CORNELL UNIVERSITY
FACILITIES CONTRACTS
121 HUMPHREYS SERVICE BUILDING
ITHACA, NEW YORK 14853-3701

BEEBE HALL CU MAKER HUB RENOVATIONS

ADDENDUM NO. 2

October 13, 2026

This Addendum contains changes to the requirements of the Contract Documents and Specifications. Such changes are to be incorporated into the Construction Documents and shall apply to the work with the same meaning and force as if they had been included in the original document. Wherever this Addendum modifies a portion of a paragraph of the specifications or a portion of any Drawing, the remainder of the Paragraph or Drawing shall remain in force.

NOTE: Provisions of all Contract Documents apply.

Item 1. **ADD** Section 01 7400 - Construction Waste Management, attached.

Item 2. Section 06 1516 – Wood Roof Decking, Paragraph 1.1 A

DELETE "Solid-sawn wood roof decking"

REPLACE with **"Fire Retardant treated solid-sawn wood roof decking."**

Item 3. Section 06 1516, Paragraph 1.2

ADD the following subparagraph:

C. Product Data: For each type of process and factory-fabricated product. Indicate component materials, engineering properties and dimensions and include construction and application details.

1. Include data for fire-retardant treatment from chemical treatment manufacturer and certification by treating plant that treated materials comply with requirements. Include physical properties of treated materials based on testing by a qualified independent testing agency.

2. For fire-retardant treatments, include physical properties of treated lumber both before and after exposure to elevated temperatures, based on testing by a qualified independent testing agency in accordance with ASTM D5664.

3. For products receiving a waterborne treatment, include statement that moisture content of treated materials was reduced to levels specified before shipment to Project site.

Item 4. Section 06 1516, Part 1 GENERAL

ADD the following subparagraph

1.3 FIRE RETARDANT-TREATED LUMBER

A. General: Where fire-retardant-treated materials are indicated, materials are to comply with requirements in this article, that are acceptable to authorities having jurisdiction, and with fire-test-response characteristics specified as determined by testing identical products per test method indicated by a qualified testing agency.

B. Fire-Retardant-Treated Lumber by Pressure Process: Products with a flame-spread index of 25 or less when tested in accordance with ASTM E84, and with no evidence of significant progressive combustion when the test is extended an additional 20 minutes, and with the flame front not extending more than 10.5 feet (3.2 m) beyond the centerline of the burners at any time during the test.

1) Treatment is not to promote corrosion of metal fasteners.

2) Interior Type A: Treated materials are to have a moisture content of 28 percent or less when tested in accordance with ASTM D3201/D3201M at 92 percent relative humidity.

3) Design Value Adjustment Factors: Treated lumber is to be tested in accordance with ASTM D5664, and design value adjustment factors are to be calculated in accordance with ASTM D6841

C. Kiln-dry material after treatment to a maximum moisture content of 19 percent.

D. Identify fire-retardant-treated plywood with appropriate classification marking of qualified testing agency and any other information required by authorities having jurisdiction.

1) For exposed lumber indicated to receive a stained or natural finish mark end of back of each piece or omit marking and provide certification of treatment compliance issued by testing agency.

E. For exposed items indicated to receive a stained or natural finish, chemical formulations are not to bleed through, contain colorants, or otherwise adversely affect finishes.

Item 5. Section 06 1516, Part 1- GENERAL

DELETE: "1.3" - DELIVERY, STORAGE, AND HANDLING

REPLACE with "**1.4"** - DELIVERY, STORAGE, AND HANDLING

Item 6. **ADD** Section 061600 Roof Sheathing, attached.

Item 7. **ADD** Section 07 1300 Sheet Waterproofing, attached.

Item 8. Section 07 4213 Metal Wall Panels, Part 2, 2.01 Manufacturers

DELETE subsection A in its entirety.

REPLACE with

A. Basis of Design:

1. Metal Panel Type A: ATAS International, Inc; Dutch Seam Wall Panel: www.atas.com
2. Metal Panel Type B: ATAS International, Inc; Sterracore Wall Panel: www.atas.com

Item 9. Section 07 4213 Metal Wall Panels, Part 2, 2.02, B - Exterior Wall Panels

DELETE B subsections 1 and 2 in their entirety.

REPLACE with

1 Profile: Vertical, style as indicated on drawings.
2 Color: Dark Bronze Anodized

Item 10. Section 07 4213 Metal Wall Panels, Part 2, 2.05 - Accessories

ADD subsection D:

D. Extrusions: Manufacturer’s standard and custom extrusions and moldings, per manufacturer’s requirements and as indicated on drawings.

Item 11. Section 08 7100 - Door Hardware, Part 3, 3.5 Door Hardware Schedule

ADD Hardware Set E04B, which applies to Door 10040-1:with the following:

Non-electrified Items:

(1)	Permanent Key Cylinder Core		626	SAR
(1)	Panic Threshold	896N x RCE	628	NGP

Note 1: 3/8" door undercut required for proper mating of door bottom with seal integral to threshold.
Note 2: Jamb seals and meeting edge seals by aluminum door supplier.

Electrified Items:

(1)	Continuous Hinge	SL11HD x EPT Prep	628	SEL
(1)	Jamb-to-Door Power Transfer	CEPT-10	630	SEC
(1)	NS Panic Device, Rim, 03	43 56 AD8504 x 814	630	SAR
(1)	Door Contact, ¾", Pop-in, DPDT	195-12	White	GRI
(1)	Lot: Card reader, control electronics, low voltage power, low voltage cabling and terminations, and programming: see Electrical Specifications.			

System Function:

(2)	Elect Automatic Door Operator	Senior Swing x 8310-806R	628	LCN
	Note: Provide full width housing. Locate On/Off/HO switch on underside of operator housing.			
(2)	Actuator, Sng-gng	S-SG-3-WR	630	WIK

System Function:
Free egress. Ingress by key or card. Doors can be placed in the unlocked condition through access control. Doors are monitored for door position.

Locked Condition:
Presenting card retracts exit device latchbolts and enables pull side actuator. Pressing pull side actuator signals operators to open doors. Doors close and relock after time delay. Pressing push side actuator retracts exit device latchbolts and signals operators to open doors. Doors close and relock after time delay.

Unlocked Condition:
Pressing either actuator signals operators to open doors. Doors close after time delay.

ADD Hardware Set E04C, which applies to Door 10040-2:

(2)	Elect Automatic Door Operator	Senior Swing x 8310-806R	628	LCN
	Note: Provide full width housing. Locate On/Off/HO switch on underside of operator housing.			
(2)	Actuator, Sng-gng	S-SG-3-WR	630	WIK

System Function:
Free egress and ingress. Pressing either actuator signals operators to open doors. Doors close after time delay.

Item 12. Section 10 1423, Part 4 SIGN TYPE SCHEDULE, 4.01 - PANEL SIGNS

ADD to Panel sign I: 2. Quantity: One sign at each fire extinguisher location

ADD to Panel sign J: 2. Quantity: One sign at each fire extinguisher location

ADD to Panel sign L: 1. Quantity: One sign at each emergency phone location

ADD to Panel sign M: 1. Coordinate quantity and locations with owner

ADD to Panel sign N: 2. Quantity: One plaque. Coordinate mounting location with Owner.

ADD Panel sign O as follows:

O. Max Occupancy

1. Quantity: One per Assembly occupancy space

Item 13. **ADD** Specification Section 13 41 23.33 Spray Painting Booths

Item 14. Specification 21 13 00 – Fire Suppression Sprinkler Systems

Section 1.2.- Quality Assurance, item B.3

DELETE "3. 2020 Fire Code of New York State."

REPLACE with "3. **2025** Fire Code of New York State."

Section 1.3, item F.1

DELETE 1. " Hazard Group HC-1: These areas shall include: Office Areas,Conference Rooms, Corridors, Classrooms"

REPLACE with

1. **"Hazard Group HC-1: These areas shall include: Office Areas, Conference Rooms, Corridors, making exploration, social, lounge, large Colab, media studio, and electronic workshop."**

(Specification 21 13 00 cont'd)

Section 1.3., F.2:

DELETE " 2. Hazard Group HC- HC-2: These areas shall include Lab Spaces, Mechanical Rooms, Utility Rooms."

REPLACE with

2. **Hazard Group HC-2: These areas shall include exploration workshop, open assembly / prototyping, Mechanical Rooms, Utility Rooms, spray bath, prototyping / wood studio, and storage.**

Item 15. Specification 22 40 00 – Plumbing Fixtures and Trim

ADD Section 2.3 to read as follows:

2.3 ELECTRIC WATER COOLER

A. EWC-B:

1. Elkay #LVRCTL8WSPRO; two level wheelchair access model, with bottle file wall mounted, ADA compliant, lead-free construction, type 304 stainless steel cabinet, one piece stainless steel basin, flexible bubbler, self-closing front and side push bar control on each side with in-line stream regulator, adjustable temperature control, permanently sealed and lubricated fan motor, hermetically sealed compressor and motor, 1/5 hp, 120V, capacity of 8.0 GPH at 80°F inlet water, 50°F outlet water with room temperature of 90°F, fitted with the following:

   a. McGuire #LF165LKE, lead-free, 3/8 in. lavatory wall supply with loose key angle stop, 3/8 in. flexible tube riser, cast brass escutcheon with set screw.

   b. McGuire #8902, 1-1/4 in. x 1-1/2 in. semi-cast brass "P" trap with cleanout and cast brass escutcheon with set screw.

   c. Jay R. Smith floor mounted carrier with rectangular uprights.

   d. Acceptable Manufacturers: Elkay, Halsey Taylor.

Item 16. **ADD** Specification Section 23 33 19 – Duct Silencers, attached.

Item 17. Drawing L201

DELETE in its entirety.

REPLACE with revised drawing L201R, attached.

Item 18. Drawing L501

DELETE in its entirety.

REPLACE with revised drawing L501R, attached.

Item 19. Drawing L502

DELETE in its entirety.

REPLACE with revised drawing L502R, attached.

Item 20. Drawing S001

DELETE in its entirety.

REPLACE with revised drawing S001R attached.

Item 21. Drawing S101

DELETE in its entirety

REPLACE with revised drawing S101R attached

Item 22. Drawing S102

DELETE in its entirety

REPLACE with revised drawing S102R attached

Item 23. Drawing S103

DELETE in its entirety

REPLACE with revised drawing S103R attached

Item 24. Drawing S301

DELETE in its entirety

REPLACE with revised drawing S301R attached

Item 25. Drawing S311

DELETE in its entirety

REPLACE with revised drawing S311R attached

Item 26. Drawing S321

DELETE in its entirety

REPLACE with revised drawing S321R attached

Item 27. Drawing S401

DELETE in its entirety

REPLACE with revised drawing S401R attached

Item 28. Drawings AD101 and AD102 Keyed Note DF.5

DELETE demolition note DF.5 in its entirety.

REPLACE with

DF.5 **REMOVE FIRST AND SECOND FLOOR CONCRETE FLOOR SLABS AND SECOND FLOOR ROOF ASSEMBLY FOR NEW ELEVATOR SHAFT. COORDINATE WITH STRUCTURAL AND ELEVATOR DWGS.**

Item 29. Drawing AD102, Keyed Note DF.7

DELETE note DF.7 in its entirety.

REPLACE with

DF.7 **REMOVE CONCRETE TOPPING SLAB, PROTECTION BOARD, WATERPROOFING, AND STRUCTURAL SLAB AND FRAMING.**

Item 30. Drawing A121

DELETE in its entirety.

REPLACE with revised drawing A121R, attached.

Item 31. Drawing A122

DELETE in its entirety.

REPLACE with revised drawing A122R, attached.

Item 32. Drawing A131

DELETE in its entirety.

REPLACE with revised drawing A131R, attached.

Item 33. Drawing A201

DELETE elevations “D1”, “D3”, and “D5”.

Item 34. **ADD** drawing A211, attached.

Item 35. Drawing A405

DELETE in its entirety.

REPLACE with revised drawing A405R, attached.

Item 36. Drawing FP000

DELETE in its entirety.

REPLACE with revised Drawing FP000R, attached.

Item 37. Drawing FP101

DELETE in its entirety.

REPLACE with revised Drawing FP101R, attached.

Item 38. Drawing FP102R

DELETE in its entirety.

REPLACE with revised Drawing FP102R1, attached.

Item 39. Drawing P000

DELETE in its entirety.

REPLACE with revised Drawing P000R, attached.

Item 40. Drawing PD102

DELETE in its entirety.

REPLACE with revised Drawing PD102R, attached.

Item 41. Drawing P100

DELETE in its entirety.

REPLACE with revised Drawing P100R, attached.

Item 42. Drawing P102

DELETE in its entirety.

REPLACE with revised Drawing P102R, attached.

Item 43. Drawing P200

DELETE in its entirety.

REPLACE with revised Drawing P200R, attached.

Item 44. Drawing M101R

DELETE in its entirety.

REPLACE with revised Drawing M101R1, attached.

Item 45. Drawing M102

DELETE in its entirety.

REPLACE with revised Drawing M102R, attached.

Item 46. Drawing M103R

DELETE in its entirety.

REPLACE with revised Drawing M103R1, attached.

Item 47. Drawing M301

DELETE in its entirety.

REPLACE with revised Drawing M301R, attached.

Item 48. Drawing M308R

DELETE in its entirety.

REPLACE with revised Drawing M308R1, attached.

Item 49. Drawing M309

DELETE in its entirety.

REPLACE with revised Drawing M309R, attached.

Item 50. Drawing M701R

DELETE in its entirety.

REPLACE with revised Drawing M701R1, attached.

Item 51. Drawing ED010

DELETE in its entirety.

REPLACE with revised Drawing ED010R, attached.

Item 52. Drawing E010

DELETE in its entirety.

REPLACE with revised Drawing E010R, attached.

Item 53. Drawing E011

DELETE in its entirety.

REPLACE with revised Drawing E011R, attached.

Item 54. Drawing ED100

DELETE in its entirety.

REPLACE with revised Drawing ED100R, attached.

Item 55. Drawing E200

DELETE in its entirety.

REPLACE with revised Drawing E200R, attached.

Item 56. Drawing E201

DELETE in its entirety.

REPLACE with revised Drawing E201R, attached.

Item 57. Drawing E210

DELETE in its entirety.

REPLACE with revised Drawing E210R, attached.

Item 58. Drawing E501

DELETE in its entirety.

REPLACE with revised Drawing E501R, attached.

Item 59. Drawing E602

DELETE in its entirety.

REPLACE with revised Drawing E602R, attached.

Item 60. Drawing E610

DELETE in its entirety.

REPLACE with revised Drawing E610R, attached.

Item 61. Drawing TE000

DELETE in its entirety.

REPLACE with revised Drawing TE000R, attached.

Item 62. Drawing TE200R

DELETE in its entirety.

REPLACE with revised Drawing TE200R1, attached.

Item 63. Drawing TE201R

DELETE in its entirety.

REPLACE with revised Drawing TE201R1, attached.

Item 64. Drawing YE200R

DELETE in its entirety.

REPLACE with revised Drawing YE200R1, attached.

Item 65. Drawing YE201R

DELETE in its entirety.

REPLACE with revised Drawing YE201R1, attached.

Item 66. RFI Questions and Clarifications

See attached RFI Log (Items 13 – 65)

Attachments: Specification Section 01 7400 Construction Waste Management
Specification Section 06 1600 Roof Sheathing
Specification Section 07 1300 Sheet Waterproofing
Specification Section 13 4123.33 – Spray Booths
Specification 211300 – Fire Suppression Sprinkler Systems
Specification 224000 – Plumbing Fixtures and Trim
Specification 233319 – Duct Silencers

Drawing L201R
Drawing L501R
Drawing L502R
Drawing S001R
Drawing S101R
Drawing S102R
Drawing S103R
Drawing S301R
Drawing S311R
Drawing S321R
Drawing S401R
Drawing A121R
Drawing A122R
Drawing A131R
Drawing A211
Drawing A405R
Drawing FP000R
Drawing FP101R
Drawing FP102R1
Drawing P000R
Drawing PD102R
Drawing P100R
Drawing P102R
Drawing P200R
Drawing M101R1
Drawing M102R
Drawing M103R1
Drawing M301R
Drawing M308R1
Drawing M309R
Drawing M701R1
Drawing ED010R
Drawing E010R
Drawing E011R
Drawing ED100R
Drawing E200R
Drawing E201R
Drawing E210R
Drawing E501R
Drawing E602R
Drawing E610R
Drawing TE000R
Drawing TE200R1
Drawing TE201R1
Drawing YE000R
Drawing YE200R1
Drawing YE201R1

RFI Log (Items 1 – 65)

******END OF ADDENDUM******

SECTION 01 74 00 CONSTRUCTION WASTE MANAGEMENT

1.0 GENERAL

1.1 SUMMARY

A. Section includes administrative and procedural requirements for the following:

1. Salvaging nonhazardous demolition and construction waste.
2. Recycling nonhazardous demolition and construction waste.
3. Disposing of nonhazardous demolition and construction waste.
4. Maintaining and implementing a comprehensive plan for maximizing recycling and salvaging of waste materials and documenting quantity of recycled and salvaged waste.

1.2 RELATED REQUIREMENTS

A. Section 01 35 43 – General Environmental Requirements

1.3 DEFINITIONS

A. Construction Waste: Building materials and other solid waste resulting from construction, remodeling, renovation, or repair operations. Construction waste includes packaging.

B. Demolition Waste: Building materials resulting from demolition or selective demolition operations.

C. Disposal: Removal off-site of demolition and construction waste and subsequent sale, recycling, reuse, or deposit in landfill or incinerator acceptable to authorities having jurisdiction.

D. Recycle: Recovery of demolition or construction waste for subsequent processing in preparation for reuse.

E. Salvage: Recovery of demolition or construction waste and subsequent sale or reuse in another facility.

F. Salvage and Reuse: Recovery of demolition or construction waste and subsequent incorporation into the Work.

1.4 PERFORMANCE REQUIREMENTS

A. General: Achieve end-of-Project rates for salvage/recycling of minimum 50 percent by weight of total non-hazardous solid waste generated by the Work. Practice efficient waste management in the use of materials in the course of the Work. Use all reasonable means to

divert construction and demolition waste from landfills and incinerators. Facilitate recycling and salvage of materials, including, but not limited to, the following:

1. Demolition Waste:

    a. Concrete.

    b. Concrete reinforcing steel.

    c. Brick.

    d. Concrete masonry units.

    e. Wood studs.

    f. Wood joists.

    g. Plywood and oriented strand board.

    h. Wood paneling.

    i. Wood trim.

    j. Structural and miscellaneous steel.

    k. Rough hardware.

    l. Roofing.

    m. Insulation.

    n. Doors and frames.

    o. Door hardware.

    p. Windows.

    q. Glazing.

    r. Metal studs.

    s. Gypsum board.

    t. Acoustical tile and panels.

    u. Carpet.

    v. Carpet pad.

    w. Demountable partitions.

    x. Equipment.

y. Cabinets.

z. Plumbing fixtures.

aa. Piping.

bb. Supports and hangers.

cc. Valves.

dd. Sprinklers.

ee. Mechanical equipment.

ff. Refrigerants.

gg. Electrical conduit.

hh. Copper wiring.

ii. Lighting fixtures.

jj. Lamps.

kk. Ballasts.

ll. Electrical devices.

mm. Switchgear and panel boards.

nn. Transformers.

2. Construction Waste:

a. Masonry and CMU.

b. Lumber.

c. Wood sheet materials.

d. Wood trim.

e. Metals.

f. Roofing.

g. Insulation.

h. Carpet and pad.

i. Gypsum board.

j. Piping.

k. Electrical conduit.

l. Packaging: Regardless of salvage/recycle goal indicated in Paragraph above, salvage or recycle 100 percent of the following uncontaminated packaging materials:

- Paper.
- Cardboard.
- Boxes.
- Plastic sheet and film.
- Polystyrene packaging.
- Wood crates.
- Plastic pails.

1.5 SUBMITTALS, GENERAL

A. Forms: In addition to Owner's standard forms, use Contractor's or Waste Management Company's standard forms containing the indicated minimum content.

1.6 ACTION SUBMITTALS

A. Waste Management Plan: Submit plan within fifteen (15) days of date established for the Notice to Proceed.

1.7 INFORMATIONAL SUBMITTALS

A. Waste Reduction Progress Reports: Concurrent with each Application for Payment, but not less than on a monthly basis, submit report. Include the following information:

1. Material category.
2. Generation point of waste.
3. Total quantity of waste in tons (tonnes).
4. Quantity of waste salvaged, both estimated and actual in tons (tonnes).
5. Quantity of waste recycled, both estimated and actual in tons (tonnes).
6. Total quantity of waste recovered (salvaged plus recycled) in tons (tonnes).
7. Total quantity of waste recovered (salvaged plus recycled) as a percentage of total waste.

B. Waste Reduction Calculations: Before request for Substantial Completion, submit calculated end-of-Project rates for salvage, recycling, and disposal as a percentage of total waste generated by the Work. Do not include hazardous waste in calculations.

C. Submit typewritten statement, signed by each of Owner's Representatives who have been instructed, describing:

1. Method of Instruction.

2. Equipment and Systems Operated.

3. Length of Instruction Period.

D. Records of Donations: Indicate receipt and acceptance of salvageable waste donated to individuals and organizations. Indicate whether organization is tax exempt.

E. Recycling and Processing Facility Records: Indicate receipt and acceptance of recyclable waste by recycling and processing facilities licensed to accept them. Include manifests, weight tickets, receipts, and invoices.

F. Landfill and Incinerator Disposal Records: Indicate receipt and acceptance of waste by landfills and incinerator facilities licensed to accept them. Include manifests, weight tickets, receipts, and invoices.

G. Qualification Data: For waste management coordinator and refrigerant recovery technician.

H. Statement of Refrigerant Recovery: Signed by refrigerant recovery technician responsible for recovering refrigerant, stating that all refrigerant that was present was recovered and that recovery was performed according to EPA regulations

1.8 QUALITY ASSURANCE

A. Waste Management Coordinator Qualifications: Experienced firm, with a record of successful waste management coordination of projects with similar requirements.

B. Recycling Facility Qualifications: Experienced facility, with a record of successful recycling rates and material end uses.

C. Refrigerant Recovery Technician Qualifications: Certified by EPA-approved certification program.

D. Regulatory Requirements: Comply with hauling and disposal regulations of authorities having jurisdiction.

E. Waste Management Conference: Conduct conference at Project site. Review methods and procedures related to waste management including, but not limited to, the following:

1. Review and discuss waste management plan including responsibilities of waste management coordinator.

2. Review requirements for documenting quantities of each type of waste and its disposition.

3. Review and finalize procedures for materials separation and verify availability of containers and bins needed to avoid delays.

4. Review procedures for periodic waste collection and transportation to recycling and disposal facilities.

5. Review waste management requirements for Contractor, each trade, and other parties that will be involved with disposal, recycling, and salvage of construction and demolition waste for Project.

1.9 WASTE MANAGEMENT PLAN

A. General: Develop a waste management plan according to ASTM E 1609 and requirements of this Section. Plan shall consist of waste identification, waste reduction work plan, and cost/revenue analysis. Distinguish between demolition and construction waste. Indicate quantities by weight or volume, but use same units of measure throughout waste management plan.

B. Waste Identification: Indicate anticipated types and quantities of demolition and construction waste generated by the Work. Include estimated quantities and assumptions for estimates.

C. Waste Reduction Work Plan: List each type of waste and whether it will be salvaged, recycled, or disposed of in landfill or incinerator. Include points of waste generation, total quantity of each type of waste, quantity for each means of recovery, and handling and transportation procedures.

1. Salvaged Materials for Reuse: For materials that will be salvaged and reused in this Project, describe methods for preparing salvaged materials before incorporation into the Work.

2. Salvaged Materials for Sale: For materials that will be sold to individuals and organizations, include list of their names, addresses, and telephone numbers.

3. Salvaged Materials for Donation: For materials that will be donated to individuals and organizations, include list of their names, addresses, and telephone numbers.

4. Recycled Materials: Include list of local receivers and processors and type of recycled materials each will accept. Include names, addresses, and telephone numbers.

5. Disposed Materials: Indicate how and where materials will be disposed of. Include name, address, and telephone number of each landfill and incinerator facility.

6. Handling and Transportation Procedures: Include method that will be used for separating recyclable waste including sizes of containers, container labeling, and designated location where materials separation will be performed.

2.0 PRODUCTS – NOT USED

EXECUTION

PLAN IMPLEMENTATION

A. General: Implement approved waste management plan. Provide handling, containers, storage, signage, transportation, and other items as required to implement waste management plan during the entire duration of the Contract.

B. Waste Management Coordinator: Engage a waste management coordinator to be responsible for implementing, monitoring, and reporting status of waste management work plan.

C. Training: Train workers, trades, Subcontractors, suppliers, Owner's construction forces, and Owner's Separate Contractors on proper waste management procedures, as appropriate for the Work and work occurring at Project site.

1. Distribute waste management plan to everyone concerned within three (3) days of submittal return.

2. Distribute waste management plan to entities when they first begin work on-site. Review plan procedures and locations established for salvage, recycling, and disposal.

D. Site Access and Temporary Controls: Conduct waste management operations to ensure minimum interference with roads, streets, walks, walkways, and other adjacent occupied and used facilities.

1. Designate and label specific areas on Project site necessary for separating materials that are to be salvaged, recycled, reused, donated, and sold.

2. Comply with Section 01 50 00 - Temporary Facilities and Controls for controlling dust and dirt, environmental protection, and noise control.

SALVAGING DEMOLITION WASTE

A. Salvaged Items for Reuse in the Work: Salvage items for reuse and handle as follows:

1. Clean salvaged items.

2. Pack or crate items after cleaning. Identify contents of containers with label indicating elements, date of removal, quantity, and location where removed.

3. Store items in a secure area until installation.

4. Protect items from damage during transport and storage.

5. Install salvaged items to comply with installation requirements for new materials and equipment. Provide connections, supports, and miscellaneous materials necessary to make items functional for use indicated.

B. Salvaged Items for Sale and Donation: Not permitted on Project site.

C. Salvaged Items for Owner's Use: Salvage items for Owner's use and handle as follows:

1. Clean salvaged items.

2. Pack or crate items after cleaning. Identify contents of containers with label indicating elements, date of removal, quantity, and location where removed.

3. Store items in a secure area until delivery to Owner.

4. Transport items to Owner's storage area as designated by Owner.

5. Protect items from damage during transport and storage.

D. Doors and Hardware: Brace open end of door frames. Except for removing door closers, leave door hardware attached to doors.

E. Equipment: Drain tanks, piping, and fixtures. Seal openings with caps or plugs. Protect equipment from exposure to weather.

F. Plumbing Fixtures: Separate by type and size.

G. Lighting Fixtures: Separate lamps by type and protect from breakage.

H. Electrical Devices: Separate switches, receptacles, switchgear, transformers, meters, panel boards, circuit breakers, and other devices by type.

RECYCLING DEMOLITION AND CONSTRUCTION WASTE, GENERAL

A. General: Recycle paper, beverage containers, and other recyclable consumables used by on-site workers.

B. Recycling Incentives: Revenues, savings, rebates, tax credits, and other incentives received for recycling waste materials shall accrue to Contractor unless otherwise indicated in the 'Agreement'.

C. Preparation of Waste: Prepare and maintain recyclable waste materials according to recycling or reuse facility requirements. Maintain materials free of dirt, adhesives, solvents, petroleum contamination, and other substances deleterious to the recycling process.

D. Procedures: Separate recyclable waste from other waste materials, trash, and debris. Separate recyclable waste by type at Project site to the maximum extent practical according to approved construction waste management plan.

1. Provide appropriately marked containers or bins for controlling recyclable waste until removed from Project site. Include list of acceptable and unacceptable materials at each container and bin.

2. Inspect containers and bins for contamination and remove contaminated materials if found.

3. Stockpile processed materials on-site without intermixing with other materials. Place, grade, and shape stockpiles to drain surface water. Cover to prevent windblown dust.

4. Stockpile materials away from construction area. Do not store within drip line of trees.

5. Store components off the ground and protect from the weather.

6. Remove recyclable waste from Owner's property and transport to recycling receiver or processor.

RECYCLING DEMOLITION WASTE

A. Concrete: Remove reinforcement and other metals from concrete and sort with other metals.

B. Masonry: Remove metal reinforcement, anchors, and ties from masonry and sort with other metals.

1. Clean and stack undamaged, whole masonry units on wood pallets.

C. Wood Materials: Sort and stack members according to size, type, and length. Separate lumber, engineered wood products, panel products, and treated wood materials.

D. Metals: Separate metals by type.

1. Structural Steel: Stack members according to size, type of member, and length.

2. Remove and dispose of bolts, nuts, washers, and other rough hardware.

E. Gypsum Board: Stack large clean pieces on wood pallets or in container and store in a dry location. Remove edge trim and sort with other metals. Remove and dispose of fasteners.

F. Acoustical Ceiling Panels and Tile: Stack large clean pieces on wood pallets and store in a dry location.

G. Metal Suspension System: Separate metal members including trim, and other metals from acoustical panels and tile and sort with other metals.

H. Carpet and Pad: Roll large pieces tightly after removing debris, trash, adhesive, and tack strips.

1. Store clean, dry carpet and pad in a closed container or trailer provided by Carpet Reclamation Agency or carpet recycler.

I. Carpet Tile: Remove debris, trash, and adhesive.

1. Stack tile on pallet and store clean, dry carpet in a closed container or trailer provided by Carpet Reclamation Agency or carpet recycler.

J. Piping: Reduce piping to straight lengths and store by type and size. Separate supports, hangers, valves, sprinklers, and other components by type and size.

K. Conduit: Reduce conduit to straight lengths and store by type and size.

L. Lighting Fixture Lamps: Separate lamps by type and protect from breakage.

RECYCLING CONSTRUCTION WASTE

A. Packaging:

1. Cardboard and Boxes: Break down packaging into flat sheets. Bundle and store in a dry location.

2. Polystyrene Packaging: Separate and bag materials.

3. Pallets: As much as possible, require deliveries using pallets to remove pallets from Project site. For pallets that remain on-site, break down pallets into component wood pieces and comply with requirements for recycling wood.

4. Crates: Break down crates into component wood pieces and comply with requirements for recycling wood.

B. Wood Materials:

1. Clean Cut-Offs of Lumber: Grind or chip into small pieces.

2. Clean Sawdust: Bag sawdust that does not contain painted or treated wood.

C. Gypsum Board: Stack large clean pieces on wood pallets or in container and store in a dry location.

DISPOSAL OF WASTE

A. General: Except for items or materials to be salvaged, recycled, or otherwise reused, remove waste materials from Project site and legally dispose of them in a landfill or incinerator acceptable to authorities having jurisdiction.

1. Except as otherwise specified, do not allow waste materials that are to be disposed of to accumulate on-site.

2. Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.

B. Burning: Do not burn waste materials.

C. Disposal: Remove waste materials from Owner's property and legally dispose of them.

*****END OF SECTION 01 74 00*****

SECTION 061610 – ROOF SHEATHING

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Roof sheathing over wood roof decking at entrance structure

1.2 ACTION SUBMITTALS

A. Product Data: For each type of process and factory-fabricated product. Indicate component materials and dimensions and include construction and application details.

1. Include data for fire-retardant treatment from chemical treatment manufacturer and certification by treating plant that treated plywood complies with requirements. Include physical properties of treated materials.

2. For fire-retardant treatments, include physical properties of treated plywood both before and after exposure to elevated temperatures, based on testing by a qualified independent testing agency in accordance with ASTM D5516.

1.3 INFORMATIONAL SUBMITTALS

A. Evaluation Reports: For the following, from ICC-ES:

1. Fire-retardant-treated plywood.

1.4 QUALITY ASSURANCE

A. Testing Agency Qualifications:

1. For testing agency providing classification marking for fire-retardant-treated material, an inspection agency acceptable to authorities having jurisdiction that periodically performs inspections to verify that the material bearing the classification marking is representative of the material tested.

1.5 DELIVERY, STORAGE, AND HANDLING

A. Stack panels flat with spacers beneath and between each bundle to provide air circulation. Protect sheathing from weather by covering with waterproof sheeting, securely anchored. Provide for air circulation around stacks and under coverings.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. Fire-Resistance Ratings: As tested in accordance with ASTM E119; testing by a qualified testing agency. Identify products with appropriate markings of applicable testing agency.

1. Fire-Resistance Ratings: Indicated by design designations from UL's "Fire Resistance Directory" or from the listings of another qualified testing agency.

2.2 WOOD PANEL PRODUCTS

A. Thickness: As indicated.

B. Factory mark panels to indicate compliance with applicable standard.

2.3 FIRE-RETARDANT-TREATED PLYWOOD

A. General: Where fire-retardant-treated materials are indicated, use materials complying with requirements in this article that are acceptable to authorities having jurisdiction and with fire-test-response characteristics specified as determined by testing identical products per test method indicated by a qualified testing agency.

B. Fire-Retardant-Treated Plywood by Pressure Process: Products with a flame-spread index of 25 or less when tested in accordance with ASTM E84, and with no evidence of significant progressive combustion when the test is extended an additional 20 minutes, and with the flame front not extending more than 10.5 feet (3.2 m) beyond the centerline of the burners at any time during the test.

1. Use treatment that does not promote corrosion of metal fasteners.

2. Interior Type A: Treated materials are to have a moisture content of 28 percent or less when tested in accordance with ASTM D3201/D3201M at 92 percent relative humidity.

3. Design Value Adjustment Factors: Treated lumber plywood are to be tested in accordance with ASTM D5516, and design value adjustment factors are to be calculated in accordance with ASTM D6305. Span ratings after treatment are not to be less than span ratings specified.

C. Kiln-dry material after treatment to a maximum moisture content of 15 percent. Do not use material that is warped or does not comply with requirements for untreated material.

D. Identify fire-retardant-treated plywood with appropriate classification marking of qualified testing agency.

E. Application: treat plywood indicated on Drawings, and the following:

1. Roof sheathing over wood roof decking at entrance structure

2.4 ROOF SHEATHING

A. Plywood Roof Sheathing: DOC PS 1

1. Span Rating: Not less than 32/16.

2. Nominal Thickness: As indicated

2.5 FASTENERS

A. General: Provide fasteners of size and type indicated that comply with requirements specified in this article for material and manufacture.

1. For roof sheathing, provide fasteners with hot-dip zinc coating complying with ASTM A153/A153M

B. Nails, Brads, and Staples: ASTM F1667.

C. Power-Driven Fasteners: Fastener systems with an evaluation report acceptable to authorities having jurisdiction, based on ICC-ES AC70.

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

A. Do not use materials with defects that impair quality of sheathing or pieces that are too small to use with minimum number of joints or optimum joint arrangement. Arrange joints so that pieces do not span between fewer than three support members.

B. Cut panels at penetrations, edges, and other obstructions of work; fit tightly against abutting construction unless otherwise indicated.

C. Securely attach to substrate by fastening as indicated, complying with the following:
   1. ICC-ES evaluation report for fastener.

D. Use common wire nails unless otherwise indicated. Select fasteners of indicated size, Make tight connections. Install fasteners without splitting wood.

E. Coordinate sheathing installation with installation of materials installed over sheathing so sheathing is not exposed to precipitation or left exposed at end of the workday when rain is forecast.

3.2 WOOD STRUCTURAL PANEL INSTALLATION

A. General: Comply with applicable recommendations in APA Form No. E30, "Engineered Wood Construction Guide," for types of structural-use panels and applications indicated.

B. Fastening Methods: Fasten panels as indicated below:

   1. Roof Sheathing: over wood roof decking

      a. Nail to wood roof decking.

      b. Space panels 1/8 inch (3 mm) apart at edges and ends.

END OF SECTION 061610

SECTION 07 1300 - SHEET WATERPROOFING

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Self-adhered modified bituminous sheet membrane.

1.02 REFERENCE STANDARDS

A. ASTM D412 - Standard Test Methods for Vulcanized Rubber and Thermoplastic Elastomers--Tension; 2016 (Reapproved 2021).
B. ASTM D570 - Standard Test Method for Water Absorption of Plastics; 2022.
C. ASTM D882 - Standard Test Method for Tensile Properties of Thin Plastic Sheeting; 2026.
D. ASTM D903 - Standard Test Method for Peel or Stripping Strength of Adhesive Bonds; 1998 (Reapproved 2025).
E. ASTM D1876 - Standard Test Method for Peel Resistance of Adhesives (T-Peel Test); 2008 (Reapproved 2023).
F. ASTM D1970/D1970M - Standard Specification for Self-Adhering Polymer Modified Bituminous Sheet Materials Used as Steep Roofing Underlayment for Ice Dam Protection; 2025.
G. ASTM D5295/D5295M - Standard Guide for Preparation of Concrete Surfaces for Adhered (Bonded) Membrane Waterproofing Systems; 2014.
H. ASTM D5385/D5385M - Standard Test Method for Hydrostatic Pressure Resistance of Waterproofing Membranes; 1993 (Reapproved 2014).
I. ASTM E96/E96M - Standard Test Methods for Gravimetric Determination of Water Vapor Transmission Rate of Materials; 2024a.
J. ASTM E154/E154M - Standard Test Methods for Water Vapor Retarders Used in Contact with Earth Under Concrete Slabs, on Walls, or as Ground Cover; 2008a (Reapproved 2013).
K. NRCA (WM) - The NRCA Waterproofing Manual; 2021.

1.03 SUBMITTALS

A. See Section 01 3000 - Administrative Requirements for submittal procedures.
B. Product Data: Provide data for membrane and surface conditioner.
C. Shop Drawings: Indicate special joint or termination conditions and conditions of interface with other materials.
D. Manufacturer's Installation Instructions: Indicate special procedures.
E. Warranty: Submit manufacturer warranty and ensure forms have been completed in Owner's name and registered with manufacturer.

1.04 QUALITY ASSURANCE

A. Membrane Manufacturer Qualifications: Company specializing in manufacturing products specified in this section, with not less than ten years of documented experience.
B. Installer Qualifications: Company specializing in performing work of the type specified and with at least five years of documented experience.

1.05 MOCK-UPS

A. Construct mock-up consisting of 100 sq ft of horizontal waterproofed panel; to represent finished work including internal and external corners.
B. Locate where directed.
C. Mock-up may remain as part of work.

1.06 FIELD CONDITIONS

A. Maintain ambient temperatures above 40 degrees F for 24 hours before and during application and until liquid or mastic accessories have cured.

1.07 WARRANTY

A. See Section 01 7800 - Closeout Submittals for additional warranty requirements.
B. Provide five year manufacturer warranty for waterproofing failing to resist penetration of water.

PART 2 PRODUCTS

2.01 WATERPROOFING APPLICATIONS

A. Self-Adhered Modified Bituminous Sheet Membrane:

1. Location: Level 01 Areaway south of Storage 103.

2.02 MEMBRANE MATERIALS

A. Self-Adhered Modified Bituminous Sheet Membrane:
   1. Thickness: 60 mil, 0.060 inch, minimum.
   2. Sheet Width: 36 inches, minimum.
   3. Tensile Strength:
      a. Film: 5,000 psi, minimum, measured in accordance with ASTM D882 and at grip-separation rate of 2 inches per minute.
      b. Membrane: 325 psi, minimum, measured in accordance with ASTM D412 Method A, using die C and at spindle-separation rate of 2 inches per minute.
   4. Elongation at Break: 300 percent, minimum, measured in accordance with ASTM D412.
   5. Water Vapor Permeance: 0.05 perm, maximum, measured in accordance with ASTM E96/E96M.
   6. Low Temperature Flexibility: Unaffected when tested in accordance with ASTM D1970/D1970M at minus 20 degrees F, 180 degree bend on 1 inch mandrel.
   7. Peel Strength: 7 lb per inch, minimum, when tested in accordance with ASTM D903.
   8. Lap Adhesion Strength: 5 lb per inch, minimum, when tested in accordance with ASTM D1876.
   9. Puncture Resistance: 50 lb, minimum, measured in accordance with ASTM E154/E154M.
   10. Water Absorption: 0.1 percent increase in weight, maximum, measured in accordance with ASTM D570, 24 hour immersion.
   11. Hydrostatic Resistance: Resists the weight of 200 ft when tested in accordance with ASTM D5385/D5385M.
   12. Adhesives, Sealants, Tapes, and Accessories: As recommended by membrane manufacturer.
   13. Manufacturers:
      a. GCP Applied Technologies; Bituthene System 4000: www.gcpat.com.

2.03 ACCESSORIES

A. Sealant for Cracks and Joints In Substrates: Resilient elastomeric joint sealant compatible with substrates and waterproofing materials.
B. Cant Strips: Premolded composition material.
C. Flexible Flashings: Type recommended by membrane manufacturer.
D. Surface Conditioner: ____ type, compatible with membrane.
E. Adhesives: As recommended by membrane manufacturer.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify existing conditions are acceptable prior to starting this work.
B. Verify substrate surfaces are durable; free of matter detrimental to adhesion or application of waterproofing system.
C. Verify items that penetrate surfaces to receive waterproofing are securely installed.

3.02 PREPARATION

A. Protect adjacent surfaces from damage not designated to receive waterproofing.
B. Clean and prepare surfaces to receive waterproofing in accordance with manufacturer's instructions; vacuum substrate clean.
C. Do not apply waterproofing to surfaces unacceptable to membrane manufacturer.
D. Fill nonmoving joints and cracks with a filler compatible with waterproofing materials.
E. Seal moving cracks with sealant and nonrigid filler, using procedures recommended by sealant and waterproofing manufacturers.
F. Prepare building expansion joints at locations as indicated on drawings.
G. Surfaces for Adhesive Bonding: Apply surface conditioner at a rate recommended by manufacturer, and protect conditioner from rain or frost until dry.
H. Concrete Surfaces for Adhesive Bonding: Prepare concrete substrate according to ASTM D5295/D5295M.
   1. Remove substances that inhibit adhesion including form release agents, curing compounds admixtures, laitance, moisture, dust, dirt, grease and oil.
   2. Repair surface defects including honeycombs, fins, tie holes, bug holes, sharp offsets, rutted cracks, ragged corners, deviations in surface plane, spalling and delaminations, as described in the reference standard.
   3. Remove and replace areas of defective concrete; see Section 03 3000.
   4. Prepare concrete for adhesive bonded waterproofing using mechanical or chemical methods described in the referenced standard.
   5. Test concrete surfaces as described in the referenced standards. Verify surfaces are ready to receive adhesive bonded waterproofing membrane system.

3.03 INSTALLATION - MEMBRANE

A. Install membrane waterproofing in accordance with manufacturer's instructions and NRCA (WM) applicable requirements.
B. Roll out membrane, and minimize wrinkles and bubbles.
C. Self-Adhering Membrane: Remove release paper layer, and roll out onto substrate with a mechanical roller to provide full contact bond.
D. Overlap edges and ends, minimum 3 inches, seal permanently waterproof by method recommended by manufacturer, and apply uniform bead of sealant to joint edge.
E. Reinforce membrane with multiple thickness of membrane material over joints, whether joints are static or dynamic.
F. Weather lap joints on sloped substrate in direction of drainage, and seal joints and seams.
G. Flexible Flashings: Seal items watertight that penetrate through waterproofing membrane with flexible flashings.
H. Seal membrane and flashings to adjoining surfaces.
    1. Install termination bar along edges.

3.04 PROTECTION

A. Do not permit traffic over unprotected or uncovered membrane.

END OF SECTION

SECTION 13 4123.33 – SPRAY PAINTING BOOTHS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Pressurized, large equipment spray booth systems.

1.02 REFERENCE STANDARDS

A. ASTM A653/A653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process; 2025a.

1.03 SUBMITTALS

A. See Section 01 3000 - Administrative Requirements for submittal procedures.

B. Product Data: Manufacturer's data showing configuration, sizes, materials, finishes, hardware, and accessories.

C. Shop Drawings: Plans, elevation, and details of construction and erection. Include general construction details, anchorages, and method of anchorage. Indicate materials and finishes of components, referencing product data.

1. General arrangement and surrounding construction.
2. Wall layout and elevations showing openings and penetrations.
3. Ceiling layout.
4. Door and door hardware schedule. Indicate hardware items furnished by other suppliers.
5. Standard and special jointing details.
6. Equipment interface details.
7. Control-wiring diagrams.

D. Manufacturer's qualification statement.

E. Installer's qualification statement.

1.04 QUALITY ASSURANCE

A. Manufacturer Qualifications: Company specializing in manufacturing products, assemblies, and systems specified in this section, with at least three years of documented experience.

B. Installer Qualifications: Company specializing in performing work of the type specified and with at least three years of documented experience and approved by manufacturer.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Basis of Design: Global Finishing Solutions

2.02 BASIS OF DESIGN: PRESSURIZED, LARGE EQUIPMENT DRY FILTER SEMI-DOWNDRAFT BOOTH

GFS Equipment Type

Equipment Operation Type:	**Large Equipment Semi-Downdraft Pressurized Booth**
GFS Product Based Model Number:	LESMG-070812-PSB-SD-SP
Clear Internal Working Dimensions:	7' 0" W x 8' 0" H x 12' 0" L
Overall Dimensions (Approximate):	8' 4" W x 11' 8" H x 12' 4" L
Note: Approximate Overall Dimensions DO NOT Account for External Components (Fans, Remote Modules, AMUs, Ductwork, etc.)	

Equipment Base Design

Equipment Panel Construction Type:	Single Skin
Equipment Panel Construction Finish:	**Galvanized Steel**
Equipment Panel Construction Material:	18 Gauge Thickness
Support Structure Construction Type:	I-Beam Structural Steel (Painted Gray)
Equipment Airflow Design:	**Semi Downdraft**
Target Average Air Velocity (FPM):	75-90 FPM max
Included Light Quantity:	2 Lights, min
Included Light Type:	LED

Exhaust Design

Total Design Exhaust CFM:	5600 Design CFM
Exhaust Method Design:	**Internal Bridge Chamber**
Exhaust Fan Framework:	**No Exhaust Fan – provided by others; coordinate controls to activate / deactivate with door operation**
Exhaust Filter Selection:	20x20x2 GFS Wave (Panel)

Exhaust Ductwork Inclusions

Exhaust Duct Building Penetration:	Exhaust Designed for Straight Run to Building Penetration
Exhaust Duct Construction Design:	**Not Provided by manufacturer (Fan Designed for Straight Run of Exhaust)**

Intake Design

Total Supply Design CFM:	5600 Design CFM
Intake Method Design:	**Partial Ceiling Plenum**
Intake Filter Selection:	20x20x1 Tacky Intake Filters
Equipment Pressurization Provided Through:	**(1) Not Provided by manufacturer**

Air Replacement Ductwork Inclusions

AMU Duct Construction Design:	**Not Provided by manufacturer**
AMU Duct Building Penetration:	Intake Designed for Straight Run to Building Penetration
Note: Duct Supports not Provided in this Quotation (Roof Flanges & Additional Items not Included Unless Listed)	

Equipment Access Design

Solid Back or Passthrough Equipment Flow:	**Solid Back**
Front Opening/Product Door Access:	**Swing Door with (2) 18" x 48" Observation Windows**
Front Opening/Product Door Size:	6' 0" W x 8' 0" H
Opening/Product Door Location:	**Center Right Sidewall**
Door Limit Switches:	Included
Equipment Personnel Access Requirements:	**Product Door Designed to Provide Means of Egress**

Electrical Controls Design

Equipment Electrical Controls Operation:	**Not Provided by manufacturer; coordinate fan and lighting control integration with door operation**
Safety Solenoid Valve Inclusion:	3/4" Industrial Style
Filter Monitoring Framework:	Manometer

2.03 MATERIALS

A. Galvanized Steel Sheet: ASTM A653/A653M, G90 (Z275) coating.
B. Glazing Accessories: As recommended by manufacturer of cleanroom enclosure.
C. Sealants: Solvent-free, low-VOC, thermosetting, moisture-cure, solvent-free adhesives or sealants.
D. Fasteners: Noncorrosive type as recommended by cleanroom enclosure manufacturer.
E. Anchorage Devices: Type recommended by manufacturer, concealed.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verification of Conditions: Verify that spray booth construction area is ready for preparation and installation activities.

3.02 GENERAL INSTALLATION REQUIREMENTS

A. Install assemblies level and plumb.

B. Coordinate installation of mechanical and electrical components; connect to facility services.

C. Coordinate installation of items furnished by Owner.

3.03 COMMISSIONING

A. See Section 01 9113 - General Commissioning Requirements for applicable procedures and requirements.

END OF SECTION

FIRE SUPPRESSION SPRINKLER SYSTEMS

PART 1 - GENERAL

1.1 WORK INCLUDED

A. Provide labor, materials, equipment and services to perform operations required for the complete installation and related Work as required in Contract Documents.

1.2 QUALITY ASSURANCE

A. Comply with the 2020 Fire Code of New York State, FM Global Data Sheets, Cornell University Cross Connection Control Program Manual, ANSI A-17.1, Safety Code for Elevators and Escalators, and referenced edition of the following National Fire Protection Association (NFPA) Standards:

1. NFPA 13: Standard for the Installation of Sprinkler Systems.

2. NFPA 25: Inspection, Testing and Maintenance of Water-Based Fire Protection Systems.

3. NFPA 72: National Fire Alarm Code.

4. NFPA 241: Standard for Safeguarding Construction, Alteration and Demolition Operations.

B. Follow all requirements, recommendations and appendices to comply with the latest edition of the following publications, codes, standards, and listings/approvals:

1. FM Global (FM) Approval Guide.

2. Underwriters Laboratories, Inc. (UL) Fire Protection Equipment Directory.

3. 2025~~0~~ Fire Code of New York State.

4. OSHA Rules and Regulations.

5. Requirements of Insurance Underwriter and other Authorities Having Jurisdiction.

C. Equipment, devices, hangers and components shall be UL listed and FM approved and labeled for the intended fire protection service.

D. The fire protection work shall be performed by an experienced firm regularly engaged in the installation of fire protection sprinkler systems.

E. Preparation of working plans, calculations and site observation of systems shall be completed by a NICET Level III technician under the direction of a qualified New

York State Registered Professional Engineer.

1.3 SYSTEM DESCRIPTION

A. The fire protection system shall be a wet pipe or pre-action automatic sprinkler system arranged to properly protect spaces as indicated.

B. Refer to drawings.

C. The flow test information above is submitted for information only. This contractor shall arrange for a new flow test on the municipal main prior to performing hydraulic calculations. The more restrictive of these two tests shall be used as the basis of design. Coordinate with CU for latest flow test.

D. Fire department connection(s) shall be provided to allow the servicing fire department to augment the system's normal automatic water supply.

E. The system shall be hydraulically calculated in accordance with all provisions of the Contract Documents and any Authority Having Jurisdiction.

F. Use of room design method will not be permitted. Calculations shall be based upon the specific hazard for the areas being protected. The following minimum requirements shall be provided as actually installed in the protected spaces.

1. Hazard Group HC-1: These areas shall include: Office Areas, Conference Rooms, ~~Classrooms~~**making exploration, social, lounge, large Colab, media studio, and electronic workshop**.

   a. Water density: .10 gpm/sq. ft.

   b. Maximum coverage per sprinkler = 225 sq. ft.

   c. Hydraulic remote area: 1,500sq. ft.

   d. Interior hose demand: 0 gpm.

   e. Exterior hose demand: 1

2. Hazard Group HC-2: These areas shall include ~~Lab Spaces~~ **exploration workshop, open assembly / prototyping**, Mechanical Rooms, Utility Rooms**, spray bath, prototyping / wood studio, and storage**.

   a. Water density: .20 gpm/sq. ft.

   b. Maximum coverage per sprinkler = 130 sq. ft.

   c. Hydraulic remote area: 2,500 sq. ft.

   d. Interior hose demand: 0 gpm.

   e. Exterior hose demand: 250 gpm.

G. Maximum coverage for any sprinkler head shall not exceed NFPA or FM Global requirements or the listing for the sprinklers provided, whichever is more restrictive.

H. A minimum 10 psi safety factor shall be provided between the available municipal water supply curve and the total system demand point. The total system demand point shall be at the municipal water main and include the calculated sprinkler and interior hose stream demands plus the exterior hose stream demand at the residual pressure required for proper system operation.

I. The maximum flow velocity shall not exceed 20 ft. per second in the piping system and 15 ft. per second in mains with paddle type waterflow indicators.

J. Water supply control valves shall be electrically supervised and mechanically locked for proper position. Waterflow and supervisory circuits shall be in accordance with the requirements of electrical specifications. Electric connections to sprinkler system shall be by Division 26. Furnish wiring diagrams for all equipment.

K. Provide 3/16 in. x 1 in. cadmium plated carbon steel chains and master keyed all brass case hardened padlocks to lock water supply valves in the proper position.

1.4 SUBMITTALS

A. Product Data:

1. Submit manufacturer's catalog cut, specifications and installation instructions for each item or component of fire protection system. Clearly indicate pertinent information such as, but not limited to:

a. Manufacturer's model number.

b. Materials, size, finish and type of connection.

c. Pressure ratings of components.

d. FM approval/UL listing.

B. Certification: Submit Contractor's NICET certification and number.

C. Samples:

1. If requested, submit sample of sprinklers.

D. Drawings and Calculations:

1. All drawings and calculations shall be signed and sealed by a New York State Registered Professional Engineer.

2. Submit complete NFPA 13/FM Global drawings and hydraulic calculations with cross reference to applicable drawings, water supply data, and equipment schedule with ratings for the system to the Ithaca Fire Department, Cornell Environmental Health and Safety, Cornell Fire Protection Engineer, and FM Global. Contractor shall not commence with construction until all parties listed above have given their approval.

3. Submit hydraulic calculations for each design density/remote area with items in NFPA 13/FM Global Data Sheets incorporated including sketches to indicate flow quantities, sprinklers operating and direction of flow for pipes in looped and gridded systems.

4. Drawing shall be fabrication drawings provided to indicate actual sprinkler, standpipe and equipment layouts. Drawings shall be 1/4" = 1'-0" scale on reproducible sheets of uniform size. Drawings shall show all data required by NFPA 13/FM Global Data Sheets.

5. Submit drawings in one (1) complete package.

E. Record Drawings and Documents:

1. Submit Record Drawings, hydraulic calculations, test reports, and NFPA Above and Below Ground Material and Test Certificates to the Owner's Representative, Insurance Underwriter and other Authorities Having Jurisdiction.

PART 2 - PRODUCTS

2.1 GENERAL

A. Mixing of manufacturers or models of the same or similar component will not be acceptable.

2.2 FIRE DEPARTMENT CONNECTION

A. Storz quick connect type with 30 degree elbow, cap, chain and escutcheon labeled "AUTOSPKR".

1. 5 in. Storz x 6 in. NPT.

2. Polished chrome plated escutcheon, inlets, plugs and chains.

3. Design Equipment: Potter-Roemer Fig. No. 5795-01 connection with Fig. No. 5799-01 cap and chain.

B. Acceptable Manufacturers: Croker, Elkhart, Potter-Roemer, Engineer Approved Equal.

2.3 PRESSURE GAUGES

A. Water Pressure Gauge:

1. Anodized aluminum case, 3-1/2 in. diameter, glass lens, brass movement, 1/4 in. NPT male bottom connection with gauge cock.

2. 0 to 300 psi range, in 5 psi increments with accuracy to meet ANSI B40.1.

B. Acceptable Manufactures: Reliable; FM approval shall be stamped on all pressure gauges.

2.4 SPRINKLERS AND ACCESSORIES

A. Brass or bronze, 1/2 in. orifice, 1/2 in. NPT. 155°F ordinary temperature classification for light and ordinary hazards. Use 286°F sprinklers in Mechanical, Electrical and Elevator Rooms; in vicinity of heat equipment/sources; and in accordance with NFPA 13.

1. Finished Ceiling Areas: Semi-recessed pendent sprinklers with matching two- piece escutcheon, color as selected by Architect of Record.

2. Unfinished Ceiling Areas: Natural brass/bronze finish pendent or upright sprinklers as required.

B. Sprinkler Types and Design Equipment:

1. Quick Response Pendent and Upright: Viking Microfast® Quick Response Pendent and Upright.

2. Quick Response Horizontal Sidewall: Viking Microfast® Quick Response.

3. Quick Response Extended Coverage Horizontal Sidewall: Viking Microfast® EC/QREC Horizontal Sidewall Sprinkler.

4. Sprinkler K-Factor shall be in accordance with FM Global Data Sheet No. 2-0.

C. Acceptable Manufacturers: Reliable, Victaulic, Viking.

D. Flexible Sprinkler Drops:

1. FM Approved braided Type 304 stainless steel tube with union joints, factory tested to 400 psi and listed for up to three (3) 90° bends including bracket for mounting to ceiling or building structure.

2. Design Equipment: Victaulic "VicFlex".

E. Sprinkler Guards:

1. Steel wire cage with base plate and retaining clamps. Same manufacturer as sprinkler.

2. Design Equipment: Viking Model D-1.

F. Sprinkler Cabinets and Spare Sprinklers:

1. Steel or aluminum construction with shelves and shell holes to accommodate the number of spare sprinklers required by NFPA 13.

2. Bright red finish with hinged front door and label.

3. Sprinkler wrenches compatible for each type used.

4. Spare sprinklers for each system of the type and proportion of those used in each system.

5. Design Equipment: Viking Model FPPI.

G. Acceptable Manufacturers: Viking, Reliable, Victaulic.

2.5 ALARM EQUIPMENT

A. Paddle Waterflow Detectors:

1. Adjustable retard feature, SPDT contacts, 24 volt DC, 250 psi rated.

2. Design Equipment: Potter Electric #VSR-AT.

B. Tamper Switches:

1. Integral with valve or separate device installed on valve to actuate alarm upon valve movement, steel enclosure, SPDT contacts, 24 volt DC, mounting brackets and hardware.

2. Design Equipment: Potter Electric #OSYSU (for OS&Y valves) and #PIVSU-A (for post indicator and butterfly valves).

C. Acceptable Manufacturers: Autocall, Potter Electric, System Sensor.

2.6 FLOOR CONTROL ASSEMBLY

A. Fire Protection control module with test and Drain valve. Integrate with ASR assemble.

1. Design equipment: Victaulic Series UM

2. Acceptable Manufacturers: Victualic or approved equal.

2.7 AUTOMATIC AIR VENTS

A. Automatic air vent with drip pan shall include 1/2 in. NPT isolation valve with forged brass body and stainless steel 20 mesh strainer, adjustable purge valve with hose connection, threaded cap and lanyard and automatic air release valve with conical body, recessed venting valve, single float on rigid shaft and bubble breaker.

Drain piping shall be indirectly connected to the nearest sanitary floor drain.

1. Design Equipment: Potter ECS PAV-W.

2. Acceptable Manufacturers: ECS or approved equal.

2.8 SYSTEM COMPONENT IDENTIFICATION

A. At control, test and drain valves, provide permanently marked identification signs constructed of 18 gauge steel with baked enameled finish.
The signs shall be permanently mounted on the piping or wall at the valve, or on the valve, but shall not be hung on the valve with wires or chains which permits easy removal of the sign. The sign shall clearly indicate the valve's purpose and what portion of the structure it serves. Additional signs, shall be provided at each alarm check and dry pipe valve to clearly indicate hydraulic calculation data.

2.9 ADDITIONAL SPRINKLERS AND SPRINKLER GUARDS

A. Include allowance for providing 12 additional sprinklers with related piping, fittings, hangers and 12 additional sprinkler guards installed at locations where job conditions or equipment selections may be required. Provide a credit for sprinklers and guards not installed.

PART 3 - EXECUTION

3.1 INSTALLATION

A. The nature of the work requires coordination with other trades. Shop fabrication shall be done at the Contractor's risk. Relocation of piping and components to avoid obstructions may be necessary. Relocation, if required, shall be done at the Contractor's expense. The installation shall be performed in a workmanlike manner as determined by the Owner's Representative and in accordance with the Contract Documents, manufacturer's printed installation instructions, and submitted and Owner's Representative reviewed drawings.

B. Piping shall not pass directly over electric panelboards, switchboards, motor control centers, and similar electric and telephone equipment. However, protection for these spaces shall be provided.

C. Piping shall be installed concealed above finish ceiling area with sprinklers located in the quarter points of ceiling tiles where ceiling tiles are used.

D. Provide a control valve and readily removable flushing connection consisting of a cap at each end of cross mains and branchline piping.

E. Each sprinkler system shall be provided with an automatic vent valve located near the high point of the system in accordance with NFPA requirements.

F. Provide sprinkler guards for sprinklers in mechanical and storage spaces, less than 8 ft. above finished floor subject to mechanical damage.

G. Pipe ball drip valves at a floor drain or to the exterior. Pipe 2 in. main drains and water motor gong drains to discharge to the exterior at approximately 2 ft. above finished grade.

H. Securely install the spare sprinkler cabinets to the building wall at the main riser.

I. Inspector's test valves system auxiliary drains shall be installed 7 ft. or less above the finished floor.

J. Fire department connections shall be installed 3 ft. above finished grade and electric alarm bell approximately 7 ft. above finished grade (mounted directly above fire department connection).

K. Upright sprinklers directly on branch lines shall be installed with their frame parallel to the piping.

L. Provide sprinkler protection under ductwork, groups of ductwork and other obstructions to water spray and distribution. Use intermediate level sprinklers if subject to waterspray from above.

M. Exposed pipe shall be left clean for painting.

N. Coordinate and activate the systems or portions of the system to operational status as soon as possible.

3.2 PIPING, VALVES AND HANGERS

A. Refer to other applicable sections.

B. All piping shall be installed to permit drainage of the system through a main drain valve. Where a change in piping direction prevents drainage of the system, auxiliary drains shall be provided. The auxiliary drain assembly shall consist of a lockable ball valve, nipple and cap or plug and shall be located 7 ft. or less above the finished floor. Pipe drain to an accessible location.

3.3 TESTS

A. General:

1. Pipe installation shall be inspected by Owner's Representative prior to being covered by building construction or backfill.

2. Give the Owner's Representative advance notice of final tests. Perform tests in a safe manner. Provide written certification that tests have been successfully completed. Use NFPA Above and Below Ground Material and Test Certificate Forms.

3. Correct system leaks prior to final test. Do not utilize water additives, caulking, etc. to correct leaks. Provide appliances, equipment, instruments, devices and personnel.

4. Flushing: Follow Contract Documents and utilize open end pipe sections if possible.

B. Pressure Tests:

1. Hydrostatic Tests: Minimum 200 psi and in accordance with NFPA 13 for two (2) hours.

2. Do not subject existing systems to excess pressures.

C. Alarm Tests:

1. Demonstrate activation of alarms and operational trip test.

3.4 SYSTEM TURNOVER

A. Prior to final acceptance, instruct the Owner's Representative in the proper operation, maintenance, testing, inspection and emergency procedures for all systems furnished, for a period of time as needed. Provide one (1) new original pamphlet of NFPA 25. Indicate in writing to the Owner's Representative the provisions for proper maintenance, testing, and inspection of the systems as required by local fire codes.

END OF SECTION

PLUMBING FIXTURES AND TRIM

PART 1 - GENERAL

1.1 WORK INCLUDED

A. Provide labor, materials, equipment and services to perform operations required for the complete installation and related Work as required in Contract Documents.

1.2 SUBMITTALS

A. Submit manufacturer's data in accordance with Basic Mechanical/Electrical Requirements. Obtain approval prior to ordering material.

B. Provide submittals for all items specified under Part 2 - Products of this section.

1.3 DESCRIPTION OF FIXTURES

A. Fixtures and trim shall be of those manufacturers listed, unless otherwise indicated. Fixtures for this project shall be of same manufacturer.

1. Fixtures: American Standard, Kohler, Mansfield, Sloan, Toto, Watts or Zurn.

2. Faucets: Chicago Faucets, Delta, Moen, Symmons, T&S Brass or Zurn. All faucets shall be lead-free in accordance with NSF 61 and NSF 372.

3. Fixture Carriers: Jay R. Smith, Watts, Wade, Josam or Zurn.

4. Sinks: Elkay, Just or Kohler.

5. Water Coolers: Elkay, Haws, Murdock or Oasis.

6. Supplies, Stops and Traps: Brasscraft, EBC, McGuire or Sanitary Dash.

B. Exposed parts of trim shall have polished chrome plated finish.

C. Tubular drainage products ("P" traps, nipples, etc.) shall be 17 gauge brass.

1.4 QUALITY ASSURANCE

A. Comply with requirements of the Plumbing Fixture Law of the New York State Department of Environmental Conservation.

B. Comply with the American Disabilities Act Guidelines and ANSI A117.1 "Accessible and Usable Buildings and Facilities".

C. All items here-in used to convey water for potable use shall be lead free in accordance with NSF Standard 61, Section 9 Standard for Drinking Water and Lavatory Faucets and NSF Standard 372 - Maximum Lead Requirements. Compliance shall be via third-party testing and certification.

D. All fixture trim used to convey water for potable use shall be lead free.

PART 2 - PRODUCTS

2.1 ELECTRIC WATER COOLER

A. EWC-B:

1. Elkay #LVRCTL8WSPRO; two level wheelchair access model, with bottle file wall mounted, ADA compliant, lead-free construction, type 304 stainless steel cabinet, one piece stainless steel basin, flexible bubbler, self-closing front and side push bar control on each side with in-line stream regulator, adjustable temperature control, permanently sealed and lubricated fan motor, hermetically sealed compressor and motor, 1/5 hp, 120V, capacity of 8.0 GPH at 80°F inlet water, 50°F outlet water with room temperature of 90°F, fitted with the following:

a. McGuire #LF165LKE, lead-free, 3/8 in. lavatory wall supply with loose key angle stop, 3/8 in. flexible tube riser, cast brass escutcheon with set screw.

b. McGuire #8902, 1-1/4 in. x 1-1/2 in. semi-cast brass "P" trap with cleanout and cast brass escutcheon with set screw.

c. Jay R. Smith floor mounted carrier with rectangular uprights.

d. Acceptable Manufacturers: Elkay, Halsey Taylor.

~~2.1~~2.2 SINKS

A. SK-A (HDCP):

1. Elkay Lustertone ELUHAD211555PD, 23 1/2 in. x 18 1/4 in. x 5 3/8 in. deep, nickel type 304 stainless steel single bowl sink, ADA compliant, 18 gauge, undermount installation, fitted with the following:

a. Chicago #786-GN8AE29ABCP two handle concealed mount sink faucet, 11-5/8 in. high, 5 3/8 in. reach swing spout, pressure compensating aerator, deck mounted, 8 in. centers, lead-free, ADA compliant and fitted with the following:

1) 1.5 GPM aerator.

2) #317, 4 in. wrist blade handles

b. Elkay #LKAD18 stamped brass drain outlet with 3 in. perforated grid strainer and LKADOS 1-1/2 in. O.D. offset tailpiece.

c. McGuire #8912 semi-cast brass adjustable "P" trap, 1-1/2 in. x 1-1/2 in., with cleanout plug and cast brass escutcheon with set screw.

d. McGuire #LF2167LKF, lead-free, 1/2 in. copper sweat supplies with 1/2 in. OD flexible risers, loose key stops and cast brass escutcheons with set screws.

B. SK-B (HDCP):

1. Elkay Lustertone ELUHAD211555PD, 23 1/2 in. x 18 1/4 in. x 5 3/8 in. deep, nickel type 304 stainless steel single bowl sink, ADA compliant, 18 gauge, undermount installation, fitted with the following:

a. Chicago #786-GN8AE29ABCP two handle concealed mount sink faucet, 11-5/8 in. high, 5 3/8 in. reach swing spout, pressure compensating aerator, deck mounted, 8 in. centers, lead-free, ADA compliant and fitted with the following:

1) 1.5 GPM aerator.

2) #317, 4 in. wrist blade handles

b. Elkay #LKAD18 stamped brass drain outlet with 3 in. perforated grid strainer and LKADOS 1-1/2 in. O.D. offset tailpiece.

c. Sediment Trap: Streim Sidekick

d. McGuire #8912 semi-cast brass adjustable "P" trap, 1-1/2 in. x 1-1/2 in., with cleanout plug and cast brass escutcheon with set screw.

e. McGuire #LF2167LKF, lead-free, 1/2 in. copper sweat supplies with 1/2 in. OD flexible risers, loose key stops and cast brass escutcheons with set screws.

