University of Kentucky
Procurement Services

INVITATION FOR BIDS

CCK-2844.00-1-25
Princeton Greenhouse - Headhouse
ADDENDUM #1
04/10/2025

IMPORTANT: BID AND ADDENDUM MUST BE RECEIVED BY: 04/17/2025 @ 3:00 P.M. LEXINGTON, KY TIME

Bidder must acknowledge receipt of this and any addendum as stated in the Invitation for Bids.

ITEM #1: REVISIONS TO ORIGINAL BID DOCUMENTS AND QUESTIONS & RESPONSES

- Allowance and revised language for "Add Alternate #4" added to the Form of Proposal for reference. Please use this form, "Tab 3 – Revised Form of Proposal_Add#1" for your bid submission.
- Refer to and incorporate within the offer, the enclosed information and Questions & Responses from the project team.

OFFICIAL APPROVAL
UNIVERSITY OF KENTUCKY

04/10/2025

Ken Scott

Ken Scott / (859) 257-9102

SIGNATURE

_____

_____
Typed or Printed Name

University of Kentucky
Procurement Services
322 Peterson Service Building
Lexington, KY 40506-0005

UNIVERSITY OF KENTUCKY
CAPITAL CONSTRUCTION PROCUREMENT SECTION
Tab 3 – Revised Form of Proposal_Add#1

Project No. 2844.0 Project Title: UKREC – Greenhouse - Headhouse

Purchasing Officer: Ken Scott

NOTE: The following Form of Proposal shall be followed exactly in submitting a proposal for this work. If this copy is lost, an additional copy will be furnished upon written request to the authority issuing Contract Documents.

****

This Proposal is submitted by: _____
(NAME AND ADDRESS OF BIDDER)

Date: _____ _____

Telephone: _____ _____

TO: BID CLERK
UNIVERSITY OF KENTUCKY
CAPITAL CONSTRUCTION PROCUREMENT
RM. 322 SERVICE BUILDING
LEXINGTON, KY. 40506-0005

INVITATION TO BID: **CCK-2844-1-25**

BID OPENING DATE: **April 17, 2025**

TIME: **3:00 P.M. Lexington, KY Time**

The Bidder, in compliance with your Invitation for Bids for the above referenced Project, having carefully examined the site of the Work, the Drawings and complete Contract Documents as defined in Article I of the General Conditions, as well as the Specifications affecting the work as prepared by the Consultant, hereby proposes to furnish all labor, materials, supplies and services required to construct the Project in accordance with the Contract Documents, within the time set forth therein, and at the price stated below without qualification.

The Bidder hereby acknowledges receipt of the following Addenda:

ADDENDUM NO. _____ DATED _____

ADDENDUM NO. _____ DATED _____

ADDENDUM NO. _____ DATED _____

(Here insert the number and date of any Addenda issued and received. If none has been issued and received, the word NONE should be inserted.)

Contractor Report of Prior Violations of
Chapters 136,139, 141, 337, 338, 341, and 342

Pursuant to KRS 45A.485, the Contractor shall, prior to the award of a Contract, reveal final determinations of any violations of the provisions of KRS Chapters 136, 139, 141, 337, 338, 341, and 342 by the Contractor that have occurred in the previous five (5) year period.

This statute also requires for the duration of the Contract established, the Contractor be in continuous compliance with the provisions of Chapters 136, 139, 141, 337, 338, 341, and 342 that apply to the Contractor's operations. The Contractor's failure to reveal a final determination of a violation of KRS Chapters 136, 139, 141, 337, 338, 341, and 342, or failure to comply with any of the above cited statutes for the duration of the Contract shall be grounds for the cancellation of the Contract, and the disqualification from eligibility for future contracts for a period of two (2) years.

The Contractor, by signing and submitting a Bid on this Invitation, agrees as required by KRS 45A.485 to submit final determinations of any violations of the provisions of KRS Chapters 136, 139, 141, 337, 338, 341, and 342 that have occurred in the previous five (5) years prior to the award of a Contract and agrees to remain in continuous compliance with the provisions of these statutes during the duration of any contract that may be established. Final determinations of any violations of these statutes, must be provided to the University by the successful Contractor prior to the award of a Contract.

LUMP SUM PROPOSAL

The Bidder agrees to furnish all labor, materials, supplies and services required to complete the Work, for the above referenced Project, for the Capital Construction Procurement Section, University of Kentucky, as described in the Specifications and Contract Documents and shown on the Drawings enumerated below and as modified by the Addenda listed above.

FOR THE LUMP SUM OF_____
(USE WORDS)
_____DOLLARS AND_____CENTS.
(USE WORDS) (USE WORDS)

($_____)
(USE FIGURES)

*Please include the following in your bid total:

ALLOWANCE

DESCRIPTION OF WORK	AMOUNT
1. Cash Allowance	$6,000.00 *Refer to the Special Conditions.

BID ALTERNATES

Add Alternate No. [_1_] – Headhouse Expansion:

Provide an expansion to the headhouse building as shown on the drawings and specifications. A 2-ton mini split unit has been added to serve the expansion. This translates to additional condensate and refrigerant piping as well as a larger equipment pad for the condensing units. A 150KW generator with associated equipment has been added. Additional lighting for the headhouse expansion area is provided. A 2" underground conduit has been added to run under the building and stub out at the northwest corner of the building.

Add $ _____

Add Alternate No. [_2_] – Greenhouse Exterior Material:

Provide 16MM UV Transmitting Acrylic on Roof, 16MM Diffused Acrylic on all exterior walls, and 8MM Clear Acrylic for all partition walls.

Add $ _____

Add Alternate No. [_3_] – Preferred Watering Package:

Addition of tempered water system. This equates to additional domestic water piping, tempered water recirculation pump, temperature modulating valve, 6 hose reels(1 in each bay), and a scullery sink in the greenhouse corridor with all the attached plumbing.

Add $ _____

Add Alternate No. [_4_] – Supplemental Lighting:

This includes an enhanced lighting package for the Greenhouse. A higher wattage light fixture is provided by the greenhouse package. Additional electrical circuiting is provided under this package, including adjustments to base bid circuiting. Panel 'DP' is increased in size to 600A, associated feeders are also increased in size. The generator is increased in size, to 200KW, to accommodate the increase in electrical load for the lighting package. Provide 600 Micromols of Supplemental Light in lieu of 200 micromols of Supplemental Light. This would require 35 ea Phillips TLC 1830 DRW_EBW 208V fixtures and (9) 0-10V adapters per compartment. 0-10V adapters to be sent to Wadsworth Controls to be incorporated into the Greenhouse Control Panels.

Add $ _____

AUTHENTICATION OF BID AND STATEMENT OF NON-COLLUSION AND NON-CONFLICT OF INTEREST

I hereby certify:

1. That I am the Bidder (if the Bidder is an individual), a partner in the Bidder (if the Bidder is a partnership), or an officer or employee of the bidding corporation having authority to sign on its behalf (if the Bidder is a corporation);

2. That the submitted Bid or Bids covering Capital Construction Procurement Section Invitation No. **CCK-2844-1-25** have been arrived at by the Bidder independently and have been submitted without collusion with, and without any agreement, understanding or planned common course of action with, any other contractor, vendor of materials, supplies, equipment or services described in the Invitation to Bid, designed to limit independent bidding or competition; as prohibited by provision KRS 45A.325;

3. That the contents of the Bid or Bids have not been communicated by the Bidder or its employees or agents to any person not an employee or agent of the Bidder or its surety on any bond furnished with the Bid or Bids and will not be communicated to any such person prior to the official opening of the Bid or Bids;

4. That the Bidder is legally entitled to enter into the contracts with the University of Kentucky and is not in violation of any prohibited conflict of interest, including those prohibited by the provisions of KRS 164.390, and 45A.330 to 45A.340 and 45A.455;

5. This offer is good for 60 calendar days from the date this Bid is opened. In submitting the above, it is expressly agreed that upon proper acceptance by the Capital Construction Procurement Section of any or all items Bid above, a contract shall thereby be created with respect to the items accepted;

6. That I have fully informed myself regarding and affirm the accuracy of all statements made in this Form of Proposal including Bid Amount.

7. Unless otherwise exempted by KRS 45.590, the Bidder intends to comply in full with all requirements of the Kentucky Civil Rights Act and to submit data required by the Kentucky Equal Employment Act upon being designated the successful contractor.

8. That the bidding contractor and all subcontractors to be employed do not and will not maintain any facilities they provide for employees in a segregated manner and they are in full compliance with provisions of 41 CFR 60-1.8 that prohibits the maintaining of segregated facilities.

9. In accordance with KRS45A.110(2), the undersigned hereby swears under penalty of perjury that he/she has not knowingly violated any provision of the campaign finance laws of the Commonwealth of Kentucky and that the award of a contract to the bidder will not violate any provision of the campaign finance laws of the Commonwealth of Kentucky.

READ CAREFULLY - SIGN IN SPACE BELOW - FAILURE TO SIGN INVALIDATES BID

SIGNED BY_____ TITLE_____

PRINT NAME_____ FIRM_____

ADDRESS_____ AREA CODE & PHONE _____

_____ FAX_____

CITY STATE ZIP CODE

BIDDER'S EMAIL _____ DATE_____

004100B01

BUSINESS CLASSIFICATION

Please complete this form which is necessary for the University of Kentucky vendor database.
Mark only one classification. Refer to "Definitions" for assistance in determining correct classification.

