Construction Bid – Addendum A

November 5, 2015

Any bid over $500,000 must be DAS Prequalified. The DAS Certification and "Update Bid Statement" MUST BE SUBMITTED with the bid.

A. General Requirements

When submitting your proposal, please indicate acknowledgement of this Addendum under "Addenda" in Exhibit G. Include any price adjustments necessary as a result of new/ revised bid documents under Exhibit G Pricing Schedule.

This project will utilize DocuSign for execution of all Contracts and Contract Supplements. Awarded Contractors will be required to provide email addresses and positions of individuals authorized to witness and execute (inclusive of bonding companies) on behalf of the Contractor. Fully executed copies will be available to print by all parties. Inability to comply with this requirement may render the bid non-responsive.

****Note all bids will be evaluated on best overall value which may include the alternate pricing.***

B. Attachments:

Please review all attachments in their entirety for inclusion into the base bid documents. All attachments can be downloaded from https://whiting-turner.box.com/Project2-constructionbid

1. **Construction Bid RFI's #4-60** (#1-3 are not applicable to this bid) – List of submitted RFI's and responses, dated 11/05/2015
2. **Exhibit O – Milestone Project Schedule**, data date: 10/28/2015, run date: 11/03/2015
3. **Exhibit H – Alternate Update** – Replace Exhibit H with attached revision, dated 11/05/2015
4. **Exhibit I – Unit Prices Update** – Replace Exhibit I with attached revision, dated 11/05/2015
5. **Stantec Addendum #1** – Inclusive of the following documents:
    a. Addendum #1 Drawing & Spec list, dated 11/02/2015
    b. Revised drawings, dated 11/02/2015
    c. Revised specifications, dated 11/02/2015
6. **As-Built Drawings** – 1972 as-built drawings provided for reference only (All contractors are to verify accuracy with actual in-place conditions).

C. Scope Modifications:

All Units of Work

Add the following scope item in Exhibit B:

- Any contractor supporting from the existing open web joist system is required to follow the requirements of Note 3 on Drawing S103 inclusive of all required engineering.

Unit 03A – Concrete

Modify the following scope items in Exhibit B:

6. This work primarily includes but is not limited to the following specification sections as well as related work specified or shown elsewhere in the contract documents and is provided for convenience only:
    - Division 1 – General Conditions/General Requirements
    - Section 024119 – Selective Structure Demolition
    - Section 033000 – Cast-in-place Concrete
    - ***Section 071416 – Cold Fluid-Applied Waterproofing***

12. Provide repair, ***liquid sealer,*** and patching of floor slabs after demolition of existing curbs and housekeeping pads. Curb and housekeeping pad demolition will be by Unit 02A.

Unit 05A – Metals

Add the following scope item in Exhibit B:

- Provide all guardrails at top of mechanical shafts and rooftop fall protection as shown on architectural drawings.

Unit 07A – Roofing

Add the following scope item in Exhibit B:

- Provide a separate mobilization to patch the roof area adjacent to the material hoist immediately after the hoist is removed.

Unit 07B – Firestopping

Add the following scope item in Exhibit B:

- Provide all firestopping at building expansion along Column Line 24.

Unit 09A – Carpentry & Drywall

Modify the following scope item in Exhibit B:

26. All corner guards, ***end-guards,*** crash rails, cushions and fasteners as required.

Add the following scope items in Exhibit B:

- Provide selective removal and reinstallation of existing ceiling systems in the 4th floor lobby and on the 3rd floor as indicated on Drawings A104.3A and A133.3A. Perform all work off-hours and coordinate with Whiting-Turner and other trades as required.
- Furnish and install all automatic door operators. Coordinate work with other trades as required.
- Provide plywood backboards for electrical and data installations per Division 26 and 27 Specifications.

Unit 09C – Painting

Modify the following scope item in Exhibit B:

12. Seal the concrete ~~***floors and***~~ housekeeping pads. Provide approximately ~~***3'***~~ 5' wide floor stripe running the length of the Penthouse using paint compatible with substrate ***(PPG Breakthrough V70-46C or equal)***.

Add the following scope items in Exhibit B:

- Provide painting of plywood backboards for electrical and data installations per Division 26 and 27 Specifications.

Unit 12A – Casework

Modify the following scope item in Exhibit B:

28. For Clarification, the following items are excluded from this scope of work:
    (a) Non-integral ***stainless steel*** sinks, plumbing fixtures, and MEP connections to these items are by others.
    (b) In lieu of mockups, adjacent installations will be used as a baseline of installation quality.
    (c) Fume extraction arms
    (d) ASHRAE 110 testing of fume hoods

Unit 23B – HVAC Sheetmetal & AHU Equipment

Modify the following scope items in Exhibit B:

47. ***Keep ductwork clean and free of surface contaminants. Provide monthly reporting of cleanliness as specified. Provide*** all final duct cleaning prior to substantial completion ***if required***. Patch all access locations in ductwork.

50. The 23B HVAC Sheetmetal Subcontractor will be required to provide cantilever scaffolding platforms for access within existing shafts (one at each level in each shaft) in accordance with the site specific safety program. This scaffolding must be available for use by other subcontractors ***while the 23B Subcontractor is performing work***. ***Scaffolding is to remain at each shaft on each floor until all risers have been installed.*** Include all daily inspections and modifications as necessary for this scope of work.

END OF CONSTRUCTION BID ADDENDUM A

Unit 23D – Testing and Balancing

Modify the following scope item in Exhibit B:

6. This work primarily includes but is not limited to the following specification sections as well as related work specified or shown elsewhere in the contract documents and is provided for convenience only:

- Division 1 – General Conditions/General Requirements
- ***Section 115310 – Laboratory Chemical Fume Hoods***
- Section 230000 – General HVAC Provisions
- Section 230593 – Testing, Adjusting, And Balancing For HVAC

Add the following scope item in Exhibit B:

- Provide ASHRAE 110 testing of fume hoods installed by Unit 12A per specification section 115310.

Unit 26A – Electrical

Modify the following scope items in Exhibit B:

6. This work primarily includes but is not limited to the following specification sections as well as related work specified or shown elsewhere in the contract documents and is provided for convenience only:

- Division 1 – General Conditions/General Requirements
- Section 024119 – Selective Structure Demolition
- Section 078413 – Penetration Firestopping
- Section 079200 – Joint Sealants
- Section 083113 – Access Doors and Frames
- Section 260000 – General Electrical Provisions
- Section 260500 – Common Work Results For Electrical
- Section 260519 – Low-Voltage Electrical Power Conductors And Cables
- Section 260526 – Grounding And Bonding For Electrical Systems
- Section 260529 – Hangers And Supports For Electrical Systems
- Section 260533 – Raceway And Boxes For Electrical Systems
- Section 260548 – Vibration And Seismic Controls For Electrical Systems
- Section 260553 – Identification For Electrical Systems
- Section 260573 – Overcurrent Protective Device Coordination Study
- Section 260580 – Electrical Powered Equipment
- Section 260800 – Commissioning Of Electrical Systems
- Section 260923 – Lighting Control Devices
- Section 262200 – Low-Voltage Transformers
- Section 262413 – Switchboards
- Section 262416 – Panelboards
- Section 262500 – Enclosed Bus Assemblies
- Section 262726 – Wiring Devices
- Section 262813 – Fuses
- Section 262816 – Enclosed Switches And Circuit Breakers
- Section 262913 – Enclosed Controllers
- Section 262923 – Adjustable Frequency Motor Controllers
- Section 263353 – Static Uninterruptible Power Supply
- Section 263600 – Transfer Switches
- Section 265100 – Interior Lighting
- ***Section 270526 – Grounding And Bonding For Communications Systems***
- ***Section 270528 – Pathways For Communications Systems***
- ***Section 270529 – Hangers And Supports For Communications Systems***
- ***Section 270536 – Cable Trays For Communications Systems***
- Section 280000 – General Electronic Safety And Security Provisions
- Section 280500 – Common Work Results For Electronic Safety And Security
- Section 280800 – Commissioning Of Electronic Safety And Security Systems

END OF CONSTRUCTION BID ADDENDUM A

- Section 281300 – Access Control
- Section 281301 – Access Control Door Hardware
- Section 283111 – Digital, Addressable Fire-Alarm System
- Section 283600 – Specialty Gas Detection And Alarm

28. Sufficiently support all cables ***(including support for use by 26B for data cabling).*** Cables are not to be supported on ceiling grid, or other MEP hangers. Provide J-hooks where raceways are not specified and cable support is needed.

33. Wire all equipment provided by others. This includes wiring between components packaged separately (e.g. gas pressure alarms, skid mounted equipment split for shipment, mixing valves, automatic faucets, ***door openers, power supplies,*** etc.). Confirm function of all equipment.

Unit 26B – Tele/Data

Modify the following scope items in Exhibit B:

6. This work primarily includes but is not limited to the following specification sections as well as related work specified or shown elsewhere in the contract documents and is provided for convenience only:

- Division 1 – General Conditions/General Requirements
- Section 270000 – General Communications Provisions
- Section 270500 – Common Work For Communications
- ~~***Section 270526 – Grounding And Bonding For Communications Systems***~~
- ~~***Section 270528 – Pathways For Communications Systems***~~
- ~~***Section 270529 – Hangers And Supports For Communications Systems***~~
- ~~***Section 270536 – Cable Trays For Communications Systems***~~
- Section 270553 – Identification For Communications Systems
- Section 270800 – Testing Of Communications Cabling Systems
- Section 271116 – Communication Cabinets, Racks, Frames And Components
- Section 271123 – Communications Cable Management And Ladder Rack
- Section 271313 – Copper Multi-Pair Backbone Cabling
- Section 271323 – Optical Fiber Backbone Cabling
- Section 271513 – Communications Copper Horizontal Cabling
- Section 271543 – Communications Faceplates And Connectors
- Section 271619 – Communications Patch Cords, Station Cords, And Cross Connect Wire

Bid due date: The bid date remains Monday, November 23, 2015 at 2:00 p.m.

END OF CONSTRUCTION BID ADDENDUM A

RFI #	Document Reference	Question	Response to Bidders
4	075323 / 012300	White EPDM is listed as an alternate in section 075323 but not in 012300. Is white EPDM base scope of work or an add alternate? VE log assumed white EPDM would be an add alternate.	Provide White EPDM as base bid.
5	A20P.3A	Is EPDM roofing at the penthouse level roofs to be white or black (Keynote 4)?	Note #4 should read White EPDM. This has been revised in Addendum #01
6	012100	Please provide detailed drawings and scope of work for Allowance #1 (L Bldg. Roof Replacement) and Allowance #2 (H Bldg. Roof Replacement)	Response to be provided in next Addendum.
7	Various	Please remove all references to "General Contractor" in all documents. General Contractor is barred from performing work per UConn Contract.	There is no "General Contractor" on this project. All references to scope performed by "General Contractor" are to mean the contractor assigned to the scope by the specific scope of work.
8	Various	General Demolition Note 2 states "Hazardous material abatement has been completed." The note is false and should be removed.	Delete General Demolition Note 2 indicating "Hazardous material abatement has been completed." from all documents.
9	012300	Regarding Alternate A2 (Delete WH2, LCW, LHW, LHWR from PH): VE assumed the lab water system would be deleted in its entirety. This alternate includes deleting only the PH portion. Please detail how piping to floors is to be connected.	Response to be provided in next Addendum.
10	H30P.3A1	Note 3 indicates connect 6" HPS to existing riser in ARB penthouse (scope was not shown on DD documents and not included in the estimate). Please provide distance to connection point along with any fire rated assemblies required. Please confirm pipe can be run straight as shown.	Response to be provided in next Addendum.
11	A2SB	Please revise this drawing to show a cold formed framing (or alternative) assembly in lieu of masonry as agreed in VE. Please also provide additional dimensions to locate the new C10 beam.	Response to be provided in next Addendum.
12	Various	We assume wall and floor expansion joints are required on each floor along Column line 24. Please confirm and call out new expansion joints where required in the Architectural Drawings.	Wall, floor, and MEP expansion joints are required at column line 24 (all levels).
13	A20P.3A	Keynote 6 on A20P.3A refers to expansion joint detail B3 on Drawing A802. Please provide Detail B3 on Drawing A802.	Detail is provided and A802 released in Addendum #1.

RFI #	Document Reference	Question	Response to Bidders
14	A20R.3A	Please provide design for fall protection required by Keynote 4 on Drawing A20R.3A.	Refer to drawings A802 in Addendum #1
15	4/S202	Detail 4/S202 shows a new railing at new concrete curbs. This railing is not detailed on the architectural drawings as noted. Please provide detail for this rail.	Refer to sheet A802 and A20P.3A in Addendum #1
16	A204.3A	General Note 12 on A204.3A says to "Maintain" floor slab and slab edge fire rating, inferring that a rating exists. Please clarify if a rated system exists and, if not, to what extent are we to install the new fire resistive joint system shown on E5/A255?	Response to be provided in next Addendum.
17	E5/A255	Detail E5/A255 shows a fire resistive joint system between existing floor slabs and the precast concrete exterior wall system. The installation appears to be available only from the floor below. Installation of this detail at the 4th floor slab would require extensive demolition on the occupied 3rd floor. Please provide an alternate detail that can be installed from above each floor slab, or confirm installation of this detail will not occur at the 4th floor edge of slab.	Response to be provided in next Addendum.
18	A300 / P301.3A	Detail F1/A300 shows piping penetrating the overhead service/access panels and running down the wall to equipment. Drawing P301.3A shows utilities to be capped above ceiling for future connection. Which is correct? Please confirm the scope of work at these panels.	The detail F1 on A300 is for owner furnished contractor installed equipment only.
19	Various	Spray fireproofing is noted in various locations on the Contract Documents. Please identify specifically which members and the extent of spray fireproofing required.	Response to be provided in next Addendum.
20	035300	Specification section 035300 indicates to provide 60,000 SF of 1/2 inch thick cementitious topping. Construction area (excluding the PH) is only approximately 34,000 SF. This section also indicates to provide unit pricing. Please confirm the requested quantity and clarify if it should be base bid or unit price.	Revised in Addendum #01 Section 035300 - Cementitious Topping.

RFI #	Document Reference	Question	Response to Bidders
21	A560	A560 indicates existing stair walls to be cleaned, repaired and prepped for paint. The finish schedule does not indicate paint in this area. Please clarify extent of cleaning, prep, and finish work (including repair and finish products).	Notes on Drawing A560 have been revised to only include cleaning and prepping for paint on the stair tower walls. The finish plans and detail C5/A560 have been updated to indicate the finishes in the stairs. See detail C5 on A560. The Paint Legend has been placed on A400.
22	A20R.3A	Note 1 on A20R.3A indicates patch existing roof to match adjacent and to coordinate with structural. Drawing S103 indicates to infill with 1-1/2" deep galv roof deck existing construction is LWC on roof deck. Please provide an infill material detail at these locations. VE item #5 assumed infill would be insulation.	Response to be provided in next Addendum.
23	096813 / A400	Specification section 096813 and the finish legend on Drawing A400 use C1 and C2 for carpet designations. The finish plans show CPT1 and CPT2. Please revise for clarity.	Specifications have been revised to match CPT1 and CPT2 designations on Plans. 096813 - Carpeting. See Addendum #01
24	N/A	Please provide a dimensioned elevation drawings showing typical mounting heights for various wall mounted items.	Wall mounted items are elevated on drawings A500 and A600
25	H30P.3A1	Keynote 9 indicates 4" LPS to water heater. Keynote 22 indicates same pipe is perimeter hot water riser R-11. Which is correct?	Keynote 22 was pointing at the wrong pipe. This keynote has been relocated south on the page. Update is included in Addendum #1.
26	N/A	Should new and existing concrete in the Penthouse be sealed or painted? Should a painted safety walkway be provided?	The concrete is not to be sealed. Any patched area is to receive a liquid sealer on the base slab before the topping slab is placed. Provide a safety walkway in the base bid 5 feet wide and the full lenght of the penthouse. See A20P 3A for the extent.
27	H702	Sound attenuator schedule Note 14 on Drawing H702 references sheet M503. Sheet M503 does not exist. Should this note reference H503? Please confirm.	The drawing has been corrected to H503.
28	A501	Please provide specifications for all Owner Furnished, Contractor Installed items including detailed installation instructions for the following Equipment Mark Numbers: N01, N14, N15, J10, J11, K03, K07, K08/K09, K14, K21, K22, K23, and K25.	Owner Furnished, Contrator Installed equipment has been revised, and is listed on the equipment schedule.
29	A501	Please provide specifications for the Contractor Furnished, Contractor Installed Necropsy tables (Equipment Type Mark UC01).	See PDF attached to Addendum #01 Section 123553 - Tops, Sinks, Fixtures and Accessories.
30	A502	A502 shows Bio-Safety Cabinets as Owner Furnished Contractor Installed. Who is to provide certification of the BSC's?	Certification of owner furnished equipment will be by others.

RFI #	Document Reference	Question	Response to Bidders
31	230560	DD Estimate included duct cleanliness testing in lieu of ductwork cleaning. Please confirm this is acceptable.	All ductwork is expected to be clean to meet LEED, IAQ and specification requirements prior to startup.
32	3/A720	Detail 3/A720 shows a section through the transom. Please provide a horizontal cut through the transom showing the expected termination detail at either side of the glass. We recommend using continuous SS plates at either side - this way glass can be cut to width and slid into the top channel and dropped into place for easy replacement (continuing the channel all the way around would require removal of SS plates and blocking to change out glass).	SS plates on either side of transom glass shall be separate from each other acting as 'stops'. Interior (lab side) of transom shall be removable in order to allow glass to be changed, if needed. This will allow glass to be slid into top channel and dropped into place, as noted.
33	A2SB	Please provide gauge of the metal panels and diamond plate in the subbasement areaway referred to on Drawing A2SB.	Please refer to specification section 055000 for metal thickenesses and guages.
34	075323	A project at an adjacent building required new roofing systems to withstand uplift pressures 120, 180, and 240 PSF in the field, perimeter, and corners respectively (per FM Global). Fastener pull-out resistance and adhesive bonding resistance testing was also required to demonstrate the system, fasteners, and adhesives will meet FM requirements. Please confirm the uplift and testing requirements for this project and if any testing is required.	Testing is not required for roofing at Penthouse floor level.
35	071416	Cold fluid applied waterproofing is specified but not shown in the drawings. Where is cold fluid applied waterproofing required?	Refer to Detail 4 on A10P.3A. Cold fluid applied waterproofing is required wherever housekeeping/equipment pads are removed and infilled.
36	230560	Specification section 230560 1.4 D requires cleaning of the existing restroom exhaust ductwork. Riser work is only scheduled on floors 4 through 7. Therefore, much of this ductwork will be inaccessible to cleaning. We recommend cleaning of horizontal branches at each floor where accessible in lieu of the specification. Please confirm this is acceptable.	Clean toilet exhaust risers and branch ductwork from level 4-7.
37	012100	Alternate A3 in specification section 012300 calls to delete wall protection as specified in Section 102600. No specification section 102600 was provided with the 10/19/15 documents. Please provide or confirm the 6/5/15 version of Section 102600 should be used.	Revised in Addendum #01 Section 012300 - Alternates

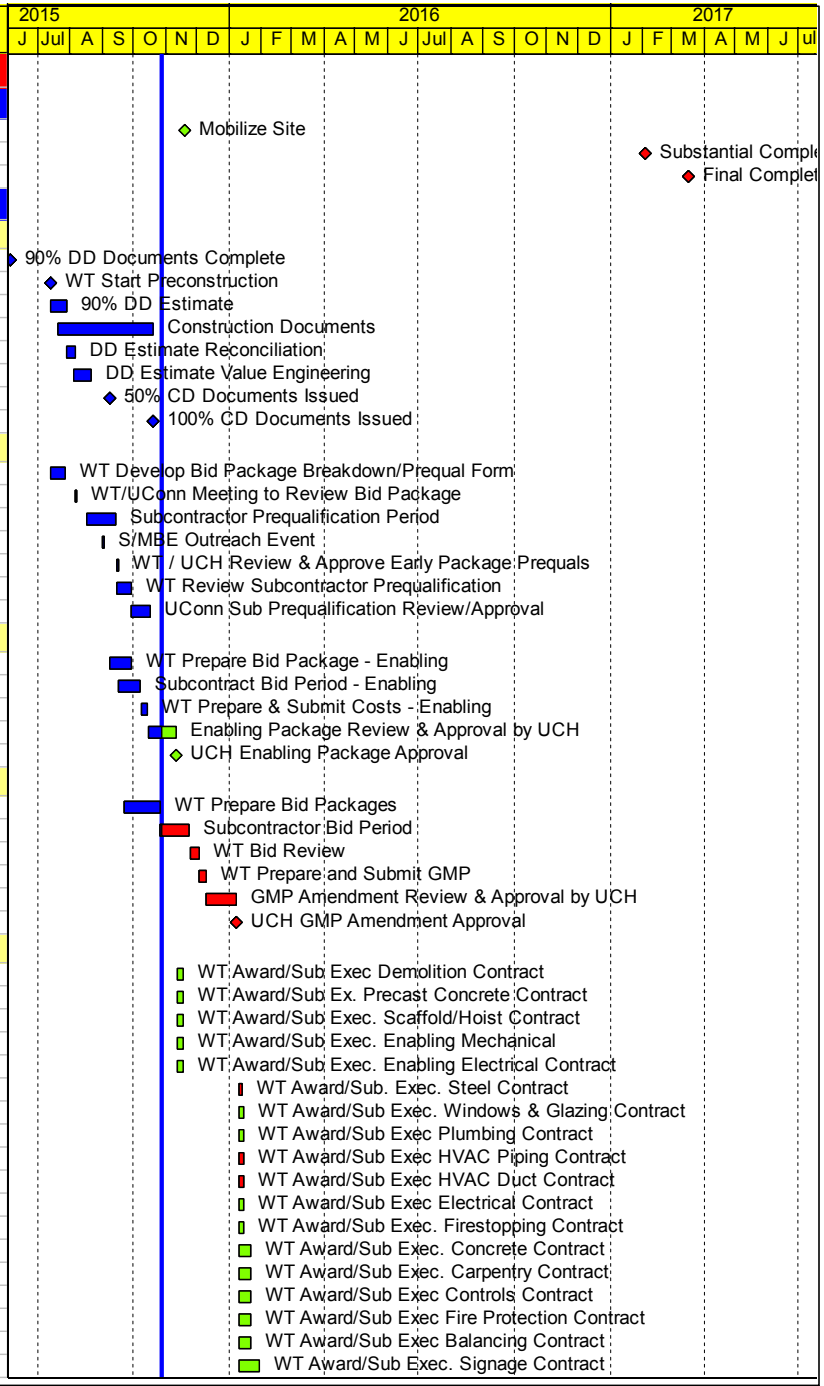
RFI #	Document Reference	Question	Response to Bidders
38	079500	Will MM Systems Corporation be acceptable as an alternate manufacturer of expansion control products?	Response to be provided in next Addendum.
39	085113	Will Efco be acceptable as an alternate manufacturer of Aluminum Windows?	Response to be provided in next Addendum.
40	N/A	Is the minimum 30% SBE and 10% MBE participation mandatory or best faith effort?	S/MBE participation requirements are to meet statute and CHRO requirements for state funded work. Best faith effort is defined on the CHRO website.
41	230900	Specification section 230900, Part 3.13, A calls for three different grades of sensors (A, B and C) depending on use. Temperature sensors are specified 10k Ohm with 4-20mA transmitters and humidity sensors are specified Veris HT series. Johnson Controls was awarded the 1st phase of the UConn Main Building L project and used standard JCI temperature sensors (1000 Ohm RTD without transmitters) and standard JCI humidity transmitters. Since these sensors were accepted by the University of Connecticut and to stay consistent with the rest of the building and to reduce cost, are 1000 Ohm RTD temperature sensors without the 4-20mA transmitters and standard JCI 2% humidity sensors acceptable?	Response to be provided in next Addendum.
42	230900	Specification section 230900, Part 2.13, A, 7 calls for all wiring to be in conduit. Johnson Controls was awarded the 1st phase of the UConn Main Building L project. An RFI was issued and accepted to allow the use of plenum rated cable in concealed, accessible spaces on that project. Can plenum rated cable be used in concealed, accessible spaces on this project?	Response to be provided in next Addendum.
43	230900	Specification section 230900, Part 3.13, F, 6 calls for the controls contractor to provide vibrations switches. Typically, these are provided by the fan/AHU manufacturer. Please confirm that the DDC contractor is to provide the vibration switches.	23C - BAS contractor to provide as specified.
44	N/A	Does the EC provide sleeves and cores for tele/data?	Yes, 26A is to provide all raceways for use by 26B. 26B will be responsible for all firesafing after wiring is pulled.
45	N/A	Does EC install the telcom ground system?	Yes, 26A is to provide all grounding and bonding inclusive of the tele/data system.
46	E404.3.A	Drawing E404.3A notes #1 & 7 show 4" sleeves and conduit. This is typical for the other floors also. Is this work to be done by the EC?	Yes, 26A is to provide all raceways for use by 26B. 26B will be responsible for all firesafing after wiring is pulled.

RFI #	Document Reference	Question	Response to Bidders
47	N/A	Is the telcom portion only the telcom cabling, terminations, etc.? I assume that it does not include security, AV fire alarm?	Correct. The 26B tele/data scope is intended to be wiring, equipment, devices, and terminations along with related firestopping where required.
48	E600	Drawing E600 for some reason is not printing out clearly and in fact online is very fuzzy. Is a clear document available?	Please see Addendum #1
49	N/A	Would the firestop contractor only be responsible for through penetration firestopping for MEP trades or fire resistive joints systems?	The 07B firestopping contractor is responsible only for the scope of work identified in "Exibit B - Specific Scope of Work"
50	226653	In Spec section 226653-1, it calls for the lab waste and vent piping to have "Mechanical threaded" joints. The only three methods of joining Polypropylene DWV pipng available are as follows: 1. Electrofusion 2. Mechanical Joint 3. Butt Fusion. The most common of these being electrofusion on the majority of the piping, with mechanical joints underneath cabinet spaces (i.e. sink traps). Please clarify what joining method we are to use?	Response to be provided in next Addendum.
51	226313	In Spec sections 226113-2 (Lab Compressed Air) & 226313-2 (Lab CO2) each respective material schedule states : "All pipe fittings and valves in this system shall be factory cleaned, purged and sealed and labeled 'for clean service piping systems.' " According to the named manufacturers, they do not offer press style fittings cleaned & bagged from the factory. Please clarify intent for the press fittings.	Response to be provided in next Addendum.
52	210000	Can you please provide any existing hydrant flow test data for or around the site?	Response to be provided in next Addendum.
53	210500	Spec. Section 210500 requires painting of all exposed fire protection piping in mechanical spaces. Is this correct? If so, does the Fire Protection sub own the painting of the exposed piping or will the painting sub own that?	Response to be provided in next Addendum.
54	N/A	Is the bid bond payable to Whiting Turner or University of CT?	Bid Bonds should be payable to The Whiting-Turner Contracting Company.
55	230300	Spec. Section 230300 with reference that the HVAC Contractor is to employ a mechanical, civil & structural engineer to review installation drawings for pipe and equipment. How should we interpret this?	Each contractor is required to engineer all supports as specified utilizing the appropriate engineer licenced in the state of Connecticut.
56	N/A	Exhibit O Milestone Schedule doesn't exist/I couldn't find it.	Issued in Addendum A

RFI #	Document Reference	Question	Response to Bidders
57	N/A	Exhibit G- Pricing Schedule. Are we suppose to provide our own description of items?	Yes. Please breakout by spec. section where possible.
58	102600	Exhibit H- Alternates. Alternate 3 tells Package 09A to delete all wall protection as specified in Section 102600. That specification section does not exist. Also, in our Exhibit B-Scope of work item 6 it does not reference that we own that section. Item 26 does call out corner guards, but doesn't give much direction. Please advise.	Clarified/revised in Addendum A
59	055000	In specification 055000 Metal Fabrication it mentions alternate bid for Corner Guards. Who owns providing this alternate? Also, I do not see it as an alternate on the Alternate page.	This is the alternate 3. Clarified/revised in Addendum A
60	A133.3A	Drawing A133.3A Demolition 3rd floor ceiling mentions remove and reinstall ceilings and supports. Who owns this work?	09A. Scope clarified in Addendum A
END OF RFI's Received Through 11/4/2015			

UCH Main Building Renovation - Project 2 GMP Bid Schedule

Activity ID	Activity Name	Original Duration	Remaining Duration	Start	Finish
SUMMARY					
M10	Mobilize Site	0	0	Nov-19-15	
M90	Substantial Completion	0	0		Feb-3-17
M100	Final Completion	0	0		Mar-17-17
PRE-CONSTRUCTION					
Design Phase/Estimate					
0010	90% DD Documents Complete	0	0	Jun-5-15 A	
0001	WT Start Preconstruction	0	0	Jul-14-15 A	
0020	90% DD Estimate	15	0	Jul-14-15 A	Jul-28-15 A
0050	Construction Documents	59	0	Jul-20-15 A	Oct-19-15 A
0030	DD Estimate Reconciliation	5	0	Jul-29-15 A	Aug-5-15 A
0040	DD Estimate Value Engineering	15	0	Aug-4-15 A	Aug-21-15 A
0060	50% CD Documents Issued	0	0	Sep-8-15 A	
0070	100% CD Documents Issued	0	0		Oct-19-15 A
Prequalification					
0270	WT Develop Bid Package Breakdown/Prequal Form	10	0	Jul-13-15 A	Jul-27-15 A
0280	WT/UConn Meeting to Review Bid Package	5	0	Aug-6-15 A	Aug-7-15 A
0170	Subcontractor Prequalification Period	15	0	Aug-17-15 A	Sep-14-15 A
0260	S/MBE Outreach Event	2	0	Sep-1-15 A	Sep-2-15 A
0520	WT / UCH Review & Approve Early Package Prequals	2	0	Sep-15-15 A	Sep-16-15 A
0300	WT Review Subcontractor Prequalification	5	0	Sep-15-15 A	Sep-29-15 A
0290	UConn Sub Prequalification Review/Approval	5	0	Sep-29-15 A	Oct-16-15 A
Early Bid Package: Mobilization/Logistics/Demo					
0180	WT Prepare Bid Package - Enabling	10	0	Sep-8-15 A	Sep-29-15 A
0190	Subcontract Bid Period - Enabling	15	0	Sep-17-15 A	Oct-7-15 A
0200	WT Prepare & Submit Costs - Enabling	5	0	Oct-8-15 A	Oct-14-15 A
0210	Enabling Package Review & Approval by UCH	20	11	Oct-15-15 A	Nov-11-15
0250	UCH Enabling Package Approval	0	0		Nov-11-15
GMP					
0230	WT Prepare Bid Packages	20	0	Sep-22-15 A	Oct-26-15 A
0100	Subcontractor Bid Period	20	19	Oct-26-15 A	Nov-23-15
0105	WT Bid Review	5	5	Nov-24-15	Dec-2-15
0110	WT Prepare and Submit GMP	5	5	Dec-3-15	Dec-9-15
0120	GMP Amendment Review & Approval by UCH	20	20	Dec-10-15	Jan-8-16
0240	UCH GMP Amendment Approval	0	0		Jan-8-16
Contracts					
0310	WT Award/Sub Exec Demolition Contract	5	5	Nov-12-15	Nov-18-15
0320	WT Award/Sub Ex. Precast Concrete Contract	5	5	Nov-12-15	Nov-18-15
0340	WT Award/Sub Exec. Scaffold/Hoist Contract	5	5	Nov-12-15	Nov-18-15
0500	WT Award/Sub Exec. Enabling Mechanical	5	5	Nov-12-15	Nov-18-15
0510	WT Award/Sub Exec. Enabling Electrical Contract	5	5	Nov-12-15	Nov-18-15
0380	WT Award/Sub. Exec. Steel Contract	3	3	Jan-11-16	Jan-13-16
0130	WT Award/Sub Exec. Windows & Glazing Contract	5	5	Jan-11-16	Jan-15-16
0460	WT Award/Sub Exec Plumbing Contract	5	5	Jan-11-16	Jan-15-16
0470	WT Award/Sub Exec HVAC Piping Contract	5	5	Jan-11-16	Jan-15-16
0480	WT Award/Sub Exec HVAC Duct Contract	5	5	Jan-11-16	Jan-15-16
0490	WT Award/Sub Exec Electrical Contract	5	5	Jan-11-16	Jan-15-16
11100	WT Award/Sub Exec. Firestopping Contract	5	5	Jan-11-16	Jan-15-16
0140	WT Award/Sub Exec. Concrete Contract	10	10	Jan-11-16	Jan-22-16
0360	WT Award/Sub Exec. Carpentry Contract	10	10	Jan-11-16	Jan-22-16
0430	WT Award/Sub Exec Controls Contract	10	10	Jan-11-16	Jan-22-16
0440	WT Award/Sub Exec Fire Protection Contract	10	10	Jan-11-16	Jan-22-16
0450	WT Award/Sub Exec Balancing Contract	10	10	Jan-11-16	Jan-22-16
0150	WT Award/Sub Exec. Signage Contract	15	15	Jan-11-16	Jan-29-16



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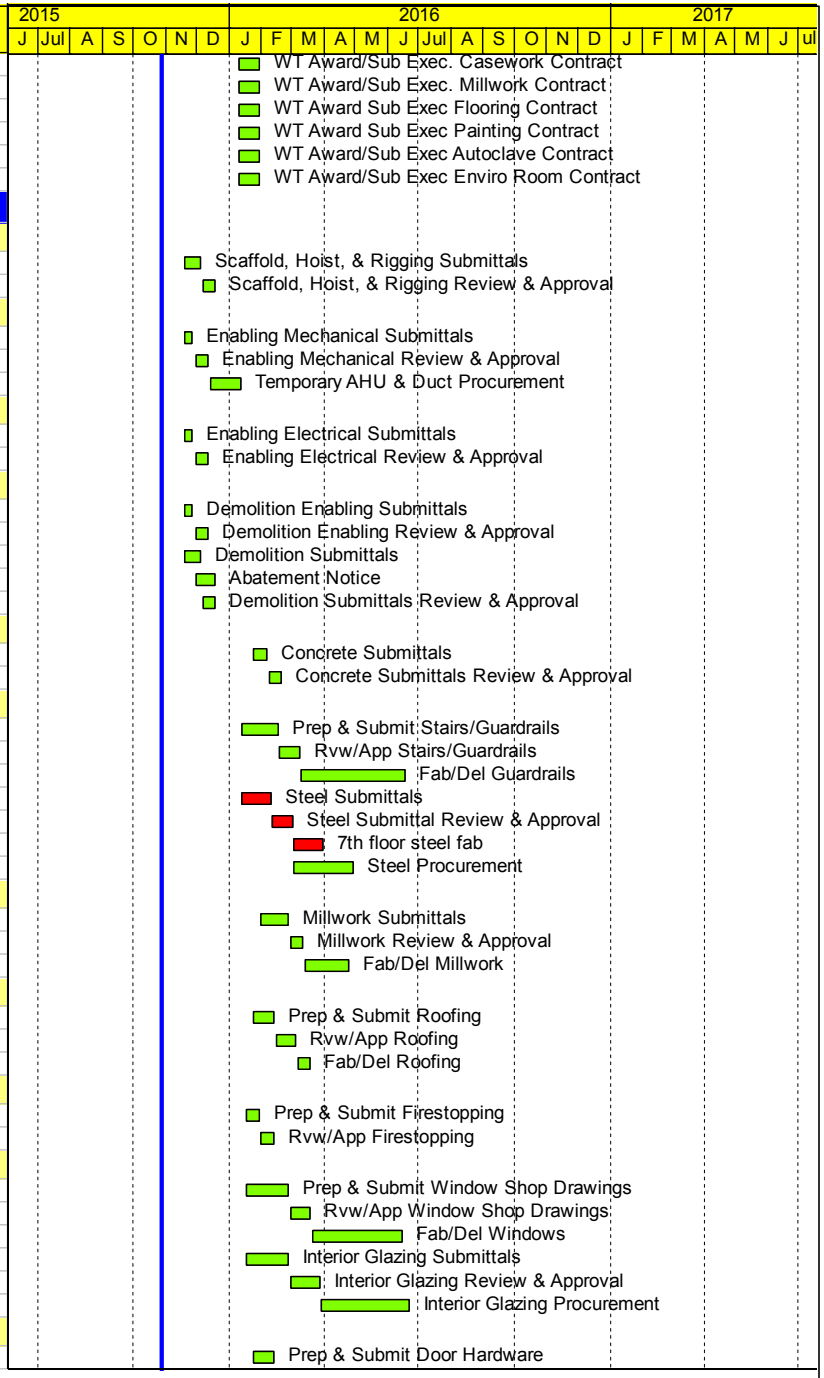
UCH Main Building Renovation - Project 2
GMP Bid Schedule as of Nov-3-15

EXHIBIT O - MILESTONE PROJECT SCHEDULE

WHITING-TURNER

LOVETT SILVERMAN
500 N. Franklin Turnpike
Ramsey, NJ 07446
201.327.3100

Activity ID	Activity Name	Original Duration	Remaining Duration	Start	Finish
0160	WT Award/Sub Exec. Casework Contract	15	15	Jan-11-16	Jan-29-16
0370	WT Award/Sub Exec. Millwork Contract	15	15	Jan-11-16	Jan-29-16
0390	WT Award Sub Exec Flooring Contract	15	15	Jan-11-16	Jan-29-16
0400	WT Award Sub Exec Painting Contract	15	15	Jan-11-16	Jan-29-16
0410	WT Award/Sub Exec Autoclave Contract	15	15	Jan-11-16	Jan-29-16
0420	WT Award/Sub Exec Enviro Room Contract	15	15	Jan-11-16	Jan-29-16
SHOP DWGS / APPVLS / FABRICATION					
Unit Package 01B - Hoist & Scaffold					
SUB1210	Scaffold, Hoist, & Rigging Submittals	10	10	Nov-19-15	Dec-4-15
REV1210	Scaffold, Hoist, & Rigging Review & Approval	10	10	Dec-7-15	Dec-18-15
Unit Package 01C - Enabling Mechanical					
SUB1300	Enabling Mechanical Submittals	5	5	Nov-19-15	Nov-25-15
REV1280	Enabling Mechanical Review & Approval	10	10	Nov-30-15	Dec-11-15
2100	Temporary AHU & Duct Procurement	20	20	Dec-14-15	Jan-12-16
Unit Package 01D - Enabling Electrical					
SUB1310	Enabling Electrical Submittals	5	5	Nov-19-15	Nov-25-15
REV1290	Enabling Electrical Review & Approval	10	10	Nov-30-15	Dec-11-15
Unit Package 02A - Demolition & Abatement					
SUB1200	Demolition Enabling Submittals	5	5	Nov-19-15	Nov-25-15
REV1205	Demolition Enabling Review & Approval	10	10	Nov-30-15	Dec-11-15
SUB2040	Demolition Submittals	10	10	Nov-19-15	Dec-4-15
SUB1120	Abatement Notice	15	15	Nov-30-15	Dec-18-15
REV2040	Demolition Submittals Review & Approval	10	10	Dec-7-15	Dec-18-15
Unit Package 03A - Concrete					
SUB1260	Concrete Submittals	10	10	Jan-25-16	Feb-5-16
REV1260	Concrete Submittals Review & Approval	10	10	Feb-8-16	Feb-19-16
Unit Package 05A - Metals					
PROC-415	Prep & Submit Stairs/Guardrails	25	25	Jan-14-16	Feb-17-16
PROC-416	Rvw/App Stairs/Guardrails	15	15	Feb-18-16	Mar-9-16
PROC-419	Fab/Del Guardrails	70	70	Mar-10-16	Jun-17-16
SUB1220	Steel Submittals	20	20	Jan-14-16	Feb-10-16
REV1220	Steel Submittal Review & Approval	15	15	Feb-11-16	Mar-2-16
11090	7th floor steel fab	20	20	Mar-3-16	Mar-31-16
1220	Steel Procurement	40	40	Mar-3-16	Apr-28-16
Unit Package 06A - Millwork					
SUB1090	Millwork Submittals	20	20	Feb-1-16	Feb-26-16
REV1090	Millwork Review & Approval	10	10	Feb-29-16	Mar-11-16
2090	Fab/Del Millwork	30	30	Mar-14-16	Apr-25-16
Unit Package 07A - Roofing					
PROC-273	Prep & Submit Roofing	15	15	Jan-25-16	Feb-12-16
PROC-274	Rvw/App Roofing	15	15	Feb-15-16	Mar-4-16
PROC-275	Fab/Del Roofing	10	10	Mar-7-16	Mar-18-16
Unit Package 07B - Firestopping					
PROC-267	Prep & Submit Firestopping	10	10	Jan-18-16	Jan-29-16
PROC-269	Rvw/App Firestopping	10	10	Feb-1-16	Feb-12-16
Unit Package 08A - Glass & Glazing					
PROC-429	Prep & Submit Window Shop Drawings	30	30	Jan-18-16	Feb-26-16
PROC-430	Rvw/App Window Shop Drawings	15	15	Feb-29-16	Mar-18-16
PROC-435	Fab/Del Windows	60	60	Mar-21-16	Jun-14-16
SUB1010	Interior Glazing Submittals	30	30	Jan-18-16	Feb-26-16
REV1010	Interior Glazing Review & Approval	20	20	Feb-29-16	Mar-28-16
1010	Interior Glazing Procurement	60	60	Mar-29-16	Jun-21-16
Unit Package 09A - Carpentry & Drywall					
PROC-896	Prep & Submit Door Hardware	15	15	Jan-25-16	Feb-12-16



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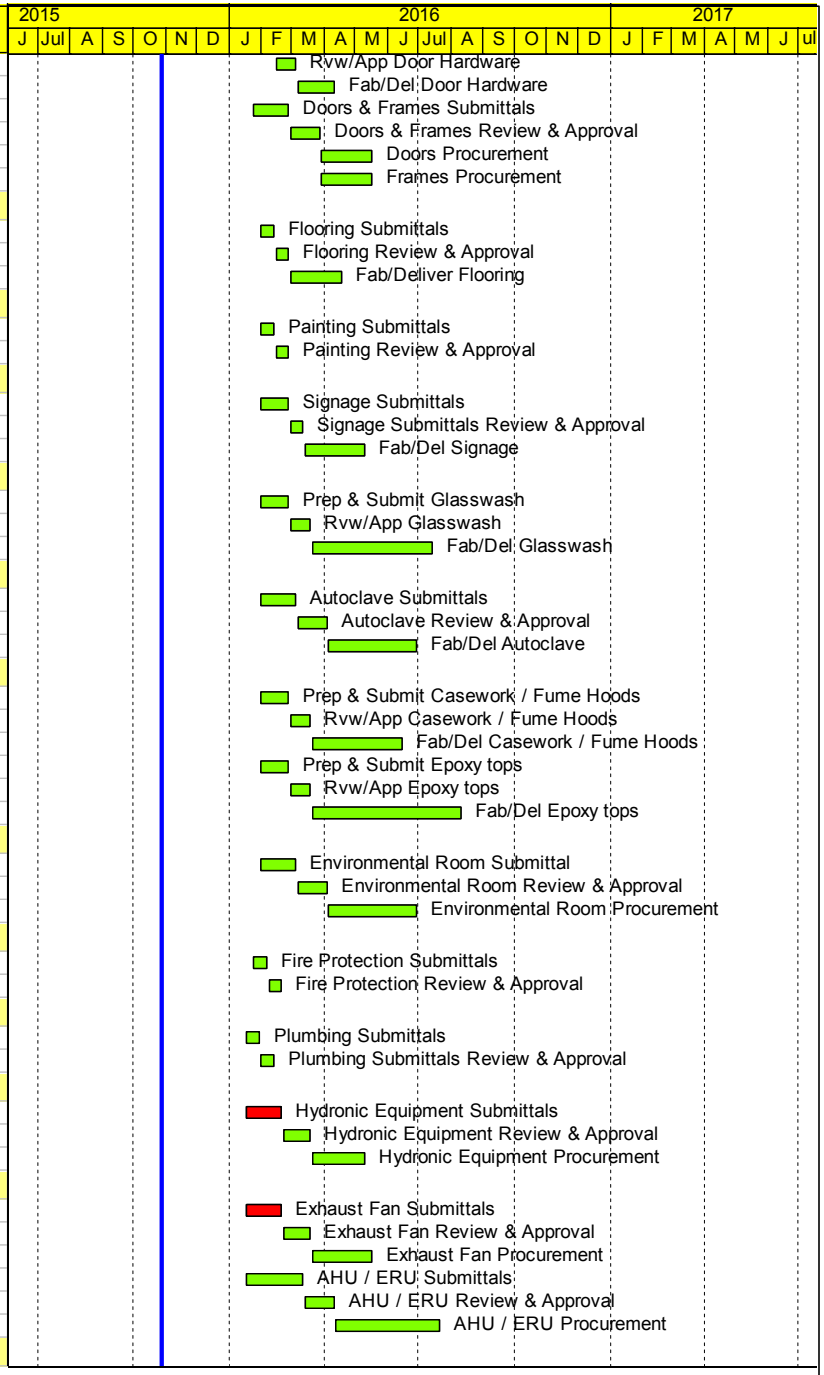
WHITING-TURNER

LOVETT SILVERMAN
500 N. Franklin Turnpike
Ramsey, NJ 07446
201.327.3100

Activity ID	Activity Name	Original Duration	Remaining Duration	Start	Finish
PROC-898	Rvw/App Door Hardware	15	15	Feb-15-16	Mar-4-16
PROC-900	Fab/Del Door Hardware	25	25	Mar-7-16	Apr-11-16
SUB1000	Doors & Frames Submittals	25	25	Jan-25-16	Feb-26-16
REV1000	Doors & Frames Review & Approval	20	20	Feb-29-16	Mar-28-16
2000	Doors Procurement	35	35	Mar-29-16	May-16-16
11080	Frames Procurement	35	35	Mar-29-16	May-16-16
Unit Package 09B - Flooring					
SUB1280	Flooring Submittals	10	10	Feb-1-16	Feb-12-16
REV1200	Flooring Review & Approval	10	10	Feb-15-16	Feb-26-16
REV1270	Fab/Deliver Flooring	35	35	Feb-29-16	Apr-18-16
Unit Package 09C - Painting					
SUB1290	Painting Submittals	10	10	Feb-1-16	Feb-12-16
REV1230	Painting Review & Approval	10	10	Feb-15-16	Feb-26-16
Unit Package 10A - Signage					
SUB1250	Signage Submittals	20	20	Feb-1-16	Feb-26-16
REV1250	Signage Submittals Review & Approval	10	10	Feb-29-16	Mar-11-16
PROC-930	Fab/Del Signage	40	40	Mar-14-16	May-9-16
Unit Package 11A - Glasswashers					
PROC-454	Prep & Submit Glasswash	20	20	Feb-1-16	Feb-26-16
PROC-455	Rvw/App Glasswash	15	15	Feb-29-16	Mar-18-16
PROC-456	Fab/Del Glasswash	80	80	Mar-21-16	Jul-13-16
Unit Package 11B - Autoclaves					
SUB1040	Autoclave Submittals	25	25	Feb-1-16	Mar-4-16
REV1040	Autoclave Review & Approval	20	20	Mar-7-16	Apr-4-16
2040	Fab/Del Autoclave	60	60	Apr-5-16	Jun-28-16
Unit Package 12A - Casework					
PROC-457	Prep & Submit Casework / Fume Hoods	20	20	Feb-1-16	Feb-26-16
PROC-458	Rvw/App Casework / Fume Hoods	15	15	Feb-29-16	Mar-18-16
PROC-463	Fab/Del Casework / Fume Hoods	60	60	Mar-21-16	Jun-14-16
PROC-962	Prep & Submit Epoxy tops	20	20	Feb-1-16	Feb-26-16
PROC-964	Rvw/App Epoxy tops	15	15	Feb-29-16	Mar-18-16
PROC-966	Fab/Del Epoxy tops	100	100	Mar-21-16	Aug-10-16
Unit Package 13A - Cold Room					
SUB1030	Environmental Room Submittal	25	25	Feb-1-16	Mar-4-16
REV1030	Environmental Room Review & Approval	20	20	Mar-7-16	Apr-4-16
2030	Environmental Room Procurement	60	60	Apr-5-16	Jun-28-16
Unit Package 21A - Fire Protection					
SUB1230	Fire Protection Submittals	10	10	Jan-25-16	Feb-5-16
REV1120	Fire Protection Review & Approval	10	10	Feb-8-16	Feb-19-16
Unit Package 22A - Plumbing					
SUB1240	Plumbing Submittals	10	10	Jan-18-16	Jan-29-16
REV1240	Plumbing Submittals Review & Approval	10	10	Feb-1-16	Feb-12-16
Unit Package 23A - HVAC Mech Piping					
SUB1070	Hydronic Equipment Submittals	25	25	Jan-18-16	Feb-19-16
REV1070	Hydronic Equipment Review & Approval	20	20	Feb-22-16	Mar-18-16
1070	Hydronic Equipment Procurement	35	35	Mar-21-16	May-9-16
Unit Package 23B - HVAC Sheetmetal & AHU Equip.					
SUB1060	Exhaust Fan Submittals	25	25	Jan-18-16	Feb-19-16
REV1060	Exhaust Fan Review & Approval	20	20	Feb-22-16	Mar-18-16
1060	Exhaust Fan Procurement	40	40	Mar-21-16	May-16-16
SUB1050	AHU / ERU Submittals	40	40	Jan-18-16	Mar-11-16
REV1050	AHU / ERU Review & Approval	20	20	Mar-14-16	Apr-11-16
2050	AHU / ERU Procurement	70	70	Apr-12-16	Jul-20-16
Unit Package 23C - Building Automation					



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UCH Main Building Renovation - Project 2
GMP Bid Schedule as of Nov-3-15
EXHIBIT O - MILESTONE PROJECT SCHEDULE

WHITING-TURNER

LOVETT SILVERMAN
500 N. Franklin Turnpike
Ramsey, NJ 07446
201.327.3100

Activity ID	Activity Name	Original Duration	Remaining Duration	Start	Finish
SUB1100	Controls Submittals & Resubmission	30	30	Jan-25-16	Mar-4-16
REV1100	Controls Review & Approval	20	20	Mar-7-16	Apr-4-16
1100	Controls Procurement	20	20	Apr-5-16	May-2-16
Unit Package 26A - Electrical					
SUB1110	Lighting Submittals & Resubmission	20	20	Jan-18-16	Feb-12-16
REV1110	Lighting Review & Approval	20	20	Feb-15-16	Mar-11-16
1110	Lighting Procurement	60	60	Mar-14-16	Jun-7-16
SUB1130	Transformer Submittals	30	30	Jan-18-16	Feb-26-16
REV1130	Transformer Review & Approval	20	20	Feb-29-16	Mar-28-16
1130	Transformer Procurement	50	50	Mar-29-16	Jun-7-16
BIM Coordination					
SUB1140	BIM Coordination - Risers, Shafts, & Mains	15	15	Jan-18-16	Feb-5-16
SUB1180	BIM Coordination - Level 7	20	20	Jan-25-16	Feb-19-16
REV1140	BIM Coordination - Riser, Shaft & Main Rev & App	10	10	Feb-8-16	Feb-19-16
SUB1170	BIM Coordination - Level 6	20	20	Feb-8-16	Mar-4-16
REV1180	BIM Coordination - Level 7 Review & Approval	10	10	Feb-22-16	Mar-4-16
SUB1160	BIM Coordination - Level 5	20	20	Feb-22-16	Mar-18-16
SUB1190	BIM Coordination - Penthouse	35	35	Feb-22-16	Apr-11-16
REV1170	BIM Coordination - Level 6 Review & Approval	10	10	Mar-7-16	Mar-18-16
SUB1150	BIM Coordination - Level 4	20	20	Mar-7-16	Apr-4-16
REV1160	BIM Coordination - Level 5 Review & Approval	10	10	Mar-21-16	Apr-4-16
REV1150	BIM Coordination - Level 4 Review & Approval	10	10	Apr-5-16	Apr-18-16
REV1190	BIM Coordination - Penthouse Review & Approval	10	10	Apr-12-16	Apr-25-16
2140	MEP Prefabrication - Risers, Shafts, & Mains	25	25	Feb-22-16	Mar-28-16
2180	MEP Prefabrication - Level 7	25	25	Mar-7-16	Apr-11-16
2170	MEP Prefabrication - Level 6	25	25	Mar-21-16	Apr-25-16
2160	MEP Prefabrication - Level 5	25	25	Apr-5-16	May-9-16
2150	MEP Prefabrication - Level 4	25	25	Apr-19-16	May-23-16
2190	MEP Prefabrication - Penthouse	22	22	Apr-26-16	May-25-16
CONSTRUCTION					
Mobilization & Logistics					
3000	Trailer turnover to WT	5	5	Nov-12-15	Nov-18-15
3000a	Mobilize Site	5	5	Nov-19-15	Nov-25-15
3010	Install Site Fencing	2	2	Nov-30-15	Dec-1-15
3035	Interior Demolition to Access Precast Clips	5	5	Dec-14-15	Dec-18-15
3090	Install Temporary Protection (4-PH)	5	5	Dec-14-15	Dec-18-15
3060	Erect Stair Towers and Scaffold	5	5	Dec-21-15	Dec-28-15
3080	2HR Temporary Interior Partitions & Doors (4-PH)	5	5	Dec-21-15	Dec-28-15
3120	Install and Activate Heat Detectors on Floors	8	8	Dec-21-15	Dec-31-15
3050	Weatherproof Partitions at Temp. Openings (4-PH)	10	10	Dec-21-15	Jan-5-16
3040	Precast Panel Removal (4-PH)	5	5	Jan-6-16	Jan-12-16
8200	Install Temp AHU's in Penthouse	5	5	Jan-13-16	Jan-19-16
8210	Install Temporary Ductwork in Penthouse	10	10	Jan-13-16	Jan-26-16
8190	Change PH Smoke Detectors to Heat Detectors	5	5	Jan-20-16	Jan-26-16
3130	Prebalancing - All Floors	5	5	Jan-25-16	Jan-29-16
Hoist & Scaffold					
3070	Erect Material Hoist	14	14	Jan-13-16	Feb-1-16
3140	Hoist & Scaffold in Operation	185	185	Feb-2-16	Oct-21-16
3150	Demobilize Hoist & Scaffold	14	14	Oct-24-16	Nov-10-16
3160	Precast panel re-installation	5	5	Nov-11-16	Nov-17-16
Shafts					
Risers					
5070	MEP Riser Installation - existing shafts	60	60	May-4-16	Jul-28-16
4070	MEP Riser Installation - new shafts	30	30	Jun-29-16	Aug-10-16
Level 7					

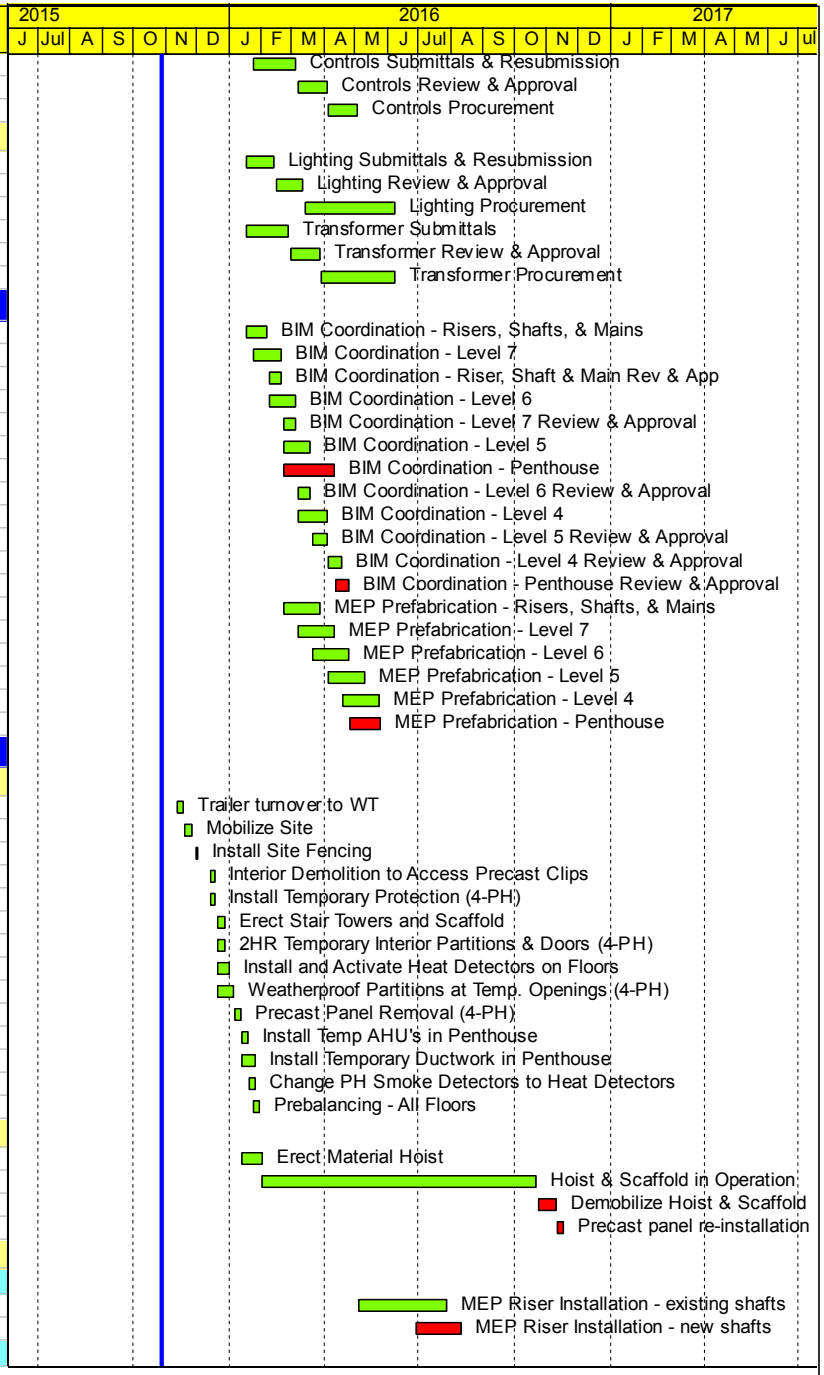

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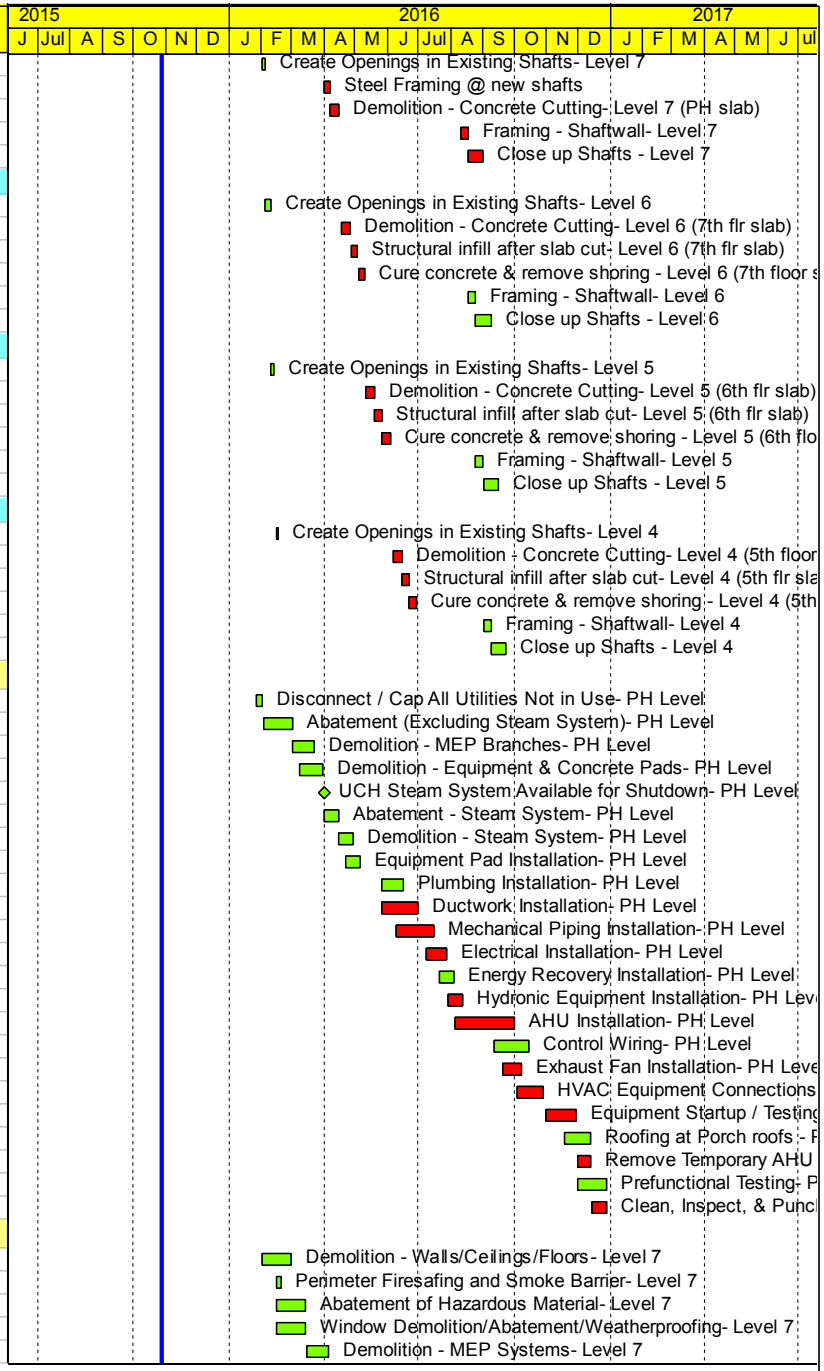
EXHIBIT O - MILESTONE PROJECT SCHEDULE

WHITING-TURNER

LOVETT SILVERMAN
500 N. Franklin Turnpike
Ramsey, NJ 07446
201.327.3100

Activity ID	Activity Name	Original Duration	Remaining Duration	Start	Finish
7210	Create Openings in Existing Shafts- Level 7	3	3	Feb-2-16	Feb-4-16
7160	Steel Framing @ new shafts	4	4	Apr-1-16	Apr-6-16
7050	Demolition - Concrete Cutting- Level 7 (PH slab)	7	7	Apr-7-16	Apr-15-16
7080	Framing - Shaftwall- Level 7	5	5	Aug-11-16	Aug-17-16
7220	Close up Shafts - Level 7	10	10	Aug-18-16	Aug-31-16
Level 6					
6160	Create Openings in Existing Shafts- Level 6	3	3	Feb-5-16	Feb-9-16
6050	Demolition - Concrete Cutting- Level 6 (7th flr slab)	7	7	Apr-18-16	Apr-26-16
6051	Structural infill after slab cut- Level 6 (7th flr slab)	5	5	Apr-27-16	May-3-16
6061	Cure concrete & remove shoring - Level 6 (7th floor slab)	5	5	May-4-16	May-10-16
6080	Framing - Shaftwall- Level 6	5	5	Aug-18-16	Aug-24-16
6210	Close up Shafts - Level 6	10	10	Aug-25-16	Sep-8-16
Level 5					
5160	Create Openings in Existing Shafts- Level 5	3	3	Feb-10-16	Feb-12-16
5050	Demolition - Concrete Cutting- Level 5 (6th flr slab)	7	7	May-11-16	May-19-16
5051	Structural infill after slab cut- Level 5 (6th flr slab)	5	5	May-20-16	May-26-16
5210	Cure concrete & remove shoring - Level 5 (6th floor slab)	5	5	May-27-16	Jun-3-16
5080	Framing - Shaftwall- Level 5	5	5	Aug-25-16	Aug-31-16
5220	Close up Shafts - Level 5	10	10	Sep-1-16	Sep-15-16
Level 4					
4210	Create Openings in Existing Shafts- Level 4	3	3	Feb-15-16	Feb-17-16
4050	Demolition - Concrete Cutting- Level 4 (5th floor slab)	7	7	Jun-6-16	Jun-14-16
4051	Structural infill after slab cut- Level 4 (5th flr slab)	5	5	Jun-15-16	Jun-21-16
4160	Cure concrete & remove shoring - Level 4 (5th floor slab)	5	5	Jun-22-16	Jun-28-16
4080	Framing - Shaftwall- Level 4	5	5	Sep-1-16	Sep-8-16
4220	Close up Shafts - Level 4	10	10	Sep-9-16	Sep-22-16
Penthouse					
8030	Disconnect / Cap All Utilities Not in Use- PH Level	5	5	Jan-27-16	Feb-2-16
8000	Abatement (Excluding Steam System)- PH Level	20	20	Feb-3-16	Mar-1-16
8010	Demolition - MEP Branches- PH Level	15	15	Mar-2-16	Mar-22-16
8020	Demolition - Equipment & Concrete Pads- PH Level	15	15	Mar-9-16	Mar-30-16
8015	UCH Steam System Available for Shutdown- PH Level	0	0	Apr-1-16*	
8025	Abatement - Steam System- PH Level	10	10	Apr-1-16	Apr-14-16
8035	Demolition - Steam System- PH Level	10	10	Apr-15-16	Apr-28-16
8040	Equipment Pad Installation- PH Level	10	10	Apr-22-16	May-5-16
8120	Plumbing Installation- PH Level	15	15	May-26-16	Jun-16-16
8100	Ductwork Installation- PH Level	25	25	May-26-16	Jun-30-16
8110	Mechanical Piping Installation- PH Level	25	25	Jun-10-16	Jul-15-16
8130	Electrical Installation- PH Level	15	15	Jul-8-16	Jul-28-16
8070	Energy Recovery Installation- PH Level	10	10	Jul-21-16	Aug-3-16
8090	Hydronic Equipment Installation- PH Level	10	10	Jul-29-16	Aug-11-16
8050	AHU Installation- PH Level	40	40	Aug-5-16	Sep-30-16
8140	Control Wiring- PH Level	25	25	Sep-12-16	Oct-14-16
8060	Exhaust Fan Installation- PH Level	15	15	Sep-19-16	Oct-7-16
8180	HVAC Equipment Connections- PH Level	20	20	Oct-3-16	Oct-28-16
8150	Equipment Startup / Testing / Balancing- PH Level	20	20	Oct-31-16	Nov-29-16
8230	Roofing at Porch roofs - PH Level	15	15	Nov-18-16	Dec-12-16
8220	Remove Temporary AHU / EF Configuration- PH Level	10	10	Nov-30-16	Dec-13-16
8160	Prefunctional Testing- PH Level	20	20	Nov-30-16	Dec-28-16
8170	Clean, Inspect, & Punchlist- PH Level	10	10	Dec-14-16	Dec-28-16
Level 7					
7000	Demolition - Walls/Ceilings/Floors- Level 7	20	20	Feb-2-16	Feb-29-16
7045	Perimeter Firesafing and Smoke Barrier- Level 7	5	5	Feb-15-16	Feb-19-16
7010	Abatement of Hazardous Material- Level 7	20	20	Feb-16-16	Mar-14-16
7030	Window Demolition/Abatement/Weatherproofing- Level 7	20	20	Feb-16-16	Mar-14-16
7020	Demolition - MEP Systems- Level 7	15	15	Mar-15-16	Apr-5-16



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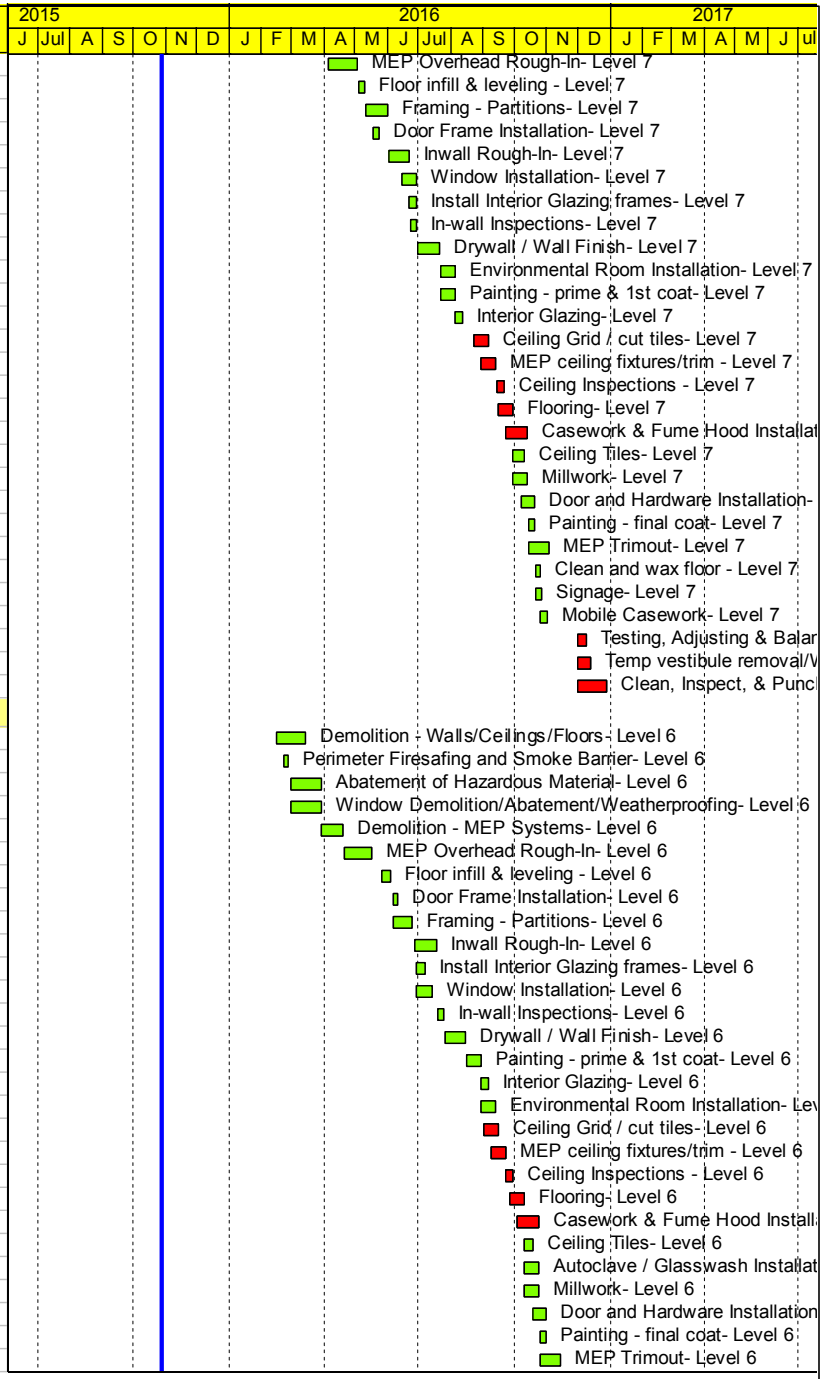
Activity ID	Activity Name	Original Duration	Remaining Duration	Start	Finish
7060	MEP Overhead Rough-In- Level 7	20	20	Apr-6-16	May-3-16
7155	Floor infill & leveling - Level 7	5	5	May-4-16	May-10-16
7090	Framing - Partitions- Level 7	15	15	May-11-16	Jun-1-16
7100	Door Frame Installation- Level 7	5	5	May-18-16	May-24-16
7110	Inwall Rough-In- Level 7	15	15	Jun-2-16	Jun-22-16
7040	Window Installation- Level 7	10	10	Jun-15-16	Jun-28-16
7135	Install Interior Glazing frames- Level 7	5	5	Jun-22-16	Jun-28-16
7115	In-wall Inspections- Level 7	5	5	Jun-23-16	Jun-29-16
7120	Drywall / Wall Finish- Level 7	15	15	Jun-30-16	Jul-21-16
7150	Environmental Room Installation- Level 7	10	10	Jul-22-16	Aug-4-16
7145	Painting - prime & 1st coat- Level 7	10	10	Jul-22-16	Aug-4-16
7170	Interior Glazing- Level 7	5	5	Aug-5-16	Aug-11-16
7165	Ceiling Grid / cut tiles- Level 7	10	10	Aug-23-16	Sep-6-16
7185	MEP ceiling fixtures/trim - Level 7	10	10	Aug-30-16	Sep-13-16
7215	Ceiling Inspections - Level 7	5	5	Sep-14-16	Sep-20-16
7156	Flooring- Level 7	10	10	Sep-16-16	Sep-29-16
7140	Casework & Fume Hood Installation- Level 7	15	15	Sep-23-16	Oct-13-16
7175	Ceiling Tiles- Level 7	7	7	Sep-30-16	Oct-10-16
7171	Millwork- Level 7	10	10	Sep-30-16	Oct-13-16
7180	Door and Hardware Installation- Level 7	10	10	Oct-7-16	Oct-20-16
7157	Painting - final coat- Level 7	5	5	Oct-14-16	Oct-20-16
7190	MEP Trimout- Level 7	15	15	Oct-14-16	Nov-3-16
7250	Clean and wax floor - Level 7	3	3	Oct-21-16	Oct-25-16
7131	Signage- Level 7	5	5	Oct-21-16	Oct-27-16
7141	Mobile Casework- Level 7	5	5	Oct-26-16	Nov-1-16
7195	Testing, Adjusting & Balancing- Level 7	8	8	Nov-30-16	Dec-9-16
7205	Temp vestibule removal/Windows/Finishes @ Hoist - Level 7	10	10	Nov-30-16	Dec-13-16
7200	Clean, Inspect, & Punchlist- Level 7	20	20	Nov-30-16	Dec-28-16
Level 6					
6000	Demolition - Walls/Ceilings/Floors- Level 6	20	20	Feb-16-16	Mar-14-16
6045	Perimeter Firesafing and Smoke Barrier- Level 6	5	5	Feb-22-16	Feb-26-16
6010	Abatement of Hazardous Material- Level 6	20	20	Mar-1-16	Mar-29-16
6030	Window Demolition/Abatement/Weatherproofing- Level 6	20	20	Mar-1-16	Mar-29-16
6020	Demolition - MEP Systems- Level 6	15	15	Mar-30-16	Apr-19-16
6060	MEP Overhead Rough-In- Level 6	20	20	Apr-20-16	May-17-16
6156	Floor infill & leveling - Level 6	5	5	May-27-16	Jun-3-16
6100	Door Frame Installation- Level 6	5	5	Jun-6-16	Jun-10-16
6090	Framing - Partitions- Level 6	15	15	Jun-6-16	Jun-24-16
6110	Inwall Rough-In- Level 6	15	15	Jun-27-16	Jul-18-16
6113	Install Interior Glazing frames- Level 6	5	5	Jun-29-16	Jul-6-16
6040	Window Installation- Level 6	10	10	Jun-29-16	Jul-13-16
6115	In-wall Inspections- Level 6	5	5	Jul-19-16	Jul-25-16
6120	Drywall / Wall Finish- Level 6	15	15	Jul-26-16	Aug-15-16
6135	Painting - prime & 1st coat- Level 6	10	10	Aug-16-16	Aug-29-16
6170	Interior Glazing- Level 6	5	5	Aug-30-16	Sep-6-16
6150	Environmental Room Installation- Level 6	10	10	Aug-30-16	Sep-13-16
6155	Ceiling Grid / cut tiles- Level 6	10	10	Sep-1-16	Sep-15-16
6157	MEP ceiling fixtures/trim - Level 6	10	10	Sep-9-16	Sep-22-16
6215	Ceiling Inspections - Level 6	5	5	Sep-23-16	Sep-29-16
6165	Flooring- Level 6	10	10	Sep-27-16	Oct-10-16
6140	Casework & Fume Hood Installation- Level 6	15	15	Oct-4-16	Oct-24-16
6158	Ceiling Tiles- Level 6	7	7	Oct-11-16	Oct-19-16
6166	Autoclave / Glasswash Installation- Level 6	10	10	Oct-11-16	Oct-24-16
6171	Millwork- Level 6	10	10	Oct-11-16	Oct-24-16
6180	Door and Hardware Installation- Level 6	10	10	Oct-18-16	Oct-31-16
6185	Painting - final coat- Level 6	5	5	Oct-25-16	Oct-31-16
6190	MEP Trimout- Level 6	15	15	Oct-25-16	Nov-14-16



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Remaining Work
Remaining Roll-up
Milestone
Completed Work

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UCH Main Building Renovation - Project 2
GMP Bid Schedule as of Nov-3-15
EXHIBIT O - MILESTONE PROJECT SCHEDULE

WHITING-TURNER

LOVETT SILVERMAN
500 N. Franklin Turnpike
Ramsey, NJ 07446
201.327.3100

Activity ID	Activity Name	Original Duration	Remaining Duration	Start	Finish
6178	Clean and wax floor - Level 6	3	3	Nov-1-16	Nov-3-16
6131	Signage- Level 6	5	5	Nov-1-16	Nov-7-16
6175	Mobile Casework- Level 6	5	5	Nov-4-16	Nov-10-16
6205	Temp vestibule removal/Windows/Finishes @ Hoist - Level 6	10	10	Nov-23-16	Dec-8-16
6200	Clean, Inspect, & Punchlist- Level 6	20	20	Nov-23-16	Dec-22-16
6195	Testing, Adjusting & Balancing- Level 6	8	8	Dec-12-16	Dec-21-16
Level 5					
5045	Perimeter Firesafing and Smoke Barrier- Level 5	5	5	Mar-1-16	Mar-7-16
5000	Demolition - Walls/Ceilings/Floors- Level 5	20	20	Mar-1-16	Mar-29-16
5010	Abatement of Hazardous Material- Level 5	20	20	Mar-15-16	Apr-12-16
5030	Window Demolition/Abatement/Weatherproofing- Level 5	20	20	Mar-15-16	Apr-12-16
5020	Demolition - MEP Systems- Level 5	15	15	Apr-13-16	May-3-16
5060	MEP Overhead Rough-In- Level 5	20	20	May-4-16	Jun-1-16
5156	Floor infill & leveling - Level 5	5	5	Jun-6-16	Jun-10-16
5100	Door Frame Installation- Level 5	5	5	Jun-13-16	Jun-17-16
5090	Framing - Partitions- Level 5	15	15	Jun-13-16	Jul-1-16
5110	Inwall Rough-In- Level 5	15	15	Jun-30-16	Jul-21-16
5116	Install Interior Glazing frames- Level 5	5	5	Jul-7-16	Jul-13-16
5040	Window Installation- Level 5	10	10	Jul-14-16	Jul-27-16
5115	In-wall Inspections- Level 5	5	5	Jul-22-16	Jul-28-16
5120	Drywall / Wall Finish- Level 5	15	15	Jul-29-16	Aug-18-16
5135	Painting - prime & 1st coat- Level 5	10	10	Aug-23-16	Sep-6-16
5170	Interior Glazing- Level 5	5	5	Sep-7-16	Sep-13-16
5150	Environmental Room Installation- Level 5	10	10	Sep-7-16	Sep-20-16
5155	Ceiling Grid / cut tiles- Level 5	10	10	Sep-13-16	Sep-26-16
5157	MEP ceiling fixtures/trim - Level 5	10	10	Sep-20-16	Oct-3-16
5215	Ceiling Inspections - Level 5	5	5	Oct-4-16	Oct-10-16
5165	Flooring- Level 5	10	10	Oct-6-16	Oct-19-16
5140	Casework & Fume Hood Installation- Level 5	15	15	Oct-13-16	Nov-2-16
5162	Ceiling Tiles- Level 5	7	7	Oct-20-16	Oct-28-16
5166	Autoclave / Glasswash Installation- Level 5	10	10	Oct-20-16	Nov-2-16
5185	Millwork- Level 5	10	10	Oct-20-16	Nov-2-16
5180	Door and Hardware Installation- Level 5	10	10	Oct-27-16	Nov-9-16
5194	Painting - final coat- Level 5	5	5	Nov-3-16	Nov-9-16
5190	MEP Trimout- Level 5	15	15	Nov-3-16	Nov-23-16
5250	Clean and wax floor - Level 5	3	3	Nov-10-16	Nov-14-16
5131	Signage- Level 5	5	5	Nov-10-16	Nov-16-16
5175	Mobile Casework- Level 5	5	5	Nov-15-16	Nov-21-16
5205	Temp vestibule removal/Windows/Finishes @ Hoist - Level 5	10	10	Nov-18-16	Dec-5-16
5200	Clean, Inspect, & Punchlist- Level 5	20	20	Nov-28-16	Dec-26-16
5195	Testing, Adjusting & Balancing- Level 5	8	8	Dec-22-16	Jan-4-17
Level 4					
4045	Perimeter Firesafing and Smoke Barrier- Level 4	5	5	Mar-15-16	Mar-21-16
4000	Demolition - Walls/Ceilings/Floors- Level 4	20	20	Mar-15-16	Apr-12-16
4010	Abatement of Hazardous Material- Level 4	20	20	Mar-30-16	Apr-26-16
4030	Window Demolition/Abatement/Weatherproofing- Level 4	20	20	Mar-30-16	Apr-26-16
4020	Demolition - MEP Systems- Level 4	15	15	Apr-27-16	May-17-16
4060	MEP Overhead Rough-In- Level 4	20	20	May-18-16	Jun-15-16
4175	Floor infill & leveling - Level 4	5	5	Jun-13-16	Jun-17-16
4100	Door Frame Installation- Level 4	5	5	Jun-20-16	Jun-24-16
4090	Framing - Partitions- Level 4	15	15	Jun-20-16	Jul-11-16
4110	Inwall Rough-In- Level 4	15	15	Jul-12-16	Aug-1-16
4114	Install Interior Glazing frames- Level 4	5	5	Jul-14-16	Jul-20-16
4040	Window Installation- Level 4	10	10	Jul-28-16	Aug-10-16
4115	In-wall Inspections- Level 4	5	5	Aug-2-16	Aug-8-16
4120	Drywall / Wall Finish- Level 4	15	15	Aug-9-16	Aug-29-16
4135	Painting - prime & 1st coat- Level 4	10	10	Aug-30-16	Sep-13-16

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Remaining Work
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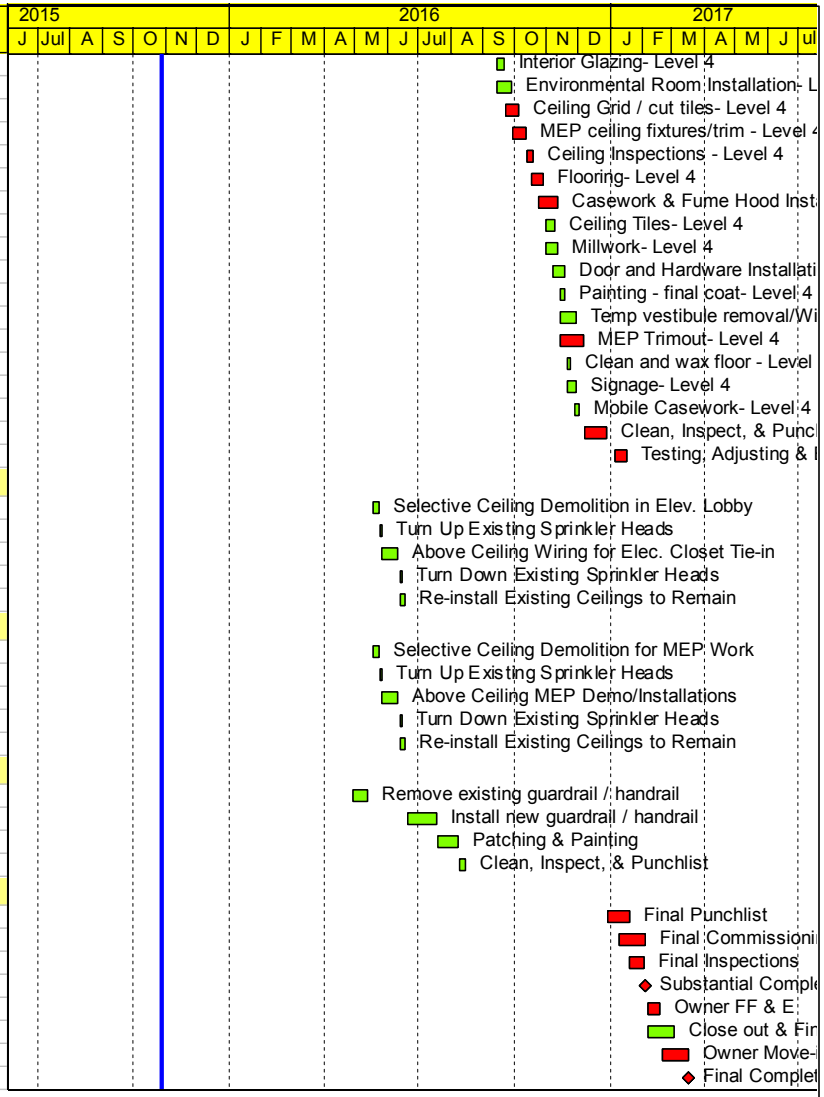
UCH Main Building Renovation - Project 2
GMP Bid Schedule as of Nov-3-15
EXHIBIT O - MILESTONE PROJECT SCHEDULE

WHITING-TURNER

LOVETT SILVERMAN
500 N. Franklin Turnpike
Ramsey, NJ 07446
201.327.3100

Activity ID	Activity Name	Original Duration	Remaining Duration	Start	Finish
4170	Interior Glazing- Level 4	5	5	Sep-14-16	Sep-20-16
4150	Environmental Room Installation- Level 4	10	10	Sep-14-16	Sep-27-16
4165	Ceiling Grid / cut tiles- Level 4	10	10	Sep-22-16	Oct-5-16
4176	MEP ceiling fixtures/trim - Level 4	10	10	Sep-29-16	Oct-12-16
4215	Ceiling Inspections - Level 4	5	5	Oct-13-16	Oct-19-16
4178	Flooring- Level 4	10	10	Oct-17-16	Oct-28-16
4140	Casework & Fume Hood Installation- Level 4	15	15	Oct-24-16	Nov-11-16
4177	Ceiling Tiles- Level 4	7	7	Oct-31-16	Nov-8-16
4187	Millwork- Level 4	10	10	Oct-31-16	Nov-11-16
4180	Door and Hardware Installation- Level 4	10	10	Nov-7-16	Nov-18-16
4194	Painting - final coat- Level 4	5	5	Nov-14-16	Nov-18-16
4205	Temp vestibule removal/Windows/Finishes @ Hoist - Level 4	10	10	Nov-14-16	Nov-29-16
4190	MEP Trimout- Level 4	15	15	Nov-14-16	Dec-6-16
4255	Clean and wax floor - Level 4	3	3	Nov-21-16	Nov-23-16
4131	Signage- Level 4	5	5	Nov-21-16	Nov-29-16
4185	Mobile Casework- Level 4	5	5	Nov-28-16	Dec-2-16
4200	Clean, Inspect, & Punchlist- Level 4	15	15	Dec-7-16	Dec-28-16
4195	Testing, Adjusting & Balancing- Level 4	8	8	Jan-5-17	Jan-16-17
Level 4 (Off Hours)					
4250	Selective Ceiling Demolition in Elev. Lobby	5	5	May-18-16	May-24-16
4260	Turn Up Existing Sprinkler Heads	2	2	May-25-16	May-26-16
4270	Above Ceiling Wiring for Elec. Closet Tie-in	10	10	May-27-16	Jun-10-16
4280	Turn Down Existing Sprinkler Heads	2	2	Jun-13-16	Jun-14-16
4290	Re-install Existing Ceilings to Remain	5	5	Jun-13-16	Jun-17-16
Level 3 (Off Hours)					
3220	Selective Ceiling Demolition for MEP Work	5	5	May-18-16	May-24-16
3215	Turn Up Existing Sprinkler Heads	2	2	May-25-16	May-26-16
3230	Above Ceiling MEP Demo/Installations	10	10	May-27-16	Jun-10-16
3235	Turn Down Existing Sprinkler Heads	2	2	Jun-13-16	Jun-14-16
3240	Re-install Existing Ceilings to Remain	5	5	Jun-13-16	Jun-17-16
Stair Ls4					
9000	Remove existing guardrail / handrail	10	10	Apr-29-16	May-12-16
9010	Install new guardrail / handrail	20	20	Jun-20-16	Jul-18-16
9020	Patching & Painting	15	15	Jul-19-16	Aug-8-16
9030	Clean, Inspect, & Punchlist	5	5	Aug-9-16	Aug-15-16
Turnover					
11000	Final Punchlist	15	15	Dec-29-16	Jan-19-17
11030	Final Commissioning	20	20	Jan-9-17	Feb-3-17
11010	Final Inspections	10	10	Jan-20-17	Feb-2-17
11040	Substantial Completion	0	0		Feb-3-17
11020	Owner FF & E	10	10	Feb-6-17	Feb-17-17
11060	Close out & Final Completion	20	20	Feb-6-17	Mar-3-17
11050	Owner Move-in	20	20	Feb-20-17	Mar-17-17
11070	Final Completion	0	0		Mar-17-17



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UCH Main Building Renovation - Project 2
GMP Bid Schedule as of Nov-3-15
EXHIBIT O - MILESTONE PROJECT SCHEDULE

WHITING-TURNER

LOVETT SILVERMAN
500 N. Franklin Turnpike
Ramsey, NJ 07446
201.327.3100

UConn Health – Main Building Renovation Project 2
Exhibit H – Alternates

I. REQUESTED ALTERNATES

The following alternate prices are complete in every respect, including all labor, material, taxes, equipment, bond, etc. If any or all alternates are accepted, no additional compensation will be allowed for scope related to the alternate.

1. Alternate A1: Added cost to include insurance in lieu of OCIP

All scopes of work:

1. **All bids are to be submitted excluding (but identifying) all insurance costs**. Contractors of all tiers shall identify their cost for all insurance coverages to be provided by the Owner for the work at the Project site as an add-alternate cost of insurance. See Part 20 of the Construction Administration Handbook for additional information.

PRICE: ADD AMOUNT $_____.00

2. Alternate A2:

Unit 22A:

1. Alternate to delete laboratory water heater WH-2, laboratory cold water piping, laboratory hot water piping, laboratory hot water return piping, and appurtenances from Penthouse. See Keynote #11 on plumbing drawing P20P.3A.

Unit 23A:

1. Alternate to delete connections to laboratory water heater WH-2, and appurtenances.

Unit 23C:

1. Alternate to delete connections and programming related laboratory water heater WH-2, and appurtenances.

Unit 26A:

1. Alternate to delete connections to laboratory water heater WH-2, and appurtenances.

PRICE: DEDUCT AMOUNT $_____.00

3. Alternate A3:

Unit 09A:

1. Alternate to delete all ~~***wall protection***~~ ***Corner and End-Guards*** devices as specified in Section ~~***102600***~~ ***055000*** and indicated on the A 400 series drawings and End Guard EG1 and Corner Guard CG1 drawings.

PRICE: DEDUCT AMOUNT $_____.00

4. Alternate A4:

Unit 12A:

1. Alternate to delete Adaptable Casework as follows: Delete two ATA/ATB tables and associated mobile base cabinets per floor for a total reduction of eight ATA/ATB tables. Delete two MTA1 tables with associated mobile base cabinets, by two per floor for a total reduction of eight MTA1tables.

PRICE: DEDUCT AMOUNT $_____.00

UConn Health – Main Building Renovation Project 2
Exhibit H – Alternates

5. Alternate A5:

All Scopes of work:

1. Alternate to provide work in Stair LS 4 from the 4th floor to the subbasement to match the work on floors 4, 5, 6, and 7 as follows: doors from the main (N/S) corridor at each floor to the stair including the stair door will have hardware changed out to match the upper floors. The stairs are to be painted, the hand rails are to be upgraded to, the lights to be changed out, the HVAC units are to be replaced, and the fire alarm and sprinklers are to be changed and added all to match the scope of work for the top 4 floors.

Unit 05A:

1. Remove the existing flow prevention gate from the Ground Level and reinstall at the Basement Level.

Unit 10A:

1. Install a "No Exit" sign on the relocated flow prevention gate on the Basement Level.

PRICE: DEDUCT AMOUNT $_____.00

6. Alternate A6:

Unit 23A:

1. Rework of chilled water piping in the penthouse as indicated on the following drawings: Drawing H10P-3.b ALT defines the demolition work associated with removing the existing chilled water pipes. Unit 23A to include demolition and removal of material to dumpster. Drawing H30P-3.b ALT defines the new scope of work associated with replacing the existing chilled water pipes.

PRICE: ADD AMOUNT $_____.00

7. Alternate A7:

All scopes of work:

1. Alternate to provide AHU-L5 located on the north side of the penthouse as indicated on the following documents:

   Drawing H20P.3A ALT – Provide AHU-L5 (refer to bullet point below for scope impact)
   - Provide AHU-L5 and associated SA, RA and OA ductwork, dampers, sound attenuators and VFD's. Note: Adding AHU-L5 will the SA cross connect from AHUL4to shaft 7 and the RA cross connect from RF-L4 to shaft 6.
   - Provide RF-L5, associated dampers, sound attenuators, VFD's and ductwork. (Provide LP-5 shown on H20R.3A if AHU-L5 is provided.)

   Drawing H30P.3A ALT – Addition of AHU-L5 (refer to bullet point below for scope impact)
   - Provide AHU-L5 – Provide associated glycol, steam, chilled water, condensate and cooling coil condensate piping.
   - Provide Steam Pump Trap PT – L4.
   - Relocate elevator machine room air cool condensing unit and recharge system as required.
   - Relocate Chilled water Pipes as shown to create space for AHU-L5.

PRICE: ADD AMOUNT $_____.00

UConn Health – Main Building Renovation Project 2
Exhibit H – Alternates

8. Alternate A8:

Unit 26A:

1. Alternate to allow the use of reconditioned busplug circuit breakers in Electrical Rooms L4EL08, L5EL08, L6EL08 in lieu of the provision of new busplug circuit breakers.

PRICE: DEDUCT AMOUNT $_____.00

UConn Health – Main Building Renovation Project 2
Exhibit H – Alternates

II. VOLUNTARY ALTERNATES – Value Engineering, Cost Savings, and Improvements

We have developed "voluntary alternates" prices as set forth below. It is the intent of these alternates to yield to the Owner basically the same finished product in terms of function, quality, and performance had the specified material/work been utilized, while at the same time offering the Owner savings in total cost.

The prices quoted are complete in every respect and include monies necessary to make all changes to the project to implement each alternate.

Describe each voluntary alternate with adequate detail to allow full review and decision related to the acceptance/rejection by the Owner. All suggestions must maintain a code compliant final product.

Discounts/credits to combine multiple packages into one should be listed as voluntary alternates.

Voluntary Alternates will not be used as a basis to determine the lowest responsible bid.

Item	Description of Alternate	Credit
1.		**$(.00)**
2.		**$(.00)**
3.		**$(.00)**
4.		**$(.00)**
5.		**$(.00)**
6.		**$(.00)**

UConn Health – Main Building Renovation Project 2
Exhibit I – Unit Prices

The following unit prices will be applied to applicable changes and are complete in every respect, including all labor, material, taxes, equipment, bond, etc., and shall include all overhead and profit.

All applicable changes will be priced based on the approved Unit Prices, at Whiting-Turner's discretion if lump sum or time and materials costs cannot be agreed to in advance.

All unit prices are subject to review and approval by Whiting–Turner and the Owner.

Item	Description	Unit	Unit Price
1.	**Unit 26A – BUCK BOOST TRANSFORMERS AND RECEPTACLES FOR SPECIAL LABORATORY EQUIPMENT**		$
2.	**Unit 26A – FIRE ALARM AUDIBLE/VISUAL NOTIFICATION DEVICE (SPEAKER/STROBE)**		$
3.	**Unit 26A – FIRE ALARM VISUAL NOTIFICATION DEVICE (STROBE)**		$
4.	**Unit 26A – FIRE ALARM MANUAL PULL STATION**		$
5.	**Unit 26A – ALARM SMOKE DETECTOR**		$
6.	**Unit 23B & Unit 26A – FIRE ALARM DUCT MOUNTED SMOKE DETECTOR**		$
7.	~~**Unit 09B – PROVIDE COST AS INDICATED IN 03530 1.2A.1**~~		$
8.	**Unit 09B – PROVIDE COST AS INDICATED IN 03530 1.2A.2**		$
9.	**Unit 26B – TYPE "SW" TELECOM OUTLET including jack modules, faceplate, outlet box, conduit stub, cabling, cabling support, patch panel port, terminations, labeling, testing, and record documentation.**		$
10.	**Unit 26B – TYPE "D" TELECOM OUTLET including jack modules, faceplate, outlet box, conduit stub, cabling, cabling support, patch panel port, terminations, labeling, testing, and record documentation.**		$
11.	**Unit 26B – TYPE "T" TELECOM OUTLET including jack modules, faceplate, outlet box, conduit stub, cabling, cabling support, patch panel port, terminations, labeling, testing, and record documentation.**		$
12.	**Unit 26B – TYPE "Q" TELECOM OUTLET including jack modules, faceplate, outlet box, conduit stub, cabling, cabling support, patch panel port, terminations, labeling, testing, and record documentation.**		$
13.	**Unit 09B – Installation of one (1) 50 LB bag of feather finish flash patching material.**		$
14.			$
15.			$

Note: The same unit price shall apply whether the work is added or deducted.
Unit prices shall be included in the bid submission.

UConn Health Project 2

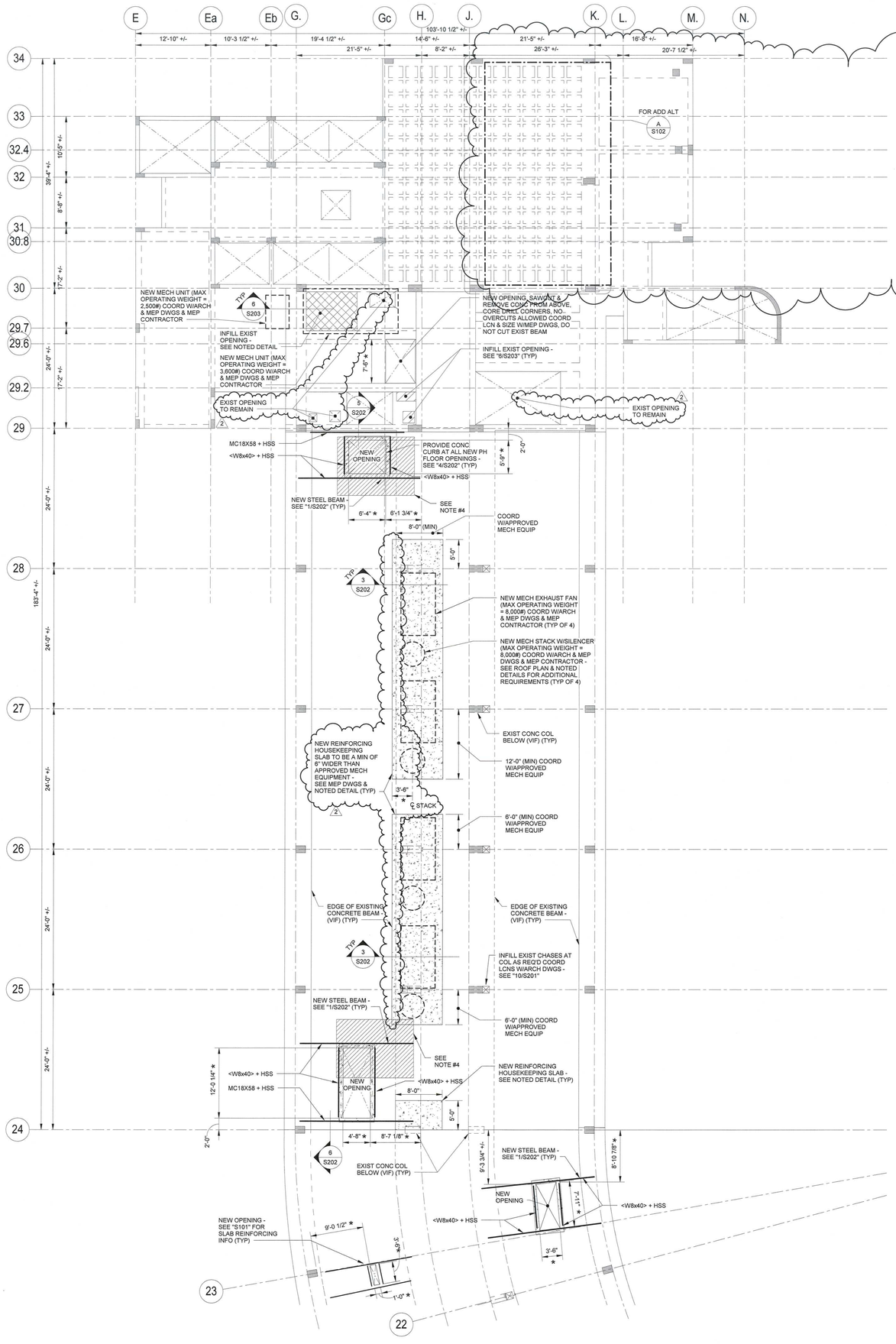
Addendum #01 - Drawing & Specification List 11-02-2015 L Building Floor 4-7 Area 3A

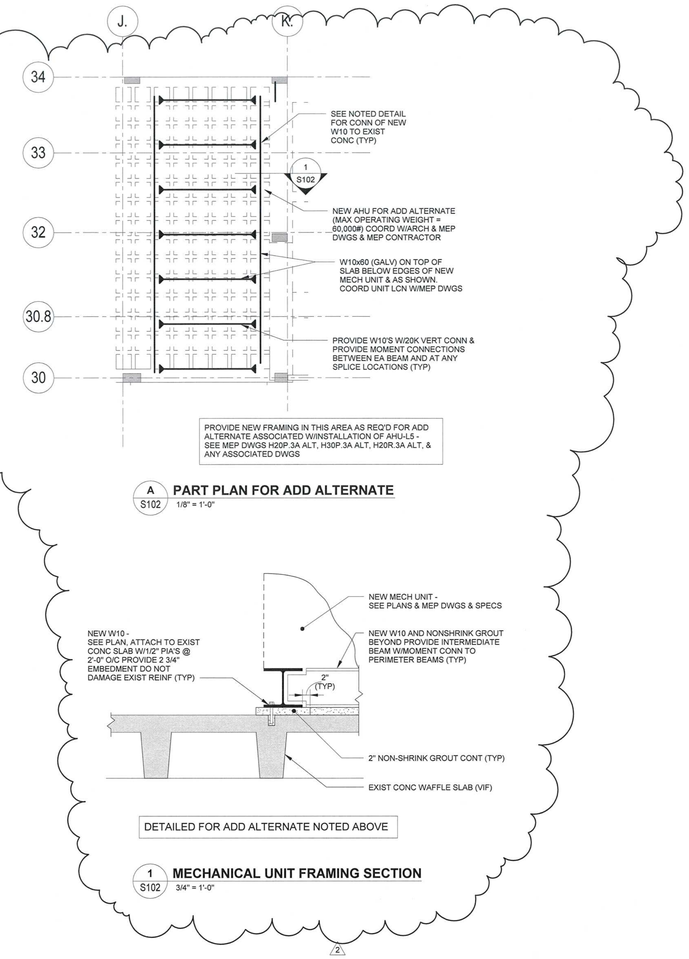
Printed: 11/03/2015

X = Indicates sheets that have been added or revised in this submission

Submission	Drawing / Spec Number	Drawing / Spec Title	Revison Number	Revison Date	Reason for revision
X	CS01	COVER SHEET VOL.1	3	11||02||2015	Addendum #01
X	S102	PENTHOUSE FLOOR FRAMING PLAN	2	11||02||2015	Addendum #01
X	S103	PENTHOUSE ROOF FRAMING PLAN	2	11||02||2015	Addendum #01
X	S202	FRAMING DETAILS	2	11||02||2015	Addendum #01
X	S203	FRAMING DETAILS	2	11||02||2015	Addendum #01
X	S204	AREAWAY FRAMING DETAILS	2	11||02||2015	Addendum #01
X	LS0P	LIFE SAFETY PLAN - PENTHOUSE	1	11||02||2015	Addendum #01
X	A104.3A	DEMOLITION PLAN - FOURTH FLOOR AND PARTIAL BASEMENT	3	11||02||2015	Addendum #01
X	A10P.3A	DEMOLITION PLAN - PENTHOUSE	3	11||02||2015	Addendum #01
X	A10R.3A	DEMOLITION PLAN - ROOF	2	11||02||2015	Addendum #01
X	A2SB	SUB BASEMENT PLAN	2	11||02||2015	Addendum #01
X	A204.3A	FLOOR PLAN - FOURTH FLOOR	2	11||02||2015	Addendum #01
X	A204.3A-S	ENLARGED PLAN - COL. LINES 21-24	2	11||02||2015	Addendum #01
X	A205.3A	FLOOR PLAN - FIFTH FLOOR	2	11||02||2015	Addendum #01
X	A206.3A	FLOOR PLAN - SIXTH FLOOR	2	11||02||2015	Addendum #01
X	A207.3A	FLOOR PLAN - SEVENTH FLOOR	2	11||02||2015	Addendum #01
X	A20P.3A	FLOOR PLAN - PENTHOUSE FLOOR	2	11||02||2015	Addendum #01
X	A20R.3A	FLOOR PLAN - ROOF	2	11||02||2015	Addendum #01
X	A250	DOOR TYPES, FRAMES AND DETAILS	2	11||02||2015	Addendum #01
X	A251	DOOR SCHEDULE	2	11||02||2015	Addendum #01
X	A255	WINDOW PLAN AND SECTION DETAILS	2	11||02||2015	Addendum #01
X	A306.3A	REFLECTED CEILING PLAN - SIXTH FLOOR	2	11||02||2015	Addendum #01
X	A400	FINISH LEGEND AND GENERAL NOTES	2	11||02||2015	Addendum #01
X	A404.3A	FINISH PLAN - FOURTH FLOOR	2	11||02||2015	Addendum #01
X	A405.3A	FINISH PLAN - FIFTH FLOOR	2	11||02||2015	Addendum #01
X	A406.3A	FINISH PLAN - SIXTH FLOOR	2	11||02||2015	Addendum #01
X	A407.3A	FINISH PLAN - SEVENTH FLOOR	2	11||02||2015	Addendum #01
X	A500	LABORATORY GENERAL NOTES AND DETAILS	2	11||02||2015	Addendum #01
X	A501	LABORATORY EQUIPMENT SCHEDULE	2	11||02||2015	Addendum #01
X	A504.3A-N	ENLARGED PLAN - FOURTH FLOOR - NORTH	2	11||02||2015	Addendum #01
X	A504.3A-S	ENLARGED PLAN - FOURTH FLOOR - SOUTH	2	11||02||2015	Addendum #01
X	A505.3A-N	ENLARGED PLAN - FIFTH FLOOR - NORTH	2	11||02||2015	Addendum #01
X	A505.3A-S	ENLARGED PLAN - FIFTH FLOOR - SOUTH	2	11||02||2015	Addendum #01
X	A506.3A-N	ENLARGED PLAN - SIXTH FLOOR - NORTH	2	11||02||2015	Addendum #01
X	A506.3A-S	ENLARGED PLAN - SIXTH FLOOR - SOUTH	2	11||02||2015	Addendum #01
X	A507.3A-N	ENLARGED PLAN - SEVENTH FLOOR - NORTH	2	11||02||2015	Addendum #01
X	A507.3A-S	ENLARGED PLAN - SEVENTH FLOOR - SOUTH	2	11||02||2015	Addendum #01
X	A560	STAIR LS4 DETAILS, PLANS AND SECTIONS	2	11||02||2015	Addendum #01
X	A601	LAB CASEWORK BENCH LAYOUT	2	11||02||2015	Addendum #01
X	A602	LAB CASEWORK ELEVATIONS	2	11||02||2015	Addendum #01
X	A603	LAB CASEWORK ELEVATIONS	2	11||02||2015	Addendum #01
X	A604	LAB CASEWORK ELEVATIONS	2	11||02||2015	Addendum #01
X	A605	LAB CASEWORK ELEVATIONS	2	11||02||2015	Addendum #01
X	A720	INTERIOR WALL SECTIONS AND DETAILS	2	11||02||2015	Addendum #01
X	A802	ROOF SECTIONS AND DETAILS	2	11||02||2015	Addendum #01
X	A901	TYPICAL SIGNAGE DETAILS	2	11||02||2015	Addendum #01
X	A904	SIGNAGE PLAN - FOURTH FLOOR	2	11||02||2015	Addendum #01
X	A905	SIGNAGE PLAN - FIFTH FLOOR	2	11||02||2015	Addendum #01
X	A906	SIGNAGE PLAN - SIXTH FLOOR	2	11||02||2015	Addendum #01
X	A907	SIGNAGE PLAN - SEVENTH FLOOR	2	11||02||2015	Addendum #01
X	H108	STAIR PLANS & SECTIONS - MECHANICAL PIPING DEMOLITION	2	11||02||2015	Addendum #01
X	H10P.3C	HVAC DEMOLITION PLAN - PENTHOUSE - PART 3 - SHEET C - STEAM SYSTEMS	3	11||02||2015	Addendum #01
X	H10P.3C1	HVAC DEMOLITION PLAN - PENTHOUSE - PART 3 - SHEET C 1 - STEAM & HW SYSTEMS	2	11||02||2015	Addendum #01
X	H304.3A	HVAC PIPING PLAN - PHASE 3A - FOURTH FLOOR	2	11||02||2015	Addendum #01
X	H305.3A	HVAC PIPING PLAN - PHASE 3A - FIFTH FLOOR	2	11||02||2015	Addendum #01
X	H306.3A	HVAC PIPING PLAN - PHASE 3A - SIXTH FLOOR	2	11||02||2015	Addendum #01
X	H307.3A	HVAC PIPING PLAN - PHASE 3A - SEVENTH FLOOR	2	11||02||2015	Addendum #01
X	H308	STAIR PLANS & SECTIONS - MECHANICAL PIPING NEW WORK	2	11||02||2015	Addendum #01
X	H30P.3A	HVAC PIPING PLAN - PENTHOUSE	2	11||02||2015	Addendum #01
X	H30P.3A1	HVAC PIPING PLAN - PENTHOUSE	2	11||02||2015	Addendum #01
X	H30R.3A	HVAC PIPING PLAN - ROOF	2	11||02||2015	Addendum #01
X	H503	HVAC DETAILS - SHEET 3	2	11||2||2015	Addendum #01
X	H511	HVAC HRU DETAILS	2	11||2||2015	Addendum #01
X	H702	HVAC EQUIPMENT SCHEDULES - SHEET 2	2	11||2||2015	Addendum #01
X	H703	HVAC EQUIPMENT SCHEDULES - SHEET 3	2	11||02||2015	Addendum #01
X	H802	AIR HANDLING SYSTEMS PHASE 3A CONTROLS SEQUENCE AND DDC INPUT||/OUTPUT SUMMARY	2	11||02||2015	Addendum #01
X	P206.3A	PLUMBING PLAN - PHASE 3A - SIXTH FLOOR	2	11||02||2015	Addendum #01
X	P207.3A	PLUMBING PLAN - PHASE 3A - SEVENTH FLOOR	2	11||02||2015	Addendum #01
X	P302.3A	PLUMBING PIPING DIAGRAMS - PHASE 3A	2	11||02||2015	Addendum #01
X	P303.3A	PLUMBING PIPING DIAGRAMS - PHASE 3A	2	11||02||2015	Addendum #01
X	P701.3A	PLUMBING SCHEDULES - PHASE 3A	2	11||02||2015	Addendum #01
X	E001	ELECTRICAL SYMBOLS AND ABBREVIATIONS	3	11||02||2015	Addendum #01
X	E104.3A	FLOOR PLAN - PHASE 3A - FOURTH FLOOR - ELECTRICAL DEMOLITION	3	11||02||2015	Addendum #01
X	E105.3A	FLOOR PLAN - PHASE 3A - FIFTH FLOOR - ELECTRICAL DEMOLITION	3	11||02||2015	Addendum #01
X	E106.3A	FLOOR PLAN - PHASE 3A - SIXTH FLOOR - ELECTRICAL DEMOLITION	3	11||02||2015	Addendum #01
X	E107.3A	FLOOR PLAN - PHASE 3A - SEVENTH FLOOR - ELECTRICAL DEMOLITION	3	11||02||2015	Addendum #01
X	E10P.3A	FLOOR PLAN - PHASE 3A - PENTHOUSE - ELECTRICAL DEMOLITION	3	11||02||2015	Addendum #01
X	E3SB.3A	FLOOR PLAN - PHASE 3A - SUB-BASEMENT - POWER	2	11||02||2015	Addendum #01
X	E404.3A	FLOOR PLAN - PHASE 3A - FOURTH FLOOR - LOW VOLTAGE SYSTEMS	2	11||02||2015	Addendum #01
X	E405.3A	FLOOR PLAN - PHASE 3A - FIFTH FLOOR - LOW VOLTAGE SYSTEMS	2	11||02||2015	Addendum #01
X	E406.3A	FLOOR PLAN - PHASE 3A - SIXTH FLOOR - LOW VOLTAGE SYSTEMS	2	11||02||2015	Addendum #01
X	E407.3A	FLOOR PLAN - PHASE 3A - SEVENTH FLOOR - LOW VOLTAGE SYSTEMS	2	11||02||2015	Addendum #01
X	E40P.3A	FLOOR PLAN - PHASE 3A - PENTHOUSE - LOW VOLTAGE SYSTEMS	2	11||02||2015	Addendum #01
X	E500	ENLARGED PARTIAL FLOOR PLAN - BASEMENT ELECTRICAL ROOM	2	11||02||2015	Addendum #01

X	E532	ELECTRICAL DETAILS	2	11||02||2015	Addendum #01
X	E533	STAIR PLANS & SECTIONS - ELECTRICAL	2	11||02||2015	Addendum #01
X	E560	LOW VOLTAGE SYSTEMS DETAILS - ACCESS CONTROL DOORS	2	11||02||2015	Addendum #01
X	E600	ELECTRICAL SINGLE LINE DIAGRAM	2	11||02||2015	Addendum #01
X	E602.3A	FIRE ALARM RISER DIAGRAM - PHASE 3A	2	11||02||2015	Addendum #01
X	E621.3A	ACCESS CONTROL DOORS RISER DIAGRAM - PHASE 3A	2	11||02||2015	Addendum #01
X	012200	UNIT PRICES (See Exhibit G.1-Unit Prices in GMP Amendment)		11||02||2015	Addendum #01
X	012300	ALTERNATES (See Exhibit M-Alternates in GMP Amendment)		11||02||2015	Addendum #01
X	035300	CEMENTITIOUS TOPPING		11||02||2015	Addendum #01
X	051200	STRUCTURAL STEEL FRAMING		11||02||2015	Addendum #01
X	064023	INTERIOR ARCHITECTURAL WOODWORK		11||02||2015	Addendum #01
X	075323	ETHYLENE-PROPYLENE-DIENE-MONOMER (EPDM) ROOFING		11||02||2015	Addendum #01
X	096813	CARPETING		11||02||2015	Addendum #01
X	123553	TOPS, SINKS, FIXTURES AND ACCESSORIES		11||02||2015	Addendum #01
X	123553.A	TBJ MODEL 30-34 NECROPSY TABLE		11||02||2015	Addendum #01
X	224500	LABORATORY PLUMBING FIXTURES AND TRIM		11||02||2015	Addendum #01
X	230560	DUCTWORK CLEANING		11||02||2015	Addendum #01
X	260500	COMMON WORK RESULTS FOR ELECTRICAL		11||02||2015	Addendum #01
X	262413	SWITCHBOARDS		11||02||2015	Addendum #01
X	263600	TRANSFER SWITCHES		11||02||2015	Addendum #01
X	283600	SPECIALTY GAS DETECTION AND ALARM		11||02||2015	Addendum #01





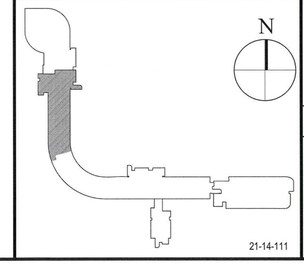
A S102 **PART PLAN FOR ADD ALTERNATE**
1/8" = 1'-0"

1 S102 **MECHANICAL UNIT FRAMING SECTION**
3/4" = 1'-0"

PENTHOUSE FLOOR FRAMING PLAN
1/8" = 1'-0"

1. PROVIDE HOUSE KEEPING PADS AS REQ'D, COORDINATE QUANTITY, SIZE, AND LOCATION WITH MEP DRAWINGS. SEE "2/S202".
2. ALL STEEL BEAM AND DRYPACK TO BE INSTALLED AND DRYPACKED TO ACHIEVE 75% OF DESIGN STRENGTH PRIOR TO INSTALLATION OF NEW SHAFT OPENING. CONTRACTOR TO PROPERLY SHORE EXISTING SLAB TO BE REMOVED TO PREVENT DAMAGE OF EXISTING STRUCTURE TO REMAIN. CONTRACTORS OPTION TO PROVIDE SHORING AROUND NEW OPENING, REMOVE CONCRETE AT NEW OPENING, INSTALL NEW STEEL, AND THEN REMOVE SHORING ONLY AFTER NEW DRYPACK ACHIEVES 75% OF ITS DESIGN STRENGTH.
3. SEE DRAWING "S101" FOR ADDITIONAL NOTES AND REQUIREMENTS.
4. NEW MECHANICAL HEAT RECOVERY UNIT MAXIMUM OPERATING WEIGHT = 9,000#. UNIT TO BE SUPPORTED ON MISCELLANEOUS METAL PREFABRICATED PLATFORM OFF THE PENTHOUSE FLOOR. SHADED AREA INDICATES APPROXIMATE AREA OF PLATFORM TO BE DESIGNED BY OTHERS. MAXIMUM LOAD (DEAD + LIVE LOAD + LATERAL) ON THE EXISTING PENTHOUSE FLOOR SLAB TO BE EQUAL TO OR LESS THAN A UNIFORM LOAD OF 125 POUNDS PER SQUARE FOOT AND POINT LOAD (NON-CUNCURRENT WITH THE UNIFORM LOADS) TO BE EQUAL TO OR LESS THAN 1,100# SPACED NO CLOSER THAN 3'-0" APART IN ANY DIRECTION. SEE ARCHITECTURAL AND MECHANICAL DRAWINGS AND SPECIFICATIONS FOR ADDITIONAL INFORMATION AND REQUIREMENTS. SUBMIT SIGNED AND SEALED CALCULATED LOADS AND REACTIONS AT THE PENTHOUSE FLOOR TO THE BUILDING STRUCTURAL ENGINEER OF RECORD FOR REVIEW PRIOR TO ANY FABRICATION OR ERECTION.

KEYPLAN



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STRUCTURAL

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Main Building Renovation

Building L - Project 2

263 Farmington Ave
Farmington CT 06032

ISSUED FOR BID
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Revisions

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1	10/19/15	Issued for Bid & Code Review
2	11/02/15	Addendum #01

Drawing Name
PENTHOUSE FLOOR FRAMING PLAN

Project No. 218010732

Drawing Number
S102

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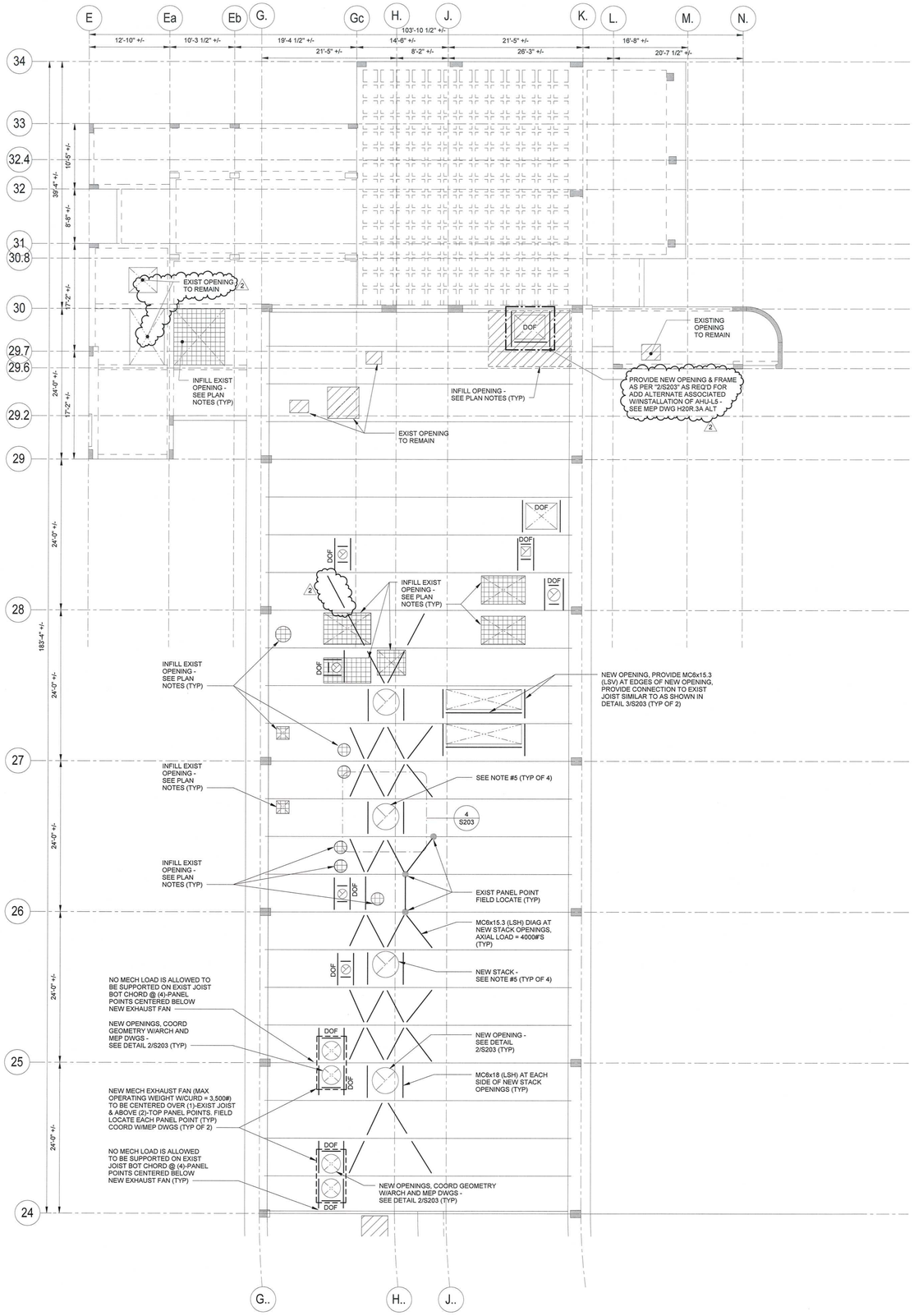
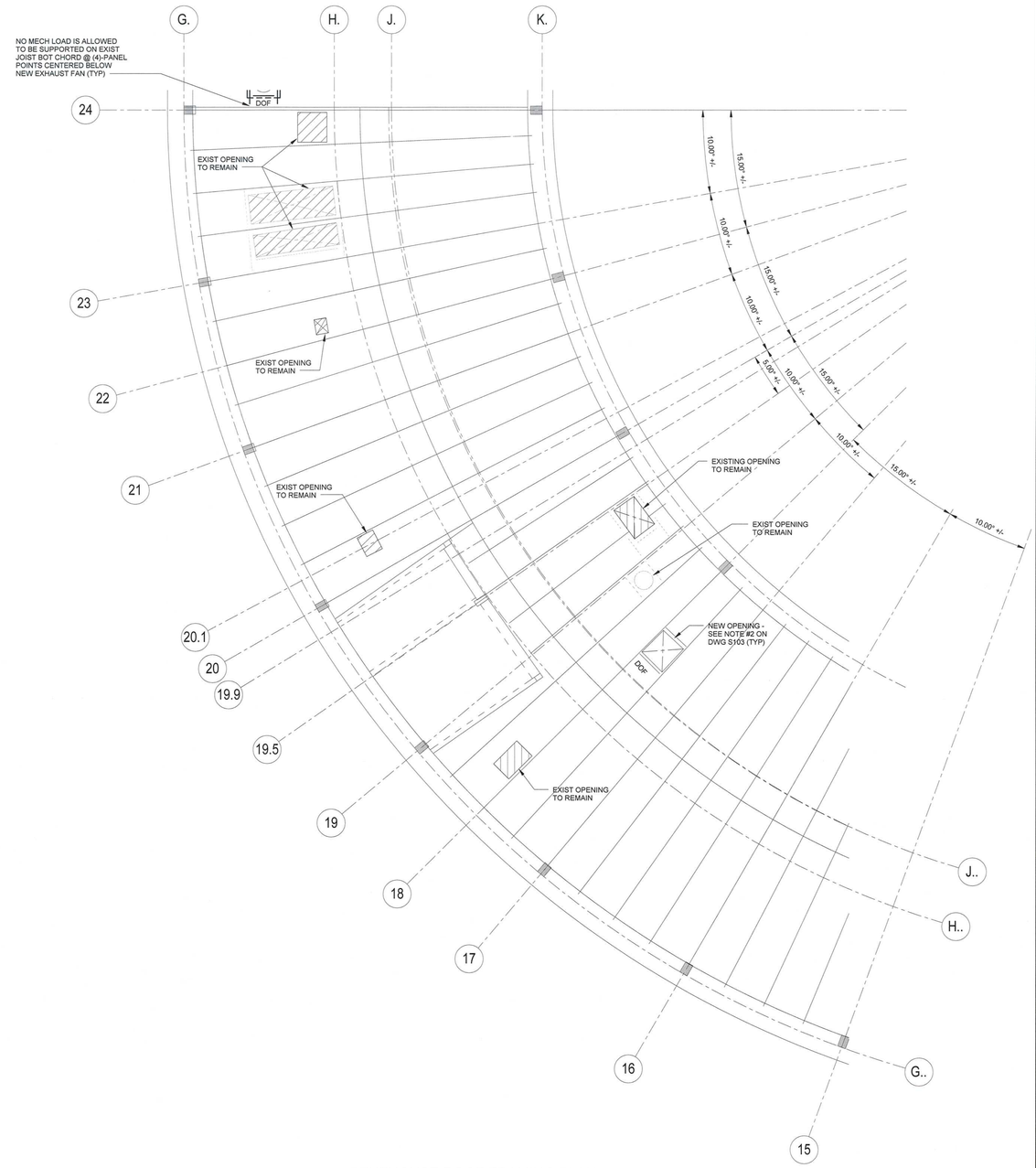




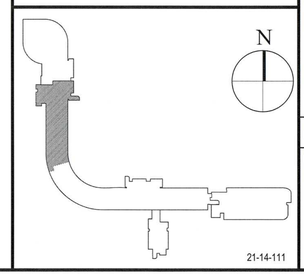
PENTHOUSE ROOF FRAMING PLAN

1/8" = 1'-0"

NOTES:

1. INDICATES EXISTING OPENING TO REMAIN SEE ARCHITECTURAL DRAWINGS.
2. INDICATES EXISTING OPENING TO BE INFILLED WITH 1 1/2" DEEP x 18 GAGE TYPE B GALVANIZED METAL ROOF DECK. PROVIDE DECK SUPPORT FRAME, SEE"1/S203".
3. ALL NEW AND EXISTING MECHANICAL & PIPING EQUIPMENT TO BE HUNG FROM PENTHOUSE ROOF SHALL BE SUPPORTED AT ROOF JOIST BOTTOM PANEL POINTS ONLY. MAXIMUM COMBINED (NEW + EXISTING) LOAD AT ANY PANEL POINT TO BE EQUAL TO OR LESS THAN, 900 POUNDS. SEE STRUCTURAL BUILDING SYSTEM NOTES ON "S001" FOR ADDITIONAL REQUIREMENTS. CONTRACTOR TO HIRE AN ENGINEER TO REVIEW AND DESIGN CONNECTION FOR NEW AND EXISTING PIPING/EQUIPMENT TO EXISTING PANEL POINTS. FIELD REVIEW EXISTING CONDITIONS AND SUBMIT LOAD LAYOUT FOR REVIEW BY BUILDING STRUCTURAL ENGINEER.
4. SEE DRAWING "S102" FOR ADDITIONAL NOTES AND REQUIREMENTS.
5. NEW EXHAUST STACK SHALL ONLY IMPOSE LATERAL HORIZONTAL LOADS (MAXIMUM OF 8,000#) AT ROOF LEVEL TO EXISTING STRUCTURE. ALLOW VERTICAL SLIP CONNECTION TO ACCOMMODATE 3" DEFLECTION OF EXISTING ROOF UNDER LIVE LOAD CONDITIONS IN ADDITION TO ANY THERMAL MOVEMENT REQUIRED. AT PENTHOUSE FLOOR, NEW STACK TO IMPOSE A MAXIMUM GRAVITY LOAD OF 8,000# AND ONLY LATERAL HORIZONTAL (MAXIMUM OF 8,000#) LOADS INTO EXISTING STRUCTURE. NO MOMENT IS TO BE IMPOSED ON THE EXISTING STRUCTURE. AT STACK ATTACHMENT TO EXISTING PENTHOUSE FLOOR STRUCTURE, CONTRACTOR TO SCAN AND LOCATE EXISTING REINFORCING AND LAYOUT STACK ANCHOR LOCATIONS TO AVOID DAMAGE TO EXISTING REINFORCING. SEE MECHANICAL AND ARCHITECTURAL DRAWINGS AND SPECIFICATIONS FOR DESIGN REQUIREMENTS FOR STACKS. CONTRACTOR TO SUBMIT STACK LOADS TO BUILDING STRUCTURAL ENGINEER FOR REVIEW AND ALLOW TWO WEEKS OF REVIEW TIME BY STRUCTURAL ENGINEER. 2
6. FIELD LOCATE EXISTING ROOF JOIST PANEL POINTS PRIOR TO FABRICATION OF ANY NEW ROOF STEEL AND LAYOUT OF NEW MECHANICAL EQUIPMENT.

KEYPLAN



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Main Building Renovation

Building L - Project 2

263 Farmington Ave
Farmington CT 06032

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Revisions

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1	10/19/15	Issued for Bid & Code Review
2	11/02/15	Addendum #01

Drawing Name

PENTHOUSE ROOF FRAMING PLAN

Project No. 218010732

Drawing Number

S103

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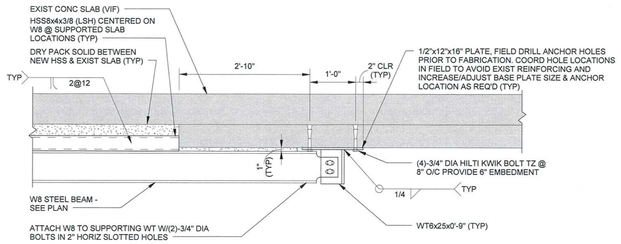
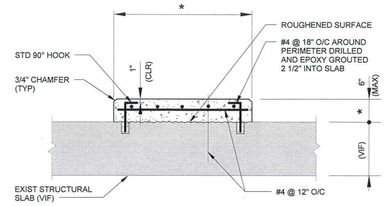
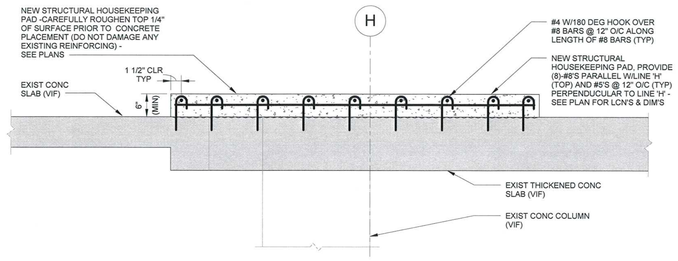


1 S202 **FRAMING DETAIL**
3/4" = 1'-0"

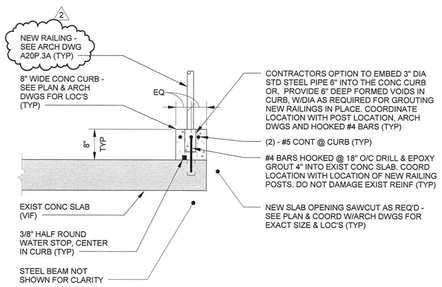


* INDICATES CONTRACTOR TO COORDINATE QUANTITY, SIZE, AND LOCATION OF ALL MECHANICAL HOUSEKEEPING PADS WITH MECHANICAL DRAWINGS AND MECHANICAL EQUIPMENT SUPPLIERS.

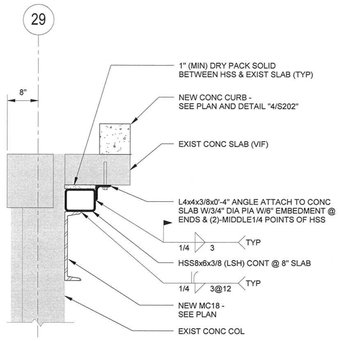
2 S202 **TYPICAL HOUSKEEPING PAD SECTION**
3/4" = 1'-0"



3 S202 **FRAMING SECTION**
3/4" = 1'-0"

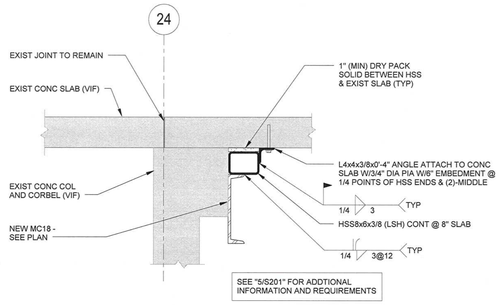


4 S202 **FRAMING DETAIL**
3/4" = 1'-0"



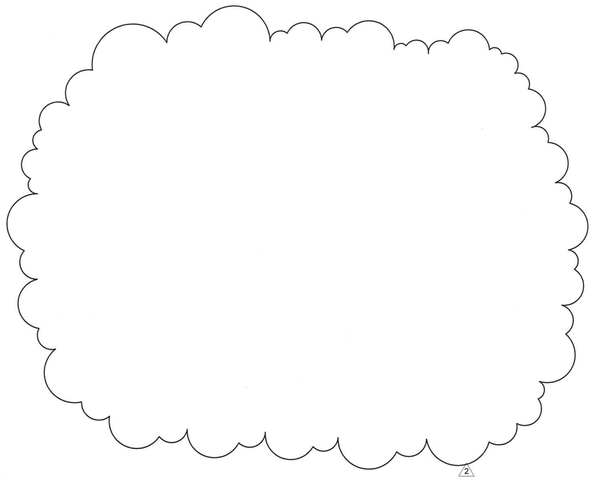
SEE "5/S201" FOR ADDTIONAL INFORMATION AND REQUIREMENTS

5 S202 **FRAMING DETAIL**
3/4" = 1'-0"



SEE "5/S201" FOR ADDTIONAL INFORMATION AND REQUIREMENTS

6 S202 **FRAMING DETAIL**
3/4" = 1'-0"



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Building L - Project 2

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Revisions

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2	11/02/15	Addendum #01

Drawing Name
FRAMING DETAILS

Project No. 218010732

Drawing Number
S202

21-14-111

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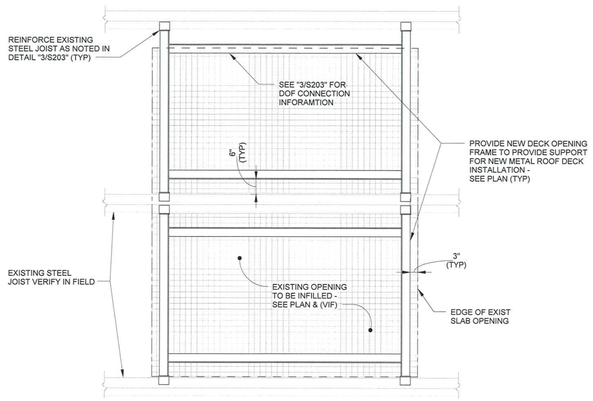
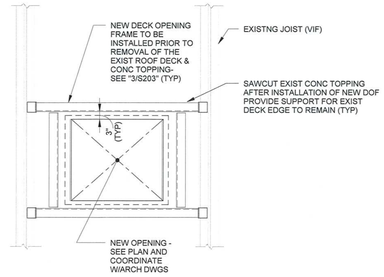
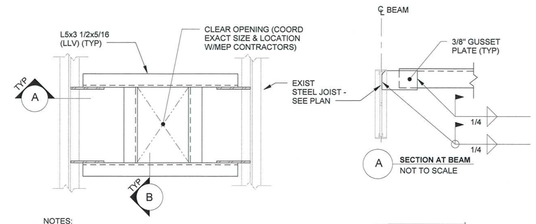


1 S203 **PENTHOUSE ROOF OPENING INFILL**
1/2" = 1'-0"



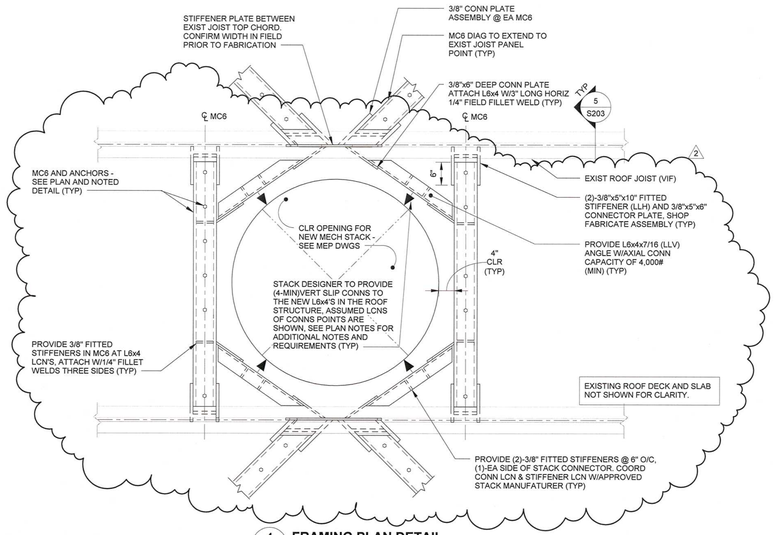
2 S203 **PENTHOUSE ROOF - NEW OPENING**
1/2" = 1'-0"



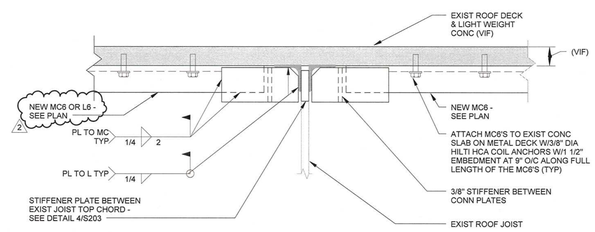
NOTES:

1. PROVIDE DECK OPENING FRAME (DOF) AT ROOF DRAINS, OVERFLOW ROOF DRAINS AND ALL ROOF DECK OPENINGS 12" OR LARGER, UON.
2. DECK OPENING FRAMES ARE GENERALLY NOTED AS DOF, RD AND OD ON PLANS. COORDINATE EXACT QUANTITY, SIZE AND LOCATIONS WITH ARCH AND MEP DWGS.
3. PROVIDE LIGHT GAGE POUR STOP AND CONCRETE SLAB REINFORCEMENT FOR CONCRETE DECK OPENINGS AS INDICATED IN THE "TYPICAL SLAB ON METAL DECK DETAIL".

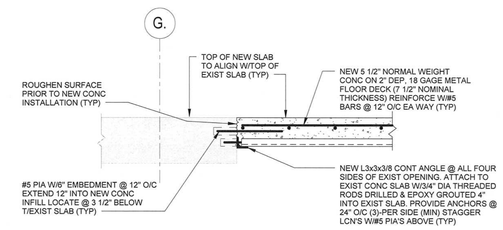
3 S203 **TYPICAL ROOF AND FLOOR DECK OPENING FRAME (DOF) DETAIL**
NOT TO SCALE



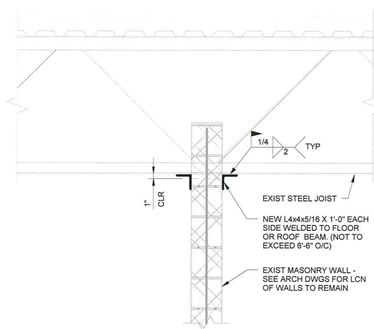
4 S203 **FRAMING PLAN DETAIL**
3/4" = 1'-0"



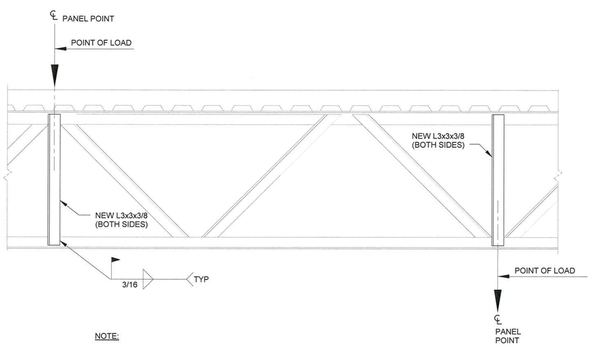
5 S203 **FRAMING DETAIL**
1 1/2" = 1'-0"



6 S203 **INFILL EXISTING OPENING DETAIL**
3/4" = 1'-0"



7 S203 **RESTRAINT DETAIL FOR TOP OF INTERIOR MASONRY WALL AT ROOF**
NOT TO SCALE



NOTE:

1. PROVIDE REINFORCING AT ALL CONCENTRATED LOADS. COORDINATE LOAD LOCATION WITH TRADE INDUCING THE LOAD SUCH AS, BUT NOT LIMITED TO MECHANICAL EQUIPMENT, ETC.
2. POINT LOADS FROM ABOVE CANNOT OCCURE WITHIN 4'-8" OF ANY POINT LOADS ATTACHED TO THE JOIST BOTTOM CHORD, TYPICAL.
3. SEE PLAN NOTES FOR POINT LOAD ALLOWABLE VALUES AND ADDITIONAL REQUIREMENTS.

8 S203 **EXIST JOIST REINFORCMENT DETAIL**
NOT TO SCALE

21-14-111

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STRUCTURAL

UCONN HEALTH

Main Building Renovation

Building L - Project 2

263 Farmington Ave
Farmington CT 06032

ISSUED FOR BID
November 2, 2015
NOT FOR CONSTRUCTION

Revisions

No.	Date	Description
1	10/19/15	Issued for Bid & Code Review
2	11/02/15	Addendum #01

Drawing Name
FRAMING DETAILS

Project No. 218010732

Drawing Number
S203

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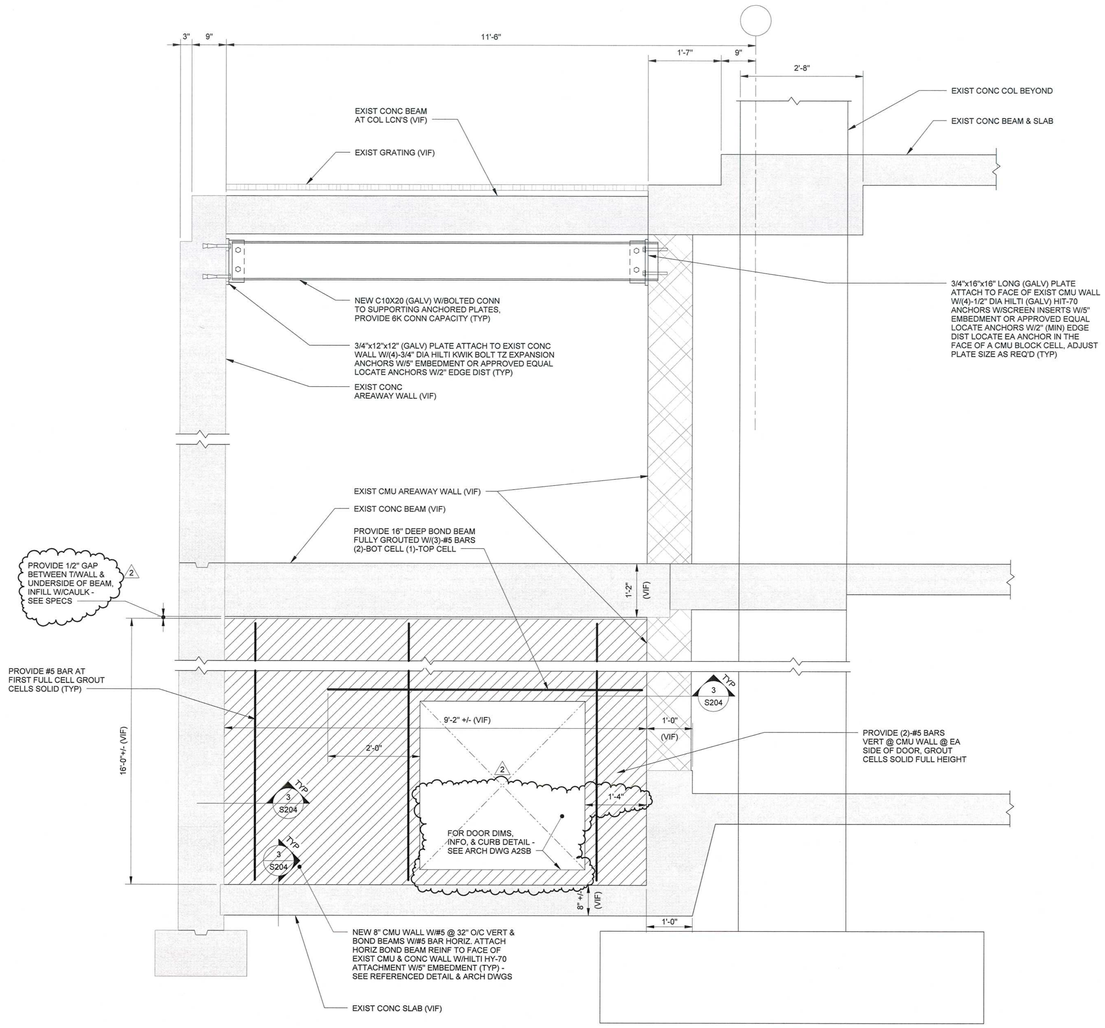
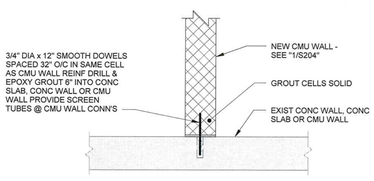


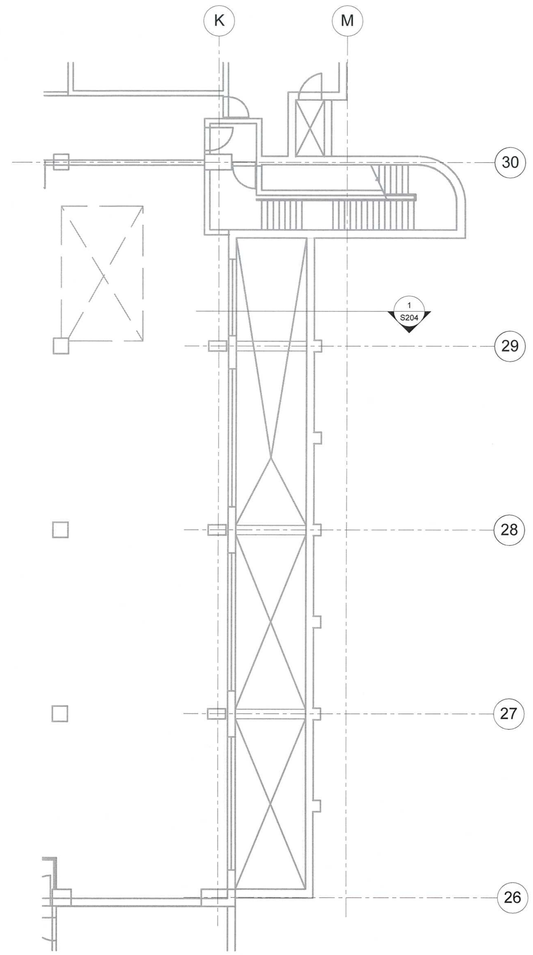
NOTES:

1. PRIOR TO DRILLING ANY ANCHOR HOLES CONTRACTOR TO LOCATE EXISTING REINFORCING AND LOCATE PROPOSED ANCHOR LOCATIONS TO AVOID. DAMAGING EXISTING REINFORCING. ADJUST ANCHOR HOLE AS REQUIRED. DO NOT DAMAGE EXISTING REINFORCING.
2. AT CMU WALL PROVIDE HORIZONTAL REINFORCING @ 16" O/C.
3. ALL BAR SPLICES SHALL BE 48 BAR DIAMETERS.
4. ALL CELLS CONTAINING VERTICAL REINFORCING SHALL BE GROUTED SOLID.
5. HORIZONTAL JOINT REINFORCING SHALL BE DUR-O-WAL OR APPROVED EQUAL LADUR TYPE FORMED OF NO. 9 GAGE LONGITUDINAL AND CROSS WIRES.
6. GROUT TWO CELLS SOLID BELOW STEEL LINTELS (TYP).
7. PROVIDE HORIZONTAL JOINT REINFORCING WITHIN 16" OF THE TOP AND BOTTOM OF ALL MASONRY WALLS.

1 / S204 **FRAMING SECTION**
3/4" = 1'-0"



3 / S204 **FRAMING DETAIL**
NOT TO SCALE



2 / S204 **SUB BASEMENT - AREA WAAY**
1/8" = 1'-0"

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STRUCTURAL

UCONN HEALTH

Main Building Renovation

Building L - Project 2

263 Farmington Ave
Farmington CT 06032

ISSUED FOR BID
November 2, 2015
NOT FOR CONSTRUCTION

Revisions

No.	Date	Description
1	10/19/15	Issued for Bid & Code Review
2	11/02/15	Addendum #01

Drawing Name
AREAWAY FRAMING DETAILS

Project No. 218010732

Drawing Number
S204

21-14-111

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UCONN HEALTH

MAIN BUILDING RENOVATION
BUILDING L - PROJECT 2

ISSUED FOR BID AND CODE REVIEW

OCTOBER 19, 2015

PREPARED FOR: CAMPUS PLANNING, DESIGN & CONSTRUCTION

UCH PROJECT NUMBER: 901772

ARCHITECT

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CODE CONSULTANT

CODE RED CONSULTANTS
1881 WORCESTER RD
SUITE 201
FRAMINGHAM MA 01701
(617) 500-9448

DRAWING LIST VOLUME 1

STRUCTURE

S001 - GENERAL NOTES AND ABBREVIATIONS
S101 - TYPICAL FLOOR FRAMING PLAN FLOORS 5 THRU 7
S102 - PENTHOUSE FLOOR FRAMING PLAN
S103 - PENTHOUSE ROOF FRAMING PLAN
S201 - FRAMING DETAILS
S202 - FRAMING DETAILS
S203 - FRAMING DETAILS
S204 - AREAWAY FRAMING DETAILS

ARCHITECTURE

LS04 - LIFE SAFETY PLAN - FOURTH FLOOR
LS05 - LIFE SAFETY PLAN - FIFTH FLOOR
LS06 - LIFE SAFETY PLAN - SIXTH FLOOR
LS07 - LIFE SAFETY PLAN - SEVENTH FLOOR
LS0P - LIFE SAFETY PLAN - PENTHOUSE
A104.3A - DEMOLITION PLAN - FOURTH FLOOR AND PARTIAL BASEMENT
A105.3A - DEMOLITION PLAN - FIFTH FLOOR
A106.3A - DEMOLITION PLAN - SIXTH FLOOR
A107.3A - DEMOLITION PLAN - SEVENTH FLOOR
A10P.3A - DEMOLITION PLAN - PENTHOUSE FLOOR
A10R.3A - DEMOLITION PLAN - ROOF
A133.3A - DEMOLITION PLAN - THIRD FLOOR CEILING
A200.1 - PARTITION SCHEDULE, DETAILS, SYMBOLS AND ABBREVIATIONS
A2SB - SUB BASEMENT PLAN
A204.3A - FLOOR PLAN - FOURTH FLOOR
A204.3A-S - ENLARGED PLAN - COL. LINES 21-24
A205.3A - FLOOR PLAN - FIFTH FLOOR
A206.3A - FLOOR PLAN - SIXTH FLOOR
A207.3A - FLOOR PLAN - SEVENTH FLOOR
A20P.3A - FLOOR PLAN - PENTHOUSE FLOOR
A20R.3A - FLOOR PLAN - ROOF
A250 - DOOR TYPES, FRAMES AND DETAILS
A251 - DOOR SCHEDULE
A255 - WINDOW PLAN, SECTIONS, & DETAILS
A300 - CEILING AND MISCELLANEOUS DETAILS
A304.3A - REFLECTED CEILING PLAN - FOURTH FLOOR
A305.3A - REFLECTED CEILING PLAN - FIFTH FLOOR
A306.3A - REFLECTED CEILING PLAN - SIXTH FLOOR
A307.3A - REFLECTED CEILING PLAN - SEVENTH FLOOR
A400 - FINISH LEGEND AND GENERAL NOTES
A404.3A - FINISH PLAN - FOURTH FLOOR
A405.3A - FINISH PLAN - FIFTH FLOOR
A406.3A - FINISH PLAN - SIXTH FLOOR
A407.3A - FINISH PLAN - SEVENTH FLOOR
A500 - LABORATORY GENERAL NOTES & DETAILS
A501 - LABORATORY EQUIPMENT SCHEDULE
A504.3A-N - ENLARGED PLAN - FOURTH FLOOR - NORTH
A504.3A-S - ENLARGED PLAN - FOURTH FLOOR - SOUTH
A505.3A-N - ENLARGED PLAN - FIFTH FLOOR - NORTH
A505.3A-S - ENLARGED PLAN - FIFTH FLOOR - SOUTH
A506.3A-N - ENLARGED PLAN - SIXTH FLOOR - NORTH
A506.3A-S - ENLARGED PLAN - SIXTH FLOOR - SOUTH
A507.3A-N - ENLARGED PLAN - SEVENTH FLOOR - NORTH
A507.3A-S - ENLARGED PLAN - SEVENTH FLOOR - SOUTH
A550 - PLAN DETAILS
A560 - STAIR LS4 DETAILS, PLANS AND SECTIONS
A600 - LAB CASEWORK NOTES & TYPICAL ELEVATIONS
A601 - LAB CASEWORK BENCH LAYOUT
A602 - LAB CASEWORK ELEVATIONS
A603 - LAB CASEWORK ELEVATIONS
A604 - LAB CASEWORK ELEVATIONS
A605 - LAB CASEWORK ELEVATIONS
A700.3A - INTERIOR ELEVATIONS - CORRIDOR
A711 - CASEWORK ELEVATIONS, SECTIONS AND DETAILS
A720 - INTERIOR WALL SECTIONS AND DETAILS
A721 - INTERIOR WALL SECTIONS AND DETAILS
A800 - EXTERIOR BUILDING ELEVATIONS
A801 - PARTIAL BUILDING SECTIONS
A802 - ROOF SECTIONS AND DETAILS
A900 - TYPICAL SIGNAGE DETAILS
A901 - TYPICAL SIGNAGE DETAILS
A904 - SIGNAGE PLAN - FOURTH FLOOR
A905 - SIGNAGE PLAN - FIFTH FLOOR
A906 - SIGNAGE PLAN - SIXTH FLOOR
A907 - SIGNAGE PLAN - SEVENTH FLOOR

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STATE OF CONNECTICUT ALEXANDER R. WIRO No 11838 LICENSED ARCHITECT

NOT FOR CONSTRUCTION

UCONN HEALTH

Main Building Renovation

Building L - Project 2

263 Farmington Ave
Farmington, CT
06032

Revisions

No.	Date	Description
1	09/17/15	Bulk Material Take Offs For Early Demo
2	10/19/15	Issue for Bid & Code Review
3	11/02/15	Addendum #01

Drawing Name

Cover Sheet
Vol. 1

Project No. 218010732

Drawing Number

CS01

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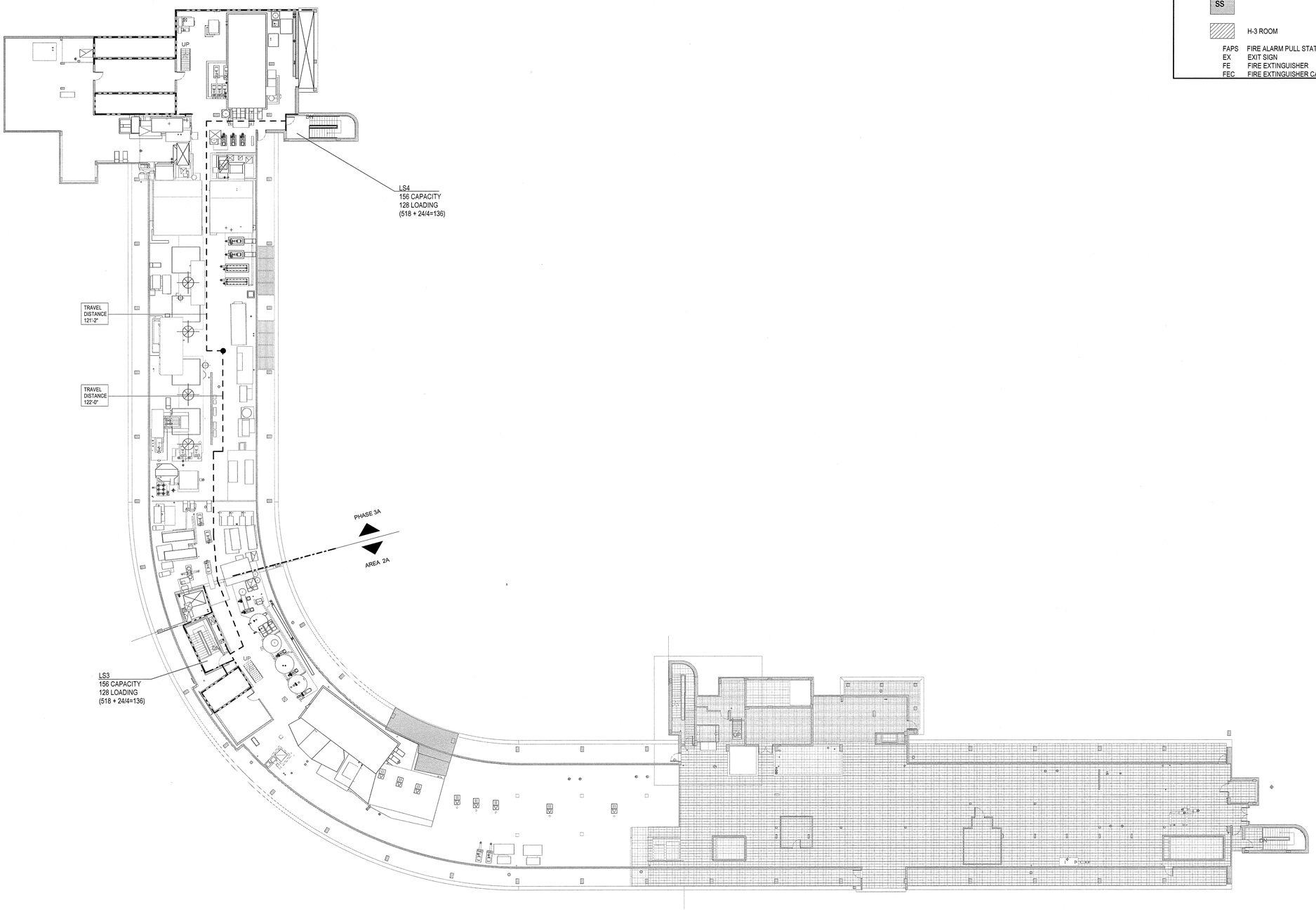


F1 Penthouse Life Safety Plan

LS0P

1/16" = 1'-0"

LIFE SAFETY LEGEND

- PATH OF TRAVEL
- 1 HOUR RATED
- 2 HOUR RATED
- 2 HOUR RATED CONTROL AREA
- 3 HOUR RATED CONTROL AREA
- REMOTE POINT
- SS
- H-3 ROOM
- FAPS FIRE ALARM PULL STATION
- EX EXIT SIGN
- FE FIRE EXTINGUISHER
- FEC FIRE EXTINGUISHER CABINET

Authority Having Jurisdiction:
University of Connecticut
Connecticut State Fire Marshall

*The University of Connecticut Health Center is undergoing a Level 2 Alteration and a Change in Use to include an H-occupancy.

Applicable Codes:
***All codes are subjected to the 2005 Connecticut State Building Code Supplement (with updated 2009 amendments).**
2003 International Building Code
2003 International Existing Building Code
Plumbing - 2003 International Plumbing Code
Electrical - 2011 NFPA 70 (with 2013 amendment to state building code)
Energy Conservation - 2009 International Energy Conservation Code (with 2011 amendment to the state building code)
Mechanical - 2003 International Mechanical Code
Accessibility - ICC/ANSI A117.1, 2003 Ed. (as amended by state)
Elevator - Connecticut Safety Code of Elevators and Escalators, which adopts ASME A17.1, 1996 Ed.
Fuel Gas Code - Connecticut Gas Equipment and Piping code
- Connecticut Liquefied Petroleum Gas and Liquefied Natural Gas Code
*Connecticut does not adopt the 2003 International Fuel Gas Code.

Fire Protection and Life Safety
NFPA 1(2003 Edition), as Referenced by the 2010 Connecticut State Fire Prevention Code
2009 and 2012 Amendments to the 2005 Connecticut State Fire Code
NFPA 72, National Fire Alarm Code, 2002 Ed.
NFPA 13, Standard for the Installation of Sprinkler Systems, 2002 Ed.
NFPA 14, Standard for the Installation of Standpipe and Hose Systems, 2003 Ed.
NFPA 25, Standard for the Inspection, Testing, and Maintenance of Water Based Fire Protection Systems, 2002 Ed.

Other
Connecticut Flammable and Combustible Liquids Code, which references an amended version of the 1996 NFPA 30.
Connecticut Hazardous Chemicals Code, which references the 1996 Edition of NFPA 45.