C. SK-C (HDCP):

1. Elkay Lustertone ELUHAD211555PD, 23 1/2 in. x 18 1/4 in. x 5 3/8 in. deep, nickel type 304 stainless steel single bowl sink, ADA compliant, 18 gauge, undermount installation, fitted with the following:

a. Chicago #434-ABCP single handle concealed mount sink faucet, 17 in. high, 8 1/4 in. reach swing spout, pressure compensating aerator, deck mounted, lead-free, ADA compliant and fitted with the following:

1) 1.5 GPM aerator.

b. Elkay #LKAD18 stamped brass drain outlet with 3 in. perforated grid strainer and LKADOS 1-1/2 in. O.D. offset tailpiece.

c. McGuire #8912 semi-cast brass adjustable "P" trap, 1-1/2 in. x 1-1/2 in., with cleanout plug and cast brass escutcheon with set screw.

d. McGuire #LF2167LKF, lead-free, 1/2 in. copper sweat supplies with 1/2 in. OD flexible risers, loose key stops and cast brass escutcheons with set screws.

D. SK-D (HDCP):

1. Elkay Dart Canyon Farmhouse Workstation ELDSSF30279DBG, 29 1/2 in. x 27 1/4 in. x 9 5/8 in. deep, with 4 13/16 shelf, nickel type 304 stainless steel single bowl sink, ADA compliant, 16 gauge, fitted with the following:

a. Chicago #786-GN8AE29ABCP two handle concealed mount sink faucet, 11-5/8 in. high, 5 3/8 in. reach swing spout, pressure compensating aerator, deck mounted, 8 in. centers, lead-free, ADA compliant and fitted with the following:

1) 1.5 GPM aerator.

2) #317, 4 in. wrist blade handles

b. Elkay #LKAD18 stamped brass drain outlet with 3 in. perforated grid strainer and LKADOS 1-1/2 in. O.D. offset tailpiece.

c. McGuire #8912 semi-cast brass adjustable "P" trap, 1-1/2 in. x 1-1/2 in., with cleanout plug and cast brass escutcheon with set screw.

d. McGuire #LF2167LKF, lead-free, 1/2 in. copper sweat supplies with 1/2 in. OD flexible risers, loose key stops and cast brass escutcheons with set screws.

~~2.2~~**2.3** EMERGENCY FIXTURES

A. EEW-A: (for the physically challenged)

1. Water Saver EW805-TMV, Deck mount eyewash unit, 90° swivel with stay open valve, and backflow preventer, universal identification sign and meeting ANSI Z358.1, with emergency fixture thermostatic mixing valve meeting ASSE 1071, and cold water by-pass.

B. ES-A: EMERGENCY SHOWER:

1. Water Saver SS996, drench shower meeting 2358.1, 1” NPT stay open valve.

PART 3 - EXECUTION

3.1 FIXTURES, EQUIPMENT AND SYSTEMS

A. Install fixtures, equipment and systems as shown on Drawings or specified herein in accordance with provisions of each applicable Specification Section and all local and state codes having jurisdiction.

3.2 INSTALLATION OF PLUMBING FIXTURES

A. Install plumbing fixtures level and plumb, in accordance with fixture manufacturers written installation instructions.

B. Carefully drill holes for through bolts to avoid chipping blocks or plaster.

C. Except where carriers are specified, attach hangers or brackets to walls as follows:

1. Masonry Construction: Secure fixture hangers to partition by thru-bolts extending through a steel plate on opposite side of partition. Obtain Owner's Representative's approval prior to work.

2. Metal Stud Construction: Anchor backing for fixtures or equipment to 1/8 in. x 12 in. steel plate bolted or riveted to at least three studs. Obtain Owner's Representative's approval prior to work.

D. Anchor carriers to concrete floor with 1/2 in. x 3 in. anchor or thru-bolts and washers. Provide for drilling of floor and installation of expansion shields. Quantity of anchors:

1. Water Closets - Four (4).

2. Lavatories - Eight (8).

E. Seal fixtures in contact with walls, floors and counters using a sanitary-type, one-part, mildew-resistant, silicone caulk. Match color to fixture color.

F. Set self-rimming lavatories and sinks in a bed of silicone caulk.

G. Install wall-hanging, back-outlet water closets with support manufacturer's tiling frame or setting gage.

H. Fasten wall-hanging plumbing fixtures securely to supports attached to building substrate when supports are specified and to building wall construction where no support is indicated.

I. Fasten counter-mounting-type plumbing fixtures to casework.

J. Immediately after installation, provide protective covering over fixtures and trim.

3.3 MOUNTING HEIGHT AND LOCATION

A. Mount fixtures at height and location as indicated on Architectural plans and elevations.

B. Mount accessible fixtures in conformance with the requirements of ANSI A117.1.

3.4 CONNECTIONS

A. Install piping connections between plumbing fixtures and piping systems and plumbing equipment specified in other sections of Division 22.

3.5 ADJUSTING AND CLEANING

A. Operate and adjust faucets and controls. Replace damaged and malfunctioning fixtures, fittings and controls.

B. Adjust water pressure at electric water coolers, faucets and flush valves to provide proper flow and stream.

C. Replace washers of leaking and dripping faucets and stops.

D. Clean fixtures, fittings, spout and drain strainers with manufacturers' recommended cleaning methods and materials.

E. Test fixtures to demonstrate proper operation upon completion of installation and after units are water pressurized. Replace malfunctioning fixtures and components and retest. Repeat procedure until all units operate properly.

END OF SECTION

DUCT SILENCERS

PART 1 - GENERAL

1.1 DESCRIPTION

A. Provide labor, materials, equipment and services required for the complete installation designed in Contract Documents.

1.2 SUBMITTALS TO THE ARCHITECT/ENGINEER

A. Submit product and performance data for duct silencers.

B. The manufacturer shall submit certified data on Dynamic Insertion Loss (DIL), Self-Noise (SN) power levels and aerodynamic performance for reverse and forward flow test conditions.

1.3 GENERAL REQUIREMENTS

A. Silencers shall be of capacity, size, performance and static pressure drop called for. Silencers and lining material shall meet NFPA 90A standards. The sound absorbing material shall not impart odor to the air, delaminate or be loosened by the air stream under normal operation conditions.

B. With submittals, the manufacturer shall supply certified test data on Dynamic Insertion Loss, Self-Noise power levels, and Aerodynamic performance for reverse and forward flow test.

PART 2 - PRODUCTS

2.1 MATERIALS AND CONSTRUCTION

A. Outer casings of rectangular silencers shall be made of 22 gauge galvanized steel in accordance with ASHRAE recommended construction for high-pressure rectangular ductwork. Seams shall be lock formed and mastic filled.

B. Interior partitions for rectangular silencers shall be made of not less than 26 gauge galvanized perforated steel.

C. Filler material shall be of inorganic mineral or glass fiber of a density sufficient to obtain the specified acoustic performance and be packed under not less than 5% compression to eliminate voids due to vibration and settling. Material shall be inert, vermin and moisture proof. Filler material shall be totally encapsulated and sealed with polymeric film of an appropriate thickness. The encapsulated fill material shall be separated from the interior perforated baffles by means of a noncombustible, erosion resistant, factory-installed, acoustic stand-off. It shall not be acceptable to omit the acoustic stand-off and try to compensate for its absence by means of corrugated baffles.

D. Combustion rating for the silencer acoustic fill shall not be greater than the following when tested in accordance with ASTM E84, NFPA Standard 255 or UL No. 723:

1. Flamespread Classification: 25.

2. Smoke Development Rating: 50.

E. Airtight construction shall be provided by use of a duct sealing compound on the job site.

2.2 ACOUSTIC PERFORMANCE

A. Silencer ratings shall be determined in a duct-to-reverberant room test facility, which provides for airflow in both directions through the test silencer in accordance with ASTM Specification E 477. The test setup and procedure shall be such that all effects due to end reflection, directivity, flanking transmission, standing waves and test chamber sound absorption are eliminated. Acoustic ratings shall include Dynamic Insertion Loss (DIL) and Self-Noise (SN) power levels both for FORWARD FLOW (air and noise in the same direction) and REVERSE FLOW (air and noise in opposite directions).

2.3 AERODYNAMIC PERFORMANCE

A. Static pressure loss of silencers shall not exceed those listed in the silencer schedule. Airflow measurements shall be made in accordance with ASTM Specification E 477 and applicable portions of ASME, AMCA and ADC airflow test codes.

2.4 DESIGN EQUIPMENT

A. Vibro-Acoustics.

2.5 ACCEPTABLE MAKES

A. Vibro-Acoustics, I.A.C., Aeroacoustic Corp.

PART 3 - EXECUTION

3.1 GENERAL

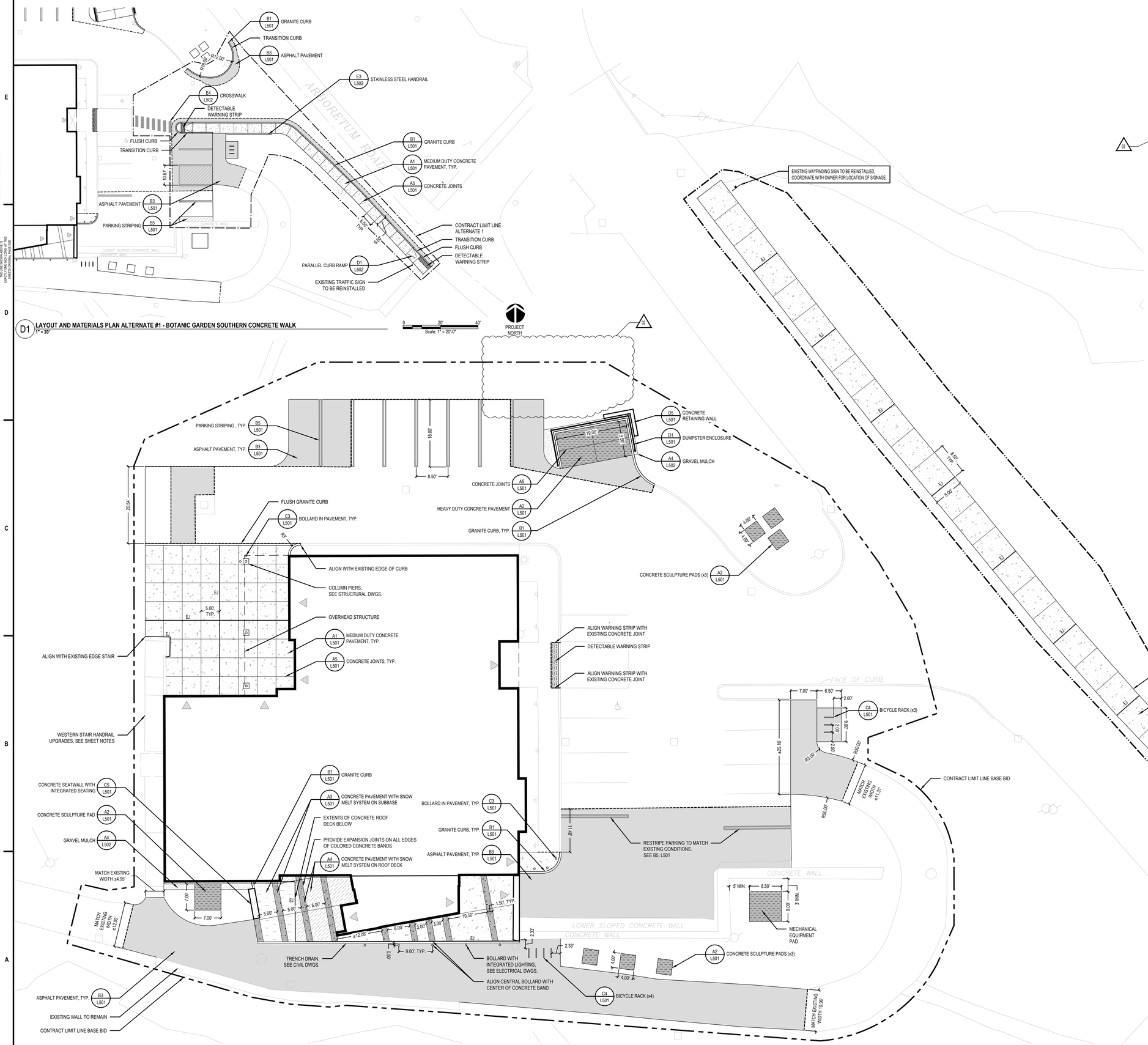
A. Provide at locations shown on Contract Drawings.

B. When transitions are required to adapt silencer dimensions to connecting ductwork, they shall be provided by the HVAC Contractor.

END OF SECTION

THESE DOCUMENTS WERE PREPARED UNDER THE DIRECT SUPERVISION OF A LICENSED PROFESSIONAL. THE DOCUMENTS AND ALL THE IDEAS, DESIGNS AND ARRANGEMENTS REPRESENTED THEREIN ARE AND SHALL REMAIN THE PROPERTY OF ASHLEY MCGRAW ARCHITECTS P.C. AND MAY NOT BE ALTERED IN ANY WAY WITHOUT THE KNOWLEDGE OR CONSENT OF ASHLEY MCGRAW ARCHITECTS P.C. IT IS A VIOLATION OF THE LAW FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECTION OF A LICENSED ARCHITECT, TO ALTER AN ITEM IN ANY WAY UNLESS ACTING UNDER THE DIRECTION OF A LICENSED ARCHITECT OR ENGINEER.

THE LINE SHOWN ABOVE IS EXACTLY ONE INCH LONG AT THIS ORIGINAL SCALE



D1 **LAYOUT AND MATERIALS PLAN ALTERNATE #1 - BOTANIC GARDEN SOUTHERN CONCRETE WALK**
1" = 20'

A1 **LAYOUT AND MATERIALS PLAN - BASE BID**
1" = 10'

LAYOUT AND MATERIALS NOTES

GENERAL NOTES:

1. GENERAL CONTRACTOR SHALL NOTIFY ALL UTILITY OWNERS HAVING UNDERGROUND UTILITIES ON SITE PRIOR TO EXCAVATION.
2. CONTRACTOR SHALL CONTACT UTILITY LOCATING COMPANY AND LOCATE ALL UTILITIES PRIOR TO ANY EXCAVATION.
3. VERIFY DIMENSIONS AND ACCEPT CONDITIONS BEFORE PROCEEDING WITH WORK. REPORT ANY DISCREPANCIES TO LANDSCAPE ARCHITECT BEFORE PROCEEDING.
4. DO NOT SCALE FROM MEASURING DRAWINGS.
5. WALKS, DRIVES AND WALLS TO BE STAKED OUT IN THE FIELD BY A LICENSED SURVEYOR.
6. LAYOUT DIMENSIONS AND RADII TO WALLS, CURBS, AND OTHER FEATURES ARE TO EXPOSED FACES UNLESS OTHERWISE NOTED.
7. ALL PAVEMENT RADII ARE 5' UNLESS OTHERWISE NOTED ON PLAN.
8. INSTALL SIGNS PER MUTCD Sec. 2A.18. CONTRACTOR TO VERIFY SIGN LOCATIONS WITH LANDSCAPE ARCHITECT BEFORE INSTALLATION.

13. WESTERN SITE STAIR HANDRAIL UPGRADE: RAILINGS TO BE MODIFIED TO BE BROUGHT UP TO MEET CODE. SEE PHOTOS WITH PROPOSED IMPROVEMENTS ON L-502. CONTRACTOR TO SUBMIT SHOP DRAWINGS OF PROPOSED HANDRAIL MODIFICATIONS WITH DIMENSIONS TO MEET CODE.
14. ALT #1: MEDIUM DUTY CONCRETE WALK ALONG SOUTH EDGE OF FOREST HOME DR. INCLUDES A CROSSWALK AT THE SITE ENTRY, 6' WALKWAY WITH GRANITE CURB, REVISED SITE ENTRY GRANITE CURBING, AND ASSOCIATED SIGNAGE.
15. ALT #2: MEDIUM DUTY CONCRETE WALK ALONG NORTH EDGE OF FOREST HOME DR. INCLUDES 8' WALK WITH JOINTS.

SCORING NOTES:

1. SCORING SHOWN IS INTENDED TO MINIMIZE CRACKING AT RADIUS INTERSECTIONS.
2. WHERE POSSIBLE, RADIUS FLARES SHALL BE INCORPORATED INTO LARGER POURS TO MINIMIZE ACUTE ANGLES.
3. TYPICAL SCORING IS TO CREATE EQUAL SQUARES WHERE POSSIBLE, I.E. SPACING IS EQUAL TO WIDTH OF WALK.
4. ALL CONSTRUCTION JOINTS SHALL BE REINFORCED WITH DOWELS PER DETAIL.
5. INSTALL EXPANSION JOINTS EVERY 34' MAX IN CONCRETE PAVEMENT AND IN AREAS WHERE CONCRETE ABUTS CURBS OR OTHER FIXED OBJECTS.
6. PRE-POUR MEETING THAT INCLUDES CONTRACTOR, OWNER, LANDSCAPE ARCHITECT AND ENGINEER TO OCCUR.

LAYOUT AND MATERIALS LEGEND

KEY	MATERIAL	DETAIL
	MEDIUM DUTY CONCRETE PAVEMENT	A1 L501
	HEAVY DUTY CONCRETE PAVEMENT	A2 L501
	CONCRETE PAVEMENT WITH INTEGRAL COLOR	A1 L501
	CONCRETE PAVEMENT WITH SNOWMELT SYSTEM ON SUBBASE	A3 L501
	CONCRETE PAVEMENT WITH SNOW MELT SYSTEM ON ROOF DECK	A4 L501
	ASPHALT PAVEMENT	B3 L501
	GRAVEL MULCH	A4 L502
	CONTRACT LIMIT LINE BASE BID	
	CONTRACT LIMIT LINE ALTERNATE 1	
	CONTRACT LIMIT LINE ALTERNATE 2	

ASHLEY MCGRAW
125 EAST JEFFERSON STREET
SYRACUSE, NEW YORK 13202
CONSULTANT:

FISHER ASSOCIATES

SEAL:

ARCH NAME ARCH ##
OWNER:
CORNELL UNIVERSITY
ITHACA, NEW YORK 14853

CORNELL UNIVERSITY
BEEBE HALL CU MAKER HUB RENOVATIONS
110 ARBORETUM RD,
ITHACA, NY 14850

AM JOB NO.
24213

REV. NO.	REV. DATE	REV. DESCRIPTION
2	2026.10.13	ADDENDUM #2

PROJECT STATUS:
BID DOCUMENTS
DATE ISSUED:
2026.09.14

LAYOUT AND MATERIALS PLAN

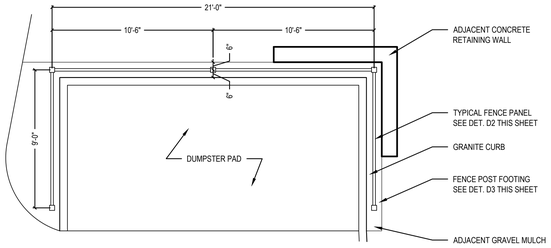
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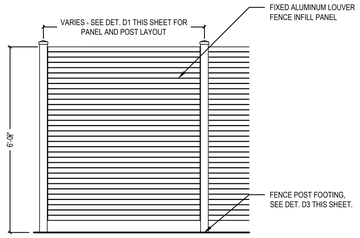
THIS LINE SHOWN ABOVE IS EXACTLY ONE INCH LONG AT THIS ORIGINAL DRAWING SCALE

NOTES:
1. CONTRACTOR SHALL FIELD VERIFY ALL BUILDING AND SITE ELEVATIONS, UTILITY LOCATIONS AND MECHANICAL EQUIPMENT PRIOR TO INSTALLATION AND NOTIFY LANDSCAPE ARCHITECT OF ANY DISCREPANCIES.
2. CONTRACTOR TO SUBMIT FENCE AND FOOTING LAYOUT SHOP DRAWINGS FOR APPROVAL PRIOR TO FABRICATION.



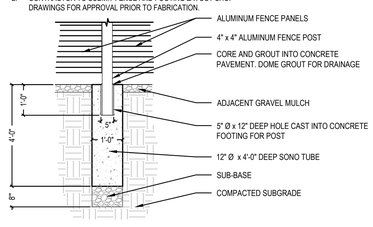
D1 **DUMPSTER ENCLOSURE**
1/4" = 1'-0"

NOTES:
1. BASIS OF DESIGN IS ECLIPSE ALUMINUM FIXED LOUVER FENCING, 80% VISUAL SCREENING AS MANUFACTURED BY AMETCO MANUFACTURING CORPORATION.
2. INSTALLATION TO BE COMPLETED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.

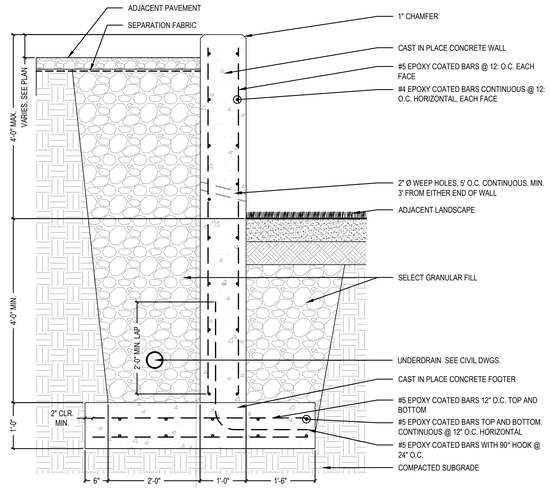


D2 **TYPICAL FENCE PANEL**
1/2" = 1'-0"

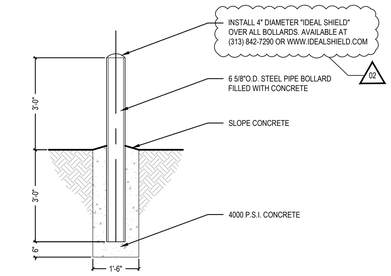
NOTES:
1. CONTRACTOR SHALL FIELD VERIFY ALL BUILDING AND SITE ELEVATIONS, UTILITY LOCATIONS AND MECHANICAL EQUIPMENT PRIOR TO INSTALLING SONO TUBES FOR POSTS AND NOTIFY LANDSCAPE ARCHITECT OF ANY DISCREPANCIES.
2. CONTRACTOR TO SUBMIT FENCE AND FOOTING LAYOUT SHOP DRAWINGS FOR APPROVAL PRIOR TO FABRICATION.



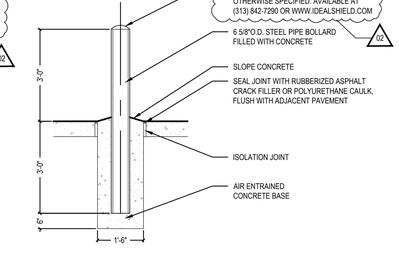
D3 **FENCE POST FOOTING**
1/2" = 1'-0"



D5 **CONCRETE RETAINING WALL**
3/4" = 1'-0"

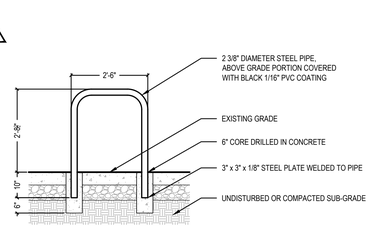


C2 **BOLLARD IN LANDSCAPE**
1/2" = 1'-0"



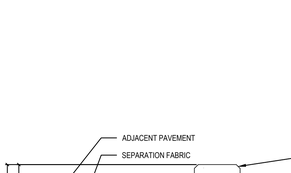
C3 **BOLLARD IN PAVEMENT**
1/2" = 1'-0"

NOTES:
1. BASIS OF DESIGN IS DERO 42 1/2 X 30" BICYCLE RACK HD: CORNELL HOOP.
2. PROVIDE SURFACE MOUNT OPTION WITH MANUFACTURER'S ANCHORS.



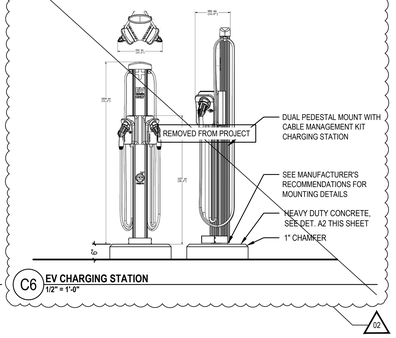
C4 **BICYCLE RACK**
1/2" = 1'-0"

NOTES:
1. BASIS OF DESIGN: LARGE BENCH WITH TWO DOUBLE SEATS BY WAUSAU TILE, 96" L x 20" W x 20" H, PRODUCT NO. ZB.WL.10.
2. COLOR TO BE CHOSEN FROM FULL SELECTION BY OWNER.
3. REFER TO MANUFACTURER RECOMMENDATION FOR SURFACE MOUNTING DETAIL.

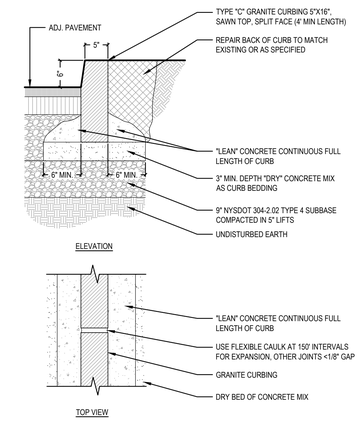


C5 **CONCRETE SEATWALL WITH INTEGRATED SEATING**
1/2" = 1'-0"

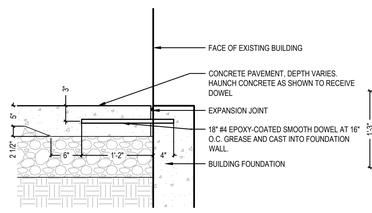
NOTES:
1. BASIS OF DESIGN: CHARGEPOINT, INC., MODEL: CPF50-L18-PEDMNT-CMK6-Dual .
2. SEE LAYOUT PLAN FOR DIMENSIONS OF CONCRETE BASE.



C6 **EV CHARGING STATION**
1/2" = 1'-0"

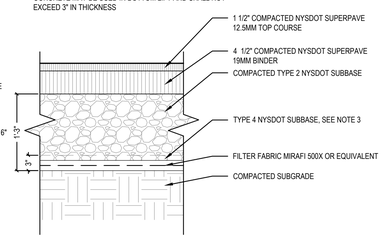


B1 **GRANITE CURB**
1" = 1'-0"

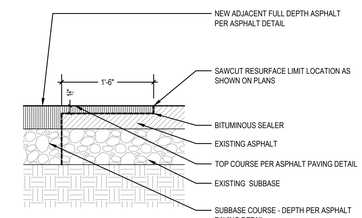


B2 **PIN AT BUILDING THRESHOLD**
1" = 1'-0"

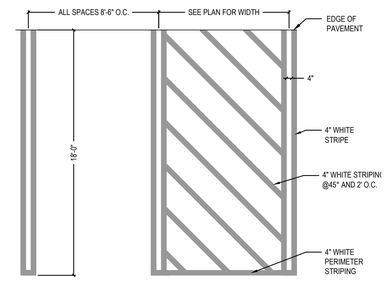
NOTES:
1. ALL SUBGRADE MATERIALS ARE EXISTING AND SHOWN FOR REFERENCE ONLY.
2. PLACE TACK COAT BETWEEN ASPHALT LAYERS.
3. APPROVED ASPHALT MILLINGS OR APPROVED RUBBLIZED CONCRETE MAY BE USED IN BOTTOM LIFT AND SHALL NOT EXCEED 3" IN THICKNESS



B3 **ASPHALT PAVEMENT**
1" = 1'-0"

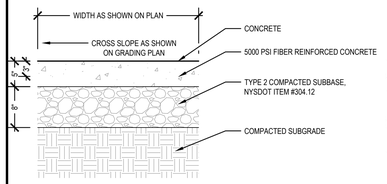


B4 **ASPHALT PATCH**
1" = 1'-0"



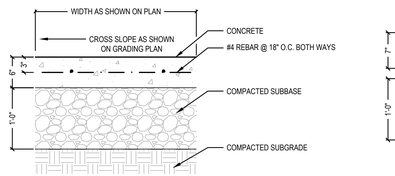
B5 **PARKING STRIPING**
1/4" = 1'-0"

NOTES:
1. CONCRETE SHALL HAVE 5000 PSI COMPRESSIVE STRENGTH AT 28 DAYS, 6% AIR ENTRAINMENT (±1%), MAXIMUM W/C = 0.40
2. USE VIBRATORY SCREEN DURING PLACEMENT IN CONFORMANCE WITH ACI 309, LATEST EDITION.
3. AFTER SURFACE SHEEN IS GONE, THE CONCRETE SURFACE SHALL BE CURED BY KEEPING CONCRETE CONTINUOUSLY WET FOR 7 DAYS MINIMUM.
4. SEAL ALL EXPOSED CONCRETE WITH PENETRATING SEALER AT COMPLETION OF WET CURE IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
5. USE MACRO FIBER REINFORCING EQUIVALENT TO W2.9, 6X6, MIN #4/CY.



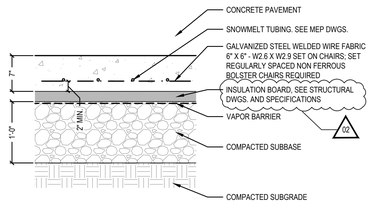
A1 **MEDIUM DUTY CONCRETE PAVEMENT**
1" = 1'-0"

NOTES:
1. 2" MINIMUM CONCRETE COVERAGE ON REBAR AND TIES



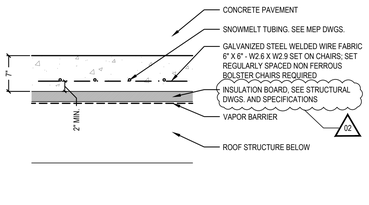
A2 **HEAVY DUTY CONCRETE PAVEMENT**
1" = 1'-0"

NOTES:
1. TOOLED CONCRETE JOINTS.
2. SEE PLANS FOR CONCRETE JOINTS, EXPANSION JOINTS (EJ), LAYOUT WIDTHS, RADII AND FINISHES.
3. SEE L201 FOR EXTENT OF SNOW MELT SYSTEM.

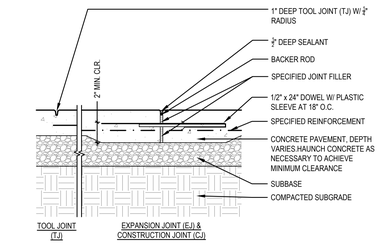


A3 **CONCRETE PAVEMENT WITH SNOW MELT SYSTEM ON SUBBASE**
1" = 1'-0"

NOTES:
1. TOOLED CONCRETE JOINTS.
2. SEE PLANS FOR CONCRETE JOINTS, EXPANSION JOINTS (EJ), LAYOUT WIDTHS, RADII AND FINISHES.
3. SEE L201 FOR EXTENT OF SNOW MELT SYSTEM.

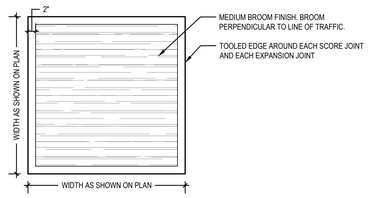


A4 **CONCRETE PAVEMENT WITH SNOW MELT SYSTEM ON ROOF DECK**
1" = 1'-0"



A5 **CONCRETE JOINTS**
1" = 1'-0"

NOTES:
1. SEE PLANS FOR LOCATION AND TYPE OF SCORE JOINTS.
2. BROOM PERPENDICULAR TO LINE OF TRAFFIC.



A6 **CONCRETE SIDEWALK BROOM FINISH**
3/4" = 1'-0"

ASHLEY MCGRAW
125 EAST JEFFERSON STREET
SYRACUSE, NEW YORK 13202
CONSULTANT:

FISHER ASSOCIATES

SEAL:

ARCH NAME ARCH ##
OWNER:
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ITHACA, NEW YORK 14853

CORNELL UNIVERSITY

BEEBE HALL CU MAKER HUB RENOVATIONS
110 ARBORETUM RD,
ITHACA, NY 14850

AM JOB NO.
24213

REV. NO.	REV. DATE	REV. DESCRIPTION
2	2026.10.13	ADDENDUM #2

PROJECT STATUS:
BID DOCUMENTS

DATE ISSUED:
2026.09.14

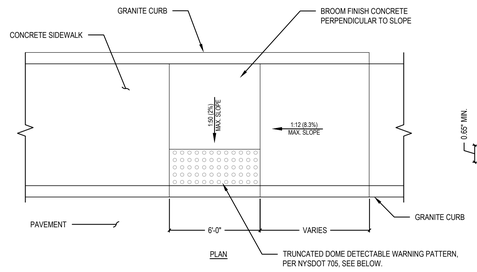
SITE DETAILS

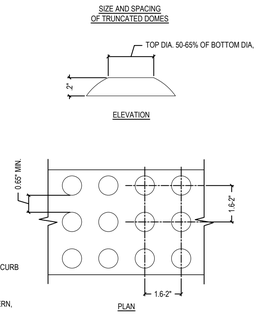
L501R1

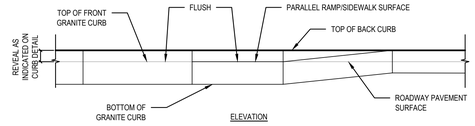
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THE ONE SHOWN ABOVE IS EXACTLY ONE INCH LONG AT THIS ORIGINAL PLOTTED SIZE.



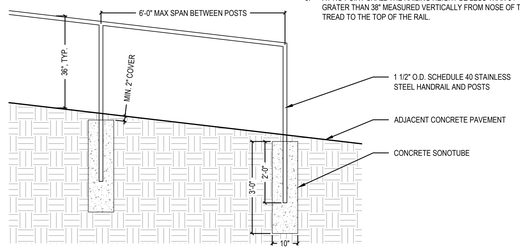




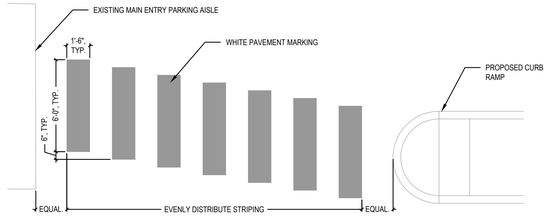
DETECTABLE WARNING PATTERN NOTES:
1. NEENAH FOUNDRY - CAST IRON OR EQUAL (UNPAINTED).
2. THE SIZE OF THE WARNING FIELD SHALL BE 2' IN DIRECTION OF TRAVEL AND FULL WIDTH OF RAMP. EXCLUSIVE OF SIDE FLARES.
3. LOCATE DETECTABLE WARNING FIELD AT BACK EDGE OF CURB. IF NO CURB, LOCATE 6" FROM ROADWAY PAVEMENT.
4. DOMES SHALL BE ALIGNED ON A SQUARE GRID IN THE DIRECTION OF TRAVEL.
5. SEE CORNELL UNIVERSITY STANDARD DETAIL 1.5.4 FOR ADDITIONAL INFORMATION.

D1 **PARALLEL CURB RAMP - ALTERNATE 1**
1/2" = 1'-0"

NOTES:
1. CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS AND NOTIFY LANDSCAPE ARCHITECT OF ANY DISCREPANCIES.
2. PROVIDE SHOP DRAWINGS FOR ALL SET OF HANDRAILS.
3. AT NO POINT SHALL THE RAILING HEIGHT BE LESS THAN 34" OR GRATER THAN 38" MEASURED VERTICALLY FROM NOSE OF THE TREAD TO THE TOP OF THE RAIL.

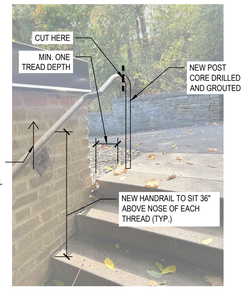


E3 **STAINLESS STEEL HANDRAIL - ALTERNATE 1**
1/2" = 1'-0"

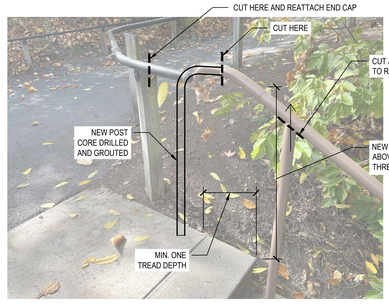


E4 **CROSSWALK - ALTERNATE 1**
1/4" = 1'-0"

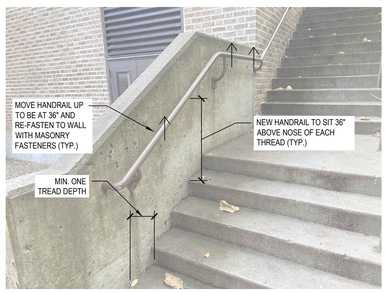
NOTES:
1. CONTRACTOR TO CUT AND MODIFY EXISTING RAIL TO ACHIEVE NECESSARY IMPROVEMENTS FOR CODE COMPLIANCE FOR THE ENTIRE STAIR RUN. CONTRACTOR TO VERIFY HEIGHT OF ENTIRE STAIR RUN.
2. CONTRACTOR TO PAINT HANDRAIL TO MATCH EXISTING CONDITION.



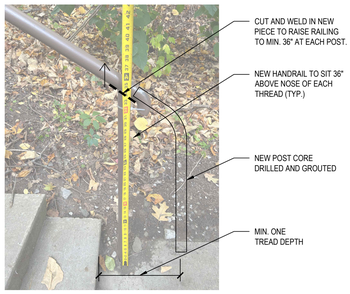
TOP OF STAIR HANDRAIL - EASTERN SIDE



TOP OF STAIR HANDRAIL - WESTERN SIDE



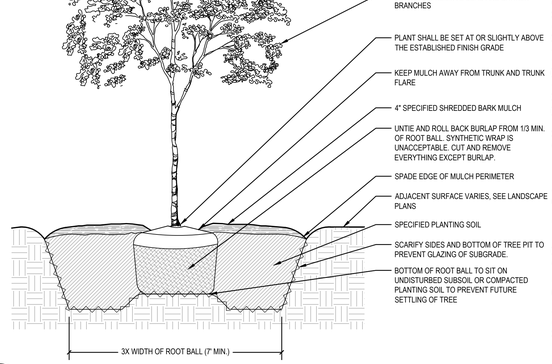
BOTTOM OF STAIR HANDRAIL - EASTERN SIDE



BOTTOM OF STAIR HANDRAIL - WESTERN SIDE

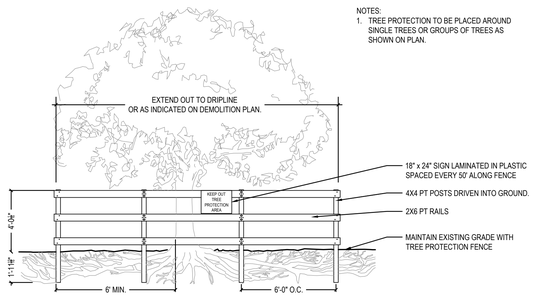
B4 **WESTERN STAIR HANDRAIL CODE UPGRADES**
N.T.S.

NOTES:
1. PLACE SOILS IN LIFTS PER SPECIFICATIONS
2. COMPACT PLACED SOILS PER SPECIFICATIONS



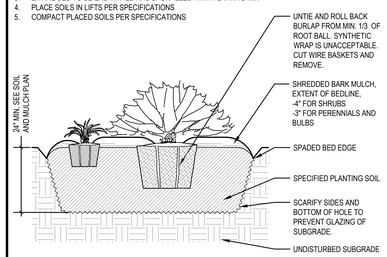
B2 **TREE PLANTING**
1/2" = 1'-0"

NOTES:
1. TREE PROTECTION TO BE PLACED AROUND SINGLE TREES OR GROUPS OF TREES AS SHOWN ON PLAN.

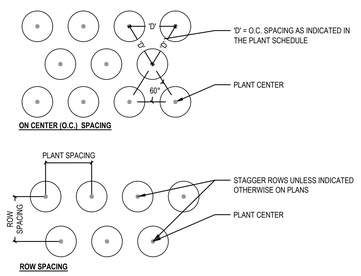


B1 **TREE PROTECTION FENCE**
1/4" = 1'-0"

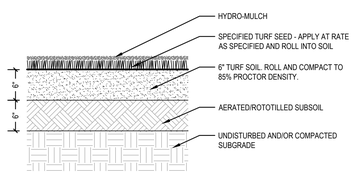
NOTES:
1. PLANT AT SAME DEPTH AS PREVIOUSLY PLANTED IN NURSERY OR CONTAINER
2. PROVIDE COMPACTED BASE UNDER ROOT BALL ONLY TO PREVENT SETTLING
3. ENTIRE BED TO BE EXCAVATED AND BACKFILLED WITH PLANTING MIX
4. PLACE SOILS IN LIFTS PER SPECIFICATIONS
5. COMPACT PLACED SOILS PER SPECIFICATIONS



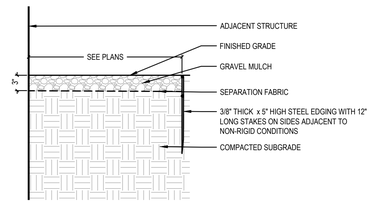
A1 **SHRUB AND PERENNIAL PLANTING**
1/2" = 1'-0"



A2 **SHRUB AND PERENNIAL SPACING**
1/2" = 1'-0"



A3 **LAWN AND MEADOW ESTABLISHMENT**
1" = 1'-0"



A4 **GRAVEL MULCH**
1" = 1'-0"

02

ASHLEY MCGRAW
125 EAST JEFFERSON STREET
SYRACUSE, NEW YORK 13202
CONSULTANT:

FISHER ASSOCIATES

SEAL:

ARCH NAME ARCH ##
OWNER:
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BEEBE HALL CU MAKER HUB RENOVATIONS
110 ARBORETUM RD, ITHACA, NY 14850

AM JOB NO.
24213

REV. NO.	REV. DATE	REV. DESCRIPTION
2	2026.10.12	ADDENDUM #2

PROJECT STATUS:
BID DOCUMENTS
DATE ISSUED:
2026.09.14

SITE DETAILS

L502R1

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THE LINE SHOWN ABOVE IS EXACTLY ONE INCH LONG AT THIS ORIGINAL PLOTTED SIZE

THE SQUARES ABOVE ARE COLOR, WITH BLACK AND WHITE LETTERS, IF PRINTED CORRECTLY

10/9/2026 4:16:05 PM

MISCELLANEOUS NOTES

1. NOT ALL STEEL OR CONCRETE WORK IS NOTED OR DETAILED ON THE DRAWINGS. REFER TO ARCHITECTURAL DRAWINGS FOR ADDITIONAL WORK REQUIRED. BOTH ARCHITECTURAL AND STRUCTURAL DRAWINGS ARE INTENDED TO WORK TOGETHER AND DEFINE THE COMPLETE SCOPE OF WORK REQUIRED. IF DISCREPANCIES ARE FOUND, NOTIFY THE ARCHITECT IMMEDIATELY.

2. STRUCTURAL ASSEMBLY SHOWN HEREIN WAS DESIGNED TO BE SELF SUPPORTING IN ITS FINAL STATE ONLY. TEMPORARY BRACING TO SUPPORT LATERAL LOADS DURING CONSTRUCTION IS THE CONTRACTOR'S RESPONSIBILITY.

3. LEGEND OF ABBREVIATIONS:

ADD. or ADD'L	ADDITIONAL
ALT.	ALTERNATE
ANCH.	ANCHOR
APPROX.	APPROXIMATE
ARCH.	ARCHITECT(URAL)
B or BOTT.	BOTTOM
B/	BOTTOM OF
BFE	BOTTOM OF FOOTING ELEVATION
BM	BEAM
BS.	BOTH SIDES
COL.	COLUMN
CONC	CONCRETE
CONT.	CONTINUOUS
C.J.	CONTROL JOINT
CLR	CLEAR
DIA	DIAMETER
DTL.	DETAIL
DWG or DWG's	DRAWINGS
DWL's	DOWELS
EA.	EACH
E.F.	EACH FACE
E.J.	EXPANSION JOINT
EL.	ELEVATION
ELEV.	ELEVATOR
EOC	EDGE OF CONCRETE
EOD	EDGE OF DECK
EOS	EDGE OF SLAB
EQ	EQUAL
E.W.	EACH WAY
EXG or EXIST.	EXISTING
EXP	EXPANSION
EXT.	EXTERIOR
F/	FACE OF
FDN	FOUNDATION
F.F.	FAIR FACE
FFE	FINISHED FLOOR ELEVATION
FIN.	FINISHED
FRM'G	FRAMING
FS	FOOTING STEP
FTG.	FOOTING
ga.	GAUGE
GALV.	GALVANIZED
H.S.	HEADED STUD
I.F.	INSIDE FACE
INSUL.	INSULATION
INT.	INTERIOR
INV.	INVERT
JT.	JOINT
L	LENGTH
Ld.	DEVELOPMENT LENGTH
LG.	LONG
LL.	LIVE LOAD
LLH	LONG LEG HORIZONTAL
LLV	LONG LEG VERTICAL
LLO	LONG LEG OUTSTANDING
MAX.	MAXIMUM
MIN.	MINIMUM
MISC.	MISCELLANEOUS
M.O.	MASONRY OPENING
MTL.	METAL
N.F.	NEAR FACE
N.A.	NOT APPLICABLE
NTS	NOT TO SCALE
o.c.	ON CENTER
OPNG.	OPENING
O.H.	OPPOSITE HAND
O.F.	OUTSIDE FACE
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
R.	RADIUS/RISER
R.D.	ROOF DRAIN
REINF.	REINFORCING
REQ'D.	REQUIRED
SCHED.	SCHEDULE
SECT.	SECTION
SF	SQUARE FOOT
SHT.	SHEET
SIM.	SIMILAR
S.O.G.	SLAB-ON-GRADE
SP.	SPACING
SPEC.	SPECIFICATION
S.S.	STAINLESS STEEL
STD.	STANDARD
STL.	STEEL
STRUCT.	STRUCTURE or STRUCTURAL
SYM.	SYMETRICAL
SW	SHEAR WALL
T.	TOP
T/	TOP OF
T/CONC.	TOP OF CONCRETE
T&B	TOP AND BOTTOM
TEMP.	TEMPERATURE
TFE	TOP OF FOOTING
THK.	THICK(NESS)
TPE	TOP OF PIER
T/STL	TOP OF STEEL ELEVATION
TYP.	TYPICAL
TWE	TOP OF WALL ELEVATION
U.N.O.	UNLESS NOTED OTHERWISE
VB.	VAPOR BARRIER
VERT.	VERTICAL
V.E.J.	VERTICAL EXPANSION JOINT
V.I.F.	VERIFY IN FIELD
V.S.C.	VERTICAL SLIDE CLIP
W	WIDTH
WP.	WORK POINT
WWF	WELDED WIRE FABRIC
w/	WITH

B1 MISCELLANEOUS NOTES
SCALE: NO SCALE

STRUCTURAL STEEL NOTES

1. DETAILING, FABRICATION, AND ERECTION SHALL CONFORM WITH AISC 360-16 "SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS", WELDING SHALL CONFORM WITH AWS D1.1:2025 "STRUCTURAL WELDING CODE - STEEL".

2. STRUCTURAL STEEL MATERIALS SHALL CONFORM WITH THE FOLLOWING UNLESS NOTED OTHERWISE:

   a. W SHAPES.....ASTM A992
   b. CHANNELS AND ANGLES.....ASTM A36
   c. PLATES.....ASTM A36
      .....ASTM A572, GRADE 50
   d. HOLLOW STRUCTURAL SECTIONS.....ASTM A500, GRADE B
   e. BOLTS.....ASTM F3125, GRADE A325
      .....ASTM F3125, GRADE F1852
   f. ANCHOR RODS.....ASTM F1554, GRADE 36
   g. HEADED STUDS.....ASTM A108
   h. WELD ELECTRODES.....E70XX

3. STEEL BEAMS SHALL BE FABRICATED WITH MILL CAMBER UP.

4. SPLICES SHALL BE ALLOWED ONLY AT LOCATIONS SPECIFICALLY INDICATED ON THE STRUCTURAL DRAWINGS UNLESS APPROVED OTHERWISE BY THE ENGINEER IN WRITING.

5. FIELD MODIFICATION OF STRUCTURAL STEEL IS PROHIBITED WITHOUT PRIOR WRITTEN APPROVAL FROM THE ENGINEER.

6. BOLTS IN TRUSSES, MOMENT CONNECTIONS, BRACED FRAMES, BEAMS DESIGNATED TO RESIST BOTH SHEAR AND TENSION, AND OVERSIZED HOLES SHALL BE SLIP CRITICAL. ALL OTHER BOLTS MAY BE SNUG TIGHT.

7. STRUCTURAL STEEL MEMBERS AND CONNECTIONS EXPOSED TO WEATHER SHALL BE GALVANIZED UNLESS NOTED OTHERWISE. FIELD WELDS TO BE GALVANIZED SHALL BE TOUCHED UP WITH A ZINC RICH COATING AFTER COMPLETION AND INSPECTION OF THE WELD.

8. STEEL PRIMING AND COATINGS TO BE COORDINATED WITH THE ARCHITECTURAL DRAWINGS FOR FIREPROOFING AND FINISH REQUIREMENTS.

9. ALL CONNECTIONS UNLESS INDICATED AS BEING COMPLETELY DESIGNED ON THE STRUCTURAL DRAWINGS SHALL BE DESIGNED AND DETAILED BY A PROFESSIONAL ENGINEER IN ACCORDANCE WITH THE SPECIFICATIONS.

10. TYPICAL CONNECTION DETAILS PROVIDED ON THE DRAWINGS ARE INTENDED TO INDICATE PERMISSIBLE ASSEMBLIES AND DO NOT DEFINE FINAL CONNECTION COMPONENTS TO BE ENGINEERED AS DESCRIBED ABOVE. CONNECTIONS COMPLETELY DESIGNED BY THE ENGINEER OF RECORD WILL PROVIDE ALL REQUIRED CONNECTIONS COMPONENTS INCLUDING, BUT NOT LIMITED TO, PLATE SIZE, WELD SIZE, AND NUMBER OF BOLTS.

11. GROUT WHERE INDICATED AT BASE PLATES AND BEARING PLATES SHALL BE NON-METALLIC NON-SHRINK WITH A MINIMUM COMPRESSIVE STRENGTH OF 6000 PSI AT 28 DAYS CONFORMING WITH ASTM C1107.

D4 STRUCTURAL STEEL NOTES
SCALE: NO SCALE

TEMPORARY SHORING/UNDERPINNING NOTES

1. CONTRACTOR TO DESIGN, PROVIDE AND MAINTAIN SHORING/UNDERPINNING, AS REQUIRED TO PRESERVE STABILITY AND PREVENT MOVEMENT, SETTLEMENT, COLLAPSE, OR DAMAGE OF CONSTRUCTION AND FINISHES TO REMAIN, AND TO PREVENT UNEXPECTED OR UNCONTROLLED MOVEMENT OR COLLAPSE OF CONSTRUCTION BEING DEMOLISHED.

2. REVIEW PROJECT RECORD DOCUMENTS OF EXISTING CONSTRUCTION PROVIDED BY THE OWNER. EXISTING CONDITIONS MAY NOT BE AS THOSE INDICATED ON THESE DOCUMENTS.

3. SHORING DESIGN LOADS SHALL BE EXISTING CONSTRUCTION DEAD LOADS PLUS MINIMUM DESIGN LOADS PER ASCE 37-14. EXISTING CONSTRUCTION DEAD LOADS NOTED ON DEMO PLANS. LOADS PROVIDED ARE BASED ON EXISTING CONSTRUCTION TO REMAIN. ADD WEIGHT OF EXISTING CONSTRUCTION TO BE DEMOLISHED AS REQUIRED BY SHORING SEQUENCE.

4. ENGAGE A PROFESSIONAL ENGINEER TO DESIGN AND FULLY DEFINE ALL TEMPORARY SHORING (SHORING ENGINEER OF RECORD). PRIOR TO DESIGN, THE ENGINEER TO PERFORM VERIFICATION SURVEY OF ALL EXISTING CONDITIONS WITHIN AND AFFECTED BY AREA OF WORK. PRIOR TO START OF WORK, SUBMIT CALCULATIONS, SHORING SEQUENCE AND SHORING DRAWINGS / SPECIFICATIONS STAMPED AND SIGNED BY NYS PE FOR REVIEW.

5. REFER TO DEMO PLANS FOR SPECIFIC ITEMS REQUIRING SHORING DESIGN BASED ON INFORMATION INDICATED IN RECORD DOCUMENTS OF EXISTING CONSTRUCTION. DEMO PLANS MAY NOT INDICATE ALL ITEMS REQUIRING TEMPORARY SHORING

B4 TEMPORARY SHORING/ UNDERPINNING NOTES
SCALE: NO SCALE

GENERAL DESIGN NOTES

1. AS USED IN THE GENERAL NOTES:

   a. "DRAWINGS" MEANS THE LATEST STRUCTURAL DESIGN DRAWINGS, U.N.O.
   b. "SPECIFICATIONS" MEANS THE LATEST PROJECT SPECIFICATIONS, U.N.O.
   c. "CONTRACT DOCUMENTS" IS DEFINED AS THE DESIGN DRAWINGS AND SPECIFICATIONS.
   d. "SEOR" IS DEFINED AS THE STRUCTURAL ENGINEER OF RECORD FOR THE STRUCTURE IN ITS FINAL CONDITION.
   e. "DESIGN PROFESSIONAL" IS DEFINED AS THE OWNER'S ARCHITECT AND SEOR.
   f. "MEP" INCLUDES, BUT IS NOT LIMITED TO MECHANICAL, ELECTRICAL, PLUMBING, AND FIRE PROTECTION.
   g. "CONTRACTOR" IS DEFINED TO INCLUDE ANY OF THE FOLLOWING: GENERAL CONTRACTOR AND THEIR SUBCONTRACTORS, CONSTRUCTION MANAGER AND THEIR SUBCONTRACTORS, STRUCTURAL STEEL FABRICATOR OR STRUCTURAL STEEL ERECTOR.
   h. "STRUCTURE IN ITS FINAL CONDITION" MEANS ALL STRUCTURAL ELEMENTS SHOWN ON THE STRUCTURAL CONTRACT DOCUMENTS ARE INSTALLED AND COMPLETELY CONNECTED AND INSPECTED WITH NO OUTSTANDING NON-COMPLIANCE ISSUES.
   i. "DELEGATE DESIGN" MEANS A SCOPE OF WORK THAT MEETS PERFORMANCE CRITERIA ESTABLISHED IN THE CONTRACT DOCUMENTS AND IS TO BE COMPLETED BY THE CONTRACTOR'S LICENSED ENGINEER.

2. THE CONTRACTOR IS RESPONSIBLE FOR COORDINATION OF STRUCTURAL WORK WITH THE ARCHITECTURAL, CIVIL, MEP CONTRACT DOCUMENTS, AS WELL AS ANY OTHER APPLICABLE TRADES.

3. THE CONTRACTOR IS RESPONSIBLE FOR THE STABILITY OF THE STRUCTURE UNTIL THE CONSTRUCTION OF THE STRUCTURE REACHES ITS FINAL CONDITION.

4. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR THE DESIGN, INSTALLATION, AND REMOVAL OF TEMPORARY BRACING AND CONSTRUCTION SUPPORTS, FOR NEW AND EXISTING STRUCTURES, AS NECESSARY TO COMPLETE THE PROJECT. NO PORTION OF THE PROJECT WHILE UNDER CONSTRUCTION IS INTENDED TO BE STABLE IN THE ABSENCE OF THE CONTRACTOR'S TEMPORARY SUPPORTS AND BRACES. CONTRACTOR SHALL RETAIN A STRUCTURAL ENGINEER LICENSED IN THE STATE WHERE THE PROJECT IS LOCATED TO DESIGN TEMPORARY BRACING AND CONSTRUCTION SUPPORTS.

5. THE SPECIFICATIONS ARE AN INTEGRAL PART OF THE CONTRACT DOCUMENTS AND SHALL BE USED IN CONJUNCTION WITH THE STRUCTURAL DRAWINGS.

6. THE CONTRACTOR SHALL VERIFY ALL EXISTING DIMENSIONS AND CONDITIONS AND COORDINATE WITH THE STRUCTURAL DRAWINGS, ARCHITECTURAL DRAWINGS, DRAWINGS FROM OTHER CONSULTANTS, PROJECTION SHOP DRAWINGS AND FIELD CONDITIONS.

7. IN CASES OF CONFLICT BETWEEN THE DRAWINGS AND/OR SPECIFICATIONS AND OTHER DISCIPLINES OR EXISTING CONDITIONS, CONTRACTOR SHALL NOTIFY THE DESIGN PROFESSIONALS AND OBTAIN CLARIFICATION PRIOR TO BIDDING AND PROCEEDING WITH WORK.

8. LAYOUT OF STRUCTURAL ELEMENTS AS SHOWN ON THE DRAWINGS AS FOLLOWS:

   a. DO NOT SCALE DRAWINGS. ONLY USE DIMENSIONS INDICATED ON THE DRAWINGS.
   b. ASSUME EQUAL SPACING BETWEEN ESTABLISHED DIMENSIONS U.N.O.
   c. CENTERLINES OF COLUMNS AND FOUNDATIONS COINCIDE WITH GRID LINE INTERSECTION U.N.O.
   d. CENTERLINES OF GRADE BEAMS AND WALLS COINCIDE WITH CENTERLINES OF FOUNDATIONS U.N.O.
   e. CENTERLINES OF FRAMING MEMBERS COINCIDE WITH COLUMN CENTERLINES U.N.O.
   f. EXISTING STRUCTURE INFORMATION SHOWN FADED. NEW STRUCTURE IS SHOWN DARK.

1

9. THE CONTRACTOR SHALL PROTECT EXISTING FACILITIES, STRUCTURES AND UTILITIES FROM DAMAGE.

10. THE CONTRACTOR SHALL VERIFY CONSTRUCTION LOADS DO NOT EXCEED THE CAPACITY OF THE STRUCTURE AT THE TIME THE LOAD IS APPLIED.

11. THE CONTRACTOR SHALL COORDINATE THE BOTTOM OF BASE PLATE ELEVATIONS WITH THE AS-BUILT TOP OF SUPPORT ELEVATIONS.

12. THE CONTRACTOR SHALL VERIFY ALL OPENING SIZES AND LOCATIONS WITH OTHER DISCIPLINES. THE DRAWINGS DO NOT SHOW ALL OPENINGS REQUIRED. ADDITIONAL OPENINGS, BLOCKOUTS AND SLEEVES MAY BE REQUIRED BY OTHER DISCIPLINES AND SHALL BE CONSTRUCTED USING THE TYPICAL DETAILS AND/OR THE CRITERIA INDICATED ON THE DRAWINGS. OPENINGS REQUIRED BUT NOT SHOWN ON THE STRUCTURAL DRAWINGS MUST BE APPROVED BY THE SEOR.

13. ELEVATOR GUIDERAIL SUPPORTS, MACHINE ROOMS, PITS, AND PENTHOUSES ARE BASED ON ELEVATOR TYPES INDICATED ON ARCHITECTURAL CONTRACT DOCUMENTS. CONTRACTOR SHALL SUBMIT FOR REVIEW ANY PLANNED CHANGE TO ELEVATORS TO DESIGN PROFESSIONALS PRIOR TO SUBMITTING CORRESPONDING STRUCTURAL SHOP DRAWINGS FOR ACTION.

14. MECHANICAL EQUIPMENT WEIGHTS ARE BASED ON EQUIPMENT INDICATED ON MEP CONTRACT DOCUMENTS. CONTRACTOR SHALL SUBMIT FOR REVIEW ANY PLANNED CHANGE TO MECHANICAL EQUIPMENT TO DESIGN PROFESSIONALS PRIOR TO SUBMITTING CORRESPONDING STRUCTURAL SHOP DRAWINGS FOR ACTION.

C5 GENERAL DESIGN NOTES
SCALE: NO SCALE

MASONRY NOTES

1. ALL MASONRY CONSTRUCTION SHALL CONFORM THE "BUILDING CODE REQUIREMENTS FOR MASONRY STRUCTURES" TMS 402/602 - 22.

2. ALL CONCRETE MASONRY UNITS SHALL BE NORMAL WEIGHT WITH TWO (2) CELLS AND CONFORM TO ASTM C 90.

3. ALL MORTAR SHALL CONFORM TO ASTM C 270.

4. ALL GROUT SHALL CONFORM TO ASTM C 476.

5. THE MINIMUM SPECIFIED NET AREA COMPRESSIVE STRENGTH OF MASONRY (f' m) SHALL BE 2,000 PSI AND SHALL CONSIST OF THE FOLLOWING COMPONENTS:

   a. CONCRETE MASONRY UNITS.....3,250 PSI MINIMUM NET AREA COMPRESSIVE STRENGTH
   b. PORTLAND CEMENT MORTAR.....TYPE S
   c. GROUT.....2,000 PSI MINIMUM COMPRESSIVE STRENGTH

6. GROUT ALL REINFORCED BLOCK CORES AND BLOCKS CORES BELOW FINISHED GRADE TO BE GROUTED SOLID WITH GROUT NOTED ABOVE UNLESS NOTED OTHERWISE.

7. MASONRY REINFORCING BARS SHALL BE ASTM A615 GRADE 60 (Fy = 60 KSI) DEFORMED.

8. CONCRETE MASONRY CONSTRUCTION TO BE OBSERVED AND TESTED BY AN INDEPENDENT TESTING LABORATORY.

B5 MASONRY NOTES
SCALE: NO SCALE

CODE COMPLIANCE NOTES

1. PERFORM ALL CONSTRUCTION IN CONFORMANCE WITH THE BUILDING CODE REFERENCED WITHIN THESE CONTRACT DOCUMENTS. THE CONTRACT DOCUMENTS REFER TO THE FOLLOWING CODES AND STANDARDS:

   2025 BUILDING CODE OF NEW YORK STATE (NYSBC 2025)
   AND 2025 EXISTING BUILDING CODE OF NEW YORK STATE.

2. FLOOR LIVE LOAD: (NYSBC 2025 1603.1.1)
   100 PSF

3. ROOF SNOW LOAD DATA: (NYSBC 2025 1603.1.3)
   a. GROUND SNOW LOAD.....p_g = 82 PSF
   b. FLAT-ROOF SNOW LOAD.....p_f = 61 PSF
   c. SNOW LOAD IMPORTANCE FACTOR.....I_s = 1.0
   d. THERMAL FACTOR.....C_t = 1.18
   e. SLOPE FACTOR.....C_s = 1.0

4. WIND DESIGN DATA: (NYSBC 2025 1603.1.4)
   a. BASIC WIND SPEED.....V = 117 MPH
   b. RISK CATEGORY.....III
   c. WIND EXPOSURE.....B
   d. INTERNAL PRESSURE.....+/- 0.18

5. EARTHQUAKE DESIGN DATA: (NYSBC 2025 1603.1.5)
   a. RISK CATEGORY.....III
   b. SEISMIC IMPORTANCE FACTOR.....I_e = 1.25
   c. MAPPED SPECTRAL RESPONSE ACCELERATION.....S_S = 0.14 g
   d. MAPPED SPECTRAL RESPONSE ACCELERATION.....S_1 = 0.041 g
   e. SITE CLASS.....D
   f. DESIGN SPECTRAL RESPONSE ACCELERATION.....S_{DS} = 0.12 g
   g. DESIGN SPECTRAL RESPONSE ACCELERATION.....S_{D1} = 0.059 g
   h. SEISMIC DESIGN CATEGORY.....A
   i. BASIC SEISMIC FORCE-RESISTING SYSTEM.....MOMENT FRAME (ADDITION)

   j. SEISMIC RESPONSE COEFFICIENT.....C_s = 0.05
   k. RESPONSE MODIFICATION COEFFICIENT.....R = 3
   l. ANALYSIS PROCEDURE.....EQUIVALENT LATERAL FORCE

6. ROOF RAIN LOAD DATA: (NYSBC 2025 1603.1.9)
   a. RAIN INTENSITY - 15 MINUTE.....6.54 in./hr.
   b. RAIN INTENSITY - 60 MINUTE.....2.82 in./hr.

D6 CODE COMPLIANCE NOTES
SCALE: NO SCALE

CAST-IN-PLACE CONCRETE NOTES

1. ALL CONCRETE SHALL COMPLY WITH ACI 301-16 "SPECIFICATIONS FOR STRUCTURAL CONCRETE"

2. HOT WEATHER AND COLD WEATHER CONCRETE PLACEMENT SHALL COMPLY WITH ACI 305-10 "GUIDE TO HOT WEATHER CONCRETING" AND ACI 306-16 "GUIDE TO COLD WEATHER CONCRETING", RESPECTIVELY.

3. ALL CONCRETE SHALL BE NORMAL WEIGHT AND HAVE THE FOLLOWING PROPERTIES:

CONCRETE PROPERTIES SCHEDULE

CONCRETE TYPE	MINIMUM CEMENTITIOUS CONTENT (LB./CU. YD.)	MAX WATER/CEMENT RATIO	28-DAY COMPRESSIVE STRENGTH (PSI)	AIR CONTENT (% BY VOLUME)	NOMINAL MAXIMUM AGGREGATE SIZE (INCHES)
SPREAD FOOTINGS	-	0.5	3,000	4.5 +/- 1.5	1
FOUNDATION WALLS	-	0.45	4,500	4.5 +/- 1.5	1
INTERIOR SLAB ON GRADE	540	0.45	4,500	0-3	1
SLAB ON METAL DECK	540	0.45	4,500	0-3	3/4

NOTES:
A. REFER TO SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

B. MINIMUM CEMENTICIOUS CONTENT AND AIR CONTENT BASED ON MAXIMUM AGGREATE SIZE. ADJUST PER SELECTED AGGREATE PER ACI 381 AS REQUIRED.

4. THE USE OF CALCIUM CHLORIDE AND OTHER CHLORIDE CONTAINING AGENTS IS PROHIBITED.

5. PROPOSED CONCRETE MIX DESIGNS SHALL BE SUBMITTED WITH TESTING BY AN INDEPENDENT TESTING LABORATORY. VERIFICATION OF REQUIRED AVERAGE COMPRESSIVE STRENGTH IN ACCORDANCE WITH ACI 301 SHALL BE INCLUDED.

6. WHERE FRESH CONCRETE IS PLACED AGAINST HARDENED CONCRETE CLEAN EXISTING SURFACE OF ANY LATENCY OR FOREIGN MATERIAL AND PROVIDE SATURATED SURFACE DRY AT INTERFACE. APPLICATION OF A BONDING AGENT OR ROUGHENING SURFACE TO 1/4" AMPLITUDE AS REQUIRED BY THE DRAWINGS.

7. CONSTRUCTION JOINTS OTHER THAN SHOWN ON THE DRAWINGS ARE PERMITTED SUBJECT TO THE APPROVAL OF THE ENGINEER. AT WALLS CONSTRUCTION JOINTS SHALL BE LOCATED SO AS TO PROVIDE A 60'-0" MAXIMUM LENGTH IN ANY DIRECTION. PROVIDE CONSTRUCTION JOINT DETAILS AS INDICATED ON THE DRAWINGS AND INDICATE AS REQUIRED WITHIN REINFORCING STEEL SHOP DRAWINGS.

8. UNLESS NOTED OTHERWISE, PLACE VERTICAL CONTRACTION JOINTS IN CONCRETE WALLS AT 20'-0" MAXIMUM, NOT TO EXCEED THREE TIMES THE HEIGHT OF THE WALL, AND AT ANY CHANGE IN WALL THICKNESS. CONSTRUCTION JOINTS SHALL BE LOCATED AT CONTRACTION JOINTS AND DETAILED AS INDICATED ON THE DRAWINGS.