(01)___Small Business

(02)___Large Business

(03)___Disadvantaged Small Business

(04)___Disadvantaged Large Business

(05)___Woman-Owned Small Business

(06)___Woman-Owned Large Business

(07)___Disadvantaged Woman-Owned Small Business

(08)___Disadvantaged Woman-Owned Large Business

(09)___Other

DEFINITIONS

(01) SMALL BUSINESS: A business concern that is organized for profit, is independently owned and operated, is not dominant in the field of operations in which it is bidding, and meets the size standards as prescribed in the Code of Federal Regulations, Title 13, Part 121. Consult your local or district Small Business Administration (SBA) office if further clarification is needed.

(02) LARGE BUSINESS: A business concern that exceeds the small business size code standards established by SBA.

(03) DISADVANTAGED SMALL BUSINESS: A business concern (a) that is at least 51 percent owned by one or more socially and economically disadvantaged individuals (as defined below), or a publicly owned business, having at least 51 percent of its stock owned by one or more socially and economically disadvantaged individuals; and (b) has its management and daily business operations controlled by one or more such individuals. Socially and economically disadvantaged individuals include: Asian, Black/African American, Hispanic or Latino, Native American, Native Hawaiian/Pacific Islander, Women, Disabled, Veteran and Disabled Veteran and other minorities or individuals found to be disadvantaged by the SBA.

(04) DISADVANTAGED LARGE BUSINESS: A concern that meets the definition of socially and economically disadvantaged individuals as defined above, but which is not a small business by the SBA's size standards.

(05) WOMAN-OWNED SMALL BUSINESS: A small business that is at least 51 percent owned by a woman or women who also control and operate it. "Control" in this context means exercising the power to make policy decisions. "Operate" means actively involved in the day to day management.

(06) WOMAN-OWNED LARGE BUSINESS: A concern that meets the definition of woman owned and operated, but which is not a small business by the SBA's standards.

(07) DISADVANTAGED, WOMAN-OWNED SMALL BUSINESS: A concern that meets the definition of both (03) and (05) above.

(08) DISADVANTAGED, WOMAN OWNED LARGE BUSINESS: A concern that meets the definition of both (04) and (06) above.

(09) OTHER: A concern that does not meet any of the above definitions.

THE FOLLOWING ITEMS ARE HEREWITH ENCLOSED AS REQUIRED BY KRS 45A.185

1. Bid Bond or Certified Check in an amount not less than five percent (5%) of total Bid.

2. List of Proposed Subcontractors and Unit Prices. (if required)

3. Authentication of Bid and Statement of Non-Collusion and Non-Conflict of Interest.

4. List of Materials and Equipment.

5. VENDOR NUMBER: It is imperative that you furnish your Federal Employer Identification Number in the space provided below. Failure to do so may delay the processing of purchase orders issued to your firm.

_____

(Nine Digit Number)

BIDDER'S QUALIFICATIONS

The Commonwealth of Kentucky Model Procurement Code (KRS 45A.080) requires contracts to be awarded, "to the responsive and responsible bidder whose bid offers the best value" to the University of Kentucky. In order to determine if the Bidder has the experience, qualifications, resources and necessary attributes to provide the quality workmanship, materials and management required by the plans and specifications, the Bidder may be required to complete and submit the information requested on the University of Kentucky Contractor Bidder Determination of Responsibility questionnaire. Failure to provide the information requested on the questionnaire or failure to provide any additional submittals or information that may be requested to make this determination may be grounds for a declaration of non-responsibility with respect to the Bidder. A copy of the Contractor Determination of Responsibility questionnaire is available upon request to all Bidders.

TIME LIMIT FOR EXECUTION OF CONTRACT DOCUMENTS

It is further agreed, that in the event this Proposal is accepted by the Owner and the undersigned shall fail to execute the Contract and furnish satisfactory Payment and Performance Bond within ten (10) consecutive calendar days from the date of notification of the award of the Contract, the Owner may at his option, determine that the undersigned has abandoned the Contract and thereupon, the Proposal shall become null and void and the Bid guarantee, check or Bid bond which accompanied it shall be forfeited and become the property of the Owner as liquidated damages for each failure and no protest pursuant to such action will be made. If the Undersigned shall execute the Contract, and furnish satisfactory Payment Bond and Performance Bond, it is understood that the Bid Guarantee or Bid Bond will be returned to the undersigned by the Owner.

UNIT PRICES

NOTE: Unit Prices shall include the furnishing of all labor, materials, supplies and services and shall include all items of cost, overhead and profit for the Contractor and any subcontractor involved, and shall be used uniformly without modifications for either additions or deductions. The Unit Prices as established shall be used to determine the equitable adjustment of the Contract Price in connection with changes, deletions or extra work performed under the Contract and the "Rules of Measurement" set forth in the General Conditions shall govern.

All Bidders will be required to complete and submit the following Unit Prices with the bid.

The apparent low bidder is requested to attend a post bid meeting which will be scheduled at a later date.

Number	Description of Work	Unit	Cost/Unit
1	Complete furnishing and installation of operational gfi receptacle, dual gang outlet box, and 50'-0" of wiring in ¾" conduit, including all hangers and supports, and connection to a circuit. 2#12, 1#12 Ground.	each	$
2	Complete furnishing and installation of operational duplex receptacle, dual gang outlet box, and 50'-0" of wiring in ¾" conduit, including all hangers and supports, and connection to a circuit. 2#12, 1#12 Ground.	each	$
3	Complete furnishing and installation of operational ceiling mounted exit sign light fixture (Type EX1) and 25'-0" of wiring in ¾" conduit, including all hangers and supports, and connection to a circuit.	each	$
4	Furnishing and installation of data/voice/systems outlet and 1"conduit to above accessible ceiling and tied into cable tray. Conduit distance of 25' and provision of CAT6 cable 275' routed through cable tray to MDF/IDF room. Provide single RJ-45 termination on each end of the cable and single port device plate and backbox at field location.	each	$
5	4" PVC Sanitary Sewer Line, installed under grade with specified backfill	LF	$
6	2" PVC Sanitary Sewer Line, installed under grade with specified backfill	LF	$
7	2" Sched. 40 PVC vent pipe, above slab, with specified hangers/supports	LF	$
8	4" Sched. 40 PVC vent Pipe, above slab, with specified hangers/supports	LF	$
9	1" DCW Piping, DHW Piping piping per each different size indicated on the drawings Insulated with Hangers	LF	$
10	1" DCW Piping water piping per each different size indicated on the drawings Insulated with Hangers	LF	$
11	1" Natural Gas Piping, hung by hangers, for each different size indicated on the drawings	LF	$
12	All Louvers, Diffusers, Grilles, and Registers	Each	$
13	4" Floor Drain (FD-2 type) w/Trap Primer connection, installed under-grade with 10 ft associated waste piping & Vent	Each	$
14	Interior and exterior cleanout	Each	$
15	Hose Bibb with 25 ft ¾" DCW piping insulated with hangers, etc.	Each	$
16	1" DCW/DHW Ball Valve per specifications	Each	$
17	25 ft of 10" SA duct installed per specifications with hangers and insulation and associated S-1 supply grille.	Each	$

18	3/8” Refrigerant piping hung by hangers with insulation	LF	$
19	Undercut unsuitable soils, dispose of off-site	CY	$
20	DGA in place, compacted	Ton	$
21	Earth fill in place, compacted	CY	$
22	Earth excavation, dispose of off-site	CY	$
23	4” thick concrete sidewalk, in place	SY	$
24	Standard Duty Concrete, in place	SY	$
25	Heavy Duty Concrete, in place	SY	$
26	1” PVC Water line, in place	LF	$
27	2 ½” PVC Water line, in place	LF	$
28	4” PVC sanitary sewer lateral, in place	LF	$
29	2” MDPE Gas line, in place	LF	$
30	Trench Backfill, compacted earth fill	CY	$
31	Trench Backfill, DGA fill	Ton	$
32	Seeding, including fine grading, in place	SY	$
33	Sanitary Sewer Cleanout, in place	Each	$
34	4” Foundation Drain, in place	LF	$
35	6” Pipe Bollard, in place	Each	$
36	Concrete Curb Stop	Each	$
37	#2 Stone in place, compacted	Ton	$
38	Geotextile Fabric	SY	$
39	Footing concrete, wall (strip) footing.	CY	$
40	Footing concrete, column (spread) footing	CY	$
41	Footing reinforcing	TON	$
42	Slab-on-grade concrete, 4-inch, cured	SF	$
43	Slab-on-grade concrete, 6-inch, cured	SF	$
44	Slab reinforcing, wire mesh, bolstered	SF	$
45	Vapor barrier	SF	$
46	Aggregate base, 6”	SF	$

47	Foundation wall concrete	CY	$
48	Foundation wall reinforcing	TON	$
49	Non-shrink grout, base plates	CF	$
50	Footing step.	EA	$
51	Anchor rods.	EA	$
52	Wall framing. (2x lumber)	MBF	$
53	Roof framing. (2x lumber)	MBF	$
54	Roof Sheathing	SF	$
55	Wall Sheathing	SF	$
56	Floor Sheathing	SF	$
57	Pre-Fabricated Wood Trusses	SF	$
58	Wood Framing Connectors	EA	$
59	Pre-engineered Greenhouse Structure	EA	$
60	Resilient Base	LF	$

PRIMARY LIST OF PROPOSED SUBCONTRACTORS

All subcontractors are subject to the approval of the Capital Construction Procurement Section and Capital Project Management Division, University of Kentucky, Lexington, KY.

If certain branches of the Work are to be done by the Prime Contractor, so state.

The apparent low bidders will be required to complete and submit to the University the following information by twelve o'clock (12) noon of the first working day following the bid opening. The information requested in this submittal is required to assist the University in determining contractor responsibility to complete the project being bid.

The apparent low bidder is requested to attend a post bid meeting which will be scheduled at a later date.

