product data have been reviewed by the Architect/Engineer.

B. Product Data: Submit product data for all fire alarm system components including dimensioned plans, sections, and elevations showing minimum clearances, installed features and devices, and list of materials.

C. Wiring Diagrams: Submit wiring diagrams from the manufacturer differentiating between manufacturer-installed and field-installed wiring. Include diagrams for equipment wiring and for system wiring with all terminals and interconnections identified. Include drawings indicating components for both field and factory panel wiring.

D. Shop Drawings: Submit shop drawings from the manufacturer indicating all horizontal and vertical building wiring for detection, alarm, and communications circuits. Include equipment types and locations, raceway sizes, number and types of wires/cables, and

conductor color coding for each circuit type. Shop drawings shall be prepared by a NICET Level III certified technician. Shop drawings shall be provided on 30"x42" (E-Size) prints. In addition to the requirements listed in Section 260500, final submittal shall include one set of shop drawings on a reproducible (vellum) media.

E. Battery Calculations: Submit battery capacity calculations for both alarm and supervisory modes.

F. Voltage Drop Calculations: Submit calculations for voltage drop of each notification appliance circuit.

G. Product certification: Submit a product certification letter signed by the manufacturer of the fire alarm system components certifying that their products comply with the referenced standards.

1.1 QUALITY ASSURANCE

A. Installer Qualifications: NICET Level III certified fire alarm technician.

1. Authorized representative of control unit manufacturer; submit manufacturer's certification that installer is authorized; include name and title of manufacturer's representative making certification.

1.2 WARRANTY

A. Provide installer's warranty that the installation is free from defects and will remain so for 1 year after date of Substantial Completion.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Existing Fire Alarm System - Basis of Design: Honeywell S3.

2.2 FIRE ALARM SYSTEM

A. Fire Alarm System: Reconnect existing devices to the existing automatic fire detection and alarm system:

1. Provide all components necessary, regardless of whether shown in the contract documents or not.
2. Comply with the following; where requirements conflict, order of precedence of requirements is as listed:
  - a. The Americans With Disabilities Act (ADA).
  - b. The requirements of the local authority having jurisdiction.

c. The contract documents (drawings and specifications).

d. NFPA 72; where the word "should" is used consider that provision mandatory; where conflicts between requirements require deviation from NFPA 72, identify deviations clearly on design documents.

B. Circuits:

1. Initiating Device Circuits (IDC): Match Existing
2. Signaling Line Circuits (SLC) Within Single Building: Match Existing
3. Notification Appliance Circuits (NAC): Match Existing

C. Power Sources:

1. Primary: Dedicated branch circuits of the facility power distribution system.
2. Secondary: Storage batteries.
3. Capacity: Sufficient to operate entire system for period specified by NFPA 72.

2.3 EXISTING COMPONENTS

A. Existing system must remain active at all times during construction. Contractor shall field verify routing of any homeruns through construction area, and ensure that all components outside of construction area remain active at all times.

B. On-Premises Supervising Station: Include as part of this work all modifications necessary to existing supervising station to accommodate new fire alarm work.

C. Clearly label components that are "Not In Service."

D. Remove unused existing components and materials from site and dispose of properly.

2.4 COMPONENTS

A. General:

1. Provide flush mounted units where installed in finish areas; in unfinished areas, surface mounted unit are acceptable.
2. Provide legible, permanent labels for each control device, using identification used in operation and maintenance data.

B. Fire Alarm Control Units, Initiating Devices, and Notification Appliances: Addressable type; listed by Underwriters Laboratories as suitable for the purpose intended.

C. Initiating Devices:

1. Manual Pull Stations: match existing
2. Heat Detectors: rate of rise type, match existing
3. Addressable Interface Devices: provide as required

D. Notification Appliances:

1. Horns: Match existing.
2. Strobes: adjustable candela - Match existing.

E. Surge Protection: In accordance with IEEE C62.41 B3 combination waveform and NFPA 70, except for optical fiber conductors.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Install in accordance with applicable codes, NFPA 72, NFPA 70, and the contract documents.

B. Conceal all wiring, conduit, boxes, and supports where installed in finished areas.

3.2 INSPECTION AND TESTING FOR COMPLETION

A. Manufacturer's Field Services: Provide services of a factory-authorized service representative to supervise the field assembly and connection of components and the pretesting, testing, and adjustment of the system.

B. Installation personnel shall be supervised by persons who are qualified and experienced in the installation, inspection, and testing of fire alarm systems. Examples of qualified personnel shall include, but not be limited to, the following:  
1. Factory trained and certified personnel.  
2. National Institute of Certification in Engineering Technologies (NICET) fire alarm level III certified personnel.  
3. International Municipal Signal Association (IMSA) fire alarm certified.  
4. Personnel licensed or certified by state or local authority.  
5. Trained and qualified personnel employed by an organization listed by a national testing laboratory for the servicing of fire alarm systems.

C. Test entire fire alarm system in accordance with NFPA 72 and local fire department requirements.

D. Pretesting: Determine, through pretesting, the conformance of the system to the requirements of the Drawings and Specifications. Correct deficiencies observed in pretesting. Replace malfunctioning or damaged items with new and retest until satisfactory performance and conditions are achieved.

E. Final Test Notice: Provide a 10-day minimum notice in writing when the system is ready for final acceptance testing. Notify authorities having jurisdiction and comply with their requirements for scheduling inspections and tests and for observation by their personnel.

F. Retesting: Correct deficiencies indicated by tests and completely retest work affected by such deficiencies. Verify by the system test that the total system meets the Specifications and complies with applicable standards.

G. Report of Tests and Inspections: Provide a written record of inspections, tests, and detailed test results in the form of a test log.

H. Final Test, Certificate of Completion, and Certificate of Occupancy:

1. Test the system as required by the Authority Having Jurisdiction in order to obtain a certificate of occupancy.

3.3 CLOSEOUT

A. Closeout Demonstration: Demonstrate proper operation of all functions to owner.

1. Be prepared to conduct any of the required tests.
2. Have at least one copy of operation and maintenance data, preliminary copy of project record drawings, input/output matrix, and operator instruction chart(s) available during demonstration.
3. Have authorized technical representative of control unit manufacturer present during demonstration.
4. Demonstration may be combined with inspection and testing required by authority having jurisdiction; notify authority having jurisdiction in time to schedule demonstration.
5. Repeat demonstration until successful.

B. Substantial Completion of the project cannot be achieved until inspection and testing is successful and:

1. Approved operating and maintenance data has been delivered.
2. All aspects of operation have been demonstrated to Engineer.
3. Final acceptance of the fire alarm system has been given by authorities having jurisdiction.
4. Specified pre-closeout instruction is complete.

C. Perform post-occupancy instruction within 3 months after Substantial Completion.

END OF SECTION 283110



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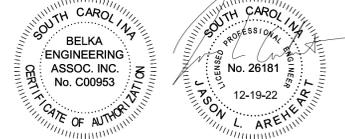
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Project Name  
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Rosewood Hills Senior Living Apartment Building  
Garage. Ceiling Repair  
105 Rosewood Hills Drive  
Columbia, South Carolina  
Project Number 192250

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