9. HORIZONTAL CONSTRUCTION JOINTS ARE PERMITTED ONLY WHERE INDICATED.

10. SAW CUT CONTROL JOINTS OR CONSTRUCTION JOINTS IN SLABS ON GRADE SHALL BE SPACED TO DIVIDE THE SLAB AT MAXIMUM SPACING INDICATED ON THE DRAWINGS. JOINTS SHALL BE LOCATED AT COLUMN CENTERLINES WHERE POSSIBLE. CONTRACTOR SHALL SUBMIT JOINT LAYOUT COORDINATED WITH FLOOR FINISHES TO ARCHITECT FOR APPROVAL PRIOR TO PLACEMENT. PROVIDE JOINT REINFORCEMENT AS INDICATED ON THE DRAWINGS.

11. BEGIN CURING SLABS IMMEDIATELY AFTER FINISHING IN ACCORDANCE WITH THE SPECIFICATIONS. CURING METHOD SHALL BE COMPATIBLE WITH FINISHES.

12. DO NOT PLACE CONDUITS, PIPES, OR OTHER SIMILAR ITEMS WITHIN SLABS, BEAMS, COLUMNS, OR WALLS UNLESS SPECIFICALLY SHOWN AND DETAILED ON THE DRAWINGS.

13. CONTRACTOR SHALL COORDINATE LOCATIONS AND DIMENSIONS OF ALL OPENINGS AND SLEEVES REQUIRED FOR MECHANICAL, ELECTRICAL, AND PLUMBING PENETRATIONS PRIOR TO CONCRETE PLACEMENT. INDICATE LOCATIONS ON SHOP DRAWINGS FOR REVIEW BY THE ENGINEER. OPENINGS SHALL NOT BE CUT OR DRILLED INTO THE SLAB WITHOUT APPROVAL BY THE ENGINEER.

14. CONCRETE REINFORCEMENT MATERIALS SHALL CONFORM TO THE FOLLOWING:

   a. REINFORCING BARS.....ASTM A615, GRADE 60
   b. WELDED WIRE FABRIC.....ASTM A1064

15. UNLESS OTHERWISE SHOWN, REINFORCING BAR SPLICES ARE TO BE CLASS 'B' SPLICES.

A6 CAST-IN-PLACE CONCRETE NOTES
SCALE: NO SCALE

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24213

REV. NO.	REV. DATE	REV. DESCRIPTION
1	2026.10.12	ADDENDUM #2

PROJECT STATUS:
BID DOCUMENTS

DATE ISSUED:
2026.09.14

GENERAL NOTES

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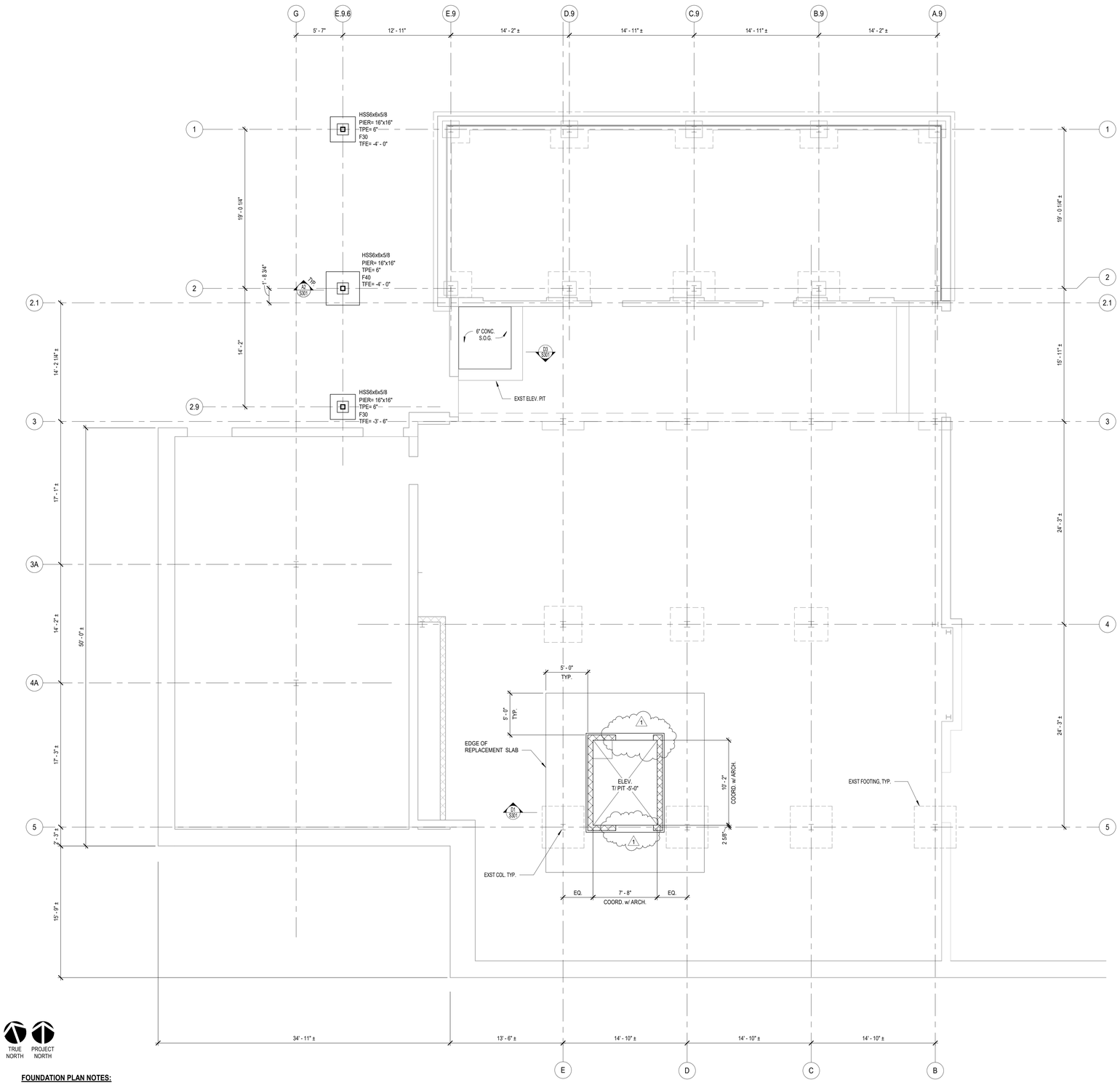
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FOUNDATION PLAN NOTES:

1. TOP OF EXST CONCRETE SLAB ON GRADE ELEVATION 0'-0" REFERENCED (+/-) FROM FINISHED FLOOR ELEVATION. (DATUM ELEVATION = 831.62')
2. TOP OF FOOTING ELEVATION (TFE) REFERENCED FROM SLAB-ON-GRADE ELEVATION 0'-0", UNLESS NOTED (+/-) THEREFROM.
3. ' F## ' - DENOTES FOOTING DESIGNATION, SEE FOOTING SCHEDULE A5/S101 FOR SIZE AND REINFORCING.
4. TOP OF PIER/PILASTER ELEVATION (TPE) REFERENCED (+/-) FROM FINISHED FLOOR ELEVATION 0'-0".

FOOTING SCHEDULE

MARK	LENGTH	WIDTH	THICKNESS	REINFORCING STEEL
F30	3' - 0"	3' - 0"	1' - 0"	(4) #5 BARS, E.W., BOT.
F40	4' - 0"	4' - 0"	1' - 0"	(5) #5 BARS, E.W., BOT.

A1 FOUNDATION PLAN
SCALE: 3/16" = 1'-0"

A5 FOOTING SCHEDULE
SCALE: NO SCALE

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FOUNDATION PLAN

S101R

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SECOND FLOOR/UPPER LEVEL FRAMING PLAN NOTES:

1. EXST TOP OF STEEL ELEVATION = +13'-7 1/2" UNLESS NOTED (+/-) THEREFROM.
2. TOP OF NEW STEEL SHOWN (+/-) FROM ELEVATION +13'-7 1/2.
3. EXST TOP OF CONCRETE SLAB ELEVATION = +14'-0" UNLESS NOTED (+/-) THEREFROM.
4. FLOOR CONSTRUCTION:
   a. 3" CONCRETE ON 1 1/2" 20 ga. COMPOSITE METAL DECK w/ 4x4 W2.9 x W2.9 WWF TOTAL SLAB THICKNESS = 4 1/2"
   b. 4 1/2" CONCRETE ON 1 1/2" 20 ga. COMPOSITE METAL DECK w/ 4x4 W2.9 x W2.9 WWF TOTAL SLAB THICKNESS = 6"
5. SHORE EXST 4 1/2" COMPOSITE SLAB PRIOR TO SLAB REMOVALS. SHORING TO REMAIN IN PLACE UNTIL SUPPORT FRAMING IS COMPLETED.
6. SHORE EXST BEAMS FOR ELEVATOR SHAFT CONSTRUCTION.
7. LIMITS OF THE FOLLOWING CONSTRUCTION:
   a. 6" (TOTAL THICKNESS) SLAB ON METAL DECK
   b. MODIFIED BITUMINOUS SHEET MEMBRANE
   c. 2" RIGID INSULATION
   d. 7" CONCRETE PAVEMENT (SEE MECHANICAL DRAWINGS FOR CONSTRUCTION AND LIMITS OF SNOW MELT SYSTEM).

A1 SECOND FLOOR/UPPER LEVEL FRAMING PLAN

SCALE: 3/16" = 1'-0"

LEGEND

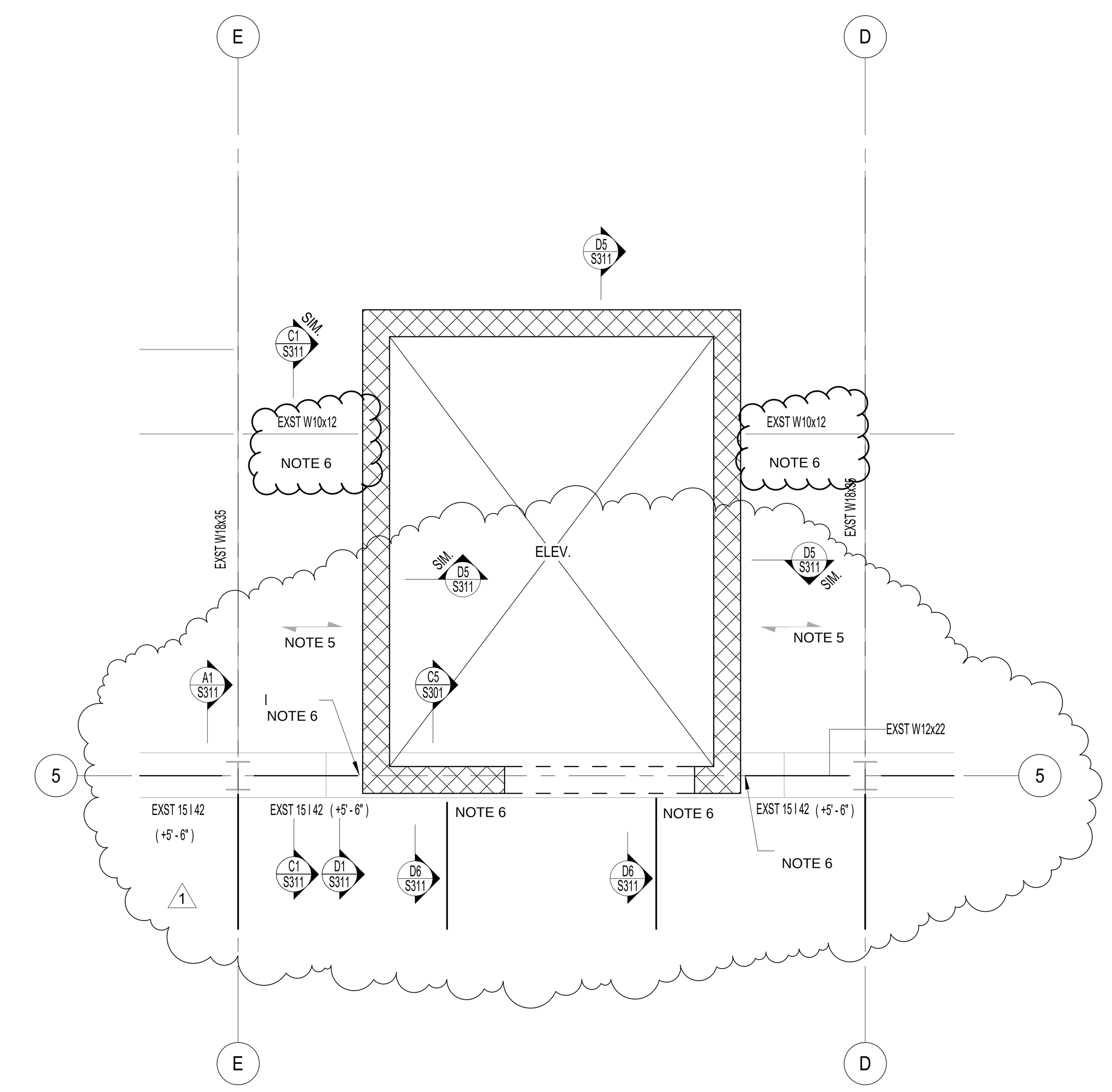
- INDICATES DIRECTION OF SPAN OF COMPOSITE METAL DECK. SEE PLAN NOTES FOR FLOOR CONSTRUCTION INFORMATION.

BEAM LEGEND

V = ## k / A = ## k — W ## x ## (#) — C = ## " (+/- #)

- INDICATES UNFACTORED VERTICAL REACTION IN KIPS. USE 10k FOR REACTIONS NOT INDICATED. CONNECTION PLATES SHALL BE AT LEAST HALF BEAM DEPTH.
- INDICATES MOMENT CONNECTON. SEE MOMENT SCHEDULE BELOW FOR DESIGN FORCES.
- INDICATES REQUIRED CAMBER (NONE IF OMITTED)
- INDICATES BEAM SIZE
- INDICATES DEVIATION FROM TYPICAL T/STEEL ELEVATION (SEE NOTE #1)
- INDICATES NUMBER OF 3/4" dia. x 4" HEADED STUDS FOR COMPOSITE BEAMS. EQUALLY SPACED
- INDICATES UNFACTORED AXIAL REACTION IN KIPS. (NONE IF OMITTED) CONNECTION PLATES SHALL BE AT LEAST HALF BEAM DEPTH.

DESIGN CONNECTIONS FOR THE FOLLOWING LOAD COMBINATION :
(CONNECTIONS SHALL BE DESIGNED ACCORDING TO AISC 15th EDITION)
1.0 V
0.9 V + 0.75 A
0.3 V + 1.0 A



B5 SECOND FLOOR/UPPER LEVEL ENLARGED FRAMING PLAN

SCALE: 3/8" = 1'-0"

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SEAL: STATE OF NEW YORK — ROBERT JAMES COSSELMAN — 063300 — LICENSED PROFESSIONAL ENGINEER

EXPIRES: 06/30/2028
CERT. OF AUTH: 0021135

OWNER:
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BEEBE HALL CU MAKER HUB RENOVATIONS
110 ARBORETUM RD,
ITHACA, NY 14850

AM JOB NO.: 24213

REV. NO.	REV. DATE	REV. DESCRIPTION
1	2026.10.12	ADDENDUM #2

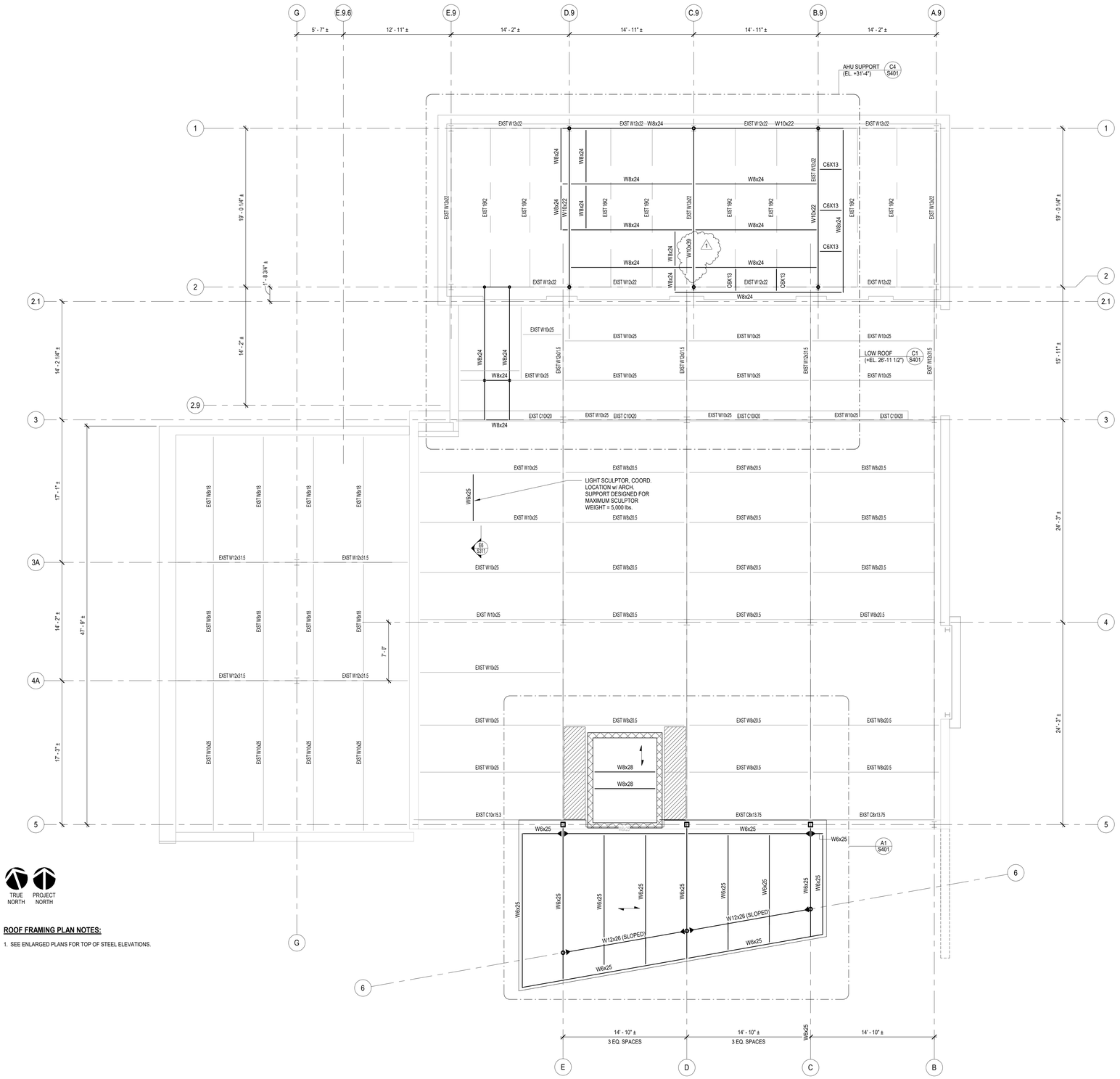
PROJECT STATUS: BID DOCUMENTS

DATE ISSUED: 2026.09.14

SECOND FLOOR/UPPER LEVEL FRAMING PLAN

S102R

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TRUE NORTH

PROJECT NORTH

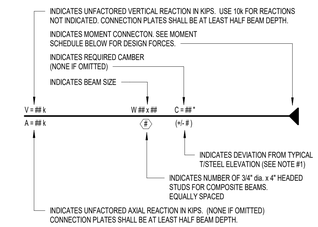
ROOF FRAMING PLAN NOTES:

1. SEE ENLARGED PLANS FOR TOP OF STEEL ELEVATIONS.

LEGEND

- INDICATES DIRECTION OF SPAN. SEE PLAN NOTES FOR INFORMATION.

BEAM LEGEND



DESIGN CONNECTIONS FOR THE FOLLOWING LOAD COMBINATION : (CONNECTIONS SHALL BE DESIGNED ACCORDING TO AISC 15th EDITION)
1.0 V
0.9 V + 0.75 A
0.3 V + 1.0 A

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AM JOB NO.
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REV. NO.	REV. DATE	REV. DESCRIPTION
1	2026.10.12	ADDENDUM #2

PROJECT STATUS:
BID DOCUMENTS

DATE ISSUED:
2026.09.14

ROOF FRAMING PLAN

S103R

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THE LINE SHOWN ABOVE IS EXACTLY ONE INCH LONG AT THIS PLOT'S ORIGINAL SCALE

THE SQUARES ABOVE ARE COLOR, WHITE/BLACK AND WHITE LETTERS, IF PRINTED CORRECTLY

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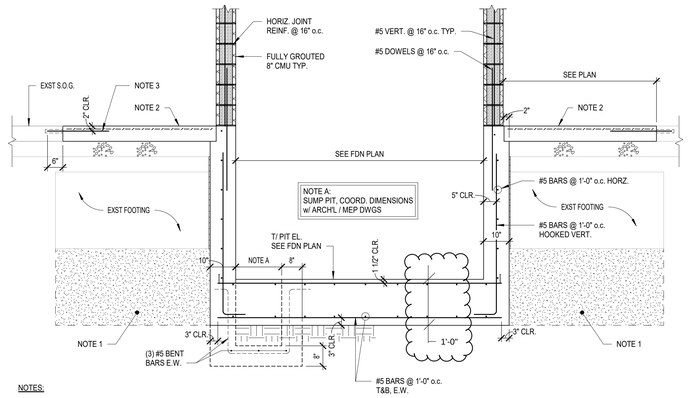
A1 ROOF FRAMING PLAN
SCALE: 3/16" = 1'-0"

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THE LINE SHOWN ABOVE IS EXACTLY ONE INCH LONG AT 100% PLOTTING SCALE

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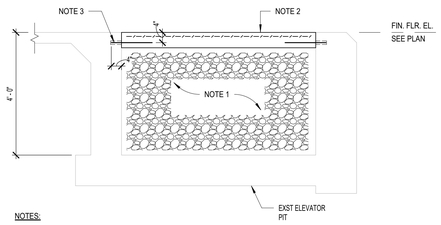


NOTES:

1. EXST COLUMN FOOTING UNDERPINNING. ALTERNATE TO UNDERPINNING IS TEMPORARY SHORING OF SUPER STRUCTURE. SEE TEMPORARY UNDERPINNING/SHORING NOTES B4/S001.
2. REMOVE EXST SLAB-ON-GRADE FOR ELEVATOR PIT CONSTRUCTION. REPLACE w/ 5" SLAB w/ 4x4 W2.9 x W2.9 WWF OVER 4" COMPACTED SUBBASE.
3. #4 x 2'-0" LG. DOWEL @ 18" o.c. ALL SIDES DRILL & GROUT INTO EXIST SLAB-ON-GRADE w/ NON-SHRINK GROUT.

D1 ELEVATOR PIT DETAIL

SCALE: NO SCALE

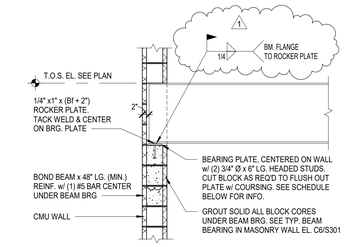


NOTES:

1. BACKFILL: NARROWLY GRADED MIXTURE OF CRUSHED STONE, OR CRUSHED OR UNCRUSHED GRAVEL; ASTM D448; COURSE-AGGREGATE GRADING SIZE 57; w/ 100 PERCENT PASSING A 1-1/2" INCH SIEVE AND ZERO TO 5 PERCENT PASSING A NO.8 SIEVE.
2. 6" CONCRETE SLAB-ON-GRADE w/ 4x4 W2.0 x W2.0 WWF.
3. #4 x 1' - 4" DOWEL @ 12: o.c. MAX. (4' FROM CORNERS) ALL SIDES. DRILL & GROUT INTO EXIST PIT WALL w/ NON-SHRINK GROUT.

D3 EXST ELEVATOR PIT INFILL DETAIL

SCALE: NO SCALE



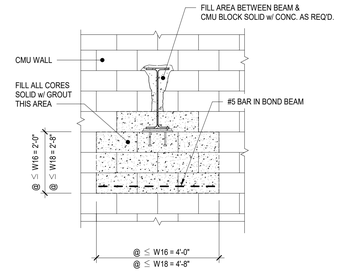
BEARING PLATE SCHEDULE

	8" CMU WALL	10" CMU WALL	12" CMU WALL
BEAM SIZE	BRG. PLATE SIZE	BRG. PLATE SIZE	BRG. PLATE SIZE
≤ W8	1/2" x 6" x 0'-8"	1/2" x 8" x 0'-8"	1/2" x 10" x 0'-8"
≤ W16	1/2" x 6" x 0'-10"	1/2" x 8" x 0'-10"	1/2" x 10" x 0'-10"
≤ W24	1/2" x 6" x 1'-0"	1/2" x 8" x 1'-0"	1/2" x 10" x 1'-0"

NOTE:
FLOOR / ROOF CONSTRUCTION NOT SHOWN FOR CLARITY.

C5 MASONRY BEAM BEARING DETAIL

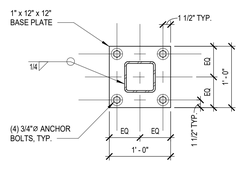
SCALE: NO SCALE



NOTE:
FLOOR / ROOF CONSTRUCTION NOT SHOWN FOR CLARITY.

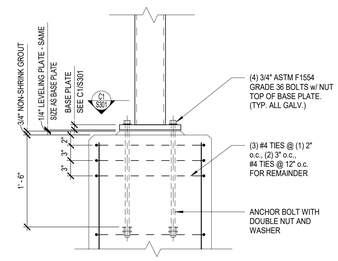
C6 MASONRY BEAM BEARING DETAIL

SCALE: NO SCALE



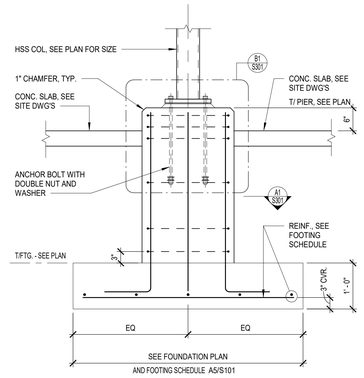
C1 BASE PLATE DETAIL

SCALE: NO SCALE



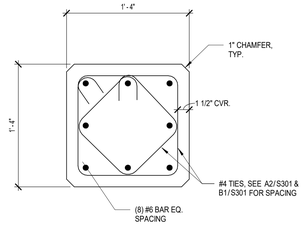
B1 FOUNDATION DETAIL

SCALE: NO SCALE



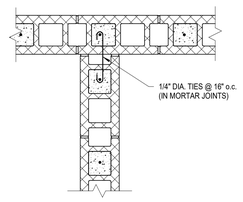
A2 FOUNDATION DETAIL

SCALE: NO SCALE

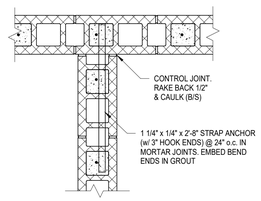


A1 CONC. PIER DETAIL

SCALE: NO SCALE



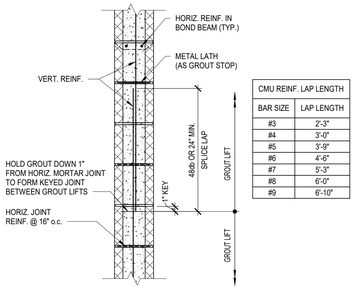
WALLS ERECTED TOGETHER IN MASONRY BOND



WALLS ERECTED SEPARATELY

A3 TYP. CMU INTERSECTION REINF. DETAIL

SCALE: NO SCALE

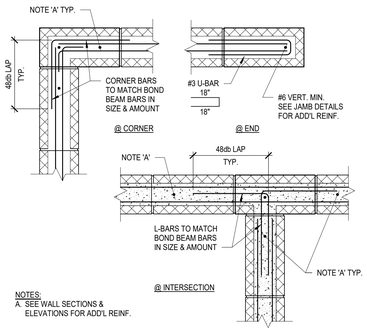


CMU REINF. LAP LENGTH	
BAR SIZE	LAP LENGTH
#3	2'-3"
#4	3'-0"
#5	3'-9"
#6	4'-6"
#7	5'-3"
#8	6'-0"
#9	6'-10"

VERTICAL SECTION

B5 TYP. CMU REINFORCING DETAIL

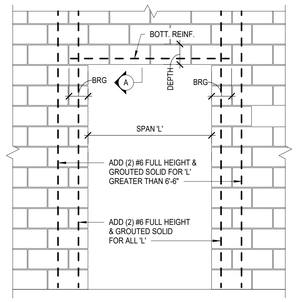
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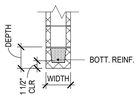


NOTES:
A. SEE WALL SECTIONS & ELEVATIONS FOR ADD'L REINF.

A5 TYP. BOND BEAM PLAN DETAIL

SCALE: NO SCALE





A SECTION

MASONRY LINTEL SCHEDULE				
SPAN 'L'	WIDTH	DEPTH	'BRG'	BOTT. REINF.
1'-4" TO 5'-0"	6"	8"	8"	(1) #4 BAR
1'-4" TO 5'-0"	8"	8"	8"	(1) #4 BAR
1'-4" TO 5'-0"	10"	8"	8"	(1) #4 BAR
1'-4" TO 5'-0"	12"	8"	8"	(1) #4 BAR
5'-1" TO 7'-0"	6"	8"	8"	(1) #6 BAR
5'-1" TO 7'-0"	8"	8"	8"	(1) #6 BAR
5'-1" TO 7'-0"	10"	8"	8"	(2) #5 BAR
5'-1" TO 7'-0"	12"	8"	8"	(2) #5 BAR
7'-1" TO 12'-0"	8"	16"	8"	(2) #5 BAR

NOTE:
1. USE MASONRY LINTEL SCHEDULE UNLESS OTHERWISE NOTED.

A6 MASONRY LINTEL SCHEDULE

SCALE: NO SCALE

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FOUNDATION DETAILS AND TYP. CMU DETAILS

S301R

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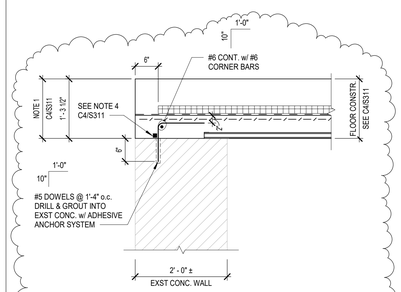
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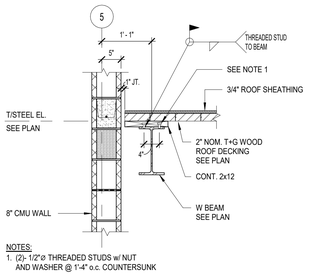
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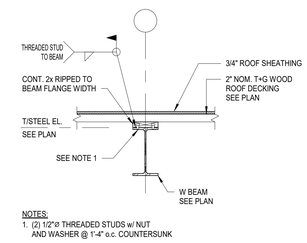
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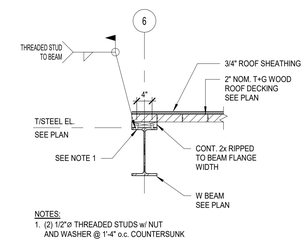
E1 FRAMING SECTION
SCALE: NO SCALE



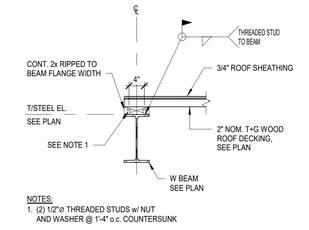
E2 FRAMING SECTION
SCALE: 3/4" = 1'-0"



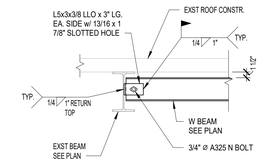
E3 FRAMING SECTION
SCALE: NO SCALE



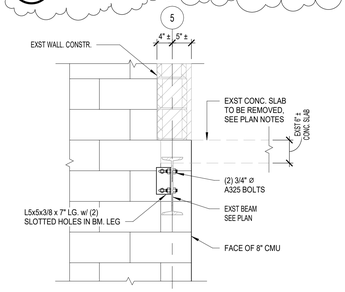
E4 FRAMING SECTION
SCALE: NO SCALE



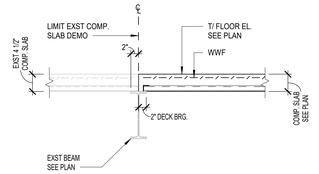
E5 FRAMING SECTION
SCALE: NO SCALE



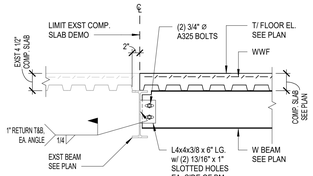
E6 LIGHT SCULPTOR SUPPORT SECTION
SCALE: NO SCALE



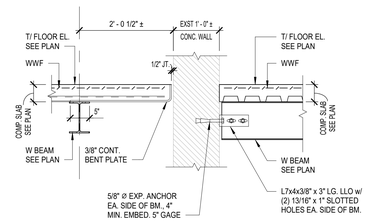
D1 FRAMING SECTION
SCALE: 3/4" = 1'-0"



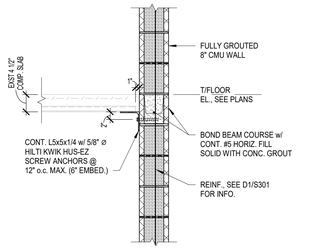
D2 FRAMING SECTION
SCALE: 3/4" = 1'-0"



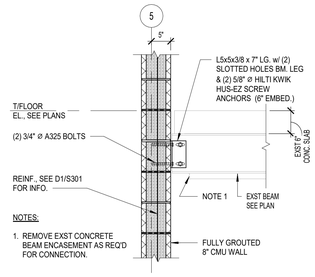
D3 FRAMING SECTION
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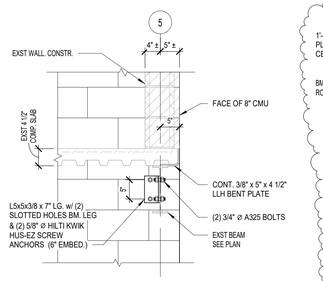
D4 FRAMING SECTION
SCALE: 3/4" = 1'-0"



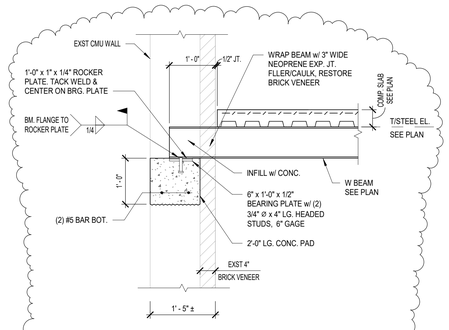
D5 FRAMING SECTION
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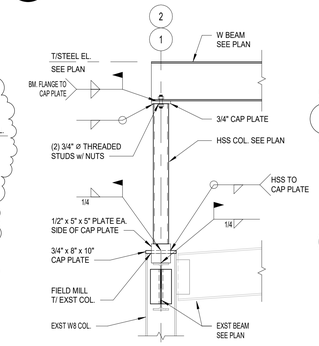
D6 FRAMING SECTION
SCALE: 3/4" = 1'-0"



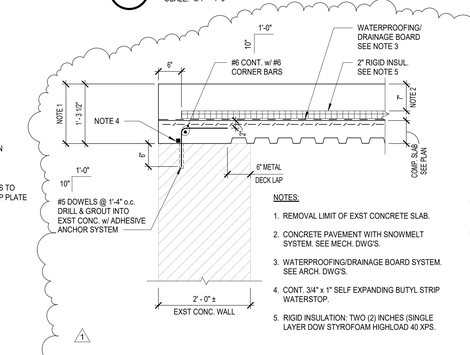
C1 FRAMING SECTION
SCALE: 3/4" = 1'-0"



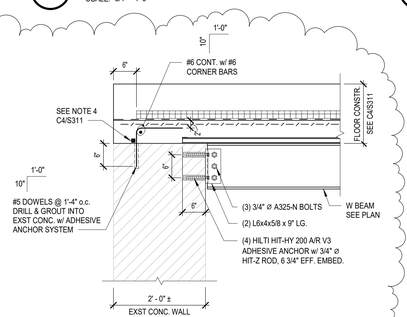
C2 FRAMING SECTION
SCALE: NO SCALE



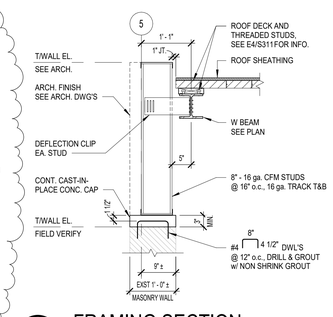
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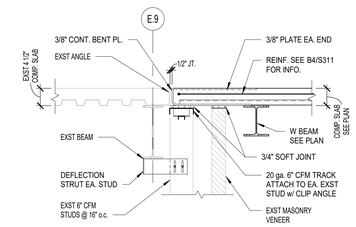
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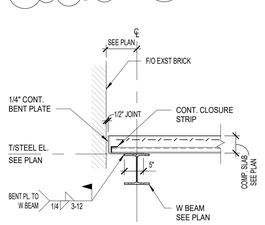
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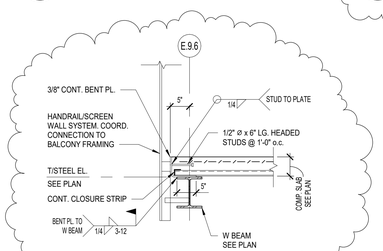
C6 FRAMING SECTION
SCALE: 3/4" = 1'-0"



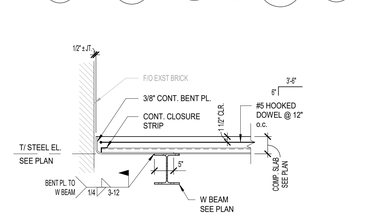
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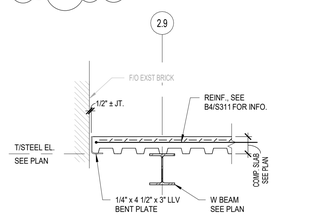
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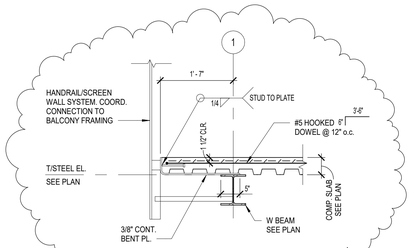
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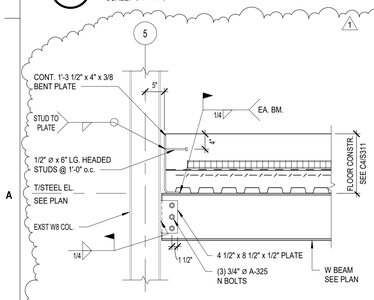
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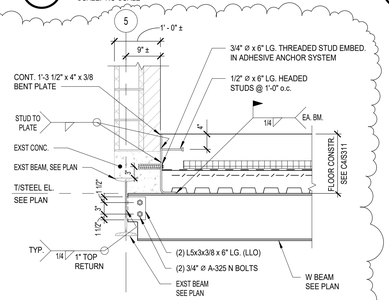
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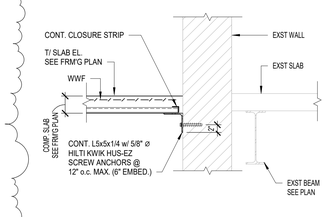
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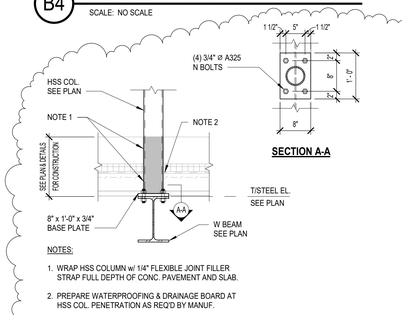
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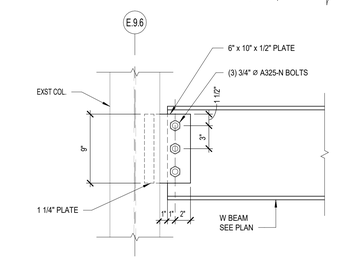
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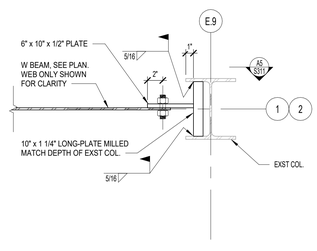
A3 EDGE OF SLAB SECTION
SCALE: NO SCALE



A4 FRAMING SECTION
SCALE: NO SCALE



A5 SECTION
SCALE: NO SCALE



A6 PLAN DETAIL
SCALE: NO SCALE

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FRAMING SECTIONS AND DETAILS

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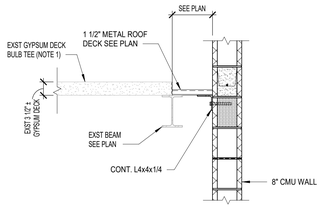
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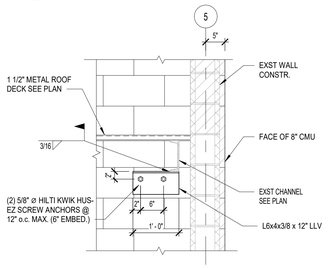


NOTES:

1. CUT AND REMOVE EXST GYPSUM DECK TO LIMITS SHOWN.

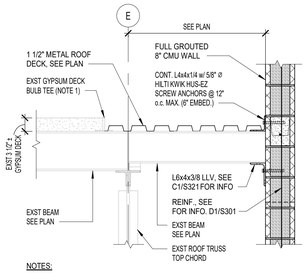
D1 ROOF FRAMING SECTON

SCALE: 3/4" = 1'-0"



C1 ROOF FRAMING SECTON

SCALE: 3/4" = 1'-0"

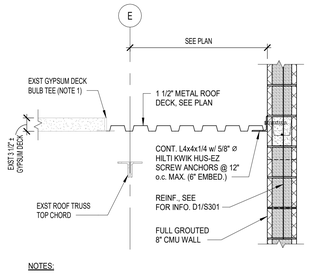


NOTES:

1. REMOVAL OF EXST GYPSUM DECK TO TERMINATE AT EXST BULB TEE

C2 ROOF FRAMING SECTON

SCALE: 3/4" = 1'-0"

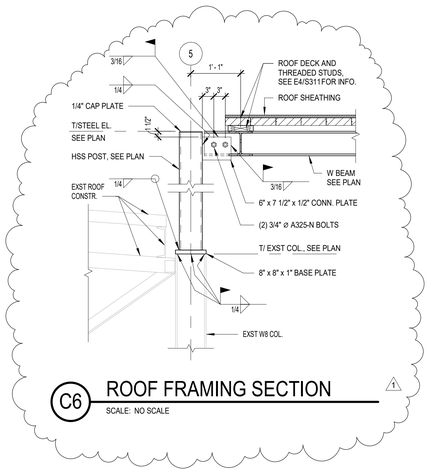


NOTES:

1. REMOVAL OF EXST GYPSUM DECK TO TERMINATE AT EXST BULB TEE

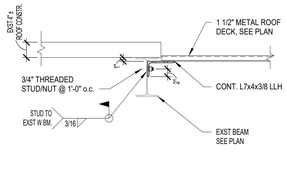
C3 ROOF FRAMING SECTON

SCALE: 3/4" = 1'-0"



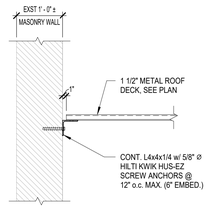
C6 ROOF FRAMING SECTION

SCALE: NO SCALE



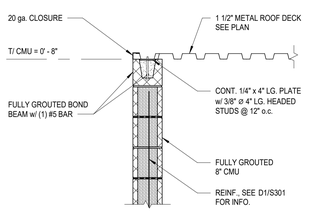
B1 ROOF FRAMING SECTION

SCALE: 3/4" = 1'-0"



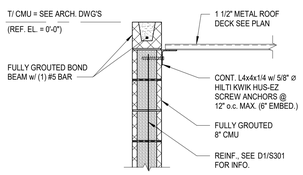
B2 ROOF FRAMING SECTION

SCALE: NO SCALE



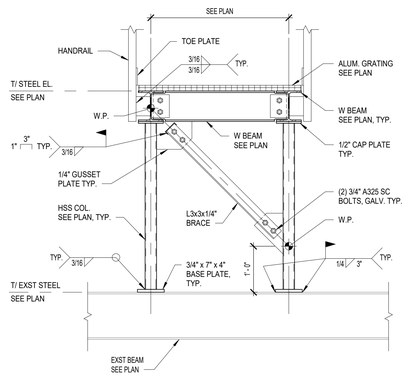
A1 ROOF SECTION

SCALE: NO SCALE



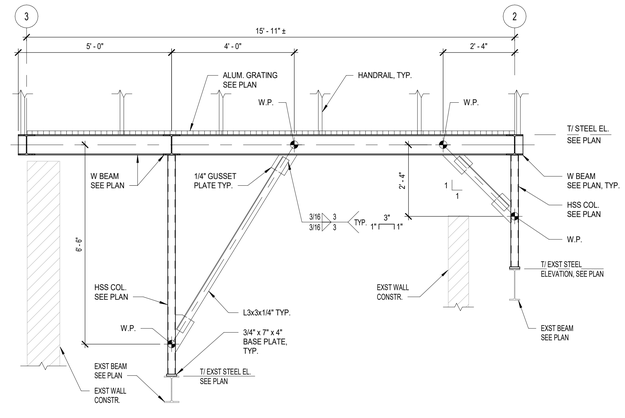
A2 ROOF SECTION

SCALE: 3/4" = 1'-0"



A3 WALKWAY FRAMING SECTION

SCALE: 3/4" = 1'-0"



A4 WALKWAY FRAMING ELEVATION

SCALE: 1/2" = 1'-0"

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SEAL:



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ROOF FRAMING SECTIONS AND DETAILS

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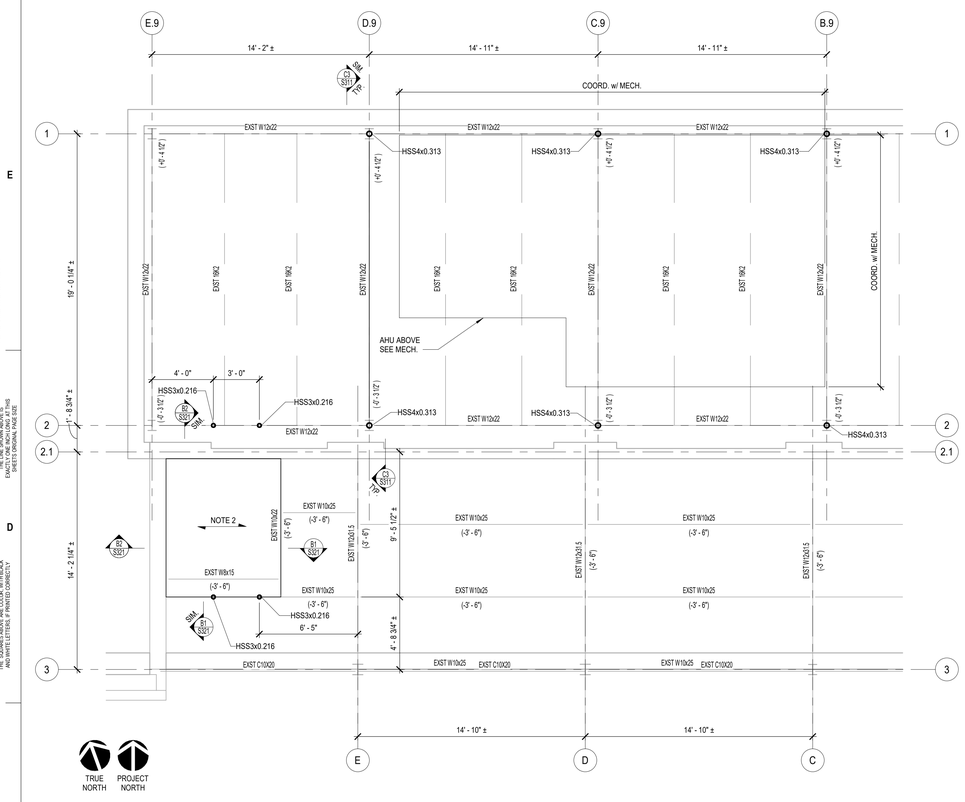
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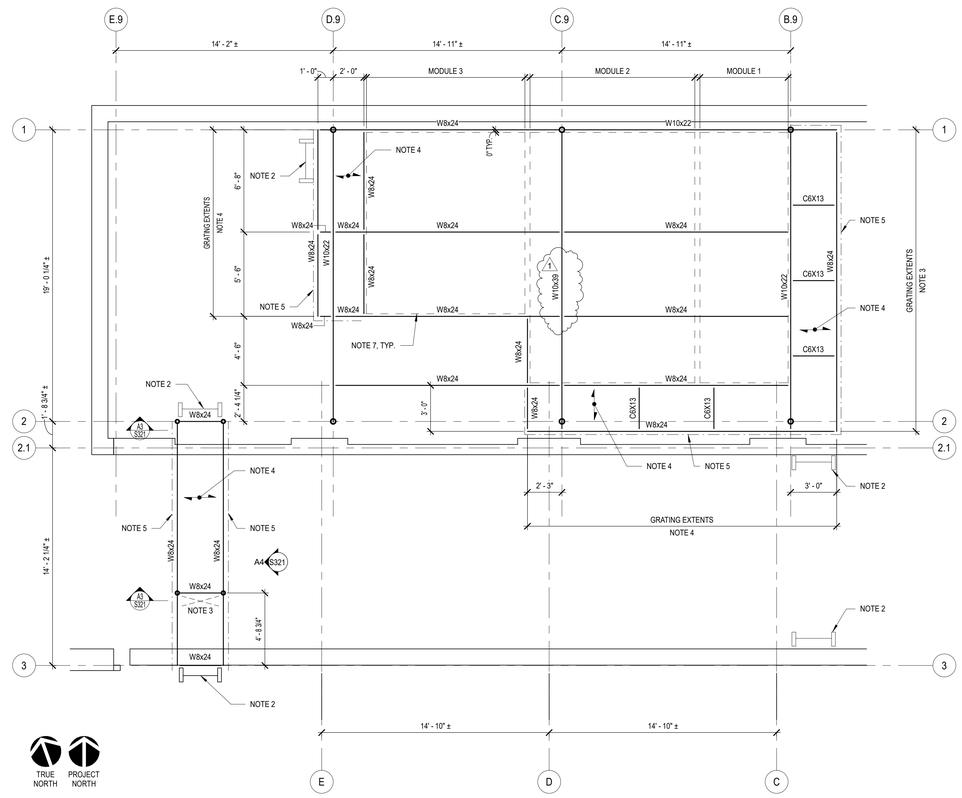


C1 LOW ROOF ENLARGED FRAMING PLAN (+EL. 26'-11 1/2")

SCALE: 1/4" = 1'-0"

LOW ROOF ENLARGED FRAMING PLAN NOTES:

1. TOP OF EXST STEEL ELEVATION = +26'-11 1/2" UNLESS NOTED (+/-) THEREFROM.
2. ROOF CONSTRUCTION: 1 1/2" 18 ga. TYPE B GALV. METAL DECK.

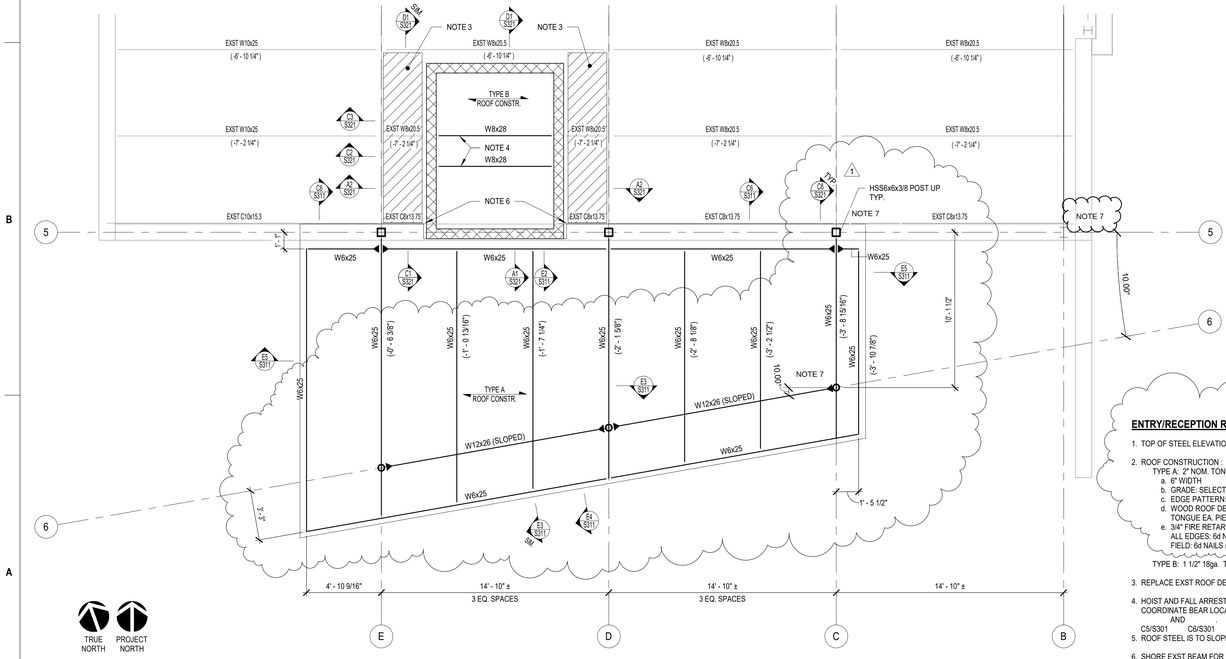


AHU SUPPORT ENLARGED FRAMING PLAN NOTES:

1. TOP OF STEEL ELEVATION = +31'-4" UNLESS NOTED (+/-) THEREFROM.
2. STEEL LADDER TO ROOF LEVEL:
   a. FIXED LADDER DESIGN BASED UPON ANSI-ASC A14.3 AMERICAN NATIONAL STANDARD FOR LADDER-FIXED SAFETY REQUIREMENTS.
   b. DELEGATED DESIGN SUBMITTAL FOR LADDERS: INCLUDING ANALYSIS DATA SIGNED AND SEALED BY THE QUALIFIED PROFESSIONAL ENGINEER RESPONSIBLE FOR THEIR PREPARATION.
   c. SUBMIT SHOP DRAWINGS INDICATING FABRICATION AND INSTALLATION DETAILS. INCLUDING ELEVATIONS, SECTIONS, CONNECTIONS, AND ANCHORAGES.
3. L3x3x1/4 LATERAL BRACING.
4. REMOVABLE ALUMINUM GRATING.
5. STEEL GUARDRAIL:
   a. GUARDRAIL LOADING: IN ACCORDANCE WITH SECTION 1607.9 OF THE 2025 BUILDING CODE OF NEW YORK STATE.
   b. POST AND RAIL MEMBERS 1 1/4" NOMINAL DIAMETER, ASTM A53, TYPE F OR TYPE S, GRADE A, STANDARD WEIGHT (SCHEDULE 40) UNLESS OTHERWISE NOTED.
   c. WELDED CONNECTIONS:
      1. COPE/MITER COMPONENTS TO PROVIDE CLOSE FIT.
      2. WELD ALL AROUND AT CONNECTIONS.
      3. CONNECTION FINISH QUALITY: TYPE 4 (INDUSTRIAL USE) IN ACCORDANCE WITH ANSI/NAAMMM AMP 521 PIPE RAILING SYSTEMS MANUAL.
7. APPROXIMATE LIMITS OF AHU-1, HRU-1 AND VESTIBULE MECHANICAL UNITS. COORDINATE FRAMING LOCATIONS WITH MECH. DWG'S. STRUCTURAL SUPPORT FRAMING BASED IN THE FOLLOWING MAXIMUM OPERATING WEIGHTS:
   a. MODULE 1: 6,800 lbs
   b. MODULE 2: 7,600 lbs
   c. MODULE 3: 9,000 lbs

C4 AHU SUPPORT ENLARGED FRAMING PLAN (EL. +31'-4")

SCALE: 1/4" = 1'-0"



A1 ENTRY/RECEPTION ROOF ENLARGED FRAMING PLAN

SCALE: 1/4" = 1'-0"

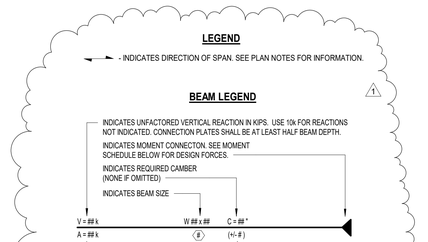
ENTRY/RECEPTION ROOF FRAMING PLAN NOTES:

1. TOP OF STEEL ELEVATION = +35'-10 1/2" UNLESS NOTED (+/-) THEREFROM.
2. ROOF CONSTRUCTION -
   TYPE A: 2" NOM. TONGUE & GROOVE FIRE RETARDANT - TREATED WOOD ROOF DECKING
   a. 6" WIDTH
   b. GRADE: SELECT
   c. EDGE PATTERN: VEE GROOVED
   d. WOOD ROOF DECKING ATTACHMENT: ONE (1) 10d NAIL - FACE NAILED THRU TONGUE EA. PIECE EA. SUPPORT.
   e. 3/4" FIRE RETARDANT - TREATED ROOF SHEATHING. SHEATHING ATTACHMENT: ALL EDGES: 6d NAILS FIELD: 6d NAILS @ 12" o.c. EACH DIRECTION
   TYPE B: 1 1/2" 18ga. TYPE B GALV. METAL ROOF DECK
3. REPLACE EXST ROOF DECK w/ 1 1/2" 20 ga. TYPE B GALV. METAL ROOF DECK.
4. HOIST AND FALL ARREST BEAM LOAD CAPACITY (SERVICE): 10k AT MID-SPAN. COORDINATE BEAR LOCATIONS WITH ELEVATOR MANUF. SEE BEARING DETAILS AND C5/S301 C6/S301
5. ROOF STEEL IS TO SLOPE UNIFORMLY BETWEEN ELEVATIONS SHOWN ON PLANS.
6. SHORE EXST BEAM FOR ELEVATOR SHAFT CONSTRUCTION.
7. SHADE SAIL ANCHOR: PROVIDE 1" DIA. X 1'-3" LONG GALV. EYE BOLT AT (2) EXIST. COLUMNS AND (1) NEW COLUMN AT +9'-0". WELD TO COLUMNS WITH ALL-AROUND 1/4" FILLET WELD.

LEGEND

- INDICATES DIRECTION OF SPAN. SEE PLAN NOTES FOR INFORMATION.

BEAM LEGEND



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ENLARGED FRAMING PLANS

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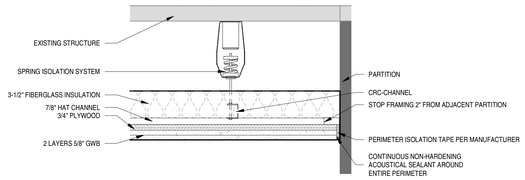
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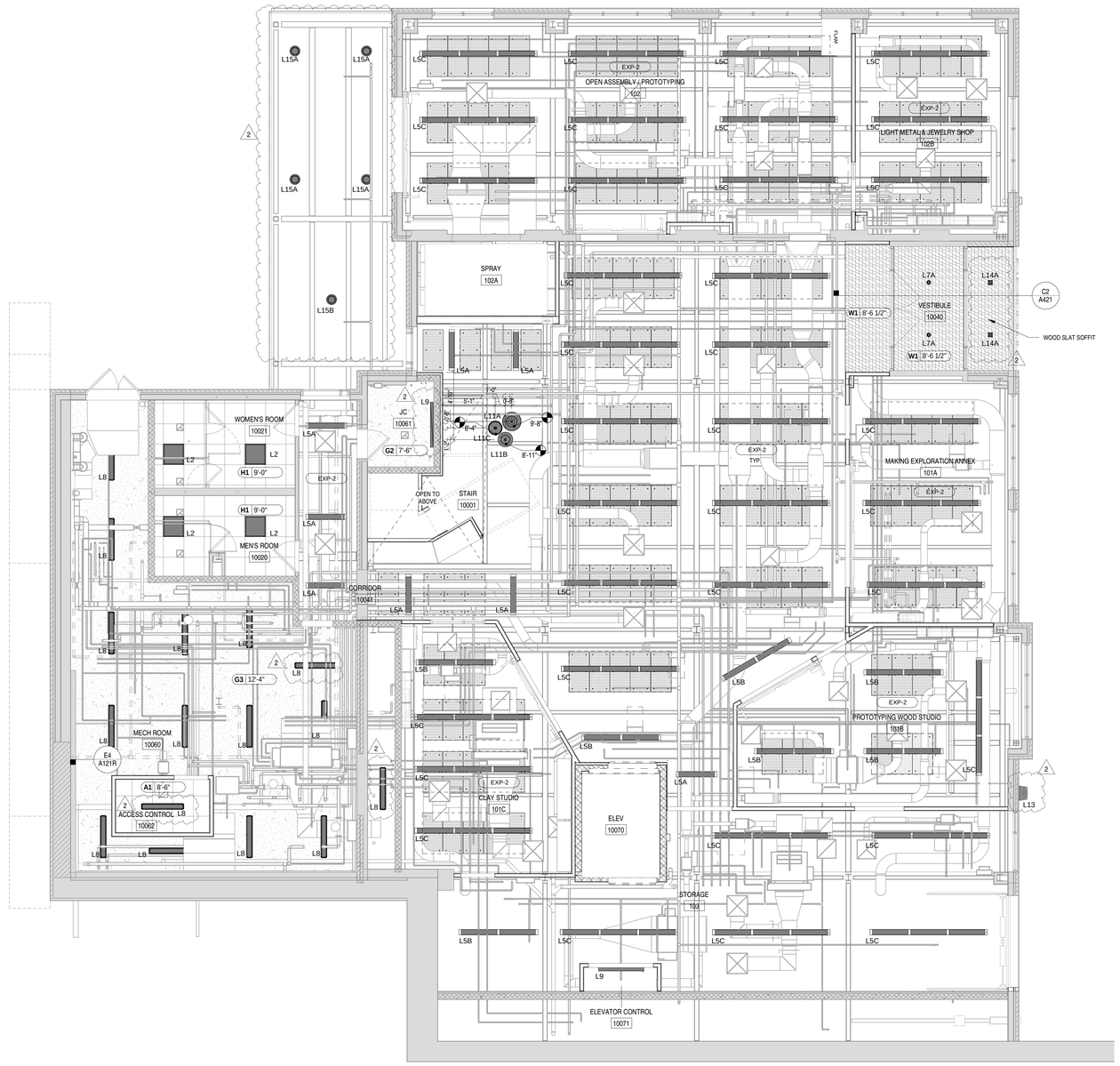
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E4 SEC DTL - SPRING-ISOLATED CEILING
1 1/2" = 1'-0"



A1 REFLECTED CEILING PLAN- LEVEL 01
3/16" = 1'-0"

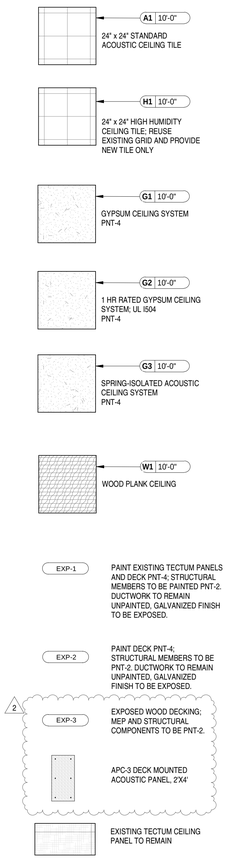
TRUE NORTH PROJECT NORTH

GENERAL CEILING NOTES

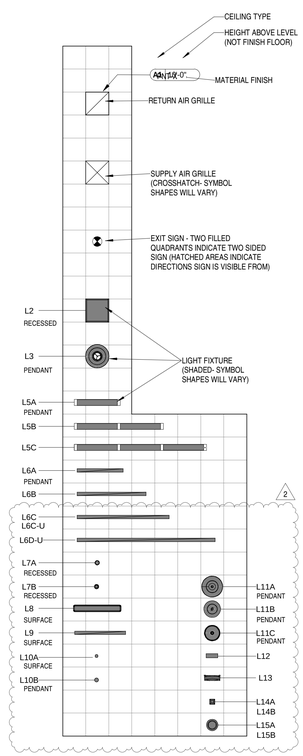
A	GENERAL CEILING NOTES APPLY TO THE SCOPE OF WORK INCLUDED IN THE CONTRACT DOCUMENTS.
B	CEILING TYPE SCHEDULES ARE GENERAL DESCRIPTIONS AND DO NOT SUPERSEDE SPECIFIC NOTES AND DETAILS WITHIN THE CONTRACT DOCUMENTS.
C	SHOULD CONFLICTS EXIST WITH THE CONSTRUCTION DOCUMENTS, VERIFY INTENT WITH ARCHITECT.
D	IT IS INTENDED THAT ALL EQUIPMENT AND FIXTURES ARESEE GENERAL DEMOLITION NOTES FOR REMOVAL AND REINSTALLATION OR REPLACEMENT OF EXISTING CEILINGS RELATED TO SCOPE ABOVE THE CEILINGS. LAID OUT ACCORDING TO THE ARCHITECTURAL REFLECTED CEILING PLANS.
E	CENTER CEILING PANELS IN ROOM AS GRAPHICALLY SHOWN IN THE CONTRACT DOCUMENTS, UNO.
F	ALL CEILING MOUNTED DEVICES, MECHANICAL GRILLES, AND LIGHT FIXTURES ARE ASSUMED TO BE CENTERED WITHIN CEILING PANELS AND GWB CEILINGS, UNO.
G	ITEMS INCLUDED IN THE CONTRACT DOCUMENTS NOT DEPICTED IN ARCHITECTURAL DRAWINGS SHALL BE CENTERED WITHIN THE CEILING PANELS OR IN LOCATIONS VERIFIED WITH ARCHITECT PRIOR TO INSTALLATION. GC TO COORDINATE THE WORK WITH ALL TRADES.
H	GC TO COORDINATE THE WORK OF ALL TRADES INVOLVED IN THE CEILING WORK TO ENSURE CLEARANCES OF FIXTURES, DUCTS, PIPING, CEILING SUSPENSION SYSTEMS AND THE LIKE ARE ACCOMMODATED TO MAINTAIN THE FINISHED CEILING HEIGHTS INDICATED ON THE ARCHITECT'S DRAWINGS.LOCATE AND INSTALL CONTROL JOINTS IN GWB CEILINGS AS INDICATED, BUT NOT LESS THAN REQUIRED PER GYPSUM CONSTRUCTION HANDBOOK (CURRENT EDITION), SUBJECT TO APPROVAL BY ARCHITECT.
I	IN SPACES WITH CLOSETS, ALCOVES, OR SIMILAR ANCILLARY AREAS, CEILING TYPES WILL CONTINUE INTO THOSE AREAS, UNO.
J	LOCATE AND INSTALL CONTROL JOINTS IN GWB CEILINGS AS INDICATED, BUT NOT LESS THAN REQUIRED PER GYPSUM CONSTRUCTION HANDBOOK (CURRENT EDITION), SUBJECT TO APPROVAL BY ARCHITECT.
K	PAINT GWB CEILINGS, SOFFITS, AND BULKHEADS WITH A STANDARD DUTY, INSTITUTIONAL LOW-ODOR/VOC LATEX PAINT, UNO.
L	PAINT GWB CEILINGS IN AREAS OF HIGH HUMIDITY, MOISTURE, AND FOOD PREPARATION WITH A HEAVY DUTY, WATERBORNE LIGHT INDUSTRIAL COATING (EPOXY PAINT), UNO.
M	AT EXPOSED OR SEMI-EXPOSED CEILINGS INDICATED TO BE PAINTED, PROVIDE CLEANING, PATCHING AT PENETRATIONS, PRIMING, AND PAINT AT ALL EXPOSED CEILING COMPONENTS INCLUDING BUT NOT LIMITED TO ALL STRUCTURAL MEMBERS, CONCRETE AND METAL DECK, PIPES, CONDUIT, AND DUCTS. INCLUDE THE REMOVAL OF ALL OIL, GREASE, DIRT, LOOSE PAINT, AND OTHER FOREIGN SUBSTANCES THAT WILL ADVERSELY AFFECT PROPER BONDING OF PAINT.
N	PAINT EXPOSED STRUCTURAL ELEMENTS, PIPING, CONDUITS, JUNCTION BOXES, AND MISCELLANEOUS METALS AT CEILINGS TO MATCH CEILING SURFACE, UNO.
O	PAINT EXPOSED WOOD GROUNDS, BACKERS, FILLERS, SPACES, AND OTHER UNFINISHED COMPONENTS ASSOCIATED WITH THE INSTALLATION OF EQUIPMENT OR ACCESSORIES TO MATCH CEILING SURFACE, UNO.
P	WHERE NON-REMOVABLE CEILINGS CONCEAL EQUIPMENT REQUIRING ACCESS, COORDINATE ACCESS DOOR SIZE AND LOCATION WITH ARCHITECT PRIOR TO ACCESS DOOR INSTALLATION.
Q	PAINT ACCESS DOORS INSTALLED IN CEILINGS OF DISSIMILAR COLOR TO MATCH CEILING, UNO.
R	PAINT HVAC GRILLES AND REGISTERS INSTALLED IN CEILINGS OF DISSIMILAR COLOR TO MATCH CEILING, UNO.
S	FINISH EXPOSED EDGES OF CEILING PANELS TO MATCH FACTORY SURFACE AND PROFILE PER MANUFACTURER'S RECOMMENDATIONS.