Code Summary:
Use Group: "B" (Business) & "A-3" (Assembly).
"H-3" (Hazardous Storage) will be an accessory use
(2003 IBC Section 303 & 304)
Construction Type: IA - Noncombustible Construction (2003 IBC Table 601)
Fire Suppression: Fully Sprinklered
B Occupancy Allowable Area (per floor): Unlimited = 2003 IBC Table 503
A-3 Allowable Area (per floor): Unlimited = 2003 IBC Table 503
Allowable Area (total): Unlimited = 2003 IBC Table 503
Allowable Height (feet): Unlimited = 2003 IBC Table 503
Allowable Height (stories): Unlimited = 2003 IBC Table 503
Proposed Building Height (Renovated Area): 91'-3"
Proposed Height (Stories): 7 + Basement + Penthouse
Proposed Renovated Area (Gross SF)
Fourth Floor - 14,946
Fifth Floor - 14,946
Sixth Floor - 14,946
Seventh Floor - 14,946
Total 59,784

Hazardous Materials
Quantities of hazardous materials contained within control areas will not exceed the maximum allowable quantities permitted by the CSBC and NFPA 45 1996. Storage of hazardous materials in quantities exceeding the maximum allowable in control areas will be located in Use Group H-3, High Hazard storage rooms and comply with the storage arrangement requirements from the CSBC Section 415 and NFPA 30.

Fire Resistance Rated Construction Summary:
Fire Separation Distance: (Table 602) for exterior non load-bearing walls
0' to 29' = 1 hour
30' or greater = 0 hours
B Occupancy Fire Walls: 3 hours (Table 302.3)
B Occupancy Fire Barriers: 2 hours (top of fl. to underside deck) (Table 302.3.2)
B Occupancy H-3 Separations: 1 hour for B occupancy
3 hours for A occupancy
Per NFPA 30 T-4-4.2.1: 2 hours for inside rooms >150 sf.

Structural Elements: (Table 601)
(Structural elements are not required to be rated where every part of the roof construction is 20 feet or more above any floor immediately below.)
Structural Frame: 3 hour
Ext. / Int. Bearing Walls: 3 hour
Exterior Nonbearing Walls: 0/1 hour (Table 602)
Interior Nonbearing Walls: 0 hour
Floor Construction: 2 hour
Roof Construction: 1.5 hour
Fire Partitions: 1 hour (Section 708.3)
Corridor Doors in Fire Partitions: 1/3 hour (Table 715.3)
Other Fire Partitions 3/4 hour (Table 715.3)

Fire Barrier Assemblies:
Control Areas: Basement (3 areas @ 75% values)
(Connecticut State Building Code) 1 hour rated fire barriers
Ground Floor (4 areas @ 100% values)
1 hour rated fire barriers
Main Floor (3 areas @ 75% values)
1 hour rated fire barriers
First Floor (2 areas @ 50% values)
1 hour rated fire barriers
Second Floor (2 areas @ 12.5% values)
2 hour rated fire barriers
Third Floor (2 areas @ 12.5% values)
2 hour rated fire barriers
Fourth Floor (2 areas @ 12.5% values)
2 hour rated fire barriers
Fifth Floor (2 areas at 5% values)
2 hour rated fire barriers
Sixth Floor (2 areas at 5% values)
2 hour rated fire barriers
Seventh Floor (2 areas at 5% values)
2 hour rated fire barriers

Laboratory Units:
(NFPA 45 Table 3-1a) Class C (Unlimited in area) - Non-rated, Noncombustible wall/floor/ceiling separation

Stairs and Shafts: Stairs & Shafts Connecting 4 stories or more 2 hours
(Connecticut State Building Code) Stairs & Shafts Connecting 3 stories or less 1 hour

Interior Finishes:
Vertical Exits & Exit Passageways - Class B (Table 803.5)
Corridors - Class C
Rooms and Encloses Spaces - Class C

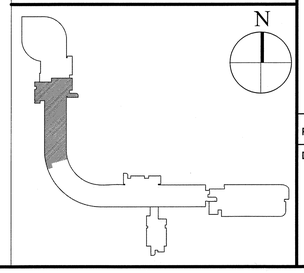
Means of Egress:
Occupant Load: 2003 IBC Table 1004.1.2
Business Areas 100 GSF/person (2003 IBC Table 1004.1.2.)
Assembly
Research Lab 100 gsf (Connecticut State Building Code)

Storage Areas 300 GSF/person (2003 IBC Table 1004.1.2.)
Mechanical Rooms 300 GSF/person (2003 IBC Table 1004.1.2.)

Egress Width Per Occupant: .3 (Stairs); .2 (Corridors/Doors)
(2005 CT State Supplement Table 1005.1)
Door Widths: 32" min clear width (36"door standard)
(2005 CT State Supplement Section 1008.1.1)
Travel Distance: 300' (w/sprinkler) B occupancy
250' (w/sprinkler) A occupancy
(2003 IBC Table 1015.1)
Dead End Corridors: 50' (w/sprinkler) for B occupancy 20' for A occupancy
(2003 IBC Section 1016.3) (CSBC 1016.3)
Emergency Lighting: Required
(2005 CT State Amendment Section 1006.3)
Corridors / Exit Access Cor.: 0 hours (w/sprinkler) (Table 1016.1)
Exits / Stairwells: 3 Required, 2 Hour (per story)
(2003 IBC Section 1018.1)

Code Modifications:
1. Stair tread modification (9/14/12) - M-827-12
2. Lab hazardous exhaust modification (11/9/12) - M-975-12
3. Fan HP Limitation (1/15/13) - M-1080-12 (B)
4. Control Area (1/15/13) - M-1080-12 (C)
5. Omission of sprinklers within Hazardous Exhaust (8/19/2013) - M552-13
6. Shaft Top (8/13/13) - M-744-13
7. Chem Storage Drainage (11/26/14) - FM-0361-14
8. Pipe Chase Ventilation (11/26/14) - FM-0362-14

KEYPLAN



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ALEXANDER K. WING
No 11830
LICENSED ARCHITECT

NOT FOR CONSTRUCTION

UCONN HEALTH

Main Building Renovation

Building L - Project 2

263 Farmington Ave
Farmington, CT 06032

Revisions

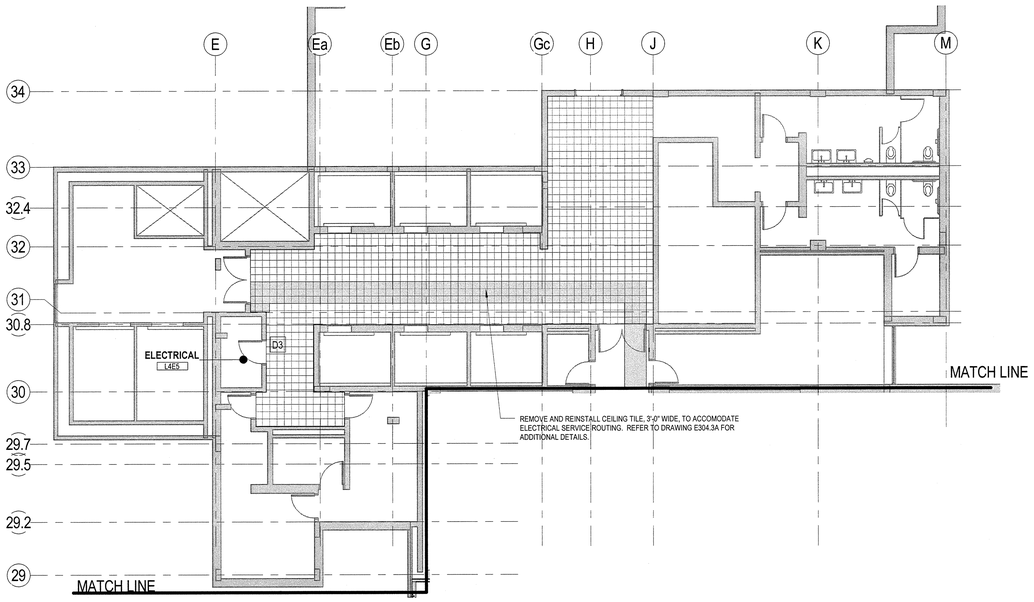
No.	Date	Description
1	11/02/15	Addendum #01

Drawing Name
Life Safety Plan - Penthouse

Project No. 218010732

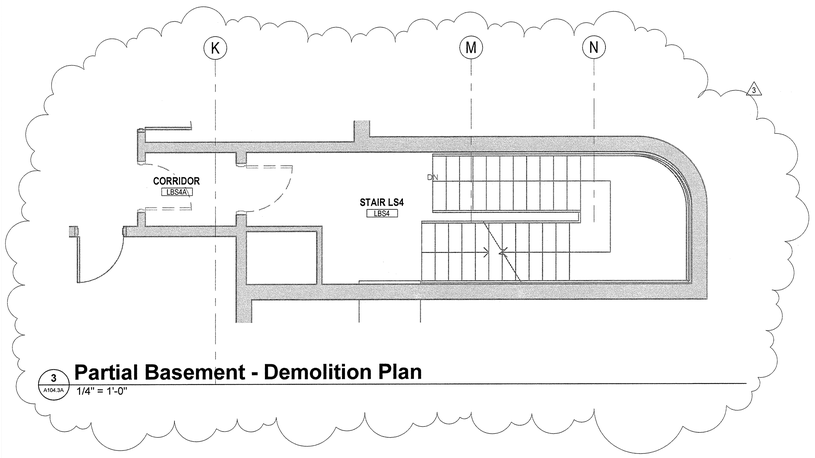
Drawing Number
LS0P

11/2/2015 1:02:33 PM



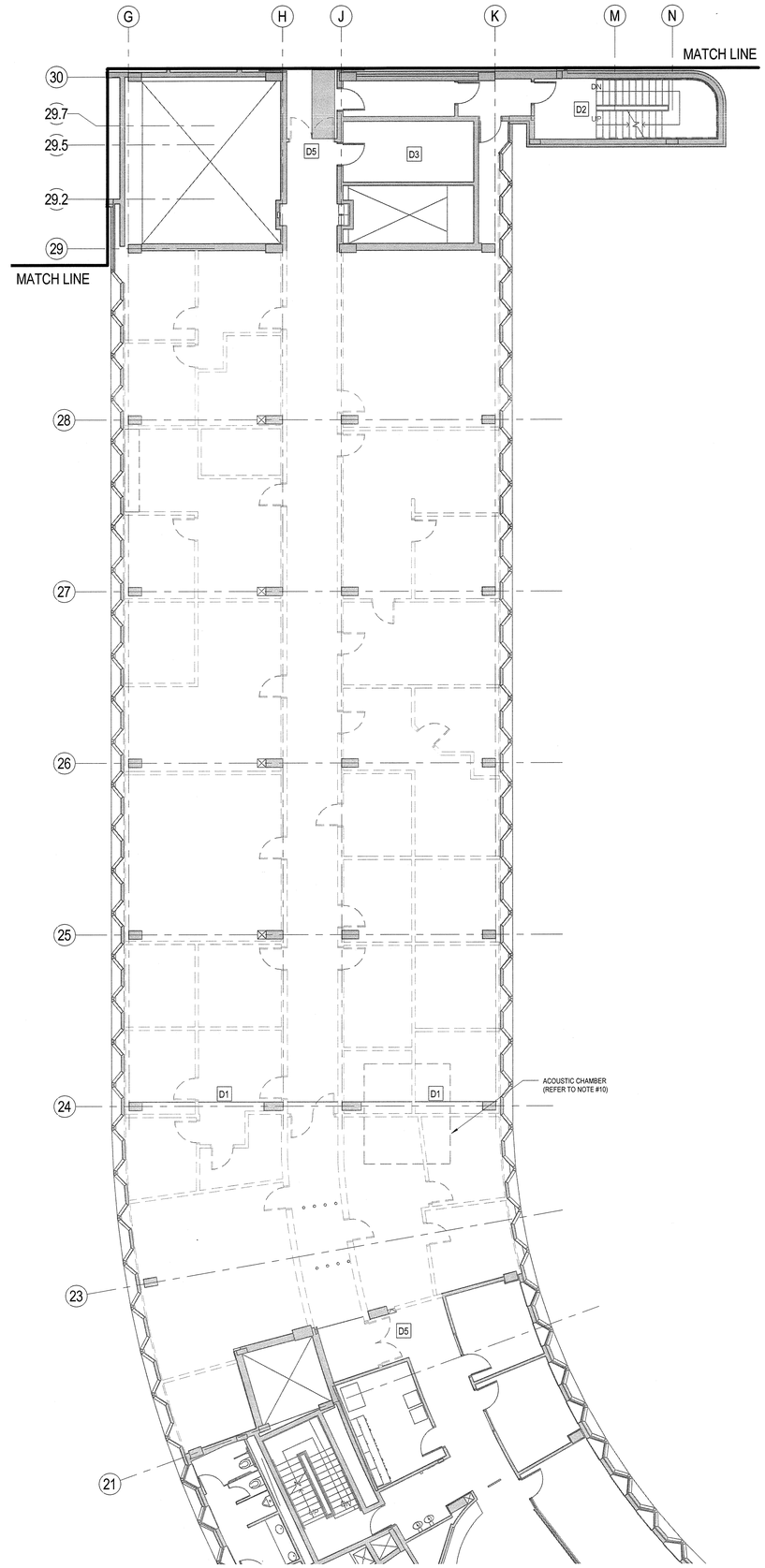
2 (A104.3A) 4th Floor - Demolition @ Lobby Ceiling

1/8" = 1'-0"



3 (A104.3A) Partial Basement - Demolition Plan

1/4" = 1'-0"



1 (A104.3A) 4th Floor - Demolition - Pt1

1/8" = 1'-0"

LINE DESIGNATIONS

- GRID LINE
- EXISTING CONSTRUCTION
- NEW CONSTRUCTION
- CASEWORK
- OVERHEAD CABINET OR BULKHEAD
- NEW CMU CONSTRUCTION
- MATERIAL OR ASSEMBLY TO BE DEMOLISHED
- EXISTING TO REMAIN

GENERAL DEMOLITION NOTES

1. EXTENT OF DEMOLITION IS ALL INTERIOR CONSTRUCTION TO THE INTERIOR FACE OF PRECAST EXTERIOR WALLS UNLESS OTHERWISE NOTED. THE SCOPE OF DEMOLITION WORK HAS GENERALLY BEEN INDICATED ON DRAWINGS FOR CONTRACTOR'S INFORMATION. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE FULL SCOPE, EXTENT, NATURE AND MANNER OF DEMOLITION REQUIRED.

2. HAZARDOUS MATERIAL ABATEMENT HAS BEEN COMPLETED, HOWEVER DEMOLITION CONTRACTOR SHOULD ADVISE UCONN HEALTH REPRESENTATIVE WHEN ANY SUSPICIOUS MATERIAL IS UNCOVERED DURING DEMOLITION.

3. DEMOLITION SHALL NOT PROCEED UNTIL A DETAILED DEMOLITION PLAN & SCHEDULE IS COMPLETE AND APPROVED; AND UNTIL EMERGENCY RESPONSE PLAN IS COMPLETE AND APPROVED.

4. WORKERS SKILLED AND KNOWLEDGEABLE IN THEIR RESPECTIVE TRADES SHALL BE EMPLOYED IN THE DEMOLITION WORK.

5. PROVIDE TEMPORARY PARTITIONS & DOORS TO SEPARATE DEMOLITION AREA FROM OCCUPIED SPACES. PROVIDE 2 HR. FIRE RATING & EGRESS AS REQUIRED.

6. AREAS, SURFACES, AND FINISHES NOT AFFECTED BY THE WORK OF THIS CONTRACT SHALL BE PROTECTED PRIOR TO DEMOLITION AND UNTIL COMPLETION OF THE WORK.

7. TAKE SPECIAL CARE TO DEMOLISH ONLY THAT WORK WHICH IS REQUIRED TO BE DEMOLISHED AND DO NOT DISTURB WORK WHICH IS TO REMAIN. IF, IN THE COURSE OF DEMOLITION, THE CONTRACTOR DESTROYS WORK WHICH IS TO REMAIN, THE CONTRACTOR SHALL, AT THEIR OWN EXPENSE, REPAIR OR REPLACE THE WORK TO ITS ORIGINAL CONDITION AND QUALITY..

8. WHERE DEMOLITION OCCURS, PATCH AND RESTORE DISTURBED SURFACES AND FINISHES TO MATCH EXISTING ADJACENT CONSTRUCTION. REFER TO LIFE SAFETY DRAWINGS AND MAINTAIN FIRE RATINGS AS REQUIRED.

9. KEEP CUTS AND PENETRATIONS IN EXISTING WORK REQUIRED TO ACCOMPLISH NEW WORK TO AN ABSOLUTE MINIMUM AND DONE WITHOUT DISTURBING ADJACENT WORK TO REMAIN. RECEIVE OWNER'S APPROVAL PRIOR TO DOING CUTTING WHICH WILL AFFECT STRUCTURAL INTEGRITY.

10. REMOVE, RETAIN OWNERSHIP AND DISCARD DEMOLISHED ITEMS THAT ARE NOT TO BE REUSED OR TURNED OVER TO OWNER. ITEMS TO BE RETAINED BY THE OWNER, SUCH AS BUT NOT LIMITED TO , CASEWORK, STORAGE CABINETS, FIXTURES, AND DOOR HARD WARE, ARE TO BE DELIVERED TO AN OWNER DESIGNATED STORAGE WITHIN A 10 MILE RADIUS.

11. SEE MEP DEMOLITION DRAWINGS FOR ASSOCIATED MEP DEMOLITION WORK.

12. COORDINATE DEMOLITION DRAWINGS WITH FLOOR PLANS AND CONSTRUCTION DRAWINGS FROM OTHER TRADES FOR LOCATIONS OF NEW OPENINGS IN EXISTING WALLS.

13. PROVIDE AUXILIARY EXHAUST VENTILATION DURING DEMOLITION AND MATERIAL INSTALLATION WHEN ACRID ODORS AND VAPORS ARE PRESENT.

14. DEMOLISH PARTITIONS AND BASE TO EXISTING STRUCTURAL SLAB. PATCH FLOOR WITH CONCRETE TOPPING TO BE FLUSH WITH EXISTING.

15. UNLESS OTHERWISE NOTED, REMOVE EXISTING FLOOR FINISHES TO SLAB BELOW. REMOVAL OF EXISTING FLOORING SHALL INCLUDE THE REMOVAL OF MASTICS AND ADHESIVES DOWN TO THE CONCRETE SLAB. USE OF "SHOT BLASTING" IS ANTICIPATED. MASTIC SHOULD NOT BE CHEMICALLY REMOVED. PROVIDE CONCRETE TOPPING, SPEC SECTION 035300, TO PRODUCE A SURFACE SUITABLE TO MAINTAIN FLOORING MANUFACTURER'S WARRANTIES.

16. EXISTING LOOSE CEMENTITIOUS FLOOR TOPPING SHALL BE DEMOLISHED.

17. INFILL EXISTING FLOOR SLAB OPENINGS NOT REQUIRED FOR NEW LAYOUTS. USE CONCRETE FILL TO MATCH EXISTING FLOOR CONSTRUCTION. REFER TO STRUCTURAL DRAWINGS FOR DETAILS.

18. DEMOLITION SHALL INCLUDE REMOVAL OF ALL CASEWORK, SINKS & FUMEHOODS

19. MAINTAIN ALL STAIRWAY AND SHAFT RATINGS DURING CONSTRUCTION

20. ALL DEMOLISHED MATERIALS TO BE DISPOSED OF PER LEED REQUIREMENTS. SEE SPEC SECTION 017419: CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL.

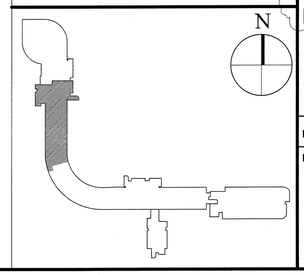
21. DEMOLISH EXISTING EXTERIOR WALL INSULATION FROM FLOOR TO SLAB ABOVE.

22. MAINTAIN FLOOR SLAB AND SLAB EDGE FIRE RATINGS DURING DEMOLITION AND CONSTRUCTION.

DEMOLITION KEYNOTES

D1	DEMOLISH EXISTING EXPANSION JOINT & GROUT FROM FLOOR SLAB IN PREPARATION FOR NEW TO BE INSTALLED.
D2	SELECTIVE STAIR DEMOLITION, REFER TO DRAWING A560.
D3	COORDINATE DEMOLITION IN THIS AREA WITH ELECTRICAL DRAWINGS.
D4	NEW SLAB OPENING, REFER TO STRUCTURAL DRAWINGS. COORDINATE FINAL OPENING SIZE WITH MEP COORDINATION DRAWINGS.
D5	MAINTAIN 2 HR SEPARATION FROM ADJACENT BUILDING AREAS UNTIL END OF DEMOLITION AND NEW CONSTRUCTION WORK FOR PROJECT 2.
D6	DEMOLISH EXISTING LOUVER AND PATCH.
D7	DEMOLISH SOFFIT LOUVER AND ANGLE FRAMING. COORDINATE WITH HAZARDOUS MATERIAL REMOVAL CONTRACT FOR DEMOLITION OF ASBESTOS CEMENT FACED SOFFIT PANELS. SALVAGE EXTRUDED ALUMINUM BATTENS AND ANGLE FRAMING FOR REUSE.
D8	DEMOLISH EXISTING EQUIPMENT PAD TO BASE FLOOR SLAB. REFER TO DETAILS ON DRAWING A-10P.3A COORDINATE WITH MEP AND STRUCTURAL DRAWINGS.
D9	REMOVE BALLAST, ROOFING, INSULATION, ROOF DRAINS AND FLASHING TO THE CONCRETE SLAB
D10	CORE SOFFIT PANELS FOR STORM DRAIN PIPING ACCORDING TO PROCEDURES FOR WORKING WITH HAZARDOUS MATERIAL. COORDINATE WITH PLUMBING.
D11	DEMOLISH ROOFING SYSTEM, CONCRETE TOPPING, AND ROOF DECKING, IN PREPARATION FOR NEW WORK. COORDINATE WITH EXTENT OF STRUCTURAL PATCHING. REMOVE BALLAST AND STOCKPILE FOR REUSE.
D12	DEMOLISH EXISTING MEP EQUIPMENT AND OR ASSESSORIES IN THEIR ENTIRETY TO PREPARE FOR PATCHING OF DECKING.

KEYPLAN



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NOT FOR CONSTRUCTION

UCONN HEALTH

Main Building Renovation

Building L - Project 2

263 Farmington Ave
Farmington, CT 06032

Revisions

No.	Date	Description
1	09/17/15	Bulk Material Take Offs For Early Demo
2	10/19/15	Issue for Bid & Code Review
3	11/02/15	Addendum #01

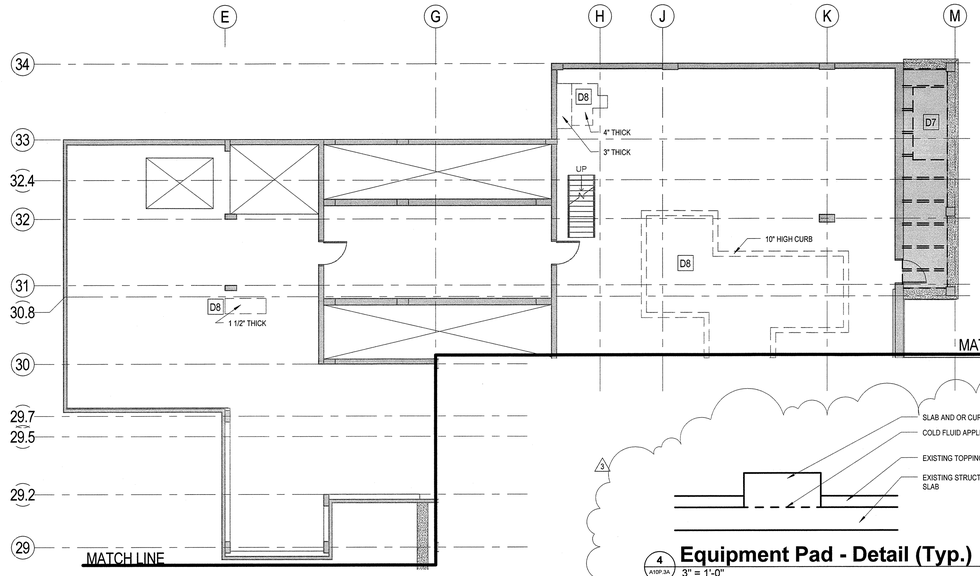
Drawing Name

Demolition Plan - Fourth Floor and Partial Basment

Project No. 218010732

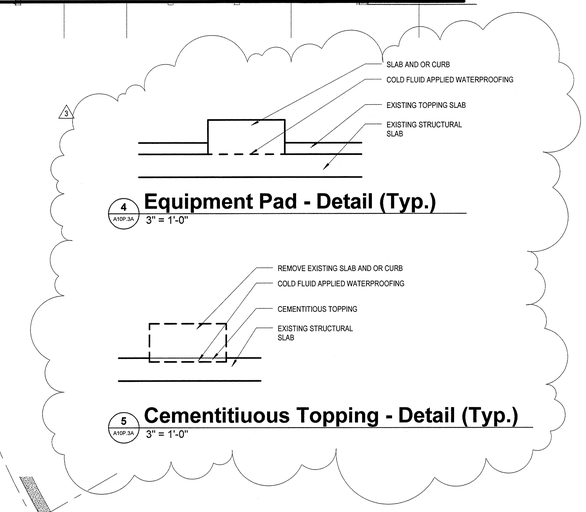
Drawing Number

A104.3A



2 A10P.3A Penthouse Demolition Plan - Part 2

1/8" = 1'-0"

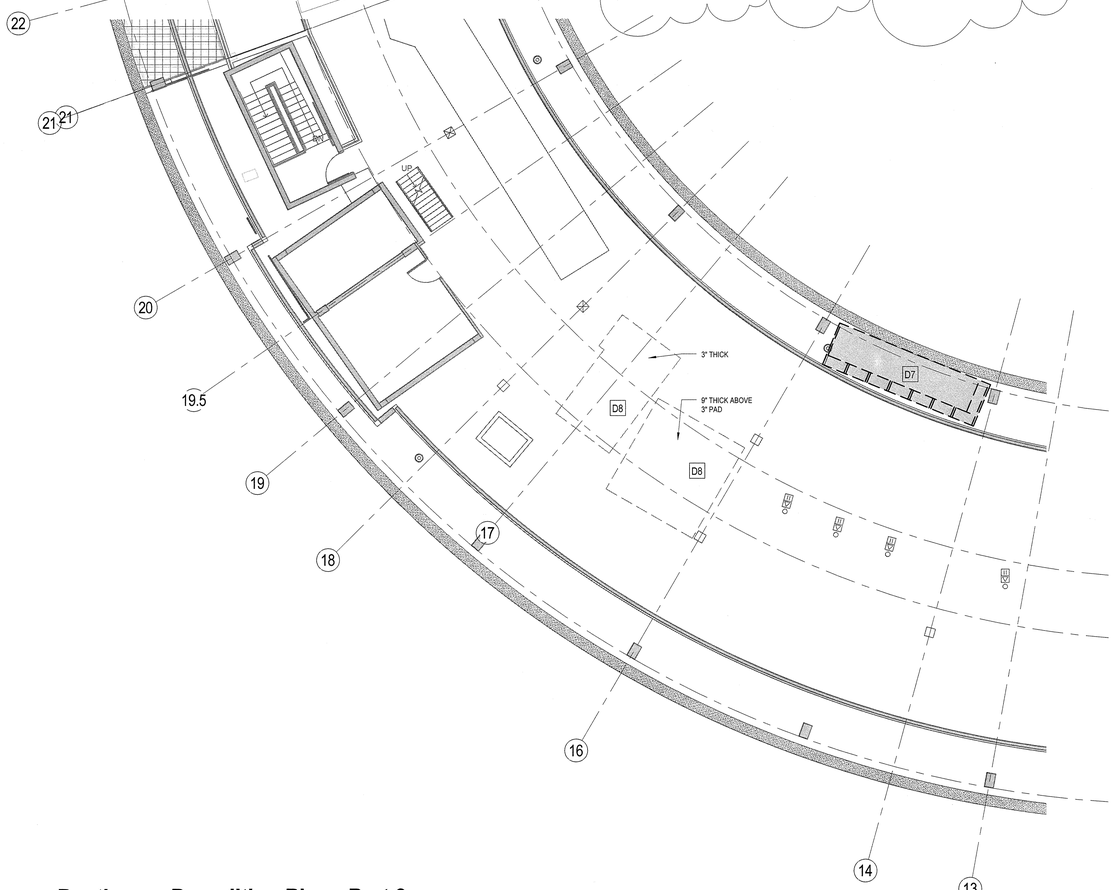


4 A10P.3A Equipment Pad - Detail (Typ.)

3" = 1'-0"

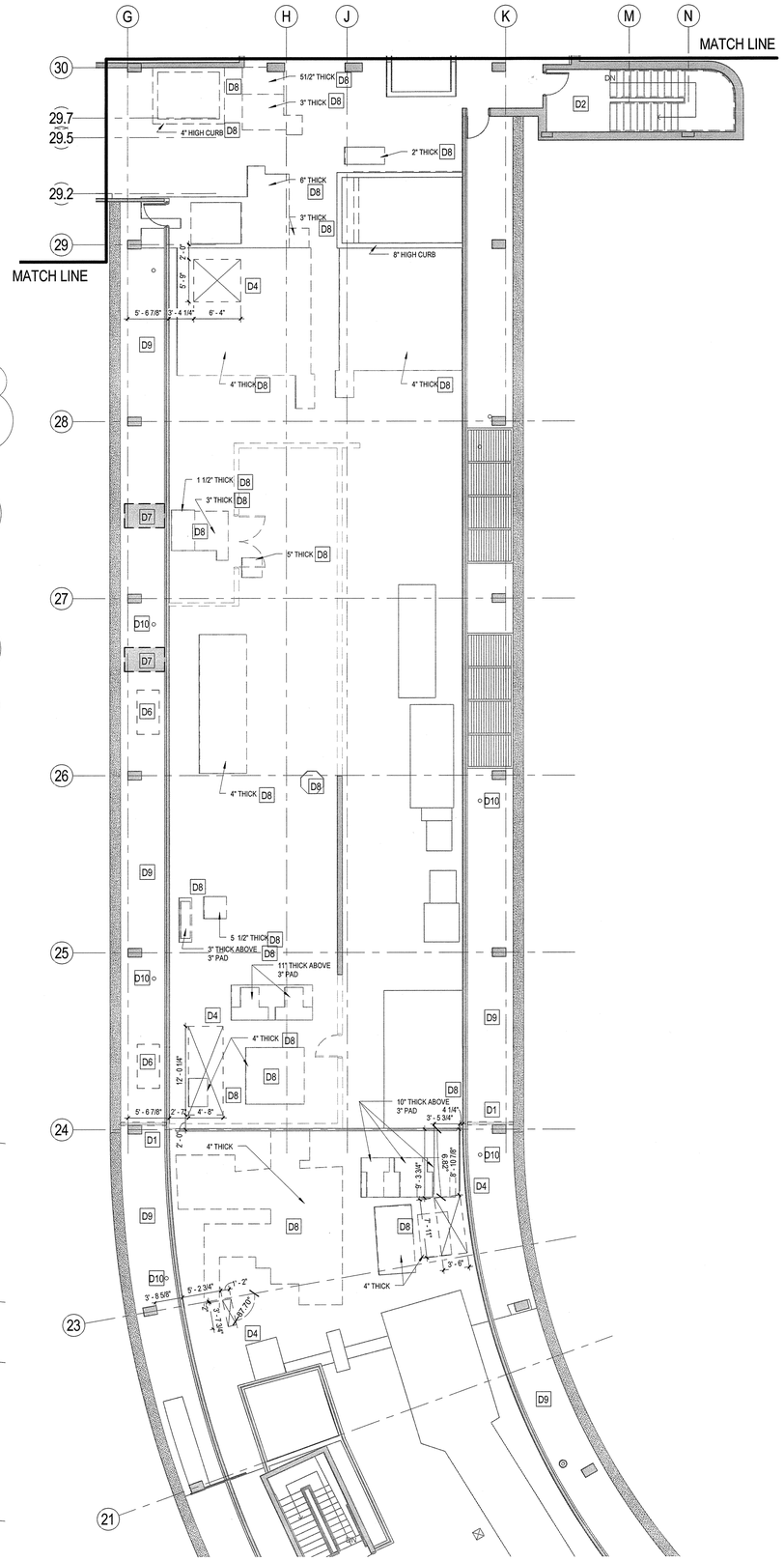
5 A10P.3A Cementitiuous Topping - Detail (Typ.)

3" = 1'-0"



3 A10P.3A Penthouse Demolition Plan - Part 3

1/8" = 1'-0"



1 A10P.3A Penthouse Demolition Plan - Part 1

1/8" = 1'-0"

LINE DESIGNATIONS

- GRID LINE
- EXISTING CONSTRUCTION
- NEW CONSTRUCTION
- CASEWORK
- OVERHEAD CABINET OR BULKHEAD
- NEW CMU CONSTRUCTION
- MATERIAL OR ASSEMBLY TO BE DEMOLISHED
- EXISTING TO REMAIN

GENERAL DEMOLITION NOTES

1. EXTENT OF DEMOLITION IS ALL INTERIOR CONSTRUCTION TO THE INTERIOR FACE OF PRECAST EXTERIOR WALLS UNLESS OTHERWISE NOTED. THE SCOPE OF DEMOLITION WORK HAS GENERALLY BEEN INDICATED ON DRAWINGS FOR CONTRACTOR'S INFORMATION. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE FULL SCOPE, EXTENT, NATURE AND MANNER OF DEMOLITION REQUIRED.

2. HAZARDOUS MATERIAL ABATEMENT HAS BEEN COMPLETED, HOWEVER DEMOLITION CONTRACTOR SHOULD ADVISE UCONN HEALTH REPRESENTATIVE WHEN ANY SUSPICIOUS MATERIAL IS UNCOVERED DURING DEMOLITION.

3. DEMOLITION SHALL NOT PROCEED UNTIL A DETAILED DEMOLITION PLAN & SCHEDULE IS COMPLETE AND APPROVED; AND UNTIL EMERGENCY RESPONSE PLAN IS COMPLETE AND APPROVED.

4. WORKERS SKILLED AND KNOWLEDGEABLE IN THEIR RESPECTIVE TRADES SHALL BE EMPLOYED IN THE DEMOLITION WORK.

5. PROVIDE TEMPORARY PARTITIONS & DOORS TO SEPARATE DEMOLITION AREA FROM OCCUPIED SPACES. PROVIDE 2 HR. FIRE RATING & EGRESS AS REQUIRED.

6. AREAS, SURFACES, AND FINISHES NOT AFFECTED BY THE WORK OF THIS CONTRACT SHALL BE PROTECTED PRIOR TO DEMOLITION AND UNTIL COMPLETION OF THE WORK.

7. TAKE SPECIAL CARE TO DEMOLISH ONLY THAT WORK WHICH IS REQUIRED TO BE DEMOLISHED AND DO NOT DISTURB WORK WHICH IS TO REMAIN. IF, IN THE COURSE OF DEMOLITION, THE CONTRACTOR DESTROYS WORK WHICH IS TO REMAIN, THE CONTRACTOR SHALL, AT THEIR OWN EXPENSE, REPAIR OR REPLACE THE WORK TO ITS ORIGINAL CONDITION AND QUALITY..

8. WHERE DEMOLITION OCCURS, PATCH AND RESTORE DISTURBED SURFACES AND FINISHES TO MATCH EXISTING ADJACENT CONSTRUCTION. REFER TO LIFE SAFETY DRAWINGS AND MAINTAIN FIRE RATINGS AS REQUIRED.

9. KEEP CUTS AND PENETRATIONS IN EXISTING WORK REQUIRED TO ACCOMPLISH NEW WORK TO AN ABSOLUTE MINIMUM AND DONE WITHOUT DISTURBING ADJACENT WORK TO REMAIN. RECEIVE OWNER'S APPROVAL PRIOR TO DOING CUTTING WHICH WILL AFFECT STRUCTURAL INTEGRITY.

10. REMOVE, RETAIN OWNERSHIP AND DISCARD DEMOLISHED ITEMS THAT ARE NOT TO BE REUSED OR TURNED OVER TO OWNER. ITEMS TO BE RETAINED BY THE OWNER, SUCH AS BUT NOT LIMITED TO , CASEWORK, STORAGE CABINETS, FIXTURES, AND DOOR HARD WARE, ARE TO BE DELIVERED TO AN OWNER DESIGNATED STORAGE WITHIN A 10 MILE RADIUS.

11. SEE MEP DEMOLITION DRAWINGS FOR ASSOCIATED MEP DEMOLITION WORK.

12. COORDINATE DEMOLITION DRAWINGS WITH FLOOR PLANS AND CONSTRUCTION DRAWINGS FROM OTHER TRADES FOR LOCATIONS OF NEW OPENINGS IN EXISTING WALLS.

13. PROVIDE AUXILIARY EXHAUST VENTILATION DURING DEMOLITION AND MATERIAL INSTALLATION WHEN ACRID ODORS AND VAPORS ARE PRESENT.

14. DEMOLISH PARTITIONS AND BASE TO EXISTING STRUCTURAL SLAB. PATCH FLOOR WITH CONCRETE TOPPING TO BE FLUSH WITH EXISTING.

15. UNLESS OTHERWISE NOTED, REMOVE EXISTING FLOOR FINISHES TO SLAB BELOW. REMOVAL OF EXISTING FLOORING SHALL INCLUDE THE REMOVAL OF MASTICS AND ADHESIVES DOWN TO THE CONCRETE SLAB. USE OF "SHOT BLASTING" IS ANTICIPATED. MASTIC SHOULD NOT BE CHEMICALLY REMOVED. PROVIDE CONCRETE TOPPING, SPEC SECTION 035300, TO PRODUCE A SURFACE SUITABLE TO MAINTAIN FLOORING MANUFACTURER'S WARRANTIES.

16. EXISTING LOOSE CEMENTITIOUS FLOOR TOPPING SHALL BE DEMOLISHED.

17. INFILL EXISTING FLOOR SLAB OPENINGS NOT REQUIRED FOR NEW LAYOUTS. USE CONCRETE FILL TO MATCH EXISTING FLOOR CONSTRUCTION. REFER TO STRUCTURAL DRAWINGS FOR DETAILS.

18. DEMOLITION SHALL INCLUDE REMOVAL OF ALL CASEWORK, SINKS & FUMEHOODS

19. MAINTAIN ALL STAIRWAY AND SHAFT RATINGS DURING CONSTRUCTION

20. ALL DEMOLISHED MATERIALS TO BE DISPOSED OF PER LEED REQUIREMENTS. SEE SPEC SECTION 017419: CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL.

21. DEMOLISH EXISTING EXTERIOR WALL INSULATION FROM FLOOR TO SLAB ABOVE.

DEMOLITION KEYNOTES

D1	DEMOLISH EXISTING EXPANSION JOINT & GROUT FROM FLOOR SLAB IN PREPARATION FOR NEW TO BE INSTALLED.
D2	SELECTIVE STAIR DEMOLITION, REFER TO DRAWING A560.
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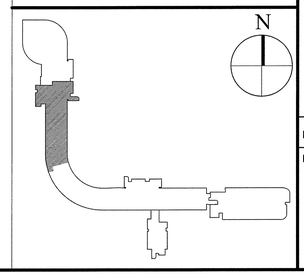
KEYPLAN



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UCONN HEALTH

Main Building Renovation

Building L - Project 2

263 Farmington Ave
Farmington, CT 06032

Revisions

No.	Date	Description
1	09/17/15	Bulk Material Take Offs For Early Demo
2	10/19/15	Issue for Bid & Code Review
3	11/02/15	Addendum #01

Drawing Name

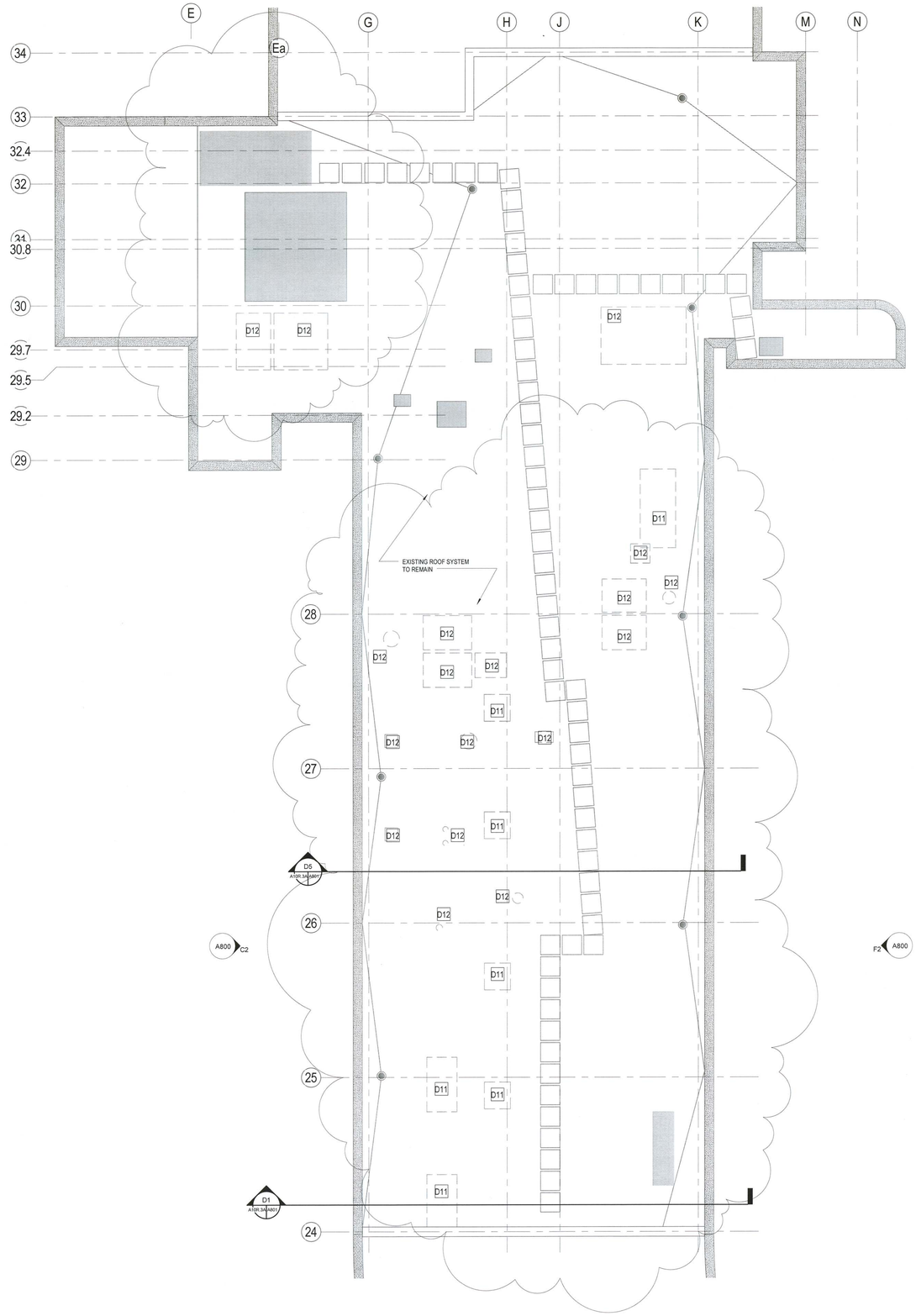
Demolition Plan - Penthouse Floor

Project No. 218010732

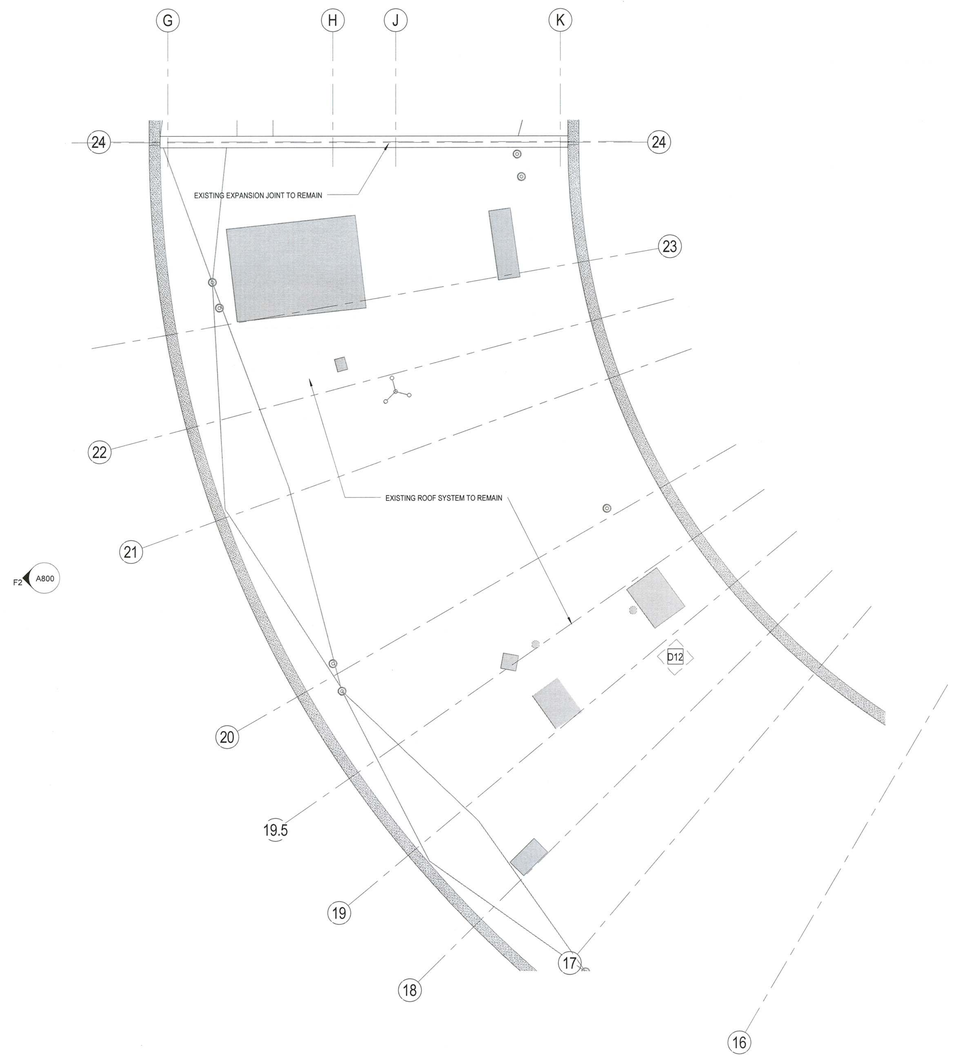
Drawing Number

A10P.3A

11/2/2015 1:10:12 PM



1 A10R.3A **Demolition Roof Plan 1**
1/8" = 1'-0"



2 A10R.3A **Demolition Roof Plan 2**
1/8" = 1'-0"

LINE DESIGNATIONS

- GRID LINE
- EXISTING CONSTRUCTION
- NEW CONSTRUCTION
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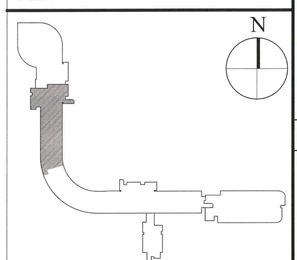
KEYPLAN



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UCONN HEALTH

Main Building Renovation

Building L - Project 2

263 Farmington Ave
Farmington, CT 06032

Revisions

No.	Date	Description
1	10/19/15	Issue for Bid & Code Review
2	11/02/15	Addendum #01

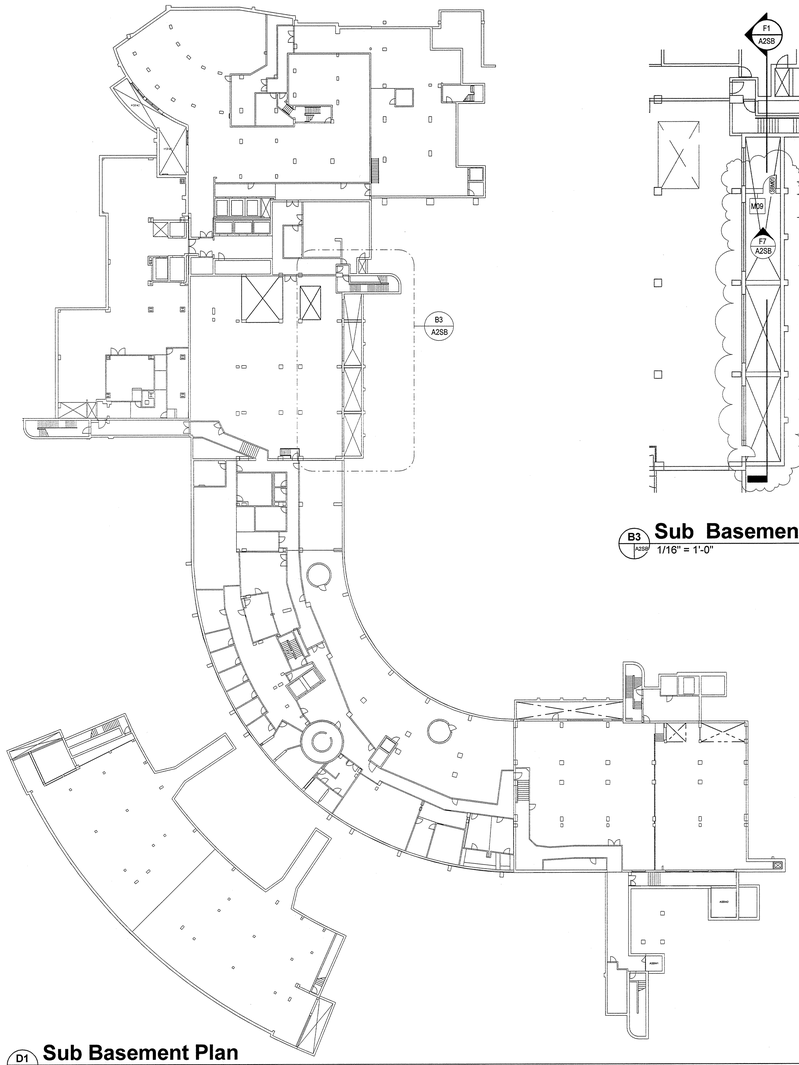
Drawing Name

Demolition Plan - Roof

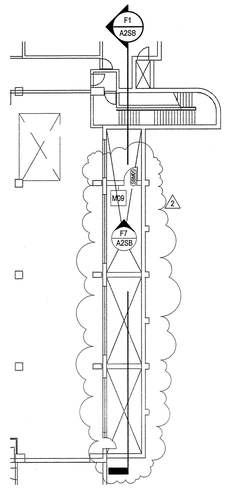
Project No. 218010732

Drawing Number

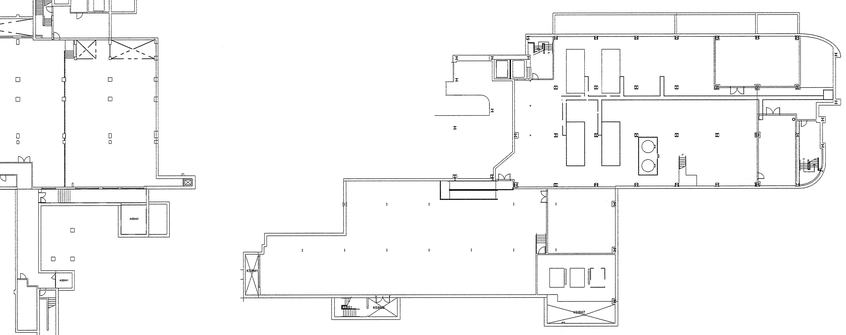
A10R.3A

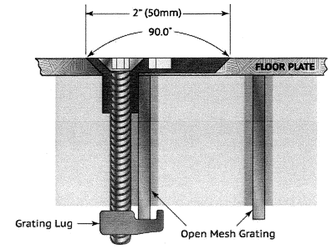


D1 A2SB **Sub Basement Plan**
1/32" = 1'-0"

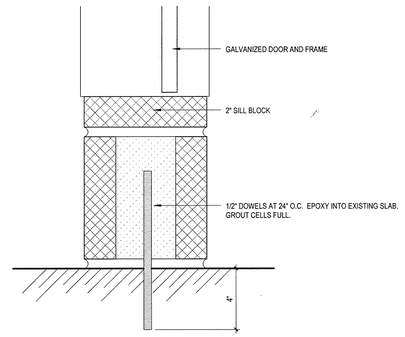


B3 A2SB **Sub Basement - Area Way**
1/16" = 1'-0"

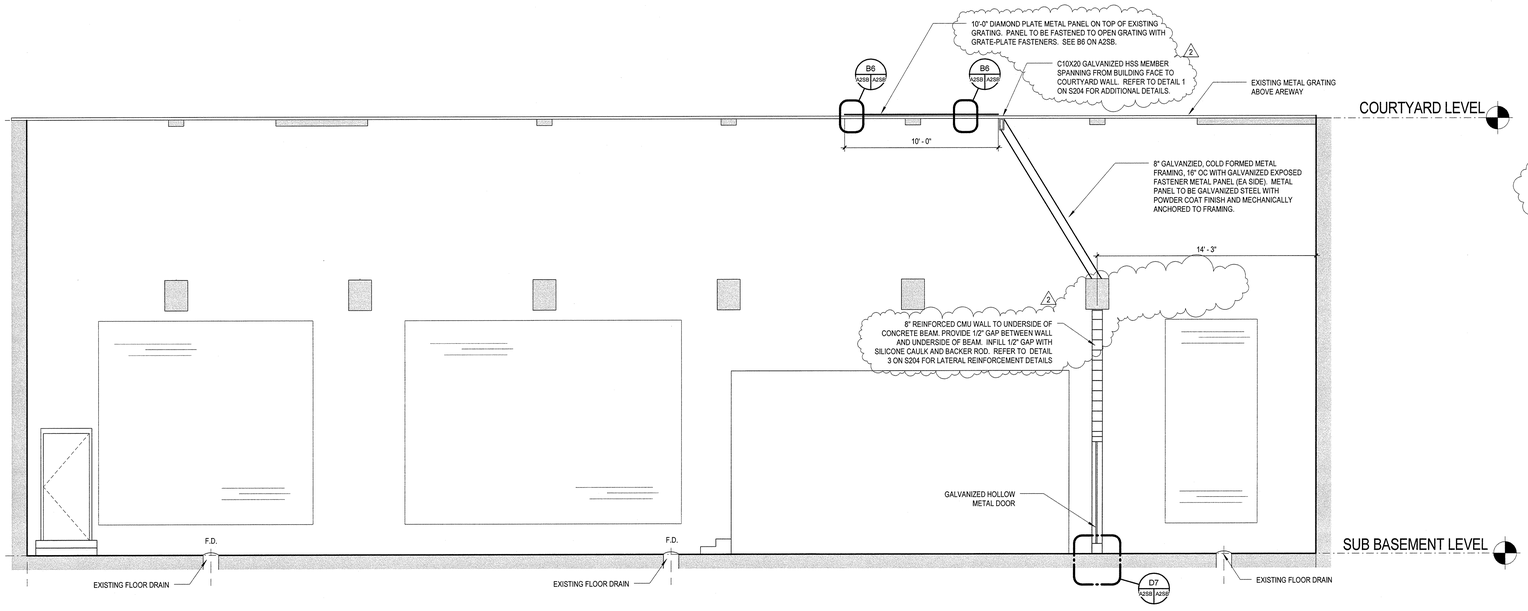




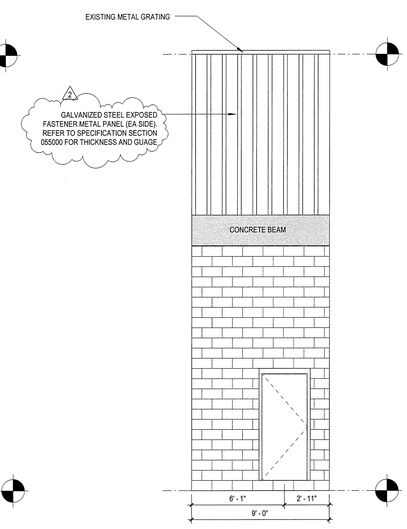
B6 A2SB **Grate-Plate-Fastener Detail**
1/4" = 1'-0"



D7 A2SB **Door Curb Detail**
3" = 1'-0"



F1 A2SB **Area-Way Scope Of Work**
1/4" = 1'-0"



F7 A2SB **Area Way Door**
1/4" = 1'-0"

GENERAL NOTES

1. DO NOT SCALE DRAWINGS.

2. FIELD VERIFY DIMENSIONS AND EXISTING CONDITIONS PRIOR TO BEGINNING CONSTRUCTION OR PROCESSING SHOP DRAWINGS. NOTIFY THE ARCHITECT OF DEVIATIONS FROM THE DRAWINGS.

3. INSTALL MATERIALS AND PRODUCTS ACCORDING TO MANUFACTURERS WRITTEN INSTRUCTIONS.

4. SEE ENLARGED PLANS (A500 SERIES) FOR ADDITIONAL DIMENSIONS.

5. ALL DIMENSIONS TO FACE OF GYPSUM WALL BOARD U.O.N.

6. WHERE DEMOLITION OF EXISTING CONSTRUCTION AND/OR EQUIPMENT OCCURS, PATCH AND REPAIR FLOOR, WALL AND CEILING CONSTRUCTION AND/OR FINISHES U.O.N. REFER TO LIFE SAFETY DRAWINGS AND MAINTAIN FIRE RATINGS AS REQUIRED.
ALL PENETRATIONS IN WALLS OR FLOOR SLAB OF ELECTRICAL ROOMS L4EL08, L5EL08, L6EL08 AND L7EL08 SHALL BE CONSTRUCTED AS A 2-HOUR PENETRATION.

7. REPAIR EXISTING WALLS DESIGNATED FOR NEW FINISHES PRIOR TO PAINTING.

8. PROVIDE FLOOR CEMENTIONS TOPPING AND FILL PER SPEC SECTION 035300. PROVIDE ACCEPTABLE SUBSTRATE FOR NEW FLOORING PER SPEC SECTIONS 095500 AND 096813.

9. TOOTH-IN CMU TO MATCH EXISTING AT ALL CMU WALLS.

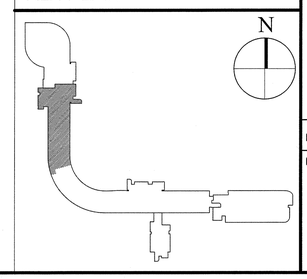
10. CONTRACTOR TO COORDINATE THE INSTALLATION OF SUPPLEMENTARY FRAMING, BLOCKING AND BRACING FOR SUPPORT OF WALL MOUNTED AND CEILING MOUNTED ITEMS, INCLUDING OWNER SUPPLIED, CONTRACTOR INSTALLED AND OWNER SUPPLIED, OWNER INSTALLED ITEMS. COMPLY WITH DETAILS INDICATED OR, IF NONE AVAILABLE, WITH "GYPSUM CONSTRUCTION HANDBOOK" - PUBLISHED BY USGC - MINIMUM SIZE FOR BACKING IS 8" X 16 GAUGE.

11. PROVIDE PAINTED LINTELS AT DOORS, WINDOWS, MECHANICAL OPENINGS ETC. IN CMU WALLS. REFER TO STRUCTURAL DRAWINGS FOR SIZES.

12. MAINTAIN FLOOR SLAB AND SLAB EDGE FIRE RATINGS DURING DEMOLITION AND CONSTRUCTION.

13. REFER TO MEP DRAWINGS FOR REQUIRED WORK BY GENERAL CONTRACTOR - AT DUCT PENETRATIONS, PLUMBING PENETRATIONS, ETC.

KEYPLAN



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UCONN HEALTH

Main Building Renovation

Building L - Project 2

263 Farmington Ave
Farmington, CT 06032

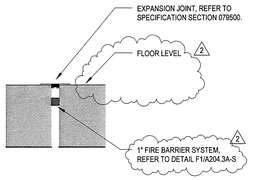
Revisions

No.	Date	Description
1	10/19/15	Issue for Bid & Code Review
2	11/02/15	Addendum #01

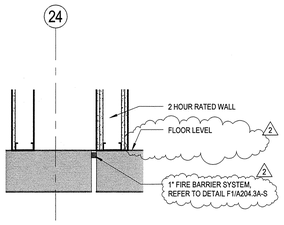
Drawing Name
Sub Basement Plan

Project No. 218010732

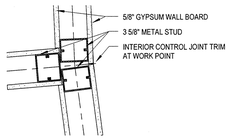
Drawing Number
A2SB



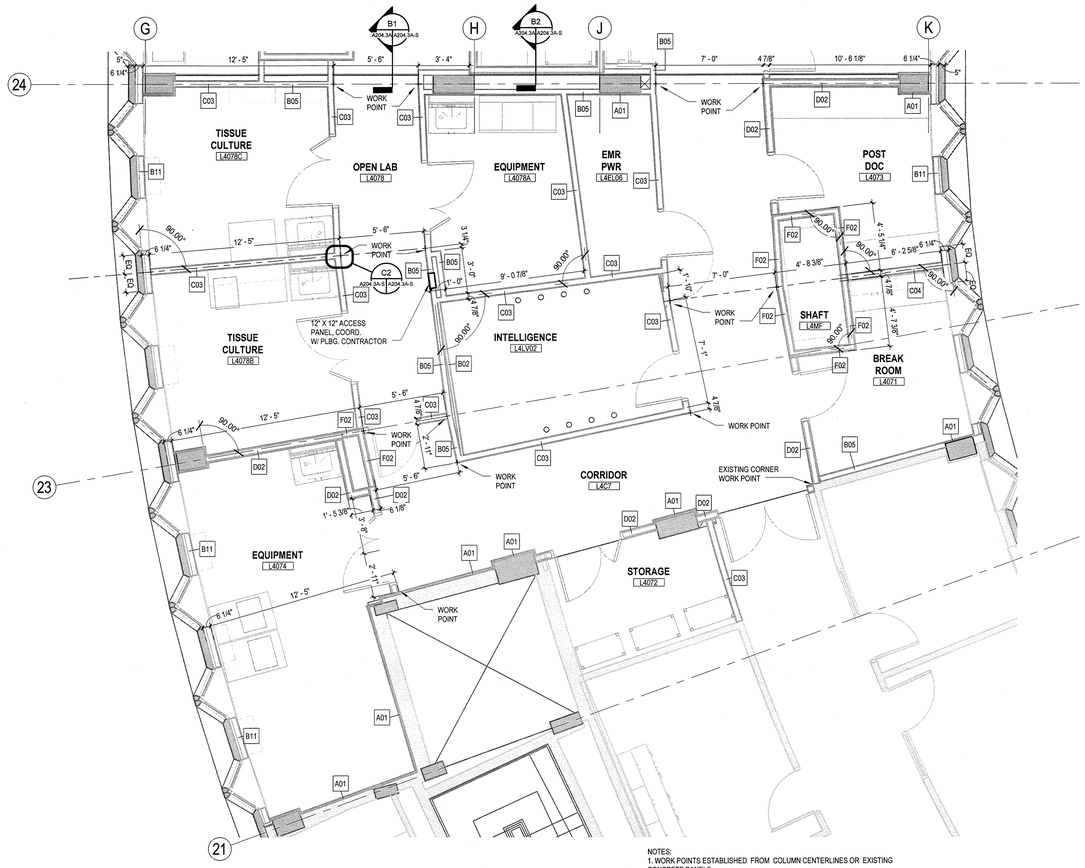
B1 A204.3A-S **Floor Expansion Joint**
1 1/2" = 1'-0"



B2 A204.3A-S **Expansion Joint @ Chem. Stor. Room**
1" = 1'-0"



C2 A204.3A-S **Interior Angle Work Point**
1 1/2" = 1'-0"



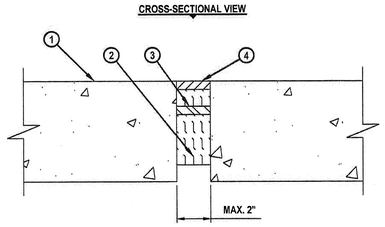
NOTES:
1. WORK POINTS ESTABLISHED FROM COLUMN CENTERLINES OR EXISTING CONCRETE PANELS.
2. DIMENSIONS GIVEN TO FACE OF FINISH GYPSUM WALL BOARD.
3. WORK POINTS ON FIFTH THROUGH SEVENTH FLOORS IN SAME LOCATIONS.
4. WALL TYPES ON FIFTH THROUGH SEVENTH FLOORS SAME AS 4TH FLOOR EXCEPT WHERE NOTED IN DETAILS F4 AND F6 BELOW.

D4 A204.3A-S **4th Floor - Enlarged Plan - Col. Lines 21-24**
1/4" = 1'-0"

JK **ENGINEERING JUDGMENT FIRESTOP DETAIL**

PROJECT : UCONN HEALTH BUILDING L RENOVATION
CONTRACTOR : ARCHITECT STANTEC
F-RATING = 2-HR. (SEE NOTE NO. 3 BELOW)

CROSS-SECTIONAL VIEW



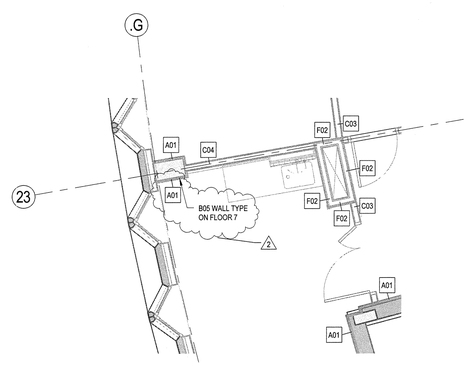
1. CONCRETE FLOOR ASSEMBLY (MINIMUM 6" THICK) (2-HR. FIRE-RATING).
2. MINIMUM 4" THICKNESS MINERAL WOOL SAFING (MIN. 4 PCF DENSITY) COMPRESSED 42% AND RECESSED TO ACCOMMODATE SEALANT.
3. MAXIMUM 1/2" STEEL DOWEL ROD.
4. MINIMUM 1/2" DEPTH HILTI CP 606 FLEXIBLE FIRESTOP SEALANT.

NOTES : 1. MAXIMUM WIDTH OF JOINT = 2".
2. T-RATING MAY NOT EQUAL F-RATING IN ACCORDANCE WITH UL 2079.
3. FIRE-RATING OF ASSEMBLY IS DEPENDENT UPON THE PERFORMANCE OF STEEL DOWEL ROD UNDER FIRE CONDITIONS.

THIS ENGINEERING JUDGMENT REPRESENTS A FIRESTOP SYSTEM THAT WOULD BE EXPECTED TO PASS THE STATED RATINGS IF TESTED. (REFERENCE : UL/cUL SYSTEM NO. FF-D-1012)

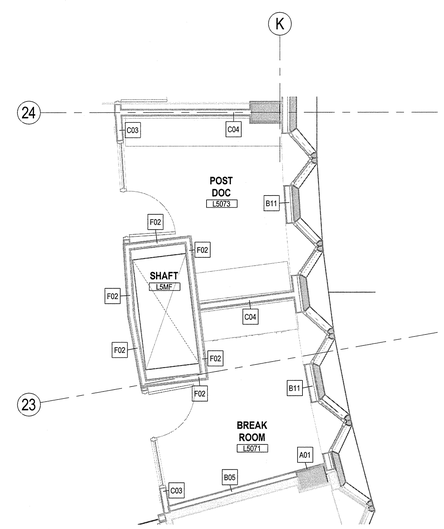
HILTI — Hilti Firestop Systems
HILTI, Inc.
Tulsa, Oklahoma USA (800) 879-8000
Designed by D.J. Hyp
Sheet 1 of 1
Scale 9/32" = 1"
Date June 08, 2015
Drawing No. 212705a
Saving Lives through Innovation and Education

F1 A204.3A-S **Hilti Firestop**
Not to Scale



REFER TO ENLARGED PLAN DETAIL D4 THIS SHEET FOR WALL LOCATIONS.

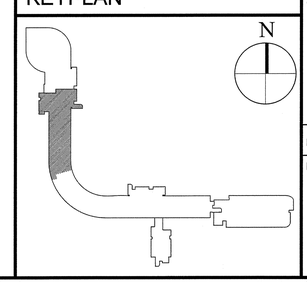
F4 A204.3A-S **5th-7th Floors - Enlarged Plan Detail - West**
1/4" = 1'-0"



REFER TO ENLARGED PLAN DETAIL D4 THIS SHEET FOR WALL LOCATIONS.

F6 A204.3A-S **5th-7th Floor - Enlarged Plan Detail - East**
1/4" = 1'-0"

KEYPLAN



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UCONN HEALTH

Main Building Renovation

Building L - Project 2

263 Farmington Ave
Farmington, CT 06032

Revisions

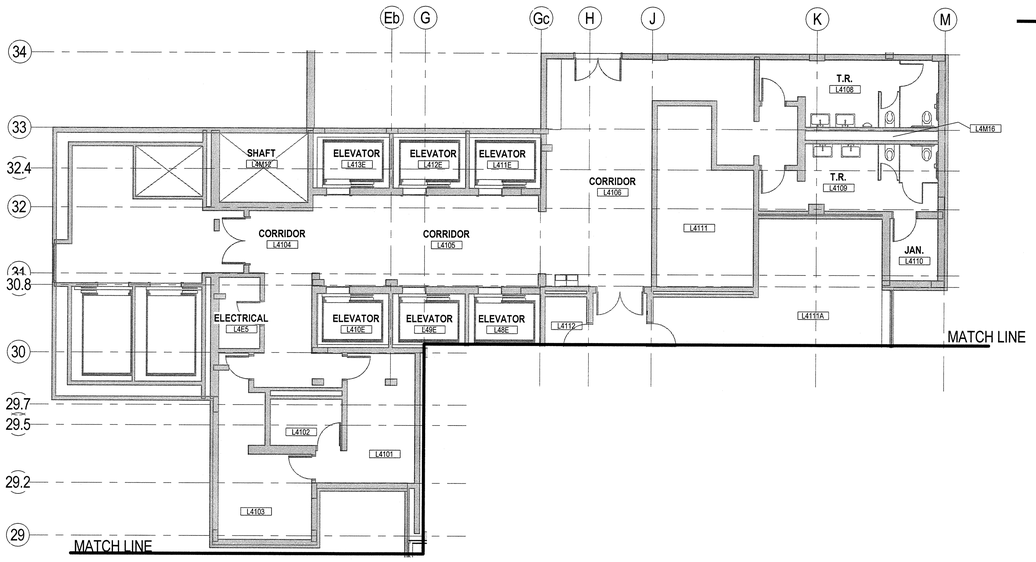
No.	Date	Description
1	10/19/15	Issue for Bid & Code Review
2	11/02/15	Addendum #01

Drawing Name
Enlarged Plan Details - Col. Lines 21-24

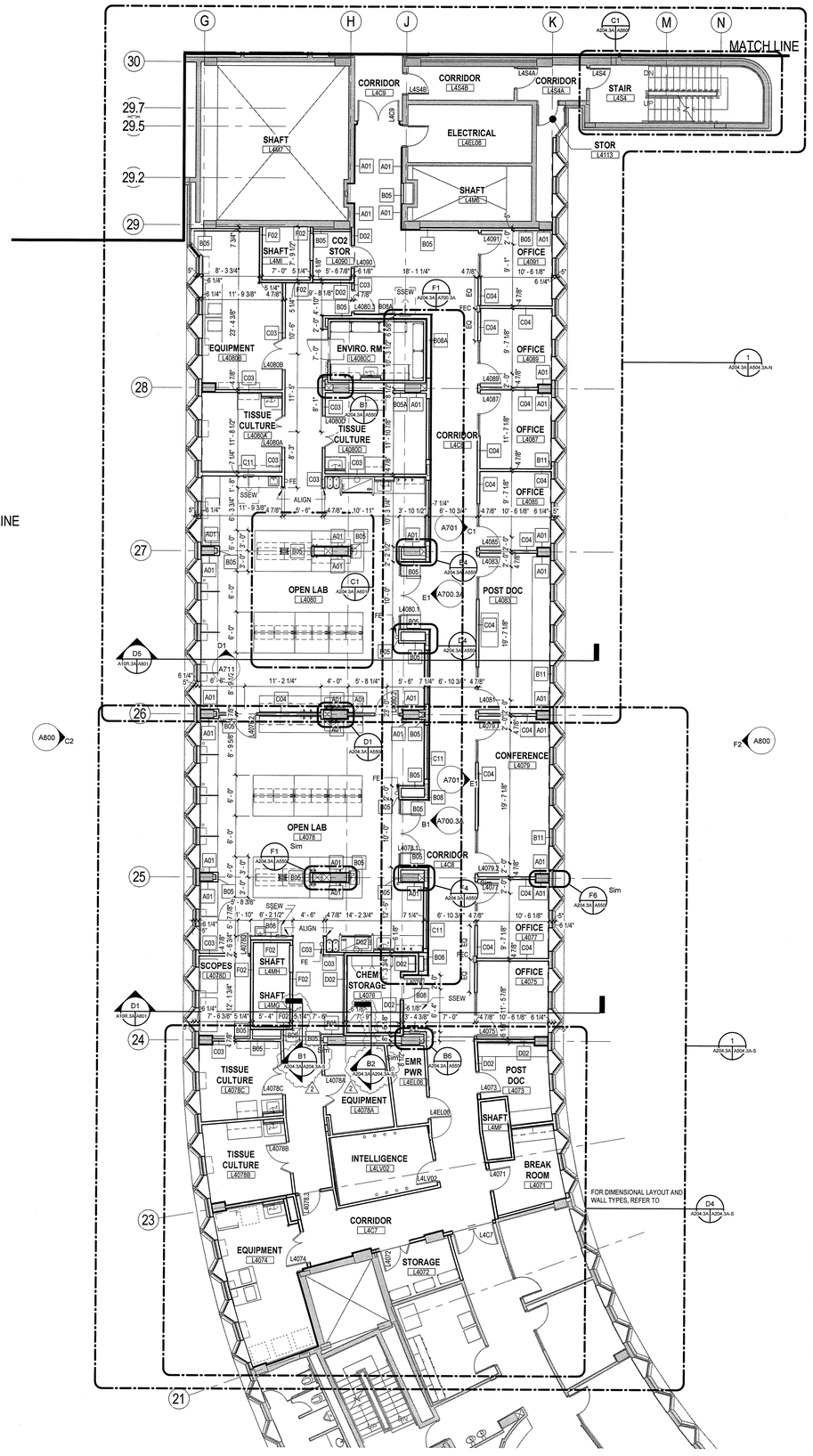
Project No. 218010732

Drawing Number
A204.3A-S

11/2/2015 1:25:40 PM



2 A204.3A **4th Floor - New Construction - Pt2**
1/8" = 1'-0"



1 A204.3A **4th Floor - New Construction - Pt1**
1/8" = 1'-0"

LINE DESIGNATIONS

- GRID LINE
- EXISTING CONSTRUCTION
- NEW CONSTRUCTION
- CASEWORK
- OVERHEAD CABINET OR BULKHEAD
- NEW CMU CONSTRUCTION
- MATERIAL OR ASSEMBLY TO BE DEMOLISHED
- EXISTING TO REMAIN

GENERAL NOTES

1. DO NOT SCALE DRAWINGS.

2. FIELD VERIFY DIMENSIONS AND EXISTING CONDITIONS PRIOR TO BEGINNING CONSTRUCTION OR PROCESSING SHOP DRAWINGS. NOTIFY THE ARCHITECT OF DEVIATIONS FROM THE DRAWINGS.

3. INSTALL MATERIALS AND PRODUCTS ACCORDING TO MANUFACTURERS WRITTEN INSTRUCTIONS.

4. SEE ENLARGED PLANS (A500 SERIES) FOR ADDITIONAL DIMENSIONS.

5. ALL DIMENSIONS TO FACE OF GYPSUM WALL BOARD U.O.N.

6. WHERE DEMOLITION OF EXISTING CONSTRUCTION AND/OR EQUIPMENT OCCURS, PATCH AND REPAIR FLOOR, WALL AND CEILING CONSTRUCTION AND/OR FINISHES U.O.N. REFER TO LIFE SAFETY DRAWINGS AND MAINTAIN FIRE RATINGS AS REQUIRED.
ALL PENETRATIONS IN WALLS OR FLOOR SLAB OF ELECTRICAL ROOMS L4EL08, L5EL08, U6EL08 AND L7EL08 SHALL BE CONSTRUCTED AS A 2-HOUR PENETRATION.

7. REPAIR EXISTING WALLS DESIGNATED FOR NEW FINISHES PRIOR TO PAINTING.

8. PROVIDE FLOOR CEMENTIONS TOPPING AND FILL PER SPEC SECTION 035300. PROVIDE ACCEPTABLE SUBSTRATE FOR NEW FLOORING PER SPEC SECTIONS 096500 AND 096813.

9. TOOTH-IN CMU TO MATCH EXISTING AT ALL CMU WALLS.

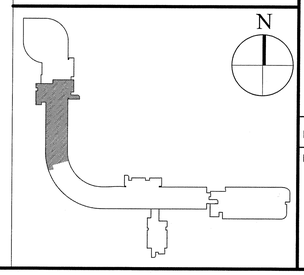
10. CONTRACTOR TO COORDINATE THE INSTALLATION OF SUPPLEMENTARY FRAMING, BLOCKING AND BRACING FOR SUPPORT OF WALL MOUNTED AND CEILING MOUNTED ITEMS, INCLUDING OWNER SUPPLIED, CONTRACTOR INSTALLED AND OWNER SUPPLIED, OWNER INSTALLED ITEMS. COMPLY WITH DETAILS INDICATED OR, IF NONE AVAILABLE, WITH "GYPSUM CONSTRUCTION HANDBOOK" - PUBLISHED BY USGC - MINIMUM SIZE FOR BACKING IS 6" X 16 GAUGE.

11. PROVIDE PAINTED LINTELS AT DOORS, WINDOWS, MECHANICAL OPENINGS ETC. IN CMU WALLS. REFER TO STRUCTURAL DRAWINGS FOR SIZES.

12. MAINTAIN FLOOR SLAB AND SLAB EDGE FIRE RATINGS DURING DEMOLITION AND CONSTRUCTION.

13. REFER TO MEP DRAWINGS FOR REQUIRED WORK BY GENERAL CONTRACTOR - AT DUCT PENETRATIONS, PLUMBING PENETRATIONS, ETC.

KEYPLAN



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UCONN HEALTH

Main Building Renovation

Building L - Project 2

263 Farmington Ave
Farmington, CT 06032

Revisions

No.	Date	Description
1	10/19/15	Issue for Bid & Code Review
2	11/02/15	Addendum #01

Drawing Name

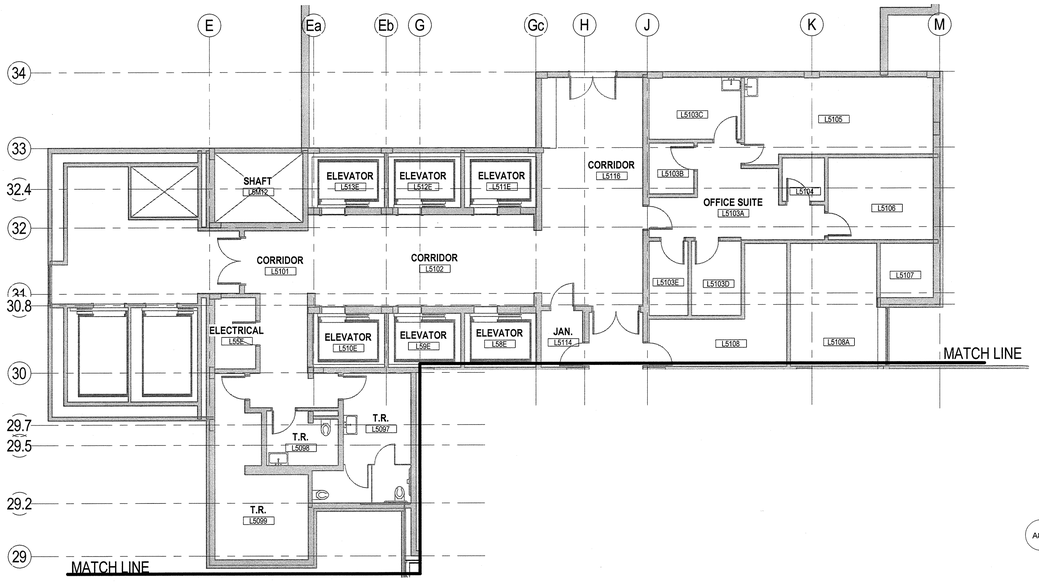
Floor Plan - Fourth Floor

Project No. 218010732

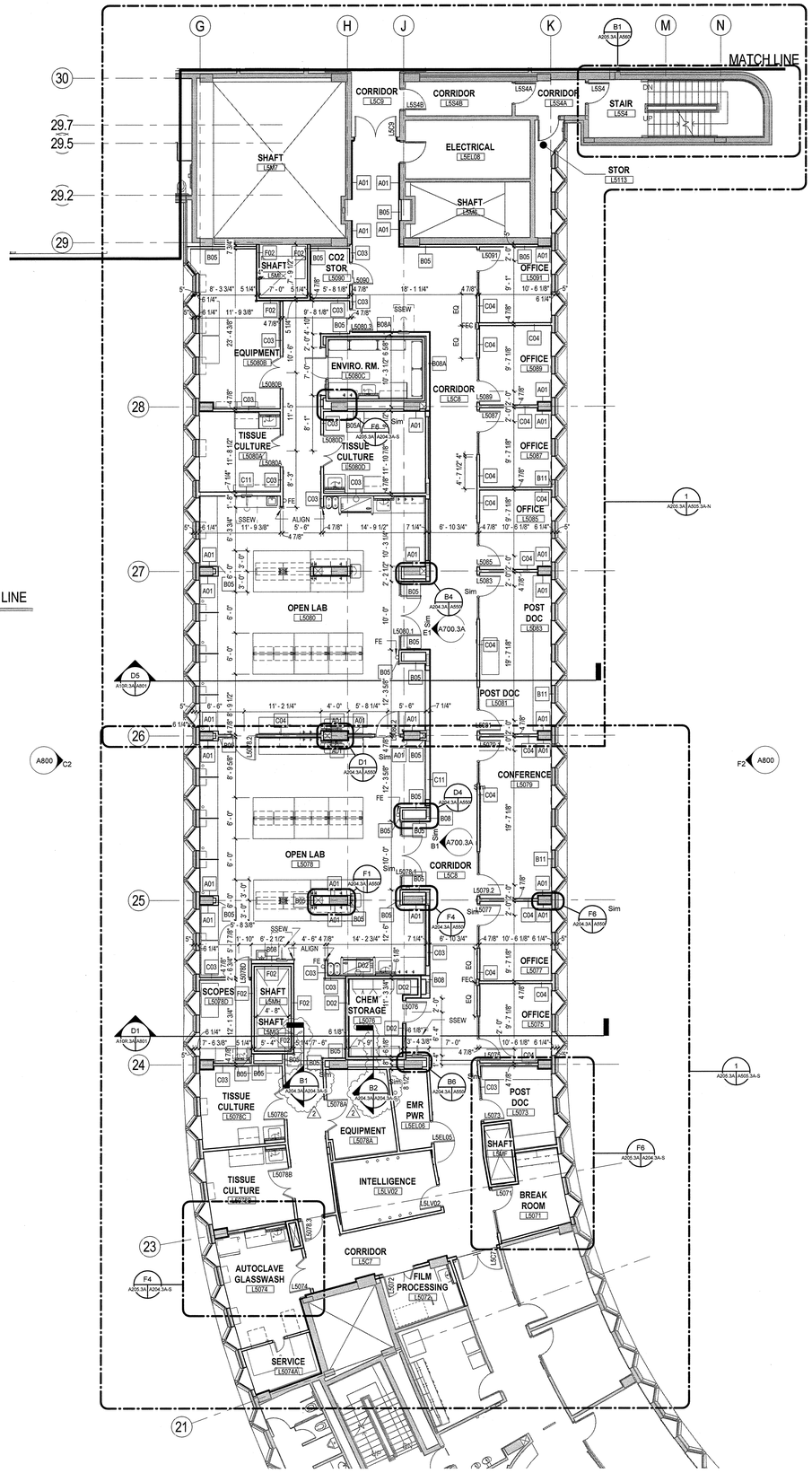
Drawing Number

A204.3A

11/2/2015 1:25:53 PM



2 A205.3A **5th Floor - New Construction - Pt2**
1/8" = 1'-0"



1 A205.3A **5th Floor - New Construction - Pt1**
1/8" = 1'-0"

LINE DESIGNATIONS

- GRID LINE
- EXISTING CONSTRUCTION
- NEW CONSTRUCTION
- CASEWORK
- OVERHEAD CABINET OR BULKHEAD
- NEW CMU CONSTRUCTION
- MATERIAL OR ASSEMBLY TO BE DEMOLISHED
- EXISTING TO REMAIN

GENERAL NOTES

1. DO NOT SCALE DRAWINGS.

2. FIELD VERIFY DIMENSIONS AND EXISTING CONDITIONS PRIOR TO BEGINNING CONSTRUCTION OR PROCESSING SHOP DRAWINGS. NOTIFY THE ARCHITECT OF DEVIATIONS FROM THE DRAWINGS.

3. INSTALL MATERIALS AND PRODUCTS ACCORDING TO MANUFACTURERS WRITTEN INSTRUCTIONS.

4. SEE ENLARGED PLANS (A500 SERIES) FOR ADDITIONAL DIMENSIONS.

5. ALL DIMENSIONS TO FACE OF GYPSUM WALL BOARD U.O.N.

6. WHERE DEMOLITION OF EXISTING CONSTRUCTION AND/OR EQUIPMENT OCCURS, PATCH AND REPAIR FLOOR, WALL AND CEILING CONSTRUCTION AND/OR FINISHES U.O.N. REFER TO LIFE SAFETY DRAWINGS AND MAINTAIN FIRE RATINGS AS REQUIRED.
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7. REPAIR EXISTING WALLS DESIGNATED FOR NEW FINISHES PRIOR TO PAINTING.

8. PROVIDE FLOOR CEMENTIONS TOPPING AND FILL PER SPEC SECTION 035300. PROVIDE ACCEPTABLE SUBSTRATE FOR NEW FLOORING PER SPEC SECTIONS 096500 AND 096813.

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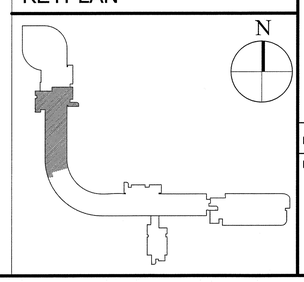
KEYPLAN



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Main Building Renovation

Building L - Project 2

263 Farmington Ave
Farmington, CT 06032

Revisions

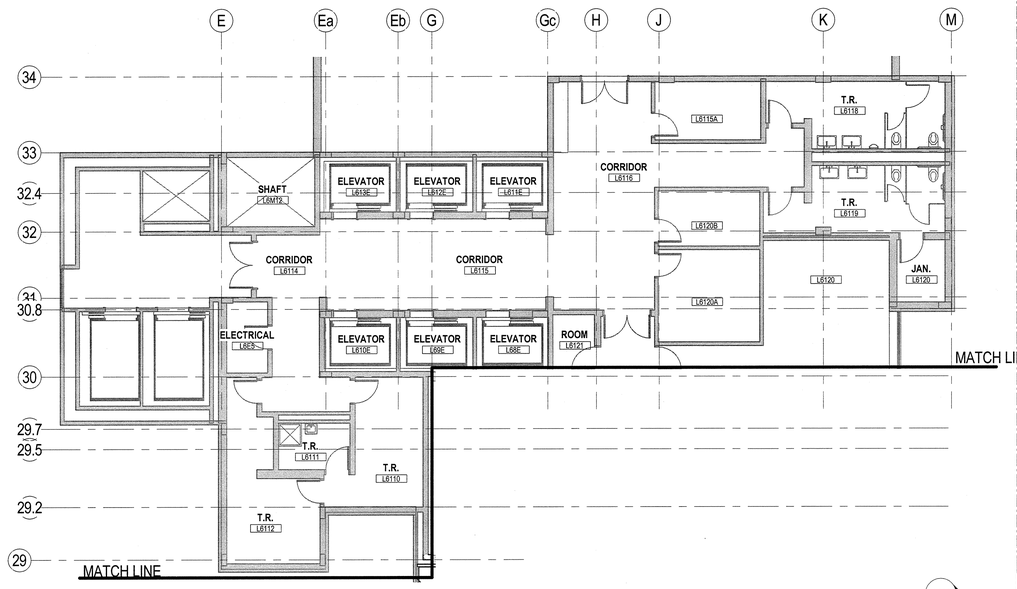
No.	Date	Description
1	10/19/15	Issue for Bid & Code Review
2	11/02/15	Addendum #01

Drawing Name
Floor Plan - Fifth Floor

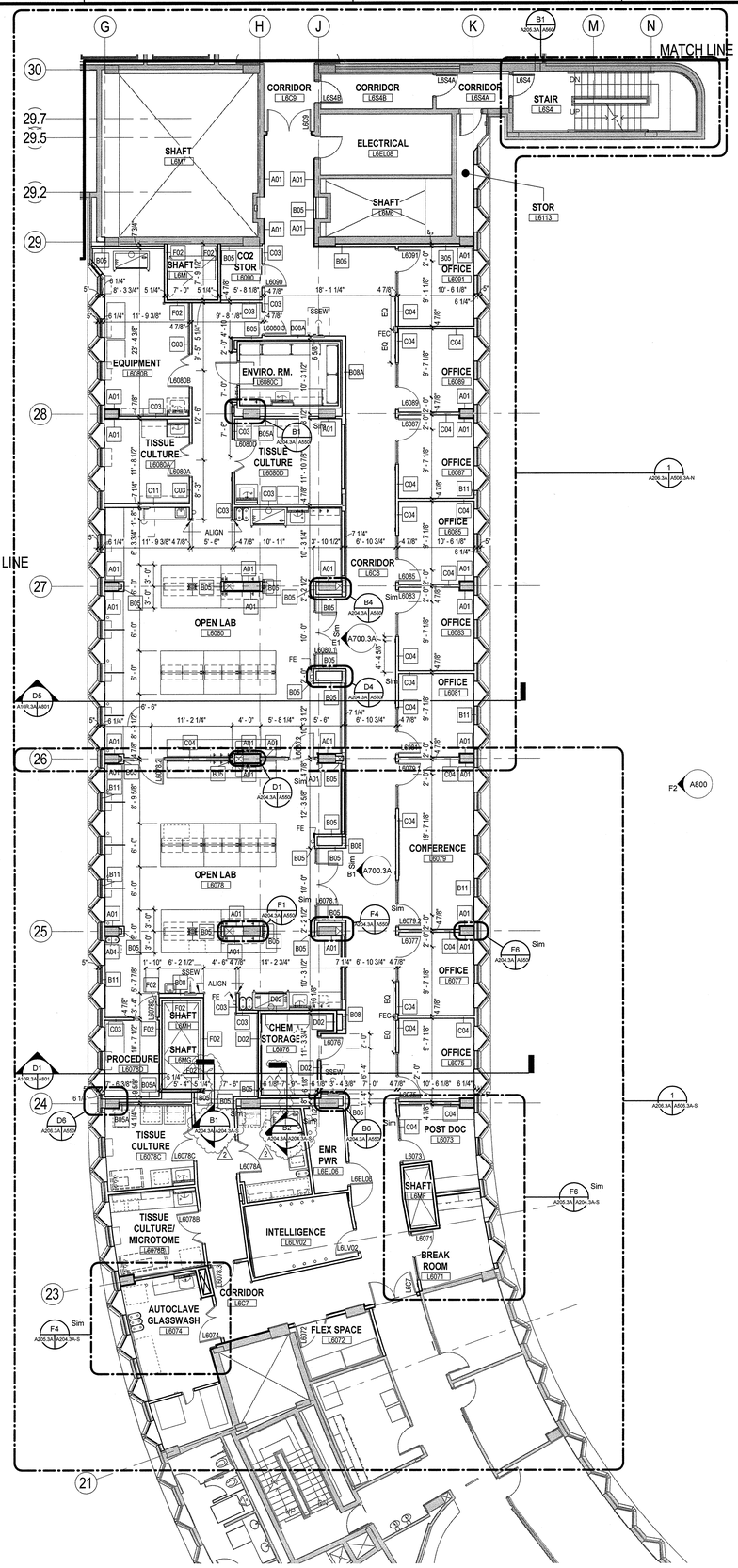
Project No. 218010732

Drawing Number
A205.3A

11/2/2015 1:25:48 PM



2 A206.3A **6th Floor - New Construction - Pt2**
1/8" = 1'-0"



1 A206.3A **6th Floor - New Construction - Pt1**
1/8" = 1'-0"

LINE DESIGNATIONS

- GRID LINE
- EXISTING CONSTRUCTION
- NEW CONSTRUCTION
- CASEWORK
- OVERHEAD CABINET OR BULKHEAD
- NEW CMU CONSTRUCTION
- MATERIAL OR ASSEMBLY TO BE DEMOLISHED
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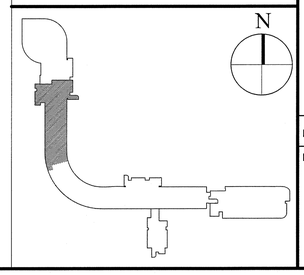
KEYPLAN



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Main Building Renovation

Building L - Project 2

263 Farmington Ave
Farmington, CT 06032

Revisions

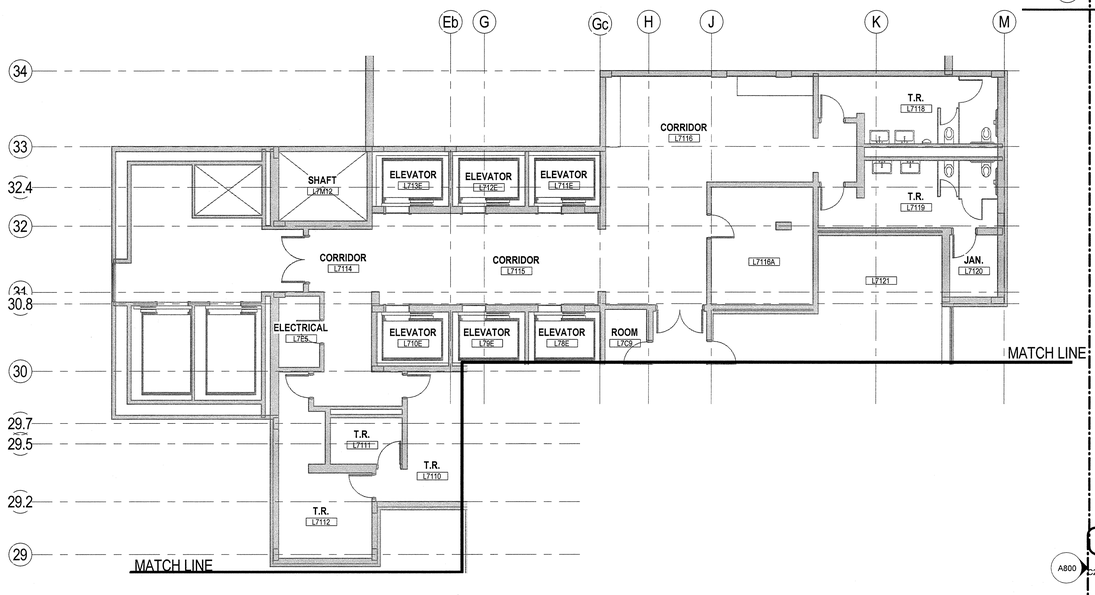
No.	Date	Description
1	10/19/15	Issue for Bid & Code Review
2	11/02/15	Addendum #01

Drawing Name
Floor Plan - Sixth Floor

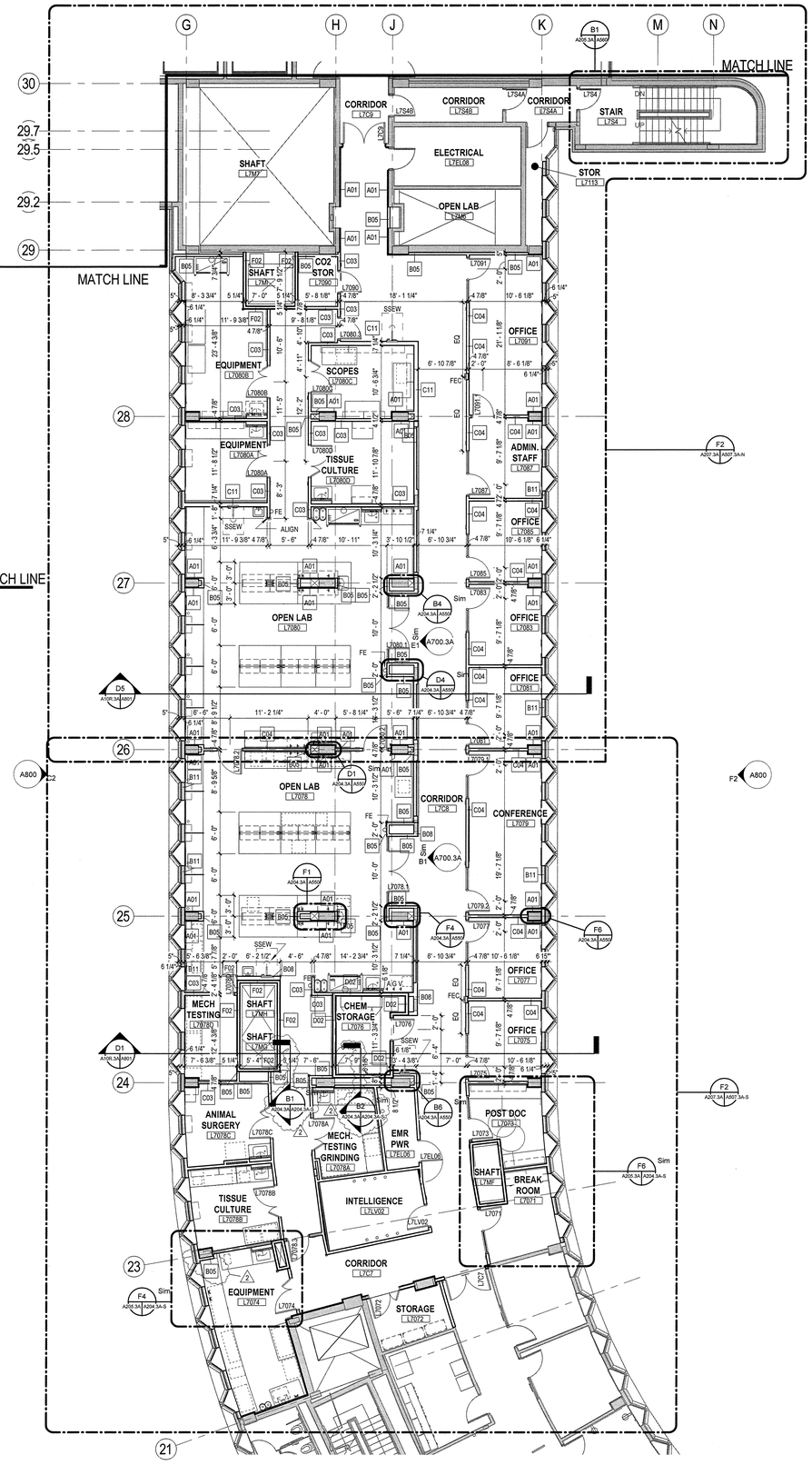
Project No. 218010732

Drawing Number
A206.3A

11/2/2015 1:25:52 PM



2 A207.3A **7th Floor - New Construction - Pt2**
1/8" = 1'-0"



1 A207.3A **7th Floor - New Construction - Pt1**
1/8" = 1'-0"

LINE DESIGNATIONS

- GRID LINE
- EXISTING CONSTRUCTION
- NEW CONSTRUCTION
- CASEWORK
- OVERHEAD CABINET OR BULKHEAD
- NEW CMU CONSTRUCTION
- MATERIAL OR ASSEMBLY TO BE DEMOLISHED
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GENERAL NOTES

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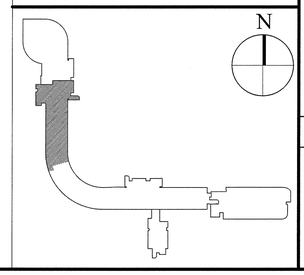
KEYPLAN



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Main Building Renovation

Building L - Project 2

263 Farmington Ave
Farmington, CT 06032

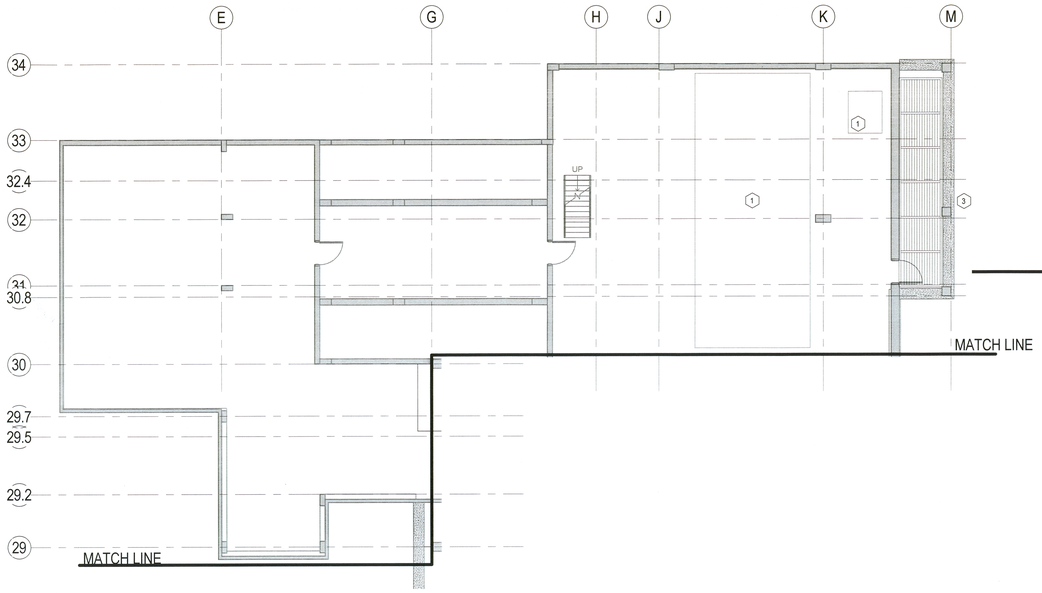
Revisions

No.	Date	Description
1	10/19/15	Issue for Bid & Code Review
2	11/02/15	Addendum #01

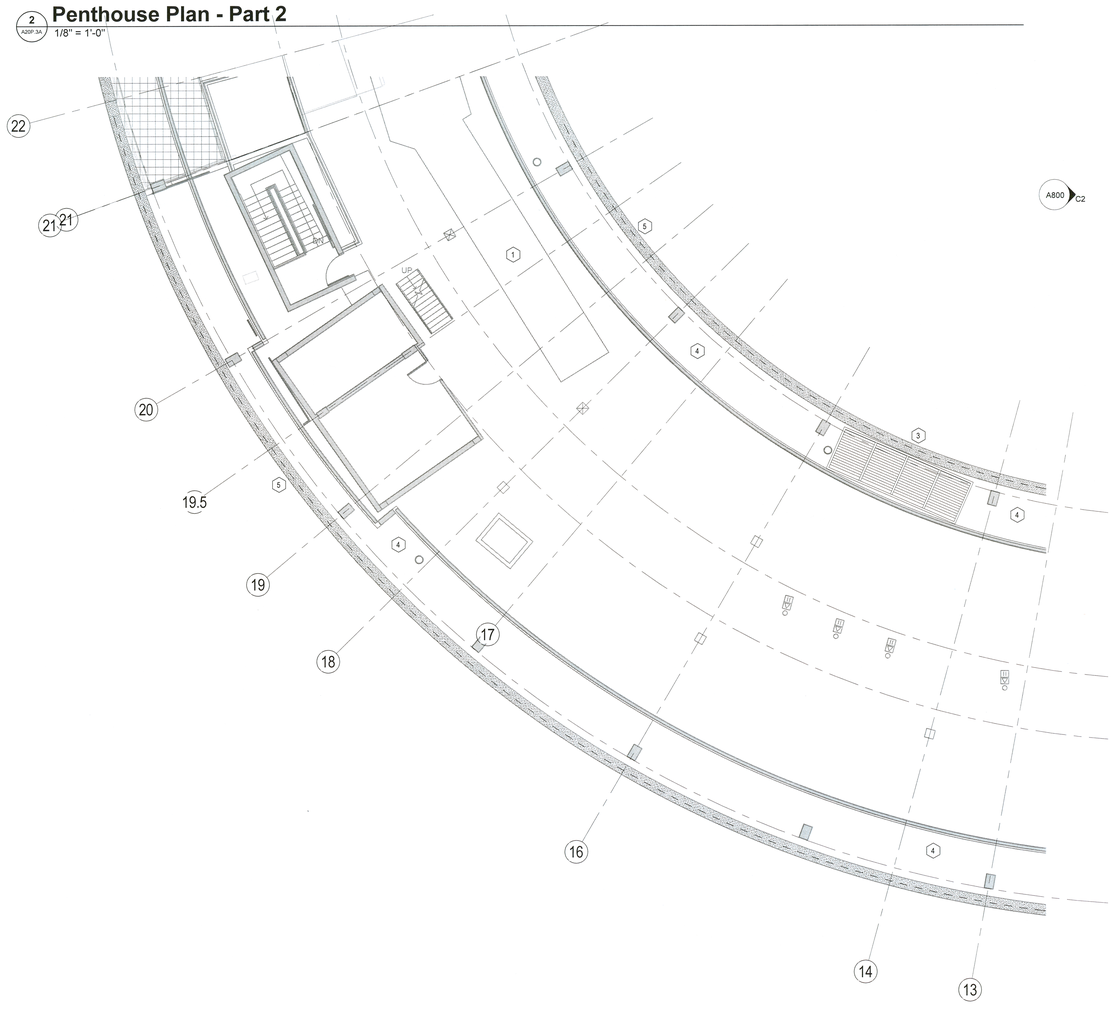
Drawing Name
Floor Plan - Seventh Floor

Project No. 218010732

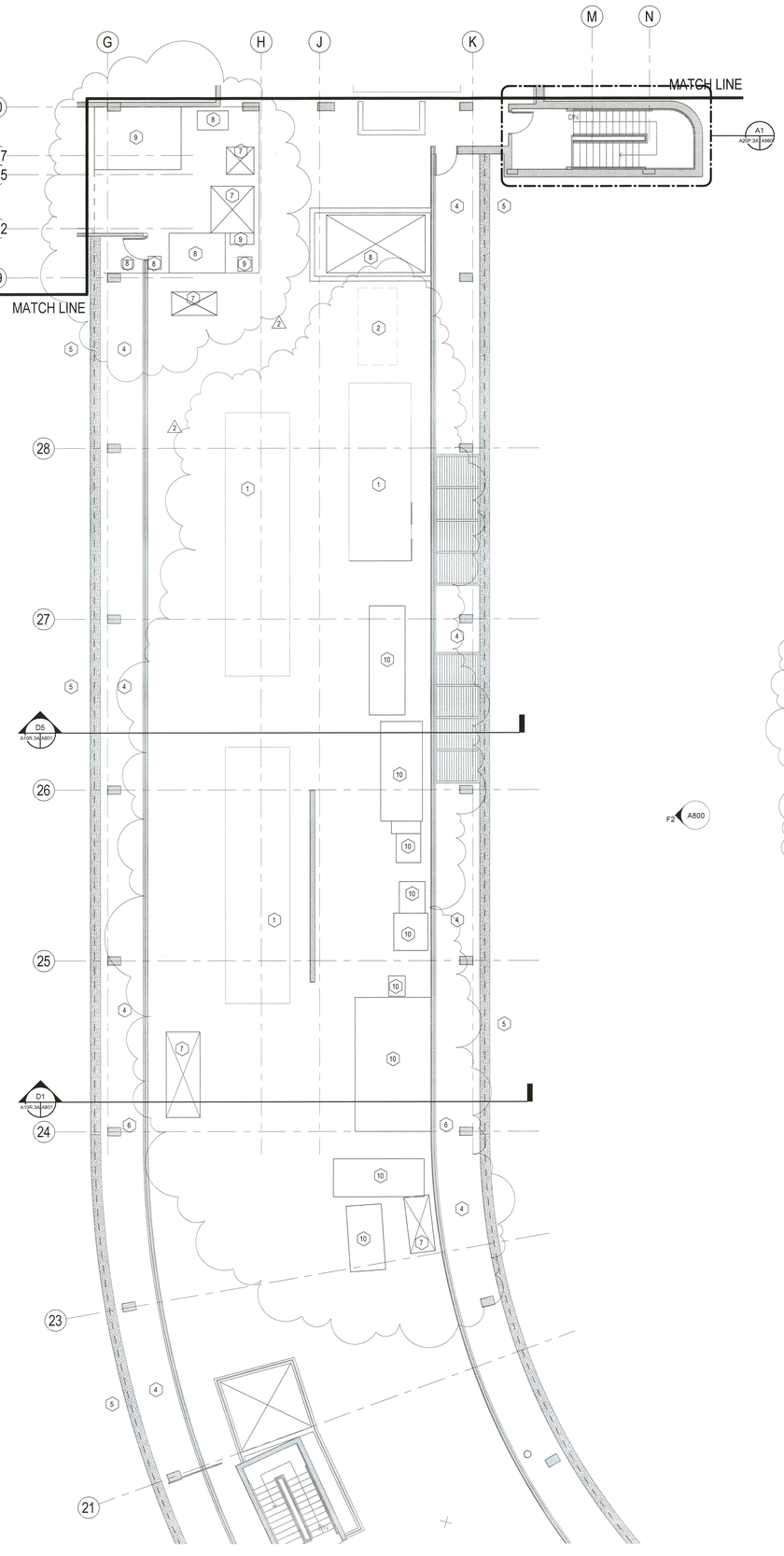
Drawing Number
A207.3A



2 A20P.3A **Penthouse Plan - Part 2**
1/8" = 1'-0"



3 A20P.3A **Penthouse Plan - Part 3**
1/8" = 1'-0"



1 A20P.3A **Penthouse Plan - Part 1**
1/8" = 1'-0"

LINE DESIGNATIONS

- GRID LINE
- EXISTING CONSTRUCTION
- NEW CONSTRUCTION
- CASEWORK
- OVERHEAD CABINET OR BULKHEAD
- NEW CMU CONSTRUCTION
- MATERIAL OR ASSEMBLY TO BE DEMOLISHED
- EXISTING TO REMAIN

GENERAL NOTES

1. DO NOT SCALE DRAWINGS.

2. FIELD VERIFY DIMENSIONS AND EXISTING CONDITIONS PRIOR TO BEGINNING CONSTRUCTION OR PROCESSING SHOP DRAWINGS. NOTIFY THE ARCHITECT OF DEVIATIONS FROM THE DRAWINGS.

3. INSTALL MATERIALS AND PRODUCTS ACCORDING TO MANUFACTURERS WRITTEN INSTRUCTIONS.

4. SEE ENLARGED PLANS (A500 SERIES) FOR ADDITIONAL DIMENSIONS.

5. ALL DIMENSIONS TO FACE OF GYPSUM WALL BOARD U.O.N.

6. WHERE DEMOLITION OF EXISTING CONSTRUCTION AND/OR EQUIPMENT OCCURS, PATCH AND REPAIR FLOOR, WALL AND CEILING CONSTRUCTION AND/OR FINISHES U.O.N. REFER TO LIFE SAFETY DRAWINGS AND MAINTAIN FIRE RATINGS AS REQUIRED.
ALL PENETRATIONS IN WALLS OR FLOOR SLAB OF ELECTRICAL ROOMS L4EL08, L5EL08, L6EL08 AND L7EL08 SHALL BE CONSTRUCTED AS A 2-HOUR PENETRATION.

7. REPAIR EXISTING WALLS DESIGNATED FOR NEW FINISHES PRIOR TO PAINTING.

8. PROVIDE FLOOR CEMENTIONS TOPPING AND FILL PER SPEC SECTION 035300. PROVIDE ACCEPTABLE SUBSTRATE FOR NEW FLOORING PER SPEC SECTIONS 096500 AND 096813.

9. TOOTH-IN CMU TO MATCH EXISTING AT ALL CMU WALLS.

10. CONTRACTOR TO COORDINATE THE INSTALLATION OF SUPPLEMENTARY FRAMING, BLOCKING AND BRACING FOR SUPPORT OF WALL MOUNTED AND CEILING MOUNTED ITEMS, INCLUDING OWNER SUPPLIED, CONTRACTOR INSTALLED AND OWNER SUPPLIED, OWNER INSTALLED ITEMS. COMPLY WITH DETAILS INDICATED OR, IF NONE AVAILABLE, WITH "GYPSUM CONSTRUCTION HANDBOOK" - PUBLISHED BY USGC - MINIMUM SIZE FOR BACKING IS 6" X 16 GAUGE.

11. PROVIDE PAINTED LINTELS AT DOORS, WINDOWS, MECHANICAL OPENINGS ETC. IN CMU WALLS. REFER TO STRUCTURAL DRAWINGS FOR SIZES.

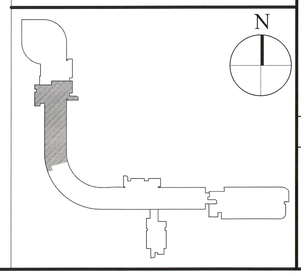
12. MAINTAIN FLOOR SLAB AND SLAB EDGE FIRE RATINGS DURING DEMOLITION AND CONSTRUCTION.

13. REFER TO MEP DRAWINGS FOR REQUIRED WORK BY GENERAL CONTRACTOR - AT DUCT PENETRATIONS, PLUMBING PENETRATIONS, ETC.

PENTHOUSE PLAN KEYNOTES

1. CONCRETE HOUSEKEEPING PAD, COORDINATE WITH STRUCTURAL AND MEP DRAWINGS FOR REQUIRED SIZING.
2. MAINTAIN FREE AND CLEAR "NO FLY ZONE" BELOW NEW ROOF HATCH. SEE A20R.3A FOR LOCATION AND DIMENSION
3. SOFFIT LOUVERS. SEE DETAILS ON DRAWING A802.
4. EPDM (WHITE) ROOFING ON POLYISOCYANURATE INSULATION (R-20) AND WALL FLASHING
5. CONTINUOUS BIRD SCREEN
6. EXPANSION JOINT, REFER TO DETAIL F6/A802.
7. OPENING, COORDINATE SIZES AND LOCATIONS REQUIRED AS PER STRUCTURAL AND MEP DRAWINGS. REFER TO DETAIL E4/A802 FOR GUARDRAIL DETAIL
8. EXISTING OPENING TO REMAIN
9. INFILL EXISTING OPENING, COORDINATE SIZES AND LOCATIONS REQUIRED AS PER STRUCTURAL AND MEP DRAWINGS.
10. EXISTING HOUSEKEEPING PAD TO REMAIN

KEYPLAN



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UCONN HEALTH

Main Building Renovation

Building L - Project 2

263 Farmington Ave
Farmington, CT 06032

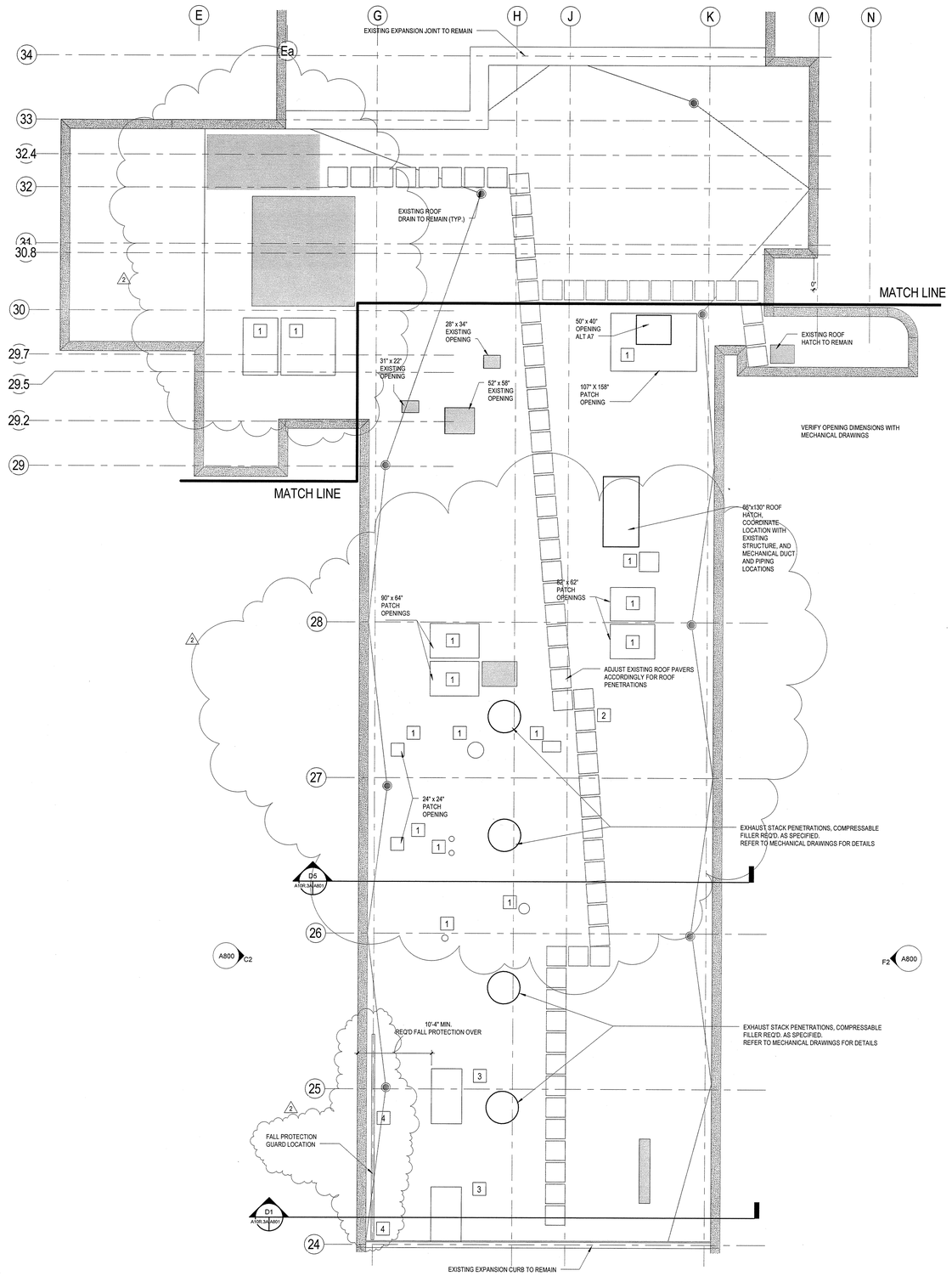
Revisions

No.	Date	Description
1	10/19/15	Issue for Bid & Code Review
2	11/02/15	Addendum #01

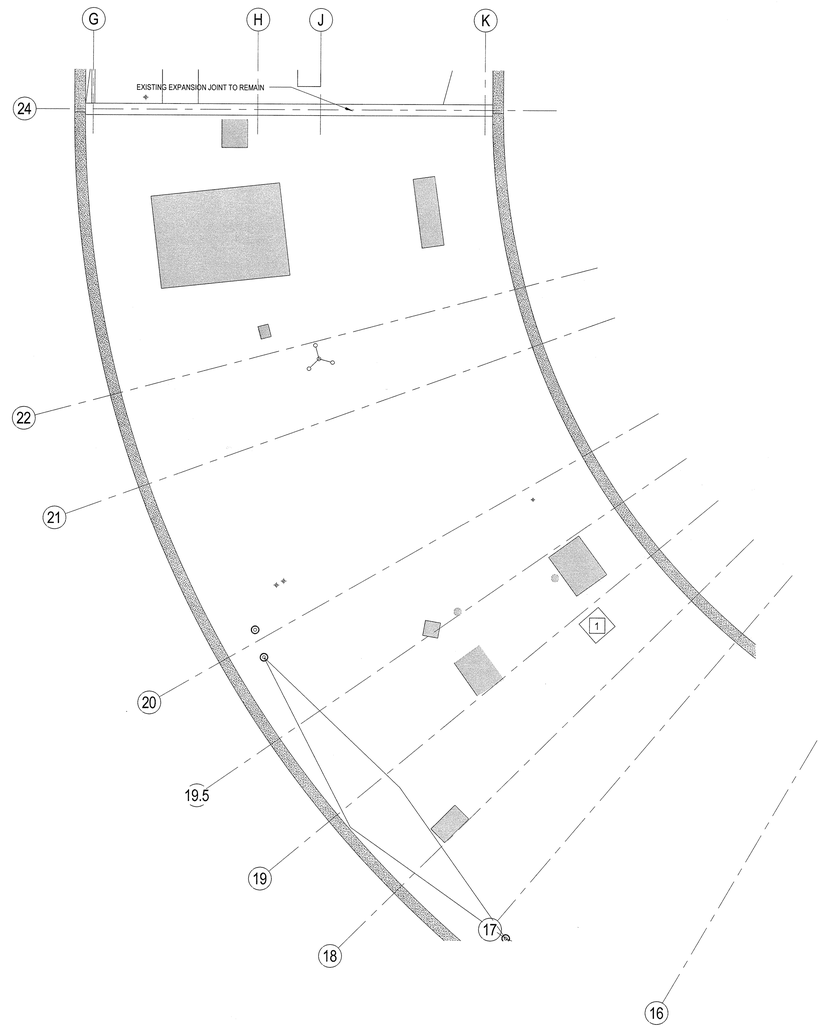
Drawing Name
Floor Plan - Penthouse Floor

Project No. 218010732

Drawing Number
A20P.3A



1 A20R.3A **Roof Plan 1**
1/8" = 1'-0"



2 A20R.3A **Roof Plan 2**
1/8" = 1'-0"

LINE DESIGNATIONS

- GRID LINE
- EXISTING CONSTRUCTION
- NEW CONSTRUCTION
- CASEWORK
- OVERHEAD CABINET OR BULKHEAD
- NEW CMU CONSTRUCTION
- MATERIAL OR ASSEMBLY TO BE DEMOLISHED
- EXISTING TO REMAIN

GENERAL NOTES

1. DO NOT SCALE DRAWINGS.

2. FIELD VERIFY DIMENSIONS AND EXISTING CONDITIONS PRIOR TO BEGINNING CONSTRUCTION OR PROCESSING SHOP DRAWINGS. NOTIFY THE ARCHITECT OF DEVIATIONS FROM THE DRAWINGS.

3. INSTALL MATERIALS AND PRODUCTS ACCORDING TO MANUFACTURERS WRITTEN INSTRUCTIONS.

4. SEE ENLARGED PLANS (A500 SERIES) FOR ADDITIONAL DIMENSIONS.

5. ALL DIMENSIONS TO FACE OF GYPSUM WALL BOARD U.O.N.

6. WHERE DEMOLITION OF EXISTING CONSTRUCTION AND/OR EQUIPMENT OCCURS, PATCH AND REPAIR FLOOR, WALL AND CEILING CONSTRUCTION AND/OR FINISHES U.O.N. REFER TO LIFE SAFETY DRAWINGS AND MAINTAIN FIRE RATINGS AS REQUIRED.
ALL PENETRATIONS IN WALLS OR FLOOR SLAB OF ELECTRICAL ROOMS L4EL08, L5EL08, L6EL08 AND L7EL08 SHALL BE CONSTRUCTED AS A 2-HOUR PENETRATION.

7. REPAIR EXISTING WALLS DESIGNATED FOR NEW FINISHES PRIOR TO PAINTING.

8. PROVIDE FLOOR CEMENTIONS TOPPING AND FILL PER SPEC SECTION 035300. PROVIDE ACCEPTABLE SUBSTRATE FOR NEW FLOORING PER SPEC SECTIONS 096500 AND 096813.

9. TOOTH-IN CMU TO MATCH EXISTING AT ALL CMU WALLS.

10. CONTRACTOR TO COORDINATE THE INSTALLATION OF SUPPLEMENTARY FRAMING, BLOCKING AND BRACING FOR SUPPORT OF WALL MOUNTED AND CEILING MOUNTED ITEMS, INCLUDING OWNER SUPPLIED, CONTRACTOR INSTALLED AND OWNER SUPPLIED, OWNER INSTALLED ITEMS. COMPLY WITH DETAILS INDICATED OR, IF NONE AVAILABLE, WITH "GYPSUM CONSTRUCTION HANDBOOK" - PUBLISHED BY USGC - MINIMUM SIZE FOR BACKING IS 6" X 16 GAUGE.

11. PROVIDE PAINTED LINTELS AT DOORS, WINDOWS, MECHANICAL OPENINGS ETC. IN CMU WALLS. REFER TO STRUCTURAL DRAWINGS FOR SIZES.

12. MAINTAIN FLOOR SLAB AND SLAB EDGE FIRE RATINGS DURING DEMOLITION AND CONSTRUCTION.

13. REFER TO MEP DRAWINGS FOR REQUIRED WORK BY GENERAL CONTRACTOR - AT DUCT PENETRATIONS, PLUMBING PENETRATIONS, ETC.

GENERAL ROOF NOTES

1. REFER TO THE N.R.C.A. ROOFING AND WATERPROOFING MANUAL - FIFTH EDITION, AND MANUFACTURER'S RECOMMENDATIONS FOR APPLICABLE ROOFING DETAILS.

2. GENERAL CONTRACTOR SHALL PROVIDE REQUIRED BLOCKING UP TO THE ROOFING SURFACE FOR THE SUPPORT OF THE ROOF MOUNTED ITEMS U.O.N.

3. GENERAL CONTRACTOR SHALL PROVIDE REQUIRED BLOCKING AT THE ROOF PERIMETER AND FOR ATTACHMENT OF ROOFING AND ROOFING ACCESSORIES. U.O.N.

4. COORDINATE WITH MECHANICAL, PLUMBING AND ELECTRICAL CONTRACTORS FOR PENETRATIONS NOT SHOWN.

5. PROVIDE CRICKETS, SADDLES, AND TAPERED TO MAINTAIN PROPER DRAINAGE FOR ROOF WARRANTY.

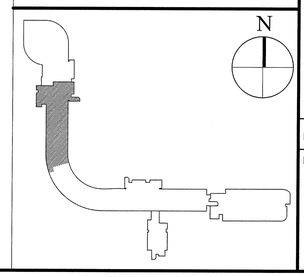
6. REFER TO SECTION DRAWINGS FOR ADDITIONAL ROOF DETAILS.
PROVIDE WALKPADS AT MECHANICAL EQUIPMENT.

7. PROVIDE SPLASH BLOCKS @ DOWN SPOUTS.PROVIDE CRICKETS, SADDLES, AND TAPERED INSULATION TO MAINTAIN PROPER DRAINAGE FOR ROOF WARRANTY.

ROOF KEYNOTES

1. PATCH EXISTING ROOF TO MATCH ADJACENT, COORDINATE WITH STRUCTURAL.
2. RELOCATE EXISTING ROOF PAVERS ACCORDINGLY FOR NEW ROOF PENETRATIONS
3. INSTALL ADDITIONAL ROOF PAVERS AT NEW ROOF EQUIPMENT, COORDINATE LOCATION WITH EQUIPMENT ACCESS WITH MEP DRAWINGS.
4. INSTALL FALL PROTECTION AT ROOF TOP EQUIPMENT AS REQUIRED BY CODE. COORDINATE WITH STRUCTURAL FOR PROPER INSTALLATION.

KEYPLAN



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Main Building Renovation

Building L - Project 2

263 Farmington Ave
Farmington, CT 06032

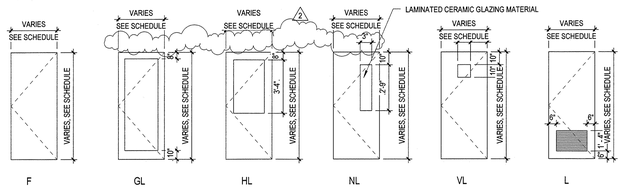
Revisions

No.	Date	Description
1	10/19/15	Issue for Bid & Code Review
2	11/02/15	Addendum #01

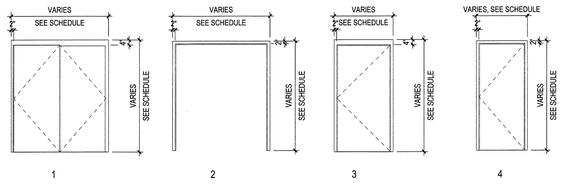
Drawing Name
Floor Plan - Roof

Project No. 218010732

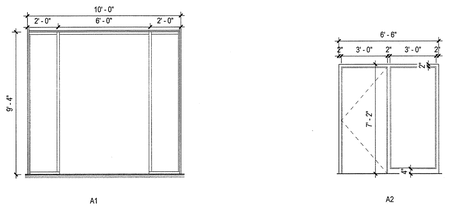
Drawing Number
A20R.3A



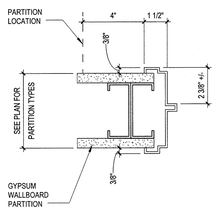
DOOR TYPES



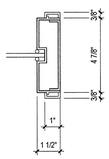
HM FRAME TYPES



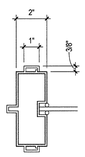
AL FRAME TYPES



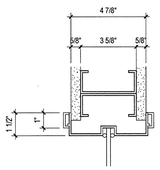
J2 - Gypsum AL Jamb



J4 - AL Jamb Mullion

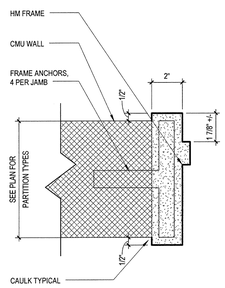


J5 - AL Strike Jamb w/ Sidelite

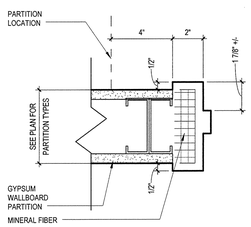


H1 - AL Header @ Sidelite

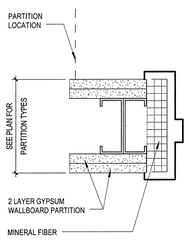
E1 Aluminum Frame Details



J0 Masonry HM Frame



J1 - Gypsum HM Frame



J3 - Gypsum Rated Wall Frame

F1 Jamb Details

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Main Building Renovation

Building L - Project 2

263 Farmington Ave
Farmington, CT 06032

Revisions

No.	Date	Description
1	10/19/15	Issue for Bid & Code Review
2	11/02/15	Addendum #01

Drawing Name

Door Types, Frames and Details

Project No. 218010732

Drawing Number

A250

11/2/2015 1:37:37 PM

Phase 3A SUB-BASEMENT. - Door Schedule

No.	Room Name	Rm. No.	Door Width	Door Height	Door Thick	Door Type	Door Mat'l	Finish	Frame Type	Frame Mat'l	Frame Finish	Frame Details Jamb	Rating	HDWR Set	Remarks
SBM01	AREAWAY	SBM01	3' - 0"	7' - 0"	1 3/4"	F	GHM	PTD	3	GHM	PTD	J0			Latch Set only

Phase 3A BASEMENT - Door Schedule

No.	Room Name	Rm. No.	Door Width	Door Height	Door Thick	Door Type	Door Mat'l	Finish	Frame Type	Frame Mat'l	Frame Finish	Frame Details Jamb	Rating	HDWR Set	Remarks
LBS4	STAIR LS4	LBS4	3' - 0"	7' - 0"	1 3/4"	F	WD	TF	3	HM	PTD	J0	90	13	
LBS4A	CORRIDOR	LBS4A	3' - 0"	7' - 0"	1 3/4"	F	WD	TF	3	HM	PTD	J0		14	

Phase 3A 4th Fl. - Door Schedule

No.	Room Name	Rm. No.	Door Width	Door Height	Door Thick	Door Type	Door Mat'l	Finish	Frame Type	Frame Mat'l	Frame Finish	Frame Details Jamb	Rating	HDWR Set	Remarks
L4C7	CORRIDOR	L4C8	6' - 0"	7' - 0"	1 3/4"	F	WD	TF	2	HM	PTD	J3	90	2	1
L4C9	CORRIDOR	L4C8	6' - 0"	7' - 0"	1 3/4"	F	WD	TF	2	HM	PTD	J0		3	2, Auto. Opener
L4EL06	EMR PWR	L4EL06	3' - 0"	7' - 0"	1 3/4"	F	WD	TF	4	HM	PTD	J1		7	180 swing
L4LV02	INTELLIGENCE	L4LV02	3' - 0"	7' - 0"	1 3/4"	F	WD	TF	4	HM	PTD	J1		12	2
L4S4	STAIR	L4S4	3' - 0"	7' - 0"	1 3/4"	F	EX	EX	EX	EX	EX	EX	90	13	4
L4S4A	CORRIDOR	L4S4A	3' - 0"	7' - 0"	1 3/4"	F	WD	EX	EX	EX	EX	EX		14	4
L4S4B	CORRIDOR	L4S4B	3' - 0"	7' - 0"	1 3/4"	F	WD	EX	EX	EX	EX	EX		14	4
L4071	BREAK ROOM	L4071	3' - 0"	7' - 0"	1 3/4"	F	WD	TF	4	HM	PTD	J3	90	16	
L4072	STORAGE	L4072	4' - 6"	7' - 0"	1 3/4"	F	WD	TF	2	HM	PTD	J1	90	5	3
L4073	POST DOC	L4073	3' - 0"	7' - 0"	1 3/4"	F	WD	TF	4	HM	PTD	J3	90	17	
L4074	EQUIPMENT	L4074	4' - 6"	7' - 0"	1 3/4"	F	WD	TF	2	HM	PTD	J3	90	10	2, 3
L4075	OFFICE	L4075	3' - 0"	7' - 0"	1 3/4"	F	WD	TF	A2	AL	ANOD	J2, J5		17	
L4076	CHEM STORAGE	L4076	3' - 0"	7' - 0"	1 3/4"	F	WD	TF	4	HM	PTD	J3	90	11	2
L4077	OFFICE	L4077	3' - 0"	7' - 0"	1 3/4"	F	WD	TF	A2	AL	ANOD	J2, J5		17	
L4078.1	OPEN LAB	L4078	5' - 10 3/4"	9' - 2 3/8"	1 3/4"	GL	ALUM	ANOD	A1	AL	ANOD	J2, J5		1	2
L4078.2	OPEN LAB	L4078	3' - 4"	7' - 0"	1 3/4"	NL	WD	TF	4	HM	PTD	J1		15	
L4078.3	OPEN LAB	L4078	3' - 0"	7' - 0"	1 3/4"	F	WD	TF	4	HM	PTD	J1		12	2
L4078A	EQUIPMENT	L4078A	4' - 6"	7' - 0"	1 3/4"	F	WD	TF	2	HM	PTD	J1		4	3
L4078B	TISSUE CULTURE	L4078B	4' - 6"	7' - 0"	1 3/4"	F	WD	TF	2	HM	PTD	J1		4	3
L4078C	TISSUE CULTURE	L4078C	4' - 6"	7' - 0"	1 3/4"	F	WD	TF	2	HM	PTD	J1		4	3
L4078D	SCOPES	L4078D	3' - 0"	7' - 0"	1 3/4"	F	WD	TF	4	HM	PTD	J1		17	
L4079.1	CONFERENCE	L4079	3' - 0"	7' - 0"	1 3/4"	F	WD	TF	A2	AL	ANOD	J2, J5		17	
L4079.2	CONFERENCE	L4079	3' - 0"	7' - 0"	1 3/4"	F	WD	TF	A2	AL	ANOD	J2, J5		17	
L4080.1	OPEN LAB	L4080	5' - 10 3/4"	9' - 2 3/8"	1 3/4"	GL	ALUM	ANOD	A1	AL	ANOD	J2, J5		1	2
L4080.2	OPEN LAB	L4080	3' - 4"	7' - 0"	1 3/4"	NL	WD	TF	4	HM	PTD	J1		15	
L4080.3	OPEN LAB	L4080	3' - 0"	7' - 0"	1 3/4"	F	WD	TF	4	HM	PTD	J1		12	2
L4080A	TISSUE CULTURE	L4080A	4' - 6"	7' - 0"	1 3/4"	F	WD	TF	2	HM	PTD	J1		4	3
L4080B	EQUIPMENT	L4080B	4' - 6"	7' - 0"	1 3/4"	F	WD	TF	2	HM	PTD	J1		4	3
L4080D	TISSUE CULTURE	L4080D	4' - 6"	7' - 0"	1 3/4"	F	WD	TF	2	HM	PTD	J1		4	3
L4081	POST DOC	L4081	3' - 0"	7' - 0"	1 3/4"	F	WD	TF	A2	AL	ANOD	J2, J5		17	
L4083	POST DOC	L4083	3' - 0"	7' - 0"	1 3/4"	F	WD	TF	A2	AL	ANOD	J2, J5		17	
L4085	OFFICE	L4085	3' - 0"	7' - 0"	1 3/4"	F	WD	TF	A2	AL	ANOD	J2, J5		17	
L4087	CORRIDOR	L4C8	3' - 0"	7' - 0"	1 3/4"	F	WD	TF	A2	AL	ANOD	J2, J5		17	
L4089	OFFICE	L4089	3' - 0"	7' - 0"	1 3/4"	F	WD	TF	A2	AL	ANOD	J2, J5		17	
L4090	CO2 STOR	L4090	3' - 0"	7' - 0"	1 3/4"	F	WD	TF	4	HM	PTD	J3	90	9	
L4091	OFFICE	L4091	3' - 0"	7' - 0"	1 3/4"	F	WD	TF	A2	AL	ANOD	J2, J5		17	

Phase 3A 5th Fl. - Door Schedule

No.	Room Name	Rm. No.	Door Width	Door Height	Door Thick	Door Type	Door Mat'l	Finish	Frame Type	Frame Mat'l	Frame Finish	Frame Details Jamb	Rating	HDWR Set	Remarks
L5C7	CORRIDOR	L5C8	6' - 0"	7' - 0"	1 3/4"	F	WD	TF	2	HM	PTD	J3	90	2	1
L5C9	CORRIDOR	L5C9	6' - 0"	7' - 0"	1 3/4"	F	WD	TF	2	HM	PTD	J1		3	2, Auto. Opener
L5EL05	EMR PWR	L5EL06	3' - 0"	7' - 0"	1 3/4"	F	WD	TF	4	HM	PTD	J1		7	180 swing
L5LV02	INTELLIGENCE	L5LV02	3' - 0"	7' - 0"	1 3/4"	F	WD	TF	4	HM	PTD	J1		12	2
L5S4	STAIR	L5S4	3' - 0"	7' - 0"	1 3/4"	F	EX	EX	EX	EX	EX	EX		13	4
L5S4A	CORRIDOR	L5S4A	3' - 0"	7' - 0"	1 3/4"	F	EX	EX	EX	EX	EX	EX		14	4
L5S4B	CORRIDOR	L5S4B	3' - 0"	7' - 0"	1 3/4"	F	EX	EX	EX	EX	EX	EX		15	4
L5071	BREAK ROOM	L5071	3' - 0"	7' - 0"	1 3/4"	F	WD	TF	A2	AL	ANOD	J2, J5		16	
L5072	FILM PROCESSING	L5072	4' - 6"	7' - 0"	1 3/4"	F	WD	TF	2	HM	PTD	J3	90	6	3, light seals, in-use light
L5073	POST DOC	L5073	3' - 0"	7' - 0"	1 3/4"	F	WD	TF	A2	AL	ANOD	J2, J5		17	
L5074	AUTOCLAVE GLASSWASH	L5074	4' - 6"	7' - 0"	1 3/4"	F	WD	TF	2	HM	PTD	J1		10	3
L5075	OFFICE	L5075	3' - 0"	7' - 0"	1 3/4"	F	WD	TF	A2	AL	ANOD	J2, J5		17	
L5076	CHEM STORAGE	L5076	3' - 0"	7' - 0"	1 3/4"	F	WD	TF	4	HM	PTD	J3		11	2
L5077	OFFICE	L5077	3' - 0"	7' - 0"	1 3/4"	F	WD	TF	4	AL	ANOD	J2, J5		17	
L5078.1	OPEN LAB	L5078	5' - 10 3/4"	9' - 2 3/8"	1 3/4"	GL	ALUM	ANOD	A1	AL	ANOD	J2, J5		1	2
L5078.2	OPEN LAB	L5078	3' - 4"	7' - 0"	1 3/4"	NL	WD	TF	4	HM	PTD	J1		15	
L5078.3	OPEN LAB	L5078	3' - 0"	7' - 0"	1 3/4"	F	WD	TF	4	HM	PTD	J3		12	2
L5078A	EQUIPMENT	L5078A	4' - 6"	7' - 0"	1 3/4"	F	WD	TF	2	HM	PTD	J1		4	3
L5078B	TISSUE CULTURE	L5078B	4' - 6"	7' - 0"	1 3/4"	F	WD	TF	2	HM	PTD	J1		4	3
L5078C	TISSUE CULTURE	L5078C	4' - 6"	7' - 0"	1 3/4"	F	WD	TF	2	HM	PTD	J1		4	3
L5078D	SCOPES	L5078D	3' - 0"	7' - 0"	1 3/4"	F	WD	TF	4	HM	PTD	J1		17	
L5079.1	CONFERENCE	L5079	3' - 0"	7' - 0"	1 3/4"	F	WD	TF	A2	AL	ANOD	J2, J5		17	
L5079.2	CONFERENCE	L5079	3' - 0"	7' - 0"	1 3/4"	F	WD	TF	A2	AL	ANOD	J2, J5		17	
L5080.1	OPEN LAB	L5080	5' - 10 3/4"	9' - 2 3/8"	1 3/4"	GL	ALUM	ANOD	A1	AL	ANOD	J2, J5		1	2
L5080.2	OPEN LAB	L5080	3' - 4"	7' - 0"	1 3/4"	NL	WD	TF	4	HM	PTD	J1		15	
L5080.3	OPEN LAB	L5080	3' - 0"	7' - 0"	1 3/4"	F	WD	TF	4	HM	PTD	J1		12	2
L5080A	TISSUE CULTURE	L5080A	4' - 6"	7' - 0"	1 3/4"	F	WD	TF	2	HM	PTD	J1		4	3
L5080B	EQUIPMENT	L5080B	4' - 6"	7' - 0"	1 3/4"	F	WD	TF	2	HM	PTD	J1		4	3
L5080D	TISSUE CULTURE	L5080D	4' - 6"	7' - 0"	1 3/4"	F	WD	TF	2	HM	PTD	J1		4	3
L5081	POST DOC	L5081	3' - 0"	7' - 0"	1 3/4"	F	WD	TF	A2	AL	ANOD	J2, J5		17	
L5083	POST DOC	L5083	3' - 0"	7' - 0"	1 3/4"	F	WD	TF	A2	AL	ANOD	J2, J5		17	
L5085	OFFICE	L5085	3' - 0"	7' - 0"	1 3/4"	F	WD	TF	A2	AL	ANOD	J2, J5		17	
L5087	OFFICE	L5087	3' - 0"	7' - 0"	1 3/4"	F	WD	TF	A2	AL	ANOD	J2, J5		17	
L5089	OFFICE	L5089	3' - 0"	7' - 0"	1 3/4"	F	WD	TF	A2	AL	ANOD	J2, J5		17	
L5090	CO2 STOR	L5090	3' - 0"	7' - 0"	1 3/4"	F	WD	TF	4	HM	PTD	J1		8	
L5091	OFFICE	L5091	3' - 0"	7' - 0"	1 3/4"	F	WD	TF	A2	AL	ANOD	J2, J5		17	

Phase 3A 6th Fl. - Door Schedule

No.	Room Name	Rm. No.	Door Width	Door Height	Door Thick	Door Type	Door Mat'l	Finish	Frame Type	Frame Mat'l	Frame Finish	Frame Details Jamb	Rating	HDWR Set	Remarks
L6C7	CORRIDOR	L6C8	6' - 0"	7' - 0"	1 3/4"	F	WD	TF	2	HM	PTD	J3	90	2	1
L6C9	CORRIDOR	L6C9	6' - 0"	7' - 0"	1 3/4"	F	EX	EX	EX	EX	EX	EX		3	2, Auto-Opener
L6EL06	EMR PWR	L6EL06	3' - 0"	7' - 0"	1 3/4"	F	WD	TF	4	HM	PTD	J1		7	180 swing
L6LV02	INTELLIGENCE	L6LV02	3' - 0"	7' - 0"	1 3/4"	F	WD	TF	4	HM	PTD	J1		12	2
L6S4	STAIR	L6S4	3' - 0"	7' - 0"	1 3/4"	F	EX	EX	EX	EX	EX	EX		13	4
L6S4A	CORRIDOR	L6S4A	3' - 0"	7' - 0"	1 3/4"	F	EX	EX	EX	EX	EX	EX		14	4
L6S4B	CORRIDOR	L6S4B	3' - 0"	7' - 0"	1 3/4"	F	EX	EX	EX	EX	EX	EX		14	4
L6071	BREAK ROOM	L6071	3' - 0"	7' - 0"	1 3/4"	F	WD	TF	A2	AL	ANOD	J2, J5		16	
L6072	FLEX SPACE	L6072	4' - 6"	7' - 0"	1 3/4"	F	WD	TF	4	HM	PTD	J1	90	5	2
L6073	POST DOC	L6073	3' - 0"	7' - 0"	1 3/4"	F	WD	TF	A2	AL	ANOD	J2, J5		17	
L6074	AUTOCLAVE GLASSWASH	L6074	4' - 6"	7' - 0"	1 3/4"	F	WD	TF	2	HM	PTD	J1		10	3
L6075	OFFICE	L6075	3' - 0"	7' - 0"	1 3/4"	F	WD	TF	A2	AL	ANOD	J2, J5		17	
L6076	CHEM STORAGE	L6076	3' - 0"	7' - 0"	1 3/4"	F	WD	TF	4	HM	PTD	J3	90	11	2
L6077	OFFICE	L6077	3' - 0"	7' - 0"	1 3/4"	F	WD	TF	A2	AL	ANOD	J2, J5		17	
L6078.1	OPEN LAB	L6078	5' - 10 3/4"	9' - 2 3/8"	1 3/4"	GL	ALUM	ANOD	A1	AL	ANOD	J2, J5		1	2
L6078.2	OPEN LAB	L6078	3' - 4"	7' - 0"	1 3/4"	NL	WD	TF	4	HM	PTD	J1		15	
L6078.3	OPEN LAB	L6078	3' - 0"	7' - 0"	1 3/4"	F	WD	TF	4	HM	PTD	J1		12	2
L6078A	LAB SUPPORT	L6078A	4' - 6"	7' - 0"	1 3/4"	F	WD	TF	2	HM	PTD	J1		4	3
L6078B	TISSUE CULTURE/ MICROTOME	L6078B	4' - 6"	7' - 0"	1 3/4"	F	WD	TF	2	HM	PTD	J1		4	3
L6078C	TISSUE CULTURE	L6078C	4' - 6"	7' - 0"	1 3/4"	F	WD	TF	2	HM	PTD	J1		4	3
L6078D	OPEN LAB	L6078	3' - 0"	7' - 0"	1 3/4"	F	WD	TF	4	HM	PTD	J1		17	
L6079.1	CONFERENCE	L6079	3' - 0"	7' - 0"	1 3/4"	F	WD	TF	A2	AL	ANOD	J2, J5		17	
L6079.2	CONFERENCE	L6079	3' - 0"	7' - 0"	1 3/4"	F	WD	TF	A2	AL	ANOD	J2, J5		17	
L6080.1	OPEN LAB	L6080	5' - 10 3/4"	9' - 2 3/8"	1 3/4"	GL	ALUM	ANOD	A1	AL	ANOD	J2, J5		1	2
L6080.2	OPEN LAB	L6080	3' - 4"	7' - 0"	1 3/4"	NL	WD	TF	4	HM	PTD	J1		15	
L6080.3	OPEN LAB	L6080	3' - 0"	7' - 0"	1 3/4"	F	WD	TF	4	HM	PTD	J1		12	2
L6080A	TISSUE CULTURE	L6080A	4' - 6"	7' - 0"	1 3/4"	F	WD	TF	2	HM	PTD	J1		4	3
L6080B	EQUIPMENT	L6080B	4' - 6"	7' - 0"	1 3/4"	F	WD	TF	2	HM	PTD	J1		4	3
L6080D	TISSUE CULTURE	L6080D	4' - 6"	7' - 0"	1 3/4"	F	WD	TF	2	HM	PTD	J1		4	3
L6081	OFFICE	L6081	3' - 0"	7' - 0"	1 3/4"	F	WD	TF	A2	AL	ANOD	J2, J5		17	
L6083	OFFICE	L6083	3' - 0"	7' - 0"	1 3/4"	F	WD	TF	A2	AL	ANOD	J2, J5		17	
L6085	OFFICE	L6085	3' - 0"	7' - 0"	1 3/4"	F	WD	TF	A2	AL	ANOD	J2, J5		17	
L6087	OFFICE	L6087	3' - 0"	7' - 0"	1 3/4"	F	WD	TF	A2	AL	ANOD	J2, J5		17	
L6089	OFFICE	L6089	3' - 0"	7' - 0"	1 3/4"	F	WD	TF	A2	AL	ANOD	J2, J5		17	
L6090	CO2 STOR	L6090	3' - 0"	7' - 0"	1 3/4"	F	WD	TF	4	HM	PTD	J1		8	
L6091	OFFICE	L6091	3' - 0"	7' - 0"	1 3/4"	F	WD	TF	A2	AL	ANOD	J2, J5		17	

Phase 3A 7th Fl. - Door Schedule

No.	Room Name	Rm. No.	Door Width	Door Height	Door Thick	Door Type	Door Mat'l	Finish	Frame Type	Frame Mat'l	Frame Finish	Frame Details Jamb	Rating	HDWR Set	Remarks
L7C7	CORRIDOR	L7C8	6' - 0"	7' - 0"	1 3/4"	F	WD	TF	2	HM	PTD	J3	90	2	1
L7C9	CORRIDOR	L7C9	6' - 0"	7' - 0"	1 3/4"	F	EX	EX	EX	EX	PTD	J1		3	2, Auto Opener
L7EL06	EMR PWR	L7EL06	3' - 0"	7' - 0"	1 3/4"	F	WD	TF	4	HM	PTD	J1		7	180 swing
L7LV02	INTELLIGENCE	L7LV02	3' - 0"	7' - 0"	1 3/4"	F	WD	TF	4	HM	PTD	J1		12	2
L7S4	STAIR	L7S4	3' - 0"	7' - 0"	1 3/4"	F	WD	EX	EX	EX	EX	EX		13	4
L7S4A	CORRIDOR	L7S4A	3' - 0"	7' - 0"	1 3/4"	F	WD	EX	EX	EX	EX	EX		14	4
L7S4B	CORRIDOR	L7S4B	3' - 0"	7' - 0"	1 3/4"	F	WD	EX	EX	EX	EX	EX		14	4
L7071	BREAK ROOM	L7071	3' - 0"	7' - 0"	1 3/4"	F	WD	TF	A2	AL	ANOD	J2, J5		16	
L7072	STORAGE	L7072	4' - 6"	7' - 0"	1 3/4"	F	WD	TF	2	HM	PTD	J1	90	5	3
L7073	POST DOC	L7073	3' - 0"	7' - 0"	1 3/4"	F	WD	TF	A2	AL	ANOD	J2, J5		17	
L7074	EQUIPMENT	L7074	4' - 6"	7' - 0"	1 3/4"	F	WD	TF	2	HM	PTD	J1		10	2, 3
L7075	OFFICE	L7075	3' - 0"	7' - 0"	1 3/4"	F	WD	TF	A2	AL	ANOD	J2, J5		17	
L7076	CHEM STORAGE	L7076	3' - 0"	7' - 0"	1 3/4"	F	WD	TF	4	HM	PTD	J3	90	11	2
L7077	OFFICE	L7077	3' - 0"	7' - 0"	1 3/4"	F	WD	TF	A2	AL	ANOD	J2, J5		17	
L7078.1	OPEN LAB	L7078	5' - 10 3/4"	9' - 2 3/8"	1 3/4"	GL	ALUM	ANOD	A1	AL	ANOD	J2, J5		1	2
L7078.2	OPEN LAB	L7078	3' - 4"	7' - 0"	1 3/4"	NL	WD	TF	4	HM	PTD	J1		15	
L7078.3	OPEN LAB	L7078	3' - 0"	7' - 0"	1 3/4"	F	WD	TF	4	HM	PTD	J1		12	2
L7078A	MECH. TESTING GRINDING	L7078A	4' - 6"	7' - 0"	1 3/4"	F	WD	TF	2	HM	PTD	J1		4	3
L7078B	TISSUE CULTURE	L7078B	4' - 6"	7' - 0"	1 3/4"	F	WD	TF	2	HM	PTD	J1		4	3
L7078C	ANIMAL SURGERY	L7078C	4' - 6"	7' - 0"	1 3/4"	F	WD	TF	2	HM	PTD	J1		4	3
L7078D	MECH TESTING	L7078D	3' - 0"	7' - 0"	1 3/4"	F	WD	TF	4	HM	PTD	J1		17	
L7079.1	CONFERENCE	L7079	3' - 0"	7' - 0"	1 3/4"	F	WD	TF	A2	AL	ANOD	J2, J5		17	
L7079.2	CONFERENCE	L7079	3' - 0"	7' - 0"	1 3/4"	F	WD	TF	A2	AL	ANOD	J2, J5		17	
L7080.1	OPEN LAB	L7080	5' - 10 3/4"	9' - 2 3/8"	1 3/4"	GL	ALUM	ANOD	A1	AL	ANOD	J2, J5		1	2
L7080.2	OPEN LAB	L7080	3' - 4"	7' - 0"	1 3/4"	NL	WD	TF	4	HM	PTD	J1		15	
L7080.3	OPEN LAB	L7080	3' - 0"	7' - 0"	1 3/4"	F	WD	TF	4	HM	PTD	J1		12	2
L7080A	EQUIPMENT	L7080A	4' - 6"	7' - 0"	1 3/4"	F	WD	TF	2	HM	PTD	J1		4	3
L7080B	EQUIPMENT	L7080B	4' - 6"	7' - 0"	1 3/4"	F	WD	TF	2	HM	PTD	J1		4	3
L7080C	SCOPES	L7080C	4' - 6"	7' - 0"	1 3/4"	F	WD	TF	2	HM	PTD	J1		4	3
L7080D	TISSUE CULTURE	L7080D	4' - 6"	7' - 0"	1 3/4"	F	WD	TF	2	HM	PTD	J1		4	3
L7081	OFFICE	L7081	3' - 0"	7' - 0"	1 3/4"	F	WD	TF	A2	AL	ANOD	J2, J5		17	
L7083	OFFICE	L7083	3' - 0"	7' - 0"	1 3/4"	F	WD	TF	A2	AL	ANOD	J2, J5		17	
L7085	OFFICE	L7085	3' - 0"	7' - 0"	1 3/4"	F	WD	TF	A2	AL	ANOD	J2, J5		17	
L7087	ADMIN. STAFF	L7087	3' - 0"	7' - 0"	1 3/4"	F	WD	TF	A2	AL	ANOD	J2, J5		17	
L7090	CO2 STOR	L7090	3' - 0"	7' - 0"	1 3/4"	F	WD	TF	4	HM	PTD	J1		8	
L7091	OFFICE	L7091	3' - 0"	7' - 0"	1 3/4"	F	WD	TF	A2	AL	ANOD	J2, J5		17	
L7091.1	OFFICE	L7091	3' - 0"	7' - 0"	1 3/4"	F	WD	TF	4	HM	PTD	J1		18	

REFER TO SPECIFICATION SECTION 087100 FOR HARDWARE SETS.

DOOR SCHEDULE NOTES

1. ELECTRO-MAGNETIC HOLD OPENERS
2. CARD READER DOOR ACCESS CONTROL
3. UNEVEN PAIR OF DOORS, 3'-0" AND 1'-6".
4. REPLACE HARDWARE AS REQUIRED FOR ADA COMPLIANCE

DOOR SCHEDULE ABBREV.

PTD = PAINT
TF = TRANSPARENT FINISH
WV = WOOD VENEER
ALUM = ALUMINUM
ANOD = ANODIZED
MTL = METAL
HM = HOLLOW METAL
WD = WOOD
GL = GLASS
FGL = FIRE RATED GLASS
EX = EXISTING

Stantec
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fax: 724.285.6815

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Seal

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NOT FOR CONSTRUCTION

UCONN HEALTH

Main Building Renovation

Building L - Project 2

263 Farmington Ave
Farmington, CT 06032

Revisions

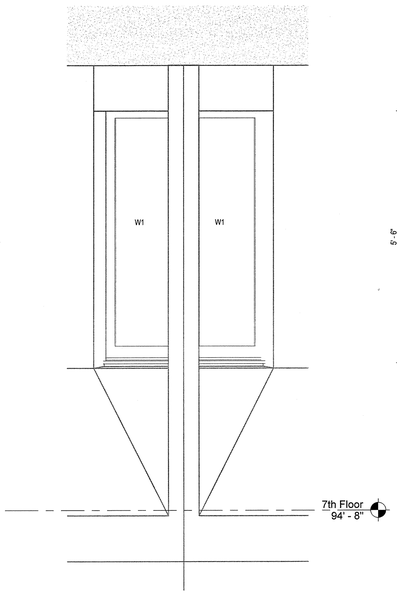
No.	Date	Description
1	10/19/15	Issue for Bid & Code Review
2	11/02/15	Addendum #01

Drawing Name
Door Schedule

Project No. 218010732

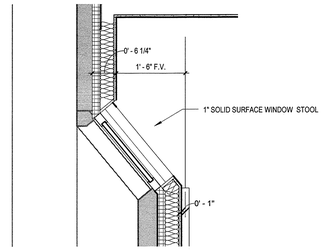
Drawing Number
A251

11/2/2015 1:35:55 PM

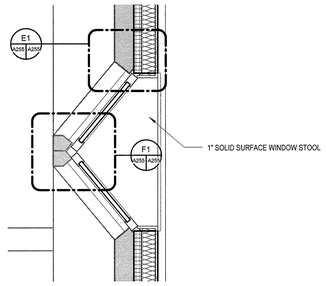


ALL W1 WITH WINDOW SHADES UNLESS NOTED OTHERWISE.
WINDOWS NOT IN TRUE ELEVATION.