Division of Work	Name of Subcontractor
Cast-In-Place Concrete	
Ready-Mix Concrete Supplier	
Reinforcing Steel Supplier	
Welded Wire Supplier	
Rough Carpentry	
Wood Truss Manufacturer	
Pre-Engineered Greenhouse Supplier	
Roof and Wall Metal Panels	
Doors and Door Hardware	
Acoustical Ceilings	
Painting	
Specialties	
Food Service Equipment	
Insulation	
Mechanical	

Test and Balance	
Plumbing	
Electrical	
Telecommunication	
Utilities	
Sitework	
Site Concrete	
Site Sanitary Sewer	
Site Water	
Site Gas	
Parking Striping	

004100B01
LIST OF MATERIALS AND EQUIPMENT

Each item listed under the different phases of construction must be clearly identified so that the Owner will definitely know what the Bidder proposes to furnish.

The use of a manufacturer's or dealer's name only, or stating "as per Plans and Specifications," will not be considered as sufficient identification.

Where more than one "Make" or "Brand" is listed for any one item, the Owner has the right to select the one to be used.

The apparent low bidders will be required to complete and submit to the University the following information by twelve o'clock (12) noon of the first working day following the bid opening. The information requested in this submittal is required to assist the University in determining contractor responsibility to complete the project being bid.

The apparent low bidder is requested to attend a post bid meeting which will be scheduled at a later date.

Materials and Equipment	Brand or Manufacturer
Concrete	
Concrete Reinforcement	
Vapor Retarder	
Aggregate Base	
Non-Shrink Grout	
Anchor Rods	
2x Lumber Framing	
Wood Sheathing	
Wood Framing Connectors	
Plastic Paneling	
Thermal Insulation	
Weather Barrier	
Formed Metal Roof and Wall Panels	

Hollow Metal Doors and Frames	
Coiling Doors	
Traffic Doors	
Acoustical Panel Ceilings	
Resilient Base	
Paint	
Toilet Accessories	
Food Service Equipment	
Greenhouse Equipment	
Water Heaters	
Water Closets / Urinals	
Lavatories and sinks	
Plumbing Specialties (Cleanouts, etc)	
Floor Drains	
Sink Faucets	
Thermal Mixing Valve	
Utility Meters	
Water Heater	
Energy Recovery Ventilator	
Grilles, Registers, Diffusers	
Electrical Switchgear	
Panelboards/Disconnect Switches	

Lighting Fixture Types (Attach List)	
Wiring Devices	
Mini-Split Units	
Network (Ethernet) Cable	
Expansion Tank	
Make up air unit	
Sheet Metal	
Insulation	
Generator/ATS	
Site Concrete Supplier	
D.G.A. / Aggregate Supplier	
Sanitary Sewer Pipe Supplier	
Water Pipe Supplier	
Gas Pipe Supplier	
Yard Hydrant	

004100B01

IDENTIFICATION OF DIVERSE BUSINESS ENTERPRISE SUBCONTRACTORS AND MATERIAL SUPPLIERS

Diverse Business Enterprises (DBE) consist of minority, women, disabled, veteran and disabled veteran owned business firms that are at least fifty-one percent owned and operated by an individual(s) of the aforementioned categories. Also included in this category are disabled business enterprises and non-profit work centers for the blind and severely disabled.

MBE, WBE, Veterans, Disable Veterans and Disabled make up Diverse Business Enterprises, DBE.

Participation of DBE owned Contractors and businesses.

The University of Kentucky encourages and supports the participation Diverse Business Enterprises. Please list Subcontractors and Material Suppliers according to following Ethnic Vendor List or if they are a Woman Owned Business:

- Asian
- Black/African American
- Hispanic or Latino
- Native American Native Hawaiian/Pacific Islander
- White
- Other

1. DBE (Ethnic or Woman) Subcontractors

_____

_____

_____

_____

_____

_____

2. DBE (Ethnic or Woman) Material Suppliers

_____

_____

_____

_____

_____

_____

SUPERINTENDENT

004100B01

In accordance with Article 17 of the General Conditions a full-time superintendent will be required on this project. Below, please list the superintendent your firm will employ on this project. The successful Bidder will be required to furnish a resume of the superintendent's qualifications and or past projects.

_____

List the Superintendent's Name

FOR THE PROJECT TITLED:

UKREC GREENHOUSE/HEADHOUSE
JRA Project No. 202448
UK Project 2844.0
University of Kentucky
Lexington, Kentucky

To: Prospective Bidders

From: JRA Architects
301 East Vine Street
Lexington, KY 40507

Project Contact: D. Robert Deal, AIA, LEED AP

The Addendum will form a part of the Contract Documents and modifies the original Bidding Documents dated March 2025.

Bidders must acknowledge receipt of this Addendum in the space provided on the Form of Proposal. Failure to do so may subject the bidder to disqualification.

Bidding Documents, including the Drawings and Specifications, are amended as described herein.

CIVIL ITEMS:

Item No. 1.00
Refer to revised sheet C2.0 Site – Development Plan (Base Bid). Revised size and location of HVAC Unit concrete pad, and added pipe bollards to be installed at east corners of HVAC pad and all corners of Generator pad.

Item No. 1.01
Refer to revised sheet C2.0 Site – Development Plan (Base Bid). Revised size of concrete pad outside of Mechanical Room and added bollards at proposed Gas Meter.

Item No. 1.02
Refer to revised sheet C3.0 Site – Dimensional Plan (Base Bid). Revised dimensions and location of HVAC Unit concrete pad. Revised dimensions of concrete pad outside of Mechanical Room.

Item No. 1.03
Refer to revised sheet C6.0 Site – Utility Plan. Revised size and location of HVAC Unit concrete pad, added pipe bollards to be installed at east corners of HVAC pad and all corners of Generator pad.

Item No. 1.04
Refer to revised sheet C6.0 Site – Utility Plan. Add 2 pipe bollards at proposed Gas Meter.

ARCHITECTURAL ITEMS:

Item No. 1.05

Refer to attached specification: 101100 VISUAL DISPLAY SURFACES.

Item No. 1.06

Refer to specification 114000 – FOOD SERVICE QUIPMENT. Add the following acceptable manufacturers: LTI Inc., Commercial Stainless, Unline, or submitted substitution request that meets specifications for approval.

Item No. 1.07

Refer to attached sheet A-101, A-102, A-201, A-202. Added bollards around HVAC unit, generator, and gas meter. Refer to civil & electrical for additional information.

GREENHOUSE ITEMS:

Item No. 1.08

Provide Drum and Cable Shade System in place of Rack and Pinion Push Pull shade system.

Item No. 1.09

Add Alternate No. [_4_] – Supplemental Lighting:
This includes an enhanced lighting package for the Greenhouse. A higher wattage light fixture is provided by the greenhouse package. Additional electrical circuiting is provided under this package, including adjustments to base bid circuiting. Panel 'DP' is increased in size to 600A, associated feeders are also increased in size. The generator is increased in size, to 200KW, to accommodate the increase in electrical load for the lighting package. Provide 600 Micromols of Supplemental Light in lieu of 200 micromols of Supplemental Light. This would require 35 ea Phillips TLC 1830 DRW_EBW 208V fixtures and (9) 0-10V adapters per compartment. 0-10V adapters to be sent to Wadsworth Controls to be incorporated into the Greenhouse Control Panels.

MEP ITEMS:

ITEM NO. 1.10

Refer to sheet E6.0 – ELECTRICAL PANEL SCHEDULE
GFCI circuit breakers have been added to the grow lighting circuits in the greenhouse bay panelboards.

ITEM NO. 1.11

Refer to specification section 260533 - RACEWAYS

1. Paragraph 2.B(3) has been added and states, "Rigid galvanized steel conduit shall be used for all power wiring or cables routed exposed in the greenhouse areas."

ITEM NO. 1.12

Refer to sheet M2.0 - FLOOR PLAN – MECHANICAL

1. Plumbing pipes that were visible on the sheet due to graphical error have been removed from the mechanical plans.

ITEM NO. 1.13

Refer to sheet P4.0 – PLUMBING DETAILS AND SCHEDULES

1. Fixture P-02 has been modified to be provided in "Cotton" color instead of "Bone".

END OF ADDENDUM NO. 1.00

SITE DEVELOPMENT NOTES:

1. ALL ASPHALT SURFACE OF EXISTING ROADWAYS DAMAGED DURING CONSTRUCTION SHALL BE SAWCUT, REMOVED AND REPLACED. THE NUMBER OF SAWCUTS SHALL BE MINIMIZED IN ORDER TO MAKE ONE CONTINUOUS PATCH AS DIRECTED BY THE PROJECT MANAGER AND OR LOCAL & STATE OFFICIALS.
2. THE CONTRACTOR SHALL REMOVE ALL EXISTING TREES, SHRUBS, ASPHALT, CONCRETE AND ETC. FROM THE SITE AND OR CONSTRUCTION AREA. ALL MATERIAL, ASPHALT, VEGETATION, DIRT, GRAVEL, ROCK, TREE LIMBS AND ETC. REMOVED BY THE CONTRACTOR SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE REMOVED FROM THE PROPERTY IN AN APPROVED MANNER AT NO ADDITIONAL COST TO THE OWNER.
3. ALL AREAS DESIGNATED AS LANDSCAPE SHALL RECEIVE A MINIMUM OF 6" TOPSOIL.
4. ALL HANDICAP RAMPS SHALL BE IN CONFORMANCE WITH ADA STANDARDS.
5. COMPACTION REQUIREMENTS:
   BUILDING – 98%
   PAVEMENT & SIDEWALK AREAS – 95%
   ALL OTHER AREAS – 90%
   COMPACTION SHALL BE PER ASTM D-698, STANDARD PROCTOR (% MAXIMUM DRY DENSITY).
6. ALL SITE CONCRETE SHALL BE AIR ENTRAINED 4000 psi @ 28 DAYS, 12" MAX. AGGREGATE SIZE WITH "WELDED WIRE FABRIC" REINFORCING.
7. ALL LOCAL BUILDING PERMITS, FEES AND ETC. ARE THE RESPONSIBILITY OF THE CONTRACTOR. ALL WORK SHALL BE IN CONFORMANCE WITH THE CITY OF PRINCETON STANDARDS AND PROCEDURES.
8. EXACT LOCATION, SIZE, TYPE OF PYLON SIGN SHALL BE IN ACCORDANCE WITH ALL LOCAL ORDINANCES AND CODES. SIGN APPROVAL PER BY SEPARATE PERMIT.
9. ALL WORK WITHIN ROADWAY EASEMENTS & R/W SHALL CONFORM TO LOCAL STANDARDS. IF DISTURBED, ALL ASPHALT PAVEMENT, SIDEWALK & CURB & GUTTER AND ETC. TO BE REINSTALLED SHALL MATCH EXISTING WIDTHS, THICKNESS' & ETC.
10. CONTRACTOR SHALL IMPLEMENT TRAFFIC CONTROL MEASURES IN ACCORDANCE WITH APPLICABLE STATE & LOCAL STANDARDS, PROCEDURES AND REGULATIONS WHILE WORKING WITHIN ROADWAY EASEMENTS & R/W OR WHEN WORK AFFECTS TRAFFIC FLOW OR SAFETY.
11. ALL STREETS AND ROADWAYS ADJACENT TO PROJECT SHALL BE CLEANED OF DIRT AND DEBRIS AT THE END OF EACH DAY.
12. ALL ASPHALT PAVEMENT, SIDEWALK & CURB & GUTTER AND ETC. TO BE REINSTALLED SHALL MATCH EXISTING WIDTHS, THICKNESS' & ETC.
13. PRIOR TO BEGINNING CONSTRUCTION, CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING AND FIELD LOCATING ALL UTILITIES WITHIN THE PROJECT LIMITS SO THAT CONSTRUCTION WILL NOT DAMAGE OR INTERFERE WITH EXISTING UTILITY LINES. IF ANY UTILITY LINES ARE DAMAGED, IT IS THE CONTRACTOR'S RESPONSIBILITY TO REPAIR AND/OR REPLACE THE UTILITY LINES AT THE CONTRACTOR'S EXPENSE. FINISHED REPLACEMENT OR REPAIR SHALL MEET THE APPROVAL OF THE SPECIFIC UTILITY OWNER.
14. IN ACCORDANCE WITH GENERALLY ACCEPTED CONSTRUCTION PRACTICES, THE CONTRACTOR WILL BE SOLELY AND COMPLETELY RESPONSIBLE FOR CONDITIONS OF THE JOB SITE, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY DURING PERFORMANCE OF THE WORK. THIS REQUIREMENT WILL APPLY CONTINUOUSLY AND WILL NOT BE LIMITED TO NORMAL WORKING HOURS.
15. BEFORE CONSTRUCTION, THE CONTRACTOR SHALL CONTACT KY 811.
16. THE CONTRACTOR SHALL NOT SCALE FROM THESE PLANS FOR FIELD SURVEY LOCATIONS.
17. THE ENGINEER SHALL PROVIDE DIGITAL INFORMATION TO THE CONTRACTOR IN THE FORM OF AN AUTOCAD FILE FOLLOWING THE CONTRACTOR SIGNING A INDEMNIFICATION/WAIVER FORM.
18. IF GPS EQUIPMENT WILL BE UTILIZED BY THE CONTRACTOR, HE SHALL BE RESPONSIBLE FOR ALL FEES RELATED TO ESTABLISHING THE CONTROL HE OR SHE REQUIRES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CHECKING AND CONFIRMING ALL VERTICAL AND HORIZONTAL CONTROL INCLUDING BENCHMARKS. IF ANY WORK PERFORMED IS IN ERROR DUE TO INCORRECT CONTROL IT SHALL BE CORRECTED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER OR ENGINEER.
19. ALL BENCHMARKS ESTABLISHED AND INCLUDED ON THE PLANS SHALL BE CHECKED AND VERIFIED BY THE CONTRACTOR PRIOR TO THEIR USE DURING CONSTRUCTION. IF ANY WORK PERFORMED IS IN ERROR DUE TO INCORRECT DATUM IT SHALL BE CORRECTED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER OR ENGINEER.
20. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CHECKING ALL EXISTING IMPROVEMENTS THAT NEW CONSTRUCTION SHALL ABUT OR CONNECT TO. THIS SHALL INCLUDE BUT NOT BE LIMITED TO EXISTING BUILDINGS, EDGE OF PAVEMENTS, CURBS AND GUTTERS, STORM SEWER, FENCES, WALLS AND ETC.

FLOOD ZONE INFORMATION:

THIS PROPERTY IS LOCATED IN FLOOD ZONE X, "AREA OF MINIMAL FLOOD HAZARD", AS SHOWN ON THE NATIONAL FLOOD INSURANCE RATE MAP, COMMUNITY PANEL NO. 21033C0255D, EFFECTIVE APRIL 19, 2019.

BENCHMARK INFORMATION:

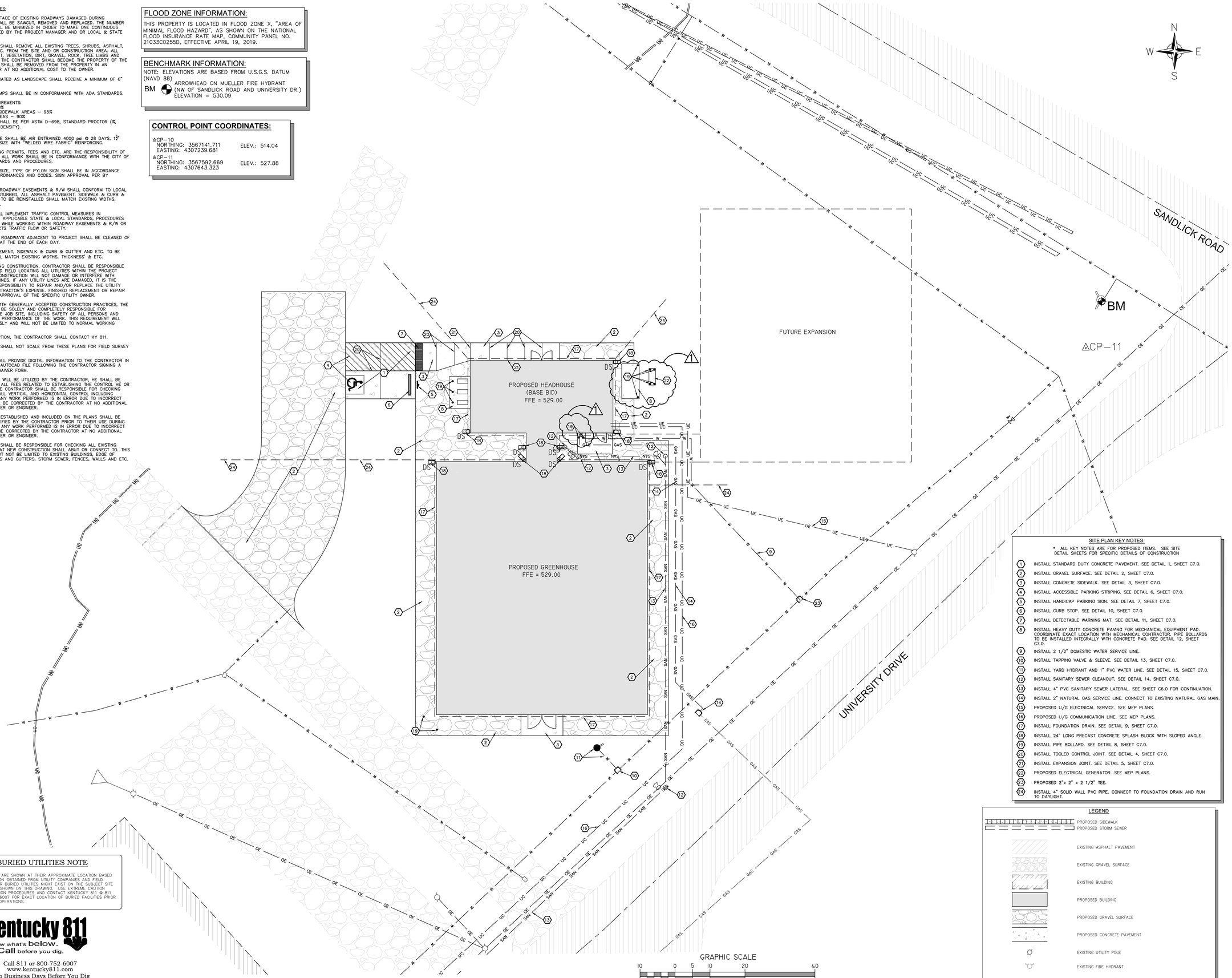
NOTE: ELEVATIONS ARE BASED FROM U.S.G.S. DATUM (NAVD 88)

BM ARROWHEAD ON MUELLER FIRE HYDRANT (NW OF SANDLICK ROAD AND UNIVERSITY DR.) ELEVATION = 530.09

CONTROL POINT COORDINATES:

△CP-10
NORTHING: 3567141.711 ELEV.: 514.04
EASTING: 4307239.681

△CP-11
NORTHING: 3567592.669 ELEV.: 527.88
EASTING: 4307643.323



SITE PLAN KEY NOTES:

* ALL KEY NOTES ARE FOR PROPOSED ITEMS. SEE SITE DETAIL SHEETS FOR SPECIFIC DETAILS OF CONSTRUCTION

1. INSTALL STANDARD DUTY CONCRETE PAVEMENT. SEE DETAIL 1, SHEET C7.0.
2. INSTALL GRAVEL SURFACE. SEE DETAIL 2, SHEET C7.0.
3. INSTALL CONCRETE SIDEWALK. SEE DETAIL 3, SHEET C7.0.
4. INSTALL ACCESSIBLE PARKING STRIPING. SEE DETAIL 6, SHEET C7.0.
5. INSTALL HANDICAP PARKING SIGN. SEE DETAIL 7, SHEET C7.0.
6. INSTALL CURB STOP. SEE DETAIL 10, SHEET C7.0.
7. INSTALL DETECTABLE WARNING MAT. SEE DETAIL 11, SHEET C7.0.
8. INSTALL HEAVY DUTY CONCRETE PAVING FOR MECHANICAL EQUIPMENT PAD. COORDINATE EXACT LOCATION WITH MECHANICAL CONTRACTOR. PIPE BOLLARDS TO BE INSTALLED INTEGRALLY WITH CONCRETE PAD. SEE DETAIL 12, SHEET C7.0.
9. INSTALL 2 1/2" DOMESTIC WATER SERVICE LINE.
10. INSTALL TAPPING VALVE & SLEEVE. SEE DETAIL 13, SHEET C7.0.
11. INSTALL YARD HYDRANT AND 1" PVC WATER LINE. SEE DETAIL 15, SHEET C7.0.
12. INSTALL SANITARY SEWER CLEANOUT. SEE DETAIL 14, SHEET C7.0.
13. INSTALL 4" PVC SANITARY SEWER LATERAL. SEE SHEET C6.0 FOR CONTINUATION.
14. INSTALL 2" NATURAL GAS SERVICE LINE. CONNECT TO EXISTING NATURAL GAS MAIN.
15. PROPOSED U/G ELECTRICAL SERVICE. SEE MEP PLANS.
16. PROPOSED U/G COMMUNICATION LINE. SEE MEP PLANS.
17. INSTALL FOUNDATION DRAIN. SEE DETAIL 9, SHEET C7.0.
18. INSTALL 24" LONG PRECAST CONCRETE SPLASH BLOCK WITH SLOPED ANGLE.
19. INSTALL PIPE BOLLARD. SEE DETAIL 8, SHEET C7.0.
20. INSTALL TOOLED CONTROL JOINT. SEE DETAIL 4, SHEET C7.0.
21. INSTALL EXPANSION JOINT. SEE DETAIL 5, SHEET C7.0.
22. PROPOSED ELECTRICAL GENERATOR. SEE MEP PLANS.
23. PROPOSED 2"x 2" x 2 1/2" TEE.
24. INSTALL 4" SOLID WALL PVC PIPE. CONNECT TO FOUNDATION DRAIN AND RUN TO DAYLIGHT.

LEGEND

- PROPOSED SIDEWALK
- PROPOSED STORM SEWER
- EXISTING ASPHALT PAVEMENT
- EXISTING GRAVEL SURFACE
- EXISTING BUILDING
- PROPOSED BUILDING
- PROPOSED GRAVEL SURFACE
- PROPOSED CONCRETE PAVEMENT
- EXISTING UTILITY POLE
- EXISTING FIRE HYDRANT
- PROPOSED DOWN SPOUT

BURIED UTILITIES NOTE

BURIED UTILITIES ARE SHOWN AT THEIR APPROXIMATE LOCATION BASED UPON INFORMATION OBTAINED FROM UTILITY COMPANIES AND FIELD EVIDENCE. OTHER BURIED UTILITIES MIGHT EXIST ON THE SUBJECT SITE WHICH ARE NOT SHOWN ON THIS DRAWING. USE EXTREME CAUTION DURING EXCAVATION PROCEDURES AND CONTACT KENTUCKY 811 @ 811 OR 1-800-752-6007 FOR EXACT LOCATION OF BURIED FACILITIES PRIOR TO EXCAVATION OPERATIONS.

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GRAPHIC SCALE
10 0 5 10 20 40
(IN FEET)
1 INCH = 10 FT.

1 SITE - DEVELOPMENT PLAN (BASE BID)
SCALE: 1" = 10'

JRA architects
301 East Vine St.
Lexington, Kentucky 40507
859.252.6781

STATE OF KENTUCKY
BRADLY A. GOUGH
27965
LICENSED
PROFESSIONAL ENGINEER
4/10/2025

RESERVED FOR AHJ STAMP

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CONSTRUCTION DOCUMENTS

UKREC GREENHOUSE/HEADHOUSE
UNIVERSITY OF KENTUCKY
PRINCETON, KENTUCKY

CIVIL

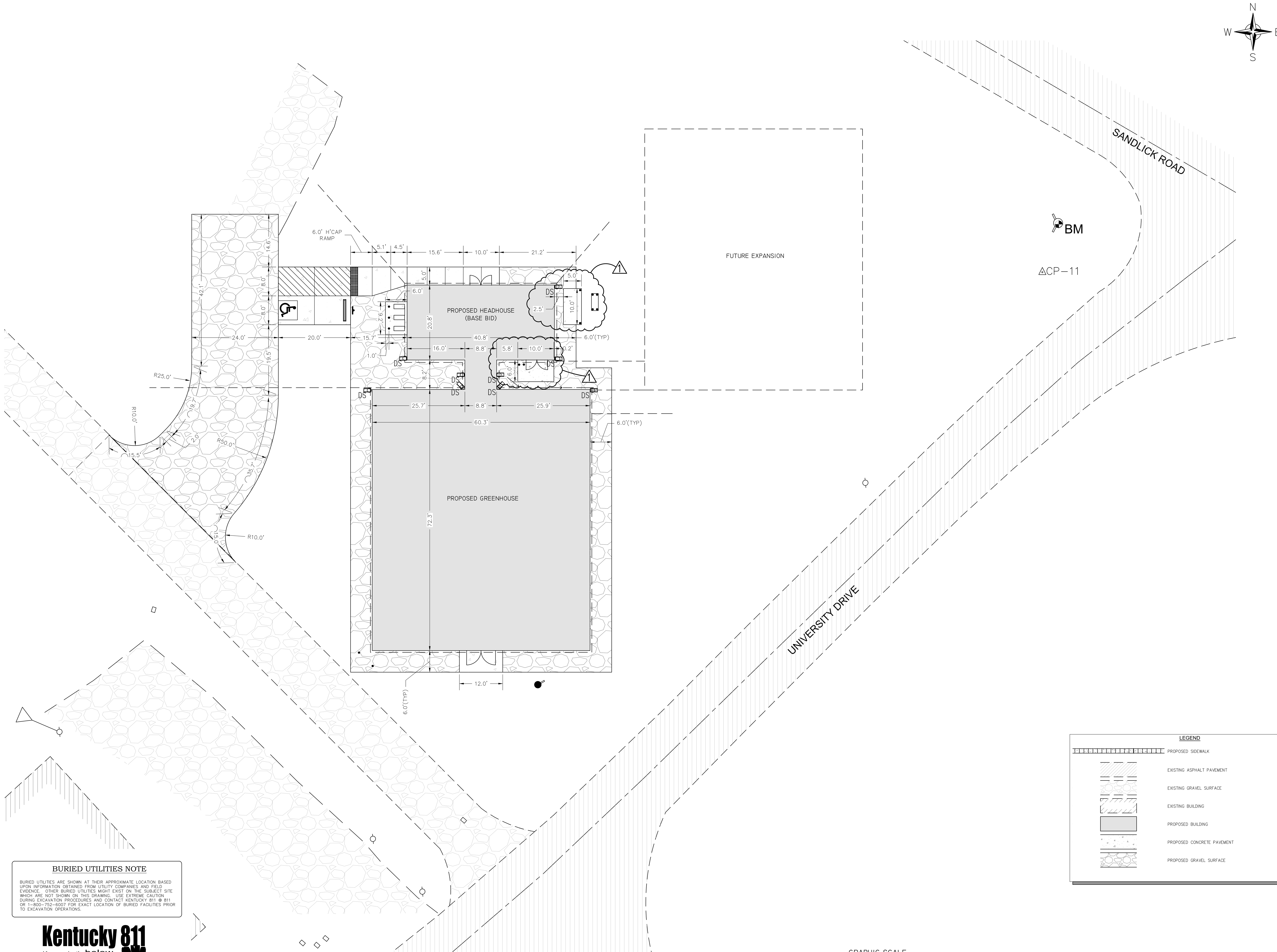
PROJECT	202448
DATE	03/03/2025

REVISIONS

No.	Description	Date
1	ADDENDUM 1	4/10/25

SITE - DEVELOPMENT PLAN (BASE BID)

C2.0



LEGEND
PROPOSED SIDEWALK
EXISTING ASPHALT PAVEMENT
EXISTING GRAVEL SURFACE
EXISTING BUILDING
PROPOSED BUILDING
PROPOSED CONCRETE PAVEMENT
PROPOSED GRAVEL SURFACE

BURIED UTILITIES NOTE

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1 SITE - DIMENSIONAL PLAN (BASE BID)
SCALE: 1" = 10'