LEGEND- REFLECTED CEILING PLANS

CEILING TYPE LEGEND



FIXTURE AND DEVICE TYPE LEGEND



ASHLEY MCGRAW
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SEAL:



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AM JOB NO.
24213

REV NO.	REV DATE	REV. DESCRIPTION
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PROJECT STATUS:
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DATE ISSUED:
2026.09.14

REFLECTED CEILING PLAN- LEVEL 01

A121R

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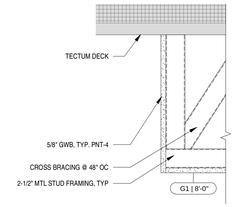
THE LINE BROWN ABOVE IS EXACTLY ONE INCH LONG, IF THIS PRINT IS NOT NORMAL SCALE

THE SQUARES ABOVE ARE COLOR, WITH BLACK AND WHITE LETTERS, IF PRINTED CORRECTLY

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KEYED NOTES

C.3	ALTERNATE #5: PROVIDE DECK-MOUNTED ACOUSTIC CEILING PANELS.



E5 SEC DTL - GWB SOFFIT
1 1/2" = 1'-0"

GENERAL CEILING NOTES

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A1 REFLECTED CEILING PLAN- LEVEL 02
3/16" = 1'-0"

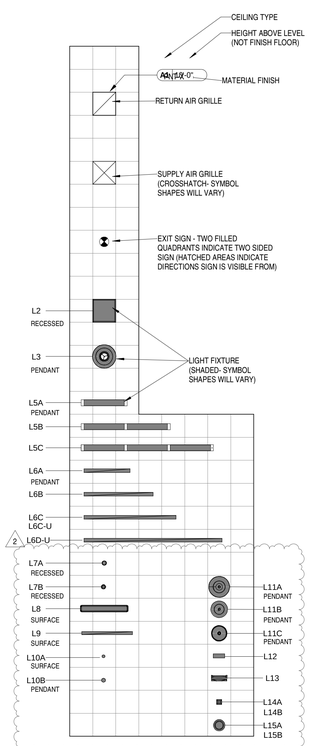
TRUE NORTH
PROJECT NORTH

LEGEND- REFLECTED CEILING PLANS

CEILING TYPE LEGEND

- A1 10'-0" — 24" x 24" STANDARD ACOUSTIC CEILING TILE
- H1 10'-0" — 24" x 24" HIGH HUMIDITY CEILING TILE- REUSE EXISTING GRID AND PROVIDE NEW TILE ONLY
- G1 10'-0" — GYPSUM CEILING SYSTEM PNT-4
- G2 10'-0" — 1 HR RATED GYPSUM CEILING SYSTEM: UL I504 PNT-4
- G3 10'-0" — SPRING-ISOLATED ACOUSTIC CEILING SYSTEM PNT-4
- W1 10'-0" — WOOD PLANK CEILING
- EXP-1 — PAINT EXISTING TECTUM PANELS AND DECK PNT-4; STRUCTURAL MEMBERS TO BE PAINTED PNT-2. DUCTWORK TO REMAIN UNPAINTED, GALVANIZED FINISH TO BE EXPOSED.
- EXP-2 — PAINT DECK PNT-4; STRUCTURAL MEMBERS TO BE PNT-2. DUCTWORK TO REMAIN UNPAINTED, GALVANIZED FINISH TO BE EXPOSED.
- EXP-3 — EXPOSED WOOD DECKING; MEP AND STRUCTURAL COMPONENTS TO BE PNT-2.
- 2 — APC-3 DECK MOUNTED ACOUSTIC PANEL, 2'X4'
- EXISTING TECTUM CEILING PANEL TO REMAIN

FIXTURE AND DEVICE TYPE LEGEND



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ITHACA, NY 14850

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REFLECTED CEILING PLAN- LEVEL 02

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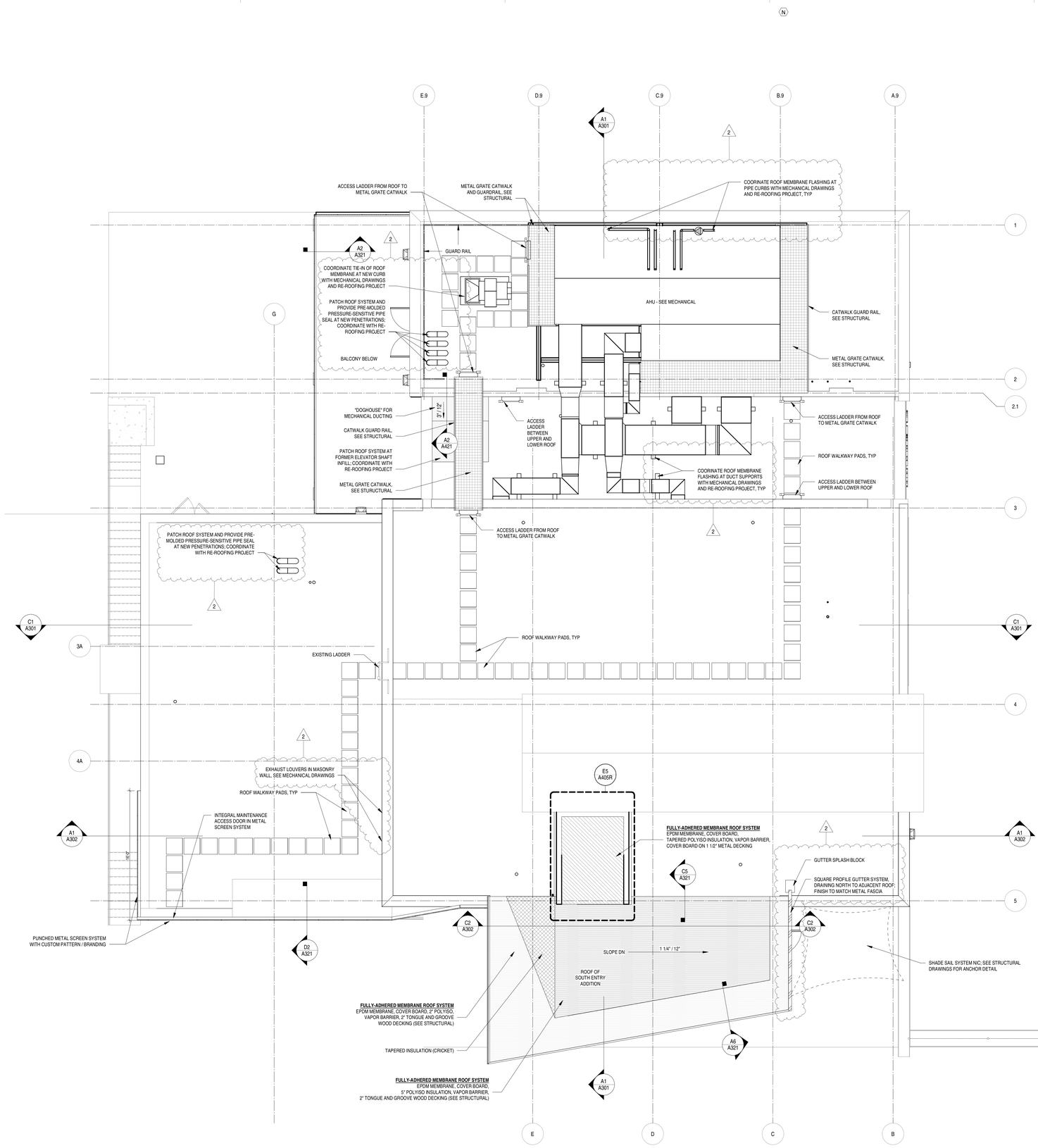
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THE SQUARE ABOVE ARE CYAN, MYTHLACK AND WHITE LETTERS, IF PRINTED CORRECTLY

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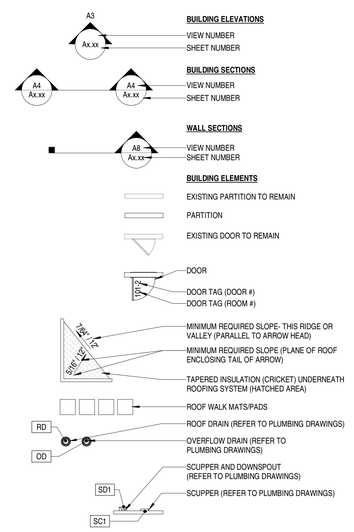
A1 ROOF PLAN- OVERALL
3/16" = 1'-0"

TRUE NORTH PROJECT NORTH

GENERAL ROOFING NOTES

A	EXISTING CONDITIONS - INFORMATION SHOWN PERTAINING TO EXISTING CONDITIONS IS BASED ON VISUAL INSPECTION AND EXISTING CONSTRUCTION DOCUMENTS PROVIDED BY THE OWNER. ANY DISCREPENCIES DISCOVERED BY THE CONTRACTOR SHALL BE BROUGHT TO THE ARCHITECT'S ATTENTION. DESCRIPTIONS AND DETAILS OF EXISTING CONDITIONS MAY VARY FROM THOSE INDICATED.
B	EXISTING EQUIPMENT - ALL EXISTING ROOF PENETRATIONS, EQUIPMENT AND ACCESSORIES ARE "EXISTING TO REMAIN' UNLESS INDICATED OTHERWISE. FIELD VERIFY COMPATIBILITY OF ANY NEW EQUIPMENT SIZES WITH THE EXISTING OPENINGS - NOTIFY ARCHITECT OF ANY DISCREPENCIES.
C	FIELD VERIFICATION - THE CONTRACTOR SHALL VISIT THE SITE AND FAMILIARIZE THEMSELVES WITH THE EXISTING CONDITIONS AND THE EXTENT OF THE WORK PRIOR TO SUBMISSION OF A BID.
D	PROTECTION - THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS REQUIRED TO PROTECT THE ADJACENT ROOF SURFACES. ADJACENT ROOF SURFACES MAY CURRENTLY BE UNDERA A MANUFACTURER'S WARRANTY - THE CONTRACTOR SHALL VERIFY CONDITIONS. ANY WORK DONE AFFECTING ADJACENT SURFACES SHALL BE BY AUTHORIZED PERSONNEL, USING MATERIALS AND METHODS ACCEPTABLE BY THE WARRANTOR. OBTAIN APPROVALS, INSPECTIONS AND DOCUMENTATION AS NECESSARY TO SUBSTANTIATE ACCEPTANCE.
E	DECK INSPECTION - WHERE THE SCOPE OF WORK INVOLVES THE TOTAL REMOVAL OF THE EXISTING ROOF SYSTEM TO THE EXISTING DECK. THE CONTRACTOR SHALL INSPECT THE DECK WHEN EXPOSED FOR DISTRESS OR DETERIORATION. IF DISTRESS OF DETERIORATION IS FOUND, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ARCHITECT AND OWNER'S REPRESENTATIVE.
F	LOADING - THE CONTRACTOR SHALL AVOID EXCESSIVE LOADING OF THE BUILDING ELEMENTS WHEN PLACING AND HANDLING ROOFING MATERIALS AND EQUIPMENT. ROOF LOADING DURING CONSTRUCTION SHOULD NOT EXCEED THE STRUCTURAL DESIGN LOAD OF 55 POUNDS PER SQUARE FOOT.
G	ROOF DRAINS - EXISTING ROOF DRAINS ARE TO REMAIN UNLESS NOTED OTHERWISE. THE CONTRACTOR SHALL PROVIDE NEW MATCHING CLAMPS, BOLTS AND/OR STRAINERS WHERE THE EXISTING ARE MISSING OR DAMAGED. THE CONTRACTOR (ALONG WITH OWNER'S PROJECT REPRESENTATIVE) SHALL INSPECT ALL ROOF DRAIN LEADERS TO CONFIRM POSITIVE WATER FLOW PRIOR TO THE START OF WORK AND FOLLOWING THE COMPLETION OF THE WORK.
H	PLUMBING VENTS - EXISTING PLUMBING VENTS/ STACKS THAT WILL NOT EXTEND A MINIMUM OF 1'-0" ABOVE THE HEIGHT OF THE NEW ROOF SYSTEM SHALL BE EXTENDED AS PART OF THE WORK. COORDINATE MATERIALS WITH THE ARCHITECT PRIOR TO EXECUTION.
I	INSULATION CRICKETS - THE CONTRACTOR SHALL PROVIDE CRICKETS BEHIND ALL OBSTRUCTIONS TO WATER FLOW WHICH ARE WIDER THAN TWO FEET. BACK SLOPES OF CRICKETS SHALL BE TWICE THAT OF THE ADJACENT ROOF SLOPE.
J	ELECTRICAL DEVICES - UNLESS INDICATED OTHERWISE, THE CONTRACTOR SHALL REMOVE AND REINSTALL EXISTING LIGHT FIXTURES, ANTENNAS, SATELLITE DISHES AND SIMILAR DEVICES TO PERFORM THE ROOF REPLACEMENT WORK. ALL ELECTRICAL WORK SHALL BE PERFORMED BY A LICENSED ELECTRICIAN.
K	CURB BLOCKING - THE CONTRACTOR SHALL REMOVE WITH CARE ALL EXISTING ROOF HATCHES, MECHANICAL VENTILATORS, SKYLIGHTS, ETC. AND RAISE THE ASSOCIATED CURBS OF EQUIPMENT TO BE REINSTALLED ON NEW WOOD BLOCKING AS DETAILED. MODIFY THICKNESSES SO THE NEW BLOCKING MATCHES THE HEIGHT OF THE NEW INSTALLATION. (ADJUST AS NECESSARY TO ACCOMMODATE TAPERED INSULATION). THE TOP OF ALL CURBS SHALL BE A MINIMUM OF 12" ABOVE THE NEW ROOF SURFACE. WHERE NECESSARY, THE WORK SHALL INCLUDE EXTENDING ELECTRICAL WIRING, CONTROLS, ETC. BY A LICENSED ELECTRICIAN.
L	DEWATERING - THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REMOVAL OF STANDING WATER ON THE ROOF AS REQUIRED TO PERFORM THE WORK.

LEGEND- ROOF PLANS



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ROOF PLAN

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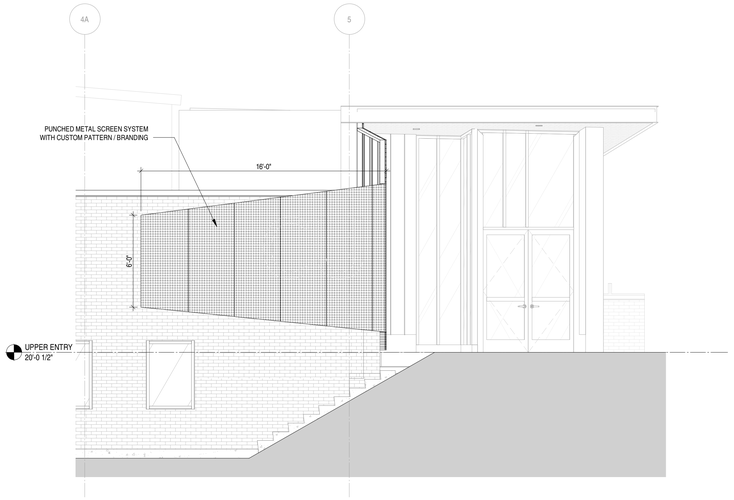
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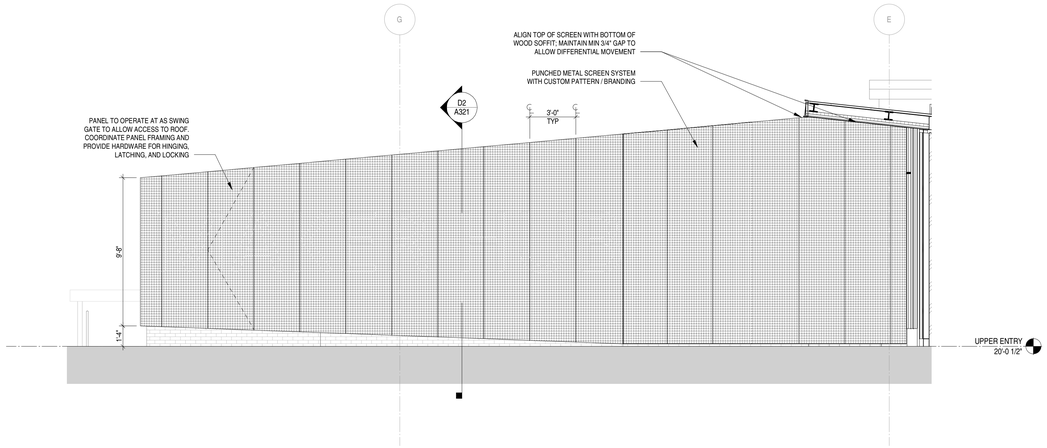
THE LINE SHOWN ABOVE IS EXACTLY ONE INCH LONG, AT THIS PLOT'S ORIGINAL SCALE

THE SQUARES ABOVE ARE COLOR, WITH BLACK AND WHITE LETTERS, IF PRINTED CORRECTLY

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D2 PERFORATED METAL SCREEN WALL - WEST ELEVATION
1/4" = 1'-0"



D4 PERFORATED METAL SCREEN WALL - SOUTH ELEVATION
1/4" = 1'-0"

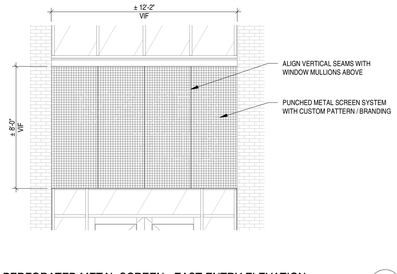
METAL PANEL LEGEND

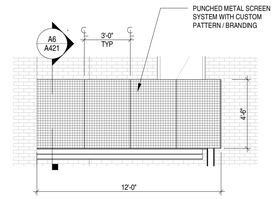
TYPE A: DUTCH SEAM STYLE WALL PANEL, VERTICALLY ORIENTED, MIXTURE OF MANUFACTURER'S STANDARD WIDTHS; ANODIZED FINISH TO MATCH EXISTING WINDOW MULLIONS; CUSTOM METAL TRIM EXTRUSIONS AT OUTSIDE CORNERS

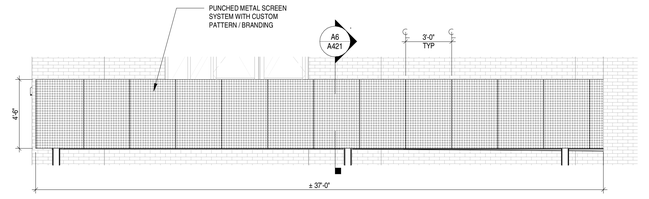
TYPE B: FLAT METAL COMPOSITE MATERIAL PANEL, CUT TO EQUAL WIDTHS FROM MANUFACTURER'S STANDARD WIDTHS; ANODIZED FINISH TO MATCH EXISTING WINDOW MULLIONS; CUSTOM METAL TRIM EXTRUSIONS AT OUTSIDE CORNERS; STANDARD METAL TRIM AT JOINTS

NOTE: INTERIOR REFERENCES TO "MTL-3" SHALL UTILIZE METAL PANEL TYPE B

PUNCHED METAL SCREEN SYSTEM: PUNCHED METAL SCREEN SYSTEM WITH CUSTOM PATTERN. PATTERN TO BE COORDINATED WITH MANUFACTURER, ARCHITECT, AND OWNER DURING SUBMITTAL PROCESS. FRAMING SYSTEM VIA DELEGATED DESIGN, ANCHORED TO VERTICAL FACES OF EXISTING MASONRY WALLS. SEE SPECIFICATION.



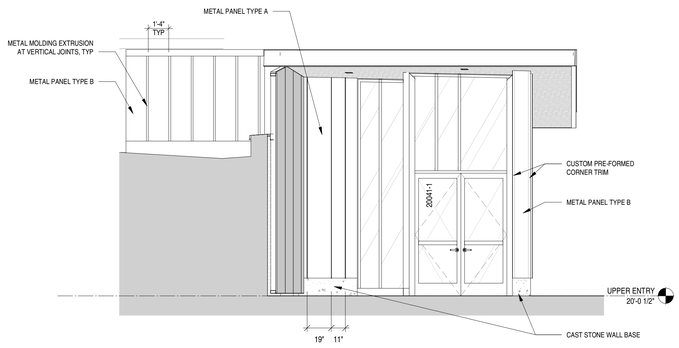


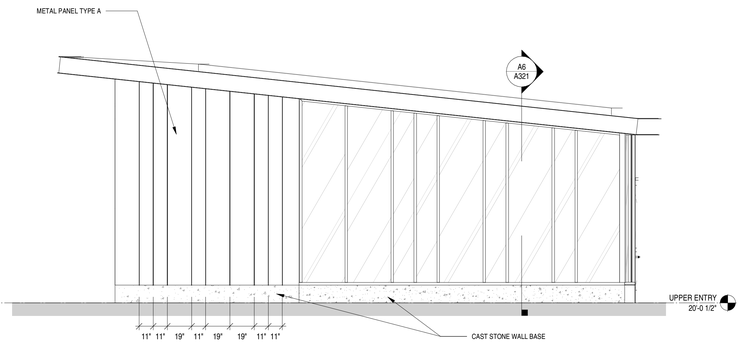


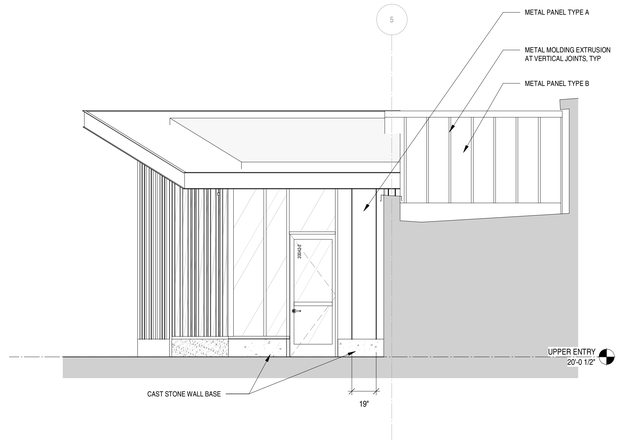
C3 PERFORATED METAL SCREEN - EAST ENTRY ELEVATION
1/4" = 1'-0"

C4 PERFORATED METAL BALCONY RAILING - NORTH ELEVATION
1/4" = 1'-0"

C5 PERFORATED METAL BALCONY RAILING - WEST ELEVATION
1/4" = 1'-0"







A1 ENTRY ADDITION - WEST ELEVATION
1/4" = 1'-0"

A3 ENTRY ADDITION - SOUTH ELEVATION
1/4" = 1'-0"

A5 ENTRY ADDITION - EAST ELEVATION
1/4" = 1'-0"

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ITHACA, NEW YORK 14853

CORNELL UNIVERSITY
CU MAKER HUB RENOVATIONS
110 ARBORETUM RD,
ITHACA, NY 14850

BEEBE HALL

AM JOB NO.
24213

REV. NO.	REV. DATE	REV. DESCRIPTION

PROJECT STATUS:
BID DOCUMENTS

DATE ISSUED:
2026.09.14

METAL PANEL AND SCREEN WALL ELEVATIONS AND DETAILS

A211

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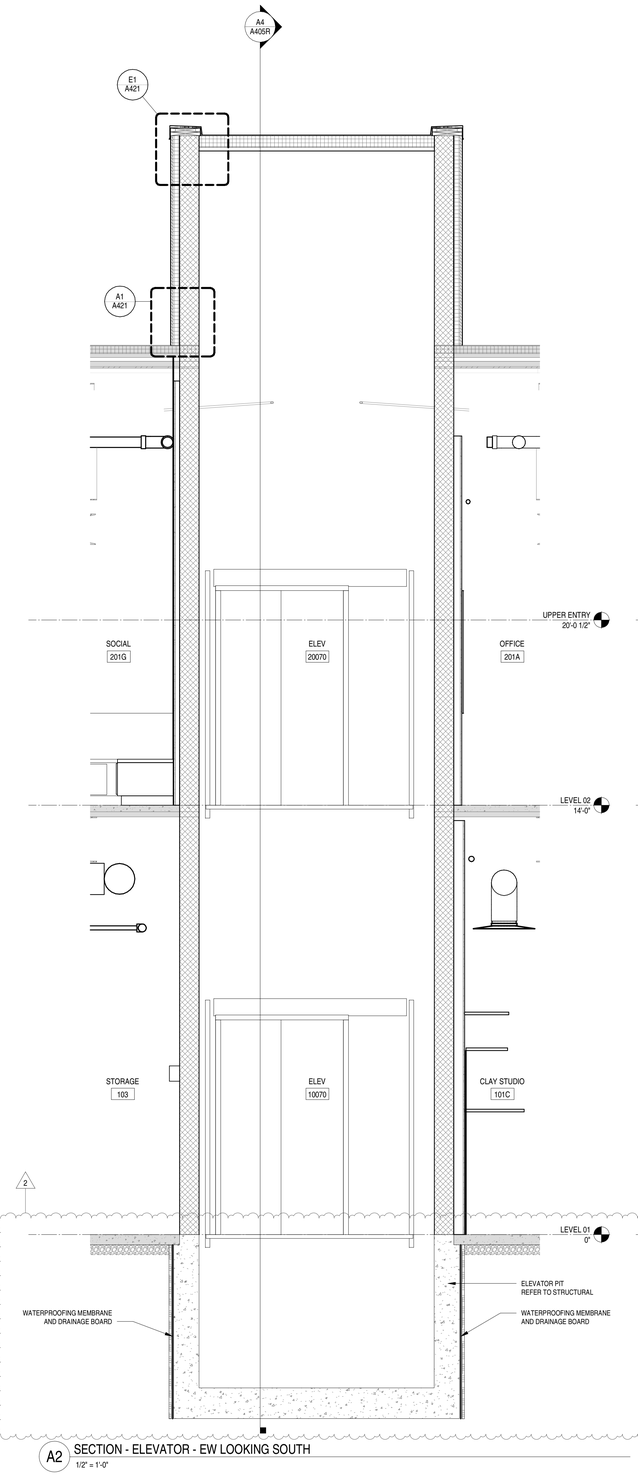
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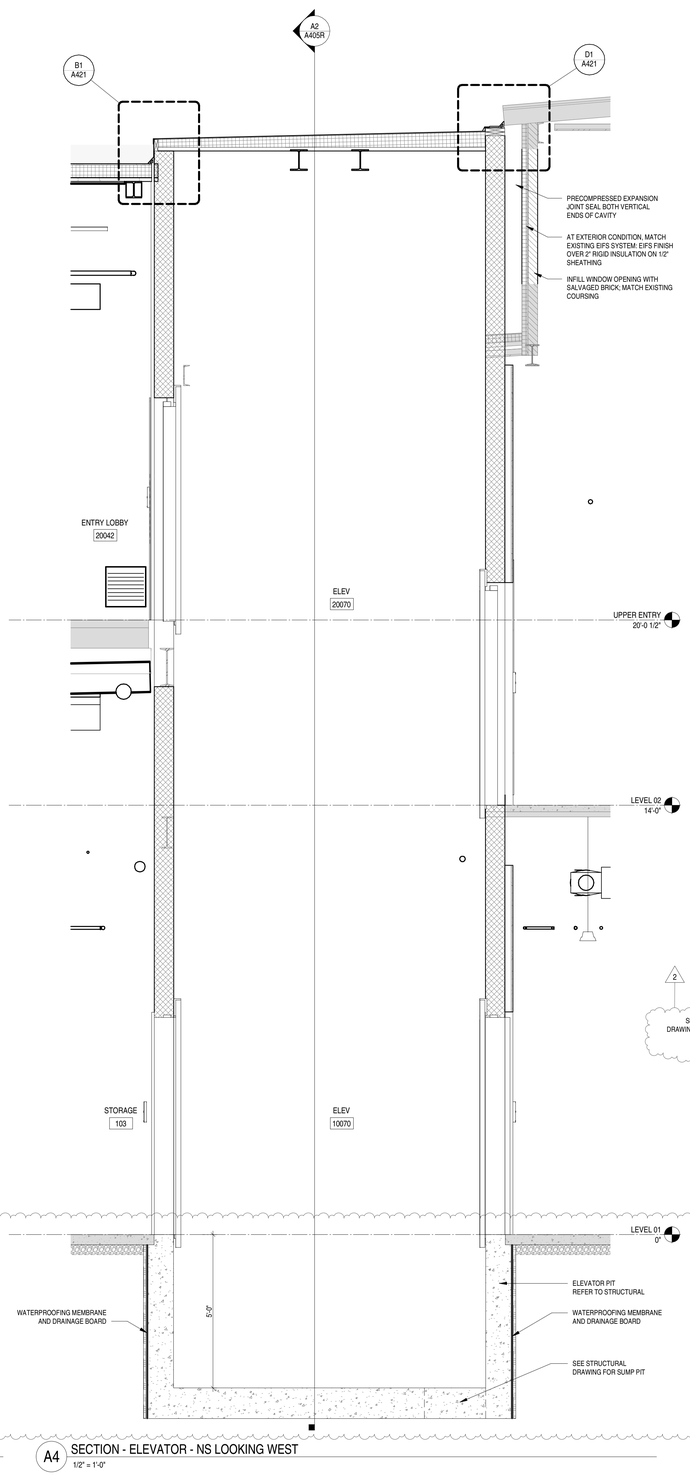
THE LINE SHOWN ABOVE IS EXACTLY ONE INCH LONG, IF THIS PAPER IS NOT FORMAL PAPER

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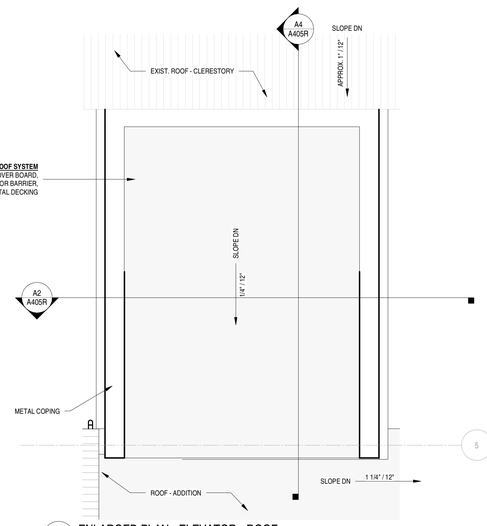
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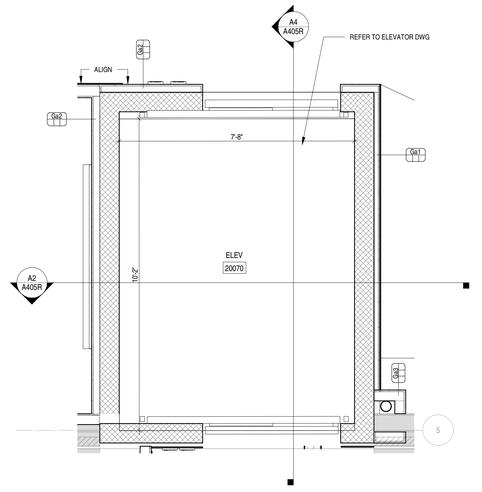
A2 SECTION - ELEVATOR - EW LOOKING SOUTH
1/2" = 1'-0"



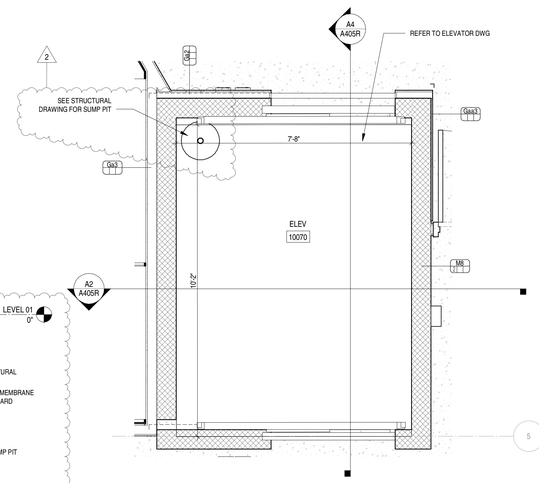
A4 SECTION - ELEVATOR - NS LOOKING WEST
1/2" = 1'-0"



E5 ENLARGED PLAN - ELEVATOR - ROOF
1/2" = 1'-0"



C5 ENLARGED PLAN - ELEVATOR - LEVEL 02
1/2" = 1'-0"



A5 ENLARGED PLAN - ELEVATOR - LEVEL 01
1/2" = 1'-0"

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CONSULTANT:

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REGISTERED ARCHITECT
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AM JOB NO.
24213

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2	2026.10.12	ADDENDUM #2

PROJECT STATUS:
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ELEVATOR ENLARGED PLANS AND SECTIONS

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THE LINE BROKEN ABOVE IS EXACTLY ONE INCH LONG, AT THIS NOTE'S ORIGINAL PLOTTED SIZE

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FLUSHING NOTES:

A. FLUSHING FULL-PORT BALL VALVES SHALL STILL BE PROVIDED ON UNDERGROUND MAINS (INSIDE THE BUILDING) AND ABOVE-GROUND MAINS, CROSS-MAINS, BRANCH LINES AND RUN OUTS OF NEW SPRINKLER SYSTEMS (WET AND DRY), TO FACILITATE ANY FUTURE PERIODIC INTERNAL INSPECTIONS, OBSTRUCTION INVESTIGATIONS AND AS-NEEDED FLUSHING WORK.

B. VALVES SHALL BE SIZED BY THE ENGINEER OF RECORD AND PER NFPA 25, IN ORDER TO OBTAIN THE NFPA REQUIRED MINIMUM VELOCITY OF 10 FT/S FOR ANY GIVEN PIPE SIZE. AS AN ALTERNATIVE TO THE HYDRAULIC CALCULATION VALVE SIZING METHOD, THE FOLLOWING SIZING RULES CAN BE APPLIED:

. - 1-INCH THRU 2 1/2-INCH PIPE: LINE-SIZE FULL-PORT BALL VALVE
- 3-INCH PIPE: ONE (1) 2 1/2-INCH BALL VALVE
- 4-INCH PIPE: TWO (2) 2 1/2-INCH BALL VALVES
- 6-INCH PIPE: THREE (3) 2 1/2 INCH BALL VALVES
- 8-INCH PIPE: FOUR (4) 2 1/2 INCH BALL VALVES

GENERAL NOTES:

A. EXISTING CONDITIONS ARE TAKEN FROM FIELD OBSERVATIONS AND PRIOR CONSTRUCTION DOCUMENTS WHEN AVAILABLE. THE LOCATIONS SHOWN MUST BE CONSIDERED APPROXIMATE. OTHER SUCH WORK MAY EXIST, HOWEVER, LOCATION AND SIZE ARE NOT PRESENTLY KNOWN. VISIT SITE PRIOR TO BID TO REVIEW EXISTING CONDITIONS AND DETERMINE SCOPE OF WORK.

B. WHEN EXISTING CONSTRUCTION IS DAMAGED DURING WORK BY THIS CONTRACTOR, REPAIR AND/OR REPLACE WITH SIMILAR OR LIKE MATERIALS AS MUCH AS POSSIBLE, SUBJECT TO ARCHITECTS APPROVAL.

C. DISPOSE OF ALL DEMOLITION AND/OR OTHER WASTE MATERIALS CAUSED BY WORK OF THIS CONTRACTOR. LEGALLY DISPOSE ALL MATERIALS TO A LOCATION OFF SITE.

D. COORDINATE AND SCHEDULE WORK AND SHUTDOWNS WITH THE OWNER AND OTHER TRADES PRIOR TO DEMOLITION.

E. ALL EXISTING PIPING TO REMAIN SHALL BE RECONNECTED TO ACTIVE SERVICE PIPING.

F. ALL PIPING TO BE REMOVED, SHALL BE REMOVED BACK TO ACTIVE PIPING AND CAPPED. VALVE AND CAP ALL WATER PIPING. REMOVE ALL INACTIVE PIPING UNLESS NOTED.

G. ALL PIPING TO BE REMOVED AND LOCATED WITHIN A WALL TO REMAIN MAY BE ABANDONED IN PLACE UNLESS NOTED. REMOVE PIPING BACK TO BEHIND THE FINISHED WALL SURFACE AND CAP.

H. PLUG HOLES IN EXISTING CONSTRUCTION LEFT BY THE REMOVAL OF PIPING OR EQUIPMENT. MAINTAIN FIRE/SMOKE RATING.

I. DEMOLITION SHALL INCLUDE, BUT NOT BE LIMITED TO: PIPING, VALVES, FIXTURES, EQUIPMENT, HANGERS, SUPPORTS, AND INSULATION EXCEPT ASBESTOS.

J. All SECURING AND ATTACHMENT POINTS TO EXISTING BUILDING STRUCTURE INCLUDING WALLS, CEILINGS, FLOORS, SLABS, DECKS, ETC. SHALL BE REVIEWED WITH CORNELL UNIVERSITY AND THE PROJECT ENVIRONMENTAL CONSULTANT PRIOR TO SECURING AND ATTACHING DEVICES AND EQUIPMENT. SOME BUILDING ELEMENTS MAY CONTAIN ASBESTOS AND ABATEMENT MAY BE REQUIRED. ABATEMENT SHALL BE PERFORMED BY SEPARATE CONTRACTOR WITH THE ASSISTANCE OF THIS CONTRACTOR FOR IDENTIFYING ATTACHMENT POINT LOCATIONS.

K. MIXING OF DEMOLITION AND CONSTRUCTION DEBRIS IN COMMON DUMPSTERS IS NOT ALLOWED. ALL DEMOLITION AND CONSTRUCTION DEBRIS SHALL BE SEPARATED AND SORTED THEN PLACED IN THE DESIGNATED DUMPSTER FOR THAT SPECIFIC MATERIAL IN COMPLIANCE WITH PROJECT LEED CONSTRUCTION WASTE MANAGEMENT REQUIREMENTS.

L. ABANDONING EXISTING SYSTEMS, EQUIPMENT AND APPURTENANCES IN PLACE IS NOT ALLOWED. ALL SYSTEMS, EQUIPMENT AND APPURTENANCES DEEMED FOR REMOVAL SHALL BE REMOVED. THE CONTRACTOR SHALL NOTIFY CORNELL UNIVERSITY IF EXISTING SYSTEMS, EQUIPMENT AND APPURTENANCES ARE FOUND THAT HAD NOT BEEN INDICATED ON THE PROJECT PLANS TO EITHER BE REMOVED OR TO REMAIN IN PLACE.

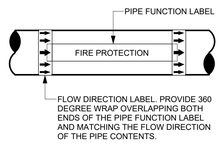
M. PIPE ROUTING DOES NOT SHOW PIPE FITTINGS THAT WILL BE REQUIRED. MOST LOCATIONS WILL REQUIRE PIPING TO RISE INTO STRUCTURAL CAVITY AND THEN BACK DOWN. (TYPICAL ALL LOCATIONS).

N. PROVIDE WIRE GAGES ON ALL SPRINKLERS IN ELECTRICAL AND TR ROOMS.

O. THESE DRAWINGS SHOW INTENT. CONTRACTOR IS REQUIRED TO DO FINAL DESIGN AND ADJUST PIPE SIZE AS REQUIRED. CONTRACTOR MUST MEET ALL FM GLOBAL AND NYS FIRE CODE REQUIREMENTS.

FIRE PROTECTION SYMBOL LIST

SYMBOL	DESCRIPTION
OR	EXISTING WORK TO BE REMOVED
	POINT OF CONNECTION
	POINT OF DISCONNECTION
NTS	NOT TO SCALE
(E)	EXISTING
(ETR)	EXISTING TO REMAIN
AFF	ABOVE FINISHED FLOOR
GC	GENERAL CONTRACTOR
MC	MECHANICAL CONTRACTOR
PC	PLUMBING CONTRACTOR
EC	ELECTRICAL CONTRACTOR
FC	FLUSHING CONNECTION
(E)	EXISTING PIPING
	NEW PIPING
FP	FIRE PROTECTION SERVICE (FP)
S	SPRINKLER MAIN/BRANCH PIPING (S)
D	SPRINKLER DRAIN PIPING (D)
	ELBOW DOWN
	45°OFFSET
	ELBOW UP
	BOTTOM/TEE CONNECTION
	TOP TEE CONNECTION
	PIPE CONTINUATION
	FLUSHING CONNECTION
	PENDENT SPRINKLER
	DRY PENDENT SPRINKLER
	QUICK RESPONSE PENDENT SPRINKLER
	CONCEALED PENDENT SPRINKLER
	RESIDENTIAL PENDENT SPRINKLER
	UPRIGHT SPRINKLER
	QUICK RESPONSE UPRIGHT SPRINKLER
	SIDEWALL SPRINKLER
	DRY SIDEWALL SPRINKLER
	RESIDENTIAL SIDEWALL SPRINKLER
	EXTENDED COVERAGE SIDEWALL SPRINKLER
	VERTICAL SIDEWALL SPRINKLER
	BACK TO BACK ATTIC SPRINKLER
	SINGLE DIRECTIONAL ATTIC SPRINKLER
	HIP ATTIC SPRINKLER
	DRAIN VALVE
	CHECK VALVE
	PRESSURE REDUCING VALVE
	RELIEF VALVE
	BACKFLOW PREVENTER (BFP)
PIV	SHUT-OFF VALVE WITH TAMPER SWITCH (TS)
FSW	FLOW SWITCH (FS)
PS	PRESSURE SWITCH (PS)
	DRY PRE-ACTION ALARM VALVE
	ALARM CHECK VALVE WITH TRIM (ACV)
FDV	FIRE DEPARTMENT VALVE (FDV)
PIV	POST INDICATOR VALVE (PIV)
	WATER MOTOR GONG
	FIRE DEPARTMENT CONNECTION (FDC)
	FIRE PUMP TEST HEADER
	INSPECTOR'S TEST CONNECTION (ITC)
	FIRE HYDRANT (FH)
FHC	FIRE HOSE CABINET
FVC	FIRE VALVE CABINET
FE	FIRE EXTINGUISHER
X	DRAWING KEYNOTE
X	DEMOLITION/REMOVAL KEYNOTE
X X	STANDPIPE CALLOUT



DETAIL NOTES:

A. PROVIDE A PIPE LABEL FOR EACH PIPE FUNCTION.

B. PROVIDE AT LEAST ONE LABEL ON EACH PIPE FOR EVERY ROOM THE PIPE PASSES THROUGH.

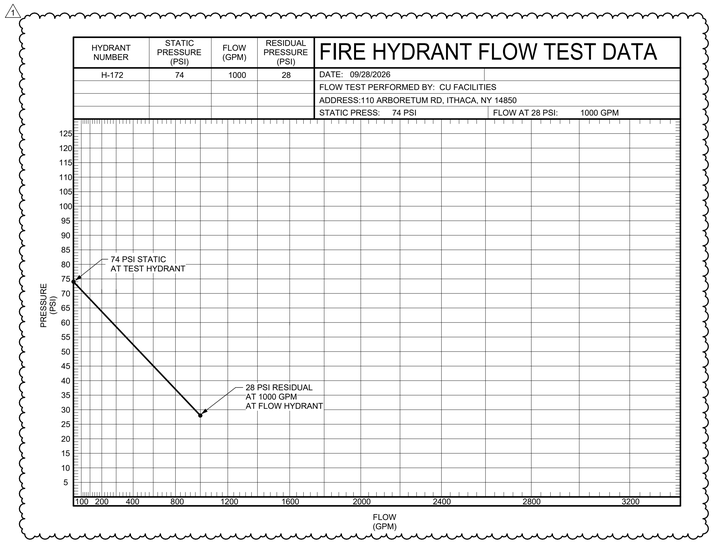
C. PROVIDE LABELS IN LARGE SPACES ON MAXIMUM 20' CENTERS FOR EVERY PIPE UNLESS OTHERWISE NOTED IN THE SPECIFICATIONS.

D. LABELS TO BE LOCATED IN AN EASILY VISIBLE LOCATION AS THEY WOULD NORMALLY BE SEEN. IE. ON THE BOTTOM HALF OF PIPES IN THE AIR AND ON THE TOP HALF OR SIDES OF PIPES MOUNTED LOW.

E. LABELS SHALL BE, COLOR CODED, PRE-PRINTED, SELF ADHESIVE VINYL.

F. SEE SPECIFICATION FOR OTHER REQUIREMENTS AND LIST OF PIPE FUNCTIONS.

1 PIPING IDENTIFICATION LABEL DETAIL
NOT TO SCALE



2 FIRE HYDRANT FLOW TEST DATA CHART
NOT TO SCALE

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Reg. Exp: 04/30/2029
Cert. of Auth: 0018443

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CORNELL UNIVERSITY

BEEBE HALL CU MAKER HUB RENOVATIONS

110 ARBORETUM RD,
ITHACA, NY 14850

AM JOB NO.
24213

REV. NO.	REV. DATE	REV. DESCRIPTION
1	2026.10.12	ADDENDUM #2

PROJECT STATUS:
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2026.09.14

GENERAL NOTES, DETAILS & SYMBOLS LIST - FIRE PROTECTION

FP000R

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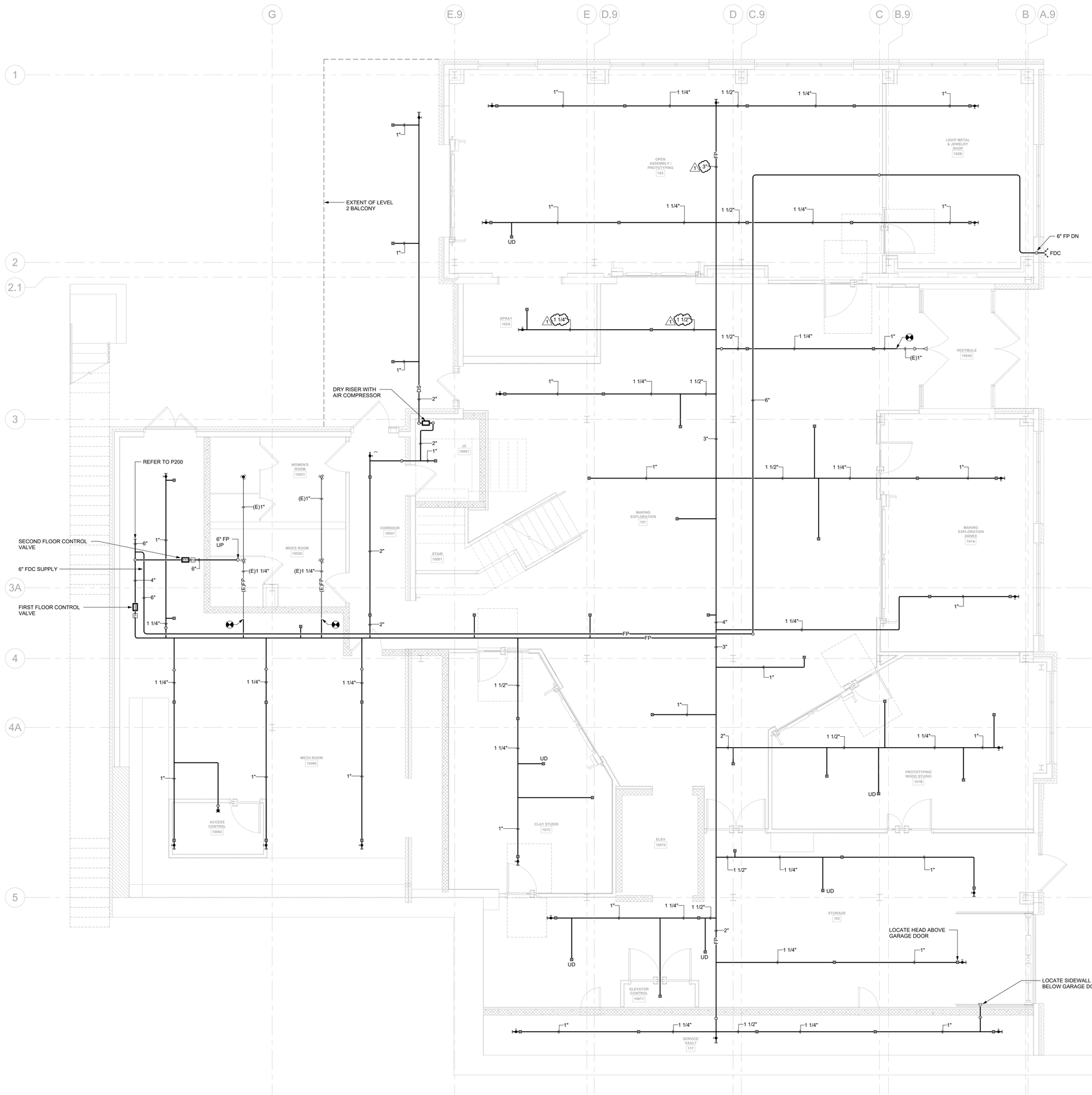
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1 FIRST FLOOR PLAN - FIRE PROTECTION
1/4" = 1'-0"

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SYRACUSE, NEW YORK 13202

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LEVEL 1 PLAN - FIRE PROTECTION

TRUE NORTH
PROJECT NORTH

FP101R

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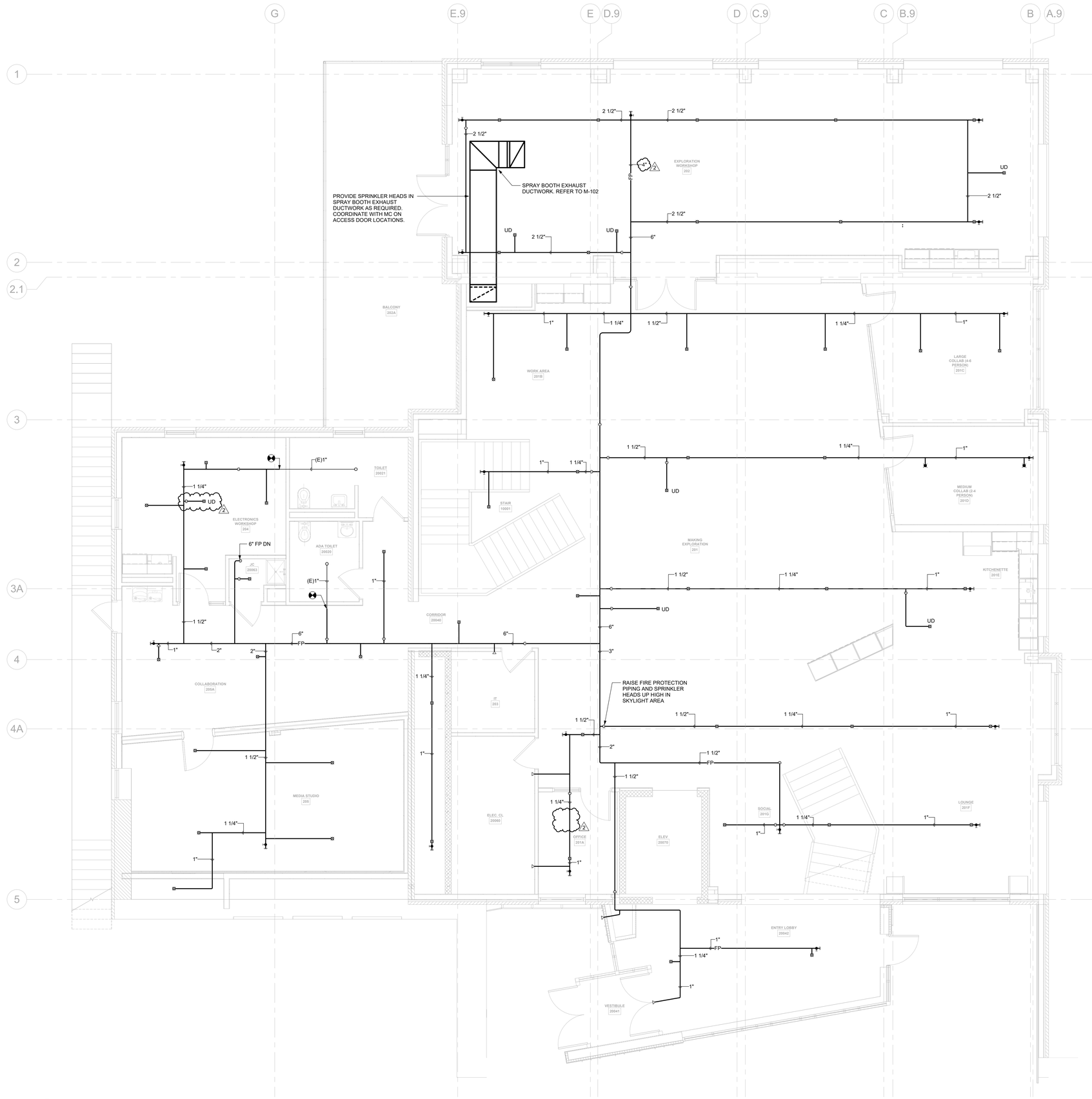
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1 SECOND FLOOR PLAN - FIRE PROTECTION
1/4" = 1'-0"

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OWNER:
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ITHACA, NEW YORK 14853

CORNELL UNIVERSITY
BEEBE HALL CU MAKER HUB RENOVATIONS
110 ARBORETUM RD,
ITHACA, NY 14850

AM JOB NO.
24213

REV. NO.	REV. DATE	REV. DESCRIPTION
1	2026.10.06	ADDENDUM #1
2	2026.10.12	ADDENDUM #2

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LEVEL 2 PLAN - FIRE PROTECTION

TRUE NORTH
PROJECT NORTH

FP102R1

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FIXTURE AND EQUIPMENT CONNECTION SCHEDULE

DESIGNATION	DESCRIPTION	COLD WATER	HOT WATER	TEPID WATER	WASTE OR SANITARY	VENT	REMARKS
SK-A	SINK - ADA	1/2"	1/2"	-	1 1/2"	1 1/2"	-
SK-B	SINK - ADA	1/2"	1/2"	-	1 1/2"	1 1/2"	1
SK-C	KITCHEN SINK - ADA	1/2"	1/2"	-	1 1/2"	1 1/2"	-
SK-D	SINK	1/2"	1/2"	-	1 1/2"	1 1/2"	-
EWC-A	ELECTRIC WATER COOLER	1/2"	-	-	1 1/2"	1 1/2"	-
EWC-B	ELECTRIC WATER COOLER	1/2"	-	-	1 1/2"	1 1/2"	-
ES-A	EMERGENCY SHOWER AND EYEWASH COMBO	-	-	1 1/4"	-	-	-

NOTES:
1. PROVIDE SEDIMENT TRAP. DESIGN BASIS: STRIEM SIDEKICK.

HEAT EXCHANGER SCHEDULE - WATER TO WATER

NO.	LOCATION	HEATING FLUID			HEATED FLUID			DESIGN MAKE
		GPM	EWT. DEG F	LWT. DEG F	GPM	EWT. DEG F	LWT. DEG F	
DWH-1	MECH ROOM	12.04	180	105	9	40	140	CEMLINE CORPORATION PFH450-DW

PUMP SCHEDULE

NO.	LOCATION	SERVICE	GPM	HEAD FT WATER	MOTOR HP	VOLTAGE	PHASE	RPM	TYPE	DESIGN MAKE
RP-1	MECH ROOM	DOMESTIC	5	16	1/6	115	1	VARIABLE	RECIRC	GRUNDFOS MAGNA 32-60FS
RP-2	MECH ROOM	TEMPERED WATER	5	16	1/6	115	1	VARIABLE	RECIRC	GRUNDFOS MAGNA 32-60FS
ESP-1	ELEVATOR	SUMP	50	25	3/4	115	1	-	SUBMERSIBLE	LIBERTY PUMPS ELV290
UCP-1	VARIES	UNDER COUNTER	10	18	1/3	115	1	-	DRAIN	LIBERTY PUMPS MODEL 404
PCP-1	VARIES	INDIRECT WASTE	-	-	1/30	115	1	-	DRAIN	LIBERTY MODEL LC-20

EXPANSION TANK SCHEDULE

NO.	LOCATION	DIA	HEIGHT	TANK VOLUME	MAX ACCEPT VOLUME (20 PSI)	DESIGN MAKE
XT-1	MECH ROOM	9"	15"	3.2"	1.9	AMTROL ST-8

AIR COMPRESSOR SCHEDULE

NO.	LOCATION	SERVICE	ACFM (MAX PRESSURE)	MOTOR HP	VOLTAGE	PHASE	RPM	TYPE	DESIGN MAKE
CA-1	MECH ROOM	COMPRESSED AIR	36 (165 psi)	15	208	3	-	RECIPROCATING	QUINCY COMPRESSOR - QOUTE # QCY-1082266

TEMPERATURE MIXING VALVE SCHEDULE

NO.	LOCATION	SERVICE	PRESSURE LOSS (PSI)	FLOW RATE (GPM)	STANDARD	DESIGN MAKE
TMV-A	MECH ROOM	HOT WATER	5	34.0	ASSE 1071	WATTS IS2075VL
TMV-B	MECH ROOM	TEMPERED WATER	5	34.0	ASSE 1071	POWERS ETV 400

GENERAL NOTES:

A. THESE NOTES ARE APPLICABLE TO THE FULL SET OF CONTRACT DOCUMENTS.

B. EXISTING CONDITIONS ARE TAKEN FROM FIELD OBSERVATIONS AND PRIOR CONSTRUCTION DOCUMENTS WHEN AVAILABLE. THE LOCATIONS SHOWN MUST BE CONSIDERED APPROXIMATE. OTHER SUCH WORK MAY EXIST, HOWEVER, LOCATION AND SIZE ARE NOT PRESENTLY KNOWN. IT IS STRONGLY ENCOURAGED TO VISIT SITE PRIOR TO BID TO REVIEW EXISTING CONDITIONS AND CONFIRM SCOPE OF WORK.

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D. DISPOSE OF ALL DEMOLITION AND/OR OTHER WASTE MATERIALS CAUSED BY WORK OF THIS CONTRACTOR. LEGALLY DISPOSE ALL MATERIALS TO A LOCATION OFF SITE.

E. COORDINATE AND SCHEDULE WORK AND SHUTDOWNS WITH THE OWNER AND OTHER TRADES PRIOR TO DEMOLITION.

F. ALL EXISTING PIPING TO REMAIN SHALL BE RECONNECTED TO ACTIVE SERVICE PIPING.

G. ALL PIPING TO BE REMOVED, SHALL BE REMOVED BACK TO ACTIVE PIPING AND CAPPED. VALVE AND CAP ALL WATER PIPING. REMOVE ALL INACTIVE PIPING UNLESS NOTED.

H. ALL PIPING TO BE REMOVED AND LOCATED WITHIN A WALL TO REMAIN MAY BE ABANDONED IN PLACE UNLESS NOTED. REMOVE PIPING BACK TO BEHIND THE FINISHED WALL SURFACE AND CAP.

I. PATCH HOLES IN EXISTING CONSTRUCTION LEFT BY THE REMOVAL OF PIPING OR EQUIPMENT WITH MATERIALS TO MATCH EXISTING CONSTRUCTION. MAINTAIN FIRE/SMOKE RATING.

J. DEMOLITION SHALL INCLUDE, BUT NOT BE LIMITED TO: PIPING, VALVES, FIXTURES, EQUIPMENT, HANGERS, SUPPORTS, AND INSULATION EXCEPT ASBESTOS.

K. REMOVE EXISTING CONSTRUCTION IN THE WAY OF NEW WORK. PROTECT BUILDING AND FURNISHINGS FROM DAMAGE.

L. WHERE NEW WORK IS TO BE INSTALLED ABOVE AN EXISTING CEILING, PROVIDE FOR THE REMOVAL OF THE CEILING. UPON COMPLETION OF WORK, REPAIR ALL DAMAGED CEILING SURFACES, REPLACE ALL DAMAGED TILES.

M. SLEEVE AND SEAL ALL WALL AND FLOOR PENETRATIONS. PROVIDE FIRESTOPPING FOR ALL PENETRATIONS.

N. MAINTAIN SERVICE CLEARANCES OF ALL EQUIPMENT. ADVISE OTHER TRADES OF THE REQUIRED SERVICE CLEARANCES.

O. PROVIDE FOR THE DRAINING AND REFILLING OF PIPING SYSTEMS, INCLUDING AIR REMOVAL, RESETTING OF FLUSH VALVES, FLUSHING SYSTEMS OF DIRT AND SCALE CAUSED BY SHUTDOWNS AND STARTUPS.

P. REFER TO EQUIPMENT/ FIXTURE SCHEDULE FOR FINAL CONNECTION SIZES.

Q. PROVIDE CLEANOUTS AT THE BASE OF ALL STORM, SANITARY AND WASTE STACKS.

R. PITCH 4" AND LARGER SANITARY AND WASTE PIPING AT 1/8" PER FOOT UNLESS OTHERWISE NOTED. FOR SANITARY AND WASTE PIPING 3" AND SMALLER PITCH AT 1/4" PER FOOT UNLESS OTHERWISE NOTED.

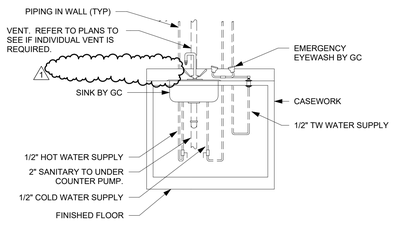
S. COORDINATE LOCATION AND ELEVATION OF STORM AND SANITARY LATERALS AND WATER SERVICE WITH THE SITE CONTRACTOR. NO ALLOWANCE WILL BE MADE FOR ADDITIONAL COSTS DUE TO THE CONTRACTORS FAILURE TO COORDINATE TERMINATION POINTS. THE PLUMBING CONTRACTOR IS RESPONSIBLE FOR THE FINAL CONNECTION TO THE SITE UTILITIES.

T. MINIMUM SIZE OF WASTE PIPING BELOW SLAB SHALL BE 3" EXCEPT PIPING SERVING FLOOR DRAINS SHALL BE 4". MINIMUM SIZE OF VENT PIPING BELOW SLAB SHALL BE 2".

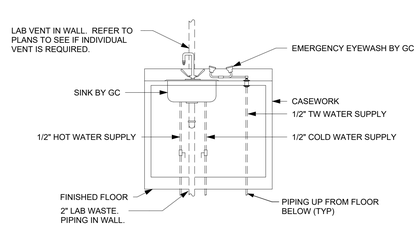
PLUMBING SYMBOL LIST

SYMBOL	DESCRIPTION
	WORK TO BE REMOVED
	POINT OF CONNECTION
	POINT OF DISCONNECTION
NTS	NOT TO SCALE
(E)	EXISTING
(ETR)	EXISTING TO REMAIN
AFF	ABOVE FINISHED FLOOR
BFF	BELOW FINISHED FLOOR
VTR	VENT THRU ROOF
GC	GENERAL CONTRACTOR
MC	MECHANICAL CONTRACTOR
PC	PLUMBING CONTRACTOR
EC	ELECTRICAL CONTRACTOR
(E)	EXISTING PIPING
	NEW PIPING LOCATED ABOVE FLOOR/SLAB
	NEW PIPING LOCATED BELOW FLOOR/SLAB
	COLD WATER PIPING (CW)
	HOT WATER PIPING (HW)
	HOT WATER RECIRCULATING PIPING (HWR)
TW	TEMPERED HOT WATER PIPING (TW)
TWR	TEMPERED HOT WATER RETURN PIPING (TWR)
W	WATER SERVICE - EXTERIOR
SAN	SANITARY SEWER PIPING
IW	INDIRECT WASTE PIPING (IW)
V	VENT PIPING (V)
ST	STORM WATER SEWER PIPING (ST)
CA	COMPRESSED AIR PIPING (CA)
	ELBOW DOWN
	45°OFFSET
	ELBOW UP
	BOTTOM/TEE CONNECTION
	TOP TEE CONNECTION
	"P" TRAP
	PIPE CONTINUATION
	CAP OR PLUG
	DECK PLATE CLEANOUT (DPCO)
	WALL PLATE CLEANOUT (WPCO)
	CLEANOUT (CO)
	FLOOR DRAIN (FD) / FLOOR SINK (FS)
	ROOF DRAIN
	WALL HYDRANT (WH) / HOSE BIBB (HB)
	STRAINER
M	WATER METER
	SHUT OFF VALVE
	BALANCING VALVE
	CHECK VALVE
	SOLENOID VALVE
	PRESSURE REDUCING VALVE
	RELIEF VALVE
	PIPE ANCHOR
	PIPE GUIDE
	UNION
	BACKFLOW PREVENTER (BFP)
	SHOCK ABSORBER (SA)
	RECIRCULATION PUMP
	THERMOMETER
	PRESSURE GAUGE
T	TRAP PRIMER (TP)
X	DRAWING KEYNOTE
X	DEMOLITION/REMOVAL KEYNOTE
X X	PIPE RISER CALLOUT

TYPICAL LEVEL 1 SINKS



TYPICAL LEVEL 2 SINKS



NOTE: IF IN ADA CABINET, ALL PIPING SHALL MEET ANSI & ADA REQUIREMENTS

1 SINK WITH EYEWASH DETAIL
NOT TO SCALE

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GENERAL NOTES, SCHEDULES & SYMBOLS LIST - PLUMBING

P000R

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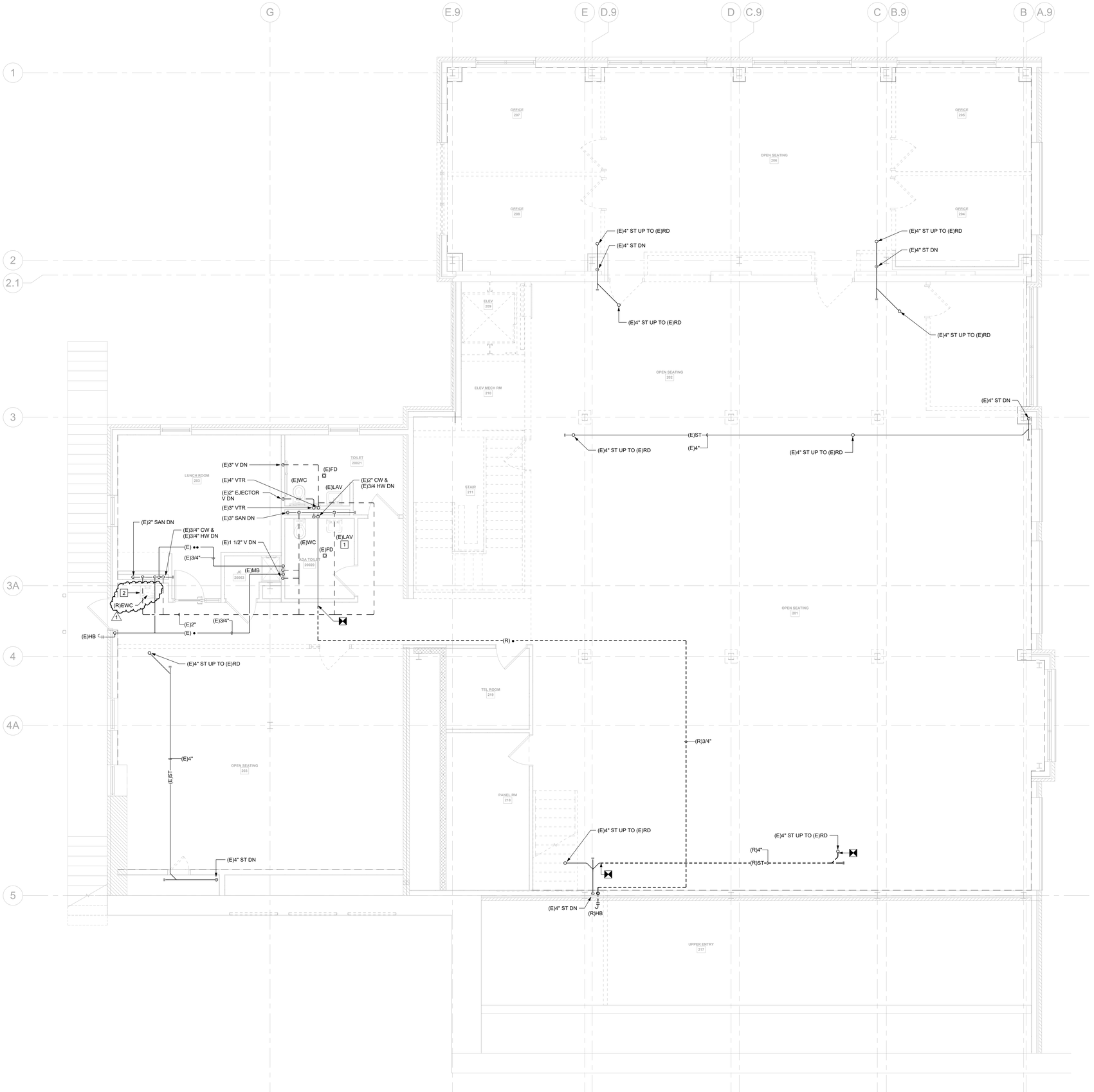
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X DEMOLITION NOTES:

1 DISCONNECT LAVATORY AND PREP PIPING FOR NEW CONNECTION. EXISTING LAVATORY TO BE REINSTALLED. REFER TO NEW WORK FOR FURTHER REQUIREMENTS.