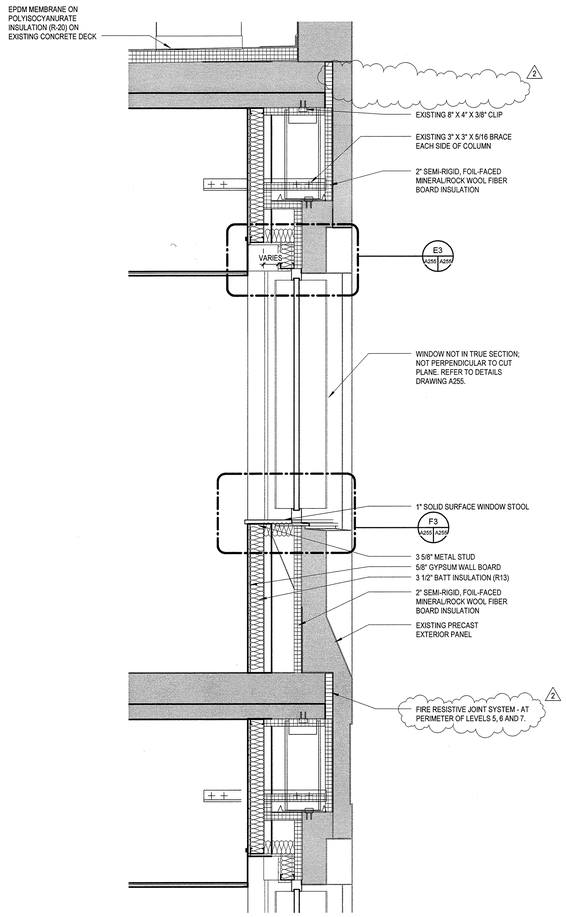
C1 A255 Window (W1) Elevation - Typical
3/4" = 1'-0"



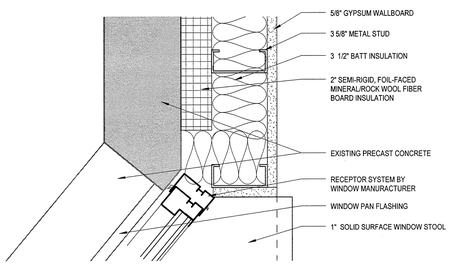
B3 A255 Single W1 Plan - Typical
3/4" = 1'-0"



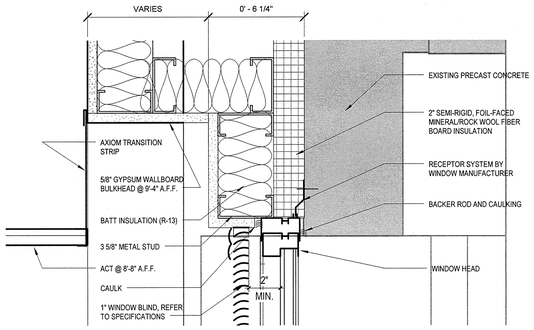
C3 A255 Combined W1 Plan - Typical
3/4" = 1'-0"



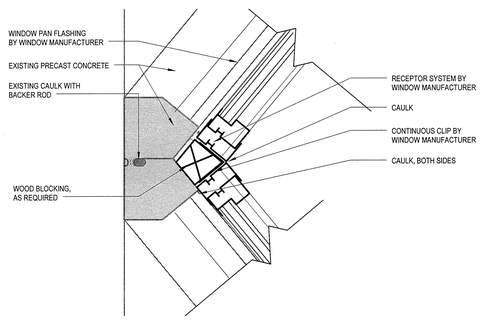
E5 A255 Wall Section @ Typ. Window
3/4" = 1'-0"



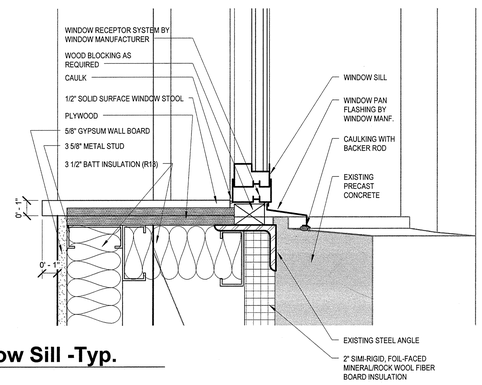
E1 A255 Window Jamb - Typical
3" = 1'-0"



E3 A255 Window Head - Typical
3" = 1'-0"

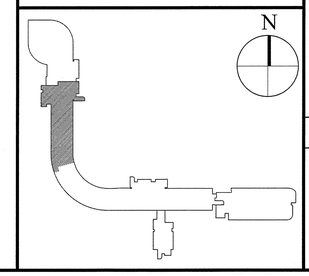


F1 A255 Combined Window Jamb - Typical
3" = 1'-0"



F3 A255 Window Sill -Typ.
3" = 1'-0"

KEYPLAN



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UCONN HEALTH

Main Building Renovation

Building L - Project 2

263 Farmington Ave
Farmington, CT 06032

Revisions

No.	Date	Description
1	10/19/15	Issue for Bid & Code Review
2	11/02/15	Addendum #01

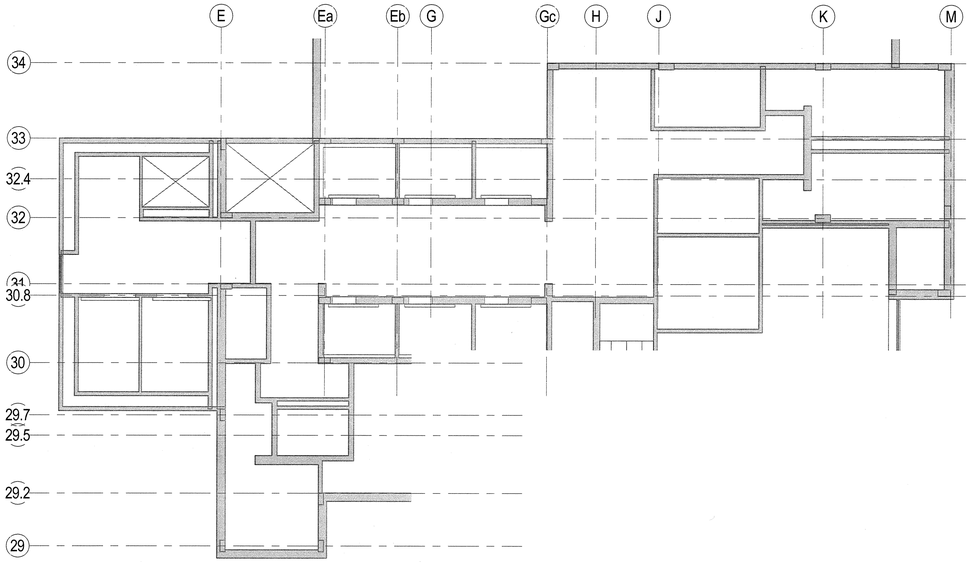
Drawing Name

Window Plan and Section Details

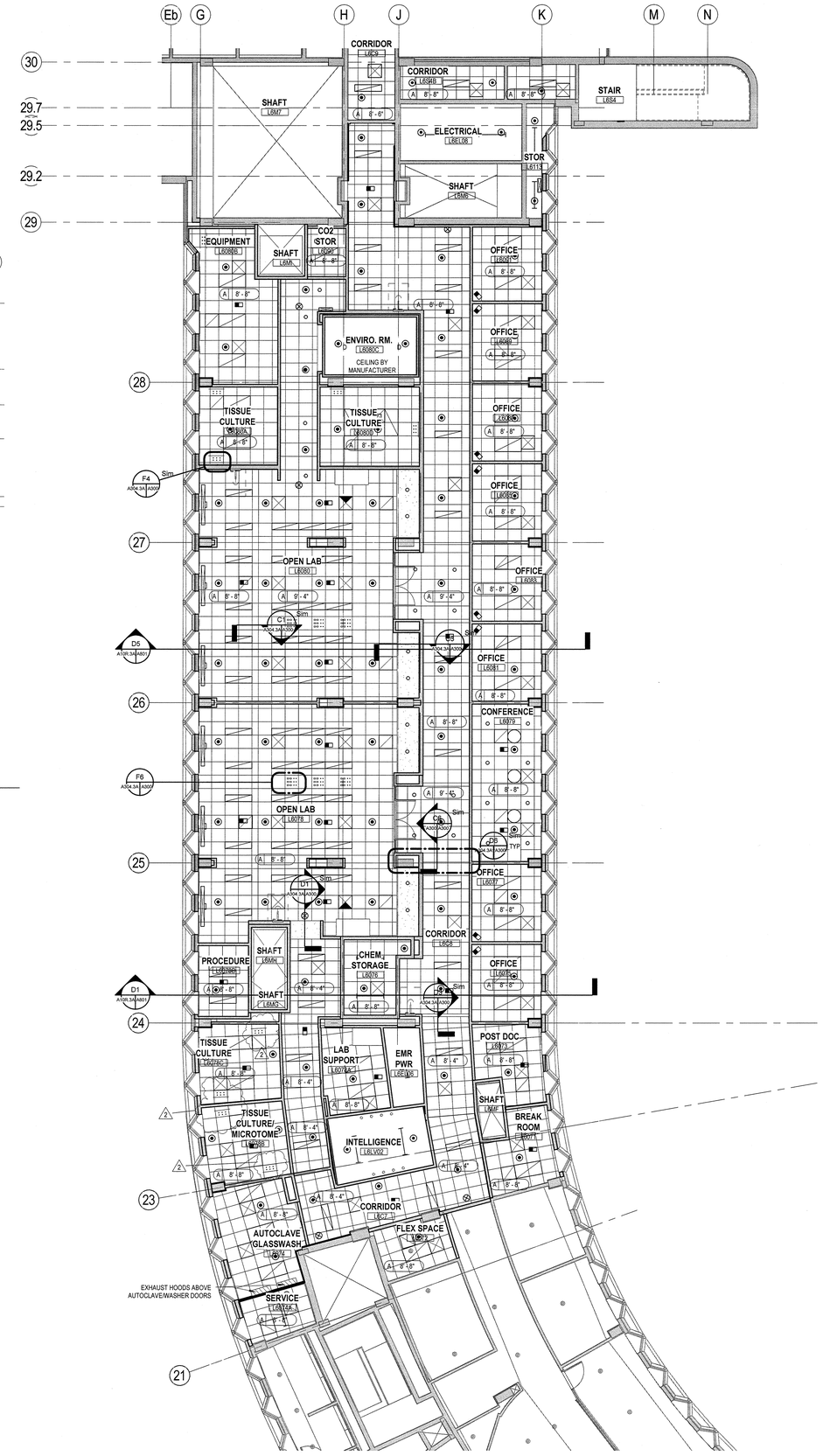
Project No. 218010732

Drawing Number

A255



2 A306.3A **6th Floor - Pt2**
1/8" = 1'-0"



1 A306.3A **6th Floor - Pt1**
1/8" = 1'-0"

LINE DESIGNATIONS

- GRID LINE
- EXISTING CONSTRUCTION
- NEW CONSTRUCTION
- CASEWORK
- OVERHEAD CABINET OR BULKHEAD
- NEW CMU CONSTRUCTION
- MATERIAL OR ASSEMBLY TO BE DEMOLISHED
- EXISTING TO REMAIN

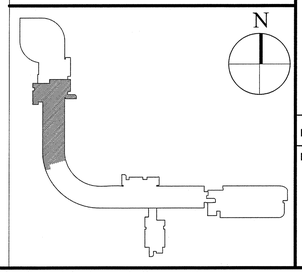
GENERAL CEILING NOTES

1. DO NOT SCALE DRAWINGS.
2. NOTIFY ARCHITECT OF DISCREPANCIES BETWEEN EXISTING CONDITIONS AND DRAWINGS BEFORE PROCEEDING WITH THE WORK.
3. CONTRACTOR IS RESPONSIBLE FOR COORDINATING NEW WORK WITH EXISTING WORK.
4. CONTRACTOR IS RESPONSIBLE FOR COORDINATING REFLECTED CEILING PLAN WITH HVAC, PLUMBING, FIRE PROTECTION, ELECTRICAL, COMMUNICATION DRAWINGS, AND STRUCTURAL DRAWINGS.
5. REFER TO FINISH PLANS AND ALTERNATE PLANS FOR CEILING MATERIALS/FINISHES.
6. COORDINATE REFLECTED CEILING PLAN WITH HVAC, PLUMBING, FIRE PROTECTION, ELECTRICAL, AND COMMUNICATION DRAWINGS.
7. PROVIDE BULKHEAD ABOVE PARTITION OPENINGS TO MATCH ADJACENT CONSTRUCTION. PROVIDE CONTINUUM OF FIRE RATING AS NECESSARY.
8. CENTER ACOUSTICAL CEILING SYSTEM IN ROOM BOTH WAYS.
9. PAINT EXPOSED BULKHEAD SURFACE WITH FIELD COLOR PAINT U.O.N.
10. UNDERSIDE OF STAIRS AND LANDINGS TO BE PAINTED FIELD COLORS.
11. SPRINKLERS TO BE CENTERED IN CEILING TILE AT PUBLIC SPACES. OTHER SPRINKLER HEADS TO BE WITHIN 2" OF CENTER OF TILE AND TO BE INLINE WITH ONE ANOTHER.
12. PROVIDE ACCESS PANELS WHERE INDICATED. ADDITIONAL ACCESS PANELS ARE TO BE SUPPLIED BY THE MEP TRADES AND INSTALLED BY THE GENERAL CONTRACTOR. COORDINATE QUANTITIES AND LOCATIONS WITH MEP DRAWINGS AND SPECIFICATIONS. LOCATIONS TO BE REVIEWED APPROVED, BY OWNER/ARCHITECT PRIOR TO INSTALLATION OF BUILDING SYSTEMS AND CEILING CONSTRUCTION. GENERALLY, ACCESS PANELS IN CORRIDORS ARE TO BE CENTERED. PAINT PANEL AS NECESSARY TO MATCH CEILING .
13. REFER TO ELECTRICAL DRAWINGS FOR STAIR LIGHTING.

GENERAL CEILING LEGEND

- TYPE A - 2' x 2' ACOUSTIC PANELS
- TYPE AX - 2' x 2' VINYL-FACED ACOUSTIC PANELS
- TYPE B - GYPSUM WALL BOARD
- TYPE E - EXISTING TO REMAIN
- RECESSED DOWNLIGHT W/ EMERGENCY POWER
- 2' X 2' LIGHT FIXTURE
- 1' X 4' LIGHT FIXTURE
- 1' X 4' LIGHT FIXTURE W/ EMERGENCY POWER
- 2' X 4' LIGHT FIXTURE
- RECESSED DOWNLIGHT
- RETURN / EXHAUST GRILLE
- 2 X 4 RETURN AIR DIFFUSER
- SUPPLY AIR DIFFUSER
- LINEAR DIFFUSER
- PROJECTOR MOUNT
- SAFETY SHOWER ABOVE
- OCCUPANCY SENSORS
- SPRINKLER HEAD
- 1 x 2 OVERHEAD SERVICE ACCESS PANEL
- 2 x 2 OVERHEAD SERVICE PANEL

KEYPLAN



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UCONN HEALTH

Main Building Renovation

Building L - Project 2

263 Farmington Ave
Farmington, CT 06032

Revisions

No.	Date	Description
1	10/19/15	Issue for Bid & Code Review
2	11/02/15	Addendum #01

Drawing Name

Reflected Ceiling Plan - Sixth Floor

Project No. 218010732

Drawing Number

A306.3A

FINISH LEGEND

RESILIENT FLOORING

RF1 (RESILIENT TILE)
MFR: MANNINGTON
STYLE: PROGRESSIONS
COLOR: 55173 OTTER BROWN
CONTACT:

RF2 (RESILIENT TILE)
MFR: MANNINGTON
STYLE: PROGRESSIONS
COLOR: 55507 ALMOND BUFF
CONTACT:

RF3 (RESILIENT TILE)
MFR: MANNINGTON
STYLE: PROGRESSIONS
COLOR: 55102 STONE GRAY
CONTACT:

RF4 (RESILIENT TILE)
MFR: MANNINGTON
STYLE: PROGRESSIONS
COLOR: 55913 CEMENT
CONTACT:

RF5 (VINYL)
MFR: ARMSTRONG
STYLE: MEDINTONE
COLOR: SEAMS: HEAT WELDED
CONTACT:

CARPET

C1
MFR: SHAW
STYLE: GLIMMER TILE #59329
COLOR:GLEAM #27585
INSTALL METHOD:

C2
MFR: SHAW
STYLE: SHINE TILE #59328
COLOR: GLEAM #27585
INSTALL METHOD:

CORNER GUARDS
(ALTERNATE A3)

CG1 (90 DEGREE)
MFR: C/S ACROVYN
STYLE: CO SERIES
HEIGHT: PARTIAL HEIGHT 48"
SIZE: 3 1/2" LEGS
FINISH: STAINLESS

EG1 (END WALL)
MFR: C/S ACROVYN
STYLE: CO SERIES
HEIGHT: PARTIAL HEIGHT 48"
SIZE:
FINISH: STAINLESS
SOLID SURFACE

PAINT

PT1
MFR: BENJAMIN MOORE
FINISH: EGGSHELL
COLOR: WHITE DOVE
NO.: OC-17

PT2
MFR: BENJAMIN MOORE
FINISH: EGGSHELL
COLOR: SOFT FERN
NO.: 2144-40

PT3
MFR: BENJAMIN MOORE
FINISH: EGGSHELL
COLOR: SANDY HOOK GRAY
NO.: HC-108

PT3
MFR: BENJAMIN MOORE
FINISH: EGGSHELL
COLOR: NOCTURNAL GRAY
NO.* 2135-30

PT4
MFR: BENJAMIN MOORE
FINISH: EGGSHELL
COLOR: NOCTURNAL GRAY
NO.: 2135-30

PT5 (STAIRS)
TREADS/RISERS/RAILINGS
MFR: BENJAMIN MOORE
FINISH:SATIN
COLOR:GRAY
NO.:2121-10

RESILIENT BASE

RB1
MFR: JOHNSONITE
STYLE: 4" TIGHTLOCK
COLOR: 29 MOON ROCK
CONTACT:

RB2
MFR: JOHNSONITE
STYLE: 4" TIGHTLOCK
COLOR: 69 STERLING SILVER
CONTACT:

INT1
MFR: ARMSTRONG
STYLE: 4" INTEGRAL COVE BASE
COLOR: TO MATCH RF5
COVE CAP: JOHNSONITE 24 GREY HAZE

WALL PANELING

P1
MFR: TRESPA
STYLE: ATHLON
COLOR: WHITE E 0-00
SIZE: PER DRAWING

FABRIC

F1
MFR: CARNEGIE / XOREL
STYLE: METEOR
COLOR: 735
WIDTH: 56"

SOLID SURFACE

SS1 (CASEWORK)
MFR: CORIAN
COLOR: SORREL
CONTACT:

SS3
(NEW SOLID SURFACE WINDOW SILLS)
MFR: CORIAN
COLOR: RICE PAPER
CONTACT:

PLASTIC LAMINATE

PL1
MFR:FORMICA
STYLE:MANITOBA MAPLE
COLOR:7911-60
CONTACT:
NOTE: ALL GRAIN ON PL1 IS TO BE INSTALLED IN SAME DIRECTION

PL2
MFR: PIONITE
STYLE:METEORIC METALLO
COLOR: AG180
FINISH: SUEDE
CONTACT:

2

GENERAL FINISH NOTES

1. UNLESS OTHERWISE NOTED MATERIALS ARE TO BE INSTALLED PER MANUFACTURER'S WRITTEN INSTRUCTIONS

2. PROVIDE TAPERED TRANSITION TO ACHIEVE FLUSH CONDITION BETWEEN ALL FLOORING MATERIALS, TYP.

3. FLOORING MATERIAL TRANSITIONS WHICH OCCUR AT DOORWAYS ARE TO BE CENTERED IN THE DOORWAY,TYP.

4. INSTALL SPECIFIED FLOORING UNDER CASEWORK,TYP.

5. PROVIDE RUBBER BASE AT CASEWORK FRONTS AND EXPOSED EDGES,TYP. AT AREAS THAT ARE SCHEDULED TO RECIEVE INTEGRAL BASE (INT1) PROVIDE CLEAR SEALANT AT BOTTOM EDGE OF COVE TO PROVIDE SEAMLESS INSTALLATION,TYP.

6. INTERIOR HOLLOW METAL DOOR FRAMES & WINDOW FRAMES ARE TO BE PAINTED TO MATCH ADJACENT WALL SURFACE,U.O.N.

7. FURNITURE SHOWN DASHED IS TO BE PROVIDED BY OTHERS AND IS FOR REFERENCE ONLY,TYP.

8. PROVIDE BULLNOSE & CORNER TRIM PIECES FOR CERAMIC TILE AS REQUIRED.

10. PROVIDE SHELF AND HANGING ROD IN COAT CLOSETS,TYP.

11. NEWLY CONSTRUCTED SHAFT WALLS IN PENTHOUSE AREA ARE TO BE PAINTED PT1,TYP.

12. SEE A400 FOR FINISH LEGEND, WINDOW TREATMENT, AND GENERAL NOTES.

2

RESILIENT FLOORING KEY

- RF1
- RF2
- RF3
- RF4

WINDOW SHADE LEGEND

WT1
SINGLE MANUAL SHADE IN RECESSED POCKET
MFR: MECHOSHADE
STYLE: 3% OPEN ECOVEIL
COLOR: TBD

WT2
NOT USED

WT3
SINGLE MANUAL BLACK OUT SHADE IN RECESSED POCKET
MFR: MECHOSHADE
STYLE: EQUINOX 0100
COLOR: TBD

WT4
1" HORIZONTAL LOUVER BLIND
MFR: BALI
STYLE: PAINTED ALUMINUM
COLOR: TBD

VISUAL DISPLAY LEGEND

MB1
MFR: PIONITE MAGNETIC MARKER BOARD LAMINATE
STYLE:MARKER LAMINATE ON SUBSTRATE
COLOR:AV100-G GATEWAY TO THE FUTURE
FINISH: MARKER BOARD SURFACE
SIZE: VARIES; SEE ELEVATIONS

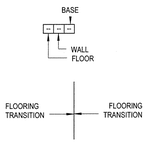
2

MB2
MFR: CLARIDGE PRODUCTS
STYLE: LCS SKINS WITH DBL SIDE TAPE
COLOR: TBD
SIZE: CUT TO FIT; SEE ELEVATIONS AT LAB WRITE UP STATIONS

MB3
MFR: CLARIDGE PRODUCTS
STYLE: ALUMINUM FRAMED MARKER BOARD
LCS DELUXE NO MAP RAIL
FRAME: 5/8" MITERED CORNER
COLOR: TBD
SIZE: 4'X 6'

TB1
MFR: FORBO
STYLE: BULLETIN BOARD
COLOR: TBD
SIZE: CUT TO FIT; SEE ELEVATIONS AT LAB WRITE UP STATION

FINISH TAG



2

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No 11675
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Main Building Renovation

Building L - Project 2

263 Farmington Ave
Farmington, CT
06032

Revisions

No.	Date	Description
1	10/19/15	Issue for Bid & Code Review
2	11/02/15	Addendum #01

Drawing Name

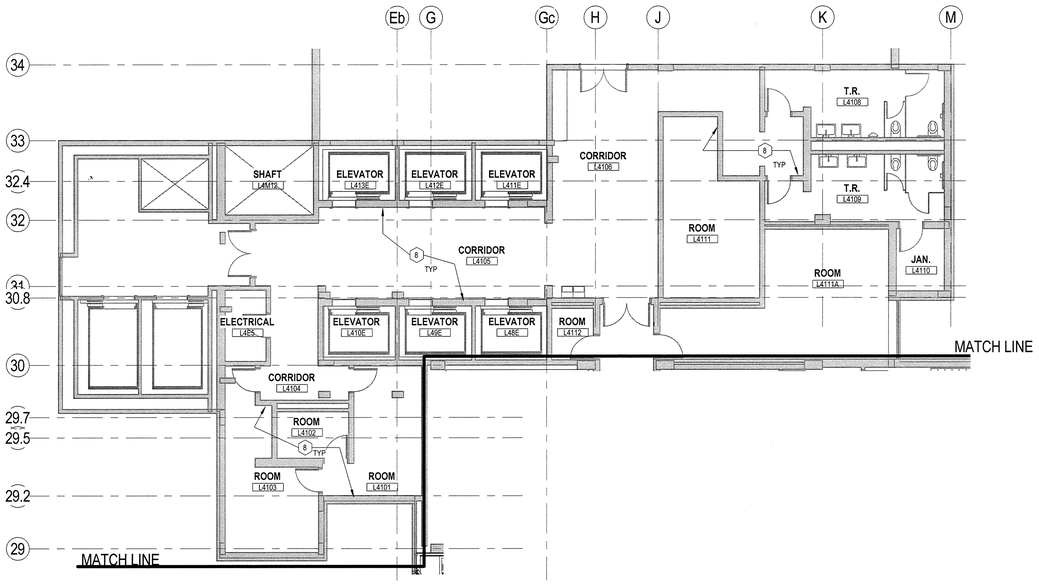
Finish Legend and General Notes

Project No. 218010732

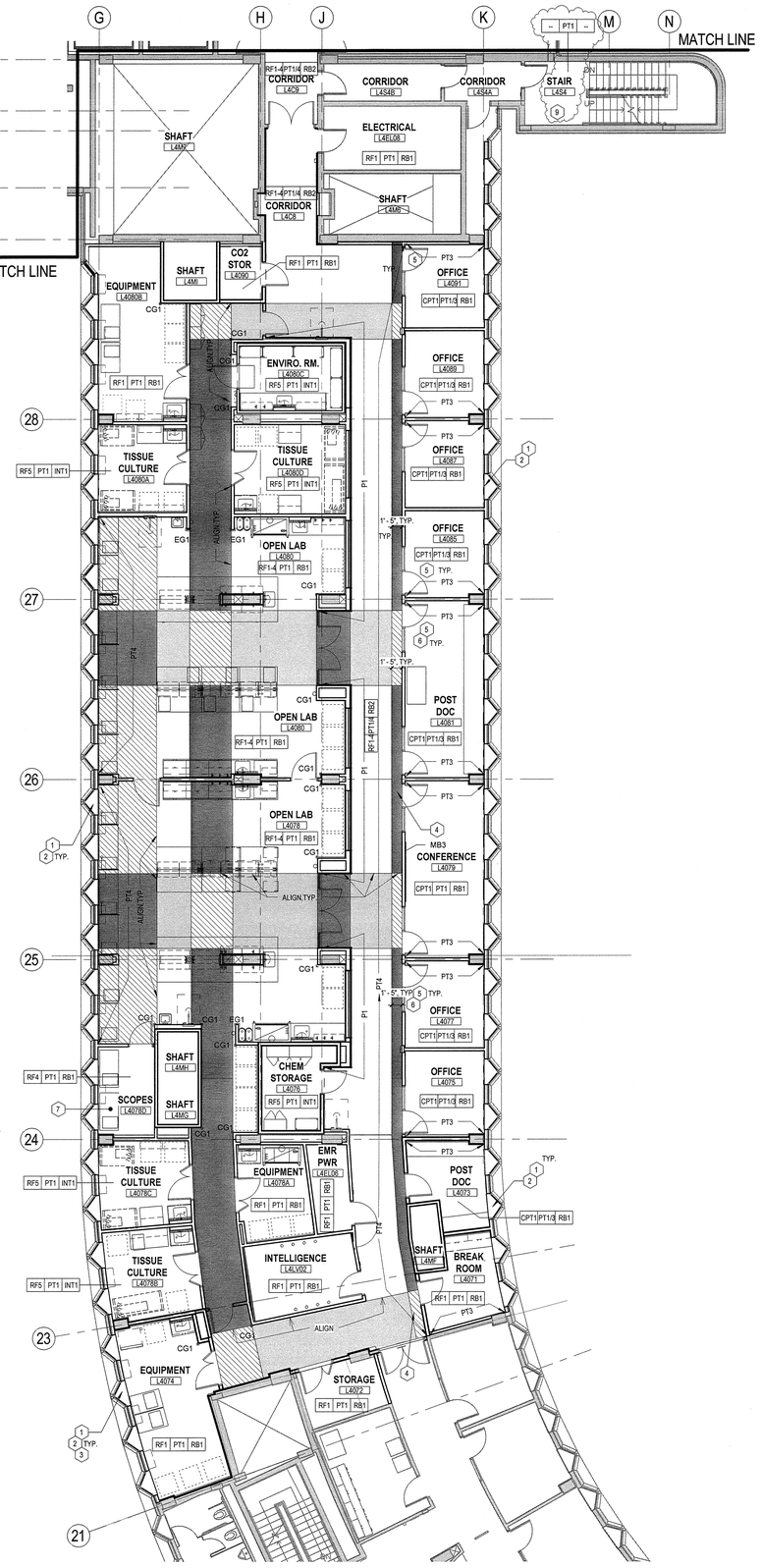
Drawing Number

A400

11/2/2015 12:13:21 PM



2 A404.3A **4th Floor - Finish Plan - Pt2**
1/8" = 1'-0"



1 A404.3A **4th Floor - Finish Plan - Pt1**
1/8" = 1'-0"

GENERAL FINISH NOTES

1. UNLESS OTHERWISE NOTED MATERIALS ARE TO BE INSTALLED PER MANUFACTURER'S WRITTEN INSTRUCTIONS

2. PROVIDE TAPERED TRANSITION TO ACHIEVE FLUSH CONDITION BETWEEN ALL FLOORING MATERIALS, TYP.

3. FLOORING MATERIAL TRANSITIONS WHICH OCCUR AT DOORWAYS ARE TO BE CENTERED IN THE DOORWAY,TYP.

4. INSTALL SPECIFIED FLOORING UNDER CASEWORK,TYP.

5. PROVIDE RUBBER BASE AT CASEWORK FRONTS AND EXPOSED EDGES,TYP. AT AREAS THAT ARE SCHEDULED TO RECIEVE INTEGRAL BASE (INT1) PROVIDE CLEAR SEALANT AT BOTTOM EDGE OF COVE TO PROVIDE SEAMLESS INSTALLATION,TYP.

6. INTERIOR HOLLOW METAL DOOR FRAMES & WINDOW FRAMES ARE TO BE PAINTED TO MATCH ADJACENT WALL SURFACE,U.O.N.

7. FURNITURE SHOWN DASHED IS TO BE PROVIDED BY OTHERS AND IS FOR REFERENCE ONLY,TYP.

8. PROVIDE BULLNOSE & CORNER TRIM PIECES FOR CERAMIC TILE AS REQUIRED.

10. PROVIDE SHELF AND HANGING ROD IN COAT CLOSETS,TYP.

11. NEWLY CONSTRUCTED SHAFT WALLS IN PENTHOUSE AREA ARE TO BE PAINTED PT1,TYP.

12. SEE A400 FOR FINISH LEGEND, WINDOW TREATMENT, AND GENERAL NOTES.

KEYNOTES

1. NEW 1" SOLID SURFACE WINDOW SILL,TYPICAL AT W1.
2. WINDOW SHADE (WT4) ON BOTH PANES,TYPICAL AT W1.
3. WHERE LX074 IS SCHEDULED TO BE AN AUTOCLAVE; PROVIDE R5PT1/INT1,TYP.
4. CORRIDOR FLOOR PATTERN IS TO BE A CONTINUATION OF PROJECT 1 FLOOR PATTERNING. 1'-5" DIMENSION IS GIVEN AS A REFERENCE; THE DIMENSION SHALL MATCH THE FINISHED DIMENSION IN THE PROJ. 1 AREA IN WHICH IT CONNECTS.
5. COAT HOOKS SHALL BE PROVIDED ON EACH INSIDE FACE OF OFFICE DOOR, TYP.
6. WINDOW SHADE (WT1) TO BE USED AT ALL INTERIOR OFFICE SIDELIGHTS,TYP.
7. WINDOW SHADE (WT3) TO BE USED AT EXTERIOR WINDOWS IN THIS SPACE.
8. NO NEW FINISHES IN THIS AREA
9. REFER TO A560 FOR PAINT FINISH AT NEW STAIR RAILINGS, EXISTING TREADS AND RISERS

VISUAL DISPLAY LEGEND

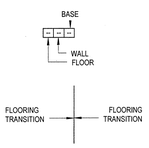
MB1
MFR: PIONITE MAGNETIC MARKER BOARD LAMINATE
STYLE:MARKER LAMINATE ON SUBSTRATE
COLOR:AV100-G GATEWAY TO THE FUTURE
FINISH: MARKER BOARD SURFACE
SIZE: VARIES; SEE ELEVATIONS

MB2
MFR: CLARIDGE PRODUCTS
STYLE: LCS SKINS WITH DBL SIDE TAPE
COLOR: TBD
SIZE: CUT TO FIT; SEE ELEVATIONS AT LAB WRITE UP STATIONS

MB3
MFR: CLARIDGE PRODUCTS
STYLE: ALUMINUM FRAMED MARKER BOARD
LCS DELUXE NO MAP RAIL
FRAME: 5/8" MITERED CORNER
COLOR: TBD
SIZE: 4'X 8'

TB1
MFR: FORBO
STYLE: BULLETIN BOARD
COLOR: TBD
SIZE: CUT TO FIT; SEE ELEVATIONS AT LAB WRITE UP STATION

FINISH TAG



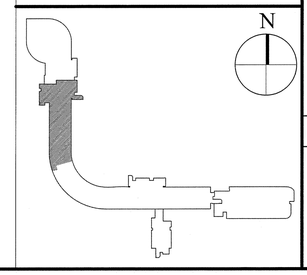
RESILIENT FLOORING KEY

- RF1
- RF2
- RF3
- RF4

WALL PROTECTION

- CG1 CORNER GUARD
- EG1 END GUARD

KEYPLAN



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Main Building Renovation

Building L - Project 2

263 Farmington Ave
Farmington, CT 06032

Revisions

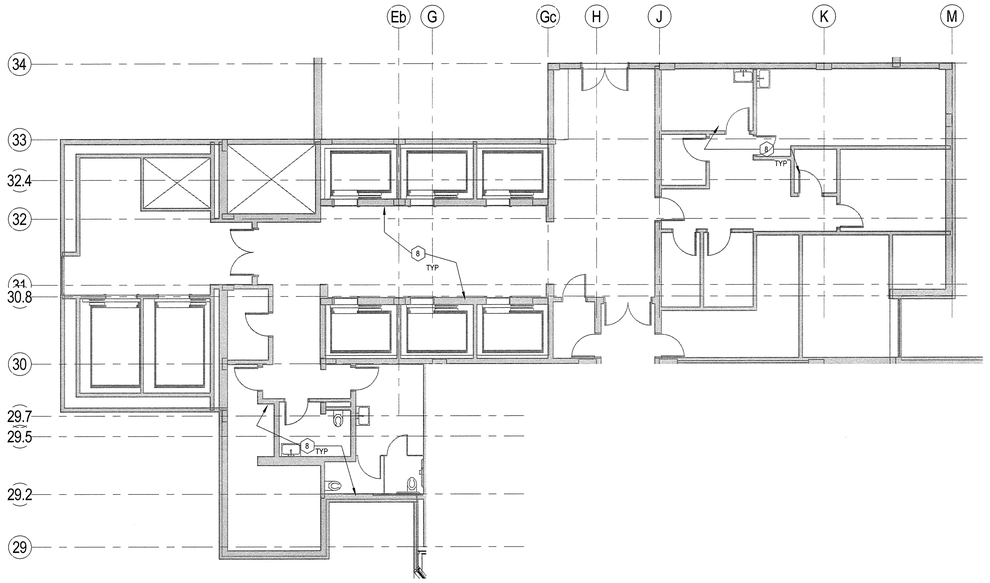
No.	Date	Description
1	10/19/15	Issue for Bid & Code Review
2	11/02/15	Addendum #01

Drawing Name
Finish Plan - Fourth Floor

Project No. 218010732

Drawing Number
A404.3A

11/2/2015 12:43:32 PM



2 A405.3A **5th Floor - Finish Plan - Pt2**
1/8" = 1'-0"

1 A405.3A **5th Floor - Finish Plan - Pt1**
1/8" = 1'-0"

GENERAL FINISH NOTES

1. UNLESS OTHERWISE NOTED MATERIALS ARE TO BE INSTALLED PER MANUFACTURER'S WRITTEN INSTRUCTIONS

2. PROVIDE TAPERED TRANSITION TO ACHIEVE FLUSH CONDITION BETWEEN ALL FLOORING MATERIALS, TYP.

3. FLOORING MATERIAL TRANSITIONS WHICH OCCUR AT DOORWAYS ARE TO BE CENTERED IN THE DOORWAY,TYP.

4. INSTALL SPECIFIED FLOORING UNDER CASEWORK,TYP.

5. PROVIDE RUBBER BASE AT CASEWORK FRONTS AND EXPOSED EDGES,TYP. AT AREAS THAT ARE SCHEDULED TO RECIEVE INTEGRAL BASE (INT1) PROVIDE CLEAR SEALANT AT BOTTOM EDGE OF COVE TO PROVIDE SEAMLESS INSTALLATION,TYP.

6. INTERIOR HOLLOW METAL DOOR FRAMES & WINDOW FRAMES ARE TO BE PAINTED TO MATCH ADJACENT WALL SURFACE,U.O.N.

7. FURNITURE SHOWN DASHED IS TO BE PROVIDED BY OTHERS AND IS FOR REFERENCE ONLY,TYP.

8. PROVIDE BULLNOSE & CORNER TRIM PIECES FOR CERAMIC TILE AS REQUIRED.

10. PROVIDE SHELF AND HANGING ROD IN COAT CLOSETS,TYP.

11. NEWLY CONSTRUCTED SHAFT WALLS IN PENTHOUSE AREA ARE TO BE PAINTED PT1,TYP.

12. SEE A400 FOR FINISH LEGEND, WINDOW TREATMENT, AND GENERAL NOTES.

KEYNOTES

1. NEW 1" SOLID SURFACE WINDOW SILL,TYPICAL AT W1.
2. WINDOW SHADE (WT4) ON BOTH PANES,TYPICAL AT W1.
3. WHERE LX074 IS SCHEDULED TO BE AN AUTOCLAVE; PROVIDE RS/PT1/INT1,TYP.
4. CORRIDOR FLOOR PATTERN IS TO BE A CONTINUATION OF PROJECT 1 FLOOR PATTERNING. 1'-5" DIMENSION IS GIVEN AS A REFERENCE; THE DIMENSION SHALL MATCH THE FINISHED DIMENSION IN THE PROJ. 1 AREA IN WHICH IT CONNECTS.
5. COAT HOOKS SHALL BE PROVIDED ON EACH INSIDE FACE OF OFFICE DOOR, TYP.
6. WINDOW SHADE (WT1) TO BE USED AT ALL INTERIOR OFFICE SIDELIGHTS,TYP.
7. WINDOW SHADE (WT3) TO BE USED AT EXTERIOR WINDOWS IN THIS SPACE.
8. NO NEW FINISHES IN THIS AREA
9. REFER TO A560 FOR PAINT FINISH AT NEW STAIR RAILINGS, EXISTING TREADS AND RISERS

VISUAL DISPLAY LEGEND

MB1
MFR: PIONITE MAGNETIC MARKER BOARD LAMINATE
STYLE:MARKER LAMINATE ON SUBSTRATE
COLOR:AV100-G GATEWAY TO THE FUTURE
FINISH: MARKER BOARD SURFACE
SIZE: VARIES; SEE ELEVATIONS

MB2
MFR: CLARIDGE PRODUCTS
STYLE: LCS SKINS WITH DBL SIDE TAPE
COLOR: TBD
SIZE: CUT TO FIT; SEE ELEVATIONS AT LAB WRITE UP STATIONS

MB3
MFR: CLARIDGE PRODUCTS
STYLE: ALUMINUM FRAMED MARKER BOARD
LCS DELUXE NO MAP RAIL
FRAME: 5/8" MITERED CORNER
COLOR: TBD
SIZE: 4'X 8'

TB1
MFR: FORBO
STYLE: BULLETIN BOARD
COLOR: TBD
SIZE: CUT TO FIT; SEE ELEVATIONS AT LAB WRITE UP STATION

FINISH TAG

BASE
WALL
FLOOR
FLOORING TRANSITION
FLOORING TRANSITION

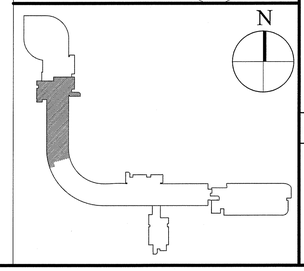
RESILIENT FLOORING KEY

RF1
RF2
RF3
RF4

WALL PROTECTION

CG1 CORNER GUARD
EG1 END GUARD

KEYPLAN



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Main Building Renovation

Building L - Project 2

263 Farmington Ave
Farmington, CT 06032

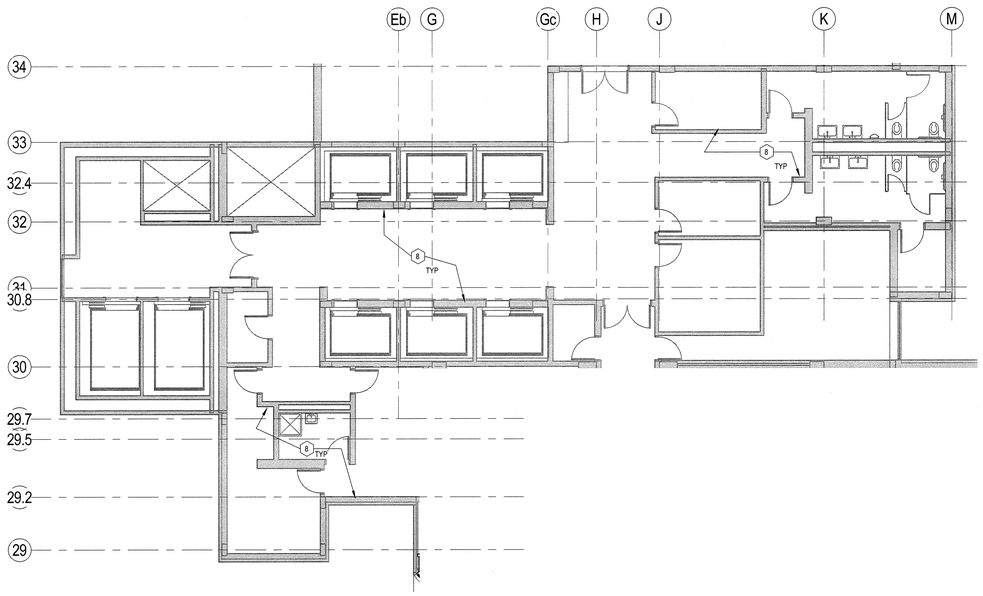
Revisions

No.	Date	Description
1	10/19/15	Issue for Bid & Code Review
2	11/02/15	Addendum #01

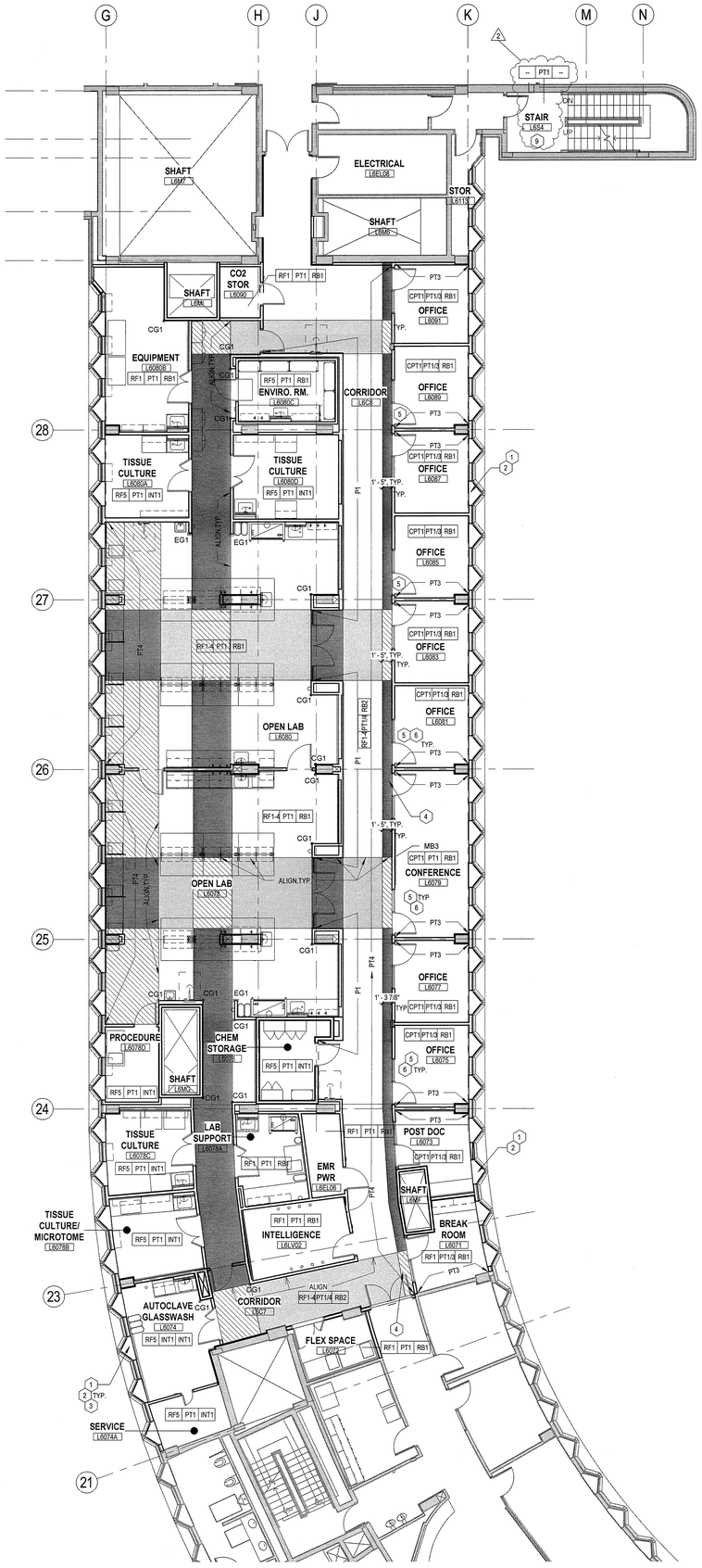
Drawing Name
Finish Plan - Fifth Floor

Project No. 218010732

Drawing Number
A405.3A



2 A406.3A **6th Floor - Finish Plan - Pt2**
1/8" = 1'-0"



1 A406.3A **6th Floor - Finish Plan - Pt1**
1/8" = 1'-0"

GENERAL FINISH NOTES

1. UNLESS OTHERWISE NOTED MATERIALS ARE TO BE INSTALLED PER MANUFACTURER'S WRITTEN INSTRUCTIONS

2. PROVIDE TAPERED TRANSITION TO ACHIEVE FLUSH CONDITION BETWEEN ALL FLOORING MATERIALS, TYP.

3. FLOORING MATERIAL TRANSITIONS WHICH OCCUR AT DOORWAYS ARE TO BE CENTERED IN THE DOORWAY,TYP.

4. INSTALL SPECIFIED FLOORING UNDER CASEWORK,TYP.

5. PROVIDE RUBBER BASE AT CASEWORK FRONTS AND EXPOSED EDGES,TYP. AT AREAS THAT ARE SCHEDULED TO RECIEVE INTEGRAL BASE (INT1) PROVIDE CLEAR SEALANT AT BOTTOM EDGE OF COVE TO PROVIDE SEAMLESS INSTALLATION,TYP.

6. INTERIOR HOLLOW METAL DOOR FRAMES & WINDOW FRAMES ARE TO BE PAINTED TO MATCH ADJACENT WALL SURFACE,U.O.N.

7. FURNITURE SHOWN DASHED IS TO BE PROVIDED BY OTHERS AND IS FOR REFERENCE ONLY,TYP.

8. PROVIDE BULLNOSE & CORNER TRIM PIECES FOR CERAMIC TILE AS REQUIRED.

10. PROVIDE SHELF AND HANGING ROD IN COAT CLOSETS,TYP.

11. NEWLY CONSTRUCTED SHAFT WALLS IN PENTHOUSE AREA ARE TO BE PAINTED PT1,TYP.

12. SEE A400 FOR FINISH LEGEND, WINDOW TREATMENT, AND GENERAL NOTES.

KEYNOTES

1. NEW 1" SOLID SURFACE WINDOW SILL,TYPICAL AT W1.
2. WINDOW SHADE (WT4) ON BOTH PANES,TYPICAL AT W1.
3. WHERE LX074 IS SCHEDULED TO BE AN AUTOCLAVE; PROVIDE RS/PT1/INT1,TYP.
4. CORRIDOR FLOOR PATTERN IS TO BE A CONTINUATION OF PROJECT 1 FLOOR PATTERNING. 1'-5" DIMENSION IS GIVEN AS A REFERENCE; THE DIMENSION SHALL MATCH THE FINISHED DIMENSION IN THE PROJ. 1 AREA IN WHICH IT CONNECTS.
5. COAT HOOKS SHALL BE PROVIDED ON EACH INSIDE FACE OF OFFICE DOOR, TYP.
6. WINDOW SHADE (WT1) TO BE USED AT ALL INTERIOR OFFICE SIDELIGHTS,TYP.
7. WINDOW SHADE (WT3) TO BE USED AT EXTERIOR WINDOWS IN THIS SPACE.
8. NO NEW FINISHES IN THIS AREA
9. REFER TO A560 FOR PAINT FINISH AT NEW STAIR RAILINGS, EXISTING TREADS AND RISERS

VISUAL DISPLAY LEGEND

MB1
MFR: PIONITE MAGNETIC MARKER BOARD LAMINATE
STYLE:MARKER LAMINATE ON SUBSTRATE
COLOR:AV100-G GATEWAY TO THE FUTURE
FINISH: MARKER BOARD SURFACE
SIZE: VARIES; SEE ELEVATIONS

MB2
MFR: CLARIDGE PRODUCTS
STYLE: LCS SKINS WITH DBL SIDE TAPE
COLOR: TBD
SIZE: CUT TO FIT; SEE ELEVATIONS AT LAB WRITE UP STATIONS

MB3
MFR: CLARIDGE PRODUCTS
STYLE: ALUMINUM FRAMED MARKER BOARD
LCS DELUXE NO MAP RAIL
FRAME: 5/8" MITERED CORNER
COLOR: TBD
SIZE: 4'X 8'

TB1
MFR: FORBO
STYLE: BULLETIN BOARD
COLOR: TBD
SIZE: CUT TO FIT; SEE ELEVATIONS AT LAB WRITE UP STATION

FINISH TAG

BASE
WALL
FLOOR
FLOORING TRANSITION
FLOORING TRANSITION

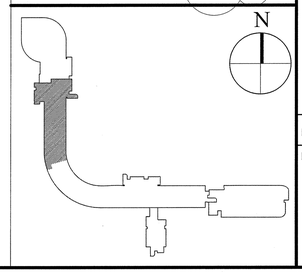
RESILIENT FLOORING KEY

- RF1
- RF2
- RF3
- RF4

WALL PROTECTION

- CG1 CORNER GUARD
- EG1 END GUARD

KEYPLAN



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UCONN HEALTH

Main Building Renovation

Building L - Project 2

263 Farmington Ave
Farmington, CT 06032

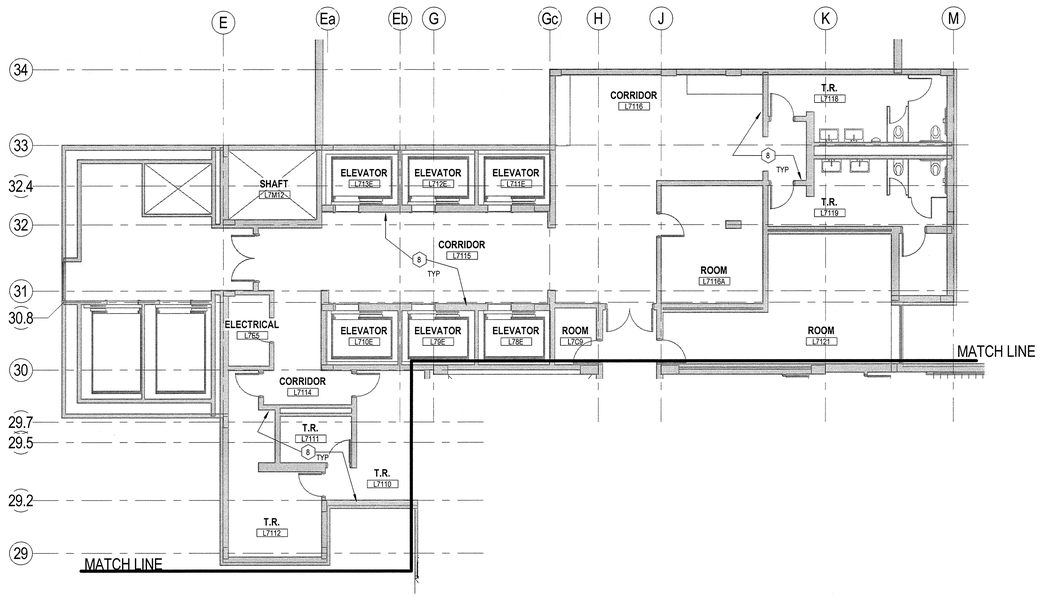
Revisions

No.	Date	Description
1	10/19/15	Issue for Bid & Code Review
2	11/02/15	Addendum #01

Drawing Name
Finish Plan - Sixth Floor

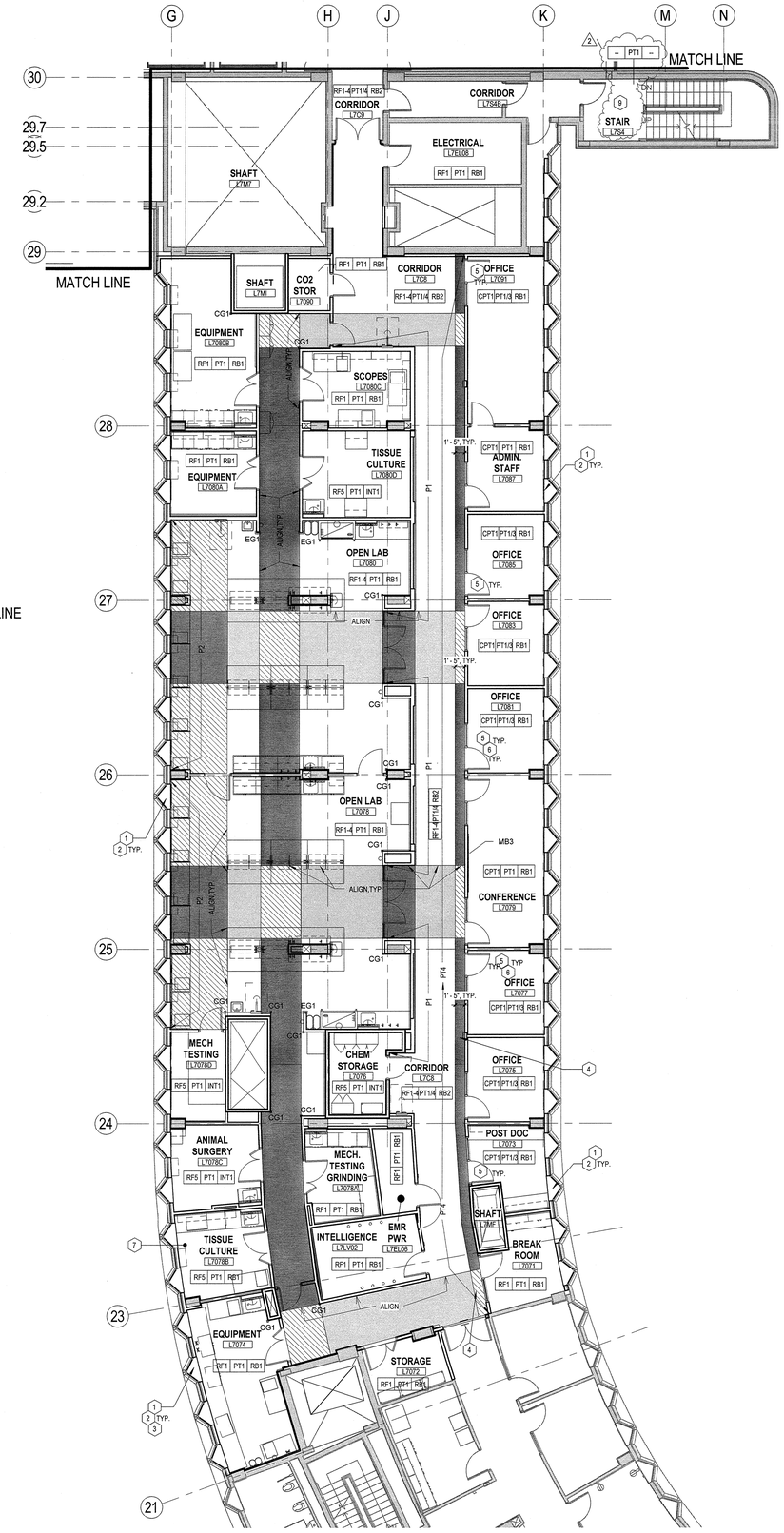
Project No. 218010732

Drawing Number
A406.3A



2 Floors 4-7 - Finish Plans - Part 2

A407.3A 1/8" = 1'-0"



1 7th Floor - Finish Plan - Pt1

A407.3A 1/8" = 1'-0"

GENERAL FINISH NOTES

1. UNLESS OTHERWISE NOTED MATERIALS ARE TO BE INSTALLED PER MANUFACTURER'S WRITTEN INSTRUCTIONS

2. PROVIDE TAPERED TRANSITION TO ACHIEVE FLUSH CONDITION BETWEEN ALL FLOORING MATERIALS, TYP.

3. FLOORING MATERIAL TRANSITIONS WHICH OCCUR AT DOORWAYS ARE TO BE CENTERED IN THE DOORWAY,TYP.

4. INSTALL SPECIFIED FLOORING UNDER CASEWORK,TYP.

5. PROVIDE RUBBER BASE AT CASEWORK FRONTS AND EXPOSED EDGES,TYP. AT AREAS THAT ARE SCHEDULED TO RECIEVE INTEGRAL BASE (INT1) PROVIDE CLEAR SEALANT AT BOTTOM EDGE OF COVE TO PROVIDE SEAMLESS INSTALLATION,TYP.

6. INTERIOR HOLLOW METAL DOOR FRAMES & WINDOW FRAMES ARE TO BE PAINTED TO MATCH ADJACENT WALL SURFACE,U.O.N.

7. FURNITURE SHOWN DASHED IS TO BE PROVIDED BY OTHERS AND IS FOR REFERENCE ONLY,TYP.

8. PROVIDE BULLNOSE & CORNER TRIM PIECES FOR CERAMIC TILE AS REQUIRED.

10. PROVIDE SHELF AND HANGING ROD IN COAT CLOSETS,TYP.

11. NEWLY CONSTRUCTED SHAFT WALLS IN PENTHOUSE AREA ARE TO BE PAINTED PT1,TYP.

12. SEE A400 FOR FINISH LEGEND, WINDOW TREATMENT,, AND GENERAL NOTES.

KEYNOTES

1. NEW 1" SOLID SURFACE WINDOW SILL,TYPICAL AT W1.
2. WINDOW SHADE (WT4) ON BOTH PANES,TYPICAL AT W1.
3. WHERE LX074 IS SCHEDULED TO BE AN AUTOCLAVE; PROVIDE RS/PT1/INT1,TYP.
4. CORRIDOR FLOOR PATTERN IS TO BE A CONTINUATION OF PROJECT 1 FLOOR PATTERNING. 1'-5" DIMENSION IS GIVEN AS A REFERENCE; THE DIMENSION SHALL MATCH THE FINISHED DIMENSION IN THE PROJ. 1 AREA IN WHICH IT CONNECTS.
5. COAT HOOKS SHALL BE PROVIDED ON EACH INSIDE FACE OF OFFICE DOOR, TYP.
6. WINDOW SHADE (WT1) TO BE USED AT ALL INTERIOR OFFICE SIDELIGHTS,TYP.
7. WINDOW SHADE (WT3) TO BE USED AT EXTERIOR WINDOWS IN THIS SPACE.
8. NO NEW FINISHES IN THIS AREA
9. REFER TO A560 FOR PAINT FINISH AT NEW STAIR RAILINGS, EXISTING TREADS AND RISERS

VISUAL DISPLAY LEGEND

MB1
MFR: PIONITE MAGNETIC MARKER BOARD LAMINATE
STYLE:MARKER LAMINATE ON SUBSTRATE
COLOR:AV100-G GATEWAY TO THE FUTURE
FINISH: MARKER BOARD SURFACE
SIZE: VARIES; SEE ELEVATIONS

MB2
MFR: CLARIDGE PRODUCTS
STYLE: LCS SKINS WITH DBL SIDE TAPE
COLOR: TBD
SIZE: CUT TO FIT; SEE ELEVATIONS AT LAB WRITE UP STATIONS

MB3
MFR: CLARIDGE PRODUCTS
STYLE: ALUMINUM FRAMED MARKER BOARD
LCS DELUXE NO MAP RAIL
FRAME: 5/8" MITERED CORNER
COLOR: TBD
SIZE: 4'X 8'

TB1
MFR: FORBO
STYLE: BULLETIN BOARD
COLOR: TBD
SIZE: CUT TO FIT; SEE ELEVATIONS AT LAB WRITE UP STATION

FINISH TAG

BASE
WALL
FLOOR
FLOORING TRANSITION
FLOORING TRANSITION

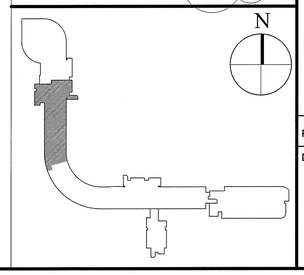
RESILIENT FLOORING KEY

RF1
RF2
RF3
RF4

WALL PROTECTION

CG1 CORNER GUARD
EG1 END GUARD

KEYPLAN



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STATE OF CONNECTICUT ALEXANDER K. WING No. 11523 LICENSED ARCHITECT

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UCONN HEALTH

Main Building Renovation

Building L - Project 2

263 Farmington Ave
Farmington, CT 06032

Revisions

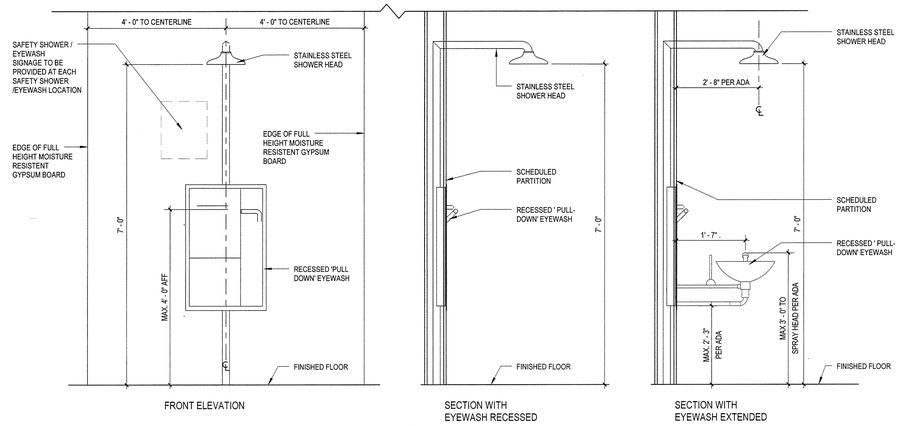
No.	Date	Description
1	10/19/15	Issue for Bid & Code Review
2	11/02/15	Addendum #01

Drawing Name
Finish Plan - Seventh Floor

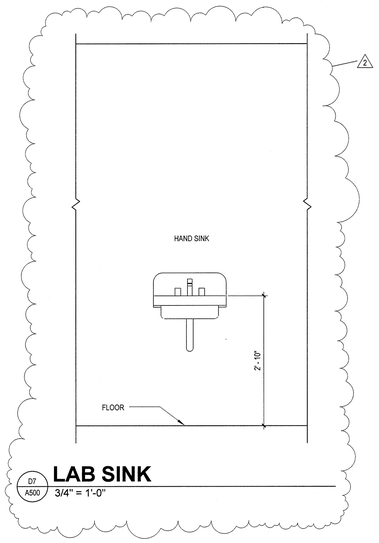
Project No. 218010732

Drawing Number
A407.3A

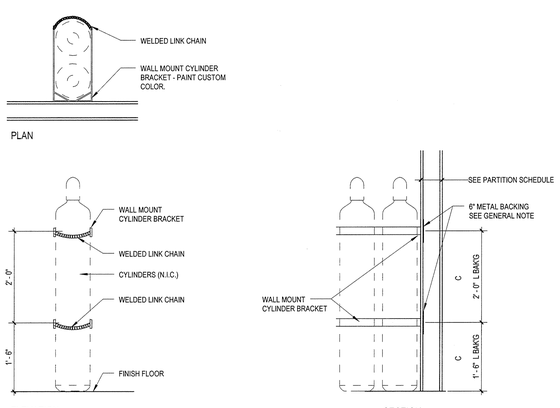
11/2/2015 12:43:56 PM



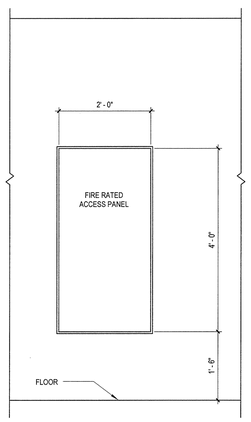
B4 A500 **SAFETY SHOWER EYE WASH**
3/4" = 1'-0"



D7 A500 **LAB SINK**
3/4" = 1'-0"



F4 A500 **FRONT LOADED GAS CYL. RESTRAINT**
3/4" = 1'-0"



F7 A500 **FIRE RATED ACCESS PANEL**
3/4" = 1'-0"

CASEWORK GENERAL NOTES

1. DO NOT SCALE DRAWINGS.

2. ELEVATIONS HAVE BEEN DRAWN FOR THE CASEWORK AND APPEAR ON DRAWINGS IN THE A-800 SERIES. REFER TO DRAWING A600 FOR TYPICAL CABINETS AND DETAILS. REFER TO PLANS, ENLARGED PLANS, AND ELEVATIONS FOR DIMENSIONS, QUANTITY, AND SPACING.

3. BASE UNITS, WALL CABINETS, TABLES, AND SERVICE CHASE PANELS SHALL BE OF WOOD CONSTRUCTION, UNLESS OTHERWISE NOTED. CABINET TYPES, CONFIGURATIONS, AND DIMENSIONS SHALL BE AS DETAILED ON CASEWORK ELEVATIONS. CASEWORK CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFYING ALL DIMENSIONS BEFORE BEGINNING FABRICATION.

4. COUNTERTOPS AT LAB BENCHES AND TABLES SHALL BE EPOXY RESIN, SPECIFIED IN DIV. 12 (UNLESS OTHERWISE NOTED). REFER TO NOTES ON ENLARGED LAB PLANS (A500 SERIES DRAWINGS) AND CASEWORK ELEVATIONS DRAWINGS (A600 SERIES) FOR OTHER COUNTERTOP MATERIALS. PROVIDE 1" RADIUS ON OUTSIDE CORNERS. COUNTERTOPS TO OVERHANG BASE UNITS BY 1".

5. REFER TO PLANS AND ENLARGED PLANS FOR DEPTHS OF COUNTERTOPS.

6. BACK AND SIDE SPLASHES TO BE 1" THICK AND 4" HIGH (U.O.N.). MATERIAL TO MATCH COUNTERTOPS.

7. PROVIDE SEALANT AT JOINTS BETWEEN BACKSPLASHES AND WALL, COUNTERTOPS OR EQUIPMENT. ALSO, PROVIDE SEALANT WHERE COUNTERTOPS MEET WALL SURFACES.

8. SINKS SHALL BE MODIFIED EPOXY RESIN WITH SIZE AS INDICATED IN THE LEGEND, UNLESS OTHERWISE NOTED. SINKS SHALL BE IN SINK BASE UNITS. SINK COLOR TO MATCH COUNTERTOP COLOR.

9. COORDINATE SIZE / LOCATIONS OF FAUCETS, AND SERVICE VALVES SO THAT THE FAUCET AND VALVE COMPONENTS DO NOT INTERFERE WITH EACH OTHER.

10. PROVIDE FINISHED CLOSURE PANELS AT EXPOSED END CONDITIONS.

11. PROVIDE FILLER/SCRIBE PANELS AT WALLS AND COLUMN CONDITIONS.

12. INSTALL CLOSURE PANELS BETWEEN BACK OF CABINETS OR HOODS AND WALLS AT EXPOSED ENDS.

13. COORDINATE WITH REFLECTED CEILING PLANS FOR PROPER CEILING HEIGHTS AND PIPE DROP ENCLOSURE HEIGHTS / LOCATIONS.

14. CONTRACTOR TO COORDINATE THE INSTALLATION OF SUPPLEMENTARY FRAMING, BLOCKING, AND BRACING FOR SUPPORT OF ALL WALL MOUNTED AND CEILING MOUNTED ITEMS. COMPLY WITH DETAILS INDICATED OR IF NONE AVAILABLE, WITH "GYPSUM CONSTRUCTION HANDBOOK" - PUBLISHED BY USGC. MINIMUM SIZE FOR BACKING IS 6" X 16 GA.

15. PROVIDE 3" DIAMETER PLASTIC GROMMET WHERE INDICATED. TYP.

16. MOUNT TOP OF MARKER BOARDS AND TACK BOARDS AT 7'-0" AFF UNLESS OTHERWISE NOTED.

17. PENETRATIONS THROUGH BENCH TOP SHALL BE SEALED WITH SILICONE SEALANT.

18. BACKS OF COUNTERTOPS AND SPLASHES AGAINST WALLS SHALL BE SEALED TO THE WALL WITH SILICONE SEALANT.

19. FREE STANDING SHELVING AND CASEWORK SHALL BE SECURED TO PREVENT TIPPING. SUBMIT SHOP DRAWINGS OF ATTACHMENT PRIOR TO INSTALLATION.

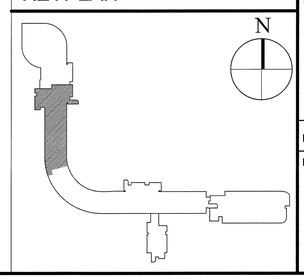
20. SAFETY SHOWERS/ EYEWASH UNITS SHALL COMPLY WITH ANSI STANDARDS FOR USABILITY BY THE PHYSICALLY DISABLED. SAFETY SHOWER / EYEWASH UNITS SHALL BE FURNISHED AND INSTALLED UNDER DIVISION 22.

21. FOR LABORATORY SERVICE FITTING TYPES, LOCATIONS AND ORDER, SEE ENLARGED PLANS. THESE FITTINGS ARE SPECIFIED IN DIVISION 12.

22. PROVIDE PLASTIC TRAY SHELF PROTECTORS AT LAB BASE CABINETS BELOW FUME HOODS AND SINKS.

23. FOR ALL SURFACE MOUNTED RACEWAYS, SEE ELECTRICAL DRAWINGS FOR OUTLET COUNT.

KEYPLAN



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UCONN HEALTH

Main Building Renovation

Building L - Project 2

263 Farmington Ave
Farmington, CT 06032

Revisions

No.	Date	Description
1	10/19/15	Issue for Bid & Code Review
2	11/02/15	Addendum #01

Drawing Name
Laboratory General Notes and Details

Project No. 218010732

Drawing Number
A500

Master Equipment List - Floors 4-7

Type Mark	Equipment Name	Primary User	Future Room #	OF	OI	CF	CI	Electrical Requirements	HVAC Requirements	Plumbing Requirements	Comments
4th Floor											
CFH-1	Fume Hood	UConn Health Shared	L4080			•	•		yes	yes	Refer to all MEP drawings for requirements
CFH-1	Fume Hood	UConn Health Shared	L4078			•	•		yes	yes	Refer to all MEP drawings for requirements
5th Floor											
CFH-1	Fume Hood	UConn Health Shared	L5080			•	•		yes	yes	Refer to all MEP drawings for requirements
CFH-1	Fume Hood	UConn Health Shared	L5078			•	•		yes	yes	Refer to all MEP drawings for requirements
UC07	Sterilizer	UConn Health Shared	L5074A			•	•		yes	yes	Refer to all MEP drawings for requirements
UC08	Glassware Washer	UConn Health Shared	L5074A			•	•		yes	yes	Refer to all MEP drawings for requirements
6th Floor											
CFH-1	Fume Hood	UConn Health Shared	L6080			•	•		yes	yes	Refer to all MEP drawings for requirements
CFH-1	Fume Hood	UConn Health Shared	L6078			•	•		yes	yes	Refer to all MEP drawings for requirements
N01	Laminar Flow Hood	Nichols	L6078C	•			•		yes	yes	Refer to all MEP drawings for requirements
N02	Cell Culture Incubater	Nichols	L6078C	•			•			yes	Refer to all MEP drawings for requirements
N02	Cell Culture Incubater	Nichols	L6078C	•			•			yes	Refer to all MEP drawings for requirements
N14	MilliQ Water Purifier	Nichols	L6078	•			•			yes	Refer to all MEP drawings for requirements
N15	Anerobic Chamber	Nichols	L6078	•			•			yes	Refer to all MEP drawings for requirements
UC01	Down/Backdraft Workstation	UConn Health Shared	L6078D			•	•		yes	yes	PENDING UCHC REVIEW
UC07	Sterilizer	UConn Health Shared	L6074A			•	•		yes	yes	Refer to all MEP drawings for requirements
UC08	Glassware Washer	UConn Health Shared	L6074A			•	•		yes	yes	Refer to all MEP drawings for requirements
UC09	Ice Machine	UConn Health Shared	L6074	•			•			yes	Refer to all MEP drawings for requirements
7th Floor											
CFH-1	Fume Hood	UConn Health Shared	L7080			•	•		yes	yes	Refer to all MEP drawings for requirements
CFH-1	Fume Hood	UConn Health Shared	L7078			•	•		yes	yes	Refer to all MEP drawings for requirements
K06	Atomic Absorption Spectrum	Kuhn	L7074	•			•		yes	yes	Refer to all MEP drawings for requirements
K08/K09	Spectrometers	Kuhn	L7078	•			•			yes	Refer to all MEP drawings for requirements
K14	Lycpholyzer	Kuhn	L7078A	•			•	yes		yes	Refer to all MEP drawings for requirements
K21	Incubator	Kuhn	L7078B	•			•			yes	Refer to all MEP drawings for requirements
K22	Incubator	Kuhn	L7078B	•			•			yes	Refer to all MEP drawings for requirements
K23	BSC	Kuhn	L7078B	•			•		yes	yes	Refer to all MEP drawings for requirements
K25	BSC	Kuhn	L7078C	•			•		yes	yes	Refer to all MEP drawings for requirements
UC01	Down/Backdraft Workstation	UConn Health Shared	L7078C			•	•		yes	yes	PENDING UCHC REVIEW

2

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Main Building Renovation

Building L - Project 2

263 Farmington Ave
Farmington, CT 06032

Revisions

No.	Date	Description
1	10/19/15	Issue for Bid & Code Review
2	11/02/15	Addendum #01

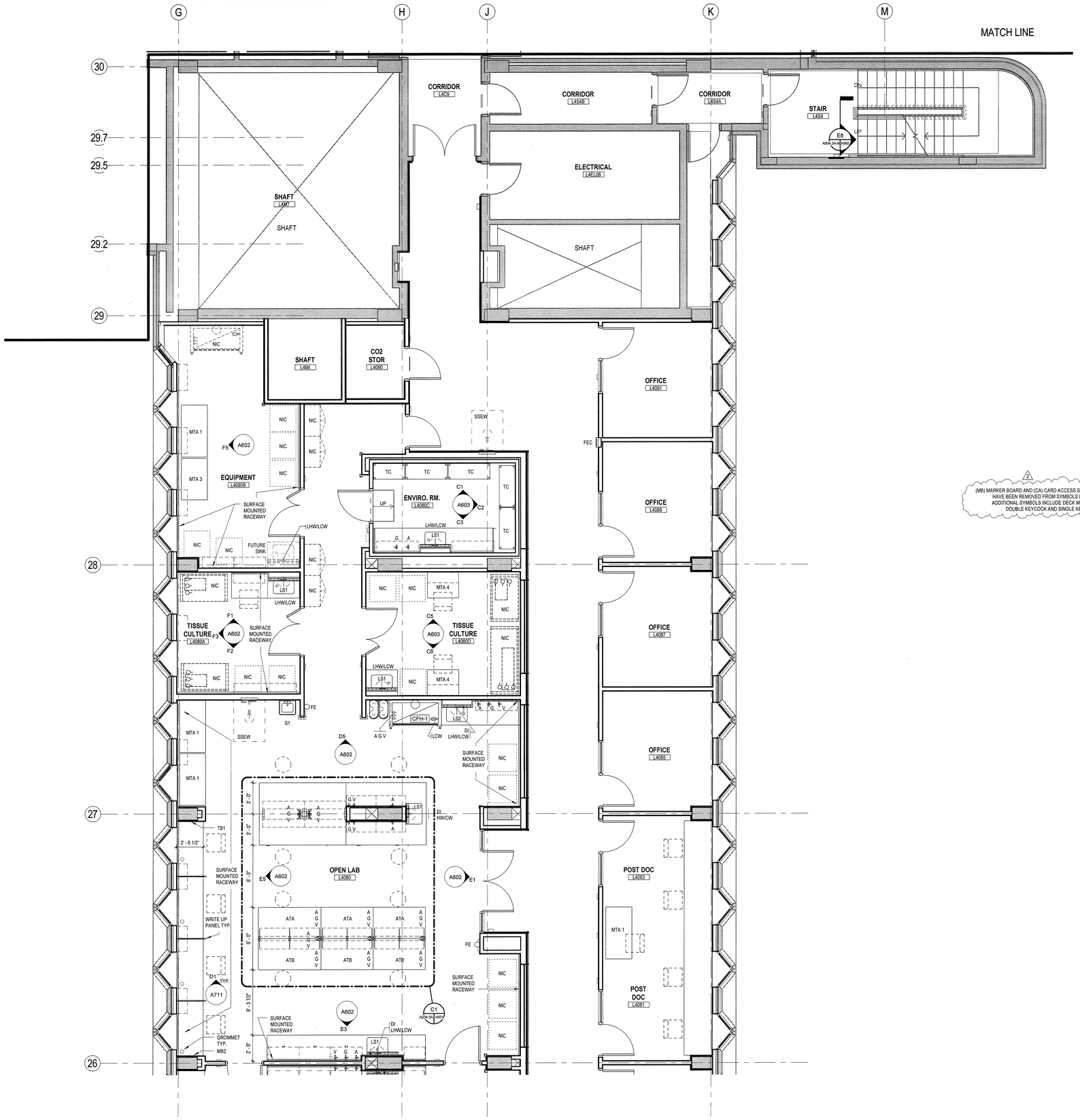
Drawing Name

Laboratory Equipment Schedule

Project No. 218010732

Drawing Number

A501



4th Floor - Enlarged Lab Plan - North

1/4" = 1'-0"

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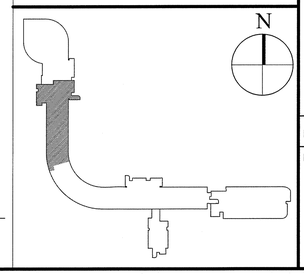
23. FOR ALL SURFACE MOUNTED RACEWAYS, SEE ELECTRICAL DRAWINGS FOR OUTLET COUNT.

SYMBOLS LEGEND

(MB) MARKER BOARD AND (CA) CARD ACCESS SYMBOLS HAVE BEEN REMOVED FROM SYMBOLS LEGEND. ADDITIONAL SYMBOLS INCLUDE DECK MOUNTED DOUBLE KEYCOCK AND SINGLE KEYCOCK.

- STAINLESS STEEL PEGBOARD WITH DRAIN & TROUGH
- ADJUSTABLE WALL SHELVES (3 TIER U.O.N.) OR WALL CABINETS, SEE CASEWORK ELEVATIONS.
- CYLINDER RESTRAINT - (1, 2, 3, OR 4 CYLINDERS PER PLAN). REFER TO DETAIL ON DRAWING A500.
- CFH-X — CHEMICAL FUME HOOD WITH DISHED EPOXY RESIN WORK SURFACE. PROVIDE LAB SERVICE OUTLETS AS INDICATED ON THE ENLARGED LAB PLANS. REFER TO CASEWORK ELEVATIONS FOR HEIGHT.
- MTA 1 — MOVEABLE TABLE (2'-6" x 5'-0")
- MTA 2 — MOVEABLE TABLE (2'-6" x 4'-6")
- MTA 3 — MOVEABLE TABLE (2'-6" x 4'-0")
- MTA 4 — MOVEABLE TABLE (2'-6" x 3'-0")
- ATA/ATB — ADJUSTABLE TABLE (ATA = SERVICES ON LEFT, ATB = SERVICES ON RIGHT
- TAG — LAB EQUIPMENT - OFCI (OWNER FURNISHED, CONTRACTOR INSTALLED)
- TAG — LAB EQUIPMENT - CFCI (CONTRACTOR FURNISHED CONTRACTOR INSTALLED)
- NIC — FUTURE LAB EQUIPMENT - NIC (NOT IN CONTRACT)
- OWNER FURNISHED, OWNER INSTALLED CHAIR.
- OWNER FURNISHED, OWNER INSTALLED STOOL.
- S1 — HAND SINK - BY PLUMBING CONTRACTOR. SEE DIV 22.
- LS1 — UNDERMOUNT EPOXY RESIN SINK SINGLE BOWL (2'-0" x 1'-4" x 0'-10" DEEP) REFER TO ENLARGED PLANS FOR SERVICES & LOCATIONS.
- LS2 — DROP-IN EPOXY RESIN SINK SINGLE BOWL (2'-0" x 1'-4" x 0'-6" DEEP) REFER TO ENLARGED PLANS FOR SERVICES & LOCATIONS. ADA COMPLIANT.
- HW/CW DECK MOUNT
- HW/CW PANEL MOUNT
- DI — DEIONIZED WATER SUPPLY
- DOUBLE DECK MOUNTED KEYCOCK. (MIN 12" OC) TYPE 1
- SINGLE DECK MOUNTED KEYCOCK.
- SINGLE WALL MOUNTED KEYCOCK.
- SS/SEW — ADA COMPLIANT EYEWASH & SHOWER WITH PULL. REFER TO DETAILS ON DRAWING A500.
- FE — FIRE EXTINGUISHER AND MOUNTING BRACKET BY OWNER. HANDLE OF EXTINGUISHER TO BE LOCATED 4'-0" A.F.F.
- CG — CORNER GUARD (REFER TO A-401 FOR LOCATIONS AND DETAILS)
- EP — ELECTRICAL PANEL
- FEC — FIRE EXTINGUISHER CABINET
- TC — STAINLESS STEEL WIRE SHELVING (3'-0" x 1'-6")
- TB — PAINTED STEEL WIRE SHELVING (3'-0" x 1'-6")

KEYPLAN



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Seal

STATE OF CONNECTICUT — ALEXANDER K. WANG — No. 11676 — LICENSED ARCHITECT

NOT FOR CONSTRUCTION

UCONN HEALTH

Main Building Renovation

Building L - Project 2

263 Farmington Ave
Farmington, CT 06032

Revisions

No.	Date	Description
1	10/19/15	Issue for Bid & Code Review
2	11/02/15	Addendum #01

Drawing Name

4th Floor - Enlarged Plan - North

Project No. 218010732

Drawing Number

A504.3A-N

11/2/2015 1:47:19 PM

4th Floor - Enlarged Lab Plan - South

1/4" = 1'-0"

CASEWORK GENERAL NOTES

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2. ELEVATIONS HAVE BEEN DRAWN FOR THE CASEWORK AND APPEAR ON DRAWINGS IN THE A-600 SERIES. REFER TO DRAWING A600 FOR TYPICAL CABINETS AND DETAILS. REFER TO PLANS, ENLARGED PLANS, AND ELEVATIONS FOR DIMENSIONS, QUANTITY, AND SPACING.

3. BASE UNITS, WALL CABINETS, TABLES, AND SERVICE CHASE PANELS SHALL BE OF WOOD CONSTRUCTION, UNLESS OTHERWISE NOTED. CABINET TYPES, CONFIGURATIONS, AND DIMENSIONS SHALL BE AS DETAILED ON CASEWORK ELEVATIONS. CASEWORK CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFYING ALL DIMENSIONS BEFORE BEGINNING FABRICATION.

4. COUNTERTOPS AT LAB BENCHES AND TABLES SHALL BE EPOXY RESIN, SPECIFIED IN DIV. 12 (UNLESS OTHERWISE NOTED). REFER TO NOTES ON ENLARGED LAB PLANS (A500 SERIES DRAWINGS) AND CASEWORK ELEVATIONS DRAWINGS (A600 SERIES) FOR OTHER COUNTERTOP MATERIALS. PROVIDE 1" RADIUS ON OUTSIDE CORNERS. COUNTERTOPS TO OVERHANG BASE UNITS BY 1".

5. REFER TO PLANS AND ENLARGED PLANS FOR DEPTHS OF COUNTERTOPS.

6. BACK AND SIDE SPLASHES TO BE 1" THICK AND 4" HIGH (U.O.N.). MATERIAL TO MATCH COUNTERTOPS.

7. PROVIDE SEALANT AT JOINTS BETWEEN BACKSPLASHES AND WALL, COUNTERTOPS OR EQUIPMENT. ALSO, PROVIDE SEALANT WHERE COUNTERTOPS MEET WALL SURFACES.

8. SINKS SHALL BE MODIFIED EPOXY RESIN WITH SIZE AS INDICATED IN THE LEGEND, UNLESS OTHERWISE NOTED. SINKS SHALL BE IN SINK BASE UNITS. SINK COLOR TO MATCH COUNTERTOP COLOR.

9. COORDINATE SIZE / LOCATIONS OF FAUCETS, AND SERVICE VALVES SO THAT THE FAUCET AND VALVE COMPONENTS DO NOT INTERFERE WITH EACH OTHER.

10. PROVIDE FINISHED CLOSURE PANELS AT EXPOSED END CONDITIONS.

11. PROVIDE FILLER/SCRIBE PANELS AT WALLS AND COLUMN CONDITIONS.

12. INSTALL CLOSURE PANELS BETWEEN BACK OF CABINETS OR HOODS AND WALLS AT EXPOSED ENDS.

13. COORDINATE WITH REFLECTED CEILING PLANS FOR PROPER CEILING HEIGHTS AND PIPE DROP ENCLOSURE HEIGHTS / LOCATIONS.

14. CONTRACTOR TO COORDINATE THE INSTALLATION OF SUPPLEMENTARY FRAMING, BLOCKING, AND BRACING FOR SUPPORT OF ALL WALL MOUNTED AND CEILING MOUNTED ITEMS. COMPLY WITH DETAILS INDICATED OR IF NONE AVAILABLE, WITH "GYPSUM CONSTRUCTION HANDBOOK" - PUBLISHED BY USGC. MINIMUM SIZE FOR BACKING IS 6" X 16 GA.

15. PROVIDE 3" DIAMETER PLASTIC GROMMET WHERE INDICATED. TYP.

16. MOUNT TOP OF MARKER BOARDS AND TACK BOARDS AT 7'-0" AFF UNLESS OTHERWISE NOTED.

17. PENETRATIONS THROUGH BENCH TOP SHALL BE SEALED WITH SILICONE SEALANT.

18. BACKS OF COUNTERTOPS AND SPLASHES AGAINST WALLS SHALL BE SEALED TO THE WALL WITH SILICONE SEALANT.

19. FREE STANDING SHELVING AND CASEWORK SHALL BE SECURED TO PREVENT TIPPING. SUBMIT SHOP DRAWINGS OF ATTACHMENT PRIOR TO INSTALLATION.

20. SAFETY SHOWERS/ EYEWASH UNITS SHALL COMPLY WITH ANSI STANDARDS FOR USABILITY BY THE PHYSICALLY DISABLED. SAFETY SHOWER / EYEWASH UNITS SHALL BE FURNISHED AND INSTALLED UNDER DIVISION 22.

21. FOR LABORATORY SERVICE FITTING TYPES, LOCATIONS AND ORDER, SEE ENLARGED PLANS. THESE FITTINGS ARE SPECIFIED IN DIVISION 12.

22. PROVIDE PLASTIC TRAY SHELF PROTECTORS AT LAB BASE CABINETS BELOW FUME HOODS AND SINKS.

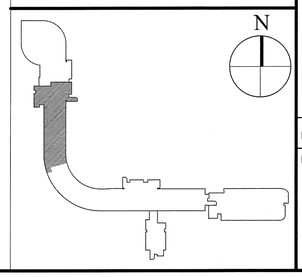
23. FOR ALL SURFACE MOUNTED RACEWAYS, SEE ELECTRICAL DRAWINGS FOR OUTLET COUNT.

SYMBOLS LEGEND

(MB) MARKER BOARD AND (CA) CARD ACCESS SYMBOLS HAVE BEEN REMOVED FROM SYMBOLS LEGEND. ADDITIONAL SYMBOLS INCLUDE DECK MOUNTED DOUBLE KEYCOCK AND SINGLE KEYCOCK.

- STAINLESS STEEL PEGBOARD WITH DRAIN & TROUGH
- ADJUSTABLE WALL SHELVES (3 TIER U.O.N.) OR WALL CABINETS, SEE CASEWORK ELEVATIONS.
- CYLINDER RESTRAINT - (1, 2, 3, OR 4 CYLINDERS PER PLAN). REFER TO DETAIL ON DRAWING A500.
- CFH-X — CHEMICAL FUME HOOD WITH DISHED EPOXY RESIN WORK SURFACE. PROVIDE LAB SERVICE OUTLETS AS INDICATED ON THE ENLARGED LAB PLANS. REFER TO CASEWORK ELEVATIONS FOR HEIGHT.
- MTA 1 — MOVEABLE TABLE (2'-6" x 5'-0")
- MTA 2 — MOVEABLE TABLE (2'-6" x 4'-6")
- MTA 3 — MOVEABLE TABLE (2'-6" x 4'-0")
- MTA 4 — MOVEABLE TABLE (2'-6" x 3'-0")
- ATA/ATB — ADJUSTABLE TABLE (ATA = SERVICES ON LEFT, ATB = SERVICES ON RIGHT
- TAG — LAB EQUIPMENT - OFCI (OWNER FURNISHED, CONTRACTOR INSTALLED)
- TAG — LAB EQUIPMENT - CFCI (CONTRACTOR FURNISHED CONTRACTOR INSTALLED)
- NIC — FUTURE LAB EQUIPMENT - NIC (NOT IN CONTRACT)
- OWNER FURNISHED, OWNER INSTALLED CHAIR.
- OWNER FURNISHED, OWNER INSTALLED STOOL.
- S1 — HAND SINK - BY PLUMBING CONTRACTOR. SEE DIV 22.
- 1 LS1= — UNDERMOUNT EPOXY RESIN SINK SINGLE BOWL (2'-0" x 1'-4" x 0'-10" DEEP) REFER TO ENLARGED PLANS FOR SERVICES & LOCATIONS.
- LS2= — DROP-IN EPOXY RESIN SINK SINGLE BOWL (2'-0" x 1'-4" x 0'-6" DEEP) REFER TO ENLARGED PLANS FOR SERVICES & LOCATIONS. ADA COMPLIANT.
- HW/CW DECK MOUNT
- HW/CW PANEL MOUNT
- DI — DEIONIZED WATER SUPPLY
- 2 — DOUBLE DECK MOUNTED KEYCOCK. (MIN 12" OC) TYPE 1
- SINGLE DECK MOUNTED KEYCOCK.
- SINGLE WALL MOUNTED KEYCOCK.
- SS/SEW — ADA COMPLIANT EYEWASH & SHOWER WITH PULL REFER TO DETAILS ON DRAWING A500.
- FE — FIRE EXTINGUISHER AND MOUNTING BRACKET BY OWNER. HANDLE OF EXTINGUISHER TO BE LOCATED 4'-0" A.F.F.
- CG — CORNER GUARD (REFER TO A-401 FOR LOCATIONS AND DETAILS)
- EP — ELECTRICAL PANEL
- FEC — FIRE EXTINGUISHER CABINET
- TC — STAINLESS STEEL WIRE SHELVING (3'-0" x 1'-8")
- TB — PAINTED STEEL WIRE SHELVING (3'-0" x 1'-8")

KEYPLAN



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Seal

NOT FOR CONSTRUCTION

UCONN HEALTH

Main Building Renovation

Building L - Project 2

263 Farmington Ave
Farmington, CT 06032

Revisions

No.	Date	Description
1	10/19/15	Issue for Bid & Code Review
2	11/02/15	Addendum #01

Drawing Name

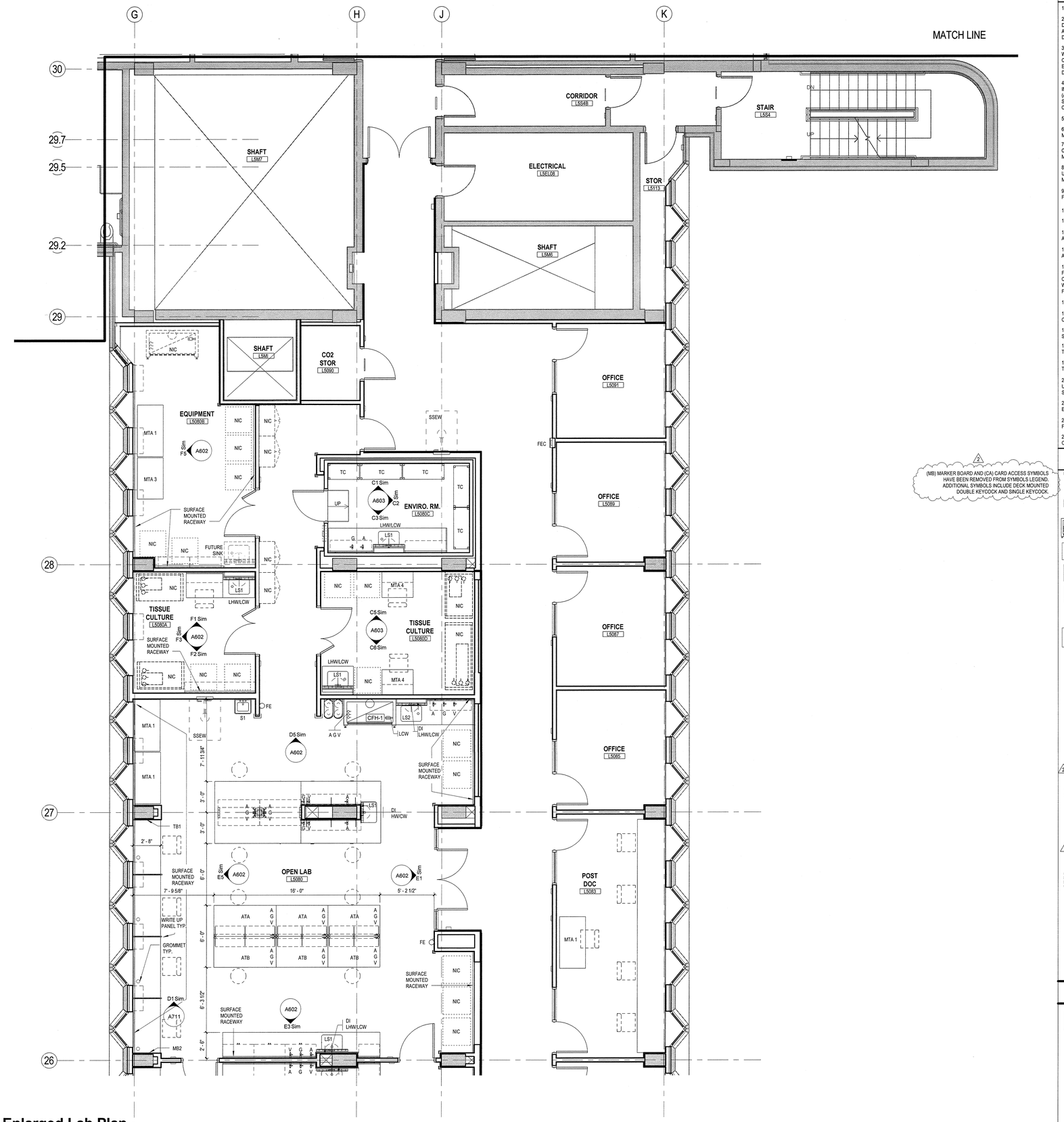
4th Floor - Enlarged Plan - South

Project No. 218010732

Drawing Number

A504.3A-S

11/2/2015 1:28:21 PM



5th Floor - Enlarged Lab Plan - North

1/4" = 1'-0"

CASEWORK GENERAL NOTES

1. DO NOT SCALE DRAWINGS.

2. ELEVATIONS HAVE BEEN DRAWN FOR THE CASEWORK AND APPEAR ON DRAWINGS IN THE A-600 SERIES. REFER TO DRAWING A600 FOR TYPICAL CABINETS AND DETAILS. REFER TO PLANS, ENLARGED PLANS, AND ELEVATIONS FOR DIMENSIONS, QUANTITY, AND SPACING.

3. BASE UNITS, WALL CABINETS, TABLES, AND SERVICE CHASE PANELS SHALL BE OF WOOD CONSTRUCTION, UNLESS OTHERWISE NOTED. CABINET TYPES, CONFIGURATIONS, AND DIMENSIONS SHALL BE AS DETAILED ON CASEWORK ELEVATIONS. CASEWORK CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFYING ALL DIMENSIONS BEFORE BEGINNING FABRICATION.

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5. REFER TO PLANS AND ENLARGED PLANS FOR DEPTHS OF COUNTERTOPS.

6. BACK AND SIDE SPLASHES TO BE 1" THICK AND 4" HIGH (U.O.N.). MATERIAL TO MATCH COUNTERTOPS.

7. PROVIDE SEALANT AT JOINTS BETWEEN BACKSPLASHES AND WALL, COUNTERTOPS OR EQUIPMENT. ALSO, PROVIDE SEALANT WHERE COUNTERTOPS MEET WALL SURFACES.

8. SINKS SHALL BE MODIFIED EPOXY RESIN WITH SIZE AS INDICATED IN THE LEGEND, UNLESS OTHERWISE NOTED. SINKS SHALL BE IN SINK BASE UNITS. SINK COLOR TO MATCH COUNTERTOP COLOR.

9. COORDINATE SIZE / LOCATIONS OF FAUCETS, AND SERVICE VALVES SO THAT THE FAUCET AND VALVE COMPONENTS DO NOT INTERFERE WITH EACH OTHER.

10. PROVIDE FINISHED CLOSURE PANELS AT EXPOSED END CONDITIONS.

11. PROVIDE FILLER/SCRIBE PANELS AT WALLS AND COLUMN CONDITIONS.

12. INSTALL CLOSURE PANELS BETWEEN BACK OF CABINETS OR HOODS AND WALLS AT EXPOSED ENDS.

13. COORDINATE WITH REFLECTED CEILING PLANS FOR PROPER CEILING HEIGHTS AND PIPE DROP ENCLOSURE HEIGHTS / LOCATIONS.

14. CONTRACTOR TO COORDINATE THE INSTALLATION OF SUPPLEMENTARY FRAMING, BLOCKING, AND BRACING FOR SUPPORT OF ALL WALL MOUNTED AND CEILING MOUNTED ITEMS. COMPLY WITH DETAILS INDICATED OR IF NONE AVAILABLE, WITH "GYPSUM CONSTRUCTION HANDBOOK" - PUBLISHED BY USGC. MINIMUM SIZE FOR BACKING IS 6" X 16 GA.

15. PROVIDE 3" DIAMETER PLASTIC GROMMET WHERE INDICATED. TYP.

16. MOUNT TOP OF MARKER BOARDS AND TACK BOARDS AT 7'-0" AFF UNLESS OTHERWISE NOTED.

17. PENETRATIONS THROUGH BENCH TOP SHALL BE SEALED WITH SILICONE SEALANT.

18. BACKS OF COUNTERTOPS AND SPLASHES AGAINST WALLS SHALL BE SEALED TO THE WALL WITH SILICONE SEALANT.

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20. SAFETY SHOWERS/ EYEWASH UNITS SHALL COMPLY WITH ANSI STANDARDS FOR USABILITY BY THE PHYSICALLY DISABLED. SAFETY SHOWER / EYEWASH UNITS SHALL BE FURNISHED AND INSTALLED UNDER DIVISION 22.

21. FOR LABORATORY SERVICE FITTING TYPES, LOCATIONS AND ORDER, SEE ENLARGED PLANS. THESE FITTINGS ARE SPECIFIED IN DIVISION 12.

22. PROVIDE PLASTIC TRAY SHELF PROTECTORS AT LAB BASE CABINETS BELOW FUME HOODS AND SINKS.

23. FOR ALL SURFACE MOUNTED RACEWAYS, SEE ELECTRICAL DRAWINGS FOR OUTLET COUNT.

SYMBOLS LEGEND

(MB) MARKER BOARD AND (CA) CARD ACCESS SYMBOLS HAVE BEEN REMOVED FROM SYMBOLS LEGEND. ADDITIONAL SYMBOLS INCLUDE DECK MOUNTED DOUBLE KEYCOCK AND SINGLE KEYCOCK.

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	ADJUSTABLE WALL SHELVES (3 TIER U.O.N.) OR WALL CABINETS, SEE CASEWORK ELEVATIONS.
	CYLINDER RESTRAINT - (1, 2, 3, OR 4 CYLINDERS PER PLAN). REFER TO DETAIL ON DRAWING A500.
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MTA 4	MOVEABLE TABLE (2'-6" x 3'-0")
ATA/ATB	ADJUSTABLE TABLE (ATA = SERVICES ON LEFT, ATB = SERVICES ON RIGHT
TAG	LAB EQUIPMENT - OFCI (OWNER FURNISHED, CONTRACTOR INSTALLED)
TAG	LAB EQUIPMENT - CFCI (CONTRACTOR FURNISHED CONTRACTOR INSTALLED)
NIC	FUTURE LAB EQUIPMENT - NIC (NOT IN CONTRACT)
	OWNER FURNISHED, OWNER INSTALLED CHAIR.
	OWNER FURNISHED, OWNER INSTALLED STOOL.
S1	HAND SINK - BY PLUMBING CONTRACTOR. SEE DIV 22.
LS1=	UNDERMOUNT EPOXY RESIN SINK SINGLE BOWL (2'-0" x 1'-4" x 0'-10" DEEP) REFER TO ENLARGED PLANS FOR SERVICES & LOCATIONS.
LS2=	DROP-IN EPOXY RESIN SINK SINGLE BOWL (2'-0" x 1'-4" x 0'-6" DEEP) REFER TO ENLARGED PLANS FOR SERVICES & LOCATIONS. ADA COMPLIANT.
	HW/CW DECK MOUNT
	HW/CW PANEL MOUNT
DI	DEIONIZED WATER SUPPLY
	DOUBLE DECK MOUNTED KEYCOCK. (MIN 12" OC) TYPE 1
	SINGLE DECK MOUNTED KEYCOCK.
	SINGLE WALL MOUNTED KEYCOCK.
SS/SEW	ADA COMPLIANT EYEWASH & SHOWER WITH PULL REFER TO DETAILS ON DRAWING A500.
FE	FIRE EXTINGUISHER AND MOUNTING BRACKET BY OWNER. HANDLE OF EXTINGUISHER TO BE LOCATED 4'-0" A.F.F.
CG	CORNER GUARD (REFER TO A-401 FOR LOCATIONS AND DETAILS)
EP	ELECTRICAL PANEL
FEC	FIRE EXTINGUISHER CABINET
TC	STAINLESS STEEL WIRE SHELVING (3'-0" x 1'-6")
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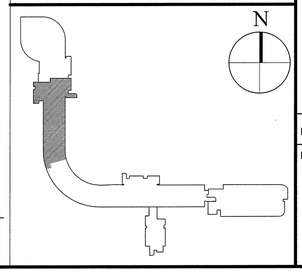
KEYPLAN



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NOT FOR CONSTRUCTION

UCONN HEALTH

Main Building Renovation

Building L - Project 2

263 Farmington Ave
Farmington, CT 06032

Revisions

No.	Date	Description
1	10/19/15	Issue for Bid & Code Review
2	11/02/15	Addendum #01

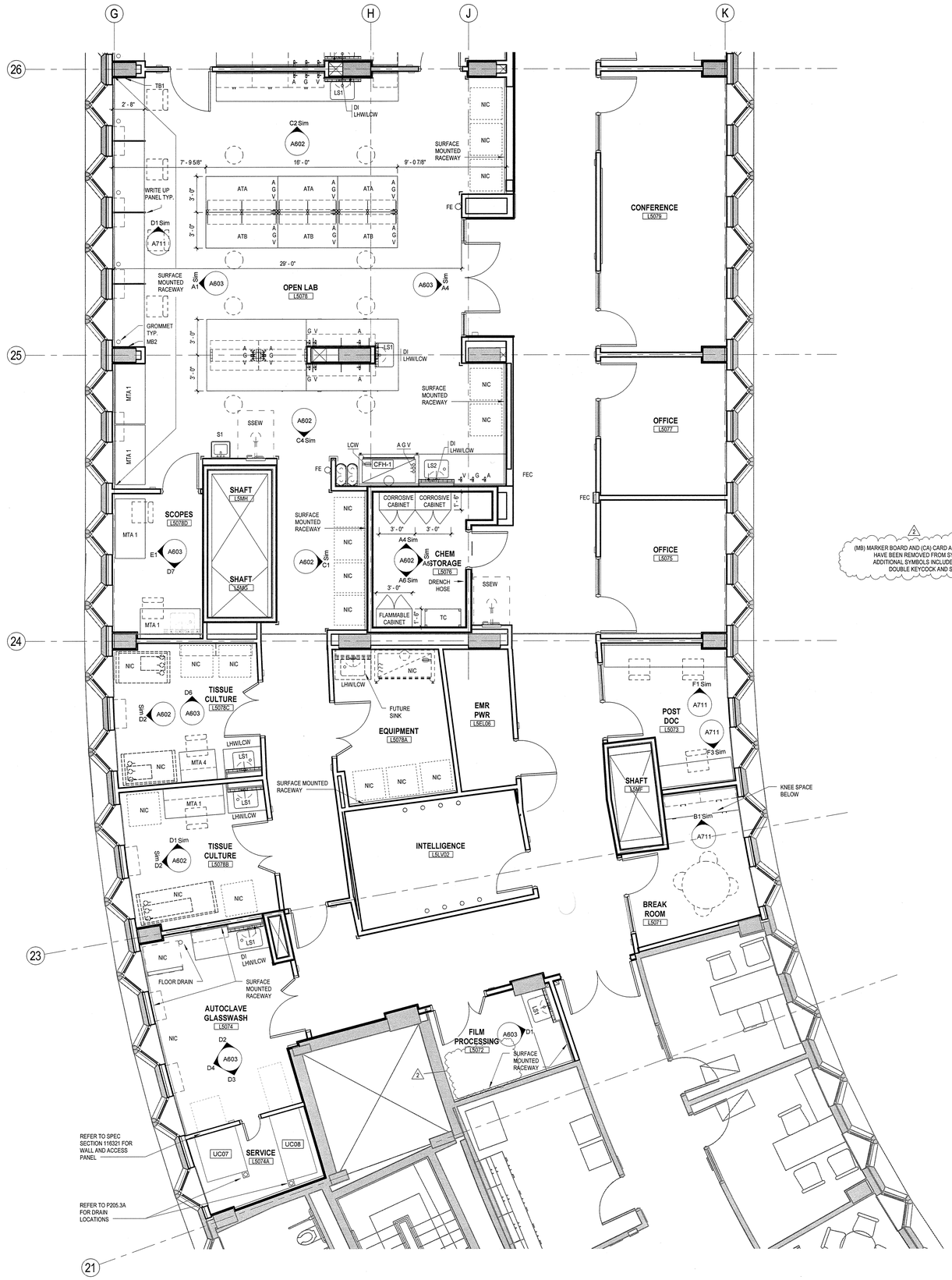
Drawing Name

5th Floor - Enlarged Plan - North

Project No. 218010732

Drawing Number

A505.3A-N



1 A505.3A-S **5th Floor - Enlarged Lab Plan - South**
1/4" = 1'-0"

(MB) MARKER BOARD AND (CA) CARD ACCESS SYMBOLS HAVE BEEN REMOVED FROM SYMBOLS LEGEND. ADDITIONAL SYMBOLS INCLUDE DECK MOUNTED DOUBLE KEYCOCK AND SINGLE KEYCOCK.

CASEWORK GENERAL NOTES

1. DO NOT SCALE DRAWINGS.
2. ELEVATIONS HAVE BEEN DRAWN FOR THE CASEWORK AND APPEAR ON DRAWINGS IN THE A-600 SERIES. REFER TO DRAWING A600 FOR TYPICAL CABINETS AND DETAILS. REFER TO PLANS, ENLARGED PLANS, AND ELEVATIONS FOR DIMENSIONS, QUANTITY, AND SPACING.
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4. COUNTERTOPS AT LAB BENCHES AND TABLES SHALL BE EPOXY RESIN, SPECIFIED IN DIV. 12 (UNLESS OTHERWISE NOTED). REFER TO NOTES ON ENLARGED LAB PLANS (A500 SERIES DRAWINGS) AND CASEWORK ELEVATIONS DRAWINGS (A600 SERIES) FOR OTHER COUNTERTOP MATERIALS. PROVIDE 1" RADIUS ON OUTSIDE CORNERS. COUNTERTOPS TO OVERHANG BASE UNITS BY 1".
5. REFER TO PLANS AND ENLARGED PLANS FOR DEPTHS OF COUNTERTOPS.
6. BACK AND SIDE SPLASHES TO BE 1" THICK AND 4" HIGH (U.O.N.). MATERIAL TO MATCH COUNTERTOPS.
7. PROVIDE SEALANT AT JOINTS BETWEEN BACKSPLASHES AND WALL, COUNTERTOPS OR EQUIPMENT. ALSO, PROVIDE SEALANT WHERE COUNTERTOPS MEET WALL SURFACES.
8. SINKS SHALL BE MODIFIED EPOXY RESIN WITH SIZE AS INDICATED IN THE LEGEND, UNLESS OTHERWISE NOTED. SINKS SHALL BE IN SINK BASE UNITS. SINK COLOR TO MATCH COUNTERTOP COLOR.
9. COORDINATE SIZE / LOCATIONS OF FAUCETS, AND SERVICE VALVES SO THAT THE FAUCET AND VALVE COMPONENTS DO NOT INTERFERE WITH EACH OTHER.
10. PROVIDE FINISHED CLOSURE PANELS AT EXPOSED END CONDITIONS.
11. PROVIDE FILLER/SCRIBE PANELS AT WALLS AND COLUMN CONDITIONS.
12. INSTALL CLOSURE PANELS BETWEEN BACK OF CABINETS OR HOODS AND WALLS AT EXPOSED ENDS.
13. COORDINATE WITH REFLECTED CEILING PLANS FOR PROPER CEILING HEIGHTS AND PIPE DROP ENCLOSURE HEIGHTS / LOCATIONS.
14. CONTRACTOR TO COORDINATE THE INSTALLATION OF SUPPLEMENTARY FRAMING, BLOCKING, AND BRACING FOR SUPPORT OF ALL WALL MOUNTED AND CEILING MOUNTED ITEMS. COMPLY WITH DETAILS INDICATED OR IF NONE AVAILABLE, WITH "GYPSUM CONSTRUCTION HANDBOOK" - PUBLISHED BY USGC. MINIMUM SIZE FOR BACKING IS 6" X 16 GA.
15. PROVIDE 3" DIAMETER PLASTIC GROMMET WHERE INDICATED. TYP.
16. MOUNT TOP OF MARKER BOARDS AND TACK BOARDS AT 7'-0" AFF UNLESS OTHERWISE NOTED.
17. PENETRATIONS THROUGH BENCH TOP SHALL BE SEALED WITH SILICONE SEALANT.
18. BACKS OF COUNTERTOPS AND SPLASHES AGAINST WALLS SHALL BE SEALED TO THE WALL WITH SILICONE SEALANT.
19. FREE STANDING SHELVING AND CASEWORK SHALL BE SECURED TO PREVENT TIPPING. SUBMIT SHOP DRAWINGS OF ATTACHMENT PRIOR TO INSTALLATION.
20. SAFETY SHOWERS/ EYEWASH UNITS SHALL COMPLY WITH ANSI STANDARDS FOR USABILITY BY THE PHYSICALLY DISABLED. SAFETY SHOWER / EYEWASH UNITS SHALL BE FURNISHED AND INSTALLED UNDER DIVISION 22.
21. FOR LABORATORY SERVICE FITTING TYPES, LOCATIONS AND ORDER, SEE ENLARGED PLANS. THESE FITTINGS ARE SPECIFIED IN DIVISION 12.
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23. FOR ALL SURFACE MOUNTED RACEWAYS, SEE ELECTRICAL DRAWINGS FOR OUTLET COUNT.

SYMBOLS LEGEND

- STAINLESS STEEL PEGBOARD WITH DRAIN & TROUGH
- ADJUSTABLE WALL SHELVES (3 TIER U.O.N.) OR WALL CABINETS, SEE CASEWORK ELEVATIONS.
- CYLINDER RESTRAINT - (1, 2, 3, OR 4 CYLINDERS PER PLAN), REFER TO DETAIL ON DRAWING A500.
- CFH-X — CHEMICAL FUME HOOD WITH DISHED EPOXY RESIN WORK SURFACE. PROVIDE LAB SERVICE OUTLETS AS INDICATED ON THE ENLARGED LAB PLANS. REFER TO CASEWORK ELEVATIONS FOR HEIGHT.
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- MTA 4 — MOVEABLE TABLE (2'-6" x 3'-0")
- ATA/ATB — ADJUSTABLE TABLE (ATA = SERVICES ON LEFT, ATB = SERVICES ON RIGHT
- TAG — LAB EQUIPMENT - OFCI (OWNER FURNISHED, CONTRACTOR INSTALLED)
- TAG — LAB EQUIPMENT - CFCI (CONTRACTOR FURNISHED CONTRACTOR INSTALLED)
- NIC — FUTURE LAB EQUIPMENT - NIC (NOT IN CONTRACT)
- OWNER FURNISHED, OWNER INSTALLED CHAIR.
- OWNER FURNISHED, OWNER INSTALLED STOOL.
- S1 — HAND SINK - BY PLUMBING CONTRACTOR. SEE DIV 22.
- 2 LS1= — UNDERMOUNT EPOXY RESIN SINK SINGLE BOWL (2'-0" x 1'-4" x 0'-10" DEEP) REFER TO ENLARGED PLANS FOR SERVICES & LOCATIONS.
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- HW/CW DECK MOUNT
- HW/CW PANEL MOUNT
- DI — DEIONIZED WATER SUPPLY
- 2 — DOUBLE DECK MOUNTED KEYCOCK. (MIN 12" OC) TYPE 1
- SINGLE DECK MOUNTED KEYCOCK.
- SINGLE WALL MOUNTED KEYCOCK.
- SS/SEW — ADA COMPLIANT EYEWASH & SHOWER WITH PULL REFER TO DETAILS ON DRAWING A500.
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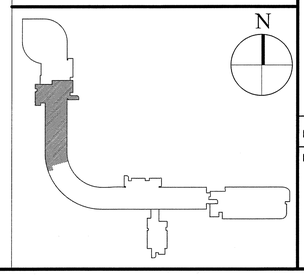
KEYPLAN



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Seal

STATE OF CONNECTICUT — ANDER K. WILCZ — No. 11630 — LICENSED ARCHITECT

NOT FOR CONSTRUCTION

UCONN HEALTH

Main Building Renovation

Building L - Project 2

263 Farmington Ave
Farmington, CT 06032

Revisions

No.	Date	Description
1	10/19/15	Issue for Bid & Code Review
2	11/02/15	Addendum #01

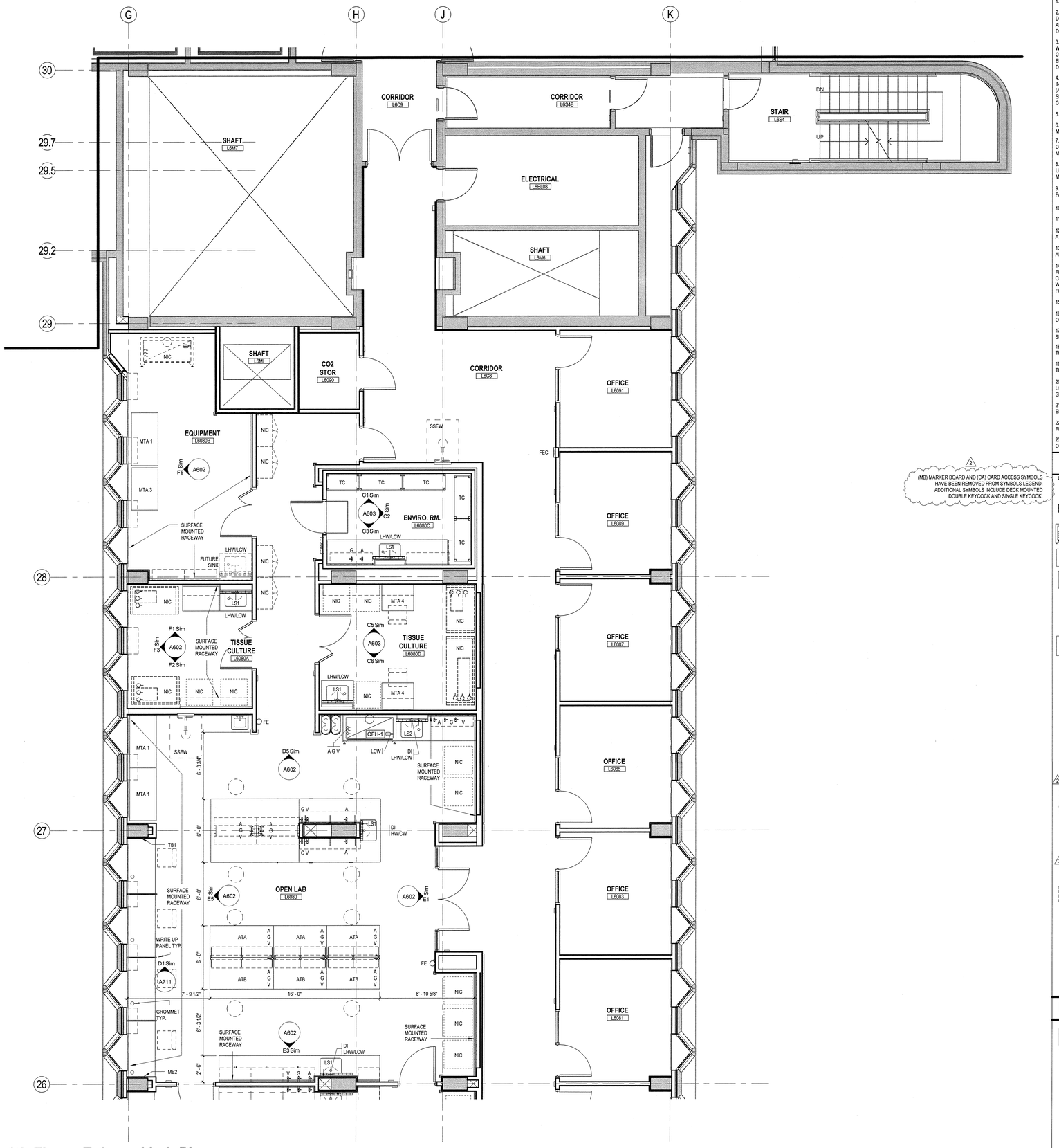
Drawing Name

5th Floor - Enlarged Plan - South

Project No. 218010732

Drawing Number

A505.3A-S



6th Floor - Enlarged Lab Plan - North

1/4" = 1'-0"

CASEWORK GENERAL NOTES

1. DO NOT SCALE DRAWINGS.

2. ELEVATIONS HAVE BEEN DRAWN FOR THE CASEWORK AND APPEAR ON DRAWINGS IN THE A-600 SERIES. REFER TO DRAWING A606 FOR TYPICAL CABINETS AND DETAILS. REFER TO PLANS, ENLARGED PLANS, AND ELEVATIONS FOR DIMENSIONS, QUANTITY, AND SPACING.

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5. REFER TO PLANS AND ENLARGED PLANS FOR DEPTHS OF COUNTERTOPS.

6. BACK AND SIDE SPLASHES TO BE 1" THICK AND 4" HIGH (U.O.N.). MATERIAL TO MATCH COUNTERTOPS.

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12. INSTALL CLOSURE PANELS BETWEEN BACK OF CABINETS OR HOODS AND WALLS AT EXPOSED ENDS.

13. COORDINATE WITH REFLECTED CEILING PLANS FOR PROPER CEILING HEIGHTS AND PIPE DROP ENCLOSURE HEIGHTS / LOCATIONS.

14. CONTRACTOR TO COORDINATE THE INSTALLATION OF SUPPLEMENTARY FRAMING, BLOCKING, AND BRACING FOR SUPPORT OF ALL WALL MOUNTED AND CEILING MOUNTED ITEMS. COMPLY WITH DETAILS INDICATED OR IF NONE AVAILABLE, WITH "GYPSUM CONSTRUCTION HANDBOOK" - PUBLISHED BY USGC. MINIMUM SIZE FOR BACKING IS 6" X 16 GA.

15. PROVIDE 3" DIAMETER PLASTIC GROMMET WHERE INDICATED. TYP.

16. MOUNT TOP OF MARKER BOARDS AND TACK BOARDS AT 7'-0" AFF UNLESS OTHERWISE NOTED.

17. PENETRATIONS THROUGH BENCH TOP SHALL BE SEALED WITH SILICONE SEALANT.

18. BACKS OF COUNTERTOPS AND SPLASHES AGAINST WALLS SHALL BE SEALED TO THE WALL WITH SILICONE SEALANT.

19. FREE STANDING SHELVING AND CASEWORK SHALL BE SECURED TO PREVENT TIPPING. SUBMIT SHOP DRAWINGS OF ATTACHMENT PRIOR TO INSTALLATION.

20. SAFETY SHOWERS/ EYEWASH UNITS SHALL COMPLY WITH ANSI STANDARDS FOR USABILITY BY THE PHYSICALLY DISABLED. SAFETY SHOWER / EYEWASH UNITS SHALL BE FURNISHED AND INSTALLED UNDER DIVISION 22.

21. FOR LABORATORY SERVICE FITTING TYPES, LOCATIONS AND ORDER, SEE ENLARGED PLANS. THESE FITTINGS ARE SPECIFIED IN DIVISION 12.

22. PROVIDE PLASTIC TRAY SHELF PROTECTORS AT LAB BASE CABINETS BELOW FUME HOODS AND SINKS.

23. FOR ALL SURFACE MOUNTED RACEWAYS, SEE ELECTRICAL DRAWINGS FOR OUTLET COUNT.

SYMBOLS LEGEND

(MB) MARKER BOARD AND (CA) CARD ACCESS SYMBOLS HAVE BEEN REMOVED FROM SYMBOLS LEGEND. ADDITIONAL SYMBOLS INCLUDE DECK MOUNTED DOUBLE KEYCOCK AND SINGLE KEYCOCK.

- STAINLESS STEEL PEGBOARD WITH DRAIN & TROUGH
- ADJUSTABLE WALL SHELVES (3 TIER U.O.N.) OR WALL CABINETS, SEE CASEWORK ELEVATIONS.
- CYLINDER RESTRAINT - (1, 2, 3, OR 4 CYLINDERS PER PLAN). REFER TO DETAIL ON DRAWING A500.
- CFH-X — CHEMICAL FUME HOOD WITH DISHED EPOXY RESIN WORK SURFACE. PROVIDE LAB SERVICE OUTLETS AS INDICATED ON THE ENLARGED LAB PLANS. REFER TO CASEWORK ELEVATIONS FOR HEIGHT.
- MTA 1 — MOVEABLE TABLE (2'-6" x 5'-0")
- MTA 2 — MOVEABLE TABLE (2'-6" x 4'-6")
- MTA 3 — MOVEABLE TABLE (2'-6" x 4'-0")
- MTA 4 — MOVEABLE TABLE (2'-6" x 3'-0")
- ATA/ATB — ADJUSTABLE TABLE (ATA = SERVICES ON LEFT, ATB = SERVICES ON RIGHT
- TAG — LAB EQUIPMENT - OFCI (OWNER FURNISHED, CONTRACTOR INSTALLED)
- TAG — LAB EQUIPMENT - CFCI (CONTRACTOR FURNISHED CONTRACTOR INSTALLED)
- NIC — FUTURE LAB EQUIPMENT - NIC (NOT IN CONTRACT)
- OWNER FURNISHED, OWNER INSTALLED CHAIR.
- OWNER FURNISHED, OWNER INSTALLED STOOL.
- S1 — HAND SINK - BY PLUMBING CONTRACTOR. SEE DIV 22.
- LS1x — UNDERMOUNT EPOXY RESIN SINK SINGLE BOWL (2'-0" x 1'-4" x 0'-10" DEEP) REFER TO ENLARGED PLANS FOR SERVICES & LOCATIONS.
- LS2x — DROP-IN EPOXY RESIN SINK SINGLE BOWL (2'-0" x 1'-4" x 0'-6" DEEP) REFER TO ENLARGED PLANS FOR SERVICES & LOCATIONS. ADA COMPLIANT.
- HW/CW DECK MOUNT
- HW/CW PANEL MOUNT
- DI — DEIONIZED WATER SUPPLY
- DOUBLE DECK MOUNTED KEYCOCK. (MIN 12" OC) TYPE 1
- SINGLE DECK MOUNTED KEYCOCK.
- SINGLE WALL MOUNTED KEYCOCK.
- SS/SEW — ADA COMPLIANT EYEWASH & SHOWER WITH PULL REFER TO DETAILS ON DRAWING A500.
- FE — FIRE EXTINGUISHER AND MOUNTING BRACKET BY OWNER. HANDLE OF EXTINGUISHER TO BE LOCATED 4'-0" A.F.F.
- CG — CORNER GUARD (REFER TO A-401 FOR LOCATIONS AND DETAILS)
- EP — ELECTRICAL PANEL
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- TC — STAINLESS STEEL WIRE SHELVING (3'-0" x 1'-6")
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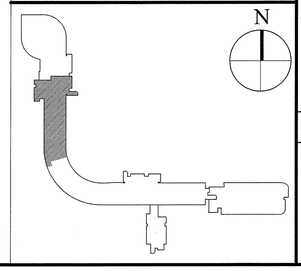
KEYPLAN



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STATE OF CONNECTICUT
ALEXANDER K. WONG
No 11623
LICENSED ARCHITECT

NOT FOR CONSTRUCTION

UCONN HEALTH

Main Building Renovation

Building L - Project 2

263 Farmington Ave
Farmington, CT 06032

Revisions

No.	Date	Description
1	10/19/15	Issue for Bid & Code Review
2	11/02/15	Addendum #01

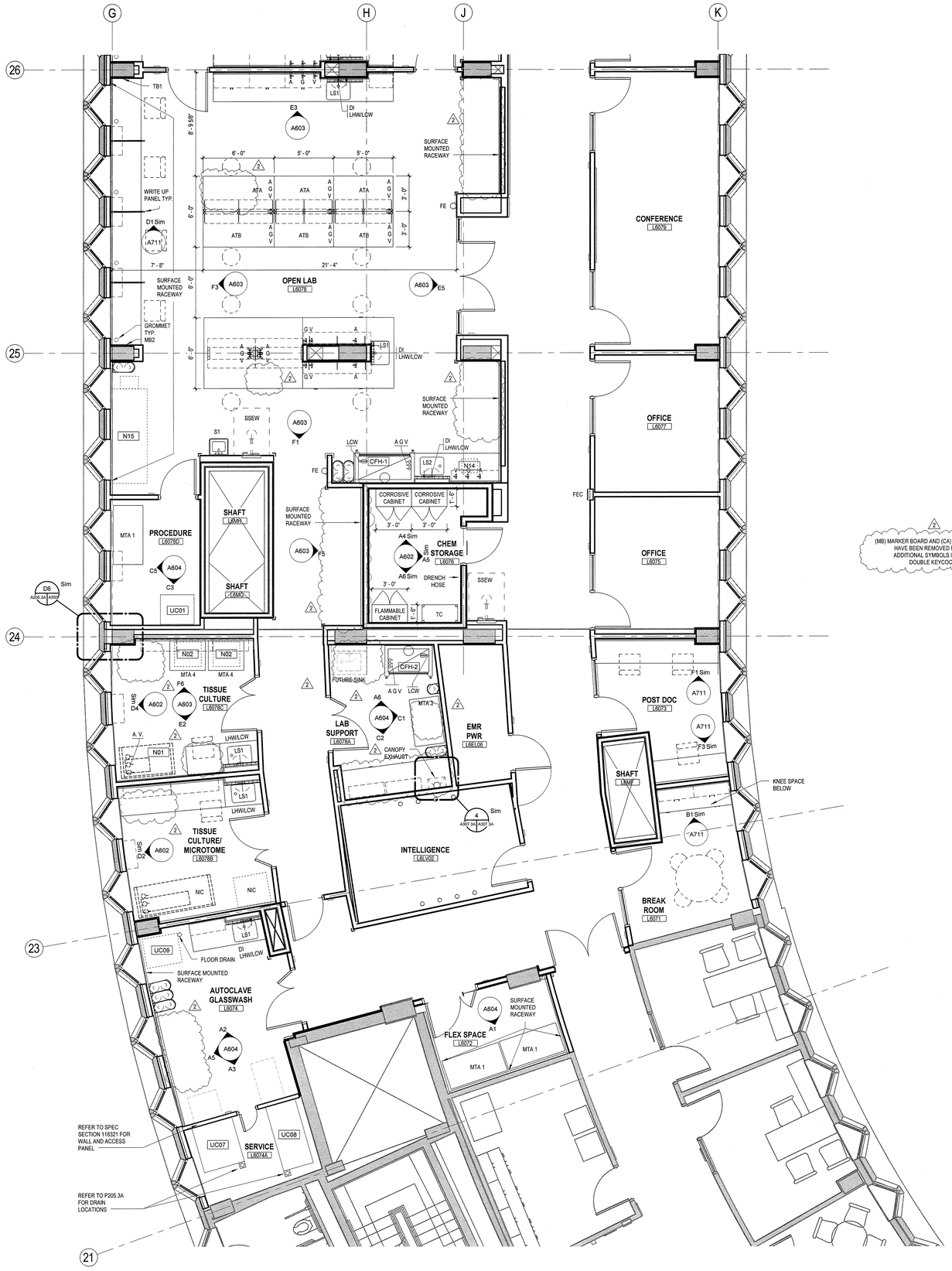
Drawing Name

6th Floor - Enlarged Plan - North

Project No. 218010732

Drawing Number

A506.3A-N



6th Floor - Enlarged Lab Plan - South

1/4" = 1'-0"

CASEWORK GENERAL NOTES

1. DO NOT SCALE DRAWINGS.

2. ELEVATIONS HAVE BEEN DRAWN FOR THE CASEWORK AND APPEAR ON DRAWINGS IN THE A-600 SERIES. REFER TO DRAWING A600 FOR TYPICAL CABINETS AND DETAILS. REFER TO PLANS, ENLARGED PLANS, AND ELEVATIONS FOR DIMENSIONS, QUANTITY, AND SPACING.

3. BASE UNITS, WALL CABINETS, TABLES, AND SERVICE CHASE PANELS SHALL BE OF WOOD CONSTRUCTION, UNLESS OTHERWISE NOTED. CABINET TYPES, CONFIGURATIONS, AND DIMENSIONS SHALL BE AS DETAILED ON CASEWORK ELEVATIONS. CASEWORK CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFYING ALL DIMENSIONS BEFORE BEGINNING FABRICATION.

4. COUNTERTOPS AT LAB BENCHES AND TABLES SHALL BE EPOXY RESIN, SPECIFIED IN DIV. 12 (UNLESS OTHERWISE NOTED). REFER TO NOTES ON ENLARGED LAB PLANS (A500 SERIES DRAWINGS) AND CASEWORK ELEVATIONS DRAWINGS (A600 SERIES) FOR OTHER COUNTERTOP MATERIALS. PROVIDE 1" RADIUS ON OUTSIDE CORNERS. COUNTERTOPS TO OVERHANG BASE UNITS BY 1".

5. REFER TO PLANS AND ENLARGED PLANS FOR DEPTHS OF COUNTERTOPS.

6. BACK AND SIDE SPLASHES TO BE 1" THICK AND 4" HIGH (U.O.N.). MATERIAL TO MATCH COUNTERTOPS.

7. PROVIDE SEALANT AT JOINTS BETWEEN BACKSPLASHES AND WALL, COUNTERTOPS OR EQUIPMENT. ALSO, PROVIDE SEALANT WHERE COUNTERTOPS MEET WALL SURFACES.

8. SINKS SHALL BE MODIFIED EPOXY RESIN WITH SIZE AS INDICATED IN THE LEIGEND, UNLESS OTHERWISE NOTED. SINKS SHALL BE IN SINK BASE UNITS. SINK COLOR TO MATCH COUNTERTOP COLOR.

9. COORDINATE SIZE / LOCATIONS OF FAUCETS, AND SERVICE VALVES SO THAT THE FAUCET AND VALVE COMPONENTS DO NOT INTERFERE WITH EACH OTHER.

10. PROVIDE FINISHED CLOSURE PANELS AT EXPOSED END CONDITIONS.

11. PROVIDE FILLER/SCRIBE PANELS AT WALLS AND COLUMN CONDITIONS.

12. INSTALL CLOSURE PANELS BETWEEN BACK OF CABINETS OR HOODS AND WALLS AT EXPOSED ENDS.

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- LS1 — UNDERMOUNT EPOXY RESIN SINK SINGLE BOWL (2'-0" x 1'-4" x 0'-10" DEEP) REFER TO ENLARGED PLANS FOR SERVICES & LOCATIONS.
- LS2 — DROP-IN EPOXY RESIN SINK SINGLE BOWL (2'-0" x 1'-4" x 0'-6" DEEP) REFER TO ENLARGED PLANS FOR SERVICES & LOCATIONS. ADA COMPLIANT.
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- HW/CW PANEL MOUNT
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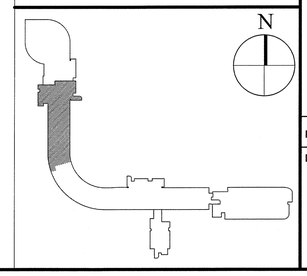
KEYPLAN



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Seal

STATE OF CONNECTICUT — ALEXANDER J. WRIGHT — No 11639 — LICENSED ARCHITECT

NOT FOR CONSTRUCTION

UCONN HEALTH

Main Building Renovation

Building L - Project 2

263 Farmington Ave
Farmington, CT 06032

Revisions

No.	Date	Description
1	10/19/15	Issue for Bid & Code Review
2	11/02/15	Addendum #01

Drawing Name

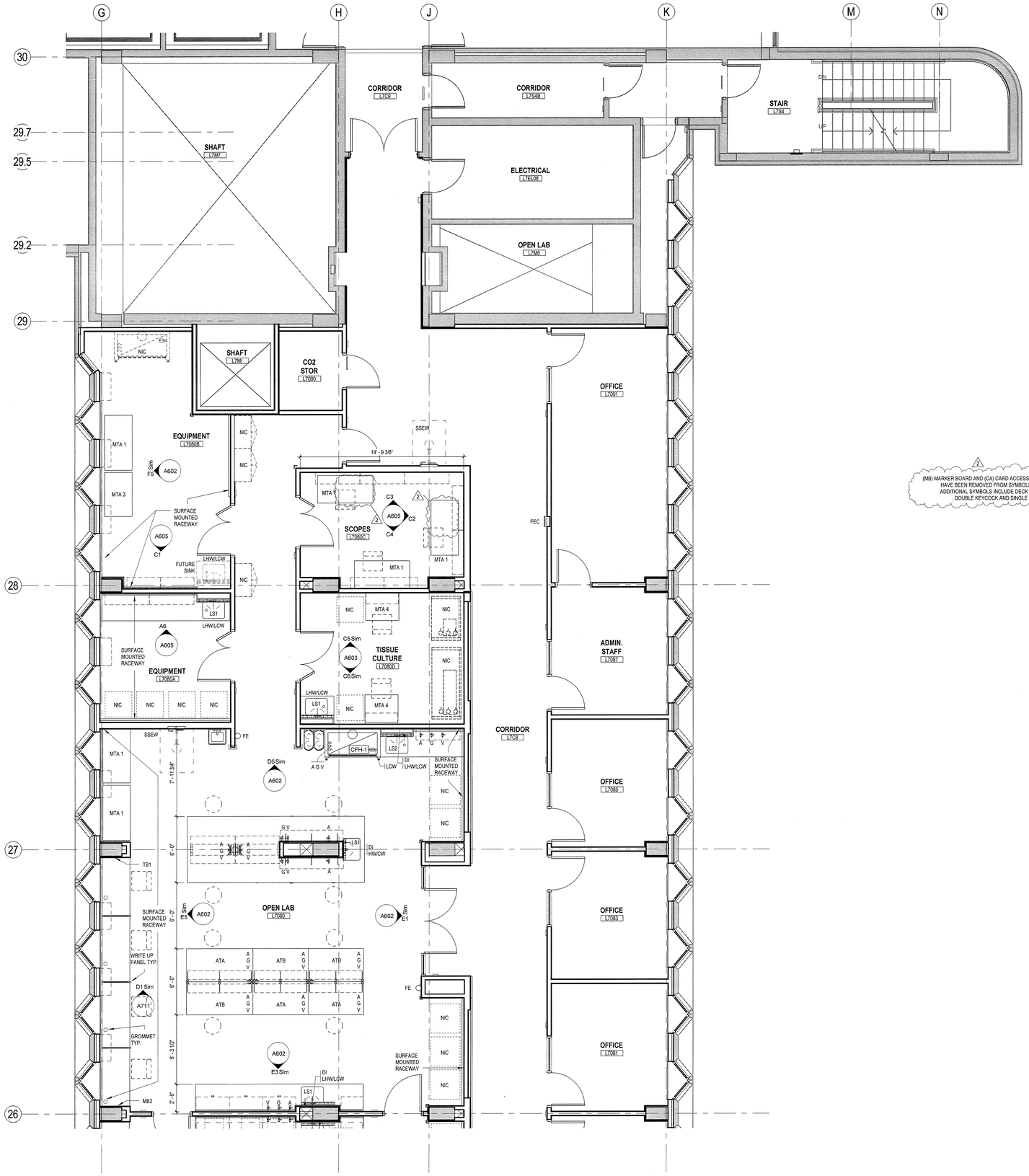
6th Floor - Enlarged Plan - South

Project No. 218010732

Drawing Number

A506.3A-S

11/2/2015 1:47:27 PM



F2 A507.3A-N **7th Floor - Enlarged Lab Plan - North**

1/4" = 1'-0"

CASEWORK GENERAL NOTES

1. DO NOT SCALE DRAWINGS.

2. ELEVATIONS HAVE BEEN DRAWN FOR THE CASEWORK AND APPEAR ON DRAWINGS IN THE A-800 SERIES. REFER TO DRAWING A600 FOR TYPICAL CABINETS AND DETAILS. REFER TO PLANS, ENLARGED PLANS, AND ELEVATIONS FOR DIMENSIONS, QUANTITY, AND SPACING.

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5. REFER TO PLANS AND ENLARGED PLANS FOR DEPTHS OF COUNTERTOPS.

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SYMBOLS LEGEND

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S1	HAND SINK - BY PLUMBING CONTRACTOR. SEE DIV 22.
LS1	UNDERMOUNT EPOXY RESIN SINK SINGLE BOWL (2'-0" x 1'-4" x 0'-10" DEEP) REFER TO ENLARGED PLANS FOR SERVICES & LOCATIONS.
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	HW/CW DECK MOUNT
	HW/CW PANEL MOUNT
DI	DEIONIZED WATER SUPPLY
	DOUBLE DECK MOUNTED KEYCOCK. (MIN 12" OC) TYPE 1
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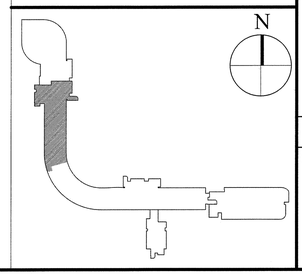
KEYPLAN



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Seal

NOT FOR CONSTRUCTION

UCONN HEALTH

Main Building Renovation

Building L - Project 2

263 Farmington Ave
Farmington, CT 06032

Revisions

No.	Date	Description
1	10/19/15	Issue for Bid & Code Review
2	11/02/15	Addendum #01

Drawing Name

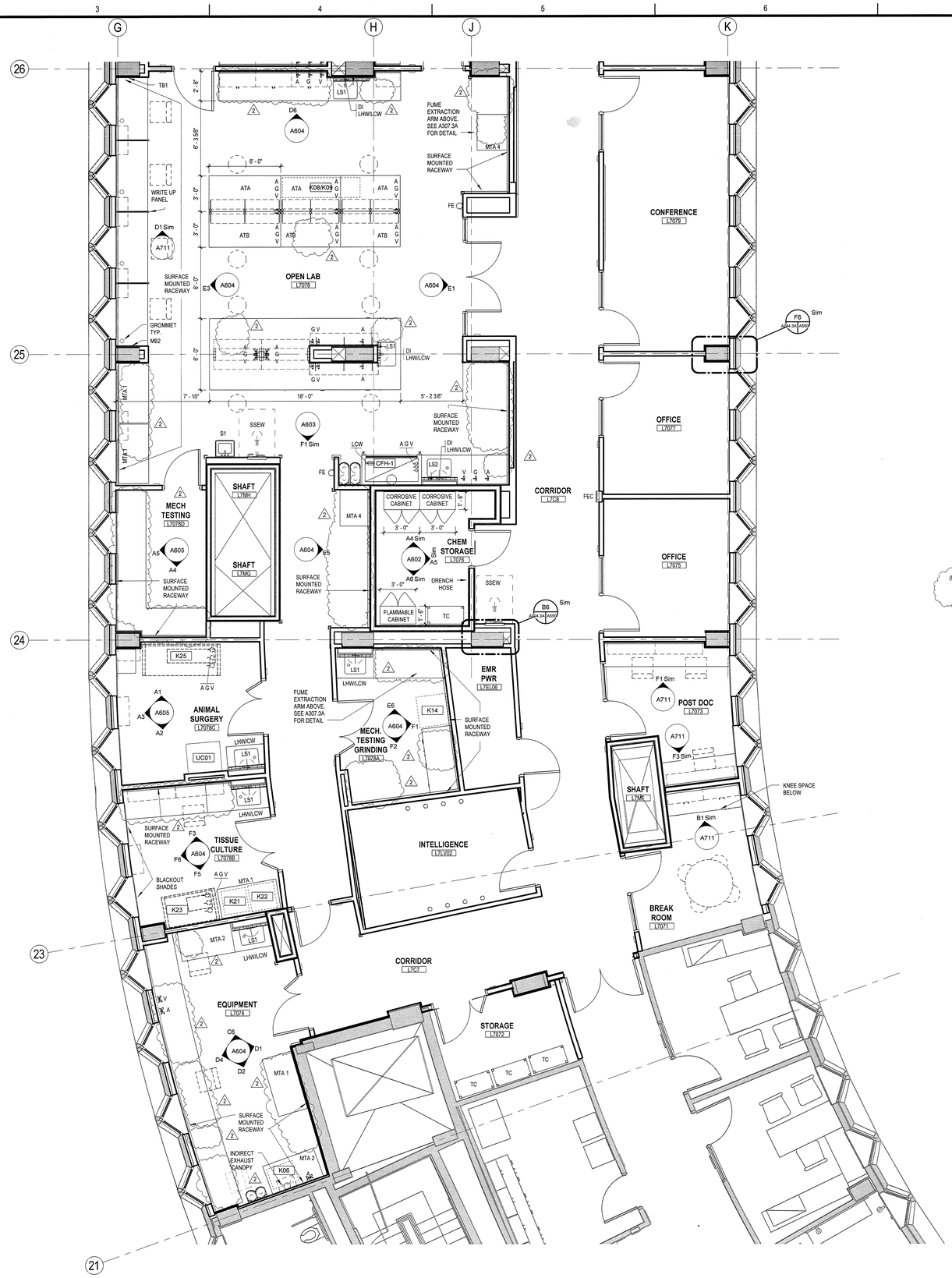
7th Floor Enlarged Plan - North

Project No. 218010732

Drawing Number

A507.3A-N

11/2/2015 12:44:33 PM



F2 7th Floor - Enlarged Lab Plan - South

A507.3A-S 1/4" = 1'-0"

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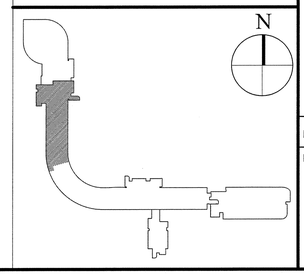
- CYLINDER RESTRAINT - (1, 2, 3, OR 4 CYLINDERS PER PLAN). REFER TO DETAIL ON DRAWING A500.
- CFH-X — CHEMICAL FUME HOOD WITH DISHED EPOXY RESIN WORK SURFACE. PROVIDE LAB SERVICE OUTLETS AS INDICATED ON THE ENLARGED LAB PLANS. REFER TO CASEWORK ELEVATIONS FOR HEIGHT.
- MTA 1 — MOVEABLE TABLE (2'-6" x 5'-0")
- MTA 2 — MOVEABLE TABLE (2'-6" x 4'-6")
- MTA 3 — MOVEABLE TABLE (2'-6" x 4'-0")
- MTA 4 — MOVEABLE TABLE (2'-6" x 3'-0")
- ATA/ATB — ADJUSTABLE TABLE (ATA = SERVICES ON LEFT, ATB = SERVICES ON RIGHT
- TAG — LAB EQUIPMENT - OFCI (OWNER FURNISHED, CONTRACTOR INSTALLED)
- TAG — LAB EQUIPMENT - CFCI (CONTRACTOR FURNISHED CONTRACTOR INSTALLED)
- NIC — FUTURE LAB EQUIPMENT - NIC (NOT IN CONTRACT)
- OWNER FURNISHED, OWNER INSTALLED CHAIR.
- OWNER FURNISHED, OWNER INSTALLED STOOL.
- S1 — HAND SINK - BY PLUMBING CONTRACTOR. SEE DIV 22.
- LS1x — UNDERMOUNT EPOXY RESIN SINK SINGLE BOWL (2'-0" x 1'-4" x 0'-10" DEEP) REFER TO ENLARGED PLANS FOR SERVICES & LOCATIONS.
- LS2x — DROP-IN EPOXY RESIN SINK SINGLE BOWL (2'-0" x 1'-4" x 0'-6" DEEP) REFER TO ENLARGED PLANS FOR SERVICES & LOCATIONS. ADA COMPLIANT.
- HW/CW DECK MOUNT
- HW/CW PANEL MOUNT
- DI — DEIONIZED WATER SUPPLY
- DOUBLE DECK MOUNTED KEYCOCK. (MIN 12" OC) TYPE 1
- SINGLE DECK MOUNTED KEYCOCK.
- SINGLE WALL MOUNTED KEYCOCK.
- SS/SEW — ADA COMPLIANT EYEWASH & SHOWER WITH PULL REFER TO DETAILS ON DRAWING A500.
- FE — FIRE EXTINGUISHER AND MOUNTING BRACKET BY OWNER. HANDLE OF EXTINGUISHER TO BE LOCATED 4'-0" A.F.F.
- CG — CORNER GUARD (REFER TO A-401 FOR LOCATIONS AND DETAILS)
- EP — ELECTRICAL PANEL
- FEC — FIRE EXTINGUISHER CABINET
- TC — STAINLESS STEEL WIRE SHELVING (3'-0" x 1'-6")
- TB — PAINTED STEEL WIRE SHELVING (3'-0" x 1'-6")

KEYPLAN



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STATE OF CONNECTICUT — ALEXANDER R. KING — No 11632 — LICENSED ARCHITECT

NOT FOR CONSTRUCTION

UCONN HEALTH

Main Building Renovation

Building L - Project 2

263 Farmington Ave
Farmington, CT 06032

Revisions

No.	Date	Description
1	10/19/15	Issue for Bid & Code Review
2	11/02/15	Addendum #01

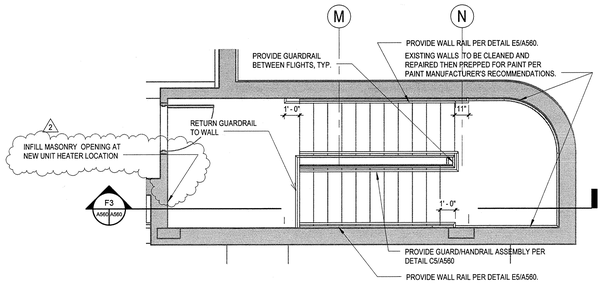
Drawing Name

7th Floor Enlarged Plan - South

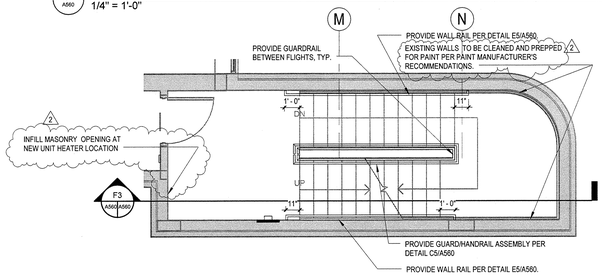
Project No. 218010732

Drawing Number

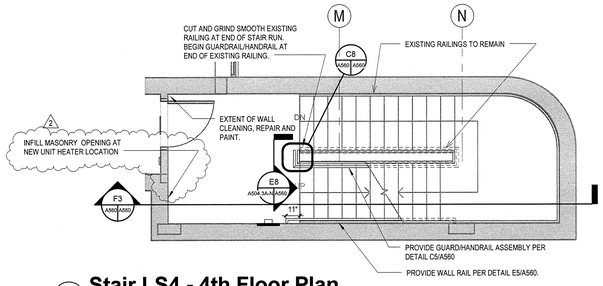
A507.3A-S



A1 A560 Stair LS4 - Penthouse Floor Plan
1/4" = 1'-0"

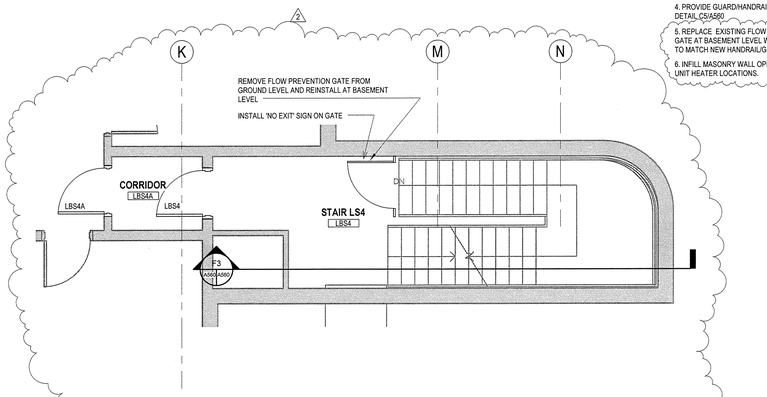


B1 A560 Stair LS4 - 5th-7th Floor Plan
1/4" = 1'-0"

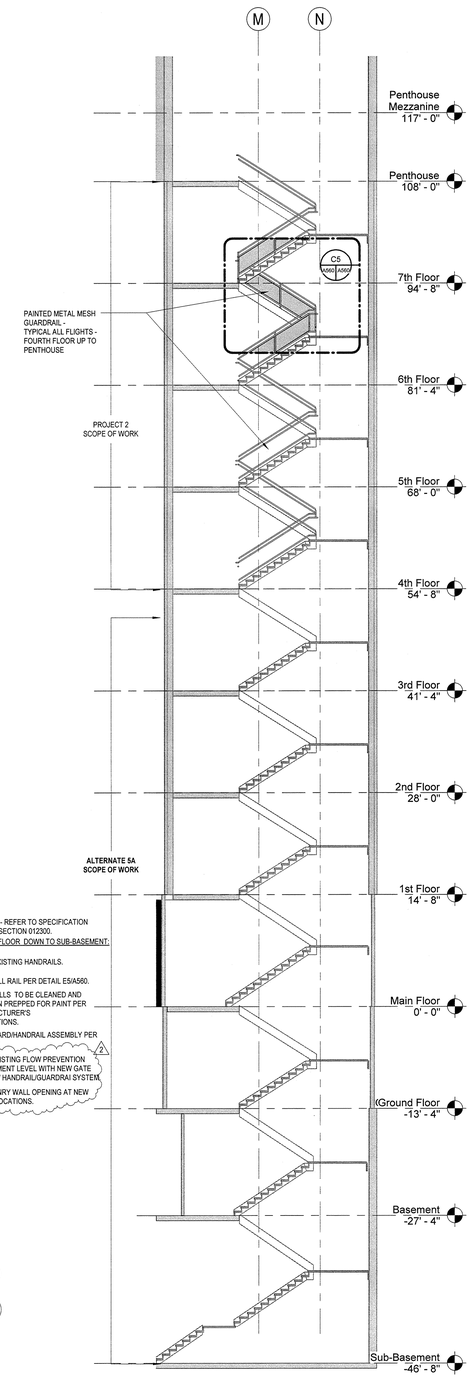


C1 A560 Stair LS4 - 4th Floor Plan
1/4" = 1'-0"

REFER TO ALTERNATE 5A FOR WORK FROM 4TH FLOOR DOWN TO SUB-BASEMENT



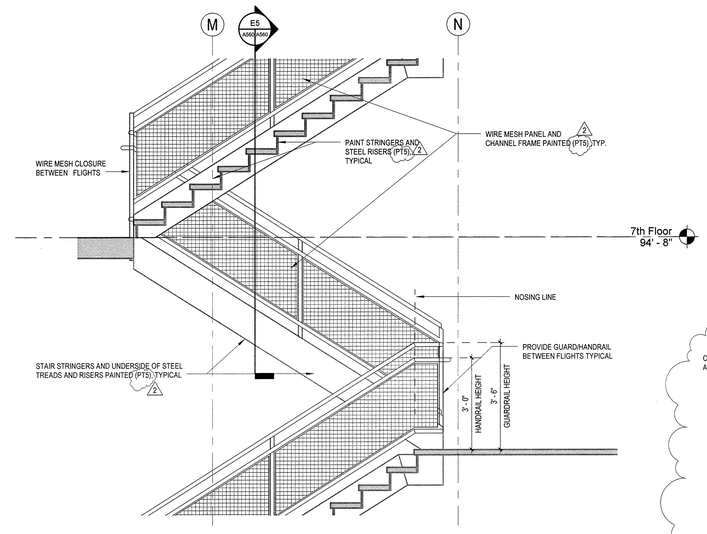
F1 A560 Stair LS4 - Basement
1/4" = 1'-0"



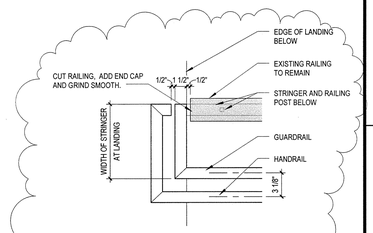
ALTERNATE 5A - REFER TO SPECIFICATION SECTION 012300.
APPLY TO 4TH FLOOR DOWN TO SUB-BASEMENT.

1. DEMOLISH EXISTING HANDRAILS.
2. PROVIDE WALL RAIL PER DETAIL E5/A560.
3. EXISTING WALLS TO BE CLEANED AND REPAIRED THEN PREPPED FOR PAINT PER PAINT MANUFACTURER'S RECOMMENDATIONS.
4. PROVIDE GUARD/HANDRAIL ASSEMBLY PER DETAIL C5/A560.
5. REPLACE EXISTING FLOW PREVENTION GATE AT BASEMENT LEVEL WITH NEW GATE TO MATCH NEW HANDRAIL/GUARDRAI SYSTEM.
6. INFILL MASONRY WALL OPENING AT NEW UNIT HEATER LOCATIONS.

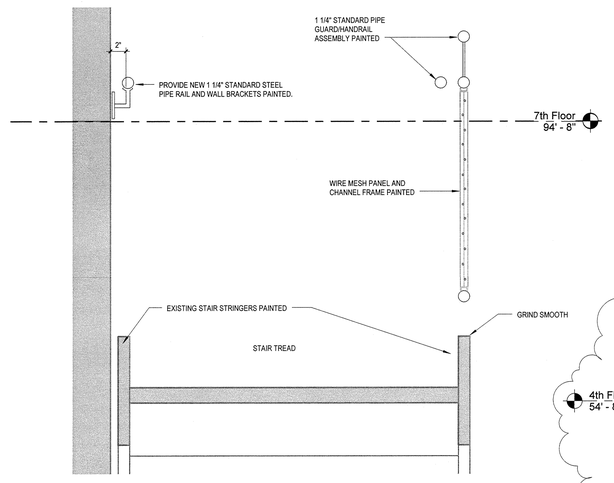
F3 A560 Stair LS4 - Section
1/8" = 1'-0"



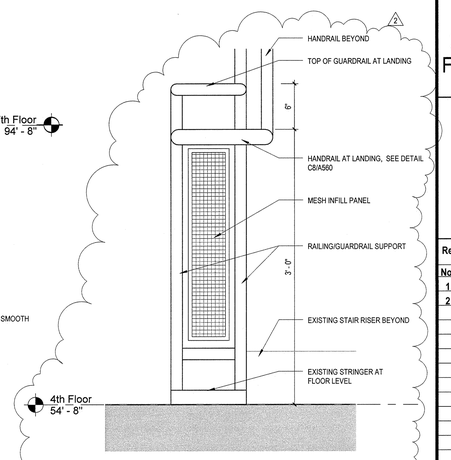
C5 A560 Typical Stair Detail - LS4
1/2" = 1'-0"



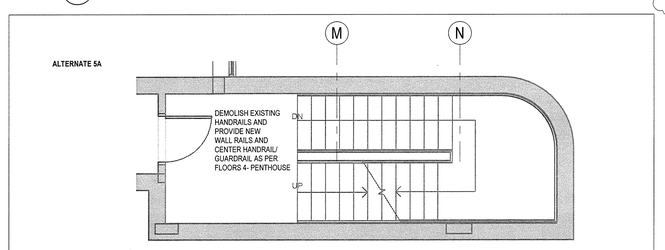
C8 A560 HANDRAIL DETAIL
1 1/2" = 1'-0"



E5 A560 Stair Handrail/Guard Detail
1 1/2" = 1'-0"



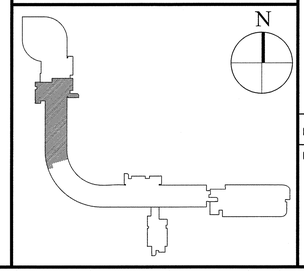
E8 A560 4th Fl. Railing Elevation
1 1/2" = 1'-0"



F5 A560 Stair LS4 - 1st -3rd Floor Plan
1/4" = 1'-0"

NOTE - MAIN FLOOR, GROUND FLOOR, BASEMENT AND SUB-BASEMENT SIMILAR, VERIFY CONDITIONS IN FIELD.

KEYPLAN



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UCONN HEALTH

Main Building Renovation

Building L - Project 2

263 Farmington Ave
Farmington, CT 06032

Revisions

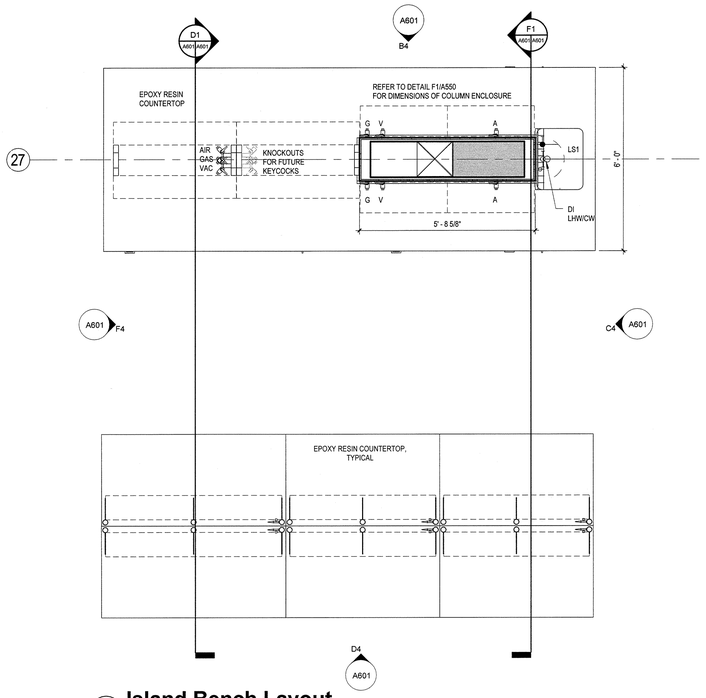
No.	Date	Description
1	10/19/15	Issue for Bid & Code Review
2	11/02/15	Addendum #01

Drawing Name
Stair LS4 Details, Plans and Sections

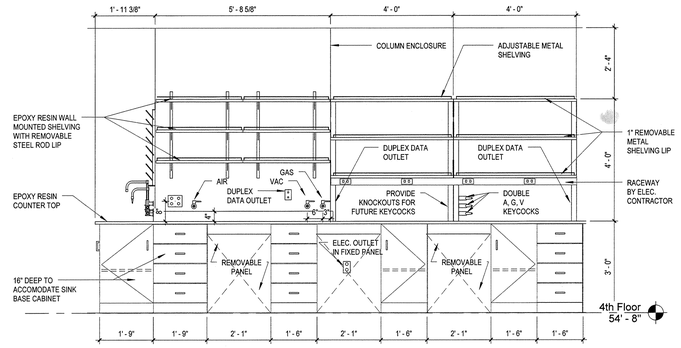
Project No. 218010732

Drawing Number
A560

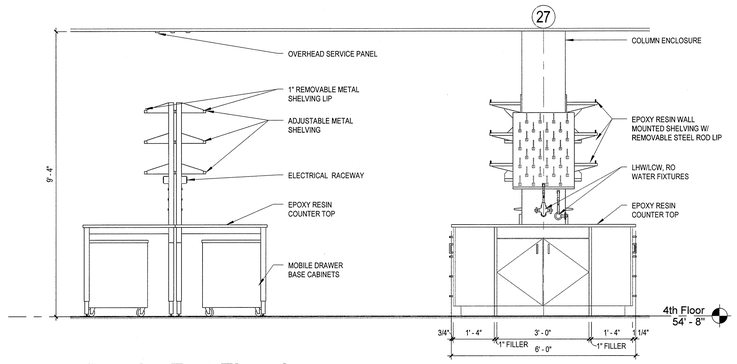
11/2/2015 12:44:47 PM



C1 A601 **Island Bench Layout**
1/2" = 1'-0"

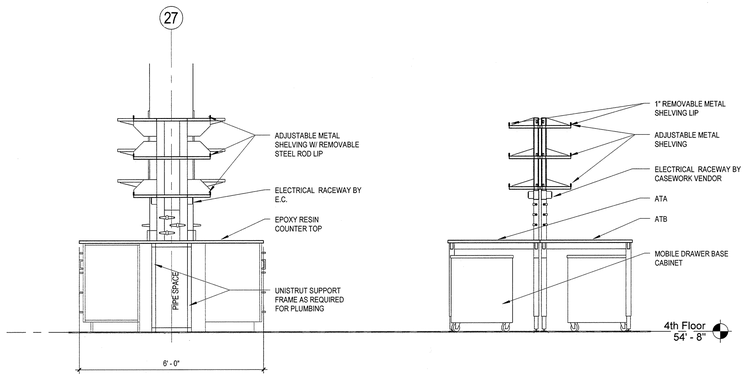


B4 A601 **Lab Bench - North Elevation - Opposite Side Similar**
1/2" = 1'-0"

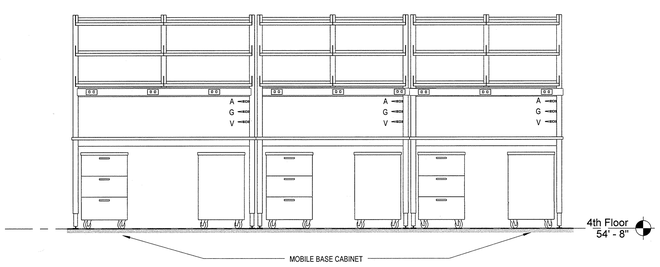


C4 A601 **Lab Bench - East Elevation**
1/2" = 1'-0"

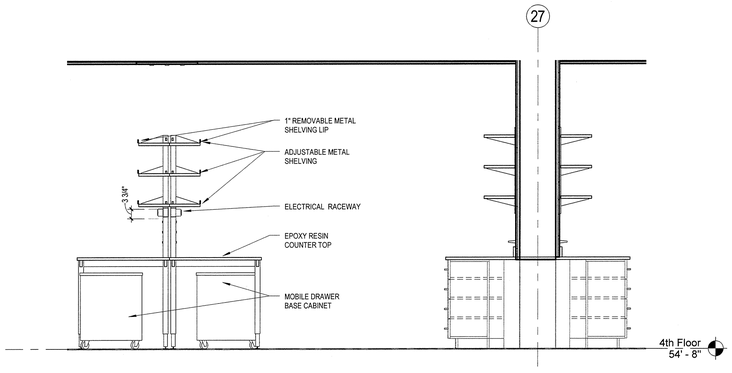
(MB) MARKER BOARD AND (CA) CARD ACCESS SYMBOLS HAVE BEEN REMOVED FROM SYMBOLS LEGEND. ADDITIONAL SYMBOLS INCLUDE DECK MOUNTED DOUBLE KEYCOCK AND SINGLE KEYCOCK.