GRAPHIC SCALE
10 0 5 10 20 40
(IN FEET)
1 INCH = 10 FT

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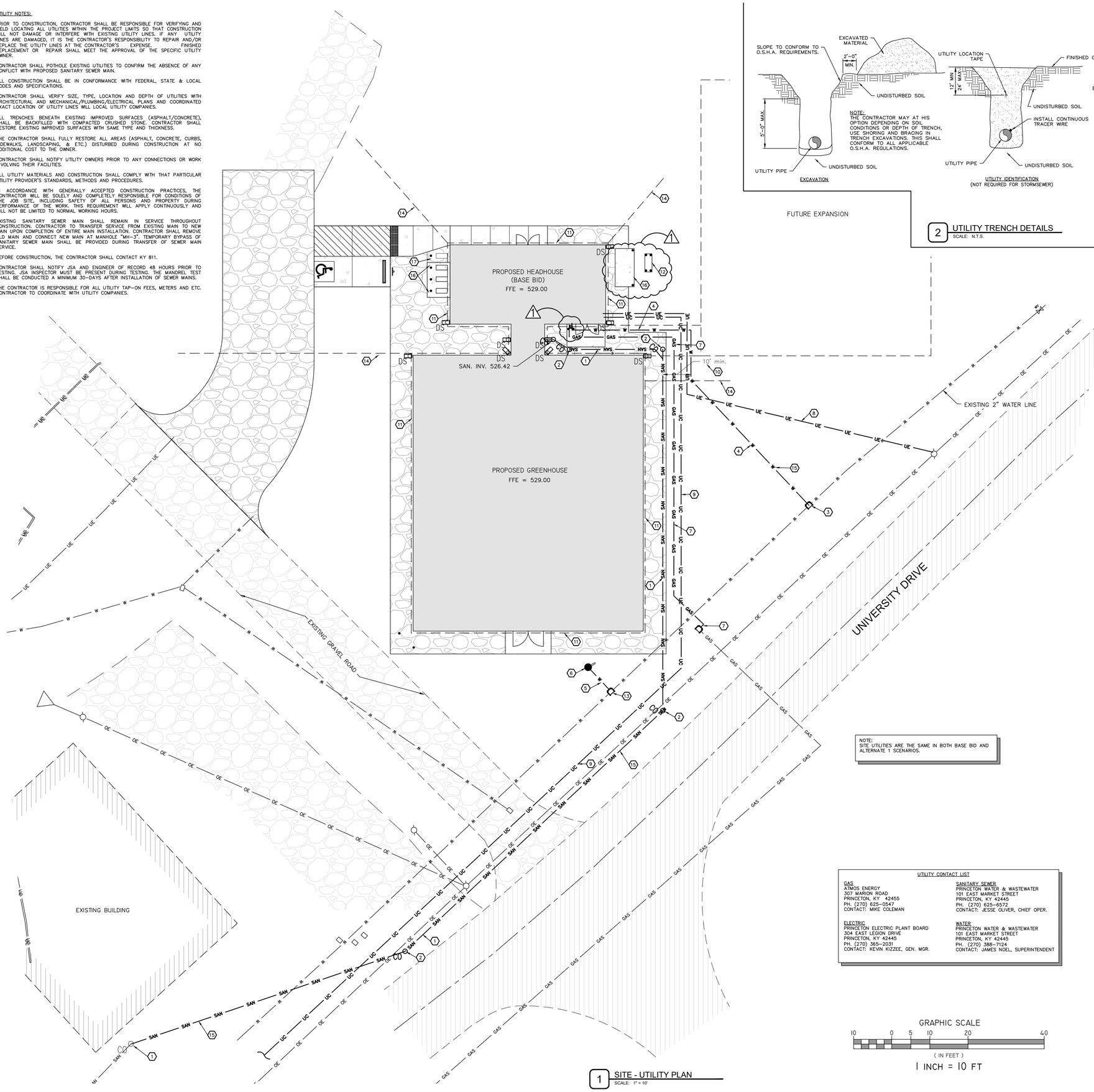
1	ADDENDUM 1	4/10/25

SITE - DIMENSIONAL PLAN (BASE BID)

C3.0

SITE UTILITY NOTES:

1. PRIOR TO CONSTRUCTION, CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING AND FIELD LOCATING ALL UTILITIES WITHIN THE PROJECT LIMITS SO THAT CONSTRUCTION WILL NOT DAMAGE OR INTERFERE WITH EXISTING UTILITY LINES. IF ANY UTILITY LINES ARE DAMAGED, IT IS THE CONTRACTOR'S RESPONSIBILITY TO REPAIR AND/OR REPLACE THE UTILITY LINES AT THE CONTRACTOR'S EXPENSE. FINISHED REPLACEMENT OR REPAIR SHALL MEET THE APPROVAL OF THE SPECIFIC UTILITY OWNER.
2. CONTRACTOR SHALL POTHOLE EXISTING UTILITIES TO CONFIRM THE ABSENCE OF ANY CONFLICT WITH PROPOSED SANITARY SEWER MAIN.
3. ALL CONSTRUCTION SHALL BE IN CONFORMANCE WITH FEDERAL, STATE & LOCAL CODES AND SPECIFICATIONS.
4. CONTRACTOR SHALL VERIFY SIZE, TYPE, LOCATION AND DEPTH OF UTILITIES WITH ARCHITECTURAL AND MECHANICAL/PLUMBING/ELECTRICAL PLANS AND COORDINATED EXACT LOCATION OF UTILITY LINES WILL LOCAL UTILITY COMPANIES.
5. ALL TRENCHES BENEATH EXISTING IMPROVED SURFACES (ASPHALT/CONCRETE), SHALL BE BACKFILLED WITH COMPACTED CRUSHED STONE. CONTRACTOR SHALL RESTORE EXISTING IMPROVED SURFACES WITH SAME TYPE AND THICKNESS.
6. THE CONTRACTOR SHALL FULLY RESTORE ALL AREAS (ASPHALT, CONCRETE, CURBS, SIDEWALKS, LANDSCAPING, & ETC.) DISTURBED DURING CONSTRUCTION AT NO ADDITIONAL COST TO THE OWNER.
7. CONTRACTOR SHALL NOTIFY UTILITY OWNERS PRIOR TO ANY CONNECTIONS OR WORK INVOLVING THEIR FACILITIES.
8. ALL UTILITY MATERIALS AND CONSTRUCTION SHALL COMPLY WITH THAT PARTICULAR UTILITY PROVIDER'S STANDARDS, METHODS AND PROCEDURES.
9. IN ACCORDANCE WITH GENERALLY ACCEPTED CONSTRUCTION PRACTICES, THE CONTRACTOR WILL BE SOLELY AND COMPLETELY RESPONSIBLE FOR CONDITIONS OF THE JOB SITE, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY DURING PERFORMANCE OF THE WORK. THIS REQUIREMENT WILL APPLY CONTINUOUSLY AND WILL NOT BE LIMITED TO NORMAL WORKING HOURS.
10. EXISTING SANITARY SEWER MAIN SHALL REMAIN IN SERVICE THROUGHOUT CONSTRUCTION. CONTRACTOR TO TRANSFER SERVICE FROM EXISTING MAIN TO NEW MAIN UPON COMPLETION OF ENTIRE MAIN INSTALLATION. CONTRACTOR SHALL REMOVE OLD MAIN AND CONNECT NEW MAIN AT MANHOLE "MH-3". TEMPORARY BYPASS OF SANITARY SEWER MAIN SHALL BE PROVIDED DURING TRANSFER OF SEWER MAIN SERVICE.
11. BEFORE CONSTRUCTION, THE CONTRACTOR SHALL CONTACT KY 811.
12. CONTRACTOR SHALL NOTIFY JSA AND ENGINEER OF RECORD 48 HOURS PRIOR TO TESTING. JSA INSPECTOR MUST BE PRESENT DURING TESTING. THE MANDREL TEST SHALL BE CONDUCTED A MINIMUM 30-DAYS AFTER INSTALLATION OF SEWER MAINS.
13. THE CONTRACTOR IS RESPONSIBLE FOR ALL UTILITY TAP-ON FEES, METERS AND ETC. CONTRACTOR TO COORDINATE WITH UTILITY COMPANIES.



1 SITE - UTILITY PLAN
SCALE: 1" = 10'

2 UTILITY TRENCH DETAILS
SCALE: N.T.S.

NOTE:
SITE UTILITIES ARE THE SAME IN BOTH BASE BID AND ALTERNATE 1 SCENARIOS.

UTILITY CONTACT LIST

GAS
ATMOS ENERGY
307 MARION ROAD
PRINCETON, KY 42455
PH. (270) 625-0547
CONTACT: MIKE COLEMAN

ELECTRIC
PRINCETON ELECTRIC PLANT BOARD
304 EAST LEGION DRIVE
PRINCETON, KY 42445
PH. (270) 365-2031
CONTACT: KEVIN KIZZEE, GEN. MGR.

SANITARY SEWER
PRINCETON WATER & WASTEWATER
101 EAST MARKET STREET
PRINCETON, KY 42445
PH. (270) 625-6572
CONTACT: JESSE OLIVER, CHIEF OPER.

WATER
PRINCETON WATER & WASTEWATER
101 EAST MARKET STREET
PRINCETON, KY 42445
PH. (270) 388-7124
CONTACT: JAMES NOEL, SUPERINTENDENT

GRAPHIC SCALE
10 0 5 10 20 40
(IN FEET)
1 INCH = 10 FT

BURIED UTILITIES NOTE

BURIED UTILITIES ARE SHOWN AT THEIR APPROXIMATE LOCATION BASED UPON INFORMATION OBTAINED FROM UTILITY COMPANIES AND FIELD EVIDENCE. OTHER BURIED UTILITIES MIGHT EXIST ON THE SUBJECT SITE WHICH ARE NOT SHOWN ON THIS DRAWING. USE EXTREME CAUTION DURING EXCAVATION PROCEDURES AND CONTACT KENTUCKY 811 @ 811 OR 1-800-752-6007 FOR EXACT LOCATION OF BURIED FACILITIES PRIOR TO EXCAVATION OPERATIONS.