2 DISCONNECT WATER COOLER AND PREP PIPING FOR NEW CONNECTION. REFER TO NEW WORK FOR FURTHER REQUIREMENTS.



1 SECOND FLOOR DEMO PLAN - PLUMBING
1/4" = 1'-0"

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LEVEL 2 DEMOLITION PLAN - PLUMBING

TRUE NORTH
PROJECT NORTH

PD102R

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POST INDICATOR VALVE

6" WATER UP

(E)1 1/2" V UP

(E)4" SAN UP TO DPCO

(E)3" P-TRAP UP TO FD

(E)4" SAN UP

(E)2" SAN UP

(E)2" V UP

(E)4" SAN UP

(E)3"

(E)4" P-TRAP UP TO FD

(E)4" SAN UP TO DPCO

(E)4" P-TRAP UP TO FD

(E)3" P-TRAP UP TO FD

(E)2" V UP

(E)4"

(E)4"

(E)2" V UP

(E)1 1/2" V UP

(E)4"

(E)4" SAN UP

(E)4" SAN UP TO DPCO

(E)SAN

(E)4" SAN UP TO DPCO

(E)4"

(E)4" SAN UP

(E)SEWAGE EJECTOR

(E)4"

(E)4" P-TRAP UP TO FD

(E)4"

SOLIDS INTERCEPTOR. DESIGN BASIS: AARDVARK AA-4

4"

SAN

2" SAN UP

(E)2" V UP

(E)4" P-TRAP UP TO FD

(R)2" SAN AND CAP IN WALL ABOVE FLOOR.

4" P-TRAP UP TO FD

(E)2" V UP

(E)2" V UP

(E)4" SAN UP TO DPCO

(E)4" P-TRAP UP TO FD

(E)4" SAN UP TO DPCO

(E)4" P-TRAP UP TO FD

(E)3" SAN SPILL INDIRECT TO FD

(E)3" SAN TO TRENCH DRAIN

(E)3" P-TRAP UP TO PLENUM

CAP

(E)2"

(E)4" SAN UP TO DPCO

(E)1 1/2" V UP

(E)3" P-TRAP UP TO MB

(E)4"

2"

SAN

2" SAN UP

ESP-1

2" PD UP

(E)4" ST UP

(E)4" ST EXIT

(E)4" ST EXIT

(E)4" ST UP

(E)4" ST UP

(E)4" SAN EXIT

(E)SUMP PUMP

1 UNDERSLAB PLAN - PLUMBING

1/4" = 1'-0"

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UNDERSLAB PLAN - PLUMBING

TRUE NORTH PROJECT NORTH

P100R

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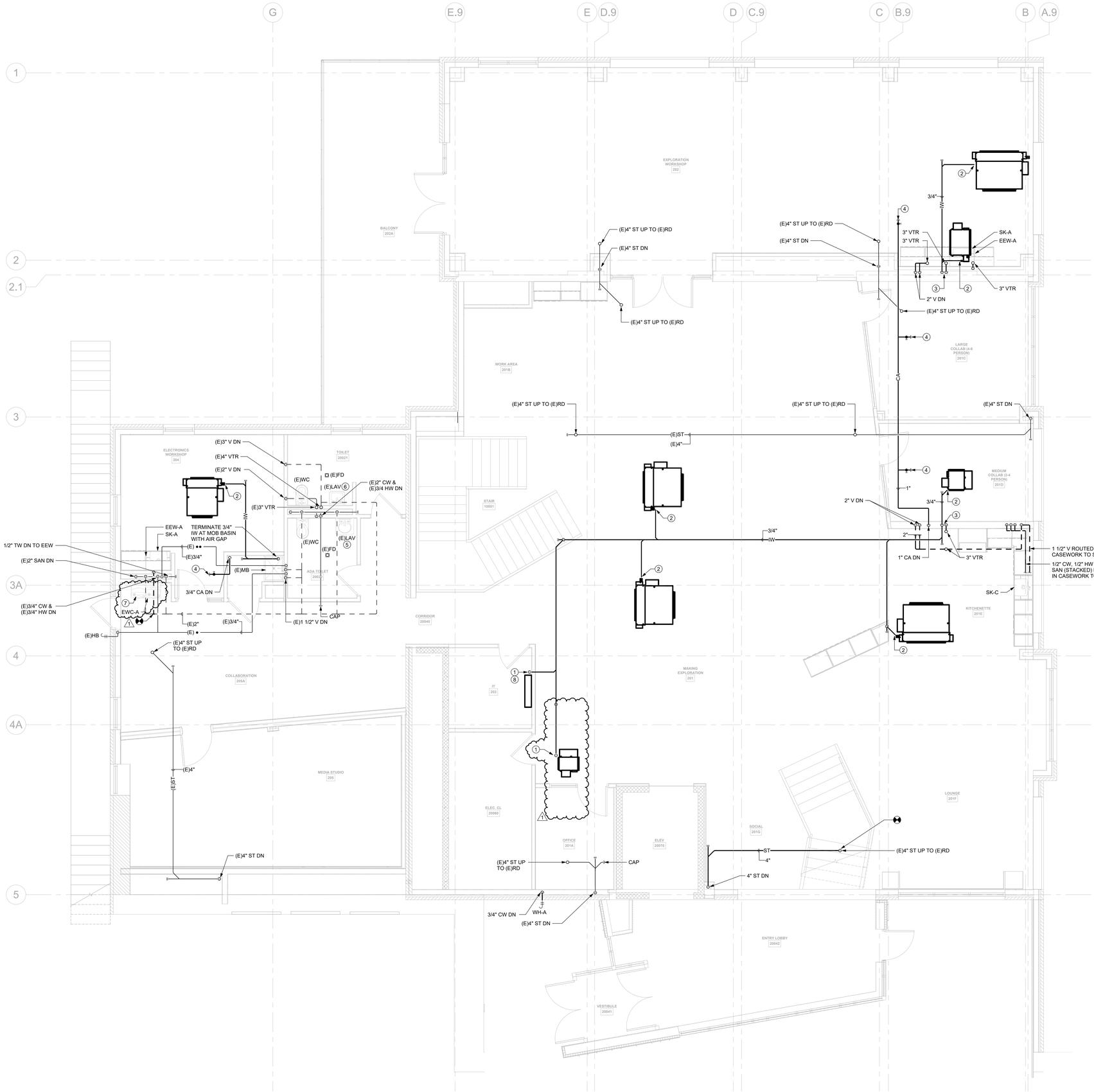
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1 SECOND FLOOR PLAN - PLUMBING
1/4" = 1'-0"

ⓧ DRAWING NOTES:

1. PROVIDE 3/4" IW TO HVAC EQUIPMENT. PROVIDE PUMP PCP-1. REFER TO DETAIL 4 ON P400.
2. PROVIDE 3/4" IW TO HVAC EQUIPMENT.
3. PROVIDE INDIRECT WASTE FUNNEL. REFER TO DETAIL 11 ON P400 FOR FURTHER REQUIREMENTS.
4. 3/4" CA TO BE CAPPED IN CEILING FOR FUTURE USE.
5. REINSTALL LAVATORY TO MEET ADA STANDARDS. REVISE PIPING AS REQUIRED.
6. INSULATE PIPING BELOW EXISTING LAVATORY AS REQUIRED.
7. CONNECT EXISTING PIPING TO NEW WATER COOLER AS REQUIRED.
8. CONNECT PCP OVERFLOW SWITCH TP BMS. /1

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LEVEL 2 PLAN - PLUMBING

TRUE NORTH
PROJECT NORTH

P102R

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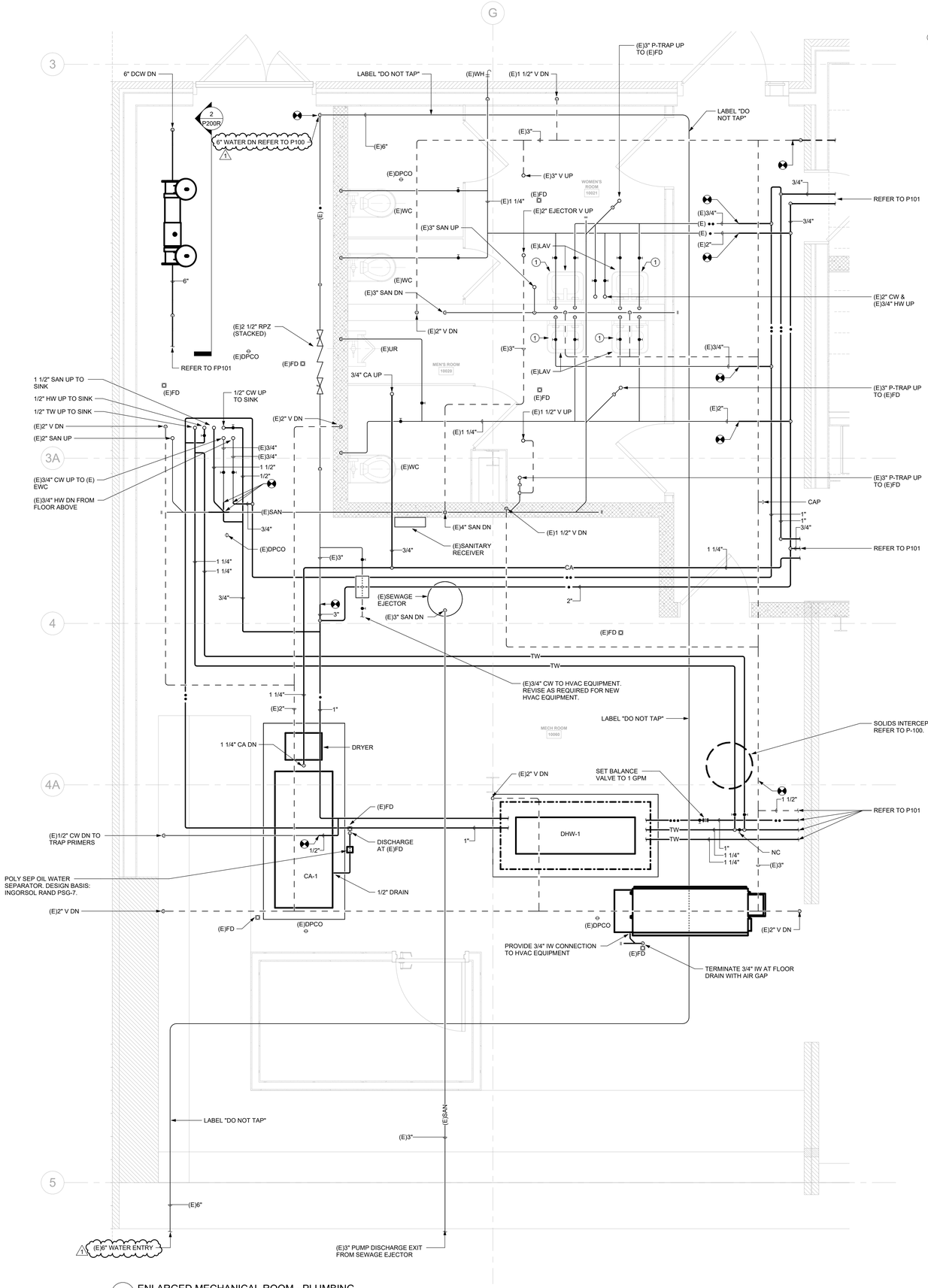
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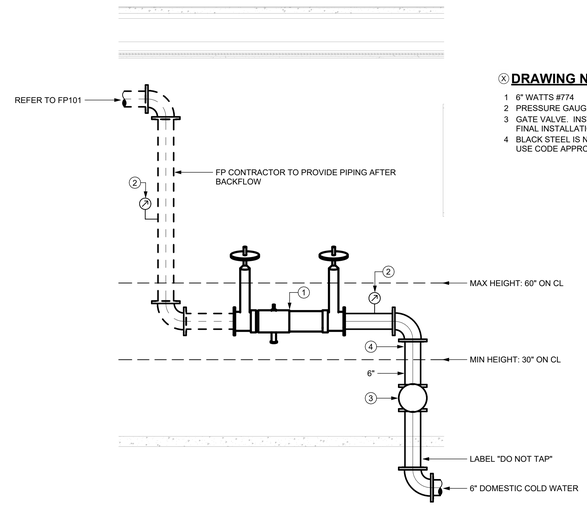
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1 ENLARGED MECHANICAL ROOM - PLUMBING
1/2" = 1'-0"

ⓧ DRAWING NOTES:

1 INSULATE PIPING BELOW EXISTING LAVATORY AS REQUIRED.



2 FIRE PROTECTION ELEVATION
1/2" = 1'-0"

ⓧ DRAWING NOTES:

1 6" WATTS #774
2 PRESSURE GAUGE
3 GATE VALVE. INSTALLED TEMPORARILY, REMOVE AS PART OF THE FINAL INSTALLATION.
4 BLACK STEEL IS NOT ALLOWED BEFORE BACKFLOW PREVENTER. USE CODE APPROVED MATERIALS PER SPECIFICATIONS.

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MECHANICAL ROOM PLAN - PLUMBING

P200R

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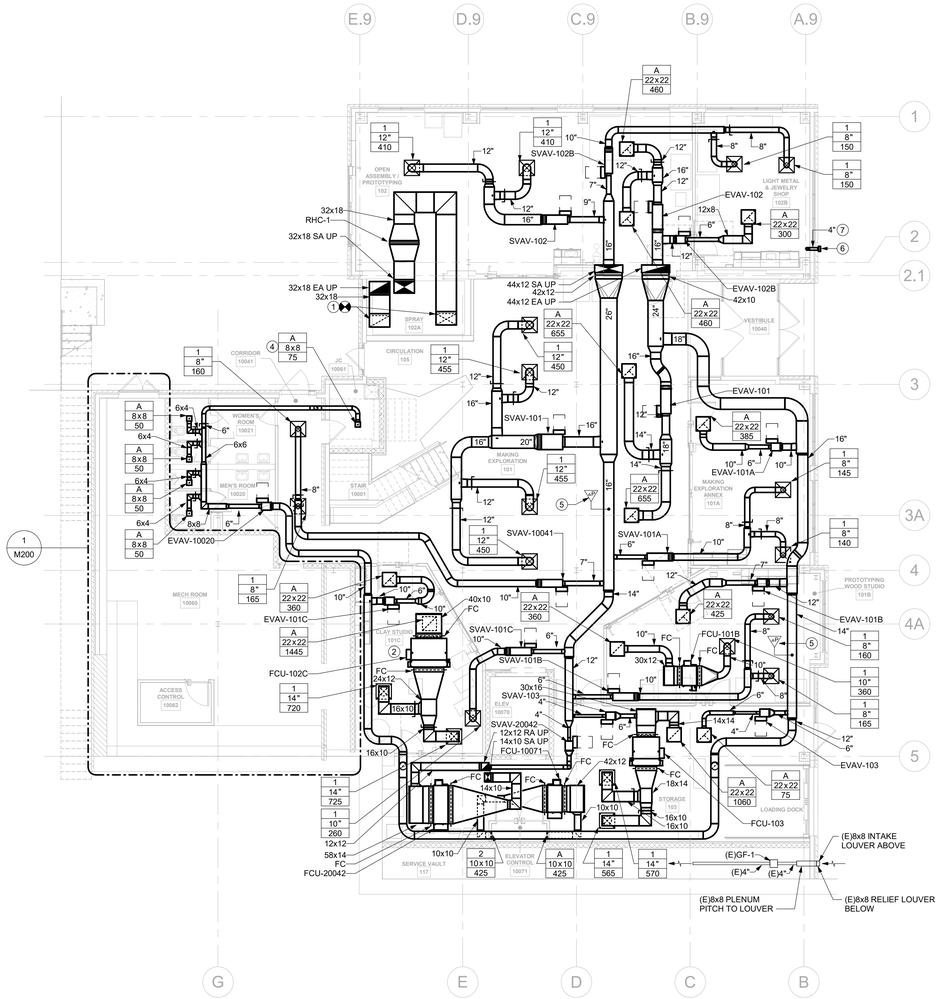
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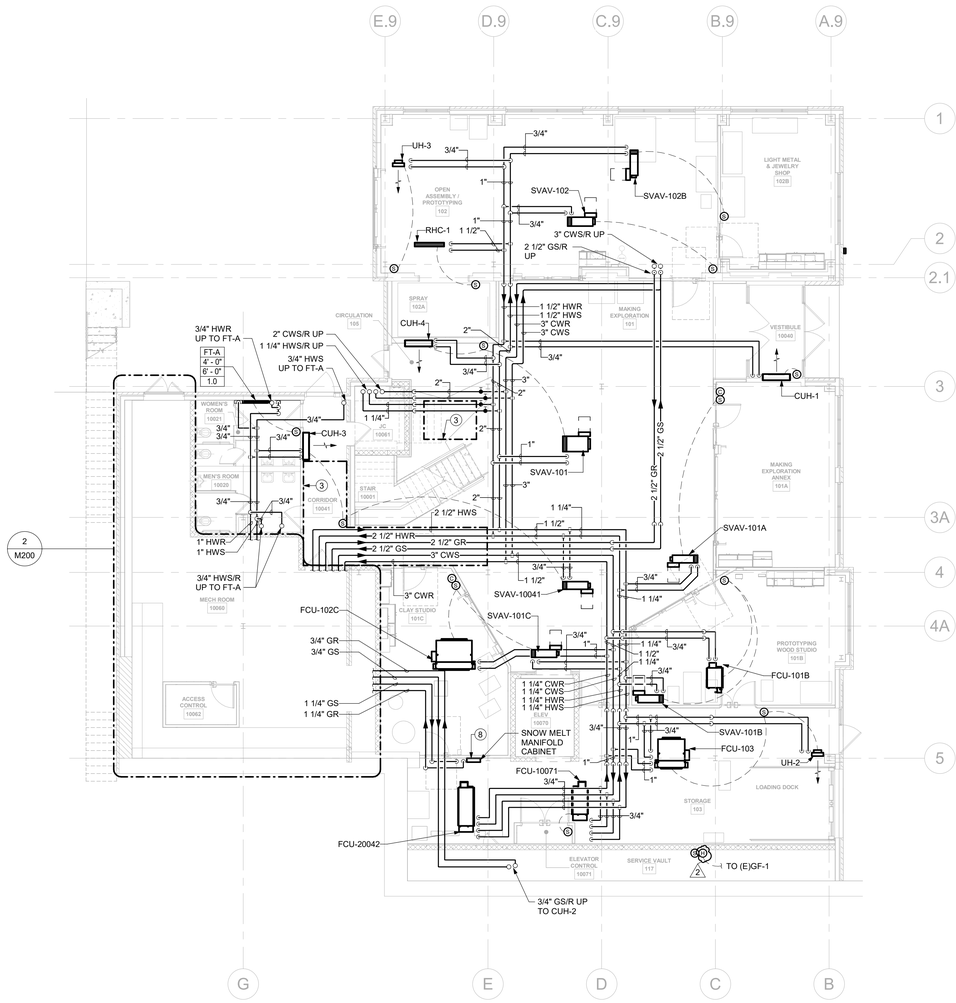
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ⓧ DRAWING NOTES:

1 PROVIDE DUCTWORK CONNECTION TO SPRAY BOOTH. SEE MANUFACTURER'S INSTALLATION DOCUMENTS FOR CONNECTION REQUIREMENTS.
2 KILN VENTILATION KIT PROVIDED BY OWNER. CONTRACTOR TO INSTALL PER MANUFACTURER'S RECOMMENDATIONS. SEE M200 FOR KILN VENTING DUCTWORK.
3 LIGHTING CONTROLS SHALL BE TIED INTO THE BACS. ALL CONTROL WIRING AND BACS COMPONENTS FROM THE ELECTRICAL COMPONENTS (LIGHTS, SENSORS, SWITCHES) TO THE BACS CONTROL PANEL SHALL BE BY DIVISION 23. REFER TO THE E-SERIES DRAWINGS FOR LIGHTING CONTROL REQUIREMENT AND M-SERIES CONTROL SCHEMATICS FOR FURTHER INFORMATION.
4 PROVIDE CEILING RADIATION DAMPER. REFER TO SPECIFICATIONS.
5 PROVIDE STATIC PRESSURE SENSOR FOR AHU-1 IN LOCATION SHOWN.
6 PROVIDE WALL BROAN WALL CAP MODEL 88SNS. ARCHITECT TO SELECT PAINT COLOR.
7 PROVIDE 4" ALUMINUM DRYER EXHAUST DUCT TO OWNER PROVIDED GLASS KILN VENT MASTER SYSTEM FAN. SEE MANUFACTURER'S MANUAL FOR INSTALLATION INSTRUCTIONS.
8 SNOWMELT TUBING TO RUN UP WALL AND IN SLAB ABOVE.



1 FLOOR PLAN - OVERALL - LEVEL 01 - DUCTWORK
1/8" = 1'-0"



2 FLOOR PLAN - OVERALL - LEVEL 01 - PIPING
1/8" = 1'-0"

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FLOOR PLANS - LEVEL 01 - HVAC

M101R1

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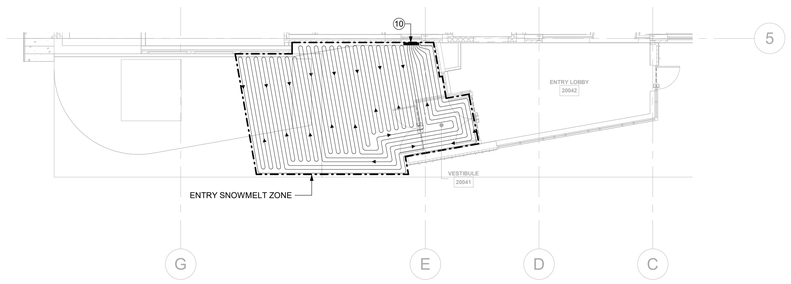
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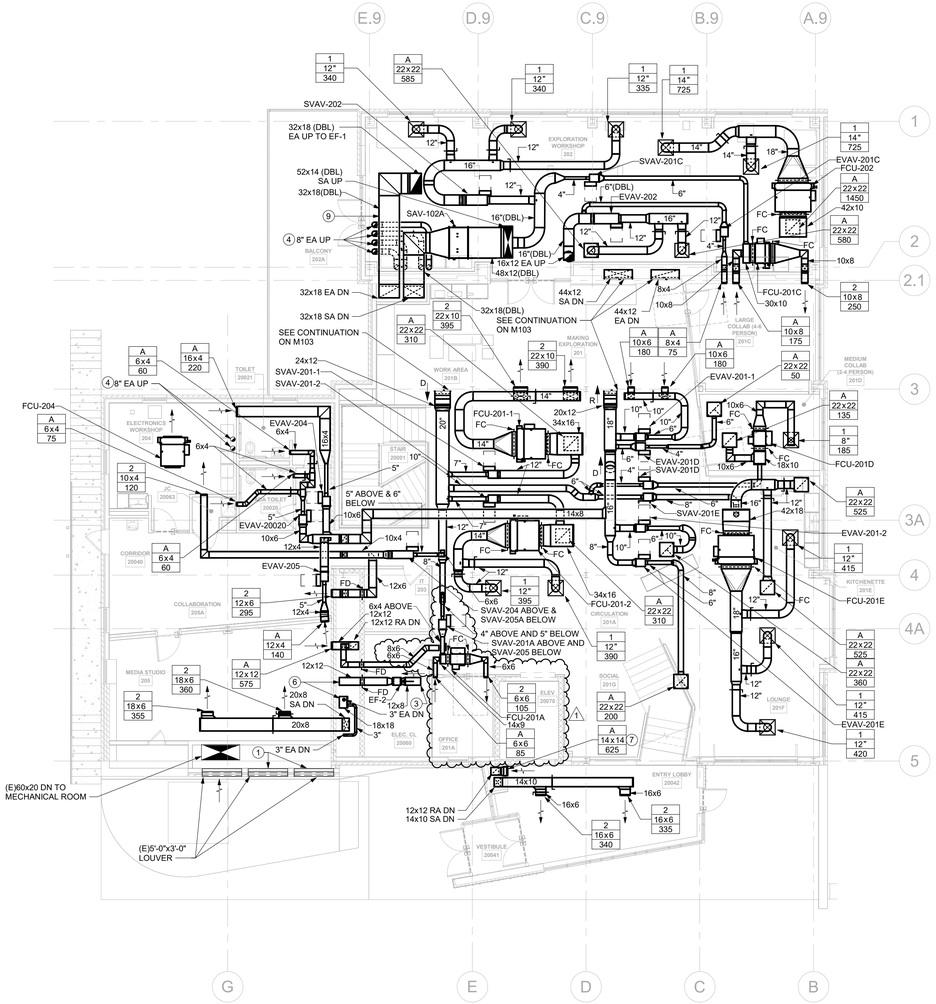
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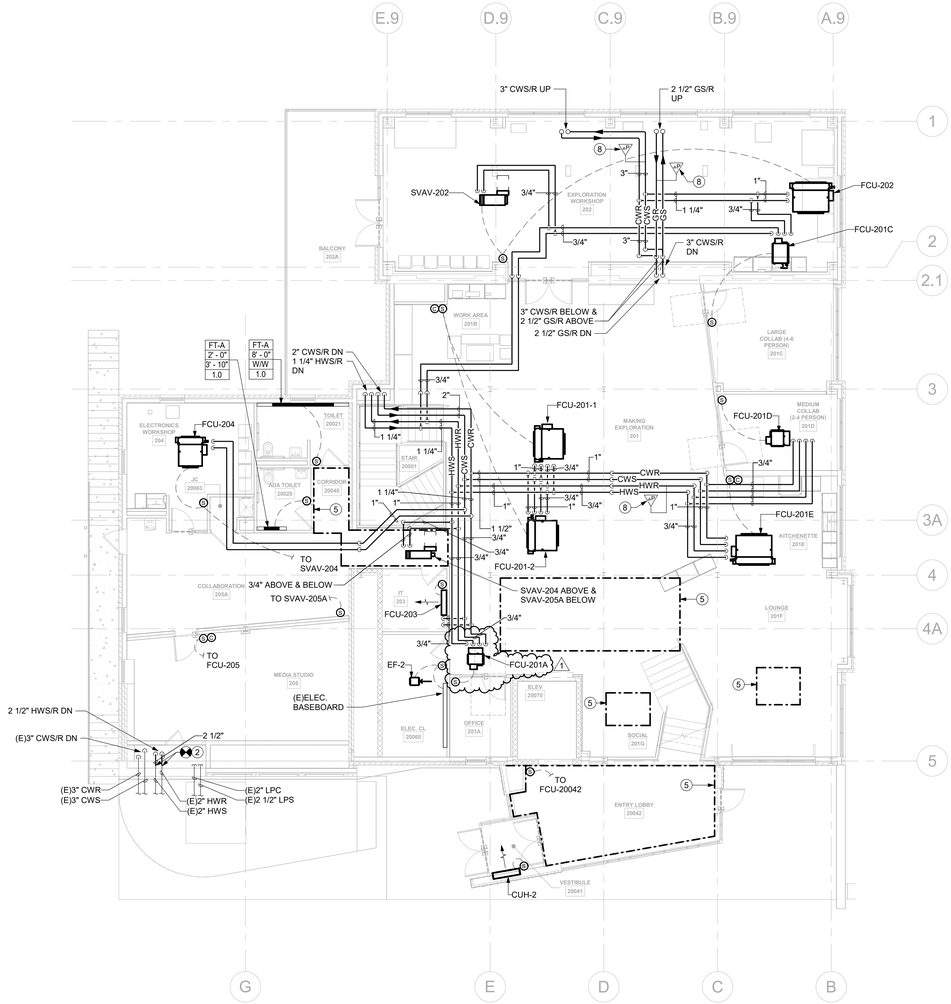
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3 BUILDING ENTRY SNOWMELT ZONE TUBING LAYOUT
1/8" = 1'-0"



1 FLOOR PLAN - OVERALL - LEVEL 02 - DUCTWORK
1/8" = 1'-0"



2 FLOOR PLAN - OVERALL - LEVEL 02 - PIPING
1/8" = 1'-0"

ⓧ DRAWING NOTES:

1. CAP AND PROVIDE 2" INSULATION BLANK-OFF PANEL ON THE INSIDE OF LOUVER. SEAL AIR AND WATER TIGHT. SEE ARCHITECTURAL DRAWINGS.
2. TIE PIPING INTO EXISTING. PROVIDE ALL PIPING MODIFICATIONS AS REQUIRED TO MAKE THE CONNECTION. REFER TO PIPING SCHEMATIC ON M400 FOR FURTHER INFORMATION.
3. PROVIDE WIRE MESH AT OPEN ENDED DUCT.
4. PROVIDE CONNECTION TO 3D PRINTER SMOKE PURIFIER. REFER TO DETAIL ON M600 AND MANUFACTURER'S INSTALLATION MANUAL.
5. LIGHTING CONTROLS SHALL BE TIED INTO THE BACS. ALL CONTROL WIRING AND BACS COMPONENTS FROM THE ELECTRICAL COMPONENTS (LIGHTS, SENSORS, SWITCHES) TO THE BACS CONTROL PANEL SHALL BE BY DIVISION 23. REFER TO THE E-SERIES DRAWINGS FOR LIGHTING CONTROL REQUIREMENT AND M-SERIES CONTROL SCHEMATICS FOR FURTHER INFORMATION.
6. PROVIDE EXHAUST DUCTWORK CONNECTION TO LOUVER. PROVIDE ALL DUCTWORK MODIFICATIONS AS REQUIRED TO MAKE THE CONNECTION. SEE M103 FOR LOCATION OF LOUVER.
7. PROVIDE ONE RETURN GRILLE 12" ABOVE FINISHED FLOOR.
8. PROVIDE DIFFERENTIAL PRESSURE TRANSMITTER IN LOCATION SHOWN.
9. COORDINATE WITH FIRE PROTECTION CONTRACTOR FOR LOCATIONS OF FIRE PROTECTION HEADS IN EXHAUST DUCTWORK. PROVIDE 12" X 12" ACCESS PANEL AT EACH HEAD LOCATION.
10. SNOWMELT MANIFOLD CABINET LOCATED ON FLOOR BELOW. SHOWN TO INDICATE WHERE TUBING PENETRATES SLAB FROM LEVEL BELOW.

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AM JOB NO.
24213

REV. NO.	REV. DATE	REV. DESCRIPTION
1	2026.10.12	ADDENDUM #2

PROJECT STATUS:
BID DOCUMENTS

DATE ISSUED:
2026.09.14

FLOOR PLANS - LEVEL 02 - HVAC

TRUE NORTH PROJECT NORTH

M102R

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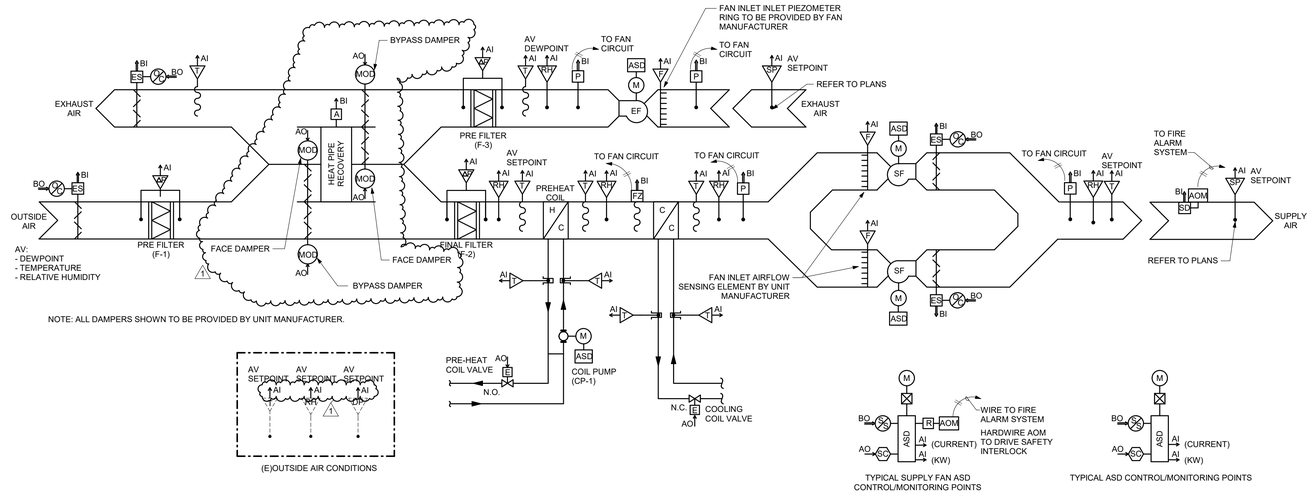
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POINT SCHEDULE

CONTROL POINT NAME	HARDWARE POINTS BI	BO	AI	AO	SOFTWARE POINTS AV	BV	SCH	TREND	ALARM BACS	EMCS	DESCRIPTION	SHOWN ON GRAPHIC	NOTES
STEAM LOAD SHED					X (6)								BINARY NETWORK INPUTS FROM EMCS
CHILLED WATER LOAD SHED					X (4)								BINARY NETWORK INPUTS FROM EMCS
OUTSIDE AIR DAMPER COMMAND		X						X				X	
OUTSIDE AIR DAMPER STATUS (OPEN / CLOSED)	X							X				X	
OUTSIDE AIR RELATIVE HUMIDITY (% RH)			X		X			X				X	USE EXISTING SENSOR
OUTSIDE AIR DEWPOINT (°F)			X		X			X				X	USE EXISTING SENSOR
OUTSIDE AIR TEMPERATURE (°F)			X		X			X				X	USE EXISTING SENSOR
OA PRE FILTER RACK DIFFERENTIAL PRESSURE (IN WC)			X					X	X	X	HIGH LIMIT	X	
EXHAUST HRC FACE DAMPER POSITION COMMAND (%)				X				X				X	
SUPPLY HRC FACE DAMPER POSITION COMMAND (%)				X				X				X	
EXHAUST HRC BYPASS DAMPER POSITION COMMAND (%)				X				X				X	
SUPPLY HRC BYPASS DAMPER POSITION COMMAND (%)				X				X				X	
HRC SUPPLY COIL LEAVING AIR TEMPERATURE - SETPOINT (°F)				X				X				X	
HRC SUPPLY COIL LEAVING AIR RELATIVE HUMIDITY (% RH)				X				X				X	
HRC EXHAUST COIL ENTERING AIR TEMPERATURE (°F)				X				X				X	
HRC EXHAUST COIL ENTERING AIR RELATIVE HUMIDITY (% RH)				X				X				X	
HRC EXHAUST COIL ENTERING AIR DEWPOINT (°F)					X			X				X	
HRC HEAT RECOVERY EFFECTIVENESS - WINTER					X			X				X	CALCULATE BASED ON ENTHALPY (IMBALANCED AIRFLOW)
HRC HEAT RECOVERY EFFECTIVENESS - SUMMER					X			X				X	CALCULATE BASED ON ENTHALPY (IMBALANCED AIRFLOW)
HRC RECOVERED ENERGY (BTUH) - WINTER					X			X				X	CALCULATE BASED ON ENTHALPY (IMBALANCED AIRFLOW)
HRC RECOVERED ENERGY (BTUH) - SUMMER					X			X				X	CALCULATE BASED ON ENTHALPY (IMBALANCED AIRFLOW)
HRC TOTALIZED RECOVERED ENERGY (BTU/YR)					X			X				X	CALCULATE BASED ON ENTHALPY (IMBALANCED AIRFLOW)
OA FINAL-FILTER RACK DIFFERENTIAL PRESSURE (IN WC)			X					X	X	X	HIGH LIMIT	X	
COOLING COIL LOW LIMIT TEMPERATURE STATUS	X							X	X	X	LOW LIMIT	X	
COOLING COIL VALVE POSITION COMMAND (%)				X				X	X	X	5°F Δ ACROSS COIL WITH VALVE COMMANDED CLOSED	X	
COOLING COIL DISCHARGE AIR TEMPERATURE (°F)			X					X				X	
COOLING COIL DISCHARGE AIR RELATIVE HUMIDITY (% RH)			X					X				X	
COOLING COIL CHILLED WATER SUPPLY TEMPERATURE (°F)			X					X				X	
COOLING COIL CHILLED WATER RETURN TEMPERATURE (°F)			X					X				X	
SUPPLY FAN ISOLATION DAMPER COMMAND		X						X				X	(TYP=2)
SUPPL FAN ISOLATION DAMPER STATUS (OPEN / CLOSED)	X							X				X	(TYP=2)
SUPPLY FAN AIRFLOW (CFM)			X					X				X	INSTALL IN INLET CONE (TYP=2)
SUPPLY FAN ASD START/STOP COMMAND (ON/OFF)		X						X				X	INTERLOCK WITH FA SYSTEM (TYP=2)
SUPPLY FAN ASD SPEED COMMAND / SETPOINT (%)					X	X		X				X	(TYP=2)
SUPPLY FAN ASD STATUS (CURRENT)			X					X	X	X	FAILURE	X	VIA CONTACT ON DRIVE (TYP=2)
SUPPLY FAN ASD POWER (KW)			X					X				X	(TYP=2)
SUPPLY FAN DUCT SMOKE DETECTOR STATUS	X											X	
SUPPLY FAN DISCHARGE PRESSURE SWITCH STATUS / SETPOINT (IN WC)	X					X			X	X	HIGH LIMIT	X	
SUPPLY FAN SUCTION PRESSURE SWITCH STATUS / SETPOINT (IN WC)	X					X			X	X	LOW LIMIT	X	
AHU DISCHARGE AIR TEMPERATURE / SETPOINT (°F)			X			X			X	X	DEVIATION FROM SETPOINT	X	
AHU DISCHARGE AIR RELATIVE HUMIDITY			X						X			X	
SUPPLY FAN DOWNSTREAM STATIC PRESSURE / SETPOINT (IN WC)			X			X			X	X	10% DEVIATION FROM SETPOINT	X	
EXHAUST FAN DISCHARGE PRESSURE SWITCH STATUS / SETPOINT (IN WC)	X					X				X	HIGH LIMIT	X	
EXHAUST FAN SUCTION PRESSURE SWITCH STATUS / SETPOINT (IN WC)	X					X				X	LOW LIMIT	X	
EXHAUST FAN ASD START/STOP COMMAND (ON/OFF)		X						X				X	
EXHAUST FAN ASD SPEED COMMAND / SETPOINT (%)					X	X		X				X	
EXHAUST FAN ASD STATUS (CURRENT)			X					X	X	X	FAILURE	X	VIA CONTACT ON DRIVE
EXHAUST FAN ASD POWER (KW)			X					X				X	
EXHAUST ISOLATION DAMPER COMMAND		X						X				X	
EXHAUST ISOLATION DAMPER STATUS (OPEN / CLOSED)	X							X				X	
EXHAUST FAN AIRFLOW (FROM BUILDING) (CFM)			X					X				X	DUCT MOUNTED
EXHAUST FILTER RACK DIFFERENTIAL PRESSURE (IN WC)			X					X	X	X	HIGH LIMIT	X	
EXHAUST FAN DOWNSTREAM STATIC PRESSURE / SETPOINT (IN WC)	X					X			X	X	10% DEVIATION FROM SETPOINT	X	
EXHAUST LEAVING AIR TEMPERATURE (°F)			X					X				X	
PREHEAT COIL DISCHARGE AIR TEMPERATURE (°F)			X					X				X	
PREHEAT COIL DISCHARGE AIR RELATIVE HUMIDITY (% RH)			X					X				X	
PREHEAT CONTROL VALVE POSITION COMMAND (%)				X				X				X	FAIL OPEN
PREHEAT LOOP SUPPLY WATER TEMPERATURE / SETPOINT (°F)			X			X			X	X	± 4°F FROM SETPOINT	X	
PREHEAT LOOP RETURN WATER TEMPERATURE (°F)			X			X			X	X		X	
PREHEAT COIL PUMP ASD START/STOP COMMAND (ON/OFF)		X						X				X	
PREHEAT COIL PUMP ASD SPEED COMMAND / SETPOINT (%)					X	X		X				X	
PREHEAT COIL WATER PUMP ASD STATUS (CURRENT)			X					X	X	X	FAILURE	X	VIA CONTACT ON DRIVE
PREHEAT COIL WATER PUMP ASD POWER (KW)			X					X				X	
REFRIGERANT THRESHOLD ALARM	X								X	X	HIGH LEVEL	X	

SEQUENCE OF OPERATION

SYSTEM DESCRIPTION

100% OUTSIDE AIR HANDLING UNIT (AHU-1)
SUPPLY AIR FANS
HRU EXHAUST FAN
GYLCOL PRE-HEAT COIL
CHILLED WATER COOLING COIL
ENERGY RECOVERY COILS (HRC-1 & HRC-2)

GENERAL

SYSTEM SHALL BE CONTROLLED THROUGH THE BUILDING AUTOMATION AND CONTROL SYSTEM (BACS).

POWER FOR THE TEMPERATURE CONTROL PANEL SHALL BE FED FROM EMERGENCY POWER.

CONTROLLED EQUIPMENT SHALL BE FED FROM EMERGENCY POWER.

ALL SETPOINTS SHALL BE ADJUSTABLE.

THE BACS SHALL BE CAPABLE OF STARTING AND STOPPING THE SYSTEM FOR SEVEN DIFFERENT DAILY SCHEDULES PER WEEK.

THE BACS SHALL BE CAPABLE OF RETAINING ITS PROGRAMMING AND TIME SETTING DURING A LOSS OF POWER FOR AT LEAST TEN HOURS.

ALL SAFETIES SHALL BE HARD WIRED INTO THE FAN MOTOR POWER CIRCUIT, AND SHALL REQUIRE MANUAL RESET.

DURING HEATING MODE, THE HEATING CONTROL VALVE SHALL CONTINUE TO CONTROL WHEN THE FAN IS OFF FOR CONTINUED FREEZE PROTECTION.

LOAD SHED: REFER TO LOAD SHED MATRICES FOR THE SYSTEM CONTROL REQUIREMENTS FOR NON-RESEARCH SPACES.

SETPOINTS

AHU DISCHARGE AIR TEMPERATURE (DAT): SEE RESET SCHEDULE

HRC DISCHARGE AIR TEMPERATURE: SAME AS AHU DAT SETPOINT

FREEZESTAT LOW LIMIT TEMPERATURE: 38ºF

FILTER DIFFERENTIAL PRESSURE HIGH LIMIT: 1.5" W.C.

SUPPLY FAN DISCHARGE HIGH STATIC PRESSURE LIMIT: 8.0" W.C.

SUPPLY FAN SUCTION LOW STATIC PRESSURE LIMIT: -8.0" W.C.

EXHAUST FAN SUCTION LOW STATIC PRESSURE LIMIT: -3.0" W.C.

SUPPLY FAN MINIMUM START SPEED: 2,660 CFM (20% OF MAX)

EXHAUST FAN MINIMUM START SPEED: 1,700 CFM (20% OF MAX)

GLYCOL PREHEAT LOOP SUPPLY TEMPERATURE: SEE RESET TEMPERATURE

FAN START/STOP

AIR HANDLING UNIT SUPPLY FAN SHALL BE INTERLOCKED WITH THE ASSOCIATED HEAT RECOVERY EXHAUST FAN.

OCCUPIED: SUPPLY AIR FAN AND ASSOCIATED EXHAUST FAN SHALL START AND OPERATE CONTINUOUSLY BASED ON THE TIME OF DAY SCHEDULE.

UNOCCUPIED: DURING THE SCHEDULED UNOCCUPIED PERIOD, THE SYSTEM SHALL BE INDEXED TO START WHENEVER ANY SPACE ASSOCIATED WITH THE SYSTEM IS OCCUPIED, AS DETERMINED VIA SPACE OCCUPANCY SENSORS. THE SYSTEM SHALL STOP AND INDEX BACK TO UNOCCUPIED MODE WHEN OCCUPANCY IS NOT SENSED FOR A PERIOD OF 30 MINUTES.

SHUTOFF DAMPER CONTROL

WHEN THE SYSTEM FANS ARE OFF, THE OUTSIDE AIR AND ASSOCIATED EXHAUST AIR DAMPERS SHALL BE CLOSED.

WHEN THE SYSTEM FANS ARE INDEXED TO START, THE OUTSIDE AIR AND ASSOCIATED EXHAUST AIR DAMPERS SHALL PROVE OPEN VIA END SWITCH PRIOR TO STARTING THE SYSTEM FANS.

FILTER STATUS

THE DDC CONTROL SYSTEM SHALL MONITOR THE DIFFERENTIAL PRESSURE ACROSS THE SYSTEM FILTER BANKS.

SUPPLY FAN SPEED CONTROL

THE SUPPLY AIR FAN SHALL MODULATE VIA A VARIABLE FREQUENCY DRIVE AS REQUIRED TO MAINTAIN THE DOWNSTREAM STATIC PRESSURE SETPOINT. THE DOWNSTREAM STATIC PRESSURE SETPOINT SHALL BE RESET AS NEEDED TO MAINTAIN THE CRITICAL ZONE DAMPER POSITION AT 95% OPEN.

THE DOWNSTREAM STATIC PRESSURE SETPOINT SHALL BE DETERMINED DURING SYSTEM BALANCING BY THE CONTROL AND TAB CONTRACTORS

EXHAUST FAN SYSTEM CONTROL

THE EXHAUST FANS SHALL MODULATE VIA A VARIABLE FREQUENCY DRIVE AS REQUIRED TO MAINTAIN THE DOWNSTREAM STATIC PRESSURE SETPOINT. THE DOWNSTREAM STATIC PRESSURE SETPOINT SHALL BE RESET AS NEEDED TO MAINTAIN THE CRITICAL ZONE DAMPER POSITIONS AT 95%.

HEAT PIPE RECOVERY SYSTEM CONTROL

WINTER MODE: WINTER MODE SHALL BE INITIATED WHEN THE OUTSIDE AIR TEMPERATURE IS 7-10ºF BELOW THE SUPPLY AIR DISCHARGE AIR TEMPERATURE SETPOINT AND THE HEAT PIPE DISCHARGE AIR TEMPERATURE IS BELOW SETPOINT. THE COIL FACE DAMPER SHALL BE OPEN AND THE OUTSIDE AIR AND EXHAUST AIR BYPASS DAMPERS SHALL BE CLOSED.

INTERMEDIATE MODE: INTERMEDIATE MODE SHALL BE INITIATED WHEN THE OUTSIDE AIR TEMPERATURE IS ABOVE THE SUPPLY AIR TEMPERATURE SETPOINT AND 5ºF BELOW THE EXHAUST AIR TEMPERATURE AND THE OUTSIDE AIR TEMPERATURE IS ABOVE THE HEAT PIPE DISCHARGE AIR TEMPERATURE SETPOINT. THE OUTSIDE AIR AND EXHAUST BYPASS DAMPERS SHALL MODULATE OPEN AND THE COIL FACE DAMPER SHALL BE CLOSED.

SUMMER MODE: SUMMER MODE SHALL BE INITIATED WHEN THE OUTSIDE AIR TEMPERATURE IS 7-10ºF ABOVE THE EXHAUST AIR TEMPERATURE SETPOINT. THE COIL FACE DAMPER SHALL BE OPEN AND THE OUTSIDE AIR AND EXHAUST BYPASS DAMPERS SHALL BE CLOSED.

ANTI-FROST MODE: ANTI-FROST MODE SHALL BE INITIATED WHEN THE LEAVING EXHAUST AIR TEMPERATURE FALLS BELOW 34 DEG F AND INLET EXHAUST AIR DEWPOINT TEMPERATURE IS GREATER THAN THE LEAVING EXHAUST AIR TEMPERATURE. THE FACE AND BYPASS DAMPERS SHALL MODULATE AS REQUIRED TO MAINTAIN THE EXHAUST AIR LEAVING TEMPERATURE ABOVE THE INLET EXHAUST AIR DEWPOINT TEMPERATURE.

SUPPLY AIR TEMPERATURE CONTROL

DISCHARGE AIR TEMPERATURE RESET: THE AHU DISCHARGE AIR TEMPERATURE SHALL BE ALLOWED TO RESET BASED ON THE FOLLOWING SCHEDULE:

OAT = 75°F & ABOVE --- DAT = 55°F

OAT = 55°F & BELOW --- DAT = 65°F

WHEN THE AHU DISCHARGE AIR TEMPERATURE SETPOINT IS 65°F AND A ZONE (WITHOUT SUPPLEMENTAL COOLING) CANNOT MEET THE COOLING SETPOINT, THE DISCHARGE AIR TEMPERATURE SHALL BE RESET INCREMENTALLY TO 55°F UNTIL THE ZONE SETPOINT IS SATISFIED.

WHEN THE AHU DISCHARGE AIR TEMPERATURE FALLS BELOW SETPOINT, THE CHILLED WATER CONTROL VALVE SHALL BE CLOSED, THE GLYCOL COIL PUMP SHALL START, AND THE PREHEAT COIL CONTROL VALVE SHALL MODULATE AS REQUIRED TO MAINTAIN THE DISCHARGE AIR TEMPERATURE SETPOINT.

WHEN AHU DISCHARGE AIR TEMPERATURE RISES ABOVE SETPOINT, THE PREHEAT COIL CONTROL VALVE SHALL BE CLOSED, THE GLYCOL COIL PUMP SHALL BE OFF AND THE CHILLED WATER CONTROL VALVE SHALL MODULATE AS REQUIRED TO MAINTAIN THE DISCHARGE AIR TEMPERATURE SETPOINT.

SAFETIES

FREEZE PROTECTION: THE SUPPLY AND EXHAUST AIR FANS SHALL SHUT DOWN, THE OUTSIDE AIR AND EXHAUST AIR DAMPERS SHALL CLOSE, THE GLYCOL COIL PUMPS SHALL START AND THE CONTROL VALVES SHALL OPEN UPON ACTIVATION OF THE LOW LIMIT TEMPERATURE SWITCH.

HIGH FAN STATIC: THE SUPPLY AND EXHAUST AIR FANS SHALL SHUT DOWN, THE OUTSIDE AIR AND EXHAUST AIR DAMPERS SHALL CLOSE UPON ACTIVATION OF THE HIGH FAN DISCHARGE STATIC PRESSURE SWITCH.

LOW FAN STATIC: THE SUPPLY AND EXHAUST AIR FANS SHALL SHUT DOWN, THE OUTSIDE AIR AND EXHAUST AIR DAMPERS SHALL CLOSE UPON ACTIVATION OF THE LOW FAN SUCTION STATIC PRESSURE SWITCH.

SMOKE DETECTION: THE SUPPLY FAN SHALL SHUT DOWN AND THE OUTSIDE AIR DAMPER SHALL CLOSE UPON ACTIVATION OF A DUCT SMOKE DETECTOR.

1 REFRIGERANT PURGE: IF THE REFRIGERANT CONCENTRATION EXCEEDS THE THRESHOLD LIMIT, THE UNIT SHALL ENTER PURGE MODE. IN PURGE MODE AN ALARM IS SENT TO THE BUILDING AUTOMATION AND CONTROL SYSTEM, THE SUPPLY AND RETURN FANS SHALL BE COMMANDED TO OPERATE AT 50% FAN SPEED AND ALL VAV BOXES SHALL BE COMMANDED TO 100% OPEN. THE UNIT WILL REMAIN IN PURGE MODE UNTIL THE REFRIGERANT CONCENTRATION IS BELOW THE THRESHOLD LIMIT. ONCE THE LEVEL FALLS BELOW THRESHOLD LIMIT THE UNIT WILL CONTINUE IN PURGE MODE FOR AN ADDITIONAL 5 MINUTES. AFTER THE 5 MINUTE DELAY THE UNIT WILL RETURN TO NORMAL OPERATION.

1 AIR HANDLING UNIT CONTROL SCHEMATIC AND SYSTEM SUMMARY
NOT TO SCALE

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CONTROL SCHEMATIC AND SYSTEM SUMMARY

M301R

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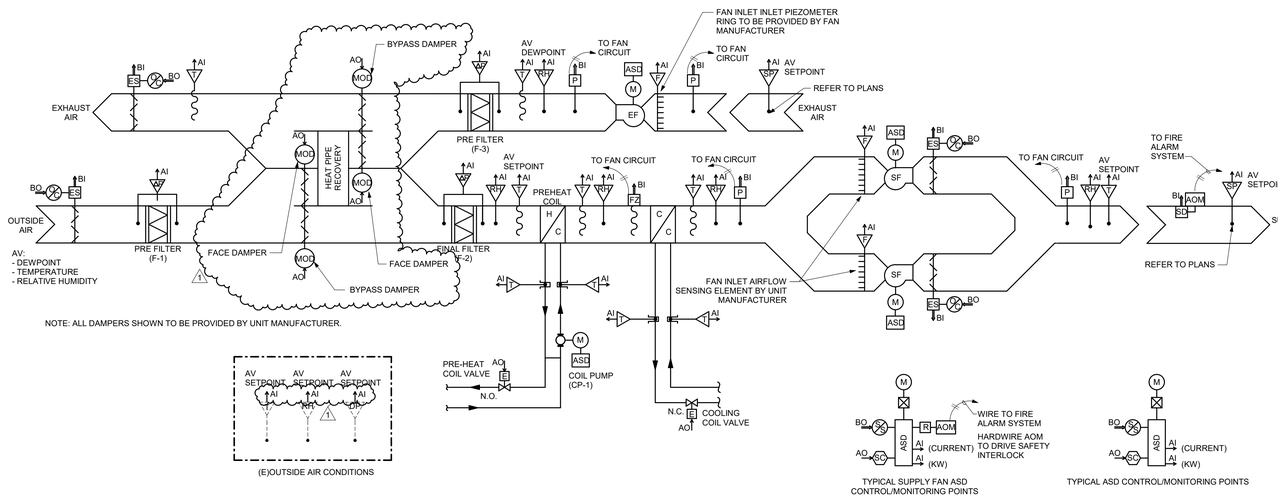
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POINT SCHEDULE

CONTROL POINT NAME	HARDWARE POINTS				SOFTWARE POINTS							SHOWN ON GRAPHIC	NOTES
									ALARM				
	BI	BO	AI	AO	AV	BV	SCH	TREND	BACS	EMCS	DESCRIPTION		
STEAM LOAD SHED						X (6)							BINARY NETWORK INPUTS FROM EMCS
CHILLED WATER LOAD SHED						X (4)							BINARY NETWORK INPUTS FROM EMCS
OUTSIDE AIR DAMPER COMMAND		X						X				X	
OUTSIDE AIR DAMPER STATUS (OPEN / CLOSED)	X							X				X	
OUTSIDE AIR RELATIVE HUMIDITY (% RH)			X			X		X				X	USE EXISTING SENSOR
OUTSIDE AIR DEWPOINT (°F)			X			X	1	X				X	USE EXISTING SENSOR
OUTSIDE AIR TEMPERATURE (°F)			X			X		X				X	USE EXISTING SENSOR
OA PRE-FILTER RACK DIFFERENTIAL PRESSURE (IN WC)				X				X	X	X	HIGH LIMIT	X	
EXHAUST HRC FACE DAMPER POSITION COMMAND (%)				X				X				X	
SUPPLY HRC FACE DAMPER POSITION COMMAND (%)				X				X				X	
EXHAUST HRC BYPASS DAMPER POSITION COMMAND (%)				X				X				X	
SUPPLY HRC BYPASS DAMPER POSITION COMMAND (%)				X				X				X	
HRC SUPPLY COIL LEAVING AIR TEMPERATURE - SETPOINT (°F)								X				X	
HRC SUPPLY COIL LEAVING AIR RELATIVE HUMIDITY (% RH)				X				X				X	
HRC EXHAUST COIL ENTERING AIR TEMPERATURE (°F)				X				X				X	
HRC EXHAUST COIL ENTERING AIR RELATIVE HUMIDITY (% RH)				X				X				X	
HRC EXHAUST COIL ENTERING AIR DEWPOINT (°F)						X		X				X	
HRC HEAT RECOVERY EFFECTIVENESS - WINTER						X		X				X	CALCULATE BASED ON ENTHALPY (IMBALANCED AIRFLOW)
HRC HEAT RECOVERY EFFECTIVENESS - SUMMER						X		X				X	CALCULATE BASED ON ENTHALPY (IMBALANCED AIRFLOW)
HRC RECOVERED ENERGY (BTUH) - WINTER						X		X				X	CALCULATE BASED ON ENTHALPY (IMBALANCED AIRFLOW)
HRC RECOVERED ENERGY (BTUH) - SUMMER						X		X				X	CALCULATE BASED ON ENTHALPY (IMBALANCED AIRFLOW)
HRC TOTALIZED RECOVERED ENERGY (BTU/YR)						X		X				X	CALCULATE BASED ON ENTHALPY (IMBALANCED AIRFLOW)
OA FINAL-FILTER RACK DIFFERENTIAL PRESSURE (IN WC)				X				X	X	X	HIGH LIMIT	X	
COOLING COIL LOW LIMIT TEMPERATURE STATUS	X							X	X	X	LOW LIMIT	X	
COOLING COIL VALVE POSITION COMMAND (%)					X			X	X	X	5°F Δ ACROSS COIL WITH VALVE COMMANDED CLOSED	X	
COOLING COIL DISCHARGE AIR TEMPERATURE (°F)				X				X				X	
COOLING COIL DISCHARGE AIR RELATIVE HUMIDITY (% RH)				X				X				X	
COOLING COIL CHILLED WATER SUPPLY TEMPERATURE (°F)				X				X				X	
COOLING COIL CHILLED WATER RETURN TEMPERATURE (°F)				X				X				X	
SUPPLY FAN ISOLATION DAMPER COMMAND		X						X				X	(TYP=2)
SUPPL FAN ISOLATION DAMPER STATUS (OPEN / CLOSED)	X							X				X	(TYP=2)
SUPPLY FAN AIRFLOW (CFM)				X				X				X	INSTALL IN INLET CONE (TYP=2)
SUPPLY FAN ASD START/STOP COMMAND (ON/OFF)		X						X				X	INTERLOCK WITH FA SYSTEM (TYP=2)
SUPPLY FAN ASD SPEED COMMAND / SETPOINT (%)					X	X		X				X	(TYP=2)
SUPPLY FAN ASD STATUS (CURRENT)				X				X	X	X	FAILURE	X	VIA CONTACT ON DRIVE (TYP=2)
SUPPLY FAN ASD POWER (KW)				X				X				X	(TYP=2)
SUPPLY FAN DUCT SMOKE DETECTOR STATUS	X											X	
SUPPLY FAN DISCHARGE PRESSURE SWITCH STATUS / SETPOINT (IN WC)	X					X			X	X	HIGH LIMIT	X	
SUPPLY FAN SUCTION PRESSURE SWITCH STATUS / SETPOINT (IN WC)	X					X			X	X	LOW LIMIT	X	
AHU DISCHARGE AIR TEMPERATURE / SETPOINT (°F)				X		X		X	X	X	DEVIATION FROM SETPOINT	X	
AHU DISCHARGE AIR RELATIVE HUMIDITY				X				X				X	
SUPPLY FAN DOWNSTREAM STATIC PRESSURE / SETPOINT (IN WC)				X		X		X	X	X	10% DEVIATION FROM SETPOINT	X	
EXHAUST FAN DISCHARGE PRESSURE SWITCH STATUS / SETPOINT (IN WC)	X					X			X	X	HIGH LIMIT	X	
EXHAUST FAN SUCTION PRESSURE SWITCH STATUS / SETPOINT (IN WC)	X					X			X	X	LOW LIMIT	X	
EXHAUST FAN ASD START/STOP COMMAND (ON/OFF)		X						X				X	
EXHAUST FAN ASD SPEED COMMAND / SETPOINT (%)					X	X		X				X	
EXHAUST FAN ASD STATUS (CURRENT)				X				X	X	X	FAILURE	X	VIA CONTACT ON DRIVE
EXHAUST FAN ASD POWER (KW)				X				X				X	
EXHAUST ISOLATION DAMPER COMMAND		X						X				X	
EXHAUST ISOLATION DAMPER STATUS (OPEN / CLOSED)	X							X				X	
EXHAUST FAN AIRFLOW (FROM BUILDING) (CFM)				X				X				X	DUCT MOUNTED
EXHAUST FILTER RACK DIFFERENTIAL PRESSURE (IN WC)				X				X	X	X	HIGH LIMIT	X	
EXHAUST FAN DOWNSTREAM STATIC PRESSURE / SETPOINT (IN WC)	X					X		X	X	X	10% DEVIATION FROM SETPOINT	X	
EXHAUST LEAVING AIR TEMPERATURE (°F)				X				X				X	
PREHEAT COIL DISCHARGE AIR TEMPERATURE (°F)				X				X				X	
PREHEAT COIL DISCHARGE AIR RELATIVE HUMIDITY (% RH)				X				X				X	
PREHEAT CONTROL VALVE POSITION COMMAND (%)					X			X				X	FAIL OPEN
PREHEAT LOOP SUPPLY WATER TEMPERATURE / SETPOINT (°F)				X		X		X	X	X	± 4°F FROM SETPOINT	X	
PREHEAT LOOP RETURN WATER TEMPERATURE (°F)				X		X		X	X	X		X	
PREHEAT COIL PUMP ASD START/STOP COMMAND (ON/OFF)		X						X				X	
PREHEAT COIL PUMP ASD SPEED COMMAND / SETPOINT (%)					X	X		X				X	
PREHEAT COIL WATER PUMP ASD STATUS (CURRENT)				X				X	X	X	FAILURE	X	VIA CONTACT ON DRIVE

SEQUENCE OF OPERATION

SYSTEM DESCRIPTION

100% OUTSIDE AIR HANDLING UNIT (AHU-1)
SUPPLY AIR FANS
HRU EXHAUST FAN
GYLCOL PRE-HEAT COIL
CHILLED WATER COOLING COIL
ENERGY RECOVERY COILS (HRC-1 & HRC-2)

GENERAL

SYSTEM SHALL BE CONTROLLED THROUGH THE BUILDING AUTOMATION AND CONTROL SYSTEM (BACS).

POWER FOR THE TEMPERATURE CONTROL PANEL SHALL BE FED FROM EMERGENCY POWER.

CONTROLLED EQUIPMENT SHALL BE FED FROM EMERGENCY POWER.

ALL SETPOINTS SHALL BE ADJUSTABLE.

THE BACS SHALL BE CAPABLE OF STARTING AND STOPPING THE SYSTEM FOR SEVEN DIFFERENT DAILY SCHEDULES PER WEEK.

THE BACS SHALL BE CAPABLE OF RETAINING ITS PROGRAMMING AND TIME SETTING DURING A LOSS OF POWER FOR AT LEAST TEN HOURS.

ALL SAFETIES SHALL BE HARD WIRED INTO THE FAN MOTOR POWER CIRCUIT, AND SHALL REQUIRE MANUAL RESET.

DURING HEATING MODE, THE HEATING CONTROL VALVE SHALL CONTINUE TO CONTROL WHEN THE FAN IS OFF FOR CONTINUED FREEZE PROTECTION.

LOAD SHED: REFER TO LOAD SHED MATRICES FOR THE SYSTEM CONTROL REQUIREMENTS FOR NON-RESEARCH SPACES.

SETPOINTS

AHU DISCHARGE AIR TEMPERATURE (DAT): SEE RESET SCHEDULE

HRC DISCHARGE AIR TEMPERATURE: SAME AS AHU DAT SETPOINT

FREEZESTAT LOW LIMIT TEMPERATURE: 38ºF

FILTER DIFFERENTIAL PRESSURE HIGH LIMIT: 1.5" W.C.

SUPPLY FAN DISCHARGE HIGH STATIC PRESSURE LIMIT: 8.0" W.C.

SUPPLY FAN SUCTION LOW STATIC PRESSURE LIMIT: -8.0" W.C.

EXHAUST FAN SUCTION LOW STATIC PRESSURE LIMIT: -3.0" W.C.

SUPPLY FAN MINIMUM START SPEED: 2,660 CFM (20% OF MAX)

EXHAUST FAN MINIMUM START SPEED: 1,700 CFM (20% OF MAX)

GLYCOL PREHEAT LOOP SUPPLY TEMPERATURE: SEE RESET TEMPERATURE

FAN START/STOP

AIR HANDLING UNIT SUPPLY FAN SHALL BE INTERLOCKED WITH THE ASSOCIATED HEAT RECOVERY EXHAUST FAN.

OCCUPIED: SUPPLY AIR FAN AND ASSOCIATED EXHAUST FAN SHALL START AND OPERATE CONTINUOUSLY BASED ON THE TIME OF DAY SCHEDULE.

UNOCCUPIED: DURING THE SCHEDULED UNOCCUPIED PERIOD, THE SYSTEM SHALL BE INDEXED TO START WHENEVER ANY SPACE ASSOCIATED WITH THE SYSTEM IS OCCUPIED, AS DETERMINED VIA SPACE OCCUPANCY SENSORS. THE SYSTEM SHALL STOP AND INDEX BACK TO UNOCCUPIED MODE WHEN OCCUPANCY IS NOT SENSED FOR A PERIOD OF 30 MINUTES.

SHUTOFF DAMPER CONTROL

WHEN THE SYSTEM FANS ARE OFF, THE OUTSIDE AIR AND ASSOCIATED EXHAUST AIR DAMPERS SHALL BE CLOSED.

WHEN THE SYSTEM FANS ARE INDEXED TO START, THE OUTSIDE AIR AND ASSOCIATED EXHAUST AIR DAMPERS SHALL PROVE OPEN VIA END SWITCH PRIOR TO STARTING THE SYSTEM FANS.

FILTER STATUS

THE DDC CONTROL SYSTEM SHALL MONITOR THE DIFFERENTIAL PRESSURE ACROSS THE SYSTEM FILTER BANKS.