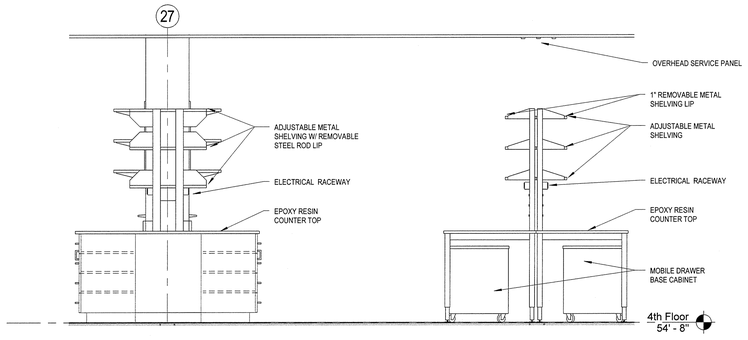
D1 A601 **Bench Layout Section 1**
1/2" = 1'-0"



D4 A601 **Lab Bench - South Elevation**
1/2" = 1'-0"



F1 A601 **Bench Layout Section 2**
1/2" = 1'-0"



F4 A601 **Lab Bench - West Elevation**
1/2" = 1'-0"

CASEWORK GENERAL NOTES

1. DO NOT SCALE DRAWINGS.
2. ELEVATIONS HAVE BEEN DRAWN FOR THE CASEWORK AND APPEAR ON DRAWINGS IN THE A-800 SERIES. REFER TO DRAWING A600 FOR TYPICAL CABINETS AND DETAILS. REFER TO PLANS, ENLARGED PLANS, AND ELEVATIONS FOR DIMENSIONS, QUANTITY, AND SPACING.
3. BASE UNITS, WALL CABINETS, TABLES, AND SERVICE CHASE PANELS SHALL BE OF WOOD CONSTRUCTION, UNLESS OTHERWISE NOTED. CABINET TYPES, CONFIGURATIONS, AND DIMENSIONS SHALL BE AS DETAILED ON CASEWORK ELEVATIONS. CASEWORK CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFYING ALL DIMENSIONS BEFORE BEGINNING FABRICATION.
4. COUNTERTOPS AT LAB BENCHES AND TABLES SHALL BE EPOXY RESIN, SPECIFIED IN DIV. 12 (UNLESS OTHERWISE NOTED). REFER TO NOTES ON ENLARGED LAB PLANS (A500 SERIES DRAWINGS) AND CASEWORK ELEVATIONS DRAWINGS (A600 SERIES) FOR OTHER COUNTERTOP MATERIALS. PROVIDE 1" RADIUS ON OUTSIDE CORNERS. COUNTERTOPS TO OVERHANG BASE UNITS BY 1".
5. REFER TO PLANS AND ENLARGED PLANS FOR DEPTHS OF COUNTERTOPS.
6. BACK AND SIDE SPLASHES TO BE 1" THICK AND 4" HIGH (U.O.N.). MATERIAL TO MATCH COUNTERTOPS.
7. PROVIDE SEALANT AT JOINTS BETWEEN BACKSPLASHES AND WALL, COUNTERTOPS OR EQUIPMENT. ALSO, PROVIDE SEALANT WHERE COUNTERTOPS MEET WALL SURFACES.
8. SINKS SHALL BE MODIFIED EPOXY RESIN WITH SIZE AS INDICATED IN THE LEGEND, UNLESS OTHERWISE NOTED. SINKS SHALL BE IN SINK BASE UNITS. SINK COLOR TO MATCH COUNTERTOP COLOR.
9. COORDINATE SIZE / LOCATIONS OF FAUCETS, AND SERVICE VALVES SO THAT THE FAUCET AND VALVE COMPONENTS DO NOT INTERFERE WITH EACH OTHER.
10. PROVIDE FINISHED CLOSURE PANELS AT EXPOSED END CONDITIONS.
11. PROVIDE FILLER/SCRIBE PANELS AT WALLS AND COLUMN CONDITIONS.
12. INSTALL CLOSURE PANELS BETWEEN BACK OF CABINETS OR HOODS AND WALLS AT EXPOSED ENDS.
13. COORDINATE WITH REFLECTED CEILING PLANS FOR PROPER CEILING HEIGHTS AND PIPE DROP ENCLOSURE HEIGHTS / LOCATIONS.
14. CONTRACTOR TO COORDINATE THE INSTALLATION OF SUPPLEMENTARY FRAMING, BLOCKING, AND BRACING FOR SUPPORT OF ALL WALL MOUNTED AND CEILING MOUNTED ITEMS. COMPLY WITH DETAILS INDICATED OR IF NONE AVAILABLE, WITH "GYPSUM CONSTRUCTION HANDBOOK" - PUBLISHED BY USGC. MINIMUM SIZE FOR BACKING IS 6" X 16 GA.
15. PROVIDE 3" DIAMETER PLASTIC GROMMET WHERE INDICATED. TYP.
16. MOUNT TOP OF MARKER BOARDS AND TACK BOARDS AT 7'-0" AFF UNLESS OTHERWISE NOTED.
17. PENETRATIONS THROUGH BENCH TOP SHALL BE SEALED WITH SILICONE SEALANT.
18. BACKS OF COUNTERTOPS AND SPLASHES AGAINST WALLS SHALL BE SEALED TO THE WALL WITH SILICONE SEALANT.
19. FREE STANDING SHELVING AND CASEWORK SHALL BE SECURED TO PREVENT TIPPING. SUBMIT SHOP DRAWINGS OF ATTACHMENT PRIOR TO INSTALLATION.
20. SAFETY SHOWERS/ EYEWASH UNITS SHALL COMPLY WITH ANSI STANDARDS FOR USABILITY BY THE PHYSICALLY DISABLED. SAFETY SHOWER / EYEWASH UNITS SHALL BE FURNISHED AND INSTALLED UNDER DIVISION 22.
21. FOR LABORATORY SERVICE FITTING TYPES, LOCATIONS AND ORDER, SEE ENLARGED PLANS. THESE FITTINGS ARE SPECIFIED IN DIVISION 12.
22. PROVIDE PLASTIC TRAY SHELF PROTECTORS AT LAB BASE CABINETS BELOW FUME HOODS AND SINKS.
23. FOR ALL SURFACE MOUNTED RACEWAYS, SEE ELECTRICAL DRAWINGS FOR OUTLET COUNT.

SYMBOLS LEGEND

	STAINLESS STEEL PEGBOARD WITH DRAIN & TROUGH
	ADJUSTABLE WALL SHELVES (3 TIER U.O.N.) OR WALL CABINETS, SEE CASEWORK ELEVATIONS.
	CYLINDER RESTRAINT - (1, 2, 3, OR 4 CYLINDERS PER PLAN). REFER TO DETAIL ON DRAWING A500.
CFH-X	CHEMICAL FUME HOOD WITH DISHED EPOXY RESIN WORK SURFACE. PROVIDE LAB SERVICE OUTLETS AS INDICATED ON THE ENLARGED LAB PLANS. REFER TO CASEWORK ELEVATIONS FOR HEIGHT.
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MTA 3	MOVEABLE TABLE (2'-6" x 4'-0")
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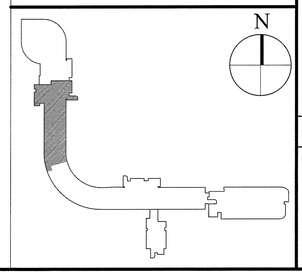
ATA/ATB	ADJUSTABLE TABLE (ATA = SERVICES ON LEFT, ATB = SERVICES ON RIGHT
TAG	LAB EQUIPMENT - OFCI (OWNER FURNISHED, CONTRACTOR INSTALLED)
TAG	LAB EQUIPMENT - CFCI (CONTRACTOR FURNISHED CONTRACTOR INSTALLED)
NIC	FUTURE LAB EQUIPMENT - NIC (NOT IN CONTRACT)
	OWNER FURNISHED, OWNER INSTALLED CHAIR.
	OWNER FURNISHED, OWNER INSTALLED STOOL.
S1	HAND SINK - BY PLUMBING CONTRACTOR. SEE DIV 22.
LS1=	UNDERMOUNT EPOXY RESIN SINK SINGLE BOWL (2'-0" x 1'-4" x 0'-10" DEEP) REFER TO ENLARGED PLANS FOR SERVICES & LOCATIONS.
LS2=	DROP-IN EPOXY RESIN SINK SINGLE BOWL (2'-0" x 1'-4" x 0'-6" DEEP) REFER TO ENLARGED PLANS FOR SERVICES & LOCATIONS. ADA COMPLIANT.
	HW/CW DECK MOUNT
	HW/CW PANEL MOUNT
DI	DEIONIZED WATER SUPPLY
	DOUBLE DECK MOUNTED KEYCOCK. (MIN 12" OC) TYPE 1
	SINGLE DECK MOUNTED KEYCOCK.
	SINGLE WALL MOUNTED KEYCOCK.
SS/SEW	ADA COMPLIANT EYEWASH & SHOWER WITH PULL REFER TO DETAILS ON DRAWING A500.
FE	FIRE EXTINGUISHER AND MOUNTING BRACKET BY OWNER. HANDLE OF EXTINGUISHER TO BE LOCATED 4'-0" A.F.F.
CG	CORNER GUARD (REFER TO A-401 FOR LOCATIONS AND DETAILS)
EP	ELECTRICAL PANEL
FEC	FIRE EXTINGUISHER CABINET
TC	STAINLESS STEEL WIRE SHELVING (3'-0" x 1'-6")
TB	PAINTED STEEL WIRE SHELVING (3'-0" x 1'-6")

KEYPLAN



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UCONN HEALTH

Main Building Renovation

Building L - Project 2

263 Farmington Ave
Farmington, CT 06032

Revisions

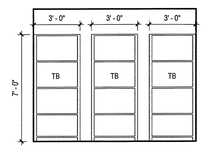
No.	Date	Description
1	10/19/15	Issue for Bid & Code Review
2	11/02/15	Addendum #01

Drawing Name
Lab Casework Bench Layout

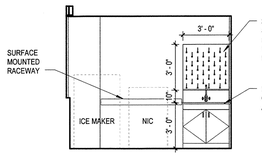
Project No. 218010732

Drawing Number
A601

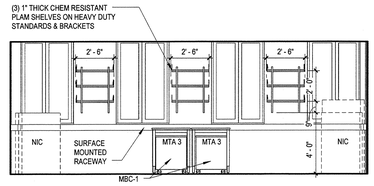
11/2/2015 12:44:55 PM



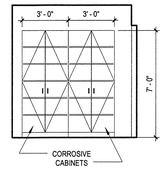
A1 A602 **LX072 - Storage Rm - S**
1/4" = 1'-0"



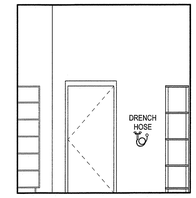
A2 A602 **L4074 - Equipment - N**
1/4" = 1'-0"



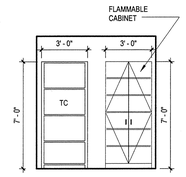
A3 A602 **L4078B - Equipment - W**
1/4" = 1'-0"



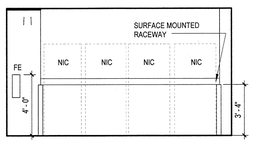
A4 A602 **LX076 - Chem Storage - N**
1/4" = 1'-0"



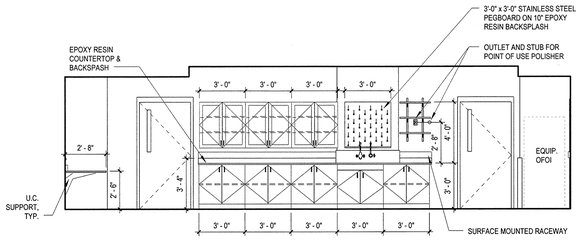
A5 A602 **LX076 - Chem Storage - E**
1/4" = 1'-0"



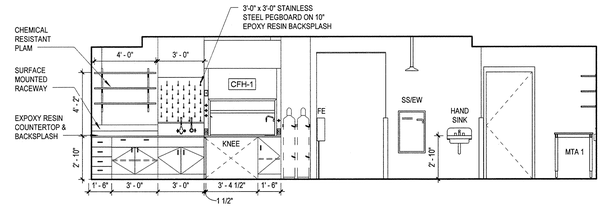
A6 A602 **LX076 - Chem Storage - S**
1/4" = 1'-0"



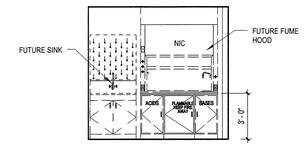
C1 A602 **LX078 - Open Lab - Alcove**
1/4" = 1'-0"



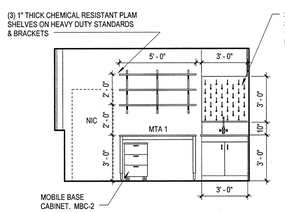
C2 A602 **LX078 - Open Lab - North**
1/4" = 1'-0"



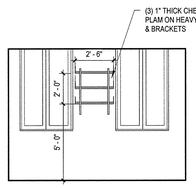
C4 A602 **LX078 - Open Lab - South**
1/4" = 1'-0"



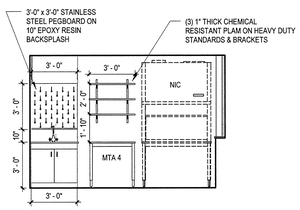
C6 A602 **L4078A - Equipment - N**
1/4" = 1'-0"



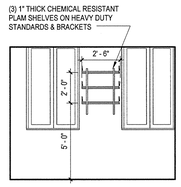
D1 A602 **LX078B - Tissue Culture - N**
1/4" = 1'-0"



D2 A602 **LX078B - Tissue Cult. - W**
1/4" = 1'-0"

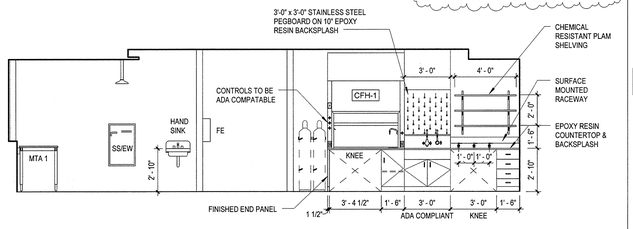


D3 A602 **L4078C - Tissue Cult. - S**
1/4" = 1'-0"

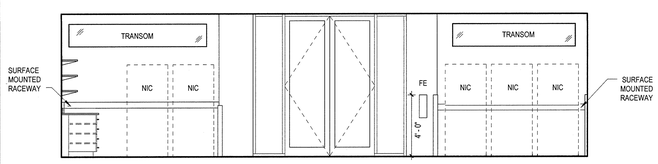


D4 A602 **LX078C - Tissue Cult. - W**
1/4" = 1'-0"

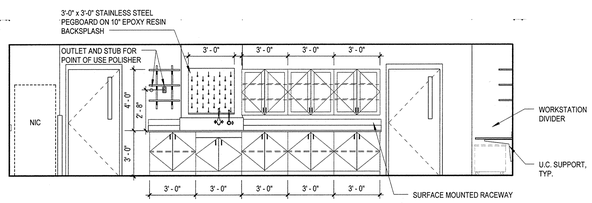
(MB) MARKER BOARD AND (CA) CARD ACCESS SYMBOLS HAVE BEEN REMOVED FROM SYMBOLS LEGEND. ADDITIONAL SYMBOLS INCLUDE DECK MOUNTED DOUBLE KEYCOCK AND SINGLE KEYCOCK.



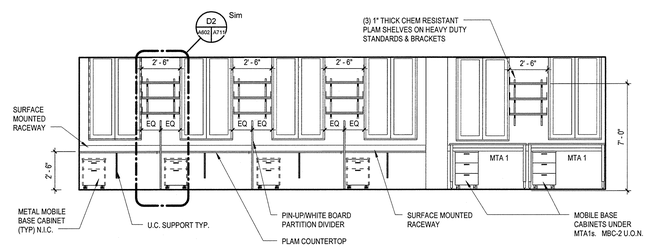
D5 A602 **LX080 - Open Lab - North**
1/4" = 1'-0"



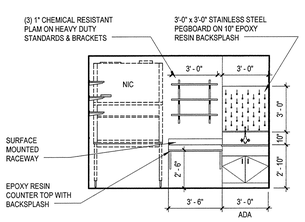
E1 A602 **LX080 - Open Lab - East**
1/4" = 1'-0"



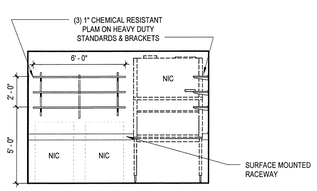
E3 A602 **LX080 - Open Lab - South**
1/4" = 1'-0"



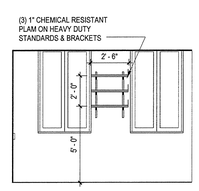
E5 A602 **LX080 - Open Lab - West**
1/4" = 1'-0"



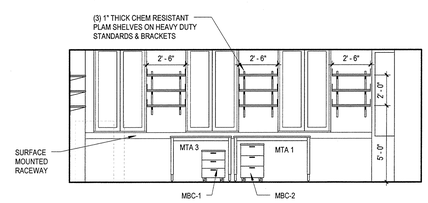
F1 A602 **LX080A - Tissue Culture - N**
1/4" = 1'-0"



F2 A602 **L4080A/L5080A - Tissue Culture - S**
1/4" = 1'-0"



F3 A602 **LX080A - Tissue Culture - W**
1/4" = 1'-0"



F5 A602 **LX080B - Equipment - West**
1/4" = 1'-0"

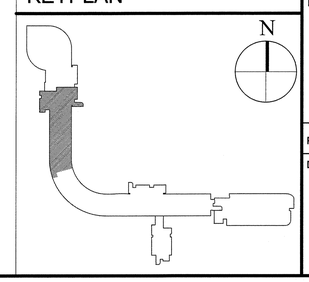
CASEWORK GENERAL NOTES

1. DO NOT SCALE DRAWINGS.
2. ELEVATIONS HAVE BEEN DRAWN FOR THE CASEWORK AND APPEAR ON DRAWINGS IN THE A-600 SERIES. REFER TO DRAWING A600 FOR TYPICAL CABINETS AND DETAILS. REFER TO PLANS, ENLARGED PLANS, AND ELEVATIONS FOR DIMENSIONS, QUANTITY, AND SPACING.
3. BASE UNITS, WALL CABINETS, TABLES, AND SERVICE CHASE PANELS SHALL BE OF WOOD CONSTRUCTION, UNLESS OTHERWISE NOTED. CABINET TYPES, CONFIGURATIONS, AND DIMENSIONS SHALL BE AS DETAILED ON CASEWORK ELEVATIONS. CASEWORK CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFYING ALL DIMENSIONS BEFORE BEGINNING FABRICATION.
4. COUNTERTOPS AT LAB BENCHES AND TABLES SHALL BE EPOXY RESIN, SPECIFIED IN DIV. 12 (UNLESS OTHERWISE NOTED). REFER TO NOTES ON ENLARGED LAB PLANS (A500 SERIES DRAWINGS) AND CASEWORK ELEVATIONS DRAWINGS (A600 SERIES) FOR OTHER COUNTERTOP MATERIALS. PROVIDE 1" RADIUS ON OUTSIDE CORNERS. COUNTERTOPS TO OVERHANG BASE UNITS BY 1".
5. REFER TO PLANS AND ENLARGED PLANS FOR DEPTHS OF COUNTERTOPS.
6. BACK AND SIDE SPLASHES TO BE 1" THICK AND 4" HIGH (U.O.N.). MATERIAL TO MATCH COUNTERTOPS.
7. PROVIDE SEALANT AT JOINTS BETWEEN BACKSPLASHES AND WALL, COUNTERTOPS OR EQUIPMENT. ALSO, PROVIDE SEALANT WHERE COUNTERTOPS MEET WALL SURFACES.
8. SINKS SHALL BE MODIFIED EPOXY RESIN WITH SIZE AS INDICATED IN THE LEGEND, UNLESS OTHERWISE NOTED. SINKS SHALL BE IN SINK BASE UNITS. SINK COLOR TO MATCH COUNTERTOP COLOR.
9. COORDINATE SIZE / LOCATIONS OF FAUCETS, AND SERVICE VALVES SO THAT THE FAUCET AND VALVE COMPONENTS DO NOT INTERFERE WITH EACH OTHER.
10. PROVIDE FINISHED CLOSURE PANELS AT EXPOSED END CONDITIONS.
11. PROVIDE FILLER/SCRIBE PANELS AT WALLS AND COLUMN CONDITIONS.
12. INSTALL CLOSURE PANELS BETWEEN BACK OF CABINETS OR HOODS AND WALLS AT EXPOSED ENDS.
13. COORDINATE WITH REFLECTED CEILING PLANS FOR PROPER CEILING HEIGHTS AND PIPE DROP ENCLOSURE HEIGHTS / LOCATIONS.
14. CONTRACTOR TO COORDINATE THE INSTALLATION OF SUPPLEMENTARY FRAMING, BLOCKING, AND BRACING FOR SUPPORT OF ALL WALL MOUNTED AND CEILING MOUNTED ITEMS. COMPLY WITH DETAILS INDICATED OR IF NONE AVAILABLE, WITH "GYPSUM CONSTRUCTION HANDBOOK" - PUBLISHED BY USGC. MINIMUM SIZE FOR BACKING IS 6" X 16 GA.
15. PROVIDE 3" DIAMETER PLASTIC GROMMET WHERE INDICATED. TYP.
16. MOUNT TOP OF MARKER BOARDS AND TACK BOARDS AT 7'-0" AFF UNLESS OTHERWISE NOTED.
17. PENETRATIONS THROUGH BENCH TOP SHALL BE SEALED WITH SILICONE SEALANT.
18. BACKS OF COUNTERTOPS AND SPLASHES AGAINST WALLS SHALL BE SEALED TO THE WALL WITH SILICONE SEALANT.
19. FREE STANDING SHELVING AND CASEWORK SHALL BE SECURED TO PREVENT TIPPING. SUBMIT SHOP DRAWINGS OF ATTACHMENT PRIOR TO INSTALLATION.
20. SAFETY SHOWERS/ EYEWASH UNITS SHALL COMPLY WITH ANSI STANDARDS FOR USABILITY BY THE PHYSICALLY DISABLED. SAFETY SHOWER / EYEWASH UNITS SHALL BE FURNISHED AND INSTALLED UNDER DIVISION 22.
21. FOR LABORATORY SERVICE FITTING TYPES, LOCATIONS AND ORDER, SEE ENLARGED PLANS. THESE FITTINGS ARE SPECIFIED IN DIVISION 12.
22. PROVIDE PLASTIC TRAY SHELF PROTECTORS AT LAB BASE CABINETS BELOW FUME HOODS AND SINKS.
23. FOR ALL SURFACE MOUNTED RACEWAYS, SEE ELECTRICAL DRAWINGS FOR OUTLET COUNT.

SYMBOLS LEGEND

- STAINLESS STEEL PEGBOARD WITH DRAIN & TROUGH
- ADJUSTABLE WALL SHELVES (3 TIER U.O.N.) OR WALL CABINETS, SEE CASEWORK ELEVATIONS.
- CYLINDER RESTRAINT - (1, 2, 3, OR 4 CYLINDERS PER PLAN), REFER TO DETAIL ON DRAWING A500.
- CFH-X — CHEMICAL FUME HOOD WITH DISHED EPOXY RESIN WORK SURFACE. PROVIDE LAB SERVICE OUTLETS AS INDICATED ON THE ENLARGED LAB PLANS. REFER TO CASEWORK ELEVATIONS FOR HEIGHT.
- MTA 1 — MOVEABLE TABLE (2'-6" x 5'-0")
- MTA 2 — MOVEABLE TABLE (2'-6" x 4'-6")
- MTA 3 — MOVEABLE TABLE (2'-6" x 4'-0")
- MTA 4 — MOVEABLE TABLE (2'-6" x 3'-0")
- ATA/ATB — ADJUSTABLE TABLE (ATA = SERVICES ON LEFT, ATB = SERVICES ON RIGHT
- TAG — LAB EQUIPMENT - OFCI (OWNER FURNISHED, CONTRACTOR INSTALLED)
- TAG — LAB EQUIPMENT - CFCI (CONTRACTOR FURNISHED CONTRACTOR INSTALLED)
- NIC — FUTURE LAB EQUIPMENT - NIC (NOT IN CONTRACT)
- OWNER FURNISHED, OWNER INSTALLED CHAIR.
- OWNER FURNISHED, OWNER INSTALLED STOOL.
- S1 — HAND SINK - BY PLUMBING CONTRACTOR. SEE DIV 22.
- 2 LS1 — UNDERMOUNT EPOXY RESIN SINK SINGLE BOWL (2'-0" x 1'-4" x 0'-10" DEEP) REFER TO ENLARGED PLANS FOR SERVICES & LOCATIONS.
- LS2 — DROP-IN EPOXY RESIN SINK SINGLE BOWL (2'-0" x 1'-4" x 0'-6" DEEP) REFER TO ENLARGED PLANS FOR SERVICES & LOCATIONS. ADA COMPLIANT.
- HW/CW DECK MOUNT
- HW/CW PANEL MOUNT
- DI — DEIONIZED WATER SUPPLY
- 2 — DOUBLE DECK MOUNTED KEYCOCK. (MIN 12" OC) TYPE 1
- SINGLE DECK MOUNTED KEYCOCK.
- SINGLE WALL MOUNTED KEYCOCK.
- SS/EW — ADA COMPLIANT EYEWASH & SHOWER WITH PULL REFER TO DETAILS ON DRAWING A500.
- FE — FIRE EXTINGUISHER AND MOUNTING BRACKET BY OWNER. HANDLE OF EXTINGUISHER TO BE LOCATED 4'-0" A.F.F.
- CG — CORNER GUARD (REFER TO A-401 FOR LOCATIONS AND DETAILS)
- EP — ELECTRICAL PANEL
- FEC — FIRE EXTINGUISHER CABINET
- TC — STAINLESS STEEL WIRE SHELVING (3'-0" x 1'-6")
- TB — PAINTED STEEL WIRE SHELVING (3'-0" x 1'-6")

KEYPLAN



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Seal

NOT FOR CONSTRUCTION

UCONN HEALTH

Main Building Renovation

Building L - Project 2

263 Farmington Ave
Farmington, CT 06032

Revisions

No.	Date	Description
1	10/19/15	Issue for Bid & Code Review
2	11/02/15	Addendum #01

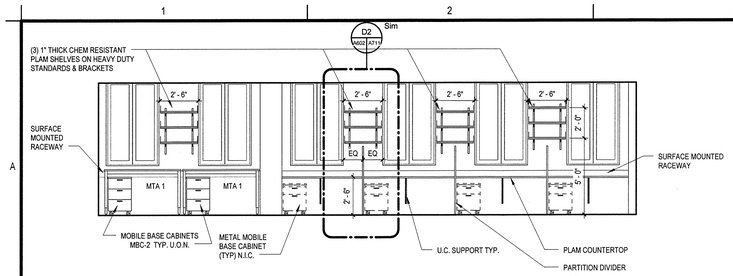
Drawing Name

Lab Casework Elevations

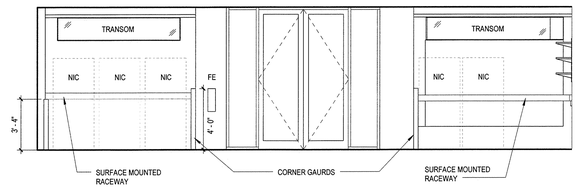
Project No. 218010732

Drawing Number

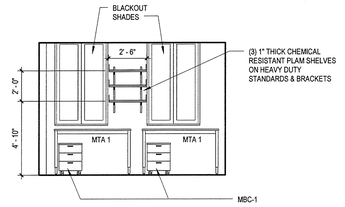
A602



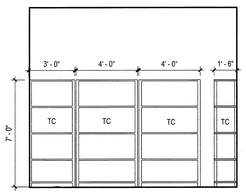
A1 A603 **LX078 - Open Lab - West**
1/4" = 1'-0"



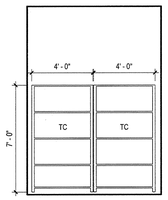
A4 A603 **LX078 - Open Lab - East**
1/4" = 1'-0"



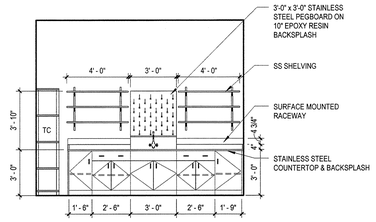
A6 A603 **L4078D - Scopes - West**
1/4" = 1'-0"



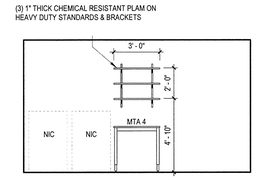
C1 A603 **LX080C - Enviro Room - N**
1/4" = 1'-0"



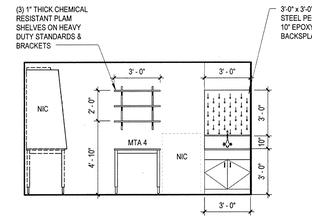
C2 A603 **LX080C - Enviro. Room - E**
1/4" = 1'-0"



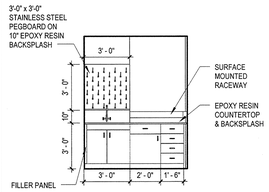
C3 A603 **LX080C - Enviro. Room - S**
1/4" = 1'-0"



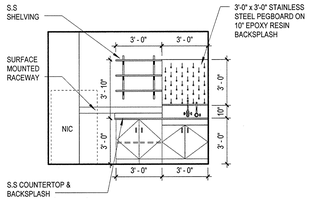
C5 A603 **LX080D - Tissue Culture - N**
1/4" = 1'-0"



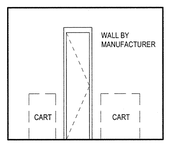
C6 A603 **LX080D - Tissue Culture - S**
1/4" = 1'-0"



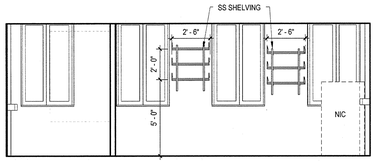
D1 A603 **L5072 - Film Proc. - E**
1/4" = 1'-0"



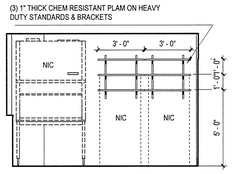
D2 A603 **L5074 - Autoclave - N**
1/4" = 1'-0"



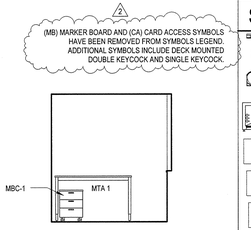
D3 A603 **L5074 - Autoclave - S**
1/4" = 1'-0"



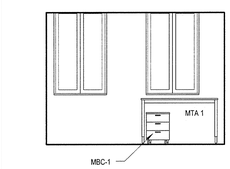
D4 A603 **L5074 - Autoclave - W**
1/4" = 1'-0"



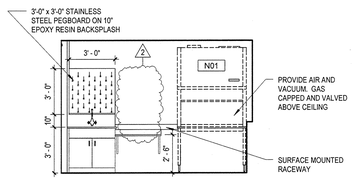
D6 A603 **L5078C - Tissue Culture - N**
1/4" = 1'-0"



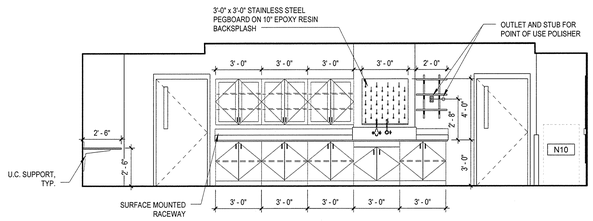
D7 A603 **L5078D - Scopes - S**
1/4" = 1'-0"



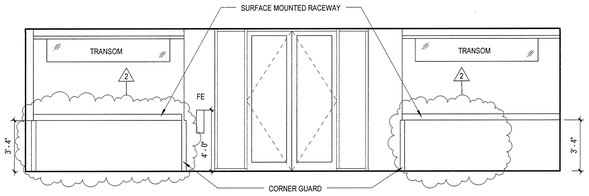
E1 A603 **L5078D - Scopes - W**
1/4" = 1'-0"



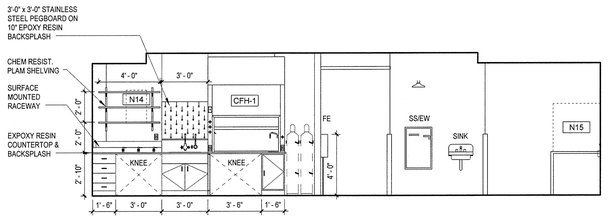
E2 A603 **L6078C - Tissue Culture - S**
1/4" = 1'-0"



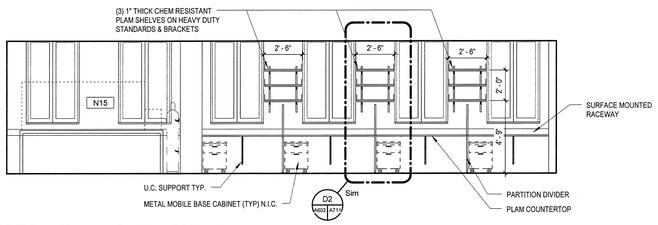
E3 A603 **L6078 - Open Lab - North**
1/4" = 1'-0"



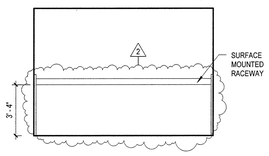
E5 A603 **L6078 - Open Lab - East**
1/4" = 1'-0"



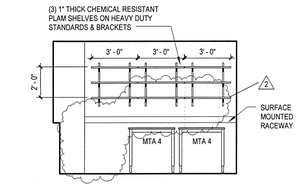
F1 A603 **L6078 - Open Lab - South**
1/4" = 1'-0"



F3 A603 **L6078 - Open Lab - West**
1/4" = 1'-0"



F5 A603 **L6078 - Open Lab - Alcove**
1/4" = 1'-0"



F6 A603 **L6078C - Tissue Culture - N**
1/4" = 1'-0"

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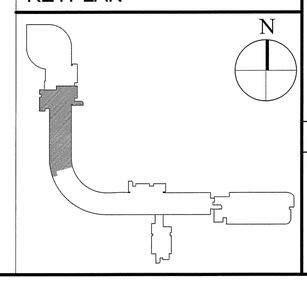
4. COUNTERTOPS AT LAB BENCHES AND TABLES SHALL BE EPOXY RESIN, SPECIFIED IN DIV. 12 (UNLESS OTHERWISE NOTED). REFER TO NOTES ON ENLARGED LAB PLANS (A500 SERIES DRAWINGS) AND CASEWORK ELEVATIONS DRAWINGS (A600 SERIES) FOR OTHER COUNTERTOP MATERIALS. PROVIDE 1" RADIUS ON OUTSIDE CORNERS. COUNTERTOPS TO OVERHANG BASE UNITS BY 1".
5. REFER TO PLANS AND ENLARGED PLANS FOR DEPTHS OF COUNTERTOPS.
6. BACK AND SIDE SPLASHES TO BE 1" THICK AND 4" HIGH (U.O.N.). MATERIAL TO MATCH COUNTERTOPS.
7. PROVIDE SEALANT AT JOINTS BETWEEN BACKSPLASHES AND WALL, COUNTERTOPS OR EQUIPMENT. ALSO, PROVIDE SEALANT WHERE COUNTERTOPS MEET WALL SURFACES.
8. SINKS SHALL BE MODIFIED EPOXY RESIN WITH SIZE AS INDICATED IN THE LEGEND, UNLESS OTHERWISE NOTED. SINKS SHALL BE IN SINK BASE UNITS. SINK COLOR TO MATCH COUNTERTOP COLOR.
9. COORDINATE SIZE / LOCATIONS OF FAUCETS, AND SERVICE VALVES SO THAT THE FAUCET AND VALVE COMPONENTS DO NOT INTERFERE WITH EACH OTHER.
10. PROVIDE FINISHED CLOSURE PANELS AT EXPOSED END CONDITIONS.
11. PROVIDE FILLER/SCRIBE PANELS AT WALLS AND COLUMN CONDITIONS.
12. INSTALL CLOSURE PANELS BETWEEN BACK OF CABINETS OR HOODS AND WALLS AT EXPOSED ENDS.
13. COORDINATE WITH REFLECTED CEILING PLANS FOR PROPER CEILING HEIGHTS AND PIPE DROP ENCLOSURE HEIGHTS / LOCATIONS.
14. CONTRACTOR TO COORDINATE THE INSTALLATION OF SUPPLEMENTARY FRAMING, BLOCKING, AND BRACING FOR SUPPORT OF ALL WALL MOUNTED AND CEILING MOUNTED ITEMS. COMPLY WITH DETAILS INDICATED OR IF NONE AVAILABLE, WITH "GYPSUM CONSTRUCTION HANDBOOK" - PUBLISHED BY USGC. MINIMUM SIZE FOR BACKING IS 6" X 16 GA.
15. PROVIDE 3" DIAMETER PLASTIC GROMMET WHERE INDICATED. TYP.
16. MOUNT TOP OF MARKER BOARDS AND TACK BOARDS AT 7'-0" AFF UNLESS OTHERWISE NOTED.
17. PENETRATIONS THROUGH BENCH TOP SHALL BE SEALED WITH SILICONE SEALANT.
18. BACKS OF COUNTERTOPS AND SPLASHES AGAINST WALLS SHALL BE SEALED TO THE WALL WITH SILICONE SEALANT.
19. FREE STANDING SHELVING AND CASEWORK SHALL BE SECURED TO PREVENT TIPPING. SUBMIT SHOP DRAWINGS OF ATTACHMENT PRIOR TO INSTALLATION.
20. SAFETY SHOWERS/ EYEWASH UNITS SHALL COMPLY WITH ANSI STANDARDS FOR USABILITY BY THE PHYSICALLY DISABLED. SAFETY SHOWER / EYEWASH UNITS SHALL BE FURNISHED AND INSTALLED UNDER DIVISION 22.
21. FOR LABORATORY SERVICE FITTING TYPES, LOCATIONS AND ORDER, SEE ENLARGED PLANS. THESE FITTINGS ARE SPECIFIED IN DIVISION 12.
22. PROVIDE PLASTIC TRAY SHELF PROTECTORS AT LAB BASE CABINETS BELOW FUME HOODS AND SINKS.
23. FOR ALL SURFACE MOUNTED RACEWAYS, SEE ELECTRICAL DRAWINGS FOR OUTLET COUNT.

SYMBOLS LEGEND

- STAINLESS STEEL PEGBOARD WITH DRAIN & TROUGH
- ADJUSTABLE WALL SHELVES (3 TIER U.O.N.) OR WALL CABINETS, SEE CASEWORK ELEVATIONS.
- CYLINDER RESTRAINT - (1, 2, 3, OR 4 CYLINDERS PER PLAN), REFER TO DETAIL ON DRAWING A500.
- CFH-X — CHEMICAL FUME HOOD WITH DISHED EPOXY RESIN WORK SURFACE. PROVIDE LAB SERVICE OUTLETS AS INDICATED ON THE ENLARGED LAB PLANS. REFER TO CASEWORK ELEVATIONS FOR HEIGHT.
- MTA 1 — MOVEABLE TABLE (2'-6" x 5'-0")
- MTA 2 — MOVEABLE TABLE (2'-6" x 4'-6")
- MTA 3 — MOVEABLE TABLE (2'-6" x 4'-0")
- MTA 4 — MOVEABLE TABLE (2'-6" x 3'-0")
- ATA/ATB — ADJUSTABLE TABLE (ATA = SERVICES ON LEFT, ATB = SERVICES ON RIGHT
- TAG — LAB EQUIPMENT - OFCI (OWNER FURNISHED, CONTRACTOR INSTALLED)
- TAG — LAB EQUIPMENT - CFCI (CONTRACTOR FURNISHED CONTRACTOR INSTALLED)
- NIC — FUTURE LAB EQUIPMENT - N/C (NOT IN CONTRACT)
- OWNER FURNISHED, OWNER INSTALLED CHAIR.
- OWNER FURNISHED, OWNER INSTALLED STOOL.
- S1 — HAND SINK - BY PLUMBING CONTRACTOR. SEE DIV 22.
- 2 LS1x — UNDERMOUNT EPOXY RESIN SINK SINGLE BOWL (2'-0" x 1'-4" x 0'-10" DEEP) REFER TO ENLARGED PLANS FOR SERVICES & LOCATIONS.
- LS2x — DROP-IN EPOXY RESIN SINK SINGLE BOWL (2'-0" x 1'-4" x 0'-6" DEEP) REFER TO ENLARGED PLANS FOR SERVICES & LOCATIONS. ADA COMPLIANT.
- HW/CW DECK MOUNT
- HW/CW PANEL MOUNT
- DI — DEIONIZED WATER SUPPLY
- 2 — DOUBLE DECK MOUNTED KEYCOCK. (MIN 12" OC) TYPE 1
- SINGLE DECK MOUNTED KEYCOCK.
- SINGLE WALL MOUNTED KEYCOCK.
- SS/SEW — ADA COMPLIANT EYEWASH & SHOWER WITH PULL REFER TO DETAILS ON DRAWING A500.
- FE — FIRE EXTINGUISHER AND MOUNTING BRACKET BY OWNER. HANDLE OF EXTINGUISHER TO BE LOCATED 4'-0" A.F.F.
- CG — CORNER GUARD (REFER TO A-401 FOR LOCATIONS AND DETAILS)
- EP — ELECTRICAL PANEL
- FEC — FIRE EXTINGUISHER CABINET
- TC — STAINLESS STEEL WIRE SHELVING (3'-0" x 1'-8")
- TB — PAINTED STEEL WIRE SHELVING (3'-0" x 1'-8")

KEYPLAN



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Seal

NOT FOR CONSTRUCTION

UCONN HEALTH

Main Building Renovation

Building L - Project 2

263 Farmington Ave
Farmington, CT 06032

Revisions

No.	Date	Description
1	10/19/15	Issue for Bid & Code Review
2	11/02/15	Addendum #01

Drawing Name

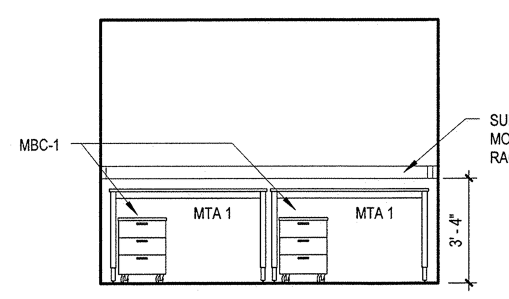
Lab Casework Elevations

Project No. 218010732

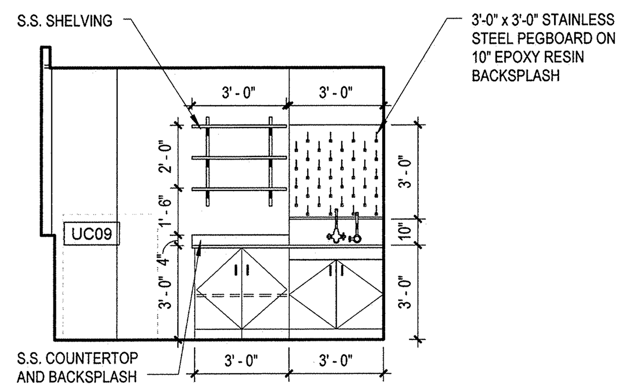
Drawing Number

A603

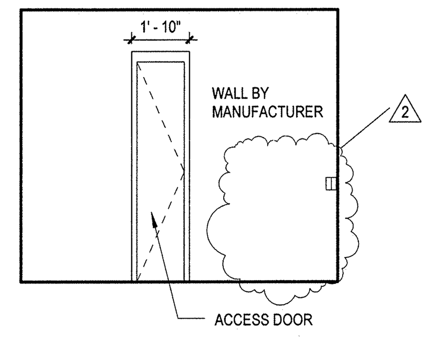
11/2/2015 12:45:45 PM



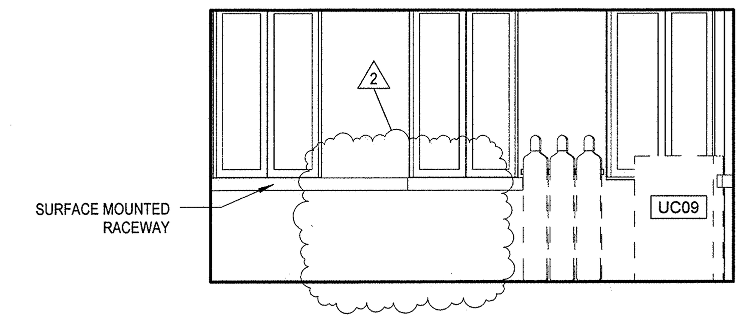
A1 A604 **L6072 - Imaging - South**
1/4" = 1'-0"



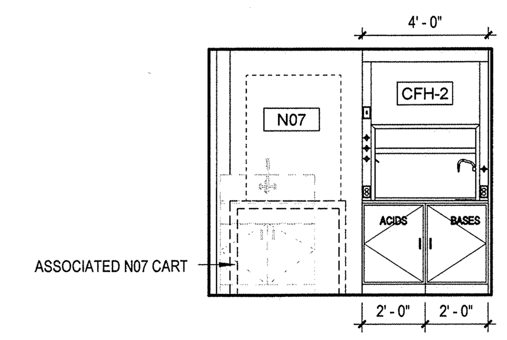
A2 A604 **L6074 - Autoclave - North**
1/4" = 1'-0"



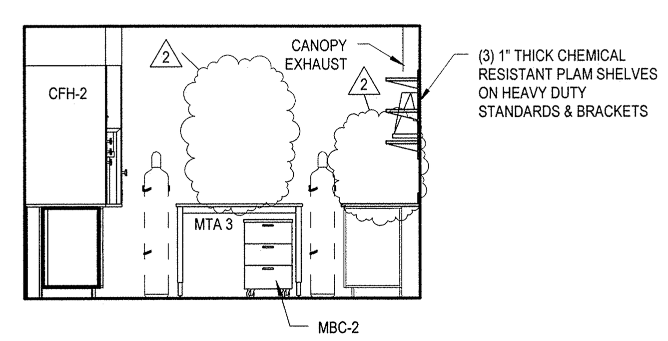
A3 A604 **L6074 - Autoclave - South**
1/4" = 1'-0"



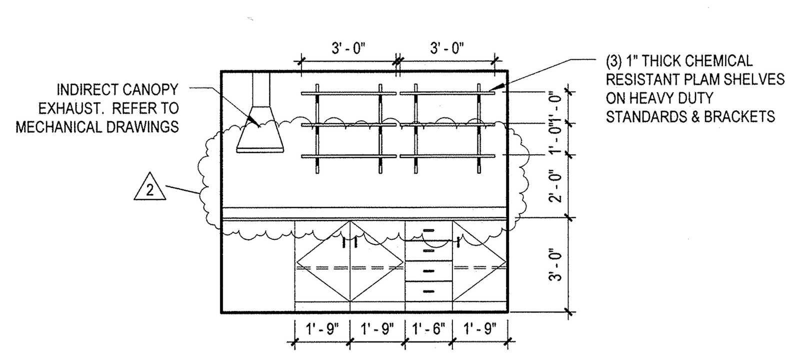
A5 A604 **L6074 - Autoclave - West**
1/4" = 1'-0"



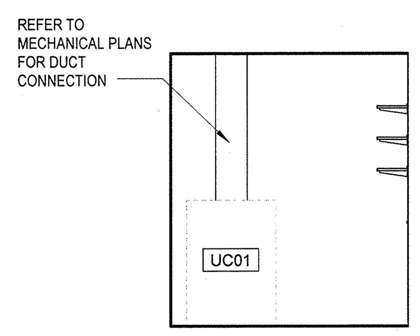
A6 A604 **L6078A - Lab Support - N**
1/4" = 1'-0"



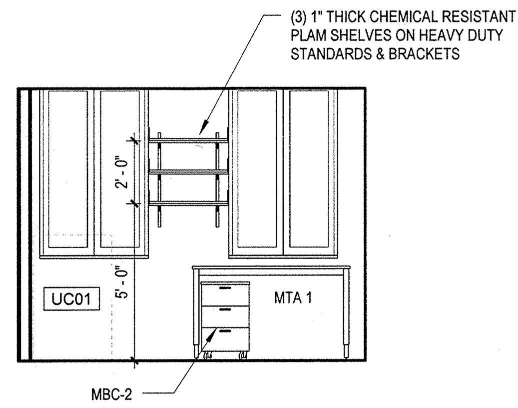
C1 A604 **L6078A - Lab Support - E**
1/4" = 1'-0"



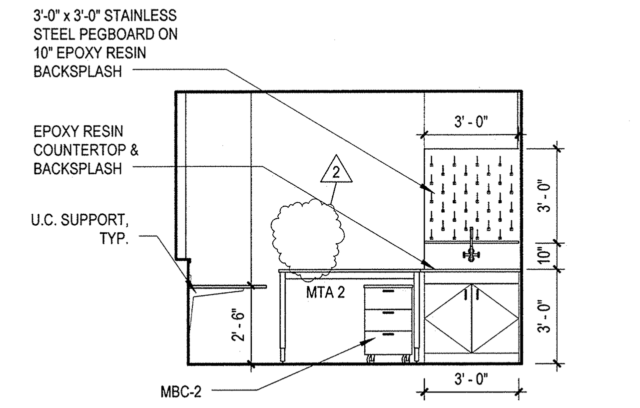
C2 A604 **L6078A - Lab Support - S**
1/4" = 1'-0"



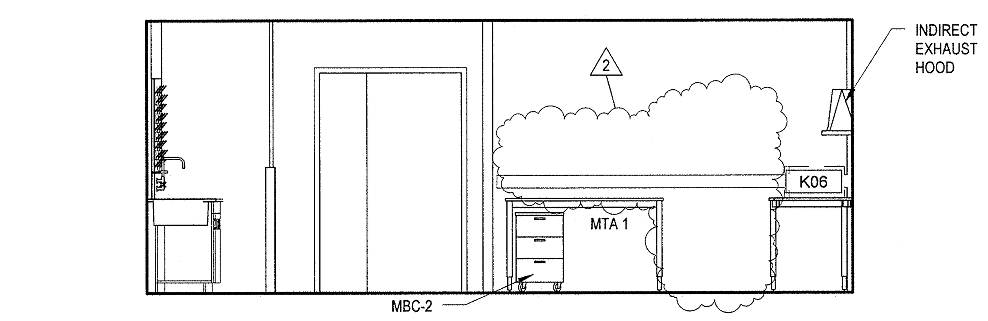
C3 A604 **L6078D - Procedure - S**
1/4" = 1'-0"



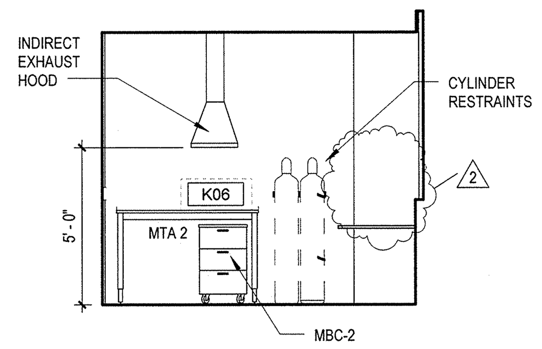
C5 A604 **L6078D - Procedure - W**
1/4" = 1'-0"



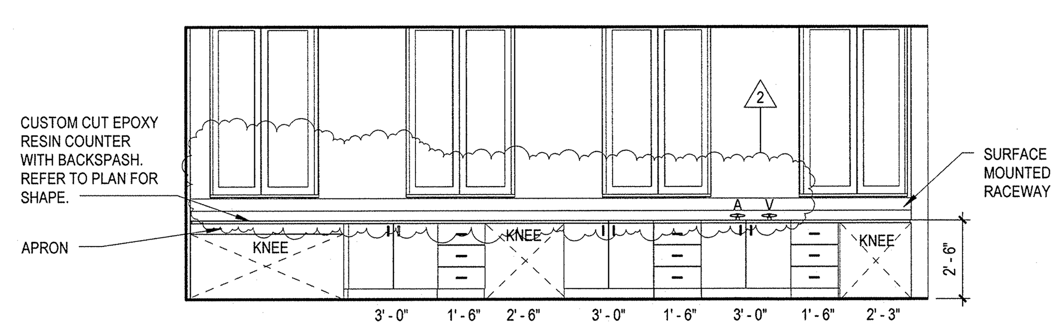
C6 A604 **L7074 - Equipment - North**
1/4" = 1'-0"



D1 A604 **L7074 - Equipment - East**
1/4" = 1'-0"

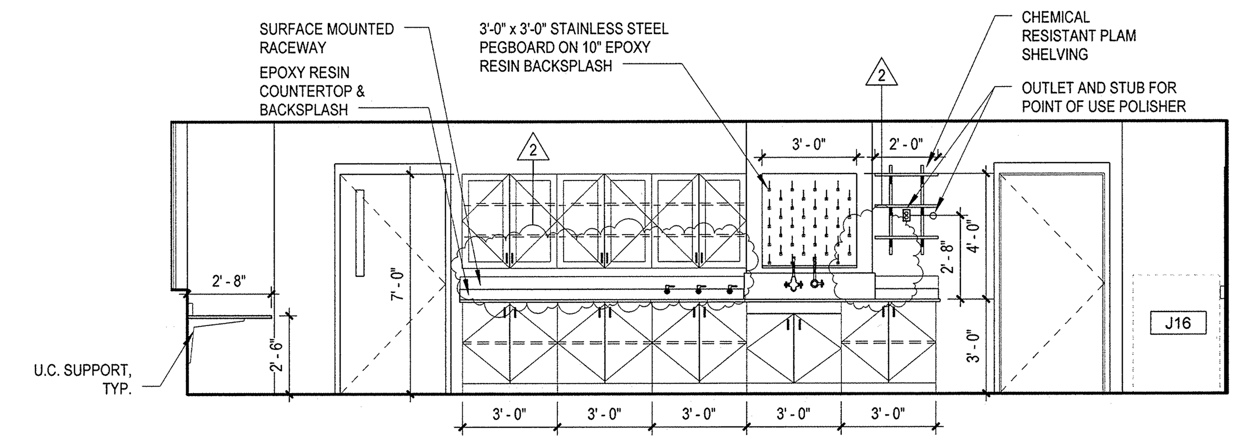


D2 A604 **L7074 - Equipment - South**
1/4" = 1'-0"

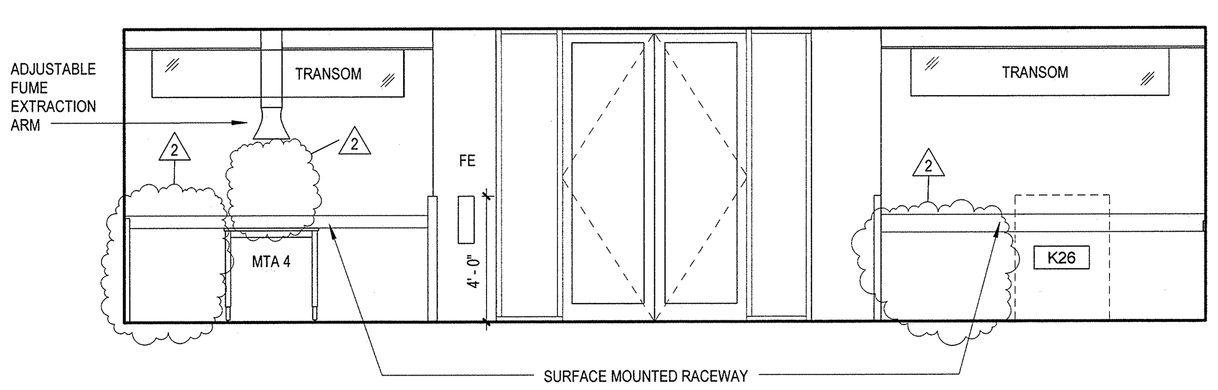


D4 A604 **L7074 - Equipment - West**
1/4" = 1'-0"

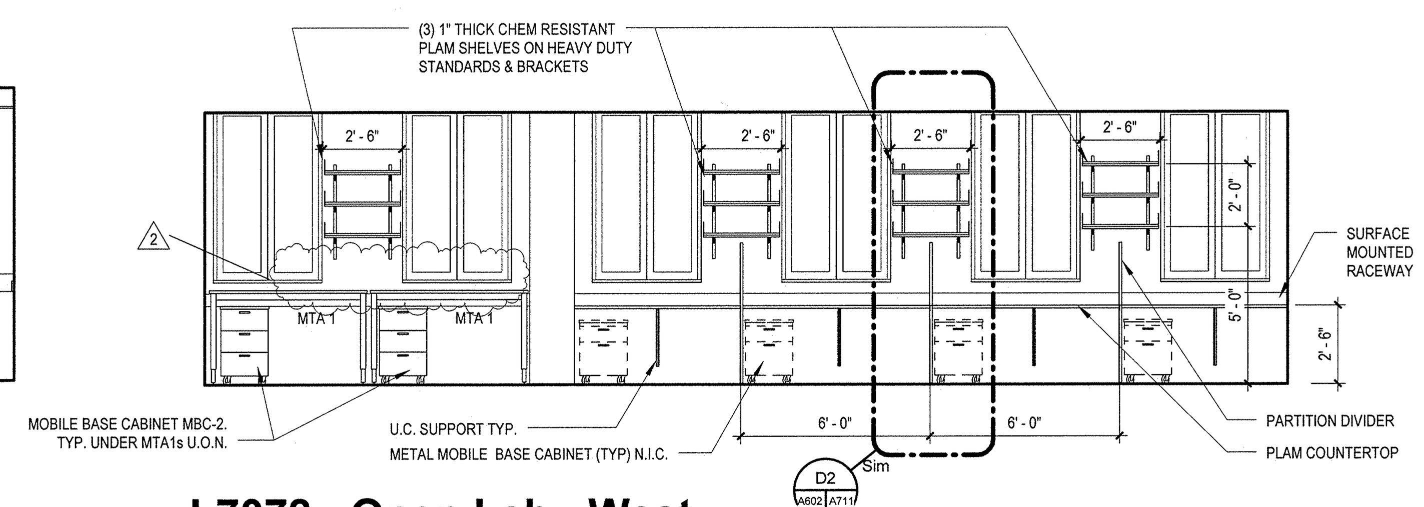
(MB) MARKER BOARD AND (CA) CARD ACCESS SYMBOLS HAVE BEEN REMOVED FROM SYMBOLS LEGEND. ADDITIONAL SYMBOLS INCLUDE DECK MOUNTED DOUBLE KEYCOCK AND SINGLE KEYCOCK. (2)



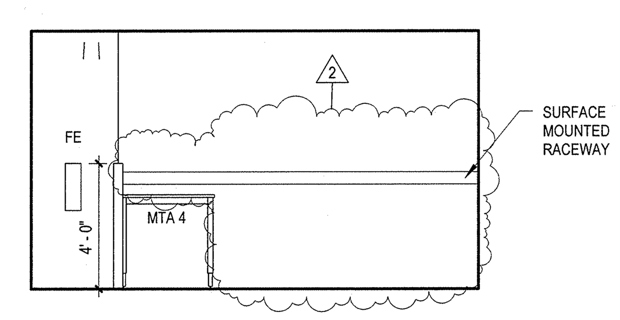
D6 A604 **Open Lab - L7078 - North**
1/4" = 1'-0"



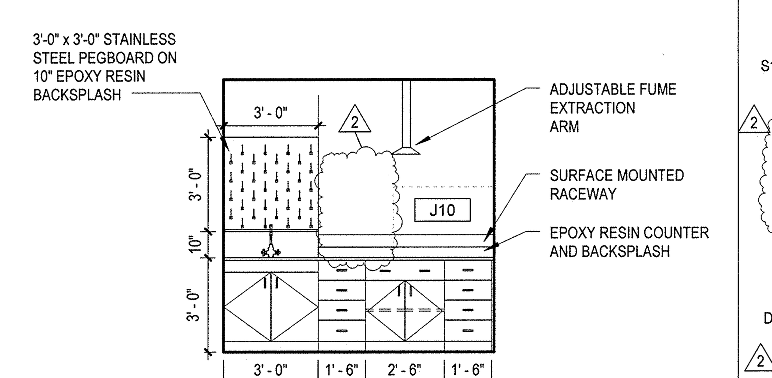
E1 A604 **L7078 - Open Lab - East**
1/4" = 1'-0"



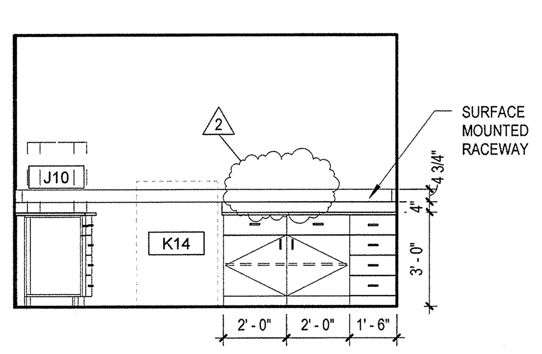
E3 A604 **L7078 - Open Lab - West**
1/4" = 1'-0"



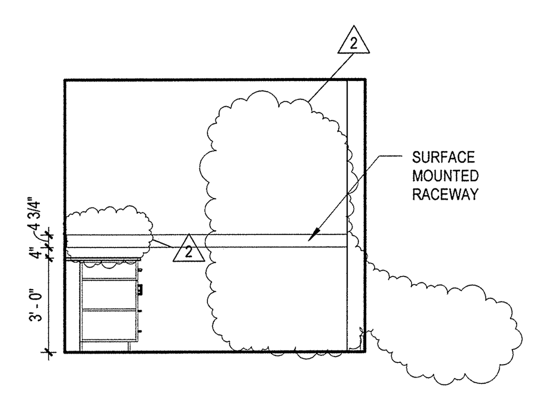
E5 A604 **L7078 - Open Lab - Alcove**
1/4" = 1'-0"



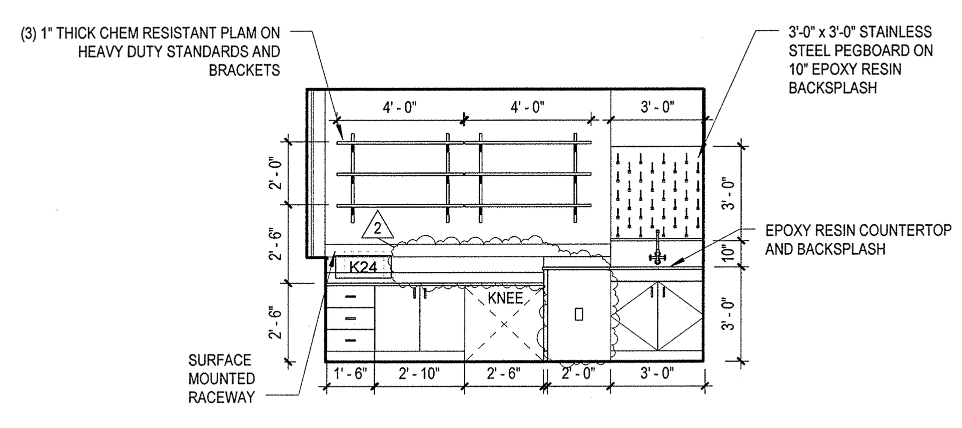
E6 A604 **L7078A - Mech Testing - N**
1/4" = 1'-0"



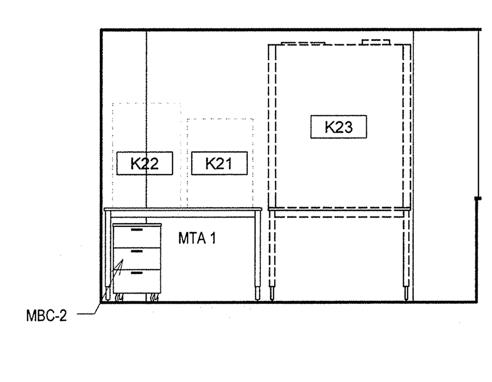
F1 A604 **L7078A - Mech Testing - East**
1/4" = 1'-0"



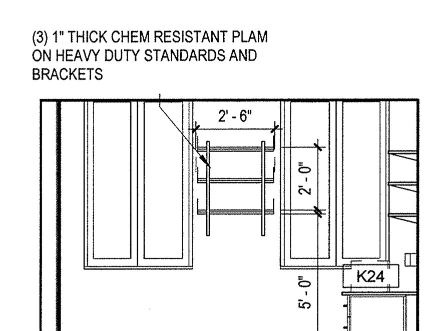
F2 A604 **L7078A - Mech Testing - South**
1/4" = 1'-0"



F3 A604 **L7078B - Tissue Culture - N**
1/4" = 1'-0"



F5 A604 **L7078B - Tissue Culture - S**
1/4" = 1'-0"



F6 A604 **L7078B - Tissue Culture - W**
1/4" = 1'-0"

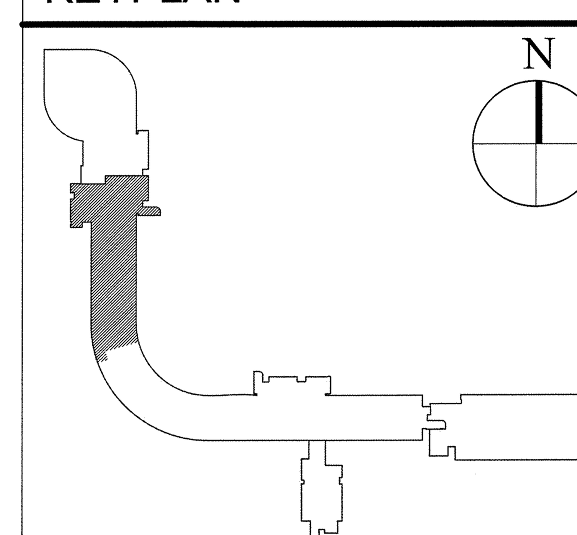
CASEWORK GENERAL NOTES

1. DO NOT SCALE DRAWINGS.
2. ELEVATIONS HAVE BEEN DRAWN FOR THE CASEWORK AND APPEAR ON DRAWINGS IN THE A-600 SERIES. REFER TO DRAWING A600 FOR TYPICAL CABINETS AND DETAILS. REFER TO PLANS, ENLARGED PLANS, AND ELEVATIONS FOR DIMENSIONS, QUANTITY, AND SPACING.
3. BASE UNITS, WALL CABINETS, TABLES, AND SERVICE CHASE PANELS SHALL BE OF WOOD CONSTRUCTION, UNLESS OTHERWISE NOTED. CABINET TYPES, CONFIGURATIONS, AND DIMENSIONS SHALL BE AS DETAILED ON CASEWORK ELEVATIONS. CASEWORK CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFYING ALL DIMENSIONS BEFORE BEGINNING FABRICATION.
4. COUNTERTOPS AT LAB BENCHES AND TABLES SHALL BE EPOXY RESIN, SPECIFIED IN DIV. 12 (UNLESS OTHERWISE NOTED). REFER TO NOTES ON ENLARGED LAB PLANS (A500 SERIES DRAWINGS) AND CASEWORK ELEVATIONS DRAWINGS (A600 SERIES) FOR OTHER COUNTERTOP MATERIALS. PROVIDE 1" RADIUS ON OUTSIDE CORNERS. COUNTERTOPS TO OVERHANG BASE UNITS BY 1".
5. REFER TO PLANS AND ENLARGED PLANS FOR DEPTHS OF COUNTERTOPS.
6. BACK AND SIDE SPLASHES TO BE 1" THICK AND 4" HIGH (U.O.N.). MATERIAL TO MATCH COUNTERTOPS.
7. PROVIDE SEALANT AT JOINTS BETWEEN BACKSPLASHES AND WALL, COUNTERTOPS OR EQUIPMENT. ALSO, PROVIDE SEALANT WHERE COUNTERTOPS MEET WALL SURFACES.
8. SINKS SHALL BE MODIFIED EPOXY RESIN WITH SIZE AS INDICATED IN THE LEGEND, UNLESS OTHERWISE NOTED. SINKS SHALL BE IN SINK BASE UNITS. SINK COLOR TO MATCH COUNTERTOP COLOR.
9. COORDINATE SIZE / LOCATIONS OF FAUCETS, AND SERVICE VALVES SO THAT THE FAUCET AND VALVE COMPONENTS DO NOT INTERFERE WITH EACH OTHER.
10. PROVIDE FINISHED CLOSURE PANELS AT EXPOSED END CONDITIONS.
11. PROVIDE FILLER/SCRIBE PANELS AT WALLS AND COLUMN CONDITIONS.
12. INSTALL CLOSURE PANELS BETWEEN BACK OF CABINETS OR HOODS AND WALLS AT EXPOSED ENDS.
13. COORDINATE WITH REFLECTED CEILING PLANS FOR PROPER CEILING HEIGHTS AND PIPE DROP ENCLOSURE HEIGHTS / LOCATIONS.
14. CONTRACTOR TO COORDINATE THE INSTALLATION OF SUPPLEMENTARY FRAMING, BLOCKING, AND BRACING FOR SUPPORT OF ALL WALL MOUNTED AND CEILING MOUNTED ITEMS. COMPLY WITH DETAILS INDICATED OR IF NONE AVAILABLE, WITH "GYPSUM CONSTRUCTION HANDBOOK" - PUBLISHED BY USGC. MINIMUM SIZE FOR BACKING IS 6" X 16 GA.
15. PROVIDE 3" DIAMETER PLASTIC GROMMET WHERE INDICATED. TYP.
16. MOUNT TOP OF MARKER BOARDS AND TACK BOARDS AT 7'-0" AFF UNLESS OTHERWISE NOTED.
17. PENETRATIONS THROUGH BENCH TOP SHALL BE SEALED WITH SILICONE SEALANT.
18. BACKS OF COUNTERTOPS AND SPLASHES AGAINST WALLS SHALL BE SEALED TO THE WALL WITH SILICONE SEALANT.
19. FREE STANDING SHELVING AND CASEWORK SHALL BE SECURED TO PREVENT TIPPING. SUBMIT SHOP DRAWINGS OF ATTACHMENT PRIOR TO INSTALLATION.
20. SAFETY SHOWERS/ EYEWASH UNITS SHALL COMPLY WITH ANSI STANDARDS FOR USABILITY BY THE PHYSICALLY DISABLED. SAFETY SHOWER / EYEWASH UNITS SHALL BE FURNISHED AND INSTALLED UNDER DIVISION 22.
21. FOR LABORATORY SERVICE FITTING TYPES, LOCATIONS AND ORDER, SEE ENLARGED PLANS. THESE FITTINGS ARE SPECIFIED IN DIVISION 12.
22. PROVIDE PLASTIC TRAY SHELF PROTECTORS AT LAB BASE CABINETS BELOW FUME HOODS AND SINKS.
23. FOR ALL SURFACE MOUNTED RACEWAYS, SEE ELECTRICAL DRAWINGS FOR OUTLET COUNT.

SYMBOLS LEGEND

Symbol	Description
	STAINLESS STEEL PEGBOARD WITH DRAIN & TROUGH
	ADJUSTABLE WALL SHELVES (3 TIER U.O.N.) OR WALL CABINETS, SEE CASEWORK ELEVATIONS.
	CYLINDER RESTRAINT - (1, 2, 3, OR 4 CYLINDERS PER PLAN). REFER TO DETAIL ON DRAWING A500.
CFH-X	CHEMICAL FUME HOOD WITH DISHED EPOXY RESIN WORK SURFACE. PROVIDE LAB SERVICE OUTLETS AS INDICATED ON THE ENLARGED LAB PLANS. REFER TO CASEWORK ELEVATIONS FOR HEIGHT.
MTA 1	MOVEABLE TABLE (2'-6" x 5'-0")
MTA 2	MOVEABLE TABLE (2'-6" x 4'-6")
MTA 3	MOVEABLE TABLE (2'-6" x 4'-0")
MTA 4	MOVEABLE TABLE (2'-6" x 3'-0")
ATA/ATB	ADJUSTABLE TABLE (ATA = SERVICES ON LEFT, ATB = SERVICES ON RIGHT
TAG	LAB EQUIPMENT - OFCI (OWNER FURNISHED, CONTRACTOR INSTALLED)
TAG	LAB EQUIPMENT - CFCI (CONTRACTOR FURNISHED CONTRACTOR INSTALLED)
NIC	FUTURE LAB EQUIPMENT - NIC (NOT IN CONTRACT)
	OWNER FURNISHED, OWNER INSTALLED CHAIR.
	OWNER FURNISHED, OWNER INSTALLED STOOL.
S1	HAND SINK - BY PLUMBING CONTRACTOR. SEE DIV 22.
LS1	UNDERMOUNT EPOXY RESIN SINK SINGLE BOWL (2'-0" x 1'-4" x 0'-10" DEEP) REFER TO ENLARGED PLANS FOR SERVICES & LOCATIONS.
LS2	DROP-IN EPOXY RESIN SINK SINGLE BOWL (2'-0" x 1'-4" x 0'-6" DEEP) REFER TO ENLARGED PLANS FOR SERVICES & LOCATIONS. ADA COMPLIANT.
	HW/CW DECK MOUNT
	HW/CW PANEL MOUNT
DI	DEIONIZED WATER SUPPLY
	DOUBLE DECK MOUNTED KEYCOCK. (MIN 12" OC) TYPE 1
	SINGLE DECK MOUNTED KEYCOCK.
	SINGLE WALL MOUNTED KEYCOCK.
SS/SEW	ADA COMPLIANT EYEWASH & SHOWER WITH PULL REFER TO DETAILS ON DRAWING A500.
FE	FIRE EXTINGUISHER AND MOUNTING BRACKET BY OWNER. HANDLE OF EXTINGUISHER TO BE LOCATED 4'-0" A.F.F.
CG	CORNER GUARD (REFER TO A-401 FOR LOCATIONS AND DETAILS)
EP	ELECTRICAL PANEL
FEC	FIRE EXTINGUISHER CABINET
TC	STAINLESS STEEL WIRE SHELVING (3'-0" x 1'-6")
TB	PAINTED STEEL WIRE SHELVING (3'-0" x 1'-6")

KEYPLAN



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Seal

STATE OF CONNECTICUT ALEXANDER K. WING No. 11632 LICENSED ARCHITECT

NOT FOR CONSTRUCTION

UCONN HEALTH

Main Building Renovation

Building L - Project 2

263 Farmington Ave
Farmington, CT 06032

Revisions

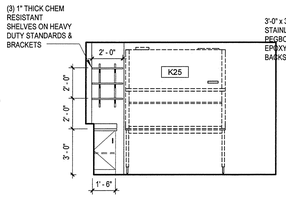
No.	Date	Description
1	10/19/15	Issue for Bid & Code Review
2	11/02/15	Addendum #01

Drawing Name
Lab Casework Elevations

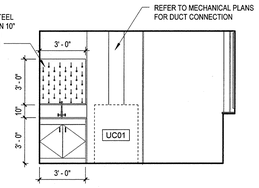
Project No. 218010732

Drawing Number
A604

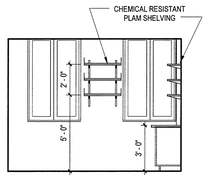
11/2/2015 1:27:17 PM



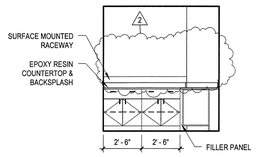
A1 A605 **L7078C - Animal Surgery - N**
1/4" = 1'-0"



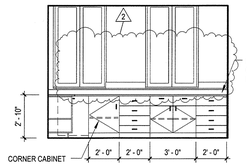
A2 A605 **L7078C - Animal Surgery - S**
1/4" = 1'-0"



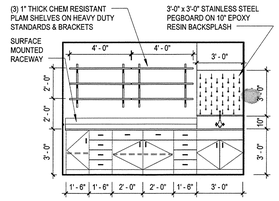
A3 A605 **L7078C - Animal Surgery - W**
1/4" = 1'-0"



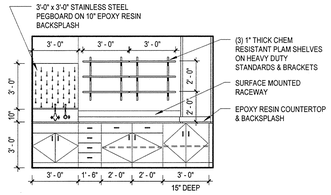
A4 A605 **L7078D - Mech Testing - S**
1/4" = 1'-0"



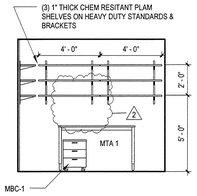
A5 A605 **L7078D - Mech Testing - W**
1/4" = 1'-0"



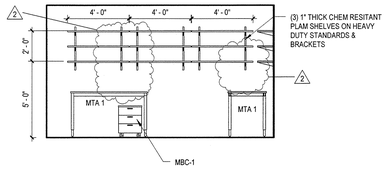
A6 A605 **L7080A - Equipment - N**
1/4" = 1'-0"



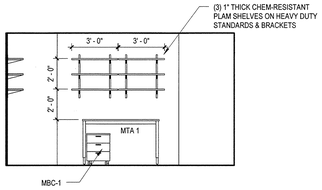
C1 A605 **L7080B - Equipment - S**
1/4" = 1'-0"



C2 A605 **L7080C - Scopes - East**
1/4" = 1'-0"



C3 A605 **L7080C - Scopes - North**
1/4" = 1'-0"



C4 A605 **L7080C - Scopes - South**
1/4" = 1'-0"

CASEWORK GENERAL NOTES

1. DO NOT SCALE DRAWINGS.

2. ELEVATIONS HAVE BEEN DRAWN FOR THE CASEWORK AND APPEAR ON DRAWINGS IN THE A-600 SERIES. REFER TO DRAWING A600 FOR TYPICAL CABINETS AND DETAILS. REFER TO PLANS, ENLARGED PLANS, AND ELEVATIONS FOR DIMENSIONS, QUANTITY, AND SPACING.

3. BASE UNITS, WALL CABINETS, TABLES, AND SERVICE CHASE PANELS SHALL BE OF WOOD CONSTRUCTION, UNLESS OTHERWISE NOTED. CABINET TYPES, CONFIGURATIONS, AND DIMENSIONS SHALL BE AS DETAILED ON CASEWORK ELEVATIONS. CASEWORK CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFYING ALL DIMENSIONS BEFORE BEGINNING FABRICATION.

4. COUNTERTOPS AT LAB BENCHES AND TABLES SHALL BE EPOXY RESIN, SPECIFIED IN DIV. 12 (UNLESS OTHERWISE NOTED). REFER TO NOTES ON ENLARGED LAB PLANS (A500 SERIES DRAWINGS) AND CASEWORK ELEVATIONS DRAWINGS (A600 SERIES) FOR OTHER COUNTERTOP MATERIALS. PROVIDE 1" RADIUS ON OUTSIDE CORNERS. COUNTERTOPS TO OVERHANG BASE UNITS BY 1".

5. REFER TO PLANS AND ENLARGED PLANS FOR DEPTHS OF COUNTERTOPS.

6. BACK AND SIDE SPLASHES TO BE 1" THICK AND 4" HIGH (U.O.N.). MATERIAL TO MATCH COUNTERTOPS.

7. PROVIDE SEALANT AT JOINTS BETWEEN BACKSPLASHES AND WALL, COUNTERTOPS OR EQUIPMENT. ALSO, PROVIDE SEALANT WHERE COUNTERTOPS MEET WALL SURFACES.

8. SINKS SHALL BE MODIFIED EPOXY RESIN WITH SIZE AS INDICATED IN THE LEGEND, UNLESS OTHERWISE NOTED. SINKS SHALL BE IN SINK BASE UNITS. SINK COLOR TO MATCH COUNTERTOP COLOR.

9. COORDINATE SIZE / LOCATIONS OF FAUCETS, AND SERVICE VALVES SO THAT THE FAUCET AND VALVE COMPONENTS DO NOT INTERFERE WITH EACH OTHER.

10. PROVIDE FINISHED CLOSURE PANELS AT EXPOSED END CONDITIONS.

11. PROVIDE FILLER/SCRIBE PANELS AT WALLS AND COLUMN CONDITIONS.

12. INSTALL CLOSURE PANELS BETWEEN BACK OF CABINETS OR HOODS AND WALLS AT EXPOSED ENDS.

13. COORDINATE WITH REFLECTED CEILING PLANS FOR PROPER CEILING HEIGHTS AND PIPE DROP ENCLOSURE HEIGHTS / LOCATIONS.

14. CONTRACTOR TO COORDINATE THE INSTALLATION OF SUPPLEMENTARY FRAMING, BLOCKING, AND BRACING FOR SUPPORT OF ALL WALL MOUNTED AND CEILING MOUNTED ITEMS. COMPLY WITH DETAILS INDICATED OR IF NONE AVAILABLE, WITH "GYPSUM CONSTRUCTION HANDBOOK" - PUBLISHED BY USGC. MINIMUM SIZE FOR BACKING IS 6" X 16 GA.

15. PROVIDE 3" DIAMETER PLASTIC GROMMET WHERE INDICATED. TYP.

16. MOUNT TOP OF MARKER BOARDS AND TACK BOARDS AT 7'-0" AFF UNLESS OTHERWISE NOTED.

17. PENETRATIONS THROUGH BENCH TOP SHALL BE SEALED WITH SILICONE SEALANT.

18. BACKS OF COUNTERTOPS AND SPLASHES AGAINST WALLS SHALL BE SEALED TO THE WALL WITH SILICONE SEALANT.

19. FREE STANDING SHELVING AND CASEWORK SHALL BE SECURED TO PREVENT TIPPING. SUBMIT SHOP DRAWINGS OF ATTACHMENT PRIOR TO INSTALLATION.

20. SAFETY SHOWERS/ EYEWASH UNITS SHALL COMPLY WITH ANSI STANDARDS FOR USABILITY BY THE PHYSICALLY DISABLED. SAFETY SHOWER / EYEWASH UNITS SHALL BE FURNISHED AND INSTALLED UNDER DIVISION 22.

21. FOR LABORATORY SERVICE FITTING TYPES, LOCATIONS AND ORDER, SEE ENLARGED PLANS. THESE FITTINGS ARE SPECIFIED IN DIVISION 12.

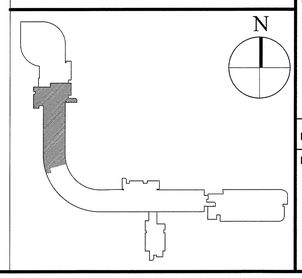
22. PROVIDE PLASTIC TRAY SHELF PROTECTORS AT LAB BASE CABINETS BELOW FUME HOODS AND SINKS.

23. FOR ALL SURFACE MOUNTED RACEWAYS, SEE ELECTRICAL DRAWINGS FOR OUTLET COUNT.

SYMBOLS LEGEND

	STAINLESS STEEL PEGBOARD WITH DRAIN & TROUGH
	ADJUSTABLE WALL SHELVES (3 TIER U.O.N.) OR WALL CABINETS, SEE CASEWORK ELEVATIONS.
	CYLINDER RESTRAINT - (1, 2, 3, OR 4 CYLINDERS PER PLAN). REFER TO DETAIL ON DRAWING A500.
CFH-X	CHEMICAL FUME HOOD WITH DISHED EPOXY RESIN WORK SURFACE. PROVIDE LAB SERVICE OUTLETS AS INDICATED ON THE ENLARGED LAB PLANS. REFER TO CASEWORK ELEVATIONS FOR HEIGHT.
MTA 1	MOVEABLE TABLE (2'-6" x 5'-0")
MTA 2	MOVEABLE TABLE (2'-6" x 4'-6")
MTA 3	MOVEABLE TABLE (2'-6" x 4'-0")
MTA 4	MOVEABLE TABLE (2'-6" x 3'-0")
ATA/ATB	ADJUSTABLE TABLE (ATA = SERVICES ON LEFT, ATB = SERVICES ON RIGHT
TAG	LAB EQUIPMENT - OFCI (OWNER FURNISHED, CONTRACTOR INSTALLED)
TAG	LAB EQUIPMENT - CFCI (CONTRACTOR FURNISHED CONTRACTOR INSTALLED)
NIC	FUTURE LAB EQUIPMENT - NIC (NOT IN CONTRACT)
	OWNER FURNISHED, OWNER INSTALLED CHAIR.
	OWNER FURNISHED, OWNER INSTALLED STOOL.
S1	HAND SINK - BY PLUMBING CONTRACTOR. SEE DIV 22.
2 LS1•	UNDERMOUNT EPOXY RESIN SINK SINGLE BOWL (2'-0" x 1'-4" x 0'-10" DEEP) REFER TO ENLARGED PLANS FOR SERVICES & LOCATIONS.
LS2•	DROP-IN EPOXY RESIN SINK SINGLE BOWL (2'-0" x 1'-4" x 0'-6" DEEP) REFER TO ENLARGED PLANS FOR SERVICES & LOCATIONS. ADA COMPLIANT.
	HW/CW DECK MOUNT
	HW/CW PANEL MOUNT
DI	DEIONIZED WATER SUPPLY
2	DOUBLE DECK MOUNTED KEYCOCK. (MIN 12" OC) TYPE 1
	SINGLE DECK MOUNTED KEYCOCK.
	SINGLE WALL MOUNTED KEYCOCK.
SS/SEW	ADA COMPLIANT EYEWASH & SHOWER WITH PULL. REFER TO DETAILS ON DRAWING A500.
FE	FIRE EXTINGUISHER AND MOUNTING BRACKET BY OWNER. HANDLE OF EXTINGUISHER TO BE LOCATED 4'-0" A.F.F.
CG	CORNER GUARD (REFER TO A-401 FOR LOCATIONS AND DETAILS)
EP	ELECTRICAL PANEL
FEC	FIRE EXTINGUISHER CABINET
TC	STAINLESS STEEL WIRE SHELVING (3'-0" x 1'-6")
TB	PAINTED STEEL WIRE SHELVING (3'-0" x 1'-6")

KEYPLAN



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UCONN HEALTH

Main Building Renovation

Building L - Project 2

263 Farmington Ave
Farmington, CT 06032

Revisions

No.	Date	Description
1	10/19/15	Issue for Bid & Code Review
2	11/02/15	Addendum #01

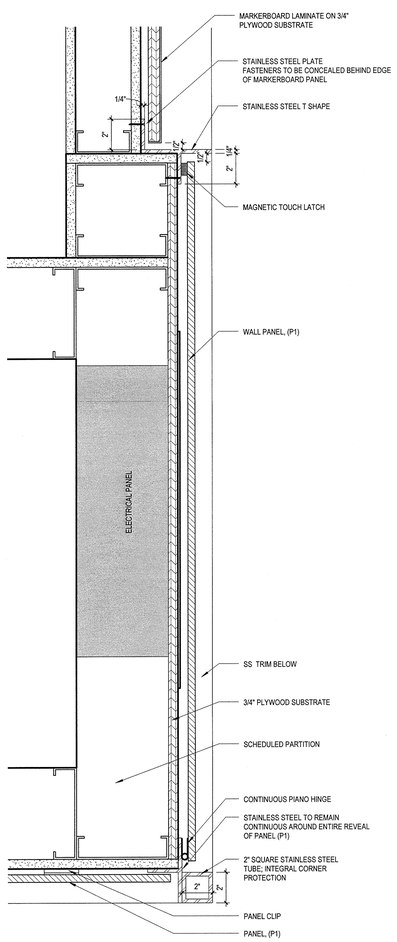
Drawing Name

Lab Casework Elevations

Project No. 218010732

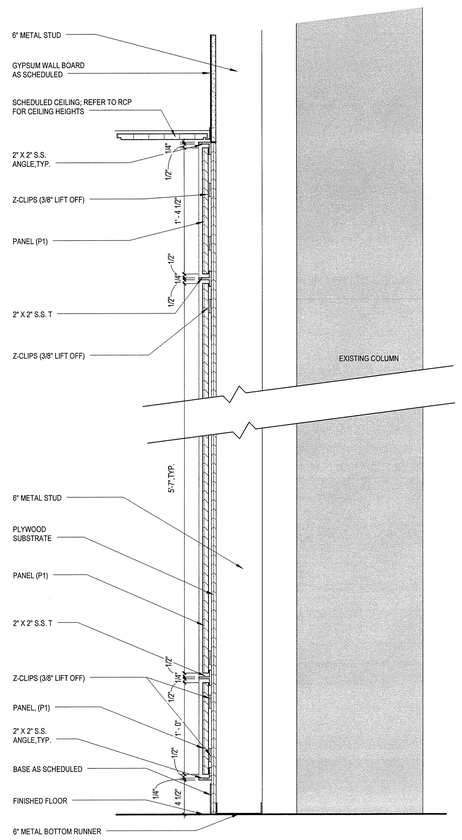
Drawing Number

A605



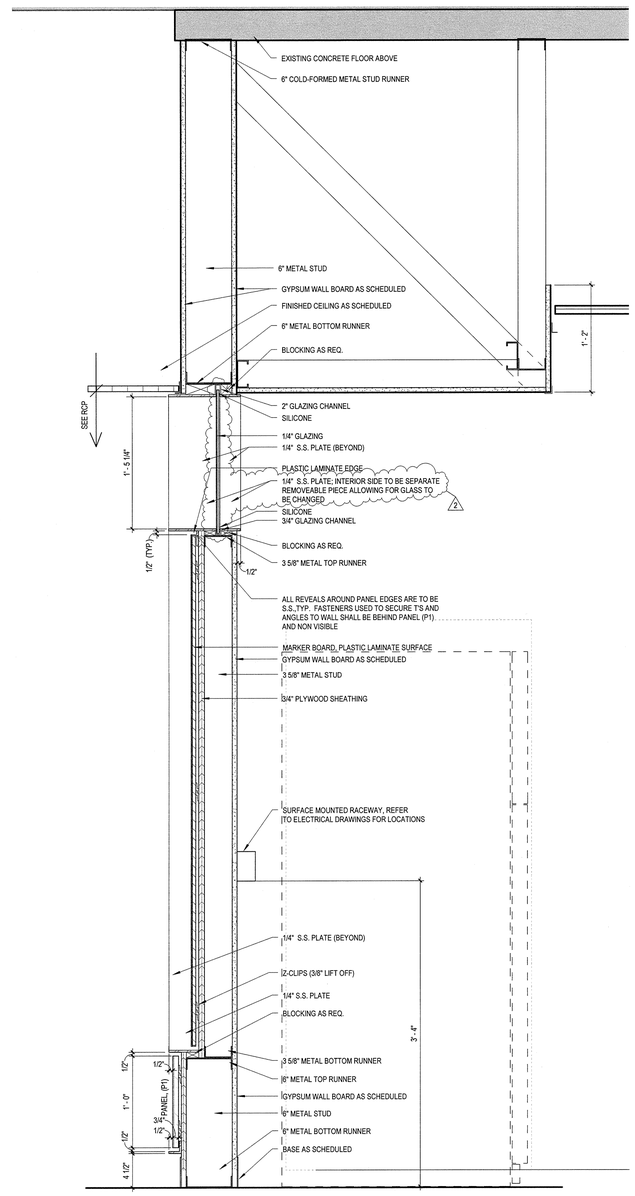
1 DETAIL-LAB WALL

A700.3A/A720 3" = 1'-0"



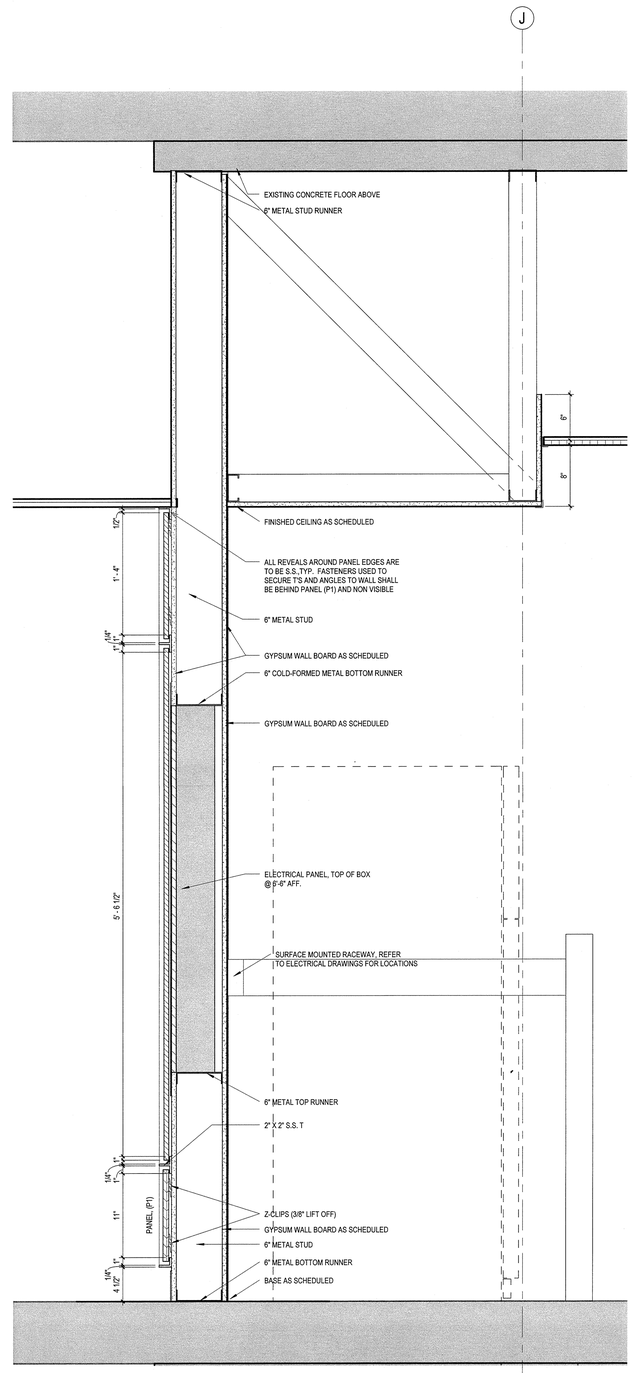
2 WALL SECTION - OPEN LAB ENTRANCE

A720 1 1/2" = 1'-0"



3 WALL SECTION - MAGNETIC MARKER GLASS

A720 1 1/2" = 1'-0"



4 WALL SECTION - ELECTRICAL PANEL

A720 1 1/2" = 1'-0"

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Main Building Renovation

Building L - Project 2

263 Farmington Ave
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Revisions

No.	Date	Description
1	10/19/15	Issue for Bid & Code Review
2	11/02/15	Addendum #01

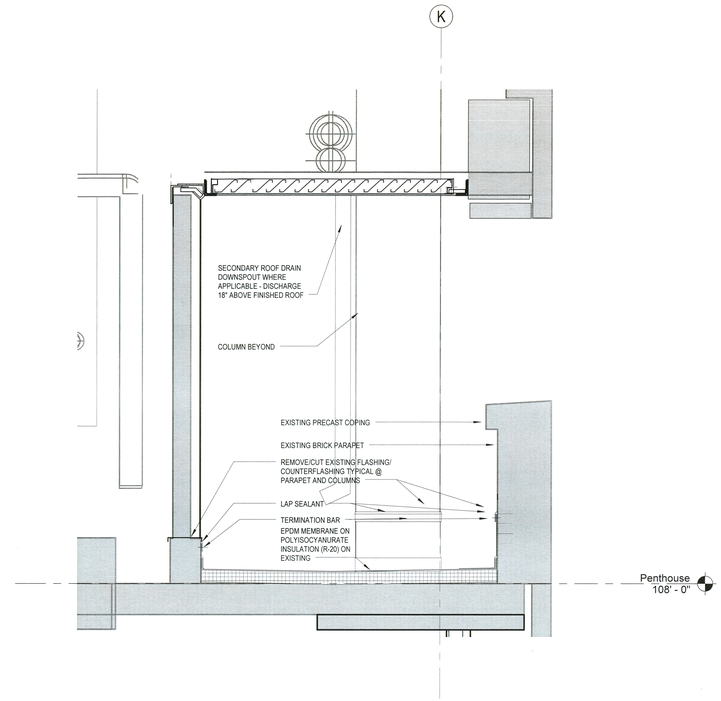
Drawing Name

Interior Wall Sections and Details

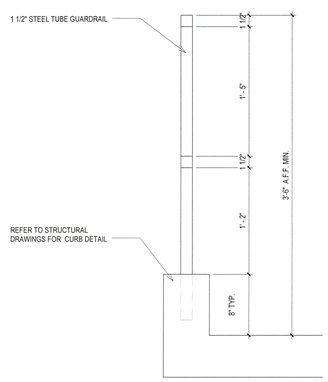
Project No. 218010732

Drawing Number

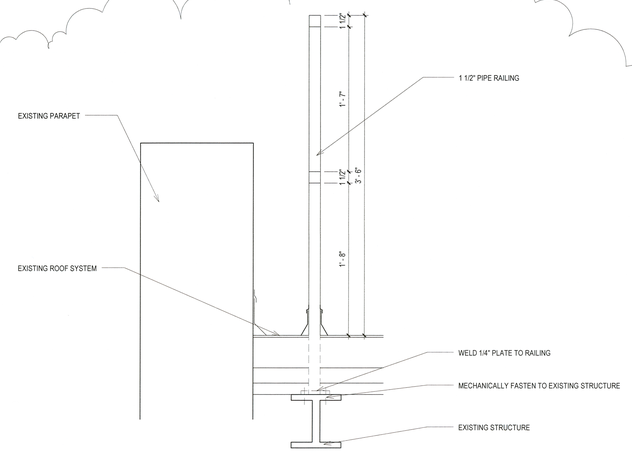
A720



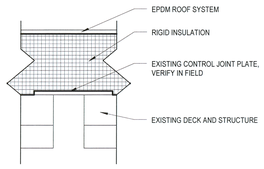
C5 A802 **Soffit Louver @ Penthouse Walkway**
3/4" = 1'-0"



E4 A802 **Guardrail @ Penthouse Openings**
1 1/2" = 1'-0"

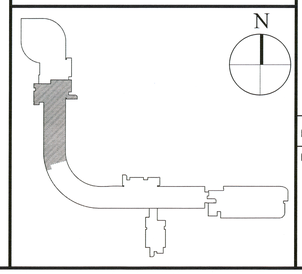


E7 A802 **Fall Protection - Roof Guardrail**
1 1/2" = 1'-0"



F6 A802 **Expansion Joint Detail - Lower Roof**
3" = 1'-0"

KEYPLAN



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Main Building Renovation

Building L - Project 2

263 Farmington Ave
Farmington, CT 06032

Revisions

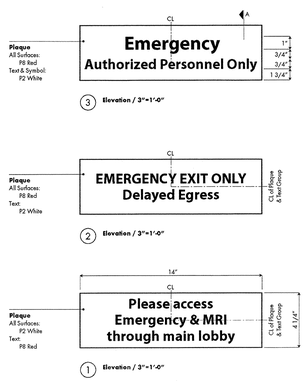
No.	Date	Description
1	10/19/15	Issue for Bid & Code Review
2	11/02/15	Addendum #01

Drawing Name
Roof Sections and Details

Project No. 218010732

Drawing Number
A802

Signature Standards Manual — University of Connecticut Health Center

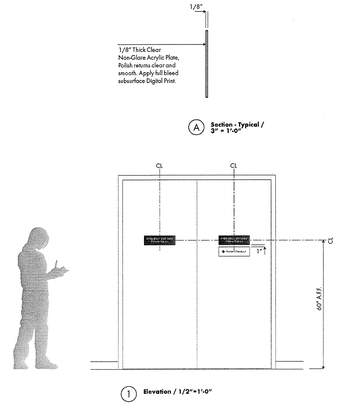


NOTE:
Refer to Finish Schedule for exact color specifications.
Typography: Myriad Pro Bold, 3/4" Cap Height, 1/2" leteline spacing, except as noted. Warning plaques have Red background with White copy, all other plaques have White background with Red copy.

M Series / Regulatory
Regulatory Plaque - Door Mount

M2.1 page 1 of 2

Signage Standards Manual — University of Connecticut Health Center



NOTE:
Concealed VHB tape and silicone mount flush to door. Locate 60" to centerline of plaque from finished floor; center horizontally on visible door panel.

M Series / Regulatory
Regulatory Plaque - Door Mount

M2.2 page 2 of 2

NOTE: WHERE M2 SIGNS ARE INDICATED AT DOUBLE DOORS, PROVIDE 1 SIGN PER DOOR PANEL ON THE SIDE INDICATED IN PLAN

D14

FINAL COPY TO BE COORDINATED WITH OWNER. MOUNTING HEIGHTS SHALL BE DETERMINED AFTER COPY IS DESIGNATED FOR EACH AREA.

MATERIAL: ACRYLIC DIMENSIONAL LETTERS
SIZE: 3 1/2" CAP X 1/2" THICK
FONT: MYRIAD PRO BOLD CONDENSED
MOUNTING: DRILL AND TAP AS NEEDED TO PROVIDE SECURE ATTACHMENT
LETTER FACE: P4 SILVER; LETTER RETURNS; P4 SILVER
ALLI NSIDE AND OUTSIDE CORNERS TO BE BUFFED SMOOTH AND EVEN
QTY. : PROVIDE AN ALLOWANCE OF 50 LETTERS PER SIGNAGE AREA.

GENERAL SIGNAGE NOTES

1. ALL SIGNAGE SHOWN HAS BEEN EXCERPTED, PER UCHC DESIGN STANDARDS MANUAL FOR SIGNAGE.

2. UNLESS OTHERWISE NOTED SIGNAGE SHALL BE INSTALLED PER UCHC SIGNAGE
DESIGN STANDARDS MANUAL.

3. DO NOT INSTALL MECHANICAL FASTENERS FOR SIGNAGE IN ANY RATED DOORS OR PARTITIONS.

4. ALL SIGNAGE MOUNTED TO GLASS SHALL HAVE A COORDINATING BACKER PLATE ON THE INTERIOR SIDE OF THE GLASS TO HIDE THE MOUNTING.

5. OWNER TO PROVIDE ALL COPY FOR SIGNAGE INSERTS.

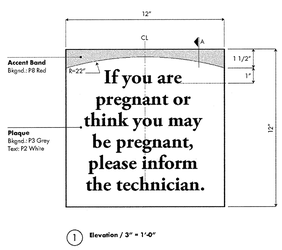
6. PROVIDE TEMPLATE, AFTER INITIAL INSTALL OF INSERTS, TO OWNER FOR FUTURE USE.

7. SIGNAGE VENDOR IS TO PROVIDE A WORKING DOCUMENT, WITH EDITABLE FIELDS,
FOR EACH SIGN / SIGN TYPE WITH UNIQUE TEXT. FIELDS SHALL BE PROVIDED FOR EACH LINE INCLUDING, BUT NOT LIMITED TO, ROOM NAMES / NUMBERS, SIGNAGE INSERTS, STAIR LEVEL AND DISCHARGE DIRECTIONS,ETC. ALL COPY WILL BE COMPLETED BY OWNER / ARCHITECT, IN THE EDITABLE DOCUMENT, FOR COORDINATION WITH SIGNAGE VENDOR.

8. PROVIDE QTY. (3) W11 TYPE SIGNS, QTY. (2) TYPE M2 AND QTY (1) W12 SIGNS AT EACH LEVEL FOR LEVELS GROUND AND BASEMENT. SIGNS WILL BE INSTALLED SIMILAR TO CONFIGURATION SHOWN ON LEVELS 4-7.

9. PROVIDE QTY. (3) W11 TYPE SIGNS, QTY. (2) TYPE M2 AND QTY (1) W12 SIGNS AT EACH LEVEL FOR LEVELS SUB BASEMENT, MAIN, LEVEL 1, LEVEL 2 & LEVEL 3 AS PART OF ALTERNATE A5. SIGNS WILL BE INSTALLED SIMILAR TO CONFIGURATION SHOWN ON LEVELS 4-7.

Signage Standards Manual — University of Connecticut Health Center

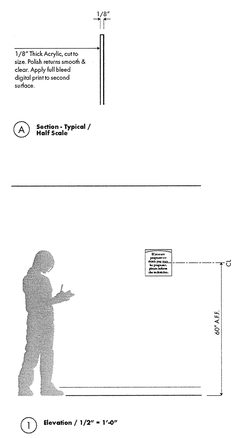


NOTES:
Refer to Finish Schedule for exact color specifications.
Typography: Adobe Garamond Pro Bold, 1" Cap Height
(Based on "E"), 1/2" Interline Spacing.

M Series / Message
Regulatory Plaque
Medium

M1.B page 1 of 2

Signage Standards Manual — University of Connecticut Health Center

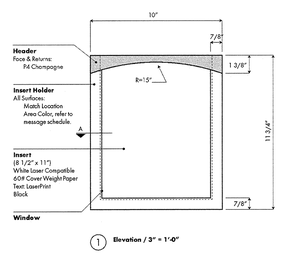


NOTES:
Concealed VHB tape and silicone mount flush to wall. Locate 60" to centerline of plaque from finished floor. Owner to verify exact location.

M Series / Message
Regulatory Plaque
Medium

M1.B page 2 of 2

Signage Standards Manual — University of Connecticut Health Center

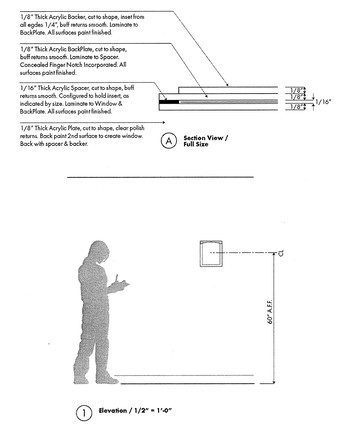


NOTES:
Refer to Finish Schedule for exact color specifications.
Inserts provided by Owner.

M Series / Message
Wall Mounted Holder
Small

M6.B page 1 of 2

Signage Standards Manual — University of Connecticut Health Center

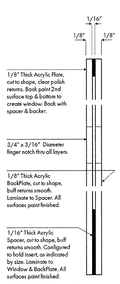


NOTES:
Concealed VHB tape and silicone mount flush to wall.
Locate 60" to centerline of plaque from finished floor.
Owner to verify exact locations.

M Series / Message
Wall Mounted Holder
Small

M6.B page 2 of 2

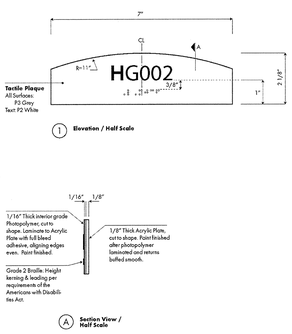
Signage Standards Manual — University of Connecticut Health Center



D Series / Destination
Tertiary Destination Plaque
Insert Holder (Part C)

D5.C.4 page 4 of 6

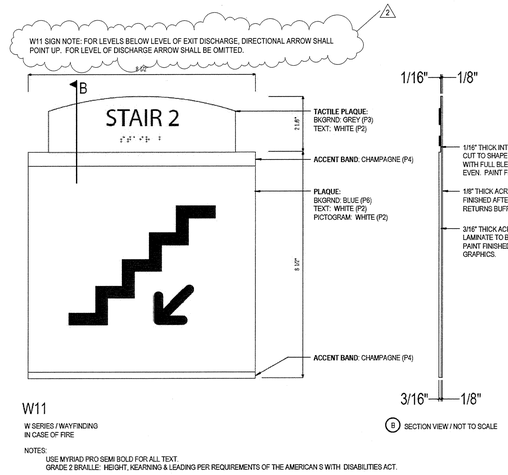
Signage Standards Manual — University of Connecticut Health Center



NOTES:
Refer to Finish Schedule for exact color specifications.
Refer to sheets D5.1-.3 for typical Sign Type Elements.
Typography: Myriad Pro Semibold for Alpha Characters & Myriad Pro Regular for Numerals.

D Series / Destination
Tertiary Destination Plaque
Room Number - Tactile (Part A)

D5.A.1 page 1 of 1

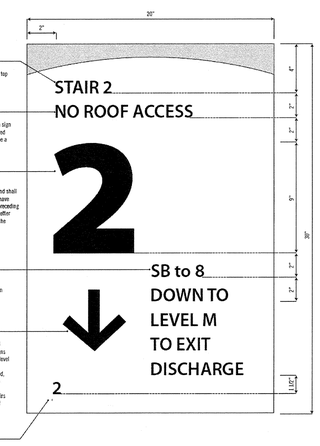


W11

W SERIES / WAYFINDING
IN CASE OF FIRE

NOTES:
USE MYRIAD-PRO-SEMI BOLD FOR ALL, TEXT.
GRADE 2 BRAILLE: HEIGHT, KEARNING & LEADING PER REQUIREMENTS OF THE AMERICAN S WITH DISABILITIES ACT.

7.2.2.5.4* Stairway Marking.
7.2.2.5.4.1 Enclosed stairs meeting either of the following two conditions shall comply with 7.2.2.5.4.1(A) through 7.2.2.5.4.1(H).
(1) The stair is a new enclosed stair serving three or more stories.
(2) The stair is an existing enclosed stair serving five or more stories.
(A) The stairs shall be provided with special signage within the enclosure at each floor landing.
(B) The signage shall indicate the floor level.
(C) The signage shall indicate the terminus of the top and bottom of the stair enclosure.
(D) The signage shall indicate the identification of the stair enclosure.
(E) The signage shall indicate the floor level of, and the direction to, exit discharge.
(F) The signage shall be located inside the enclosure approximately 60 in. (1525 mm) above the floor landing in a position that is **W12** when the door is in the open or closed position.
(G) The signage shall comply with 7.10.8.1 and 7.10.8.2 of this Code.
(H) See notes.



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UCONN HEALTH

Main Building Renovation

Building L - Project 2

263 Farmington Ave
Farmington, CT 06032

Revisions

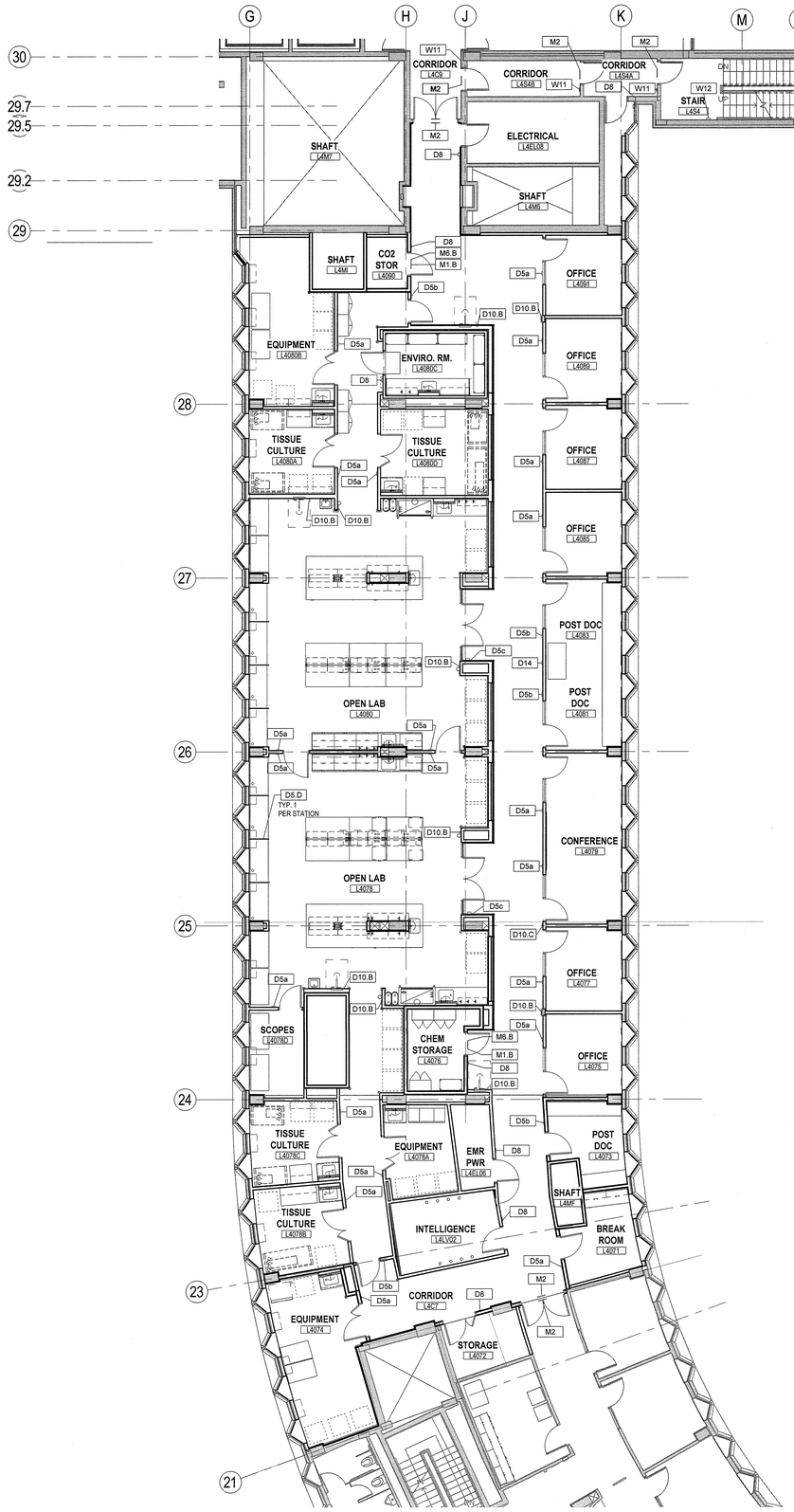
No.	Date	Description
1	10/19/15	Issue for Bid & Code Review
2	11/02/15	Addendum #01

Drawing Name
Typical Signage Details

Project No. 218010732

Drawing Number
A901

11/2/2015 1:55:34 PM



1 A902/A904 **4th Floor - Signage Plan - Pt1**
1/8" = 1'-0"

GENERAL SIGNAGE NOTES

1. ALL SIGNAGE SHOWN HAS BEEN EXCERPTED, PER UCHC DESIGN STANDARDS MANUAL FOR SIGNAGE.

2. UNLESS OTHERWISE NOTED SIGNAGE SHALL BE INSTALLED PER UCHC SIGNAGE
DESIGN STANDARDS MANUAL.

3. DO NOT INSTALL MECHANICAL FASTENERS FOR SIGNAGE IN ANY RATED DOORS OR PARTITIONS.

4. ALL SIGNAGE MOUNTED TO GLASS SHALL HAVE A COORDINATING BACKER PLATE ON THE INTERIOR SIDE OF THE GLASS TO HIDE THE MOUNTING.

5. OWNER TO PROVIDE ALL COPY FOR SIGNAGE INSERTS.

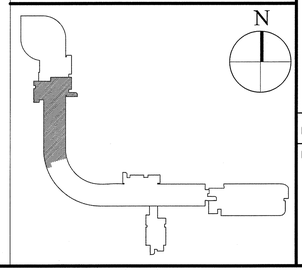
6. PROVIDE TEMPLATE, AFTER INITIAL INSTALL OF INSERTS, TO OWNER FOR FUTURE USE.

7. SIGNAGE VENDOR IS TO PROVIDE A WORKING DOCUMENT, WITH EDITABLE FIELDS,
FOR EACH SIGN / SIGN TYPE WITH UNIQUE TEXT. FIELDS SHALL BE PROVIDED FOR EACH LINE INCLUDING, BUT NOT LIMITED TO, ROOM NAMES / NUMBERS, SIGNAGE INSERTS, STAIR LEVEL AND DISCHARGE DIRECTIONS,ETC. ALL COPY WILL BE COMPLETED BY OWNER / ARCHITECT, IN THE EDITABLE DOCUMENT, FOR COORDINATION WITH SIGNAGE VENDOR.

8. PROVIDE QTY. (3) W11 TYPE SIGNS, QTY. (2) TYPE M2 AND QTY (1) W12 SIGNS AT EACH LEVEL FOR LEVELS GROUND AND BASEMENT. SIGNS WILL BE INSTALLED SIMILAR TO CONFIGURATION SHOWN ON LEVELS 4-7.

2 9. PROVIDE QTY. (3) W11 TYPE SIGNS, QTY. (2) TYPE M2 AND QTY (1) W12 SIGNS AT EACH LEVEL FOR LEVELS SUB BASEMENT, MAIN, LEVEL 1, LEVEL 2 & LEVEL 3 AS PART OF ALTERNATE A5. SIGNS WILL BE INSTALLED SIMILAR TO CONFIGURATION SHOWN ON LEVELS 4-7.

KEYPLAN



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Main Building Renovation

Building L - Project 2

263 Farmington Ave
Farmington, CT 06032

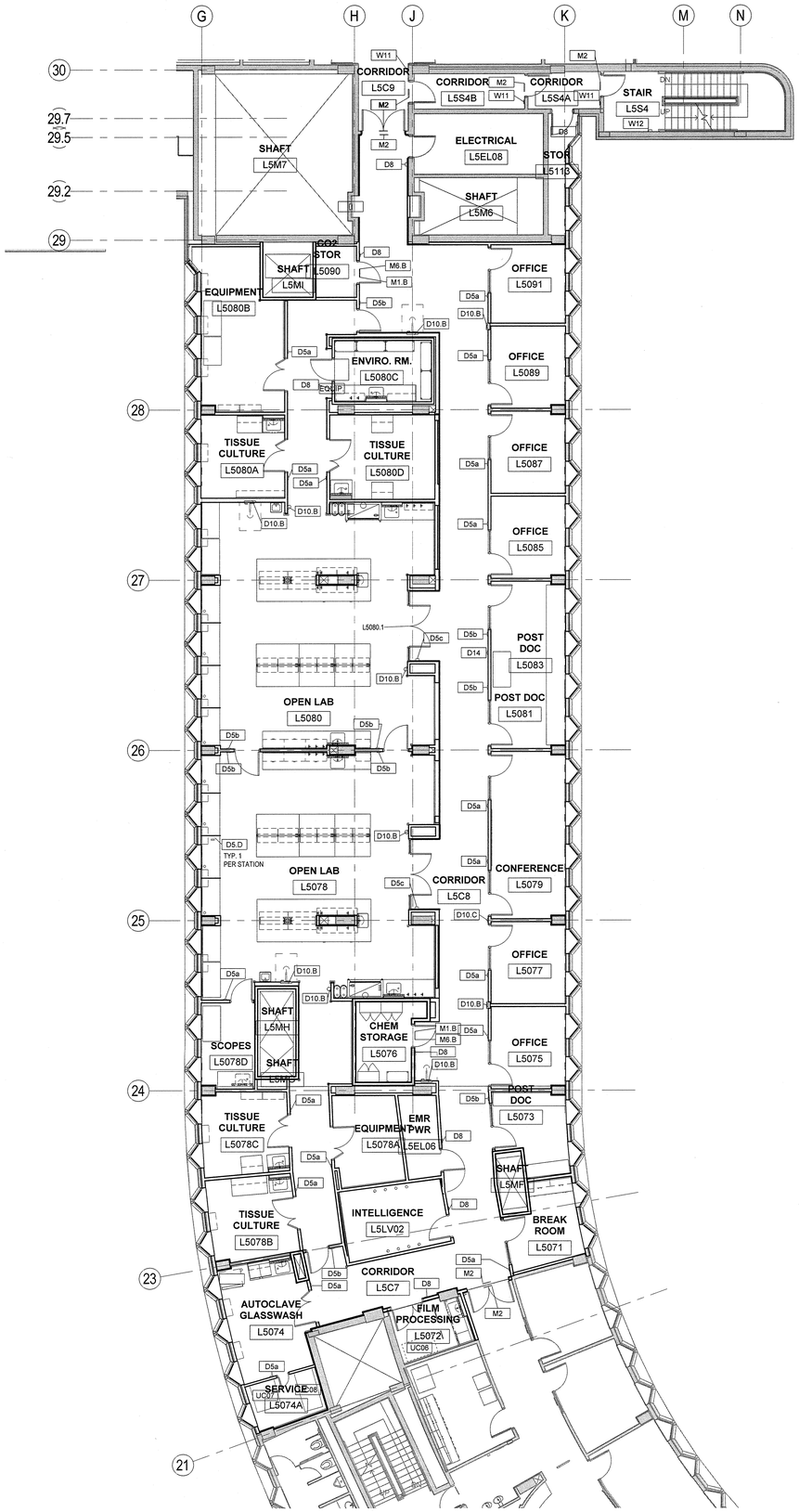
Revisions

No.	Date	Description
1	10/19/15	Issue for Bid & Code Review
2	11/02/15	Addendum #01

Drawing Name
Signage Plan - Fourth Floor

Project No. 218010732

Drawing Number
A904



1 A905 **5th Floor - Signage Plan**
1/8" = 1'-0"

GENERAL SIGNAGE NOTES

1. ALL SIGNAGE SHOWN HAS BEEN EXCERPTED, PER UCHC DESIGN STANDARDS MANUAL FOR SIGNAGE.

2. UNLESS OTHERWISE NOTED SIGNAGE SHALL BE INSTALLED PER UCHC SIGNAGE
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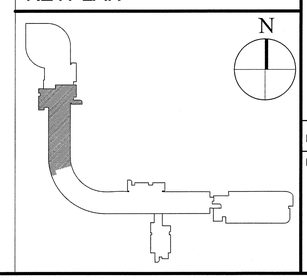
8. PROVIDE QTY. (3) W11 TYPE SIGNS, QTY. (2) TYPE M2 AND QTY (1) W12 SIGNS AT EACH LEVEL FOR LEVELS GROUND AND BASEMENT. SIGNS WILL BE INSTALLED SIMILAR TO CONFIGURATION SHOWN ON LEVELS 4-7.

9. PROVIDE QTY. (3) W11 TYPE SIGNS, QTY. (2) TYPE M2 AND QTY (1) W12 SIGNS AT EACH LEVEL FOR LEVELS SUB BASEMENT, MAIN, LEVEL 1, LEVEL 2 & LEVEL 3 AS PART OF ALTERNATE, A5. SIGNS WILL BE INSTALLED SIMILAR TO CONFIGURATION SHOWN ON LEVELS 4-7.

2

KEYPLAN



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Main Building Renovation

Building L - Project 2

263 Farmington Ave
Farmington, CT 06032

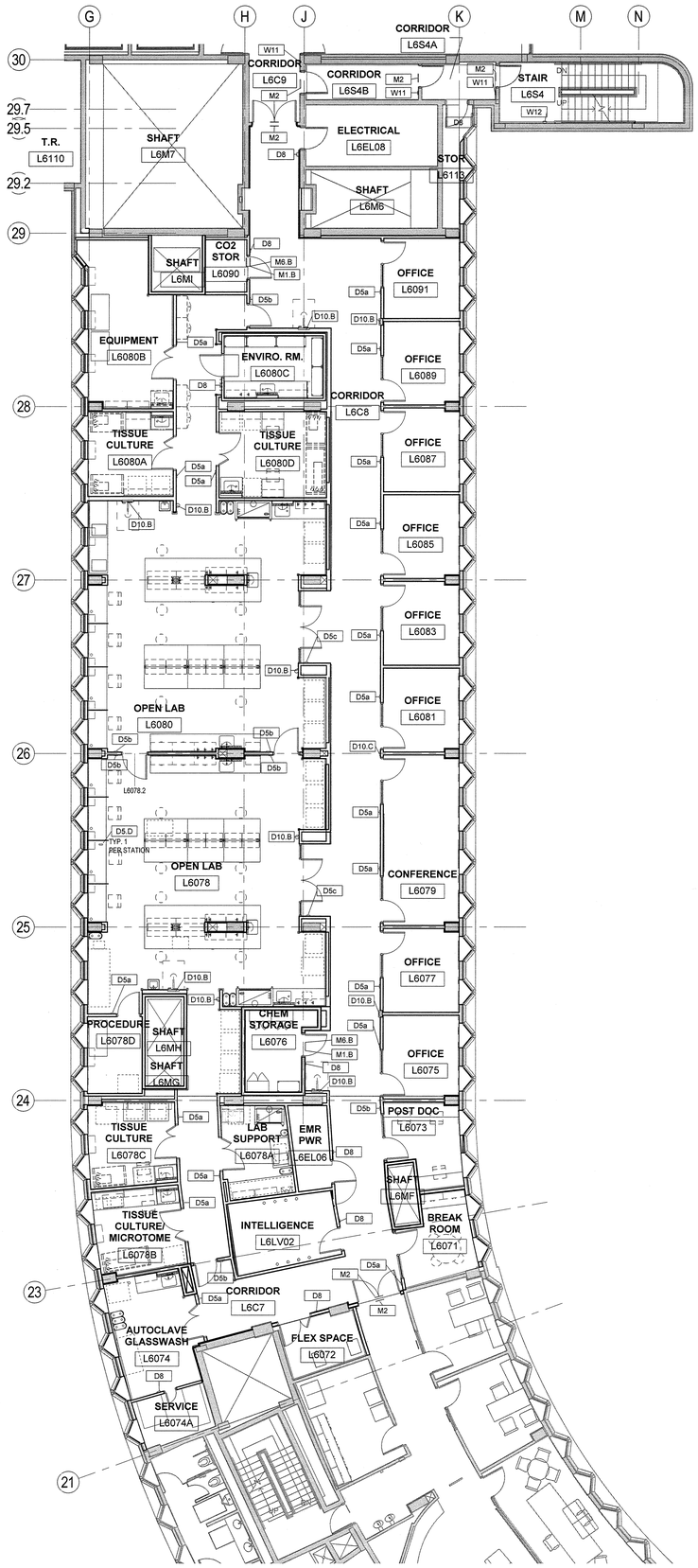
Revisions

No.	Date	Description
1	10/19/15	Issue for Bid & Code Review
2	11/02/15	Addendum #01

Drawing Name
Signage Plan - Fifth Floor

Project No. 218010732

Drawing Number
A905



1 A906 **6th Floor - Signage Plan**

1/8" = 1'-0"

GENERAL SIGNAGE NOTES

1. ALL SIGNAGE SHOWN HAS BEEN EXCERPTED, PER UCHC DESIGN STANDARDS MANUAL FOR SIGNAGE.

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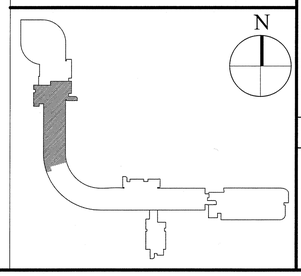
2

KEYPLAN



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Building L - Project 2

263 Farmington Ave
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Revisions

No.	Date	Description
1	10/19/15	Issue for Bid & Code Review
2	11/02/15	Addendum #01

Drawing Name

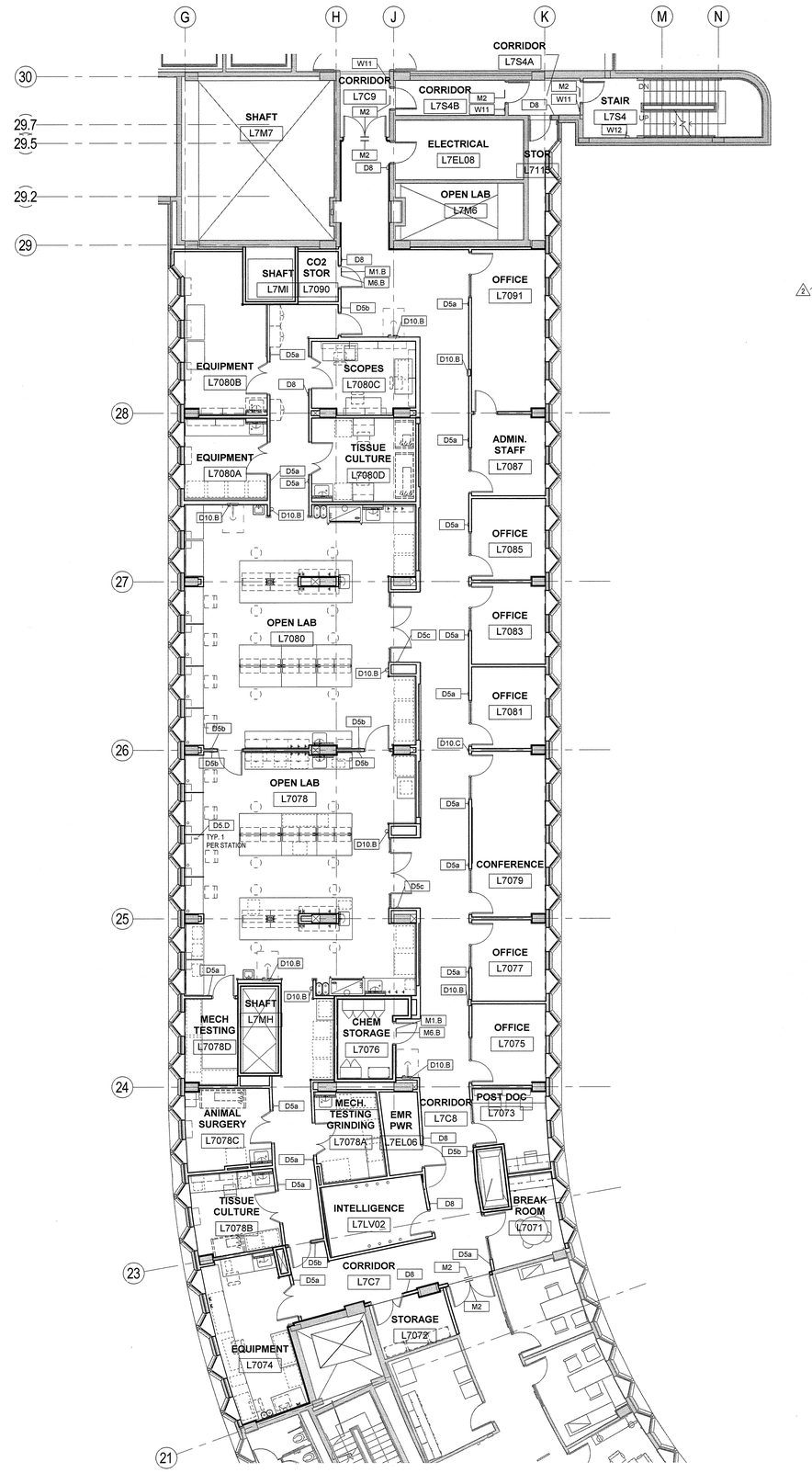
Signage Plan - Sixth Floor

Project No. 218010732

Drawing Number

A906

11/2/2015 12:47:02 PM



1 A907 **7th Floor - Signage Plan**

1/8" = 1'-0"

GENERAL SIGNAGE NOTES

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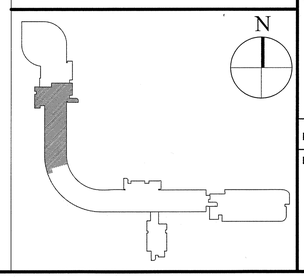
2

KEYPLAN



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Main Building Renovation

Building L - Project 2

263 Farmington Ave
Farmington, CT 06032

Revisions

No.	Date	Description
1	10/19/15	Issue for Bid & Code Review
2	11/02/15	Addendum #01

Drawing Name

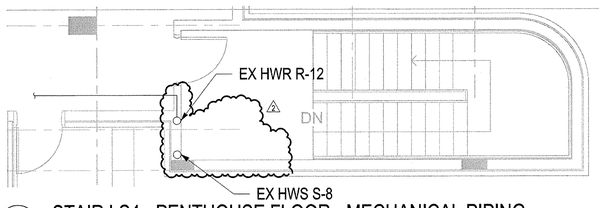
Signage Plan - Seventh Floor

Project No. 218010732

Drawing Number

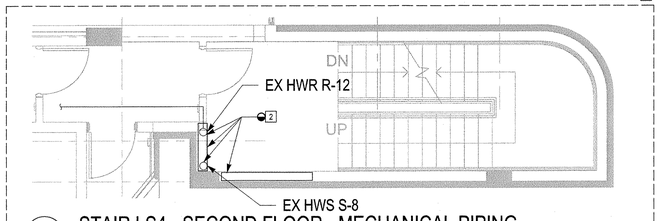
A907

11/2/2015 12:47:09 PM

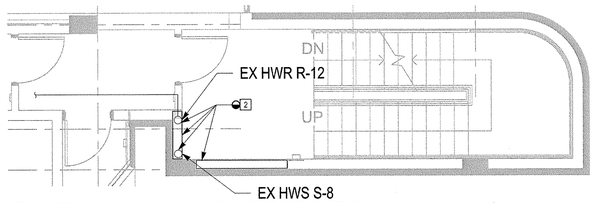


A1 STAIR LS4 - PENTHOUSE FLOOR - MECHANICAL PIPING
1/4" = 1'-0"

ADD ALTERNATE 1

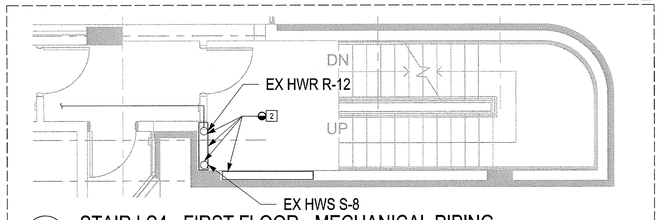


A3 STAIR LS4 - SECOND FLOOR - MECHANICAL PIPING
1/4" = 1'-0"

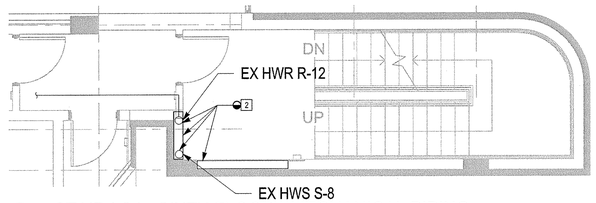


B1 STAIR LS4 - SEVENTH FLOOR - MECHANICAL PIPING
1/4" = 1'-0"

ADD ALTERNATE 1

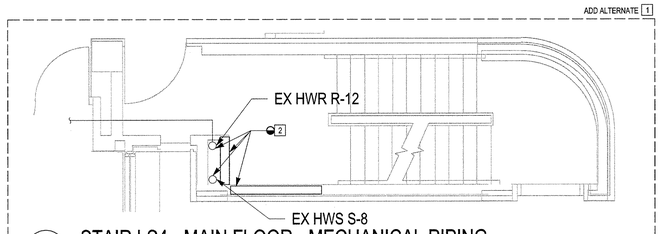


B3 STAIR LS4 - FIRST FLOOR - MECHANICAL PIPING
1/4" = 1'-0"

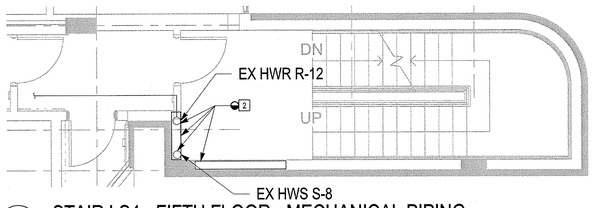


C1 STAIR LS4 - SIXTH FLOOR - MECHANICAL PIPING
1/4" = 1'-0"

ADD ALTERNATE 1

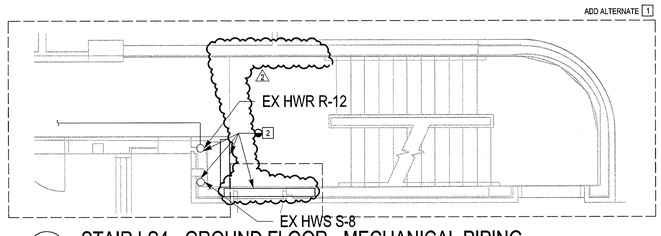


C3 STAIR LS4 - MAIN FLOOR - MECHANICAL PIPING
1/4" = 1'-0"

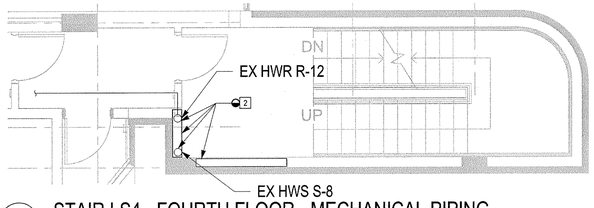


D1 STAIR LS4 - FIFTH FLOOR - MECHANICAL PIPING
1/4" = 1'-0"

ADD ALTERNATE 1

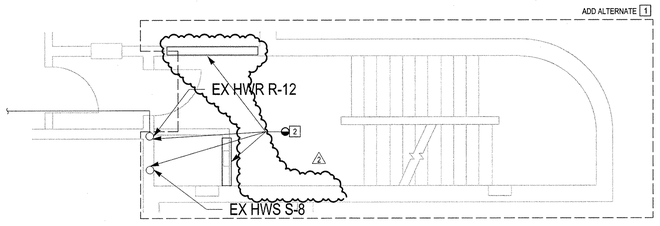


D3 STAIR LS4 - GROUND FLOOR - MECHANICAL PIPING
1/4" = 1'-0"



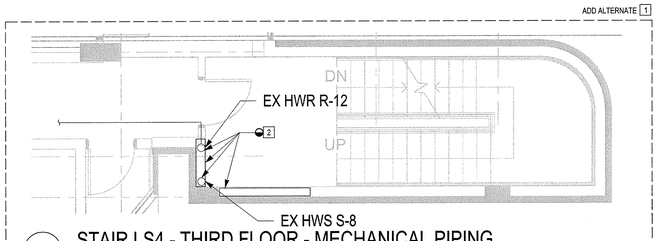
E1 STAIR LS4 - FOURTH FLOOR - MECHANICAL PIPING
1/4" = 1'-0"

ADD ALTERNATE 1



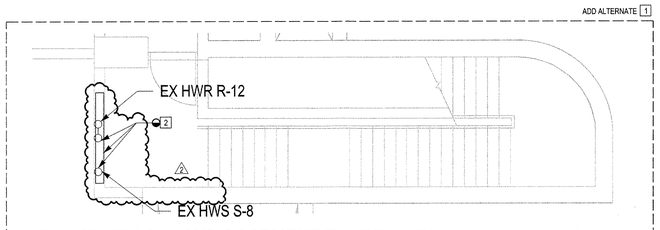
E3 STAIR LS4 - BASEMENT FLOOR - MECHANICAL PIPING
1/4" = 1'-0"

ADD ALTERNATE 1

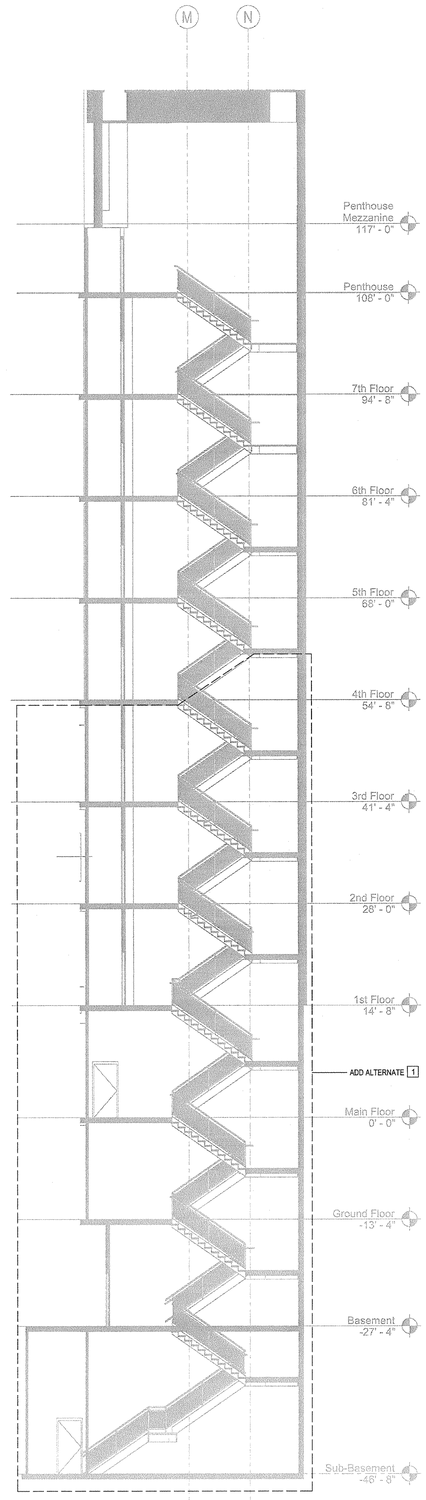


F1 STAIR LS4 - THIRD FLOOR - MECHANICAL PIPING
1/4" = 1'-0"

ADD ALTERNATE 1



F3 STAIR LS4 - SUB-BASEMENT FLOOR - MECHANICAL PIPING
1/4" = 1'-0"



F6 STAIR LS4 - SECTION - MECHANICAL PIPING
1/8" = 1'-0"

GENERAL NOTES

KEY NOTES

1 ADD ALTERNATE: REMOVE EXISTING RADIATORS IN STAIR FROM THIRD FLOOR TO SUB-BASEMENT LEVEL.

2 DISCONNECT EXISTING PIPING TO RADIATORS. REMOVE RADIATORS. PAINT AND REPAIR EXISTING WALL SURFACES.

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Main Building Renovation

Building L - Project 2

263 Farmington Ave
Farmington, CT 06032

Revisions

No.	Date	Description
1	10/19/15	Issue for Bid & Code Review
2	11/02/15	Addendum #01

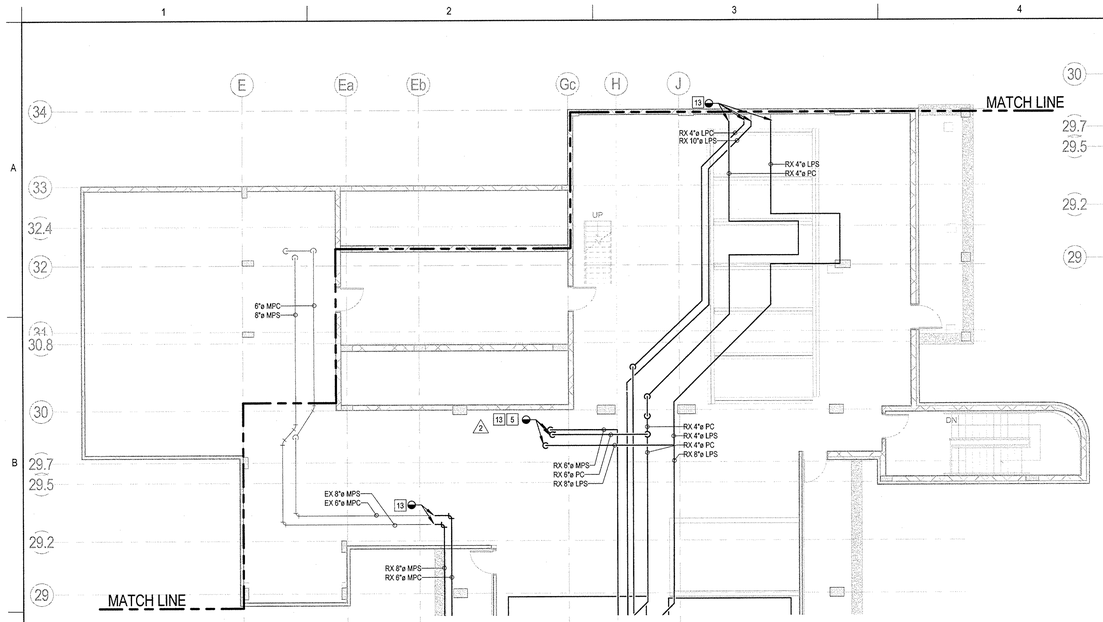
Drawing Name

STAIR PLANS & SECTIONS - MECHANICAL PIPING DEMOLITION

Project No. 218010732

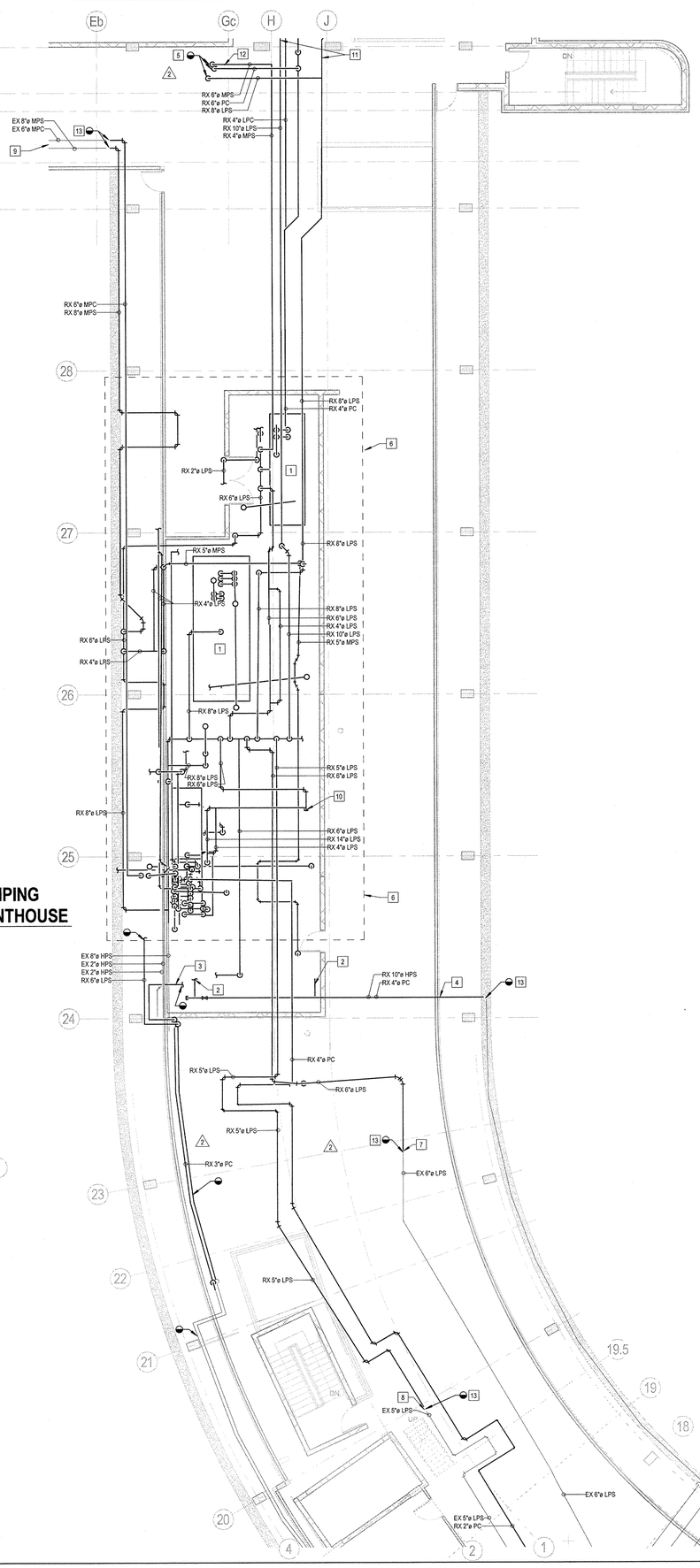
Drawing Number

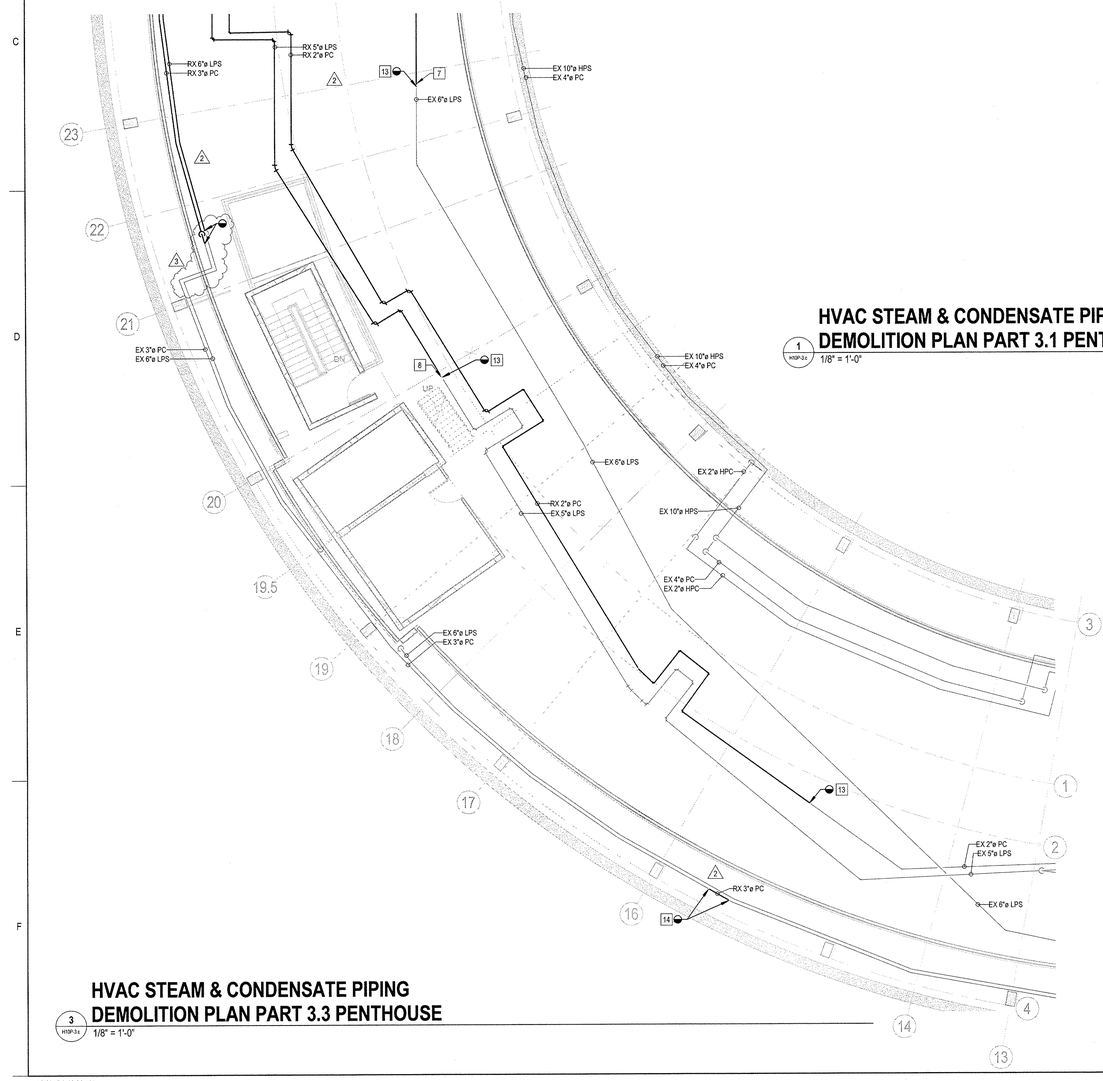
H108



HVAC STEAM & CONDENSATE PIPING DEMOLITION PLAN PART 3.2 PENTHOUSE

2 H10P-3.c 1/8" = 1'-0"





HVAC STEAM & CONDENSATE PIPING DEMOLITION PLAN PART 3.1 PENTHOUSE

1 H10P-3.c 1/8" = 1'-0"

HVAC STEAM & CONDENSATE PIPING DEMOLITION PLAN PART 3.3 PENTHOUSE

3 H10P-3.c 1/8" = 1'-0"

GENERAL NOTES

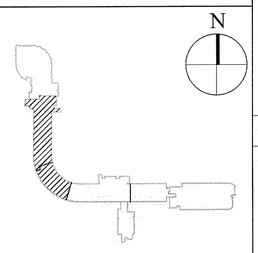
1. ANY SYSTEMS SHUT DOWNS ASSOCIATED WITH DEMOLITION WORK SHALL BE COORDINATED WITH THE OWNER.
2. PHASING AND SEQUENCING OF DEMOLITION AND TEMPORARY CONNECTIONS SHALL BE AT THE DIRECTION OF THE CONSTRUCTION MANAGER.
3. EX EQUIPMENT SHALL BE CLEANED AND REPAIRED. STORE IN AN APPROVED LOCATION PRIOR TO RELOCATION. COORD WITH CM.
4. PRIOR TO INSTALLATION OF AHU-L4, FIELD VERIFY EXISTING PIPING. RELOCATE PIPING AS REQUIRED TO ALLOW INSTALLATION OF AHU-L4 & ASSOCIATED DUCTWORK.

KEY NOTES

NOT ALL KEY NOTES LISTED ON THIS SHEET ARE USED.

1	STEAM BOILER, ASSOCIATED PIPING, BREECHING, AND ALL APPURTENANCES CONNECTED SHALL BE REMOVED.
2	EX 3" HPC DRAIN TO FLASH TANK IN BOILER ROOM (RELOCATE FLASH TANK NEAR CL 34/K)
3	RX 3" PC TO EX BOILER FEED TANK AND BOILER FEED TANK (DEMO)
4	RX 10" HPS & RX 4" MAIN PC (STACKED) TO E BUILDING
5	DEMO STEAM & COND PIPES TO THE LOCATION SHOWN TO 3' BELOW PENTHOUSE FLOOR SLAB. RECONNECT PER H30P-3A. PHASE CONSTRUCTION REQUIRED
6	DEMO LPS, MPS, HPS, ALL STEAM CONDENSATE, AND SUPPORTS WITHIN BOILER ROOM. PHASE DEMO AND CONSTRUCTION REQUIRED. (NOT ALL PIPES ARE SHOWN ON PLAN). REVIEW PHASING PLAN WITH CM AND ENGINEER.
7	PIPE TO BE USED FOR INDEPENDENT MPS TO HOSPITAL FOR BACKUP.
8	TO EXISTING 'L' PH DHW 'C' DHW
9	MPS TO EXISTING LOADS IN 9" SB NEONATAL AND 'L' SB BL-7, 8, 9
10	CAPPED. PREVIOUSLY SERVED SHAFT 3 'A' BUILDING SB (BL-11, BL-22, HX-3, HX-SYS T3, HX-RTU'S)
11	LPS TO EXISTING LOADS ('H' SB-8" LPS TO SHAFT 7 TO INACTIVE HX LOADS) ('H' PENTHOUSE-HX-A PK UNIT, DHW, HX-SYS-80, H TERM. RH) ('H' SB - PERM. HEAT')
12	LPS TO EXISTING LOADS ('H' SB-6" MPS TO SHAFT 16 KITCHEN) ('H' SB - CENTRAL STERILE OR BL-42 HUMID) ('H' SB-SHAFT 16 CENTRAL STERILE) ('H' SB DWH, DHW, OR PORTABLE AUTOCLAVES) ('C' SB-HX-SYS-79) ('C'-HX-8 SYS-81) ('C' - CENTRAL STERILE OR HUMIDIFIERS)
13	EXTENT OF DEMOLITION. PREPARE PIPE FOR FUTURE CONNECTION.
14	SEE NEW WORK ON H30P-3A FOR CONTINUATION

KEYPLAN



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Main Building Renovation

Building L - Project 2

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Farmington, CT 06032

Revisions

No.	Date	Description
1	09/17/15	Bulk Material Take Offs For Early Demo
2	10/19/15	Issue for Bid & Code Review
3	11/02/15	Addendum #01

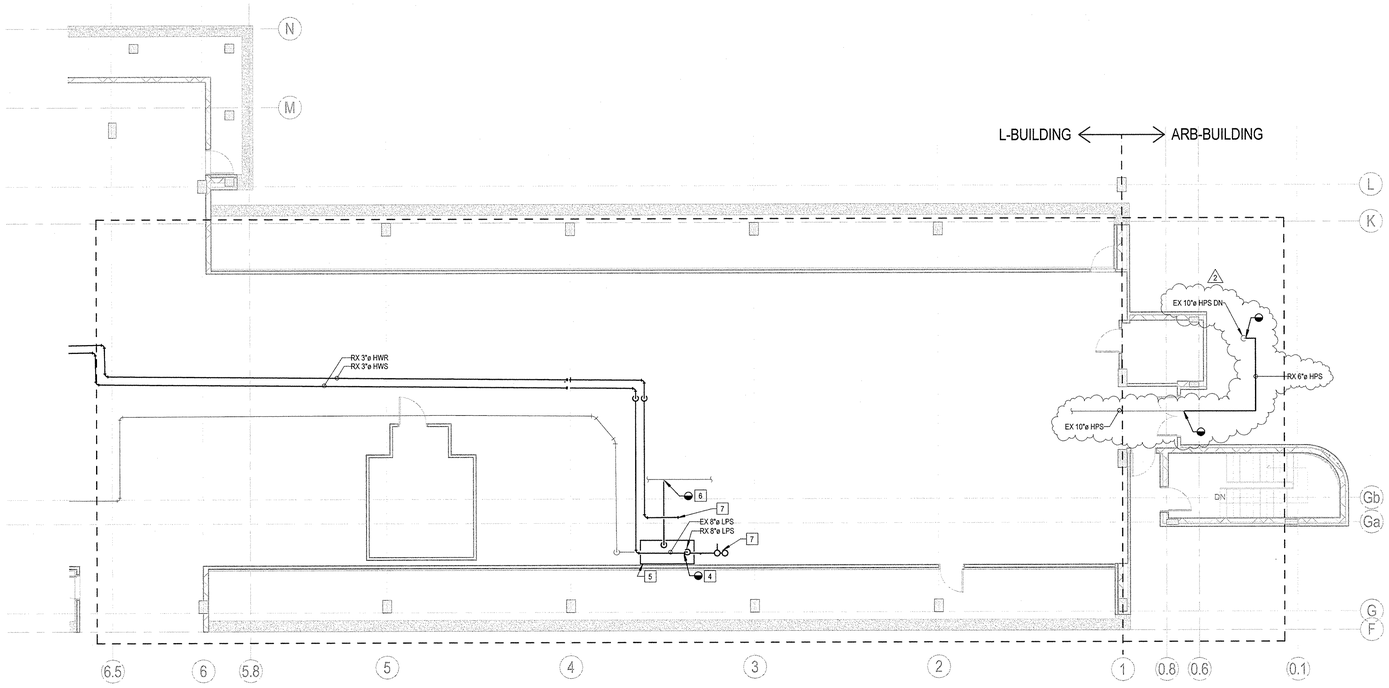
Drawing Name

HVAC Demolition Plan - Penthouse - Part 3 - Sheet C - Steam Systems

Project No. 218010732

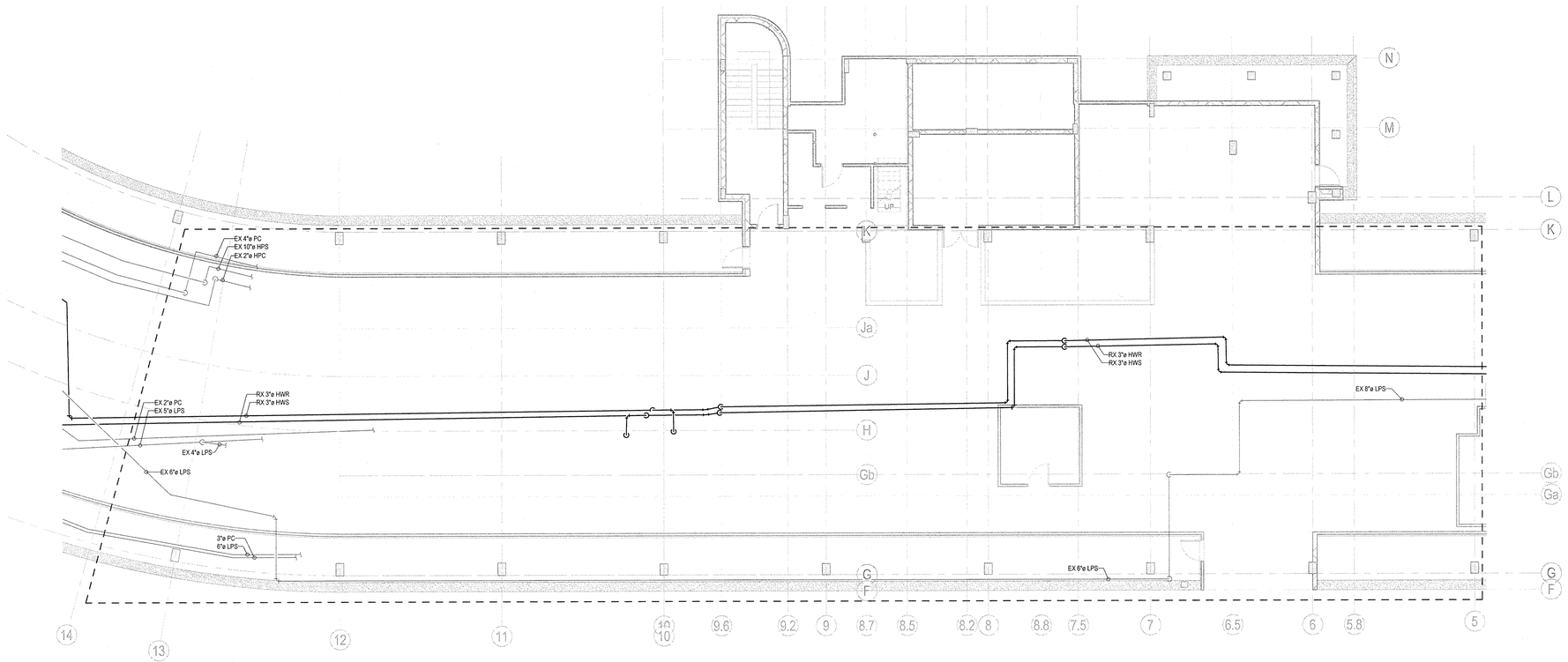
Drawing Number

H10P-3.c



HVAC STEAM, CONDENSATE, & HW PIPING DEMOLITION PLAN PART 5 PENTHOUSE

2 H10P.3c1 1/8" = 1'-0"



HVAC STEAM, CONDENSATE, & HW PIPING DEMOLITION PLAN PART 4 PENTHOUSE

1 H10P.3c1 1/8" = 1'-0"

GENERAL NOTES

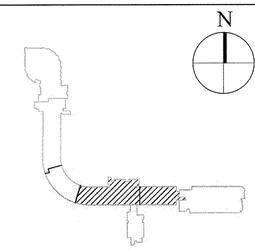
1. ANY SYSTEMS SHUT DOWNS ASSOCIATED WITH DEMOLITION WORK SHALL BE COORDINATED WITH THE OWNER.
2. PHASING AND SEQUENCING OF DEMOLITION AND TEMPORARY CONNECTIONS SHALL BE AT THE DIRECTION OF THE CONSTRUCTION MANAGER.
3. EX EQUIPMENT SHALL BE CLEANED AND REPAIRED. STORE IN AN APPROVED LOCATION PRIOR TO RELOCATION. COORD WITH CM.
4. PRIOR TO INSTALLATION OF AHU-L4, FIELD VERIFY EXISTING PIPING. RELOCATE PIPING AS REQUIRED TO ALLOW INSTALLATION OF AHU-L4 & ASSOCIATED DUCTWORK.

KEY NOTES

NOT ALL KEY NOTES LISTED ON THIS SHEET ARE USED.