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UTILITY PLAN KEY NOTES:

1. INSTALL SANITARY SEWER LATERAL AT 1.0% MINIMUM SLOPE TO 5.0' OUTSIDE BUILDING. CONNECT NEW LATERAL TO INVERT OF EXISTING CLEANOUT NEAR SOILS LAB TRAILERS.
2. INSTALL SANITARY SEWER CLEANOUT. SEE DETAIL 14, SHEET C7.0.
3. INSTALL 2" x 2" x 2 ½" TEE ON EXISTING WATER LINE.
4. INSTALL 2 ½" PVC WATER SERVICE LINE TO 5.0' OUTSIDE BUILDING.
5. INSTALL 1" PVC WATER SERVICE LINE TO YARD HYDRANT.
6. INSTALL YARD HYDRANT. SEE DETAIL 15, SHEET C7.0.
7. INSTALL 2" MDPE NATURAL GAS SERVICE LINE TO 5.0' OUTSIDE BUILDING. CONTRACTOR TO TAP GAS LINE OFF EXISTING GAS MAIN.
8. INSTALL UNDERGROUND ELECTRICAL SERVICE. SEE MEP PLANS FOR DETAILS.
9. INSTALL UNDERGROUND COMMUNICATION/DATA LINES. SEE MEP PLANS FOR DETAILS.
10. MAINTAIN 10' MINIMUM HORIZONTAL DISTANCE BETWEEN OUTSIDE WALLS OF DOMESTIC WATER LINE AND SANITARY SEWER LINE. WHERE MINIMUM HORIZONTAL DISTANCE CANNOT BE MAINTAINED, WATER LINE SHALL BE LAID IN A SEPARATE TRENCH OR ON AN UNDISTURBED SHELF LOCATED ON ONE SIDE OF THE SEWER, SUCH THAT THE BOTTOM OF THE WATER LINE IS AT LEAST 18" ABOVE THE TOP OF THE SANITARY SEWER LINE.
11. INSTALL FOUNDATION DRAIN. SEE DETAIL 9, SHEET C7.0.
12. PROPOSED ELECTRICAL GENERATOR. SEE MEP PLANS.
13. INSTALL TAPPING SLEEVE & VALVE. SEE DETAIL 13, SHEET C7.0.
14. INSTALL 4" SOLID WALL PVC. CONNECT TO FOUNDATION DRAIN AND RUN TO DAYLIGHT.
15. INSTALL UTILITY TRENCH. SEE DETAIL 2, SHEET C6.0.
16. INSTALL HVAC EQUIPMENT PADS. COORDINATE SIZE & EXACT LOCATIONS WITH MECHANICAL CONTRACTOR.
17. INSTALL THIS SECTION OF CONCRETE HVAC EQUIPMENT PAD IN ALTERNATE 1 ONLY.

LEGEND

- EXISTING WATER LINE
- EXISTING SANITARY SEWER
- EXISTING OVERHEAD ELECTRIC
- EXISTING UNDERGROUND ELECTRIC
- EXISTING UNDERGROUND COMMUNICATIONS
- EXISTING GAS LINE
- PROPOSED SIDEWALK
- PROPOSED WATER LINE
- PROPOSED SANITARY SEWER
- PROPOSED UNDERGROUND ELECTRIC
- PROPOSED UNDERGROUND COMMUNICATIONS
- PROPOSED OVERHEAD ELECTRIC
- PROPOSED GAS LINE
- EXISTING ASPHALT PAVEMENT
- EXISTING GRAVEL SURFACE
- EXISTING BUILDING
- PROPOSED BUILDING
- EXISTING UTILITY POLE
- EXISTING FIRE HYDRANT
- EXISTING WATER VALVE
- EXISTING CLEAN OUT
- PROPOSED CLEAN OUT

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BRADLY A. GOUGH
27965
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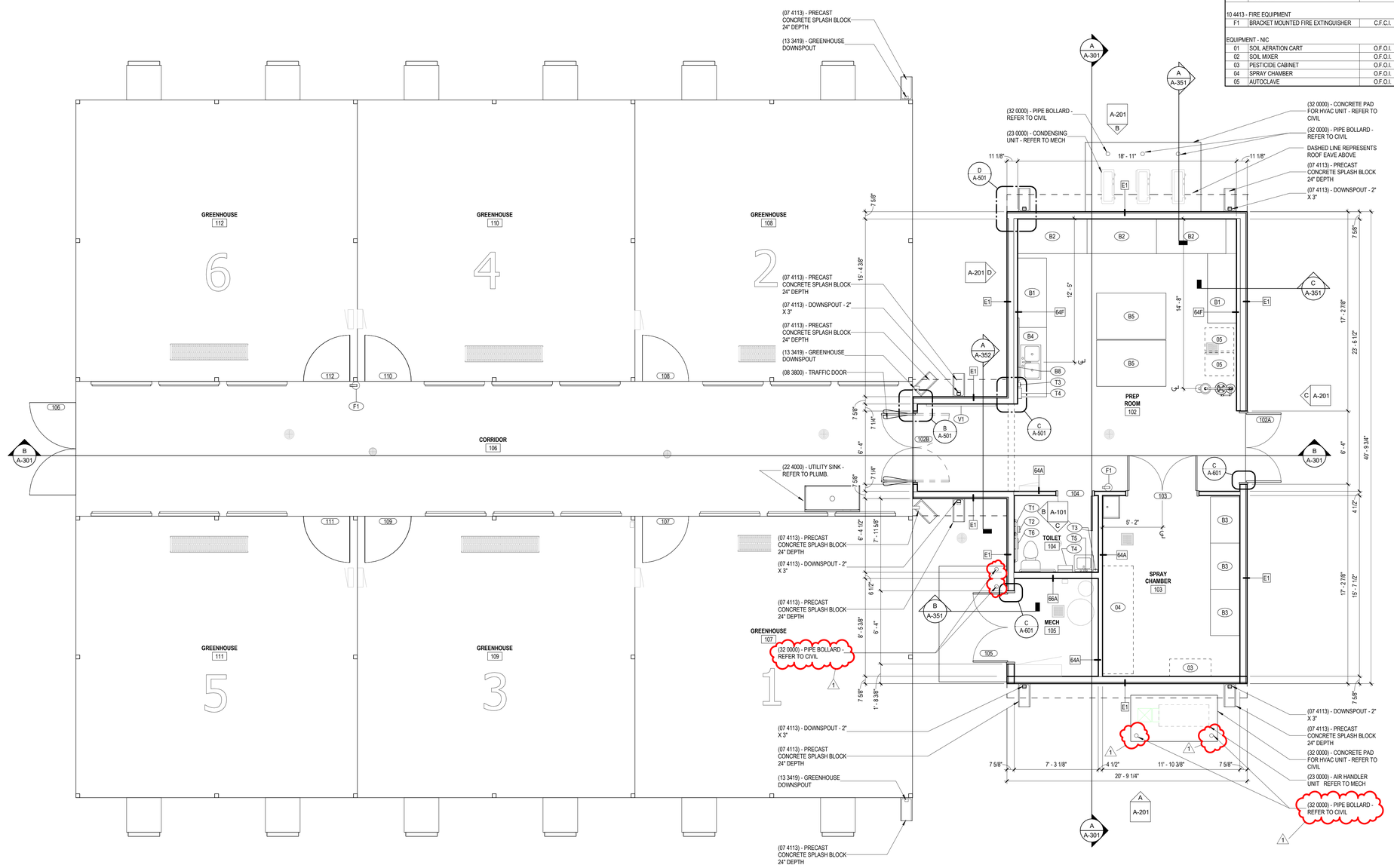
No.	Description	Date
1	ADDENDUM 1	4/10/25

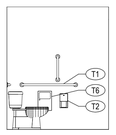
SITE - UTILITY PLAN

C6.0

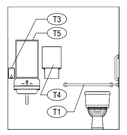
	SPECIALTIES & EQUIPMENT SCHEDULE		
MARK	DESCRIPTION	PROVIDED BY	COMMENTS
B1	30"x72" STAINLESS STEEL WORKBENCH - WITH BACKSPLASH & NO SHELF	C.F.C.I.	
B2	36"x 72" STAINLESS STEEL WORKBENCH - WITH BACKSPLASH & NO SHELF	C.F.C.I.	
B3	30"X48" STAINLESS STEEL WORKBENCH - NO BACKSPLASH & WITH SHELVES	C.F.C.I.	
B4	30"x72" STAINLESS STEEL WORKBENCH - WITH DOUBLE BOWL SINK AND BACKSPLASH	C.F.C.I.	
B5	48"X72" STAINLESS STEEL WORKBENCH ON CASTERS	C.F.C.I.	
B6	4'X8' PALLET RACK WITH SHELVES	O.F.O.I.	
B7	48"X24" SHELVING	O.F.O.I.	
B8	48"X72" PEGBOARD	C.F.C.I.	
10 1100 - VISUAL DISPLAY SURFACES			
V1	MARKER BOARD - 6'X4'	C.F.C.I.	
10 2800 - TOILET ACCESSORY			
T1	GRAB BAR SET: 36" BACK, 42" SIDE, 18" VERTICAL	C.F.C.I.	
T2	TOILET PAPER DISPENSER, MULTI-ROLL - SURFACE MOUNTED	C.F.C.I.	
T3	SOAP DISPENSER - SURFACE MOUNTED, VERTICAL	O.F.O.I.	
T4	PAPER TOWEL DISPENSER - SURFACE MOUNTED	O.F.O.I.	
T5	FRAMED MIRROR - 18" x 30"	C.F.C.I.	
T6	SANITARY NAPKIN DISPOSAL - SURFACE MOUNTED	C.F.C.I.	
10 4413 - FIRE EQUIPMENT			
F1	BRACKET MOUNTED FIRE EXTINGUISHER	C.F.C.I.	
EQUIPMENT - NIC			
01	SOIL AERATION CART	O.F.O.I.	
02	SOIL MIXER	O.F.O.I.	
03	PESTICIDE CABINET	O.F.O.I.	
04	SPRAY CHAMBER	O.F.O.I.	
05	AUTOCLAVE	O.F.O.I.	