SUPPLY FAN SPEED CONTROL

THE SUPPLY AIR FAN SHALL MODULATE VIA A VARIABLE FREQUENCY DRIVE AS REQUIRED TO MAINTAIN THE DOWNSTREAM STATIC PRESSURE SETPOINT. THE DOWNSTREAM STATIC PRESSURE SETPOINT SHALL BE RESET AS NEEDED TO MAINTAIN THE CRITICAL ZONE DAMPER POSITION AT 95% OPEN.

THE DOWNSTREAM STATIC PRESSURE SETPOINT SHALL BE DETERMINED DURING SYSTEM BALANCING BY THE CONTROL AND TAB CONTRACTORS

EXHAUST FAN SYSTEM CONTROL

THE EXHAUST FANS SHALL MODULATE VIA A VARIABLE FREQUENCY DRIVE AS REQUIRED TO MAINTAIN THE DOWNSTREAM STATIC PRESSURE SETPOINT. THE DOWNSTREAM STATIC PRESSURE SETPOINT SHALL BE RESET AS NEEDED TO MAINTAIN THE CRITICAL ZONE DAMPER POSITIONS AT 95%.

HEAT PIPE RECOVERY SYSTEM CONTROL

WINTER MODE: WINTER MODE SHALL BE INITIATED WHEN THE OUTSIDE AIR TEMPERATURE IS 7-10ºF BELOW THE SUPPLY AIR DISCHARGE AIR TEMPERATURE SETPOINT AND THE HEAT PIPE DISCHARGE AIR TEMPERATURE IS BELOW SETPOINT. THE COIL FACE DAMPER SHALL BE OPEN AND THE OUTSIDE AIR AND EXHAUST AIR BYPASS DAMPERS SHALL BE CLOSED.

INTERMEDIATE MODE: INTERMEDIATE MODE SHALL BE INITIATED WHEN THE OUTSIDE AIR TEMPERATURE IS ABOVE THE SUPPLY AIR TEMPERATURE SETPOINT AND 5ºF BELOW THE EXHAUST AIR TEMPERATURE AND THE OUTSIDE AIR TEMPERATURE IS ABOVE THE HEAT PIPE DISCHARGE AIR TEMPERATURE SETPOINT. THE OUTSIDE AIR AND EXHAUST BYPASS DAMPERS SHALL MODULATE OPEN AND THE COIL FACE DAMPER SHALL BE CLOSED.

SUMMER MODE: SUMMER MODE SHALL BE INITIATED WHEN THE OUTSIDE AIR TEMPERATURE IS 7-10ºF ABOVE THE EXHAUST AIR TEMPERATURE SETPOINT. THE COIL FACE DAMPER SHALL BE OPEN AND THE OUTSIDE AIR AND EXHAUST BYPASS DAMPERS SHALL BE CLOSED.

ANTI-FROST MODE: ANTI-FROST MODE SHALL BE INITIATED WHEN THE LEAVING EXHAUST AIR TEMPERATURE FALLS BELOW 34 DEG F AND INLET EXHAUST AIR DEWPOINT TEMPERATURE IS GREATER THAN THE LEAVING EXHAUST AIR TEMPERATURE. THE FACE AND BYPASS DAMPERS SHALL MODULATE AS REQUIRED TO MAINTAIN THE EXHAUST AIR LEAVING TEMPERATURE ABOVE THE INLET EXHAUST AIR DEWPOINT TEMPERATURE.

SUPPLY AIR TEMPERATURE CONTROL

DISCHARGE AIR TEMPERATURE RESET: THE AHU DISCHARGE AIR TEMPERATURE SHALL BE ALLOWED TO RESET BASED ON THE FOLLOWING SCHEDULE:

OAT = 75°F & ABOVE	---	DAT = 55°F
OAT = 55°F & BELOW	---	DAT = 65°F

WHEN THE AHU DISCHARGE AIR TEMPERATURE SETPOINT IS 65°F AND A ZONE (WITHOUT SUPPLEMENTAL COOLING) CANNOT MEET THE COOLING SETPOINT, THE DISCHARGE AIR TEMPERATURE SHALL BE RESET INCREMENTALLY TO 55°F UNTIL THE ZONE SETPOINT IS SATISFIED.

WHEN THE AHU DISCHARGE AIR TEMPERATURE FALLS BELOW SETPOINT, THE CHILLED WATER CONTROL VALVE SHALL BE CLOSED, THE GLYCOL COIL PUMP SHALL START, AND THE PREHEAT COIL CONTROL VALVE SHALL MODULATE AS REQUIRED TO MAINTAIN THE DISCHARGE AIR TEMPERATURE SETPOINT.

WHEN AHU DISCHARGE AIR TEMPERATURE RISES ABOVE SETPOINT, THE PREHEAT COIL CONTROL VALVE SHALL BE CLOSED, THE GLYCOL COIL PUMP SHALL BE OFF AND THE CHILLED WATER CONTROL VALVE SHALL MODULATE AS REQUIRED TO MAINTAIN THE DISCHARGE AIR TEMPERATURE SETPOINT.

SAFETIES

FREEZE PROTECTION: THE SUPPLY AND EXHAUST AIR FANS SHALL SHUT DOWN, THE OUTSIDE AIR AND EXHAUST AIR DAMPERS SHALL CLOSE, THE GLYCOL COIL PUMPS SHALL START AND THE CONTROL VALVES SHALL OPEN UPON ACTIVATION OF THE LOW LIMIT TEMPERATURE SWITCH.

HIGH FAN STATIC: THE SUPPLY AND EXHAUST AIR FANS SHALL SHUT DOWN, THE OUTSIDE AIR AND EXHAUST AIR DAMPERS SHALL CLOSE UPON ACTIVATION OF THE HIGH FAN DISCHARGE STATIC PRESSURE SWITCH.

LOW FAN STATIC: THE SUPPLY AND EXHAUST AIR FANS SHALL SHUT DOWN, THE OUTSIDE AIR AND EXHAUST AIR DAMPERS SHALL CLOSE UPON ACTIVATION OF THE LOW FAN SUCTION STATIC PRESSURE SWITCH.

SMOKE DETECTION: THE SUPPLY FAN SHALL SHUT DOWN AND THE OUTSIDE AIR DAMPER SHALL CLOSE UPON ACTIVATION OF A DUCT SMOKE DETECTOR.

1 AIR HANDLING UNIT CONTROL SCHEMATIC AND SYSTEM SUMMARY
NOT TO SCALE

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AM JOB NO.
24213

REV. NO.	REV. DATE	REV. DESCRIPTION
1	2026.10.12	ADDENDUM #2

PROJECT STATUS:
BID DOCUMENTS

DATE ISSUED:
2026.09.14

CONTROL SCHEMATIC AND SYSTEM SUMMARY

M301R

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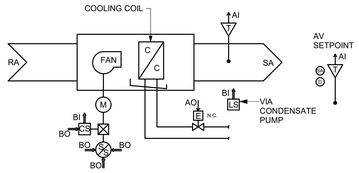
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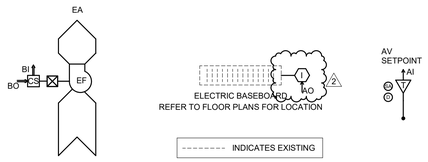
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POINT SCHEDULE													
CONTROL POINT NAME	HARDWARE POINTS				SOFTWARE POINTS							SHOWN ON GRAPHIC	NOTES
									ALARM				
	BI	BO	AI	AO	AV	BV	SCH	TREND	BACS	EMCS	DESCRIPTION		
CHILLED WATER LOAD SHED						X (4)							BINARY NETWORK INPUTS FROM EMCS
FAN COIL UNIT MOTOR STATUS (ON/OFF)	X							X	X		FAILURE	X	
FAN COIL UNIT MOTOR SPEED - LOW		X						X				X	
FAN COIL UNIT MOTOR SPEED - MEDIUM		X						X				X	
FAN COIL UNIT MOTOR SPEED - HIGH		X						X				X	
FAN COIL UNIT COOLING COIL CONTROL VALVE POSITION COMMAND (%)				X				X				X	
FAN COIL UNIT DISCHARGE AIR TEMPERATURE / SETPOINT (°F)			X		X			X	X		± 4°F FROM SETPOINT / SENSOR FAILURE	X	
FAN COIL UNIT CONDENSATE OVERFLOW SWITCH STATUS	X							X	X		OVERFLOW	X	
SPACE TEMPERATURE / SETPOINT (°F)			X		✕			X	X		± 4°F FROM SETPOINT	X	

1 IT ROOM TWO PIPE FAN COIL CONTROL SCHEMATIC AND SYSTEM SUMMARY
NOT TO SCALE



SEQUENCE OF OPERATION

SYSTEM DESCRIPTION

2 PIPE FAN COIL UNIT

GENERAL

SYSTEM SHALL BE CONTROLLED THROUGH THE BUILDING AUTOMATION AND CONTROL SYSTEM (BACS).

ALL SETPOINTS SHALL BE ADJUSTABLE.

THE BACS SHALL BE CAPABLE OF STARTING AND STOPPING THE SYSTEM FOR SEVEN DIFFERENT DAILY SCHEDULES PER WEEK.

THE BACS SHALL BE CAPABLE OF RETAINING ITS PROGRAMMING AND TIME SETTING DURING A LOSS OF POWER FOR AT LEAST TEN HOURS.

ALL SAFETIES SHALL BE HARD WIRED INTO THE FAN MOTOR POWER CIRCUIT, AND SHALL REQUIRE MANUAL RESET.

LOAD SHED: REFER TO LOAD SHED MATRICES FOR THE SYSTEM CONTROL REQUIREMENTS FOR NON-RESEARCH SPACES.

SETPOINTS

SPACE COOLING TEMPERATURE SETPOINT: 80°F

MINIMUM SPACE OCCUPANCY INDEX TIME: 30 MINUTES

ZONE TEMPERATURE CONTROL

COOLING: IF THE ZONE TEMPERATURE RISES ABOVE THE COOLING TEMPERATURE SETPOINT, THE FAN COIL UNIT FAN SHALL INDEX TO MINIMUM POSITION AND THE COOLING COIL VALVE SHALL FIRST MODULATE AS REQUIRED TO MAINTAIN SPACE TEMPERATURE SETPOINT. IF THE FAN COIL UNIT CANNOT MAINTAIN SPACE TEMPERATURE SET POINT WITH THE COOLING COIL CONTROL VALVE AT 100% OPEN, THE FAN COIL SPEED SHALL MODULATE BETWEEN MINIMUM AND MAXIMUM POSITIONS TO MAINTAIN THE SPACE TEMPERATURE SETPOINT.

SEQUENCE OF OPERATION

SYSTEM DESCRIPTION

EXHAUST FAN
ELECTRIC BASEBOARD HEATER (WHERE APPLICABLE)

GENERAL

SYSTEM SHALL BE CONTROLLED THROUGH THE BUILDING AUTOMATION AND CONTROL SYSTEM (BACS).

ALL SETPOINTS SHALL BE ADJUSTABLE.

THE BACS SHALL BE CAPABLE OF STARTING AND STOPPING THE SYSTEM FOR SEVEN DIFFERENT DAILY SCHEDULES PER WEEK.

THE BACS SHALL BE CAPABLE OF RETAINING ITS PROGRAMMING AND TIME SETTING DURING A LOSS OF POWER FOR AT LEAST TEN HOURS.

ALL SAFETIES SHALL BE HARD WIRED INTO THE FAN MOTOR POWER CIRCUIT, AND SHALL REQUIRE MANUAL RESET.

LOAD SHED: REFER TO LOAD SHED MATRICES FOR THE SYSTEM CONTROL REQUIREMENTS FOR NON-RESEARCH SPACES.

SETPOINTS

SPACE COOLING TEMPERATURE SETPOINTS:

OCCUPIED: 75°F
UNOCCUPIED: 81°F

SPACE HEATING TEMPERATURE SETPOINTS (WHERE APPLICABLE)

OCCUPIED: 70°F
UNOCCUPIED: 64°F

SPACE OCCUPANCY

ZONE OCCUPANCY SHALL BE DETERMINED BASED ON AN OCCUPANCY SENSOR.

ZONE TEMPERATURE CONTROL

OCCUPIED HEATING: IF THE SPACE IS OCCUPIED AND IF THE ZONE TEMPERATURE FALLS BELOW THE OCCUPIED HEATING TEMPERATURE SETPOINT, THE BASEBOARD HEATER SHALL ENERGIZE TO MAINTAIN SPACE TEMPERATURE SETPOINT.

OCCUPIED COOLING: IF THE SPACE IS OCCUPIED AND THE ZONE TEMPERATURE RISES ABOVE THE OCCUPIED COOLING TEMPERATURE SETPOINT, THE EXHAUST FAN SHALL INDEX ON AND THE BASEBOARD HEATER SHALL INDEX OFF.

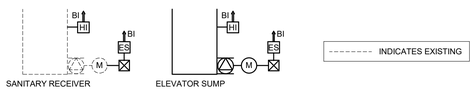
UNOCCUPIED HEATING SETBACK: WHEN THE SPACE IS UNOCCUPIED AND THE ZONE TEMPERATURE FALLS BELOW THE UNOCCUPIED HEATING TEMPERATURE SETPOINT, THE ABOVE OCCUPIED HEATING SEQUENCE SHALL APPLY. THE SPACE SHALL BE MAINTAINED AT THE UNOCCUPIED TEMPERATURE SETPOINTS.

UNOCCUPIED COOLING SETBACK: WHEN THE SPACE IS UNOCCUPIED AND THE ZONE TEMPERATURE RISES ABOVE THE UNOCCUPIED COOLING TEMPERATURE SETPOINT, THE ABOVE OCCUPIED COOLING SEQUENCE SHALL APPLY. THE SPACE SHALL BE MAINTAINED AT THE UNOCCUPIED TEMPERATURE SETPOINTS.

POINT SCHEDULE												
CONTROL POINT NAME	HARDWARE POINTS				SOFTWARE POINTS						SHOWN ON GRAPHIC	NOTES
									ALARM			
	BI	BO	AI	AO	AV	BV	SCH	TREND	BACS	DESCRIPTION		
STEAM LOAD SHED						X (6)						BINARY NETWORK INPUTS FROM EMCS
FAN MOTOR STATUS (ON/OFF)	X							X	X	FAILURE	X	
FAN MOTOR START/STOP		X						X			X	
ELECTRIC COIL COMMAND				X				X			X	
SPACE TEMPERATURE / SETPOINT (°F)			X		X			X	X	± 4°F FROM SETPOINT	X	

2

2 ELECTRICAL ROOM AND ACCESS CONTROL ROOM CONTROL SCHEMATIC AND SYSTEM SUMMARY
NOT TO SCALE



POINT SCHEDULE											
CONTROL POINT NAME	HARDWARE POINTS				SOFTWARE POINTS						SHOWN ON GRAPHIC	NOTES
									ALARM			
	BI	BO	AI	AO	AV	BV	SCH	TREND	BACS	DESCRIPTION		
SANITARY LEVEL	X							X	X	HIGH LEVEL	X	
SEWAGE EJECTOR PUMP (SE-1) STATUS	X							X	X	FAILURE	X	VIA CURRENT SENSOR
ELEVATOR SUMP LEVEL	X							X	X	HIGH LEVEL	X	
ELEVATOR SUMP PUMP (ESP-1) STATUS	X							X	X	FAILURE	X	VIA CURRENT SENSOR

3 PLUMBING MONITORING CONTROL SCHEMATIC AND SYSTEM SUMMARY
NOT TO SCALE

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AM JOB NO.
24213

REV. NO.	REV. DATE	REV. DESCRIPTION
1	2026.10.06	ADDENDUM # 1
2	2026.10.12	ADDENDUM #2

PROJECT STATUS:
BID DOCUMENTS

DATE ISSUED:
2026.09.14

CONTROL SCHEMATICS AND SYSTEM SUMMARIES

M308R1

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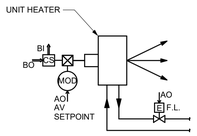
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POINT SCHEDULE													
CONTROL POINT NAME	HARDWARE POINTS				SOFTWARE POINTS							SHOWN ON GRAPHIC	NOTES
									ALARM				
	BI	BO	AI	AO	AV	BV	SCH	TREND	BACS	EMCS	DESCRIPTION		
STEAM LOAD SHED						X (6)							BINARY NETWORK INPUTS FROM EMCS
FAN MOTOR STATUS (ON/OFF)	X							X	X		FAILURE	X	
FAN MOTOR START/STOP		X						X				X	
HEATING COIL VALVE POSITION COMMAND (%)				X				X	X		5°F Δ ACROSS COIL WITH VALVE COMMANDED CLOSED	X	
SPACE TEMPERATURE / SETPOINT (°F)			X		><			X	X		± 4°F FROM SETPOINT	X	

1 TYPICAL HOT WATER UNIT HEATER CONTROL SCHEMATIC AND SYSTEM SUMMARY
NOT TO SCALE

SEQUENCE OF OPERATION

SYSTEM DESCRIPTION

UNIT HEATER

GENERAL

SYSTEM SHALL BE CONTROLLED THROUGH THE BUILDING AUTOMATION AND CONTROL SYSTEM (BACS).

THE BACS SHALL BE CAPABLE OF RETAINING ITS PROGRAMMING AND TIME SETTING DURING A LOSS OF POWER FOR AT LEAST TEN HOURS.

ALL SETPOINTS SHALL BE ADJUSTABLE.

THE BACS SHALL BE CAPABLE OF STARTING AND STOPPING THE SYSTEM FOR SEVEN DIFFERENT DAILY SCHEDULES PER WEEK.

LOAD SHED: REFER TO LOAD SHED MATRICES FOR THE SYSTEM CONTROL REQUIREMENTS FOR NON-RESEARCH SPACES.

SETPOINTS

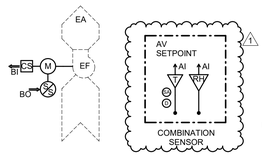
SPACE HEATING TEMPERATURE SETPOINT: 65°F

START/STOP

THE FANS SHALL START TO MAINTAIN THE SPACE HEATING TEMPERATURE SETPOINT.

ZONE TEMPERATURE CONTROL

HEATING: IF THE ZONE TEMPERATURE FALLS BELOW THE SPACE HEATING TEMPERATURE SETPOINT THE HEATING COIL VALVE SHALL MODULATE AS REQUIRED TO MAINTAIN SPACE TEMPERATURE SETPOINT.



POINT SCHEDULE													
CONTROL POINT NAME	HARDWARE POINTS				SOFTWARE POINTS							SHOWN ON GRAPHIC	NOTES
									ALARM				
	BI	BO	AI	AO	AV	BV	SCH	TREND	BACS	EMCS	DESCRIPTION		
EXHAUST FAN MOTOR STATUS (ON/OFF)	X							X	X		FAILURE	X	
EXHAUST FAN MOTOR START/STOP		X						X				X	
SPACE RELATIVE HUMIDITY (%RH)			X					X				X	MONITORING ONLY
SPACE TEMPERATURE / SETPOINT (°F)			X		><			X	X		± 4°F FROM SETPOINT	X	
SPACE FLOOR WATER LEVEL ALARM	X							X	X		HIGH LEVEL	X	

2 117 SERVICE VAULT CONTROL SCHEMATIC AND SYSTEM SUMMARY
NOT TO SCALE

SEQUENCE OF OPERATION

SYSTEM DESCRIPTION

EXHAUST FAN

GENERAL

SYSTEM SHALL BE CONTROLLED THROUGH THE BUILDING AUTOMATION AND CONTROL SYSTEM (BACS).

THE BACS SHALL BE CAPABLE OF RETAINING ITS PROGRAMMING AND TIME SETTING DURING A LOSS OF POWER FOR AT LEAST TEN HOURS.

ALL SETPOINTS SHALL BE ADJUSTABLE.

THE BACS SHALL BE CAPABLE OF STARTING AND STOPPING THE SYSTEM FOR SEVEN DIFFERENT DAILY SCHEDULES PER WEEK.

LOAD SHED: REFER TO LOAD SHED MATRICES FOR THE SYSTEM CONTROL REQUIREMENTS FOR NON-RESEARCH SPACES.

SETPOINTS

SPACE COOLING TEMPERATURE SETPOINT: 80°F

SPACE RELATIVE HUMIDITY SETPOINT: 70%

START/STOP

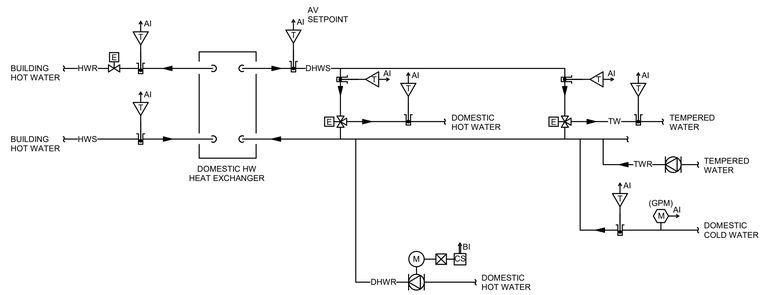
THE FAN SHALL START TO MAINTAIN THE COOLING SETPOINT OR THE RELATIVE HUMIDITY SETPOINT.

ZONE COOLING CONTROL

IF THE ZONE TEMPERATURE EXCEEDS THE SPACE COOLING TEMPERATURE SETPOINT AS SENSED BY A SPACE TEMPERATURE SENSOR, THE EXHAUST FAN SHALL INDEX ON TO MAINTAIN THE SETPOINT.

ZONE HUMIDITY CONTROL

IF THE ZONE TEMPERATURE EXCEEDS THE SPACE RELATIVE HUMIDITY SETPOINT AS SENSED BY A SPACE HUMIDITY SENSOR, THE EXHAUST FAN SHALL INDEX ON TO MAINTAIN THE SETPOINT.



POINT SCHEDULE													
CONTROL POINT NAME	HARDWARE POINTS				SOFTWARE POINTS							SHOWN ON GRAPHIC	NOTES
									ALARM				
	BI	BO	AI	AO	AV	BV	SCH	TREND	BACS	EMCS	DESCRIPTION		
BUILDING HIGH TEMP HOT WATER RETURN TEMPERATURE			X					X				X	
BUILDING HIGH TEMP HOT WATER SUPPLY TEMPERATURE			X					X				X	
DOMESTIC WATER HEATING LOOP SUPPLY TEMPERATURE / SETPOINT			X		X			X			+/- 4 DEG F FROM SETPOINT	X	
DOMESTIC HOT WATER TEMPERATURE			X					X				X	
DOMESTIC HOT WATER MIXING VALVE ENTERING WATER TEMPERATURE			X					X				X	
TEMPERED WATER TEMPERATURE			X					X				X	
TEMPERED WATER MIXING VALVE ENTERING WATER TEMPERATURE			X					X				X	
DOMESTIC WATER HEATER COLD WATER MAKEUP TEMPERATURE			X					X				X	
DOMESTIC WATER HEATER COLD WATER FLOW			X					X				X	
DOMESTIC WATER RECIRCULATION PUMP STATUS	X							X	X	X	FAILURE	X	VIA CURRENT SENSOR

3 DOMESTIC HOT WATER SERVICE MONITORING CONTROL SCHEMATIC AND SYSTEM SUMMARY
NOT TO SCALE

SEQUENCE OF OPERATION

SYSTEM DESCRIPTION

DOMESTIC HOT WATER PUMP
TEMPERED WATER PUMP
DOMESTIC HOT WATER HEAT EXCHANGER

GENERAL

SYSTEM SHALL BE CONTROLLED BY PACKAGED DOMESTIC HOT WATER CONTROLLER.

SYSTEM SHALL BE MONITORED THROUGH THE BUILDING AUTOMATION AND CONTROL SYSTEM (BACS).

ALL SETPOINTS SHALL BE ADJUSTABLE.

THE BACS SHALL BE CAPABLE OF RETAINING ITS PROGRAMMING AND TIME SETTING DURING A LOSS OF POWER FOR AT LEAST TEN HOURS.

LOAD SHED: REFER TO LOAD SHED MATRICES FOR THE SYSTEM CONTROL REQUIREMENTS FOR NON-RESEARCH SPACES.

DOMESTIC HOT WATER LOOP CONTROL

START/STOP:

SYSTEM SHALL BE ENABLED AT ALL TIMES.

TEMPERATURE CONTROL:

THE DISTRICT FLOW CONTROL VALVE SHALL MODULATE TO MAINTAIN THE LOOP SUPPLY WATER TEMPERATURE SETPOINT. SETPOINT WILL BE 140°F AND THERE WILL BE NO TEMPERATURE RESET.

FAILURE MODES:

A STANDBY PUMP SHALL BE INDEXED TO OPERATE AND AN ALARM GENERATED ON FAILURE OF THE LEAD PUMP TO MAINTAIN THE SYSTEM DIFFERENTIAL PRESSURE SETPOINT.

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AM JOB NO.
24213

REV. NO.	REV. DATE	REV. DESCRIPTION
1	2026.10.12	ADDENDUM #2

PROJECT STATUS:
BID DOCUMENTS

DATE ISSUED:
2026.09.14

CONTROL SCHEMATICS AND SYSTEM SUMMARIES

M309R

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THE LINE SHOWN ABOVE IS EXACTLY ONE INCH LONG AT THIS ORIGINAL DRAWING SCALE

THE SQUARE ABOVE ARE COLOR, WITH BLACK AND WHITE LETTERS, IF PRINTED CORRECTLY

10/9/2026 8:19:26 AM

FAN COIL UNIT SCHEDULE - CHILLED WATER/HOT WATER

UNIT NO.	LOCATION	SERVICE	TYPE	AIR SIDE		COOLING COIL - 100% WATER											HEATING COIL - 100% WATER											SUPPLY FAN OUTLET SOUND POWER LEVELS [Db]								FAN MOTOR				MANUFACTURER & MODEL No.	REMARKS
				AIR FLOW (CFM)	EXT. STATIC (In. WC)	CAPACITY SENSIBLE (MBH)	CAPACITY TOTAL (MBH)	EAT (DEG. F) DB	EAT (DEG. F) WB	LAT (DEG. F) DB	LAT (DEG. F) WB	WATER FLOW (GPM)	WATER P.D. (Ft. HD)	ENT. WATER TEMP. (DEG. F)	LVG. WATER TEMP. (DEG. F)	ROWS	FPI	CAPACITY (MBH)	ENT. AIR TEMP. (DEG. F)	LVG. AIR TEMP. (DEG. F)	WATER FLOW (GPM)	WATER P.D. (Ft. HD)	ENT. WATER TEMP. (DEG. F)	LVG. WATER TEMP. (DEG. F)	ROWS	FPI	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	RPM	HP	VOLTS	PHASE		
FCU-101B	PROTOTYPING WOOD STUDIO	PROTOTYPING WOOD STUDIO	HORZ. EXPOSED	360	0.25	7.46	8.78	75	63	56	54.6	1.3	4.98	47	60.9	4	14	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	62	67	64	62	58	54	49	1310	(1) 1/4	115	1	SUPERIOR REX RBHC-A-06	2,3,4,5,6
FCU-101C	CLAY STUDIO	CLAY STUDIO	HORZ. EXPOSED	1445	0.25	30.87	35.12	75	63	56.4	55	4.9	2.97	47	61.9	6	12	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	71	67	66	68	63	61	53	1060	(2) 1/2	115	1	SUPERIOR REX RAHC-20	2,3,4,5,6
FCU-103	STORAGE	STORAGE	HORZ. CONCEALED	1135	0.25	24.32	27.9	75	63	55.3	54.4	4.0	3.98	47	61.8	6	12	24.03	64	83.6	2.0	3.19	130	107.4	1	12	70	67	66	68	63	61	53	1075	(2) 1/3	115	1	SUPERIOR REX RAHR-14	2,3,4,5,6
FCU-100?1	STORAGE	ELEVATOR CONTROLS	HORZ. CONCEALED	425	0.25	9.13	10.52	75	63	55.3	54.4	1.5	2.15	47	61.5	5	10	10.9	64	87.7	0.7	2.29	130	100.1	1	10	51	50	48	47	43	34	27	1600	(1) 1/4	115	1	SUPERIOR REX RBHR-A-09	2,3,4,5,6
FCU-201-1	MAKING EXPLORATION	MAKING EXPLORATION/WORK AREA	HORZ. EXPOSED	785	0.25	21.1	27.6	75	63	50.7	50.5	5.6	6.86	47	57.3	6	12	16.6	64	81.8	1	0.12	130	100.9	1	12	64	61	60	59	55	51	41	833	(2) 1/3	115	1	SUPERIOR REX RAHC-16	1,3,4,5,6
FCU-201-1	MAKING EXPLORATION	MAKING EXPLORATION/WORK AREA	HORZ. EXPOSED	785	0.25	21.1	27.6	75	63	50.7	50.5	5.6	6.86	47	57.3	6	12	16.6	64	81.8	1	0.12	130	100.9	1	12	64	61	60	59	55	51	41	833	(2) 1/3	115	1	SUPERIOR REX RAHC-18	1,3,4,5,6
FCU-201A	OFFICE	OFFICE	(HORZ. EXPOSED) 2	105	0.25	2.55	3.19	75	63	52.7	52.3	0.8	2.16	47	55.2	5	10	3.6	64	94.7	0.4	0.81	130	112.3	1	10	51	51	47	45	39	32	27	1126	(1) 1/4	115	1	(SUPERIOR REX RBHC-A-02) 2	1,3,4,5,6
FCU-201C	EXPLORATION WORKSHOP	LARGE COLLAB	HORZ. EXPOSED	250	0.24	5.86	6.87	76	63	54.4	53.4	1.2	4.34	47	58.9	4	10	6.71	64	87.7	0.4	1.05	130	97.4	1	10	62	67	64	62	58	54	49	1163	(1) 1/4	115	1	SUPERIOR REX RBHC-A-06	2,3,4,5,6
FCU-201D	MEDIUM COLLAB	MEDIUM COLLAB	HORZ. CONCEALED	185	0.22	4.03	4.78	75	63	55.1	54.1	0.7	7.61	47	61	4	10	4.87	64	88.3	0.4	0.48	130	105.9	1	10	52	49	44	44	39	32	26	1600	(1) 1/4	115	1	SUPERIOR REX RBHR-A-03	2,3,4,5,6
FCU-201E	KITCHENETTE	KITCHENETTE/LOUNGE	HORZ. EXPOSED	1250	0.25	27.82	33.21	75	63	54.7	53.8	4.8	5.26	47	61.4	6	12	29.03	64	84.3	1.7	0.84	130	97.1	1	12	70	66	65	66	61	59	50	994	(2) 1/2	115	1	SUPERIOR REX RAHC-20	2,3,4,5,6
FCU-202	EXPLORATION WORKSHOP	EXPLORATION WORKSHOP	HORZ. EXPOSED	1450	0.24	32.73	38.58	75	63	55.4	54.2	6.0	4.36	47	60.3	6	12	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	71	67	66	68	63	61	53	1055	(2) 1/2	115	1	SUPERIOR REX RAHC-20	2,3,4,5,6
FCU-203	IT ROOM	IT ROOM	WALL MOUNTED	190	0.0	5.0	6.5	80	66	55.2	54.5	1.4	5.9	47	54	1	18	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	28	39	43	45	39	29	20	-	1/60	115	1	AERMEC FCW3260HZVL1	2,3,4,5
FCU-204	ELECTRONICS WORKSHOP	ELECTRONICS WORKSHOP	HORZ. EXPOSED	850	0.23	19.77	24.14	75	63	53.7	53.1	5.0	2.81	47	56.8	6	10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	64	67	65	64	59	53	47	1391	(2) 1/4	115	1	SUPERIOR REX RBHC-12	2,3,4,5,6
FCU-205	MECHANICAL ROOM	MEDIA STUDIO	HORZ. CONCEALED	715	0.25	11.55	12.53	75	63	60.1	57.1	1.7	2.35	47	62	3	10	15.66	64	84.3	0.8	4.30	130	91.5	1	10	48	45	44	41	35	25	25	1600	(2) 1/4	115	1	SUPERIOR REX RBHR-A-12	2,3,4,5,6
FCU-20042	STORAGE	ENTRY LOBBY	HORZ. CONCEALED	675	0.25	13.42	14.97	75	63	56.8	55.4	2.0	1.81	47	62	4	10	17.63	64	88.2	1.2	9.62	130	100	1	10	48	45	44	41	35	25	25	1600	(2) 1/4	115	1	SUPERIOR REX RBHR-A-12	2,3,4,5,6

REMARKS:
1. SPECIFIED COOLING AND AIR FLOW CHARACTERISTICS ARE BASED UPON LOW FAN SPEED.
2. SPECIFIED COOLING AND AIR FLOW CHARACTERISTICS ARE BASED UPON MEDIUM FAN SPEED.
3. VARIABLE SPEED EC MOTOR.
4. MERV 8 FILTER.
5. STAINLESS STEEL DRAIN PAN WITH CONDENSATE OVERFLOW SWITCH.
6. ELASTOMERIC CLOSED CELL FOAM INSULATION.

VAV - SINGLE DUCT - AIR TERMINAL UNIT SCHEDULE - HOT WATER REHEAT

UNIT NO.	SERVICE	MAX AIR FLOW (CFM)	MIN AIR FLOW (CFM)	MIN INLET PRESS AT MAX CFM (In. WC)	INLET SIZE (In.)	RAD N.C. AT 1" S.P.	DISCH N.C. AT 1" S.P.	REHEAT COIL CAPACITY (MBH)	AIR SIDE AIRFLOW (CFM)	AIR SIDE EAT (DEG F)	AIR SIDE LAT (DEG F)	WATER SIDE APD (In. WC)	WATER SIDE FLOW (GPM)	WATER SIDE WPD (Ft. HD)	WATER SIDE EWT (DEG F)	WATER SIDE LWT (DEG F)	WATER SIDE ROWS DEEP	FLUID	MANUFACTURER & MODEL NO.	REMARKS
SVAV-101	MAKING EXPLORATION	1610	620	0.29	16	15	15	58.9	1810	55	85	0.28	4.6	0.35	130	104.3	3	WATER	TITUS DESV	1,2
SVAV-101A	MAKING EXPLORATION ANNEX	285	90	0.18	6	17	24	9.3	285	55	85	0.11	1.9	0.43	130	120.3	2	WATER	TITUS DESV	1,2
SVAV-101B	PROTOTYPING WOOD STUDIO	325	50	0.13	7	18	22	10.6	325	55	85	0.09	1.4	0.38	130	115.1	2	WATER	TITUS DESV	1,2
SVAV-101C	CLAY STUDIO	260	60	0.15	6	16	23	8.5	260	55	85	0.1	1.5	0.29	130	118.5	2	WATER	TITUS DESV	1,2
SVAV-102	OPEN ASSEMBLY/PROTOTYPING	820	210	0.37	9	19	23	26.7	820	55	85	0.33	2.5	0.39	130	108.3	3	WATER	TITUS DESV	1,2
SVAV-102B	LIGHT METAL & JEWELRY SHOP	300	120	0.11	7	17	22	9.8	300	55	85	0.08	1.3	0.34	130	114.3	2	WATER	TITUS DESV	1,2
SVAV-10041	CORRIDOR	325	290	0.13	7	18	22	10.6	325	55	85	0.09	1.4	0.38	130	115.1	2	WATER	TITUS DESV	1,2
SVAV-202	EXPLORATION WORKSHOP	1015	315	0.28	12	18	22	33	1015	55	85	0.27	2.4	0.42	130	102.1	3	WATER	TITUS DESV	1,2
SVAV-204	ELECTRONICS WORKSHOP	120	25	0.04	5	N/A	22	4.9	120	55	92.9	0.03	0.9	0.16	130	119.1	2	WATER	TITUS DESV	1,2
SVAV-205A	CORRIDOR/COLLABORATION	295	295	0.19	6	18	24	9.6	295	55	85	0.12	2.2	0.53	130	121	2	WATER	TITUS DESV	1,3

REMARKS:
1. FIBER FREE LINER
2. INTEGRAL SOUND ATTENUATOR.

LOUVER SCHEDULE

UNIT NO.	LOCATION	SERVICE	TYPE	MATERIAL	FINISH	FREE AREA (Sq. Ft.)	DIMENSIONS (APPROX.) WIDTH (In.)	DIMENSIONS (APPROX.) HEIGHT (In.)	DIMENSIONS (APPROX.) DEPTH (In.)	AIR PERFORMANCE AIR FLOW (CFM)	AIR PERFORMANCE VEL (FPM)	AIR PERFORMANCE MAX P.D. (In. WC)	MANUFACTURER & MODEL NO.	REMARKS
L-1	EXTERIOR WALL	CLAY KILNS	FIXED - HORIZONTAL	ALUMINUM	ANODIZED	0.87	18	18	4	260	299	0.011	CONSTRUCTION SPECIALTIES A4177	1,2
L-2	EXTERIOR WALL	ELECTRICAL CLOSET	FIXED - HORIZONTAL	ALUMINUM	ANODIZED	0.29	12	12	4	150	518	0.035	CONSTRUCTION SPECIALTIES A4177	1,2

REMARKS:
1. BIRD SCREEN.
2. ARCHITECT TO SELECT COLOR.

UNIT HEATER SCHEDULE - ELECTRIC

UNIT NO.	LOCATION	TYPE	CAPACITY MBH	AIR SIDE AIR FLOW (CFM)	AIR SIDE ENT. AIR TEMP. (DEG. F)	AIR SIDE LVG. AIR TEMP. (DEG. F)	AIR SIDE FAN SPEED (RPM)	MOUNTING HEIGHT (Ft.-In.)	THROW (Ft.)	ELECTRICAL CAPACITY (KW)	ELECTRICAL VOLTS	ELECTRICAL PHASE	ELECTRICAL FLA	ELECTRICAL MCA	ELECTRICAL MOP	ELECTRICAL SCCR (kA)	MANUFACTURER & MODEL No.	REMARKS
EUH-1	AHU VESTIBULE	HORIZONTAL	17.0	310	50	91	1490	7'-6"	20	5	208	3					STERLING HVE	-

SNOW MELT SYSTEM SCHEDULE

SYSTEM NO.	AREA SERVED	AREA (Sq. Ft.)	BTU/H Sq. Ft. (MINIMUM) WITH BACKLOSS	TUBE SIZE (In.)	MAX SPACING (In.)	NO. OF CIRCUITS	CIRCUIT LENGTH (Ft.)	MANIFOLD NO.	FLUID	ENT. WATER TEMP. (DEG. F)	LVG. WATER TEMP. (DEG. F)	WATER FLOW (GPM)	P.D. (Ft. HD)	MANUFACTURER & MODEL No.	REMARKS
SM-1	ENTRY LOBBY	446	216	3/4	6	4	230	1	40% PG	130	100	6.93	6.1	MR PEX SYSTEMS 328 SERIES	1

REMARKS:
1. REFER TO SPECIFICATION FOR SNOWMELT SYSTEM DESIGN COMPONENTS

RADIATION SCHEDULE - HOT WATER

UNIT TYPE	CAPACITY (BTUH/LB)	AVERAGE WATER TEMP. (DEG. F)	ENT. AIR TEMP. (DEG. F)	ENT. WATER TEMP. (DEG. F)	LVG. WATER TEMP. (DEG. F)	HEATING ELEMENT TUBE SIZE (In.)	HEATING ELEMENT FIN SIZE (In.)	TIERS	FINS/ FT.	MIN. WATER VELOCITY (FT/SEC.)	ENCLOSURE HEIGHT (In.)	ENCLOSURE WIDTH (In.)	MOUNTING HEIGHT TO TOP	MANUFACTURER & MODEL No.	REMARKS
FT-A	595	115	70	130	100	1.25	4.25	1	40	3.0	24	5.3125	28	STERLING JVB-S	-

VAV - SINGLE DUCT - AIR TERMINAL UNIT SCHEDULE

UNIT NO.	SERVICE	MAX AIR FLOW (CFM)	MIN AIR FLOW (CFM)	MIN INLET PRESS AT MAX CFM (In. WC)	INLET SIZE (In.)	RAD N.C. AT 1" S.P.	DISCH N.C. AT 1" S.P.	MANUFACTURER & MODEL NO.	REMARKS
SVAV-103	STORAGE	75	65	0.01	4	NA	23	TITUS DESV	1
SVAV-201-1	MAKING EXPLORATION/WORK AREA	475	375	0.08	7	22	25	TITUS DESV	1
SVAV-201-2	MAKING EXPLORATION/WORK AREA	475	375	0.08	7	22	25	TITUS DESV	1
SVAV-201A	OFFICE	45	20	0.01	4	NA	18	TITUS DESV	1
SVAV-201C	LARGE COLLAB	75	55	0.01	4	NA	23	TITUS DESV	1
SVAV-201D	MEDIUM COLLAB	50	35	0.01	4	NA	19	TITUS DESV	1
SVAV-201E	KITCHENETTE/LOUNGE	200	195	0.03	6	14	22	TITUS DESV	1
SVAV-205	MEDIA STUDIO	140	140	0.01	5	12	24	TITUS DESV	1
SVAV-20042	ENTRY LOBBY	50	50	0.01	4	NA	19	TITUS DESV	1
EVAV-101	MAKING EXPLORATION	1310	120	0.01	12	25	27	TITUS DESV	1
EVAV-101A	MAKING EXPLORATION ANNEX	385	190	0.12	6	24	25	TITUS DESV	1
EVAV-101B	PROTOTYPING WOOD STUDIO	425	150	0.06	7	20	25	TITUS DESV	1
EVAV-101C	CLAY STUDIO	360	160	0.11	6	23	25	TITUS DESV	1
EVAV-102	OPEN ASSEMBLY/PROTOTYPING	920	310	0.01	12	20	24	TITUS DESV	1
EVAV-102B	LIGHT METAL & JEWELRY SHOP	300	120	0.07	6	20	23	TITUS DESV	1
EVAV-103	STORAGE	75	65	0.01	4	NA	23	TITUS DESV	1
EVAV-10020	JC/WOMEN'S/MEN'S	275	275	0.06	6	18	25	TITUS DESV	1
EVAV-201-1	MAKING EXPLORATION/WORK AREA	360	260	0.11	6	23	25	TITUS DESV	1
EVAV-201-2	MAKING EXPLORATION/WORK AREA	360	260	0.12	6	23	25	TITUS DESV	1
EVAV-201C	LARGE COLLAB	75	55	0.01	4	NA	23	TITUS DESV	1
EVAV-201D	MEDIUM COLLAB	50	35	0.01	4	NA	19	TITUS DESV	1
EVAV-201E	KITCHENETTE/LOUNGE	200	195	0.03	6	14	22	TITUS DESV	1
EVAV-202	EXPLORATION WORKSHOP	1165	465	0.01	12	24	25	TITUS DESV	1,2
EVAV-204	ELECTRONICS WORKSHOP	220	125	0.04	6	15	23	TITUS DESV	1
EVAV-205	MEDIA STUDIO	140	140	0.01	5	12	24	TITUS DESV	1
EVAV-20020	TOILETS/JC	195	195	0.02	5	18	28	TITUS DESV	1

REMARKS:
1. FIBER FREE LINER.
2. INTEGRAL SOUND ATTENUATOR.

SOUND ATTENUATOR SCHEDULE

UNIT NO.	LOCATION	TYPE	AIRFLOW (CFM)	VELOCITY (FPM)	WIDTH (In.)	HEIGHT (In.)	LENGTH (In.)	AIR P.D. (In. WC)	MINIMUM DYNAMIC INSERTION LOSS (dB) OCTAVE BAND CENTER FREQUENCY (Hz) 63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	MANUFACTURER & MODEL NO.	REMARKS
SA-E-1	ROOF	RECTANGULAR ELBOW DISSIPATIVE	8500	1561	28	28	72	0.15	7	10	14	26	28	29	22	18	VIBRO ACOUSTICS RED-UHV-1321385b	1
SA-S-1	ROOF	RECTANGULAR ELBOW DISSIPATIVE	1800	851	24	12	108	0.03	5	10	24	48	55	52	42	28	VIBRO ACOUSTICS RED-MV-1321385b	1
SA-S-2	ROOF	RECTANGULAR DISSIPATIVE	4250	1159	44	12	102	0.13	6	10	20	41	55	51	31	20	VIBRO ACOUSTICS RD-HV-1321385b	-

REMARKS:
1. LENGTH SHOWN FOR ELBOW SILENCERS IS CENTERLINE LENGTH.

LAB AIR VALVE SCHEDULE

UNIT NO.	SERVICE	SIZE (In.)	FACTORY RANGE MAX AIR FLOW (CFM)	FACTORY RANGE MIN AIR FLOW (CFM)	OPERATIONAL RANGE MAX AIR FLOW (CFM)	OPERATIONAL RANGE MIN AIR FLOW (CFM)	MOUNTING POSITION	MANUFACTURER & MODEL NO.	REMARKS
SAV-102A	SPRAY ROOM	12x48	8000	700	4800	4800	HORIZONTAL	ACCUTROL AVC6000	1,2,3,4

REMARKS:
1. PROVIDE WITH TIGHT SHUT-OFF.
2. THE MAX/MIN POSITIONS ON THE VALVE WILL BE SET AT THE FACTORY TO THE FULL RANGE WITH ACTUAL SETPOINTS IN SOFTWARE.
3. PROVIDE THE FAN STATIC RESET IF VENTURI STYLE VALVE IS PROVIDED.
4. PROVIDE WITH FACTORY DRAW BAND CLAMPS.

REGISTER GRILLE AND DIFFUSER SCHEDULE

TYPE	APPLICATION	MATERIAL	FINISH	MANUFACTURER & MODEL NO.	REMARKS
1	SUPPLY	STEEL	WHITE	TITUS TMS	-
2	SUPPLY	STEEL	WHITE	TITUS 272RL	-
A	EXHAUST/RETURN	STEEL	WHITE	TITUS 355-RL	-

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AM JOB NO.
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REV. NO.	REV. DATE	REV. DESCRIPTION
1	2026.10.06	ADDENDUM #1
2	2026.10.13	ADDENDUM #2

PROJECT STATUS:
BID DOCUMENTS

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2026.09.14

SCHEDULES - HVAC

M701R1

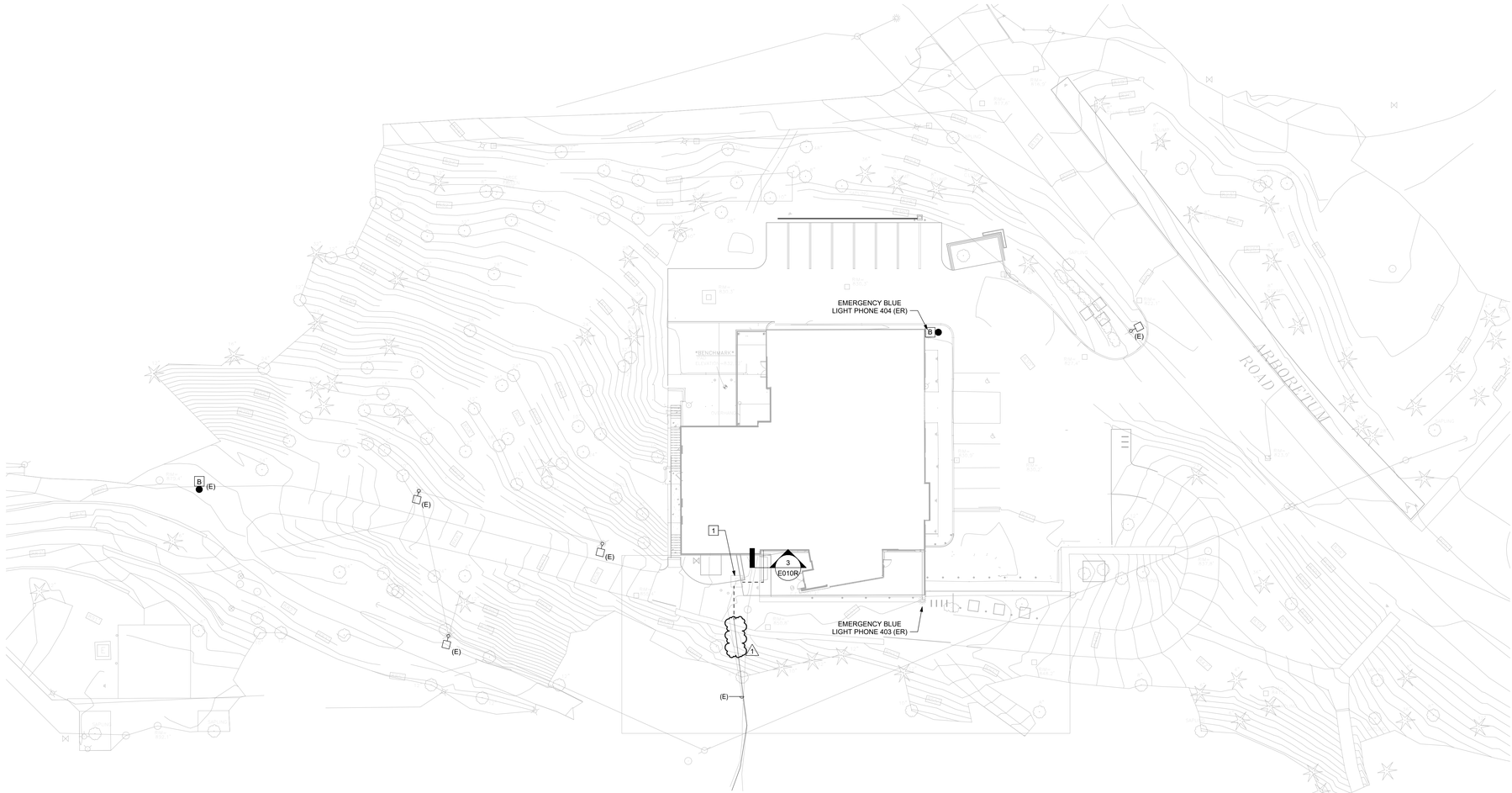
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1 SITE DEMOLITION PLAN - ELECTRICAL
1" = 20'-0"

DEMOLITION NOTES:

1 TRANSFORMER TO BE RELOCATED. COORDINATE OUTAGES WITH OWNER. REFER TO E-010 FOR DUCTBANK EXTENSION AND DETAILS.

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SITE DEMOLITION PLAN - ELECTRICAL

TRUE NORTH PROJECT NORTH

ED010R

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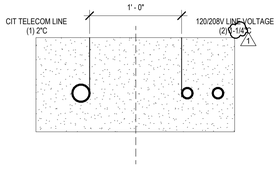
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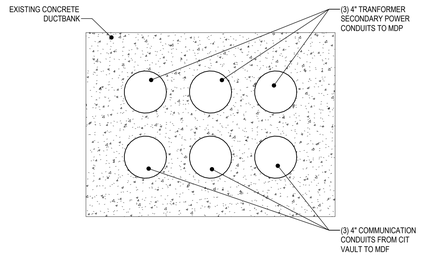
GENERAL DETAIL NOTES:

A. DETAIL TO SHOW CONFIGURATION ONLY OF CONDUITS IN COMBINED TELECOM AND LINE VOLTAGE TRENCH. REFER TO DIRECT BURIED DETAIL FOR REQUIREMENTS.

B. PROVIDE MINIMUM 12" SEPARATION BETWEEN TELECOM AND LINE VOLTAGE CONDUITS.

C. EXAMPLE CONFIGURATION. FINAL CONFIGURATION TO MEET ALL SPACING, AND ENCASEMENT REQUIREMENTS.

4 CONDUIT SECTION - TELECOM & EV CHARGER
NTS

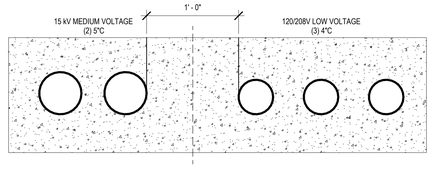


GENERAL DETAIL NOTES:

A. EXISTING CONCRETE DUCTBANK TO SHOW CONFIGURATION OF EXISTING DUCTS. CONTRACTOR TO VERIFY CONDUIT SIZES, TYPES, AND CONFIGURATION.

B. COMMUNICATION CONDUITS ARE EXISTING TO REMAIN. CONTRACTOR TO PROTECT EXISTING COMMUNICATION CONDUITS DURING THE COURSE OF CONNECTING INTO EXISTING POWER CONDUITS.

3 DUCTBANK SECTION - EXISTING TELECOM & LV
NTS



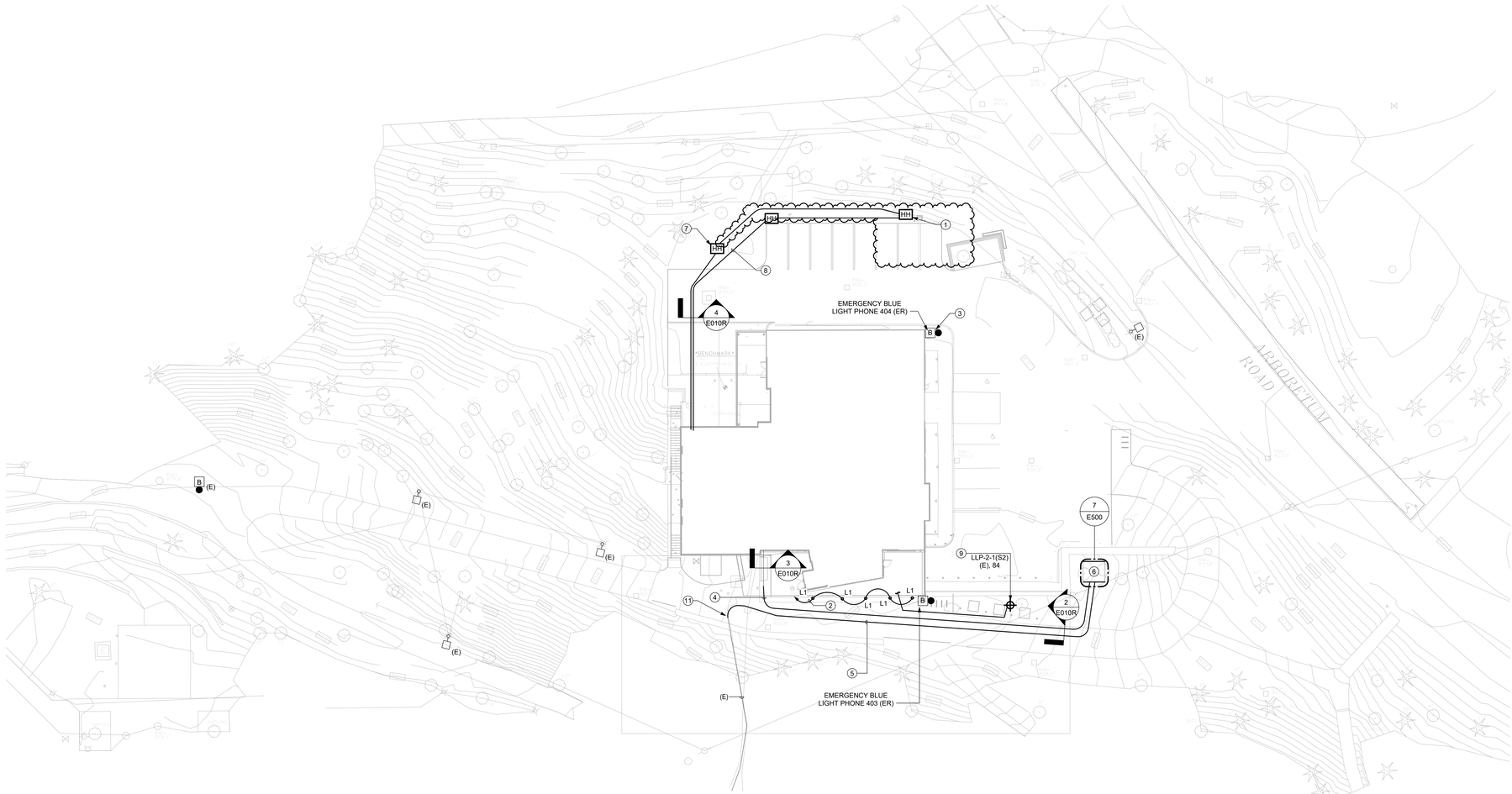
GENERAL DETAIL NOTES:

A. DETAIL TO SHOW CONFIGURATION ONLY OF CONDUITS IN COMBINED MEDIUM-VOLTAGE (MV) AND LOW-VOLTAGE (LV)DUCTBANK. REFER TO ELECTRICAL DUCTBANK DETAIL FOR REQUIREMENTS.

B. PROVIDE MINIMUM 12" SEPARATION BETWEEN MV AND LV DUCTS.

C. EXAMPLE CONFIGURATION. FINAL CONFIGURATION TO MEET ALL SPACING, AND ENCASEMENT REQUIREMENTS.

2 DUCTBANK SECTION - COMBINED MV AND LV
NTS



1 SITE PLAN - ELECTRICAL
1" = 20'-0"

DRAWING NOTES:

1 HANDHOLE FOR POWER AND COMMUNCATION PATHWAYS FOR FUTURE SITE ITEMS, INCLUDING FUTURE EV CHARGER. PROVIDE (1) 1-1/4"C FROM PREVIOUS COMMUNICATIONS HANDHOLE. PROVIDE (2) 1-1/4"C FROM PREVIOUS POWER HANDHOLE.

2 EXTEND EXTERIOR LIGHTING CIRCUIT TO BOLLARD LIGHTS.

3 EXISTING BLUELIGHT PHONE TO BE REFED. REFER TO POWER AND TELECOM DRAWINGS FOR MORE INFORMATION.

4 TRANSFORMER SECONDARY, (3) 4" C. UTILIZE EXISTING (3) 4" CONDUIT FEEDS INTO BUILDING. INTERCEPT EXISTING DUCTBANK, DO NOT DAMAGE CIT CONDUITS BELOW.

5 INTERCEPT EXISTING (2) 5" CONDUITS AND EXTEND TO TRANSFORMER LOCATION. PROVIDE NEW 15Kv CABLING TO MV SWITCH VIA EXISTING MANHOLES S5 AND S110. REFER TO DRAWING E011.

6 PROVIDE TRANSFORMER VAULT AND (4) 3/4" X 10" GROUND RODS AND #2 AWG BARE COPPER GROUND GRID.

7 (1) 2" CONDUIT AND HANDHOLE FOR FUTURE EXTENSION BY CIT TO OTHER CAMPUS BLUE LIGHT PHONES OUTSIDE OF PROJECT AREA.

8 PROVIDE (2) SPARE 1-1/4"C FROM MECHANICAL ROOM TO POWER HANDHOLE. PROVIDE PULL STRING AND LABEL AT EACH END.

9 PROVIDE CIRCUIT AS NOTED TO HANDHOLE AT PROJECT DISPLAY AREA. SHALL BE (2)#10AWG & (1)#10EG IN 1"C.

11 EXCAVATION OF MEDIUM-VOLTAGE DUCTBANK NOT TO DISTURB RETAINING WALL. COORDINATE WITH CIVIL ENGINEER.

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1	2026.10.13	ADDENDUM 2

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SITE PLAN - ELECTRICAL

E010R

TRUE NORTH PROJECT NORTH

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ⓧ DRAWING NOTES:

1 REFER TO SITE PLAN E-010 FOR LOCATION OF DISCONNECTION AND EXTENSION. DUCTBANK TO BE DEMOLISHED TO EXISTING TRANSFORMER LOCATION. SALVAGE DUCTBANK AND DUCTS FOR EXTENSION. PROVIDE REBAR DOWEL PINS IN EXISTING DUCTBANK TO TIE INTO DUCTBANK EXTENSION.

2 PROVIDE NEW DUCTBANK FROM THIS LOCATION TO RELOCATED TRANSFORMER.

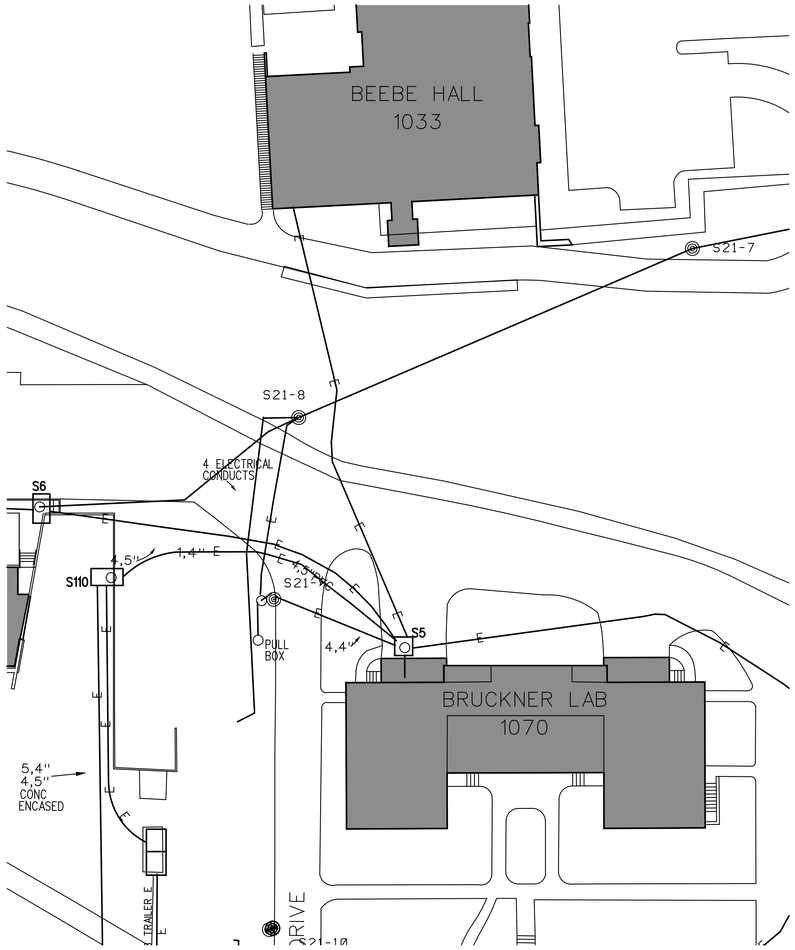
3 PROVIDE NEW CABLING FROM TRANSFORMER BACK TO MV SWITCH VIA EXISTING PATHWAYS SALVAGED DURING REMOVAL OF CONDUCTORS.

GENERAL NOTES

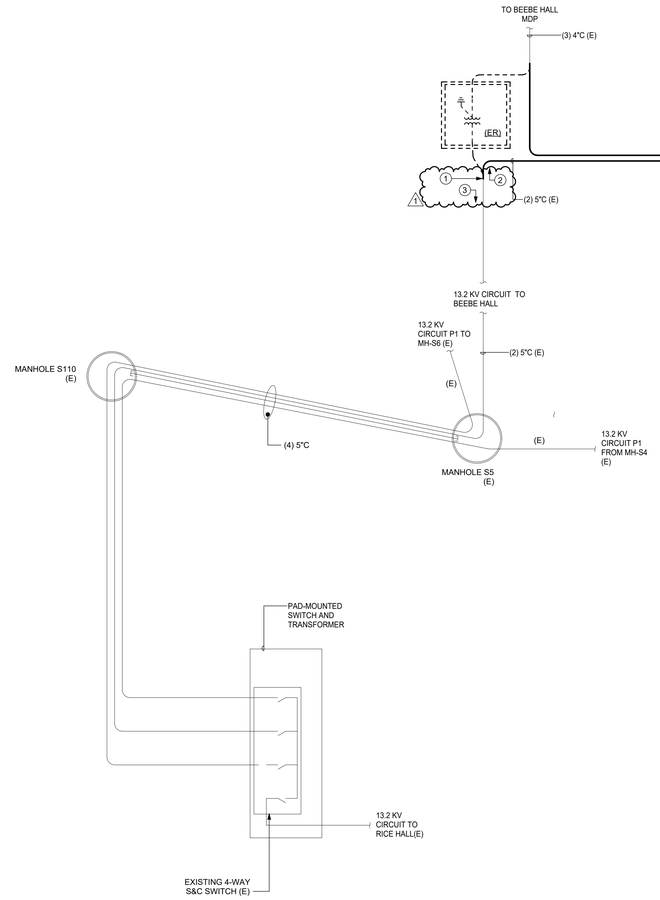
A COORDINATE ALL OUTAGES WITH OWNER, INCLUDING FOR CIRCUITS REQUIRED TO BE DEENERGIZED TO PERFORM WORK IN COMMON MANHOLES AND MEDIUM-VOLTAGE GEAR.

B CONTRACTOR SHALL PROVIDE ALL PRIMARY CABLING, SPLICES, AND DUCTBANK MATERIALS. REFER TO DUCTBANK DETAILS ON DRAWING E-500 FOR ADDITIONAL REQUIREMENTS FOR DOCUMENTATION AND OWNER COORDINATION. CORNELL UNIVERSITY UTILITY TRANSMISSION ENGINEERS TO APPROVE ANY PROPOSED SPLICE LOCATIONS. CONTRACTOR TO PROVIDE CABING FROM MEDIUM VOLTAGE SWITCH TO RELOCATED TRANSFORMER. ALL EXISTING CONDUCTORS TO BE REMOVED. EXISTING DUCTS TO BE REUSED SHALL BE MANDRELED AND VERIFIED PRIOR TO PULLING FINAL MEDIUM-VOLTAGE CONDUCTORS.

C CONTRACTOR SHALL PROVIDE ALL SECONDARY CABLING AND DUCTBANK MATERIALS. CONTRACTOR TO MANDREL AND VERIFY EXISTING CONDUIT PATHWAY INTO THE BUILDING PRIOR TO PULLING CONDUCTORS.



2 PARTIAL CAMPUS SITE PLAN - ELECTRICAL DISTRIBUTION
1" = 20'-0"



1 PARTIAL ELECTRICAL DISTRIBUTION MANHOLE AND DUCTBANK DIAGRAM
NTS

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CAMPUS SITE PLAN AND DUCTBANK DETAILS - ELECTRICAL

E011R

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GENERAL NOTES

A FIRE ALARM CONTROL PANEL IS EXISTING TO REMAIN. REFEED ALL EXISITNG TO REMAIN FIRE ALARM COMPONENTS AS REQUIRED DUE TO DEMOLITION OF INTERMEDIARY WIRING AND DEVICES.

[X] DEMOLITION NOTES:

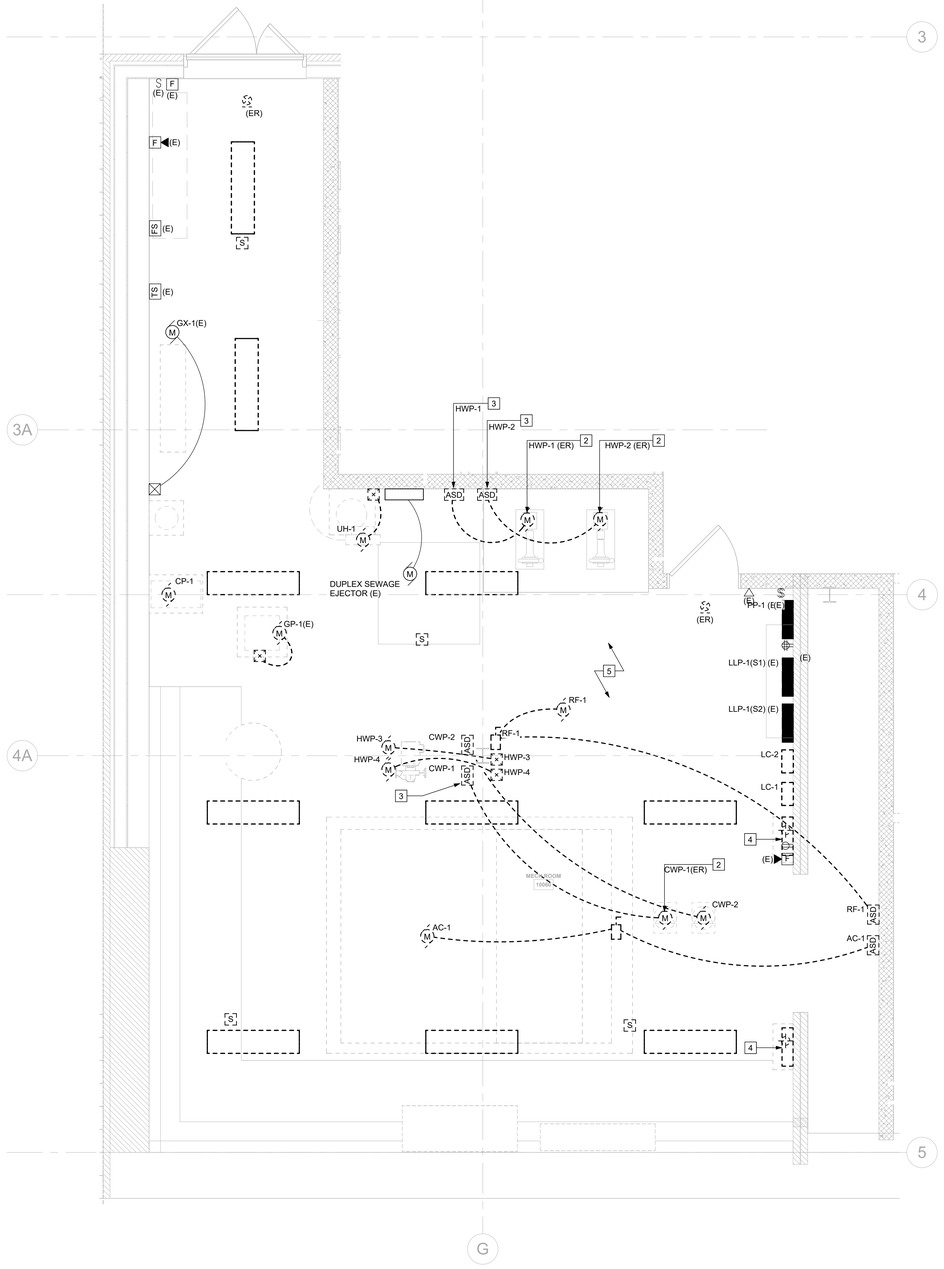
1 REMOVE EXISTING FIRE ALARM DEVICE. DEVICE BACK BOX TO BE SALVAGED FOR REUSE.