1	DEMO STEAM & COND PIPES TO THE LOCATION SHOWN TO 3' BELOW PENTHOUSE FLOOR SLAB. RECONNECT PER H30P.3A. PHASE CONSTRUCTION REQUIRED
2	PIPE TO BE USED FOR INDEPENDENT MPS TO HOSPITAL FOR BACKUP.
3	TO EXISTING 'L' PH DHW 'C' DHW
4	DEMOLISH VERTICAL STEAM PIPE. ALLOW FOR NEW STEAM PIPE EXTENSION. REFER TO H30P.3A1 FOR CONTINUATION.
5	DEMOLISH HX-4, P-7, P-8, CP-4 & ASSOCIATED PIPES, VFD'S, & ASSOCIATED APPURTENENCES
6	DEMOLISH PC FROM CP-4 TO MAIN. CAP BRANCH PIPE AT THE MAIN.
7	DEMOLISH 3" HWS/R & ASSOCIATED APPURTENENCES FROM P-7 & 8 TO BL-25.

KEYPLAN



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Main Building Renovation

Building L - Project 2

263 Farminton Ave
Farmington, CT 06032

Revisions

No.	Date	Description
1	10/19/15	Issue for Bid & Code Review
2	11/02/15	Addendum #01

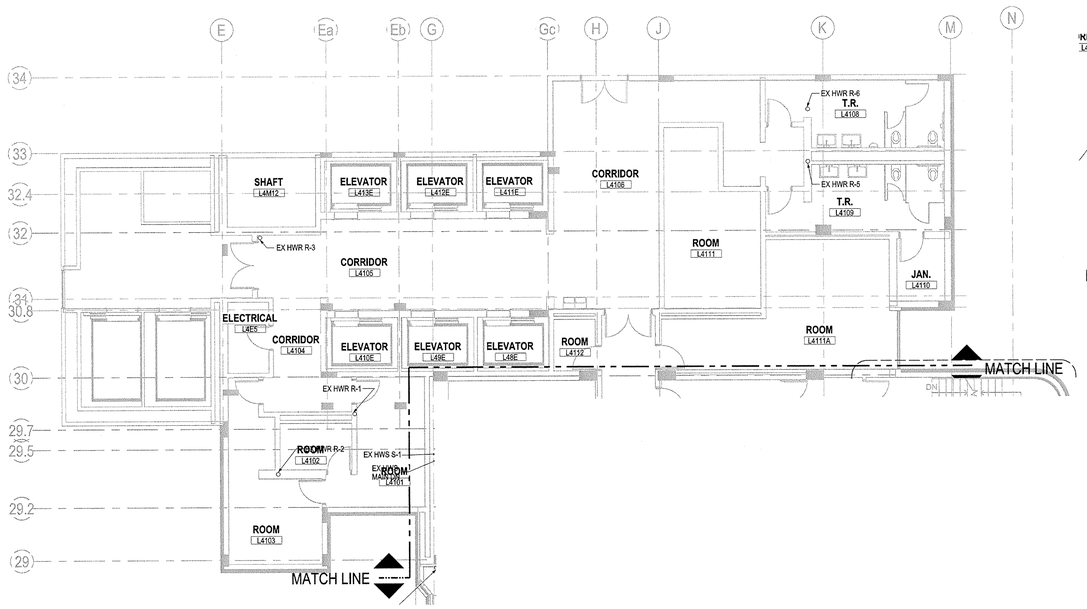
Drawing Name

HVAC Demolition Plan - Penthouse - Part 3 - Sheet C1 - Steam & HW Systems

Project No. 218010732

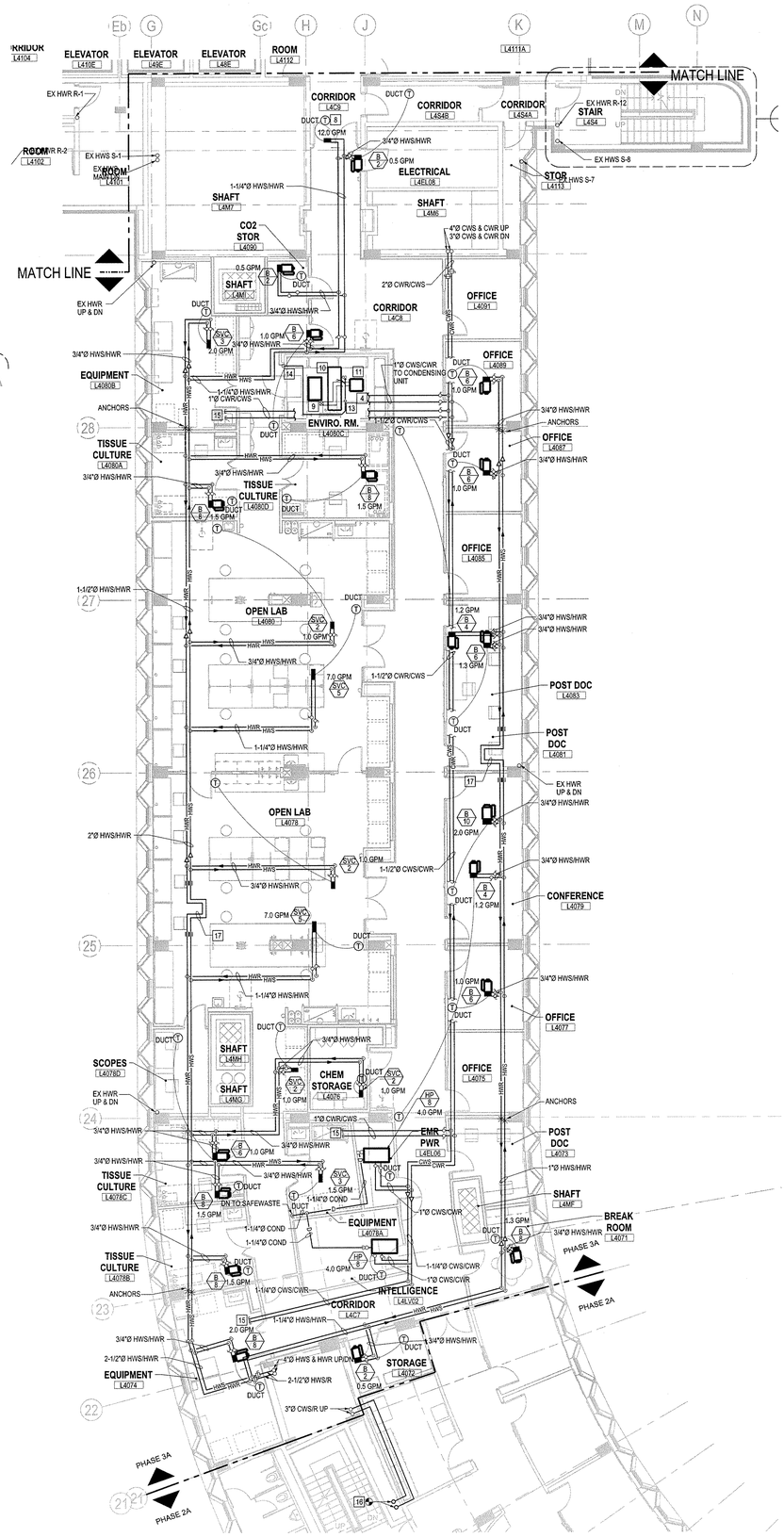
Drawing Number

H10P.3c1



C1 HVAC Piping Plan - Phase 3A - Fourth Floor

1/8"=1'-0"



F5 HVAC Piping Plan - Phase 3A - Fourth Floor

1/8"=1'-0"

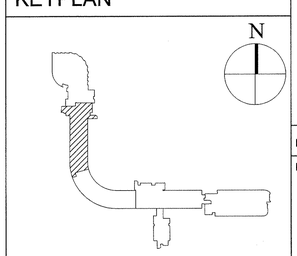
GENERAL NOTES

1. PENETRATIONS THROUGH CONTROLLED ENVIRONMENTAL ROOM CASING SHALL BE PROVIDED BY THE CONTROLLED ENVIRONMENT ROOM SUPPLIER AND COORDINATED WITH AND BY H.C.
2. PENETRATIONS SHALL BE SLEEVED WITH ANNULAR SPACE INSULATED AND BLANKED OFF AIRWATER-TIGHT WITH METAL BY CONTROLLED ENVIRONMENT ROOM SUPPLIER. BLANK-OFF SHALL MATCH CONTROLLED ENVIRONMENTAL ROOM PANEL MATERIAL.

KEYNOTES

1. NOT USED.
2. PROVIDE CIRCUIT SETTER IN HWR MAIN (19.7 GPM).
3. PROVIDE CIRCUIT SETTER IN HWR MAIN (51.6 GPM).
4. 1" CWS/CWR LINES FOR ENVIRONMENTAL ROOM CONDENSER AND EVAPORATOR EQUIPMENT.
5. 3/4" DRIP AT BOTTOM OF MPS DROP.
6. NOT USED.
7. NOT USED.
8. DUCT MOUNTED THERMOSTAT MODULATES CONTROL VALVE. DISCHARGE AIR TEMPERATURE TO BE MAINTAINED AT 100 DEG. F.
9. EQUIPMENT LOCATED ABOVE ENVIRONMENTAL ROOM ROOF PANEL. WATER-COOLED CONDENSING UNIT SHOWN FOR REFERENCE ONLY. CONDENSING UNIT TO BE PROVIDED WITH THE CONTROLLED ENVIRONMENTAL ROOM PACKAGE BY THE ENVIRONMENTAL ROOM SUPPLIER.
10. EVAPORATOR SHOWN FOR REFERENCE ONLY. EVAPORATOR TO BE PROVIDED WITH THE CONTROLLED ENVIRONMENTAL ROOM PACKAGE BY THE ENVIRONMENTAL ROOM SUPPLIER.
11. DESICCANT DEHUMIDIFIER PROVIDED BY ENV. ROOM MFR.
12. FLASH TANK. MANUFACTURER AND MODEL: ARMSTRONG HAFT-4.
13. EVAPORATOR CONDENSATE DRAIN PIPING SHOWN FOR REFERENCE ONLY. DRAIN PIPING TO BE PROVIDED WITH THE CONTROLLED ENVIRONMENTAL ROOM PACKAGE BY THE ENVIRONMENTAL ROOM SUPPLIER, WHO WILL PROVIDE DRAIN PIPING THROUGH THE CONTROLLED ENVIRONMENTAL ROOM CASING WALL AND SEAL THE PENETRATION AIRWATER TIGHT.
14. M.C. TO PROVIDE 1" CONDENSATE DRAIN PIPING EXTENDING FROM OUTSIDE OF CASING AND TRANSITION TO 1-1/2" DRAIN PIPE DROPPING DOWN TO SAFEWASTE RECEPTOR.
15. VALVE AND CAP FOR FUTURE HEAT PUMP.
16. CONNECT NEW 3" CWS/R TO EXISTING 3" CWS/R DN. REMOVE AND REPAIR CEILING AS REQUIRED TO COMPLETE TASK.
17. METRAFLEX EXPANSION LOOP. MATCH PIPE SIZE. PROVIDE GUIDES AT MANUFACTURERS RECOMMENDED DISTANCES.
18. COORDINATE LOCATION OF PIPE RISERS WITH EXISTING ELECTRICAL CONDUIT.

KEYPLAN



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Revisions

No.	Date	Description
1	10/19/15	Issue for Bid & Code Review
2	11/02/15	Addendum #01

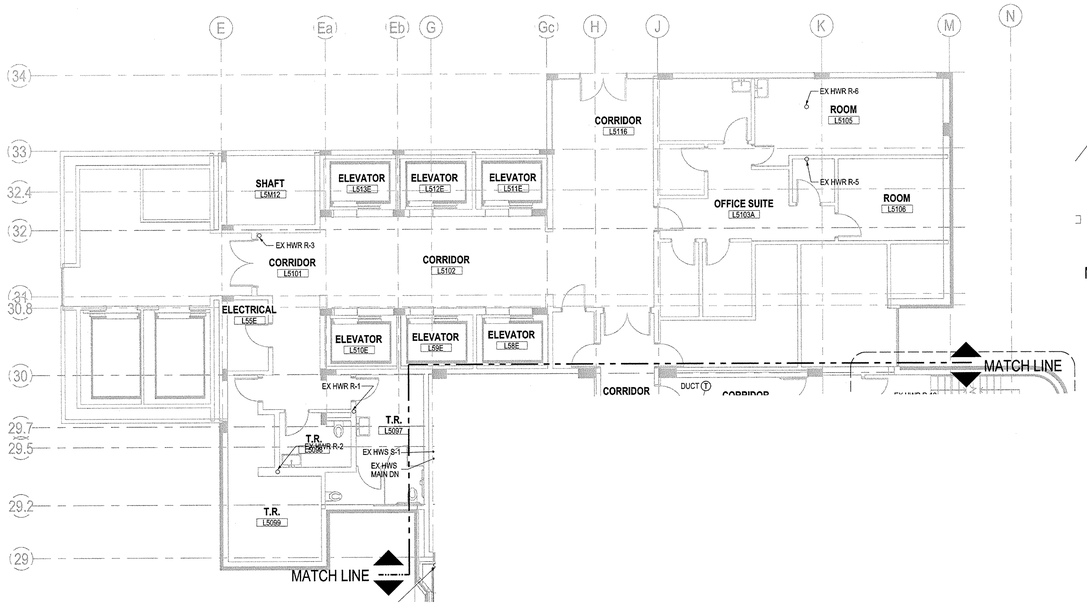
Drawing Name

HVAC Piping Plan - Phase 3A - Fourth Floor

Project No. 218010732

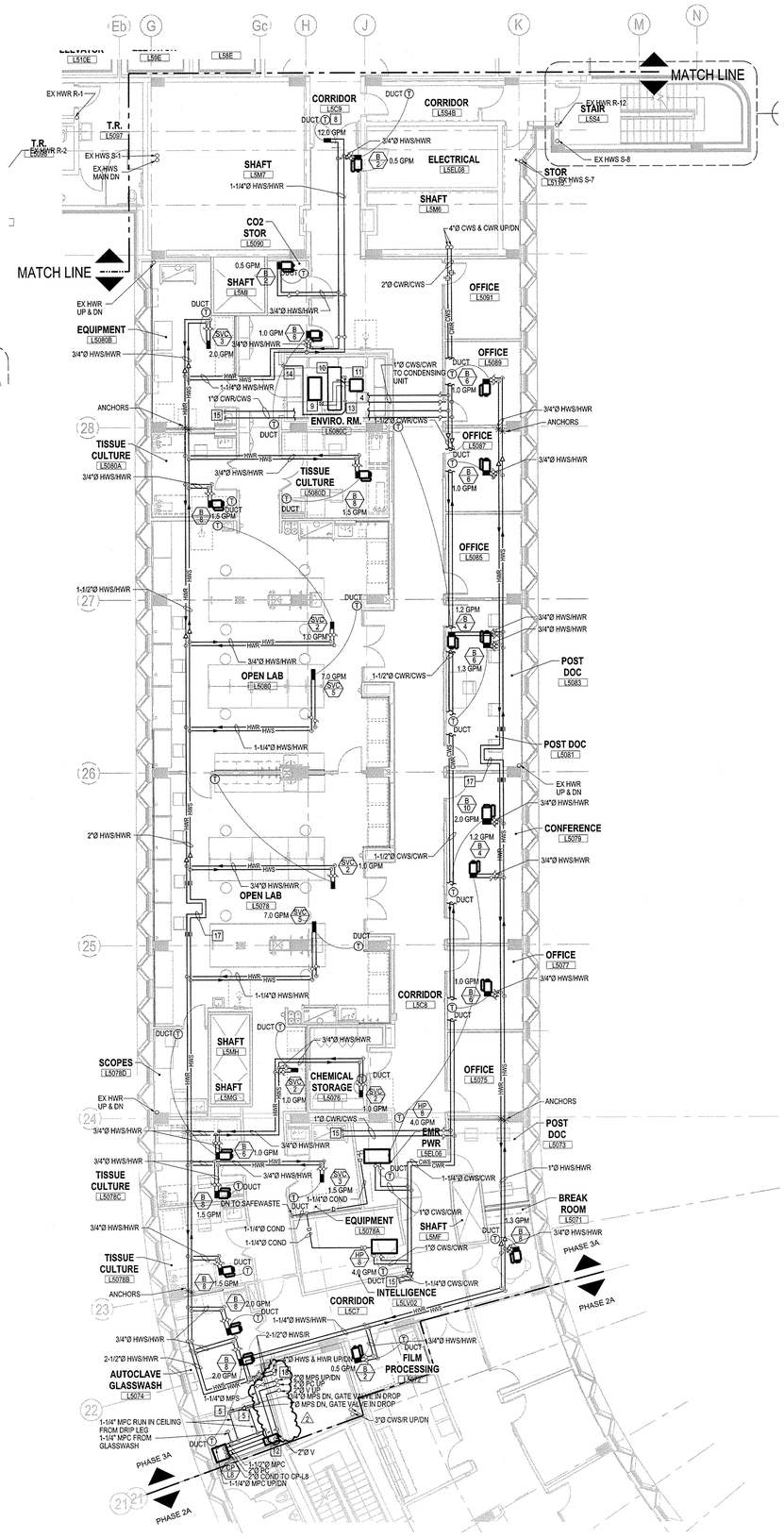
Drawing Number

H304.3A



C1 HVAC Piping Plan - Phase 3A - Fifth Floor

1/8"=1'-0"



F5 HVAC Piping Plan - Phase 3A - Fifth Floor

1/8"=1'-0"

GENERAL NOTES

1. PENETRATIONS THROUGH CONTROLLED ENVIRONMENTAL ROOM CASING SHALL BE PROVIDED BY THE CONTROLLED ENVIRONMENT ROOM SUPPLIER AND COORDINATED WITH AND BY H.C.
2. PENETRATIONS SHALL BE SLEEVED WITH ANNULAR SPACE INSULATED AND BLANKED OFF AIR/WATER-TIGHT WITH METAL BY CONTROLLED ENVIRONMENT ROOM SUPPLIER. BLANK-OFF SHALL MATCH CONTROLLED ENVIRONMENTAL ROOM PANEL MATERIAL.

KEYNOTES

1. NOT USED.
2. PROVIDE CIRCUIT SETTER IN HWR MAIN (19.7 GPM).
3. PROVIDE CIRCUIT SETTER IN HWR MAIN (51.6 GPM).
4. 1" CWS/CWR LINES FOR ENVIRONMENTAL ROOM CONDENSER AND EVAPORATOR EQUIPMENT.
5. 3/4" DRIP AT BOTTOM OF MPS DROP.
6. NOT USED.
7. NOT USED.
8. DUCT MOUNTED THERMOSTAT MODULATES CONTROL VALVE. DISCHARGE AIR TEMPERATURE TO BE MAINTAINED AT 100 DEG. F.
9. EQUIPMENT LOCATED ABOVE ENVIRONMENTAL ROOM ROOF PANEL. WATER-COOLED CONDENSING UNIT SHOWN FOR REFERENCE ONLY. CONDENSING UNIT TO BE PROVIDED WITH THE CONTROLLED ENVIRONMENTAL ROOM PACKAGE BY THE ENVIRONMENTAL ROOM SUPPLIER.
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13. EVAPORATOR CONDENSATE DRAIN PIPING SHOWN FOR REFERENCE ONLY. DRAIN PIPING TO BE PROVIDED WITH THE CONTROLLED ENVIRONMENTAL ROOM PACKAGE BY THE ENVIRONMENTAL ROOM SUPPLIER, WHO WILL PROVIDE DRAIN PIPING THROUGH THE CONTROLLED ENVIRONMENTAL ROOM CASING WALL AND SEAL THE PENETRATION AIR/WATER TIGHT.
14. M.C. TO PROVIDE 1" CONDENSATE DRAIN PIPING EXTENDING FROM OUTSIDE OF CASING AND TRANSITION TO 1-1/2" DRAIN PIPE DROPPING DOWN TO SAFEWASTE RECEPTOR.
15. VALVE AND CAP FOR FUTURE HEAT PUMP.
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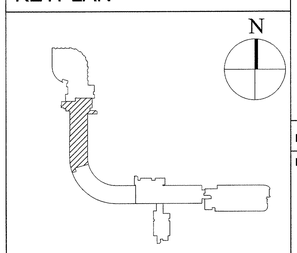
17. METRAFLEX EXPANSION LOOP. MATCH PIPE SIZE. PROVIDE GUIDES AT MANUFACTURERS RECOMMENDED DISTANCES.
18. COORDINATE LOCATION OF PIPE RISERS WITH EXISTING ELECTRICAL CONDUIT.

KEYPLAN



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Revisions

No.	Date	Description
1	10/19/15	Issue for Bid & Code Review
2	11/02/15	Addendum #01

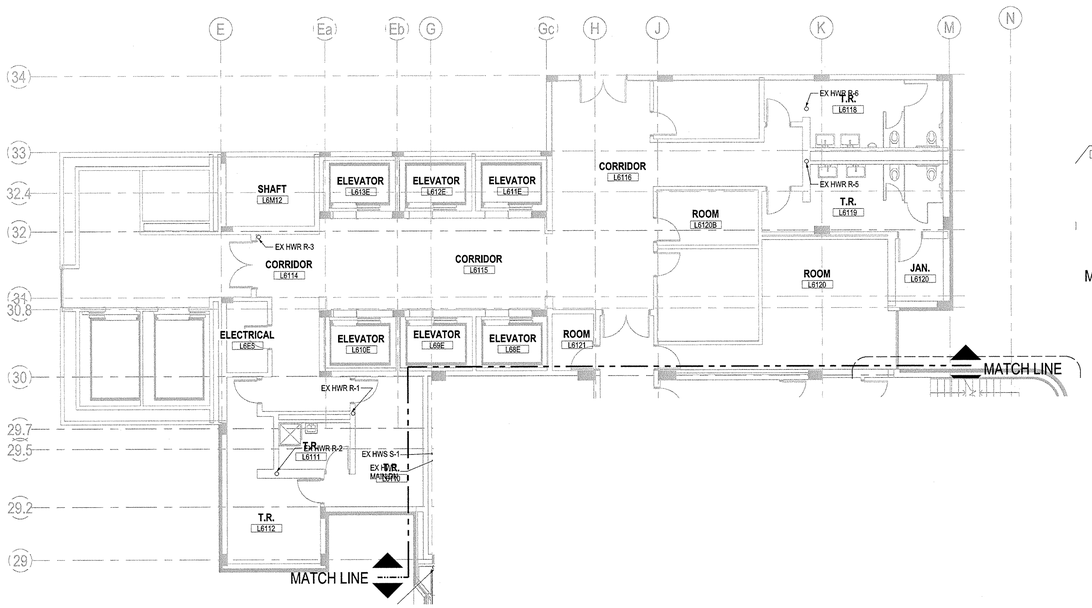
Drawing Name

HVAC Piping Plan - Phase 3A - Fifth Floor

Project No. 218010732

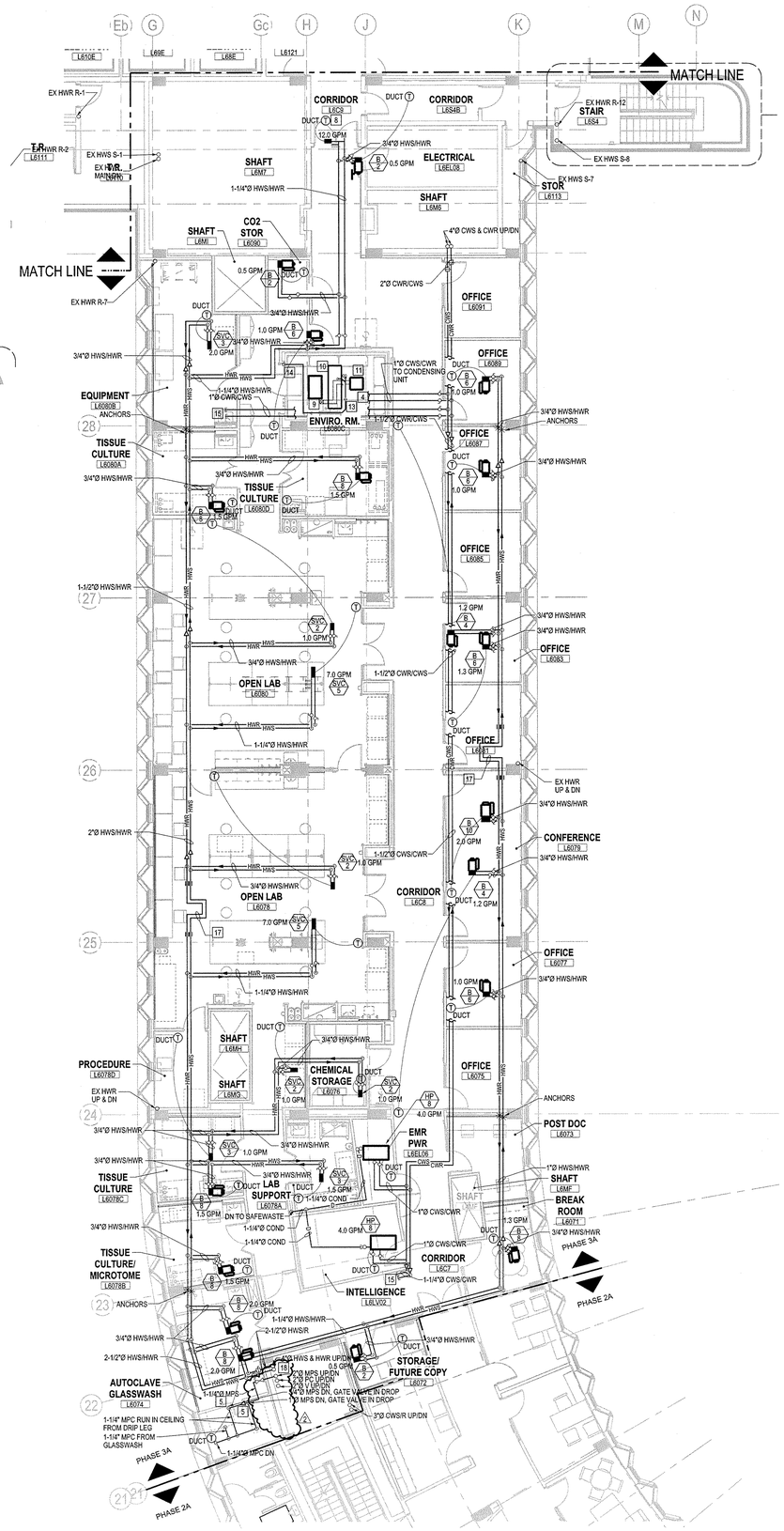
Drawing Number

H305.3A



C1 HVAC Piping Plan - Phase 3A - Sixth Floor

1/8"=1'-0"



F5 HVAC Piping Plan - Phase 3A - Sixth Floor

1/8"=1'-0"

GENERAL NOTES

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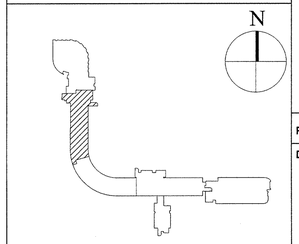
KEYPLAN



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Revisions

No.	Date	Description
1	10/19/15	Issue for Bid & Code Review
2	11/02/15	Addendum #01

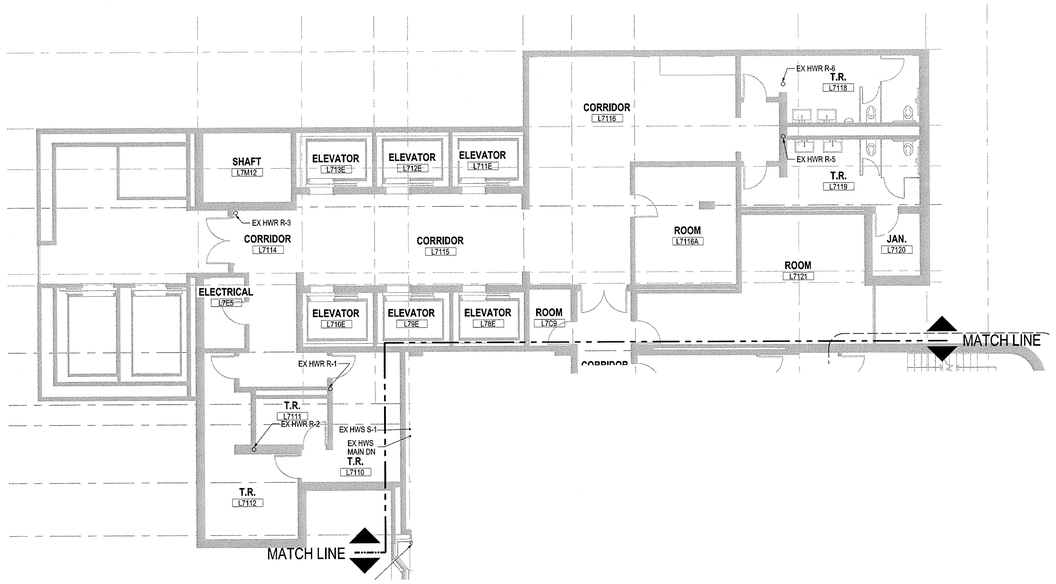
Drawing Name

HVAC Piping Plan - Phase 3A - Sixth Floor

Project No. 218010732

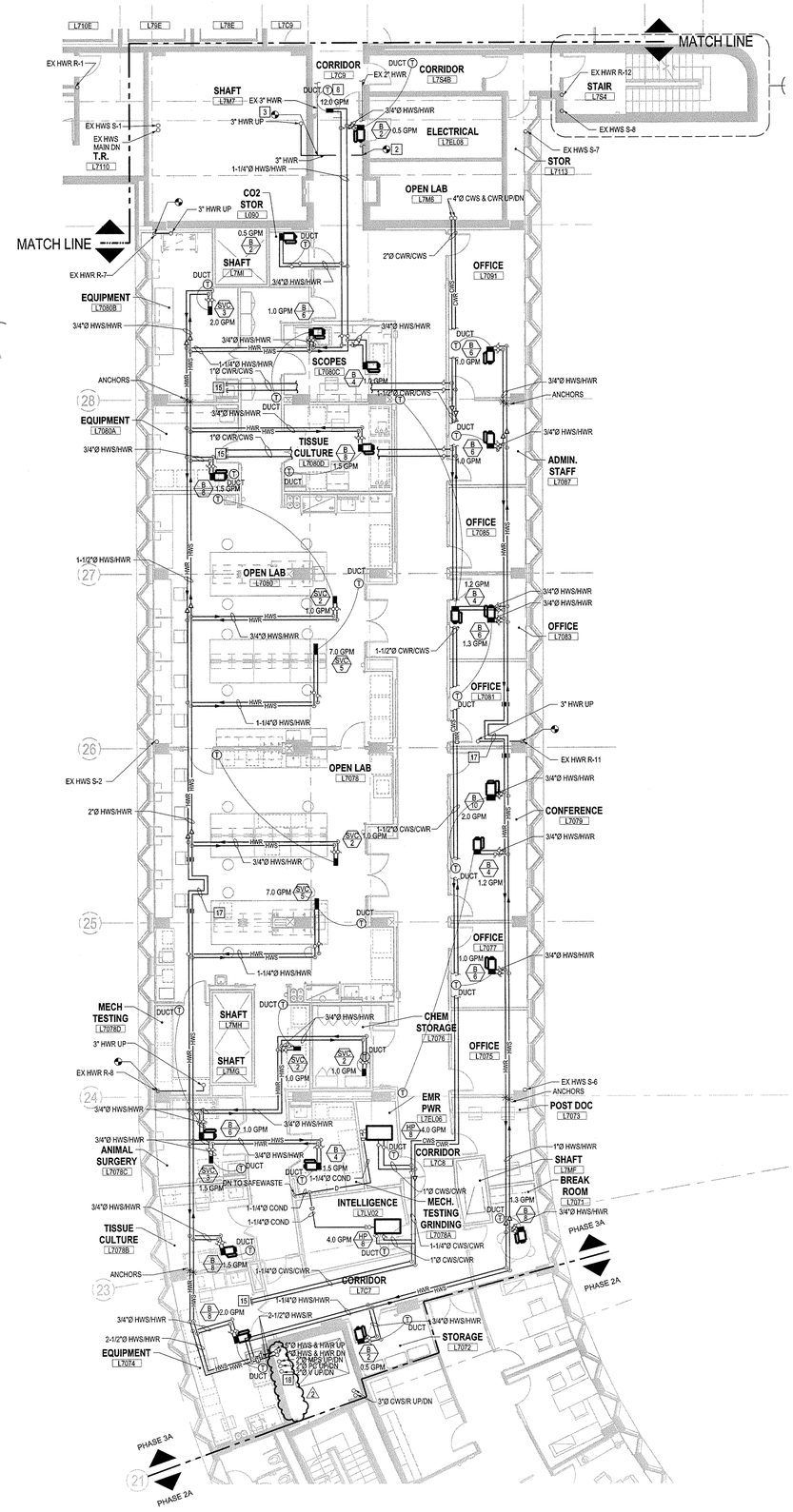
Drawing Number

H306.3A



C1 HVAC Piping Plan - Phase 3A - Seventh Floor

1/8"=1'-0"



F5 HVAC Piping Plan - Phase 3A - Seventh Floor

1/8"=1'-0"

GENERAL NOTES

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KEYNOTES

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3. PROVIDE CIRCUIT SETTER IN HWR MAIN (51.6 GPM).
4. 1" CWS/CWR LINES FOR ENVIRONMENTAL ROOM CONDENSER AND EVAPORATOR EQUIPMENT.
5. 3/4" DRIP AT BOTTOM OF MPS DROP.
6. NOT USED.
7. NOT USED.
8. DUCT MOUNTED THERMOSTAT MODULATES CONTROL VALVE. DISCHARGE AIR TEMPERATURE TO BE MAINTAINED AT 100 DEG. F.
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14. M.C. TO PROVIDE 1" CONDENSATE DRAIN PIPING EXTENDING FROM OUTSIDE OF CASING AND TRANSITION TO 1-1/2" DRAIN PIPE DROPPING DOWN TO SAFEWASTE RECEPTOR.
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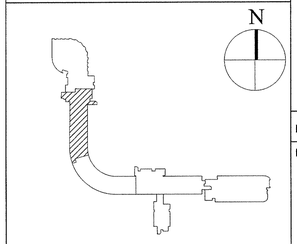
16. CONNECT NEW 3" CWS/R TO EXISTING 3" CWS/R DN. REMOVE AND REPAIR CEILING AS REQUIRED TO COMPLETE TASK.
17. METRAFLEX EXPANSION LOOP. MATCH PIPE SIZE. PROVIDE GUIDES AT MANUFACTURER'S RECOMMENDED DISTANCES.
18. COORDINATE LOCATION OF PIPE RISERS WITH EXISTING ELECTRICAL CONDUIT.

KEYPLAN



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Revisions

No.	Date	Description
1	10/19/15	Issue for Bid & Code Review
2	11/02/15	Addendum #01

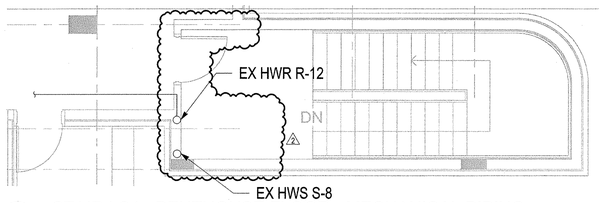
Drawing Name

HVAC Piping Plan - Phase 3A - Seventh Floor

Project No. 218010732

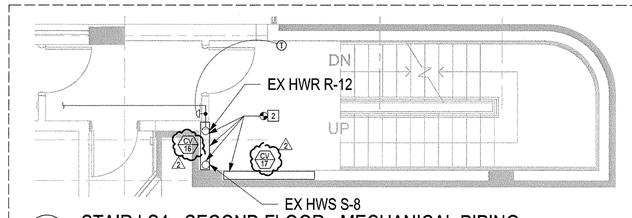
Drawing Number

H307.3A

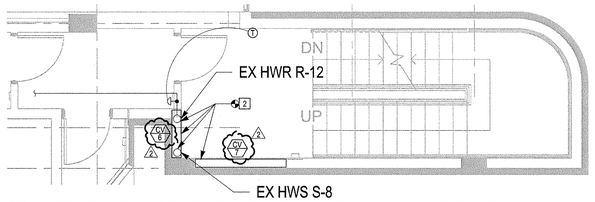


A1 STAIR LS4 - PENTHOUSE FLOOR - MECHANICAL PIPING
1/4" = 1'-0"

ADD ALTERNATE 1

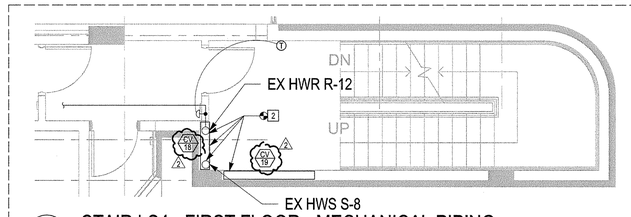


A3 STAIR LS4 - SECOND FLOOR - MECHANICAL PIPING
1/4" = 1'-0"

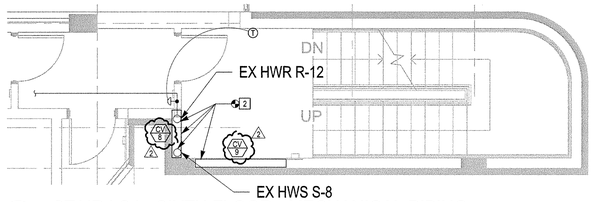


B1 STAIR LS4 - SEVENTH FLOOR - MECHANICAL PIPING
1/4" = 1'-0"

ADD ALTERNATE 1

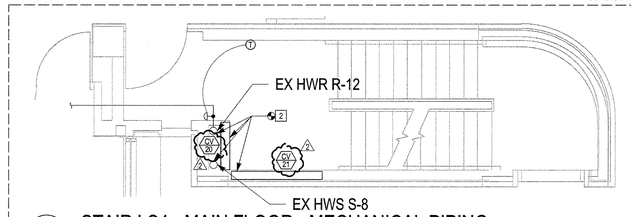


B3 STAIR LS4 - FIRST FLOOR - MECHANICAL PIPING
1/4" = 1'-0"

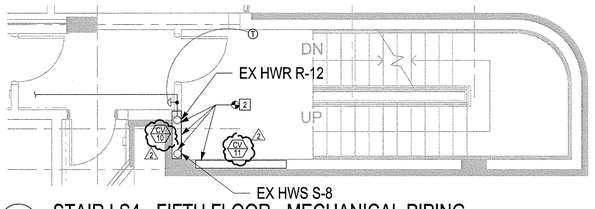


C1 STAIR LS4 - SIXTH FLOOR - MECHANICAL PIPING
1/4" = 1'-0"

ADD ALTERNATE 1

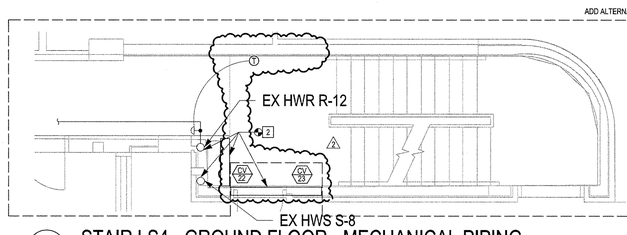


C3 STAIR LS4 - MAIN FLOOR - MECHANICAL PIPING
1/4" = 1'-0"

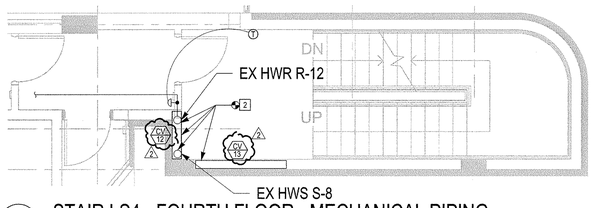


D1 STAIR LS4 - FIFTH FLOOR - MECHANICAL PIPING
1/4" = 1'-0"

ADD ALTERNATE 1

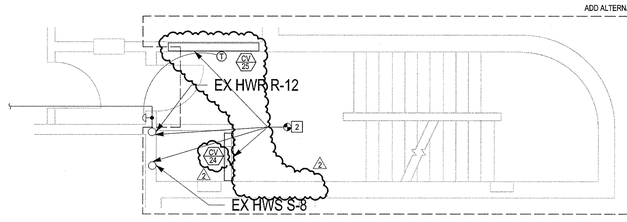


D3 STAIR LS4 - GROUND FLOOR - MECHANICAL PIPING
1/4" = 1'-0"



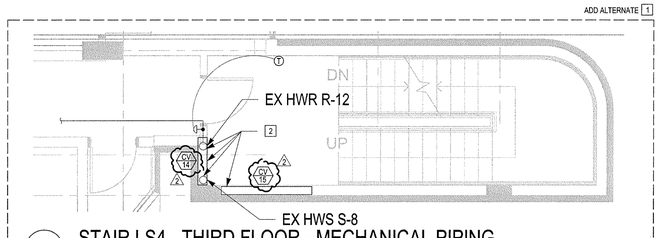
E1 STAIR LS4 - FOURTH FLOOR - MECHANICAL PIPING
1/4" = 1'-0"

ADD ALTERNATE 1



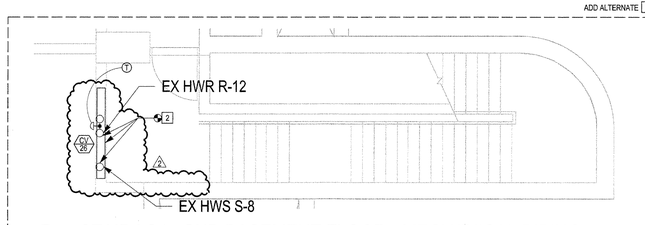
E3 STAIR LS4 - BASEMENT FLOOR - MECHANICAL PIPING
1/4" = 1'-0"

ADD ALTERNATE 1

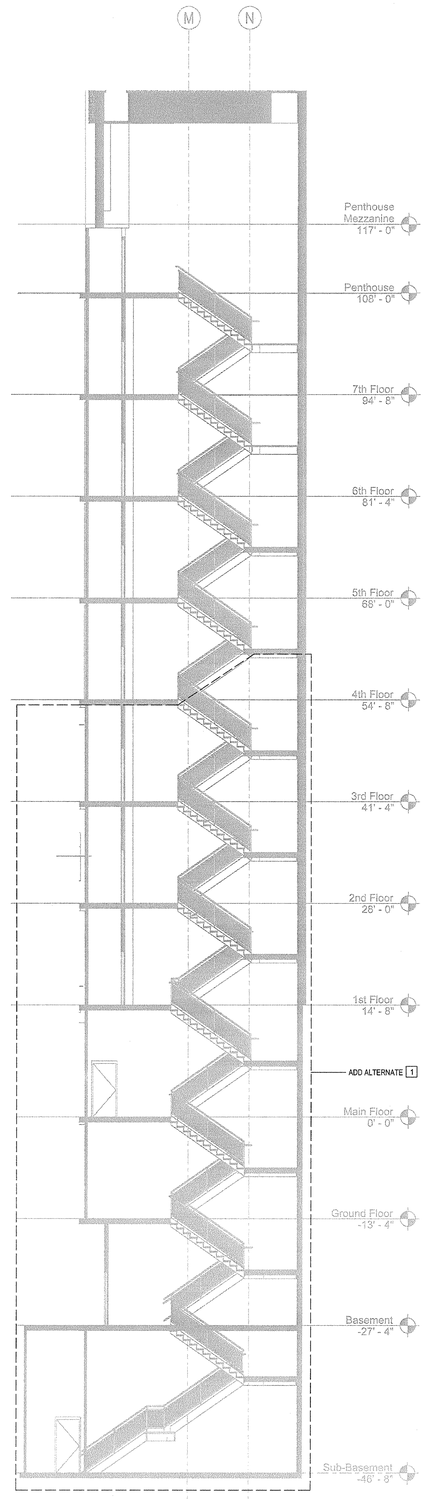


F1 STAIR LS4 - THIRD FLOOR - MECHANICAL PIPING
1/4" = 1'-0"

ADD ALTERNATE 1



F3 STAIR LS4 - SUB-BASEMENT FLOOR - MECHANICAL PIPING
1/4" = 1'-0"



F6 STAIR LS4 - SECTION - MECHANICAL PIPING
1/8" = 1'-0"

GENERAL NOTES

KEY NOTES

1. ADD ALTERNATE: CONNECT NEW CONVECTOR TO EXISTING PIPING. CONFIRM EXISTING PIPE SIZE WITH NEW CONNECTIONS TO NEW CONVECTORS. PROVIDE NEW CONTROL VALVE AND THERMOSTAT.
2. CONNECT EXISTING PIPING TO RADIATORS.

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Main Building Renovation

Building L - Project 2

263 Farmington Ave
Farmington, CT 06032

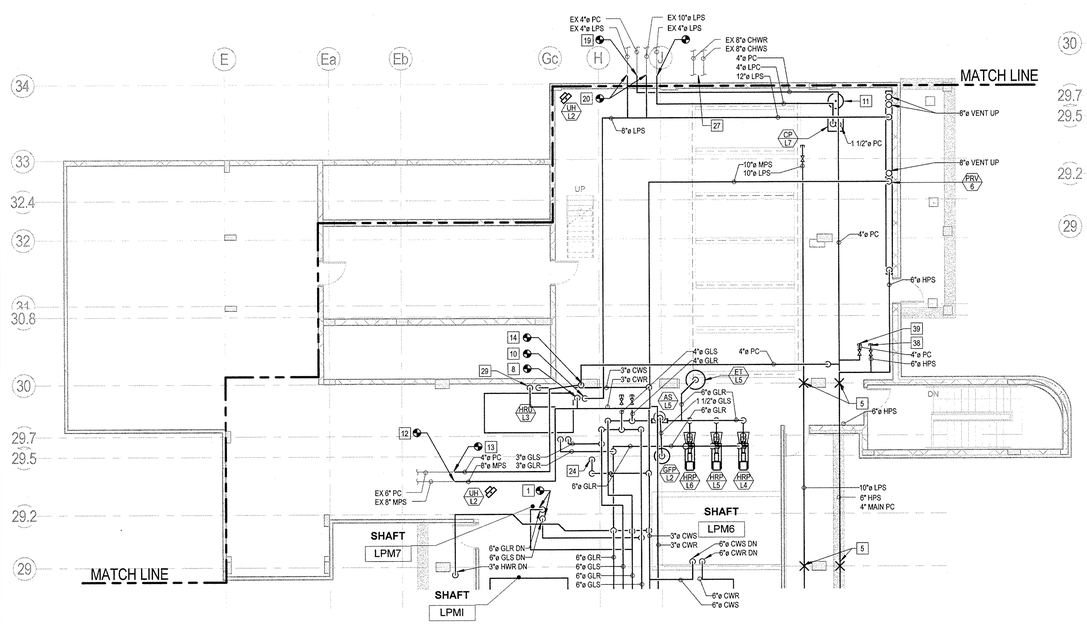
Revisions

No.	Date	Description
1	10/19/15	Issue for Bld & Code Review
2	11/02/15	Addendum #01

Drawing Name
STAIR PLANS & SECTIONS - MECHANICAL PIPING
NEW WORK

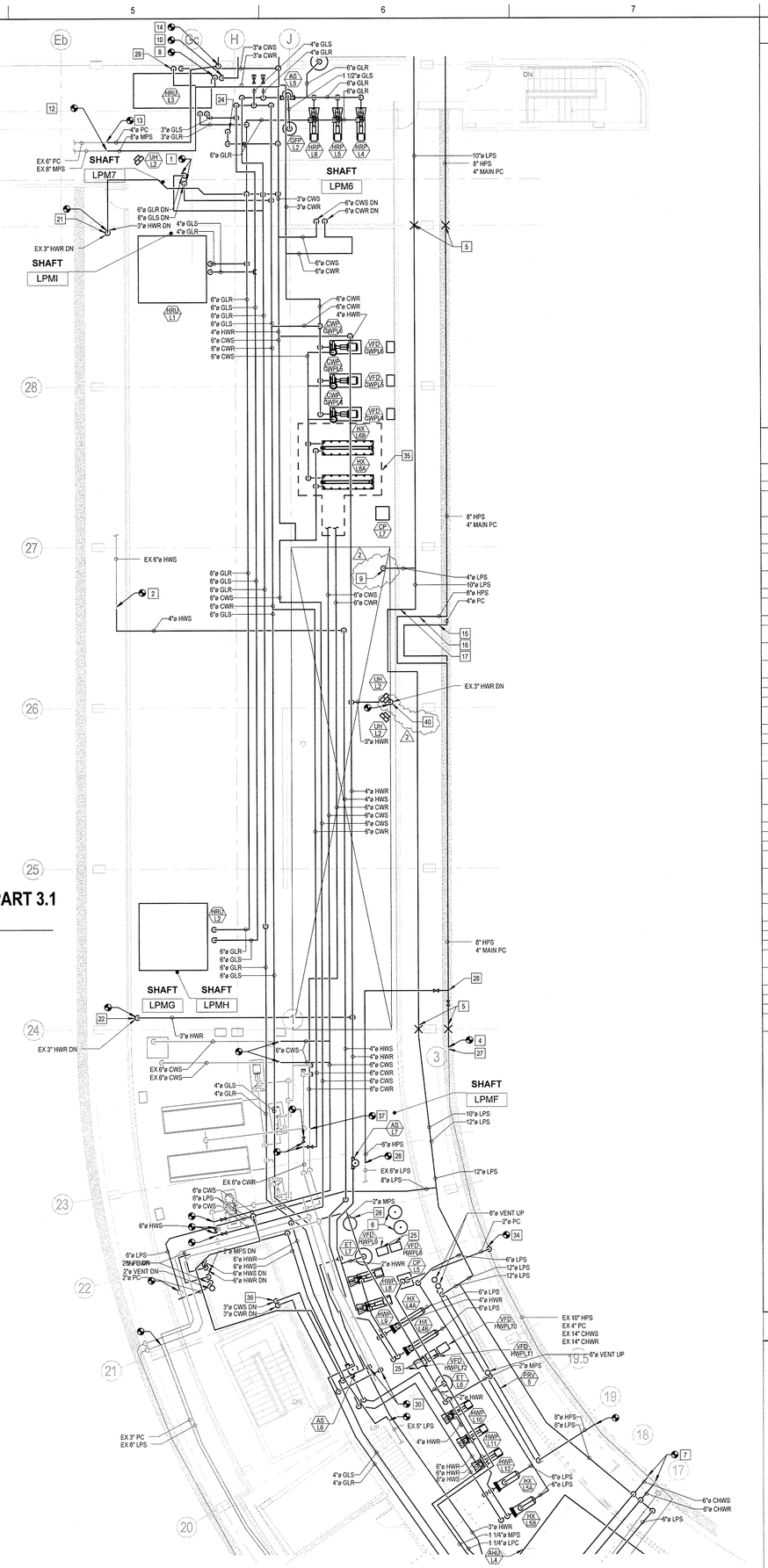
Project No. 218010732

Drawing Number
H308



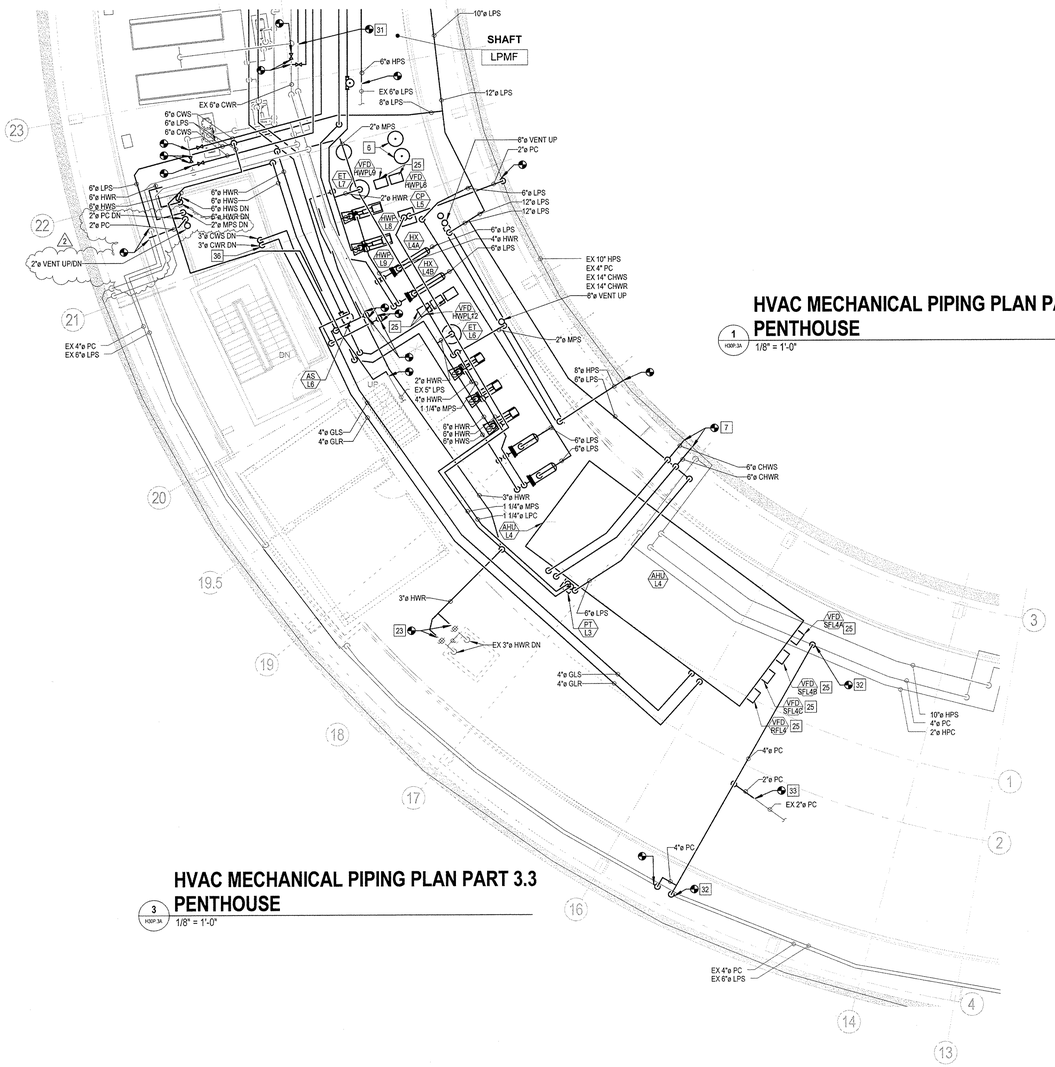
HVAC MECHANICAL PIPING PLAN PART 3.2 PENTHOUSE

2 H30P.3A 1/8" = 1'-0"



HVAC MECHANICAL PIPING PLAN PART 3.1 PENTHOUSE

1 H30P.3A 1/8" = 1'-0"



HVAC MECHANICAL PIPING PLAN PART 3.3 PENTHOUSE

3 H30P.3A 1/8" = 1'-0"

GENERAL NOTES

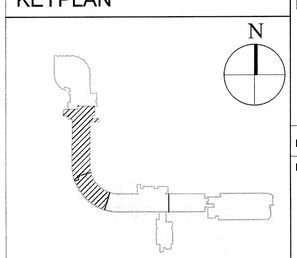
1. NOT ALL VALVES ARE SHOWN ON PLAN. REFER TO H600 SERIES FLOW DIAGRAMS & H500 SERIES DETAILS FOR ADDITIONAL VALVE REQUIREMENTS.
2. PRIOR TO INSTALLATION OF AHU-L4, FIELD VERIFY EXISTING PIPING. RELOCATE PIPING AS REQUIRED TO ALLOW INSTALLATION OF AHU-L4 & ASSOCIATED DUCTWORK.

KEY NOTES

NOT ALL KEY NOTES LISTED ON THIS SHEET ARE USED.

1	MECHANICAL CONTRACTOR TO CONFIRM PIPE SIZE PRIOR TO FABRICATION.
2	TIE NEW 4" HWS TO EXISTING 6" HWS.
3	RELOCATED CONDENSING UNIT. SIZE AND ROUTE PIPING PER MANUFACTURER'S RECOMMENDATIONS. REFILL WITH APPROPRIATE REFRIGERANT CHARGE.
4	CONNECT NEW 8" HPS TO EXISTING 10" HPS, NEW 4" PC TO EXISTING 4" PC
5	ANCHOR STEAM & COND
6	NEW FLASH TANK
7	CONNECT NEW 6" CHWS/R TO EXISTING. COORDINATE SHUTDOWN WITH FACILITIES. DRAIN AND FILL PIPE AS REQUIRED.
8	CONNECT NEW TO EXISTING 6" MPS (SHAFT 7) OFFSET PIPE BELOW PENTHOUSE FLOOR SLAB AS REQUIRED TO CONNECT TO EXISTING.
9	4" LPS TO DOMESTIC WATER HEATER
10	CONNECT NEW TO EXISTING 8" LPS (SHAFT7) OFFSET PIPE BELOW PENTHOUSE FLOOR SLAB AS REQUIRED TO CONNECT TO EXISTING.
11	RELOCATED FLASH TANK
12	CONNECT NEW 8" MPS TO EXISTING MPS. FIELD CONFIRM EXISTING SIZE AND PROVIDE APPROPRIATE TRANSITIONS IF NECESSARY.
13	CONNECT NEW 4" PC TO EXISTING PC. FIELD CONFIRM EXISTING SIZE AND PROVIDE APPROPRIATE TRANSITIONS IF NECESSARY.
14	CONNECT NEW TO EXISTING 6" PC (SHAFT 7) OFFSET PIPE BELOW PENTHOUSE FLOOR SLAB AS REQUIRED TO CONNECT TO EXISTING.
15	4" METRAFLEX LOOP FOR PC
16	8" METRAFLEX LOOP FOR HPS
17	10" METRAFLEX LOOP FOR LPS
18	DEMO BLOWER 34 AND ALL ASSOCIATED DUCTWORK, HANGERS, ELECTRICAL, ETC.
19	EXTEND 4" PC TO NEW CONDENSATE RECEIVER
20	CONNECT TO EXISTING PIPE
21	PERIMETER (HWR) RISER R-7. PROVIDE CIRCUIT SETTER IN RISER [23.5 GPM]
22	PERIMETER (HWR) RISER R-8. PROVIDE CIRCUIT SETTER IN RISER [34 GPM]
23	CONNECT TO EXISTING PERIMETER (HWR) RISERS R-9 & R-10. PROVIDE A CIRCUIT SETTER FOR R-9 & R10. R-9=36 GPM, R-10=35.4 GPM.
24	PERIMETER HEAT (HWR) RISER FOR RISERS R-1, R-2, R-3, R-4, R-5, R-6, & R-12.
25	MOUNT VFD'S ON UNISTRUT FRAME.
26	GLYCOL FILL TANK
27	REFER TO H10P.3b FOR CONTINUATION OF EXISTING PIPES
28	CONNECT EXISTING 6" LPS PIPE TO 8" HPS. 6" PIPE WILL BE UTILIZED AS AN INDEPENDENT HPS PIPE FROM BOILER ROOM.
29	3" CWS/R DN. CONNECT TO EXISTING 3" CWS/R 3' BELOW PENTHOUSE FLOOR. PROVIDE OFFSETS AS REQUIRED TO MAKE FINAL CONNECTIONS.
30	CONNECT NEW 3" CWS/R PIPING TO EXISTING 4" CWS/R.
31	CONNECT NEW 6" CWS/R FROM COOLING TOWER SIDE TO EXISTING 6" CWR.
32	CONNECT NEW 4" PC TO EXISTING 4" PC
33	CONNECT TO EXISTING 2" PC (SERVES SHAFT #3 EAST SIDE)
34	CONNECT NEW 2" PC TO EXISTING 4" PC
35	REFER TO HEAT EXCHANGER APPROVED SUBMITTAL, PIPING DETAILS, AND FLOW DIAGRAMS FOR CONNECTION REQUIREMENTS.
36	CONFIRM ORIENTATION OF EXISTING CWS/R PIPES. CONNECT NEW CWS TO EXISTING CWS AND NEW CWR TO EXISTING CWR.
37	CONNECT TO EXISTING PIPE
38	CONNECT TO "T" HOSPITAL HPS.
39	CONNECT TO "T" HOSPITAL PC.
40	PERIMETER (HWR) RISER R-11. PROVIDE CIRCUIT SETTER IN RISER [41.2 GPM]

KEYPLAN



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Main Building Renovation

Building L - Project 2

263 Farminton Ave
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Revisions

No.	Date	Description
1	10/19/15	Issue for Bid & Code Review
2	11/02/15	Addendum #01

Drawing Name

HVAC Piping Plan - Penthouse

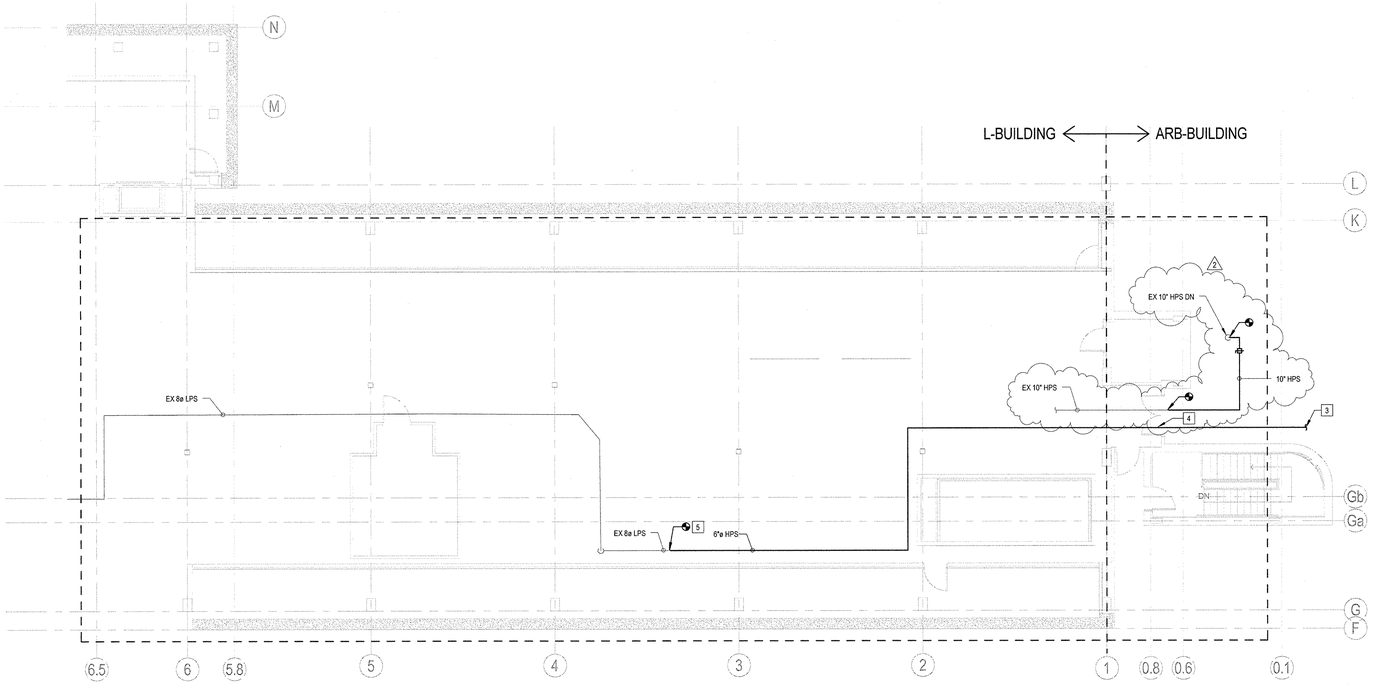
Project No. 218010732

Drawing Number

H30P.3A

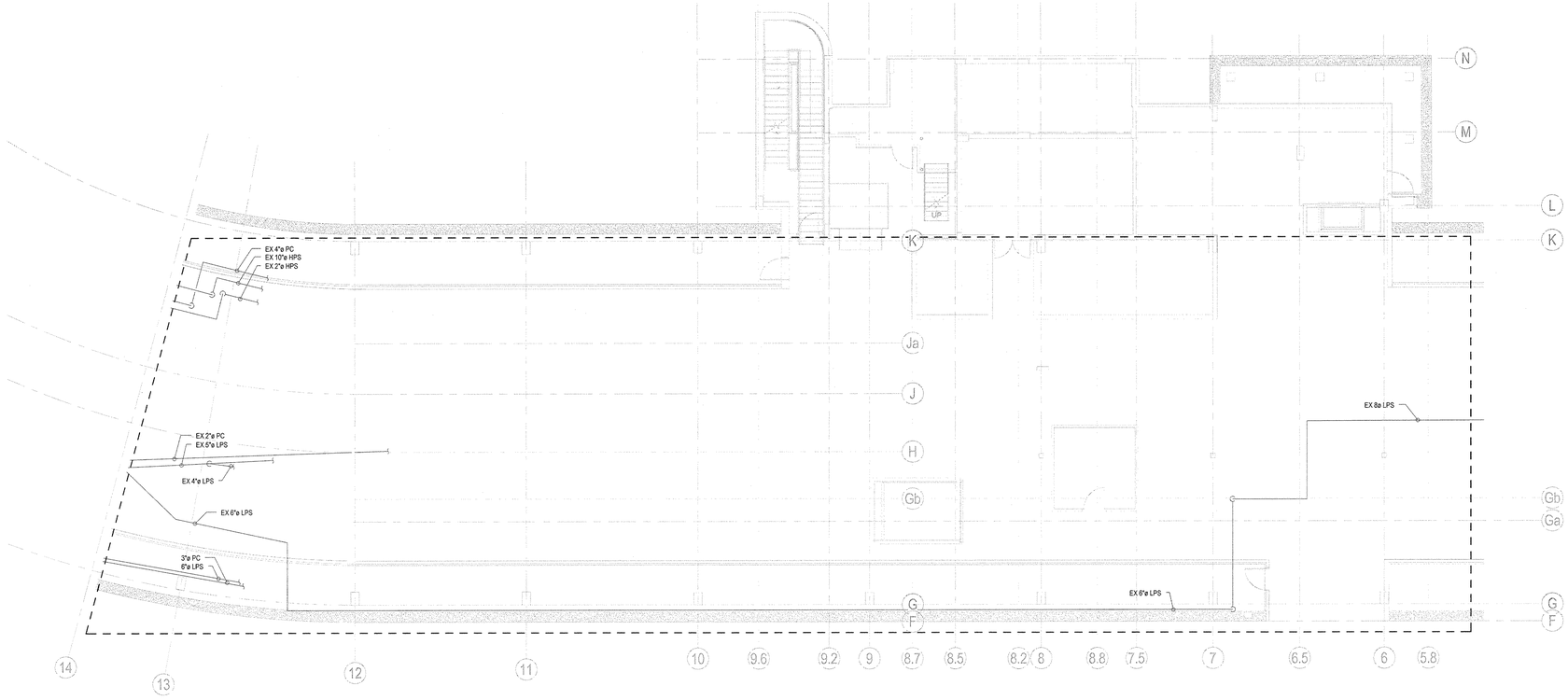
11/2/2015 9:57:28 AM

1.0



HVAC MECHANICAL PIPING PLAN PART 5 PENTHOUSE

2 H30P.3A1 1/8" = 1'-0"



HVAC MECHANICAL PIPING PLAN PART 4 PENTHOUSE

1 H30P.3A1 1/8" = 1'-0"

GENERAL NOTES

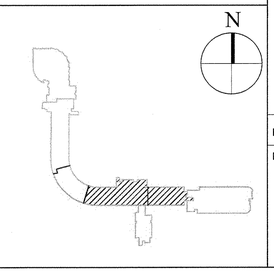
1. NOT ALL VALVES ARE SHOWN ON PLAN. REFER TO H600 SERIES FLOW DIAGRAMS & H500 SERIES DETAILS FOR ADDITIONAL VALVE REQUIREMENTS.
2. PRIOR TO INSTALLATION OF AHU-L4, FIELD VERIFY EXISTING PIPING. RELOCATE PIPING AS REQUIRED TO ALLOW INSTALLATION OF AHU-L4 & ASSOCIATED DUCTWORK.

KEY NOTES

NOT ALL KEY NOTES LISTED ON THIS SHEET ARE USED.

1	MOUNT VFD'S ON UNISTRUT FRAME.
2	CONNECT NEW 4" PC TO EXISTING 4" PC
3	CONNECT 6" HPS TO EXISTING RISER IN ARB PENTHOUSE LOCATED EAST OF ELEVATORS. PROVIDE OFFSETS AS REQUIRED.
4	VERIFY STEAM PIPE ROUTING IN THE FIELD.
5	CONNECT NEW 6" HPS PIPE TO EXISTING STEAM PIPE.

KEYPLAN



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Main Building Renovation

Building L - Project 2

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Revisions

No.	Date	Description
1	10/19/15	Issue for Bid & Code Review
2	11/02/15	Addendum #01

Drawing Name

HVAC Piping Plan - Penthouse

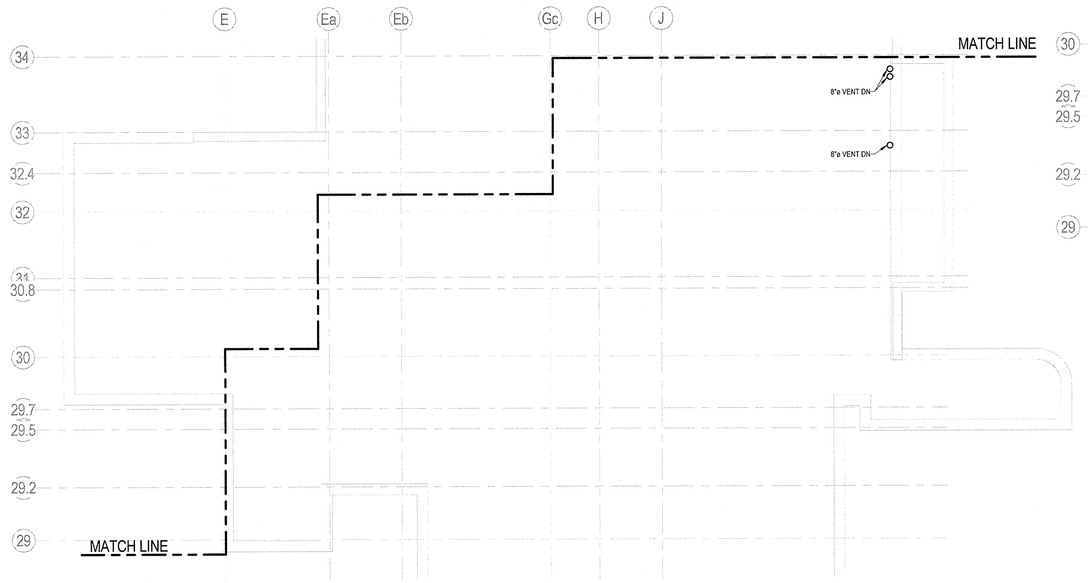
Project No. 218010732

Drawing Number

H30P.3A1

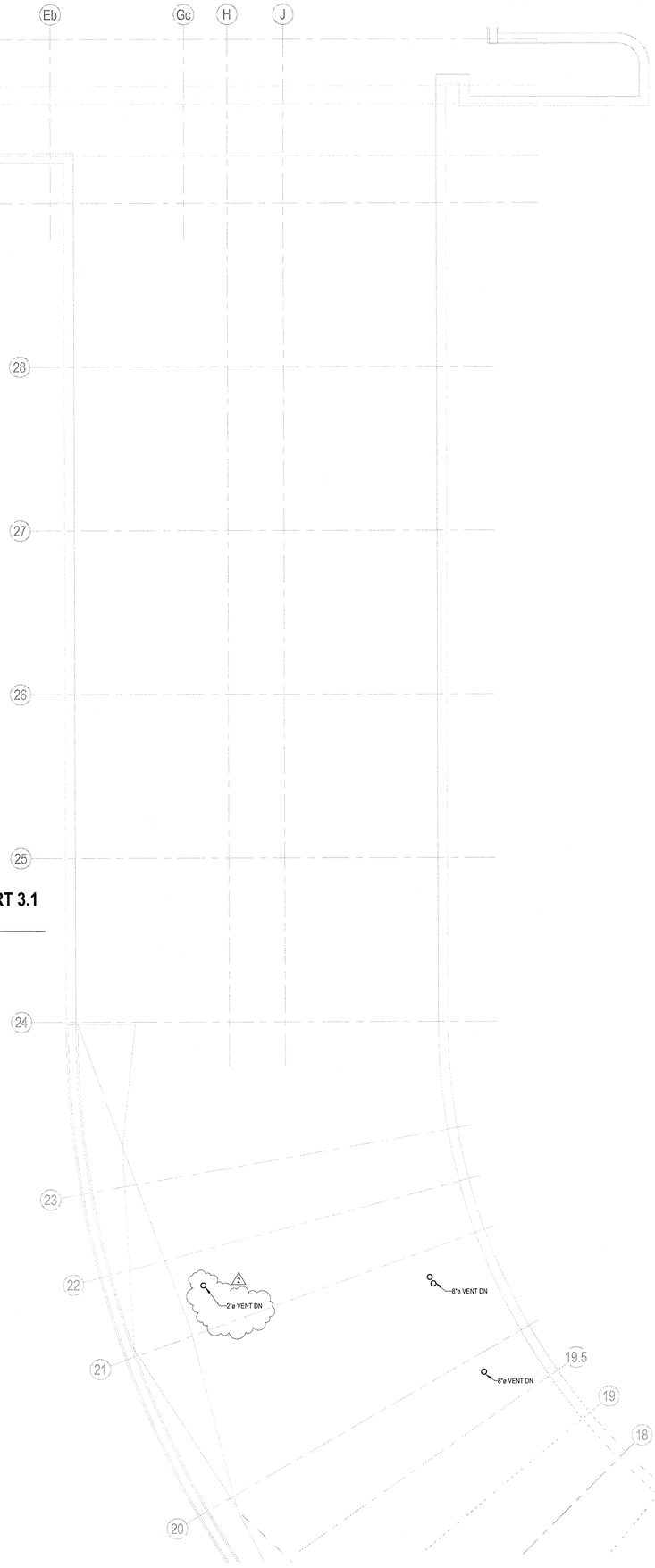
11/2/2015 9:42:46 AM

1.0



HVAC MECHANICAL PIPING PLAN PART 3.2 ROOF

2 H30R.3A 1/8" = 1'-0"



HVAC MECHANICAL PIPING PLAN PART 3.1 ROOF

1 H30R.3A 1/8" = 1'-0"

HVAC MECHANICAL PIPING PLAN PART 3.3 ROOF

3 H30R.3A 1/8" = 1'-0"

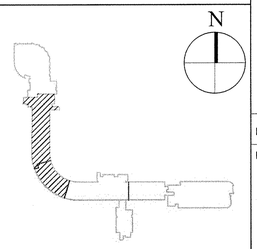
GENERAL NOTES

1. NOT ALL VALVES ARE SHOWN ON PLAN. REFER TO H800 SERIES FLOW DIAGRAMS & H500 SERIES DETAILS FOR ADDITIONAL VALVE REQUIREMENTS.
2. PRIOR TO INSTALLATION OF AHU-L4, FIELD VERIFY EXISTING PIPING. RELOCATE PIPING AS REQUIRED TO ALLOW INSTALLATION OF AHU-L4 & ASSOCIATED DUCTWORK.

KEY NOTES

NOT ALL KEY NOTES LISTED ON THIS SHEET ARE USED.

KEYPLAN



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Main Building Renovation

Building L - Project 2

263 Farminton Ave
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Revisions

No.	Date	Description
1	10/19/15	Issue for Bid & Code Review
2	11/02/15	Addendum #01

Drawing Name

HVAC Piping Plan - Roof

Project No. 218010732

Drawing Number

H30R.3A

11/2/2015 9:43:08 AM

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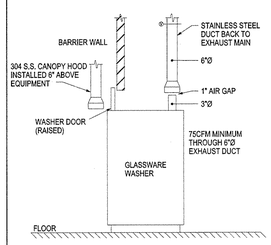
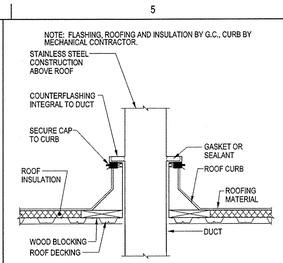
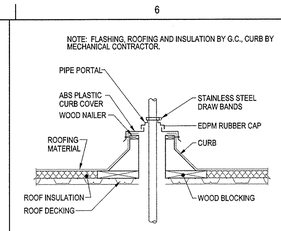


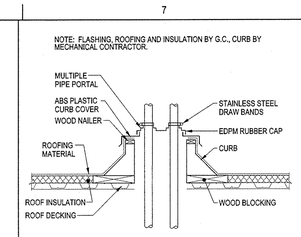
GLASSWARE WASHER EXHAUST DETAIL
NTS



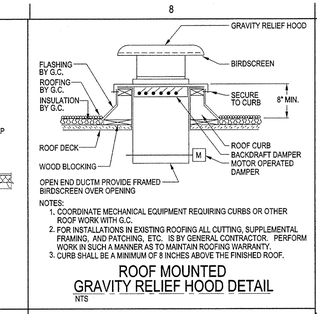
ROOF CURB DETAIL
NTS



PIPE ROOF CURB ASSEMBLY DETAIL
NTS



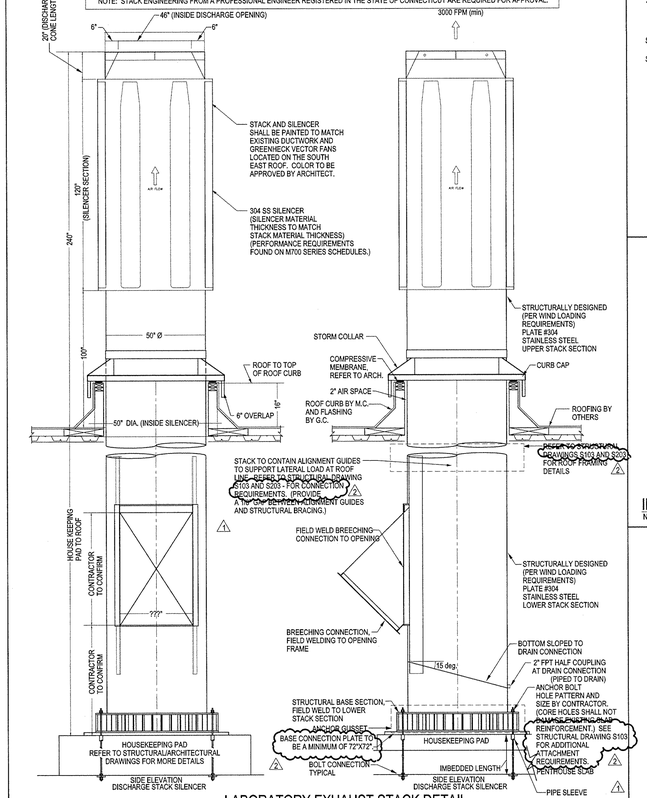
MULTIPLE PIPE ROOF CURB ASSEMBLY DETAIL
NTS



NOTES:
1. COORDINATE MECHANICAL EQUIPMENT REQUIRING CURBS OR OTHER ROOF WORK WITH G.C.
2. FOR INSTALLATIONS IN EXISTING ROOFING ALL CUTTING, SUPPLEMENTAL FRAMING, AND PATCHING, ETC. IS BY GENERAL CONTRACTOR. PERFORM WORK IN SUCH A MANNER AS TO MAINTAIN ROOFING WARRANTY.
3. CURB SHALL BE A MINIMUM OF 8 INCHES ABOVE THE FINISHED ROOF.

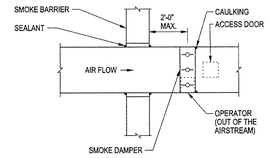
ROOF MOUNTED GRAVITY RELIEF HOOD DETAIL
NTS

STRUCTURAL INFORMATION (FOR PERFORMANCE BASED STACK DESIGN)
WIND LOADING: 100 MPH
MAXIMUM STACK WEIGHT: 8000 lbs (COORDINATION REQUIRED WITH STRUCTURAL ENGINEER IF WEIGHT IS EXCEEDED.)
NOTE: STACK ENGINEERING FROM A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF CONNECTICUT ARE REQUIRED FOR APPROVAL.

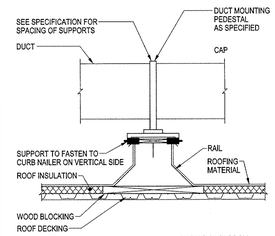


LABORATORY EXHAUST STACK DETAIL
NTS

NOTE:
ACTIVATE SMOKE DAMPER FROM ONE OF THE FOLLOWING:
1. DUCT SMOKE DETECTOR.
2. ROOM SMOKE DETECTOR.
3. DOOR RELEASE DETECTOR/SMOKE BARRIER DOOR. COORDINATE DETECTOR AND WIRING WITH ELECTRICAL CONTRACTOR

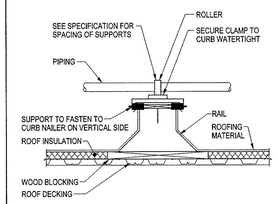


SMOKE DAMPER DETAIL
NTS



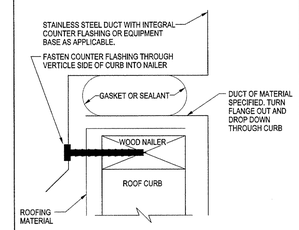
NOTE: FLASHING, ROOFING AND INSULATION BY G.C., CURB BY MECHANICAL CONTRACTOR.

ROOF RAIL DETAIL
NTS

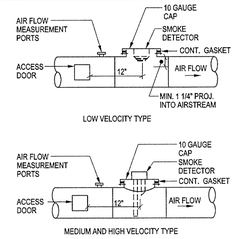


NOTE: FLASHING, ROOFING AND INSULATION BY G.C., CURB BY MECHANICAL CONTRACTOR.

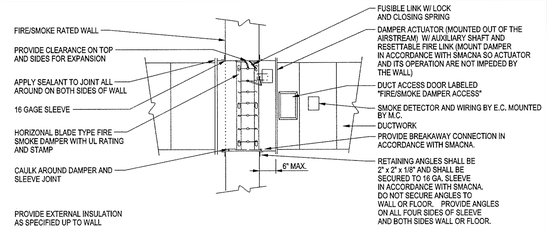
ROOF PIPE SUPPORT RAIL DETAIL
NTS



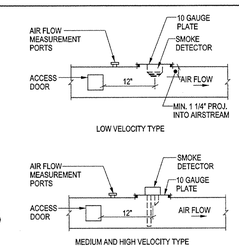
DUCT WORK AND EQUIPMENT CONNECTION TO ROOF CURB DETAIL
NTS



SMOKE DETECTOR INSTALLATION IN ROUND OR OVAL DUCT
NTS



COMBINATION FIRE/SMOKE DAMPER DETAIL
NTS



SMOKE DETECTOR INSTALLATION IN RECTANGULAR OR SQUARE DUCT
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Main Building Renovation

Building L - Project 2

263 Farmington Ave
Farmington, CT 06032

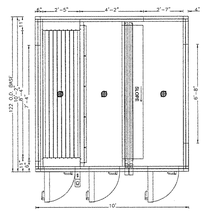
Revisions

No.	Date	Description
1	10/19/15	Issue for Bid & Code Review
2	11/02/15	Addendum #01

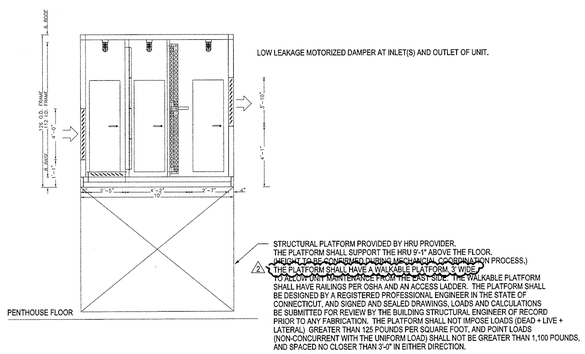
Drawing Name
HVAC Details - Sheet 3

Project No. 218010732

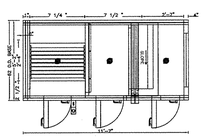
Drawing Number
H503



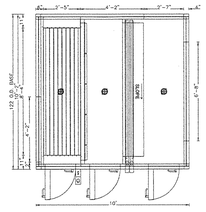
C1 HRU L1 - PLAN VIEW
NTS



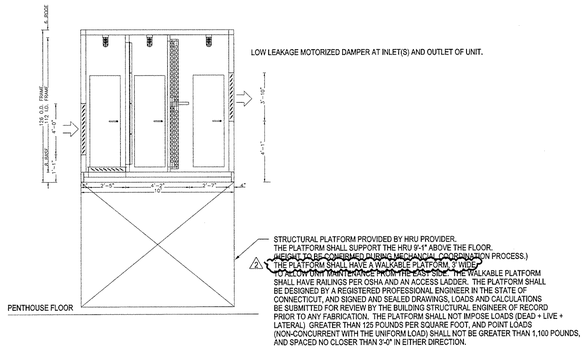
E1 HRU L1 - ELEVATION VIEW
NTS



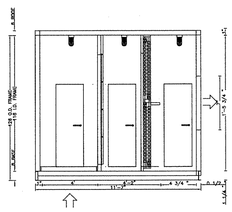
E1 HRU L3 - PLAN VIEW
NTS



C5 HRU L2 - PLAN VIEW
NTS



E5 HRU L2 - ELEVATION VIEW
NTS



E5 HRU L3 - ELEVATION VIEW
NTS

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400 Morgan Center
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Seal

NOT FOR CONSTRUCTION

UCONN HEALTH

Main Building Renovation

Building L - Project 2

263 Farmington Ave
Farmington, CT 06032

Revisions

No.	Date	Description
1	10/19/15	Issue for Bid & Code Review
2	11/02/15	Addendum #01

Drawing Name
HVAC HRU Details

Project No. 218010732

Drawing Number
H511

1	2	3	4	5	6	7	8

LABORATORY AIRFLOW CONTROL VALVE SCHEDULE

MARK	TYPE	CFM RANGE	PRESSURE DROP (IN. W.G.)	SIZE	NO. OF VALVES	REMARKS
X 1	VALVE	35 - 500	0.3 (5)	8"	1	(1)(3)(4)
X 2	VALVE	50 - 550	0.3 (5)	10"	1	(1)(3)(4)
X 3	VALVE	90 - 1050	0.3 (5)	12"	1	(1)(3)(4)
X 4	VALVE	200 - 1400	0.3 (5)	14"	1	(1)(3)(4)
X 5	VALVE	180 - 2100	0.3 (5)	12"	2	(1)(2)(3)(4)
X 6	VALVE	400 - 2800	0.3 (5)	14"	2	(1)(2)(3)(4)
X 7	VALVE	270 - 3150	0.3 (5)	12"	3	(1)(2)(3)(4)
X 8	VALVE	360 - 4200	0.3 (5)	12"	4	(1)(2)(3)(4)
X 9	VALVE	35 - 700	0.6 (6)	8"	1	(1)(3)(4)
X 10	VALVE	50 - 1000	0.6 (6)	10"	1	(1)(3)(4)
X 11	VALVE	90 - 1500	0.6 (6)	12"	1	(1)(3)(4)
X 12	VALVE	180 - 3000	0.6 (6)	12"	2	(1)(2)(3)(4)
X 13	VALVE	270 - 4500	0.6 (6)	12"	3	(1)(2)(3)(4)
X 14	VALVE	360 - 6000	0.6 (6)	12"	4	(1)(2)(3)(4)
X 15	VALVE	30 - 200	0.6 (6)	8"	1	(1)(3)(4)(7)

(1) PHOENIX IS BASIS OF DESIGN
(2) MULTIPLE VALVES SHALL BE FACTORY MOUNTED IN FRAME BY VALVE SUPPLIER.
(3) VALVES SHALL BE FURNISHED BY DDC SYSTEM SUPPLIER AND INSTALLED BY HVAC CONTRACTOR.
(4) VALVE MFR SHALL PROVIDE DUCT CONNECTION COLLAR WITH VALVE
(5) LOW PRESSURE VALVE
(6) MEDIUM PRESSURE VALVE
(7) VALVE SHALL BE COMPACT CAGE RACK VALVE

VALVE TYPES
HEV : HIGH SPEED VAV (GENERAL) EXHAUST VALVE
LEV : LOW SPEED VAV TRACCEL (GENERAL) EXHAUST VALVE
FHV : HIGH SPEED VAV (FUME HOOD) EXHAUST VALVE
CEV :CONSTANT VOLUME EXHAUST VALVE
EV2 : TWO POSITION EXHAUST VALVE
HSV : HIGH SPEED VAV SUPPLY VALVE
LSV : LOW SPEED VAV TRACCEL SUPPLY VALVE
CSV : CONSTANT VOLUME SUPPLY VALVE

SUPPLY VALVE HOT WATER REHEAT COIL SCHEDULE

MARK	VALVE MARK	MAX CFM	EWT (°F)	LWT (°F)	EAT (°F)	LAT (°F)	MAX. GPM	MAX. MBTH	REMARKS
SVC 1	SVR 1	200	180	165	51	85	1.0	7.4	(1)(2)
SVC 2	SVR 2	500	180	143	51	85	1.0	18.5	(1)(3)
SVC 3	SVR 3	550	180	166	51	85	3.0	20.3	(1)(2)
SVC 4	SVR 4	1050	180	149	51	85	2.5	38.7	(1)(3)
SVC 5	SVR 5	2100	180	160	51	85	7.8	77.4	(1)(3)
SVC 6	SVR 6	3150	180	160	51	85	11.6	116.2	(1)(3)
SVC 7	SVR 7	4200	180	160	51	85	15.5	154.9	(1)(3)

(1) COIL SHALL BE PLACED DOWNSTREAM OF SUPPLY VALVE IN RECTANGULAR DUCT SECTION
(2) 1 ROW COIL
(3) 2 ROW COIL

RETURN / EXHAUST AIR TERMINAL UNIT SCHEDULE

MARK	UNIT SIZE	MAXIMUM AIRFLOW - CFM	MINIMUM AIRFLOW - CFM	MINIMUM PS.	MANUFACTURER AND MODEL	REMARKS
1	4	200	40	0.24	PRICE MODEL RDV	(1)(2)
2	5	300	62	0.26	PRICE MODEL RDV	(1)(2)
3	6	480	89	0.24	PRICE MODEL RDV	(1)(2)
4	7	650	121	0.25	PRICE MODEL RDV	(1)(2)
5	8	880	159	0.26	PRICE MODEL RDV	(1)(2)
6	9	1120	201	0.26	PRICE MODEL RDV	(1)(2)
7	10	1370	248	0.25	PRICE MODEL RDV	(1)(2)
8	12	1800	357	0.25	PRICE MODEL RDV	(1)(2)
9	14	2600	486	0.26	PRICE MODEL RDV	(1)(2)
10	16	3400	634	0.25	PRICE MODEL RDV	(1)(2)

(1) REFER TO PLANS FOR AIR REQUIREMENTS
(2) ALL TERMINALS MAY NOT BE USED, REFER TO PLANS FOR QUANTITIES

TERMINAL UNIT TYPES:
CE: CONSTANT VOLUME EXHAUST
VE: VARIABLE VOLUME EXHAUST
2EV: TWO POSITION EXHAUST
CR: CONSTANT VOLUME RETURN
VR: VARIABLE VOLUME RETURN

LOUVERED PENTHOUSE SCHEDULE

MARK	TYPE	AIRFLOW (CFM)	PRESSURE DROP (in. W.G.)	THROAT DIMENSIONS (in) LENGTH	THROAT DIMENSIONS (in) WIDTH	LOUVER HEIGHT (in)	MANUFACTURER AND MODEL	REMARKS
LP 4	RELIEF	22,500	0.15	40	50	42	GREENHECK WRH	(1)(2)(3)
LP 5	RELIEF	22,500	0.15	40	50	42	GREENHECK WRH	(1)(2)(3)
LP 6	EXHAUST	1,000	0.10	22	22	16	GREENHECK WRH	(1)(2)(3)

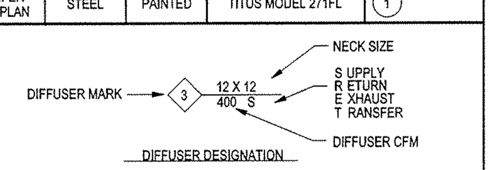
ADD ALTERNATE (LP 5)

(1) COLOR TO MATCH BUILDING LOUVER, REFERENCE ARCHITECTURAL DRAWINGS.
(2) PROVIDE GREENHECK ATS ROOF CURB (12" ROOF CURB).
(3) PROVIDE WITH BIRD SCREEN.

DIFFUSER, REGISTER AND GRILLE SCHEDULE

MARK	RECTANGULAR ROUND SQUARE	SUPPLY RETURN EXHAUST	SIZE FACE	SIZE NECK	MOUNT.	PATTERN	MAT'L	FINISH	MANUFACTURER AND MODEL (3)	REMARKS
1	SQUARE	SUPPLY	24x24	REFER TO PLAN	COORDINATE WITH CEILING TYPE	REFER TO PLAN	STEEL	PAINTED	TITUS MODEL TDCA	(1)
2	SQUARE	SUPPLY	24X24 NOMINAL	10" DIAM.	COORDINATE WITH CEILING TYPE	2-WAY	STEEL	PAINTED	TITUS MODEL TRITEC	(1)
3	LINEAR	SUPPLY	72 x 6 NOMINAL	10" DIAM.	PLENUM MOUNTED HANG FROM STRUCTURE	2-SLOT ADJUSTABLE	STEEL	PAINTED	TITUS MODEL ML-38	(1)
4	RECT	SUPPLY	VARIES	REFER TO PLAN	COORDINATE WITH MOUNTING CONDITION	DOUBLE DEFLECT.	STEEL	PAINTED	TITUS MODEL 300RS	(1)
5	RECT	RETURN/ EXHAUST	VARIES	REFER TO PLAN	COORDINATE WITH MOUNTING CONDITION	SINGLE DEFLECT.	STEEL	PAINTED	TITUS MODEL 350RL	(1)
6	RECT	SUPPLY	VARIES	REFER TO PLAN	COORDINATE WITH CEILING TYPE	REFER TO PLAN	STEEL	PAINTED	TITUS MODEL 271FL	(1)

(1) REFER TO DWGS. FOR AIR QUANTITIES, NECK SIZE, & PATTERN WHEN NOT INDICATED IN SCHEDULE
(2) PRODUCT NOT USED ON THIS PROJECT.
(3) BASIS OF DESIGN. REFER TO SPECIFICATION FOR OTHER ACCEPTABLE MANUFACTURERS.



FAN SCHEDULE

MARK	SERVICE	LOCATION	TYPE AND ARRANGEMENT	CFM	S.P. IN WG.	FAN RPM	BHP	MOTOR HP	MOTOR VOLTS/ ø	WHEEL TYPE	WHEEL DIA.	MANUFACTURER AND MODEL	SOUND POWER DB 63	125	250	500	1 K	2 K	4 K	8 K	REAMRKS
SF L4	AHU-L4	PENTHOUSE	PLENUM ARRAY	9@7,222	7.5	2,573	12.6 EACH	15 EACH	460/3	(6)			98	99	98	101	96	92	87	77	(1)
SF L5	AHU-L5	PENTHOUSE	PLENUM ARRAY	9@7,222	7.5	2,573	12.6 EACH	15 EACH	460/3	(6)			98	99	98	101	96	92	87	77	(1)
RF L4	AHU-L4	PENTHOUSE	MIXED FLOW	7,500	3.25	2573	6.29	10	460/3	(6)	20	COOK 165 QMX	90	87	89	91	88	84	81	78	(1)
RF L5	AHU-L5	PENTHOUSE	MIXED FLOW	7,500	3.25	2573	6.29	10	460/3	(6)	20	COOK 165 QMX	90	87	89	91	88	84	81	78	(1)
EF L12A	LAB EXHAUST FLOORS 1-7	PENTHOUSE	SWSI	35,000	5.5	1432	51.3	60	460/3	(6)		COOK 365CA-SWSI	98	102	107	97	93	89	85	82	(1)(2)
EF L12B	LAB EXHAUST FLOORS 1-7	PENTHOUSE	SWSI	35,000	5.5	1432	51.3	60	460/3	(6)		COOK 365CA-SWSI	98	102	107	97	93	89	85	82	(1)(2)
EF L12C	LAB EXHAUST FLOORS 1-7	PENTHOUSE	SWSI	35,000	5.5	1432	51.3	60	460/3	(6)		COOK 365CA-SWSI	98	102	107	97	93	89	85	82	(1)(2)
EF L12D	LAB EXHAUST FLOORS 1-7	PENTHOUSE	SWSI	35,000	5.5	1432	51.3	60	460/3	(6)		COOK 365CA-SWSI	98	102	107	97	93	89	85	82	(1)(2)
EF L10A	CHEMICAL ROOMS FLOORS 1-7	ROOF	MIXED FLOW	2,500	2.2	2054	1.89	2	460/3	(6)	15	GREENHECK VEKTOR-MD-15-9-85-LV-HPW	81	82	82	79	78	72	67	61	(3)(4)(5)
EF L10B	CHEMICAL ROOMS FLOORS 1-7	ROOF	MIXED FLOW	2,500	2.2	2054	1.89	2	460/3	(6)	15	GREENHECK VEKTOR-MD-15-9-85-LV-HPW	81	82	82	79	78	72	67	61	(3)(4)(5)
EF L14	DINNING ROOM EXHAUST	PENTHOUSE	MIXED FLOW	4,730	1.5	1058	2.23	3	460/3	(6)	24	GREENHECK BSQ-240HP-30	88	85	80	74	66	56	50	48	(1)
EF L13	TOILET EXHAUST FLOORS 1-7	PENTHOUSE	UTILITY	19,000	3.5	689	13.55	15	460/3	(6)	44	GREENHECK USF-444-10-AF-I-150	101	98	86	83	81	76	72	69	(1)
EF L15	PENTHOUSE EXHAUST	PENTHOUSE	INLINE	1000	1.5	1950	0.51	0.75	115/1	(6)	13	GREENHECK SQ-130HP-VG	85	81	72	67	60	60	56	54	(1)
EF L11A	AUTOCLAVES EXHAUST	ROOF	MIXED FLOW	2,500	3.6	2431	3.03	5	460/3	(6)	15	GREENHECK VEKTOR-MD-15-9-85-LV-HPW	82	85	86	83	82	77	72	66	(3)(4)(5)
EF L11B	AUTOCLAVES EXHAUST	ROOF	MIXED FLOW	2,500	3.6	2431	3.03	5	460/3	(6)	15	GREENHECK VEKTOR-MD-15-9-85-LV-HPW	82	85	86	83	82	77	72	66	(3)(4)(5)

ADD ALTERNATE (SF L5)
ADD ALTERNATE (RF L5)

(1) PROVIDE MOTOR SUITABLE FOR USE WITH ADJUSTABLE FREQUENCY MOTOR CONTROLLER.
(2) PROVIDE WITH FAN MANUFACTURER'S FAN INLET BOX.
(3) PROVIDE COMMON EA PLENUM AND ROOF CURB FROM GREENHECK.
(4) PROVIDE WITH MOTORIZED INLET ISOLATION DAMPERS.
(5) DISCONNECT/COMBO STARTER PROVIDED BY E.C.
(6) WHEEL TYPE BASED ON MODEL NUMBER.

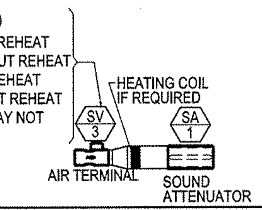
SOUND ATTENUATOR SCHEDULE

MARK	SERVES	CFM	VEL. FPM (2)	MIN. DYNAMIC INSERTION LOSS OCTAVE BAND CENTER FREQUENCY (HZ) 63	125	250	500	1000	2000	4000	8000	MAX P.D. IN W.C. (5)	DIMENSIONS IN. HGT	WDT	LGT	DIA	MANUFACTURER AND MODEL	REMARKS (11)(13)
SA 1	EF-L12A	35,000	2567	7	16	22	23	19	16	13	10	0.18			120	50	VIBRO-ACOUSTICS CFL-MV-F2-L17745	(1)(7)(9)(12)(14)
SA 2	EF-L12B	35,000	2567	7	16	22	23	19	16	13	10	0.18			120	50	VIBRO-ACOUSTICS CFL-MV-F2-L17745	(1)(7)(9)(12)(14)
SA 3	EF-L12C	35,000	2567	7	16	22	23	19	16	13	10	0.18			120	50	VIBRO-ACOUSTICS CFL-MV-F2-L17745	(1)(7)(9)(12)(14)
SA 4	EF-L12D	35,000	2567	7	16	22	23	19	16	13	10	0.18			120	50	VIBRO-ACOUSTICS CFL-MV-F2-L17745	(1)(7)(9)(12)(14)
SA 5	AHU-L5	65,000	1560	2	3	6	12	15	18	12	7	.21	60	100	60		VIBRO-ACOUSTICS 100 x 60 RFL-UHV-F1-L17745	(1)(7)(9)(12)(14)
SA 6	AHU-L4	65,000	1733	2	2	7	20	31	28	18	8	.21	54	100	84		VIBRO-ACOUSTICS 100 x 54 RFL-UHV-F8-L17745	(1)(7)(9)(12)(14)
SA 7	RF-L4	22,000	1584	8	6	11	20	29	29	17	7	.23	50	40	72		VIBRO-ACOUSTICS RFL-HV-F6-L17745	(1)(7)(9)(12)(14)(16)
SA 8	RF-L5	22,000	1584	6	6	9	17	24	24	15	7	.18	50	40	60		VIBRO-ACOUSTICS RFL-HV-F6-L17745	(1)(7)(9)(12)(14)(16)
SA 9	EXHAUST AIR MAKE UP	11,000	2750	7	10	9	17	17	19	16	13	.22	24	24	72		VIBRO-ACOUSTICS EXREFL-UHV-FC-L17745	(1)(7)(9)(12)(14)

ADD ALTERNATE (SA 5)
ADD ALTERNATE (SA 8)

(1) DESIGN ATTENUATOR BASED ON NORMAL OPERATION
(2) NOMINAL VELOCITY FOR BASIS OF ACOUSTICAL PERFORMANCE.
(3) NOT USED.
(4) NOT USED.
(5) INCLUDES SYSTEM EFFECTS
(6) NOT USED.
(7) 304 STAINLESS STEEL
(8) NOT USED.
(9) NO MEDIA SILENCER WITH RECTANGULAR SPLITTER; FLANGE CONNECTION ON INLET AND OUTLET, CONTINUOUSLY WELDED.
(10) NOT USED.
(11) MATCH SOUND ATTENUATOR WITH AIR VALVE AS SHOWN ON DUCTWORK PLAN DRAWINGS.
(12) SILENCER WILL BE INTEGRATED INTO A FREE STANDING STACK. CONTRACTOR TO PROVIDE DETAILED STACK DRAWINGS FROM A PROFESSIONAL ENGINEER IN THE STATE OF CONNECTICUT FOR APPROVAL.
(13) ATTENUATOR SIZE TO ACHIEVE VELOCITY AND SOUND CRITERIA. ~~PROVIDE TRANSITIONS AS NECESSARY.~~
(14) REFER TO DETAIL SHEET H503 FOR CONSTRUCTION REQUIREMENTS (SILENCER WILL BE INTEGRATED INTO A FREE STANDING STACK.) △2
(15) ~~NOT USED.~~
(16) SOUND ATTENUATOR SIZED FOR FUTURE CAPACITY.

TERMINAL UNITS TYPES (X)
CVR CONSTANT VOLUME WITH REHEAT
CV CONSTANT VOLUME WITHOUT REHEAT
VVR VARIABLE VOLUME WITH REHEAT
VV VARIABLE VOLUME WITHOUT REHEAT
* (ALL TERMINAL UNIT TYPES MAY NOT BE LISTED ABOVE)



HEAT PUMP SCHEDULE

MARK	COOLING CAP. SENS. MBH	HEAT REJ. MBH	SA CFM	CW GPM	ELECTRICAL V/PH/HZ	ELECTRICAL MCA	DIMENSIONS (IN) LENGTH	DIMENSIONS (IN) WIDTH	DIMENSIONS (IN) HEIGHT	MANUFACTURER AND MODEL	REMARKS
HP 8	10.6	18.2	500	4.0	208/1/60	9.7	42	22.5	19.2	WATER FURNACE ENVISION 2 COMPACT NB015-ECM	(1)(2) HIGH SPEED MAX
HP 8	9.5	17.4	400	2.0	208/1/60	9.7	42	22.5	19.2	WATER FURNACE ENVISION 2 COMPACT NB015-ECM	(1)(2) LOW SPEED MIN

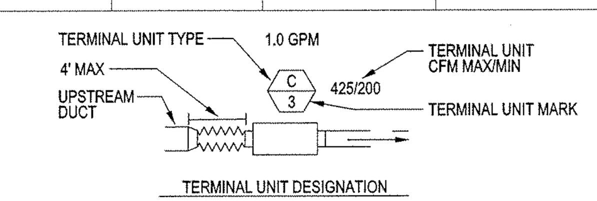
(1) PROVIDE DISCONNECT SWITCH.
(2) PROVIDE FACTORY INSTALLED 2-WAY VALVE.

VARIABLE VOLUME REHEAT TERMINAL UNIT SCHEDULE - TYPE B, C, D

MARK	CFM RANGE	BOX INLET SIZE	DUCT INLET SIZE	DUCT OUTLET SIZE	COIL CAPACITY MBH	HEATING GPM @ 180 EWT	OPEN MAX. △ P - UNIT PLUS COIL	MAX. COIL WATER P.D. FT.	HWS & HWR RUNOUT SIZES	MANUFACTURER AND MODEL	REMARKS
1	0 - 150	4"	6"	12X8	0 - 6.2	0.5	0.25"	0.20	3/4"	PRICE MODEL SDV	(1)(2)
2	0 - 150	4"	6"	12X8	0 - 10.9	1.0	0.25"	0.30	3/4"	PRICE MODEL SDV	(1)(2)
3	151 - 300	6"	7"	12X8	4.7 - 9.3	1.0	0.25"	0.50	3/4"	PRICE MODEL SDV	(1)(2)
4	151 - 300	6"	7"	12X8	8.6 - 17.0	1.5	0.25"	0.50	3/4"	PRICE MODEL SDV	(1)(2)
5	301 - 450	7"	9"	12X10	9.1 - 13.8	1.5	0.25"	1.50	3/4"	PRICE MODEL SDV	(1)(2)
6	301 - 450	7"	9"	12X10	16.6 - 24.8	2.0	0.25"	1.20	3/4"	PRICE MODEL SDV	(1)(2)
7	451 - 600	8"	10"	12X10	12.2 - 16.4	2.0	0.25"	2.50	3/4"	PRICE MODEL SDV	(1)(2)
8	451 - 600	8"	10"	12X10	23.9 - 32.0	4.0	0.40"	4.10	1"	PRICE MODEL SDV	(1)(2)
9	601 - 850	9"	12"	14X12	15.6 - 22.3	2.5	0.25"	1.10	3/4"	PRICE MODEL SDV	(1)(2)
10	601 - 850	9"	12"	14X12	31.8 - 45.0	5.0	0.40"	3.40	3/4"	PRICE MODEL SDV	(1)(2)
11	851 - 1000	10"	12"	14X12	21.1 - 24.7	3.0	0.25"	1.50	3/4"	PRICE MODEL SDV	(1)(2)
12	851 - 1000	10"	12"	14X12	42.3 - 50.0	6.0	0.40"	4.80	1"	PRICE MODEL SDV	(1)(2)
13	1001 - 1600	12"	14"	16X15	22.7 - 37.1	4.0	0.25"	3.20	3/4"	PRICE MODEL SDV	(1)(2)
14	1001 - 1600	12"	14"	16X15	47.6 - 75.4	8.0	0.40"	10.00	1 1/4"	PRICE MODEL SDV	(1)(2)
15	1601 - 2400	14"	16"	20X17	38.0 - 56.3	7.0	0.25"	4.50	1"	PRICE MODEL SDV	(1)(2)
16	1601 - 2400	14"	16"	20X17	72.6 - 108.0	9.0	0.40"	8.40	1 1/4"	PRICE MODEL SDV	(1)(2)
17	2401 -3200	16"	18"	24X18	95.9 - 128.0	9.0	0.25"	3.60	1 1/4"	PRICE MODEL SDV	(1)(2)
18	3201 - 4400	24X16	24X16	38X18	137.3 - 184.9	10.0	0.40"	4.80	1 1/4"	PRICE MODEL SDV	(1)(2)

(1) INDICATES NOMINAL DUCT SIZE TO DIFFUSER UNLESS OTHERWISE NOTED ON DRAWING.
(2) REFER TO DRAWINGS.

TERMINAL UNIT TYPES:
B: VARIABLE VOLUME SUPPLY



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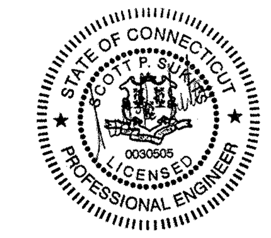

NOT FOR CONSTRUCTION

UCONN HEALTH

Main Building Renovation

Building L - Project 2

263 Farmington Ave
Farmington, CT 06032

Revisions

No.	Date	Description
1	10/19/15	Issue for Bid & Code Review
2	11/02/15	Addendum #01

Drawing Name

HVAC Equipment Schedules - Sheet 2

Project No. 218010732

Drawing Number

H702

1.4

ADJUSTABLE FREQUENCY MOTOR CONTROLLER SCHEDULE

MARK	LOCATION	SERVES	TYPE OF CONTROL	ELECTRICAL DATA HP	VOLTS	PHASE	HERTZ	MOUNTING	REMARKS
VFD SFL4A	PENTHOUSE	SF-L4A,SF-L4B, SF-L4C	STATIC PRESSURE	3 FANS@ 15 HP EACH	460	3	60	UNISTRUT	1
VFD SFL4F	PENTHOUSE	SF-L4D,SF-L4E, SF-L4F	STATIC PRESSURE	3 FANS@ 15 HP EACH	460	3	60	UNISTRUT	1
VFD SFL4I	PENTHOUSE	SF-L4G,SF-L4H, SF-L4I	STATIC PRESSURE	3 FANS@ 15 HP EACH	460	3	60	UNISTRUT	1
VFD RFL4	PENTHOUSE	RF-L4	AIR FLOW MEASURING	25	460	3	60	UNISTRUT	2
VFD SFL5A	PENTHOUSE	SF-L5A,SF-L5B, SF-L5C	STATIC PRESSURE	3 FANS@ 15 HP EACH	460	3	60	UNISTRUT	1
VFD SFL5F	PENTHOUSE	SF-L5D,SF-L5E, SF-L5F	STATIC PRESSURE	3 FANS@ 15 HP EACH	460	3	60	UNISTRUT	1
VFD SFL5I	PENTHOUSE	SF-L5G,SF-L5H, SF-L5I	STATIC PRESSURE	3 FANS@ 15 HP EACH	460	3	60	UNISTRUT	1
VFD RFL5	PENTHOUSE	RF-L5	AIR FLOW MEASURING	25	460	3	60	UNISTRUT	2
VFD EF12A	PENTHOUSE	EF-12A	STATIC PRESSURE	50	460	3	60	UNISTRUT	
VFD EF12B	PENTHOUSE	EF-12B	STATIC PRESSURE	50	460	3	60	UNISTRUT	
VFD EF12C	PENTHOUSE	EF-12C	STATIC PRESSURE	50	460	3	60	UNISTRUT	
VFD EF12D	PENTHOUSE	EF-12D	STATIC PRESSURE	50	460	3	60	UNISTRUT	
VFD EFL13	PENTHOUSE	EF-L13	STATIC PRESSURE	15	460	3	60	UNISTRUT	
VFD EFL14	PENTHOUSE	EF-L14	STATIC PRESSURE	3	460	3	60	UNISTRUT	
VFD CWPL4	PENTHOUSE	CWP-L4	DIFFERENTIAL PRESSURE	15	460	3	60	UNISTRUT	
VFD CWPL5	PENTHOUSE	CWP-L5	DIFFERENTIAL PRESSURE	15	460	3	60	UNISTRUT	
VFD CWPL6	PENTHOUSE	CWP-L6	DIFFERENTIAL PRESSURE	15	460	3	60	UNISTRUT	
VFD HWPL8	PENTHOUSE	HWP-L8	DIFFERENTIAL PRESSURE	15	460	3	60	UNISTRUT	
VFD HWPL9	PENTHOUSE	HWP-L9	DIFFERENTIAL PRESSURE	15	460	3	60	UNISTRUT	
VFD HWPL10	PENTHOUSE	HWP-L10	DIFFERENTIAL PRESSURE	7.5	460	3	60	UNISTRUT	
VFD HWPL11	PENTHOUSE	HWP-L11	DIFFERENTIAL PRESSURE	7.5	460	3	60	UNISTRUT	
VFD HWPL12	PENTHOUSE	HWP-L12	DIFFERENTIAL PRESSURE	7.5	460	3	60	UNISTRUT	

1 VFD SERVES 3 SUPPLY FANS IN FAN WALL ARRAY.

2 VFD IS OVERSIZED FOR FUTURE. PROGRAM VFD TO OPERATE A 10 HP MOTOR FOR CURRENT CONDITIONS.

ADD ALTERNATE

CONVECTOR SCHEDULE

MARK	MBH	GPM	EWT	LWT	P.D. (FT WATER)	DIMENSIONS LENGTH	WIDTH	DEPTH	MANUFACTURER AND MODEL 5	REMARKS
CV 6	8.3	1.0	200	180	0.10	36	10	26	STERLING FWG-A	1 2 3 4
CV 7	13.4	1.4	200	180	0.50	64	8	26	STERLING FWG-A	1 2 3 4
CV 8	8.3	1.0	200	180	0.10	36	10	26	STERLING FWG-A	1 2 3 4
CV 9	13.4	1.4	200	180	0.50	64	8	26	STERLING FWG-A	1 2 3 4
CV 10	8.3	1.0	200	180	0.10	36	10	26	STERLING FWG-A	1 2 3 4
CV 11	13.4	1.4	200	180	0.50	64	8	26	STERLING FWG-A	1 2 3 4
CV 12	8.3	1.0	200	180	0.10	36	10	26	STERLING FWG-A	1 2 3 4
CV 13	13.4	1.4	200	180	0.50	64	8	26	STERLING FWG-A	1 2 3 4
CV 14	8.3	1.0	200	180	0.10	36	10	26	STERLING FWG-A	1 2 3 4
CV 15	13.4	1.4	200	180	0.50	64	8	26	STERLING FWG-A	1 2 3 4
CV 16	8.3	1.0	200	180	0.10	36	10	26	STERLING FWG-A	1 2 3 4
CV 17	13.4	1.4	200	180	0.50	64	8	26	STERLING FWG-A	1 2 3 4
CV 18	8.3	1.0	200	180	0.10	36	10	26	STERLING FWG-A	1 2 3 4
CV 19	13.4	1.4	200	180	0.50	64	8	26	STERLING FWG-A	1 2 3 4
CV 20	8.3	1.0	200	180	0.10	36	10	26	STERLING FWG-A	1 2 3 4
CV 21	13.4	1.4	200	180	0.50	64	8	26	STERLING FWG-A	1 2 3 4
CV 22	8.3	1.0	200	180	0.10	36	10	26	STERLING FWG-A	1 2 3 4
CV 23	13.4	1.4	200	180	0.50	64	8	26	STERLING FWG-A	1 2 3 4
CV 24	8.3	1.0	200	180	0.10	36	10	26	STERLING FWG-A	1 2 3 4
CV 25	13.4	1.4	200	180	0.50	64	8	26	STERLING FWG-A	1 2 3 4
CV 26	9.2	1.0	200	180	0.27	56	6	26	STERLING FWG-A	1 2 3 4 2

1 FULLY RECESSED

2 LOUVERED INLET AND OUTLET GRILLES

3 MATCH EXISTING EQUIPMENT CASING DIMENSIONS

4 CAPACITY BASED UPON 55°F EAT

5 BASIS OF DESIGN

ADD ALTERNATE

AIR FILTER SCHEDULE

MARK	SERVES	TYPE	ASHRAE MIN. EFF.	TOTAL CFM	NOMINAL HGT.	WDT.	DEP.	MAX. FACE VEL. FPM	INITIAL P.D. (IN W.G.)	MANUFACTURER AND MODEL	(QTY) SIZE	REMARKS
PF L4	AHU-L4	MERV 8	35	65,000	144	180	2	400	0.31	CAMFIL-FARR 30/30		
FF L4	AHU-L4	MERV 13	85	65,000	144	180	2	400	0.50	CAMFIL-FARR RIGA-FLO		
PF L5	AHU-L5	MERV 8	35	65,000	144	180	2	400	0.31	CAMFIL-FARR 30/30		
FF L5	AHU-L5	MERV 13	85	65,000	144	180	2	400	0.50	CAMFIL-FARR RIGA-FLO		

ADD ALTERNATE

GLYCOL FILL STATION

MARK	LOCATION	PRESSURE RANGE (PSI)	ELECTRICAL HP	V	MANUFACTURER AND MODEL	REMARKS
GFS 1	PENTHOUSE	10-70	1/2	110	WESSELS COMPANY GMP-15050	1

1 PROVIDE WITH LOW LEVEL ALARM. ALARM SHALL BE CONNECTED TO THE BUILDING AUTOMATION SYSTEM.

Stantec

400 Morgan Center
101 East Diamond Street
Butler, PA 16001

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Seal

STATE OF CONNECTICUT SCOTT P. STATZ 0030606 LICENSED PROFESSIONAL ENGINEER

NOT FOR CONSTRUCTION

UCONN HEALTH

Main Building Renovation

Building L - Project 2

263 Farmington Ave
Farmington, CT 06032

Revisions

No.	Date	Description
1	10/19/15	Issue for Bid & Code Review
2	11/02/15	Addendum #01

Drawing Name

HVAC Equipment Schedules - Sheet 3

Project No. 218010732

Drawing Number

H703

1.4

GENERAL HVAC APPLICATION PROGRAMS

I. TIME SCHEDULING/EVENT PROGRAM: THE TIME SCHEDULING PORTION OF THE PROGRAM SHALL START AND STOP EACH EQUIPMENT DEVICE OR SYSTEM BASED ON THE TIME OF THE DAY AND DAY OF THE WEEK, INCLUDING HOLIDAYS. TO ELIMINATE POWER SURGES, AN OPERATOR'S ADJUSTABLE TIME DELAY SHALL BE PROVIDED BETWEEN CONSECUTIVE START COMMANDS. THIS PROGRAM SHALL INDICATE TO THE OPERATOR THAT THE UNIT IS "ON" OR "OFF" IN THE "OCCUPIED" OR "UNOCCUPIED" MODE WHEN A STATUS INQUIRY IS MADE; THIS WILL BE THE PRIMARY MEANS OF CONTROL. THE PROGRAM MUST EXECUTE ENTIRELY WITHIN THE LOCAL PANEL CONTROLLER.

i. SCHEDULING PROGRAM INPUTS:
A. DAY OF WEEK/HOLIDAY.
B. TIME OF DAY.
C. SUMMER AND WINTER HIGH-LOW LIMITS.
D. DAY/WEEKEND/HOLIDAY START-STOP SCHEDULES.
E. SUMMER OR WINTER OPERATION.

ii. SCHEDULING PROGRAM OUTPUTS:
A. START SIGNAL (MOMENTARY OR MAINTAINED AS SPECIFIED).
B. STOP SIGNAL (MOMENTARY OR MAINTAINED AS SPECIFIED).
C. CONTROL STATUS AVAILABLE AT THE OPERATOR'S CONSOLE.

iii. IN ADDITION, BASED ON USER COMMANDS AT THE OPERATOR'S CONSOLE, THE SOFTWARE SHALL BE CAPABLE OF OVERRIDING NORMAL UNOCCUPIED MODES OF OPERATION FOR EVENTS. EVENTS SHALL BE PREPROGRAMMED BY THE OPERATOR UP TO 12 MONTHS IN ADVANCE. EACH EVENT SHALL AUTOMATICALLY BE ERASED AFTER USE.

iv. EVENT PROGRAM INPUTS:
A. AREA, EQUIPMENT DEVICE, OR SYSTEM INVOLVED.
B. TIME OF DAY.
C. EVENT START AND STOP SCHEDULE.

v. EVENT PROGRAM OUTPUTS:
A. START SIGNAL (MOMENTARY OR MAINTAINED AS SPECIFIED).
B. STOP SIGNAL (MOMENTARY OR MAINTAINED AS SPECIFIED).
C. CONTROL STATUS AVAILABLE AT THE OPERATOR'S CONSOLE.

vi. ALL TIME SCHEDULES AND EVENTS SHALL BE PROGRAMMABLE IN GRAPHIC FORMAT.

II. OPTIMUM START-STOP PROGRAM: THIS SOFTWARE SHALL START AND STOP EACH EQUIPMENT DEVICE OR SYSTEM ON A SLIDING SCHEDULE BASED ON INDOOR AND OUTDOOR AIR CONDITIONS. THE PROGRAM SHALL TAKE INTO ACCOUNT THE THERMAL CHARACTERISTICS OF THE STRUCTURE, INDOOR CONDITIONS AND OUTDOOR AIR CONDITIONS USING PREDICTION SOFTWARE TO DETERMINE THE MINIMUM TIME THE HVAC SYSTEM OPERATION REQUIRES TO SATISFY ENVIRONMENTAL REQUIREMENTS AT THE START OF THE OCCUPIED CYCLE AND TO DETERMINE THE EARLIEST TIME FOR STOPPING EQUIPMENT AT THE DAY'S END. THIS PROGRAM SHALL INDICATE TO THE OPERATOR THAT THE UNIT IS "ON" OR "OFF" IN "OPTIMUM START-STOP" OVERRIDE WHEN A STATUS INQUIRY IS MADE. THE PROGRAM MUST EXECUTE ENTIRELY WITHIN THE LOCAL PANEL CONTROLLER.

i. PROGRAM INPUTS:
A. TIME SCHEDULING/EVENT PROGRAM INPUTS.
B. SPACE TEMPERATURE(S).
C. BUILDING HEATING CONSTANT (OPERATOR ADJUSTABLE).
D. BUILDING COOLING CONSTANT (OPERATOR ADJUSTABLE).
E. OUTDOOR AIR TEMPERATURE.
F. REQUIRED SPACE TEMPERATURE AT OCCUPANCY (HEATING).
G. REQUIRED SPACE TEMPERATURE AT OCCUPANCY (COOLING).
H. WIND VELOCITY (WHEN APPLICABLE).

ii. PROGRAM OUTPUTS:
A. START SIGNAL (MOMENTARY OR MAINTAINED AS SPECIFIED).
B. STOP SIGNAL (MOMENTARY OR MAINTAINED AS SPECIFIED).
C. CONTROL STATUS AVAILABLE AT THE OPERATOR'S CONSOLE.

III. NIGHT SETBACK PROGRAM: THE SOFTWARE SHALL LIMIT THE RISE OR DROP OF SPACE TEMPERATURE DURING UNOCCUPIED HOURS. WHENEVER THE SPACE TEMPERATURE IS ABOVE (OR BELOW FOR HEATING) THE OPERATOR ASSIGNED TEMPERATURE LIMIT, THE SYSTEM SHALL BE TURNED "ON" UNTIL THE TEMPERATURE IS WITHIN THE ASSIGNED TEMPERATURE LIMIT. THIS PROGRAM SHALL ALSO COOL THE BUILDING WITH COOL "NIGHT" AIR IN THE SUMMER AND WARM "DAY" AIR IN THE WINTER DURING UNOCCUPIED PERIODS. THIS PROGRAM SHALL INDICATE TO THE OPERATOR THAT THE UNIT IS "ON" IN "NIGHT SETBACK" OVERRIDE WHEN A STATUS INQUIRY IS MADE. THE PROGRAM MUST EXECUTE ENTIRELY WITHIN THE LOCAL PANEL CONTROLLER. THE NIGHT SETBACK PROGRAM SHALL INCLUDE A MORNING WARM - UP OR COOL - DOWN SEQUENCE PRIOR TO OCCUPANCY OF THE BUILDING TO RETURN THE BUILDING TO NORMAL OCCUPIED SET POINTS.

i. PROGRAM INPUTS:
A. TIME SCHEDULING/EVENT PROGRAM INPUTS.
B. SPACE TEMPERATURE(S).
C. MAXIMUM ALLOWABLE TEMPERATURE DURING UNOCCUPIED PERIODS.
D. MINIMUM ALLOWANCE TEMPERATURE DURING UNOCCUPIED PERIODS.

ii. PROGRAM OUTPUTS:
A. START SIGNAL (MOMENTARY OR MAINTAINED AS SPECIFIED).
B. STOP SIGNAL (MOMENTARY OR MAINTAINED AS SPECIFIED).
C. DAY/NIGHT (OPEN/CLOSE) CONTROL SIGNAL TO TERMINAL EQUIPMENT.
D. CONTROL STATUS AVAILABLE AT THE OPERATOR'S CONSOLE.

V. COIL RESET PROGRAM: THE SOFTWARE SHALL SELECT THE ZONE WITH THE GREATEST DEMAND FOR HEATING OR THE ZONE WITH THE GREATEST DEMAND FOR COOLING. THE PROGRAM SHALL RESET THE AHU DISCHARGE TEMPERATURE DOWNWARD UNTIL IT SATISFIES THE ZONE WITH THE GREATEST COOLING DEMAND, OR UNTIL THE ZONE HUMIDITY CONTROL REQUIREMENTS CANNOT BE MET. THE PROGRAM SHALL ALSO RESET THE AHU DISCHARGE TEMPERATURE UPWARD UNTIL IT SATISFIES THE ZONE WITH THE GREATEST HEATING DEMAND. THE PROGRAM MUST EXECUTE ENTIRELY ON THE AHU DCPs. ZONE INFORMATION SHALL BE SERIALLY TRANSMITTED TO THE AHU DDC SYSTEM BY THE LABORATORY, OFFICE AND / OR GENERAL SPACE DDC SYSTEM.

i. PROGRAM INPUTS:
A. ZONE TEMPERATURES (WHERE SHOWN).
B. ZONE RELATIVE HUMIDITY (WHERE SHOWN).
C. SUPPLY AIR TEMPERATURE.
D. REHEAT COIL VALVE POSITIONS OR PROPORTIONAL SIGNALS FROM PRIMARY ELEMENTS.
E. MINIMUM ALLOWABLE TEMPERATURE DURING OCCUPIED PERIODS.
F. MAXIMUM ALLOWABLE TEMPERATURE DURING OCCUPIED PERIODS.
G. MAXIMUM ALLOWABLE SPACE RELATIVE HUMIDITY.
H. FAN VANE POSITION (CAPACITY).

II. PROGRAM OUTPUTS:
A. COOLING COIL SUPPLY AIR TEMPERATURE SETPOINT.
B. HEATING COIL SUPPLY AIR TEMPERATURE SETPOINT.
C. INDICATION TO OPERATOR AS TO WHICH ZONE IS CALLING FOR MOST HEATING OR FOR MOST COOLING.

VI. PEAK DEMAND LIMITING PROGRAM: BAS SYSTEM SHALL INCLUDE A SOFTWARE PROGRAM TO PERFORM PEAK DEMAND LIMITING (PDL) ON A SYSTEM-WIDE BASIS. PROVIDE ALL NECESSARY COMPONENTS TO INTERFACE WITH THE EMER. GENERATOR. THE PDL PROGRAM SHALL MONITOR THE RATE OF ELECTRICAL POWER CONSUMPTION UNDER NORMAL AND EMERGENCY CONDITIONS AND FORECAST THE TOTAL DEMAND. IT SHALL ALSO MONITOR CHILLED WATER SUPPLY (CHWS) TEMPERATURE AND TOTAL CHILLED WATER DEMAND. THE PDL PROGRAM SHALL AUTOMATICALLY SHED LOADS THROUGHOUT THE SYSTEM TO REDUCE DEMAND. THE DEMAND LIMIT MAY BE IMPOSED BY MONTHLY COST CONSTRAINTS (NORMAL ELECTRIC) OR BY AVAILABLE GENERATING POWER (FOR EMERGENCY POWER), OR BY EQUIPMENT AVAILABILITY (FOR CHILLERS). THE PURPOSE OF THE PROGRAM IS TO MAXIMIZE USE OF AVAILABLE CAPACITY. IT SHALL BE POSSIBLE FOR THE OPERATOR TO SET LOAD SHED SCHEDULES AND DEMAND LIMITS IN EACH SERVICE AREA SEPARATELY. EACH SERVICE AREA SHALL PERFORM DEMAND PREDICTION AND SUBSEQUENT LOAD SHEDDING AND RESTORING INDEPENDENTLY.

LOADS SHALL BE DIVIDED INTO USER - DEFINED SCHEDULES THAT INCLUDE A MINIMUM OF FOUR PRIORITY LEVELS. ALL LOADS IN THE LOWEST PRIORITY LEVEL MUST BE SHED IN A ROTATIONAL MANNER BEFORE ANY LOAD IN THE NEXT LEVEL IS SHED. EACH LOAD SHALL BE DEFINED AS TO ITS RATED POWER CONSUMPTION IN KW OR HP AND ITS MAXIMUM "ON" TIME. THESE TIME PARAMETERS SHALL ENSURE LOAD IS NOT SHED OR RESTORED TOO FREQUENTLY TO CAUSE DAMAGE TO A LOAD. THE PDL PROGRAM SHALL BE DESIGNED TO ACCEPT SLIDING WINDOW METERING SYSTEMS AS WELL AS TIME OF DAY METERING. THE DEMAND SHALL BE PREDICTED EACH MINUTE, AND LOADS SHED AS NEEDED. IF ALL SHEDDABLE LOADS ARE SHED BY THE PDL PROGRAM AND IT FORECASTS THAT THE USER DEFINED DEMAND LIMIT WILL BE EXCEEDED, AN ALARM MESSAGE SHALL BE PRINTED AT THE CENTRAL COMMAND STATION. DUE TO THE NATURE OF THE PROGRAM AND THE AMOUNT OF DATA SHARING INVOLVED, IT IS ACCEPTABLE TO ALLOW THIS PROGRAM TO RUN WHETHER ON THE DCP'S, ON A MANAGEMENT CONSOLE, OR ON A COMBINATION OF THE TWO.

VII. EMERGENCY ELECTRICAL POWER PROGRAM:

i. EMERGENCY ELECTRICAL POWER CONSUMPTION PROGRAM INPUTS (WHEN APPLICABLE):
A. LOAD SHED SCHEDULES.
B. METERED KW DEMAND AT THE GENERATORS.
C. METERED KW DEMAND FROM VARIOUS USERS.
D. AVAILABLE KW CAPACITY.
E. POSITION OF EMERGENCY TRANSFER SWITCHES.

ii. EMERGENCY ELECTRICAL POWER CONSUMPTION PROGRAM OUTPUTS (WHEN APPLICABLE):
A. START-STOP SIGNALS TO ESSENTIAL HVAC SYSTEMS.
B. LOW SPEED OPERATION START-STOP SIGNALS TO ESSENTIAL HVAC SYSTEMS WITH 2-SPEED STARTER.
C. LIMITED SPEED OPERATION START-STOP AND MAXIMUM SPEED SIGNALS TO ESSENTIAL HVAC SYSTEMS WITH VF DRIVES.

iii. EACH FAN CONNECTED TO EMERGENCY POWER SHALL BE PROGRAMMED IN SOFTWARE TO BE ASSOCIATED WITH A PARTICULAR TRANSFER SWITCH SUCH THAT WHEN THE SWITCH IS TRANSFERRED BETWEEN TWO POWER SOURCES, THE LOADS ASSOCIATED WITH THE SWITCH CAN BE TURNED OFF PRIOR TO TRANSFER.

iv. ALL (9) FANS WITHIN AHU-L4 FAN ARRAY SHALL BE CONNECTED TO EMERGENCY POWER. ONLY (1) BANK OF (3) FANS SHALL OPERATE ON LOSS OF POWER.
[ADD ALTERNATE: IF AHU-L5 IS INSTALLED THEN (2) BANKS OF (3) FANS SHALL OPERATE WITHIN AHU-L5 ON LOSS OF POWER.]

TYPE 1: CONTROLS SEQUENCE FOR AHU-L4 (TYP FOR AHU-L5)

(TYP FOR AHU-L5) — ALTERNATE

GENERAL

1. ALL CONTROL SETPOINTS, TIME DELAYS, ETC., SHALL BE ADJUSTABLE.
2. EACH AIR HANDLING UNIT COMPONENT SHALL RECEIVE A SEPARATE CONTROL SIGNAL FOR OPERATION.
3. AUTO RESET DI FREEZESTAT SHALL DE - ENERGIZE AHU THROUGH CONTROL PANEL. MANUAL RESET THROUGH CONTROL PANEL SHALL BE REQUIRED TO RESET UNIT. ALL OTHER SAFETIES SHALL BE HARD WIRED TO THE SUPPLY FAN VARIABLE FREQUENCY DRIVES. SAFETY INTERLOCKS THROUGH SOFTWARE ONLY WILL NOT BE ACCEPTED. PROVIDE ALARMING OF SAFETIES.
4. UPON ACTIVATION OF ANY SAFETY, THE FAN(S) ASSOCIATED WITH THAT UNIT SHALL BE DE - ENERGIZED, THE OUTDOOR INTAKE, RETURN AIR AND DISCHARGE DAMPERS SHALL CLOSE COMPLETELY, COOLING VALVE SHALL BE OPEN COMPLETELY AND HEATING COIL VALVE SHALL MAINTAIN 70°F (ADJ.) SETPOINT IN THE AHU AND AN ALARM SHALL BE REGISTERED ON THE BAS. IF BOTH AIR HANDLING UNITS AHU-L4 AND AHU-L5 ARE IN FAILURE, DE - ENERGIZE ALL LAB EXHAUST FANS EXCEPT ONE TO PREVENT EXCESSIVE NEGATIVE PRESSURE IN THE BUILDING.
5. ALL FANS AND DAMPERS SHALL HAVE ON / OFF (OPEN / CLOSE) SWITCHING AND MONITORING PROVISIONS THROUGH THE DDC SYSTEM.
6. ALL SUPPLY AND RETURN FANS ALL HAVE PROOF OF OPERATION THROUGH CURRENT DETECTION AT THE VARIABLE FREQUENCY DRIVE AND AIR FLOW DETECTION AT THE AIR FLOW MEASURING STATION. IF CURRENT AND / OR AIR FLOW IS NOT DETECTED WITHIN 20 SECONDS OF THE SIGNAL FOR THE FAN TO START, AN ALARM SHALL BE REGISTERED AT THE OPERATOR'S CONSOLE AND THE SYSTEM SHALL BE DE - ENERGIZED.
7. ALL VARIABLE FREQUENCY DRIVES SHALL HAVE 4 - 20MA OR 0 - 10V DC SIGNAL TO PROVIDE FEEDBACK OF ACTUAL FAN RPM'S (FREQUENCY) TO THE DDC SYSTEM. DRIVES SHALL ALSO FEEDBACK OUTPUT CURRENT AND RUN TIME TO THE DDC SYSTEM. DRIVES SHALL HAVE DRY CONTACTS TO INDICATE STATUS (DRIVE RUN, BYPASS RUN, DRIVE FAULT OR OVERLOAD) TO THE DDC SYSTEM.
8. EACH VARIABLE FREQUENCY DRIVE SHALL HAVE A HAND / OFF / AUTO SWITCH. THE SWITCH SHALL REMAIN IN THE "AUTO" POSITION DURING NORMAL OPERATION. "HAND" AND "OFF" POSITIONS SHALL BE USED ONLY FOR MAINTENANCE. WHEN THE SWITCH IS IN THE "HAND" POSITION, THE FAN MOTOR(S) SHALL BE ENERGIZED AND THE FAN(S) SHALL RUN. WHEN THE SWITCH IS IN THE "OFF" POSITION, THE FAN MOTOR(S) SHALL BE DE-ENERGIZED AND THE FAN(S) SHALL REMAIN OFF. WHEN THE SWITCH IS IN THE "AUTO" POSITION, THE FAN(S) SHALL BE ENABLED FOR CONTROL BY THE DDC PANEL.
9. ALL HEAT RECOVERY GLYCOL WATER COILS, STEAM HEATING COILS AND CHILLED WATER COOLING COILS SHALL HAVE TWO - WAY MODULATING CONTROL VALVES. PRESSURE DROP FOR VALVES SERVING HEAT RECOVERY GLYCOL WATER COILS AND CHILLED WATER COILS SHALL NOT EXCEED 5 PSID IN FULL OPEN POSITION.
10. PROVIDE SOFTWARE TO TREND ALL ANALOG CONTROL POINTS EVERY 10 MINUTES. ARCHIVE DATA FOR ONE YEAR.
11. ALL ACTUATION SHALL BE ELECTRIC.
12. END SWITCHES SHALL PROVIDE STATUS OF DAMPER BLADE POSITION, RATHER THAN ACTUATOR POSITION. END SWITCHES THAT ONLY PROVIDE STATUS OF ACTUATOR POSITION ARE NOT ACCEPTABLE.
13. EACH SMOKE DETECTOR SHALL BE MOUNTED THROUGH THE FIRE ALARM SYSTEM. SMOKE DETECTORS SHALL BE PROVIDED WITH ZONE AREA MODULE RELAYS IN ORDER TO INTERFACE INTO THE BAS.
14. PROVIDE A SERIAL INTERFACE TO THE FIRE ALARM SYSTEM TO MONITOR CLOSURE OF SMOKE DAMPERS, ACTIVATION OF SMOKE DETECTORS, OR SO FIRE ALARM CAN DE-ENERGIZE FANS THROUGH THE BAS.
15. CONTROLS CONTRACTOR SHALL PROVIDE POWER WIRING TO ALL DAMPERS WHICH HE CONTROLS AND TO ALL DAMPERS WHICH THE FIRE ALARM SYSTEM CONTROLS.
16. ALL POINTS INCLUDED IN THE I/O SUMMARY ABOVE SHALL TERMINATE IN AN AHU CONTROL PANEL. PROVIDE A SEPARATE PANEL FOR EACH AHU.
17. ALL MODULATING DAMPER AND VALVE ACTUATORS SHALL HAVE POSITIVE POSITIONERS.

SUPPLY AIR FAN CONTROL

1. AHU-L4 SHALL CONTAIN 9 SUPPLY FANS WITH EACH GROUP OF 3 SUPPLY FANS CONTROLLED IN UNISON BY A VARIABLE FREQUENCY DRIVE. — AHU-L5 IS AN ALTERNATE
2. UPON SIGNAL TO START THE FIRST GROUP OF SUPPLY FANS, THE OUTDOOR AIR SMOKE DAMPERS SHALL OPEN. THE DAMPERS END SWITCHES SHALL MAKE TO COMPLETE AND SIGNAL THE FIRST GROUP OF FANS TO START. THE OUTDOOR AIR SMOKE DAMPERS SHALL BE OPEN WHEN THE RESPECTIVE AIR HANDLING UNIT IS OPERATING AND CLOSED WHEN THE UNIT IS OFF.
3. WHEN THE FIRST GROUP OF SUPPLY FANS STARTS, THOSE SUPPLY FANS AND THE RETURN FAN SHALL RAMP TO 20 HZ, THEN THE RETURN AIR DAMPER, RETURN AIR SMOKE DAMPERS AND DISCHARGE AIR SMOKE DAMPER SHALL ALL OPEN. THE END SWITCHES AT THE RA AND DISCHARGE AIR SMOKE DAMPERS SHALL MAKE TO COMPLETE AND SIGNAL THE SUPPLY FANS TO CONTINUE RAMPING. WHEN THE FIRST GROUP OF SUPPLY FANS IS OPERATING AND FAN SPEED CLIMBS TO 95%, CYCLE "ON" AN ADDITIONAL GROUP OF FANS. THE ADDITIONAL GROUP OF SUPPLY FANS SHALL CONTINUE RAMPING TO MATCH THE AIR VOLUME OF THE OTHER PARALLEL FANS. WHEN TWO GROUPS OF SUPPLY FANS ARE OPERATING AND FAN SPEED CLIMBS TO 95%, CYCLE "ON" THE THIRD GROUP OF FANS. WHEN MULTIPLE GROUPS OF SUPPLY FANS ARE OPERATING, THEIR VARIABLE FREQUENCY DRIVES SHALL RAMP IN PARALLEL TO VARY FAN SPEED AND EQUALIZE AIR FLOW BETWEEN ALL OPERATING FAN GROUPS. ON A SIGNAL TO STOP THE FANS, THE REVERSE SHALL OCCUR.
4. WHEN THE AHU IS COMMANDED OFF, BOTH THE OUTDOOR AIR AND DISCHARGE AIR SMOKE DAMPERS SHALL BE AUTOMATICALLY COMMANDED CLOSED AFTER AN ADJUSTABLE DELAY PERIOD TO ALLOW ADEQUATE TIME FOR THE LAST GROUP OF SUPPLY FANS TO WIND DOWN.
5. VARIABLE FREQUENCY DRIVES SHALL MODULATE TO MAINTAIN STATIC PRESSURE SETPOINT AT THE LOCAL DUCT PRESSURE SENSOR. THE LOCAL PRESSURE SETPOINT SHALL BE RESET IN CASCADE LOOP FASHION FROM THE REMOTE STATIC PRESSURE SENSOR TO MAINTAIN REMOTE STATIC PRESSURE SETPOINT (ADJUSTABLE). REMOTE STATIC PRESSURE SETPOINT SHALL BE RESET BASED ON ACTUAL BUILDING LOAD BY POLLING ALL SUPPLY AIR VALVES.
6. WHEN ALL THREE GROUPS OF FANS ARE OPERATING AND FAN SPEED DROPS TO 70%, CYCLE "OFF" ONE GROUP OF FANS. WHEN ONLY TWO GROUPS OF FANS ARE OPERATING AND FAN SPEED DROPS TO 60%, CYCLE "OFF" THE SECOND GROUP OF FANS.
7. ROTATE SUPPLY FAN GROUPS FOR CYCLING "ON" AND "OFF" TO EQUALIZE RUN TIME.
8. ALL SUPPLY FANS HAVE PROOF OF OPERATION THROUGH CURRENT DETECTION AT THE VARIABLE FREQUENCY DRIVE. ONE FAN OF EACH GROUP SHALL BE PROVIDED WITH AIR FLOW DETECTION AT THE AIR FLOW MEASURING STATION. IF CURRENT AND/OR AIR FLOW IS NOT DETECTED WITHIN 20 SECONDS OF THE SIGNAL FOR THE FAN TO START, AN ALARM SHALL BE REGISTERED AT THE DCP, THAT GROUP OF FANS SHALL BE DE-ENERGIZED AND THE NEXT GROUP OF FANS SHALL BE ENERGIZED. EACH FAN IN THE AIR HANDLING UNIT FAN ARRAY SHALL HAVE CURRENT DETECTION MONITORED INDIVIDUALLY.
9. THE HIGH LIMIT PRESSURE SENSOR, AT THE FAN ARRAY DISCHARGE, SHALL BE SET AT 3-INCHES W.G. (ADJUSTABLE). IF FAN DISCHARGE PRESSURE EXCEEDS HIGH LIMIT SENSOR SETPOINT, THE SUPPLY FANS SHALL BE STOPPED AND AN ALARM SHALL BE REGISTERED AT THE DCP. THE HIGH LIMIT PRESSURE SENSOR SHALL BE HARD-WIRED TO THE SUPPLY FANS' VDF'S, AND THE AHU SHALL BE SHUT DOWN WHETHER IN HAND, AUTO OR BYPASS MODE. MANUAL RESET THROUGH THE FAN VFD'S SHALL BE REQUIRED TO RESET THE AHU.

EMERGENCY CONSTANT SPEED OPERATION

1. WHEN THE AHU IS RUNNING WITH TWO GROUPS OF SUPPLY FANS OPERATING NORMALLY FROM THEIR VFD'S AND FAN SPEED CLIMBS TO 95%, IF THE VFD SERVING THE THIRD GROUP OF FANS IS IN FAILURE, THEN CYCLE "ON" THE THIRD GROUP OF FANS TO OPERATE AT CONSTANT SPEED FROM THEIR BYPASS STARTER. THEIR BYPASS STARTER SHALL BE STARTED / STOPPED MANUALLY AT THE DCP OR FROM THE BAS OPERATOR'S CONSOLE.

SMOKE DAMPER CONTROL

1. EACH AHU SHALL HAVE TWO OUTDOOR AIR SMOKE DETECTORS, A RETURN AIR INLET SMOKE DETECTOR AND A DISCHARGE AIR SMOKE DETECTOR TO DE-ENERGIZE THE SUPPLY FANS UPON SENSING SMOKE.
2. THE RETURN FAN SHALL HAVE A SMOKE DETECTOR IN THE RETURN FAN SUCTION DUCTWORK TO DE-ENERGIZE THE RETURN FAN UPON SENSING SMOKE.
3. IF SMOKE IS DETECTED BY THE SUPPLY AIR DISCHARGE, RETURN AIR INLET OR OA INLET SMOKE DETECTORS, ALL SUPPLY FANS SHALL BE STOPPED AND ALL SMOKE DAMPERS IN OUTDOOR AIR, RETURN AIR INLET AND SUPPLY AIR DUCTS SHALL BE CLOSED. REFER TO "SUPPLY AIR FAN CONTROL" SEQUENCE FOR ADDITIONAL REQUIREMENTS OF SMOKE DAMPERS.
4. IF SMOKE IS DETECTED BY THE SMOKE DETECTOR AT THE RETURN FAN SUCTION, THE RETURN FAN SHALL BE STOPPED AND ALL SMOKE DAMPERS IN RETURN AIR DUCTS SHALL BE CLOSED. REFER TO "RETURN AIR FAN CONTROL" SEQUENCE FOR ADDITIONAL REQUIREMENTS OF SMOKE DAMPERS.
5. WHEN THE FIRE ALARM CIRCUIT IS RESET, THE SUPPLY FANS AND RETURN FAN SHALL RESTART AND ALL SMOKE DAMPERS SHALL OPEN.

RETURN AIR FAN CONTROL

1. THE RETURN FAN(S) SHALL START WHEN ANY SUPPLY FAN STARTS. THE RETURN FAN SHALL STOP WHEN ALL SUPPLY FANS STOP.
2. THE VARIABLE FREQUENCY DRIVE SHALL MODULATE RETURN FAN SPEED TO MAINTAIN LOCAL DUCT STATIC PRESSURE SENSOR SETPOINT. LOCAL PRESSURE SETPOINT SHALL BE RESET TO MAINTAIN THE COMBINED SUM OF RETURN AIR QUANTITIES AS REQUIRED BY POLLING ALL RETURN AIR FLOW MEASURING STATIONS LOCATED ON EACH FLOOR SERVED BY THE RETURN FAN.
3. THE RETURN AIR DAMPER LOCATED IN THE RETURN AIR DUCT MAIN ON EACH FLOOR SERVED BY THE RETURN FAN, SHALL BE MODULATED, AS REQUIRED BY THE RETURN AIR FLOW MEASURING STATION ON THE RESPECTIVE FLOOR, TO MAINTAIN THE DIFFERENTIAL BETWEEN THE RETURN AIR FLOW QUANTITY AND THE SUM OF SUPPLY AIR QUANTITIES SERVING OFFICES AND CONFERENCE ROOMS ON THE RESPECTIVE FLOOR.
4. THROUGH THE DEMAND CONTROL VENTILATION SYSTEM AS SHOWN ON DRAWING H810, THE SUPPLY AIR TERMINAL SERVING EACH CONFERENCE ROOM ON EACH FLOOR SHALL BE MODULATED AS REQUIRED TO PROVIDE THE REQUIRED AIR QUANTITY.
5. WHEN THE AHU IS COMMANDED OFF, THE RETURN AIR DAMPER, RETURN AIR SMOKE DAMPER AND RELIEF AIR DAMPER SHALL BE AUTOMATICALLY COMMANDED CLOSED AFTER AN ADJUSTABLE DELAY PERIOD TO ALLOW ADEQUATE TIME FOR THE RETURN FAN TO WIND DOWN.
6. THE RETURN FAN SHALL HAVE PROOF OF OPERATION THROUGH CURRENT DETECTION AT THE VFD. IF CURRENT AND/OR AIR FLOW IS NOT DETECTED WITHIN 20 SECONDS OF THE SIGNAL FOR THE FAN TO START, AN ALARM SHALL BE REGISTERED AT THE DCP.
7. THE HIGH LIMIT PRESSURE SENSOR, AT THE RETURN FAN DISCHARGE, SHALL BE SET AT 2-INCHES W.G. (ADJUSTABLE). IF FAN DISCHARGE PRESSURE EXCEEDS HIGH LIMIT SENSOR SETPOINT, THE RETURN FAN SHALL BE STOPPED AND AN ALARM SHALL BE REGISTERED AT THE DCP. THE HIGH LIMIT PRESSURE SENSOR SHALL BE HARD-WIRED TO THE RETURN FAN'S VDF, AND THE FAN SHALL BE SHUT DOWN WHETHER IN HAND, AUTO OR BYPASS MODE. MANUAL RESET THROUGH THE VFD SHALL BE REQUIRED TO RESET THE FAN.

RELIEF AIR DAMPER CONTROL

1. THE RELIEF AIR DAMPER INTO THE PENTHOUSE MECHANICAL ROOM SHALL BE MODULATED WITH THE RETURN AIR DAMPER IN ORDER TO MAINTAIN AN ADJUSTABLE POSITIVE 0.25" W.C. STATIC PRESSURE SETPOINT IN THE RELIEF PLENUM UPSTREAM OF THE RELIEF DAMPER. THE RELIEF AIR DAMPER AT THE WALL LOUVER SHALL MODULATE TO MAINTAIN AN ADJUSTABLE DIFFERENTIAL PRESSURE OF 0.05" W.C. IN THE PENTHOUSE RELATIVE TO THE RETURN AIR DAMPER.

INTEGRAL FACE - AND - BYPASS HEATING COIL CONTROL

1. WHEN OUTDOOR AIR DRY BULB TEMPERATURE IS ABOVE 40°F, THE COIL DAMPER SHALL BE OPEN TO FULL FACE POSITION, AND THE CONTROL VALVE AT THE COIL SHALL MODULATE TO MAINTAIN DISCHARGE AIR TEMPERATURE SETPOINT.
2. WHEN OUTDOOR TEMPERATURE IS 40°F OR BELOW, THE CONTROL VALVE SHALL BE FULLY OPEN, AND THE COIL DAMPER SHALL MODULATE TO MAINTAIN DISCHARGE AIR TEMPERATURE SETPOINT.
3. PREHEAT COIL DISCHARGE TEMPERATURE SETPOINT SHALL BE 55°F (ADJUSTABLE) OR AT LEAST 1°F COOLER THAN THE COOLIING COIL DISCHARGE AIR TEMPERATURE SETPOINT. IFB PREHEAT COIL VALVE AND COOLING COIL VALVE SHALL NOT BOTH BE OPEN AT THE SAME TIME.
4. UPON AN INCREASE IN OUTDOOR AIR TEMPERATURE ABOVE 50°F, THE CONTROL VALVE SHALL CLOSE AND THE COIL FACE DAMPER SHALL CLOSE.
5. WHEN THE AHU IS OFF AND OUTDOOR AIR TEMPERATURE IS BELOW 40°F, THE COIL DAMPERS SHALL BE FULL OPEN TO THE COIL FACE, AND THE PREHEAT COIL VALVE SHALL MODULATE TO MAINTAIN COIL DISCHARGE AIR TEMPERATURE AT 80°F (ADJUSTABLE).

COOLING COIL CONTROL

1. THE TWO WAY CONTROL VALVE AT THE COIL SHALL MODULATE IN RESPONSE TO THE DISCHARGE TEMPERATURE SENSOR. THE COOLING COIL DISCHARGE TEMPERATURE SETPOINT SHALL BE AT LEAST 1°F WARMER THAN THE HEATING COIL DISCHARGE SETPOINT. COOLING COIL VALVE AND IFB PREHEAT COIL VALVE SHALL NOT BE OPEN AT THE SAME TIME.

HEAT RECOVERY SYSTEM CONTROL

1. THE HEAT RECOVERY UNIT SYSTEM SHALL BE FUNCTIONAL ANYTIME THE GLYCOL DISTRIBUTION TEMPERATURE CAN ASSIST IN AHU TEMPERATURE DISCHARGE. THE SYSTEM SHALL NOT OVER HEAT OR OVER COOL THE AIR CAUSING THE HEATING COIL AND/OR COOLING COIL TO OPERATE DURING OFF SEASON CONDITIONS. THE HEAT RECOVERY PUMP(S) SHALL OPERATE WHEN THE SYSTEM IS OPERATIONAL. (2)
2. THE BAS SHALL MONITOR INLET AND DISCHARGE TEMPERATURE AT THE HEAT RECOVERY COILS AND SHALL USE SIMULTANEOUS UNIT AIRFLOW TO CONTINUOUSLY CALCULATE BTU'S OF ENERGY RECOVERED.

TYPE 1 : AIR HANDLING UNITS PHASE 3A DDC INPUT / OUTPUT SUMMARY

CONTROL TYPE	REFERENCE DRAWING	POINT DESCRIPTION	Connected Points – Inputs – Digital: SMOKE DETECTOR	Inputs – Digital: STATUS - ON / OFF	Inputs – Analog: TEMPERATURE	Inputs – Analog: RELATIVE HUMIDITY	Inputs – Analog: PRESSURE	Inputs – Analog: DIFFERENTIAL PRESSURE	Inputs – Analog: CURRENT SENSING	Inputs – Analog: FLOW RATE	Inputs – Analog: MOTOR SPEED	Inputs – Analog: POSITION INDICATION	Outputs – Digital: ON / OFF / AUTO	Outputs – Digital: BYPASS STARTER	Outputs – Digital: OPEN / CLOSE	Outputs – Analog: POSITIONING	Outputs – Analog: SPEED CONTROL	Alarms – Digital: PROOF FAILURE	Alarms – Digital: HIGH LIMIT	Alarms – Digital: LOW LIMIT	Alarms – Analog: HIGH LIMIT	Alarms – Analog: LOW LIMIT	Alarms – Type: CRITICAL ALARM	Alarms – Type: ABNORMAL ALARM	Alarms – Type: MAINTENANCE ALARM	Software – Application: RUN TIME	Application: TREND	Application: BTU	Energy Management: TIME SCHEDULING EVENT PROGRAM	Energy Management: OPTIMUM START / STOP PROGRAM	Energy Management: NIGHT SETBACK PROGRAM	Energy Management: ECONOMIZER PROGRAM	Energy Management: COIL RESET PROGRAM	Energy Management: PEAK DEMAND LIMITING PROGRAM	Energy Management: EMERGENCY POWER PROGRAM	Energy Management: COLOR GRAPHICS
1	H801	AIR HANDLING UNIT AHU - L4 (TYP FOR AHU - L5 (ALT))																								●	●		●	●	●		●	●	●	●
		SUPPLY FAN SF - L'X' VFD (TYP)		●																																
		SF - L'X' DISCHARGE PRESSURE LIMIT																	●				●													
		SF - L'X' LOCAL STATIC PRESSURE					●														●	●		●												
		SF - L'X' AIR FLOW STATION (TYP)								●								●										●								
		SF - L'X' VIBRATION SENSOR WITH HIGH LIMIT CUTOUT (TYP)																	●				●													
		COOLING COIL CC - L'X' VALVE										●				●																				
		CC - L'X' DISCHARGE TEMPERATURE			●																●	●		●												
		FREEZESTAT																		●			●													
		HEATING COIL HC - L'X' INTEGRAL FACE AND BYPASS DAMPER														●																				
		HEATING COIL HC - L'X' VALVE										●				●																				
		HC - L'X' DISCHARGE TEMPERATURE			●																●	●		●												
		HEAT RECOVERY COIL HRC - L'X' VALVE														●																				
		HRC - L'X' DISCHARGE TEMPERATURE			●																●	●		●				●								
		AIR FILTER PF - L'X'						●													●				●											
		AIR FILTER FF - L'X'						●													●				●											
		SUPPLY AIR SMOKE DETECTOR*																																		
		SUPPLY AIR SMOKE DAMPER													●			●					●													
		MIXED AIR TEMPERATURE			●																●	●		●												
		OUTDOOR AIR SMOKE DETECTOR (TYP)	●																●				●													
		OUTDOOR AIR SMOKE DAMPER (TYP)													●			●					●													
1	H801	RETURN FAN RF - L'X'																											●					●		●
		RF - L'X' VFD		●																																
		RF - L'X' SUCTION PRESSURE LIMIT																	●				●													
		RF - L'X' DISCHARGE PRESSURE LIMIT																	●				●													
		RF - L'X' LOCAL STATIC PRESSURE					●														●	●		●												
		RF - L'X' AIR FLOW STATION								●								●																		
		RF - L'X' VIBRATION SENSOR WITH HIGH LIMIT CUTOUT																	●				●													
		RF - L'X' LOCAL SMOKE DETECTOR*																																		
		RF - L'X' LOCAL SMOKE DAMPER													●			●					●													
		RETURN AIR (COMMON)			●	●																														
		RETURN AIR DAMPER										●				●								●												
1	H801	SUPPLY AIR (COMMON) REMOTE STATIC PRESSURE					●														●	●		●												
1	H801	RETURN AIR (COMMON) REMOTE STATIC PRESSURE					●														●	●		●												
1	H801	RELIEF AIR DAMPER						●				●				●		●						●												
1	H801	SPILL AIR RELIEF DAMPER						●				●				●		●						●												
1	H801	SPILL AIR RELIEF REMOTE STATIC PRESSURE					●														●	●		●												
1	H801	RETURN AIR (COMMON) SMOKE DETECTOR*																																		
1	H801	RETURN AIR (COMMON) SMOKE DAMPER													●			●					●													
1	H801	OUTDOOR AIR (COMMON)			●	●																						●								
1	H801	SUPPLY AIR (REMOTE) SMOKE DETECTORS (TYP)	●																●				●													
1	H801	SUPPLY AIR (REMOTE) FIRE / SMOKE DAMPERS (TYP)													●			●						●												
1	H801	RETURN AIR (REMOTE) SMOKE DETECTORS (TYP)	●																●				●													
1	H801	RETURN AIR (REMOTE) FIRE / SMOKE DAMPERS (TYP)													●			●						●												
1	H801	RETURN AIR (REMOTE) AIR FLOW STATIONS (TYP)								●								●																		
1	H801	RETURN AIR (REMOTE) MODULATING DAMPERS (TYP)										●				●																				

* SMOKE DETECTORS ARE CONTROLLED AND MONITORED THROUGH THE FIRE ALARM MODULE

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Main Building Renovation

Building L - Project 2

263 Farmington Ave
Farmington, CT 06032

Revisions

No.	Date	Description
1	10/19/15	Issue for Bid & Code Review
2	11/02/15	Addendum #01

Drawing Name

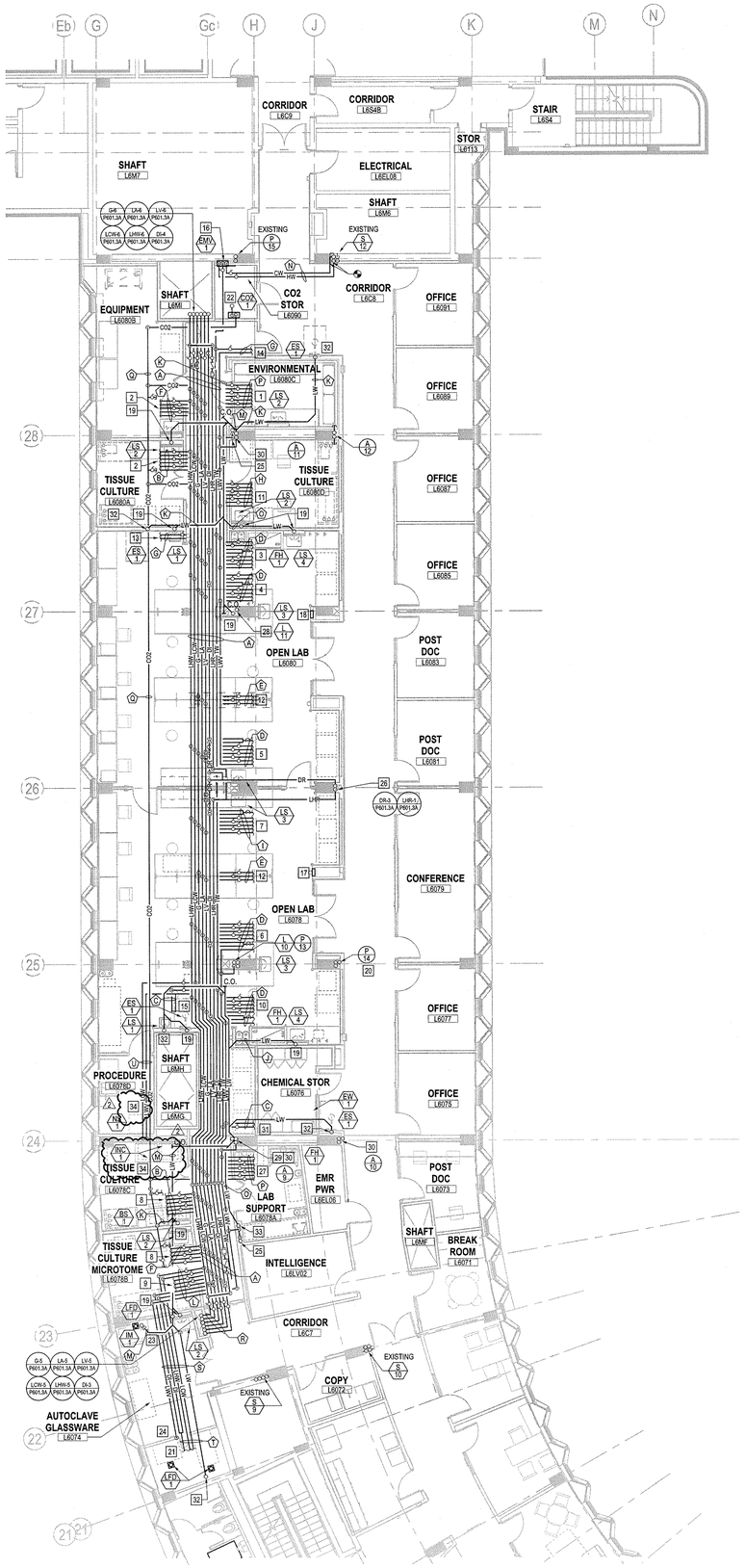
Air Handling Systems Phase 3A Controls Sequence and DDC Input / Output Summary

Project No. 218010732

Drawing Number

H802

1.4



F5 Plumbing Plan - Phase 3A - Sixth Floor

1/8"=1'-0"

PIPE SIZE SCHEDULE

TAG	LCW	LHW	LHR	LW	LWV	DI	DR	TW	G	LA	LV	CO2	W	V	ST	TPW	CW	HW	HR
A	2-1/2"	2"	3/4"	—	3"	3/4"	—	1-1/2"	1-1/2"	1-1/2"	2"	—	—	—	—	—	—	—	—
B	1/2"	1/2"	—	—	1-1/2"	—	—	—	1/2"	1/2"	3/4"	—	—	—	—	—	—	—	—
C	—	—	—	2"	1-1/2"	—	—	1-1/2"	—	—	—	—	—	—	—	—	—	—	—
D	1/2"	1/2"	—	—	1-1/2"	1/2"	—	—	1/2"	1/2"	3/4"	—	—	—	—	—	—	—	—
E	—	—	—	—	—	—	—	—	1/2"	1/2"	3/4"	—	—	—	—	—	—	—	—
F	1/2"	1/2"	—	—	—	—	—	—	1/2"	1/2"	3/4"	—	—	—	—	—	—	—	—
G	—	—	—	—	1-1/2"	—	—	1-1/2"	—	—	—	—	—	—	—	—	—	—	—
H	1/2"	1/2"	—	—	1-1/2"	—	—	—	1/2"	1/2"	3/4"	—	—	—	—	—	—	—	—
I	1/2"	1/2"	—	—	—	1/2"	—	—	1/2"	1/2"	3/4"	—	—	—	—	—	—	—	—
J	—	—	—	1-1/2"	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
K	—	—	—	2"	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
L	3/4"	1/2"	—	—	1-1/2"	(2) 1"	—	—	1/2"	1/2"	3/4"	—	—	—	—	—	—	—	—
M	—	—	—	4"	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
N	—	—	—	—	—	—	—	—	—	—	—	—	—	2"	—	—	1-1/2"	1-1/2"	—
O	—	—	—	3"	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
P	1/2"	1/2"	—	—	1-1/2"	—	—	—	1/2"	1/2"	3/4"	1/2"	—	—	—	—	—	—	—
Q	—	—	—	—	—	—	—	—	—	—	—	3/4"	—	—	—	—	—	—	—
R	2-1/2"	2"	3/4"	—	3"	1"	—	1-1/2"	1-1/2"	1-1/2"	2"	—	—	—	—	—	—	—	—
S	3/4"	3/4"	—	2"	2"	(2) 1"	—	—	—	—	—	—	—	—	—	—	—	—	—
T	3/4"	3/4"	—	2"	—	3/4"	—	—	—	—	—	—	—	—	—	—	—	—	—
U	3/4"	—	—	—	2"	—	—	—	—	—	—	3/4"	—	—	—	—	—	—	—
V																			
W																			
X																			
Y																			
Z																			

1 REFER TO PIPING DIAGRAM B1/P301.3A FOR CONTINUATION OF PIPING.

2 REFER TO PIPING DIAGRAM B3/P301.3A FOR CONTINUATION OF PIPING.

3 REFER TO PIPING DIAGRAM B5/P301.3A FOR CONTINUATION OF PIPING.

4 REFER TO PIPING DIAGRAM B7/P301.3A FOR CONTINUATION OF PIPING.

5 REFER TO PIPING DIAGRAM D1/P301.3A FOR CONTINUATION OF PIPING.

6 REFER TO PIPING DIAGRAM D3/P301.3A FOR CONTINUATION OF PIPING.

7 REFER TO PIPING DIAGRAM D5/P301.3A FOR CONTINUATION OF PIPING.

8 REFER TO PIPING DIAGRAM D7/P301.3A FOR CONTINUATION OF PIPING.

9 REFER TO PIPING DIAGRAM F5/P302.3A FOR CONTINUATION OF PIPING.

10 REFER TO PIPING DIAGRAM F3/P301.3A FOR CONTINUATION OF PIPING.

11 REFER TO PIPING DIAGRAM F5/P301.3A FOR CONTINUATION OF PIPING.

12 REFER TO PIPING DIAGRAM F7/P301.3A FOR CONTINUATION OF PIPING.

13 REFER TO PIPING DIAGRAM B7/P302.3A FOR CONTINUATION OF PIPING.

14 REFER TO PIPING DIAGRAM B1/P302.3A FOR CONTINUATION OF PIPING.

15 REFER TO PIPING DIAGRAM B3/P303.3A FOR CONTINUATION OF PIPING.

16 PROVIDE TEPID WATER EMERGENCY MIXING VALVE AND APPURTENANCES.

17 OPEN LABORATORY EMERGENCY NATURAL GAS SHUT OFF CONTROL PANEL (CP-1)

18 OPEN LABORATORY EMERGENCY NATURAL GAS SHUT OFF REMOTE PANEL SHUT OFF (PB-1)

19 PROVIDE 1-1/2" LABORATORY WASTE PIPING UP THROUGH FLOOR SLAB TO SERVE PLUMBING FIXTURE.

20 EXISTING SANITARY RISER, EXISTING VENT RISER, AND APPURTENANCES TO REMAIN. PROVIDE 1-1/2" HOT WATER RETURN RISER AND APPURTENANCES. REFER TO COLD WATER, HOT WATER, AND HOT WATER RETURN RISERS - PHASE 3A ON PLUMBING DRAWING FOR CONTINUATION OF PIPING.

21 REFER TO PIPING DIAGRAM F5 / P302.3A FOR CONTINUATION.

22 PROVIDE 3/4" CARBON DIOXIDE RELIEF VENT PIPING AND APPURTENANCES UP TO CEILING EXHAUST.

23 PROVIDE 4" LABORATORY WASTE AND APPURTENANCES TO SERVE FLOOR DRAIN.

24 PROVIDE 2" LABORATORY WASTE VENT PIPING DOWN THROUGH FLOOR SLAB. REFER TO PIPING DIAGRAM F3/302.3A FOR CONTINUATION OF PIPING.

25 PROVIDE FUNNEL STYLE SAFEWASTE, 3" LABORATORATORY WASTE DOWN THROUGH FLOOR, 1-1/2" LABORATORY WASTE VENT, ACCESS PANEL, AND APPURTENANCES TO SERVE HVAC CONDENSATE

26 PROVIDE 1-1/2" HOT WATER RETURN RISER, 2" DEIONIZED WATER RETURN RISER, AND APPURTENANCES UP TO PENTHOUSE. REFER TO PLUMBING - COLD WATER, HOT WATER, AND HOT WATER RETURN RISER - PHASE 3A AND PLUMBING - DEIONIZED WATER RISER - PHASE 3A ON PLUMBING DRAWING P601.3A FOR CONTINUATION OF PIPING.

27 REFER TO PIPING DIAGRAM D3 / P302.3A FOR CONTINUATION OF PIPING.

28 PROVIDE STORM RISER AND APPURTENANCES. REFER TO STORM DRAIN RISER - PHASE 3A ON PLUMBING DRAWING P602.3A.

29 PROVIDE LABORATORY AIR 30# RISER AND APPURTENANCES. REFER TO LABORATORY VACUUM, LABORATORY AIR, AND NATURAL GAS RISERS - PHASE 3A ON PLUMBING DRAWING P601.3A.

30 PROVIDE LABORATORY WASTE RISER, LABORATORY WASTE VENT RISER, AND APPURTENANCES. REFER TO LABORATORY WASTE AND LABORATORY WASTE VENT RISERS - PHASE 3A ON PLUMBING DRAWING P602.3A.

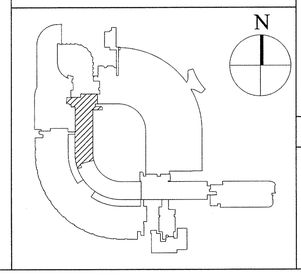
31 REFER TO PIPING DIAGRAM B1/P303.3A FOR CONTINUATION OF PIPING.

32 PROVIDE 2" LABORATORY WASTE PIPING UP THROUGH FLOOR SLAB TO SERVE PLUMBING FIXTURE.

33 PROVIDE 4" LABORATORY WASTE PIPE AND APPURTENANCES UP THROUGH SEVENTH FLOOR TO SERVE SAFEWASTE.

34 REFER TO PIPING DIAGRAM D3 / P303.3A FOR ADDTIONAL INFORMATION.

KEYPLAN



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UCONN HEALTH

Main Building Renovation

Building L - Project 2

263 Farmington Ave
Farmington, CT 06032

Revisions

No.	Date	Description
1	10/19/15	Issue for Bid & Code Review
2	11/02/15	Addendum #01

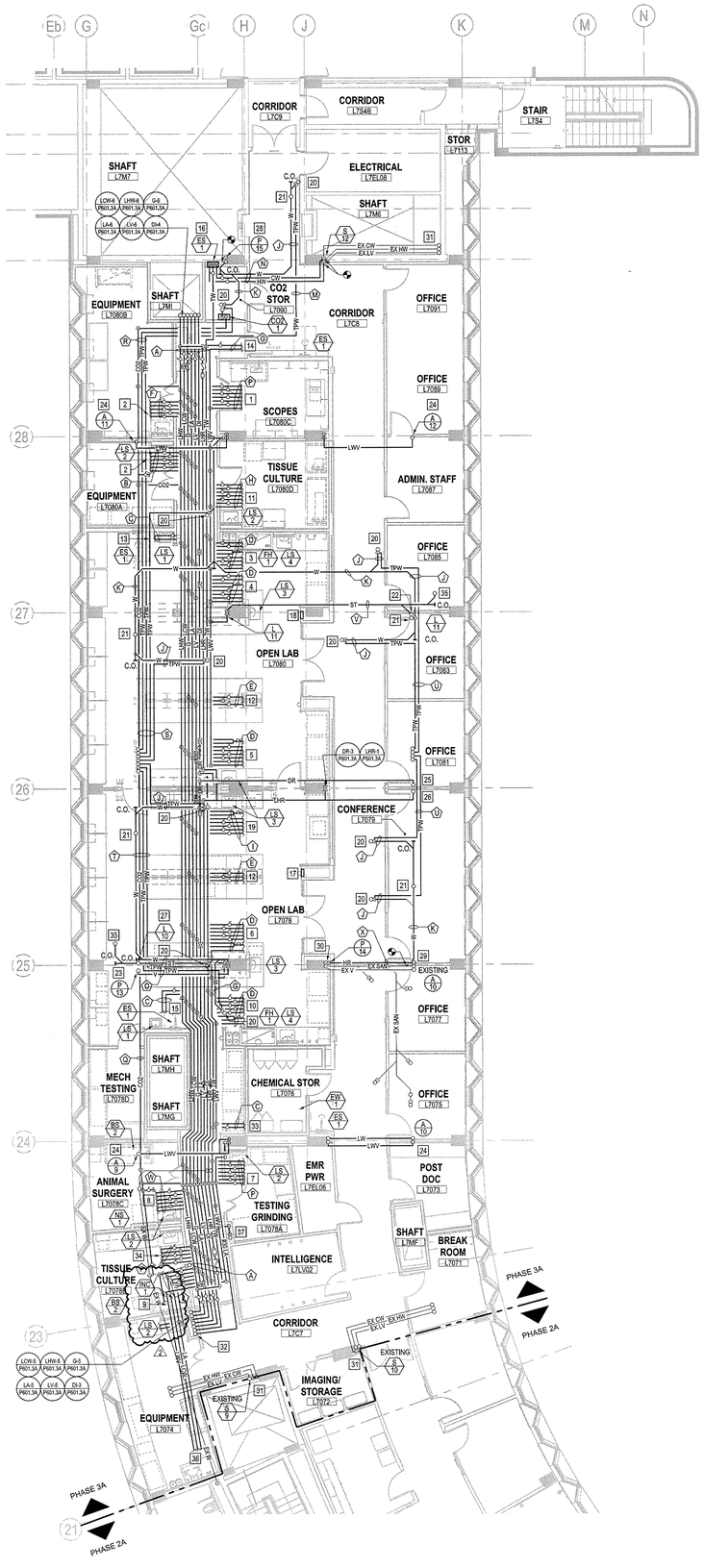
Drawing Name

Plumbing Plan - Phase 3A - Sixth Floor

Project No. 218010732

Drawing Number

P206.3A



F5 Plumbing Plan - Phase 3A - Seventh Floor

1/8"=1'-0"

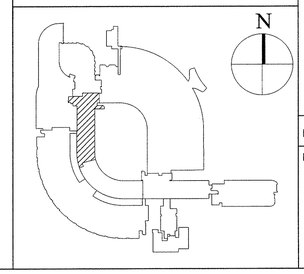
PIPE SIZE SCHEDULE

TAG	LCW	LHW	LHR	LW	LWV	DI	DR	TW	G	LA	LV	CO2	W	V	ST	TPW	CW	HW	HR
A	2-1/2"	2"	3/4"	—	3"	3/4"	—	1-1/2"	1-1/2"	1-1/2"	2"	—	—	—	—	—	—	—	—
B	1/2"	1/2"	—	—	1-1/2"	—	—	—	1/2"	1/2"	3/4"	—	—	—	—	—	—	—	—
C	—	—	—	—	1-1/2"	—	—	1-1/2"	—	—	—	—	—	—	—	—	—	—	—
D	1/2"	1/2"	—	—	1-1/2"	1/2"	—	—	1/2"	1/2"	3/4"	—	—	—	—	—	—	—	—
E	—	—	—	—	—	—	—	—	1/2"	1/2"	3/4"	—	—	—	—	—	—	—	—
F	1/2"	1/2"	—	—	—	—	—	—	1/2"	1/2"	3/4"	—	—	—	—	—	—	—	—
G	—	—	—	—	1-1/2"	—	—	1-1/2"	—	—	—	—	—	—	—	—	—	—	—
H	1/2"	1/2"	—	—	1-1/2"	—	—	—	1/2"	1/2"	3/4"	—	—	—	—	—	—	—	—
I	1/2"	1/2"	—	—	—	1/2"	—	—	1/2"	1/2"	3/4"	—	—	—	—	—	—	—	—
J	—	—	—	—	—	—	—	—	—	—	—	—	3"	—	—	—	1/2"	—	—
K	—	—	—	—	—	—	—	—	—	—	—	—	3"	—	—	—	—	—	—
L	3/4"	3/4"	—	—	1-1/2"	—	—	—	1/2"	1/2"	3/4"	—	—	—	—	—	—	—	—
M	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1/2"	—	—	—
N	—	—	—	—	—	—	—	—	—	—	—	—	3"	—	—	—	1-1/2"	1-1/2"	—
O	—	—	—	—	—	—	—	—	—	—	—	—	3"	3"	4"	(2) 1/2"	—	—	—
P	1/2"	1/2"	—	—	1-1/2"	—	—	—	1/2"	1/2"	3/4"	1/2"	—	—	—	—	—	—	—
Q	—	—	—	—	—	—	—	—	—	—	—	3/4"	—	—	—	—	—	—	—
R	—	—	—	—	—	—	—	—	—	—	—	3/4"	—	—	—	(2) 1/2"	—	—	—
S	—	—	—	—	—	—	—	—	—	—	—	3/4"	—	—	—	(4) 1/2"	—	—	—
T	—	—	—	—	—	—	—	—	—	—	—	3/4"	3"	—	—	(2) 1/2"	—	—	—
U	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	(2) 1/2"	—	—	—
V	—	—	—	—	—	—	—	—	—	—	—	—	—	—	4"	—	—	—	—
W	3/4"	1/2"	—	—	2"	—	—	—	1/2"	1/2"	3/4"	—	—	—	—	—	—	—	—
X	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1-1/2"
Y																			
Z																			

KEYNOTES

1. PIPING CAPPED IN CEILING FOR FUTURE CONNECTION.
2. REFER TO PIPING DIAGRAM B3/P301.3A FOR CONTINUATION OF PIPING.
3. REFER TO PIPING DIAGRAM B5/P301.3A FOR CONTINUATION OF PIPING.
4. REFER TO PIPING DIAGRAM B7/P301.3A FOR CONTINUATION OF PIPING.
5. REFER TO PIPING DIAGRAM B3/P302.3A FOR CONTINUATION OF PIPING.
6. REFER TO PIPING DIAGRAM D3/P301.3A FOR CONTINUATION OF PIPING.
7. REFER TO PIPING DIAGRAM D7/P302.3A FOR CONTINUATION OF PIPING.
8. REFER TO PIPING DIAGRAM B5/P303.3A FOR CONTINUATION OF PIPING.
9. REFER TO PIPING DIAGRAM F1/P302.3A FOR CONTINUATION OF PIPING.
10. REFER TO PIPING DIAGRAM F3/P301.3A FOR CONTINUATION OF PIPING.
11. REFER TO PIPING DIAGRAM F5/P301.3A FOR CONTINUATION OF PIPING.
12. REFER TO PIPING DIAGRAM F7/P301.3A FOR CONTINUATION OF PIPING.
13. REFER TO PIPING DIAGRAM B7/P302.3A FOR CONTINUATION OF PIPING.
14. REFER TO PIPING DIAGRAM B1/P302.3A FOR CONTINUATION OF PIPING.
15. REFER TO PIPING DIAGRAM B5/P302.3A FOR CONTINUATION OF PIPING.
16. PROVIDE TEPID WATER EMERGENCY MIXING VALVE AND APPURTENANCES.
17. OPEN LABORATORY EMERGENCY NATURAL GAS SHUT OFF CONTROL PANEL (CP-1)
18. OPEN LABORATORY EMERGENCY NATURAL GAS SHUT OFF REMOTE PANEL SHUT OFF (PB-1)
19. REFER TO PIPING DIAGRAM D1/P302.3A FOR CONTINUATION OF PIPING.
20. PROVIDE 3" WASTE PIPING, P-TRAP, 1/2" TRAP PRIMER WATER PIPING, AND APPURTENANCES TO SERVE PENTHOUSE FLOOR DRAIN.
21. PROVIDE 2" VENT PIPING UP THROUGH PENTHOUSE FLOOR. REFER TO PLUMBING DRAWING P20P.3A FOR CONTINUATION.
22. PROVIDE STORM PIPING UP THROUGH PENTHOUSE FLOOR. REFER TO PLUMBING DRAWING P20P.3A FOR CONTINUATION.
23. PROVIDE VENT PIPING AND APPURTENANCES UP THROUGH PENTHOUSE FLOOR. REFER TO SANITARY DRAIN (SOIL) AND SANITARY DRAIN VENT RISER - PHASE 3A ON PLUMBING DRAWING P602.3A AND P20P.3A FOR CONTINUATION OF PIPING.
24. PROVIDE LABORATORY WASTE VENT PIPING AND APPURTENANCES UP THROUGH PENTHOUSE FLOOR. REFER TO PLUMBING DRAWING P602.3A LABORATORY WASTE AND LABORATORY WASTE VENT RISER - PHASE 3A AND P20P.3A FOR CONTINUATION OF PIPING.
25. PROVIDE DEIONIZED WATER RETURN PIPING AND APPURTENANCES UP THROUGH PENTHOUSE FLOOR. REFER TO PLUMBING DRAWING P601.3A DEIONIZED WATER RISERS - PHASE 3A AND P20P.3A FOR CONTINUATION OF PIPING.
26. PROVIDE HOT WATER RETURN PIPING AND APPURTENANCES UP THROUGH PENTHOUSE FLOOR. REFER TO PLUMBING DRAWING P601.3A COLD WATER, HOT WATER, AND HOT WATER RETURN RISER - PHASE 3A AND P20P.3A FOR CONTINUATION OF PIPING.
27. PROVIDE STORM PIPING AND APPURTENANCE UP THROUGH PENTHOUSE FLOOR. REFER TO PLUMBING DRAWING P602.3A STORM DRAIN RISER - PHASE 3A AND P20P.3A FOR CONTINUATION OF PIPING.
28. EXISTING SANITARY AND VENT RISER AND APPURTENANCES UP THROUGH PENTHOUSE FLOOR. REFER TO PLUMBING DRAWING P602.3A SANITARY DRAIN (SOIL) AND SANITARY DRAIN VENT RISER -PHASE 3A AND P20P.3A FOR CONTINUATION OF PIPING.
29. EXISTING SANITARY RISER, EXISTING VENT RISER, AND APPURTENANCES UP THROUGH PENTHOUSE TO REMAIN. PROVIDE HOT WATER RETURN PIPING AND APPURTENANCES UP THROUGH PENTHOUSE FLOOR. REFER TO COLD WATER, HOT WATER, AND HOT WATER RETURN RISERS - PHASE 3A ON PLUMBING DRAWING P601.3A AND P602P.3A FOR CONTINUATION OF PIPING.
30. EXISTING SANITARY RISER, EXISTING VENT RISER, AND APPURTENANCES TO REMAIN. PROVIDE HOT WATER RETURN RISER AND APPURTENANCES. REFER TO COLD WATER, HOT WATER, AND HOT WATER RETURN RISERS - PHASE 3A ON PLUMBING DRAWING P601.3A FOR CONTINUATION OF PIPING.
31. EXISTING COLD WATER RISER, HOT WATER RISER, LABORATORY VACUUM RISER, AND APPURTENANCES FROM FOURTH FLOOR UP THROUGH PENTHOUSE. REFER TO COLD WATER, HOT WATER, AND HOT WATER RETURN RISERS - PHASE 3A ON PLUMBING DRAWING P601.3A AND LABORATORY VACUUM, LABORATORY AIR, AND NATURAL GAS RISERS - PHASE 3A FOR CONTINUATION OF PIPING.
32. PROVIDE 3/4" LABORATORY AIR 30# RISER AND APPURTENANCES UP THROUGH PENTHOUSE. REFER TO LABORATORY VACUUM, LABORATORY AIR, AND NATURAL GAS RISERS - PHASE 3A FOR CONTINUATION OF PIPING.
33. REFER TO PIPING DIAGRAM B3/P303.3A FOR CONTINUATION OF PIPING.
34. REFER TO PIPING DIAGRAM B7/P303.3A FOR CONTINUATION OF PIPING.
35. PROVIDE 3" STORM PIPING AND APPURTEANCES UP TO SERVE ROOM DRAIN.
36. REFER TO PIPING DIAGRAM D1/P303.3A FOR CONTINUATION OF PIPING.
37. PROVIDE FUNNEL STYLE TYPE SAFEWASTE, 3" LABORATORY WASTE DOWN THROUGH FLOOR, 1-1/2" LABORATORY WASTE VENT, ACCESS PANEL, AND APPURTENANCES TO SERVE HVAC CONDENSATE.

KEYPLAN



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tel: 724.285.4761
fax: 724.285.6815

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Seal

NOT FOR CONSTRUCTION

UCONN HEALTH

Main Building Renovation

Building L - Project 2

263 Farmington Ave
Farmington, CT 06032

Revisions

No.	Date	Description
1	10/19/15	Issue for Bid & Code Review
2	11/02/15	Addendum #01

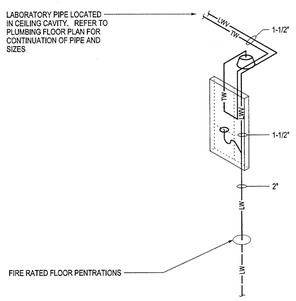
Drawing Name

Plumbing Plan - Phase 3A - Seventh Floor

Project No. 218010732

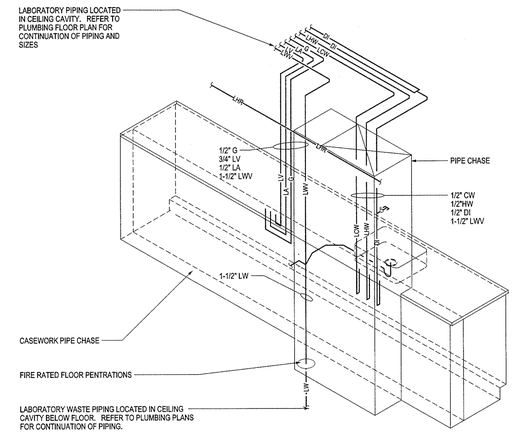
Drawing Number

P207.3A



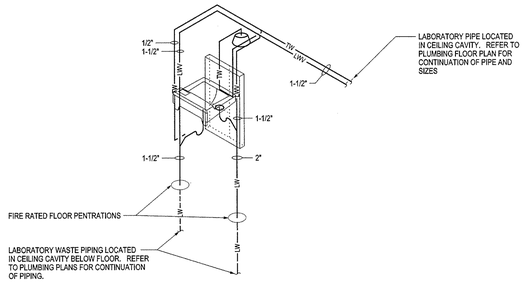
NOTE: EMEREGENCY FIXTURE AND APPURTENANCES ARE INDICATED FOR REFERENCR ONLY. REFER TO ARCHITECTURAL DRAWINGS FOR EXACT CONFIGURATION, COMPONENT LOCATIONS, AND APPURTENACES PRIOR TO ROUGH-IN AND FINAL CONNECTION

B1 Piping Diagram
NTS



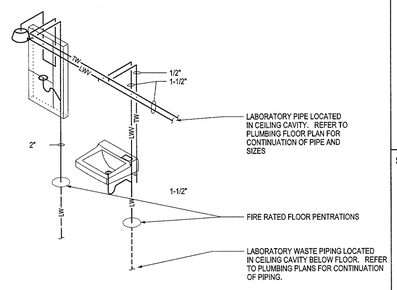
NOTE: CASEWORK, CHASES, SINK, AND APPURTENANCES ARE INDICATED FOR REFERENCR ONLY. REFER TO ARCHITECTURAL DRAWINGS FOR EXACT CONFIGURATION, COMPONENT LOCATIONS, AND APPURTENACES PRIOR TO ROUGH-IN AND FINAL CONNECTION

B3 Piping Diagram
NTS



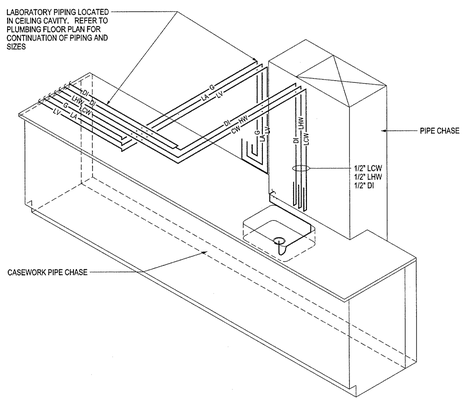
NOTE: EMERGENCY FIXTURE, SINK, AND APPURTENANCES ARE INDICATED FOR REFERENCR ONLY. REFER TO ARCHITECTURAL DRAWINGS FOR EXACT CONFIGURATION, COMPONENT LOCATIONS, AND APPURTENACES PRIOR TO ROUGH-IN AND FINAL CONNECTION

B5 Piping Diagram
NTS



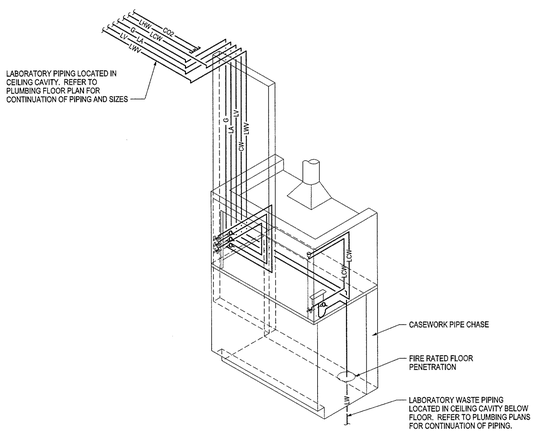
NOTE: EMERGENCY FIXTURE, SINK, AND APPURTENANCES ARE INDICATED FOR REFERENCR ONLY. REFER TO ARCHITECTURAL DRAWINGS FOR EXACT CONFIGURATION, COMPONENT LOCATIONS, AND APPURTENACES PRIOR TO ROUGH-IN AND FINAL CONNECTION

B7 Piping Diagram
NTS



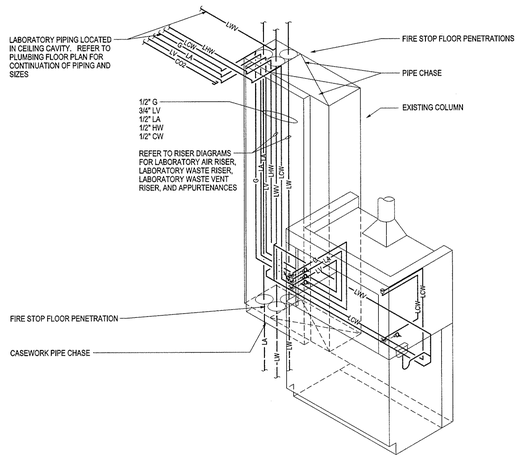
NOTE: CASEWORK, CHASES, SINK, AND APPURTENANCES ARE INDICATED FOR REFERENCR ONLY. REFER TO ARCHITECTURAL DRAWINGS FOR EXACT CONFIGURATION, COMPONENT LOCATIONS, AND APPURTENACES PRIOR TO ROUGH-IN AND FINAL CONNECTION

D1 Piping Diagram
NTS



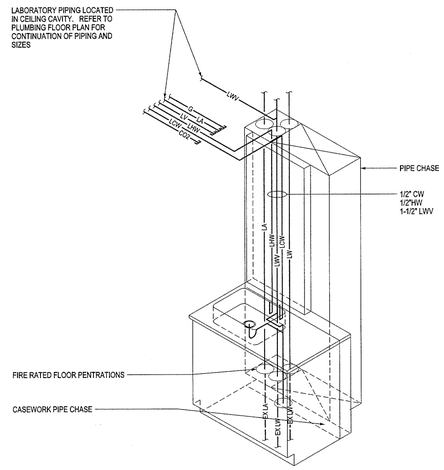
NOTE: CASEWORK, CHASES, SINK, AND APPURTENANCES ARE INDICATED FOR REFERENCR ONLY. REFER TO ARCHITECTURAL DRAWINGS FOR EXACT CONFIGURATION, COMPONENT LOCATIONS, AND APPURTENACES PRIOR TO ROUGH-IN AND FINAL CONNECTION

D3 Piping Diagram
NTS



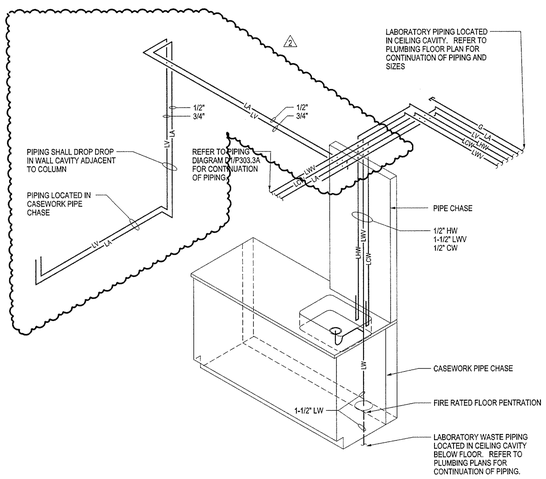
NOTE: CASEWORK, CHASES, SINK, FUME HOOD, AND APPURTENANCES ARE INDICATED FOR REFERENCR ONLY. REFER TO ARCHITECTURAL DRAWINGS FOR EXACT CONFIGURATION, COMPONENT LOCATIONS, AND APPURTENACES PRIOR TO ROUGH-IN AND FINAL CONNECTION

D5 Piping Diagram
NTS



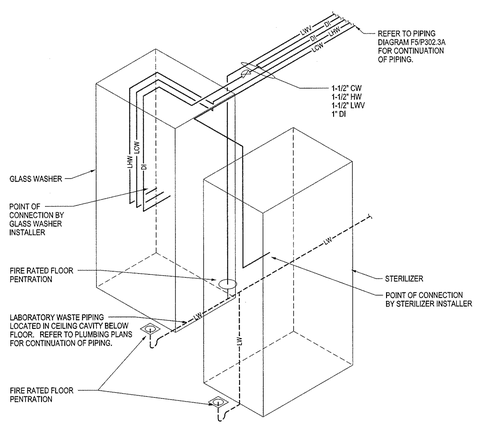
NOTE: CASEWORK, CHASES, SINK, AND APPURTENANCES ARE INDICATED FOR REFERENCR ONLY. REFER TO ARCHITECTURAL DRAWINGS FOR EXACT CONFIGURATION, COMPONENT LOCATIONS, AND APPURTENACES PRIOR TO ROUGH-IN AND FINAL CONNECTION

D7 Piping Diagram
NTS



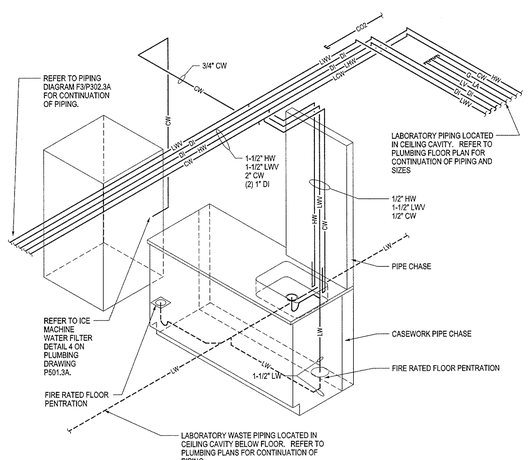
NOTE: CASEWORK, CHASES, SINK, AND APPURTENANCES ARE INDICATED FOR REFERENCR ONLY. REFER TO ARCHITECTURAL DRAWINGS FOR EXACT CONFIGURATION, COMPONENT LOCATIONS, AND APPURTENACES PRIOR TO ROUGH-IN AND FINAL CONNECTION

F1 Piping Diagram
NTS



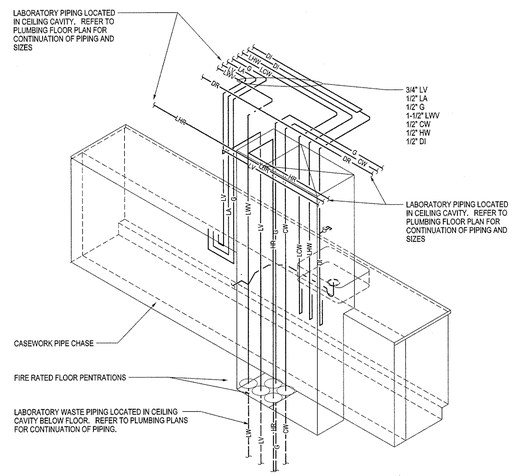
NOTE: CASEWORK, CHASES, SINK, AND APPURTENANCES ARE INDICATED FOR REFERENCR ONLY. REFER TO ARCHITECTURAL DRAWINGS FOR EXACT CONFIGURATION, COMPONENT LOCATIONS, AND APPURTENACES PRIOR TO ROUGH-IN AND FINAL CONNECTION

F3 Piping Diagram
NTS



NOTE: CASEWORK, CHASES, SINK, AND APPURTENANCES ARE INDICATED FOR REFERENCR ONLY. REFER TO ARCHITECTURAL DRAWINGS FOR EXACT CONFIGURATION, COMPONENT LOCATIONS, AND APPURTENACES PRIOR TO ROUGH-IN AND FINAL CONNECTION

F5 Piping Diagram
NTS



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F7 Piping Diagram
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UCONN HEALTH

Main Building Renovation

Building L - Project 2

263 Farmington Ave
Farmington, CT 06032

Revisions

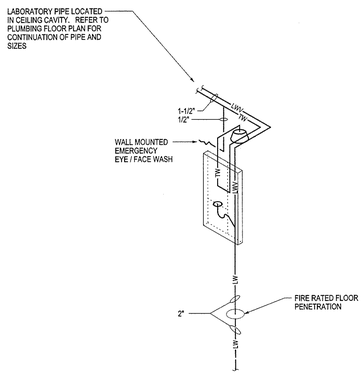
No.	Date	Description
1	10/19/15	Issue for Bid & Code Review
2	11/02/15	Addendum #01

Drawing Name
Plumbing Piping Diagrams - Phase 3A

Project No. 218010732

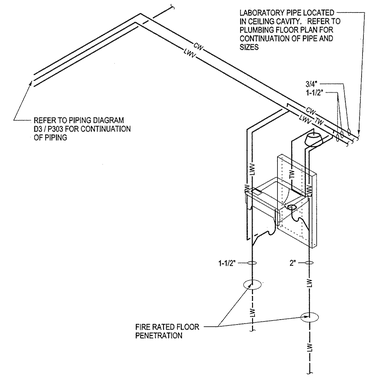
Drawing Number
P302.3A

1.4



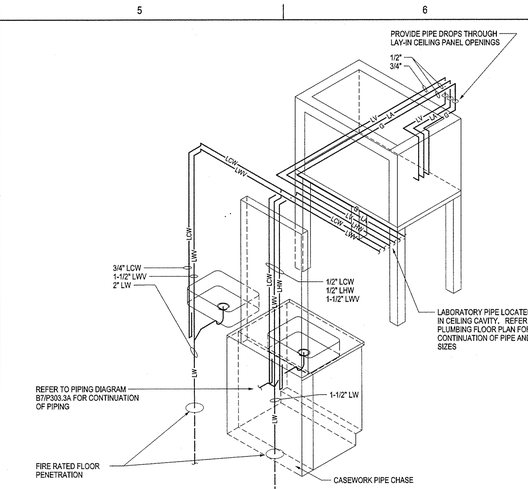
NOTE: EMEREGENCY FIXTURE AND APPURTENANCES ARE INDICATED FOR REFERENCR ONLY. REFER TO ARCHITECTURAL DRAWINGS FOR EXACT CONFIGURATION, COMPONENT LOCATIONS, AND APPURTENACES PRIOR TO ROUGH-IN AND FINAL CONNECTION

B1 Piping Diagram
NTS



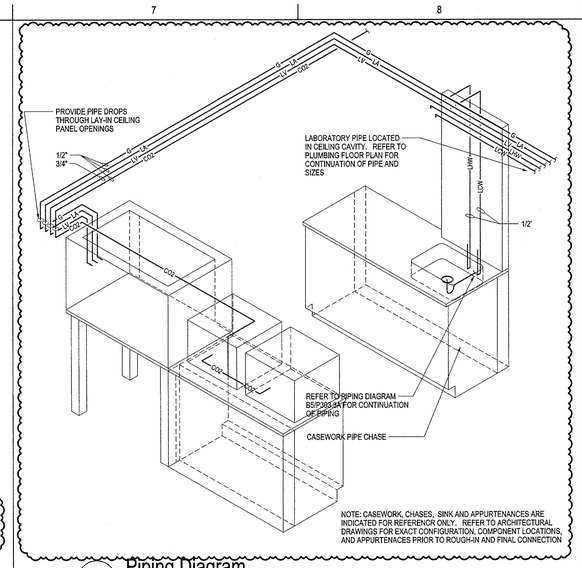
NOTE: SINK, EMEREGENCY FIXTURE, AND APPURTENANCES ARE INDICATED FOR REFERENCR ONLY. REFER TO ARCHITECTURAL DRAWINGS FOR EXACT CONFIGURATION, COMPONENT LOCATIONS, AND APPURTENACES PRIOR TO ROUGH-IN AND FINAL CONNECTION

B3 Piping Diagram
NTS



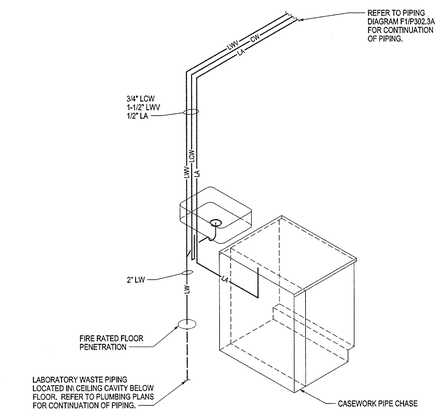
NOTE: CASEWORK, CHASES, SINK AND APPURTENANCES ARE INDICATED FOR REFERENCR ONLY. REFER TO ARCHITECTURAL DRAWINGS FOR EXACT CONFIGURATION, COMPONENT LOCATIONS, AND APPURTENACES PRIOR TO ROUGH-IN AND FINAL CONNECTION

B5 Piping Diagram
NTS



NOTE: CASEWORK, CHASES, SINK AND APPURTENANCES ARE INDICATED FOR REFERENCR ONLY. REFER TO ARCHITECTURAL DRAWINGS FOR EXACT CONFIGURATION, COMPONENT LOCATIONS, AND APPURTENACES PRIOR TO ROUGH-IN AND FINAL CONNECTION

B7 Piping Diagram
NTS



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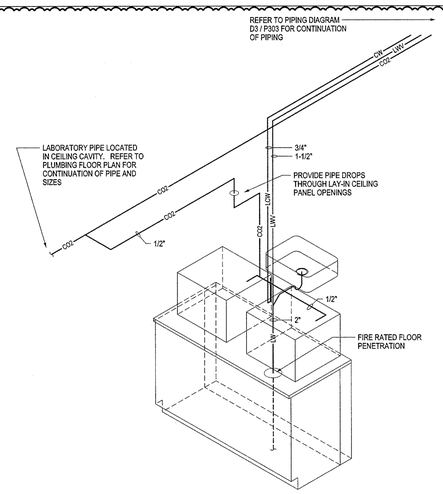
D1 Piping Diagram
NTS



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D3 Piping Diagram
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UCONN HEALTH

Main Building Renovation

Building L - Project 2

263 Farmington Ave
Farmington, CT 06032

Revisions

No.	Date	Description
1	10/19/15	Issue for Bid & Code Review
2	11/02/15	Addendum #01

Drawing Name
Plumbing
Piping Diagrams - Phase 3A

Project No. 218010732

Drawing Number
P303.3A

1.4

PLUMBING FIXTURE AND EQUIPMENT SCHEDULE

TAG	DESCRIPTION	LHW	LCW	LW	LWV	SAN	V	DI	TW	LV	LA	G	CO2	TPW	ST	REMARKS
LS 1	HANDICAPPED LABORATORY SINK	—	—	1 1/2"	1 1/2"	—	—	—	1/2"	—	—	—	—	—	—	1 2 3 6
LS 2	LABORATORY SINK	1/2"	1/2"	1 1/2"	1 1/2"	—	—	—	—	—	—	—	—	—	—	1 2 3 6
LS 3	LABORATORY SINK	1/2"	1/2"	1 1/2"	1 1/2"	—	—	1/2"	—	—	—	—	—	—	—	1 2 3 7 9
LS 4	HANDICAPPED LABORATORY SINK	1/2"	1/2"	1 1/2"	1 1/2"	—	—	1/2"	—	—	—	—	—	—	—	1 2 3 8 9
FH 1	FUME HOOD	—	1/2"	1 1/2"	1 1/2"	—	—	—	—	3/4"	1/2"	1/2"	—	—	—	1 5 5
BS 1	BIOLOGICAL SAFTEY CABINET	—	—	—	—	—	—	—	—	3/4"	1/2"	—	—	—	—	4 5
BS 2	BIOLOGICAL SAFETY CABINET	—	—	—	—	—	—	—	—	3/4"	1/2"	1/2"	—	—	—	4 5
ES 1	EMERGENCY SHOWER AND EYE/FACE WASH COMBINATION	—	—	2"	1-1/2"	—	—	—	1 1/2" & 1/2"	—	—	—	—	—	—	1
EW 1	EMERGENCY EYE/FACE WASH	—	—	—	—	—	—	—	1/2"	—	—	—	—	—	—	1
FD 1	LABORATORY FLOOR DRAIN	—	—	4"	2"	—	—	—	—	—	—	—	—	—	—	1
FD 2	LABORATORY FLOOR DRAIN	—	—	4"	2"	—	—	—	—	—	—	—	—	—	—	10
FD 1	PENTHOUSE FLOOR DRAIN	—	—	—	—	3"	2"	—	—	—	—	—	—	1/2"	—	10
IM 1	ICE MAKER	—	3/4"	3/4"	—	—	—	—	—	—	—	—	—	—	—	1 11
NS 1	NECROPSY SINK	—	3/4"	2"	1 1/2"	—	—	—	—	—	—	—	—	—	—	1 11
RD 1	ROOF DRAIN	—	—	—	—	—	—	—	—	—	—	—	—	—	3"	10
INC 1	INCUBATOR	—	—	—	—	—	—	—	—	—	—	—	1/2"	—	—	4 5

1. REFER TO SPECIFICATION SECTION 22 45 00 FOR ADDITIONAL INFORMATION
2. LABORATORY SINKS TYPES AND TAGS ARE BASED ON SINK UTILITY REQUIREMENTS, AND NOT ON THEIR SIZES
3. PIPE SIZING BASED ON SINK UTILITY REQUIREMENTS AND NOT ON TYPE OR SIZE OF SINKS
4. LABORATORY FUME HOODS WILL BE FURNISHED BY OTHERS; UNDER THIS DIVISION PROVIDE ROUGH-IN AND FINAL CONNECTIONS
5. PIPE SIZING BASED ON FUME HOOD UTILITY REQUIREMENTS AND NOT ON TYPE OR SIZE OF HOOD
6. SINK WITH COMBINATION COLD WATER & HOT WATER FAUCET
7. SINK WITH COMBINATION COLD WATER & HOT WATER FAUCET, AND DEIONIZED WATER FAUCET
8. SINK WITH COMBINATION COLD WATER & HOT WATER FAUCET, COLD WATER FAUCET AND DEIONIZED WATER FAUCET
9. PROVIDE EXPOSED 1/2" DEIONIZED WATER SUPPLY STUBOUT WITH SHUT-OFF VALVE AND CAP (FOR FUTURE DI-WATER POLISHER), AT 7' - 6" ABOVE FINISHED FLOOR. FOR EXACT LOCATION REFER TO ARCHITECTURAL DRAWINGS.
10. REFER TO SPECIFICATION SECTION 22 42 00 FOR ADDITIONAL INFORMATION, MANUFACTURER AND MODEL NUMBER
11. PROVIDE INDIRECT WASTE FROM EQUIPMENT TO FLOOR DRAIN

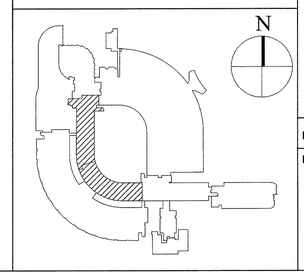
EQUIPMENT AND COMPONENT SCHEDULE

TAG	DESCRIPTION	SPECIFICATION SECTION		REMARKS
		NUMBER	TITLE	
MV 1	EMERGENCY TEPID WATER MIXING VALVE	22 11 19	DOMESTIC WATER PIPING SPECIALTIES	1
TP 1	TRAP PRIMER	22 11 19	DOMESTIC WATER PIPING SPECIALTIES	1
CO	SANITARY PIPING CLEANOUT	22 13 19	SANITARY AND VENT PIPING SPECIALTIES	1
CO	STORM PIPING CLEANOUT	22 14 23	STORM DRAINAGE PIPING SPECIALTIES	1
WH 1	STEAM SEMI-INSTANTANEOUS WATER HEATER	22 35 13	INSTANTANEOUS DOMESTIC WATER HEAT EXCHANGERS	1
RP 1	HOT WATER RECIRCULATING PUMP	22 35 13	INSTANTANEOUS DOMESTIC WATER HEAT EXCHANGERS	1
MV 1	HOT WATER MIXING VALVE	22 35 13	INSTANTANEOUS DOMESTIC WATER HEAT EXCHANGERS	1
ET 1	HOT WATER EXPANSION TANK	22 35 13	INSTANTANEOUS DOMESTIC WATER HEAT EXCHANGERS	1
WH 1	LABORATORY SEMI-INSTANTANEOUS STEAM WATER HEATER	22 35 13	INSTANTANEOUS DOMESTIC WATER HEAT EXCHANGERS	1
RP 1	HOT WATER RECIRCULATING PUMP	22 35 13	INSTANTANEOUS DOMESTIC WATER HEAT EXCHANGERS	1
MV 1	HOT WATER MIXING VALVE	22 35 13	INSTANTANEOUS DOMESTIC WATER HEAT EXCHANGERS	1
ET 1	HOT WATER EXPANSION TANK	22 35 13	INSTANTANEOUS DOMESTIC WATER HEAT EXCHANGERS	1
CO2 1	CARBON DIOXIDE MANIFOLD	22 63 19	LABORATORY GAS PIPING SPECIALTIES	1
CO	LABORATORY WASTE PIPING CLEANOUT	22 66 83	LABORATORY WASTE AND LABORATORY VENT SPECIALTIES	1

NOTES:

1. REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION, MANUFACTURER, AND MODEL NUMBER.

KEYPLAN



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Seal

NOT FOR CONSTRUCTION

UCONN HEALTH

Main Building Renovation

Building L - Project 2

263 Farmington Ave
Farmington, CT 06032

Revisions

No.	Date	Description
1	10/19/15	Issue for Bid & Code Review
2	11/02/15	Addendum #01

Drawing Name

Plumbing Schedules Phase 3A

Project No. 218010732

Drawing Number

P701.3A

ELECTRICAL ABBREVIATIONS

THIS LIST OF ABBREVIATIONS IS PROVIDED FOR CONVENIENCE ONLY. ITEMS LISTED HERE MAY OR MAY NOT BE USED ON THIS PROJECT.

1/C	SINGLE CONDUCTOR
A	AMPS
A/C	AIR CONDITIONING UNIT
AC	ALTERNATING CURRENT
ACT	ABOVE CEILING TILE
ADJ	ADJUSTABLE
AFCI	ARC FAULT CIRCUIT INTERRUPTER
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AHU	AIR HANDLING UNIT
AL	ALUMINUM
ALT	ALTERNATE
ARCH	ARCHITECTURAL
ATS	AUTOMATIC TRANSFER SWITCH
AUTO	AUTOMATIC
AVG	AVERAGE
BKR	BREAKER
BLDG	BUILDING
BSC	BIO-SAFETY CABINET
BTM	BOTTOM
C	CONDUIT
CAP	CAPACITY
CFM	CUBIC FEET/MINUTE
CIRC	CIRCULATING
CKT	CIRCUIT
CL	CENTERLINE
CLG	CEILING
CO	COMPANY
CONC	CONCRETE
CONN	CONNECTION
CONST	CONSTRUCTION
CONT	CONTINUOUS
CONTR	CONTRACTOR
CPU	CENTRAL PROCESS UNIT
CRT	CATHODE RAY TUBE
CT	CURRENT TRANSFORMERS
CU	COPPER
DED	DEDICATED
DET	DETAIL
DF	DRINKING FOUNTAIN
DHW	DOMESTIC WATER HEATER
DIAM	DIAMETER
DIM	DIMENSION
DISC	DISCONNECT
DIV	DIVISION
DN	DOWN
DPR	DAMPER
DWG	DRAWING
EA	EACH
EC	ELECTRICAL CONTRACTOR
ECB	ENCLOSED CIRCUIT BREAKER
ELEC	ELECTRICAL
ELEV	ELEVATOR
EM	EMERGENCY ONLY
EM GEN	EMERGENCY GENERATOR
ENCL	ENCLOSURE
EP	ELECTRIC-PNEUMATIC
EQUIP	EQUIPMENT
ER	EXISTING RELOCATED
ETR	EXISTING TO REMAIN
EWC	ELECTRIC WATER COOLER
EXH	EXHAUST
EXIST	EXISTING
EXTER	EXTERIOR
F & I	FURNISHED AND INSTALLED
FAB	FABRICATE
FACP	FIRE ALARM CONTROL PANEL
FBO	FURNISHED BY OTHERS
FH	FUMEHOOD
FIN	FINISH
FIXT	FIXTURE
FLASH	FLASHING
FLR	FLOOR
FLUOR	FLUORESCENT
FP	FIRE PROTECTION
FPC	FIRE PROTECTION CONTRACTOR
FTN	FOUNTAIN
FU	FUSE
GA	GAUGE
GAL	GALLONS
GC	GENERAL CONTRACTOR
GFI	GROUND FAULT INTERRUPTER
GRD	GROUND
HGMS	HAZARDOUS GAS MONITORING SYSTEM
HGT	HEIGHT
HORIZ	HORIZONTAL
HP	HORSEPOWER
HTG	HEATING
HV	HIGH VOLTAGE
HW	HOT WATER
HZ	HERTZ
INCL	INCLUDE
INST	INSTANTANEOUS
INSUL	INSULATION
JAN	JANITOR
JB	JUNCTION BOX
JT	JOINT
LTG	LIGHTING
LTS	LIGHTS
LV	LOW VOLTAGE
LVR	LOUVER
MAX	MAXIMUM
MC	MECHANICAL CONTRACTOR
MCB	MAIN CIRCUIT BREAKER
MCC	MOTOR CONTROL CENTER
MECH	MECHANICAL
MER	MECHANICAL EQUIPMENT ROOM
MFR	MANUFACTURER
MH	MANHOLE
MIN	MINIMUM
MISC	MISCELLANEOUS
MLO	MAIN LUG ONLY
MTD	MOUNTED
MTG	MOUNTING
NE	NORMAL/EMERGENCY
NIC	NOT IN CONTRACT
NO	NUMBER
NOM	NOMINAL
NTS	NOT TO SCALE
OC	ON CENTER
OH	OVERHEAD
OPNG	OPENING
PC	PLUMBING CONTRACTOR
PE	PNEUMATIC-ELECTRIC
PEND	PENDANT
PH	PENTHOUSE
PLBG	PLUMBING
PNL	PANEL
PRESS SW	PRESSURE SWITCH
PS	PULL SWITCH
PTs	POTENTIAL TRANSFORMERS
RA	RETURN AIR
REC	RECESSED
RECEPT	RECEPTACLE
REQD	REQUIRED
RL	RELOCATE
RM	ROOM
RR	REMOVE AND RELOCATE
RX	REMOVE
SECT	SECTION
SIM	SIMILAR
SMR	SURFACE METAL RACEWAY
SQ FT	SQUARE FOOT
STAT	THERMOSTAT
STD	STANDARD
STL	STEEL
STOR	STORAGE
STRUCT	STRUCTURAL
SURF	SURFACE
SUSP	SUSPENDED
SUSP CLG	SUSPENDED CEILING
SW	SWITCH
T-STAT	THERMOSTAT
TV	TELEVISION
TELE	TELEPHONE
TEMP	TEMPERATURE
TERM	TERMINAL
THK	THICK
TGB	TELECOMMUNICATIONS GROUNDING BUSBAR
TMGB	TELECOMMUNICATIONS MAIN GROUNDING BUSBAR
TYP	TYPICAL
UG	UNDERGROUND
UH	UNIT HEATER
UV	UNIT VENTILATOR
VDT	VISUAL DISPLAY TERMINAL
VERT	VERTICAL
VOL	VOLUME
VT	VAPOR TIGHT
WP	WEATHERPROOF
WT	WATER TREATMENT
XFMR	TRANSFORMER

THIS IS A COMPLETE LIST OF ELECTRICAL SYMBOLS FOR REFERENCE ONLY. SYMBOLS SHOWN HERE MAY OR MAY NOT BE USED ON THIS PROJECT.

GENERAL SYMBOLS

- 6 — KEY NOTE INDICATOR
- 5 — ELECTRICAL EQUIPMENT INDICATOR
- 2 — SCHEDULED ITEM INDICATOR
- 2 — DRAWING REVISION INDICATOR
- AC 1 — MECHANICAL EQUIPMENT INDICATOR
- ?? / ???? — DETAIL INDICATOR
- ?? / ???? — ELEVATION/SECTION INDICATOR

CONDUIT AND WIRING

- BRANCH CIRCUIT RUN CONCEALED
- BRANCH CIRCUIT RUN UNDER FLOOR
- UP — BRANCH CIRCUIT UP OR DOWN
- 2A-1,3,5 — HOME RUN TO PANEL 2A CKTS 1, 3, & 5
- NE — NORMAL & EMERGENCY BRANCH CIRCUIT
- EM — EMERGENCY ONLY BRANCH CIRCUIT
- NL — NIGHT LIGHT BRANCH CIRCUIT
- LV — LOW VOLTAGE CIRCUIT
- EX — EXISTING BRANCH CIRCUIT
- INDICATES CONNECTION TO EXISTING

POWER SYSTEMS

- TRANSFORMER
- ATS — AUTOMATIC TRANSFER SWITCH
- EM GEN — EMERGENCY GENERATOR
- PDU — POWER DISTRIBUTION UNIT
- UPS — UNINTERUPTABLE POWER SOURCE
- TVSS — TRANSIENT VOLTAGE SURGE SUPPRESSION
- ATC — AUTOMATIC TEMPERATURE CONTROL

POWER DISTRIBUTION

- SURFACE MOUNTED DISTRIBUTION PANELBOARD
- FLUSH MOUNTED DISTRIBUTION PANEL
- SURFACE MTD PANELBOARD
- FLUSH MTD PANELBOARD
- EXISTING SURFACE MTD PANELBOARD
- EXISTING FLUSH MTD PANELBOARD
- M — MANUAL MOTOR STARTER
- M — MOTOR CONNECTION
- DISCONNECT SWITCH
- FUSED DISCONNECT SWITCH
- MAGNETIC STARTER
- COMBINATION STARTER/DISCONNECT
- M — POWER COMPANY METER
- CT — C. T. CABINET
- J — JUNCTION BOX OR PULL BOX
- GRA — GENERATOR REMOTE ANNUNCIATOR
- VFD — VARIABLE FREQUENCY DRIVE
- S1 — SPLICE BOX, "SI" REPRESENTS BOX IDENTIFIER

ELECTRICAL SINGLE LINE

- DRAW OUT MEDIUM VOLTAGE (15KV OR 5KV) CIRCUIT BREAKER
- DRAW OUT LOW VOLTAGE (480V OR 208) CIRCUIT BREAKER
- MEDIUM VOLTAGE SWITCH
- MEDIUM VOLTAGE SWITCH AND FUSE
- LOW VOLTAGE MOLDED CASE CIRCUIT BREAKER
- ST — SHUNT TRIP CIRCUIT BREAKER
- 2 — COMBINATION MOTOR STARTER- NUMBER INDICATES STARTER SIZE
- MEDIUM VOLTAGE LIQUID FILLED TRANSFORMER
- LOW VOLTAGE DRY TYPE TRANSFORMER
- AUTOMATIC TRANSFER SWITCH
- G — EMERGENCY GENERATOR
- DM — DIGITAL METER
- CURRENT TRANSFORMER
- 4 / 600 — FEEDER SIZE INDICATOR

ELECTRICAL DEVICES

- $ $2 $3 $4 — SINGLE-POLE DOUBLE-POLE 3-WAY & 4-WAY SWITCHES
- $K — KEY-LOCK SWITCH
- $3P — 3-POSITION SWITCH - SINGLE POLE, DOUBLE THROW, CENTER OFF
- $PK — PILOT-LIGHT KEY-LOCK SWITCH
- $L — LIGHTED-HANDLE SWITCH
- $CO — CENTER-OFF DOUBLE-THROW SWITCH
- $EXP — EXPLOSION-PROOF SWITCH
- $D — LOCAL WALL DIMMER SWITCH
- $DA — AUTOTRANSFORMER LOCAL WALL DIMMER SWITCH
- $LV — LOW-VOLTAGE WALL SWITCH (MOMENTARY OR MAINTAINED CONTACT)
- $MC — MOMENTARY-CONTACT SWITCH
- $F — FAN SWITCH
- $PB — PUSH-BUTTON SWITCH
- $RB — RESET BUTTON SWITCH
- $T — TIMER SWITCH
- $N — NARROW JAMB SWITCH
- $EPO — EMERGENCY POWER OFF SWITCH
- ETD — EMERGENCY TRANSFER DEVICE
- T — TIMECLOCK
- PC — PHOTOCELL
- LC — LIGHTING CONTROL RELAY PANEL
- CC — CONTACT CLOSURE INTERFACE
- VI — VARIABLE INTENSITY SWITCH (SURGERY)
- R — RELAY W/ NUMBER AND TYPE OF POLES AS INDICATED
- RI — REMOTE INDICATOR
- SINGLE RECEPTACLE
- DUPLEX RECEPTACLE
- DOUBLE DUPLEX RECEPTACLE
- DUPLEX SPLIT WIRED WITH BOTTOM OUTLET ON WALL SWITCH
- SAFETY TYPE DUPLEX RECEPTACLE
- GFI DUPLEX RECEPTACLE
- GFI — GFI DOUBLE-DUPLEX RECEPTACLE
- WP — GFI DUPLEX RECEPTACLE WITH WEATHERPROOF COVER
- DUPLEX RECEPTACLE FLOOR BOX
- DOUBLE DUPLEX RECEPTACLE FLOOR BOX
- IG — ISOLATED GROUND TYPE DUPLEX RECEPTACLE
- IG/SP — ISOLATED GROUND TYPE WITH SURGE SUPRESSION
- EM — EMERGENCY (STANDBY) RECEPTACLE 2
- BSC — RECEPTACLE FOR BIOSAFETY CABINET
- WT — RECEPTACLE FOR WATER TREATMENT SYSTEM. COORDINATE EXACT HEIGHT AND LOCATION OF RECEPTACLE WITH ARCHITECTURAL ELEVATIONS INCLUDING SHELVING UNITS.
- WC — RECEPTACLE FOR WATER COOLER. VERIFY CONNECTION TYPE OR HARDWIRE WITH MANUFACTURER PRIOR TO ROUGH-IN.
- EXP — EXPLOSION-PROOF RECEPTACLE
- EXP — EXPLOSION-PROOF DUPLEX RECEPTACLE
- FF — FLUSH-FLOOR MOUNTED RECEPTACLE
- FP — PEDESTAL-FLOOR MOUNTED RECEPTACLE
- CP — PEDESTAL-COUNTER MOUNTED RECEPTACLE
- C — CLOCK RECEPTACLE
- CLG — RECEPTACLE MOUNTED ON CEILING
- TVSS — DOUBLE DUPLEX RECEPTACLE WITH TRANSIENT VOLTAGE SURGE SUPPRESSOR
- TVSS — DUPLEX RECEPTACLE WITH TRANSIENT VOLTAGE SURGE SUPPRESSOR
- PS — SURFACE MOUNTED MULTI-OUTLET ASSEMBLY DUPLEX OUTLETS MOUNTED ON 1'-0" CENTERS UNLESS OTHERWISE NOTED
- SPECIAL PURPOSE RECEPTACLE - SIZE & TYPE AS INDICATED ON SCHEDULED
- D — DROP CORD
- J CR — CONNECTION TO COLD ROOM CONTROL PANEL
- J F — CONNECTION TO SYSTEMS FURNITURE
- J FH — CONNECTION TO FUMEHOOD
- J PF — CONNECTION AT MOVEABLE PARTITION
- J S — CONNECTION TO AUTOMATIC SENSOR
- J DO — CONNECTION TO ADA DOOR OPERATOR.
- E — EQUIPMENT CONNECTION
- PT — POKE-THRU DEVICE
- DUPLEX RECEPTACLE ON DESIGNATED CIRCUIT (GRAY RECEPTACLE)
- DOUBLE DUPLEX RECEPTACLE WITH ONE DUPLEX ON NORMAL CIRCUIT & ONE DUPLEX (GRAY) ON DESIGNATED CIRCUIT
- INDICATES OUTLET TO BE MOUNTED 8" ABOVE COUNTER HEIGHT. TYPICAL UNLESS NOTED OTHERWISE
- DOGHOUSE STYLE PEDESTAL RECEPTACLE
- M — MOTORIZED DAMPER
- EMERGENCY PUSH BUTTON
- SURFACE MOUNTED RACEWAY. PROVIDE (1) 1" EMPTY CONDUIT FOR NORMAL POWER AND (1) 1" EMPTY CONDUIT FOR EMERGENCY POWER OR TELECOM (AS APPLICABLE) WITH PULL WIRE FROM ALL SMR TO ACCESSIBLE CEILING FOR FUTURE BRANCH WIRING. CONDUIT SHALL BE IN ADDITION TO CIRCUITING AS INDICATED ON DRAWINGS.
- A — SPECIAL PURPOSE RECEPTACLE, TYPE A, EQUAL TO NEMA 6-20R WITH #10 AWG WIRING PROVIDED
- B — SPECIAL PURPOSE RECEPTACLE, TYPE B, EQUAL TO NEMA L6-30R
- C — SPECIAL PURPOSE RECEPTACLE, TYPE C, EQUAL TO NEMA L5-20R
- D — SPECIAL PURPOSE RECEPTACLE, TYPE D, EQUAL TO NEMA 6-30R
- J ATC — JUNCTION BOX WITH CIRCUITS FOR AUTOMATIC TEMPERATURE CONTROL EQUIPMENT
- OSP — OVERHEAD SERVICE PANEL

LIGHTING

- A / 2A-2a — FIXTURE DESIGNATIONS: 'A' FIXTURE TYPE; 'a' SWITCH NO.; '2A-2' PANEL 2A CKT #2
- 2X4 FIXTURE
- 2X2 FIXTURE
- 1X1 FIXTURE
- 1X4 FIXTURE
- FLUORESCENT STRIPLIGHT
- PENDANT TUBE FIXTURE
- CEILING MTD INCAND., FLUOR., OR HID FIXTURE
- CLG MTD INCAND, FLUOR, OR HID WALL WASHER
- WALL MTD INCAND., FLUOR., OR HID FIXTURE
- POLE MTD INCAND., FLUOR., OR HID FIXTURE
- CEILING MTD EXIT SIGN W/ ARROWS AS INDICATED
- WALL MTD EXIT SIGN W/ ARROWS AS INDICATED
- LIGHTING TRACK - LENGTH OF TRACK AND NO. OF FIXTURES AS INDICATED ON PLAN.
- 2X4 FIXTURE ("•" - DESIGNATES FIXTURE ON NORMAL/EMERGENCY POWER)
- 2X2 FIXTURE ("•" - DESIGNATES FIXTURE ON NORMAL/EMERGENCY POWER)
- 1X1 FIXTURE ("•" - DESIGNATES FIXTURE ON NORMAL/EMERGENCY POWER)
- 1X4 FIXTURE ("•" - DESIGNATES FIXTURE ON NORMAL/EMERGENCY POWER)
- FLUORESCENT STRIPLIGHT ("•" - DESIGNATES FIXTURE ON NORMAL/EMERGENCY POWER)
- PENDANT TUBE FIXTURE ("•" - DESIGNATES FIXTURE ON NORMAL/EMERGENCY POWER)
- CEILING MOUNTED INCANDESCENT, FLUORESCENT, OR HID FIXTURE ("•" - DESIGNATES FIXTURE ON NORMAL/EMERGENCY POWER)
- CEILING MOUNTED INCANDESCENT, FLUORESCENT OR HID WALL WASHER ("•" - DESIGNATES FIXTURE ON NORMAL/EMERGENCY POWER)
- WALL MOUNTED INCANDESCENT, FLUORESCENT, OR HID FIXTURE ("•" - DESIGNATES FIXTURE ON NORMAL/EMERGENCY POWER)
- POLE MOUNTED INCANDESCENT, FLUORESCENT, OR HID FIXTURE ("•" - DESIGNATES FIXTURE ON NORMAL/EMERGENCY POWER)
- LIGHTING TRACK - LENGTH OF TRACK AND NO. OF FIXTURES AS INDICATED ON PLAN. ("•" - DESIGNATES FIXTURE ON NORMAL/EMERGENCY POWER)

EMERGENCY BATTERY PACK

- a — BATTERY PACK W/ NO. OF HEADS AS SHOWN. 'a' - INDICATES REMOTE FIXTURES POWERED
- a — REMOTE EMERGENCY HEAD - 'a' INDICATES BATTERY PACK.
- E a — REMOTE EMERGENCY DNLT - 'a' INDICATES BATTERY PACK.

OCCUPANCY/DAYLIGHTING SENSORS

- OS — DUAL TECHNOLOGY OCCUPANCY SENSOR
- U — ULTRASONIC OCCUPANCY SENSOR WITH CORRIDOR COVERAGE
- DS — DAYLIGHTING SENSOR
- OSP — DUAL TECHNOLOGY OCCUPANCY SENSOR WITH PHOTOCELL
- OS — WALL MOUNTED DUAL TECHNOLOGY OCCUPANCY SENSOR
- U — WALL MOUNTED ULTRASONIC OCCUPANCY SENSOR WITH CORRIDOR COVERAGE
- DS — WALL MOUNTED DAYLIGHTING SENSOR
- OSP — WALL MOUNTED DUAL TECHNOLOGY OCCUPANCY SENSOR WITH PHOTOCELL
- $ OS — INTEGRAL WALL SWITCH/ OCCUPANCY SENSOR
- $ OS-2P — TWO-POLE OCCUPANCY SENSOR WITH INTEGRAL SWITCH

TELECOMMUNICATIONS OUTLETS

- SA — SIMPLEX AUDIOVISUAL OUTLET
- SM — BUILDING SYSTEMS TELECOMMUNICATIONS OUTLET
- SS — SIMPLEX SECURITY SYSTEM OUTLET
- ST 44" AFF — WALL MOUNTED TELEPHONE OUTLET
- SE 44" AFF — WALL MOUNTED EMERGENCY TELEPHONE OUTLET
- SW — WIRELESS ACCESS POINT OUTLET
- D — DUPLEX TELECOMMUNICATIONS OUTLET
- T — TRIPLEX TELECOMMUNICATIONS OUTLET
- Q — QUAD TELECOMMUNICATIONS OUTLET
- TELECOMMUNICATIONS BACKBOX WITH GROMMET FACEPLATE
- X — INDICATES "X" TYPE OUTLET TO BE MOUNTED 8" ABOVE COUNTER HEIGHT. TYPICAL UNLESS NOTED OTHERWISE.
- SW CLG — WIRELESS ACCESS POINT OUTLET IN CEILING
- SV — SIMPLEX VIDEO OUTLET

FIRE ALARM SYSTEM

- MANUAL PULL STATION
- FIRE ALARM SPEAKER
- 15 — COMBINATION SPEAKER/STROBE LIGHT "15" INDICATES CANDELA VALUE
- CHIME AND STROBE LIGHT
- FIRE ALARM BEACON
- TB — REMOTE TROUBLE BELL
- 15 — STROBE LIGHT, "15" INDICATES CANDELA VALUE
- ID — IONIZATION TYPE SMOKE DETECTOR
- PD — PHOTOELECTRIC TYPE SMOKE DETECTOR
- TD — THERMAL TYPE DETECTOR
- PD E — PHOTOELECTRIC TYPE DETECTOR FOR ELEVATOR RECAPTURE
- TD E — THERMAL TYPE DETECTOR FOR ELEVATOR SHUNT TRIP
- ID D — IONIZATION TYPE DETECTOR MOUNTED TO DUCT
- PD D — PHOTOELECTRIC TYPE DETECTOR MOUNTED TO DUCT
- TD D — THERMAL TYPE DETECTOR MOUNTED TO DUCT
- RA — REMOTE ANNUNCIATOR FOR DETECTOR
- RI — REMOTE TEST SWITCH FOR DETECTOR
- PD R — PHOTOELECTRIC TYPE SMOKE DETECTOR WITH RELAY
- PD DH — SMOKE DETECTOR FOR DOOR HOLDS
- FS — FLOW SWITCH
- TS — TAMPER SWITCH
- PS — PRESSURE SWITCH FOR DRY TYPE SYSTEM
- SH — ELECTROMAGNETIC SHUTTER HOLDER
- DH — ELECTROMAGNETIC DOOR HOLDER
- DC — FIRE ALARM SYSTEM ACTIVATED DOOR CLOSER
- FT — FIREMANS TELEPHONE JACK
- CM — CONTROL MODULE
- MM — MONITOR MODULE
- BD R — BEAM DETECTOR - RECEIVER
- BD T — BEAM DETECTOR - TRANSMITTER
- FACP — FIRE ALARM CONTROL PANEL
- FAEP — FIRE ALARM EXTENDER PANEL
- FACC — FIRE ALARM COMMAND CENTER
- FAA — FIRE ALARM ANNUNCIATOR
- FTR — FIRE ALARM PUNCH TAPE RECORDER
- FDGP — FIRE ALARM DATA GATHERING PANEL
- FSCP — FIRE SUPPRESSION CONTROL PANEL
- FIRE, SMOKE OR FIRE/SMOKE DAMPER. PROVIDE WITH ASSOCIATED REMOTE TEST STATION, MONITOR MODULE, AND CONTROL MODULE.
- EXP — EXPLOSION PROOF STROBE LIGHT
- TD EXP — EXPLOSION PROOF THERMAL TYPE DETECTOR
- H — HAZARDOUS GAS MANUAL PULL STATION
- FGD — FLAMMABLE GAS DETECTOR
- ECD — ELECTROCHEMICAL DETECTOR

TELECOM PATHWAYS AND SPACES LEGEND

- OSP — OVERHEAD SERVICE PANEL
- SURFACE MOUNTED RACEWAY
- SERVING ZONE BOUNDARY
- J — J-HOOK (OPEN TOP CABLE SUPPORT) RUN.
- HORIZONTAL CONDUIT SLEEVE
- VERTICAL CONDUIT
- J — JUNCTION BOX
- PT X — POKE THROUGH, "X" DEFINES TYPE. REFER TO SPECIFICATIONS.
- TMGB — TELECOMMUNICATIONS MAIN GROUNDING BUSBAR
- TGB — TELECOMMUNICATION GROUNDING BUSBAR

ACCESS CONTROL

X — ACCESS CONTROL DOOR CALLOUT, TYPE "X"
- C1 - CARD READER, SINGLE DOOR
- C2 - CARD READER, DOUBLE DOOR
- C1D - CARD READER, SINGLE DOOR, DELAYED EGRESS
- C2D - CARD READER, DOUBLE DOOR, DELAYED EGRESS
- C1I - CARD READER, SINGLE DOOR, INTERCOM SUBSTATION
- C2I - CARD READER, DOUBLE DOOR, INTERCOM SUBSTATION
- C1F - PREP FOR FUTURE CARD READER SINGLE DOOR
- C2F - PREP FOR FUTURE CARD READER DOUBLE DOOR
- CO - CARD READER, OVERHEAD DOOR
- CP - CARD READER, PARKING GATES
- DE1 - DELAYED EGRESS, SINGLE DOOR
- DE2 - DELAYED EGRESS, DOUBLE DOOR
- EE - ELECTRIFIED EGRESS
- M1D - MONITORED, SINGLE DOOR, DELAYED EGRESS
- M1R - MONITORED, SINGLE DOOR, REQUEST TO EXIT
- M2R - MONITORED, DOUBLE DOOR, REQUEST TO EXIT
- M2RI - MONITORED, DOUBLE DOOR, REQUEST TO EXIT, TELECOM
- S1 - STAIRWELL DOOR
- V1 - VESTIBULE, ONE SET OF DOUBLE DOORS
- V2 - VESTIBULE, TWO SETS OF DOUBLE DOORS
- V3 - VESTIBULE, THREE SETS OF DOUBLE DOORS

- BR — BIOMETRIC READER
- CR — CARD READER
- PR — PARKING GATE CARD READER
- EC — ELEVATOR CARD READER
- RS — PASSIVE INFRARED REQUEST TO EXIT
- LA — LOCAL ALARM
- RB — REQUEST TO EXIT PUSH BUTTON
- RX — REQUEST TO EXIT SWITCH IN DOOR HARDWARE
- EL — ELECTRIC LATCH RETRACTION
- DE — DELAYED EGRESS
- ES — ELECTRIC STRIKE
- ET — ELECTRIC TRIM
- EM — ELECTRIC MORTISE
- EH — ELECTRIC POWER TRANSFER OR HINGE
- ML — ELECTROMAGNETIC LOCK
- DC — DOOR CONTACT SWITCH
- WC — WINDOW CONTACT SWITCH
- KS — KEYSWITCH
- OC — OVERHEAD DOOR CONTACT SWITCH
- AO — AUTOMATIC OPENER
- KB — FIREMAN'S KEY BOX
- PP — PUSH PLATE ACTUATOR
- PB — DURESS PANIC BUTON
- LD — VEHICLE LOOP DETECTOR
- RR — REMOTE RELEASE
- DB — DOOR BELL
- MD — MOTION DETECTOR
- GB — GLASS BREAK DETECTOR
- EP — EMERGENCY TELEPHONE
- BL — EMERGENCY TELEPHONE BLUE BEACON
- IM — INTERCOM MASTERSTATION
- IS — INTERCOM SUBSTATION
- VS — VIDEO SUBSTATION
- SM — SECURITY MONITOR DISPLAY
- SP — SECURITY PANEL LOCATION
- DVR — DIGITAL VIDEO RECORDER
- NVR — NETWORK VIDEO RECORDER
- SVPS — SECURITY SYSTEM UPS
- ACP — ACCESS CONTROL PANEL
- SPS — SECURITY ACCESS CONTROL INTRUSION DETECTION POWER SUPPLY
- CPS — CAMERA POWER SUPPLY
- DHPS — DOOR HARDWARE POWER SUPPLY
- IDP — INTRUSION DETECTION PANEL
- S — FIXED SECURITY CAMERA
- S — WALL MOUNTED SECURITY CAMERA
- S PTZ — FIXED PAN, TILT, ZOOM SECURITY CAMERA
- S PTZ — WALL MOUNTED PAN, TILT, ZOOM SECURITY CAMERA
- A — EXISTING INTERCOM
- PE — POWER OVER ETHERNET LOCK

AUDIOVISUAL

- W"X" — AUDIOVISUAL EQUIPMENT BACKBOX. REFER TO SCHEDULE ON DRAWING E550.

GROUNDING AND LIGHTNING PROTECTION

- G — GROUNDING BUS BAR
- G — GROUND CONDUCTOR RUN CONCEALED
- G — GROUND CONDUCTOR RUN UNDER FLOOR
- G — THERMITE WELD TO BLDG OR EQUIPMENT
- G — THERMITE WELD OF GROUND CONDUCTORS
- G — BONDING PLATE OR CLAMP CONNECTION TO PIPING OR EQUIPMENT
- G — CONNECTION TO AIR TERMINAL FOR LIGHTNING PROTECTION
- G — THERMITE WELD TO GROUND ROD
- G — GROUND ROD TRIODE
- GROUND CONNECTION
- EGTS — OPERATOR HEAD JUNCTION POWER CONNECTION
- EGB — ELECTRICAL GROUND BAR. REFER TO DETAIL D1/E532.

GENERAL NOTES

1. DRAWINGS CONTAIN REQUIREMENTS FOR VARIOUS COMMUNICATIONS SYSTEMS INCLUDING BUT NOT LIMITED TO TELECOMMUNICATIONS DATA/VOICE/VIDEO CABLING INFRASTRUCTURE, ACCESS CONTROL, AND ELECTRONIC SURVEILLANCE SYSTEMS.
2. GENERAL CONDUIT ROUTING IS SHOWN AND SHALL BE COORDINATED WITH ALL TRADES. ALL TELECOMMUNICATIONS RACEWAY SHALL CONFORM TO THE RECOMMENDATIONS OF TIA/EIA 569.
3. RACEWAYS SHALL BE SIZED PER THE RECOMMENDATIONS OF TIA/EIA 569 UNLESS OTHERWISE STATED. PROVIDE RACEWAYS FROM EACH ACCESS CONTROL DEVICE TO ABOVE FINISHED CEILING. CONCEAL CABLING IN ALL LOCATIONS.
4. DEVICE LOCATIONS SHOWN ON DRAWINGS INDICATE GENERAL LOCATIONS. VERIFY EXACT LOCATIONS AND MOUNTING CONDITIONS WITH ARCHITECTURAL DETAILS AND PLANS. COORDINATE INSTALLATIONS WITH OTHER TRADES AND EXISTING CONDITIONS.
5. PROVIDE TYPE 106 AND DECORA MOUNTING STRAPS AS REQUIRED TO MOUNT JACKS INTO VARIOUS FACEPLATE STYLES INCLUDING FLOOR BOXES AND SURFACE RACEWAYS. ALL SURFACE MOUNTED RACEWAYS SHALL BE CONFIGURED WITH BEND RADII THAT WILL ACCEPT FUTURE FIBER OPTIC CABLING.
6. WORK SHALL BE INSTALLED IN ACCORDANCE WITH THE N.E.C. AND ALL RULES AND REGULATIONS OF THE LOCAL MUNICIPALITY.
7. WORK SHALL MEET THE APPROVAL OF THE OWNER'S REPRESENTATIVE.
8. EQUIPMENT SHALL BEAR U.L. LABELS AND BE GROUNDED AND BONDED IN ACCORDANCE WITH THE N.E.C.
9. INSTALL ALL CONDUIT TIGHT TO UNDERSIDE OF THE FLOOR SLAB ABOVE. LOCATE JUNCTION BOXES AS REQUIRED TO ALLOW ACCESS AFTER MECHANICAL EQUIPMENT AND DUCTWORK IS INSTALLED. COORDINATE EXACT LOCATIONS WITH THE PROJECT CONTRACTORS.
10. THE USE OF APPROVED TYPE EXPANSION FITTINGS SHALL BE REQUIRED ON ALL RACEWAYS WHICH CROSS ANY BUILDING EXPANSION JOINTS.
11. VERIFY SMR LOCATIONS IN REFERENCE TO EXISTING CONDITIONS. PROVIDE VERTICAL OFFSETS AS REQUIRED WHEN SMR ELEVATION CHANGES AS WELL AS FACTORY ELBOWS AND MISC. END PLATES.
12. SMR SHALL BE ATTACHED TO THE WALL WITH PLUG AND SCREWS. TAP CONS ARE NOT PERMITTED. THE USE OF ADHESIVE TAPE AND BACKING IS NOT PERMITTED.
13. COORDINATE CEILING TYPES WITH FIELD CONDITIONS.
14. FIELD VERIFY WALL CONSTRUCTION TYPES.
15. ALL CEILING MOUNTED DEVICES SHALL BE MOUNTED IN THE CENTER OF THE CEILING TILES,UNLESS OTHERWISE NOTED.
16. MAINTAIN ACCESS TO ACCESS CONTROL,TECHNOLOGY, AND ELECTRONIC SURVEILLANCE SYSTEMS OPEN RACEWAYS ABOVE LAY-IN CEILINGS.
17. COORDINATE ROUTING OF COMMUNICATIONS CABLING TO MAINTAIN MINIMUM 12" VERTICAL CLEARANCE ABOVE THE SUPPORTS, IN ADDITION TO MINIMUM 6" CLEARANCE ON AT LEAST ONE SIDE OF SUPPORTS. MAINTAIN ACCESSIBILITY OF CABLING IN ALL LOCATIONS.
18. PROTECT CABLING TO AVOID PAINTING AND EXPOSURE OF OTHER LIQUIDS TO TECHNOLOGY CABLING (INCLUDING BUT NOT LIMITED TO TELECOMMUNICATIONS DATA/VOICE/VIDEO CABLING INFRASTRUCTURE, AUDIOVISUAL SYSTEMS, ACCESS CONTROL AND ELECTRONIC SURVEILLANCE SYSTEMS).
19. CONTRACTOR SHALL NOTIFY OWNER PRIOR TO BIDDING OF ANY CABLING LENGTHS THAT EXCEED TIA/EIA BICSI RECOMMENDATIONS.

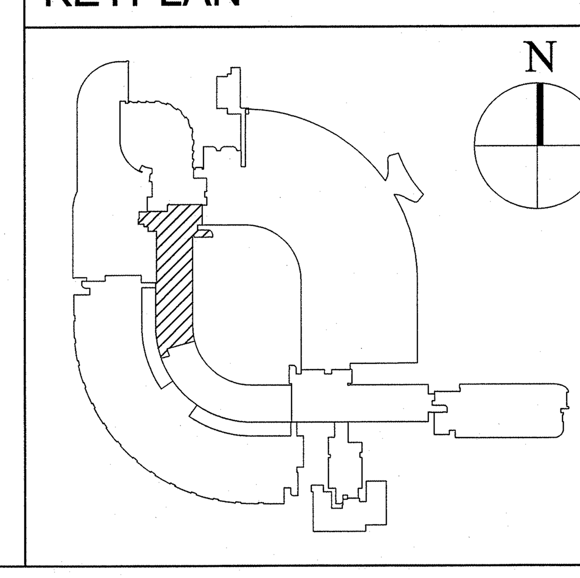
DEMOLITION NOTES

1. THE CONTRACTOR SHALL COORDINATE DEMOLITION WORK WITH THE OWNER PRIOR TO STARTING WORK
2. THE CONTRACTOR SHALL COORDINATE ALL POWER AND COMMUNICATIONS SHUTDOWNS WITH THE OWNER. THE CONTRACTOR SHALL GIVE A MINIMUM OF TWO WEEKS NOTICE FOR ANY SHUTDOWN.
3. THE CONTRACTOR SHALL COORDINATE THE REMOVAL AND DISCONNECTING OF ANY DEVICES WITH THE OWNER PRIOR TO PROCEEDING.
4. THE EXISTING INFORMATION PROVIDED ON THESE PLANS IS BASED ON FIELD OBSERVATIONS AND/OR RECORD DRAWINGS AVAILABLE AT THE TIME OF DESIGN. THE INFORMATION SHOWN IS NOT NECESSARILY COMPLETE. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THE ACCURACY OF THE DESIGN DOCUMENTS, AND IDENTIFY RESOLUTIONS TO ANY CONFLICTS PRIOR COMMENCING WORK.
5. THE LOCATIONS OF PIPING, CONDUIT, ELECTRICAL DEVICES, TECHNOLOGY DEVICES, ETC ARE THE APPROCXIMATE AND ARE SHOWN FOR INFORMATION ONLY. THE CONTRACTOR IS RESPONSIBLE FOR LOCATING EXISTING ITEMS.
6. ALL REMOVED DEVICES AND ITEMS NOTED TO BE SAVED ON THE DRAWING SHALL BE TURNED OVER TO THE OWNER. ITEMS REMOVED ABOVE SHALL BECOME THE PROPERTY OF THE OWNER UNLESS OTHERWISE NOTED. IF THE OWNER HAS NO USE FOR ANY OF THE ITEMS, REMOVE THEM FROM THE SITE.
7. ANY NEW INSTALLATION REQUIRED TO MAINTAIN CONTINUITY OF SERVICES MUST BE IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE (NEC).

ALTERNATES

1. STAIR LS4 ADD ALTERNATE: REMOVE AND REPLACE LIGHTING FIXTURES IN STAIR LS4 - THIRD FLOOR THROUGH SUB-BASEMENT. PROVIDE COMBINATION SPEAKER/STROBE LIGHT FIRE ALARM DEVICES - THIRD FLOOR THROUGH SUB-BASEMENT. REFER TO DRAWING E533 FOR SCOPE OF WORK.
2. AHU-L5 ADD ALTERNATE: INSTALL ALL ELECTRICAL WORK ASSOCIATED WITH AHU-L5 AND RF-L5. REFER TO PENTHOUSE LEVEL DRAWINGS FOR SCOPE OF WORK.
3. BUS PLUG DEDUCT ALTERNATE: PROVIDE REFURBISHED BUS PLUG CIRCUIT BREAKERS IN LIEU OF NEW BUS PLUG CIRCUIT BREAKERS. REFER TO ELECTRICAL SPECIFICATIONS.

KEYPLAN



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STATE OF CONNECTICUT PAUL M. POHLOD NO. 31034 PROFESSIONAL ENGINEER

NOT FOR CONSTRUCTION

UCONN HEALTH

Main Building Renovation

Building L - Project 2

263 Farmington Ave
Farmington, CT 06032

Revisions

No.	Date	Description
1	09/17/15	Bulk Material Take Offs For Early Demo
2	10/19/15	Issue for Bid and Code Review
3	11/02/15	ADDENDUM #01

Drawing Name

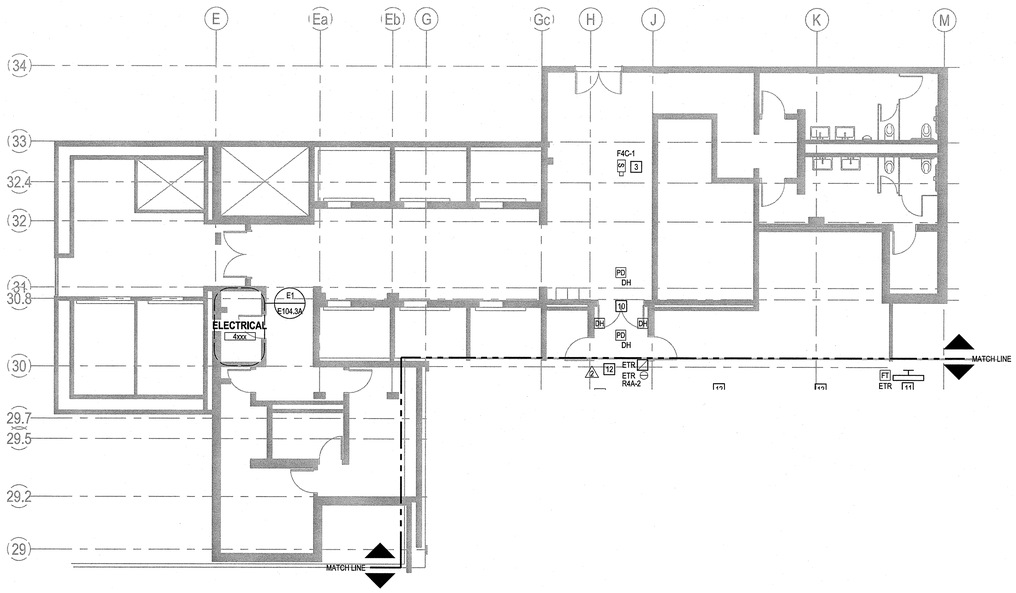
ELECTRICAL SYMBOLS AND ABBREVIATIONS

Project No. 218010732

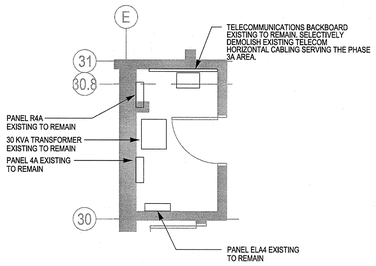
Drawing Number

E001

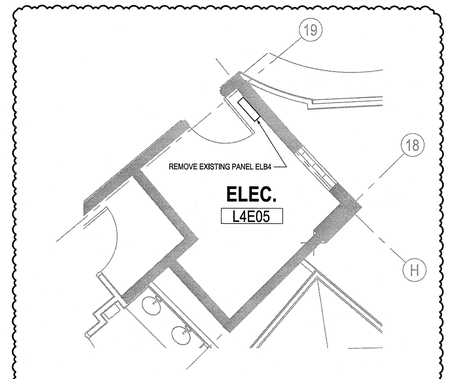
1.4



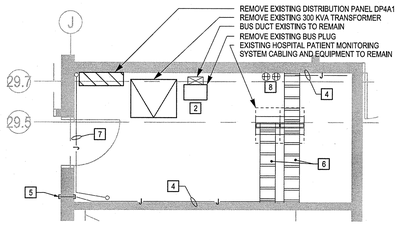
C1 FLOOR PLAN - PHASE 3A - FOURTH FLOOR PART 2 - ELECTRICAL DEMOLITION
1/8"=1'-0"



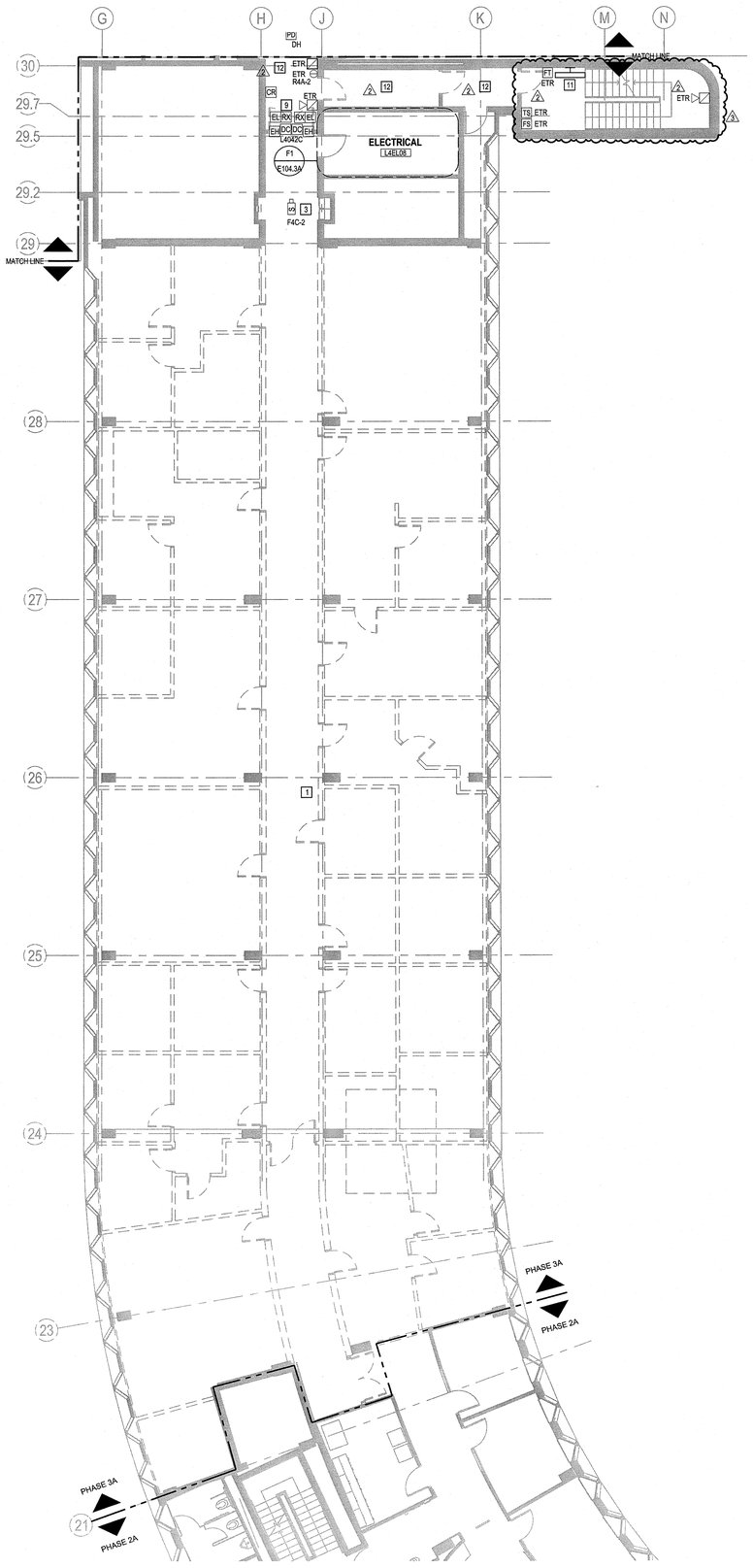
E1 ENLARGED ELECTRICAL ROOM - DEMOLITION
1/4"=1'-0"



E3 ENLARGED RISER "B" ELECTRICAL ROOM - DEMOLITION
1/4"=1'-0"



F1 ENLARGED ELECTRICAL ROOM - DEMOLITION
1/4"=1'-0"



F5 FLOOR PLAN - PHASE 3A - FOURTH FLOOR PART 1 - ELECTRICAL DEMOLITION
1/8"=1'-0"

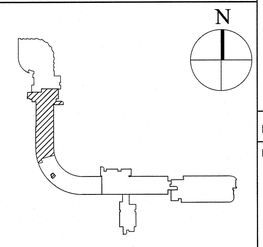
GENERAL NOTES

1. PERMANENTLY REMOVE ELECTRICAL EQUIPMENT, LIGHTING, FIXTURES, TELECOMMUNICATION DEVICES, AV DEVICES, SECURITY DEVICES, FIRE ALARM, JUNCTION BOXES, ELECTRICAL DEVICES AND ASSOCIATED WIRE, CONDUIT, AND/OR JUNCTION BOXES IN AREA BEING DEMOLISHED.
2. REMOVE ABANDONED CONDUIT, WIRE, JUNCTION BOXES, ETC. WITHIN DEMOLITION AREA EVEN THOUGH THEY ARE NOT SHOWN ON PLAN.
3. POWER OUTAGES SHALL BE FOR MINIMUM DURATION AT OFF HOURS AS DIRECTED BY THE OWNER.
4. THE CONTINUITY OF EXISTING CIRCUITS THAT MAY BE INTERRUPTED BY THE ALTERATION EVEN THOUGH THEY MAY NOT BE INDICATED ON THE DRAWINGS, SHALL BE MAINTAINED.
5. ELECTRICAL EQUIPMENT, FIXTURES, AND/OR DEVICES SCHEDULED TO REMAIN OR TO BE RELOCATED THAT ARE DAMAGED DURING DEMOLITION SHALL BE REPLACED WITH SIMILAR TYPE AS APPROVED BY THE OWNER, AT NO ADDITIONAL CHARGE TO THE OWNER.
6. PATCH HOLES AND REPLACE DAMAGED MATERIAL CAUSED BY DEMOLITION WORK. HOLES IN FLOOR SLABS SHALL BE FILLED WITH FIRE SAFING. REFER TO SPECIFICATION SECTION 078413.
7. IN THE EVENT THAT DEMOLITION WORK AFFECTS THE STRUCTURAL SUPPORT OF EXISTING ELECTRICAL EQUIPMENT THAT IS TO REMAIN IN SERVICE, IT SHALL BE RE-SUPPORTED IN ACCORDANCE WITH ALL APPLICABLE CODES.
8. PROVIDE TEMPORARY POWER AND LIGHTING FIXTURES WITH LAMPS OF WATTAGE REQUIRED FOR ADEQUATE ILLUMINATION. TEMPORARY LIGHTING FIXTURES AND WIRING SHALL REMAIN IN PLACE FOR USE BY CONTRACTORS. REMOVE FIXTURES AND WIRING AT THE COMPLETION OF THIS PROJECT.
9. THE REMOVAL OR RELOCATION OF EXISTING ELECTRICAL EQUIPMENT PRESENTLY CONCEALED IN EXISTING CONSTRUCTION SHALL BE COORDINATED WITH THE OWNER PRIOR TO REMOVAL OR RELOCATION.
10. THE OWNER SHALL REVIEW EQUIPMENT ITEMS INDICATED FOR REMOVAL. REMOVE ALL EQUIPMENT THE OWNER WISHES TO RETAIN TO A SITE AS DESIGNATED BY THE OWNER. REMOVE PROMPTLY FROM SITE ALL MATERIALS AND EQUIPMENT INDICATED FOR REMOVAL, WHICH ARE NOT SPECIFIED FOR REUSE, STORAGE, OR RETAINED BY THE OWNER.
11. BUILDING FIRE ALARM SYSTEM, SECURITY SYSTEM, AND TELECOMMUNICATIONS CABLING PLANT SHALL REMAIN FULLY OPERATIONAL DURING DEMOLITION. CONTINUITY OF ALL CIRCUITS SERVING EXISTING AREAS AND EXISTING TO REMAIN FIRE ALARM AND SECURITY DEVICES SHALL BE MAINTAINED THROUGHOUT THE DEMOLITION WORK.

KEY NOTES

1. ELECTRICAL SCOPE OF WORK FOR AREA 3A SHALL BE DEFINED BY THE SAME BOUNDARIES AS THE ARCHITECTURAL AREA 3A DEFINITION.
2. PROVIDE COVER PLATE FOR BUS DUCT CONNECTION OPENING LEFT EXPOSED BY DEMOLITION UNTIL NEW BUS DUCT CONNECTION IS PROVIDED UNDER NEW WORK.
3. REMOVE AND STORE EXISTING CAMERA DURING CONSTRUCTION WITHIN ACTIVE WORK ZONES.
4. EXISTING CABLING IN NON-CONTINUOUS OPEN TOP CABLE SUPPORT (J-HOOKS) TO REMAIN.
5. EXISTING SLEEVE FOR SECURITY CABLING TO REMAIN. PROVIDE PENETRATION FIRESTOPPING FOR TWO HOUR RATING.
6. EXISTING CABLE TRAY TO REMAIN.
7. EXISTING SECURITY RISER CABLING IN NON-CONTINUOUS OPEN TOP CABLE SUPPORTS (J-HOOKS) TO REMAIN. PROVIDE PENETRATION FIRESTOPPING FOR TWO HOUR RATING.
8. EXISTING RECEPTACLES SERVING TELECOM RACK AND EQUIPMENT TO REMAIN. RETAIN EXISTING CIRCUIT SERVING RECEPTACLES FROM SECOND FLOOR ELECTRICAL PANELS EL2-RA AND EL2S-RA.
9. ACCESS CONTROL DOOR COMPONENTS SHALL BE EXISTING TO REMAIN.
10. EXISTING MAGNETIC DOOR HOLD OPEN DEVICE AND ASSOCIATED SMOKE DETECTORS SHALL BE EXISTING TO REMAIN.
11. REMOVE EXISTING STAIR LIGHTING FIXTURES FROM FOURTH FLOOR TO PENTHOUSE FLOOR. REFER TO DRAWING E533 FOR DEMOLITION WORK ASSOCIATED WITH ADD ALTERNATE.
12. REMOVE EXISTING LIGHTING FROM THIS ROOM. ALL OTHER EXISTING ELECTRICAL DEVICES TO REMAIN, UNLESS NOTED OTHERWISE.

KEYPLAN



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UCONN HEALTH

Main Building Renovation

Building L - Project 2

263 Farmington Ave
Farmington, CT 06032

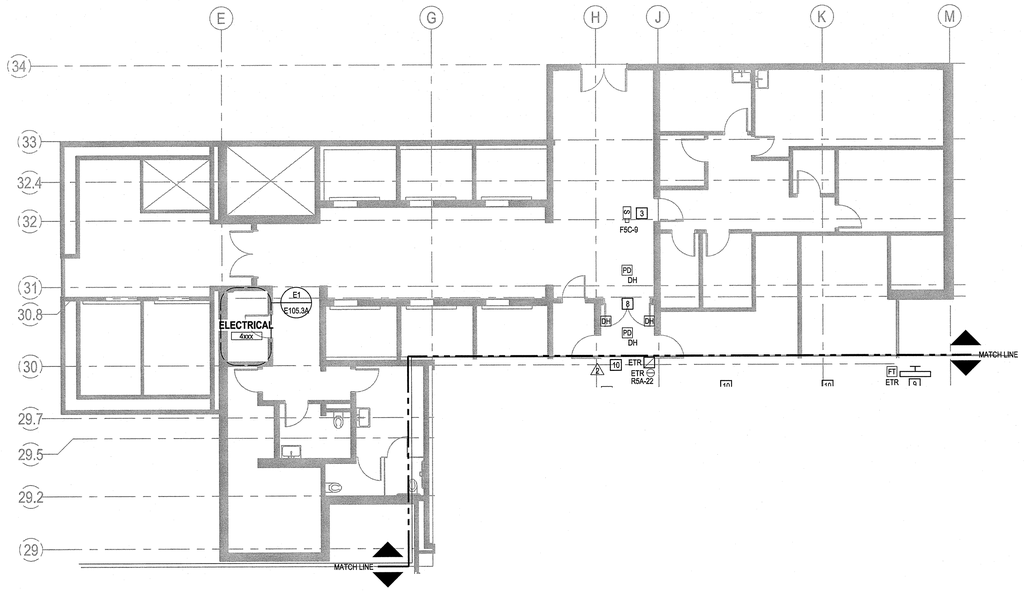
Revisions

No.	Date	Description
1	09/17/15	Bulk Material Take Offs For Early Demo
2	10/19/15	Issue for Bld and Code Review
3	11/02/15	Addendum #01

Drawing Name
FLOOR PLAN - PHASE 3A - FOURTH FLOOR - ELECTRICAL DEMOLITION

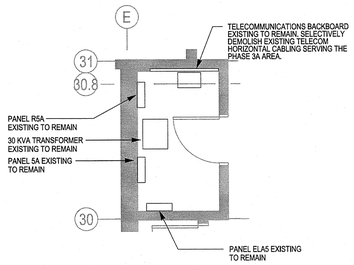
Project No. 218010732

Drawing Number
E104.3A



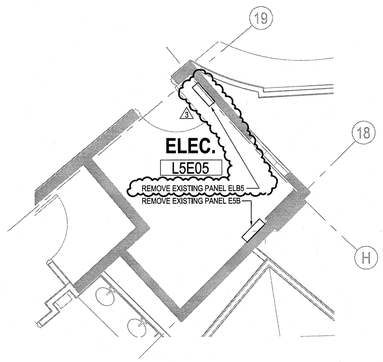
C1 FLOOR PLAN - PHASE 3A - FIFTH FLOOR PART 2 - ELECTRICAL DEMOLITION

1/8"=1'-0"



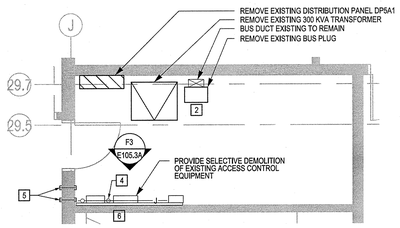
E1 ENLARGED ELECTRICAL ROOM - DEMOLITION

1/4"=1'-0"



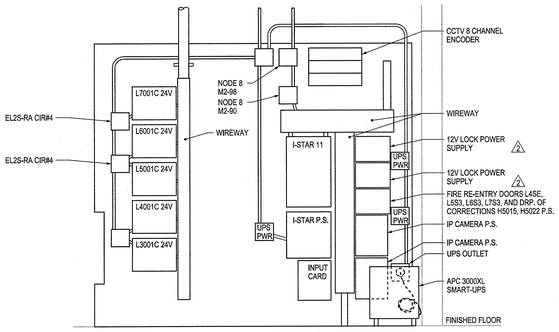
E3 ENLARGED RISER "B" ELECTRICAL ROOM - DEMOLITION

1/4"=1'-0"



F1 ENLARGED ELECTRICAL ROOM - DEMOLITION

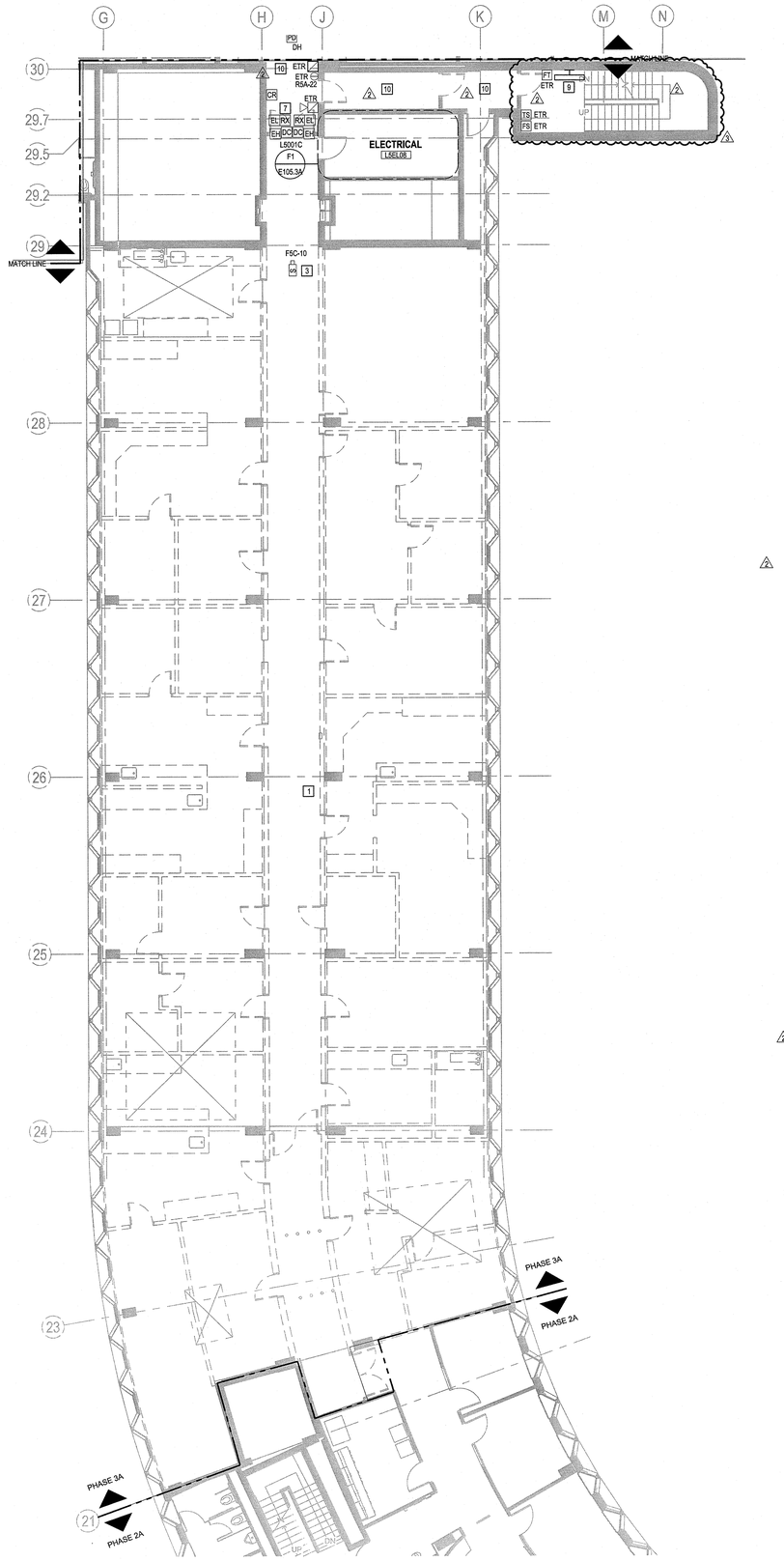
1/4"=1'-0"



F3 EXISTING SECURITY PANELS - ELEVATION

NTS

NOTE: 1. PERFORM SELECTIVE DEMOLITION OF EXISTING SECURITY EQUIPMENT ASSOCIATED ONLY WITH DEVICES INDICATED TO BE DEMOLISHED.



F5 FLOOR PLAN - PHASE 3A - FIFTH FLOOR PART 1 - ELECTRICAL DEMOLITION

1/8"=1'-0"

GENERAL NOTES

1. PERMANENTLY REMOVE ELECTRICAL EQUIPMENT, LIGHTING, FIXTURES, TELECOMMUNICATION DEVICES, AV DEVICES, SECURITY DEVICES, FIRE ALARM, JUNCTION BOXES, ELECTRICAL DEVICES AND ASSOCIATED WIRE, CONDUIT, AND/OR JUNCTION BOXES IN AREA BEING DEMOLISHED.
2. REMOVE ABANDONED CONDUIT, WIRE, JUNCTION BOXES, ETC. WITHIN DEMOLITION AREA EVEN THOUGH THEY ARE NOT SHOWN ON PLAN.
3. POWER OUTAGES SHALL BE FOR MINIMUM DURATION AT OFF HOURS AS DIRECTED BY THE OWNER.
4. THE CONTINUITY OF EXISTING CIRCUITS THAT MAY BE INTERRUPTED BY THE ALTERATION EVEN THOUGH THEY MAY NOT BE INDICATED ON THE DRAWINGS, SHALL BE MAINTAINED.
5. ELECTRICAL EQUIPMENT, FIXTURES, AND/OR DEVICES SCHEDULED TO REMAIN OR TO BE RELOCATED THAT ARE DAMAGED DURING DEMOLITION SHALL BE REPLACED WITH SIMILAR TYPE AS APPROVED BY THE OWNER, AT NO ADDITIONAL CHARGE TO THE OWNER.
6. PATCH HOLES AND REPLACE DAMAGED MATERIAL CAUSED BY DEMOLITION WORK. HOLES IN FLOOR SLABS SHALL BE FILLED WITH FIRE SAFING. REFER TO SPECIFICATION SECTION 078413.
7. IN THE EVENT THAT DEMOLITION WORK AFFECTS THE STRUCTURAL SUPPORT OF EXISTING ELECTRICAL EQUIPMENT THAT IS TO REMAIN IN SERVICE, IT SHALL BE RE-SUPPORTED IN ACCORDANCE WITH ALL APPLICABLE CODES.
8. PROVIDE TEMPORARY POWER AND LIGHTING FIXTURES WITH LAMPS OF WATTAGE REQUIRED FOR ADEQUATE ILLUMINATION. TEMPORARY LIGHTING FIXTURES AND WIRING SHALL REMAIN IN PLACE FOR USE BY CONTRACTORS. REMOVE FIXTURES AND WIRING AT THE COMPLETION OF THIS PROJECT.
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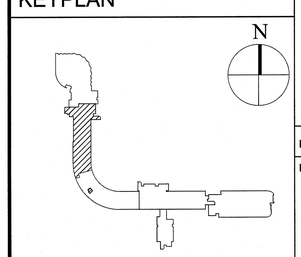
KEY NOTES

1. ELECTRICAL SCOPE OF WORK FOR AREA 3A SHALL BE DEFINED BY THE SAME BOUNDARIES AS THE ARCHITECTURAL AREA 3A DEFINITION.
2. PROVIDE COVER PLATE FOR BUS DUCT CONNECTION OPENING LEFT EXPOSED BY DEMOLITION UNTIL NEW BUS DUCT CONNECTION IS PROVIDED UNDER NEW WORK.
3. REMOVE AND STORE EXISTING CAMERA DURING CONSTRUCTION WITHIN ACTIVE WORK ZONES.
4. EXISTING SECURITY RISER CABLING IN NON-CONTINUOUS OPEN TOP CABLE SUPPORTS (J-HOOKS) TO REMAIN. PROVIDE PENETRATION FIRESTOPPING FOR TWO HOUR RATING.
5. EXISTING SLEEVE FOR SECURITY CABLING TO REMAIN. PROVIDE PENETRATION FIRESTOPPING FOR TWO HOUR RATING.
6. RETAIN POWER CIRCUIT SERVING SECURITY EQUIPMENT FROM SECOND FLOOR ELECTRICAL PANEL EL2-RA.
7. ACCESS CONTROL DOOR COMPONENTS SHALL BE EXISTING TO REMAIN.
8. EXISTING MAGNETIC DOOR HOLD OPEN DEVICE AND ASSOCIATED SMOKE DETECTORS SHALL BE EXISTING TO REMAIN.
9. REMOVE EXISTING STAIR LIGHTING FIXTURES FROM FOURTH FLOOR TO PENTHOUSE FLOOR. REFER TO DRAWING E533 FOR DEMOLITION WORK ASSOCIATED WITH ADD ALTERNATE.
10. REMOVE EXISTING LIGHTING FROM THIS ROOM. ALL OTHER EXISTING ELECTRICAL DEVICES TO REMAIN, UNLESS NOTED OTHERWISE.

KEYPLAN



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UCONN HEALTH

Main Building Renovation

Building L - Project 2

263 Farmington Ave
Farmington, CT 06032

Revisions

No.	Date	Description
1	09/17/15	Bulk Material Take Offs For Early Demo
2	10/19/15	Issue for Bld and Code Review
3	11/02/15	Addendum #01

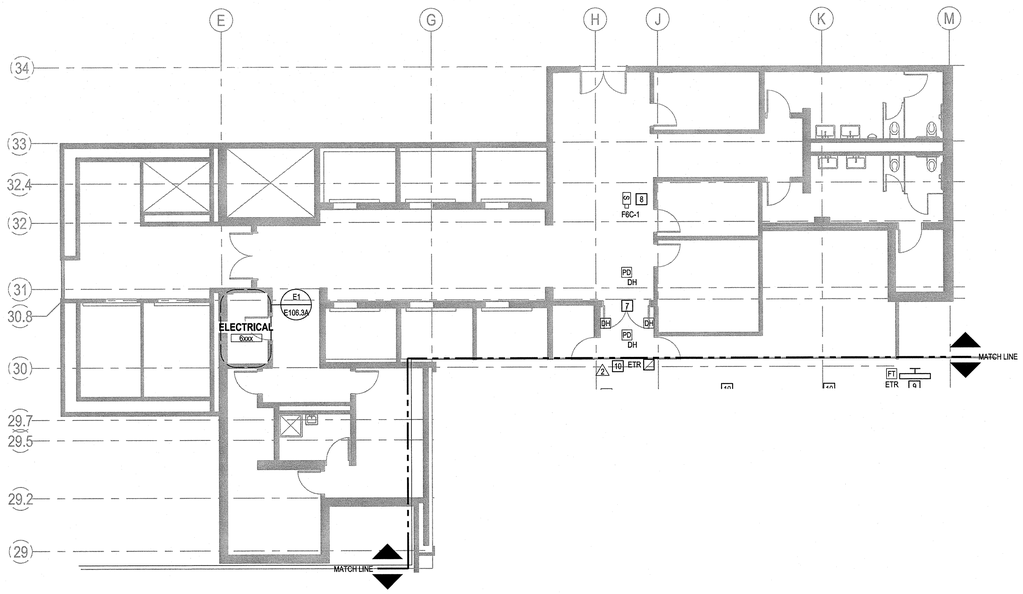
Drawing Name

FLOOR PLAN - PHASE 3A - FIFTH FLOOR - ELECTRICAL DEMOLITION

Project No. 218010732

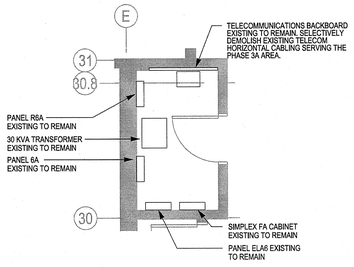
Drawing Number

E105.3A



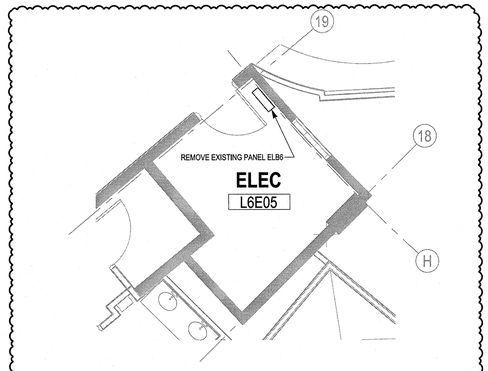
C1 FLOOR PLAN - PHASE 3A - SIXTH FLOOR PART 2 - ELECTRICAL DEMOLITION

1/8"=1'-0"



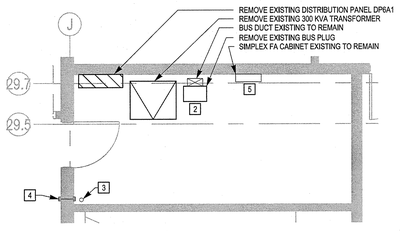
E1 ENLARGED ELECTRICAL ROOM - DEMOLITION

1/4"=1'-0"



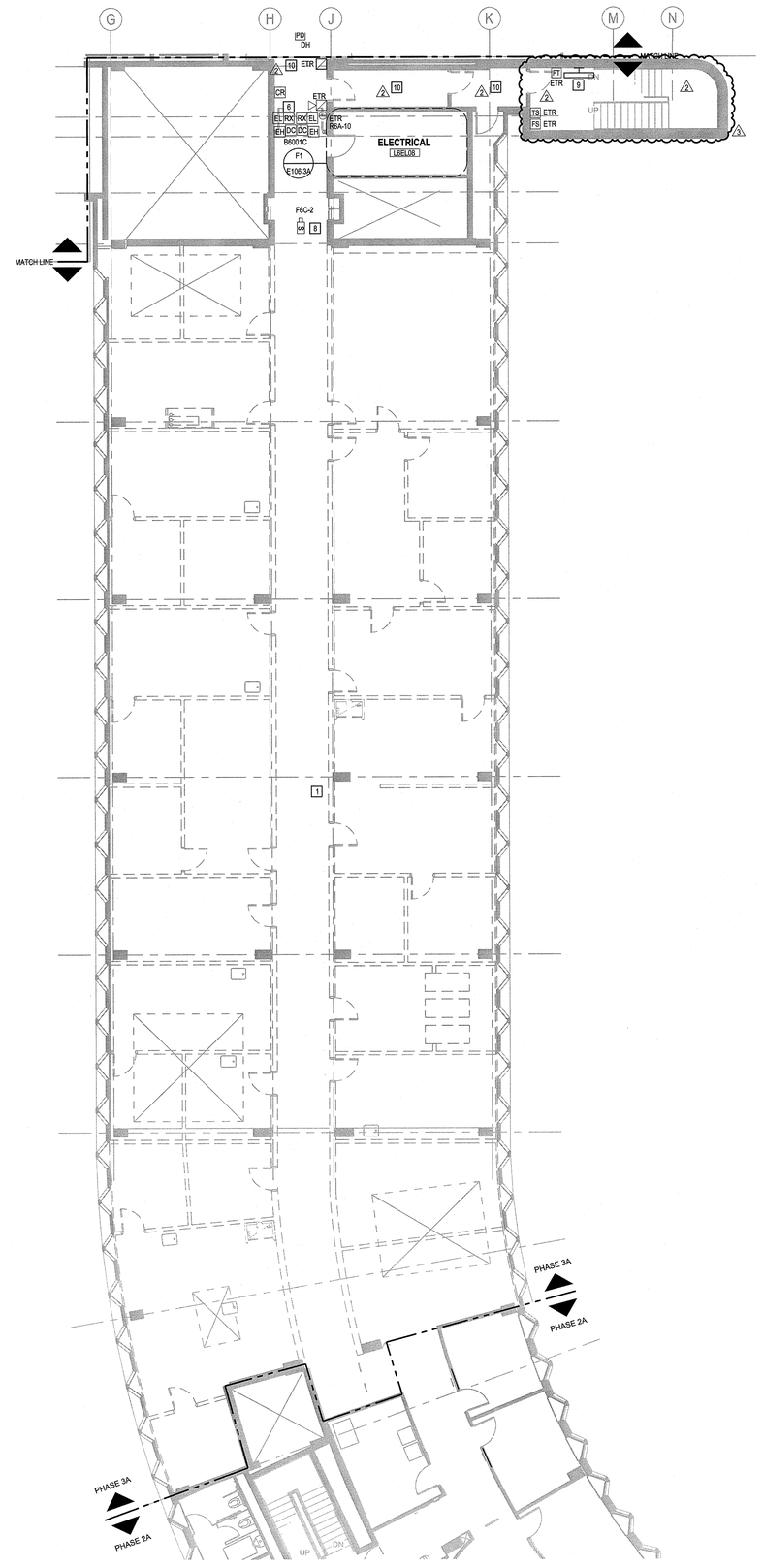
E3 ENLARGED RISER "B" ELECTRICAL ROOM - DEMOLITION

1/4"=1'-0"



F1 ENLARGED ELECTRICAL ROOM - DEMOLITION

1/4"=1'-0"



F5 FLOOR PLAN - PHASE 3A - SIXTH FLOOR PART 1 - ELECTRICAL DEMOLITION

1/8"=1'-0"

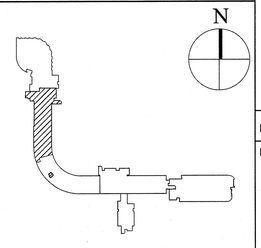
GENERAL NOTES

1. PERMANENTLY REMOVE ELECTRICAL EQUIPMENT, LIGHTING, FIXTURES, TELECOMMUNICATION DEVICES, AV DEVICES, SECURITY DEVICES, FIRE ALARM, JUNCTION BOXES, ELECTRICAL DEVICES AND ASSOCIATED WIRE, CONDUIT, AND/OR JUNCTION BOXES IN AREA BEING DEMOLISHED.
2. REMOVE ABANDONED CONDUIT, WIRE, JUNCTION BOXES, ETC. WITHIN DEMOLITION AREA EVEN THOUGH THEY ARE NOT SHOWN ON PLAN.
3. POWER OUTAGES SHALL BE FOR MINIMUM DURATION AT OFF HOURS AS DIRECTED BY THE OWNER.
4. THE CONTINUITY OF EXISTING CIRCUITS THAT MAY BE INTERRUPTED BY THE ALTERATION EVEN THOUGH THEY MAY NOT BE INDICATED ON THE DRAWINGS, SHALL BE MAINTAINED.
5. ELECTRICAL EQUIPMENT, FIXTURES, AND/OR DEVICES SCHEDULED TO REMAIN OR TO BE RELOCATED THAT ARE DAMAGED DURING DEMOLITION SHALL BE REPLACED WITH SIMILAR TYPE AS APPROVED BY THE OWNER, AT NO ADDITIONAL CHARGE TO THE OWNER.
6. PATCH HOLES AND REPLACE DAMAGED MATERIAL CAUSED BY DEMOLITION WORK. HOLES IN FLOOR SLABS SHALL BE FILLED WITH FIRE SAFING. REFER TO SPECIFICATION SECTION 078413.
7. IN THE EVENT THAT DEMOLITION WORK AFFECTS THE STRUCTURAL SUPPORT OF EXISTING ELECTRICAL EQUIPMENT THAT IS TO REMAIN IN SERVICE, IT SHALL BE RE-SUPPORTED IN ACCORDANCE WITH ALL APPLICABLE CODES.
8. PROVIDE TEMPORARY POWER AND LIGHTING FIXTURES WITH LAMPS OF WATTAGE REQUIRED FOR ADEQUATE ILLUMINATION. TEMPORARY LIGHTING FIXTURES AND WIRING SHALL REMAIN IN PLACE FOR USE BY CONTRACTORS. REMOVE FIXTURES AND WIRING AT THE COMPLETION OF THIS PROJECT.
9. THE REMOVAL OR RELOCATION OF EXISTING ELECTRICAL EQUIPMENT PRESENTLY CONCEALED IN EXISTING CONSTRUCTION SHALL BE COORDINATED WITH THE OWNER PRIOR TO REMOVAL OR RELOCATION.
10. THE OWNER SHALL REVIEW EQUIPMENT ITEMS INDICATED FOR REMOVAL. REMOVE ALL EQUIPMENT THE OWNER WISHES TO RETAIN TO A SITE AS DESIGNATED BY THE OWNER. REMOVE PROMPTLY FROM SITE ALL MATERIALS AND EQUIPMENT INDICATED FOR REMOVAL, WHICH ARE NOT SPECIFIED FOR REUSE, STORAGE, OR RETAINED BY THE OWNER.
11. BUILDING FIRE ALARM SYSTEM, SECURITY SYSTEM, AND TELECOMMUNICATIONS CABLING PLANT SHALL REMAIN FULLY OPERATIONAL DURING DEMOLITION. CONTINUITY OF ALL CIRCUITS SERVING EXISTING AREAS AND EXISTING TO REMAIN FIRE ALARM AND SECURITY DEVICES SHALL BE MAINTAINED THROUGHOUT THE DEMOLITION WORK.

KEY NOTES

1. ELECTRICAL SCOPE OF WORK FOR AREA 3A SHALL BE DEFINED BY THE SAME BOUNDARIES AS THE ARCHITECTURAL AREA 3A DEFINITION.
2. PROVIDE COVER PLATE FOR BUS DUCT CONNECTION OPENING LEFT EXPOSED BY DEMOLITION UNTIL NEW BUS DUCT CONNECTION IS PROVIDED UNDER NEW WORK.
3. EXISTING SECURITY RISER CABLING IN NON-CONTINUOUS OPEN TOP CABLE SUPPORT (J-HOOKS) TO REMAIN. PROVIDE PENETRATION FIRESTOPPING FOR TWO HOUR RATING.
4. EXISTING SLEEVE FOR SECURITY CABLING TO REMAIN. PROVIDE PENETRATION FIRESTOPPING FOR TWO HOUR RATING.
5. RETAIN EXISTING POWER CIRCUIT SERVING FIRE ALARM CABINET FROM PANEL ELA6.
6. ACCESS CONTROL DOOR COMPONENTS SHALL BE EXISTING TO REMAIN.
7. EXISTING MAGNETIC DOOR HOLD OPEN DEVICE AND ASSOCIATED SMOKE DETECTORS SHALL BE EXISTING TO REMAIN.
8. REMOVE AND STORE EXISTING CAMERA DURING CONSTRUCTION WITHIN ACTIVE WORK ZONES.
9. REMOVE EXISTING STAIR LIGHTING FIXTURES FROM FOURTH FLOOR TO PENTHOUSE FLOOR. REFER TO DRAWING E533 FOR DEMOLITION WORK ASSOCIATED WITH ADD ALTERNATE.
10. REMOVE EXISTING LIGHTING FROM THIS ROOM. ALL OTHER EXISTING ELECTRICAL DEVICES TO REMAIN, UNLESS NOTED OTHERWISE.

KEYPLAN



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Main Building Renovation

Building L - Project 2

263 Farmington Ave
Farmington, CT 06032

Revisions

No.	Date	Description
1	09/17/15	Bulk Material Take Offs For Early Demo
2	10/19/15	Issue for Bld and Code Review
3	11/02/15	Addendum #01

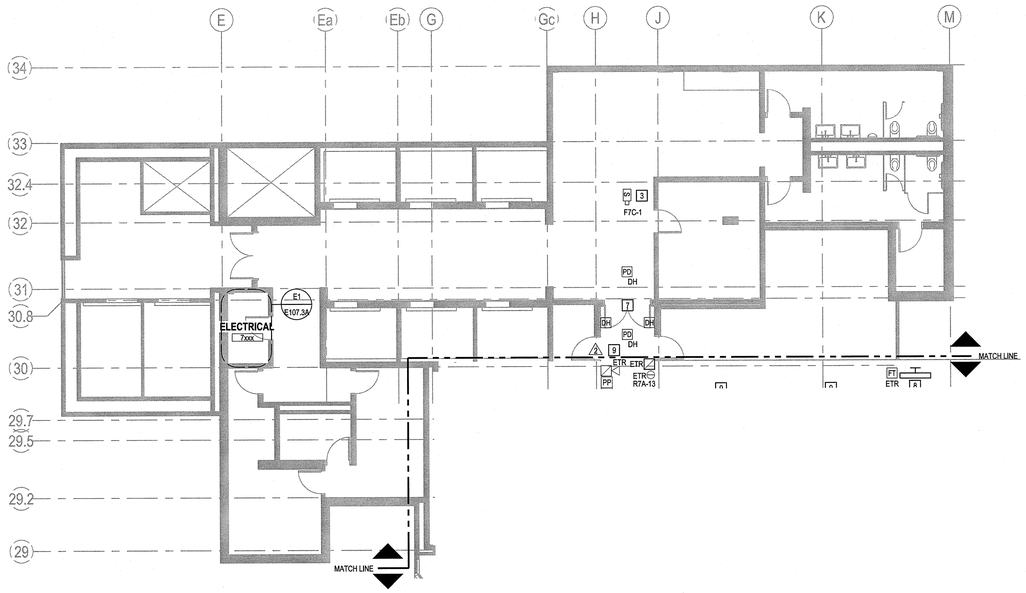
Drawing Name

FLOOR PLAN - PHASE 3A - SIXTH FLOOR - ELECTRICAL DEMOLITION

Project No. 218010732

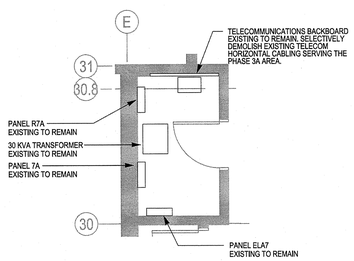
Drawing Number

E106.3A



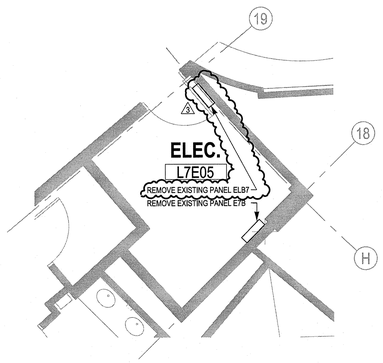
C1 FLOOR PLAN - PHASE 3A - SEVENTH FLOOR PART 2 - ELECTRICAL DEMOLITION

1/8"=1'-0"



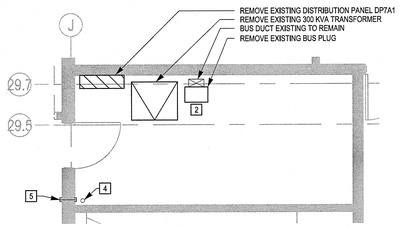
E1 ENLARGED ELECTRICAL ROOM - DEMOLITION

1/4"=1'-0"



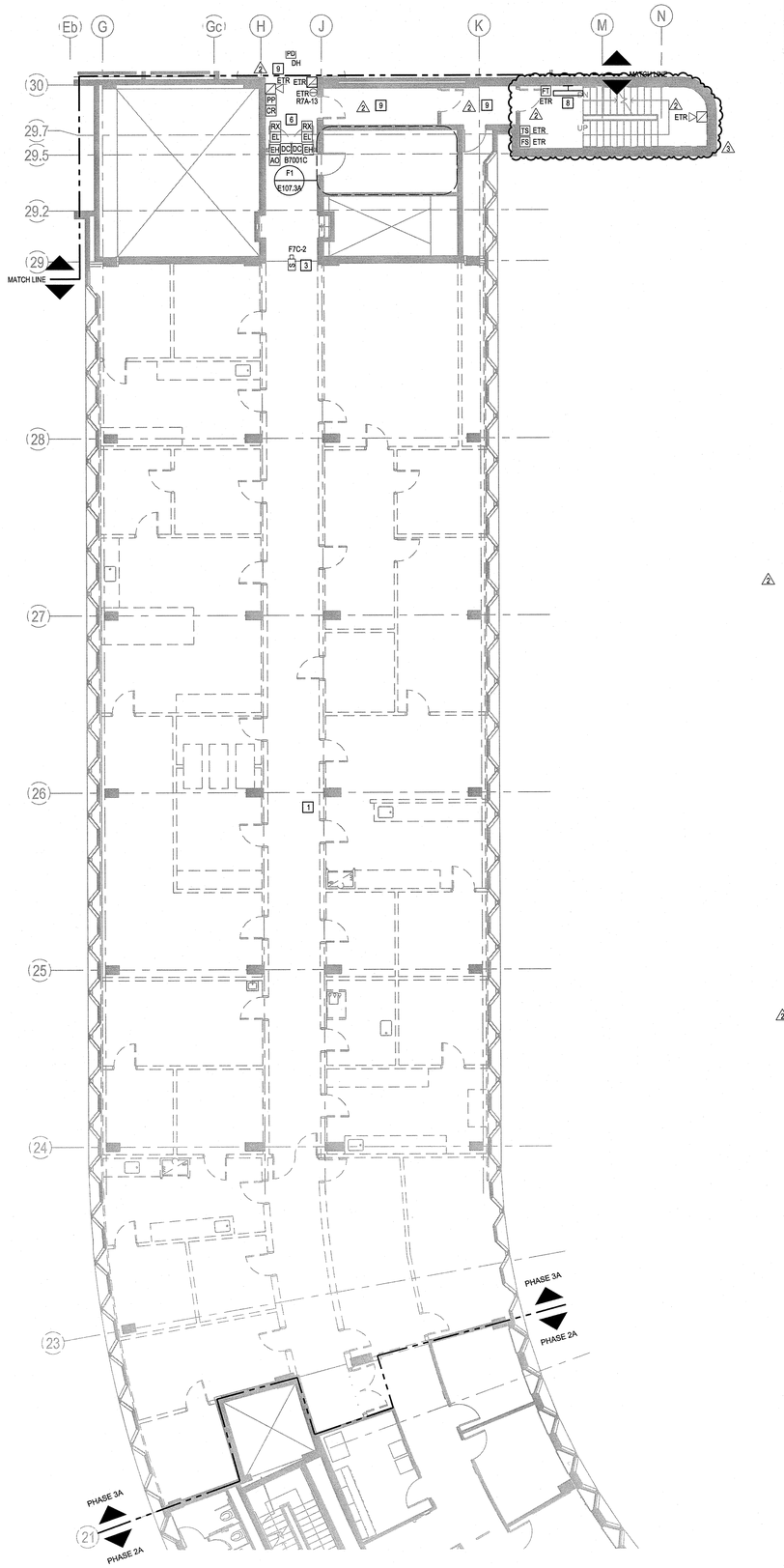
E3 ENLARGED RISER "B" ELECTRICAL ROOM - DEMOLITION

1/4"=1'-0"



F1 ENLARGED ELECTRICAL ROOM - DEMOLITION

1/4"=1'-0"



F5 FLOOR PLAN - PHASE 3A - SEVENTH FLOOR PART 1 - ELECTRICAL DEMOLITION

1/8"=1'-0"

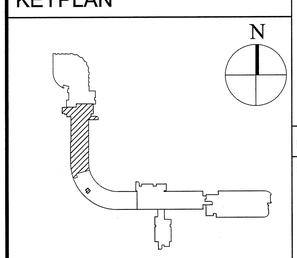
GENERAL NOTES

1. PERMANENTLY REMOVE ELECTRICAL EQUIPMENT, LIGHTING, FIXTURES, TELECOMMUNICATION DEVICES, AV DEVICES, SECURITY DEVICES, FIRE ALARM, JUNCTION BOXES, ELECTRICAL DEVICES AND ASSOCIATED WIRE, CONDUIT, AND/OR JUNCTION BOXES IN AREA BEING DEMOLISHED.
2. REMOVE ABANDONED CONDUIT, WIRE, JUNCTION BOXES, ETC. WITHIN DEMOLITION AREA EVEN THOUGH THEY ARE NOT SHOWN ON PLAN.
3. POWER OUTAGES SHALL BE FOR MINIMUM DURATION AT OFF HOURS AS DIRECTED BY THE OWNER.
4. THE CONTINUITY OF EXISTING CIRCUITS THAT MAY BE INTERRUPTED BY THE ALTERATION EVEN THOUGH THEY MAY NOT BE INDICATED ON THE DRAWINGS, SHALL BE MAINTAINED.
5. ELECTRICAL EQUIPMENT, FIXTURES, AND/OR DEVICES SCHEDULED TO REMAIN OR TO BE RELOCATED THAT ARE DAMAGED DURING DEMOLITION SHALL BE REPLACED WITH SIMILAR TYPE AS APPROVED BY THE OWNER, AT NO ADDITIONAL CHARGE TO THE OWNER.
6. PATCH HOLES AND REPLACE DAMAGED MATERIAL CAUSED BY DEMOLITION WORK. HOLES IN FLOOR SLABS SHALL BE FILLED WITH FIRE SAFING. REFER TO SPECIFICATION SECTION 078413.
7. IN THE EVENT THAT DEMOLITION WORK AFFECTS THE STRUCTURAL SUPPORT OF EXISTING ELECTRICAL EQUIPMENT THAT IS TO REMAIN IN SERVICE, IT SHALL BE RE-SUPPORTED IN ACCORDANCE WITH ALL APPLICABLE CODES.
8. PROVIDE TEMPORARY POWER AND LIGHTING FIXTURES WITH LAMPS OF WATTAGE REQUIRED FOR ADEQUATE ILLUMINATION. TEMPORARY LIGHTING FIXTURES AND WIRING SHALL REMAIN IN PLACE FOR USE BY CONTRACTORS. REMOVE FIXTURES AND WIRING AT THE COMPLETION OF THIS PROJECT.
9. THE REMOVAL OR RELOCATION OF EXISTING ELECTRICAL EQUIPMENT PRESENTLY CONCEALED IN EXISTING CONSTRUCTION SHALL BE COORDINATED WITH THE OWNER PRIOR TO REMOVAL OR RELOCATION.
10. THE OWNER SHALL REVIEW EQUIPMENT ITEMS INDICATED FOR REMOVAL. REMOVE ALL EQUIPMENT THE OWNER WISHES TO RETAIN TO A SITE AS DESIGNATED BY THE OWNER. REMOVE PROMPTLY FROM SITE ALL MATERIALS AND EQUIPMENT INDICATED FOR REMOVAL, WHICH ARE NOT SPECIFIED FOR REUSE, STORAGE, OR RETAINED BY THE OWNER.
11. BUILDING FIRE ALARM SYSTEM, SECURITY SYSTEM, AND TELECOMMUNICATIONS CABLING PLANT SHALL REMAIN FULLY OPERATIONAL DURING DEMOLITION. CONTINUITY OF ALL CIRCUITS SERVING EXISTING AREAS AND EXISTING TO REMAIN FIRE ALARM AND SECURITY DEVICES SHALL BE MAINTAINED THROUGHOUT THE DEMOLITION WORK.

KEY NOTES

1. ELECTRICAL SCOPE OF WORK FOR AREA 3A SHALL BE DEFINED BY THE SAME BOUNDARIES AS THE ARCHITECTURAL AREA 3A DEFINITION.
2. PROVIDE COVER PLATE FOR BUS DUCT CONNECTION OPENING LEFT EXPOSED BY DEMOLITION UNTIL NEW BUS DUCT CONNECTION IS PROVIDED UNDER NEW WORK.
3. REMOVE AND STORE EXISTING CAMERA DURING CONSTRUCTION IN ACTIVE WORK ZONES.
4. EXISTING SECURITY RISER CABLING IN NON-CONTINUOUS OPEN TOP CABLE SUPPORT (J-HOOKS) TO REMAIN. PROVIDE PENETRATION FIRESTOPPING FOR TWO HOUR RATING.
5. EXISTING SLEEVE FOR TELECOM CABLING TO REMAIN. PROVIDE PENETRATION FIRESTOPPING FOR TWO HOUR RATING.
6. ACCESS CONTROL DOOR COMPONENTS SHALL BE EXISTING TO REMAIN.
7. EXISTING MAGNETIC DOOR HOLD OPEN DEVICE AND ASSOCIATED SMOKE DETECTORS SHALL BE EXISTING TO REMAIN.
8. REMOVE EXISTING STAIR LIGHTING FIXTURES FROM FOURTH FLOOR TO PENTHOUSE FLOOR. REFER TO DRAWING ES3 FOR DEMOLITION WORK ASSOCIATED WITH ADD ALTERNATE.
9. REMOVE EXISTING LIGHTING FROM THIS ROOM. ALL OTHER EXISTING ELECTRICAL DEVICES TO REMAIN, UNLESS NOTED OTHERWISE.

KEYPLAN



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Main Building Renovation

Building L - Project 2

263 Farmington Ave
Farmington, CT 06032

Revisions

No.	Date	Description
1	09/17/15	Bulk Material Take Offs For Early Demo
2	10/19/15	Issue for Bld and Code Review
3	11/02/15	Addendum #01

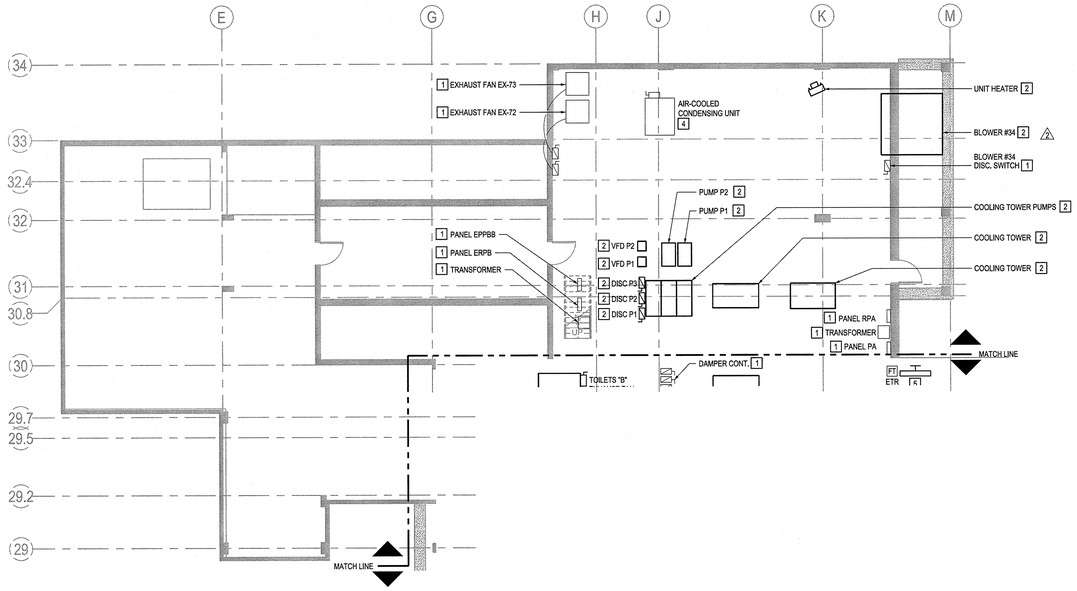
Drawing Name

FLOOR PLAN - PHASE 3A - SEVENTH FLOOR - ELECTRICAL DEMOLITION

Project No. 218010732

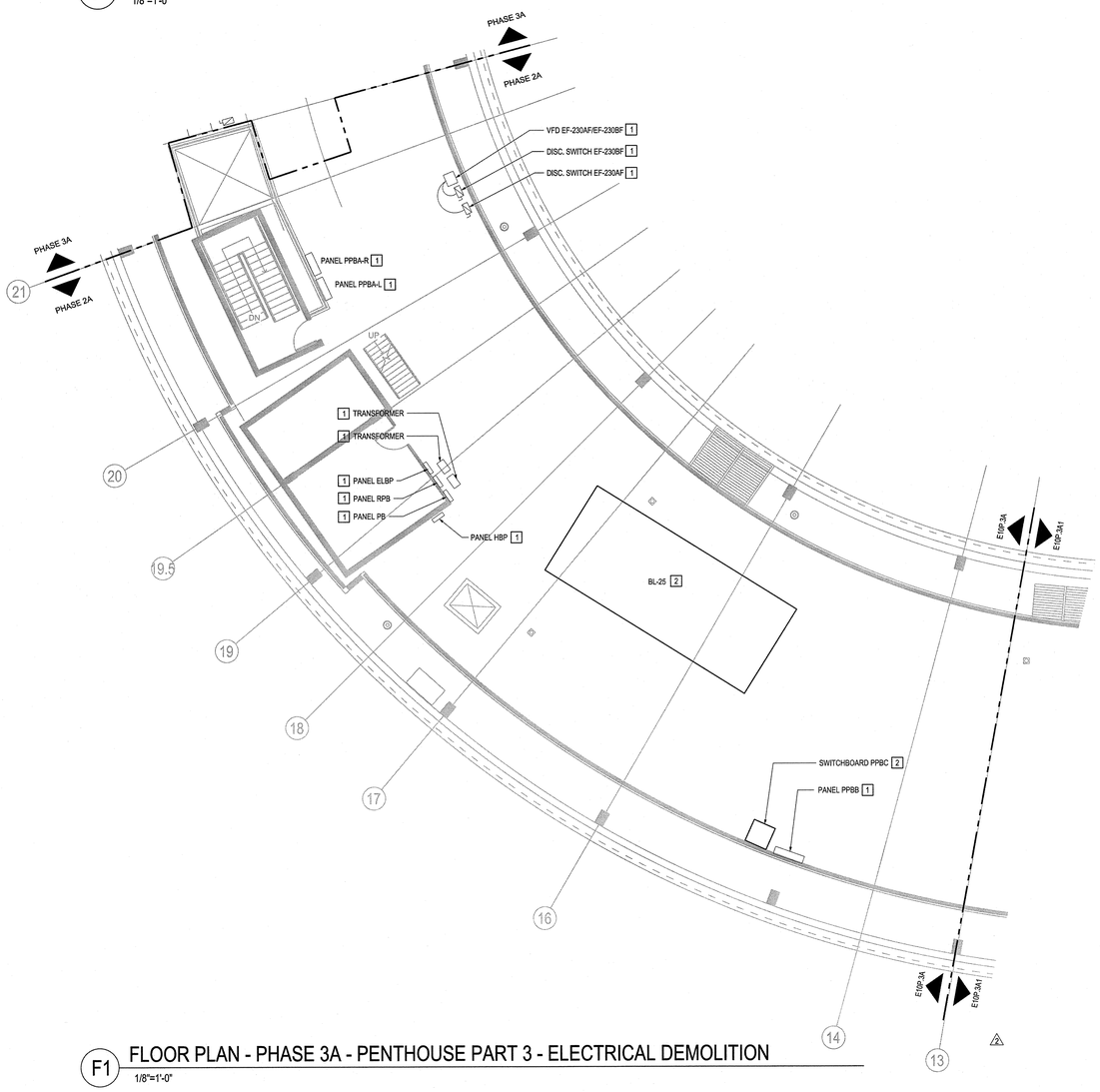
Drawing Number

E107.3A



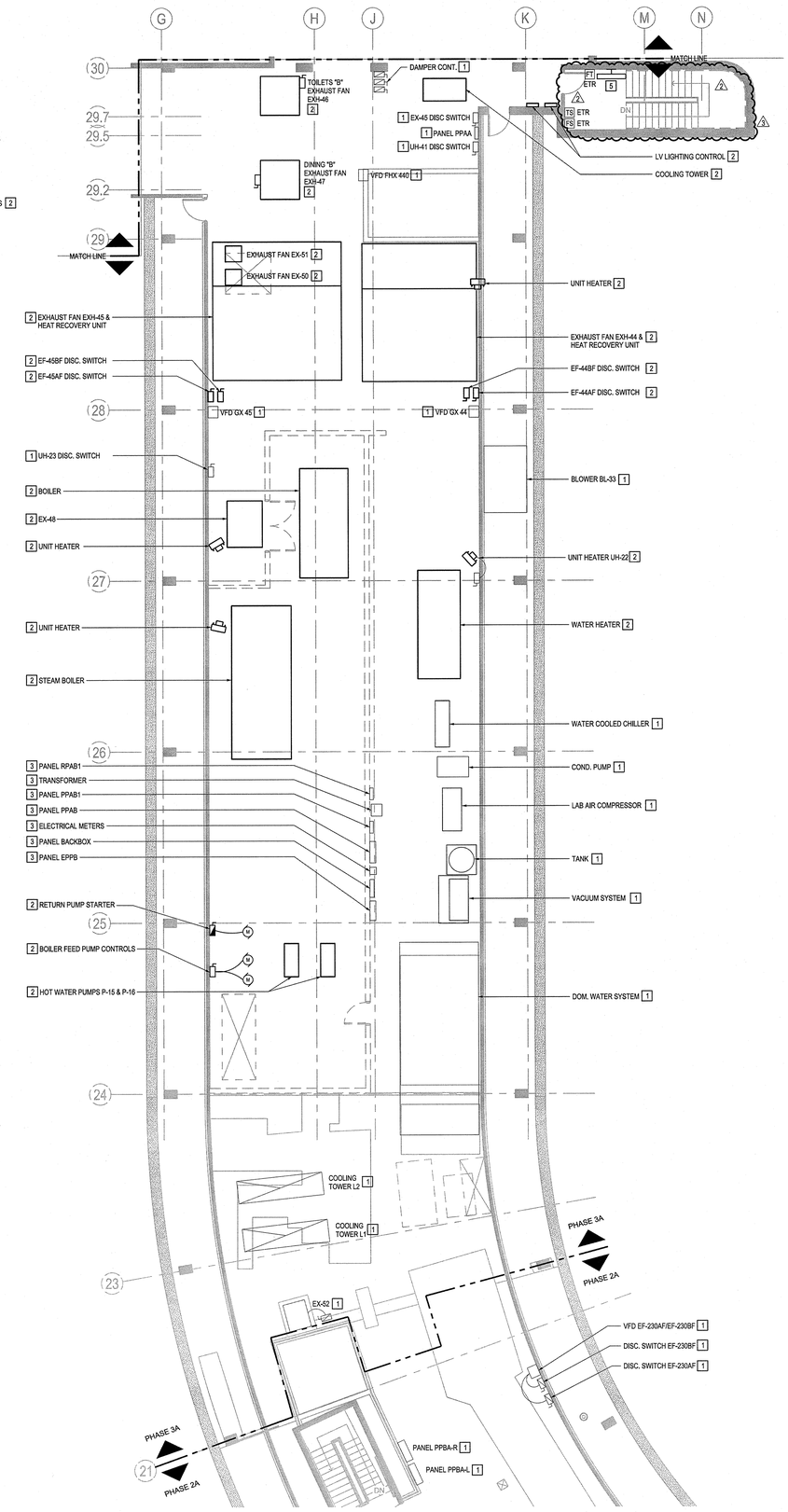
C1 FLOOR PLAN - PHASE 3A - PENTHOUSE PART 2 - ELECTRICAL DEMOLITION

1/8"=1'-0"



F1 FLOOR PLAN - PHASE 3A - PENTHOUSE PART 3 - ELECTRICAL DEMOLITION

1/8"=1'-0"



F5 FLOOR PLAN - PHASE 3A - PENTHOUSE PART 1 - ELECTRICAL DEMOLITION

1/8"=1'-0"

GENERAL NOTES

1. BUILDING FIRE ALARM SYSTEM SHALL REMAIN FULLY OPERATIONAL DURING DEMOLITION. CONTINUITY OF ALL CIRCUITS SERVING EXISTING AREAS AND EXISTING TO REMAIN FIRE ALARM DEVICES SHALL BE MAINTAINED THROUGHOUT THE DEMOLITION WORK.
2. REMOVE ABANDONED CONDUIT, WIRE, JUNCTION BOXES, ETC. WITHIN DEMOLITION AREA EVEN THOUGH THEY ARE NOT SHOWN ON PLAN.
3. POWER OUTAGES SHALL BE FOR MINIMUM DURATION AT OFF HOURS AS DIRECTED BY THE OWNER.
4. THE CONTINUITY OF EXISTING CIRCUITS THAT MAY BE INTERRUPTED BY THE ALTERATION EVEN THOUGH THEY MAY NOT BE INDICATED ON THE DRAWINGS, SHALL BE MAINTAINED.
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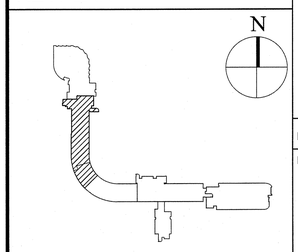
8. PROVIDE TEMPORARY POWER AND LIGHTING FIXTURES WITH LAMPS OF WATTAGE REQUIRED FOR ADEQUATE ILLUMINATION. TEMPORARY LIGHTING FIXTURES AND WIRING SHALL REMAIN IN PLACE FOR USE BY CONTRACTORS. REMOVE FIXTURES AND WIRING AT THE COMPLETION OF THIS PROJECT. △2
9. THE REMOVAL OR RELOCATION OF EXISTING ELECTRICAL EQUIPMENT PRESENTLY CONCEALED IN EXISTING CONSTRUCTION SHALL BE COORDINATED WITH THE OWNER PRIOR TO REMOVAL OR RELOCATION.
10. THE OWNER SHALL REVIEW EQUIPMENT ITEMS INDICATED FOR REMOVAL. REMOVE ALL EQUIPMENT THE OWNER WISHES TO RETAIN TO A SITE AS DESIGNATED BY THE OWNER. REMOVE PROMPTLY FROM SITE ALL MATERIALS AND EQUIPMENT INDICATED FOR REMOVAL, WHICH ARE NOT SPECIFIED FOR REUSE, STORAGE, OR RETAINED BY THE OWNER.
11. REFER TO DRAWING E30P.3A FOR NEW FEEDERS TO EXISTING EQUIPMENT WHICH REMAINS OR IS RELOCATED.

KEY NOTES

1. EXISTING EQUIPMENT TO REMAIN.
2. REMOVE EXISTING EQUIPMENT - PHASE 3A.
3. EXISTING EQUIPMENT TO REMAIN. EXISTING WALL SUPPORTING PANELS TO REMAIN.
4. EXISTING EQUIPMENT TO BE RELOCATED. REFER TO DRAWING E30P.3A FOR NEW LOCATION.
5. △2 REMOVE EXISTING STAIR LIGHTING FIXTURES FROM FOURTH FLOOR TO PENTHOUSE FLOOR. REFER TO DRAWING E533 FOR DEMOLITION WORK ASSOCIATED WITH ADD ALTERNATE.

KEYPLAN



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Main Building Renovation

Building L - Project 2

263 Farmington Ave
Farmington, CT 06032

Revisions

No.	Date	Description
1	09/17/15	Bulk Material Take Offs For Early Demo
2	10/19/15	Issue for Bld and Code Review
3	11/02/15	Addendum #01

Drawing Name

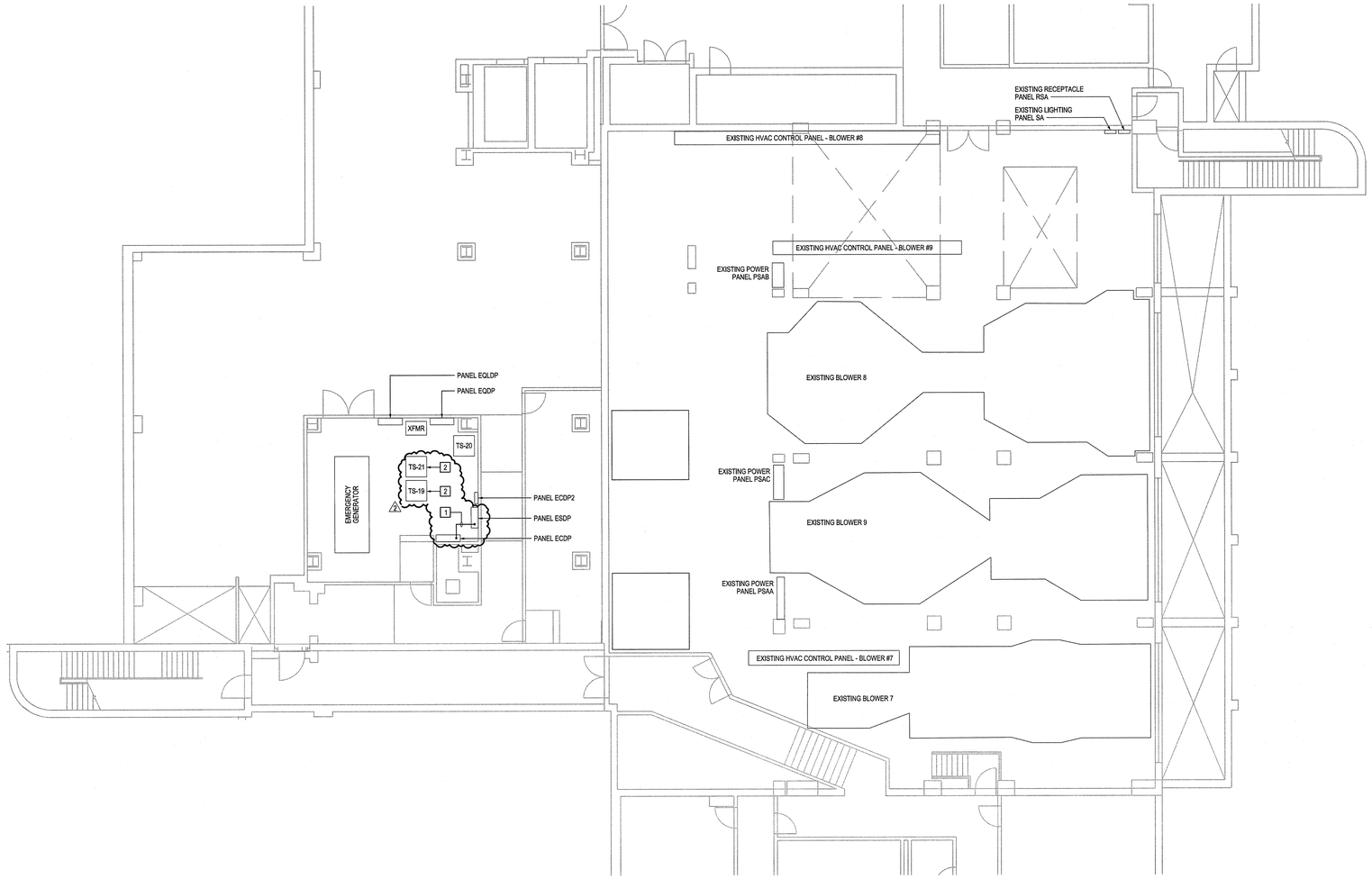
FLOOR PLAN - PHASE 3A - PENTHOUSE - ELECTRICAL DEMOLITION

Project No. 218010732

Drawing Number

E10P.3A

1.4



F2 FLOOR PLAN - PHASE 3A - SUB-BASEMENT - POWER

1/8"=1'-0"

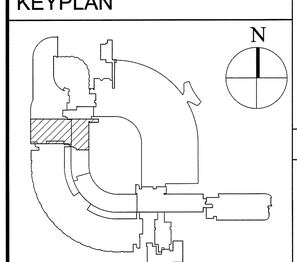
GENERAL NOTES

- EXISTING TO REMAIN
- EXISTING TO BE REMOVED
- EXISTING TO BE REUSED
- NEW
- (FXXX) FEEDER IDENTIFIER. REFER TO DRAWING E600.

KEY NOTES

1. PROVIDE TEMPORARY FEEDER TO FACILITATE MODIFICATIONS OF FEEDER TO TS-20. REMOVE AFTER MODIFICATIONS ARE COMPLETED. REFER TO ELECTRICAL SINGLE LINE DIAGRAM E600.
2. REMOVE DE-ENERGIZED FEEDER CONDUCTORS FROM TRANSFER SWITCH TERMINALS. REFER TO ELECTRICAL SINGLE LINE DIAGRAM E600.