2 PUMP TO BE SALVAGED AND REINSTALLED IN CONSTRUCTION PHASE. REFER TO MECHANICAL PLANS.

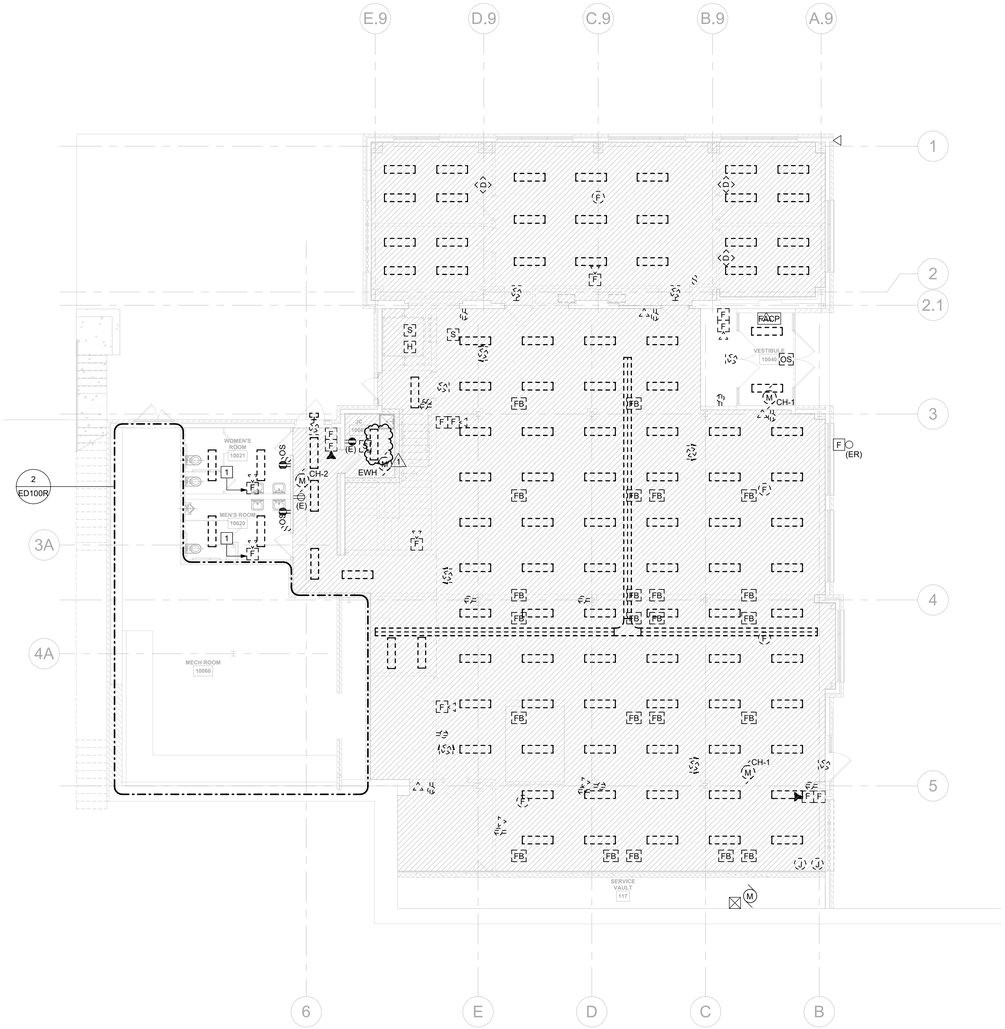
3 REMOVE ASD AND TURN OVER TO OWNER. IN CONSTRUCTION PHASE PROVIDE ASD PER SPECIFICATIONS FOR RELOCATED /RENAMED PUMP.

4 SALVAGE CIRCUIT TO BMS PANEL. PANEL TO BE DEMOLISHED. BMS PANEL TO BE PROVIDED IN CONSTRUCTION PHASE.

5 ALL CEILING-MOUNTED OR SUSPENDED COMPONENTS AND SERVICES WITHIN THIS SPACE TO BE REMOVED AND REINSTALLED AS SHOWN OR AS REQUIRED TO ENABLE MECHANICAL & PLUMBING DEMOLITION WORK, MECHANICAL AND PLUMBING CONSTRUCTION, AND ACOUSTIC TREATMENT INSTALLATION. SALVAGE WIRING AND CONDUIT AND EXTEND/RECONNECT WHEN OTHER WORK IS COMPLETE. COORDINATE WITH OTHER TRADES.



2 ENLARGED DEMOLITION PLAN - MECHANICAL ROOM
3/8" = 1'-0"



1 DEMOLITION PLAN - LEVEL 01 - ELECTRICAL
1/8" = 1'-0"

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DEMOLITION PLAN - LEVEL 01 - ELECTRICAL

ED100R

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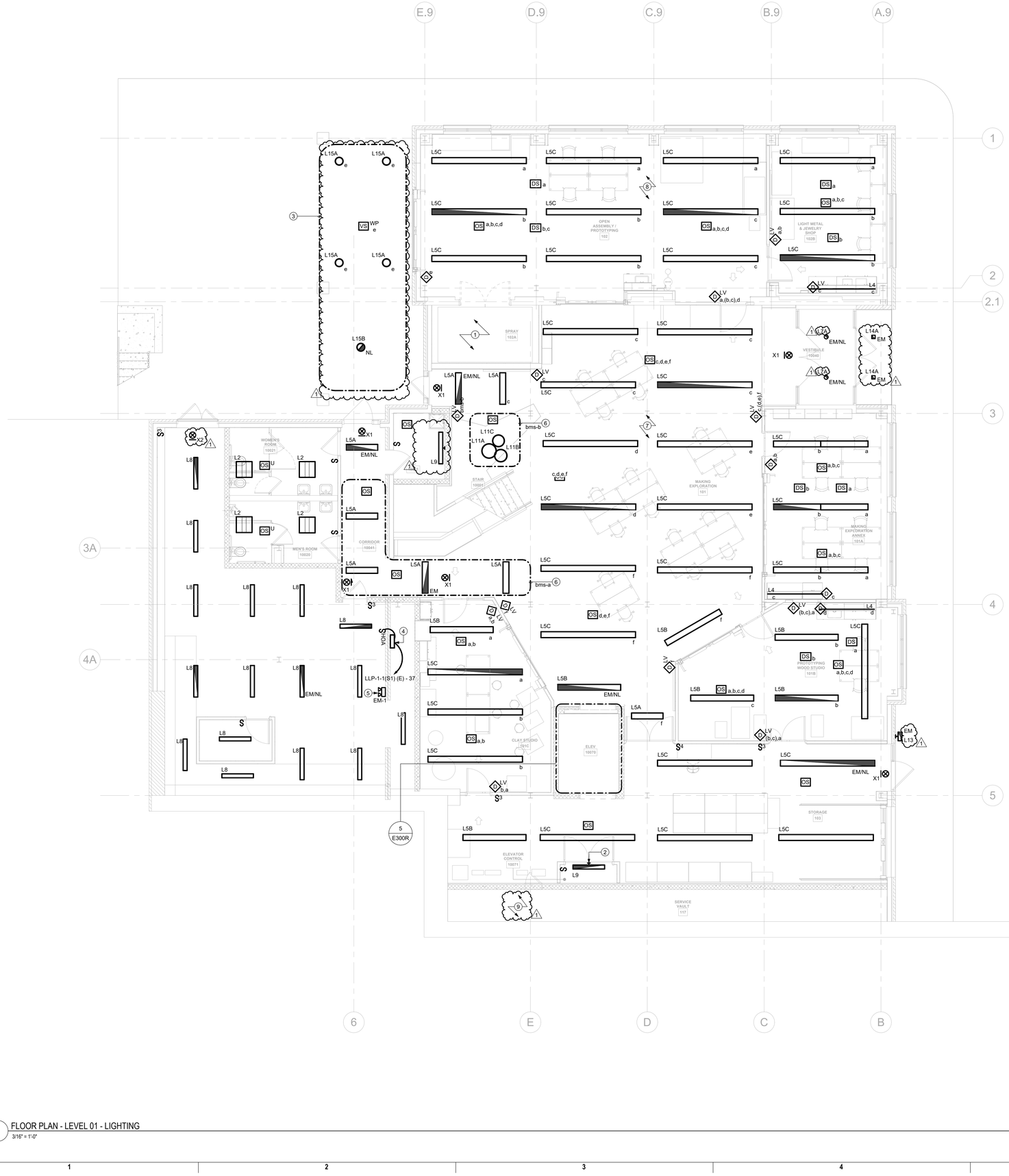
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GENERAL NOTES

A OCCUPANCY SENSORS IN AREAS WITH EXPOSED CEILINGS SHALL BE PENDANT-MOUNTED AT THE SAME LEVEL AS LIGHT FIXTURES IN THE SAME AREA.

B CIRCUIT ALL EMERGENCY LIGHT FIXTURES TO INVERTER. PROVIDE UL924 RELAY DEVICES AHEAD OF ANY LIGHTING CONTROLS.

C REFER TO ARCHITECTURAL FLOOR PLANS AND REFLECTED CEILING PLANS FOR QUANTITY AND LOCATIONS OF FRON-OF-HOUSE FIXTURES.

D UNLESS OTHERWISE NOTED, PROVIDE DIGITAL LIGHTING CONTROLS FOR ALL SPACES. EACH ROOM TO BE A STANDALONE WIRED DIGITAL LIGHTING NETWORK NOT CONNECTED TO OTHER ROOMS, A BROADER SYSTEM, OR THE INTERNET.

ⓧ DRAWING NOTES:

1 LIGHTING TO BE PROVIDED BY SPRAY BOOTH VENDOR. REFER TO DRAWING E310 FOR DETAILS AND WIRING REQUIREMENTS.

2 WALL-MOUNT FIXTURE CENTERED ABOVE DOOR. COORDINATE WITH OTHER SERVICES AS NEEDED.

3 LIGHT FIXTURES IN THIS AREA AREA MOUNTED ON THE UNDERSIDE OF THE BALCONY ON THE FLOOR ABOVE.

4 PROVIDE 12-POLE, 120V LIGHTING CONTACTOR AND HAND-OFF-AUTO SWITCH FOR ALL EXISTING AND NEW EXTERIOR LIGHTING CIRCUITS. LOCATE SWITCH ADJACENT TO PANELBOARDS. PROVIDE LAMACOID LABEL FOR SWITCH LABELED "EXTERIOR LIGHTS". AUTO OPERATION TO BE TIED TO 120V PHOTOCELL MOUNTED ON THE ROOF. PROVIDE WIRING TO ROOF-MOUNTED PHOTOCELL. REFER TO DRAWING E230 FOR PHOTOCELL LOCATION.

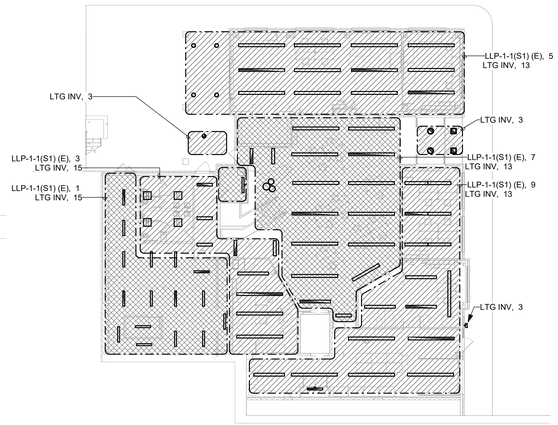
5 PROVIDE EM WALLPACK ABOVE LIQUITUS INVERTER CIRCUIT TO NORMAL-POWER LIGHTING CIRCUIT IN THIS ROOM AHEAD OF ALL CONTROLS. 1

6 LIGHT FIXTURES IN THIS AREA ARE TO BE CONTROLLED BY BMS. PROVIDE CIRCUITING AND EMERGENCY RELAYS (UL924 DEVICES) AS REQUIRED. COORDINATE WITH CONTROLS CONTRACTOR FOR FINAL CONNECTIONS AND REQUIREMENTS. 1

7 ADD ALTERNATE 3: PROVIDE LIGHTING ZONES AS NOTED. BASE BID: ZONES b AND d COMBINED AS ONE ZONE.

8 ADD ALTERNATE 3: PROVIDE LIGHTING ZONES AS NOTED. BASE BID: ZONES b AND c COMBINED AS ONE ZONE.

9 REFEED EXISTING LIGHTING CIRCUIT IN THIS SPACE AS REQUIRED BY DEMOLITION WORK. TIE INTO NORMAL-POWER LIGHTING CIRCUIT IN LOADING DOCK. 1



1 FLOOR PLAN - LEVEL 01 - LIGHTING
3/16" = 1'-0"

2 LEVEL 01 - LIGHTING CIRCUIT KEYPLAN
1/16" = 1'-0"

TRUE NORTH PROJECT NORTH

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FLOOR PLAN - LEVEL 01 - LIGHTING

E200R

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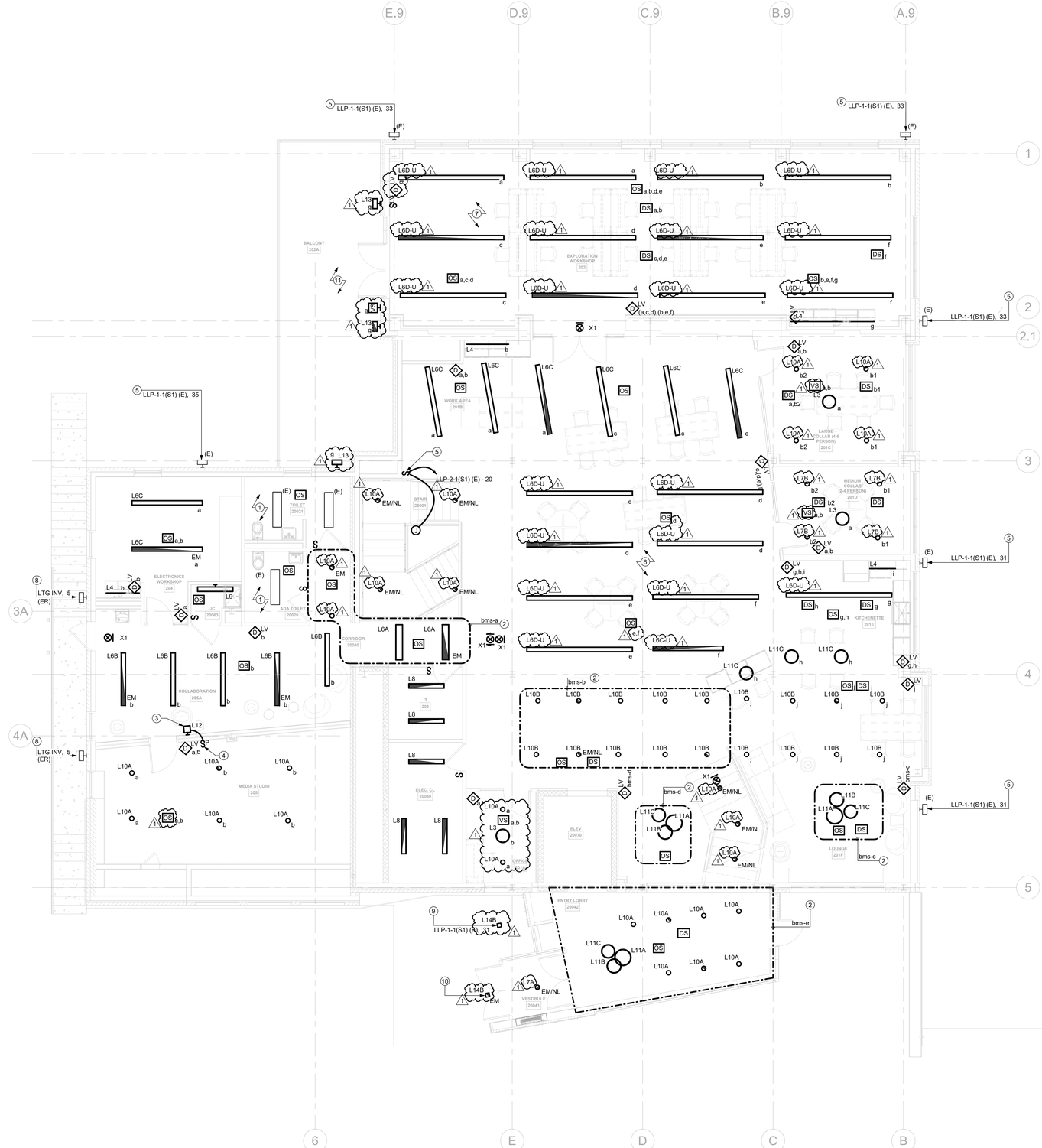
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2 FLOOR PLAN - LEVEL 02 - LIGHTING
3/16" = 1'-0"

GENERAL NOTES

A OCCUPANCY SENSORS IN AREAS WITH EXPOSED CEILINGS SHALL BE PENDANT-MOUNTED AT THE SAME LEVEL AS LIGHT FIXTURES IN THE SAME AREA.

B CIRCUIT ALL EMERGENCY LIGHT FIXTURES TO INVERTER. PROVIDE UL924 RELAY DEVICES AHEAD OF ANY LIGHTING CONTROLS.

C REFER TO ARCHITECTURAL FLOOR PLANS AND REFLECTED CEILING PLANS FOR QUANTITY AND LOCATIONS OF FRONT-OF-HOUSE FIXTURES.

D UNLESS OTHERWISE NOTED, PROVIDE DIGITAL LIGHTING CONTROLS FOR ALL SPACES. EACH ROOM TO BE A STANDALONE WIRED DIGITAL LIGHTING NETWORK NOT CONNECTED TO OTHER ROOMS, A BROADER SYSTEM, OR THE INTERNET.

ⓧ DRAWING NOTES:

1 PROVIDE CONTROLS AS SHOWN FOR EXISTING FIXTURES. PROVIDE CIRCUITING AS NOTED.

2 LIGHT FIXTURES IN THIS AREA ARE TO BE CONTROLLED BY BMS. PROVIDE CIRCUITING AND EMERGENCY RELAYS (UL 924 DEVICES) AS REQUIRED. COORDINATE WITH CONTROLS CONTRACTOR FOR FINAL CONNECTIONS AND REQUIREMENTS. 1

3 WALL-MOUNTED IN-USE LIGHT. COORDINATE LOCATION WITH ARCHITECTURAL ELEVATIONS AND WITH OWNER IN FIELD PRIOR TO ROUGH IN. TO BE CONTROLLED BY SWITCH WITH PILOT LIGHT INSIDE MEDIA STUDIO. CIRCUIT TO LIGHTING CIRCUIT IN THIS AREA.

4 PROVIDE SINGLE-GANG BACK BOX AND SWITCH WITH PILOT LIGHT. TO BE SIGNAL-TECH P/N#21109 OR ENGINEER'S APPROVED EQUAL. SINGLE-POLE, SINGLE-THROW, 120V SWITCH WITH RED INDICATOR LIGHT AND SINGLE-GANG PLATE. BACK-BOX TO BE MOUNTED ADJACENT TO LIGHTING CONTROL BACK BOX.

5 EXISTING CIRCUIT TO BE REFED AS REQUIRED TO ENABLE OTHER DEMOLITION AND CONSTRUCTION WORK. PROVIDE FEED VIA NEW EXTERIOR LIGHTING CONTACTOR. REFER TO E200.

6 ADD ALTERNATE 3: PROVIDE LIGHTING ZONES AS NOTED. BASE BID: ZONES e AND d COMBINED AS ONE ZONE.

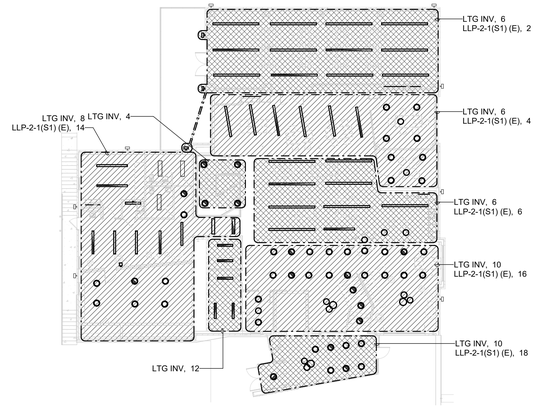
7 ADD ALTERNATE 3: PROVIDE LIGHTING ZONES AS NOTED. BASE BID: ZONES a AND b COMBINED AS ONE ZONE AND ZONES c, d, AND e COMBINED AS ONE ZONE.

8 PROVIDE CIRCUIT AS NOTED FROM EMERGENCY LIGHTING INVERTER TO FEED EXTERIOR LIGHTS. PROVIDE UL-924 RELAY CONNECTED TO NORMAL-POWER EXTERIOR LIGHTING CIRCUIT DOWNSTREAM OF CONTACTOR FOR SWITCH SENSE, AND UPSTREAM OF CONTACTOR FOR POWER LOSS SENSE.

9 REWORK AND EXTEND EXISTING EXTERIOR LIGHTING CIRCUIT FOR EAST-SIDE BUILDING-MOUNTED LUMINAIRES TO FEED THIS LIGHT. EXTEND CIRCUIT TO POWER BOLLARD LIGHTS AT UPPER WALKWAY. REFER TO SITE PLAN E010.

10 PROVIDE CIRCUIT AS NOTED FROM EMERGENCY LIGHTING INVERTER TO FEED EXTERIOR LIGHTS. PROVIDE UL-924 RELAY CONNECTED TO NORMAL-POWER EXTERIOR LIGHTING CIRCUIT DOWNSTREAM OF CONTACTOR FOR SWITCH SENSE, AND UPSTREAM OF CONTACTOR FOR POWER LOSS SENSE.

11



1 LEVEL 02 - LIGHTING CIRCUIT KEYPLAN
1/16" = 1'-0"

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FLOOR PLAN - LEVEL 02 - LIGHTING

E201R

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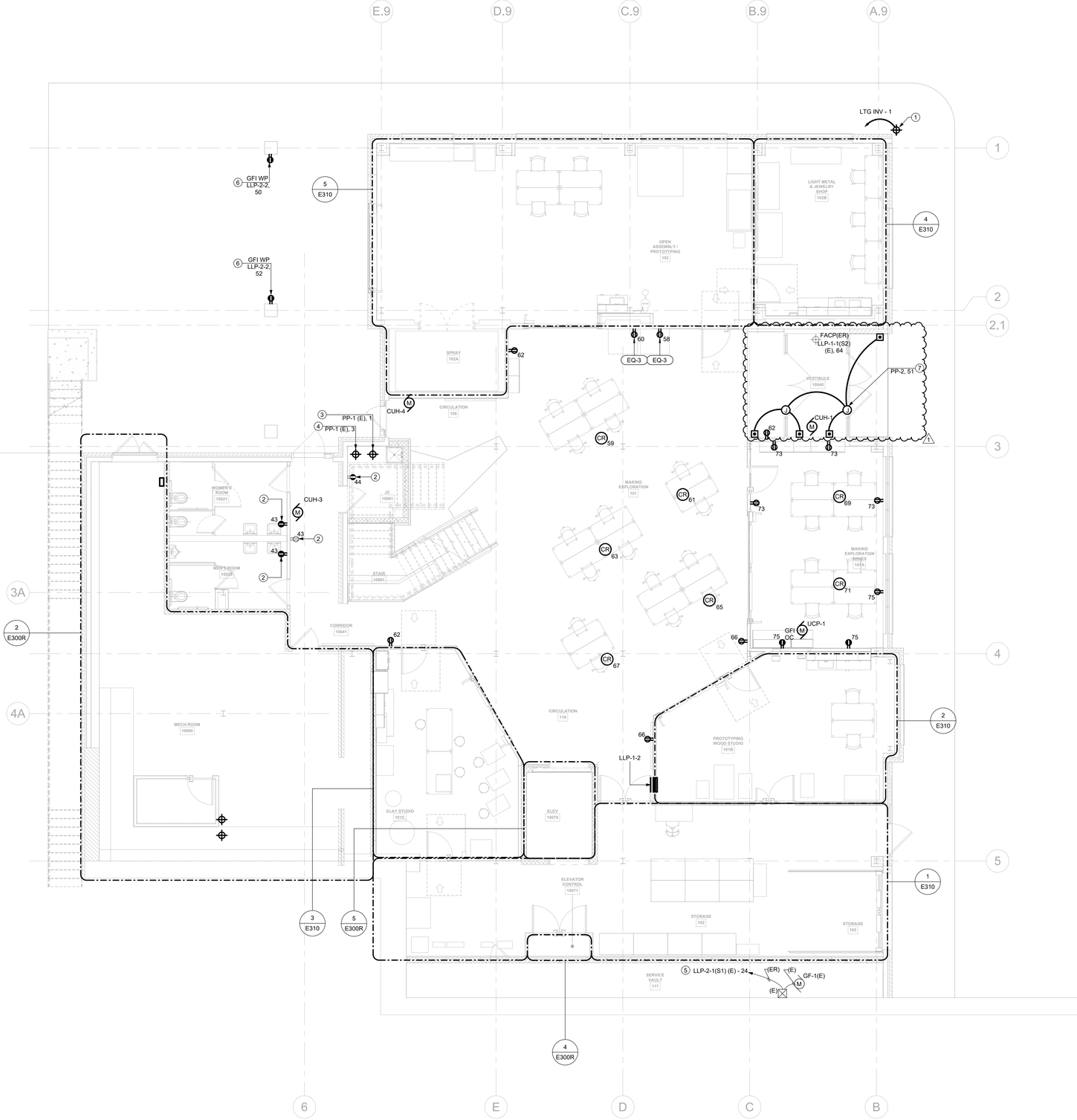
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GENERAL NOTES

A COORDINATE LOCATIONS OF ALL RECEPTACLES, EQUIPMENT CONNECTIONS, AND DATA WITH CORNELL PRIOR TO ROUGH IN. COORDINATE ELEVATIONS AND LOCATIONS WITH ARCHITECTURAL ELEVATIONS AND EQUIPMENT LAYOUTS.

B COORDINATE LOCATIONS OF CEILING-MOUNTED CORD REEL RECEPTACLES AND MOUNTING BRACKETS WITH CORNELL PRIOR TO FINAL INSTALLATION. REFER TO CORD REEL DETAIL 2 ON DRAWING E-501 FOR CORD REEL REQUIREMENTS.

C COORDINATE ELEVATIONS OF SURFACE RACEWAY WITH ARCHITECT. ALL RACEWAY TO BE FED FROM CONCEALED BACK-BOXES. REFER TO DETAIL 1 ON DRAWING E501.

D COORDINATE EQUIPMENT CONNECTION REQUIREMENTS WITH OWNER. PROVIDE CORDS, CORD CAPS, AND/OR FLEXIBLE CONNECTIONS TO EQUIPMENT AS REQUIRED FOR CONNECTION AND USE BY OWNER. ALL CORDS, CORDS, CORD CAPS, AND FLEXIBLE EQUIPMENT CONNECTIONS TO BE RATED FOR EQUIPMENT POWER REQUIREMENTS.

E UNLESS OTHERWISE NOTED, ALL RECEPTACLES AND DEVICES ON THIS PLAN TO BE CIRCUITED TO EXISTING PANELBOARD LLP-1-1, CIRCUIT NUMBER AS NOTED.

ⓧ DRAWING NOTES:

1 NEW POWER FEED FOR EXISTING EMERGENCY BLUE LIGHT PHONE 404. PROVIDE 20A, 1P CIRCUIT IN LIGHTING INVERTER. PROVIDE SEPERATE FEED TO SOURCE PANEL FOR EACH BLUE LIGHT PHONE. PROVIDE (2)#12AWG & (1)#12EG IN 3/4"C. REFER TO TELECOM DRAWINGS FOR ADDITIONAL REQUIREMENTS.

2 REUSE EXISTING BACK BOX SALVAGED DURING DEMOLITION. REWORK AND EXTEND EXISTING CIRCUIT. PROVIDE DEVICE AND WALLPLATE.

3 PROVIDE (1) 20A, 1P CIRCUIT FOR NITROGEN GENERATOR AT DRY SPRINKLER SYSTEM. CIRCUIT TO PANELBOARD NOTED WITH (2) #12 AWG & (1) #12 EG IN 3/4"C.

4 PROVIDE (1) 20A, 1P CIRCUIT FOR AIR COMPRESSOR AT DRY SPRINKLER SYSTEM. CIRCUIT TO PANELBOARD NOTED WITH (2) #12 AWG & (1) #12 EG IN 3/4"C. COORDINATE FINAL CIRCUIT REQUIREMENTS WITH FIRE PROTECTION SUBMITTALS.

5 EXISTING CIRCUIT TO REMAIN. PROVIDE REFEED IF REQUIRED FOR OTHER DEMOLITION OR CONSTRUCTION WORK.

6 PROVIDE ISOLATED GROUND BAR IN PANELBOARD.

7 POWER FOR DOOR OPERATOR. PROVIDE 20A, 1P CIRCUIT. SHALL BE (2)#12AWG & (1)#12EG IN 3/4"C. PANELBOARD AS INDICATED. PROVIDE 3/4"C TO ALL PUSH BUTTON LOCATIONS. PROVIDE SSU-PAM-1 RELAY TO INTERRUPT EXTERIOR DOOR PUSH BUTTON UNLESS VALID CREDENTIAL IS PRESENTED. TIE BACK TO ACCESS CONTROL EQUIPMENT. COORDINATE FINAL LOCATIONS OF PUSH BUTTONS WITH ARCHITECTURAL DRAWINGS. 1

1 FLOOR PLAN - LEVEL 01 - POWER
3/16" = 1'-0"

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FLOOR PLAN - LEVEL 01 - POWER

E210R

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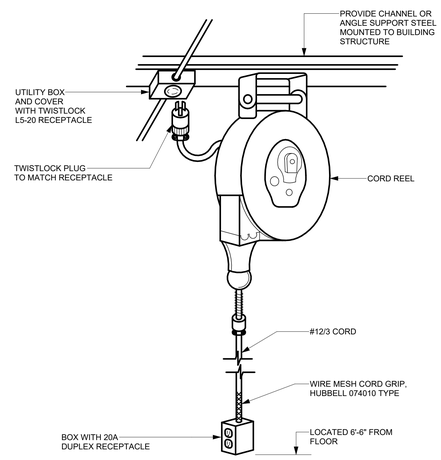
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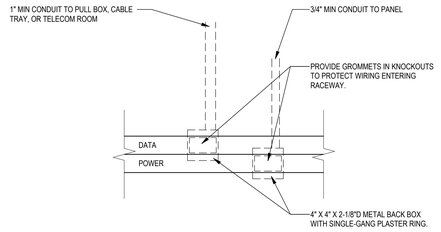
DETAIL NOTES:

1. PROVIDE POWER CIRCUIT AS INDICATED ON THE PLANS.
2. DIGITAL LIGHTING ROOM CONTROLLER SHALL BE A SINGLE OR MULTIPLE UNITS AS NEEDED TO PROVIDE THE INDICATED CONTROL AND SEQUENCE. UNIT SHALL BE MOUNTED ABOVE THE CEILING NEAR THE MAIN ENTRY WITH A TOGGLE SWITCH.
3. PROVIDE QUANTITY OF UNITS AS INDICATED ON THE PLAN.
4. PROVIDE AUX CONTACTS FOR HVAC.
5. REFER TO THE PLAN FOR ZONING INFORMATION.
6. ROOM CONTROL STATIONS SHALL HAVE CONTROLLABILITY AS INDICATED ON THE PLAN.

3 ROOM LIGHTING CONTROL DETAIL
NTS



2 CORD REEL DETAIL
NTS



NOTES

A. DUAL-CHANNEL SURFACE METAL RACEWAY BASIS OF DESIGN IS LEGRAND WIREMOLD 4000-SERIES WITH DIVIDER.
B. REFER TO FLOOR PLANS FOR DEVICE LOCATIONS, QUANTITES, AND CIRCUITING.
C. PROVIDE QUANTITY OF BACK BOXES AND FEEDS AS NEEDED TO SERVE ALL POWER AND LOW-VOLTAGE DEVICES. PROVIDE (1) 1"C PER 4 CABLE DROPS TO ALLOW FOR FUTURE EXPANSION.
D. FINISH PER ARCHITECT.
E. COORDINATE ELEVATION WITH ARCHITECTURAL DRAWINGS.

1 SURFACE METAL RACEWAY DETAIL - CONCEALED FEED
NTS

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DETAILS - ELECTRICAL

E501R

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ⓧ DRAWING NOTES:

1 PROVIDE ISOLATED GROUND BAR IN PANELBOARD.

2 MAIN CIRCUIT BREAKER IN PANELBOARD TO HAVE 120V SHUNT-TRIP MODULE CONNECTED TO EMERGENCY POWER OFF BUTTON IN WOOD SHOP. REFER TO E310.

3 FOR REFERENCE ONLY. LIGHTING INVERTER OUTPUT TO BE INTEGRAL TO INVERTER.

GENERAL NOTES

A CONTRACTOR TO PROVIDE UPDATED TYPED PANELBOARD SCHEDULES FOR ALL PANELBOARDS AND SWITCHGEAR IN BUILDING.

B [GF] PREFIX IN CIRCUIT DESCRIPTION INDICATES GROUND-FAULT CIRCUIT BREAKER.

PP-2

Mains Type: MLO **Volts:** 208Y/120V **Location:** ELEC. CL 20060
Mains Rating: 200 A **Phases:** 3 **Enclosure:** Type 1
A.I.C. Rating: 14k **Wires:** 4 **Mounting:** SURFACE

CKT	Circuit Description	Trip	A	B	C	Trip	Circuit Description	CKT
1						20 A	RECEP - ROOF	2
3	AHU-1 S1 ROOF	90 A				20 A	BMS PANEL - AHU/HRU - ROOF	4
5						20 A	AHU/HRU ACC. POWER - ROOF	6
7						20 A	AHU/HRU ACC. POWER - ROOF	8
9	AHU-1 S2 ROOF	90 A				20 A	EF-2 - ELEC RM#20060	10
11						20 A	FCU-201A - RM #201A	12
13						20 A	PCP-1 - RMS #201A & #203	14
15	AHU/HRU EF - ROOF	60 A				20 A	CUH-2 - RM #20041	16
17						20 A	FCU-202 - RM #202	18
19						20 A	FCU-201C - RM #202	20
21	EF-1 - ROOF	15 A				20 A	FCU-201D - RM #210D	22
23						20 A	FCU-201E - RM #201E	24
25						20 A	FCU-201-1 - RM# 201	26
27	EUH-1 - ROOF	20 A				20 A	FCU-201-2 - RM# 201	28
29						20 A	FCU-204 RM #204	30
31						20 A	FCU-203 - TELECOM - RM #203	32
33	CP-1 - ROOF	15 A				20 A	SPARE	34
35						20 A	BMS PANEL - RM#102	36
37	SPARE - FUTURE EV CHARGER ①	40 A				20 A	SPRAY BOOTH - RM#102	38
39						20 A	UCP-1 - RMS#102 & #102A	40
41	SPARE - FUTURE EV CHARGER ①	40 A				20 A	UH-3 - RM#102	42
43						20 A	OVERHEAD DOOR - RM#102	44
45	DOOR OPERATOR - RM#20041	20 A				20 A	FCU-102C - RM#102C	46
47	2KVA BUCK-BOOST, 120 V/208 V, SINGLE PHASE, 3 WIRES	20 A				20 A	FCU-101B - RM #101B	48
49						20 A	PCP-1 - RMS#102C, #101B, & #103	50
51	DOOR OPERATOR - VESTIBULE 10040	20 A				20 A	FCU-20042 - RM #103	52
53	SPARE	20 A				20 A	FCU-10071 - RM #103	54
55	UCP-1 - RMS #101A & #101B	20 A				20 A	FCU-103 - RM #103	56
57	CUH-1 - RM #10040	20 A				20 A	UH-2 - RM#103	58
59	CUH-4 - RM #106	20 A				20 A	OVERHEAD DOOR - RM#103	60
Load Classification								

LLP-2-2

Mains Type: **Volts:** 208Y/120V **Location:** EXPLORATION WORKSHOP 202
Mains Rating: 200 A **Phases:** 3 **Enclosure:** Type 1
A.I.C. Rating: 14K **Wires:** 4 **Mounting:** RECESSED

CKT	Circuit Description	Trip	A	B	C	Trip	Circuit Description	CKT
1	SMR RECEP - EQ-19B - RM #202	20 A				20 A	SMR RECEP - EQ-19B - RM #202	2
3	SMR RECEP - EQ-19-SP- RM #202	20 A				20 A	SMR RECEP - EQ-19-SP - RM #202	4
5	SMR RECEP - EQ-19B - RM #202	20 A				20 A	SMR RECEP - EQ-19B - RM #202	6
7	SMR RECEP - EQ-19-SP - RM #202	20 A				20 A	SMR RECEP - EQ-19-SP- RM #202	8
9	SMR RECEP - EQ-19A - RM #202	20 A				20 A	SMR RECEP - EQ-19A - RM #202	10
11	SMR RECEP - EQ-19A - RM #202	20 A				20 A	SMR RECEP - EQ-19A - RM #202	12
13	SMR RECEP - EQ-19A - RM #202	20 A				20 A	SMR RECEP - EQ-19A - RM #202	14
15	RECEP - RM #202	20 A				20 A	CORD REEL - RM #202	16
17	RECEP - RM #202	20 A				20 A	CORD REEL - RM #202	18
19	RECEP - RM #202	20 A				20 A	CORD REEL - RM #202	20
21	RECEP - RM #202	20 A				20 A	CORD REEL - RM #202	22
23	RECEP - EQ-25 - RM #202	20 A				20 A	CORD REEL - RM #202	24
25	RECEP - EQ-21 - RM #202	20 A				20 A	[GF] RECEP - RM #202A	26
27	RECEP - EQ-17 - RM #202	20 A				20 A	[GF] RECEP - RM #202A	28
29	RECEP - EQ-15, EQ-16, EQ-18 - RM #202	20 A				20 A	SPARE	30
31	RECEP - EQ-20-FS - RM #202	20 A				20 A	SPARE	32
33	RECEP - EQ-20 - RM #202	20 A				20 A	SPARE	34
35	SPARE	20 A				20 A	SPARE	36
37	CORD REEL - RM #102B	20 A				20 A	RECEP RM #120B	38
39	CORD REEL - RM #102B	20 A				20 A	RECEP RM #120B	40
41	RECEP - RM #102	20 A				20 A	RECEP RM #120B	42
43	RECEP - RM #102	20 A				20 A	RECEP RM #120B	44
45	RECEP - RM #102	20 A				20 A	RECEP - EQ-43 - RESIN CUTTER - RM #102B	46
47	RECEP - EQ-26DC - DUST COLL. - RM #102	20 A				20 A	RECEP - EQ-44 - GLASS KILN - RM #102B	48
49	RECEP - EQ-26 - SANDBLASTING CAB - RM #102	20 A				20 A	RECEP - NE PLAZA	50
51						20 A	RECEP - NE PLAZA	52
53	RECEP - EQ-31 - RM #102	20 A				20 A	CORD REEL - RM #102	54
55						20 A	CORD REEL - RM #102	56
57	RECEP - EQ-22 - LASER CUTTER - RM #102	20 A				20 A	CORD REEL - RM #102	58
59	RECEP - EQ-22-FE - FUME EXTRACTOR - RM #102	20 A				20 A	CORD REEL - RM #102	60
Load Classification								

① LLP-2-3-IG

Mains Type: MCB **Volts:** 208Y/120V **Location:** ELEC. CL 20060
Mains Rating: 100 A **Phases:** 3 **Enclosure:** Type 1
A.I.C. Rating: 14k **Wires:** 4 **Mounting:** SURFACE

CKT	Circuit Description	Trip	A	B	C	Trip	Circuit Description	CKT
1	SMR RECEP - EQ-19B - RM #204	20 A				20 A	SMR RECEP - EQ-19B - RM #204	2
3	SMR RECEP - EQ-19-SP- RM #204	20 A				20 A	SMR RECEP - EQ-19-SP - RM #204	4
5	SMR RECEP - EQ-19A - RM #204	20 A				20 A	SMR RECEP - EQ-19A - RM #204	6
7	SMR RECEP - EQ-19A - RM #204	20 A				20 A	SMR RECEP - EQ-19A - RM #204	8
9	SMR RECEP - EQ-19A - RM #204	20 A				20 A	SMR RECEP - EQ-19A - RM #204	10
11	SMR RECEP - EQ-19A - RM #204	20 A				20 A	SMR RECEP - EQ-19A - RM #204	12
13	RECEP - RM #204	20 A				20 A	SPARE	14
15	RECEP - EQ-24 - RM #204	20 A				20 A	SPARE	16
17	RECEP - EQ-23 - RM #204	20 A				20 A	SPARE	18
19	SPARE	20 A				20 A	SPARE	20
21	SPARE	20 A				20 A	SPARE	22
23	SPARE	20 A				20 A	SPARE	24
25	SPARE	20 A				20 A	SPARE	26
27	SPARE	20 A				20 A	SPARE	28
29	SPARE	20 A				20 A	SPARE	30
31	SPARE	20 A				20 A	SPARE	32
33	SPARE	20 A						34
35	SPARE	20 A				20 A	SPARE	36
37	SPARE	20 A						38
39	SPARE	20 A				20 A	SPARE	40
41	SPARE	20 A						42
Load Classification								

③ LTG INV

Mains Type: **Volts:** 208/120 **Location:** MECH ROOM 10060
Mains Rating: 50 A **Phases:** 1 **Enclosure:** Type 1
A.I.C. Rating: 14k **Wires:** 3 **Mounting:** RECESSED

CKT	Circuit Description	Trip	B	C	Trip	Circuit Description	CKT
1	BLUE LIGHT PHONES	15 A			15 A	EXIT SIGNS - ALL FLOORS	2
3	EM EXT LTG	15 A			15 A	EM LTG - STAIR 20001	4
5	EM EXT LTS - WEST STAIR	15 A			20 A	EM LTG - RMS #201, #202	6
7	ELEV CAB LTG - ELEVATOR CONTROL RM #10071	15 A			20 A	EM LTG - RMS #204, #205, #205A	8
9	EM LTG - ELEVATOR CONTROL RM #10071	15 A			20 A	EM LTG - RMS #201, #201F, #20042	10
11	EM LTG - HOISTWAY RMS #10070 & 20070	15 A			20 A	EM LTG - RMS #20060 & #206	12
13	EM LTG - RMS #101, #101A, #101B, #102, #102B	20 A			20 A	SPARE	14
15	EM LTG - RMS #10041, #10060, #101C, #103	20 A			20 A	SPARE	16
17	SPARE	20 A			20 A	SPARE	18
19							20
21							22
23							24
Load Classification							

② LLP-1-2-ST

Mains Type: **Volts:** 208Y/120V **Location:** MAKING EXPLORATION 101
Mains Rating: 100 A **Phases:** 3 **Enclosure:** Type 1
A.I.C. Rating: 14k **Wires:** 4 **Mounting:** RECESSED

CKT	Circuit Description	Trip	A	B	C	Trip	Circuit Description	CKT
1	RECEP - EQ-29 - RM #101B	20 A				20 A	RECEP - RM #101B	2
3	RECEP - EQ-32 - RM #101B	20 A				20 A	RECEP - RM #101B	4
5						20 A	RECEP - RM #101B	6
7	RECEP - EQ-28 - RM #101B	20 A				20 A	CORD REEL - RM #101B	8
9	RECEP - EQ-30 - RM #101B	20 A				20 A	CORD REEL - RM #101B	10
11	RECEP - EQ-29-DC - RM #101B	20 A				20 A	SPARE	12
13						20 A	SPARE	14
15	RECEP - EQ-29-DC - RM #101B	20 A				20 A	SPARE	16
17						20 A	SPARE	18
19	SPARE	20 A						20
21						20 A	SPARE	22
23	SPARE	20 A						24
25								26
27	SPARE	30 A				30 A	SPARE	28
29								30
Load Classification								

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Cert. of Auth: 0018443

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AM JOB NO.
24213

REV. NO.	REV. DATE	REV. DESCRIPTION
1	2026.10.12	ADDENDUM 2

PROJECT STATUS:
BID DOCUMENTS

DATE ISSUED:
2026.09.14

PANELBOARD SCHEDULES - ELECTRICAL

E602R

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Autodesk Docs://Cornell University Beebe Hall Maker Hub Reno/24k488_CU_Beebe_Reno_ELEC_Cloud_R25.rvt

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E

D

THE LINE SHOWN ABOVE IS EXACTLY ONE INCH LONG AT 100% WHEN PLOTTED AT FULL SIZE

C

THE SQUARES ABOVE ARE COLOR, WHITE/BLACK AND WHITE LETTERS, IF PRINTED CORRECTLY

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Autodesk Docs://Cornell University Beebe Hall Maker Hub Reno/240488_CU_Beebe_Reno_ELEC_Cloud_R23.rvt

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LUMINAIRE SCHEDULE

TYPE	DESCRIPTION	MFR. & CATALOG No.	OUTPUT LUMENS	LAMP	DRIVER	MOUNTING	UNIT WATTS	REMARKS
L1	EXTERIOR BOLLARD LIGHT WITH INTEGRAL RECEPTACLE	HESS CITY ELEMENTS 180: CE180B - XX - AR450 - 42 - 30K - DIM - UNV - XX - DB -GFCI	1342	3000K	120V 0-10V, 10%	SURFACE	15	1, 2, 5
L2	2X2 TROFFER, SELECTABLE LUMEN OUTPUT	METALUX: 22CGTS-L3C3	4048	3500K 80 CRI	120V 0-10V, 10%	RECESSED	27.7	1, 5
L3	DECORATIVE PENDANT - DIRECT & INDIRECT	EUREKA LIGHTING: 4276DI-25 - LED.REG - 35 - 90 - 120 - DV - AC - XX - WHE - CHC - ZFF - WH	1915	3500K 90 CRI	120V 0-10V, 10%	PENDANT	30.5	1, 3, 5
L4	UNDERCABINET LIGHTING	SIGNIFY DAY-BRITE: LINCS100E - LXX - 935 - UNV - WHG - DIM	391	3500K 90 CRI	120V ELV DIMMING	SURFACE	4.9	1, 4
L5A	LINEAR PENDANT - 4FT	CORLITE RZL: RZL - WL - 50L - 9 - 35 - 1 - X - UNV - STD - W - AC - XX - 4	5000	3500K 90 CRI	120V 0-10V, 1%	PENDANT	41	1, 3, 5, 6
L5B	LINEAR PENDANT - 8FT	CORLITE RZL: RZL - WL - 40L - 9 - 35 - 1 - X - UNV - STD - W - AC - XX - 8	10000	3500K 90 CRI	120V 0-10V, 1%	PENDANT	82	1, 3, 5, 6
L5C	LINEAR PENDANT - 12FT	CORLITE RZL: RZL - WL - 40L - 9 - 35 - 1 - X - UNV - STD - W - AC - XX - 8	15000	3500K 90 CRI	120V 0-10V, 1%	PENDANT	133	1, 3, 5, 6
L6A	LINEAR PENDANT - 4FT	CORELITE CONTINUA: QS - SQ4 - F - 0U - 100D - 935 - 1 - D - UNV - STD - W - ACXX - XX - 4	4000	3500K 90 CRI	120V 0-10V, 1%	PENDANT	32.8	1, 3, 5, 6
L6B	LINEAR PENDANT - 6FT	CORELITE CONTINUA: QS - SQ4 - F - 0U - 100D - 935 - 1 - D - UNV - STD - W - ACXX - XX - 6	6000	3500K 90 CRI	120V 0-10V, 1%	PENDANT	49.2	1, 3, 5, 6
L6C L6C-U	LINEAR PENDANT - 8FT	CORELITE CONTINUA: QS - SQ4 - F - 0U - 100D - 935 - 1 - D - UNV - STD - W - ACXX - XX - 8 QS - SQ4 - F - 025U - 100D - 935 - 2 - D - UNV - STD - W - ACXX - XX - 8	8000	3500K 90 CRI	120V 0-10V, 1%	PENDANT	65.6	1, 3, 5, 6, 11
L6D-U	LINEAR PENDANT - 12FT	CORELITE CONTINUA: QS - SQ4 - F - 025U - 100D - 935 - 2 - D - UNV - STD - W - ACXX - XX - 12	12000	3500K 90 CRI	120V 0-10V, 1%	PENDANT	98.4	1, 3, 5, 6, 11
L7A	RECESSED ROUND DOWNLIGHT SELECTABLE LUMENS: 500/750/1000	COOPER LIGHTING: HDCJB - LS510 - 935 - D - HCD6T - R- XX - XX	1000	3500K 90 CRI	120V 0-10V, 1%	RECESSED	12.54	1, 5, 7, 12
L7B	RECESSED ROUND DOWNLIGHT SELECTABLE LUMENS: 1500/2000/2500	COOPER LIGHTING: HDCJB - LS1525 - 935 - D - HCD6T - R- XX - XX	1000	3500K 90 CRI	120V 0-10V, 1%	RECESSED	12.54	1, 5, 7, 12
L8	UTILITY LIGHT - 4 FT	METALUX: 4VT2 - LED5 - 4 - DR - UNV - L835 - CD1	4000	3500K 80 CRI	120V 0-10V, 10%	SURFACE	30	5
L8A	NOT USED							
L9	UTILITY LIGHT - WALL MOUNTED - 4 FT	METALUX: 4 - LD5 - 42SL0 - LC - UNV - L835 - CD - 1	4214	3500K 90 CRI	120V 0-10V, 10%	WALL-MOUNT	29.6	5
L10A	CYLINDER DOWNLIGHT - PIVOT	LUMENWERX AERA 3" FLEX CYLINDER: AE3FXCYS - D - 4.5IN - XX - BVL - XX - FDL - SW - 35DEG - XX - 90CRI - 35K - 120V - 14W - D1 - CDR - XX	1444	3500K 90 CRI	120V 0-10V, 1%	SURFACE	14	1, 5
L10B	CYLINDER PENDANT DOWNLIGHT	LUMENWERX AERA 4" CYLINDER: AE4CYP - D - 8IN - FDBZ - BVL - FTMW - FDL - SW - 35DEG - 90CRI - 35K - 120V - 20W - D1 - 1C - CDR - FTMW - BPC##IN	1931	3500K 90 CRI	120V 0-10V, 1%	PENDANT	20	1, 5
L10C	NOT USED							
L11A	DECORATIVE PENDANT - D1	LIGHTART COIL D SERIES: COL - COIL - PEND - D1 - MR - 935CK - 1000LM - FL - LV01 - STD - XX -BK	1044	3500K 90 CRI	120V 0-10V, 1%	PENDANT	9.5	1, 3, 5
L11B	DECORATIVE PENDANT - D2	LIGHTART COIL D SERIES: COL - COIL - PEND - D2 - MR - 935CK - 1000LM - FL - LV01 - STD - XX -BK	1044	3500K 90 CRI	120V 0-10V, 1%	PENDANT	9.5	1, 3, 5
L11C	DECORATIVE PENDANT - D3	LIGHTART COIL D SERIES: COL - COIL - PEND - D3 - MR - 935CK - 1000LM - FL - LV01 - STD - XX -BK	1044	3500K 90 CRI	120V 0-10V, 1%	PENDANT	9.5	1, 3, 5
L12	SURFACE-MOUNTED SINGLE-FACE DIE-CAST ALUMINUM SPECIALTY SIGN - RED LETTERING "IN USE"	EXITRONIX: 402EX-LB-WW-SS24	N/A	N/A	120V	WALL-MOUNT - SURFACE	5	8
L13	EXTERIOR WALL PACK	WILLIAMS VWPH VWPH - L30 - 8 - 30 - TFT - DBZ - CGL - 120	3000	3000K	120V	SURFACE	27	1, 9
L14A	RECESSED SQUARE DOWNLIGHT - EXTERIOR LOCATIONS - LOWER OUTPUT	COOPER LIGHTING: HCSQ6 - 05 - D010 - HM6 - 0525 - 930 - 61SQ - X - BF	500	3000K 90 CRI	120V 0-10V, 1%	RECESSED	6.1	1, 5, 12
L14B	RECESSED SQUARE DOWNLIGHT - EXTERIOR LOCATIONS - MEDIUM OUTPUT	COOPER LIGHTING: HCSQ6 - 10 - D010 - HM6 - 0525 - 930 - 61SQ - X - BF	1000	3000K 90 CRI	120V 0-10V, 1%	RECESSED	10	1, 5, 12
L15A	SURFACE-MOUNTED LOW-PROFILE EDGE-LIT CANOPY LIGHT - CONCENTRATED DISTRIBUTION	BEACON: SRT1 - 35 - 3K8 - 5C - 120 - DBT	3500	3000K 80CRI	120V 0-10V	SURFACE	35	1, 10
L15B	SURFACE-MOUNTED LOW-PROFILE EDGE-LIT CANOPY LIGHT - SQUARE DISTRIBUTION, LOWER OUTPUT	BEACON: SRT1 - 15 - 3K8 - 5QW - 120 - DBT	2000	3000K 80CRI	120V 0-10V	SURFACE	15	1
EM1	EMERGENCY WALL PACK	EXITRONIX: LED-51-WH-G2	220	-	120V	SURFACE	2	
X1	EXIT SIGN - EDGE LIT - MIRROR PANEL. ARROWS AND QUANTITY OF FACES PER DRAWINGS	EXITRONIX: 902EX-U-LB-GM-WH 903EX-U-LB-GM-WH	-	-	120V	SURFACE	5	
X2	EXIT SIGN - THERMOPLASTIC - BACK OF HOUSE AREAS. ARROWS AND QUANTITY OF FACES PER DRAWINGS	EXITRONIX: VEX-U-LB-WH	-	-	120V	SURFACE	5	

END OF SCHEDULE

REMARKS:

1. ARCHITECT TO SPECIFY FINISH.
2. CIVIL ENGINEER TO SPECIFY DISTRIBUTION AND BASE MOUNTING TYPE.
3. COORDINATE CABLE LENGTH REQUIREMENT WITH CEILING/SUPPORT AND MOUNTING HEIGHT OF FIXTURE.
4. PROVIDE ALL ACCESSORIES AS REQUIRED FOR A COMPLETE INSTALLATION. PROVIDE QUANTITY AND LENGTHS OF FIXTURES REQUIRED FOR ENTIRE LENGTH OF RUN AS SHOWN ON DRAWINGS. CONCEAL FEEDS TO FIXTURES. PROVIDE ALL DIMMERS AND LIGHTING CONTROL ACCESSORIES REQUIRED.
5. COORDINATE MOUNTING REQUIREMENTS WITH CEILING TYPE AND REQUIREMENTS.
6. REFER TO DRAWINGS FOR QUANTITY OF CIRCUITS AND EM LOCATIONS. ALL EM WIRING AND UL-924 DEVICES TO BE INSTALLED AHEAD OF FIXTURE.
7. PROVIDE FINAL LUMEN ADJUSTMENT IN FIELD WITH OWNER PRIOR TO PROJECT TURNOVER.
8. VERIFY WORDING, LETTER COLOR, AND FINISH WITH OWNER PRIOR TO ORDERING.
9. PROVIDE ALL FIXTURE ACCESSORIES FOR CONDUIT ENTRY AND BACK BOX COVERAGE.
10. FIXTURE TO BE CAPABLE OF 0-10V DIMMING CONTROL.
11. REFER TO DRAWINGS FOR FIXTURE LOCATIONS THAT HAVE UPLIGHT COMPONENT. PROVIDE WIRING FOR SWITCH AND DIMMING LEADS BACK TO CONTROLLER LOCATION. CIRCUITS TO BE CONTROLLED TOGETHER AT INITIAL PROJECT TURNOVER BUT SHALL HAVE THE CAPABILITY TO SEPARATE CONTROL.
12. PROVIDE MOUNTING FRAMES FOR NEW CONSTRUCTION CEILING AREAS. COORDINATE WITH ARCHITECTURAL CEILING SCOPE.

1

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24213

REV. NO.	REV. DATE	REV. DESCRIPTION
1	2026.10.12	ADDENDUM 2

PROJECT STATUS:
BID DOCUMENTS

DATE ISSUED:
2026.09.14

SCHEDULES - LIGHTING

E610R

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THE LINE SHOWN ABOVE IS EXACTLY ONE INCH LONG AT 100% PLOTTING SCALE

THE SQUARES ABOVE ARE COLOR, WITH BLACK AND WHITE LETTERS, IF PRINTED CORRECTLY

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CABLE SCHEDULE - PATCH PANEL A

MLC	RLC	PORT	TR	RACK/...	PATCH...	PORT	CIT LABEL	NOTES
10040	A	1	MDF	1	A	1	10040-A1	CAM
10040	B	1	MDF	1	A	2	10040-B1	1
10040	C	1	MDF	1	A	3	10040-C1	CAM
10060	A	1	MDF	1	A	4	10060-A1	WAP
10060	A	2	MDF	1	A	5	10060-A2	WAP
10060	B	1	MDF	1	A	6	10060-B1	2
10060	C	1	MDF	1	A	7	10060-C1	3
10060	D	1	MDF	1	A	8	10060-D1	3
10062	A	1	MDF	1	A	9	10062-A1	4
10071	A	1	MDF	2	A	10	10071-A1	5
10071	A	2	MDF	3	A	11	10071-A2	5
10071	A	3	MDF	4	A	12	10071-A3	5
20060	A	1	MDF	5	A	13	20060-A1	6
20060	A	2	MDF	6	A	14	20060-A2	6
101	A	1	MDF	7	A	15	101-A1	EM
101	B	1	MDF	1	A	16	101-B1	
101	B	2	MDF	1	A	17	101-B2	
101	C	1	MDF	1	A	18	101-C1	WAP
101	C	2	MDF	1	A	19	101-C2	WAP
101	D	1	MDF	1	A	20	101-D1	WAP
101	D	2	MDF	1	A	21	101-D2	WAP
101	E	1	MDF	1	A	22	101-E1	CAM
101A	A	1	MDF	1	A	23	101A-A1	WAP
101A	A	2	MDF	1	A	24	101A-A2	WAP
101B	A	1	MDF	1	A	25	101B-A1	
101B	A	2	MDF	1	A	26	101B-A2	
101B	B	1	MDF	1	A	27	101B-B1	WAP
101B	B	2	MDF	1	A	28	101B-B2	WAP
101C	A	1	MDF	1	A	29	101C-A1	WAP
101C	A	2	MDF	1	A	30	101C-A2	WAP
102	A	1	MDF	1	A	31	102-A1	CAM
102	B	1	MDF	1	A	32	102-B1	
102	B	2	MDF	1	A	33	102-B2	
102	C	1	MDF	1	A	34	102-C1	
102	C	2	MDF	1	A	35	102-C2	
102	D	1	MDF	1	A	36	102-D1	WAP
102	D	2	MDF	1	A	37	102-D2	WAP
102B	A	1	MDF	1	A	38	102B-A1	WAP
102B	A	2	MDF	1	A	39	102B-A2	WAP
103	A	1	MDF	1	A	40	103-A1	EM
103	B	1	MDF	1	A	41	103-B1	WAP
103	B	2	MDF	1	A	42	103-B2	WAP
103	C	1	MDF	1	A	43	103-C1	CAM
			MDF	1	A	44		
			MDF	1	A	45		
			MDF	1	A	46		
			MDF	1	A	47		
			MDF	1	A	48		

END OF SCHEDULE

CABLE SCHEDULE REFERENCE NOTES:
CAM - CAMERA
EM - EMERGENCY PHONE
WAP - WIRELESS ACCESS POINT
1 - FIRE ALARM PANEL DATA CABLE - PROVIDE (1) DATA CABLE IN ADDITION TO POTS COPPER LINE TO PUNCH DOWN BLOCK.
2 - BMS NETWORK CONNECTION. ALL DOWNSTREAM NETWORK CABLING FROM BMS SWITCH BY CONTROLS CONTRACTOR.
3 - UTILITY METERING CONNECTION
4 - ACCESS CONTROL DATA CONNECTION
5 - ELEVATOR DATA CONNECTIONS.
6 - ELECTRICAL METER CONNECTION

CABLE SCHEDULE GENERAL NOTES:
A. CONTRACTOR SHALL PROVIDE AS-BUILT DRAWINGS AND CABLE SCHEDULE TO CIT PRIOR TO SUBMITTAL OF ACTIVATION REQUEST.
B. CONTRACTOR TO PROVIDE PATCH PANEL AND HORIZONTAL CABLE MANAGEMENT IN EXISTING DATA RACK.

CABLE SCHEDULE - PATCH PANEL B

MLC	RLC	PORT	TR	RACK/...	PATCH...	PORT	CIT LABEL	NOTES
20040	A	1	MDF	1	B	1	20040-A1	CAM
20040	B	1	MDF	1	B	2	20040-B1	CAM
20041	A	1	MDF	1	B	3	20041-A1	CAM
20042	A	1	MDF	1	B	4	20042-A1	EM
20042	B	1	MDF	1	B	5	20042-B1	
20042	B	2	MDF	1	B	6	20042-B2	
20042	C	1	MDF	1	B	7	20042-C1	CAM
20042	D	1	MDF	1	B	8	20042-D1	CAM
20042	E	1	MDF	1	B	9	20042-E1	WAP
20042	E	2	MDF	2	B	10	20042-E2	WAP
201	A	1	MDF	3	B	11	201-A1	EM
201	B	1	MDF	4	B	12	201-B1	WAP
201	B	2	MDF	5	B	13	201-B2	WAP
201	C	1	MDF	6	B	14	201-C1	WAP
201	C	2	MDF	7	B	15	201-C2	WAP
201	D	1	MDF	1	B	16	201-D1	
201	E	1	MDF	1	B	17	201-E1	AV
201	E	2	MDF	1	B	18	201-E2	AV
201A	A	1	MDF	1	B	19	201A-A1	
201A	A	2	MDF	1	B	20	201A-A2	
201B	A	1	MDF	1	B	21	201B-A1	
201B	A	2	MDF	1	B	22	201B-A2	
201B	B	1	MDF	1	B	23	201B-B1	
201B	B	2	MDF	1	B	24	201B-B2	
201B	C	1	MDF	1	B	25	201B-C1	
201B	C	2	MDF	1	B	26	201B-C2	
201C	A	1	MDF	1	B	27	201C-A1	WAP
201C	A	2	MDF	1	B	28	201C-A2	WAP
201C	B	1	MDF	1	B	29	201C-B1	AV
201C	B	2	MDF	1	B	30	201C-B2	AV
201C	C	1	MDF	1	B	31	201C-C1	AV
201C	C	2	MDF	1	B	32	201C-C2	AV
201D	A	1	MDF	1	B	33	201D-A1	AV
201D	A	2	MDF	1	B	34	201D-A2	AV
201D	B	1	MDF	1	B	35	201D-B1	AV
201D	B	2	MDF	1	B	36	201D-B2	AV
201E	A	1	MDF	1	B	37	201E-A1	
201E	B	1	MDF	1	B	38	201E-B1	AV
201E	B	2	MDF	1	B	39	201E-B2	AV
201F	A	1	MDF	1	B	40	201F-A1	WAP
201F	A	2	MDF	1	B	41	201F-A2	WAP
			MDF	1	B	42		
			MDF	1	B	43		
			MDF	1	B	44		
			MDF	1	B	45		
			MDF	1	B	46		
			MDF	1	B	47		
			MDF	1	B	48		

END OF SCHEDULE

CABLE SCHEDULE REFERENCE NOTES:
CAM - CAMERA
EM - EMERGENCY PHONE
WAP - WIRELESS ACCESS POINT
1 - FIRE ALARM PANEL DATA CABLE - PROVIDE (1) DATA CABLE IN ADDITION TO POTS COPPER LINE TO PUNCH DOWN BLOCK.
2 - BMS NETWORK CONNECTION. ALL DOWNSTREAM NETWORK CABLING FROM BMS SWITCH BY CONTROLS CONTRACTOR.
3 - UTILITY METERING CONNECTION
4 - ACCESS CONTROL DATA CONNECTION
5 - ELEVATOR DATA CONNECTIONS.
6 - ELECTRICAL METER CONNECTION

CABLE SCHEDULE GENERAL NOTES:
A. CONTRACTOR SHALL PROVIDE AS-BUILT DRAWINGS AND CABLE SCHEDULE TO CIT PRIOR TO SUBMITTAL OF ACTIVATION REQUEST.
B. CONTRACTOR TO PROVIDE PATCH PANEL AND HORIZONTAL CABLE MANAGEMENT IN EXISTING DATA RACK.

CABLE SCHEDULE - PATCH PANEL C

MLC	RLC	PORT	TR	RACK/...	PATCH...	PORT	CIT LABEL	NOTES
202	A	1	MDF	1	C	1	202-A1	
202	A	2	MDF	1	C	2	202-A2	
202	A	3	MDF	1	C	3	202-A3	
202	B	1	MDF	1	C	4	202-B1	
202	B	2	MDF	1	C	5	202-B2	
202	B	3	MDF	1	C	6	202-B3	
202	C	1	MDF	1	C	7	202-C1	
202	C	2	MDF	1	C	8	202-C2	
202	C	3	MDF	1	C	9	202-C3	
202	D	1	MDF	2	C	10	202-D1	
202	D	2	MDF	3	C	11	202-D2	
202	D	3	MDF	4	C	12	202-D3	
202	E	1	MDF	5	C	13	202-E1	
202	E	2	MDF	6	C	14	202-E2	
202	F	1	MDF	7	C	15	202-F1	
202	F	2	MDF	1	C	16	202-F2	
202	G	1	MDF	1	C	17	202-G1	
202	G	2	MDF	1	C	18	202-G2	
202	H	1	MDF	1	C	19	202-H1	
202	H	2	MDF	1	C	20	202-H2	
202	I	1	MDF	1	C	21	202-I1	WAP
202	I	2	MDF	1	C	22	202-I2	WAP
202	J	1	MDF	1	C	23	202-J1	WAP
202	J	2	MDF	1	C	24	202-J2	WAP
203	A	1	MDF	1	C	25	203-A1	
203	A	2	MDF	1	C	26	203-A2	
204	A	1	MDF	1	C	27	204-A1	
204	A	2	MDF	1	C	28	204-A2	
204	B	1	MDF	1	C	29	204-B1	
204	B	2	MDF	1	C	30	204-B2	
204	C	1	MDF	1	C	31	204-C1	
204	C	2	MDF	1	C	32	204-C2	
204	C	3	MDF	1	C	33	204-C3	
204	D	1	MDF	1	C	34	204-D1	
204	D	2	MDF	1	C	35	204-D2	
204	D	3	MDF	1	C	36	204-D3	
204	E	1	MDF	1	C	37	204-E1	
204	E	2	MDF	1	C	38	204-E2	
204	E	3	MDF	1	C	39	204-E3	
204	F	1	MDF	1	C	40	204-F1	
204	F	2	MDF	1	C	41	204-F2	
204	F	3	MDF	1	C	42	204-F3	
204	G	1	MDF	1	C	43	204-G1	WAP
204	G	2	MDF	1	C	44	204-G2	WAP
			MDF	1	C	45		
			MDF	1	C	46		
			MDF	1	C	47		
			MDF	1	C	48		

END OF SCHEDULE

CABLE SCHEDULE REFERENCE NOTES:
CAM - CAMERA
EM - EMERGENCY PHONE
WAP - WIRELESS ACCESS POINT
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2 - BMS NETWORK CONNECTION. ALL DOWNSTREAM NETWORK CABLING FROM BMS SWITCH BY CONTROLS CONTRACTOR.
3 - UTILITY METERING CONNECTION
4 - ACCESS CONTROL DATA CONNECTION
5 - ELEVATOR DATA CONNECTIONS.
6 - ELECTRICAL METER CONNECTION

CABLE SCHEDULE GENERAL NOTES:
A. CONTRACTOR SHALL PROVIDE AS-BUILT DRAWINGS AND CABLE SCHEDULE TO CIT PRIOR TO SUBMITTAL OF ACTIVATION REQUEST.
B. CONTRACTOR TO PROVIDE PATCH PANEL AND HORIZONTAL CABLE MANAGEMENT IN EXISTING DATA RACK.