KEYPLAN



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Main Building Renovation

Building L - Project 2

263 Farmington Ave
Farmington, CT 06032

Revisions

No.	Date	Description
1	10/19/15	Issue for Bid and Code Review
2	11/02/15	Addendum #01

Drawing Name

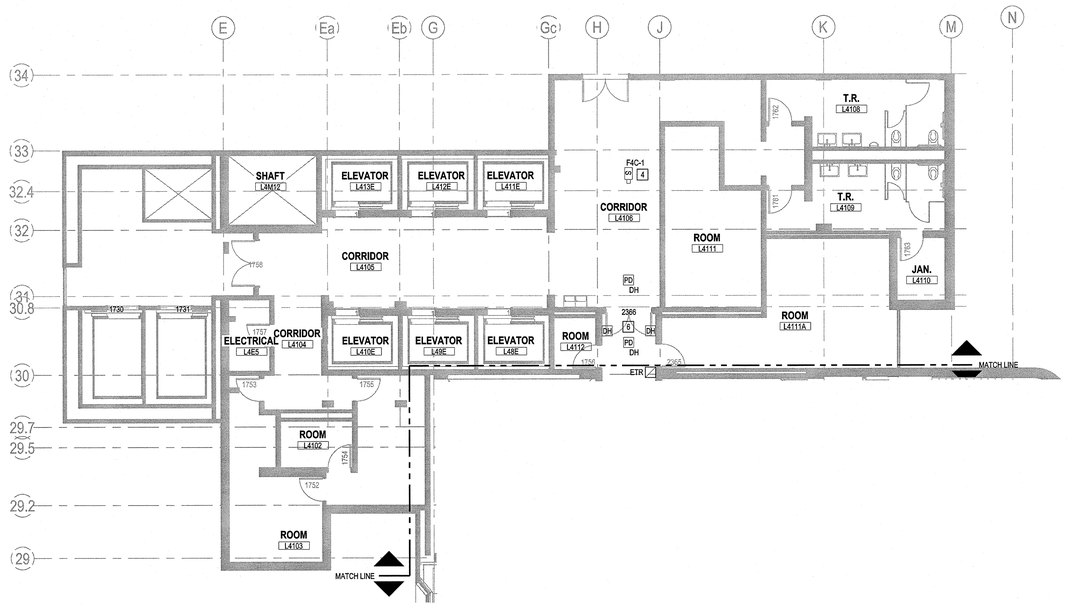
FLOOR PLAN - PHASE 3A - SUB-BASEMENT - POWER

Project No. 218010732

Drawing Number

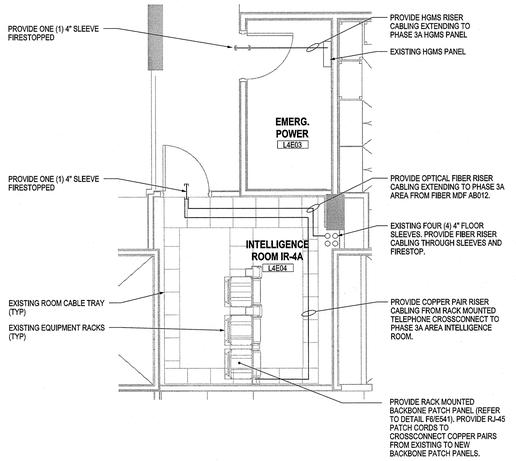
E3SB.3A

1.4



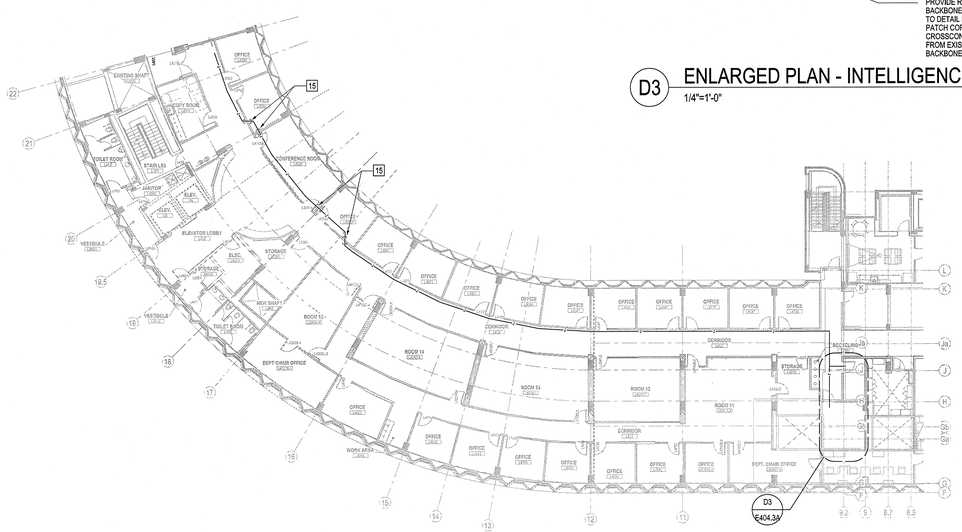
C1 FLOOR PLAN - PHASE 3A - FOURTH FLOOR PART 2 - LOW VOLTAGE SYSTEMS

1/8"=1'-0"



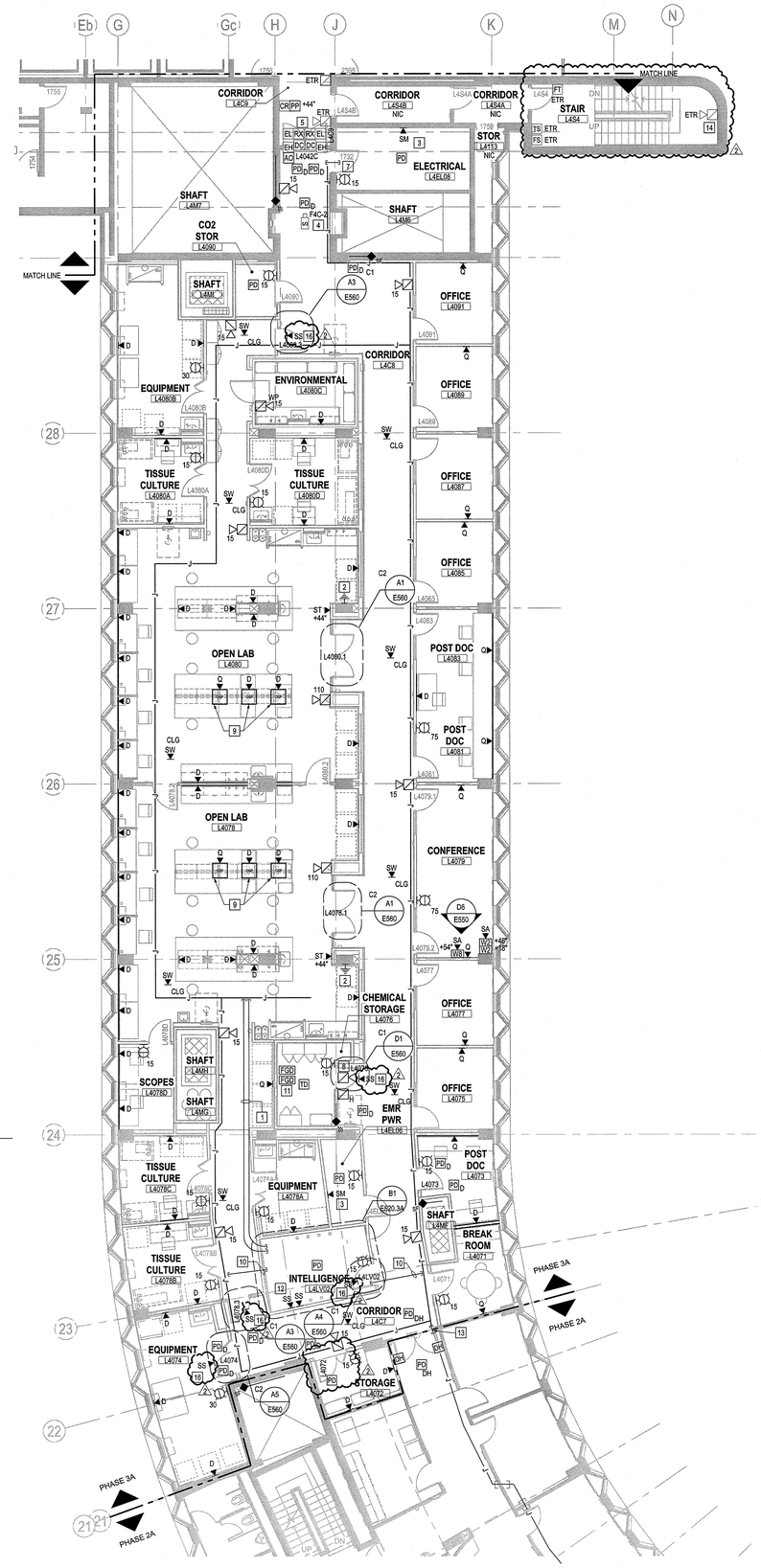
D3 ENLARGED PLAN - INTELLIGENCE ROOM IR-4A L4E04

1/4"=1'-0"



F1 FLOOR PLAN - PHASE 2A - FOURTH FLOOR PART 3 - LOW VOLTAGE SYSTEMS

1/16"=1'-0"



F5 FLOOR PLAN - PHASE 3A - FOURTH FLOOR PART 1 - LOW VOLTAGE SYSTEMS

1/8"=1'-0"

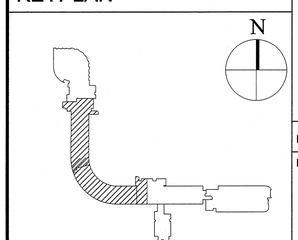
GENERAL NOTES

1. REFER TO ELECTRICAL DETAIL DRAWING E532 FOR DETAILS RELATING TO THE FIRE ALARM SYSTEM. REFER TO FIRE ALARM RISER DIAGRAMS ON DRAWINGS E602.1A, E602.1B, AND E602.2A.
2. TELECOMMUNICATIONS DEVICES ON THIS FLOOR SHALL BE FED FROM INTELLIGENCE ROOM L4E04.
3. FOR ALL DUCT MOUNTED SMOKE DETECTORS, PROVIDE ASSOCIATED CONTROL MODULE, MONITOR MODULE, AND REMOTE TEST SWITCH MOUNTED ABOVE NEAREST ACCESSIBLE CEILING OR PREFERABLY IN ADJACENT STORAGE/MECHANICAL/TELECOM SPACE.
4. REFER TO ARCHITECTURAL LAB ELEVATION DRAWINGS FOR TELECOM OUTLET MOUNTING LOCATIONS
5. REFER TO DETAILS F1, F4, AND F7 ON DRAWING E540 FOR PROVIDING TELECOM OUTLETS AT LAB BENCHES AND OVERHEAD SERVICE PANELS

KEY NOTES

1. COORDINATE FINAL LOCATION TO EQUIPMENT POINT OF USE. PROVIDE CABLE AND OUTLET IN SURFACE MOUNTED CONDUIT AND OUTLET BOX.
2. PROVIDE ACCESSIBLE GROUND BAR MOUNTED ON WALL AT 50" AFF. REFER TO DETAIL D3E530 FOR ADDITIONAL INFORMATION.
3. LOCAL AUDIBLE AND VISUAL ALARM FOR HAZARDOUS GAS MONITORING. REFER TO FIRE ALARM RISER DIAGRAM FOR ADDITIONAL INFORMATION.
4. EXISTING ACCESS CONTROL COMPONENTS TO REMAIN. REFEED TO NEW ACCESS CONTROL HEADEND LOCATION.
5. PROVIDE OPEN TOP CABLE SUPPORTS FROM CABLE TRAY TO "B" BUILDING.
6. EXISTING FIRE ALARM CONNECTION TO ACCESS CONTROLS TO REMAIN.
7. PROVIDE NEW FIRE ALARM CONNECTION FOR MONITORING OF ACCESS CONTROLS AT THIS DOOR.
8. REINSTALL EXISTING LOBBY SECURITY CAMERA REMOVED DURING FLOOR DEMOLITION.
9. PROVIDE TELECOM OUTLET IN OVERHEAD SERVICE PANEL
10. PROVIDE ONE (1) 4" CONDUIT FOR SYSTEMS HORIZONTAL CABLING.
11. PROVIDE (2) FLAMMABLE GAS DETECTORS - ONE MOUNTED LOW, ONE MOUNTED HIGH - IN CHEMICAL STORAGE ROOM. REFER TO FIRE ALARM RISER DIAGRAM ON DRAWING E602.3A FOR ADDITIONAL INFORMATION.
12. PROVIDE OUTLETS TO SERVE SECURITY ACCESS CONTROL PANELS. COORDINATE FINAL CONNECTION WITH SECURITY CONTRACTOR.
13. PROVIDE ONE (1) 4" SLEEVE FIRESTOPPED.
14. ADD ALTERNATE: PROVIDE ONE (1) COMBINATION SPEAKER/STROBE LIGHT ON EACH FLOOR FROM THIRD FLOOR TO SUB-BASEMENT FLOOR. REFER TO DRAWING E533
15. PROVIDE ONE (1) 4" SLEEVE FIRESTOPPED PENETRATION.
16. PROVIDE TELECOM OUTLET TO SERVE POWER OVER ETHERNET LOCKSET. COORDINATE FINAL INSTALLATION WITH SECURITY CONTRACTOR.

KEYPLAN



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Main Building Renovation

Building L - Project 2

263 Farmington Ave
Farmington, CT 06032

Revisions

No.	Date	Description
1	10/19/15	Issue for Bid and Code Review
2	11/02/15	Addendum #01

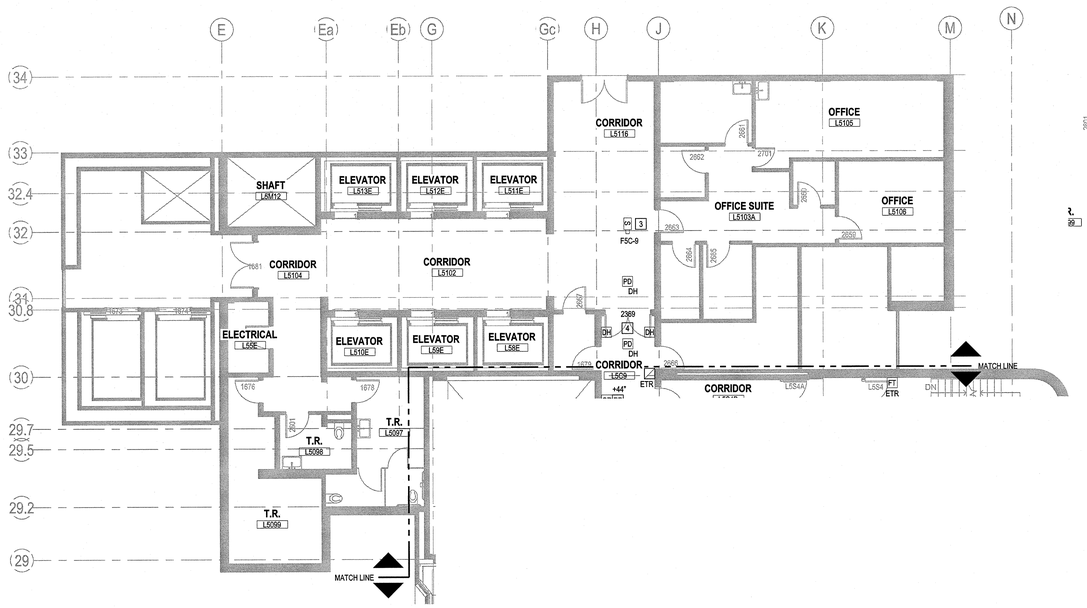
Drawing Name

FLOOR PLAN - PHASE 3A - FOURTH FLOOR - LOW VOLTAGE SYSTEMS

Project No. 218010732

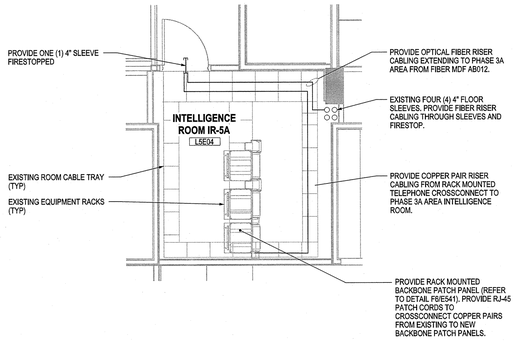
Drawing Number

E404.3A



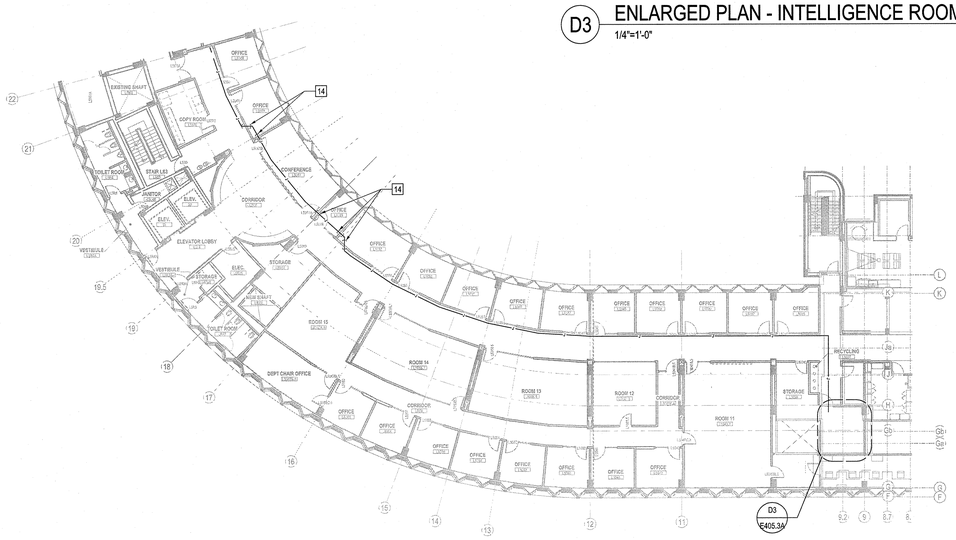
C1 FLOOR PLAN - PHASE 3A - FIFTH FLOOR PART 2 - LOW VOLTAGE SYSTEMS

1/8"=1'-0"



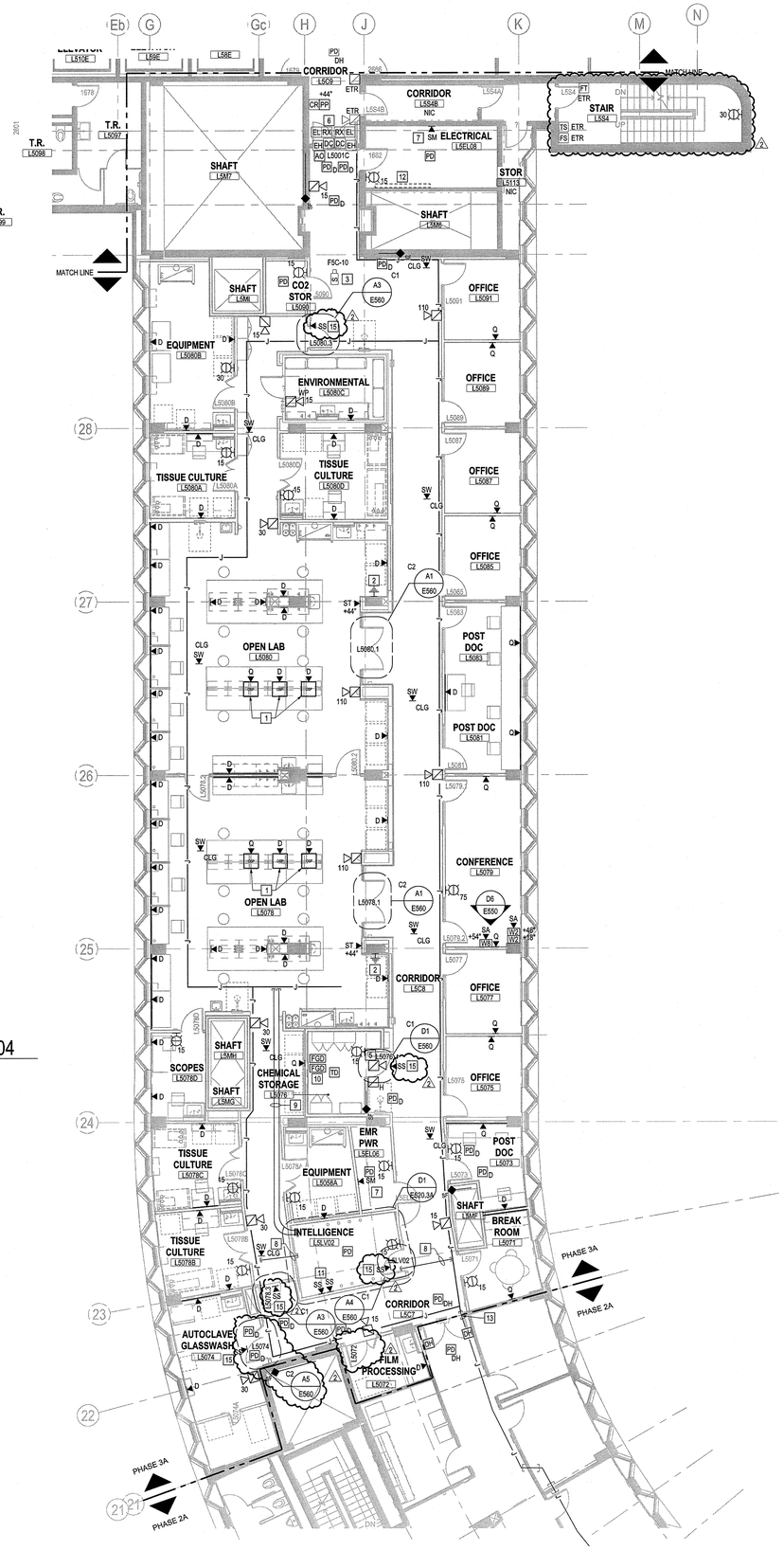
D3 ENLARGED PLAN - INTELLIGENCE ROOM IR-5A L5E04

1/4"=1'-0"



F1 FLOOR PLAN - PHASE 2A - FIFTH FLOOR PART 3 - LOW VOLTAGE SYSTEMS

1/16"=1'-0"



F5 FLOOR PLAN - PHASE 3A - FIFTH FLOOR PART 1 - LOW VOLTAGE SYSTEMS

1/8"=1'-0"

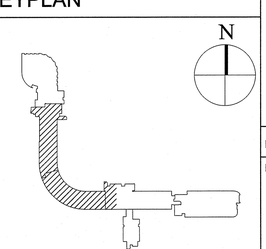
GENERAL NOTES

1. REFER TO ELECTRICAL DETAIL DRAWING E532 FOR DETAILS RELATING TO THE FIRE ALARM SYSTEM. REFER TO FIRE ALARM RISER DIAGRAM ON DRAWING E602.3A.
2. TELECOMMUNICATIONS DEVICES ON THIS FLOOR SHALL BE SERVED FROM INTELLIGENCE ROOM L4LV02.
3. FOR ALL DUCT MOUNTED SMOKE DETECTORS, PROVIDE ASSOCIATED CONTROL MODULE, MONITOR MODULE, AND REMOTE TEST SWITCH MOUNTED ABOVE NEAREST ACCESSIBLE CEILING OR PREFERABLY IN ADJACENT STORAGE/MECHANICAL/INTELLIGENCE ROOM.
4. REFER TO ARCHITECTURAL LAB ELEVATION DRAWINGS FOR TELECOM OUTLET MOUNTING LOCATIONS.
5. REFER TO DETAILS F1, F4, AND F7 ON DRAWING E540 FOR PROVIDING TELECOM OUTLETS AT LAB BENCHES AND OVERHEAD SERVICE PANELS.

KEY NOTES

1. PROVIDE OUTLET IN OVERHEAD SERVICE PANEL.
2. PROVIDE ACCESSIBLE GROUND BAR MOUNTED ON WALL AT 50" AFF. REFER TO DETAIL D/E530 FOR ADDITIONAL INFORMATION.
3. REINSTALL EXISTING LOBBY SECURITY CAMERA REMOVED DURING FLOOR DEMOLITION. PROVIDE CABLING TO SYSTEM HEADEND IN L5EL08.
4. EXISTING MAGNETIC DOOR HOLD OPEN DEVICE AND ASSOCIATED SMOKED DETECTORS TO REMAIN.
5. LOCAL AUDIBLE AND VISUAL ALARM FOR HAZARDOUS GAS MONITORING. INSTALL ABOVE DOOR. REFER TO FIRE ALARM RISER DIAGRAM FOR ADDITIONAL INFORMATION.
6. EXISTING ACCESS CONTROL DOOR. PROVIDE AUTO OPENER COMPONENT CONNECTIONS INTEGRATED WITH EXISTING DOOR HARDWARE. MAINTAIN OR REPLACE EXISTING CABLING AND CONNECTIONS TO EXISTING ACCESS CONTROL HEADEND IN L5EL08.
7. COORDINATE FINAL LOCATION TO EQUIPMENT POINT OF USE. PROVIDE CABLE AND OUTLET IN SURFACE MOUNTED CONDUIT AND OUTLET BOX.
8. PROVIDE ONE (1) 4" CONDUIT FOR SYSTEMS HORIZONTAL CABLING.
9. PROVIDE TWO (2) 4" CONDUIT FOR SYSTEMS HORIZONTAL CABLING.
10. PROVIDE (2) FLAMMABLE GAS DETECTORS - ONE MOUNTED LOW, ONE MOUNTED HIGH - IN CHEMICAL STORAGE ROOM. REFER TO FIRE ALARM RISER DIAGRAM ON DRAWING E602.3A FOR ADDITIONAL INFORMATION.
11. PROVIDE OUTLETS TO SERVE SECURITY ACCESS CONTROL PANELS. COORDINATE FINAL CONNECTION WITH SECURITY CONTRACTOR.
12. EXISTING ISTAR 11 ACCESS CONTROL HEADEND LOCATION.
13. PROVIDE ONE (1) 4" SLEEVE FIRESTOPPED.
14. PROVIDE ONE (1) 4" SLEEVE FIRESTOPPED PENETRATION.
15. PROVIDE TELECOM OUTLET TO SERVE POWER OVER ETHERNET LOCKSET. COORDINATE FINAL INSTALLATION WITH SECURITY CONTRACTOR.

KEYPLAN



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Revisions

No.	Date	Description
1	10/19/15	Issue for Bid and Code Review
2	11/02/15	Addendum #01

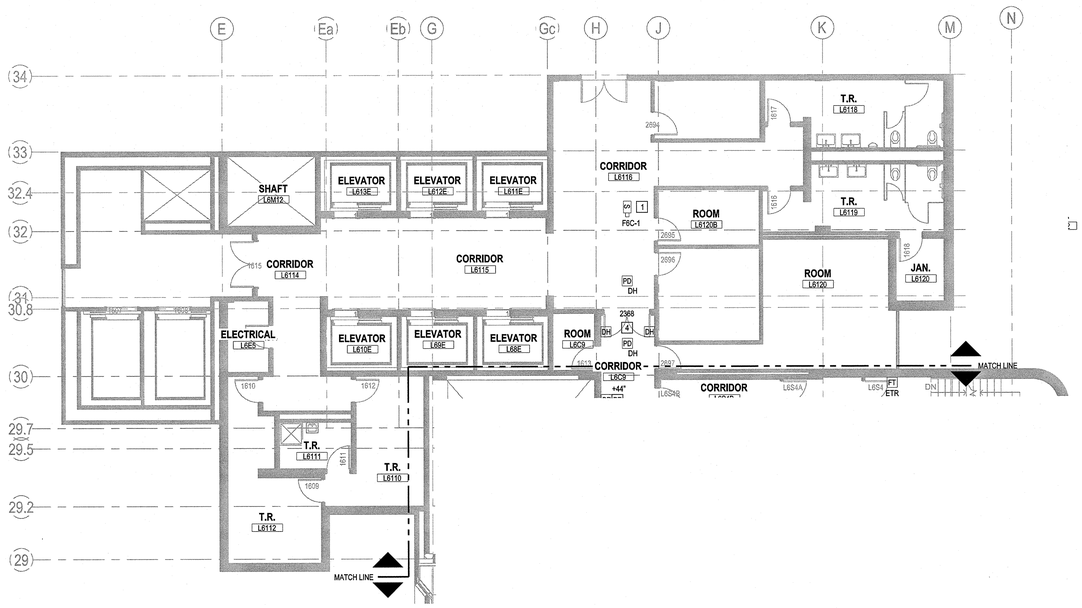
Drawing Name

FLOOR PLAN - PHASE 3A - FIFTH FLOOR - LOW VOLTAGE SYSTEMS

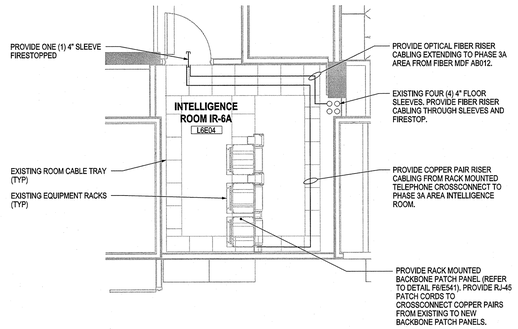
Project No. 218010732

Drawing Number

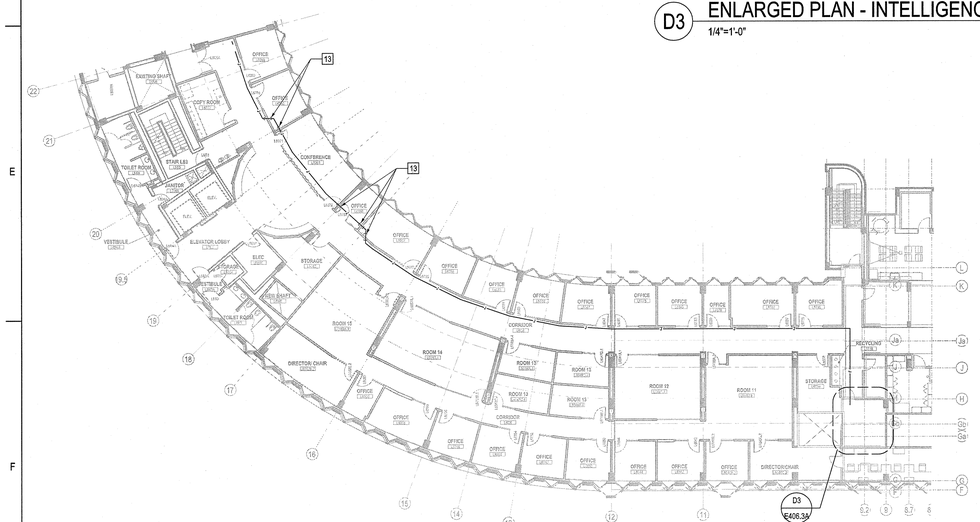
E405.3A



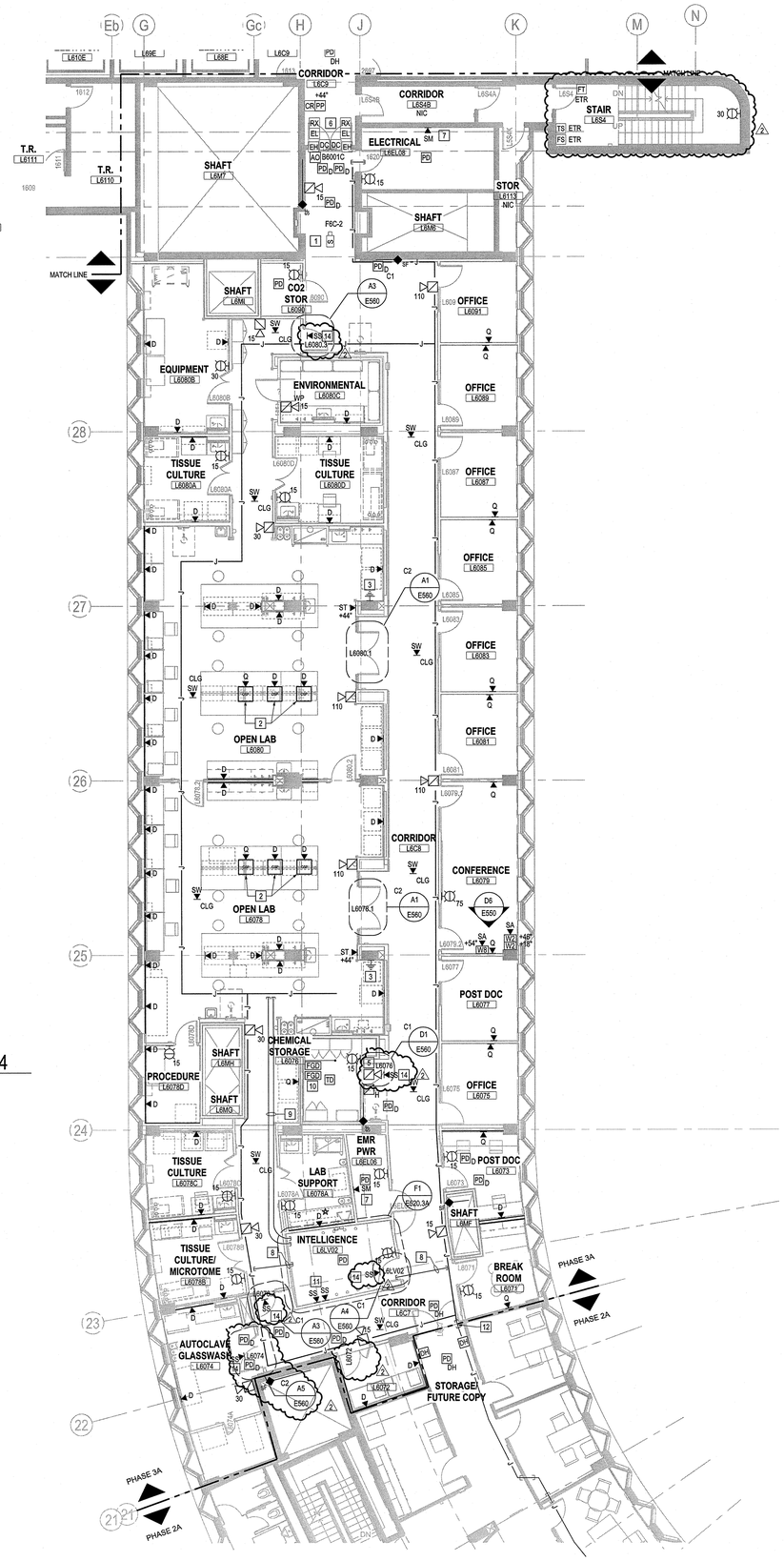
C1 FLOOR PLAN - PHASE 3A - SIXTH FLOOR PART 2 - LOW VOLTAGE SYSTEMS
1/8"=1'-0"



D3 ENLARGED PLAN - INTELLIGENCE ROOM IR-6A L6E04
1/4"=1'-0"



F1 FLOOR PLAN - PHASE 2A - SIXTH FLOOR PART 3 - LOW VOLTAGE SYSTEMS
1/16"=1'-0"



F5 FLOOR PLAN - PHASE 3A - SIXTH FLOOR PART 1 - LOW VOLTAGE SYSTEMS
1/8"=1'-0"

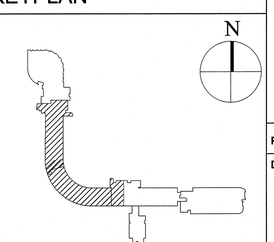
GENERAL NOTES

1. REFER TO ELECTRICAL DETAIL DRAWING E532 FOR DETAILS RELATING TO THE FIRE ALARM SYSTEM. REFER TO FIRE ALARM RISER DIAGRAM ON DRAWING E602.3A.
2. TELECOMMUNICATIONS DEVICES ON THIS FLOOR SHALL BE SERVED FROM INTELLIGENCE ROOM L6LV02.
3. FOR ALL DUCT MOUNTED SMOKE DETECTORS, PROVIDE ASSOCIATED CONTROL MODULE, MONITOR MODULE, AND REMOTE TEST SWITCH MOUNTED ABOVE NEAREST ACCESSIBLE CEILING OR PREFERABLY IN ADJACENT STORAGE/MECHANICAL/INTELLIGENCE ROOM.
4. REFER TO ARCHITECTURAL LAB ELEVATION DRAWINGS FOR TELECOM MOUNTING LOCATIONS.
5. REFER TO DETAILS F1, F4, AND F7 ON DRAWING E540 FOR PROVIDING TELECOM OUTLETS AT LAB BENCHES AND OVERHEAD SERVICE PANELS.

KEY NOTES

1. REINSTALL EXISTING LOBBY SECURITY CAMERA REMOVED DURING FLOOR DEMOLITION. PROVIDE CABLING TO SYSTEM HEADEND IN L5EL08.
2. PROVIDE TELECOM OUTLET IN OVERHEAD SERVICE PANEL.
3. PROVIDE ACCESSIBLE GROUND BAR MOUNTED ON WALL AT 50" AFF. REFER TO DETAIL D3/E530 FOR ADDITIONAL INFORMATION.
4. EXISTING MAGNETIC DOOR HOLD OPEN DEVICE AND ASSOCIATED SMOKED DETECTORS TO REMAIN.
5. LOCAL AUDIBLE AND VISUAL ALARM FOR HAZARDOUS GAS MONITORING. INSTALL ABOVE DOOR. REFER TO FIRE ALARM RISER DIAGRAM FOR ADDITIONAL INFORMATION.
6. EXISTING ACCESS CONTROL DOOR. PROVIDE AUTO OPENER COMPONENT CONNECTIONS INTEGRATED WITH EXISTING DOOR HARDWARE. MAINTAIN OR REPLACE EXISTING CABLING AND CONNECTIONS TO EXISTING ACDESS CONTROL HEADEND IN L5EL08.
7. COORDINATE FINAL LOCATION TO EQUIPMENT POINT OF USE. PROVIDE CABLE AND OUTLET IN SURFACE MOUNTED CONDUIT AND OUTLET BOX.
8. PROVIDE ONE (1) 4" CONDUIT FOR SYSTEMS HORIZONTAL CABLING.
9. PROVIDE TWO (2) 4" CONDUIT FOR SYSTEMS HORIZONTAL CABLING.
10. PROVIDE (2) FLAMMABLE GAS DETECTORS - ONE MOUNTED LOW, ONE MOUNTED HIGH - IN CHEMICAL STORAGE ROOM. REFER TO FIRE ALARM RISER DIAGRAM ON DRAWING E602.3A FOR ADDITIONAL INFORMATION.
11. PROVIDE OUTLETS TO SERVE SECURITY ACCESS CONTROL PANELS. COORDINATE FINAL CONNECTION WITH SECURITY CONTRACTOR.
12. PROVIDE ONE (1) 4" SLEEVE FIRESTOPPED.
13. PROVIDE ONE (1) 4" SLEEVE FIRESTOPPED PENETRATION.
14. PROVIDE TELECOM OUTLET TO SERVE POWER OVER ETHERNET LOCKSET. COORDINATE FINAL INSTALLATION WITH SECURITY CONTRACTOR.

KEYPLAN



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Building L - Project 2

263 Farmington Ave
Farmington, CT 06032

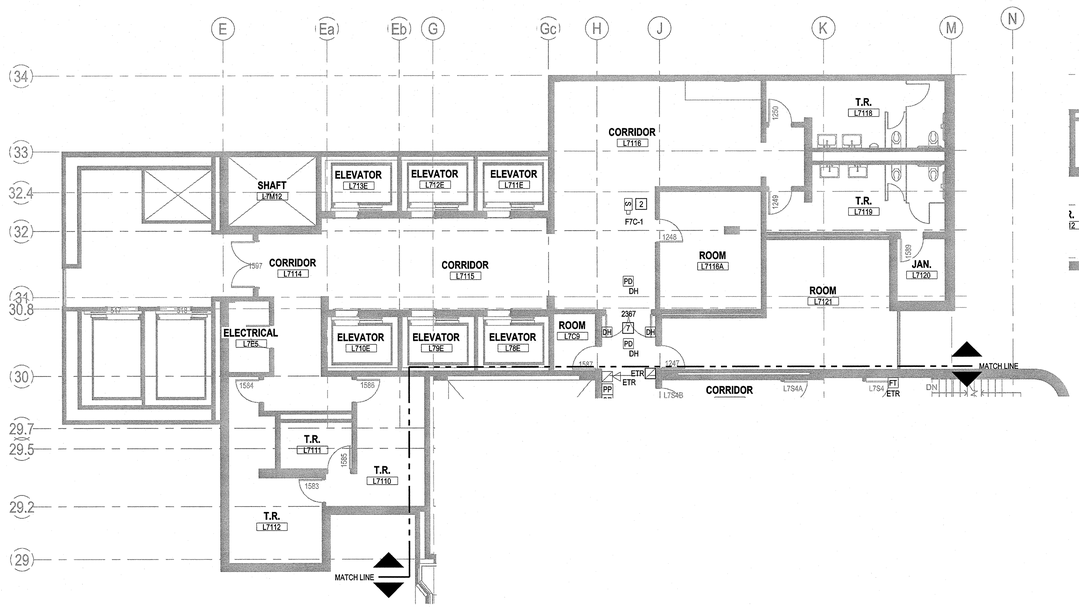
Revisions

No.	Date	Description
1	10/19/15	Issue for Bid and Code Review
2	11/02/15	Addendum #01

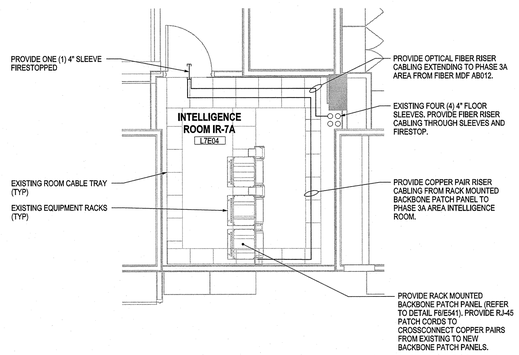
Drawing Name
FLOOR PLAN - PHASE 3A - SIXTH FLOOR - LOW VOLTAGE SYSTEMS

Project No. 218010732

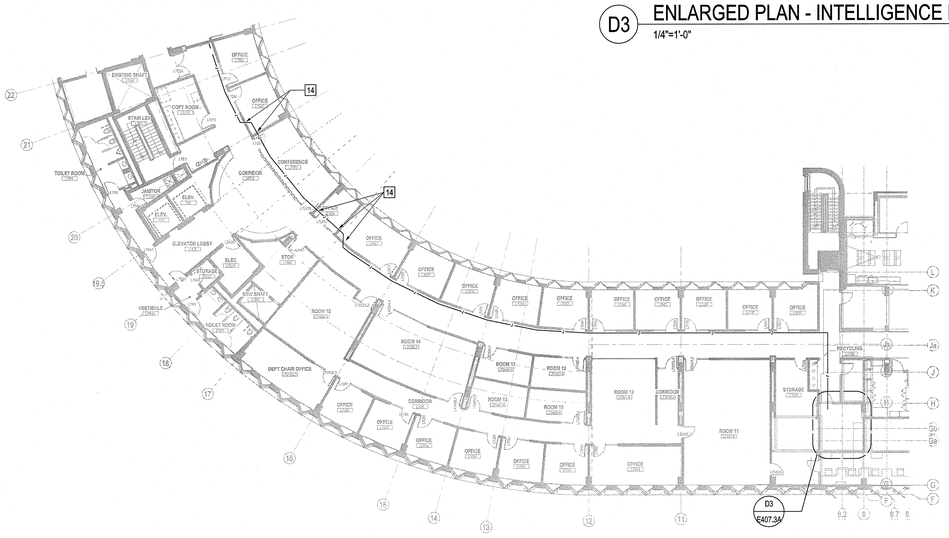
Drawing Number
E406.3A



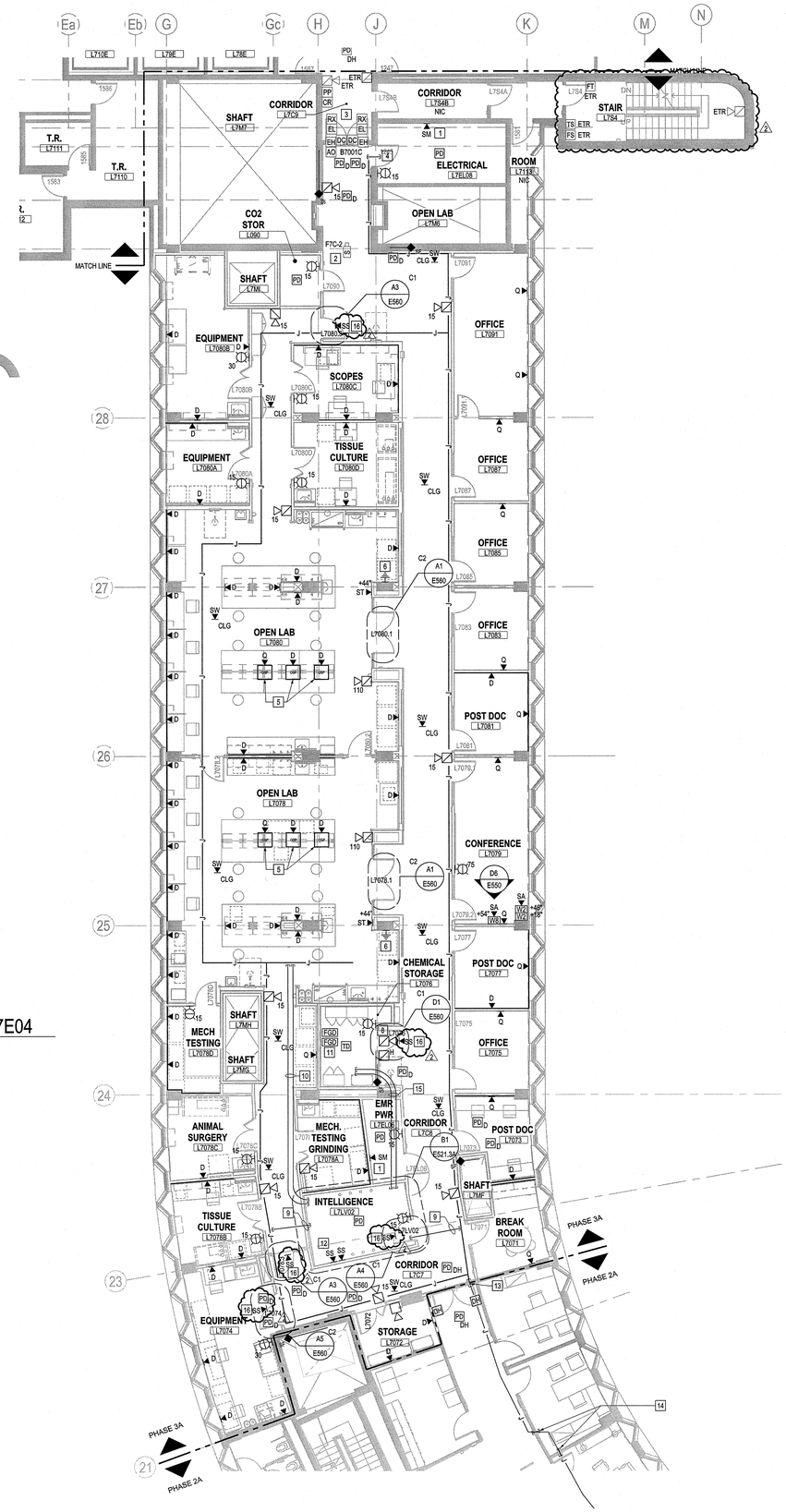
C1 FLOOR PLAN - PHASE 3A - SEVENTH FLOOR PART 2 - LOW VOLTAGE SYSTEMS
1/8"=1'-0"



D3 ENLARGED PLAN - INTELLIGENCE ROOM IR-7A L7E04
1/4"=1'-0"



F1 FLOOR PLAN - PHASE 2A - SEVENTH FLOOR PART 3 - LOW VOLTAGE SYSTEMS
1/16"=1'-0"



F5 FLOOR PLAN - PHASE 3A - SEVENTH FLOOR PART 1 - LOW VOLTAGE SYSTEMS
1/8"=1'-0"

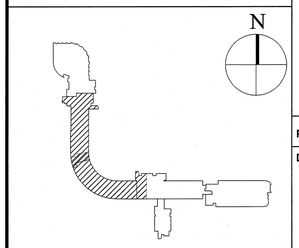
GENERAL NOTES

1. REFER TO ELECTRICAL DETAIL DRAWING E532 FOR DETAILS RELATING TO THE FIRE ALARM SYSTEM. REFER TO FIRE ALARM RISER DIAGRAM ON DRAWING E602.3A.
2. TELECOMMUNICATIONS DEVICES ON THIS FLOOR SHALL BE SERVED FROM INTELLIGENCE ROOM L7LV02.
3. FOR ALL DUCT MOUNTED SMOKE DETECTORS, PROVIDE ASSOCIATED CONTROL MODULE, MONITOR MODULE, AND REMOTE TEST SWITCH MOUNTED ABOVE NEAREST ACCESSIBLE CEILING OR PREFERABLY IN ADJACENT STORAGE/MECHANICAL/TELECOM SPACE.
4. REFER TO ARCHITECTURAL LAB ELEVATION DRAWINGS FOR TELECOM OUTLET MOUNTING LOCATIONS.
5. REFER TO DETAILS F1, F4, AND F7 ON DRAWING E540 FOR PROVIDING TELECOM OUTLETS AT LAB BENCHES AND OVERHEAD SERVICE PANELS.

KEY NOTES

1. COORDINATE FINAL LOCATION TO EQUIPMENT POINT OF USE. PROVIDE CABLE AND OUTLET IN SURFACE MOUNTED CONDUIT AND OUTLET BOX
2. REINSTALL EXISTING LOBBY SECURITY CAMERA REMOVED DURING FLOOR DEMOLITION. PROVIDE CABLING TO SYSTEM HEADEND IN L5EL08
3. EXISTING ACCESS CONTROL DOOR. MAINTAIN OR REPLACE EXISTING CABLING AND CONNECTIONS TO EXISTIN ACCESS CONTROL HEADEND IN L5EL08.
4. PROVIDE ONE (1) 4" ENGINEERED FIRESTOP PENETRATION SLEEVE.
5. PROVIDE OUTLET IN LAB OVERHEAD SERVICE PANEL.
6. PROVIDE ACCESSIBLE GROUND BAR MOUNTED ON WALL AT 50" AFF. REFER TO DETAIL D3/E530 FOR ADDITIONAL INFORMATION.
7. EXISTING MAGNETIC DOOR HOLD OPEN DEVICE AND ASSOCIATED SMOKED DETECTORS TO REMAIN.
8. LOCAL AUDIBLE AND VISUAL ALARM FOR HAZARDOUS GAS MONITORING. INSTALL ABOVE DOOR. REFER TO FIRE ALARM RISER DIAGRAM FOR ADDITIONAL INFORMATION.
9. PROVIDE ONE (1) 4" CONDUIT FOR SYSTEMS HORIZONTAL CABLING.
10. PROVIDE TWO (2) 4" CONDUIT FOR SYSTEMS HORIZONTAL CABLING.
11. PROVIDE (2) FLAMMABLE GAS DETECTORS - ONE MOUNTED LOW, ONE MOUNTED HIGH - IN CHEMICAL STORAGE ROOM. REFER TO FIRE ALARM RISER DIAGRAM ON DRAWING E602.3A FOR ADDITIONAL INFORMATION.
12. PROVIDE OUTLETS TO SERVE SECURITY ACCESS CONTROL PANELS. COORDINATE FINAL CONNECTION WITH SECURITY CONTRACTOR.
13. PROVIDE ONE (1) 4" CONDUIT FIRESTOPPED.
14. PROVIDE ONE (1) 4" SLEEVE FIRESTOPPED PENETRATION.
15. PROVIDE TWO (2) 3" CONDUIT FROM INTELLIGENCE ROOM L7LV02 AND STUB UP INTO PENTHOUSE. COORDINATE FINAL LOCATIONS WITH ALL TRADES.
16. PROVIDE TELECOM OUTLET TO SERVE POWER OVER ETHERNET LOCKSET. COORDINATE FINAL INSTALLATION WITH SECURITY CONTRACTOR.

KEYPLAN



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Building L - Project 2

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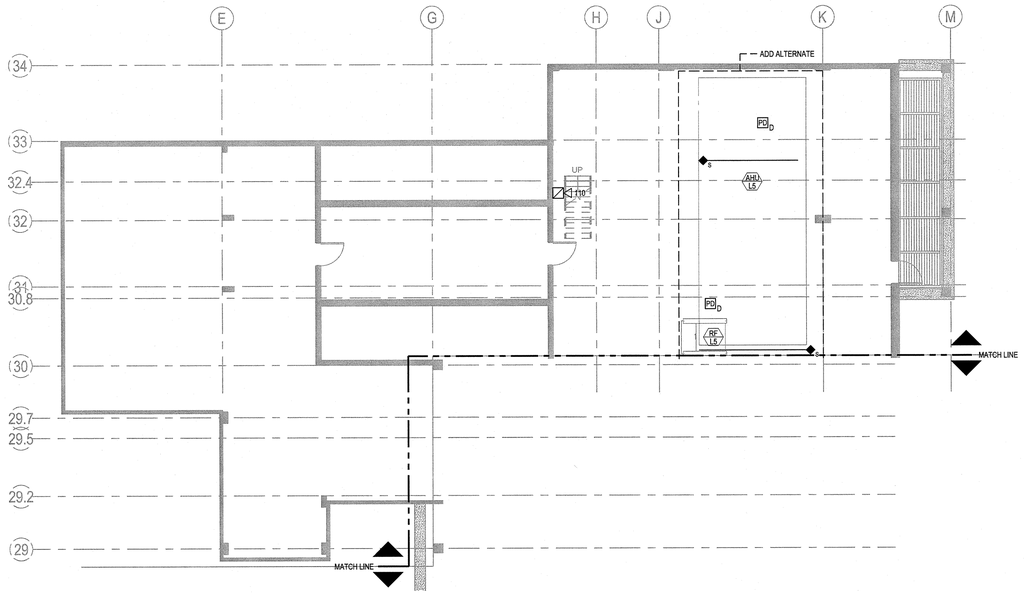
Revisions

No.	Date	Description
1	10/19/15	Issue for Bid and Code Review
2	11/02/15	Addendum #01

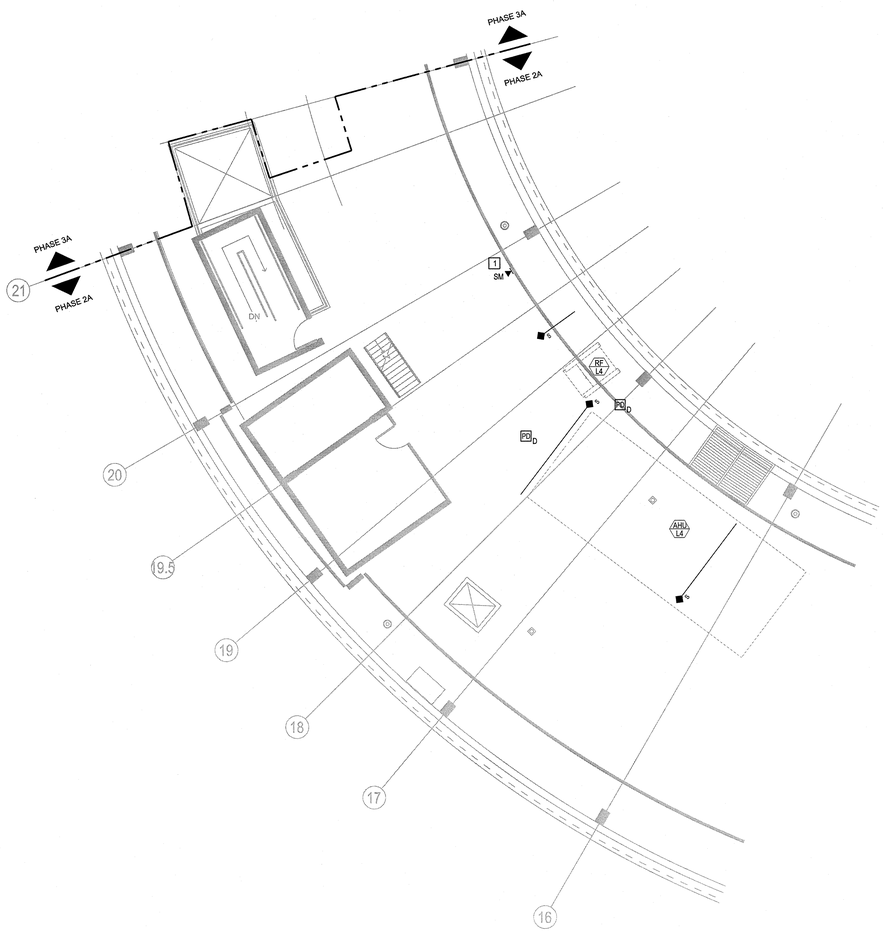
Drawing Name
FLOOR PLAN - PHASE 3A - SEVENTH FLOOR - LOW VOLTAGE SYSTEMS

Project No. 218010732

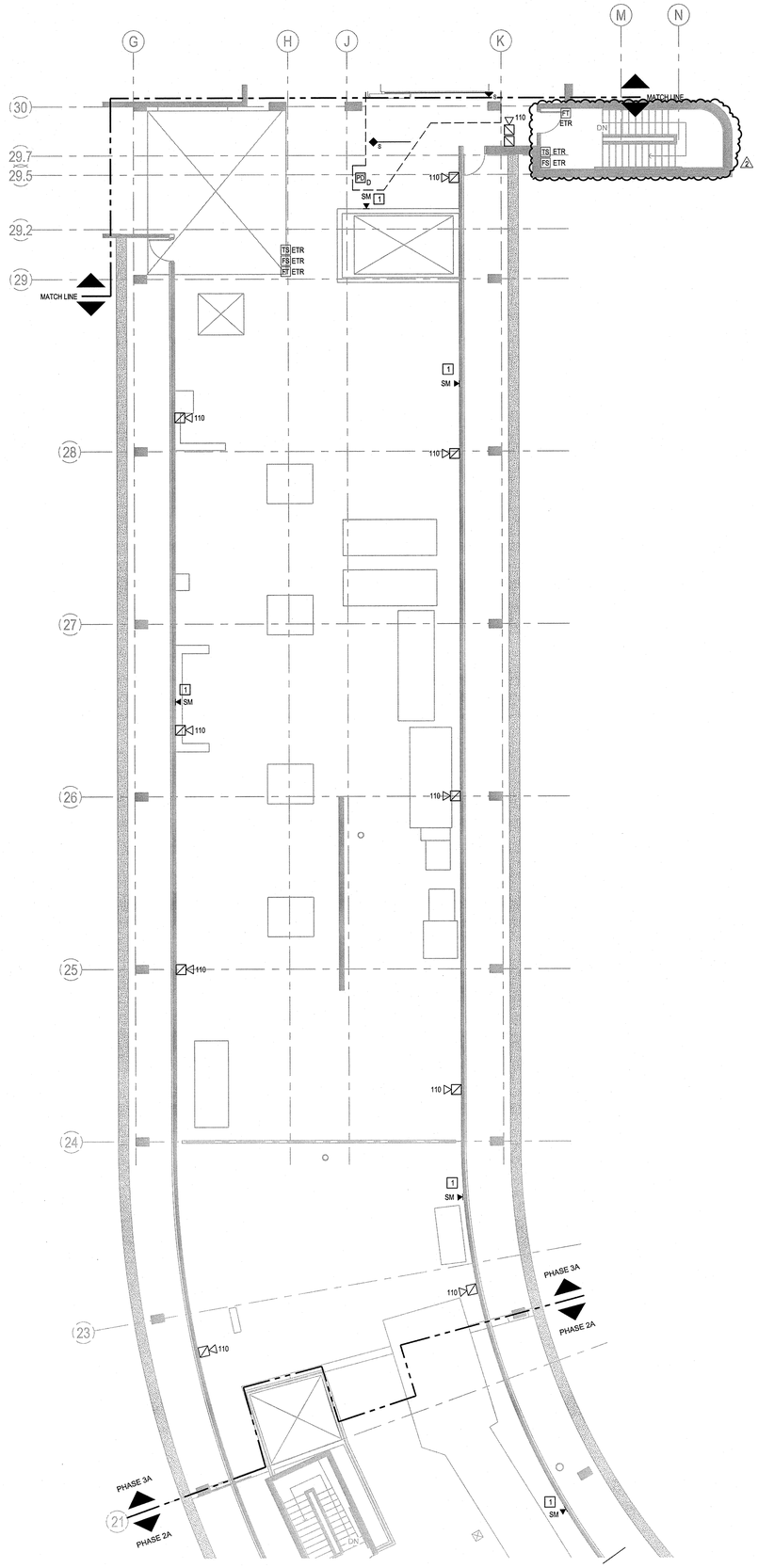
Drawing Number
E407.3A



C1 FLOOR PLAN - PHASE 3A - PENTHOUSE PART 2 - LOW VOLTAGE SYSTEMS
1/8"=1'-0"



F1 FLOOR PLAN - PHASE 3A - PENTHOUSE PART 3 - LOW VOLTAGE SYSTEMS
1/8"=1'-0"



F5 FLOOR PLAN - PHASE 3A - PENTHOUSE PART 1 - LOW VOLTAGE SYSTEMS
1/8"=1'-0"

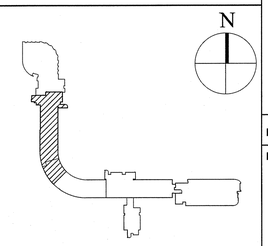
GENERAL NOTES

1. REFER TO ELECTRICAL DETAIL DRAWING E532 FOR DETAILS RELATING TO THE FIRE ALARM SYSTEM. REFER TO FIRE ALARM RISER DIAGRAM ON DRAWING E602.3A.
2. FOR ALL DUCT MOUNTED SMOKE DETECTORS, PROVIDE ASSOCIATED CONTROL MODULE, MONITOR MODULE, AND REMOTE TEST SWITCH MOUNTED ABOVE NEAREST ACCESSIBLE CEILING OR PREFERABLY IN ADJACENT STORAGE/MECHANICAL/TELECOM SPACE.
3. TELECOMMUNICATIONS DEVICES ON THIS FLOOR SHALL BE SERVED FROM INTELLIGENCE ROOM L7LV02.

KEY NOTES

1 COORDINATE FINAL LOCATION TO EQUIPMENT POINT OF USE. PROVIDE CABLE AND OUTLET IN SURFACE MOUNTED CONDUIT AND OUTLET BOX.

KEYPLAN



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Building L - Project 2

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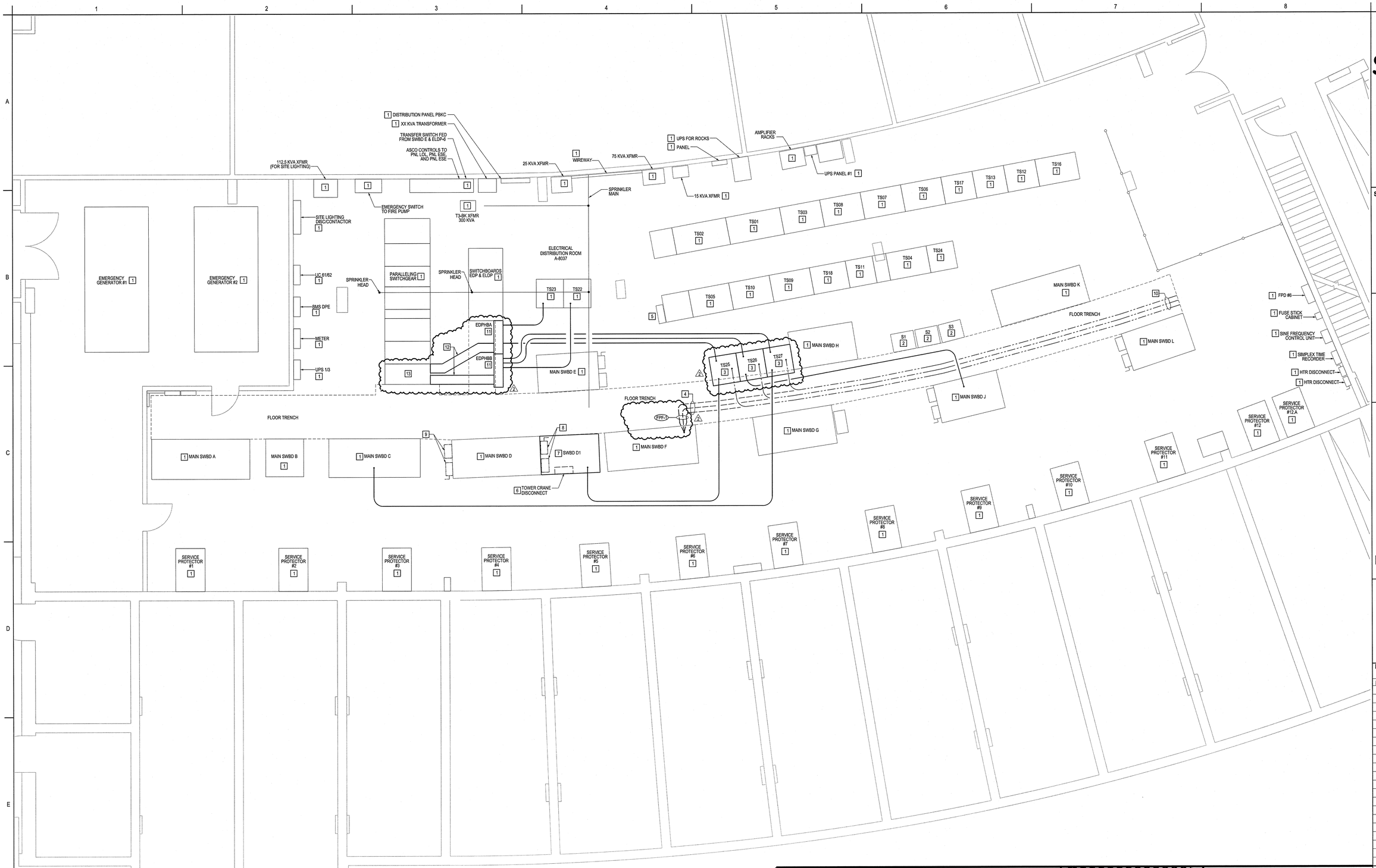
Revisions

No.	Date	Description
1	10/19/15	Issue for Bid and Code Review
2	11/02/15	Addendum #01

Drawing Name
FLOOR PLAN - PHASE 3A - PENTHOUSE - LOW VOLTAGE SYSTEMS

Project No. 218010732

Drawing Number
E40P.3A



F3 ENLARGED PARTIAL FLOOR PLAN
BASEMENT ELECTRICAL ROOM
1/4"=1'-0"

LEGEND

- EXISTING TO REMAIN
- EXISTING TO BE REMOVED
- EXISTING TO BE REUSED
- NEW
- (F-XXX) FEEDER IDENTIFIER. REFER TO DRAWING E600.

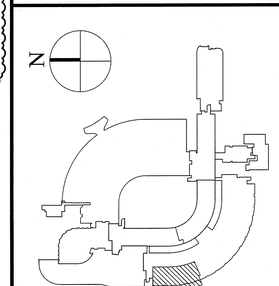
GENERAL NOTES

1. ALL NEW CONDUITS AND FEEDERS SHOWN SHALL BE INSTALLED OVERHEAD.

KEY NOTES

1. EXISTING TO REMAIN.
2. EXISTING SPLICE BOX TO REMAIN.
3. PROVIDE NEW AUTOMATIC TRANSFER SWITCH. REFER TO DETAIL F1 ON DRAWING E532 FOR ROUTING OF FEEDERS FROM TRENCH TO AUTOMATIC TRANSFER SWITCH.
4. DISCONNECT AND PULL BACK SECTION OF EXISTING FEEDER FOR TERMINATION INTO AUTOMATIC TRANSFER SWITCHES. REFER TO ELECTRICAL SINGLE LINE ON DRAWING E600 FOR ADDITIONAL INFORMATION.
5. 3P-400A CIRCUIT BREAKER IN NEMA 1 ENCLOSURE MOUNTED ON SIDE OF EXISTING SWITCHGEAR TO REMAIN.
6. REMOVE EXISTING DISCONNECT SWITCH AND FEEDER BACK TO SOURCE.
7. PROVIDE SWITCHBOARD DISTRIBUTION SECTION. REFER TO ELECTRICAL SINGLE LINE ON DRAWING E600 FOR ADDITIONAL INFORMATION.
8. RELOCATE EXISTING DISCONNECT SWITCH AND CABINET FOR CLOCK COUPLER TO OPPOSITE END OF MAIN SWITCHBOARD D. MODIFY AND EXTEND CONDUIT AND CONDUCTORS AS REQUIRED.
9. RELOCATED DISCONNECT SWITCH AND CABINET FOR CLOCK COUPLER.
10. EXISTING FEEDERS ROUTED TO PENTHOUSE. REFER TO DRAWING E30P.1A FOR CONTINUATION OF FEEDERS TO PANELS EDPHPA-W, EDPHPB-W, AND EDPHPC-W.
11. PROVIDE TOP HAT ON EMERGENCY POWER DISTRIBUTION PANEL. TOP OF TOP HAT SHALL BE MINIMUM 7'-6" AFF. TERMINATE WIREWAY INTO TOP HAT.
12. PROVIDE 12" WIDE x 6" DEEP WIREWAY FROM SIDE OF EXISTING PULL BOX TO TOP HAT ON EMERGENCY POWER DISTRIBUTION PANEL. CHANGES IN WIREWAY DIRECTION SHALL NOT EXCEED 30 DEGREES. MINIMUM WIREWAY HEIGHT SHALL BE 7'-0" AFF TO BOTTOM OF WIREWAY. REFER TO ELECTRICAL SINGLE LINE DIAGRAM E600 FOR CONDUCTORS TO ROUTE THROUGH WIREWAY.
13. EXISTING PULL BOX MOUNTED TO TOP OF EXISTING PARALLELING SWITCH GEAR.

KEYPLAN



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Main Building Renovation

Building L - Project 2

263 Farmington Ave
Farmington, CT 06032

Revisions

No.	Date	Description
1	10/19/15	Issue for Bid and Code Review
2	11/02/15	Addendum #01

Drawing Name

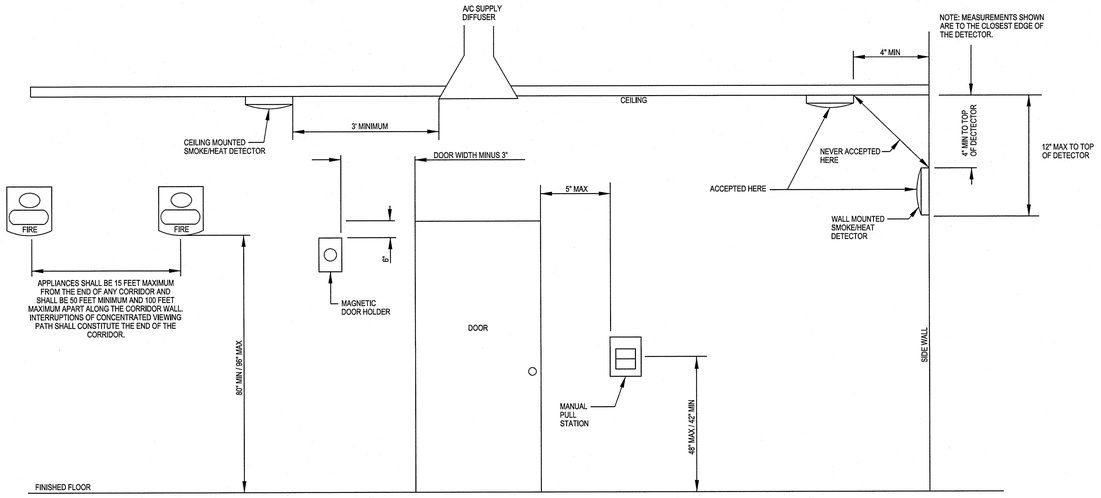
ENLARGED PARTIAL FLOOR PLAN - BASEMENT ELECTRICAL ROOM

Project No. 218010732

Drawing Number

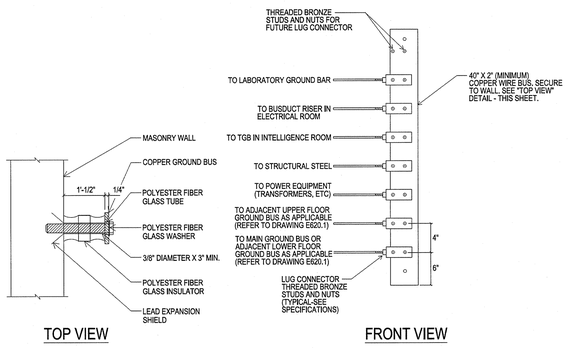
E500

1.4



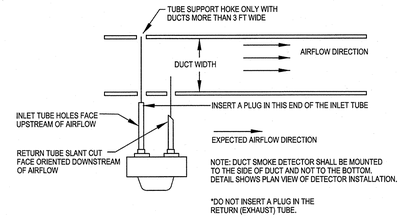
B1 FIRE ALARM SYSTEM MOUNTING DETAILS

NTS



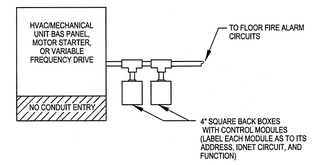
D1 TYPICAL ELECTRICAL CLOSET POWER EQUIPMENT GROUND BUS DETAIL

NTS



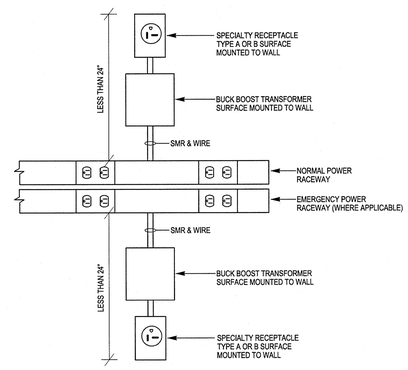
A5 DUCT MOUNTED DETECTOR INSTALLATION DETAIL - PLAN VIEW

NTS



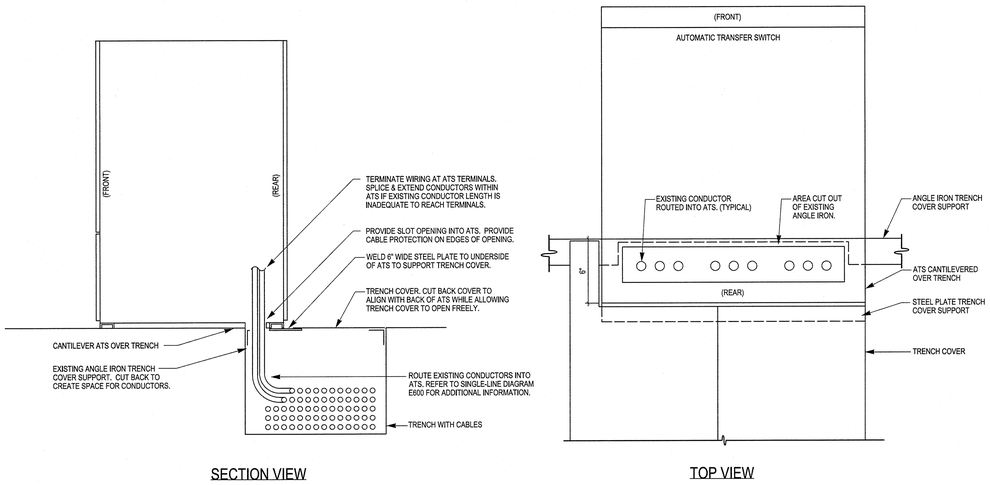
B5 FIRE ALARM SYSTEM HARDWARE INTERFACE WITH BUILDING MECHANICAL SYSTEMS DETAIL

NTS



D5 OPTIONAL BUCK-BOOST TRANSFORMER FOR SPECIALTY RECEPTACLES IN SMR

NTS



F1 ATS FEEDER ROUTING DETAIL ABOVE FLOOR TRENCH

NTS

2

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Main Building Renovation

Building L - Project 2

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Revisions

No.	Date	Description
1	10/19/15	Issue for Bid and Code Review
2	11/02/15	Addendum #01

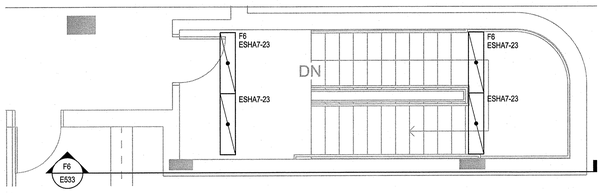
Drawing Name

ELECTRICAL DETAILS

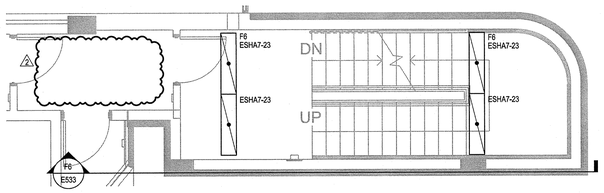
Project No. 218010732

Drawing Number

E532



A1 STAIR LS4 - PENTHOUSE FLOOR - LIGHTING
1/4" = 1'-0"



B1 STAIR LS4 - SEVENTH FLOOR - LIGHTING
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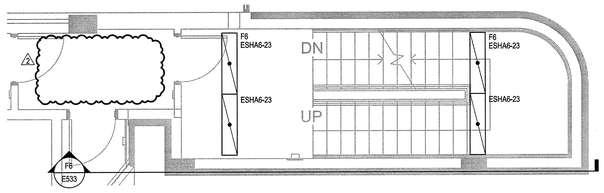
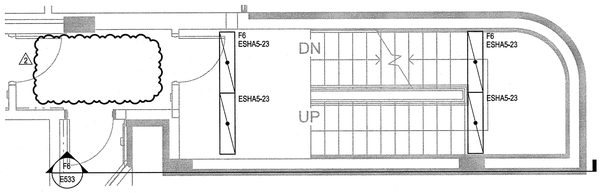
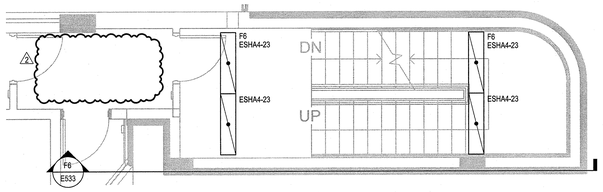


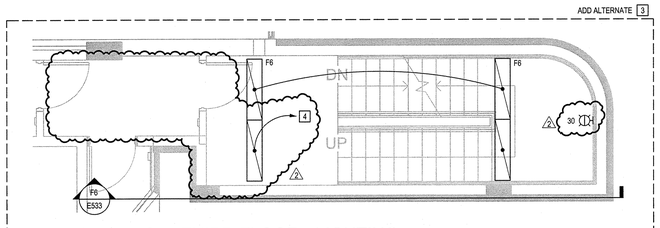
C1 STAIR LS4 - SIXTH FLOOR - LIGHTING
1/4" = 1'-0"



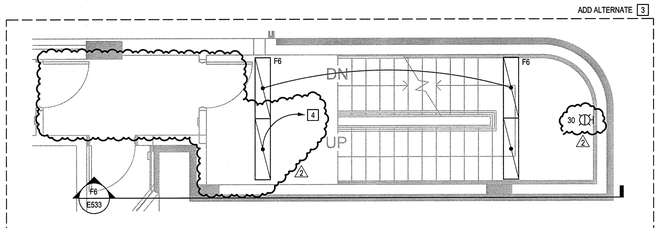
D1 STAIR LS4 - FIFTH FLOOR - LIGHTING
1/4" = 1'-0"



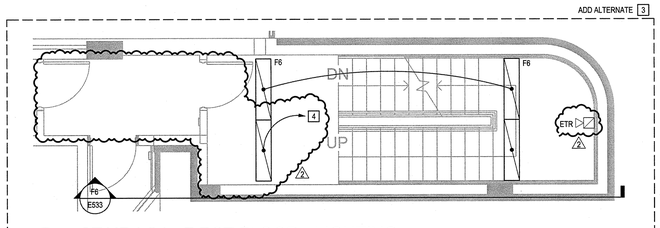
E1 STAIR LS4 - FOURTH FLOOR - LIGHTING
1/4" = 1'-0"



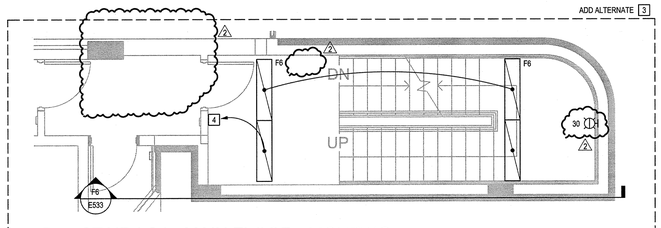
F1 STAIR LS4 - THIRD FLOOR - LIGHTING
1/4" = 1'-0"



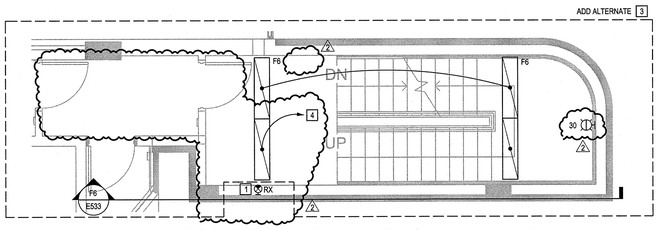
A3 STAIR LS4 - SECOND FLOOR - LIGHTING
1/4" = 1'-0"



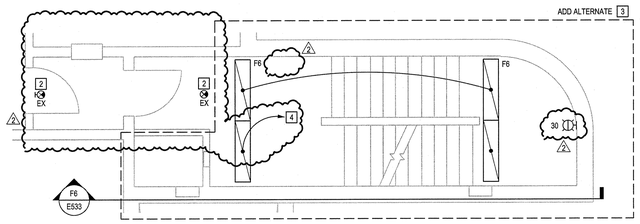
B3 STAIR LS4 - FIRST FLOOR - LIGHTING
1/4" = 1'-0"



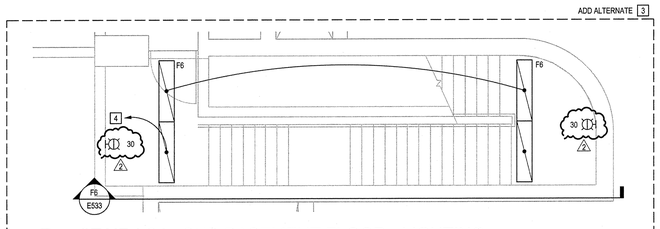
C3 STAIR LS4 - MAIN FLOOR - LIGHTING
1/4" = 1'-0"



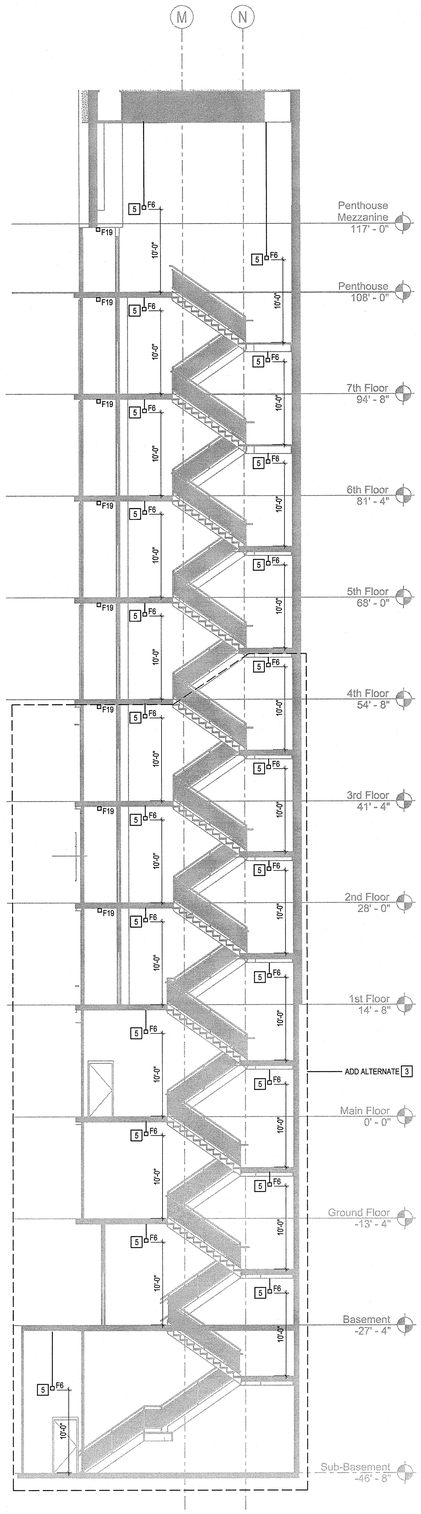
D3 STAIR LS4 - GROUND FLOOR - LIGHTING
1/4" = 1'-0"



E3 STAIR LS4 - BASEMENT FLOOR - LIGHTING
1/4" = 1'-0"



F3 STAIR LS4 - SUB-BASEMENT FLOOR - LIGHTING
1/4" = 1'-0"



F6 STAIR LS4 - SECTION - LIGHTING
1/8" = 1'-0"

GENERAL NOTES

1. REFER TO LIGHTING FIXTURE SCHEDULE ON DRAWING E700 FOR FIXTURE TYPE, MOUNTING, LAMPING, ETC.
2. PROVIDE EMERGENCY LIGHTING TRANSFER DEVICE FOR ALL SWITCHED FIXTURES (OCCUPANCY SENSOR OR MANUAL SWITCH) INDICATED ON NORMAL/EMERGENCY POWER IN OPEN OFFICES, CONFERENCE ROOMS, LABS, UTILITY, STORAGE, ETC. IN NORMAL OPERATION, FIXTURE SHALL BE FED VIA NORMAL POWER CIRCUIT SERVING ROOM AS INDICATED. FIXTURE SHALL TRANSFER TO EMERGENCY POWER (CIRCUIT INDICATED) DURING POWER FAILURE. REFER TO DETAIL F1/E530 FOR ADDITIONAL INFORMATION.
3. REFER TO ARCHITECTURAL DRAWINGS FOR REFLECTED CEILING PLAN.
4. OCCUPANCY SENSORS ARE SHOWN FOR GENERAL DESIGN INTENT ONLY. CONSULT OCCUPANCY SENSOR VENDOR FOR EXACT LOCATION, ORIENTATION, ETC. OF SENSORS IN EACH ROOM. COORDINATE OCCUPANCY SENSOR LOCATIONS WITH PENDANT LIGHT FIXTURES TO ALLOW FULL FUNCTIONALITY. IN NO CONDITION SHALL OCCUPANCY SENSOR BE VISIBLE FROM THE CORRIDOR FOR FALSE ACTIVATION.
5. REFER TO OCCUPANCY SENSOR WIRING DIAGRAMS B1/E530, D1/E530, D8/E530, F3/E530, AND F6/E530 FOR ADDITIONAL INFORMATION ON SENSOR INTEGRATION WITH LIGHTING.
6. WHERE OCCUPANCY SENSORS ARE INDICATED IN ROOMS WITH MULTIPLE SWITCHING, OCCUPANCY SENSOR SHALL CONTROL MULTIPLE SWITCHED FIXTURES IN ROOM. REFER TO B1/E601 FOR ADDITIONAL INFORMATION.
7. WHERE WALL-MOUNTED OCCUPANCY SENSORS ARE INDICATED, OCCUPANCY SENSOR SHALL BE MOUNTED SO THAT SENSOR IS NOT OBSTRUCTED BY OPEN DOOR.
8. COORDINATE SWITCH LOCATIONS WITH ARCHITECTURAL ELEVATIONS PRIOR TO ROUGH-IN.
9. REFER TO LOW-VOLTAGE SYSTEMS FLOOR PLANS E404.3A, E405.3A, E406.3A, E407.3A, AND E409.3A FOR FIRE ALARM DEVICES IN STAIR LEVELS 4 THROUGH PENTHOUSE.

KEY NOTES

1. REMOVE EXISTING EXIT SIGNAGE AT EXISTING STAIR DISCHARGE FLOOR IN BASE BID.
2. PROVIDE EXIT SIGN IN BASE BID. INTERCEPT AND EXTEND EXISTING EMERGENCY LIFE-SAFETY CIRCUIT SERVING STAIR.
3. ADD ALTERNATE: REMOVE EXISTING LIGHTING FIXTURES IN STAIR FROM THIRD FLOOR TO SUB-BASEMENT LEVEL. INSTALL NEW LIGHTING FIXTURES AS INDICATED ON THIS DRAWING. INSTALL NEW FIRE ALARM COMBINATION SPEAKER/STROBE LIGHT DEVICES.
4. PROVIDE POWER VIA THE CLOSEST UNSWITCHED EMERGENCY LIFE SAFETY CIRCUIT ON FLOOR.
5. FIXTURE IS 8'-0" IN LENGTH AND INCLUDES (2) 4' FIXTURES IN A CONTINUOUS ROW.

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Main Building Renovation

Building L - Project 2

263 Farmington Ave
Farmington, CT 06032

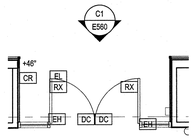
Revisions

No.	Date	Description
1	10/19/15	Issue for Bid and Code Review
2	11/02/15	Addendum #01

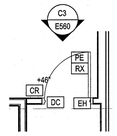
Drawing Name
STAIR PLANS & SECTIONS - ELECTRICAL

Project No. 218010732

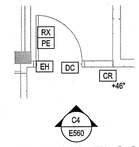
Drawing Number
E533



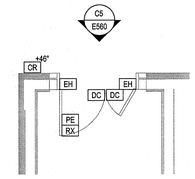
PARTIAL FLOOR PLAN
ACCESS CONTROL
DOOR
A1 1/4"=1'-0"



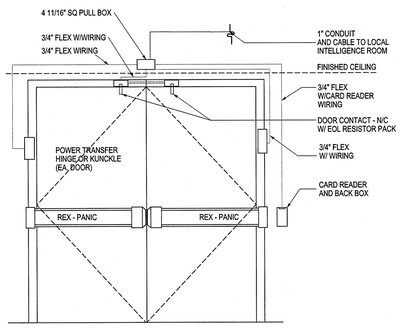
PARTIAL FLOOR PLAN
ACCESS CONTROL
DOOR
A3 1/4"=1'-0"



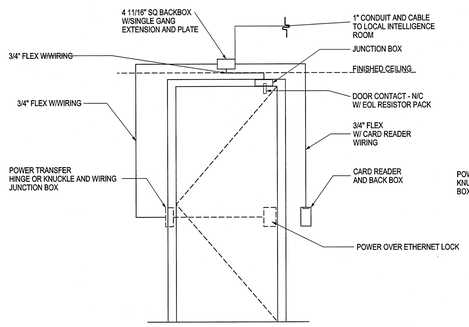
PARTIAL FLOOR PLAN
ACCESS CONTROL
DOOR
A3 1/4"=1'-0"



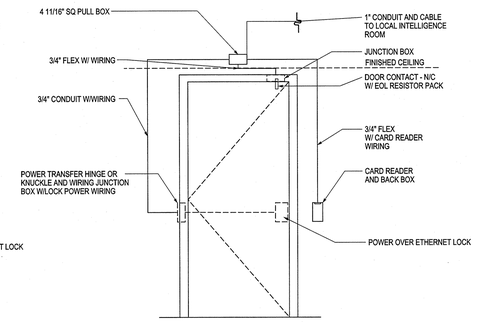
PARTIAL FLOOR PLAN
ACCESS CONTROL
DOOR
A5 1/4"=1'-0"



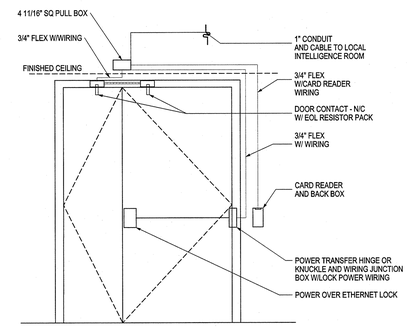
C1 ACCESS CONTROL DOOR ELEVATION
NTS



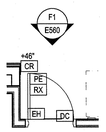
C3 ACCESS CONTROL DOOR ELEVATION
NTS



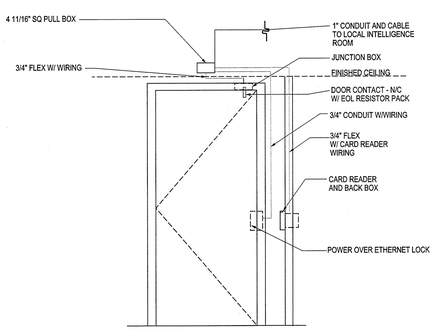
C4 ACCESES CONTROL DOOR ELEVATION
NTS



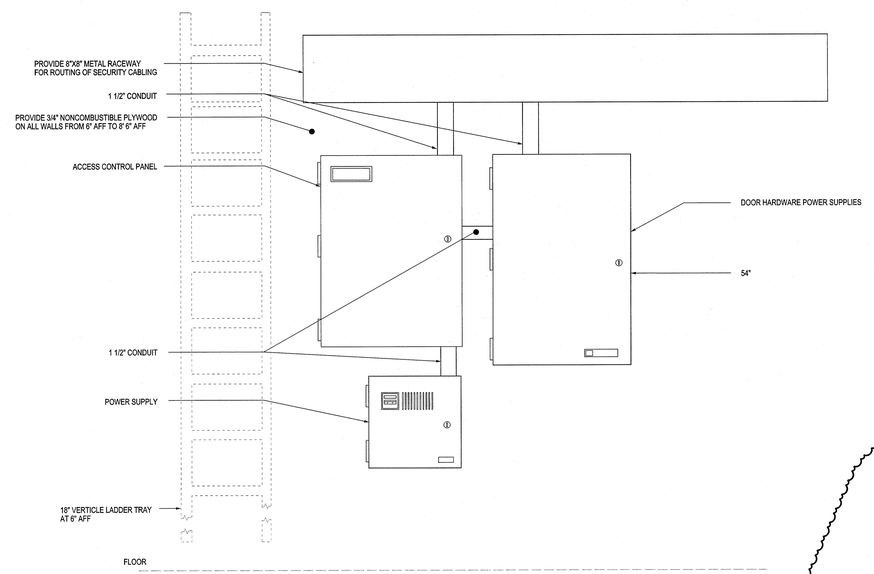
C5 ACCESS CONTROL DOOR ELEVATION
NTS



PARTIAL FLOOR PLAN
ACCESS CONTROL
DOOR
D1 1/4"=1'-0"



F1 ACCESS CONTROL DOOR ELEVATION
NTS

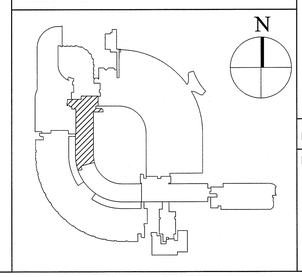


F5 ACCESS CONTROL PANEL WALL ELEVATION
NTS

GENERAL NOTES

1. ELECTRIFIED DOOR HARDWARE INCLUDING ELECTRIC LOCKS, MAGNETIC LOCKS, DOOR CONTACTS, AND ELECTRIC POWER TRANSFERS, SHALL BE PROVIDED BY THE DOOR AND HARDWARE PROVIDER. REFER TO PROJECT DOOR SCHEDULES AND DOORS, FRAMES, AND HARDWARE SPECIFICATIONS.
2. DOOR HARDWARE POWER SUPPLIES SHALL BE PROVIDED AT ACCESS CONTROL HEADEND LOCATIONS IN INTELLIGENCE ROOMS BY THE SECURITY CONTRACTOR.

KEYPLAN



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Farmington, CT 06032

Revisions

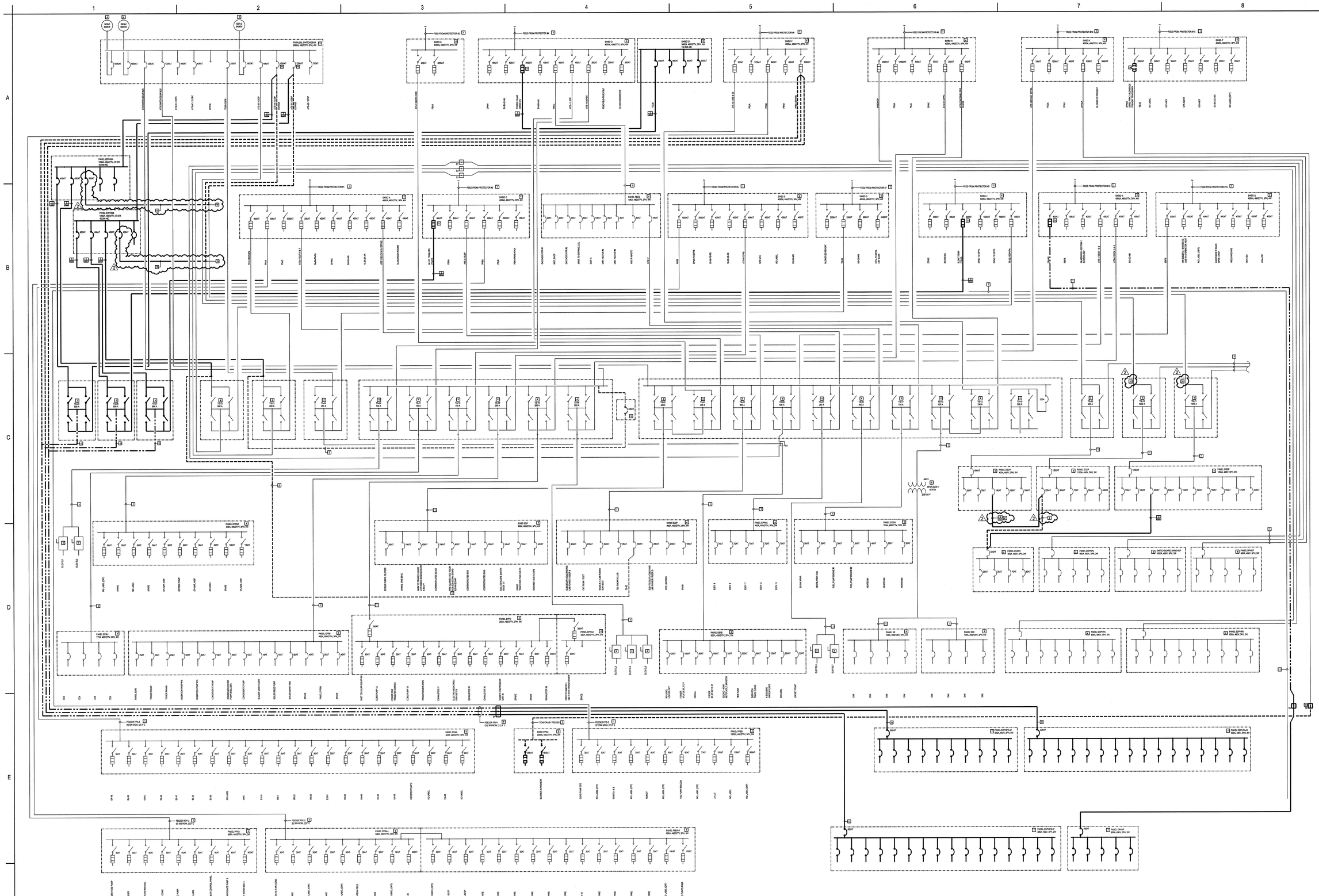
No.	Date	Description
1	10/19/15	Issue for Bid and Code Review
2	11/02/15	ADDENDUM #01

Drawing Name
LOW VOLTAGE SYSTEMS DETAILS - ACCESS CONTROL DOORS

Project No. 218010732

Drawing Number
E560

1.4



F1 ELECTRICAL SINGLE LINE DIAGRAM - PHASE 3A

NTS

LEGEND

- EXISTING TO REMAIN
- EXISTING TO BE REMOVED
- EXISTING TO BE REUSED
- NEW
- EQUIPMENT ENCLOSURE
- (F-XXX) FEEDER IDENTIFIER. REFER TO DRAWING E500.

KEY NOTES

1. EXISTING FEEDER TO REMAIN.
2. REMOVE EXISTING FEEDER.
3. PROVIDE NEW TRANSFER SWITCH.
4. EXISTING EQUIPMENT TO REMAIN.
5. REMOVE EXISTING EQUIPMENT.
6. EXISTING FEEDER AVAILABLE AFTER DISCONNECTION OF EXISTING LOAD. REUSE EXISTING CONDUCTORS AND CONDUIT TO FEED NEW EQUIPMENT AS INDICATED.
7. REFER TO EQUIPMENT SCHEDULES ON DRAWINGS E700-3A FOR RATINGS, CIRCUIT BREAKERS AND LOADS SERVED.
8. PROVIDE NEW SWITCHBOARD DISTRIBUTION SECTION.
9. REPLACE EXISTING FUSE WITH NEW, CURRENT-LIMITING FUSE. RATING OF NEW FUSES SHALL BE AS INDICATED. COORDINATE WITH RESULTS OF ARC FLASH HAZARD ANALYSIS TO LIMIT HAZARD CATEGORY.
10. ADJUST TRIP SETTINGS OF EXISTING BREAKERS BASED ON COORDINATION STUDY/ARC FLASH ANALYSIS TO LIMIT ARC FLASH HAZARD CATEGORY.
11. CAP AND MAKE SAFE EXISTING CONDUCTORS. INDICATE SOURCE SWITCHBOARD AND BREAKER ON COVER OF SPLICE BOX.
12. PROVIDE (3) 3" C EACH WITH (3) 500 kCmil & (1) #3/0G ALUMINUM CONDUCTORS. PROVIDE CONDUIT GROUNDING BUSHING ON EXISTING CONDUITS ENTERING SPLICE BOX FOR TERMINATION OF GROUNDING CONDUCTORS AT SPLICE.
13. PROVIDE (2) 3" C EACH WITH (3) 500 kCmil & (1) #2/0G ALUMINUM CONDUCTORS. PROVIDE CONDUIT GROUNDING BUSHING ON EXISTING CONDUITS ENTERING SPLICE BOX FOR TERMINATION OF GROUNDING CONDUCTORS AT SPLICE.
14. REMOVE FUSE AND TURN OVER TO OWNER. PROVIDE LOCKOUT DEVICE ON SPARE SWITCH.
15. PROVIDE (3) 3" CONDUITS FROM TRENCH TO TRANSFER SWITCH. REUSE (3) SETS OF (3) 500kCmil FROM EXISTING FEEDER FPP-1. ROUTE THROUGH NEW CONDUITS, AND TERMINATE IN TRANSFER SWITCH. PROVIDE (3) SETS OF #3/0 GROUND FROM CORRESPONDING EXISTING CONDUITS ENTERING TRENCH TO TRANSFER SWITCH GROUND BAR. REFER TO DETAIL F1 ON DRAWING ES32.
16. PROVIDE (2) 3" CONDUITS FROM TRENCH TO TRANSFER SWITCH. REUSE (2) SETS OF (3) 500kCmil FROM EXISTING FEEDER FPP-1. ROUTE THROUGH NEW CONDUITS, AND TERMINATE IN TRANSFER SWITCH. PROVIDE (2) SETS OF #3/0 GROUND FROM CORRESPONDING EXISTING CONDUITS ENTERING TRENCH TO TRANSFER SWITCH GROUND BAR. REFER TO DETAIL F1 ON DRAWING ES32.
17. RELABEL EXISTING CIRCUIT BREAKER FOLLOWING COMPLETION OF WORK.
18. PROVIDE COPPER FEEDER WITH 2 SETS OF (3) 350 KCMIL AND (1) #1 GROUND. ROUTE FEEDER IN 3"C AND WIREWAY.
19. SPLICE EXISTING FEEDER CONDUCTORS IN PULLBOX ABOVE PARALLELING SWITCHGEAR. CAP EXISTING FEEDER CONDUCTORS WHICH ON NOT USED.
20. REMOVE DE-ENERGIZED FEEDER CONDUCTORS FROM TRANSFER SWITCH TERMINALS.
21. PROVIDE TEMPORARY FEEDER TO FACILITATE MODIFICATIONS OF FEEDER TO TS-20. REMOVE AFTER MODIFICATIONS ARE COMPLETED.

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PROFESSIONAL ENGINEER

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263 Farmington Ave
Farmington, CT 06032

Revisions

No.	Date	Description
1	10/19/15	Issue for Bid and Code Review
2	11/02/15	Addendum #01

Drawing Name

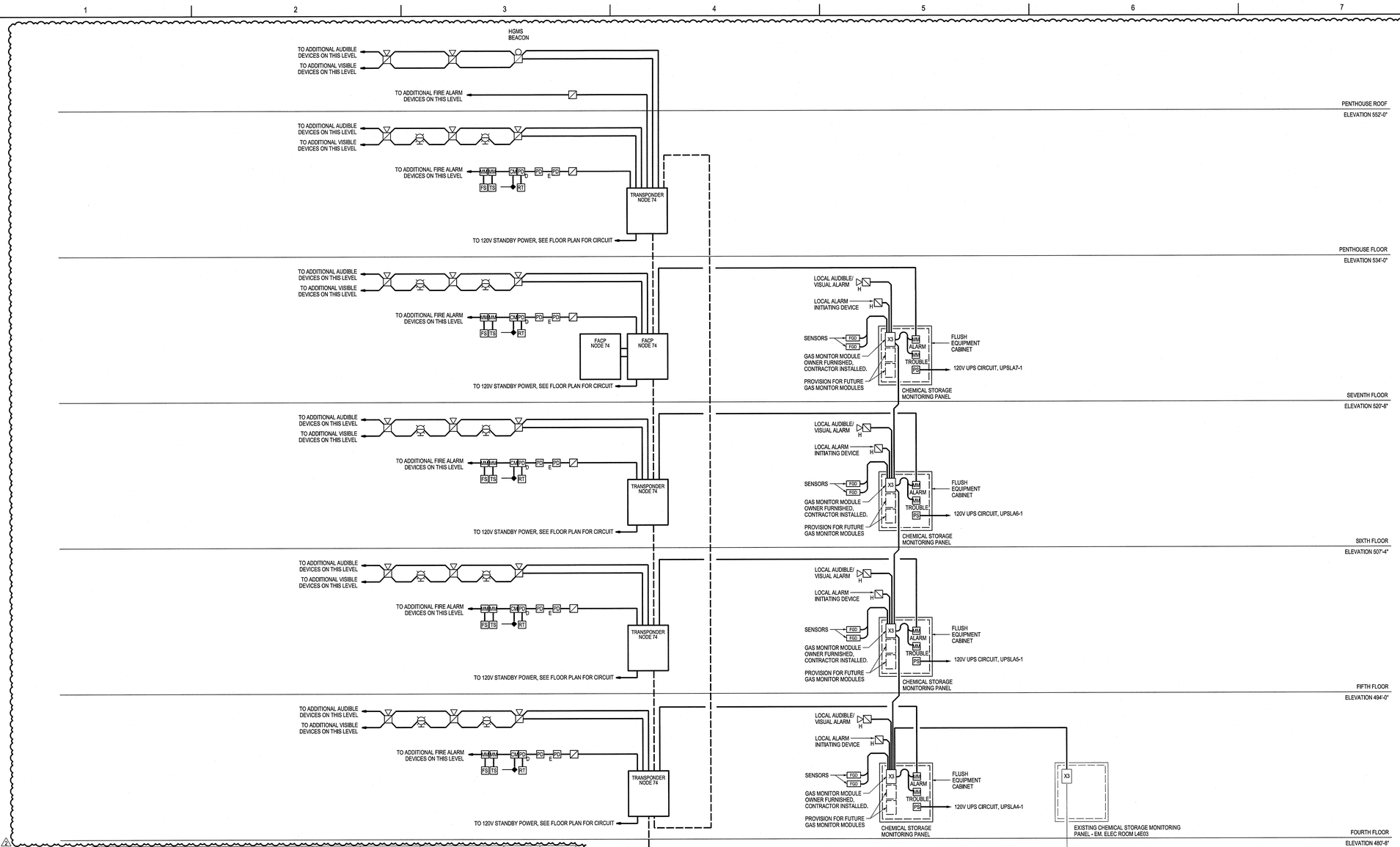
ELECTRICAL SINGLE LINE DIAGRAM - PHASE 3A

Project No. 218010732

Drawing Number

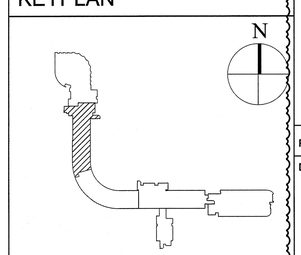
E600

1.4



INPUT DEVICES \ OUTPUT	FIRE ALARM ANNUNCIATION				FIRE ALARM NOTIFICATION					FIRE ALARM REQUIRED CONTROL								HGMS ALARM ANNUNCIATION	HGMS NOTIFICATION				
	A TROUBLE ALERT (INCLUDING VISUAL SIGNAL AND AUDIBLE ALARM)	B SUPERVISORY ALERT (INCLUDING VISUAL SIGNAL AND AUDIBLE ALARM)	C FIRE ALARM ALERT OF LOCATION AND TYPE OF INITIATION	D TROUBLE ALERT (INCLUDING ONLY VISUAL SIGNAL ALARM IN LOCAL ROOM.)	E ACTIVATE STROBES AND ANNOUNCE ALARM ON SPEAKERS	F DISPLAY CHANGE OF STATUS	G TRANSMIT CONDITION TO CENTRAL MONITORING STATION	H TRANSMIT ALL POINT STATUS INFORMATION TO THE BUILDING MANAGEMENT SYSTEM (BMS)	I NOTIFY ELEVATOR SYSTEM OF FIRE IN RESPECTIVE LOBBY, HOISTWAY, OR MACH ROOM	J CLOSE SMOKE/FIRE DAMPERS	K SEND ELEVATOR TO PRIMARY RECALL FLOOR	L SEND ELEVATOR TO ALTERNATE RECALL FLOOR	M GENERAL ALARM OUTPUT NOTIFICATION TO THE BUILDING SECURITY SYSTEM	N RELEASE SMOKE/FIRE DOOR HOLD OPENS	O FIRE ALARM SYSTEM SHALL INTERRUPT AHU CONTROL CIRCUIT TO SHUT DOWN UNIT (SUPPLY FAN ONLY)	P SIGNAL ACCESS CONTROL SYSTEM TO REQUIRED DOORS	Q HGMS ALERT (INCLUDING ONLY VISUAL SIGNAL AND AUDIBLE ALARM OUTSIDE AND INSIDE OF LOCAL ROOM & BEACON ON ROOF)	R ALERT OF LOCATION AND TYPE OF INITIATION TO HGMS CENTRAL STATION	S PA PRIORITY 2 TO MAIN FIRE ALARM CONTROL PANEL	T ACTIVATE STROBE AND AUDIBLE ALARM DESIGNATED FOR LOCAL HGMS SYSTEM (INSIDE AND OUTSIDE OF LOCAL ROOM & BEACON ON ROOF)	U DISPLAY CHANGE OF STATUS ON LOCAL HGMS CONTROL PANEL	V TRANSMIT CONDITION TO CENTRAL HGMS MONITORING STATION
1 MANUAL PULL STATIONS - ALL LOCATIONS			X		X	X	X	X					X	X			X						
2 ALL AREA SMOKE AND THERMAL DETECTORS			X		X	X	X	X					X	X			X						
3 DOOR RELEASE SMOKE DETECTORS			X		X	X	X	X					X	X			X						
4 DUCT SMOKE DETECTORS AT SMOKE DAMPERS			X		X	X	X	X		X			X										
5 DUCT SMOKE DETECTORS AT ANY AHU			X		X	X	X	X		X			X		X								
6 ELEVATOR LOBBY RECALL SMOKE DETECTOR ACTIVATED - PRIMARY FLOOR			X		X	X	X	X	X			X	X										
7 ELEVATOR LOBBY RECALL SMOKE DETECTOR ACTIVATED - ALL BUT PRIMARY FLOOR			X		X	X	X	X	X		X		X										
8 SPRINKLER CONTROL VALVE - TAMPER - ALL LOCATIONS		X				X	X																
9 SPRINKLER WATERFLOW - ALL LOCATIONS			X		X	X	X	X					X	X			X						
10 FIRE ALARM AC POWER FAILURE	X					X																	
11 FIRE ALARM SYSTEM LOW BATTERY	X					X																	
12 TROUBLE ON COMMUNICATIONS LINK	X					X																	
13 TROUBLE ON SIGNAL LINE CIRCUIT	X					X																	
14 TROUBLE ON NOTIFICATION APPLIANCE CIRCUITS	X					X																	
15 TROUBLE ON FIREMAN'S COMMUNICATION CIRCUITS	X					X																	
16 HGMS LOCAL MANUAL PULL STATION (OUTSIDE CHEMICAL STORAGE ROOM)																			X	X	X	X	X
17 ELECTROCHEMICAL DETECTOR																			X	X	X	X	X
18 FLAMMABLE GAS DETECTOR																			X	X	X	X	X
19 TROUBLE ON HGMS MONITORING CIRCUIT																		X				X	
20 THERMAL DETECTOR IN CHEMICAL STORAGE ROOM			X		X	X	X	X					X	X			X						

KEYPLAN



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NOT FOR CONSTRUCTION

UCONN HEALTH

Main Building Renovation

Building L - Project 2

263 Farmington Ave
Farmington, CT 06032

Revisions

No.	Date	Description
1	10/19/15	Issue for Bid and Code Review
2	11/02/15	Addendum #01

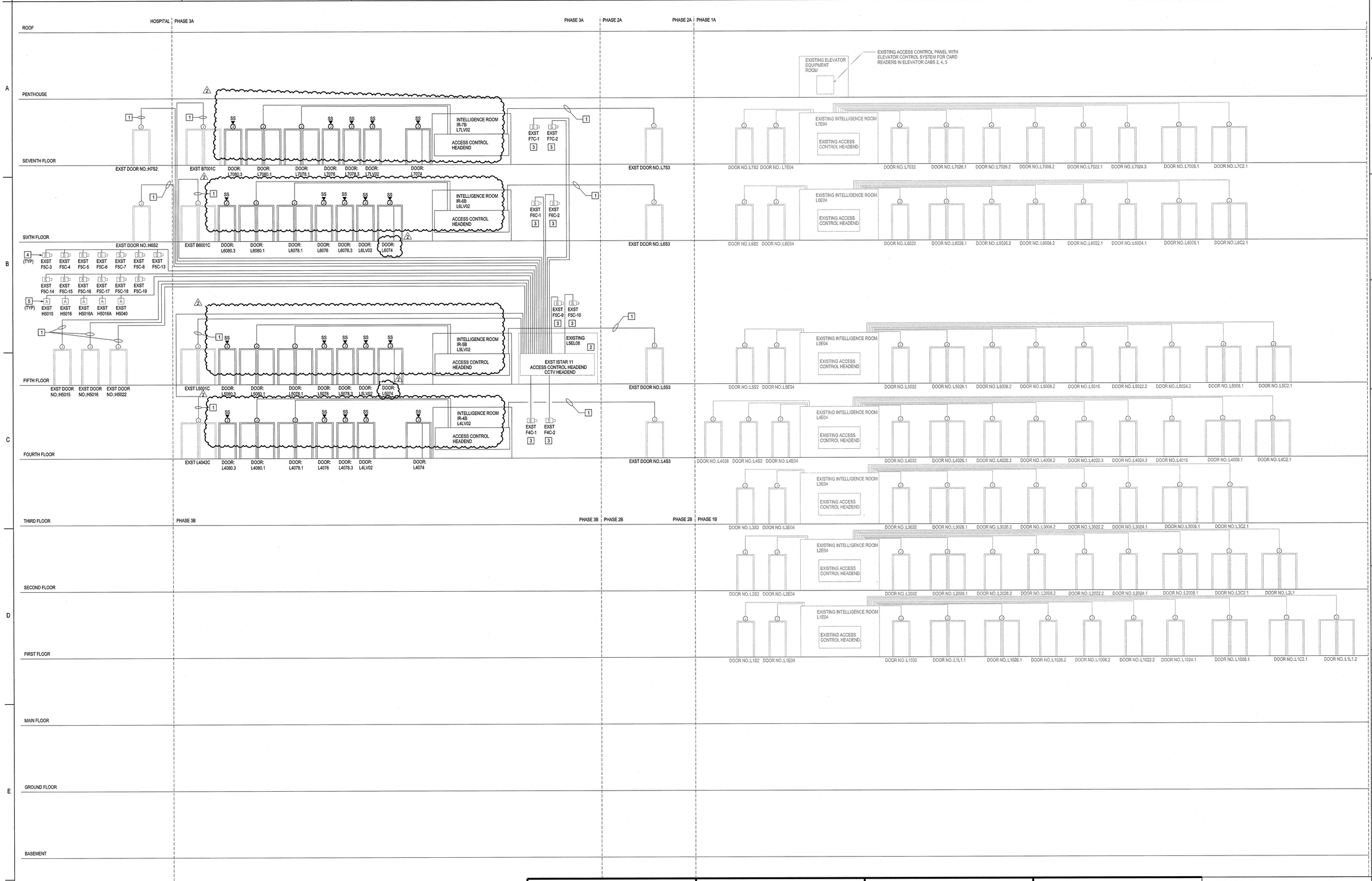
Drawing Name

FIRE ALARM RISER DIAGRAM PHASE 3A

Project No. 218010732

Drawing Number

E602.3A



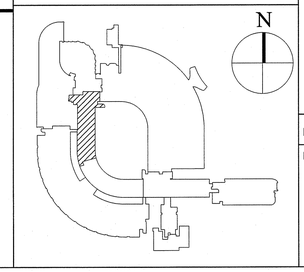
F1 ACCESS CONTROL DOORS RISER DIAGRAM - PHASE 3A
NTS

GENERAL NOTES

KEY NOTES

1. REFEED EXISTING TO REMAIN ACCESS CONTROL DOOR TO ACCESS CONTROL PANEL. PROVIDE TEMPORARY CONNECTIONS TO DOORS DURING CONSTRUCTION TO MAINTAIN OPERATION.
2. EXISTING TO REMAIN ISTAR 11 ACCESS CONTROL HEADEND. MAINTAIN OPERATION OF ISTAR 11.
3. REMOVE AND STORE EXISTING CAMERA WITHIN ACTIVE WORK ZONES. REINSTALL CAMERA IN FINISHED CONSTRUCTION. REFEED CAMERAS FROM EXISTING HEADEND LOCATION.
4. REFEED EXISTING CAMERAS FROM EXISTING HEADEND LOCATION. PROVIDE TEMPORARY CONNECTIONS DURING CONSTRUCTION AS REQUIRED TO MAINTAIN UNINTERRUPTED OPERATION.
5. REFEED EXISTING INTERCOM FROM EXISTING HEADEND LOCATION PROVIDE TEMPORARY CONNECTIONS DURING CONSTRUCTION AS REQUIRED TO MAINTAIN UNINTERRUPTED OPERATION.

KEYPLAN



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1	10/19/15	Issue for Bid and Code Review
2	11/02/15	ADDENDUM #01

Drawing Name
ACCESS CONTROL DOORS RISER DIAGRAM - PHASE 3A

Project No. 218010732

Drawing Number
E621.3A

1.4

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VOLUME ONE		
SEALING PAGE		
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	ELECTRONIC DOCUMENT AGREEMENT FORM	
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	INSPECTION AND TESTING AGENCY CERTIFICATION	
	CONTRACTORS INSPECTION AND TESTING CERTIFICATION	
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	PUNCHLIST FORM	
017823	OPERATION AND MAINTENANCE DATA	
017839	PROJECT RECORD DOCUMENTS	
017900	DEMONSTRATION AND TRAINING	
018113	SUSTAINABLE DESIGN REQUIREMENTS	
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VOLUME TWO

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VOLUME THREE

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281300 ACCESS CONTROL
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283111 DIGITAL, ADDRESSABLE FIRE-ALARM SYSTEM
283600 SPECIALTY GAS DETECTION AND ALARM

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SECTION 012200 - UNIT PRICES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section includes administrative and procedural requirements for unit prices.
   1. Concrete Floor Toppings.
   2. Transformer and Fire Alarm Equipment.
   3. Communication cabling and devices.

B. Related Requirements:

   1. Division 3: Section “Concrete Toppings” for quantities of toppings.

   2. Division 26: Electrical sections for transformers and fire alarm devices.

   3. Division 27:
      a. Section 271513 “Communications Copper Horizontal Cabling”
      b. Section 271543 “Communications Faceplates and Connectors”
      c. Section 271619 “Communications Patch Cords, Station Cords, and Cross Connect Wire”

1.3 DEFINITIONS

A. Unit price is an amount incorporated in the Agreement, applicable during the duration of the Work as a price per unit of measurement for materials, equipment, or services, or a portion of the Work, added to or deducted from the Contract Sum by appropriate modification, if the scope of Work or estimated quantities of Work required by the Contract Documents are increased or decreased**. The same unit price shall apply whether the work is added or deducted. Unit prices shall be included in the bid submission.**

B. Include as part of the base bid quotation the cleaning and sensitivity adjustment of smoke detectors and sampling tubes as needed during the warrantee period and the periodic regular testing of system devices to comply with Building Department and Fire Department requirements, during the warrantee period.

C. In addition to the base bid price quotation, submit separate quotations for each of the "Service Contract" components described hereinafter. It shall be understood that these quotations are for a one (1) year period commencing with the expiration of the warrantee period. The "contract" shall be renewable, at the Owner's option, for one (1) year periods up to a total of five (5) years.

The renewal contracts shall be based on the original, escalated by the national CPI. The quotations shall be for the following:

1. Inspection and Test: Provide all material and labor to test system by actuating all outlying alarm initiating devices, all manual control devices at the fire command station and annunciators, as well as verifying operation of all loudspeakers/strobes and wardens stations. Adjust as required to provide optimum system performance. Cleaning and adjusting of smoke detectors is excluded. Parts and labor for repairs and/or replacements is also excluded. Provide unit prices for all components of the system, installed in place. This service shall be provided at regular intervals complying with the requirements of the Building Department and the Fire Department.
2. Cleaning and Adjusting Smoke Detectors: Provide all material and labor for cleaning and adjusting the sensitivity of all area and duct type smoke detectors and sampling tubes. Cleaning shall be performed every six months. The sensitivity shall be checked once per year, and adjusted as required to insure compliance with UL requirements. Where detectors cannot be adjusted to so comply, they shall be replaced. Quotations shall be on a per unit basis for the cleaning and adjusting, with a separate quotation for replacement of any head that cannot be field adjusted to be within UL specified limits.
3. Repairs and Replacement: Provide all labor and parts as necessary to repair and/or replace any and all defective equipment components.

1.4 PROCEDURES

A. Unit prices include all necessary material, plus cost for delivery, installation, insurance, applicable taxes, overhead, and profit.

B. List of Unit Prices: A schedule of unit prices is included in Part 3. Specification Sections referenced in the schedule contain requirements for materials described under each unit price.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 UNIT PRICE SCHEDULE

A. Unit Prices in accordance with the following schedule will apply to this Contract.

Item No. 1 –BUCK BOOST TRANSFORMERS AND RECEPTACLES FOR SPECIAL LABORATORY EQUIPMENT

$ _____ per unit

Item No. 2 – FIRE ALARM AUDIBLE/VISUAL NOTIFICATION DEVICE (SPEAKER/STROBE)

$ _____ per unit

Item No. 3 – FIRE ALARM VISUAL NOTIFICATION DEVICE (STROBE)

$ _____ per unit

Item No. 4 – FIRE ALARM MANUAL PULL STATION

$ _____ per unit

Item No. 5 – FIRE ALARM SMOKE DETECTOR

$ _____ per unit

Item No. 6 – FIRE ALARM DUCT MOUNTED SMOKE DETECTOR

$ _____ per unit

Item No. 7 – ~~PROVIDE COST AS INDICATED IN 03530 1.2A.1~~ **Deleted by Addendum**

$ _____ per unit

Item No. 8 – PROVIDE COST AS INDICATED IN 035530 1.2A.2

$ _____ per unit

Item No. 9 – TYPE "SW" TELECOM OUTLET including jack modules, faceplate, outlet box, conduit stub, cabling, cabling support, patch panel port, terminations, labeling, testing, and record documentation.

$ _____ per unit

Item No. 10 – TYPE "D" TELECOM OUTLET including jack modules, faceplate, outlet box, conduit stub, cabling, cabling support, patch panel port, terminations, labeling, testing, and record documentation.

$ _____ per unit

Item No. 11 – TYPE "T" TELECOM OUTLET including jack modules, faceplate, outlet box, conduit stub, cabling, cabling support, patch panel port, terminations, labeling, testing, and record documentation.

$ _____ per unit

Item No. 12 – TYPE "Q" TELECOM OUTLET including jack modules, faceplate, outlet box, conduit stub, cabling, cabling support, patch panel port, terminations, labeling, testing, and record documentation.

$ _____ per unit

END OF SECTION 012200

SECTION 012300 - ALTERNATES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. This Section includes administrative and procedural requirements for alternates.

1.3 DEFINITIONS

A. Alternate: An amount proposed by bidders and stated on the Bid Form for certain work defined in the Bidding Requirements that may be added to or deducted from the Base Bid amount if Owner decides to accept a corresponding change either in the amount of construction to be completed or in the products, materials, equipment, systems, or installation methods described in the Contract Documents.

The cost or credit for each alternate is the net addition to or deduction from the Contract Sum to incorporate alternate into the Work. No other adjustments are made to the Contract Sum.

1.4 PROCEDURES

A. Coordination: Modify or adjust affected adjacent work as necessary to completely integrate work of the alternate into Project.

1. Include as part of each alternate, miscellaneous devices, accessory objects, and similar items incidental to or required for a complete installation whether or not indicated as part of alternate.

B. Notification: Immediately following award of the Contract, notify each party involved, in writing, of the status of each alternate. Indicate if alternates have been accepted, rejected, or deferred for later consideration. Include a complete description of negotiated modifications to alternates.

C. Execute accepted alternates under the same conditions as other work of the Contract.

D. Schedule: A Schedule of Alternates is included at the end of this Section. Specification Sections referenced in schedule contain requirements for materials necessary to achieve the work described under each alternate.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 SCHEDULE OF ALTERNATES

A. Alternate A1: **(note A1 has already been used by W/T)**

B. Alternate A2: Alternate to delete laboratory water heater WH-2, laboratory cold water piping, laboratory hot water piping, laboratory hot water return piping, and appurtenances from Penthouse. See Keynote #11 on plumbing drawing P20P.3A.

C. Alternate A3: Alternate to delete all ~~**wall protection**~~ C**orner and End-Guards** devices as specified in Section ~~**102600**~~ **055000** and indicated on the A 400 series drawings and End Guard EG1 and Corner Guard CG1 drawings.

D. Alternate A4: Alternate to delete Adaptable Casework as follows: Delete two ATA/ATB tables and associated mobile base cabinets per floor for a total reduction of eight ATA/ATB tables. . Delete two MTA1 tables with associated mobile base cabinets, by two per floor for a total reduction of eight MTA1tables.

E. Alternate A5: Alternate to provide work in Stair LS 4 from the 4th floor to the subbasement to match the work on floors 4, 5, 6, and 7 as follows: doors from the main (N/S) corridor at each floor to the stair including the stair door will have hardware changed out to match the upper floors. The stairs are to be painted, the hand rails are to be upgraded to, the lights to be changed out, the HVAC units are to be replaced, and the fire alarm and sprinklers are to be changed and added all to match the scope of work for the top 4 floors.

F. Alternate A6: Rework of chilled water piping in the penthouse as indicated on the following drawings:
Drawing H10P-3.b ALT defines the demolition work associated with removing the existing chilled water pipes.
Drawing H30P-3.b ALT defines the new scope of work associated with replacing the existing chilled water pipes.

G. Alternate A7: Alternate to provide AHU-L5 located on the north side of the penthouse as indicated on the following documents:
Drawing H20P.3A ALT – Provide AHU-L5 (refer to bullet point below for scope impact)
- Provide AHU-L5 and associated SA, RA and OA ductwork, dampers, sound attenuators and VFD's. Note: Adding AHU-L5 will the SA cross connect from AHU-L4 to shaft 7 and the RA cross connect from RF-L4 to shaft 6.
- Provide RF-L5, associated dampers, sound attenuators, VFD's and ductwork. (Provide LP-5 shown on H20R.3A if AHU-L5 is provided.)

Drawing H30P.3A ALT – Addition of AHU-L5 (refer to bullet point below for scope impact)
- Provide AHU-L5 – Provide associated glycol, steam, chilled water, condensate and cooling coil condensate piping.
- Provide Steam Pump Trap PT – L4.

- Relocate elevator machine room air cool condensing unit and recharge system as required.
- Relocate Chilled water Pipes as shown to create space for AHU-L5.

H. Alternate 8: Alternate to allow the use of reconditioned busplug circuit breakers in Electrical Rooms L4EL08, L5EL08, L6EL08 in lieu of the provision of new busplug circuit breakers.

END OF SECTION 012300

LEED 2009 for Commercial Interiors

Project Checklist

Uconn Health Center - Project 2

#######

Sustainable Sites — Possible Points: 21

Y	?	N			
9	1	10			
3			Credit 1	Site Selection	1 to 5
		6	Credit 2	Development Density and Community Connectivity	6
6	1		Credit 3.1	Alternative Transportation—Public Transportation Access	6
		2	Credit 3.2	Alternative Transportation—Bicycle Storage and Changing Rooms	2
		2	Credit 3.3	Alternative Transportation—Parking Availability	2

Water Efficiency — Possible Points: 11

Y	?	N			
6	5				
Y			Prereq 1	Water Use Reduction—20% Reduction	
6	5		Credit 1	Water Use Reduction	6 to 11

Energy and Atmosphere — Possible Points: 37

Y	?	N			
13	13	8			
Y			Prereq 1	Fundamental Commissioning of Building Energy Systems	
Y			Prereq 2	Minimum Energy Performance	
Y			Prereq 3	Fundamental Refrigerant Management	
1	1	3	Credit 1.1	Optimize Energy Performance—Lighting Power	1 to 5
2	1		Credit 1.2	Optimize Energy Performance—Lighting Controls	1 to 3
5	5		Credit 1.3	Optimize Energy Performance—HVAC	5 to 10
	1		Credit 1.4	Optimize Energy Performance—Equipment and Appliances	1 to 4
5			Credit 2	Enhanced Commissioning	5
		5	Credit 3	Measurement and Verification	2 to 5
	5		Credit 4	Green Power	5

Materials and Resources — Possible Points: 14

Y	?	N			
5		5			
Y			Prereq 1	Storage and Collection of Recyclables	
1			Credit 1.1	Tenant Space—Long-Term Commitment	1
		1	Credit 1.2	Building Reuse	1 to 2
2			Credit 2	Construction Waste Management	1 to 2
		1	Credit 3.1	Materials Reuse	1 to 2
		1	Credit 3.2	Materials Reuse—Furniture and Furnishings	1
1			Credit 4	Recycled Content	1 to 2
		1	Credit 5	Regional Materials	1 to 2
		1	Credit 6	Rapidly Renewable Materials	1
1			Credit 7	Certified Wood	1

Indoor Environmental Quality — Possible Points: 17

Y	?	N			
15		1			
Y			Prereq 1	Minimum IAQ Performance	
Y			Prereq 2	Environmental Tobacco Smoke (ETS) Control	
1			Credit 1	Outdoor Air Delivery Monitoring	1
1			Credit 2	Increased Ventilation	1
1			Credit 3.1	Construction IAQ Management Plan—During Construction	1
1			Credit 3.2	Construction IAQ Management Plan—Before Occupancy	1
1			Credit 4.1	Low-Emitting Materials—Adhesives and Sealants	1
1			Credit 4.2	Low-Emitting Materials—Paints and Coatings	1
1			Credit 4.3	Low-Emitting Materials—Flooring Systems	1
1			Credit 4.4	Low-Emitting Materials—Composite Wood and Agrifiber Products	1
1			Credit 4.5	Low-Emitting Materials—Systems Furniture and Seating	1
1			Credit 5	Indoor Chemical & Pollutant Source Control	1
1			Credit 6.1	Controllability of Systems—Lighting	1
1			Credit 6.2	Controllability of Systems—Thermal Comfort	1
1			Credit 7.1	Thermal Comfort—Design	1
1			Credit 7.2	Thermal Comfort—Verification	1
		1	Credit 8.1	Daylight and Views—Daylight	1 to 2
1			Credit 8.2	Daylight and Views—Views for Seated Spaces	1

Innovation and Design Process — Possible Points: 6

Y	?	N			
1	2				
	1		Credit 1.1	Innovation in Design: Exemp Perf Transportation	1
	1		Credit 1.2	Innovation in Design: Exemp Perform H20 Reduction	1
			Credit 1.3	Innovation in Design: Specific Title	1
			Credit 1.4	Innovation in Design: Specific Title	1
			Credit 1.5	Innovation in Design: Specific Title	1
1			Credit 2	LEED Accredited Professional	1

Regional Priority Credits — Possible Points: 4

Y	?	N			
			Credit 1.1	Regional Priority: Specific Credit	1
			Credit 1.2	Regional Priority: Specific Credit	1
			Credit 1.3	Regional Priority: Specific Credit	1
			Credit 1.4	Regional Priority: Specific Credit	1

Total — Possible Points: 110

Y	?	N
49	21	24

Certified 40 to 49 points Silver 50 to 59 points Gold 60 to 79 points Platinum 80 to 110

SECTION 035300 - CEMENTITIOUS TOPPING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of Contract, including General and Supplementary Conditions and Division-1 Specification Sections, apply to work of this Section.

1.2 SUMMARY

A. Cementitious Topping and Fill ~~Unit Price~~ **Pricing** Information:

1. **In the Base Bid** provide ~~the number and cost for bags of~~ cementitious topping required to fill ~~60,000~~ **34,000** square feet of floor area to a volume (thickness) of 1/2 inch.

2. Provide a unit price to **add or delete** ~~finish 60,000~~ **5** square feet of floor area **with cementitious topping 1/2 inch thick.**

B. Related Work:

1. Division 1, Section “Unit Prices” for unit pricing per cubic foot unit.

2. Division 3, Section “Cast in Place Concrete” for floor infill.

3. Division 9, Section “Resilient Floor Tile” for trowable leveling and patching compound for incidental areas where a thin layer, 0" to 1/8" thick, is required.

C. Sequencing

1. All floor fill to be installed after all demolition is completed

2. All floor fill is to be installed before any new construction is commenced except for utility rough-in.

1.3 SUBMITTALS

A. Product Data: Provide manufacturer's data, including recommended applications, for each factory-mixed product.

B. Laboratory Test Reports: Submit laboratory reports for mix design test.

PART 2 - PRODUCTS

2.1 CEMENTITIOUS UNDERLAYMENT

A. Provide products complying with requirements of the contract documents and made by one of the following:

1. Ardex V-1200 or K-15; Ardex, Inc.

2. Flo-Top; Euclid Chemical Co.

3. Thoro underlayment compound; Thoro System Products.

4. Lev-Ment; Tri-State Flooring Supplies Co.

5. Silflo 220; Silpro LLC.

B. Underlayment Compound: Provide a free-flowing, self-leveling, pumpable cementitious base compound with following characteristics.

1. Compressive strength: 3500 psi (min.) at 28 days.

2. Flexural strength: 1000 psi (min.) at 28 days.

3. Shear bond strength: 230 psi.

C. Primer: If required by the manufactureer, provide type of primer as recommended by underlayment compound manufacturer.

2.2 CONCRETE FILL

A. Portland Cement: ASTM C150, Type I or Type III.

B. Aggregate: ASTM C33. Provide fine aggregate consisting of sand or crushed stone screenings, which is clean, hard, and free from deleterious matter.

1. Fine aggregate: Sand or crushed stone screenings.

2. Large aggregate: Number 8.

C. Bonding Compound: Provide a bonding compound with a polyvinyl acetate or acrylic base. Subject to compliance with requirements, provide one of the following products:

1. Euco Weld; Euclid Chemical Co.

2. Everbond; L & M Construction Chemicals.

3. Sonocrete; Sonneborn-Rexnord.

4. SBR Latex; Euclid Chemical Co.

D. Wire Mesh Reinforcement: ASTM A185. 6" x 6" x 10/10-gage.

E. Fibrous Reinforcement: In lieu of wire mesh reinforcement, provide collated, fibrillated, polypropylene fibers. Subject to compliance with requirements, provide one of following products.

1. Forta CR; Forta Corp.

2. Fibermesh; Fibermesh, Inc.

F. Concrete Fill Mix: Design mix to produce concrete fill with following characteristics.

1. Compressive strength: 3500 psi (min.) at 28 days.

2. Slump: 8" maximum at point of placement for concrete containing high-range water-reducing admixture (super-plasticizer), and 3" maximum for other concrete.

3. W/C ratio: 0.51 (max.).

G. Mixing: Provide batch-type mechanical mixer for mixing concrete fill at Project site. Equip batch mixer with a suitable charging hopper, water storage tank, and a water-measuring device. Use only mixers which are capable of mixing aggregates, cement, and water into a uniform mix within specified time, and of discharging mix without segregation.

1. Mix each batch of 2 cu.yd. or less for at least 1-1/2 minutes after ingredients are in mixer. Increase mixing time 15 sec. for each additional cu.yd. or fraction thereof.

2.3 CURING MATERIALS

A. Moisture-Retaining Cover: If moisture-retaining cover is used, provide polyethylene-coated burlap complying with ASTM C171.

B. Liquid Membrane-Forming Curing Compound: If used, provide liquid-type membrane-forming curing compound complying with ASTM C309, Type I, Class A; moisture loss not more than 0.055 gr./sq.cm. when applied at 200 sq.ft./gal. Subject to compliance with requirements, provide one of following, or approved substitute, products which will not adversely affect bond of finish materials.

1. Masterseal; Master Builders.

2. Ecocure; Euclid Chemical Co.

3. Kure-N-Seal; Sonneborn-Rexnord.

4. L & M Cure; L & M Construction Chemicals.

PART 3 - EXECUTION

3.1 PREPARATION

A. Loose floor topping encountered during demolition shall be removed in its entirety prior to the installation of new concrete topping or fill.

B. Patch holes in floors and side walls to prevent leakage of materials into occupied spaces.

1. Provide dams and screeds at openings to adjacent spaces.

C. Remove dirt, loose material, oil, grease, paint or other contaminants, leaving a clean surface.

1. When base slab surface is unacceptable for good bonding, roughen surface by chipping or scarifying before cleaning. Prior to placing concrete fill, thoroughly dampen slab surface but do not leave standing water. Over dampened surface, apply specified bonding compound (re-wettable or non-rewettable) or epoxy adhesive. Place concrete fill after re-wettable bonding compound has dried or while non-rewettable bonding compound or epoxy adhesive is still tacky.

D. For concrete fill reinforced with wire mesh, provide necessary chairs or supports, and maintain position of reinforcing mesh as required.

E. If applicable, mark locations of joints in base slab so that joints in top course will be placed directly over them.

3.2 PLACING

A. Where used, spread cementitious underlayment in accordance with manufacturer's latest recommendations.

B. Where used, spread concrete fill evenly over prepared base to required elevation and strikeoff. Use highway straightedge, bull float, or darby to level surface of floor flatness (F_F) of 15 and a floor levelness (F_L) of 13 per ASTM E1155. Re-straighten where necessary with highway straightedge.

1. Check and level surface plane to tolerance of F_F of 18--F_L of 15. Grind down high areas and fill low areas. Uniformly slope surfaces to drains. Immediately after leveling, re-float surface to a uniform, smooth finish.

2. After floating, begin first trowel finish operation. Continue troweling until surface is ready to receive final troweling. Begin final troweling when a ringing sound is produced as trowel is moved over surface. Do not trowel in accumulated water. Do not add heat cement or a mixture of sand and cement to dry surface.

3. Continue final trowel operation to produce finished surface free of trowel marks, uniform in texture and appearance of F_f with final $F_F = 20$ and $F_L = 17$.

C. Where joints are required, construct to match and coincide with joints in base slab. Provide other joints as shown.

3.3 CURING AND PROTECTION

A. Begin initial curing as soon as free water has disappeared from exposed surfaces. Keep continuously moist for not less than 72 hours. Continue curing by use of moisture-retaining cover or membrane-forming curing compound.

B. Provide protection as required to prevent damage to exposed concrete surfaces.

C. Provide mechanical ventilation if required to remove odors.

3.4 PERFORMANCE

A. Failure of concrete fill to bond to substrate (as evidenced by a hollow sound when tapped), or disintegration or other failure of concrete fill to perform as a floor finish, will be considered failure of materials and workmanship. Repair or replace concrete fill in areas of such failures, as directed.

END OF SECTION 035300

SECTION 051200 - STRUCTURAL STEEL FRAMING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

1. Structural steel.

B. Related Sections:

1. Section 014000 "Quality Requirements" for independent testing agency procedures and administrative requirements.
2. Section 033000 "Cast-In-Place Concrete" for materials and installation of expansion and adhesive anchors.
3. Section 055000 "Metal Fabrications" for miscellaneous steel fabrications and other metal items not defined as structural steel.
4. Section 055100 "Metal Stairs."

1.3 DEFINITIONS

A. Structural Steel: Elements of structural-steel frame, as classified by AISC,s "Code of Standard Practice for Steel Buildings and Bridges," unless otherwise noted.

1.4 ACTION SUBMITTALS

A. General: Submit each item in this Article according to the Conditions of the Contract and Division 01 Specification Sections.

B. Shop drawings shall be reviewed and "checked" by the Fabricator prior to being submitted to the Engineer. Unchecked shop drawings shall be rejected and returned to the Contractor.

C. Contractor to provide a detailed submittal schedule identifying all submittals and the date they are to be received by BVH Integrated Services, P.C. Submittal schedule to be submitted two weeks prior to the start of the submittal process and updated every two weeks.

D. Product Data: For each type of product indicated.

E. Applicable shop standards for the following:

1. All gravity connection details with capacities.

F. Sample calculations for the following:

1. Simple shear connections including seated connections and skewed connections shall include checks for bolt shear, block shear, web bearing, shear on net section of connection material, bending on net section of connection material, and weld stress as applicable.
2. Bracing connections including checks for bolt shear, block shear, web bearing, tension yield on gross section of connection material, tension rupture or net section of connection material, compression buckling of gusset plate, and weld stress as applicable.
3. Beam web stiffeners including checks for compression buckling, crippling, sideways web buckling, local web yielding, and local flange bending as applicable.
4. Other design calculations for connections, as requested by the Engineer.
5. The above referenced standards and calculations must be submitted and approved at least two weeks prior to submitting detailed shop drawings. Shop drawings will not be reviewed until standards and calculations have been approved.

G. Shop Drawings: Show fabrication of structural-steel components.

1. Erection drawings showing weights and locations of all structural steel members shall be submitted for review prior to the submission of detail drawings. These erection drawings shall include large scale sections through all conditions to indicated suspended lintels, braces and field welding. No detail drawings shall be submitted prior to the review of shop standards and erection drawings.
2. Include details of cuts, connections, splices, camber, holes, and other pertinent data.
3. Include embedment drawings.
4. Indicate welds by standard AWS symbols, distinguishing between shop and field welds, and show size, length, and type of each weld. Show backing bars that are to be removed and supplemental fillet welds where backing bars are to remain.
5. Indicate type, size, and length of bolts, distinguishing between shop and field bolts. Identify pretensioned and slip-critical high-strength bolted connections.
6. Indicate working point locations and brace working lines on braced frame beam drawings.
7. For structural-steel connections indicated to comply with design loads, include structural analysis data signed and sealed by the qualified professional engineer responsible for their preparation.

H. Welding Procedure Specifications (WPSs) and Procedure Qualification Records (PQRs): Provide according to AWS D1.1/D1.1M, "Structural Welding Code - Steel," for each welded joint qualified by testing, including the following:

1. Power source (constant current or constant voltage).
2. Electrode manufacturer and trade name, for demand critical welds.

I. Fabricator Certificate of Compliance: At the completion of fabrication, the certified fabricator shall submit a Certificate of Compliance to the Building Official stating that the work was performed in accordance with the approved Construction Documents.

1.5 INFORMATIONAL SUBMITTALS

A. Qualification Data: For qualified firms and persons specified in the "Quality Assurance" article who demonstrated their capabilities and experience. Include lists of completed projects with project names and addresses, names and addresses of Architects and Owners, and other information specified.

B. Welding certificates.

C. Paint Compatibility Certificates: From manufacturers of topcoats applied over shop primers, certifying that shop primers are compatible with topcoats.

D. Mill test reports for structural steel, including chemical and physical properties.

E. Product Test Reports: For the following:

1. Bolts, nuts, and washers including mechanical properties and chemical analysis.
2. Direct-tension indicators.
3. Tension-control, high-strength bolt-nut-washer assemblies.
4. **Shear stud connectors.**
5. Shop primers.

1.6 QUALITY ASSURANCE

A. No fabrication is to proceed until the Testing Agency has visited the fabrication plant and coordinated all testing and inspection requirements with the fabrication schedule. A minimum of seven days prior to the start of fabrication, the Fabricator is to provide written notice to the Engineer of Record and the Owner's Testing Agency indicating the date fabrication procedures will start. Any fabrication that occurs prior to the coordination visit will be rejected at no cost to the Owner.

B. Fabricator Qualifications: A qualified fabricator that participates in the AISC Quality Certification Program and is designated an AISC-Certified Plant, Category STD.

C. Detailer Qualifications: A qualified detailer with a minimum of five years experience in structural steel detailing of similar projects.

D. Welding Qualifications: Qualify procedures and personnel according to AWS D1.1/D1.1M, "Structural Welding Code - Steel."

1. Present evidence that each welder has satisfactorily passed AWS qualification tests for welded processes involved, and if pertinent, has undergone recertification.

2. Welders and welding operators performing work on bottom-flange, demand-critical welds shall pass the supplemental welder qualification testing, as required by AWS D1.8. FCAW-S and FCAW-G shall be considered separate processes for welding personnel qualification.

E. Comply with applicable provisions of the following specifications and documents:

1. AISC 303.
2. AISC 341 and AISC 341s1.
3. AISC 360.
4. RCSC's "Specification for Structural Joints Using ASTM A 325 or A 490 Bolts."

F. Preinstallation Conference: Conduct conference at Project site.

1.7 DELIVERY, STORAGE, AND HANDLING

A. Store materials to permit easy access for inspection and identification. Keep steel members off ground and spaced by using pallets, dunnage, or other supports and spacers. Protect steel members and packaged materials from corrosion and deterioration.

1. Do not store materials on structure in a manner that might cause distortion, damage, or overload to members or supporting structures. Repair or replace damaged materials or structures as directed.

B. Store fasteners in a protected place in sealed containers with manufacturer's labels intact.

1. Fasteners may be repackaged provided Owner's testing and inspecting agency observes repackaging and seals containers.
2. Clean and relubricate bolts and nuts that become dry or rusty before use.
3. Comply with manufacturers' written recommendations for cleaning and lubricating ASTM F 1852 fasteners and for retesting fasteners after lubrication.

1.8 COORDINATION

A. Coordinate selection of shop primers with topcoats to be applied over them. Comply with paint and coating manufacturers' recommendations to ensure that shop primers and topcoats are compatible with one another.

B. Coordinate installation of anchorage items to be embedded in or attached to other construction without delaying the Work. Provide setting diagrams, sheet metal templates, instructions, and directions for installation.

PART 2 - PRODUCTS

2.1 STRUCTURAL-STEEL MATERIALS

A. W-Shapes: ASTM A 992.

B. Channels, Angles: ASTM A 36.

C. Plate and Bar: ASTM A 36.

D. Cold-Formed Hollow Structural Sections: ASTM A 500, Grade B, structural tubing.

E. Steel Pipe: ASTM A 53, Type E or S, Grade B.

1. Weight Class: As indicated.
2. Finish: As indicated.

F. Welding Electrodes: Comply with AWS requirements.

2.2 BOLTS, CONNECTORS, AND ANCHORS

A. High-Strength Bolts, Nuts, and Washers: ASTM A 325, Type 1, heavy-hex steel structural bolts; ASTM A 563, Grade C, heavy-hex carbon-steel nuts; and ASTM F 436, Type 1, hardened carbon-steel washers; all with plain finish.

B. High-Strength Bolts, Nuts, and Washers: ASTM A 490, Type 1, heavy-hex steel structural bolts; ASTM A 563, Grade DH, heavy-hex carbon-steel nuts; and ASTM F 436, Type 1, hardened carbon-steel washers with plain finish.

C. Shear Connectors: ASTM A 108, Grades 1015 through 1020, headed-stud type, cold-finished carbon steel; AWS D1.1/D1.1M, Type B.

D. Unheaded Anchor Rods: ASTM F 1554.

1. Configuration: As indicated.
2. Grade: As indicated.
3. Nuts: ASTM A 563 hex carbon steel.
4. Plate Washers: ASTM A 36 carbon steel.
5. Washers: ASTM F 436, Type 1, hardened carbon steel.
6. Finish: Plain.
7. Galvanized Finish: Hot-dip zinc-coating, ASTM A 153. Class C, where indicated. Retap nuts in accordance with ASTM A 385.

E. Threaded Rods: ASTM A 36.

1. Nuts: ASTM A 563 hex carbon steel.
2. Washers: ASTM F 436, Type 1, hardened carbon steel.

3. Finish: Plain.

2.3 PRIMER

A. Primer: Fast-curing, lead- and chromate-free, universal modified-alkyd primer with good resistance to normal atmospheric corrosion, complying with performance requirements of FS TT-P-664. Tnemec Series 88HS or approved equivalent.

B. Galvanizing Repair Paint: High-zinc-dust-content paint for regalvanizing welds and repair painting galvanized steel, with dry film containing not less than 93 percent zinc dust by weight, and complying with DOD-P-21035A or SSPC-Paint 20.

C. Primer for Exterior Exposed Steel: Tnemec Series 90-97 Tnemec-zinc or approved equivalent.

2.4 FABRICATION

A. Structural Steel: Fabricate and assemble in shop to greatest extent possible. Fabricate according to AISC's "Code of Standard Practice for Steel Buildings and Bridges" and "Specification for Steel Buildings."

1. Fabricate beams with rolling camber up.
2. Identify high-strength structural steel according to ASTM A 6 and maintain markings until structural steel has been erected.
3. Mark and match-mark materials for field assembly.
4. Complete structural-steel assemblies, including welding of units, before starting shop-priming operations.

B. Thermal Cutting: Perform thermal cutting by machine to greatest extent possible.

1. Plane thermally cut edges to be welded to comply with requirements in AWS D1.1.

C. Bolt Holes: Drill or punch standard bolt holes perpendicular to metal surfaces.

D. Finishing: Accurately finish ends of columns and other members transmitting bearing loads.

E. Cleaning: Clean and prepare steel surfaces that are to remain unpainted according to SSPC-SP 1, "Solvent Cleaning."

F. Shear Connectors: Prepare steel surfaces as recommended by manufacturer of shear connectors. Use automatic end welding of headed-stud shear connectors according to AWS D1.1/D1.1M and manufacturer's written instructions.

G. Holes: Provide holes required for securing other work to structural steel.

1. Drill or punch holes perpendicular to steel surfaces. Do not thermally cut bolt holes or enlarge holes by burning.
2. Weld threaded nuts to framing and other specialty items indicated to receive other work.

2.5 SHOP CONNECTIONS

A. High-Strength Bolts: Shop install high-strength bolts according to RCSC's "Specification for Structural Joints Using ASTM A 325 or A 490 Bolts" for type of bolt and type of joint specified.

1. Joint Type: Snug tightened.

B. Design of end connections shall be in accordance with the AISC's "Manual of Steel Construction." Field connections may be bolted using 3/4-inch diameter bolts minimum, except where noted welded. A minimum of two bolts per member connection is required.

C. Beam end connections shall be selected and detailed for 1.25 times the reactions indicated. A minimum connection capacity of 6k shall be provided. Reactions governed by the 6k minimum are designated as such on plan, and need not be increased by the factor of 1.25. For the purpose of bidding only, connections where no end reactions are indicated may be estimated for reaction equal to one-half the allowable uniform load for the beam span. Connections for composite beams with no end reaction indicated may be estimated for 1.5 times one-half the allowable uniform load for the beam span. For design purposes, the Fabricator shall submit a RFI to the Engineer to request values for any reactions that are not indicated.

D. Connections shall be consistent with Type 2 construction as described in the AISC Specifications, unless otherwise indicated on the Structural Drawings.

E. Weld Connections: Comply with AWS D1.1 and AWS D1.8 for tolerances, appearances, welding procedure specifications, weld quality, and methods used in correcting welding work.

1. Assemble and weld built-up sections by methods that will maintain true alignment of axes without exceeding tolerances in AISC 303 for mill material.

2.6 SHOP PRIMING

A. Shop prime steel surfaces except the following:

1. Surfaces embedded in concrete or mortar. Extend priming of partially embedded members to a depth of 2 inches.
2. Surfaces to be field welded.
3. **Beam flanges where shear connectors are installed.**
4. **Top flanges of beams to receive shear connectors.**
5. Surfaces to be high-strength bolted with slip-critical connections.
6. Surfaces to receive sprayed fire-resistive materials (applied fireproofing).
7. Galvanized surfaces.

B. Surface Preparation: Clean surfaces to be painted. Remove loose rust and mill scale and spatter, slag, or flux deposits. Prepare surfaces according to the following specifications and standards:

1. SSPC-SP 2, "Hand Tool Cleaning." Provide where standard shop primer is specified.

2. SSPC-SP 6/NACE No. 3, "Commercial Blast Cleaning." Provide where steel is exposed.

C. Priming: Immediately after surface preparation, apply primer according to manufacturer's written instructions and at rate recommended by SSPC to provide a minimum dry film thickness of 1.5 mils. Use priming methods that result in full coverage of joints, corners, edges, and exposed surfaces.

1. Stripe paint corners, crevices, bolts, welds, and sharp edges.
2. Apply two coats of shop paint to surfaces that are inaccessible after assembly or erection. Change color of second coat to distinguish it from first.

2.7 GALVANIZING

A. Hot-Dip Galvanized Finish: Apply zinc coating by the hot-dip process to structural steel according to ASTM A 123. All zinc material shall meet the chemical requirements for High Grade Zinc according to ASTM B6.

1. Fill vent and drain holes that will be exposed in the finished Work unless they will function as weep holes, by plugging with zinc solder and filing off smooth.
2. Galvanize lintels and shelf angles attached to structural-steel frame and located in exterior walls.

2.8 SOURCE QUALITY CONTROL

A. Testing Agency: Owner will engage an independent testing and inspecting agency to perform shop tests and inspections and prepare test reports.

1. Testing agency will conduct and interpret tests and state in each report whether test specimens comply with or deviate from requirements.
2. Provide testing agency with access to places where structural-steel work is being fabricated or produced to perform tests and inspections.

B. Correct deficiencies in Work that test reports and inspections indicate does not comply with the Contract Documents.

C. Additional testing, at Contractor’s expense, will be performed to determine compliance of corrected work with specified requirements.

D. Shop Bolted Connections: Shop-bolted connections will be tested and inspected according to RCSC's "Specification for Structural Joints Using ASTM A 325 or A 490 Bolts."

E. Shop Welded Connections: In addition to visual inspection, shop-welded connections will be tested and inspected according to AWS D1.1.

F. Shop-welded connections will be tested and inspected according to AWS D1.1 and the inspection procedures listed below:

1. Inspect and test shop fillet welds as follows:

    a. Visually inspect 100 percent of all fillet welds prior to the application of a shop primer.
    b. Witness the actual welding procedures and perform magnetic particle tests on a minimum of 5 percent of fillet welds.
    c. Witness the actual welding procedures of all multi-pass fillet welds and single pass fillet welds greater than 5/16 inch.
    d. Welds that do not pass visual inspection are to be tested again using either magnetic particle or dye penetration test methods.

2. Witness the welding procedure and perform ultrasonic testing (ASTM E 164) on 100 percent of all full and partial penetration welds.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Before details proceed, verify the existing elevations, locations and dimensions required.

B. Before erection proceeds, verify, with steel Erector present, elevations of concrete- and masonry-bearing surfaces and locations of anchor rods, bearing plates, and other embedments for compliance with requirements.

    1. Prepare a certified survey of bearing surfaces, anchor rods, bearing plates, and other embedments showing dimensions, locations, angles, and elevations.

C. Before fabrication and erection proceeds, field verify location of potentially effected existing concrete framing reinforcing. Adjust location of anchor holes in new steel as required to not damage existing reinforcing. Do not damage existing reinforcing.

D. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. Provide temporary shores, guys, braces, and other supports during erection to keep structural steel secure, plumb, and in alignment against temporary construction loads and loads equal in intensity to design loads. Remove temporary supports when permanent structural steel, connections, and bracing are in place unless otherwise indicated.

3.3 ERECTION

A. Set structural steel accurately in locations and to elevations indicated and according to AISC,s "Code of Standard Practice" and AISC’s "Specification for Structural Steel Buildings."

B. Base Bearing and Leveling Plates: Clean concrete- and masonry-bearing surfaces of bond-reducing materials, and roughen surfaces prior to setting plates. Clean bottom surface of plates.

1. Set plates for structural members on wedges, shims, or setting nuts as required.
2. Weld plate washers to top of baseplate.
3. Snug-tighten anchor rods after supported members have been positioned and plumbed. Do not remove wedges or shims but, if protruding, cut off flush with edge of plate before packing with grout.

C. Maintain erection tolerances of structural steel within AISC's "Code of Standard Practice for Steel Buildings and Bridges."

D. Align and adjust various members that form part of complete frame or structure before permanently fastening. Before assembly, clean bearing surfaces and other surfaces that will be in permanent contact with members. Perform necessary adjustments to compensate for discrepancies in elevations and alignment.

1. Level and plumb individual members of structure.
2. Make allowances for difference between temperature at time of erection and mean temperature when structure is completed and in service.

E. Splice members where indicated and as required to comply with OSHA requirements.

F. Do not use thermal cutting during erection.

G. Do not enlarge unfair holes in members by burning or using drift pins. Ream holes that must be enlarged to admit bolts.

H. Shear Connectors: Prepare steel surfaces as recommended by manufacturer of shear connectors. Use automatic end welding of headed-stud shear connectors according to AWS D1.1 and manufacturer's written instructions.

I. The Contractor shall accept full responsibility for design strength, safety and adequacy of all temporary bracing and sequencing of structural steel erection to brace the structure. Provide all temporary braces, guys, connections and work platforms required to safely resist all loads, including storms, to which the structure may be subjected.

J. The Contractor shall guy, plumb and align framing in accordance with limits defined in the AISC’s "Code of Standard Practice."

K. Any corrections required in the field to make members fit shall be brought to the attention of the Engineer for approval.

L. Provide angle frames for all openings in composite steel floor deck and steel roof deck larger than 12 inches.

M. Provide angle frames to support all roof drain sump pans and roof infills.

3.4 FIELD CONNECTIONS

A. High-Strength Bolts: Install high-strength bolts according to RCSC's "Specification for Structural Joints Using ASTM A 325 or A 490 Bolts" for type of bolt and type of joint specified.

   1. Joint Type: Snug tightened.

B. Design and end connections shall be in accordance with the AISC's "Manual of Steel Construction." A minimum of two bolts per member connection is required. Field connections may be bolted using 3/4 inch diameter bolts minimum, except where noted welded.

C. Beam end connections shall be selected and detailed for 1.25 times the reactions indicated. A minimum connection capacity of 6k shall be provided. Reactions governed by the 6k minimum are designated as such on plans, and need not be increased by the factor of 1.25. For the purpose of bidding only, connections where no end reactions are indicated may be estimated for a reaction equal to one-half the allowable uniform load for the beam span. Connections for composite beams with no end reaction indicated may be estimated for 1.5 times one-half the allowable uniform load for the beam span. For design purposes, the Fabricator shall submit a RFI to the Engineer to request values for any reactions that are not indicated.

D. Connections shall be consistent with Type 2 construction as described in the AISC Specifications, unless otherwise indicated on the Structural Drawings.

E. Weld Connections: Comply with AWS D1.1 and AWS D1.8 for tolerances, appearances, welding procedure specifications, weld quality, and methods used in correcting welding work.

   1. Comply with AISC 303 and AISC 360 for bearing, alignment, adequacy of temporary connections, and removal of paint on surfaces adjacent to field welds.
   2. Remove backing bars or runoff tabs where indicated, back gouge, and grind steel smooth.
   3. Assemble and weld built-up sections by methods that will maintain true alignment of axes without exceeding tolerances in AISC's "Code of Standard Practice for Steel Buildings and Bridges" for mill material.

3.5 FIELD QUALITY CONTROL

A. Testing Agency: Owner will engage a qualified independent testing and inspecting agency to perform field inspections and tests and to prepare test reports.

B. Correct deficiencies in or remove and replace structural steel that inspections and test reports indicate do not comply with specified requirements.

C. Additional testing, at Contractor's expense, will be performed to determine compliance of correct work with specified requirements.

D. Bolted Connections: Bolted connections will be inspected according to RCSC's "Specification for Structural Joints Using ASTM A 325 or A 490 Bolts."

E. Welded Connections: Field welds will be visually inspected according to AWS D1.1 and the inspection procedures listed below:

1. Inspect and test field fillet welds as follows:

a. Visually inspect 100 percent of all fillet welds.
b. Witness the actual welding procedures and perform magnetic particle test on a minimum of 15 percent of all fillet welds.
c. Witness the actual welding procedures of all multi-pass fillet welds and single pass fillet welds greater than 5/16 inch.
d. Welds that do not pass visual inspection are to be tested again using either magnetic particle or dye penetration test methods.

2. Witness the welding procedures and perform ultrasonic testing (ASTM E 164) on 100 percent of all full and partial penetration welds.

F. The Fabricator and Erector are to provide the testing and inspection agency and the Special Inspector safe access to the site throughout the duration of the steel erection. The Fabricator is to notify the testing agency and the Special Inspector a minimum of 48 hours prior to the start of erection.

G. In addition to visual inspection, test and inspect field-welded shear connectors according to requirements in AWS D1.1 for stud welding and as follows:

1. Perform bend tests if visual inspections reveal either a less-than-continuous 360-degree flash or welding repairs to any shear connector.
2. Conduct tests on additional shear connectors if weld fracture occurs on shear connectors already tested, according to requirements in AWS D1.1.

H. Correct deficiencies in Work that test reports and inspections indicate does not comply with the Contract Documents.

3.6 REPAIRS AND PROTECTION

A. Galvanized Surfaces: Clean areas where galvanizing is damaged or missing and repair galvanizing to comply with ASTM A 780. Clean field welds, bolted connections, and abraded areas and apply galvanizing repair paint according to ASTM A 780.

B. Touchup Painting: Immediately after erection, clean exposed areas where primer is damaged or missing and paint with the same material as used for shop painting to comply with SSPC-PA 1 for touching up shop-painted surfaces.

1. Clean and prepare surfaces by SSPC-SP 2 hand-tool cleaning or SSPC-SP 3 power-tool cleaning.

END OF SECTION 051200
11/2/15

SECTION 055000 - METAL FABRICATIONS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

A. This Section includes the following:

1. Steel framing and supports for applications where framing and supports are not specified in other Sections.
2. Metal Ladders.
3. Miscellaneous metal trim.
4. Corner **and End** guards. (Alternate Bid)
5. Closure at sub-basement areaway.

B. Related Sections include the following:

1. Division 06 Section "Interior Architectural Woodwork" for supports.

1.3 ACTION SUBMITTALS

A. Product Data: Submit manufacturer's specifications and product data for metal members, anchor details and installation instructions for each product used in the work, including finishing material and methods, grout, anchoring cement, and paint products.

B. LEED Submittals:

1. Product Data for Credit MR 4: For products having recycled content, documentation indicating percentages by weight of postconsumer and preconsumer recycled content. Include statement indicating cost for each product having recycled content.

C. Shop Drawings: Submit complete shop drawings for fabrication and erection. Include plans, elevations and details of sections and connections. Show anchorage and accessory items. Provide templates for anchor and bolt installation by others. Coordinate with and indicate adjacent surfaces, materials, and equipment.

1. Shop drawings shall show layout, spacings, sizes, thicknesses and types of ornamental metalwork, fabrication, fastening and anchorage details, including welded connections and mechanical fasteners. Indicate materials, profiles of each member and fitting, joinery, connection details, finishes, fasteners, anchorages and accessory items. Show

reinforcing, supplemental framing, bracing, bridging, splices and attachments to other units of Work, and other details required for proper installation.

2. Obtain detailed drawings of all work by other trades with materials to be supported from or penetrate through ornamental metalwork fabrications. Provisions for the work shall be indicated on shop drawings before submission.
3. Include details of cuts, connections, splices and other pertinent data.
4. Indicate welds by standard AWS symbols, distinguishing between shop and field welds, and show size, length, and type of each weld.
5. Provide setting diagrams, templates, and directions for installation of anchor bolts and other anchorages to be installed as work of other sections.
6. Coordinate with and indicate work by others to be integrated with ornamental metalwork.
7. Indicate and provide catalog cuts of all fasteners that will be exposed in finish work. Indicate finish of fasteners to match the adjacent metal work finishes.

D. Samples for Verification- For of each profile and pattern of fabricated metal and each type of metal finish required, prepared on metal of same thickness and alloy indicated for final unit of Work. Where finishes involve normal color and texture variations, include sample sets composed of two or more units showing the full range of variations expected.

1. Include 6 inch long samples of each linear shape.
2. Include 6 inch square samples of plates.
3. Include full-size samples of castings and forgings.

1.4 INFORMATIONAL SUBMITTALS

A. Qualification Data: For qualified professional engineer.

B. Welding certificates.

1.5 GENERAL PERFORMANCE REQUIREMENTS

A. Structural Performance: Contractor shall engineer metalwork fabrications and connections required by the Contract Documents to be capable of withstanding the effects of live loads, gravity loads and other loads and stresses within limits required and under conditions indicated for the materials or equipment to be supported.

1. Design metalwork fabrications to withstand design loads without vertical or lateral deflections that exceed the tolerances required by the materials or equipment being supported.

B. Engineering Responsibility: Engage a fabricator who utilizes a qualified professional engineer to prepare calculations, Shop Drawings, and other structural data for ornamental metalwork connections.

C. Design metalwork fabrications to accommodate deflection of primary building structure and construction tolerances.

D. Control of Corrosion and Staining: Prevent galvanic and other forms of corrosion as well as staining by isolating metals from direct contact with incompatible materials. Use materials that are nonstaining to exposed surfaces of supported materials.

1.6 QUALITY CONTROL

A. Testing Agency Qualifications: To qualify for acceptance, an independent testing agency must demonstrate Architect's satisfaction, based on evaluation of agency-submitted criteria conforming to ASTM E 699, that it has the experience and capability to satisfactorily conduct the testing without delaying the Work.

B. Field Measurements: Take field measurements prior to preparation of shop drawings and fabrication, where possible. Do not delay job progress; allow for trimming and fitting where taking field measurements before fabrication might delay work.

C. Shop Assembly: Pre-assemble items in shop to greatest extent possible to minimize field splicing and assembly. Disassemble units only as necessary for shipping and handling limitations. Clearly mark units for reassembly and coordinated installation.

D. Single-Source Responsibility: Obtain material from a single manufacturer.

E. Fabricator Qualifications: Firm experienced in successfully producing metalwork similar to that indicated for this Project and with sufficient production capacity to produce required units without delaying the Work.

F. Installer Qualifications: Engage an experienced installer who has completed metalwork fabrications similar in material, design, and extent to that indicated for Project that has resulted in construction with a record of successful in-service performance.

1. Arrange for installation of metalwork specified in this Section by the same firm that fabricated it.
2. Engineering Responsibility: Engage a qualified professional engineer to prepare or supervise the preparation of data for structural aluminum fabrications including drawings and comprehensive engineering analysis that shows the system's compliance with specified requirements.

G. Professional Engineer Qualifications: A professional engineer who is licensed in state where project is located and who is experienced in providing engineering services of the kind indicated. Engineering services are defined as those performed for projects with ornamental metalwork fabrications that are similar to that indicated for this Project in material, design, and extent. The professional engineer's services shall have resulted in a record of successful in-service performance.

H. Finisher Qualifications: Firm experienced in successfully applying finishes of type indicated, employing competent control personnel to conduct continuing, effective quality control program to ensure compliance with requirements.

I. Welding Standards: Comply with applicable provisions of AWS D1.1 "Structural Welding Code--Steel," AWS D1.2 "Structural Welding Code--Aluminum," and AWS D1.3 "Structural Welding Code--Sheet Steel."

1. Qualify welding procedures and welding operators in accordance with AWS "Qualification" requirements.
2. Provide certification that each welder to be employed in work has satisfactorily passed AWS qualification tests for welding processes involved within the previous twelve (12) months and, if pertinent, has undergone recertification.
3. If recertification of welders is required, retesting will be the Contractor's responsibility.

J. Preinstallation Conference: Conduct conferences at Project site in accordance with the requirements of the Contract Documents. Approximately 2 weeks prior to scheduled commencement of metalwork fabrications installation, meet at the project site with the installers of materials and equipment to be supported, installers of other work in and around structural fabrications that must precede, follow or penetrate metalwork fabrications (including mechanical and electrical installers as applicable), the Architect to review materials, procedures, schedules and other requirements and conditions related to installing metalwork fabrications and related work. Examine Drawings and Specifications affecting work of this Section, verify all conditions, review installation procedures, and coordinate scheduling with interfacing portions of the Work. Notify participants at least 3 working days prior to convening conference. Record discussions and agreements and furnish a copy to each participant.

1.7 DELIVERY, STORAGE, AND HANDLING

A. Store metalwork inside a clean, dry, well-ventilated area, away from uncured concrete and masonry, and protected from weather, moisture, soiling, abrasion, extreme temperatures, and humidity. Cover with waterproof paper, tarpaulin or polyethylene sheeting in a manner that permits air circulation within covering.

B. Handle metalwork on site to a minimum; exercise care to avoid damaging metal finishes.

1.8 PROJECT CONDITIONS

A. Field Measurements: Where metal fabrications are indicated to fit walls and other construction, verify dimensions by field measurements before fabrication and indicate measurements on Shop Drawings. Coordinate fabrication schedule with construction progress to avoid delaying the Work.

B. Established Dimensions: Where field measurements cannot be made without delaying the Work, establish dimensions and proceed with fabricating metal fabrications without field measurements. Coordinate construction to ensure that actual dimensions correspond to established dimensions. Allow for trimming and fitting.

1.9 COORDINATION

A. Coordinate installation of anchorages for metal fabrications. Furnish setting drawings, templates, and directions for installing anchorages, including sleeves, concrete inserts, anchor bolts, and items with integral anchors, that are to be embedded in concrete or masonry. Deliver such items to Project site in time for installation.

PART 2 - PRODUCTS

2.1 METALS

A. Metal Surfaces, General: For metal fabrications exposed to view in the completed Work, provide materials with smooth, flat surfaces without blemishes. Do not use materials with exposed pitting, seam marks, roller marks, rolled trade names, or roughness.

B. Steel: Provide steel and iron in the form indicated complying with the following requirements:

1. Steel Plate, Shapes, and Bars: ASTM A 36.
2. Steel Sheet, Cold Rolled: ASTM A 619.
3. Stainless Steel Plate, Shapes and Bars: ASTM A 240

2.2 MISCELLANEOUS MATERIALS

A. Welding Electrodes and Filler Metal: Type and alloy of filler metal and electrodes as recommended by producer of metal to be welded, complying with applicable AWS specifications, and as required for color match, strength, and compatibility in the fabricated items.

B. Fasteners: Use fasteners of same basic metal and alloy as the fastened metal, unless otherwise indicated. Do not use metals that are corrosive or incompatible with materials joined. Select fasteners for the type, grade, and class required.

1. Provide concealed fasteners for interconnection of metalwork components and for their attachment to other work, except where otherwise indicated.

a. Provide stainless steel fasteners for attachment of aluminum to ferrous metal.
b. Provide 1/8” stainless steel plates, with area to match bearing plates, at all aluminum connections to structural steel.

2. Provide tamper-resistant flat-head socket pin fasteners screws for exposed fasteners, unless otherwise indicated. Drill and tap as required.
3. All exposed fasteners shall be finished to match adjacent metal surfaces.

C. Fasteners: Select fasteners of the type, grade, and class required to produce connections that are suitable for anchoring railing to other types of construction indicated and capable of withstanding design loadings

D. Fasteners: Use fasteners of same basic metal as the fastened metal, unless otherwise indicated. Do not use metals that are corrosive or incompatible with materials joined.

E. Cast-in-Place and Post-Installed Anchors: Anchors of type indicated below, fabricated from corrosion-resistant materials with capability to sustain, without failure, a load equal to 6 times the load imposed when installed in unit masonry and equal to 4 times the load imposed when installed in concrete as determined by testing per ASTM E 488 conducted by a qualified independent testing agency.

1. Cast-in-place anchors.
2. Chemical anchors.
3. Expansion anchors.
4. Undercut anchors.

F. Nonshrink, Nonmetallic Grout: Premixed, factory-packaged, nonstaining, noncorrosive, nongaseous grout complying with ASTM C 1107. Provide grout specifically recommended by manufacturer for interior and exterior applications.

1. Available Products:

a. B-6 Construction Grout; W. R. Bonsal Co.
b. Diamond-Crete Grout; Concrete Service Materials Co.
c. Supreme; Cormix Construction Chemicals
d. Sure-grip High Performance Grout; Dayton Superior Corp.
e. Euco N-S Grout; Euclid Chemical Co.
f. Five Star Grout; Five Star Products.
g. Crystex; L & M Construction Chemicals, Inc.
h. Vibropruf #11; Lambert Corp.
i. Masterflow 928 and 713; Master Builders Technologies, Inc.
j. Sealtight 588 Grout; W. R. Meadows, Inc.
k. Sonogrout 14; Sonneborn Building Products--ChemRex, Inc.

G. Interior Anchoring Cement: Factory-packaged, nonshrink, nonstaining, hydraulic controlled expansion cement formulation for mixing with water at Project site to create pourable anchoring, patching, and grouting compound. Use for interior applications only.

1. Available Products:

a. Ankertite Cement; Dayton Superior Corp.
b. Por-Rok; Minwax Construction Products Division.

H. Erosion-Resistant Anchoring Cement: Factory-packaged, nonshrink, nonstaining, hydraulic controlled expansion cement formulation for mixing with water at Project site to create pourable anchoring, patching, and grouting compound. Provide formulation that is resistant to erosion from water exposure without need for protection by a sealer or waterproof coating and that is recommended for exterior use by manufacturer.

1. Available Products:

a. Bonsal Anchor Cement; W. R. Bonsal Co.

b. Super Por-Rok; Minwax Construction Products Division.
c. Thorogrip; Thoro System Products.

2.3 PAINT

A. Shop Primer for Ferrous Metal: Fast-curing, lead- and chromate-free, universal modified-alkyd primer complying with performance requirements in FS TT-P-664; selected for good resistance to normal atmospheric corrosion, compatibility with finish paint systems indicated, and capability to provide a sound foundation for field-applied topcoats despite prolonged exposure.

2.4 STEEL LADDERS WITH WALK-THROUGH RAIL EXTENSIONS

A. General: Fabricate ladders for locations shown, with dimensions, spacing, details, and anchorages as indicated.

1. Comply with ANSI A14.3, unless otherwise indicated.

B. Delegated-Design Submittal: For steel ladders, including analysis data signed and sealed by the qualified professional engineer responsible for their preparation.

C. Siderails: Continuous, 3/8-by-2-1/2-inch steel flat bars, with eased edges, spaced 18 inches apart to base of platform, extending 42 inch above platform, spaced 24 inches apart forming walk-through roof return.

D. Bar Rungs: 3/4-inch- diameter steel bars, equally spaced from floor to top rung, not exceeding 12 inches o.c.

E. Fit rungs in centerline of side rails; plug-weld and grind smooth on outer rail faces.

F. Steel Grate walk-through: ½” x 3/16” Bearing bars at 1 3/16” on centers and crossbars at 4” o.c. as detailed on drawings. Traffic surface; serrated. Finish; Galvanized.

G. Support each ladder at top and bottom and not more than 60 inches o.c. with welded or bolted steel brackets. Size brackets to support design loads specified in ANSI A14.3.

H. Provide nonslip surfaces on top of each rung, either by coating rung with aluminum-oxide granules set in epoxy-resin adhesive or by using a type of manufactured rung filled with aluminum-oxide grout.

I. Galvanize ladders, including brackets and fasteners, in the following locations:

1. Exterior.

2.5 SUB-BASEMENT AREAWAY – CLOSURE

A. Steel Diamond Plate: Fabricate from rolled-steel floor plate of thickness indicated below:

1. Thickness: 1/8 inch.

2. Product: Galvanized steel diamond plate; gauge 1/8 inch

3. Fasteners: Fasten steel diamond plate to existing bar grating using fasteners similar to Plate-Grate-Fast as manufactured by Struct-Fast Inc.

    a. Provide fasteners of size to accommodate diamond plate and bar grating thickness. Do not predrill for fasteners. Locate and drill fastener holes on site in order to coordinate with existing grating.

4. Provide flush steel bar drop handles for lifting plates, one at each end of each section.

B. Exposed Fastener Metal Wall Panel

1. Tapered-Rib-Profile, Exposed-Fastener Metal Wall Panels: Formed with raised, trapezoidal major ribs and intermediate stiffening ribs symmetrically spaced between major ribs.

2. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

    a. AEP Span; A BlueScope Steel Company.
    b. Alcoa Architectural Products (USA).
    c. ATAS International, Inc.; Belvedere Grand R Panel BWG390.
    d. CENTRIA Architectural Systems.

3. Metallic-Coated Steel Sheet: Zinc-coated (galvanized) steel sheet complying with ASTM A 653, G90 coating designation, or aluminum-zinc alloy-coated steel sheet complying with ASTM A 792, Class AZ50 coating designation; structural quality. Prepainted by the coil-coating process to comply with ASTM A 755.

    a. Nominal Thickness: 0.022 inch.
    b. Exterior Finish: Siliconized polyester.
    c. Color: As selected by Architect from manufacturer's full range.

4. Panel Coverage: 39 inches.
5. Panel Height: 1.5 inches.
6. Miscellaneous Metal Subframing and Furring: ASTM C 645, cold-formed, metallic-coated steel sheet, ASTM A 653, G90 coating designation or ASTM A 792, Class AZ50 aluminum-zinc-alloy coating designation unless otherwise indicated. Provide manufacturer's standard sections as required for support and alignment of metal panel system.

2.6 CORNER **AND END** GUARDS (ALTERNATE BID)

A. Surface-Mounted, Metal Corner Guards CG-1: Fabricated from one-piece, formed or extruded metal with formed edges; with 90- or 135-degree turn to match wall condition.

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

a. Balco, Inc.
b. Construction Specialties, Inc.
c. IPC Door and Wall Protection Systems; Division of InPro Corporation.
d. Pawling Corporation.

2. Material: Stainless steel, Type 304.

a. Thickness: Minimum 0.0625 inch (1.6 mm).
b. Finish: Directional satin, No. 4.

3. Wing Size: Nominal 3-1/2 by 3-1/2 inches (89 by 89 mm).
4. Corner Radius: 1/8 inch (3 mm).
5. Mounting: Flat-head, countersunk screws through factory-drilled mounting holes.

B. Surface-Mounted, Metal, End-Wall Guards EG1: Fabricated from one-piece, formed or extruded metal that covers entire end of wall; with formed edges.

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

a. Balco, Inc.
b. Construction Specialties, Inc.
c. IPC Door and Wall Protection Systems; Division of InPro Corporation.
d. Pawling Corporation
.

2. Material: Stainless-steel sheet, Type 304.

a. Thickness: Minimum 0.0625 inch (1.6 mm).
b. Finish: Directional satin, No. 4.

3. Corner Radius: 1/8 inch (3 mm).
4. Mounting: Flat-head, countersunk screws through factory-drilled mounting holes.

2.7 FABRICATION, GENERAL

A. Shop Assembly: Preassemble items in shop to greatest extent possible to minimize field splicing and assembly. Disassemble units only as necessary for shipping and handling limitations. Use connections that maintain structural value of joined pieces. Clearly mark units for reassembly and coordinated installation.

B. Shear and punch metals cleanly and accurately. Remove burrs.

C. Ease exposed edges to a radius of approximately 1/32 inch, unless otherwise indicated. Form bent-metal corners to smallest radius possible without causing grain separation or otherwise impairing work.

D. Weld corners and seams continuously to comply with the following:

1. Use materials and methods that minimize distortion and develop strength and corrosion resistance of base metals.
2. Obtain fusion without undercut or overlap.
3. Remove welding flux immediately.
4. At exposed connections, finish exposed welds and surfaces smooth and blended so no roughness shows after finishing and contour of welded surface matches that of adjacent surface.

E. Provide for anchorage of type indicated; coordinate with supporting structure. Fabricate and space anchoring devices to secure metal fabrications rigidly in place and to support indicated loads.

F. Cut, reinforce, drill, and tap metal fabrications as indicated to receive finish hardware, screws, and similar items.

G. Form exposed work true to line and level with accurate angles and surfaces and straight sharp edges.

H. Remove sharp or rough areas on exposed traffic surfaces.

I. Form exposed connections with hairline joints, flush and smooth, using concealed fasteners where possible. Use exposed fasteners of type indicated or, if not indicated, Phillips flat-head (countersunk) screws or bolts. Locate joints where least conspicuous.

2.8 MISCELLANEOUS FRAMING AND SUPPORTS

A. General: Provide steel framing and supports that are not a part of structural-steel framework as necessary to complete the Work.

B. Fabricate units from structural-steel shapes, plates, and bars of welded construction, unless otherwise indicated. Fabricate to sizes, shapes, and profiles indicated and as necessary to receive adjacent construction retained by framing and supports. Cut, drill, and tap units to receive hardware, hangers, and similar items.

1. Fabricate units from slotted channel framing where indicated.
2. Where units are indicated to be cast into concrete or built into masonry, equip with integrally welded steel strap anchors 1-1/4 inches wide by 1/4 inch thick by 8 inches long at 24 inches o.c., unless otherwise indicated.
3. Furnish inserts if units must be installed after concrete is placed.

2.9 MISCELLANEOUS STEEL TRIM

A. Unless otherwise indicated, fabricate units from structural-steel shapes, plates, and bars of profiles shown with continuously welded joints, and smooth exposed edges. Miter corners and use concealed field splices where possible.

B. Provide cutouts, fittings, and anchorages as needed to coordinate assembly and installation with other work. Provide anchors, welded to trim, for embedding in concrete or masonry construction, spaced not more than 6 inches from each end, 6 inches from corners, and 24 inches o.c., unless otherwise indicated.

2.10 FINISHES, GENERAL

A. Comply with NAAMM's "Metal Finishes Manual for Architectural and Metal Products" for recommendations for applying and designating finishes.

B. Finish metal fabrications after assembly.

2.11 STEEL AND IRON FINISHES

A. Preparation for Shop Priming: Prepare uncoated ferrous-metal surfaces to comply with minimum requirements indicated below for SSPC surface-preparation specifications and environmental exposure conditions of installed metal fabrications:

1. Interiors (SSPC Zone 1A): SSPC-SP 3, "Power Tool Cleaning."

B. Apply shop primer to uncoated surfaces of metal fabrications, except those with galvanized finishes and those to be embedded in concrete, sprayed-on fireproofing, or masonry, unless otherwise indicated. Comply with SSPC-PA 1, "Paint Application Specification No. 1," for shop painting.

1. Stripe paint corners, crevices, bolts, welds, and sharp edges.

PART 3 - EXECUTION

3.1 PREPARATION

A. Coordinate and furnish anchorages and setting drawings, diagrams, templates, instructions, and directions for installing anchorages, such as sleeves, concrete inserts, anchor bolts, and miscellaneous items having integral anchors that are to be embedded in concrete or masonry construction. Coordinate delivery of such items to the Project site.

3.2 INSTALLATION, GENERAL

A. Fastening to In-Place Construction: Provide anchorage devices and fasteners where necessary for securing metal fabrications to in-place construction. Include threaded fasteners for concrete and masonry inserts, toggle bolts, through-bolts, lag bolts, wood screws, and other connectors.

B. Cutting, Fitting, and Placement: Perform cutting, drilling, and fitting required for installing metal fabrications. Set metal fabrications accurately in location, alignment, and elevation; with edges and surfaces level, plumb, true, and free of rack; and measured from established lines and levels.

C. Provide temporary bracing or anchors in formwork for items that are to be built into concrete, masonry, or similar construction.

D. Fit exposed connections accurately together to form hairline joints. Weld connections that are not to be left as exposed joints but cannot be shop welded because of shipping size limitations.

E. Do not cut or abrade finishes that cannot be completely restored in the field. Return items with such finishes to the shop for required alterations, followed by complete refinishing, or provide new units as required.

F. Install concealed gaskets, joint fillers, insulation, and flashings as the work progresses, to make work weatherproof, soundproof, or lightproof as required.

G. Restore protective coverings that have been damaged during shipment or installation. Remove protective coverings only when there is no possibility of damage from other work yet to be performed at the same location.

1. Retain protective coverings intact and remove simultaneously from similarly finished items to preclude nonuniform oxidation and discoloration.

H. Field Welding: Comply with the following requirements:

1. Use materials and methods that minimize distortion and develop strength and corrosion resistance of base metals.
2. Obtain fusion without undercut or overlap.
3. Remove welding flux immediately.
4. At exposed connections, finish exposed welds and surfaces smooth and blended so no roughness shows after finishing and contour of welded surface matches that of adjacent surface.

I. Corrosion Protection: Coat concealed surfaces of aluminum that will come into contact with grout, concrete, masonry, wood, or dissimilar metals with a heavy coat of bituminous paint.

3.3 INSTALLING MISCELLANEOUS FRAMING AND SUPPORTS

A. General: Install framing and supports to comply with requirements of items being supported, including manufacturers' written instructions and requirements indicated on Shop Drawings, if any.

3.4 TOUCH UP PAINTING

A. Touchup Painting for steel surface: Immediately after erection, clean field welds, bolted connections, and abraded areas of shop paint and paint exposed areas with same material. Touchup paint must meet or exceed the VOC and chemical component limits of Green Seal requirements.

1.

Interior Coatings	VOC Limit (g/L)
Non-flat	150
Flat	50

3.5 PROTECTION

A. Protect finishes of ornamental metalwork from damage during construction period with temporary protective coverings approved by ornamental metalwork fabricator. Remove protective covering at the time of Substantial Completion.

B. Restore finishes damaged during installation and construction so that no evidence remains of correction work. Return items that cannot be refinished in the field to the shop; make required alterations and refinish entire unit; or provide new units as required.

END OF SECTION 055000

SECTION 064023 - INTERIOR ARCHITECTURAL WOODWORK

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Special Conditions and Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

A. This Section includes the following:

1. Plastic-laminate (PLAM) cabinets.
2. Solid-surfacing-material for countertops and windowsills.
3. Interior standing and running trim.
4. Decorative High Pressure Compact Laminate (HPL)
5. Custom millwork; lab write up stations.
6. Plastic Laminate (PLAM) countertops and shelving.

B. Related Sections include the following:

1. Division 5 Section “Decorative Metal” for metal frame system at solid phenolic wall panels.
2. Division 6 Section "Rough Carpentry" for wood furring, blocking, shims, and hanging strips required for installing woodwork and concealed within other construction before woodwork installation.
3. Division 8 Section "Flush Wood Doors."
4. Division 8 Section “Glazing” for display case sliding doors and tempered glass used in casework.
5. Division 9 Section "Painting" for field finishing of interior Architectural woodwork

1.3 DEFINITIONS

A. Interior architectural woodwork includes wood furring, blocking, shims, and hanging strips for installing woodwork items, unless concealed within other construction before woodwork installation.

1.4 SUBMITTALS

A. Product Data: For each type of product indicated, including cabinet hardware and accessories, handrail brackets, finishing materials and processes, particleboard**,** plywood, high-pressure decorative laminate, adhesive for bonding plastic laminate, solid-surfacing material, fire-retardant-treated materials, and plastic grommets.

1. Include data for fire-retardant treatment from chemical treatment manufacturer and certification by treating plant that treated materials comply with requirements.

B. LEED Submittals:

1. Product Certificates for Credit MR 5: For products and materials required to comply with requirements for regional materials, certificates indicating location of material manufacturer and point of extraction, harvest, or recovery for each raw material. Include statement indicating distance to Project, cost for each regional material, and fraction by weight that is considered regional.

2. Certificates for Credit MR 7: Chain-of-custody certificates indicating that composite wood products comply with forest certification requirements. Include documentation that manufacturer is certified for chain of custody by an FSC-accredited certification body. Include statement indicating cost for each certified wood product.

3. Product Data for Credit(s) MR 4.1 and MR 4.2: For products having recycled content, documentation indicating percentages by weight of postconsumer and preconsumer recycled content.

4. Product Data for Credit IEQ 4.4:

a. For each composite-wood product used, documentation indicating that the bonding agent contains no urea formaldehyde.
b. For each adhesive used, documentation indicating that the adhesive contains no urea formaldehyde.

C. Shop Drawings: Show location of each item, dimensioned plans and elevations, large-scale details, attachment devices, and other components.

1. Show locations and sizes of furring, blocking, and hanging strips, including concealed blocking and reinforcement specified in other Sections.

2. Show locations and sizes of cutouts and holes for plumbing fixtures, faucets, soap dispensers, and other items installed in Architect woodwork.

3. Show wall panels with dimensions, material pattern direction indicated and hardware locations & fastening details.

D. Samples for Initial Selection: Manufacturer's color charts consisting of units or sections of units showing the full range of colors, textures, and patterns available for each type of material indicated.

1. Shop-applied transparent finishes.

2. Shop-applied opaque finishes.

3. Thermoset decorative overlays.

4. Decorative High Pressure Compact Laminate (HPL)

E. Samples for Verification: For the following:

1. Lumber with or for transparent finish, 5 inches wide by 24 inches long, for each species and cut, finished on 1 side and 1 edge.

2. Veneer leaves representative of and selected from flitches to be used for transparent-finished woodwork.

3. Lumber and panel products with shop-applied opaque finish, 50 sq. in. for lumber and 8 by 10 inches for panels, for each finish system and color, with 1/2 of exposed surface finished.

4. Plastic-laminate-clad panel products, 8 by 10 inches, for each type, color, pattern, and surface finish, with separate samples of unfaced panel product used for core.

5. Thermoset decorative-overlay surfaced panel products, 8 by 10 inches, for each type, color, pattern, and surface finish.

6. Solid-surfacing materials, 6 inches square.

7. Corner pieces as follows:

a. Cabinet front frame joints between stiles and rail, as well as exposed end pieces, 18 inches high by 18 inches wide by 6 inches deep.

b. Miter joints for standing trim.

8. Exposed cabinet hardware and accessories, one unit for each type and finish.

F. Product Certificates: Signed by manufacturers of woodwork certifying that products furnished comply with requirements.

G. Qualification Data: For firms and persons specified in "Quality Assurance" Article to demonstrate their capabilities and experience. Include lists of completed projects with project names and addresses, names and addresses of Associates and owners, and other information specified.

1.5 QUALITY ASSURANCE

A. Installer Qualifications: An experienced installer who has completed Architectural woodwork similar in material, design, and extent to that indicated for this Project and whose work has resulted in construction with a record of successful in-service performance.

B. Fabricator Qualifications: A firm experienced in producing Architectural woodwork similar to that indicated for this Project and with a record of successful in-service performance, as well as sufficient production capacity to produce required units.

C. Source Limitations: Engage a qualified woodworking firm to assume undivided responsibility for production and installation of interior Architectural woodwork with sequence-matched wood veneers including wood doors where veneer matching includes door faces.

D. Quality Standard: Unless otherwise indicated, comply with AWI's "Architect Woodwork Quality Standards" for grades of interior Architectural woodwork, construction, finishes, and other requirements.

1. Provide AWI Quality Certification Program labels and certificate indicating that woodwork complies with requirements of grades specified.

E. Fire-Test-Response Characteristics: Where fire-retardant materials or products are indicated, provide materials and products with specified fire-test-response characteristics as determined by testing identical products per test method indicated by UL, ITS, or another testing and inspecting agency acceptable to authorities having jurisdiction. Identify with appropriate markings of applicable testing and inspecting agency in the form of separable paper label or, where required by authorities having jurisdiction, imprint on surfaces of materials that will be concealed from view after installation.

F. Mockups: Before fabricating and installing interior Architectural woodwork, build mockups for each form of construction and finish required to verify selections made under sample Submittals and to demonstrate aesthetic effects and qualities of materials and execution. Build mockups to comply with the following requirements, using materials indicated for the completed Work:

1. Build mockups in the location and of the size indicated or, if not indicated, as directed by Associate.

2. Demonstrate the proposed range of aesthetic effects and workmanship.

3. Obtain Associate's approval of mockups before starting interior Architectural woodwork fabrication.

4. Maintain mockups during construction in an undisturbed condition as a standard for judging the completed Work.

5. Demolish and remove mockups when directed.

6. Approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion, and approved by the Associate.

G. Preinstallation Conference: Conduct conference at Project site to comply with requirements in Division 1 Section "Project Meetings."

H. Forest Certification: Provide interior architectural woodwork produced from wood obtained from forests certified by an FSC-accredited certification body to comply with FSC 1.2, "Principles and Criteria."

1.6 DELIVERY, STORAGE, AND HANDLING

A. Do not deliver woodwork until painting and similar operations that could damage woodwork have been completed in installation areas. If woodwork must be stored in other than installation areas, store only in areas where environmental conditions comply with requirements specified in "Project Conditions" Article.

1.7 PROJECT CONDITIONS

A. Environmental Limitations: Do not deliver or install woodwork until building is enclosed, wet work is complete, and HVAC system is operating and maintaining temperature and relative humidity at occupancy levels during the remainder of the construction period.

B. Environmental Limitations: Do not deliver or install woodwork until building is enclosed, wet work is complete, and HVAC system is operating and will maintaining temperature between 60 and 90 deg F and relative humidity between 40 and 60 percent during the remainder of the construction period.

C. Field Measurements: Where woodwork is indicated to fit to other construction, verify dimensions of other construction by field measurements before fabrication and indicate measurements on Shop Drawings. Coordinate fabrication schedule with construction progress to avoid delaying the Work.

1. Locate concealed framing, blocking, and reinforcements that support woodwork by field measurements before being enclosed and indicate measurements on Shop Drawings.

1.8 COORDINATION

A. Coordinate sizes and locations of framing, blocking, furring, reinforcements, and other related units of Work specified in other Sections to ensure that interior Architectural woodwork can be supported and installed as indicated.

PART 2 - PRODUCTS

2.1 MATERIALS

A. General: Provide materials that comply with requirements of the AWI quality standard for each type of woodwork and quality grade specified, unless otherwise indicated.

B. Wood Species and Cut for transparent or stained Finish: Maple.

C. Wood Products: Comply with the following:

1. Hardboard: AHA A135.4.
2. Medium-Density Fiberboard: ANSI A208.2, Grade MD, made with binder containing no urea formaldehyde.
3. Particleboard: ANSI A208.1, Grade M-2-Exterior Glue.
4. Softwood Plywood: DOC PS 1, Medium Density Overlay.
5. Veneer-Faced Panel Products (Hardwood Plywood): HPVA HP-1, made with adhesive containing no urea formaldehyde.

D. Clear Tempered Float Glass for Doors: ASTM C 1048, Kind FT, Condition A, Type I, Class 1, Quality q3; manufactured by horizontal (roller hearth) process, with exposed edges seamed before tempering, 6 mm thick, unless otherwise indicated.

E. Subject to compliance with requirements, provide high-pressure decorative laminates by one of the following:

1. Formica Corporation.

2. Laminart.

3. Nevamar

4. Wilsonart International; Div. of Premark International, Inc.

F. Adhesive for Bonding Plastic Laminate: Unpigmented contact cement.

G. Solid-Surfacing Material: Homogeneous solid sheets of filled plastic resin complying with material and performance requirements of ISSFA-2.

1. Products: Subject to compliance with requirements, provide products by one of the following:

a. Corian; DuPont Polymers.

b. Formica Corporation.

c. Wilsonart International, Div. of Premark International, Inc.

2. Colors and Patterns: As indicated in Finish Legend.

3. Class –A surface burning characteristics per ASTM E-84.
4. Flame Spread: 25 or less
5. Smoke Developed Index: 450 or less.

H. Decorative High Pressure Compact Laminate (HPL)

1. TRESPA® Athlon®: **10 mm thick**

2. Surface manufactured using Trespa's unique in-house technology, Electron Beam Curing (EBC). Developed for demanding interior applications,

3. Technology combines wood-based fibers with thermosetting resins under high pressure and at high temperatures, transforming them into robust panels that meet the most exacting specifications.

4. The unique properties of Trespa® Athlon® make them highly durable with a long life of retained appearance.

5. Fire behavior: Standard grade and enhanced Fire-Retardant grade (FR) as required.

6. Fabricate and finish panels and accessories at the factory by manufacturer's standard procedures and processes. Comply with the indicated profiles and dimensional requirements. Field cutting of panels is not permitted.

2.2 MISCELLANEOUS MATERIALS

A. Furring, Blocking, Shims, and Hanging Strips: Fire-retardant-treated softwood lumber, kiln dried to less than 15 percent moisture content.

B. Anchors: Select material, type, size, and finish required for each substrate for secure anchorage. Provide nonferrous-metal or hot-dip galvanized anchors and inserts on inside face of exterior walls and elsewhere as required for corrosion resistance. Provide toothed-steel or lead expansion sleeves for drilled-in-place anchors.

C. Adhesives, General: Do not use adhesives that contain urea formaldehyde.

D. VOC Limits for Installation Adhesives and Glues: Use installation adhesives that comply with the following limits for VOC content when calculated according to 40 CFR 59, Subpart D (EPA Method 24):

1. Wood Glues: 30 g/L.
2. Contact Adhesive: 250 g/L.

2.3 FIRE-RETARDANT-TREATED MATERIALS

A. General: Where indicated, use materials impregnated with fire-retardant chemical formulations indicated by a pressure process or other means acceptable to authorities having jurisdiction to produce products with fire-test-response characteristics specified.

1. Do not use treated material that does not comply with requirements of referenced woodworking standard or that is warped, discolored, or otherwise defective.

2. Use fire-retardant-treatment formulations that do not bleed through or otherwise adversely affect finishes. Do not use colorants in solution to distinguish treated material from untreated material.

B. Fire-Retardant-Treated Lumber and Plywood by Pressure Process: Comply with AWPA C20 (lumber) and AWPA C27 (plywood), for woodwork items indicated as fire-retardant treated. Use the following treatment type:

1. Interior Type A: Low-hygroscopic formulation.

2. Mill lumber before treatment and implement special procedures during treatment and drying processes that prevent lumber from warping and developing discolorations from drying sticks or other causes, marring, and other defects affecting appearance of treated woodwork.

3. Kiln-dry material before and after treatment to levels required for untreated material.

C. Fire-Retardant-Treated Lumber and Plywood by Nonpressure Process: Apply nontoxic, water-soluble, fire-retardant treatment by dip, spray, roller, curtain coating, vacuum chamber, or soaking to achieve flame-spread rating of 25 or less and smoke-developed rating of 450 or less per ASTM E 84.

2.4 CABINET HARDWARE AND ACCESSORIES

A. General: Provide cabinet hardware and accessory materials associated with architectural cabinets, except for items specified in Division 8 Section "Door Hardware."

B. Hardware Standard: Comply with BHMA A156.9 for items indicated by referencing BHMA numbers or items referenced to this standard.

C. Frameless Concealed Hinges (European Type): BHMA A156.9, B01602, 135 degrees of opening, self-closing.

D. Back-Mounted Pulls: BHMA A156.9, B02011.

E. Wire Pulls: Back mounted, 4 inches long, 2-1/2 inches deep, and 5/16 inches in diameter.

F. Catches: Magnetic catches, BHMA A156.9, B03141.

G. Shelf Rests: BHMA A156.9, B04013.

H. Drawer Slides: Side-mounted, full-extension, zinc-plated steel drawer slides with steel ball bearings, BHMA A156.9, B05091, and rated for the following loads:

1. Box Drawer Slides: 100 lbf.

2. File Drawer Slides: 200 lbf.

3. Pencil Drawer Slides: 45 lbf.

I. Door Locks: BHMA A156.11, E07121.

J. Drawer Locks: BHMA A156.11, E07041.

K. Grommets for Cable Passage through Countertops: 2-inch of color selected by Associate, molded-plastic grommets and matching plastic caps with slot for wire passage.

1. Product: Subject to compliance with requirements, provide “TG” "OG series" by Doug Mockett and Co., Inc..

L. Table legs for lab Write Up stations: Provide 2” square table leg in metallic silver finish.

1. Product: Subject to compliance with requirements, Model no: TL27R/2SQ by Doug Mockett and Co., Inc.

M. Undercounter supports:

1. Product: Subject to compliance with requirements, provide model no: SWS4 by Doug Mockett and Co., Inc. in color selected by Architect.

N. Exposed Hardware Finishes: For exposed hardware, provide finish that complies with BHMA A156.18 for BHMA finish number indicated.

1. Satin Stainless Steel: BHMA 630.

O. For concealed hardware, provide manufacturer's standard finish that complies with product class requirements in BHMA A156.9.

2.5 INSTALLATION MATERIALS

A. Furring, Blocking, Shims, and Hanging Strips: Softwood or hardwood lumber, kiln-dried to less than 15 percent moisture content.

B. Anchors: Select material, type, size, and finish required for each substrate for secure anchorage. Provide nonferrous-metal or hot-dip galvanized anchors and inserts on inside face of exterior walls and elsewhere as required for corrosion resistance. Provide toothed-steel or lead expansion sleeves for drilled-in-place anchors.

2.6 FABRICATION, GENERAL

A. Interior Woodwork Grade: Provide Custom grade interior woodwork complying with the referenced quality standard.

B. Wood Moisture Content: Comply with requirements of referenced quality standard for wood moisture content in relation to ambient relative humidity during fabrication and in installation areas.

C. Sand fire-retardant-treated wood lightly to remove raised grain on exposed surfaces before fabrication.

D. Fabricate woodwork to dimensions, profiles, and details indicated.

E. Complete fabrication, including assembly, finishing and hardware application, to maximum extent possible, before shipment to Project site. Disassemble components only as necessary for shipment and installation. Where necessary for fitting at site, provide ample allowance for scribing, trimming, and fitting.

1. Trial fit assemblies at fabrication shop that cannot be shipped completely assembled. Install dowels, screws, bolted connectors, and other fastening devices that can be removed after trial fitting. Verify that various parts fit as intended and check

measurements of assemblies against field measurements indicated on Shop Drawings before disassembling for shipment.

F. Shop cut openings, to maximum extent possible, to receive hardware, appliances, plumbing fixtures, electrical work, and similar items. Locate openings accurately and use templates or roughing-in diagrams to produce accurately sized and shaped openings. Sand edges of cutouts to remove splinters and burrs.

1. Seal edges of openings in countertops with a coat of varnish.

G. Install glass to comply with applicable requirements in Division 8 Section "Glazing" and in GANA's "Glazing Manual." For glass in wood frames, secure glass with removable stops.

H. Refer to Trespa manufacturer’s fabrication requirements for methods of fastening panels to walls.

2.7 INTERIOR STANDING AND RUNNING TRIM FOR TRANSPARENT FINISH

A. Quality Standard: Comply with AWI Section 300.

B. Quality Standard: Comply with WIC Section 10.

C. Grade: Custom.

D. Backout or groove backs of flat trim members and kerf backs of other wide, flat members, except for members with ends exposed in finished work.

E. Wood Species and Cut: Maple.

2.8 CUSTOM MILLWORK – LAB WRITE UP STATIONS

A. Quality Standard: Comply with AWI Section 400 requirements for laminate cabinets.

B. Grade: Custom.

C. Laminate Cladding for Exposed Surfaces: High-pressure decorative laminate complying with the following requirements:

1. Horizontal Surfaces for Countertops and Shelving: HGL

2. Vertical Surfaces: VGS.

3. Edges: 3mm PVC Edge in color as selected by Associate.

D. Fabricate custom millwork in one piece, unless otherwise indicated. Comply with plastic laminate manufacture’s written recommendation for adhesives, sealers, fabrication, and finishing.

1. Fabricate tops and backsplashes with shop applied edges of materials and configurations indicated.

2. Fabricate tops with loose backsplashes for field applications.

3. Fabricate partition dividers with magnetic marker boards (MB2) on one side of the divider and cork tackable wallcovering on the other side of the divider above the countertop level.

4. Field drill/locate grommets, where indicated. Coordinate locations with Architect and Owner.

2.9 PLASTIC-LAMINATE CABINETS, COUNTERTOPS AND SHELVING

A. Quality Standard: Comply with AWI Section 400 requirements for laminate cabinets.

B. Grade: Custom.

C. AWI Type of Cabinet Construction: Flush overlay.

D. Laminate Cladding for Exposed Surfaces: High-pressure decorative laminate complying with the following requirements:

1. Horizontal Surfaces Other Than Tops: HGS.

2. Vertical Surfaces: VGS.

3. Edges: 3mm PVC Edge in color as selected by Associate.

4. Horizontal Surfaces for Countertops and Shelving: HGL

5. All directional patterns shall be placed going in one direction, unless specifically indicated on drawings/elevations. Verify grain/pattern direction with Architect.

E. Materials for Semiexposed Surfaces: Provide surface materials indicated below:

1. Surfaces Other Than Drawer Bodies: Thermoset decorative overlay.

2. Drawer Sides and Backs: Solid-hardwood lumber.

3. Drawer Bottoms: Hardwood plywood.

F. Colors, Patterns, and Finishes: Provide materials and products that result in colors and textures of exposed laminate surfaces complying with the following requirements:

1. Provide Associate's selections from laminate manufacturer's full range of colors and finishes in the following categories:

a. Solid colors.

b. Solid colors with core same color as surface.

c. Patterns/Woodgrains

G. Fabricate plastic laminate countertops and shelving in one piece, unless otherwise indicated. Comply with plastic laminate manufacture's written recommendation for adhesives, sealers, fabrication, and finishing.

1. Fabricate tops and shelving with shop applied edges of materials and configurations indicated.

2. Fabricate tops with loose backsplashes for field applications

3. Drill holes in countertops for plumbing fixtures and fittings in shop.

4. Field drill/locate grommets, where indicated. Coordinate locations with Architect and Owner.

5. Provide heavy duty standards and brackets for shelving.

2.10 SOLID-SURFACING-MATERIAL COUNTERTOPS

A. Cast, nonporous, filled polymer, not coated, laminated or of composite construction with through body colors meeting ANSI Z124.3 or ANSI Z124.6. Panel damage or .010" or less shall be repairable by sanding or polishing.

B. Grade: Custom.

C. Solid-Surfacing-Material Thickness: 1/2" inch.

D. Fabricate tops in one piece, unless otherwise indicated. Comply with solid-surfacing-material manufacturer's written recommendations for adhesives, sealers, fabrication, and finishing.

1. Fabricate tops with shop-applied edges of materials and configuration indicated.

2. Fabricate tops with loose backsplashes for field application.

E. Drill holes in countertops for plumbing fixtures and fittings in shop.

2.11 SHOP FINISHING

A. Quality Standard: Comply with AWI Section 1500, unless otherwise indicated.

B. Quality Standard: Comply with WIC Section 25, unless otherwise indicated.

1. Grade: Provide finishes of same grades as items to be finished.

C. General: Finish Architect woodwork at fabrication shop as specified in this Section. Defer only final touchup, cleaning, and polishing until after installation.

D. General: Shop finish transparent finished interior architectural woodwork at fabrication shop as specified in this Section.

E. Preparations for Finishing: Comply with referenced quality standard for sanding, filling countersunk fasteners, sealing concealed surfaces, and similar preparations for finishing woodwork, as applicable to each unit of work.

1. Backpriming: Apply one coat of sealer or primer, compatible with finish coats, to concealed surfaces of woodwork. Apply two coats to back of paneling and to end-grain surfaces. Concealed surfaces of plastic-laminate-clad woodwork do not require backpriming when surfaced with plastic laminate, backing paper, or thermoset decorative overlay.

F. Transparent Finish: Comply with requirements indicated below for grade, finish system, staining, and sheen, with sheen measured on 60-degree gloss meter per ASTM D 523:

1. Grade: Premium.

2. Color: As selected by Associate from the full range of colors available in finish system specified.

PART 3 - EXECUTION

3.1 PREPARATION

A. Condition woodwork to average prevailing humidity conditions in installation areas before installation.

B. Before installing architectural woodwork, examine shop-fabricated work for completion and complete work as required, including removal of packing and backpriming.

3.2 INSTALLATION

A. Quality Standard: Install woodwork to comply with AWI Section 1700 for the same grade specified in Part 2 of this Section for type of woodwork involved.

B. Install woodwork level, plumb, true, and straight. Shim as required with concealed shims. Install level and plumb (including tops) to a tolerance of 1/8 inch in 96 inches.

C. Scribe and cut woodwork to fit adjoining work, and refinish cut surfaces and repair damaged finish at cuts.

D. Anchor woodwork to anchors or blocking built in or directly attached to substrates. Secure with countersunk, concealed fasteners and blind nailing as required for complete installation. Use fine finishing nails or finishing screws for exposed fastening, countersunk and filled flush with woodwork and matching final finish if transparent finish is indicated.

E. Standing and Running Trim: Install with minimum number of joints possible, using full-length pieces (from maximum length of lumber available) to greatest extent possible. Do not use pieces less than 96 incheslong, except where shorter single-length pieces are necessary. Scarf running joints and stagger in adjacent and related members.

F. Fill gaps, if any, between top of base and wall with plastic wood filler, sand smooth, and finish same as wood base, if finished.

1. Install wall railings on indicated metal brackets securely fastened to wall framing.

2. Install standing and running trim with no more variation from a straight line than 1/8 inch in 96 inches.

G. Cabinets: Install without distortion so doors and drawers fit openings properly and are accurately aligned. Adjust hardware to center doors and drawers in openings and to provide unencumbered operation. Complete installation of hardware and accessory items as indicated.

1. Install cabinets with no more than 1/8 inch in 96-inch sag, bow, or other variation from a straight line.

2. Maintain veneer sequence matching of cabinets with transparent finish.

3. Fasten wall cabinets through back, near top and bottom, at ends and not more than 16 inches o.c. with toggle bolts through metal backing or metal framing behind wall finish.

H. Countertops: Anchor securely by screwing through corner blocks of base cabinets or other supports into underside of countertop.

1. Align adjacent solid-surfacing-material countertops and form seams to comply with manufacturer's written recommendations using adhesive in color to match countertop. Carefully dress joints smooth, remove surface scratches, and clean entire surface.

2. Install countertops with no more than 1/8 inch in 96-inch sag, bow, or other variation from a straight line.

3. Secure backsplashes to tops with concealed metal brackets at 16 inches o.c. and to walls with adhesive.

4. Caulk space between backsplash and wall with sealant specified in Division 7 Section "Joint Sealants."

I. Complete the finishing work specified in this Section to extent not completed at shop or before installation of woodwork. Fill nail holes with matching filler where exposed. Apply specified finish coats, including stains and paste fillers if any, to exposed surfaces where only sealer/prime coats were applied in shop.

J. Refer to Division 9 Sections for final finishing of installed architectural woodwork.

3.3 ADJUSTING AND CLEANING

A. Repair damaged and defective woodwork, where possible, to eliminate functional and visual defects; where not possible to repair, replace woodwork. Adjust joinery for uniform appearance.

B. Clean, lubricate, and adjust hardware.

C. Clean woodwork on exposed and semiexposed surfaces. Touch up shop-applied finishes to restore damaged or soiled areas.

END OF SECTION 064023

SECTION 075323 - ETHYLENE-PROPYLENE-DIENE-MONOMER (EPDM) ROOFING - (ALLOWANCE NO. 1 AND 2)

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

1. Adhered White ethylene-propylene-diene-monomer (EPDM) roofing system. (Alternate Bid)
2. Roof insulation and cover board.
3. Accessories and flashing.
4. Slip Sheets under roof pavers.

B. Related Requirements:

1. Section 061053 "Miscellaneous Rough Carpentry" for wood nailers, curbs, and blocking.
2. Section 072100 "Thermal Insulation" for insulation beneath the roof deck.
3. -Section 077200 “Roof Accessories” for conduit preformed flashing sleeves.
4. Section 077620 “Roof Walkway Paver System” for walk pavers.
5. Section 079200 "Joint Sealants" for joint sealants, joint fillers, and joint preparation.
6. Section 221423 "Storm Drainage Piping Specialties" for roof drains.

1.3 DEFINITIONS

A. Roofing Terminology: Definitions in ASTM D 1079 and glossary of NRCA's "The NRCA Roofing and Waterproofing Manual" apply to work of this Section.

1.4 ACTION SUBMITTALS

A. Product Data: For each type of product.

B. LEED Submittals:

1. Product Test Reports for Credit SS 7.2: For roof materials, documentation indicating that roof materials comply with Solar Reflectance Index requirement.
2. Product Data for Credit IEQ 4.1: For adhesives and sealants used inside the weatherproofing system, documentation including printed statement of VOC content.

3. Laboratory Test Reports for Credit IEQ 4.1: For adhesives and sealants used inside the weatherproofing system, documentation indicating that products comply with the testing and product requirements of the California Department of Public Health's (formerly, the California Department of Health Services') "Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers."

    a. Adhesives incorporated in the work shall comply with this requirement.

C. Shop Drawings: For roofing system. Include plans, elevations, sections, details, and attachments to other work, including:

1. Base flashings and membrane terminations.
2. Tapered insulation, including slopes.
3. Roof plan showing orientation of steel roof deck and orientation of roofing and fastening spacings and patterns for mechanically fastened roofing.
4. Insulation fastening patterns for corner, perimeter, and field-of-roof locations.
5. Indicate areas where insulation attachment is by adhesive or mechanical fastening.

D. Samples for Verification: For the following products:

1. Sheet roofing, of color required.
2. Roof Insulation.
3. Metal Termination Bars.
4. Battens.

1.5 INFORMATIONAL SUBMITTALS

A. Qualification Data: For Installer and manufacturer.

B. Manufacturer Certificates: Signed by roofing manufacturer certifying that roofing system complies with requirements specified in "Performance Requirements" Article.

1. Submit evidence of complying with performance requirements.

C. Product Test Reports: For components of roofing system, tests performed by manufacturer and witnessed by a qualified testing agency.

D. Research/Evaluation Reports: For components of roofing system, from ICC-ES.

E. Field quality-control reports.

F. Sample Warranties: For manufacturer's special warranties.

1.6 CLOSEOUT SUBMITTALS

A. Maintenance Data: For roofing system to include in maintenance manuals.

1.7 QUALITY ASSURANCE

A. Manufacturer Qualifications: A qualified manufacturer that is UL listed and FM Global approved for roofing system identical to that used for this Project.

B. FM Global is launching a certified roofing installer program. Insert certification requirements in “Installer Qualifications” Paragraph below. This project is FM Global insured, a certified roofing installer is required and submittals are required for FM review.

C. Installer Qualifications: A qualified firm that is approved, authorized, or licensed by roofing system manufacturer to install manufacturer's product and that is eligible to receive manufacturer's special warranty. Source Limitations: Obtain components including roof insulation, fasteners, roof insulation adhesive and metal edge/coping for membrane roofing system from same manufacturer as membrane roofing or approved by membrane roofing manufacturer and to be included under the roof system warranty.

D. Exterior Fire-Test Exposure: ASTM E 108, Class A for application and roof slopes indicated, as determined by testing identical membrane roofing materials by a qualified testing agency. Materials shall be identified with appropriate markings of applicable testing agency.

E. Fire-Resistance Ratings: Where indicated, provide fire-resistance-rated roof assemblies identical to those of assemblies tested for fire resistance per ASTM E 119 by a qualified testing agency. Identify products with appropriate markings of applicable testing agency.

F. Preinstallation Roofing Conference: Conduct conference at project site.

1. Meet with Owner, Architect, Owner's insurer if applicable, testing and inspecting agency representative, roofing Installer, roofing system manufacturer's representative, deck Installer, and installers whose work interfaces with or affects roofing, including installers of roof accessories and roof-mounted equipment.
2. Review methods and procedures related to roofing installation, including manufacturer's written instructions.
3. Review and finalize construction schedule and verify availability of materials, Installer's personnel, equipment, and facilities needed to make progress and avoid delays.
4. Examine deck substrate conditions and finishes for compliance with requirements, including flatness and fastening.
5. Review structural loading limitations of roof deck during and after roofing.
6. Review base flashings, special roofing details, roof drainage, roof penetrations, equipment curbs, and condition of other construction that will affect roofing system.
7. Review governing regulations and requirements for insurance and certificates if applicable.
8. Review temporary protection requirements for roofing system during and after installation.
9. Review roof observation and repair procedures after roofing installation.

1.8 DELIVERY, STORAGE, AND HANDLING

A. Deliver roofing materials to Project site in original containers with seals unbroken and labeled with manufacturer's name, product brand name and type, date of manufacture, approval or listing agency markings, and directions for storing and mixing with other components.

B. Store liquid materials in their original undamaged containers in a clean, dry, protected location and within the temperature range required by roofing system manufacturer. Protect stored liquid material from direct sunlight.

1. Discard and legally dispose of liquid material that cannot be applied within its stated shelf life.

C. Protect roof insulation materials from physical damage and from deterioration by sunlight, moisture, soiling, and other sources. Store in a dry location. Comply with insulation manufacturer's written instructions for handling, storing, and protecting during installation.

D. Handle and store roofing materials, and place equipment in a manner to avoid permanent deflection of deck.

E. Discard all damaged materials or materials subjected to moisture infiltration.

1.9 FIELD CONDITIONS

A. Weather Limitations: Proceed with installation only when existing and forecasted weather conditions permit roofing system to be installed according to manufacturer's written instructions and warranty requirements.

1.10 WARRANTY

A. Special Warranty: Manufacturer agrees to repair or replace components of roofing system that fail in materials or workmanship within specified warranty period.

1. Special warranty includes membrane roofing, base flashings, roof insulation, fasteners, cover boards, roofing accessories, and other components of roofing system.
2. Warranty Period: 20 years from date of Substantial Completion.

B. Special Project Warranty: Submit roofing Installer's warranty, on warranty form at end of this Section, signed by Installer, covering Work of this Section, including all components of roofing system such as membrane roofing, base flashing, roof insulation, fasteners, cover boards, substrate boards, vapor retarders, roof pavers, and walkway products, for the following warranty period:

1. Warranty Period: Two years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Source Limitations: Obtain components including roof insulation fasteners for roofing system from same manufacturer as membrane roofing or manufacturer approved by membrane roofing manufacturer.

2.2 PERFORMANCE REQUIREMENTS

A. General Performance: Installed roofing and base flashings shall withstand specified uplift pressures, thermally induced movement, and exposure to weather without failure due to defective manufacture, fabrication, installation, or other defects in construction. Roofing and base flashings shall remain watertight.

1. Accelerated Weathering: Roofing system shall withstand 2000 hours of exposure when tested according to ASTM G 152, ASTM G 154, or ASTM G 155.
2. Impact Resistance: Roofing system shall resist impact damage when tested according to ASTM D 3746 or ASTM D 4272.

B. Material Compatibility: Roofing materials shall be compatible with one another and adjacent materials under conditions of service and application required, as demonstrated by roofing manufacturer based on testing and field experience.

C. Roofing System Design: Tested by a qualified testing agency to resist the following uplift pressures:

1. Corner Uplift Pressure: 171 lbf/sq. ft..
2. Perimeter Uplift Pressure: 113 lbf/sq. ft. .
3. Field-of-Roof Uplift Pressure: 68 lbf/sq. ft..

D. FM Global Listing: Roofing, base flashings, and component materials shall comply with requirements in FM Global 4450 or FM Global 4470 as part of a roofing system, and shall be listed in FM Global's "RoofNav" for Class 1 or noncombustible construction, as applicable. Identify materials with FM Global markings.

1. Fire/Windstorm Classification: Class 1A-90.
2. Hail-Resistance Rating: MH.

E. Solar Reflectance Index: Not less than 78 when calculated according to ASTM E 1980, based on testing identical products by a qualified testing agency.

F. Energy Star Listing: Roofing system shall be listed on the DOE's ENERGY STAR "Roof Products Qualified Product List" for low-slope roof products.

G. Energy Performance: Roofing system shall have an initial solar reflectance index of not less than 0.70 and an emissivity of not less than 0.75 when tested according to CRRC-1.

H. Exterior Fire-Test Exposure: ASTM E 108 or UL 790, Class A; for application and roof slopes indicated; testing by a qualified testing agency. Identify products with appropriate markings of applicable testing agency.

I. Fire-Resistance Ratings: Comply with fire-resistance-rated assembly designs indicated. Identify products with appropriate markings of applicable testing agency.

2.3 EPDM ROOFING

A. EPDM: ASTM D 4637, Type I, nonreinforced, uniform, flexible EPDM sheet.

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

   a. Carlisle SynTec Incorporated.
   b. Firestone Building Products.
   c. GenFlex Roofing Systems.
   d. Johns Manville.

2. Thickness: 60 mils nominal.
3. Exposed Face Color: White on black.

2.4 AUXILIARY ROOFING MATERIALS

A. General: Auxiliary materials recommended by roofing system manufacturer for intended use and compatible with roofing.

1. Liquid-type auxiliary materials shall comply with VOC limits of authorities having jurisdiction.
2. Adhesives and sealants that are not on the exterior side of weather barrier shall comply with the following limits for VOC content:

   a. Plastic Foam Adhesives: 50 g/L.
   b. Gypsum Board and Panel Adhesives: 50 g/L.
   c. Multipurpose Construction Adhesives: 70 g/L.
   d. Fiberglass Adhesives: 80 g/L.
   e. Single-Ply Roof Membrane Adhesives: 250 g/L.
   f. Single-Ply Roof Membrane Sealants: 450 g/L.
   g. Nonmembrane Roof Sealants: 300 g/L.
   h. Sealant Primers for Nonporous Substrates: 250 g/L.
   i. Sealant Primers for Porous Substrates: 775 g/L.
   j. Other Adhesives and Sealants: 250 g/L.

3. Adhesives and sealants that are not on the exterior side of weather barrier shall comply with the testing and product requirements of the California Department of Public Health's (formerly, the California Department of Health Services') "Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers."

B. Sheet Flashing: 60-mil- (1.5-mm-) thick EPDM, partially cured or cured, according to application.

C. Protection Sheet: Epichlorohydrin or neoprene nonreinforced flexible sheet, 55- to 60-mil- (1.4- to 1.5-mm-) thick, recommended by EPDM manufacturer for resistance to hydrocarbons, non-aromatic solvents, grease, and oil.

D. Bonding Adhesive: Manufacturer's standard, water based.

E. Seaming Material: Manufacturer's standard, synthetic-rubber polymer primer and 3-inch- (75-mm-) wide minimum, butyl splice tape with release film.

F. Lap Sealant: Manufacturer's standard, single-component sealant, colored to match membrane roofing.

G. Water Cutoff Mastic: Manufacturer's standard butyl mastic sealant.

H. Metal Termination Bars: Manufacturer's standard, predrilled stainless-steel or aluminum bars, approximately 1 by 1/8 inch (25 by 3 mm) thick; with anchors.

I. Metal Battens: Manufacturer's standard, aluminum-zinc-alloy-coated or zinc-coated steel sheet, approximately 1 inch wide by 0.05 inch thick (25 mm wide by 1.3 mm thick), prepunched.

J. Fasteners: Factory-coated steel fasteners and metal or plastic plates complying with corrosion-resistance provisions in FM Global 4470, designed for fastening membrane to substrate, and acceptable to roofing system manufacturer.

K. Miscellaneous Accessories: Provide pourable sealers, preformed cone and vent sheet flashings, molded pipe boot flashings, preformed inside and outside corner sheet flashings, reinforced EPDM securement strips, T-joint covers, in-seam sealants, termination reglets, cover strips, and other accessories.

1. Provide white flashing accessories for white EPDM membrane roofing.

L. Drip Edge: Designed to use on Adhered or Mechanically- Fastened Roofing Systems. Provide 24 gauge (.51 mm) continuous 12’ pre-punched 90 degree angle cleat and 12’ long fascia sections. Incorporate concealed joint covers and strong 1-1/4” ring shank nails to provide long-term holding power.
1. Custom Color: to match existing precast.

2.5 EXPANSION JOINT SUPPORT BELLOWS:

A. Manufacturer: Subject to compliance with requirements, provide the following:

1. Firestone Building Products

B. Bellows shall be a high quality foamed 60 mil EDPM expansion joint bellows with closed cell foam back-up for use with the EPDM system being provided.

C. Provide manufacturer's standard profiles for use at expansion joints within the field of the roof and along parapet walls.

2.6 VAPOR RETARDER

A. Polyethylene Film: ASTM D 4397, 6 mils (0.15 mm) thick, minimum, with maximum permeance rating of 0.13 perm (7.5 ng/Pa x s x sq. m).

1. Tape: Pressure-sensitive tape of type recommended by vapor-retarder manufacturer for sealing joints and penetrations in vapor retarder.
2. Adhesive: Manufacturer's standard lap adhesive, FM Global approved for vapor-retarder application.

2.7 ROOF INSULATION

A. General: Preformed roof insulation boards manufactured or approved by EPDM roofing manufacturer, selected from manufacturer's standard sizes suitable for application, of thicknesses indicated and that produce FM Global-approved roof insulation.

B. Polyisocyanurate Board Insulation: ASTM C 1289, Type II, Class 1, Grade 2, felt or glass-fiber mat facer on both major surfaces.

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

   a. Carlisle SynTec Incorporated.
   b. Firestone Building Products.
   c. GAF Materials Corporation.
   d. Insulfoam LLC; a Carlisle company.
   e. Johns Manville.

2. R-Value at least at level roof deck: R-20 minimum average for insulation only.
3. R- Value at existing roof: R-20 on existing sloped concrete deck unless otherwise noted.

C. Tapered Insulation: At new roof provide factory-tapered insulation boards fabricated to slope of ¼" per 12 inches (1:48) unless otherwise indicated.

1. Provide 1½" thick insulation starting at roof drains and rising at ¼" to high points. R-Value exceeds average R-20 value.

D. Provide preformed saddles, crickets, tapered edge strips, and other insulation shapes where indicated for sloping to drain. Fabricate to slopes indicated.

2.8 INSULATION ACCESSORIES

A. General: Roof insulation accessories recommended by insulation manufacturer for intended use and compatibility with roofing.

B. Fasteners: Factory-coated steel fasteners and metal or plastic plates complying with corrosion-resistance provisions in FM Global 4470, designed for fastening roof insulation and cover boards to substrate, and acceptable to roofing system manufacturer.

C. Insulation Adhesive: Insulation manufacturer's recommended adhesive formulated to attach roof insulation to substrate or to another insulation layer as follows:

1. Modified asphaltic, asbestos-free, cold-applied adhesive.
2. Bead-applied, low-rise, one-component or multicomponent urethane adhesive.
3. Full-spread spray-applied, low-rise, two-component urethane adhesive.

D. Cover Board: Rigid insulation panel composed of a high-density, closed-cell polyisocyanurate foam core laminated to coated-glass fiber-mat facer for use as a cover board. ½” thick, 4’x8’ panel weight 11 lbs. with a R-value of 2.5 and compressive strength of 120 psi.

1. Manufacturer: Subject to compliance with requirements, provide the following:

a. Firestone Isoguard - HD

E. Protection Mat: Woven or nonwoven polypropylene, polyolefin, or polyester fabric, water permeable and resistant to UV degradation, type and weight as recommended by roofing system manufacturer for application.

2.9 WALKWAYS

A. Refer to Section 077620 Roof Walkway Paver System.

1. Slip Sheets: Black EPDM under roof pavers.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates, areas, and conditions, with Installer present, for compliance with requirements and other conditions affecting performance of the Work:

1. Verify that roof openings and penetrations are in place, curbs are set and braced, and roof-drain bodies are securely clamped in place.
2. Verify that wood blocking, curbs, and nailers are securely anchored to roof deck at penetrations and terminations and that nailers match thicknesses of insulation.
3. Verify that surface plane flatness and fastening of steel roof deck complies with requirements in Section 053100 "Steel Decking."

4. Verify that minimum concrete drying period recommended by roofing system manufacturer has passed.
5. Verify that concrete substrate is visibly dry and free of moisture. Test for capillary moisture by plastic sheet method according to ASTM D 4263.
6. Verify that concrete-curing compounds that will impair adhesion of roofing components to roof deck have been removed.

B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. Clean substrate of dust, debris, moisture, and other substances detrimental to roofing installation according to roofing system manufacturer's written instructions. Remove sharp projections.

B. Prevent materials from entering and clogging roof drains and conductors and from spilling or migrating onto surfaces of other construction. Remove roof-drain plugs when no work is taking place or when rain is forecast.

C. Install insulation strips according to acoustical roof deck manufacturer's written instructions.

3.3 ROOFING INSTALLATION, GENERAL

A. Install roofing system according to roofing system manufacturer's written instructions.

B. Complete terminations and base flashings and provide temporary seals to prevent water from entering completed sections of roofing system at the end of the workday or when rain is forecast. Remove and discard temporary seals before beginning work on adjoining roofing.

C. Install roofing and auxiliary materials to tie in to existing roofing to maintain weathertightness of transition and to not void warranty for existing roofing system.

3.4 VAPOR-RETARDER INSTALLATION

A. Polyethylene Film: Loosely lay polyethylene-film vapor retarder in a single layer over area to receive vapor retarder, side and end lapping each sheet a minimum of 2 inches (50 mm) and 6 inches (150 mm), respectively. Continuously seal side and end laps with tape or adhesive.

3.5 INSULATION INSTALLATION

A. Coordinate installing roofing system components so insulation is not exposed to precipitation or left exposed at the end of the workday.

B. Comply with roofing system and insulation manufacturer's written instructions for installing roof insulation.

C. Install tapered insulation under area of roofing to conform to slopes indicated.

D. Install insulation under area of roofing to achieve required thickness. Where overall insulation thickness is 2.7 inches (68 mm) or greater, install two or more layers with joints of each succeeding layer staggered from joints of previous layer a minimum of 6 inches (150 mm) in each direction.

1. Where installing composite and noncomposite insulation in two or more layers, install noncomposite board insulation for bottom layer and intermediate layers, if applicable, and install composite board insulation for top layer.

E. Trim surface of insulation where necessary at roof drains so completed surface is flush and does not restrict flow of water.

F. Install insulation with long joints of insulation in a continuous straight line with end joints staggered between rows, abutting edges and ends between boards. Fill gaps exceeding 1/4 inch (6 mm) with insulation.

1. Cut and fit insulation within 1/4 inch (6 mm) of nailers, projections, and penetrations.

G. Mechanically Fastened and Adhered Insulation: Install first layer of insulation to deck using mechanical fasteners specifically designed and sized for fastening specified board-type roof insulation to deck type.

1. Fasten first layer of insulation according to requirements in FM Global's "RoofNav" for specified Windstorm Resistance Classification.
2. Fasten first layer of insulation to resist uplift pressure at corners, perimeter, and field of roof.
3. Set each subsequent layer of insulation in a solid mopping of hot roofing asphalt, applied within plus or minus 25 deg F (14 deg C) of equiviscous temperature.
4. Set each subsequent layer of insulation in ribbons of bead-applied insulation adhesive, firmly pressing and maintaining insulation in place.
5. Set each subsequent layer of insulation in a uniform coverage of full-spread insulation adhesive, firmly pressing and maintaining insulation in place.

H. Install cover boards over insulation with long joints in continuous straight lines with end joints staggered between rows. Offset joints of insulation below a minimum of 6 inches (150 mm) in each direction. Loosely butt cover boards together and fasten to roof deck.

1. Fasten cover boards according to requirements in FM Global's "RoofNav" for specified Windstorm Resistance Classification.
2. Fasten cover boards to resist uplift pressure at corners, perimeter, and field of roof.

3.6 ADHERED MEMBRANE ROOFING INSTALLATION

A. Adhere roofing over area to receive roofing according to membrane roofing system manufacturer's written instructions. Unroll membrane roofing and allow to relax before installing.

B. Start installation of roofing in presence of roofing system manufacturer's technical personnel.

C. Accurately align roofing, and maintain uniform side and end laps of minimum dimensions required by manufacturer. Stagger end laps.

D. Bonding Adhesive: Apply to substrate and underside of roofing at rate required by manufacturer, and allow to partially dry before installing roofing. Do not apply to splice area of roofing.

E. In addition to adhering, mechanically fasten roofing securely at terminations, penetrations, and perimeters.

F. Apply roofing with side laps shingled with slope of roof deck where possible.

G. Adhesive Seam Installation: Clean both faces of splice areas, apply splicing cement, and firmly roll side and end laps of overlapping roofing according to manufacturer's written instructions to ensure a watertight seam installation. Apply lap sealant and seal exposed edges of roofing terminations.

1. Apply a continuous bead of in-seam sealant before closing splice if required by roofing system manufacturer.

H. Tape Seam Installation: Clean and prime both faces of splice areas, apply splice tape, and firmly roll side and end laps of overlapping roofing according to manufacturer's written instructions to ensure a watertight seam installation. Apply lap sealant and seal exposed edges of roofing terminations.

I. Repair tears, voids, and lapped seams in roofing that do not comply with requirements.

J. Spread sealant or mastic bed over deck-drain flange at roof drains, and securely seal membrane roofing in place with clamping ring.

K. Adhere protection sheet over membrane roofing at locations indicated.

3.7 BASE FLASHING INSTALLATION

A. Install sheet flashings and preformed flashing accessories, and adhere to substrates according to roofing system manufacturer's written instructions.

B. Apply bonding adhesive to substrate and underside of sheet flashing at required rate, and allow to partially dry. Do not apply to seam area of flashing.

C. Flash penetrations and field-formed inside and outside corners with cured or uncured sheet flashing.

D. Clean splice areas, apply splicing cement, and firmly roll side and end laps of overlapping sheets to ensure a watertight seam installation. Apply lap sealant and seal exposed edges of sheet flashing terminations.

E. Terminate and seal top of sheet flashings and mechanically anchor to substrate through termination bars.

3.8 WALKWAY INSTALLATION

A. Refer to Section 077300 Roof Walkway Paver System.

3.9 FIELD QUALITY CONTROL

A. Testing Agency: Engage a qualified testing agency to inspect substrate conditions, surface preparation, membrane application, flashings, protection, and drainage components, and to furnish reports to Architect.

B. Flood Testing: Flood test each roofing area for leaks, according to recommendations in ASTM D 5957, after completing roofing and flashing but before overlying construction is placed. Install temporary containment assemblies, plug or dam drains, and flood with potable water.

1. Flood to an average depth of 2-1/2 inches (65 mm) with a minimum depth of 1 inch (25 mm) and not exceeding a depth of 4 inches (100 mm). Maintain 2 inches (50 mm) of clearance from top of base flashing.
2. Flood each area for 24 hours.
3. After flood testing, repair leaks, repeat flood tests, and make further repairs until roofing and flashing installations are watertight.

C. Final Roof Inspection: Arrange for roofing system manufacturer's technical personnel to inspect roofing installation on completion.

D. Repair or remove and replace components of roofing system where inspections indicate that they do not comply with specified requirements.

E. Additional testing and inspecting, at Contractor's expense, will be performed to determine if replaced or additional work complies with specified requirements.

3.10 PROTECTING AND CLEANING

A. Protect membrane roofing system from damage and wear during remainder of construction period. When remaining construction does not affect or endanger roofing, inspect roofing for deterioration and damage, describing its nature and extent in a written report, with copies to Architect and Owner.

B. Correct deficiencies in or remove membrane roofing system that does not comply with requirements, repair substrates, and repair or reinstall membrane roofing system to a condition free of damage and deterioration at time of Substantial Completion and according to warranty requirements.

C. Clean overspray and spillage from adjacent construction using cleaning agents and procedures recommended by manufacturer of affected construction.

3.11 ROOFING INSTALLER'S WARRANTY

A. WHEREAS _____ of _____, herein called the "Roofing Installer," has performed roofing and associated work ("work") on the following project:

1. Owner: <Insert name of Owner>.
2. Address: <Insert address>.
3. Building Name/Type: <Insert information>.
4. Address: <Insert address>.
5. Area of Work: <Insert information>.
6. Acceptance Date: _____.
7. Warranty Period: <Insert time>.
8. Expiration Date: _____.

B. AND WHEREAS Roofing Installer has contracted (either directly with Owner or indirectly as a subcontractor) to warrant said work against leaks and faulty or defective materials and workmanship for designated Warranty Period,

C. NOW THEREFORE Roofing Installer hereby warrants, subject to terms and conditions herein set forth, that during Warranty Period he will, at his own cost and expense, make or cause to be made such repairs to or replacements of said work as are necessary to correct faulty and defective work and as are necessary to maintain said work in a watertight condition.

D. This Warranty is made subject to the following terms and conditions:

1. Specifically excluded from this Warranty are damages to work and other parts of the building, and to building contents, caused by:

   a. lightning;
   b. peak gust wind speed exceeding <Insert mph (m/sec)>;
   c. fire;
   d. failure of roofing system substrate, including cracking, settlement, excessive deflection, deterioration, and decomposition;
   e. faulty construction of parapet walls, copings, chimneys, skylights, vents, equipment supports, and other edge conditions and penetrations of the work;
   f. vapor condensation on bottom of roofing; and
   g. activity on roofing by others, including construction contractors, maintenance personnel, other persons, and animals, whether authorized or unauthorized by Owner.

2. When work has been damaged by any of foregoing causes, Warranty shall be null and void until such damage has been repaired by Roofing Installer and until cost and expense thereof have been paid by Owner or by another responsible party so designated.
3. Roofing Installer is responsible for damage to work covered by this Warranty but is not liable for consequential damages to building or building contents resulting from leaks or faults or defects of work.
4. During Warranty Period, if Owner allows alteration of work by anyone other than Roofing Installer, including cutting, patching, and maintenance in connection with penetrations, attachment of other work, and positioning of anything on roof, this

Warranty shall become null and void on date of said alterations, but only to the extent said alterations affect work covered by this Warranty. If Owner engages Roofing Installer to perform said alterations, Warranty shall not become null and void unless Roofing Installer, before starting said work, shall have notified Owner in writing, showing reasonable cause for claim, that said alterations would likely damage or deteriorate work, thereby reasonably justifying a limitation or termination of this Warranty.

5. During Warranty Period, if original use of roof is changed and it becomes used for, but was not originally specified for, a promenade, work deck, spray-cooled surface, flooded basin, or other use or service more severe than originally specified, this Warranty shall become null and void on date of said change, but only to the extent said change affects work covered by this Warranty.
6. Owner shall promptly notify Roofing Installer of observed, known, or suspected leaks, defects, or deterioration and shall afford reasonable opportunity for Roofing Installer to inspect work and to examine evidence of such leaks, defects, or deterioration.
7. This Warranty is recognized to be the only warranty of Roofing Installer on said work and shall not operate to restrict or cut off Owner from other remedies and resources lawfully available to Owner in cases of roofing failure. Specifically, this Warranty shall not operate to relieve Roofing Installer of responsibility for performance of original work according to requirements of the Contract Documents, regardless of whether Contract was a contract directly with Owner or a subcontract with Owner's General Contractor.

E. IN WITNESS THEREOF, this instrument has been duly executed this _____ day of _____, _____.

1. Authorized Signature: _____.
2. Name: _____.
3. Title: _____.

END OF SECTION 075323

SECTION 096813 - CARPETING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section includes:

1. Modular, tufted carpet tile.

B. Related Sections include the following:

1. Division 09 Section "Resilient Wall Base and Accessories" for resilient wall base and accessories installed with carpet tile.

1.3 PREINSTALLATION MEETINGS

A. Preinstallation Conference: Conduct conference at Project site.

1. Review methods and procedures related to carpet tile installation including, but not limited to, the following:

a. Review delivery, storage, and handling procedures.
b. Review ambient conditions and ventilation procedures.
c. Review subfloor preparation procedures.

1.4 ACTION SUBMITTALS

A. Product Data: For each type of product.

1. Include manufacturer's written data on physical characteristics, durability, and fade resistance.
2. Include installation recommendations for each type of substrate.

B. LEED Submittals:

1. Product Data for Credit IEQ 4.3:

a. For carpet tile, documentation indicating compliance with testing and product requirements of CRI's "Green Label Plus" program and IAQ’s Green Label Plus.

b. For installation adhesive, documentation including printed statement of VOC content.

2. Laboratory Test Reports for Credit IEQ 4.1: For carpet and installation adhesives, documentation indicating that products comply with the testing and product requirements of the California Department of Health Services' "Standard Practice for the Testing of Volatile Organic Emissions from Various Sources Using Small-Scale Environmental Chambers."

3. Product Data for Credit(s) MR 4.1 and MR 4.2: For products having recycled content, documentation indicating percentages by weight of postconsumer and preconsumer recycled content.

C. Shop Drawings: Show the following:
1. Columns, doorways, enclosing walls or partitions, built-in cabinets, and locations where cutouts are required in carpet tiles.
2. Carpet tile type, color, and dye lot.
3. Type of subfloor.
4. Type of installation.
5. Pattern of installation.
6. Pattern type, location, and direction.
7. Pile direction.
8. Type, color, and location of edge, transition, and other accessory strips.
9. Transition details to other flooring materials.

D. Samples: For each of the following products and for each color and texture required. Label each Sample with manufacturer's name, material description, color, pattern, and designation indicated on Drawings and in schedules.

1. Carpet Tile: Full-size Sample.

E. Product Schedule: Use same designations indicated on Drawings.

F. Sustainability: Provide the Statement of the Achievement Level the carpet has attained for Bronze, 28 to 36 Silver, 37 to 51 Gold, 52 to 70 points, based on specific Sustainable Attribute Performance for all product stages according to ANSI/NSF 140.

1.5 INFORMATIONAL SUBMITTALS

A. Qualification Data: For Installer.

B. Product Test Reports: For carpet tile and broadloom, for tests performed by a qualified testing agency.

C. Sample Warranty: For special warranty.

1.6 CLOSEOUT SUBMITTALS

A. Maintenance Data: For carpet tiles and broadloom to include in maintenance manuals. Include the following:

1. Methods for maintaining carpet, including cleaning and stain-removal products and procedures and manufacturer's recommended maintenance schedule.
2. Precautions for cleaning materials and methods that could be detrimental to carpet.

1.7 MAINTENANCE MATERIAL SUBMITTALS

A. Furnish extra materials, from the same product run, that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.

1. Carpet Tile: Full-size units equal to 5 percent of amount installed for each type indicated, but not less than 10 sq. yd.

1.8 QUALITY ASSURANCE

A. Fire-Test-Response Ratings: Where indicated, provide carpet tile identical to those of assemblies tested for fire response according to NFPA 253 by a qualified testing agency.

1.9 DELIVERY, STORAGE, AND HANDLING

A. Comply with CRI 104.

1.10 FIELD CONDITIONS

A. Comply with CRI 104 for temperature, humidity, and ventilation limitations.

B. Environmental Limitations: Do not deliver or install carpeting until spaces are enclosed and weathertight, wet work in spaces is complete and dry, and ambient temperature and humidity conditions are maintained at occupancy levels during the remainder of the construction period.

C. Do not install carpeting over concrete slabs until slabs have cured and are sufficiently dry to bond with adhesive and concrete slabs have pH range recommended by carpet manufacturer.

D. Where demountable partitions or other items are indicated for installation on top of carpet tiles, install carpet tiles before installing these items.

1.11 WARRANTY

A. Special Warranty for Carpet Tiles: Manufacturer agrees to repair or replace components of carpet tile installation that fail in materials or workmanship within specified warranty period.

1. Warranty does not include deterioration or failure of carpet tile due to unusual traffic,

failure of substrate, vandalism, or abuse.

2. Failures include, but are not limited to, more than 10 percent snags, runs and loss of tuft bind strength.

   a. Wear – Lifetime of CPT: Surface fiber wear shall not be more than 10% by weight. (Note: Wear warranty shall not require use of chair pads)
   b. Edge ravel: Lifetime in normal use (no seam sealers required).
   c. Static – Lifetime.
   d. No dimensional instability (i.e., shrinkage, curling and doming) which adversely affect the ability of the tile to lay flat.
   e. Delamination: Lifetime.
   f. Tuft Bind: Lifetime; no zipped, wet or dry.
   g. Stain: Lifetime
   h. Lightfastness: 10 years.

3. Warranty Period: Provide a signed written warranty by carpet manufacturer.

1.12 EXTRA MATERIALS

A. Furnish extra materials described below that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.

   1. Furnish quantity of full-size units equal to 5 percent of type and color installed.

PART 2 - PRODUCTS

2.1 CARPET TILE

Basis-of-Design Product: Subject to compliance with requirements, provide Shaw Contract Glimmer Tile **(CPT1)** and Shine Tile **(CPT2).** Color: refer to finish legend;
Contact: Dave Saville
Shaw Contract Group - Western PA
Mobile: 412-719-7079
Email - Dave.Saville@Shawinc.com

A.

B. The following products, by the manufacturer's listed below, may also be considered:

1. **(CPT1)** J&J Industries / Mosaic Modular 7615

2. **(CPT2)** J & J Industries / Montage Modular 7614

3. **(CPT1)** Milliken / Straight Talk 2.0 / Eye Contact

4. **(CPT2)** Milliken / Straight Talk 2.0 / Snap Back 2.0

C. CARPET TILE **(CPT1)**

1. Product: Glimmer Tile manufactured by Shaw Contract Group
2. Color: See Finish Legend
3. Construction: Multi Level Patterned Loop
4. Backing: ecoworx tile backing
5. Dye Method: 100% Solution Dyed
6. Fiber Type: Eco solution q nylon
7. Face Weight: 17 oz./sy
8. Pile Density: 5276 oz./sy
9. Gauge: 1/12 (4.72 rows/cm)
10. Stitches: 9 stitches/in
11. Pattern Repeat: n/a
12. Soil Release: Yes
14. Optional Treatments: ssp shaw soil protection
15. Standard Size: 24" x 24" approx. (60.96 cm x 60.96 cm)
16. Warranties: Lifetime Fiber Performance for Wear, Lifetime for Tuft Bind Strength (edge ravel, yarn pulls, zippering), Lifetime Protection from Delamination Failure, Lifetime Fiber Performance for Static, Lifetime Colorfastness to Atmospheric Contaminants, Lifetime Stain Removal, Lifetime Moisture Barrier, Lifetime Dimensional Stability, Lifetime Colorfastness to Light
17. Testing Specifications - Pill Test: Yes
18. Testing Specifications - Flooring Radiant Panel: Class 1
19. Testing Specifications - Smoke Density: Less than 450 flaming (ASTM E 662)
20. Testing Specifications - Static Test: Less than 3 kv (AATCC-134)
21. Testing Specifications - Lightfastness Test: Yes

CARPET TILE **(CPT2)**

1 Product: Shine Tile manufactured by Shaw Contract Group
2. Color: See Finish Legend
3. Construction: Multi Level Patterned Loop
4. Backing: ecoworx tile backing
5. Dye Method: 100% Solution Dyed
6. Fiber Type: Eco solution q nylon
7. Face Weight: 17 oz./sy
8. Pile Density: 5276 oz./sy
9. Gauge: 1/12 (4.72 rows/cm)
10. Stitches: 9 stitches/in
11. Pattern Repeat: n/a
12. Soil Release: Yes
14. Optional Treatments: ssp shaw soil protection
15. Standard Size: 24" x 24" approx. (60.96 cm x 60.96 cm)
16. Warranties: Lifetime Fiber Performance for Wear, Lifetime for Tuft Bind Strength (edge ravel, yarn pulls, zippering), Lifetime Protection from Delamination Failure, Lifetime Fiber Performance for Static, Lifetime Colorfastness to Atmospheric Contaminants, Lifetime Stain Removal, Lifetime Moisture Barrier, Lifetime Dimensional Stability, Lifetime Colorfastness to Light
17. Testing Specifications - Pill Test: Yes

18. Testing Specifications - Flooring Radiant Panel: Class 1
19. Testing Specifications - Smoke Density: Less than 450 flaming (ASTM E 662)
20. Testing Specifications - Static Test: Less than 3 kv (AATCC-134)
21. Testing Specifications - Lightfastness Test: Yes

INSTALLATION ACCESSORIES

D. Trowelable Leveling and Patching Compounds: Latex-modified, hydraulic-cement-based formulation provided or recommended by carpet tile manufacturer.

E. Adhesives: Water-resistant, mildew-resistant, nonstaining, pressure-sensitive type to suit products and subfloor conditions indicated, that complies with flammability requirements for installed carpet tile and is recommended by carpet tile manufacturer for releasable installation.

1. Adhesives shall have a VOC content of 50 g/L or less when calculated according to 40 CFR 59, Subpart D (EPA Method 24).

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates, areas, and conditions, with Installer present, for compliance with requirements for maximum moisture content, alkalinity range, installation tolerances, and other conditions affecting carpet tile performance. Examine carpet tile for type, color, pattern, and potential defects.

B. Concrete Subfloors: Verify that concrete slabs comply with ASTM F 710 and the following:

1. Slab substrates are dry and free of curing compounds, sealers, hardeners, and other materials that may interfere with adhesive bond. Determine adhesion and dryness characteristics by performing bond and moisture tests recommended by carpet tile manufacturer.
2. Subfloor finishes comply with requirements specified in Division 03 Section "Cast-in-Place Concrete" for slabs receiving carpet tile.
3. Subfloors are free of cracks, ridges, depressions, scale, and foreign deposits.

C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. General: Comply with CRI 104, Section 6.2, "Site Conditions; Floor Preparation," and with carpet tile manufacturer's written installation instructions for preparing substrates indicated to receive carpet tile installation.

B. Use trowelable leveling and patching compounds, according to manufacturer's written instructions, to fill cracks, holes, depressions, and protrusions in substrates. Fill or level cracks,

holes and depressions 1/8 inch wide or wider and protrusions more than 1/32 inch unless more stringent requirements are required by manufacturer's written instructions.

C. Remove coatings, including curing compounds, and other substances that are incompatible with adhesives and that contain soap, wax, oil, or silicone, without using solvents. Use mechanical methods recommended in writing by carpet tile manufacturer.

D. Broom and vacuum clean substrates to be covered immediately before installing carpet tile.

3.3 INSTALLATION

A. General: Comply with CRI 104, Section 14, "Carpet Modules," and with carpet tile manufacturer's written installation instructions.

B. Installation Method: As recommended in writing by carpet manufacturer. “Chair Pads” shall not be recommended or required within installation instructions.

C. Maintain dye lot integrity. Do not mix dye lots in same area.

D. Cut and fit carpet to butt tightly to vertical surfaces, permanent fixtures, and built-in furniture including cabinets, pipes, outlets, edgings, thresholds, and nosings. Bind or seal cut edges as recommended by carpet tile manufacturer.

E. Extend carpet tile into toe spaces, door reveals, closets, open-bottomed obstructions, removable flanges, alcoves, and similar openings.

F. Maintain reference markers, holes, and openings that are in place or marked for future cutting by repeating on finish flooring as marked on subfloor. Use nonpermanent, nonstaining marking device.

G. Carpet tiles to be installed per directions indicated in finish schedule.

3.4 CLEANING AND PROTECTION

A. Perform the following operations immediately after installing carpet tile:

1. Remove excess adhesive, seam sealer, and other surface blemishes using cleaner recommended by carpet tile manufacturer.
2. Remove yarns that protrude from carpet tile surface.
3. Vacuum carpet tile using commercial machine with face-beater element.

B. Protect installed carpet tile to comply with CRI 104, Section 16, "Protecting Indoor Installations."

C. Protect carpet tile against damage from construction operations and placement of equipment and fixtures during the remainder of construction period. Use protection methods indicated or recommended in writing by carpet tile manufacturer.

END OF SECTION 096813

SECTION 123553 - TOPS, SINKS, FIXTURES AND ACCESSORIES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. This section is only a portion of the Contract Documents. All of the Contract Documents, including Conditions of the Contract and Division 1 General Requirements, apply to this section.

1.2 SUMMARY

A. Section includes
1. Work surfaces – Epoxy Resin and Stainless Steel.
2. ~~Down/Back Draft Workstation~~ **Necropsy Table**
3. Sinks, drain outlets.
4. Fittings and Fixtures.
5. Chemical Resistant Plastic Laminate Shelving.
6. Epoxy resin wall – mounted shelves.
7. Accessory items as specified herein
8. Indirect Canopy Exhaust Hood.

B. Related sections (not part of Section 123553):
1. Division 6: Rough carpentry, blocking within walls to adequately support casework.
2. Division 9: Furnishing and installation of base molding.
3. Section 115310 - Laboratory Fume Hoods.
4. Section 123550 – Laboratory Casework General Requirements
5. Section 123551 – Wood Laboratory Casework
6. Section 123552 – Metal Laboratory Casework.
7. Section 123554 – Full Height Upright System.
8. Section 123560 – Stainless Steel Casework.
9. Section 123561 – Adaptable Casework for overhead service panels and connections.
10. Division 22: Furnishing and installation of piping, drainline, traps, final connections and setting of sinks and fixtures.
11. Division 23: Furnishing and installation of exhaust ductwork, transition(s), blowers and equipment, and final connection to fume hood(s).
12. Division 26: Furnishing and installation of electrical devices, wiring, conduit, electrical items and final connections.

1.3 SUBMITTALS

A. Shop Drawings: Provide 3/4" = 1'-0" scale elevations of individual and battery of casework units, cross sections, rough-in and anchor placements, tolerances and clearances. Indicate relation of units to surrounding walls, windows, doors and other building components. Provide 1/4" = 1'-0" rough-in plan drawings for coordination with trades. Rough-in shall show free area.

B. Product Data: Submit manufacturer's data for each component and item of laboratory equipment specified. Include component dimensions, configurations, construction details, joint details, and attachments, utility and service requirements and locations.

C. Product Samples: Submit for approval:
   1. Epoxy Resin Sample.
   2. Metal Sample

D. Sustainable Design Requirements
   1. USGBC LEED Rating: Comply with project requirements intended to achieve the following Rating, as measured end documented according to the U.S. Green Building Council's LEED Green Building Rating System, version indicated:
      a. Rating: Silver
      b. Version: CI v. 2.0
   2. Applicable LEED Credits: Performance requirements of the following LEED Categories and Credits apply to this Section:
      a. Materials & Resources (MR):
         1) MR Credit 4.1, Recycled Content minimum 10%, 20% preferred.
         2) MR Credit 5.1, 20% Manufactured Regionally
         3) MR Credit 7.0, Certified Wood
      b. Indoor Environmental Quality (EQ):
         1) EQ Credit 4.1, Low-Emitting Materials: Adhesives and Sealants
         2) EQ Credit 4.2, Low-Emitting Materials: Paints and Coatings

1.4 QUALITY ASSURANCE (Submit with bid documents.)

A. Manufacturer's qualifications: Modern plant with proper tools, dies, fixtures and skilled production staff to produce high quality laboratory casework and fume hoods, and shall meet the following minimum requirements:
   1. Minimum of ten years experience in manufacture of laboratory casework and fume hoods.
   2. Ten installations of equal or larger size.

B. Installer qualifications: Certified by the manufacturer.

C. Manufacturer to provide load test results certified by an independent testing laboratory for drawers, doors, suspension slides and unit shelving.

D. Mock-up: Provide lab-mock-ups, see Lab Casework General Requirements.

1.5 PROJECT CONDITIONS

A. Do not deliver or install equipment until the following conditions are met:
   1. Windows and doors are installed and the building is secure and weathertight.
   2. Ceiling, overhead ductwork and lighting are installed.
   3. All painting is completed and floor tile is installed.
   4. Interior building temperature to be between 65o F and 80o F, and ambient relative humidity maintained between 25% and 55% prior to delivery, and during and after installation. Frequent

and/or excessive changes in temperature and/or humidity levels during casework installation, or once casework is installed, must be avoided to prevent damage to materials.

1.6 DELIVERY, STORAGE AND HANDLING

A. Delivery: Schedule delivery so rooms are sufficiently complete that material can be installed immediately following delivery.

B. Casework: Protect finished surfaces from soiling or damage during handling and installation. Keep covered with polyethylene film or other protective coating.

C. Work surfaces: Protect throughout the construction period.

PART 2 - PRODUCTS

2.1 MANUFACTURER

A. Manufacturers: Subject to compliance with requirements, provide products from one of the following:
1. CiF Lab Solutions LP, E-line Series; Basis of Design Product
2. Kewaunee Scientific Corp.; Signature Series
3. Mott Manufacturing

B. Nationally recognized manufacturers proposing casework different from that specified must submit, at least ten days prior to bid, sufficient documentation (drawings, specifications, construction details and samples) to indicate compliance with the requirements of these specifications, and secure written approval by the owner's/architect's representative in addendum form prior to bid date.

C. Warranty: Provide manufacturer's one year warranty against defects in materials and workmanship.

2.2 WORK SURFACE

A. EPOXY RESIN WORK SURFACE
1. Material: Chemical and abrasion resistant, durable top of one inch thick cast material of epoxy resins and inert products, cast flat, with a uniform non-glare Graphite matte finish.
2. Backsplash curb: Same material as top, 4" up to 6" high, butt jointed and cemented to top. Provide at all walls unless noted otherwise. Include end curb where top abuts end wall or fume hoods.
3. Reagent ledges: Same material as top. Provide 6" high x 7-1/2" wide single faced units and 6" high x 9" wide double faced units [as shown on drawings] [as required]. Ledge face shall permit installation of service fixtures and top shall be removable for access to service utilities.

B. STAINLESS STEEL TOPS
1. Countertops: Provide units with smooth surfaces in uniform plane free of defects. Ease exposed edges and corners. Provide front and end overhang of 1 inch over base cabinets.

2. Stainless-Steel Sheet: ASTM A 666, Type 304 not less than 0.0625-inch nominal thickness, with No. 4 satin finish.
3. Extend top down 1 inch at edges with a 1/2-inch return flange under frame. Apply heavy coating of heat-resistant, sound-deadening mastic to undersurface.
4. Form backsplash coved to and integral with top surface.
5. Provide rolled edge, unless otherwise indicated.
6. Provide raised (marine) edge around perimeter of countertops containing sinks; pitch two ways to sink to provide drainage without channeling or grooving.
7. Reinforce underside of countertop with channels or use thicker metal sheet where necessary to insure rigidity without deflection.
8. Weld shop-made joints, and grind and polish surfaces to produce uniform, directionally textured finish, free of cross scratches. When polishing is completed, passivate and rinse surfaces. Remove embedded foreign matter and leave surfaces chemically clean.
9. Where field-made joints are permitted, provide welded joints.
10. Where stainless-steel sinks or cup sinks occur in stainless-steel countertops, factory weld into one integral unit, grind welds smooth, polish, passivate, and rinse.

2.3 ~~DOWN/BACK DRAFT WORKSTATIONS~~ NECROPSY TABLE

A. Provide a ventilated workstation to pull air, odors, vapors and aerosols both down and away and back and away from the face of personnel when connected to a negative air source.

B. The work surface shall be made of a removable stainless steel panel with an 8-1/2” x 11” thermos plastic cutting board recessed into the panel as part of the work surface.

1. The stainless steel panel shall include perimeter perforation to provide downdraft ventilation around all four sides of the cutting board.

C. Standard Design and Construction:

1. Overall table dimensions shall be 30” long x 34” wide.
2. Work surface height shall be 30” high.
3. Vented work surface area shall be 24” long x 21” wide.
4. Backdraft area shall be 8” high x 24-1/2” long.
   a. Table shall utilize Type 316 stainless steel construction for all welded-wetted sink and drain pan components.
   b. All welds shall be heliarc.
   c. All exposed welds shall be ground to a seamless polished finish.
5. Table shall utilize an 18 gauge T316 stainless steel removable work surface panel.
   a. Panels shall be recessed 1/4” below the table perimeter to prevent fluids from escaping the work area.
   b. Panel shall have perimeter perforations and a recessed cutting board.

D. Table shall be designed with a sloped bottom to create an air plenum for downdraft ventilation and allow for knee space to enable users to be seated comfortably during use of the table.

E. A backdraft exhaust grill shall be integrated into the duct plenum and be equipped with an adjustable slide damper.

F. Exhaust connection shall be located on the top of the table.

1. Exhaust connections can be located on the top for through ceiling connection, on the back for through-wall connection of on the bottom for through-floor connections.
2. Connections can be round or rectangular.

G. Table shall include a removable cup sink to allow for disposal of formalin into a collection carboy with a quick disconnect fitting.

H. Table shall include a PVC formalin dispensing faucet for connection to a house supplied formalin source (an optional formalin dispensing system with pump and supply carboy can also be provided).

I. Table shall include a retractable hand spray for table clean up.

J. Table shall include a 12” x 18” shelf. The shelf shall include an under cabinet fluorescent light fixture with On/Off switch to illuminate the work surface.

K. Table shall utilize a heavy duty tubular base frame with adjustable leveling feet for stability.

L. Table shall be factory pre-plumbed and pre-wired ready for single point connection of utilities on site.

2.4 SINKS AND DRAINS

A. Epoxy resin sinks: Provide Undermount and Drop-in sinks molded from modified thermosetting epoxy resin in color matching worktop, specially compounded and oven cured. Cove inside corners and pitch bottom to threaded drain outlet.
1. Sink supports:
   a. Cabinet sinks: Support sinks on 11 gauge, adjustable, 1" x 2" x 1" channel with reagent resistant finish. Provide two channels across width of cabinet, attached to 3/8" diameter threaded hanger rods.
   b. Table sinks: Support sinks on 2" wide, U-shaped steel straps screwed to cross rails. Straps shall be 1/4" thick; 1/2" thick for sinks over 250 sq. in. in area. Straps shall have baked enamel finish.
2. Caulk joint between top and sink with non-hardening mastic.

B. Epoxy resin cupsinks: Integrally molded from modified thermosetting epoxy resin in color matching worktop, specially compounded and oven cured. Cove inside corners and pitch bottom to threaded drain outlet.
1. Oval cupsink: 3" x 6" x 6" deep with 1/2" radius between sides and bottom.

C. Stainless Steel Sinks
1. Provide integral stainless steel sinks, sizes indicated and as approved by Architect.
2. Stainless-Steel Sheet: ASTM A 666, Type 304, not less than 0.050-inch nominal thickness. Fabricate with corners rounded and coved to at least 5/8-inch radius. Slope sink bottoms to outlet. Provide double-wall construction for sink partitions with top edge rounded to at least 1/2-inch diameter. Provide continuous butt-welded joints, grind smooth, and polish surfaces to produce nondirectional finish, free of scratches. When polishing is completed, passivate and rinse surfaces. Remove embedded foreign matter and leave surfaces chemically clean.
3. Sink Size: Indicated on drawings.

4. Provide factory punchings for fittings.
5. Provide with stainless-steel strainers and tailpieces, NPS 1-1/2 (DN 40), unless otherwise indicated.
6. Apply 1/8-inch-thick coating of heat-resistant, sound-deadening mastic to undersink surfaces.

2.5 FITTINGS AND FIXTURES

A. Water Service Fittings:
1. Water service faucets and valves shall have renewable unit containing all working parts subject to wear, including replaceable stainless steel seat. Unit shall have serrations for position locking into valve body. Chrome plated with clear epoxy coating
2. Gooseneck vacuum breakers: Brass forgings integral with gooseneck, with renewable seat and special design valve member for fine flow control.
3. Goosenecks shall have separate 3/8" IPS coupling securely brazed to gooseneck to provide full thread for attachment of anti-splash outlet fittings, serrated tips and filter pumps.
4. Mixing Valves:
   a. Panel mount: WaterSaver – L212VB-WS
5. Water Single Faucet:
   a. Panel mount: WaterSaver – L2714VB-WS

B. Air, Gas and Vacuum Systems Fittings:
1. Ball Valves:
   a. 75 PSI rated, tested at 125 PSI. air under water.
   b. Integrated valve stem with ball, stem seals in body with TFE- coated O-rings.
   c. Valve shall have single arm long easy grip handle with screw-on type index.
   d. Chrome plated with clear epoxy coating
   e. Ten serrated end is removable from valve body.
   f. Panel mount: WaterSaver L4200 – 158FT – Single straight
   g. Wall mount: WaterSaver L4200 -158WSA – Single straight
   h. Deck mount: WaterSaver L4200-131WSA – Single straight
   i. Panel mount: WaterSaver L4200 – 141WSA – Double panel
   j. Wall mount: WaterSaver L4200 -141FT – Double wall
   k. Deck mount: WaterSaver L4200-132AWSA – Double deck

C. Specialty Water Fittings: DI, RO or Distilled: All brass fittings tin lined for distilled water service.
   a. Provide renewable tin lined unit containing all working parts subject to wear, including replaceable stainless steel seat. Unit shall have serrations for position locking into valve body. Chrome plated with clear epoxy coating.
   b. Panel mount: WaterSaver L2794WSA or L2794L-WSA

D. Steam Fittings: Bonnet assembly similar to needle valve fixture. Provide valve stem with flat teflon valve disc and renewable, stainless steel valve seat.

E. Turrets for gas, air, vacuum, steam or water fixtures: "Round" type design, provided with brass shanks, locknuts and washers.

F. Handles for service cocks, faucets and remote controls: Four-arm type except ball valves. Provide removable screw-on type colored plastic discs with letter stamped on disc in contrasting color as scheduled below:

Service	Disc/Letter Colors	Letters
Gas	Blue/White	Gas
Vacuum	Yellow/Black	Vac.
Compressed Air	Orange/White	C-Air
Cold Water	Green/White	C.W.
Hot Water	Red/White	H.W.
Steam	Black/White	Stm.
Chilled Water	Brown/White	CH.
Distilled Water	White/Black	D.W.

Disc color for special services as determined by Architect.

G. Fixture finish:
1. Chrome finish developed by the following sequence of platings over properly prepared brass castings or forgings:

Plating	Minimum Plating Thickness
Copper (Initial)	0.000050 IN.
Nickel	0.000350 IN.
Chromium (Final)	0.000015 IN.

H. Escutcheons: Floating type.

2.6 WALL SHELVING

A. Wall shelving: 1" thick Epoxy Resin shelves to be mounted on heavy duty stainless steel standards, attached to wall at 12” on center. 50 lbs./l.f.

B. Heavy-duty single slot standards and brackets
1. Knape & Vogt Co.
2. Locking screws.

C. STAINLESS STEEL SHELVING
1. Sheet steel: Mild, cold rolled and leveled, #304 stainless steel. (#4 polished sheen on all exposed surfaces)
2. Minimum gauges: 20 gauge: shelves.
3. Shelves:
   a. Form front and back edges down and back 3/4". Form ends down 3/4".
   b. Reinforce shelves over 36" long with welded hat channel reinforcement the full width of shelf.
4. Shelf clips: Die formed, stainless steel designed to engage in shelf adjustment holes.

D. CHEMICAL RESISTANT PLASTIC LAMINATE SHELVING

1. Chemical Resistant Plastic Laminate: provide plastic laminate sheet, with satin finish, complying with NEMA LD-3. Unless otherwise indicated, color to be selected by the Professional from the manufacturer's standard palette. Use chemical resistant grade 0.036" thick on shelves and bookends. Shop-bonded with fully waterproof bond glue to ¾" thick sub-top hardwood faced plywood, medium density overlaid plywood, or phenolic resin bonded particleboard. Smooth sand surfaces to which plastic laminate is to be bonded. Build up exposed edges of tops to 1" thickness. Self-edge exposed edges of shelving with same plastic laminate used for tops.

2.7 ACCESSORIES

A. PEGBOARDS:

1. Pegboards: stainless steel with no. 4 finish.
2. Replaceable polypropylene pegs with protector base. Base of pegs shall be two prong style for mechanical attachment. Do not bond pegs to board.
3. Stainless steel drain tough.
4. PVC drain hose

B. SERVICE FRAMES

1. Service framing: Utility support framing for supporting work surfaces and forming chase to carry service lines.
2. Service Support Struts: Heavy 1/4" x 1-1/2" steel channel uprights.
   a. Fasten at top and bottom with U-shaped spreader and bolts, designed to support tops, box curbs, troughs, hoods, or other heavy loads.
   b. Service piping and drain line hanger supports are to be provided by contractor providing these services.

C. WIRE RACKS

1. Manufacturer: InterMetro Industries Corp. – Metro.com, Super Adjustable 2™ Super Erecta Wire Shelving and Top Track High Density Storage System.
2. System Strength: Stationary units holding a maximum of 2,000 lb. (910kg).
3. Maximum weight capacity per shelf (48" or shorter = 800 lb.; longer than 48" = 600 lb.)
4. Rack and Shelf Finish: Stainless steel for corrosive environments.
5. Casters: Where indicated are 5" diameter offset stainless steel rigid horn, stainless steel ball bearings in axle, pre-lubricated with hard rubber tire and donut bumper.

D. FLAMMABLE STORAGE CABINETS

1. SCOPE

   a. These requirements cover cabinets intended to be used to provide a storage area for limited quantities of flammable and combustible liquids in containers in compliance to ANSI/NFPA 30. Construction and performance requirements for cabinets are primary based on ANSI/NFPA 30.

   b. A storage cabinet may have a maximum total storage capacity of not more than 120 gallons (454 Liters) Class I, Class II and Class IIIA flammable and combustible liquids shall be stored in a storage cabinet. Of this total, not more than 60 gal. (227 liters) shall be of Class I and Class II liquids. Not more than three cabinets shall be permitted to be

located in the same fire area. The maximum capacity rating is assigned by the manufacture.

2. BASIS FOR REQUIREMENTS

a. Flammable storage cabinets shall conform to the construction, details and dimensions as set forth in the National Fire Protection Association (NFPA) 30 standards "Flammable and Combustible Liquids Code".

b. The requirements of this standard reflect test and practices used to examine characteristics of storage cabinets for the purpose of obtaining and gaining (Factory Mutual Research Corporation) Approval Class Number 6050.

c. FMRC Approval criteria may include, but are not limited to, performance requirements, marking requirements, examination of manufacturing facility(ies), audit of quality assurance procedures, and a follow-up program.

d. Listed cabinets that have been constructed and tested in accordance with FMRC Approval 6050 shall be acceptable, all other cabinets are not acceptable. Approved cabinets must carry the FMRC label.

e. In addition, all manufacturer's cabinets shall be constructed, tested and UL (Underwriters Laboratories) #1275 listed under *"Standards for Flammable Liquid Storage Cabinets"*. Approved cabinets must carry the UL 1275 label.

3. MATERIALS

a. The bottom, top, door and sides of the cabinet shall be at least 18-gauge thick, cold rolled sheet metal.

b. The construction shall be double walled with a 1-1/2" (38 mm) air space.

c. All joints shall be riveted, welded, or of an equally effective construction.

d. Doors shall be provided with a three-point locking arrangement and the door shall be located at least 2 inches (51 mm) above the bottom of the cabinet.

e. Cabinets shall be equipped with optional self-closing doors and a fusible link. A auto-latch and door synchronizer shall be incorporated as an integral function of the cabinet.

f. A means shall be provided for attaching a separate grounding wire at the base of the cabinet on the outside.

g. A cabinet may be equipped with upper and lower side vents. Such vents shall be arranged so they can be plugged externally but also arranged so that they can be opened for connection to ventilating means.

h. If the cabinet is vented for whatever reasons, the cabinet shall be vented outdoors in such a manner that will not comprise the specified performance of the cabinet, as acceptable to

the authority having jurisdiction. Ventilation shall provide approximately 10 air changes per hour (3-5 cfm).

i. If the cabinet is not vented, the vent openings shall be sealed with the plugs supplied with the cabinet or with plugs specified by the manufacturer of the cabinet.

j. Mobile cabinets will have vent holes factory plugged with a solid back panel. Unit volume shall hold a minimal of 18 gallons/6.1 liters. Height and width limitations shall be ADA complaint (34" wide x 29-1/4" high x 22" deep). The total dead load of the unit shall be 190 lbs. plus a maximum of 100 lbs. live load or 300 lbs. The unit shall be supplied with the option of manual or self-closing doors.

k. All stationary models shall have removable backs to gain access to utilities for upgrades, repairs and maintenance.

l. Cabinet finish, fabrication and other requirements per this section per Fisher Hamilton L.L.C., 1316 – 18th Street, Two Rivers, WI 54241 requirements for steel casework.

4. PERFORMANCE

a. FIRE ENDURANCE TEST

1) A storage cabinet shall be subjected to a 10-minute fire test using the standard time-temperature curve specified in the Standards for Fire Tests on Door Assemblies, UL 10B (ASTM E152-81a, NFPA 251) *"Standard Methods of Fire Tests of Building Construction and Materials"*, to not more than 325 degrees F (162.8 degrees C) during the fire test. The cabinet shall limit the internal- measured at the center, 1 inch (25.4 mm) from the top. All joints and seams shall remain tightly closed during this test. No condition shall develop that indicate disintegration of parts or materials likely to affect the tightness of closure.

2) A production sample of manufacturer's cabinet shall pass a loading test in accordance with the manufacturer's rated liquid capacity. Loading is to be maintained for at least 72 hours. There shall be no (1) opening of seams or joints, (2) permanent distortion or deformation, or (3) interference of door opening, closing or locking as a result of this test.

5. MARKINGS

a. GENERAL

1) Each flammable liquid storage cabinet shall be marked with the company name or identification, the model or number designation, and cabinet capacity.

2) Each storage cabinet shall be marked "FLAMMABLES – KEEP FIRE AWAY" in letters not less than 2 inches (51 mm) high and in color contrasting to the background.

3) All markings shall be legible and durable. Markings shall be provided by stamping, by a metal name plate, by stenciling or painting, or equivalent.

4) If a manufacturer produces cabinets at more than one factory, each cabinet shall have a distinctive marking to identify it as a product of a particular factory.

5) FMRC Approval Sticker and UL Listing Sticker shall be clearly visible upon the top interior door panel. This sticker shall be a color contrasting to the background.

F. NON-FLAMMABLE ACID/CORROSIVE STORAGE CABINETS

1. Corrosive safety cabinets: All-welded body with reinforced 18-gauge double walls. 1-1/2" insulating air space on top, bottom, back, sides and doors.
2. 2" vent with fire baffle and cap.
3. All doors on safety cabinets are self-latching for secure closure.
4. For use in storing small containers up to 5-gallon capacity of flammable and non-flammable acids and corrosive liquids.
5. All interior and exterior surfaces, including shelves, are finished with blue epoxy powder coating.
6. Provide each cabinet with high density polyethylene trays for the shelves and bottom of cabinet.
7. Corrosive safety cabinets are made using an all-welded body with reinforced 18-gauge double walls. 1-1/2" insulating air space on top, bottom, back, sides and doors. 2" vent with fire baffle and cap. All doors on safety cabinets are self-latching for secure closure.

G. INDIRECT CANOPY EXHAUST HOOD

1. The hood and adapter shall be fabricated of stainless steel. Hood shall be 12 inches by 6 inches with a 4 inch round adapter.
2. The metal ducting required to connect the hood to the blower and for the exhaust from the blower is not included.
3. Refer to mechanical drawings for connection size.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Work surface installation:
1. Where required due to field conditions, scribe or caulk to abutting surfaces.
2. Secure joints in the field, where practicable, in the same manner as in factory, with dowels, adhesive or fasteners recommended by manufacturer.
3. Secure work surfaces to casework and equipment components with material and procedures recommended by the manufacturer.
4. Drill all holes required by other for setting of power wiring and service fittings.

B. Sink installation: Sinks shall be set in chemical-resistant sealing compound, secured and supported per manufacturer's recommendations.

C. Accessory installation: Install accessories and fittings in accordance with manufacturer's recommendations. Turn screws to seat flat; do not drive.

3.2 ADJUSTING

A. Repair or remove and replace defective work, as directed by Owner upon completion of installation.

B. Adjust doors, drawers, hardware, fixtures and other moving or operating parts to function smoothly.

3.3 CLEANING

A. Broom clean finished casework, touch up as required.

B. Clean materials as recommended by manufacturer.

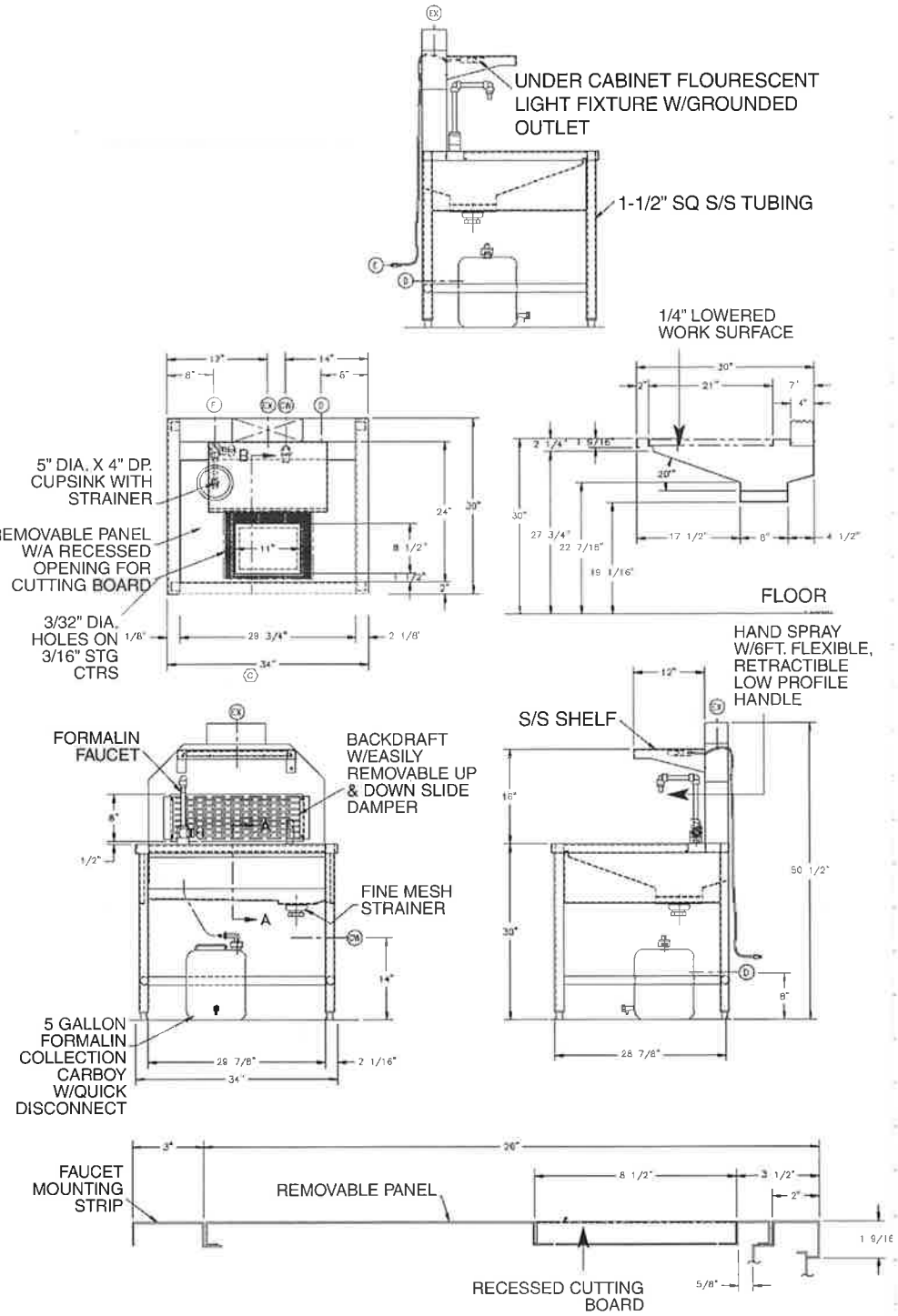
3.4 PROTECTION OF FINISHED WORK

A. Provide necessary protective measures to prevent damage of casework and equipment from exposure to other construction activity.

B. Advise contractor of procedures and precautions for protection of material, installed laboratory casework and fixtures from damage by work of other trades.

END OF SECTION 123553

TBJ Model 30-34 DD/BD Down/Back Draft Trim Station (ref. dwg. R02188)



Warranty

All components are warranted to be free from defects in material and workmanship for a period of one (1) year, when used in accordance with manufacturer's instructions.

Specification and drawing are subject to change without notice unless certified by factory.

Utility Requirements

F --- Formalin - 1/2" I.P.S.

CW --- Cold Water - 3/4" I.P.S.

D --- Drain - 2" I.P.S.

EX --- Exhaust - 4" X 12", 290 CFM

E --- Electrical - 115V., 1 PH., 60 Hz., 15 AMP (3-PRONG PLUG W/A 6 FT. EXTENSION)

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222SECTION 224500 – LABORATORY PLUMBING FIXTURES AND TRIM

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and General provisions of the Contract, Including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 GENERAL

A. Provided sink trap as indicated on drawings and as specified herein.

B. Provide sink supply pipes as indicated on drawings and as specified herein.

C. Provide laboratory plumbing fixtures as indicated on the drawings and specified herein.

1.3 SUMMARY

A. This section includes the following:

1. Traps
2. Supply Pipes
3. Laboratory Sinks
4. Laboratory Fume Hoods
5. Laboratory Biological Safety Cabinets
6. **Incubators**
7. Necropsy Sink
8. Ice Machine Box
9. Laboratory Floor Drain
10. Emergency Fixtures

PART 2 - PRODUCTS

2.1 TRAPS

A. For laboratory sinks not provided with traps, provide an adjustable P-trap of the same size as fixture tailpiece or 1-1/2 inch whichever is greater. P-Traps shall be chemical resistant tubing outlet with cleanout plug, wall flange, and slip joint inlet.

1. Manufacturer and Model (Polypropylene - Mechanical Joint)

a. Orion – Model RBP
b. Zurn – Model Z9A-PTRAP-112
c. Enfield – Model W1021

2.2 SUPPLY PIPES

A. Supply pipes for sinks shall be 1/2 inch IPS x 3/4 inch O.D. angle valve with loose key handle, flexible tubing, cast brass escutcheon with set screw.

1. Manufacturer and Model

a. McGuire – Model LFH2165LKCF
b. Zurn – Model ZH8822LRLK-PC-CE
c. Chicago Faucet – Model 1017-ABCP

2.3 PLUMBING FIXTURES

A. Laboratory Sinks

1. Handicapped Laboratory Hand Sink, LS-1 (Single Bowl)
Wall hung ADA compliant, Type 304 stainless steel lavatory with 5/32 inch raised rims and 2-1/2 inch high backsplash. Compartment shall have 1-3/4 inch radius vertical and horizontal covered corners. 2-1/2 inch apron at front and both sides. Provide with fixed gooseneck, 0.5 GPM aerator, wrist blade handle, and one 1-5/8 inch drain opening. Mounting height shall be 34 inches rim to floor.

a. Manufacturer and Model (Sink)

1) Elkay – Model ELV22191
2) Just Manufacturing – Model HCL-23520

b. Manufacturer and Model (Faucet –Hand Operated)

1) Chicago Faucet – Model 350-317VPAXKABCP
2) Zurn – Model Z825A4-XL-3F

b. Manufacturer and Model (Drain)

1) McGuire – Model 151
2) Zurn – Model Z-8740

2. Laboratory Sink, LS-2 (Single Bowl)
Laboratory sink provided under another Division. Under this Division provide: P-Trap, supply pipes, drain / vent pipes, rough-in and final connections.

3. Laboratory Sink, LS-3 (Single Bowl)
Laboratory sink provided under another Division. Under this Division provide: P-Trap, supply pipes, drain / vent pipes, rough-in and final connections.

4. Handicapped Laboratory Sink, LS-4 (Single Bowl)
Laboratory sink provided under another Division. Under this Division provide: P-Trap, supply pipes, drain / vent pipes, ADA insulation, rough-in and final connections.

B. Laboratory Fume Hood, FH-1
Laboratory fume hood provided under another Division. Under this Division provide: lab gases and vacuum supply pipes, drain / vent pipe, rough-in and final connections.

C. Laboratory Biological Safety Cabinet, BS-1
Laboratory biological safety cabinet provided under another Division. Under this Division provide: lab gases, rough-in and final connections.

D. Laboratory Biological Safety Cabinet, BS-2
Laboratory biological safety cabinet provided under another Division. Under this Division provide: lab gases, rough-in and final connections.

E. Incubators, INC-1
Incubators provided under another Division. Under this Division provide: Under this Division provide lab gas rough-in and final connection.

F. Necropsy Sink, NS-1
Necropsy sink provided under another Division. Under this Division provide: P-Trap, supply pipes, drain / vent pipes, rough-in and final connections.

G. Ice Machine, IM-1
Ice machine provided under another Division. Under this Division provide: P-Trap, supply pipe, filter, drain pipe, rough-in and final connection.

H. Laboratory Floor Drains LFD-1 (Glass Wash/Sterilizer Service)
16” square top drain, acid resistant coated cast iron body with bottom outlet, with loose set cast iron secondary strainer and top grate.

1. Manufacturer and Model

a. Zurn – Model Z-568-AR-GT-KC
b. Josam – Series 37960-Galv
c. J.R. Smith – Model 2637-FC-AR

I. Laboratory Floor Drains LFD-2 (Ice Machines)
Acid resistant cast iron body with bottom outlet, combination membrane clamp and adjustable collar, with strainer and funnel.

1. Manufacturer and Model

a. Zurn – Model Z415-AR with Type E Strainer
b. Josam – Model 30000-E2-Galv Series
c. J.R. Smith – Model 3510-AR

J. Emergency Fixtures

1. Emergency Shower and Eye/Face Wash Combinations, ES-1
Recessed barrier free eye / face wash and shower safety station with ceiling mounted exposed stainless steel shower head and drain pan.

a. Manufacturer and Model

1) Water Saver Faucet – Model SSBF2152
2) Guardian – Model GBF2150

2. Eyewash / Drench Hose Unit, EW-1 (Wall Mounted)
The unit shall include two spray heads with "flip top" stainless steel dust covers, internal flow control and filter, 1/2" IPS chrome plated brass stay-on ball valve with brass ball and Teflon seats, 12 foot reinforced nylon retractable coiled hose, mounting bracket with spring clips, and in-line dual check backflow preventer installed on inlet or hose.

a. Manufacturer and Model

1) Water Saver Faucet – Model EW1014BP-DC
2) Guardian – Model G5014BP

K. Handicapped Plumbing Fixtures
1. Provide P-trap, hot water angle valves and supply tubing, and cold water angle valves and supply tubing, with insulation in accordance with the American with Disabilities Act (ADA).

PART 3 - EXECUTION

3.1 GENERAL

A. Provide plumbing fixtures in a secure, true, plumb and symmetrical manner. Thoroughly clean each fixture after installation and leave in proper working order, absolutely solid in their respective positions. For sinks, verify clockwise rotation for cold water stem and counterclockwise rotation for hot water stem while facing respective stems.

B. When fixture trim is completed, adjust stops to provide proper flow through each valve or faucet.

C. Stops, valves and similar devices shall be adjusted and balanced to provide first class operation of the various systems.

D. Floor-mounted fixtures shall not be installed until finished floor is in place.

E. Where any plumbing fixture comes in contact with the wall, seal with a non-shrink, mildew-resistant caulking.

F. Installation of handicapped plumbing fixtures shall meet requirements of Americans with Disabilities Act.

G. Provide final connection and install plumbing fixtures, equipment, and equipment furnished by others.

END OF SECTION 224500

SECTION 232123 - HYDRONIC PUMPS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

B. Section 232113 “HVAC Piping,” including piping system component and equipment pressure ratings, applies to this section.

1.2 SUMMARY

A. Provide circulating pumps for HVAC service as shown on the drawings and specified herein. Pumps shall have the flow rate capacity and head characteristics indicated on the drawings.

B. Maximum cataloged impeller size for pump submitted shall be capable of producing 10 percent over scheduled head at scheduled flow.

C. Each pump shall be provided with gauges as specified and shown on the drawings.

1.4 SUBMITTALS

A. Product Data: Include certified performance curves and rated capacities, operating characteristics, furnished specialties, final impeller dimensions, and accessories for each type of product indicated. Indicate pump's operating point on curves.

1.5 QUALITY ASSURANCE

A. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.

B. UL Compliance: Comply with UL 778 for motor-operated water pumps.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Manufacturer's Preparation for Shipping: Clean flanges and exposed machined metal surfaces and treat with anticorrosion compound after assembly and testing. Protect flanges, pipe openings, and nozzles with wooden flange covers or with screwed-in plugs.

B. Store pumps in dry location.

C. Retain protective covers for flanges and protective coatings during storage.

D. Protect bearings and couplings against damage from sand, grit, and other foreign matter.

E. Comply with pump manufacturer's written rigging instructions.

1.7 COORDINATION

A. Coordinate size and location of concrete bases. Cast anchor-bolt inserts into bases. Concrete, reinforcement, and formwork requirements are specified in Division 01.

PART 2 - PRODUCTS

2.1 REQUIREMENTS FOR PUMPS

A. Pump rating curves shall be the result of testing and rating in accordance with the procedures of the hydraulic institute.

B. Pumps shall be provided with suction and discharge gauge tappings and plugs.

C. Impellers shall be dynamically balanced, keyed to the shaft and secured with a suitable locking capscrew or locknut arrangement.

D. Pumps shall be factory tested, cleaned and painted with one coat of machinery enamel before shipment.

E. Provide suitable drain pan of stainless steel with drain connection below wetted surfaces for pumps handling water below 60°F. Pipe to floor drain with 1/2 inch copper pipe. Provide protective ramps in aisles over piping.

2.2 BASE-MOUNTED END SUCTION PUMPS

A. Pumps shall be base-mounted single stage end suction type. Pumps shall have a cast iron body and a one-piece cast bronze impeller. Pumps shall be non-overloading and suitable for 125 psig working pressure and 225°F water temperature. Pump shall have a stainless steel or bronze sleeved shaft.

B. Pump seal shall be carbon-ceramic seal suitable for 225°F temperature and 175 psig working pressure.

C. Pumps shall be provided with the manufacturer's suction diffusers.

D. Pumps volutes shall be provided with drain plug or plugs and vent plugs.

E. Provide pump with a flexible non-lubricated coupling capable of withstanding combinations of shock, misalignment and end shock.

F. Motors used in conjunction adjustable frequency drives shall be inverter duty motors with NEMA Class F insulation based on Class B temperature rise.

G. The pump and motor shall be mounted on a common baseplate of fabricated structural steel design with securely welded cross members and open construction for ease of grouting. The structural steel base shall be a heavy duty weldment for pumps 25 horsepower and larger; a simple inverted channel with flanges toed down is not acceptable. The base of the frame shall be suitable for a minimum of two 4 inch wide strips of grout installed under each outer edge of the frame along its entire perimeter.

H. Acceptable Manufacturers

1. Bell and Gossett Series 1510
2. Worthington
3. Taco

2.3 AUTOMATIC CONDENSATE PUMP UNITS

A. Description: Packaged units with corrosion-resistant pump, plastic tank with cover, and automatic controls. Include factory- or field-installed check valve and a 72-inch-minimum, electrical power cord with plug for 120 volt operation.

B. Acceptable Manufacturers:

1. Aurora Pump; Division of Pentair Pump Group.
2. Beckett Corporation.
3. Flowserve Corporation; Div. of Ingersoll-Dresser Pumps.
4. Hartell Pumps Div.; Milton Roy Co.
5. Little Giant Pump Co.; Subsidiary of Tecumseh Products Co.
6. MEPCO (Marshall Engineered Products Co.).

PART 3 - EXECUTION

3.1 GENERAL

A. Fill-in the pump base frame for base-mounted pumps with concrete as recommended by pump manufacturer.

B. The alignment of each centrifugal pump shall be checked and each pump shall be properly aligned after the piping is completed and before the pumps are placed in service.

C. Place the pump in operation and check for proper pump rotation and pressure drop.

D. Measure motor current draw under normal operation to verify that pump is operating within the proper power limits and that the pump motor is not overloading. Locate the pump operating point of the pump curve when amp measurements are taken.

E. Check motor/pump alignment in the field. Correct any misalignments before operating pump.

F. Pump seals and shaft sleeves shall be replaced at no additional cost in the event that unusual wear or faulty operation occurs during the warranty period.

3.2 DEMONSTRATION

A. Training of the Owner's operation and maintenance personnel is required in cooperation with the Owner's Representative. Provide competent, factory authorized personnel to provide instruction to operation and maintenance personnel concerning the location, operation, and troubleshooting of the installed systems. The instruction shall be scheduled in coordination with the Owner's Representative after submission and approval of formal training plans. Refer to the Commissioning Specification for further contractor training requirements.

END OF SECTION 232123

SECTION 233416 - HVAC FANS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

B. Motors used in conjunction with adjustable frequency drives shall be inverter duty motors with NEMA Class F insulation based on Class B temperature rise. Refer to Section 230513 "Common Electrical Requirements for HVAC" for additional motor requirements.

C. Refer to Section 233113 "Metal Ducts" for component and equipment ratings. All components, equipment, and specialties, etc., shall meet the component pressure rating listed.

1.2 GENERAL

A. Provide fans as shown on the drawings and specified herein.

B. Fan performance data shall be AMCA certified for sound and air performance, tested in accordance with and conforming to the AMCA Standards indicated in the following subparagraphs. Fans provided shall be licensed to bear the associated AMCA seal.

C. Fans shall be provided complete with motors and drives. Belt drive fans shall be provided with belt guards meeting OSHA requirements and having tachometer openings. Belt guards shall allow speed measurement at both fan and motor without removing guard. Each fan shall include an allowance for one pulley and belt change during balancing procedures.

D. Provide appropriate weather covers for motors and belt where fans are exposed to weather.

E. Fans shall be balanced statically and dynamically for maximum rated speed.

F. Submit complete fan data for approval including fan volume-pressure-horsepower curves.

G. Bearings shall be ball or roller anti-friction type with minimum L10 life of 160,000 hours, or as specified below.

H. Fans shall be

1. Catalog rated for 15 percent greater static pressure than specified at air volume,
2. Selected so that the specified air volume is greater than that at the apex of the fan pressure volume curve, and
3. Selected to provide stable operation down to 85 percent of design volume operating at the required speed for the specified conditions.

I. Brake horsepower for backward inclined bladed centrifugal fans shall not exceed 78 percent of motor nameplate horsepower times the NEMA service factor, and for forward curved bladed centrifugal fans shall not exceed 70 percent at specified duty.

J. Lubricate bearings for extended shutdown or storage and rotate shafts every four weeks until fans are put into permanent operation.

K. Fans with motor operated dampers shall have access doors for access to both damper and motor.

L. Equip each belt-driven fan with an extra set of drive belts, packaged with protective covering for storage and identified with labels describing contents.

M. Drives shall be selected for a 1.5 service factor. Drives for motors over 3 horsepower shall be a minimum of two belts. Provide an allowance of one sheave change per fan for balancing.

N. Operating Limits: Classify according to AMCA 99.

O. Provide AMCA Type C spark resistant construction for exhaust fans serving laboratories and lab support areas.

P. Fans shall be equipped with lifting lugs.

Q. Bearings shall have zerk fittings to allow for lubrication. Provide lubrication lines extended to convenient location on fan housing for fans located at rooftop or mounted greater than four feet above the mechanical room floor.

R. Named manufacturers for each fan type shall meet the requirements of that fan type. The first named manufacturer / model is the basis of design.

1.3 ACCESS DOORS

A. All access doors for fans scheduled with total pressures of 2 inches or less shall be provided with hinged, gasketed access doors with cam-type levers.

B. All access doors for fans scheduled with total pressures over 2 inches shall be provided with gasketed access doors with steel stud fasteners.

C. All hardware (I.E. hinges, latches, studs, and nuts) for access doors located outdoors shall be 304 stainless steel.

1.4 SUBMITTALS

A. Provide the following with each shop drawing submission:

1. Complete manufacturer's specification of the equipment which will be provided including all optional equipment. All equipment shall be tagged. Refer to Section 230000 article 1.14 "Shop Drawings, Product Data and Samples" for further requirements.

2. Data showing that all fans bear the AMCA Certified Performance Seal for both air and sound performance at the capacities as shown on the drawings.

3. Arrangement drawings showing proposed scroll arrangement, rotation, discharge, drive arrangement, motor location, motor power connection location, access door location, and drain connection locations as required.
4. Arrangement drawings including physical dimensions, support locations, identification and weight of each component, and weight of fan assembly at each support location including drive and motor. Provide WR^2 for the fan wheel and drive assemblies, including individual WR^2 for each drive component.
5. Capacity and performance data corrected for actual operating temperature and altitude. Fan volume-pressure-horsepower curves shall have operating points indicated. Fan curve shall be plotted on the family or horsepower curves so that the overloading point may be determined.
6. Motor data to verify motor type, efficiency, and starting characteristics, motor ratings and electrical characteristics, plus motor and electrical accessories.
7. Fan noise characteristics including sound power levels for the 8 octave bands and a single sound power A-scale weighted level.
8. List of spare parts for one year's normal maintenance, including drive-belt part numbers where applicable. Include all "off the shelf" readily available purchased items on the list. List shall include subassembly part number (identifiable in maintenance manual or on shop drawings), manufacturer's name, manufacturer's part number and a part description.
9. Installation, operation, maintenance, and lubrication instruction in shop manual format.
10. Material thickness and finishes, including color charts for exterior exposed fans for color selection by architect.
11. Dampers, including housings, linkages, and operators.
12. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.

PART 2 - PRODUCTS

2.1 CENTRIFUGAL FANS – GENERAL EXHAUST

A. Backwardly inclined below 22 inches wheel diameter and airfoil blade 4 inches wheel diameter and above centrifugal fan. Fan shall be single width or double width as indicated on the drawings.

B. Fan housings shall be constructed with heavy gauge steel which is adequately braced by channels and angles for rigidity. Housing inlets shall be fully streamlined. Seams in fan housings shall be continuously welded. Threaded scroll drain connections shall be provided at the lowest point of the fan housing. Fans with housings 19 inches wide and greater shall be provided with scroll access doors (provide means to raise door or insulated fan). Fan housing shall be aerodynamically designed with high-efficiency inlet, engineered to reduce incoming air turbulence.

C. Fans shall be mounted on rigid fabricated steel bases.

D. Fan wheels shall be of the non-overloading centrifugal type with backward inclined or airfoil blades, as indicated on the drawings, refer to Fan Schedule on Drawing H701. Backward inclined blades shall be flat single-thickness type blades continuously welded to the hub plate and wheel cone. Airfoil blades shall be die-formed double-thickness type blades continuously welded to the hub plate and wheel cone. All fan wheels shall have tapered, smooth flowing wheel cones. Fan wheels shall be statically and dynamically balanced. Fan wheel and fan inlet shall be carefully matched and shall have precise running tolerances for maximum performance and operating efficiency.

E. The rotating assembly shall be designed so that the first critical speed shall be at least 125% of the fan's maximum operating speed and horsepower for Class I and Class II. The rotating assembly shall be designed so that the first critical speed shall be at least 142% of the fan's maximum operating speed and horsepower for class III and Class IV.

F. Bearings shall be designed for heavy-duty service. Bearing ratings shall be based on the fan's maximum catalogued operating speed and horsepower. Bearings shall be double row spherical roller type I split cast-iron pillow block housings. Bearing bars shall be rigidly supported to the base. Bearing supports shall consist of two or more full-length structural uprights.

G. Fans shall be complete with V-belt drives, motors, removable belt covers with tachometer openings, adjustable motor mounts, and fan shaft seals.

H. Fan shall be Arrangement 1 for single width inlet, Arrangement 3 for double width inlet, and Arrangement 10 for outdoor units.

I. Drives shall be selected for a 1.5 service factor.

J. Motors shall be Open Drip Proof (ODP) or Totally Enclosed Fan Cooled (TEFC) with a 1.15 service factor.

K. Each fan shall be given an electronic vibration analysis in accordance with ANSI/AMCA Standard 204-05, while operating at the specified fan RPM. The vibration signatures shall be taken on each bearing in the horizontal, vertical and axial direction. The maximum allowable fan vibration shall be 0.15 in/sec peak velocity for belt drive fans and 0.08 in/sec peak velocity for direct drive fans, filter-in as measured at the fan RPM. Report shall be submitted with Product Data.

L. After fabrication all carbon steel components shall be cleaned and phosphate treated to insure proper removal of grease, oil, scale, etc. Fan shall then be coated with a minimum of 2-4 mils of Polyester Urethane electrostatically applied and baked. Coating shall exceed 1,000-hour salt spray under ASTM B117 test method.

M. Conform to AMCA Standards 211 and 311. Fans shall be tested in accordance with ANSI/AMCA Standard 210-07 and AMCA Standard 300-05 in an AMCA accredited laboratory.

N. Approved manufacturers: Greenheck Model BISW / AFSW, Trane, Buffalo Forge, Barry Blower, Chicago Blower, New York Blower, Cook, Twin City .

2.2 HIGH PLUME FUME LABORATORY EXHAUST FANS – CENTRIFUGAL FANS

A. General

1. Performance ratings: Conform to AMCA standard 210, 260 and 300. Fans must be tested in accordance with AMCA 210, 260 and 300 in an AMCA accredited laboratory and certified for air and sound performance. Fan shall be licensed to bear the AMCA ratings seal for air performance (AMCA 210), sound performance (AMCA 300), and induced flow fan for high plume dilution blowers (AMCA 260).
2. Provide AMCA Spark Resistant Construction Type C.
3. Each fan shall be vibration tested before shipping, as an assembly, in accordance with AMCA 204-05. Each assembled fan shall be test run at the factory at the specified fan RPM and vibration signatures shall be taken on each bearing in three planes - horizontal, vertical, and axial. The maximum allowable fan vibration shall be less than 0.10 in./sec peak velocity; filter-in reading as measured at the fan RPM. This report shall be submitted with Product Data.
4. Laboratory exhaust system defined in this section shall have a 36 month warranty from initial in-service date (after acceptance date) in Phase 1A.
5. Fans selected shall be capable of accommodating static pressure and flow variations of +/-15% of scheduled values. In addition, fans and bypass dampers shall be capable to operating under non-scheduled conditions to facilitate the phased nature of this project.
6. Fans shall be equipped with 316 stainless steel lifting lugs for corrosion resistance.
7. Fasteners exposed to the exhaust air stream shall be 316 stainless steel.
8. Fan assembly shall be designed for a minimum of 125-mph wind loading, without the use of guy wires.
9. Blower inlet shall be connected to the bypass air plenum utilizing a corrosion resistant UV inhibited flexible polymer boot, utilizing stainless steel straps, furnished by the fan manufacturer.

B. Submittals

1. Provide dimensional drawings and product data on each high-plume dilution laboratory exhaust fan assembly.
2. Provide fan curves for each fan at the specified operation points, with the flow, static pressure and horsepower clearly plotted.
3. Provide exhaust fan nozzle discharge velocity, total exhaust flow, airflow from building, bypass damper airflow, and induced airflow, percent dilution, nozzle discharge height above finished roof, and discharge plume rise at 10 mph wind speed.
4. Provide data / certification stamped by a Professional Engineer registered in the State of Connecticut indicating that the fan system as proposed to be installed on this particular project develops the required resistance to 125-mph winds and transfers the resultant loading to the roof structure.

C. Corrosion Resistant Coating

1. All fan and system components (fan, impeller, housing, nozzle, windband and plenum) shall be corrosion resistant coated with a two part electrostatically applied and baked corrosion resistant coating system.
2. All parts shall be cleaned and chemically prepared for coating using a multi-stage wash system which includes acid pickling that removes oxide, increases surface area, and improves coating bond to the substrate.

3. The first powder coat applied over the prepared surface shall be a zinc rich epoxy primer (no less than 70% zinc) and heated to a gelatinous consistency (partial cure) at which the second powder coat of polyester resin shall be electrostatically applied and simultaneously be cured at a uniform temperature of 400°F.
4. The coating system, a total thickness of up to 6 mils, shall not be affected by the UV component of sunlight (shall not chalk). Coating system shall exceed 4000 hour ASTM B117 Salt Spray.

D. Fan Housing and Outlet

1. Fan housing to be aerodynamically designed with high-efficiency inlet, engineered to reduce incoming air turbulence.
2. Fan housing shall be centrifugal involute scroll, allowing all drive components including the motor to be serviced without contact of the contaminated airstream, and manufactured of welded and coated steel.
3. An air induction discharge nozzle shall be supplied by the fan manufacturer designed to efficiently handle an outlet velocity of up to 7000 FPM. The nozzle shall induce ambient air up to 270% of the fan capacity.
4. Provide housing drain for removal of rain and condensation. Pipe housing drain to nearest drain.
5. A bolted housing access door shall be supplied for impeller inspection.

E. Fan Impeller

1. Fan impeller shall be centrifugal, backward inclined, with non-stall characteristics. The impeller shall be electronically balanced both statically and dynamically exceeding AMCA Standards.
2. Fan impeller shall be manufactured of welded and coated steel.

F. Fan Bypass Air Plenum

1. Bypass air plenum shall be provided by the fan manufacturer. The plenum shall be equipped with one bypass air damper per fan. Provide bird screen at intake air hoods for introducing outside air at roof level upstream of the fan.
2. The plenum shall be constructed of fully welded and coated steel.
3. Bypass air damper(s) shall be opposed-blade design for airflow control, airfoil design, fabricated of galvanized steel for structural rigidity as standard. Bypass damper(s) shall have plated steel damper rods, stainless steel sleeved bearings, 304 stainless steel jamb seals and the blades shall have polymer edge seals. Damper model shall be equal to or exceed a heavy duty control damper, equivalent to Greenheck HCD-130. Damper blade drive linkage shall be set by manufacturer and welded to eliminate linkage slippage. All damper access and service (drive actuators) shall be performed outside of the contaminated airstream..
4. Fan isolation damper(s), shall be parallel-blade design, airfoil design, fabricated of galvanized steel for structural rigidity as standard. Damper(s) shall be coated up to 4 mils of chemically resistant Hi-Pro Polyester resin, electrostatically applied and baked. Isolation damper(s) shall have plated steel damper rods, stainless steel sleeved bearings, 304 stainless steel jamb seals and the blades shall have polymer edge seals. Damper model shall be equal to or exceed a heavy duty control damper, equivalent to Greenheck

HCD-130. Damper blade drive linkage shall be set by manufacturer and welded to eliminate linkage slippage. All damper access and service (drive actuators) shall be performed outside of the contaminated airstream.

5. Isolation damper actuator(s) shall be provided by the DDC System Supplier. Actuator shall be located in a weatherproof enclosure.
6. Bypass air plenum intake hood shall be sized and coordinated by HVAC Contractor to accept actuator assembly provided by DDC Supplier. Bypass air damper position shall be controlled by the DDC system to maintain constant exhaust fan air flow with varying exhaust air from the building, and thus shall provide constant stack discharge air velocity.

G. Equipment Curb

1. The bypass air plenum and fan assembly shall be mounted on a continuous stainless steel-surfaced insulated equipment curb provided by the fan manufacturer. Assembly shall be permanently water and weather proof. Individual fan rails and curbs shall not be acceptable.
2. Exhaust system manufacturer shall furnish a structural support curb for the plenum and fans. Curb shall be coordinated with existing roofing system to result in a minimum finished roof curb height of 12 inches above the finished roof surface, after proper installation, anchoring, and flashing of curb, and reinsulation/patching of roof
3. Curb shall be fabricated of a minimum of 12 gauge corrosion resistant coated steel and structurally reinforced.
4. The curb / plenum / fan / discharge assembly shall be anchored to the roof structure to withstand wind loads of 125 mph without additional structural support.

H. Fan Motors And Drive

1. Motors to be premium efficiency, standard NEMA frame, 1800 RPM, TEFC with a 1.15 service factor. A factory mounted NEMA 3R disconnect switch shall be provided for each fan. Motor maintenance shall be accomplished without fan impeller removal or requiring maintenance personnel to access the contaminated exhaust components.
2. Belt drive configuration shall be AMCA arrangement 1. Direct drive arrangement 4, or direct drive arrangements requiring access and handling of hazardous and contaminated fan components for motor replacement are not acceptable.
3. Drive belts and sheaves shall be sized for 200% of the motor horsepower, and shall be readily and easily accessible for service, if required. Drive shall consist of a minimum of two belts under all circumstances.
4. Shaft to be turned and polished 316 stainless steel, coated with corrosion resistant coating.
5. Fan shaft bearings shall be Air Handling Quality, ball or roller pillow block type and be sized for an L-l0 life of no less than 200,000 hours. Bearings shall be fixed to the fan shaft using concentric mounting locking collars. Bearings that use set screws shall not be permitted.
6. Shaft bearings and non-permanently lubricated motors shall have extended lube lines with zerk fittings.

I. Approved manufacturers: Greenheck Model Vektor-CD Belt Drive High Plume Dilution Blower, Cook, MK Plastics, Strobic.

2.3 HIGH PLUME FUME LABORATORY EXHAUST FANS – MIXED FLOW FANS

A. General

1. Performance ratings: Conform to AMCA standard 210, 260 and 300. Fans must be tested in accordance with AMCA 210, 260 and 300 in an AMCA accredited laboratory and certified for air and sound performance. Fan shall be licensed to bear the AMCA ratings seal for air performance (AMCA 210), sound performance (AMCA 300), and induced flow fan for high plume dilution blowers (AMCA 260).
2. Provide AMCA Spark Resistant Construction Type C.
3. Each fan shall be vibration tested before shipping, as an assembly, in accordance with AMCA 204-05. Each assembled fan shall be test run at the factory at the specified fan RPM and vibration signatures shall be taken on each bearing in three planes - horizontal, vertical, and axial. The maximum allowable fan vibration shall be less than 0.10 in./sec peak velocity; filter-in reading as measured at the fan RPM. This report shall be submitted with Product Data.
4. Laboratory exhaust system defined in this section shall have a 36 month warranty from initial in-service date (after acceptance date) in Phase 1A.
5. Fans selected shall be capable of accommodating static pressure and flow variations of +/-15% of scheduled values. In addition, fans and bypass dampers shall be capable to operating under non-scheduled conditions to facilitate the phased nature of this project.
6. Fans shall be equipped with 316 stainless steel lifting lugs for corrosion resistance.
7. Fasteners exposed to the exhaust air stream shall be 316 stainless steel.
8. Fan assembly shall be designed for a minimum of 125-mph wind loading, without the use of guy wires.
9. Fan assemblies that use flexible connectors that can fail and cause loss of laboratory containment shall not be acceptable.
10. Exhaust fan curb cap shall be optional 316 stainless steel coated with corrosion resistant coating.
11. Blower / Plenum vibration isolation shall be limited to neoprene / cork vibration pads.

B. Submittals

1. Provide dimensional drawings and product data on each high-plume dilution laboratory exhaust fan assembly.
2. Provide fan curves for each fan at the specified operation points, with the flow, static pressure and horsepower clearly plotted.
3. Provide exhaust fan nozzle discharge velocity, total exhaust flow, airflow from building, bypass damper airflow, and induced airflow, percent dilution, nozzle discharge height above finished roof, and discharge plume rise at 10 mph wind speed.
4. Provide data / certification stamped by a Professional Engineer registered in the State of Connecticut indicating that the fan and plenum system as proposed to be installed on this particular project develops the required resistance to 125-mph winds and transfers the resultant loading to the roof structure.

C. Corrosion Resistant Coating

1. All fan and system components (fan, impeller, housing, nozzle, windband and plenum) shall be corrosion resistant coated with a two part electrostatically applied and baked corrosion resistant coating system.

2. All parts shall be cleaned and chemically prepared for coating using a multi-stage wash system which includes acid pickling that removes oxide, increases surface area, and improves coating bond to the substrate.
3. The first powder coat applied over the prepared surface shall be a zinc rich epoxy primer (no less than 70% zinc) and heated to a gelatinous consistency (partial cure) at which the second powder coat of polyester resin shall be electrostatically applied and simultaneously be cured at a uniform temperature of 400°F.
4. The coating system, a total thickness of up to 6 mils, shall not be affected by the UV component of sunlight (shall not chalk). Coating system shall exceed 4000 hour ASTM B117 Salt Spray.

D. Fan Housing and Outlet

1. Fan housing to be aerodynamically designed with high-efficiency inlet, engineered to reduce incoming air turbulence.
2. Fan housing shall be bifurcated, allowing all drive components, including the motor, to be serviced without contact of the contaminated airstream. Housing shall be manufactured of welded and coated steel. No uncoated metal fan parts will be acceptable.
3. A multi-stage air induction discharge nozzle manufactured by and provided by the fan manufacturer shall be designed to efficiently handle an outlet velocity of up to 7000 FPM. The nozzle shall induce ambient air up to 270% of the fan capacity. Nozzle / windband assemblies that are manufactured by third party vendors shall not be acceptable.
4. Provide housing drain for removal of rain and condensation. Pipe housing drain to nearest drain.
5. A bolted housing access door shall be supplied for impeller inspection.

E. Fan Impeller

1. Fan impeller shall be mixed flow design with non-stall characteristics. The impeller shall be electronically balanced both statically and dynamically exceeding AMCA Standards.
2. Fan impeller shall be manufactured of welded and coated steel.
3. Vacuum Seal: Fan impeller shall include a secondary fan blade located on the impeller back plate. This secondary impeller shall create a negative pressure at the shaft opening; preventing hazardous or toxic exhaust fumes from escaping through the housing shaft opening. Non-permanent mechanical shaft seals or seal systems that use hoses or tubes that may leak, are not acceptable.

F. Fan Bypass Air and Fan Isolation Dampers

1. Bypass air dampers shall be provided by the fan manufacturer and mounted in the Heat Recovery Plenum by the Plenum Fabricator. The plenum shall be equipped with one bypass air damper per fan. Provide bird screen at intake air hoods for introducing outside air at roof level upstream of the fan.
2. Bypass air damper(s) shall be opposed-blade design for airflow control, airfoil design, fabricated of galvanized steel for structural rigidity as standard. Damper(s) shall be coated up to 4 mils of chemically resistant Hi-Pro Polyester resin, electrostatically applied and baked. Bypass damper(s) shall have plated steel damper rods, stainless steel

sleeved bearings, 304 stainless steel jamb seals and the blades shall have polymer edge seals. Damper model shall be equal to or exceed a heavy duty control damper, equivalent to Greenheck HCD-130. Damper blade drive linkage shall be set by manufacturer and welded to eliminate linkage slippage. All bypass air damper access and service (drive actuators) shall be performed outside of the contaminated airstream..

3. Fan isolation damper(s), shall be parallel-blade design, airfoil design, fabricated of galvanized steel for structural rigidity as standard. Damper(s) shall be coated up to 4 mils of chemically resistant Hi-Pro Polyester resin, electrostatically applied and baked. Isolation damper(s) shall have plated steel damper rods, stainless steel sleeved bearings, 304 stainless steel jamb seals and the blades shall have polymer edge seals. Damper model shall be equal to or exceed a heavy duty control damper, equivalent to Greenheck HCD-130. Damper blade drive linkage shall be set by manufacturer and welded to eliminate linkage slippage. All fan isolation damper access and service (drive actuators) shall be performed outside of the contaminated airstream.
4. Installation of the isolation dampers and fans shall be coordinated by the HVAC Contractor, Plenum Fabricator, and Fan Manufacturer.
5. Isolation damper actuator(s) shall be provided by the DDC System Supplier. Actuator shall be located in a weatherproof enclosure.
6. Bypass air plenum intake hood shall be sized and coordinated by HVAC Contractor to accept actuator assembly provided by DDC Supplier. Bypass air damper position shall be controlled by the DDC system to maintain constant exhaust fan air flow with varying exhaust air from the building, and thus shall provide constant stack discharge air velocity.

G. Plenum

1. The Heat Recovery Plenum and fan assembly shall be mounted on a rail system provided by the plenum manufacturer and coordinated with the roofing and structural steel work. Assembly shall be permanently water and weather proof.
2. The heat recovery plenum fabricator shall design and provide a structural support system for the plenum and fans. Rails shall be coordinated with existing roofing system to result in a minimum finished roof curb height of 12 inches above the finished roof surface, after proper installation, anchoring, and flashing of curb, and reinsulation/patching of roof.
3. The heat recovery exhaust plenum and support systems / integration with roofing shall be constructed to be permanently water proof and weather proof in their entirety. This assembly functions as the building roof (weather barrier) in its plan location.
4. For rooftop plenum, provide supports and internal framing as required for gravity loads as well as lateral/wind loads of all components including fans to be transferred directly to the deck and/or steel framing. Casing supports shall be provided at a minimum along each casing edge and spaced at 4’-0” o/c (maximum). Coordinate with architectural roofing/flashing requirements.
5. The rail / plenum / fan / discharge assembly shall be designed and anchored to the roof structure to withstand wind loads of 125 mph without additional structural support.

H. Fan Motors And Drive

1. Motors to be premium efficiency, standard NEMA frame, 1800 RPM, TEFC with a 1.15 service factor. A factory mounted NEMA 3R disconnect switch shall be provided for each fan. Motor maintenance shall be accomplished without fan impeller removal or requiring maintenance personnel to access the contaminated exhaust components.

2. Motor maintenance shall be accomplished without fan impeller removal or requiring maintenance personnel to access the contaminated exhaust components. Belt drive configuration shall be AMCA arrangement 9. Direct drive arrangement 4, or direct drive arrangements requiring access and handling of hazardous and contaminated fan components for motor replacement are not acceptable.
3. Drive belts and sheaves shall be sized for 200% of the motor horsepower, and shall be readily and easily accessible for service, if required. Drive shall consist of a minimum of two belts under all circumstances.
4. Shaft to be turned and polished 316 stainless steel, coated with corrosion-resistant coating.
5. Fan shaft bearings shall be Air Handling Quality, ball or roller pillow block type and be sized for an L-l0 life of no less than 200,000 hours. Bearings shall be fixed to the fan shaft using concentric mounting locking collars. Bearings that use set screws shall not be permitted.
6. Shaft bearings and non-permanently lubricated motors shall have nylon (optional stainless steel braided) extended lube lines with zerk fittings.
7. Belt drive motors shall have ventilated motor cover. Motor cover shall be hinged with removable side panels for ease of maintenance to allow the servicing of the motor and drive(s).

I. Approved manufacturers: Greenheck Model Vektor-CD Belt Drive High Plume Dilution Blower, Cook, MK Plastics, Strobic.

2.4 MIXED FLOW INLINE FANS – RETURN AIR SERVICE

A. General

1. Performance ratings: Conform to AMCA standard 211 and 311. Fans shall be tested in accordance with ANSI/AMCA Standard 210-07 and AMCA Standard 300-08 in an AMCA accredited laboratory. Fans shall be certified to bear the AMCA seal for air and sound performance.
2. Each class I and II fan shall be given an electronic vibration analysis in accordance with ANSI/AMCA Standard 204-05, while operating at the specified fan RPM. The vibration signatures shall be taken on each bearing in the horizontal, vertical and axial direction. The maximum allowable fan vibration shall be 0.15 in/sec peak velocity, filter-in as measured at the fan RPM. This report shall be submitted with Product Data.
3. Fans selected shall be capable of accommodating static pressure and flow variations of +/-15% of scheduled values.
4. Each fan shall be belt drive in AMCA arrangement 9.
5. Fans are to be equipped with lifting lugs.
6. After fabrication all carbon steel components shall be cleaned and chemically treated by a phosphatizing process to insure proper removal of grease, oil, scale, etc. Fan shall then be coated with a minimum of 2-4 mils of Polyester Urethane, electrostatically applied and baked. Coating shall exceed 1,000-hour salt spray under ASTM B117 test method.

B. Submittals

1. Provide dimensional drawings and product data on each mixed flow inline fan.

2. Provide fan curves for each fan at the specified operation point, with the flow, static pressure and horsepower clearly plotted.
3. Provide outlet velocity of axial fans and both inlet and outlet sound power readings for the eight octave bands.

C. Fan Housing and Outlet

1. Fan housing shall be aerodynamically designed with high-efficiency inlet, engineered to reduce incoming air turbulence.
2. Tubular fan housing shall be completely welded and coated with a minimum of 2-4 mils of Polyester Urethane, electrostatically applied and baked. No uncoated metal fan parts will be allowed.
3. Housing and bearing support shall be constructed of steel members to prevent vibration and rigidly support the shaft and bearings.
4. Mixed flow housings shall include welded steel vanes to straighten airflow prior to exiting the fan discharge.
5. Fans up to size 27 shall incorporate a universal mounting system that allows the fan to be mounted in either vertical or horizontal configurations and field rotation of the motor position in 90 degree increments. Bearing life shall not be reduced below specified level in different configurations. Unit size 30 and larger shall allow for field rotation of motor positions. Units shall accommodate base mount or ceiling hung mounting without structural modifications to the fan.
6. Fans shall incorporate a universal mounting system that allows the fan to be mounted in either vertical or horizontal configurations and field rotation of the motor position in 90 degree increments.
7. An access door shall be supplied for impeller inspection and service.
8. OSHA compliant belt guard or motor cover to be included to completely cover the motor pulley and belt(s).

D. Fan Impeller

1. Fan impeller shall be mixed flow design. The impeller shall be electronically balanced both statically and dynamically to balance grade G6.3 per ANSI S2.19.
2. Fan impeller shall be coated with a minimum of 2-4 mils of Polyester Urethane, electrostatically applied and baked.
3. The wheel and fan inlet shall be carefully matched and shall have precise running tolerances for maximum performance and operating.

E. Fan Motors And Drive

1. Motors to be premium efficiency, standard NEMA frame, 1800 RPM, ODP with a 1.15 service factor.
2. Drive belts and sheaves shall be sized for 150% of the fan operating brake horsepower, and shall be readily and easily accessible for service, if required.
3. Fan shaft shall be turned and polished steel that is sized so the first critical speed is at least 25% over the maximum operating speed for each pressure class.
4. Fan shaft bearings shall be Air Handling Quality, bearings shall be heavy-duty grease lubricated, self-aligning ball or roller type.
5. Air Handling Quality bearings to be designed with low swivel torque to allow the outer race of the bearing to pivot or swivel within the cast pillow block. Bearings shall be

100% tested for noise and vibration by the manufacturer. Bearings shall be 100% tested to insure the inner race diameter is within tolerance to prevent vibration.

6. Bearings shall be fixed to the fan shaft using set screws.
7. Bearings shall have extended lube lines with Zerk fittings to allow for lubrication

F. Approved manufacturers: Greenheck QEI / QEI-L, Trane, Buffalo Forge, Barry Blower, Chicago Blower, New York Blower, Cook, Twin City.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Install fans level and plumb.

B. Support floor-mounting units using isolation and bases as specified in Section 230548 "Vibration and Seismic Controls."

C. Install floor-mounting units on concrete housekeeping pads. Concrete, reinforcement, and formwork requirements are specified in Division 03 Section "Miscellaneous Cast-in-Place Concrete."

D. Support suspended units from structure using threaded steel rods and vibration isolation specified in Section 230548 "Vibration and Seismic Controls."

E. Bolt motors securely to bases or supports.

F. Install units with clearances for service and maintenance.

G. Label fans according to requirements specified in Section 230553 "Identification for HVAC Piping and Equipment."

3.2 CONNECTIONS

A. Duct installation and connection requirements are specified in other Division 23 Sections. Drawings indicate general arrangement of ducts and duct accessories. Make final duct connections with flexible connectors as specified in Section 233300 "Air Duct Accessories."

B. Install ducts adjacent to fans to allow service and maintenance.

C. Route line-sized drain piping from scroll drain connection, with trap with seal depth equal to 1.5 times specified static pressure, to nearest floor drain or roof drain, using Type L copper pipe.

D. Ground equipment according to Division 26 Section "Grounding and Bonding for Electrical Systems."

E. Connect wiring according to Division 26 Section "Low-Voltage Electrical Power Conductors and Cables."

3.3 FIELD QUALITY CONTROL

A. Perform the following field tests and inspections and prepare test reports:

1. Verify that shipping, blocking, and bracing are removed.
2. Verify that unit is secure on mountings and supporting devices and that connections to ducts and electrical components are complete. Verify that proper thermal-overload protection is installed in motors, starters, and disconnect switches.
3. Verify that cleaning and adjusting are complete.
4. Disconnect fan drive from motor, verify proper motor rotation direction, and verify fan wheel free rotation and smooth bearing operation. Reconnect fan drive system, **laser** align and adjust belts, and install belt guards.
5. Adjust belt tension.
6. Adjust damper linkages for proper damper operation.
7. Verify lubrication for bearings and other moving parts.
8. Verify that manual and automatic volume control and fire and smoke dampers in connected ductwork systems are in fully open position.
9. Refer to Section 230593 "Testing, Adjusting, and Balancing for HVAC" for testing, adjusting, and balancing procedures.
10. Remove and replace malfunctioning units and retest as specified above.

B. Test and adjust controls and safeties. Replace damaged and malfunctioning controls and equipment.

3.4 DEMONSTRATION

A. Engage a factory-authorized service representative to train Owner's maintenance personnel to adjust, operate, and maintain centrifugal fans. Refer to Section 230000 “General HVAC Provisions” article 1.5 “Owner Instructions” and Division 01 Section "Demonstration and Training."

B. Training of the Owner’s operation and maintenance personnel is required in cooperation with the Owner’s Representative. The instruction shall be scheduled in coordination with the Owner’s Representative after submission and approval of formal training plans. Refer to the Commissioning Specification for further contractor training requirements.

3.5 EARLY OPERATION

A. Due to the Phased nature of this project, exhaust fan operation, particularly the mixed flow lab exhaust fans, will be required prior to the end of Phase 1A. The operational characteristics (airflow, static pressure) will vary multiple times from the initial in-service date until the conclusion of the project, and the basis-of-design characteristics may not be realized until a future point after this project concludes. Rooftop exhaust fans and attached systems will be commissioned multiple times through this project.

END OF SECTION 233416