CABLE SCHEDULE - PATCH PANEL D

MLC	RLC	PORT	TR	RACK/...	PATCH...	PORT	CIT LABEL	NOTES
205	A	1	MDF	1	D	1	205-A1	
205	A	2	MDF	1	D	2	205-A2	
205	B	1	MDF	1	D	3	205-B1	
205	B	2	MDF	1	D	4	205-B2	
205	C	1	MDF	1	D	5	205-C1	
205	C	2	MDF	1	D	6	205-C2	
205	D	1	MDF	1	D	7	205-D1	
205	D	2	MDF	1	D	8	205-D2	
205	E	1	MDF	1	D	9	205-E1	WAP
205	E	2	MDF	2	D	10	205-E2	WAP
205A	A	1	MDF	3	D	11	205A-A1	WAP
205A	A	2	MDF	4	D	12	205A-A2	WAP
			MDF	5	D	13		
			MDF	6	D	14		
			MDF	7	D	15		
			MDF	1	D	16		
			MDF	1	D	17		
			MDF	1	D	18		
			MDF	1	D	19		
			MDF	1	D	20		
			MDF	1	D	21		
			MDF	1	D	22		
			MDF	1	D	23		
			MDF	1	D	24		
202A	A	1	MDF	1	D	25	202A-A1	WAP, 7
202A	A	2	MDF	1	D	26	202A-A2	WAP, 7
EXT	A	1	MDF	1	D	27	EXT-A1	CAM, 7
EXT	B	1	MDF	1	D	28	EXT-B1	CAM, 7
EXT	C	1	MDF	1	D	29	EXT-C1	CAM, 7
EXT	D	1	MDF	1	D	30	EXT-D1	7, 8
EXT	D	2	MDF	1	D	31	EXT-D2	7, 8
EXT	D	3	MDF	1	D	32	EXT-D3	7, 8
EXT	E	1	MDF	1	D	33	EXT-E1	CAM, 7
EXT	F	1	MDF	1	D	34	EXT-F1	7, 8
EXT	F	2	MDF	1	D	35	EXT-F2	7, 8
EXT	F	3	MDF	1	D	36	EXT-F3	7, 8
EXT	G	1	MDF	1	D	37	EXT-G1	WAP, 7
EXT	G	2	MDF	1	D	38	EXT-G2	WAP, 7
			MDF	1	D	39		
			MDF	1	D	40		
			MDF	1	D	41		
			MDF	1	D	42		
			MDF	1	D	43		
			MDF	1	D	44		
			MDF	1	D	45		
			MDF	1	D	46		
			MDF	1	D	47		
			MDF	1	D	48		

END OF SCHEDULE

CABLE SCHEDULE REFERENCE NOTES:
CAM - CAMERA
EM - EMERGENCY PHONE
WAP - WIRELESS ACCESS POINT
1 - FIRE ALARM PANEL DATA CABLE - PROVIDE (1) DATA CABLE IN ADDITION TO POTS COPPER LINE TO PUNCH DOWN BLOCK.
2 - BMS NETWORK CONNECTION. ALL DOWNSTREAM NETWORK CABLING FROM BMS SWITCH BY CONTROLS CONTRACTOR.
3 - UTILITY METERING CONNECTION
4 - ACCESS CONTROL DATA CONNECTION
5 - ELEVATOR DATA CONNECTIONS.
6 - ELECTRICAL METER CONNECTION
7 - PROVIDE DITEK SURGE PROTECTION MODULE CONNECTED TO BUILDING GROUND. CAT#DTK-110C6APOE. PROVIDE JUNCTION BOX FOR SURGE MODULE INSIDE BUILDING AT PATHWAY ENTRY TO BUILDING. PROVIDE SHORT PATCH CORD FROM TERMINATED CAT6A JACK TO MODULE. PROVIDE PATCH CORD TO FINAL EXTERIOR EQUIPMENT LOCATION. COORDINATE CONNECTIONS WITH OWNER. PROVIDE LABEL ON BOX "TELECOM SURGE MODULE". BOX TO BE 10" X 10" X 4" MINIMUM.
8 - EXTERIOR BLUE-LIGHT PHONE. PROVIDE ALL CABLING TO SURGE PROTECTION LOCATION. TERMINATE IN DATA JACK WITHIN JUNCTION BOX. COORDINATE WITH OWNER FOR FINAL PATCH CORDS TO EQUIPMENT.

CABLE SCHEDULE GENERAL NOTES:
A. CONTRACTOR SHALL PROVIDE AS-BUILT DRAWINGS AND CABLE SCHEDULE TO CIT PRIOR TO SUBMITTAL OF ACTIVATION REQUEST.
B. CONTRACTOR TO PROVIDE PATCH PANEL AND HORIZONTAL CABLE MANAGEMENT IN EXISTING DATA RACK.

ABBREVIATIONS

ABBREV.	DESCRIPTION
A	AMPERE
AAD	AUTOMATIC AIR DAMPER
AIC	AMPERE INTERRUPTING CURRENT
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AFI	ARC FAULT INTERRUPTING
AII	AIRBORNE INFECTION ISOLATION
AL	ALUMINUM
ARS	ARC ENERGY REDUCTION SWITCH
ASD	ADJUSTABLE SPEED DRIVE
ATS	AUTOMATIC TRANSFER SWITCH
AUTO	AUTOMATIC
AV	AUDIOVISUAL
AWG	AMERICAN WIRE GAUGE
BSMT	BASEMENT
C	CONDUIT
CATV	CABLE TELEVISION
CB	CIRCUIT BREAKER
CCTV	CLOSED-CIRCUIT TELEVISION
CLG	CEILING
CM	CONSTRUCTION MANAGER
CONT	CONTACTOR
CONTR	CONTRACTOR
CPT	CONTROL POWER TRANSFORMER
CT	CABLE TRAY
CU	COPPER
DN	DOWN
DP	DISTRIBUTION PANEL
EA	EACH
EC	ELECTRICAL CONTRACTOR
EG	EQUIPMENT GROUND
ELEC	ELECTRIC
EM	EMERGENCY
EMT	ELECTRICAL METALLIC TUBING
EWC	ELECTRIC WATER COOLER
EX	EXISTING
EXP	EXPLOSION PROOF
FA	FIRE ALARM
FACP	FIRE ALARM CONTROL PANEL
FATP	FIRE ALARM TRANSPONDER PANEL
FBO	FURNISHED BY OTHERS
GC	GENERAL CONTRACTOR
GEN	GENERATOR
GFI	GROUND FAULT CIRCUIT INTERRUPTOR
GND	GROUND
GRS	GALVANIZED RIGID STEEL
HH	HAND HOLE
HOA	HAND-OFF-AUTO
HP	HORSEPOWER
HVAC	HEATING, VENTILATING, AND AIR CONDITIONING
JB	JUNCTION BOX
KV	KILOVOLT
KVA	KILOVOLT-AMPERE
KW	KILOWATT
KWH	KILOWATT-HOUR
LED	LIGHT EMITTING DIODE
LTG	LIGHTING
MC	METAL CLAD
MCB	MAIN CIRCUIT BREAKER
MCC	MOTOR CONTROL CENTER
MFR	MULTI-FUNCTION RELAY
MH	MAN HOLE
MI	MINERAL INSULATED CABLE
MLO	MAIN LUG ONLY
MTS	MANUAL TRANSFER SWITCH
MW	MICROWAVE
NA	NOT APPLICABLE
NC	NORMALLY CLOSED
NEC	NATIONAL ELECTRIC CODE
NIC	NOT IN CONTRACT
NL	NIGHT LIGHT
NM	NON-METALLIC SHEATHED CABLE
NMT	NON-METALLIC TUBING
NO	NORMALLY OPEN
NTS	NOT TO SCALE
OC	MOUNTED OVER COUNTER
OH	OVERHEAD
P	POLE
PB	PULL BOX
PC	PLUMBING CONTRACTOR OR PHOTOCELL
PH	PHASE
PG	POLYCARBONATE GUARD
PNL	PANEL
PT	POTENTIAL TRANFORMER
PTZ	PAN TILT ZOOM
PV	PHOTOVOLTAIC
REFR	REFRIGERATOR
RMC	RIGID METAL CONDUIT
SP	SPACE
SPD	SURGE PROTECTION DEVICE
SPEC	SPECIFICATION
STP	SHIELDED TWISTED PAIR
SW	SWITCH
SWBD	SWITCHBOARD
THD	TOTAL HARMONIC DISTORTION
TV	TELEVISION
TYP	TYPICAL
UC	MOUNTED UNDER COUNTER HEIGHT OR UNDERGROUND COMMUNICATION
UE	UNDERGROUND ELECTRICAL
UG	UNDERGROUND
UL	UNDERWRITER'S LABORATORY
UNO	UNLESS NOTED OTHERWISE
UON	UNLESS OTHERWISE NOTED
UPS	UNINTERRUPTIBLE POWER SUPPLY
UTP	UNSHIELDED TWISTED PAIR
V	VOLT
W	WIRE OR WATT
WG	WIRE GUARD
WP	WEATHERPROOF
XP	EXPLOSION PROOF
VP	VANDAL-PROOF POLYCARBONATE GUARD

TELECOMMUNICATION SYMBOLS

SYMBOL	DESCRIPTION
▼	TEL/DATA DROP: 4 11/16"x4 11/16"x2.125" BOX WITH A 1-GANG MUD RING & FACEPLATE WITH DUPLEX DESIGN. 1" CONDUIT EXTENDED TO NEAREST CABLE TRAY IN CORRIDOR (UNLESS OTHERWISE NOTED) FOR DATA/VOICE. TERMINATE CONDUIT AT J HOOK IN CORRIDOR WITH CONDUIT BUSHING. PULL (2) CAT 6A CABLE, TERMINATE AT PATCH PANEL IN BDF. W: WALL PHONE DROP. MOUNT AT 46"AFF. PROVIDE (1) CAT6A CABLE TO BDF. B: BASIC DROP. PROVIDE (1) CAT6A CABLE IN 1" CONDUIT TO 4-11/16" X 4-11/16" X 2.125" JUNCTION BOX WITH BLANK PLATE ADJACENT TO EQUIPMENT. TERMINATE CABLE IN JUNCTION BOX. AV: AVCOORDINATE MOUNTING HEIGHT AND LOCATION WITH ARCHITECTURAL AND AV DRAWINGS. EM: EMERGENCY WALL PHONE DROP. WALL MOUNT AT 46"AFF. PROVIDE (1) CAT 6A CABLE TO BDF. PROVIDE YELLOW VIKING E-1600-45. CONFIRM WITH OWNER PRIOR TO PURCHASE. C: SECURITY CAMERA DROP. PROVIDE (1) CAT 6A CABLE TO BDF.
WAP	WIRELESS ACCESS POINT MOUNTED FROM CEILING AT SAME AFF HEIGHT AS LIGHT FIXTURES. SUPPORT WITH THREADED ROD. 4"x4"x2.25" BOX WITH DOUBLE GANG PLASTER RING. 1" EMT CONDUIT EXTENDED TO NEAREST CABLE TRAY IN CORRIDOR (UNLESS OTHERWISE NOTED). PROVIDE (2) CAT 6A CABLES. TERMINATE IN BDF AND 6-8" PIGTAIL WITHOUT FACEPLATE.
B	BLUE LIGHT EMERGENCY TELEPHONE. PROVIDE (3) OUTDOOR-RATED CAT 6A CABLES. PROVIDE SURGE PROTECTION MODULE IN JUNCTION BOX AT BUILDING ENTRANCE. PROVIDE GROUND WIRE FROM SURGE MODULE TO BUILDING STRUCTURE OR TELECOM GROUND BAR.
WAP EXT	EXTERIOR BUILDING-MOUNTED WIRELESS ACCESS POINT. PROVIDE SURGE PROTECTION MODULE IN JUNCTION BOX AT BUILDING ENTRANCE. PROVIDE GROUND WIRE FROM SURGE MODULE TO BUILDING STRUCTURE OR TELECOM GROUND BAR. PROVIDE OSP PATCH CABLE FROM SURGE MODULE TO EXTERIOR ACCESS POINT. COORDINATE BRACKET REQUIREMENTS WITH CIT. CIT TO PROVIDE ACCESS POINT.

GENERAL NOTES: (APPLY TO ALL DRAWINGS):

A. FLEX CONDUIT IS PROHIBITED FOR USE IN DATA APPLICATIONS WITHOUT WRITTEN PERMISSION FROM CORNELL CIT INFRASTRUCTURE ENGINEERS.

B. ALL DATA WORK MUST BE COORDINATED WITH CORNELL CIT.

C. ALL GENERAL NOTES AND GENERAL DEMOLITION NOTES ON E000 APPLY TO THE TELECOM COMPONENTS.

D. ALL TELECOM WIRING TO BE IN CONDUIT OR COVERED CABLE TRAY. J-HOOKS ARE NOT ACCEPTABLE UNLESS WRITTEN PERMISSION IS PROVIDED BY CIT INFRASTRUCTURE ENGINEERS.

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AM JOB NO.
24213

REV. NO.	REV. DATE	REV. DESCRIPTION
1	2026.10.12	ADDENDUM 2

PROJECT STATUS:
BID DOCUMENTS

DATE ISSUED:
2026.09.14

GENERAL NOTES & SYMBOLS LIST - TELECOM

TE000R

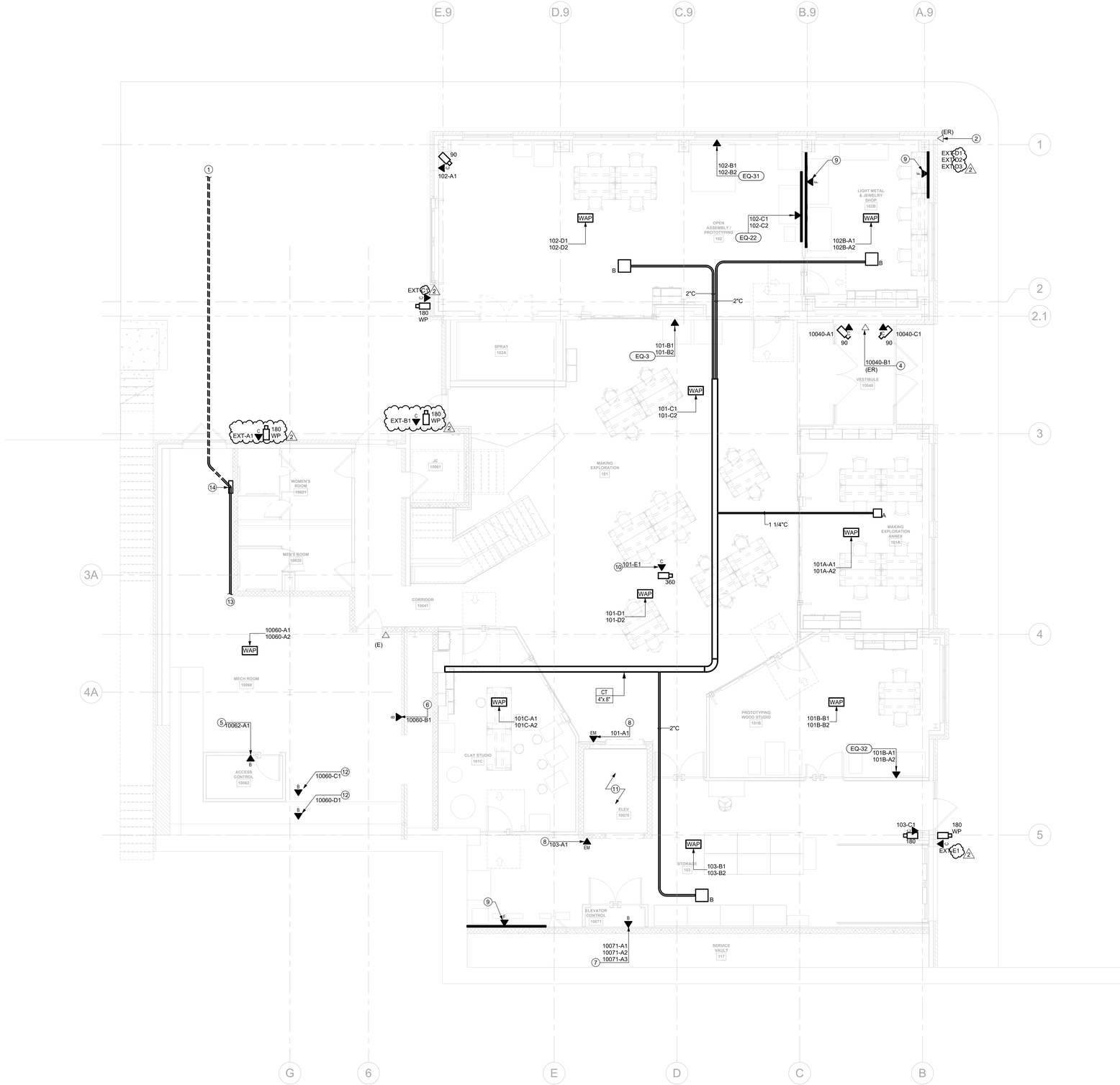
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10/9/2026 4:03:16 PM



1 FLOOR PLAN - LEVEL 01 - TELECOM
3/16" = 1'-0"

GENERAL NOTES

A WIRELESS ACCESS POINTS IN AREAS WITH EXPOSED CEILINGS SHALL BE PENDANT-MOUNTED AT THE SAME LEVEL AS LIGHT FIXTURES IN THE SAME AREA.

B ALL INTERIOR WIRELESS ACCESS POINTS TO BE CEILING-MOUNTED OR PENDANT-MOUNTED. DO NOT WALL-MOUNT WIRELESS ACCESS POINTS UNLESS CIT PROVIDES SPECIFIC WRITTEN DIRECTION.

C CONDUIT PATHWAYS ARE DIAGRAMMATIC. PROVIDE SUFFICIENT PATHWAYS FOR ALL CABLES SHOWN +25% CAPACITY. AT MINIMUM PROVIDE ALL PATHWAYS AND PULL BOXES AS SHOWN. ALL DATA DROPS TO ROUTE TO PULL BOXES, CABLE TRAYS, OR BACK TO TELECOM ROOM. ROUTE CONDUITS OUT OF THE WAY OF OTHER TRADES WORK. ALL PULL BOXES TO BE LABELED AS "DATA" ON COVER. ALL PULL BOXES TO BE ACCESSIBLE.

DRAWING NOTES:

1 REFER TO SITE PLAN ON SHEET E-010 FOR 2" PATHWAY ON SITE ACROSS PARKING LOT.

2 DATA DROP FOR EXISTING EMERGENCY BLUE PHONE LIGHT 404. PROVIDE (3) CAT 6A CABLES. PROVIDE SURGE DITEK SURGE MODULES AFTER CABLES ENTER BUILDING. PROVIDE JUNCTION BOX FOR MODULES. PROVIDE GROUND WIRE TO BUILDING STEEL.

4 REFEED TELECOM CABLES TO EXISTING FACP FROM MDF AS REQUIRED BY DEMOLITION IN OTHER AREAS.

5 PROVIDE (1) CAT 6A DROP TO 4-11/16" SQUARE BOX WITH BLANK COVER ADJACENT TO ACCESS CONTROL PANEL FOR ACCESS CONTROL CONNECTIONS.

6 PROVIDE (1) CAT 6A DROP TO 4-11/16" SQUARE BOX WITH BLANK COVER ADJACENT TO BMS CONTROL PANEL FOR BMS CONNECTION. COORDINATE PATHWAY CONNECTION TO BMS CABINET. FINAL PATCH CORD BY CONTROLS CONTRACTOR.

7 PROVIDE (3) CAT 6A DROPS TO A NEMA 1 12" X 12" X 4" BOX WITH COVER ADJACENT TO ELEVATOR CONTROL PANEL. COORDINATE LOCATION WITH ELEVATOR CONTRACTOR. PROVIDE 1" CONDUIT FROM BOX TO ELEVATOR CONTROLLER. PROVIDE PERMANENT LABEL "CIT DEMARCATION" ON COVER.

8 PROVIDE (1) CAT 6A DROPS SINGLE-GANG BACK BOX FOR EMERGENCY PHONE. PROVIDE PHONE, VIKING E-1600-45. COORDINATE LOCATION WITH ELEVATOR CONTROLS.

9 PROVIDE PATHWAY TO DATA RACEWAY PORTION OF DUAL-CHANNEL RACEWAY FROM CEILING SPACE. PROVIDE BLANK PLATE AND DEVICE-MOUNTING BRACKET FOR FUTURE DEVICE.

10 CAMERA TO BE CEILING-MOUNTED. COORDINATE FINAL LOCATION WITH ACCESS CONTROL AND VIDEO SECURITY GROUP.

11 REFER TO ELEVATOR CONTROL ROOM 10071 FOR DATA CONNECTIONS ASSOCIATED WITH ELEVATOR COMPONENTS.

12 PROVIDE (1) CAT 6A DROP TO 4-11/16" SQUARE BOX WITH BLANK COVER ADJACENT TO UTILITY FLOW METER. COORDINATE PATHWAY CONNECTION TO FLOW METER. PROVIDE PATCH CORD.

13 EXTEND 2" PATHWAY TO TELECOM ROOM.

14 PROVIDE 18" X 18" X 6" PULL BOX FOR TELECOM PATHWAY WHERE CONDUIT EMERGES THROUGH SLAB. COORDINATE LOCATION WITH PIPING ALONG THIS WALL.

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AM JOB NO.
24213

REV. NO.	REV. DATE	REV. DESCRIPTION
1	2026.10.06	ADDENDUM 1
2	2026.10.12	ADDENDUM 2

PROJECT STATUS:
BID DOCUMENTS

DATE ISSUED:
2026.09.14

FLOOR PLAN - LEVEL 01 - TELECOM

TRUE NORTH
PROJECT NORTH

TE200R1

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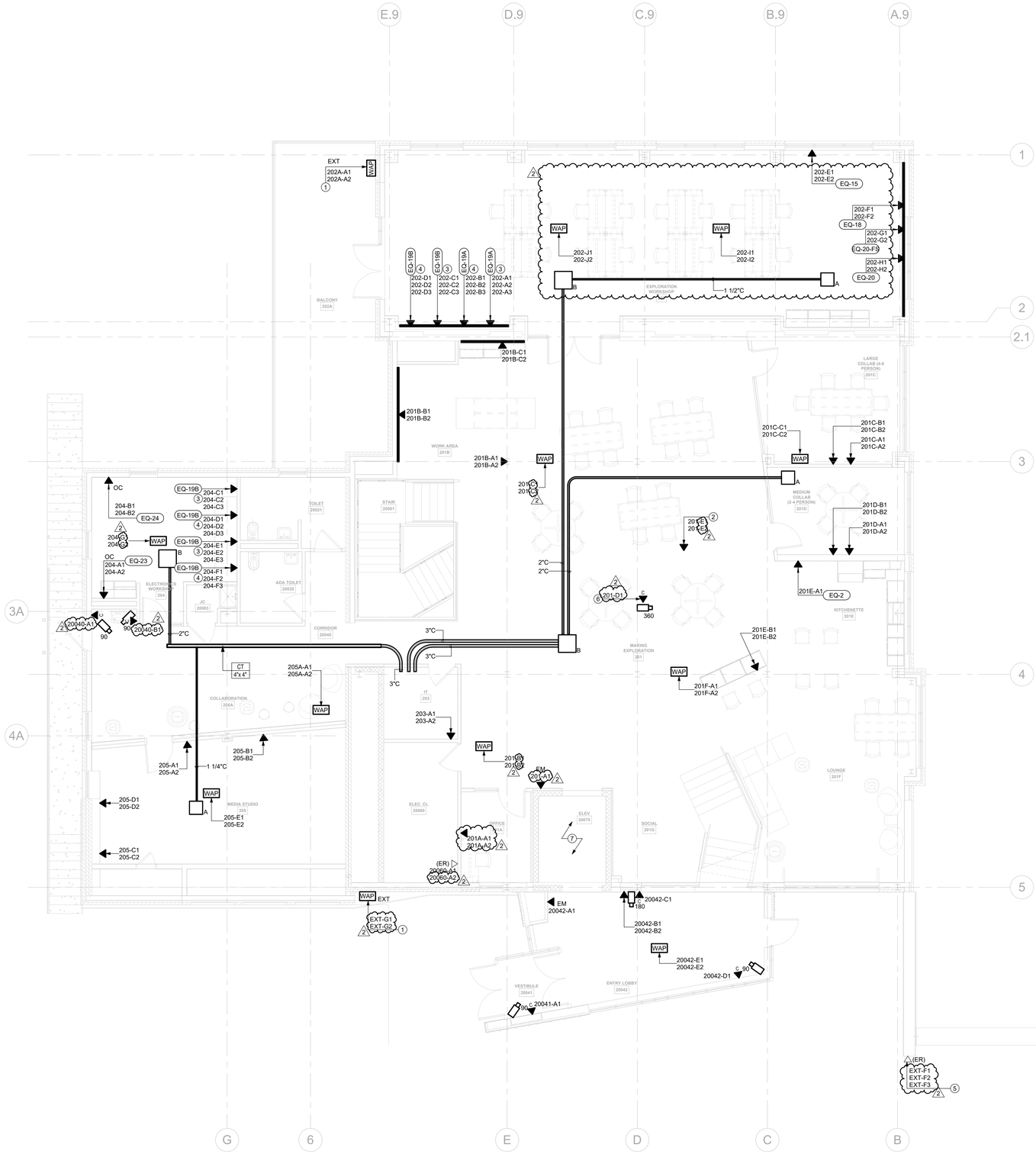
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1 FLOOR PLAN - LEVEL 02 - TELECOM
3/16" = 1'-0"

GENERAL NOTES

A WIRELESS ACCESS POINTS IN AREAS WITH EXPOSED CEILINGS SHALL BE PENDANT-MOUNTED AT THE SAME LEVEL AS LIGHT FIXTURES IN THE SAME AREA.

B ALL INTERIOR WIRELESS ACCESS POINTS TO BE CEILING-MOUNTED OR PENDANT-MOUNTED. DO NOT WALL-MOUNT WIRELESS ACCESS POINTS UNLESS CIT PROVIDES SPECIFIC WRITTEN DIRECTION.

C CONDUIT PATHWAYS ARE DIAGRAMMATIC. PROVIDE SUFFICIENT PATHWAYS FOR ALL CABLES SHOWN +25% CAPACITY. AT MINIMUM PROVIDE ALL PATHWAYS AND PULL BOXES AS SHOWN. ALL DATA DROPS TO ROUTE TO PULL BOXES, CABLE TRAYS, OR BACK TO TELECOM ROOM. ROUTE CONDUITS OUT OF THE WAY OF OTHER TRADES WORK. ALL PULL BOXES TO BE LABELED AS "DATA" ON COVER. ALL PULL BOXES TO BE ACCESSIBLE.

(X) DRAWING NOTES:

1 EXTERIOR WALL-MOUNTED WIRELESS ACCESS POINTS FOR EXTERIOR PLAZA SPACES.

2 DATA DROP SERVES CEILING-MOUNTED AV DEVICES. REFER TO AV DRAWINGS FOR MORE INFORMATION.

3 PROVIDE THREE-PORT DATA DROP IN UPPER WIREMOLD SECTION.

4 PROVIDE THREE-PORT DATA DROP IN LOWER WIREMOLD SECTION.

5 DATA DROP FOR EXISTING EMERGENCY BLUE PHONE LIGHT 404. PROVIDE (3) CAT 6A CABLES. PROVIDE SURGE DITEK SURGE MODULES AFTER CABLES ENTER BUILDING. PROVIDE JUNCTION BOX FOR MODULES. PROVIDE GROUND WIRE TO BUILDING STEEL.

6 CAMERA TO BE CEILING-MOUNTED. COORDINATE FINAL LOCATION WITH ACCESS CONTROL AND VIDEO SECURITY GROUP.

7 REFER TO ELEVATOR CONTROL ROOM 10071 ON DRAWING TE200 FOR DATA CONNECTIONS ASSOCIATED WITH ELEVATOR COMPONENTS.

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AM JOB NO.
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REV. NO.	REV. DATE	REV. DESCRIPTION
1	2026.10.06	ADDENDUM 1
2	2026.10.12	ADDENDUM 2

PROJECT STATUS:
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DATE ISSUED:
2026.09.14

FLOOR PLAN - LEVEL 02 - TELECOM

TE201R1

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ABBREVIATIONS

ABBREV.	DESCRIPTION
A	AMPERE
AAD	AUTOMATIC AIR DAMPER
AIC	AMPERE INTERRUPTING CURRENT
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AFI	ARC FAULT INTERRUPTING
AII	AIRBORNE INFECTION ISOLATION
AL	ALUMINUM
ARS	ARC ENERGY REDUCTION SWITCH
ASD	ADJUSTABLE SPEED DRIVE
ATS	AUTOMATIC TRANSFER SWITCH
AUTO	AUTOMATIC
AV	AUDIOVISUAL
AWG	AMERICAN WIRE GAUGE
BSMT	BASEMENT
C	CONDUIT
CATV	CABLE TELEVISION
CB	CIRCUIT BREAKER
CCTV	CLOSED-CIRCUIT TELEVISION
CLG	CEILING
CM	CONSTRUCTION MANAGER
CONT	CONTACTOR
CONTR	CONTRACTOR
CPT	CONTROL POWER TRANSFORMER
CT	CABLE TRAY
CU	COPPER
DN	DOWN
DP	DISTRIBUTION PANEL
EA	EACH
EC	ELECTRICAL CONTRACTOR
EG	EQUIPMENT GROUND
ELEC	ELECTRIC
EM	EMERGENCY
EMT	ELECTRICAL METALLIC TUBING
EWC	ELECTRIC WATER COOLER
EX	EXISTING
EXP	EXPLOSION PROOF
FA	FIRE ALARM
FACP	FIRE ALARM CONTROL PANEL
FATP	FIRE ALARM TRANSPONDER PANEL
FBO	FURNISHED BY OTHERS
GC	GENERAL CONTRACTOR
GEN	GENERATOR
GFI	GROUND FAULT CIRCUIT INTERRUPTOR
GND	GROUND
GRS	GALVANIZED RIGID STEEL
HH	HAND HOLE
HOA	HAND-OFF-AUTO
HP	HORSEPOWER
HVAC	HEATING, VENTILATING, AND AIR CONDITIONING
JB	JUNCTION BOX
KV	KILOVOLT
KVA	KILOVOLT-AMPERE
KW	KILOWATT
KWH	KILOWATT-HOUR
LED	LIGHT EMITTING DIODE
LTG	LIGHTING
MC	METAL CLAD
MCB	MAIN CIRCUIT BREAKER
MCC	MOTOR CONTROL CENTER
MFR	MULTI-FUNCTION RELAY
MH	MAN HOLE
MI	MINERAL INSULATED CABLE
MLO	MAIN LUG ONLY
MTS	MANUAL TRANSFER SWITCH
MW	MICROWAVE
NA	NOT APPLICABLE
NC	NORMALLY CLOSED
NEC	NATIONAL ELECTRIC CODE
NIC	NOT IN CONTRACT
NL	NIGHT LIGHT
NM	NON-METALLIC SHEATHED CABLE
NMT	NON-METALLIC TUBING
NO	NORMALLY OPEN
NTS	NOT TO SCALE
OC	MOUNTED OVER COUNTER
OH	OVERHEAD
P	POLE
PB	PULL BOX
PC	PLUMBING CONTRACTOR OR PHOTOCELL
PH	PHASE
PG	POLYCARBONATE GUARD
PNL	PANEL
PT	POTENTIAL TRANFORMER
PTZ	PAN TILT ZOOM
PV	PHOTOVOLTAIC
REFR	REFRIGERATOR
RMC	RIGID METAL CONDUIT
SP	SPACE
SPD	SURGE PROTECTION DEVICE
SPEC	SPECIFICATION
STP	SHIELDED TWISTED PAIR
SW	SWITCH
SWBD	SWITCHBOARD
THD	TOTAL HARMONIC DISTORTION
TV	TELEVISION
TYP	TYPICAL
UC	MOUNTED UNDER COUNTER HEIGHT OR UNDERGROUND COMMUNICATION
UE	UNDERGROUND ELECTRICAL
UG	UNDERGROUND
UL	UNDERWRITER'S LABORATORY
UNO	UNLESS NOTED OTHERWISE
UON	UNLESS OTHERWISE NOTED
UPS	UNINTERRUPTIBLE POWER SUPPLY
UTP	UNSHIELDED TWISTED PAIR
V	VOLT
W	WIRE OR WATT
WG	WIRE GUARD
WP	WEATHERPROOF
XP	EXPLOSION PROOF
VP	VANDAL-PROOF POLYCARBONATE GUARD

ACCESS CONTROL

SYMBOL	DESCRIPTION
CR	CARD READER
DC	DOOR CONTACT
J AC	ACCESS CONTROL JUNCTION BOX
	ACCESS CONTROL PANEL

SECURITY

SYMBOL	DESCRIPTION
90	SECURITY CAMERA - INTERIOR. FIXED DOME - AXIS P3275-LVE
180	SECURITY CAMERA - INTERIOR. 180 FOV AXIS P3827-PVE
360	SECURITY CAMERA - INTERIOR. 360 FOV AXIS P3737-PLE
180 WP	SECURITY CAMERA - EXTERIOR. PROVIDE (1) CAT 6A CABLE BACK TO TELECOM ROOM. PROVIDE AXIS-SPECIFIED SURFACE-MOUNTED CONDUIT BACK BOX. COORDINATE WITH ARCHITECTURAL ELEMENTS. PROVIDE DUCT SEAL ON EITHER SIDE OF CONDUIT AFTER CABLE IS PULLED. 180 FOV AXIS P3827-PVE

1

GENERAL NOTES: (APPLY TO ALL DRAWINGS):

A. THESE DRAWINGS MUST BE USED IN CONJUCTION WITH THE SECURITY SYSTEM AND ELECTRICAL SPECIFICATIONS.

B. FURNISH AND INSTALL FIRE STOP TO ALL SLAB AND WALL PENETRATIONS PROVIDED FOR THE INSTALLATION OF SECURITY CABLE AS REQUIRED TO MAINTAIN FIRE RATING OF SLAB OR WALL.

C. NOTIFY THE ENGINEER OF ANY DISCREPACIES BETWEEN THESE CONTRACT DRAWINGS AND FIELD CONDITIONS.

D. INSTALL ALL COMPONENTS AS PER MANUFACTURER'S RECOMMENDATION AND PER ALL APPLICABLE CODES.

E. INDICATE ALL MOUNTING REQUIREMENTS IN THE LEGEND UNLESS OTHERWISE NOTED.

F. VERIFY AND COORDINATE THE EXACT MOUNTING LOCATION OF ALL DEVICES PRIOR TO INSTALLATION.

G. THE MOUNTING HEIGHTS ARE TO THE CENTERLINE OF THE DEVICE UNLESS OTHERWISE NOTED.

H. RESTORE CEILINGS AND WALLS AND ANY OTHER SURFACES AFFECTED BY THIS WORK WITH LIKE MATERIALS TO MATCH EXISTING CONSTRUCTION UPON COMPLETION OF THE SECURITY WORK.

I. ALL NOTES AND SYMBOLS ON SHEET E-000 SHALL APPLY TO THE TY-SERIES DRAWINGS.

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1	2026.10.12	ADDENDUM 2

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GENERAL NOTES & SYMBOLS LIST - SECURITY

YE000R

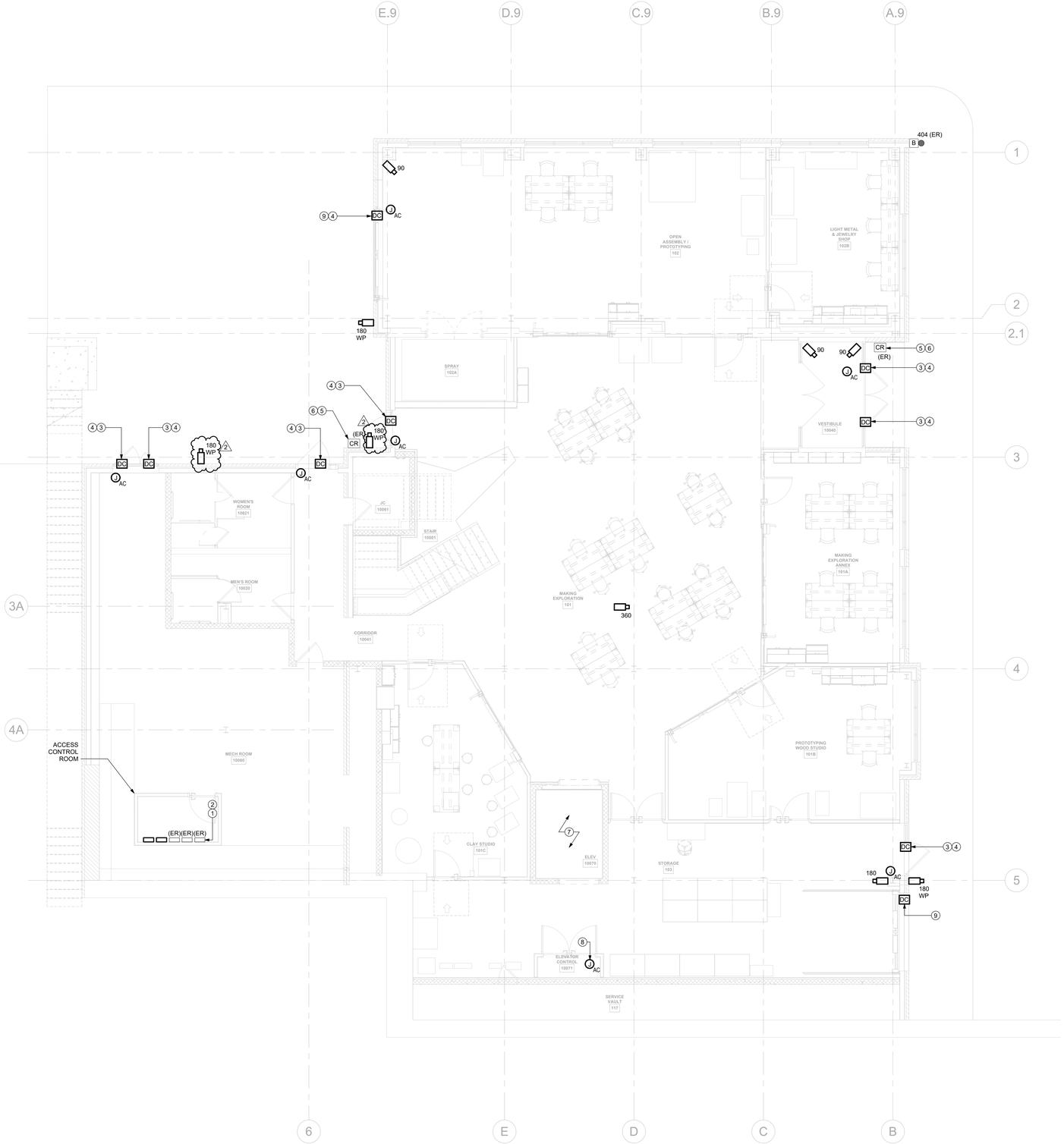
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1 FLOOR PLAN - LEVEL 01 - SECURITY
3/16" = 1'-0"

GENERAL NOTES

A ALL ACCESS CONTROLS TO BE WIRED BACK TO HEAD END EQUIPMENT IN ACCESS CONTROL ROOM 10062. JUNCTION BOXES ABOVE DOORS TO PROVIDE INTERFACE BETWEEN DOOR HARDWARE TO ACCESS CONTROL CABLING.

B UNLESS OTHERWISE NOTED, ALL CAMERAS TO BE INSTALLED AT 84"AFF ON WALL. COORDINATE LOCATIONS AND MOUNTING WITH ARCHITECT.

C ALL CABLING FOR SECURITY EQUIPMENT, INCLUDING CAMERAS AND ACCESS CONTROL, TO BE IN RACEWAYS.

ⓧ DRAWING NOTES:

1 REINSTALL (6) HEAD-END ACCESS CONTROL PANELS. REWORK AND EXTEND CIRCUITRY AS NECESSARY FOR A COMPLETE AND FUNCTIONAL SYSTEM.

2 REFER TO TELECOM DRAWING TE200 FOR DATA DROP ADDED IN THE ACCESS CONTROL ROOM.

3 DOOR CONTACT INSTALLED IN EXSITING DOOR CONTACT LOCATION. REWORK WIRING AS NEEDED FOR A COMPLETE INSTALLATION.

4 CONTRACTOR TO PROVIDE DEDICATED INPUT AND OUTPUT BOARDS. DOORS WITH ONLY DOOR CONTACTS SHALL BE CONNECTED AND PROGRAMMED AS INDIVIDUAL DOORS.

5 CARD READER LOCATION AND DEVICE TO BE REUSED. PROVIDE NEW WIRING BACK TO ACCESS CONTROL ROOM.

6 PROVIDE GASKET BETWEEN CARD READER AND BUILDING EXTERIOR.

7 REFER TO ELEVATOR CONTROL ROOM 10071 ON DRAWING TE200 FOR DATA CONNECTIONS ASSOCIATED WITH ELEVATOR COMPONENTS, INCLUDING TWO-WAY COMMUNICATION AND SECURITY CAMERA.

8 PROVIDE PROVISIONS FOR ELEVATOR CARD READER ADJACENT TO ELEVATOR CONTROLLER.

9 PROVIDE DEDICATED REED SWITCH FOR OVERHEAD DOOR MONITORING. EDWARDS SIGNALING #151-6Z-06K OR SIMILAR. COORDINATE DOOR CONTACT WITH OVERHEAD DOOR BY OTHERS. PROVIDE ALTERNATIVE OR ALL ACCESSORIES REQUIRED FOR A COMPLETE AND FUNCTIONAL INSTALLATION. INSTALL DOOR CONTACT SUCH THAT DOOR OPERATION IS NOT AFFECTED FOR FULL RANGE OF MOTION. 2

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2	2026.10.12	ADDENDUM 2

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FLOOR PLAN - LEVEL 01 - SECURITY

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PROJECT NORTH

YE200R1

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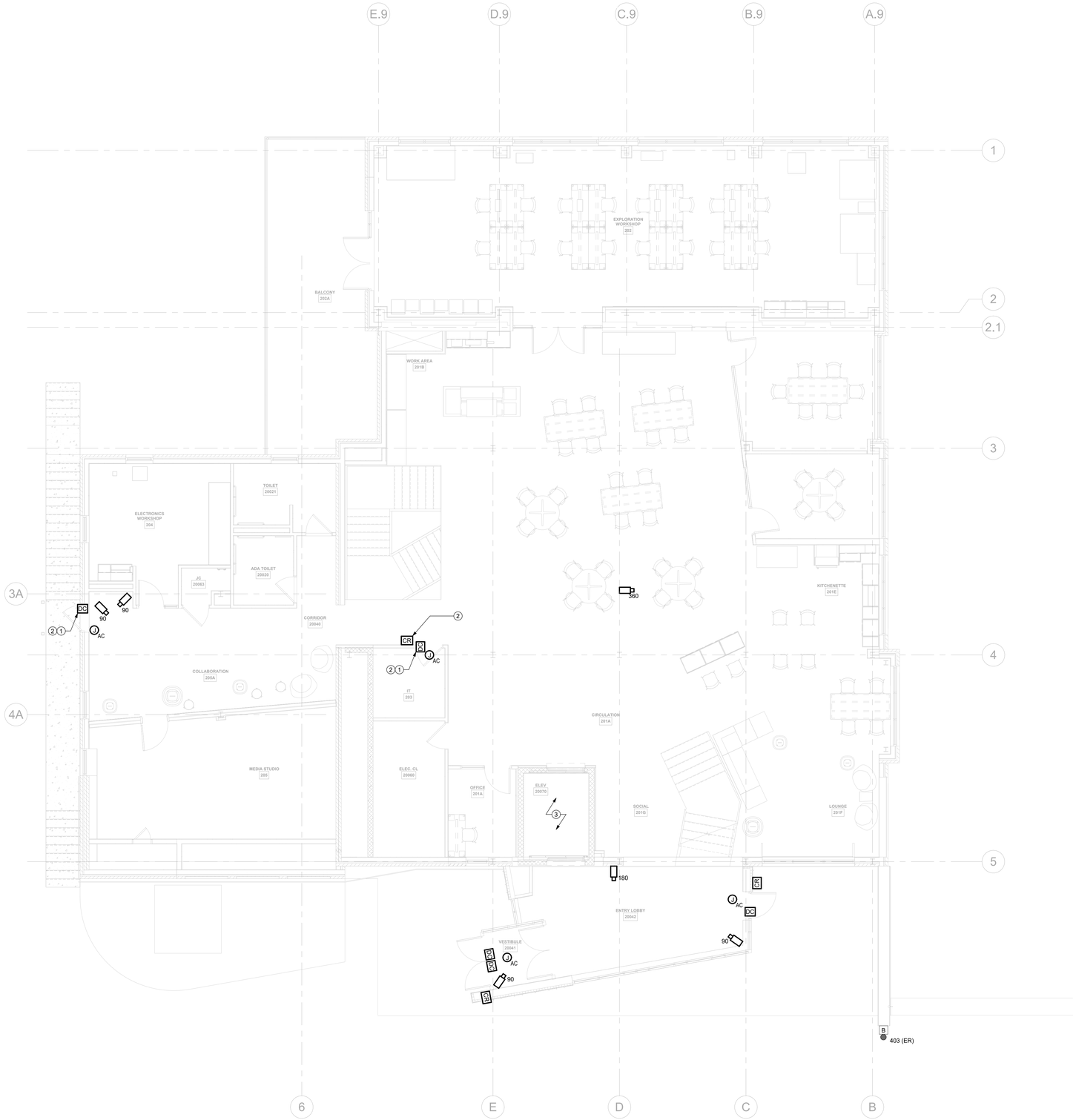
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1 FLOOR PLAN - LEVEL 02 - SECURITY
3/16" = 1'-0"

GENERAL NOTES

A ALL ACCESS CONTROLS TO BE WIRED BACK TO HEAD END EQUIPMENT IN ACCESS CONTROL ROOM 10062. JUNCTION BOXES ABOVE DOORS TO PROVIDE INTERFACE BETWEEN DOOR HARDWARE TO ACCESS CONTROL CABLING.

B UNLESS OTHERWISE NOTED, ALL CAMERAS TO BE INSTALLED AT 84"AFF ON WALL. COORDINATE LOCATIONS AND MOUNTING WITH ARCHITECT.

C ALL CABLING FOR SECURITY EQUIPMENT, INCLUDING CAMERAS AND ACCESS CONTROL, TO BE IN RACEWAYS.

(X) DRAWING NOTES:

1 DOOR CONTACT INSTALLED IN EXSITING DOOR CONTACT LOCATION. REWORK WIRING AS NEEDED FOR A COMPLETE INSTALLATION.

2 CONTRACTOR TO PROVIDE DEDICATED INPUT AND OUTPUT BOARDS. DOORS WITH ONLY DOOR CONTACTS SHALL BE CONNECTED AND PROGRAMMED AS INDIVIDUAL DOORS.

3 REFER TO ELEVATOR CONTROL ROOM 10071 ON DRAWING TE200 FOR DATA CONNECTIONS ASSOCIATED WITH ELEVATOR COMPONENTS, INCLUDING TWO-WAY COMMUNICATION AND SECURITY CAMERA.

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FLOOR PLAN - LEVEL 02 - SECURITY

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RFI Form

RFI/ Response Index	Page/ Dwg./Spec./Rep. Number	Section/ Paragraph/Topic	RFI	Design Team Response
1			The response form does not have a place to put unit prices, please provide a location for unit prices.	The Unit Pricing sheet is on the last page of the Instruction to Bidders, page INS-8.
2	C400		The trench drain detail on 11/C400 does not show any concrete or stone to support the ndrain body. Please provide a detail that shows the desired installation method	See Addendum No. 1, Item 8. Refer to detail 11.
3	AD101		Note DE.2 says to refer to elevator drawings for removal of elevator. Please provide existing elevator drawings.	See Addendum No. 1, Items 9 and 10. Elevator demolition note has been updated to reflect complete removal of the existing elevator and associated elements. Refer to demo key note DE.2 for elevator removal.
4	A621		WD-1 is not included on the Finish Material Legend please provide clarification	WD-1 is used to generally refer to components constructed of WD-1A, WD-1B, and/or WD-1C in combination, rather than a unique material. Refer to millwork and stair details on A403, A404, A501, A502, and A503 for more information on construction of individual components.
5	A102		What is the size of the acoustically rated access panel in room 205 Media Stuidio	See Addendum No. 1, Item 12. Access panel in room 205 Media Studio has been deleted.
6	A621		Please confirm that there are no Stainless Steel Corner Guards(Note 4 on Finish Schedule) required on Level 02	No corner guards are required on Level 02. Provide corner guards only in rooms where note 4 is indicated on finish schedule.
7	A121		Dteail E4 on A121 is shown in the Mechaincal Room 10060. Please confirm that this is the only place where a spring isolated ceiling is is required.	The spring isolated ceiling system detailed E4 on A121 is to be applied to the entire Mechanical Room 10060 only.
8	Section 07 4623		Please provide a spec for the wood plank ceiling , and wood slat soffit	See Addendum No. 1, Item 5. This new Section covers the material to be used for the wood plank ceiling and wood slat soffit.
9			The exterior wall sheathing is specified to be 7/16"OSB Laminated to Insulation Board, what is the insulation thickness?	See Addendum No. 1, Items 3 and 4. Sheathing has been changed to 3/4" plywood laminated to insulation board. Insulation thickness to be 2-1/2".
10			Keyed Note E2 on drawings A101 and A102 say that the toilet accessories are owner furnished, yet the specification calls out toilet accessories to be provided under contract. Please clarify.	Refer to specification section 10 2800 for contractor furnished and Owner furnished toilet accessories.
11			There is an exisiting canopy @ Dr 10041-1 that is not indicated to be removed. However, at the pre-bide walk through it was mentioned that the canopy is shown to be removed. Please advise where it is shown to be removed.	See Addendum No. 1, Items 9 and 10. The demo drawings have been updated to better capture the demolition and removal of the noted canopy. Refer to note DR.6.
12			Please provide an attachment method for the solid surface wall panels in the Clay Studio Rm 101C	Refer to Specification Section 10 2600. Solid surface wall panels are to be adhered with manufactuer recommended compatable adhesive.

RFI/ Response Index	Page/ Dwg./Spec./Rep. Number	Section/ Paragraph/Topic	RFI	Design Team Response
13	L501		Details A3, A$/L501 have a note to refer to MEP Drawings and specifications for the insluation under the concrete sidewalk where the snow melt system is shown. the MEP drawings and specs only refer to the tubing, not the insulation. What is the insulation?	See Addendum No 2, item 25. Refer to A3 and A4 on L501R1 and C4/S311.
14	L201		There is a note on L201 to Upgrade the western staier handrail. Please provide a detail of the upgrades required by code and the extents of the handrail modifications	See Addendum No. 2, item 19. Refer to B4/L502R1 for detail.
15	S301		What is the thickness of the new elevator pit slab? See D1/S301	See Addendum No. 2, item 24. Refer to elevator pit detail D1/S301R for elevator pit slab thickness.
16	A402	MTL-3	1. Please provide a spec for MTL 3 AtAS Composite Aluminum Panel detail E1/A402 2. MTL-3 please provide basis of design for the interior MTL-3 interior ATAS Panel? Baisis of design can not be found in the project documents. Spec. 07 4213 calls out Dutch Seam Wall Panel from ATAS. Spec. 07 4213 does not call out Basis of Design for MTL-3 panel. 3. Please confirm basis of design for MTL-3 is ATAS Sterracore panel? 4. Please provide basis of design for MTL-3 Cladding callout on detail A3/A411? i am assuming MTL-3 Cladding is ATAS Dutch Seam Wall Panels, Is this correct?	See Addendum No. 2, items 8 and 34. Revisions made to section 07 4213, and Drawing A211 has been issued to provide additional clarification.
17	A201		1. Please provide a spec for the Elevator Shaft Metal Panel system A1, A4, C1/ A201. 2. Can basis of design be provided for the Metal Panel System at elevator shaft?	See Addendum No. 2, items 8 and 34. Specification section 07 4213 has been revised and Drawing A211 has been issued to provide additional clarification.
18			Please provide a base plate connection detail for the new HSS5x0.312 Columns at the Lobby addition	See Addendum No. 2, item 22. Refer to plan A1/S102R and framing section A3/S311R for connection detail.
19	S401		1. Please provide a connection detain for the new HSS6x6x3/8 Post up columns shown in dedtail A1/S401 2. Please provide a detail for the roof penetrations that	See Addendum No. 2, item 27. Refer to roof framing section C6/S321R for connection detail.
20	V001		Drawing V001Elevator Schedule has OTIS Gen 3 Edge as a propriety product. However, the elevator spec lists Kone as an approved manufacturer. Pleae clarify	The Otis Gen 3 Edge is the basis of design product. However, any of the manufacturers listed in the specifications who have an equal product that can meet requirements and the indicated hoistway dimensions are welcome to submit a proposal. It is not the intent of the Contract Documents to require the use of the Otis product.
21			Please provide a detail for the shade sail anchor in both existing wall and new wall.	See Addendum No. 2, item 27. Refer to enlarged framing plan A1/S401R for anchor requirements.
22			Can you please provide a panel signage schedule, or quantities for each differnt type of panel sign. Quantities are given for sign type 9 (10Ea) and exterior no smoking sign(3Ea),	Drawings A701 and A702 note locations of most panel signage types and are to be leveraged for quantification. See Addendum No. 2, Item 12 for modificaions to specification section 10 1423 clarifying quantities of panel signage not shown on drawings.
23			Is the use of existing control components permitted, or is it the intent to have all new controls?	The intent is to have all new controls, unless prior written approval is provided by the engineer.

RFI/ Response Index	Page/ Dwg./Spec./Rep. Number	Section/ Paragraph/Topic	RFI	Design Team Response
24			1. The equipment matrix on A705 shows the spray booth EQ27==-27 to be prodvided and installed by the contractor, please provide a specification 2. Drawing A705 identifies the new paint booth as contractor furnished & contractor installed. Please provide a complete specification for this item.	See Addendum No. 2, item 13. Specification section 13 41 23.33 Spray Painting Booths has been added.
25			In the general conditions section of the specifications section 10.08 A states the owner shall provide builders risk insurance. At the walkthrough I believe it was mentioned that GC's were to provide builders risk. Please advise which it should be.	The Owner will provide Builders Risk as noted.
26			Please confirm the number of vehicle charging stations the L drawings show 1, but the E drawings show 2?	See addendum No. 2, item 17. The vehicle charging stations have been deleted.
27			The L series drawings show 6" diameter steel pipe bollards, the spec 32 33 00 Site Furnishings has the bollards specified at 4" diameter please clarify.	See Addendum No. 2, item 18. Refer to L501R, Detail C2 and C3 for revised bollard drawings. Drawings adjusted to reflect 4" diameter steel pipe bollards.
28			1. Would it be considered to, at a minimum, extend the RFI deadline, and preferably the bid due date by at least 1 week? 2. We respectfully request a one-week bid extension to the bid due date. We have been asked by numerous subcontractors for an extension. Additional time is needed to fully evaluate the shoring requirements and address the project's additional complexities. 3. We respectfully request an extension to the RFI Deadline. Additional time is needed to fully address the project's additional complexities.	Due to schedule restraints, the Bid Opening must remain October 20th, 2026 at 2:00PM.
29			Where the M-drawing control schematics show the BMS system monitoring occupancy sensors, please verify if the intent is to use auxiliary contacts provided by the lighting control system. The E-drawings do not have a lighting control detail showing the occupancy sensors, so it is unclear if the division 26 contractor is required to provide these occupancy sensors with auxiliary contacts.	For BMS control zones occupancy sensors to be provided by controls contractor. For all other lighting controls areas occupancy sensors or digital lighting controls to provide auxiliary contacts or other relay devices required to provide occupancy information to BMS system. Per specificaitons all analog occupancy sensors to have auxiliary contacts.
30			Please confirm who supplies the EV Charging Station is it the CFCI or OFCI?	See Addendum No. 2, item 17. The vehicle charging stations have been deleted. Only pathways for power and data to be provided at this time under this project.
31			Please be advised that the EV charging station specified requires an annual fees to operate. $375/yr per port for cloud and network plan, and $150/year per station for Assure Warranty & Maintenance. In addition, Charge Point will collect and process all transactions and deposit 90% of the revenue back to the owner. Are you sure the specified charging station is the correct one?	See Addendum No. 2, item 17. The vehicle charging stations have been deleted.
32	L501		C5 / L501: Please provide further detailing for the concrete seat wall with integrated seating. Additional detailing is needed to accurately price this.	Concrete seat wall with integrated seating is a manufactured product. Product details are included in L501 and contractor is to mount according to manufacturer recommendations.

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33	01 35 29		Please confirm lead-based paint removal needs to occur at all new steel connection points to existing steel.	Refer to hazardous materials survey and general requirements in specificaiotn for lead handling procedures
34			Please advise if there are specific MBE/WBE/SDVOB goal percentages.	The project has no specific goals. Contractors are expected to use their best forth effort as stated in Article 16 of the General Conditions.
35	S102		Drawing S102, Note #6: Please further clarify this note. Isn't there an existing 6" structural slab beneath the existing 4-1/2" composite slab? Please further clarify intent and expectation.	See Addendum No. 2, item 22. Refer to framing plans A1/S102R and B5/S102R for clarification of demolition notes.
36			Spec 090561 calls for moisture & alkalinity testing. Please confirm this testing will be conducted via third party and by Owner.	This testing is the responsibility of the Contractor. Provide test results to Architect and Owner.
37			Spec 090561: Please confirm the patching is limited to minor holes, minor cracking.	The assumption is that there will be some degree of patching required, but exact extent of patching won't be known until demolition is complete. Four areas at various locations in the bulilding had the carpet removed - these examples of slab conditions were shown at pre-bid walk-through to help gauge existing conditions.
38	09 0561		Spec 090561: Please confirm moisture mitigation will be handled via change order as we won't understand what's required until testing has been performed.	The moisture and alkalinity testing will inform if mitigation is required. In the event that mitigation is needed, it will be handled via change order.
39	A703		Drawing A703: Please confirm all equipment items on A703 are Owner furnished and Owner installed.	Refer to 'Procurement' column on A705 for clarification as to whom is responsible for furnishing and installing each item of equipment.
40	11 0770		Spec 110770 Pipe Grid System: Can this grid system be as simple as Unistrut framing designed for 10lb per sqft loading capacity? Can basis of design be provided?	Unistrut framing is not an acceptable substitution for the pipe grid system. Pipe grid system is to be shop or field fabricated with the components noted in the specification.
41			Can you confirm whether the lumber supplier is required to have FSC Chain of Custody certification for this project, or is FSC-certified material from a certified source sufficient?	The vendor is required have a valid Chain of Custody CoC certificate, and should provide their certificate number on the invoices for verification.
42			1. FCS wood requirements: Please confirm all wood installed for this project needs to be FSC certified? For example specs. 061000, 061513, 064100, 074623 all need to be FSC certified? 2. Detail B4/A404: Does the 1-1/2" Dia. Wood handrail need to be FSC certified?	Yes, wood products need to be FSC certified.
43			Please provide loading KIP Pounds for Temp Shoring at B5 / S102. Please include for all four locations.	Loading for temporary shoring is delegated design and shall be determined by the contractor's shoring designer for review by the engineer of record. Original construction drawings shall be provided as a reference to the successful bidder.
44			Please allow for a second prebid walkthrough?	Due to the time restraint of the project schedule, a second walkthrough cannot be scheduled.
45			Can further detail be provided for securing MTL-3 to sheathing?	See Adendum No. 2, item 34. Drawing A211 has been issued to provide additional clarification.

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46			Can more details be provided in attaching unknown Metal Panel System to CMU block of Elevator shaft?	See Addendum No. 2, item 34. Drawing A211 has been issued to provide additional clarification.
47			Please identify roof demolition for new elevator shaft on demo drawings	See Addendum No. 2, item 28. Demolition note DF.5 has been updated to identify roof demolition.
48			Please confirm location of MTL-1 vs Millwork casework WD-1. Trying to confirm i am correct on the 'Sim' callouts. Please confirm MTL-1 casework is needed in rooms - RM 102B, RM101,RM 101A, RM 101B Please confirm WD-1 casework is needed in rooms - RM 101C, RM 202, RM 204,	Refer to floor plans and elevations in drawings. Casework to be MTL-1 in rooms 101A, 101B, 101C, 102, 102B. Casework to be WD-1 in rooms 201, 201B, 201E, 202, 204.
49			Please provide a detail of how acoustic panels will be attached to the deck. Will furring be required? Adhesive install?	Refer to specification 09 5100, Acoustical Panels type APC-3. Panels are mechanically attached to hat channel furring.
50			L201 shows colored concrete accents at the entry addition slab. The Layout and Materials Legend says to reference detail A1/L501. The notes on this detail do not specify a color. Specification section 033000 does not have any information on color. Can you please confirm the manufacturer/intended coloring to be used in these applications?	Color pigment information for the colored concrete is specified in the Concrete Pavement Specification 321300 Part 2 Section 2.06B, 'Color Pigment'. The specific pigment, manufacturer,and curing information is included in this specification language.
51			Please define the responsibility matrix between GC scope of work and local utility as it pertains to the transformer relocation	See Addendum No. 2, item 53. Refer to electrical site drawing E011R for expanded description of contractor and university (utility) responsibilities.
52			1. For items labeled as AVC in the responsibility matrix on T001, is this work to be excluded from the GC proposal and handled by Cornell? 2. Should the projectors be included in the GC bid proposal, or are those to be by others? If by GC, please confirm model numbers of projectors. 3. Please confirm the AV contractor will be hired by Owner.	Items labeled as AVC on T001 are to be excluded from the GC proposal and are to be handled by an separate AV contractor hired by Cornell. GC is expected to coordinate contract work with AV Contractor.
53			Note C.3 is callout in many rooms. Actual layout is not provided/shown. Can a layout be provided in rooms where not shown?	Refer to specification sections 01 2200 and 01 2300. Assumed quantity is 1,000 SF. Actual layout will be provided if alternate is accepted.
54			I do not see any callouts on structural, architectural or landscape plans for the interior slab in new Entry Lobby. Please provide information on slab thickness and makeup.	See Addendum No. 2, item 22. Refer to framing plan A1/S102R and referenced sections for slab construction at entry lobby.
55			Can basis of design be provided for the WD-1 Treads and risers?	WD-1 treads and risers are custom fabricated with Torzo Surfaces Striata per the details and finish material legend.
56			Can basis of design be provided for the handrails? Wood type and such?	Wood handrails should follow the requirements outlined in Section 06 4100 Architectural Wood Casework, 2.02.O Hardwood Lumber.
57			Please provide size of TAC-1, Tac-1 not shown on drawing.	Refer to elevation A4 on A402.
58			Spec 096500: Please clarify the intent of this specification, as much of the information included may not be applicable to this project.	Per the specification, it covers rubber tile flooring for installation in the elevator, resilient base for installation in numerous instances throughout the buiding, and the associated prep and adhesives.

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59			Please identify the Owner furnished Contractor installed lighting shown on the architectural drawings on the electrical drawings.	See Addendum No. 2, item 31. Note on A122R has been revised to be Owner Furnished Owner Installed (OFOI).
60			Please identify all of the new mechanical openings shown on 1 / M103 on the architectural drawings.	See Addendum No. 2, item 32. Additional notes have been added to A131R for clarity.
61	A403		A403. details D1 & D2. Assuming the 1x3 top rail is made out of wood? please confirm.	The 1x3 top rail is metal, part of the painted metal guard rail assembly. Per the notes on the referenced detail the width may vary as required to match the width of the stair stringer.
62			A401 detail B6, all details for the safety stations are wood cabinets and a solid surface countertop. Please confirm that these safety stations are to be wood and solid surface counter even if they are next to a metal cabinet and stainless steel counter as shown in details B3, B4 and B5? - How will the seam between the solid surface counter and stainless steel counter be handled?	Detail B6/A401 is the typical configuration for the safety station millwork with a note referring to room-specific elevations for materials per room. Refer to response to RFI #48 above for clarification as to which materials are in each room. The intention is that all casework and countertops, inclusive of the safety station, be of the same materials within the room (ie. all wood with solid surface counters, or all metal + stainless steel counters)
63			A401 detail A1, assuming the ADA sink will be wood base and solid surface counter as detailed in A1 on A501R? Is the intent to have wood casework and metal casework next to each other? Please confirm	Refer to response to RFI #48 above for clarification as to which materials are in each room. The intention is that all casework and countertops, inclusive of the safety station, be of the same materials within the room (ie. all wood with solid surface counters, or all metal + stainless steel counters)
64			I understand that the RFI deadline has passed; however, Specification 057000 – Decorative Metal is an important component of this project. Both manufacturers currently listed in the specification have declined to bid. Could you please provide a few alternate manufacturers that may be able to meet the project requirements? Alternatively, if you have existing contacts at either of the two specified manufacturers, would you be willing to share their contact information so we can follow up directly? Thank you for your assistance and consideration.	There are numerous acceptable equivalent manufacturers for the perforated metal screen wall system. These include, but are not limited to: Arktura, Hendrick Architectural, and Zahner The local rep for Astyl, the basis-of-design system is: Kevin Scott kscott@casreps.com 585-703-9737 Unfortunately there is not a known alternative for the specified expanded mesh pattern. The local rep for Amico, the basis-of-design product is: Michael R. Harper Michael.Harper@mlharperco.com 585-738-8168
65			AD101R and AD102R, at the areas between the "open office" and "open seating" we are creating (2) 9' openings. Keyed Note DW.3 is called out on these. It states to see structural drawing for lintel details. Only lintels shown on schedule are masonry lintels being created with CMU bond beams. Nothing is called out on the structural plan drawings stating to add a lintel at these openings. Questions: 1. Is this existing wall multi wythe brick masonry? If so, grouting the jambs of brick as shown with (2) #6 bars will not be possible. 2. Should these lintels in fact be steel if this is a multi wythe brick wall? if so, please advise to what should be used.	The existing wall is a multi-wythe masonry wall. Steel lintels are an acceptable alternative at the noted locations, and can be tied into the existing adjacent steel columns. As this question came in beyond the RFI deadline, we're unable to provide an exact size for this lintel via the addendum -- this can be provided to the winning bidder.