A FIRST FLOOR PLAN - BASE BID
1/4" = 1'-0"



B RESTROOM ELEVATION
1/4" = 1'-0"



C RESTROOM ELEVATION
1/4" = 1'-0"

KEY PLAN

JRA architects
301 East Vine St.
Lexington, Kentucky 40507
859.252.6781

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PRINCETON, KENTUCKY

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1	Addendum 1	4-10-25

OVERALL FIRST FLOOR PLAN - BASE BID

A-101

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---	SPECIALTIES & EQUIPMENT SCHEDULE		
MARK	DESCRIPTION	PROVIDED BY	COMMENTS
B1	30"x72" STAINLESS STEEL WORKBENCH - WITH BACKSPLASH & NO SHELF	C.F.C.I.	
B2	36"x 72" STAINLESS STEEL WORKBENCH - WITH BACKSPLASH & NO SHELF	C.F.C.I.	
B3	30"X48" STAINLESS STEEL WORKBENCH - NO BACKSPLASH & WITH SHELVES	C.F.C.I.	
B4	30"x72" STAINLESS STEEL WORKBENCH - WITH DOUBLE BOWL SINK AND BACKSPLASH	C.F.C.I.	
B5	48"X72" STAINLESS STEEL WORKBENCH ON CASTERS	C.F.C.I.	
B6	4'X8' PALLET RACK WITH SHELVES	O.F.O.I.	
B7	48"X24" SHELVING	O.F.O.I.	
B8	48"X72" PEGBOARD	C.F.C.I.	
10 1100 - VISUAL DISPLAY SURFACES			
V1	MARKER BOARD - 6'X4'	C.F.C.I.	
10 2800 - TOILET ACCESSORY			
T1	GRAB BAR SET: 36" BACK, 42" SIDE, 18" VERTICAL	C.F.C.I.	
T2	TOILET PAPER DISPENSER, MULTI-ROLL - SURFACE MOUNTED	C.F.C.I.	
T3	SOAP DISPENSER - SURFACE MOUNTED, VERTICAL	O.F.O.I.	
T4	PAPER TOWEL DISPENSER - SURFACE MOUNTED	O.F.O.I.	
T5	FRAMED MIRROR - 18" x 30"	C.F.C.I.	
T6	SANITARY NAPKIN DISPOSAL - SURFACE MOUNTED	C.F.C.I.	
10 4413 - FIRE EQUIPMENT			
F1	BRACKET MOUNTED FIRE EXTINGUISHER	C.F.C.I.	
EQUIPMENT - NIC			
01	SOIL AERATION CART	O.F.O.I.	
02	SOIL MIXER	O.F.O.I.	
03	PESTICIDE CABINET	O.F.O.I.	
04	SPRAY CHAMBER	O.F.O.I.	
05	AUTOCLAVE	O.F.O.I.	

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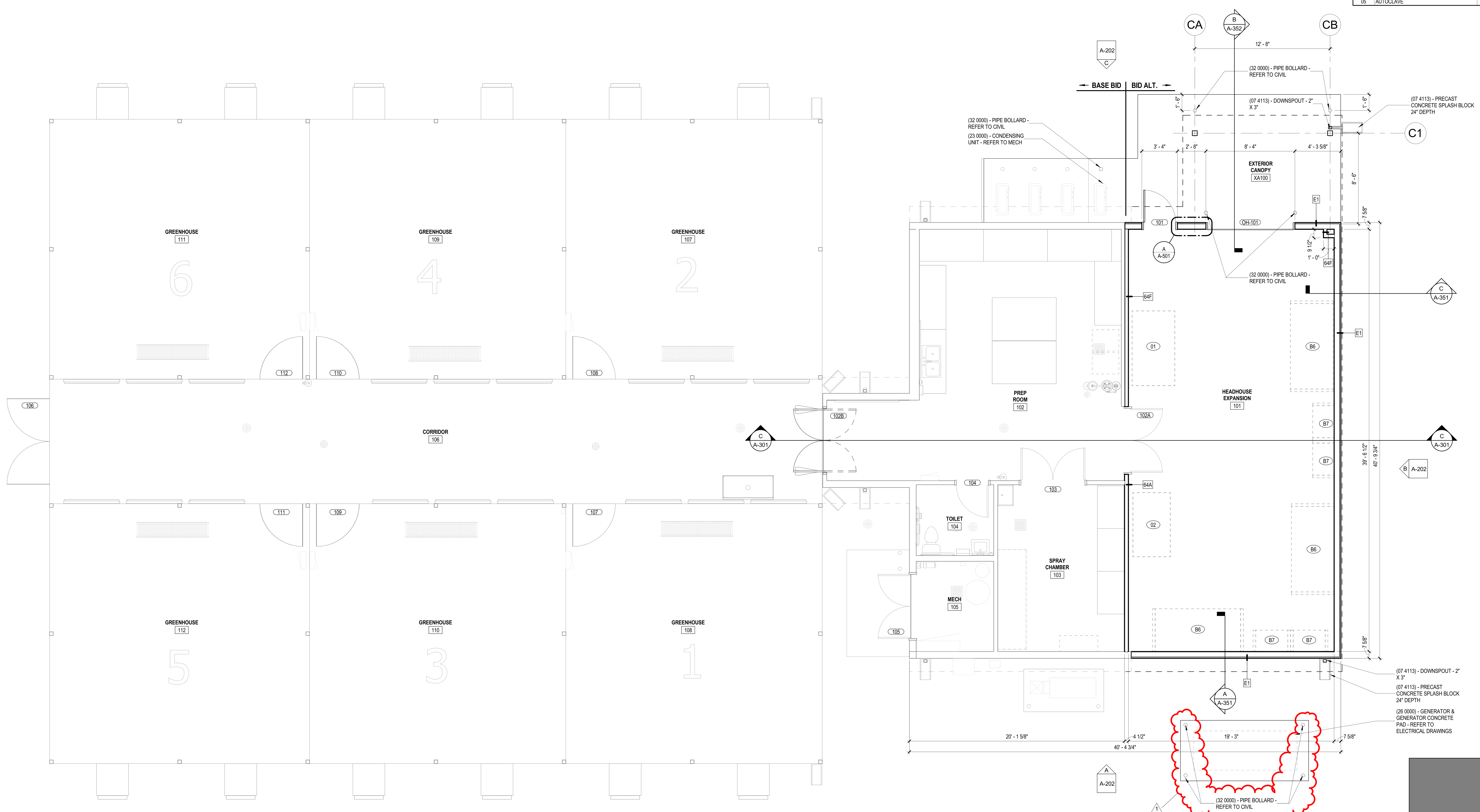
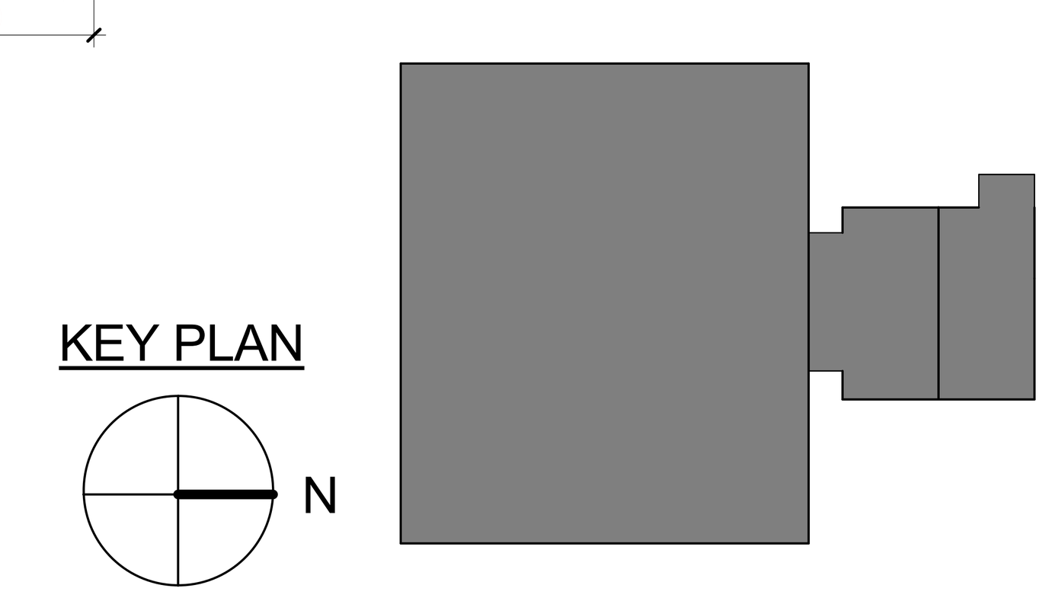


A FIRST FLOOR PLAN - BID ALTERNATE
1/4" = 1'-0"

KEY PLAN



CONSTRUCTION DOCUMENTS

UKREC GREENHOUSE/HEADHOUSE
UNIVERSITY OF KENTUCKY
PRINCETON, KENTUCKY

ARCHITECTURAL

PROJECT	202448
DATE	03/03/2025

REVISIONS

No.	Description	Date
1	Addendum 1	4-10-25

OVERALL FIRST FLOOR PLAN - BID ALTERNATE

A-102

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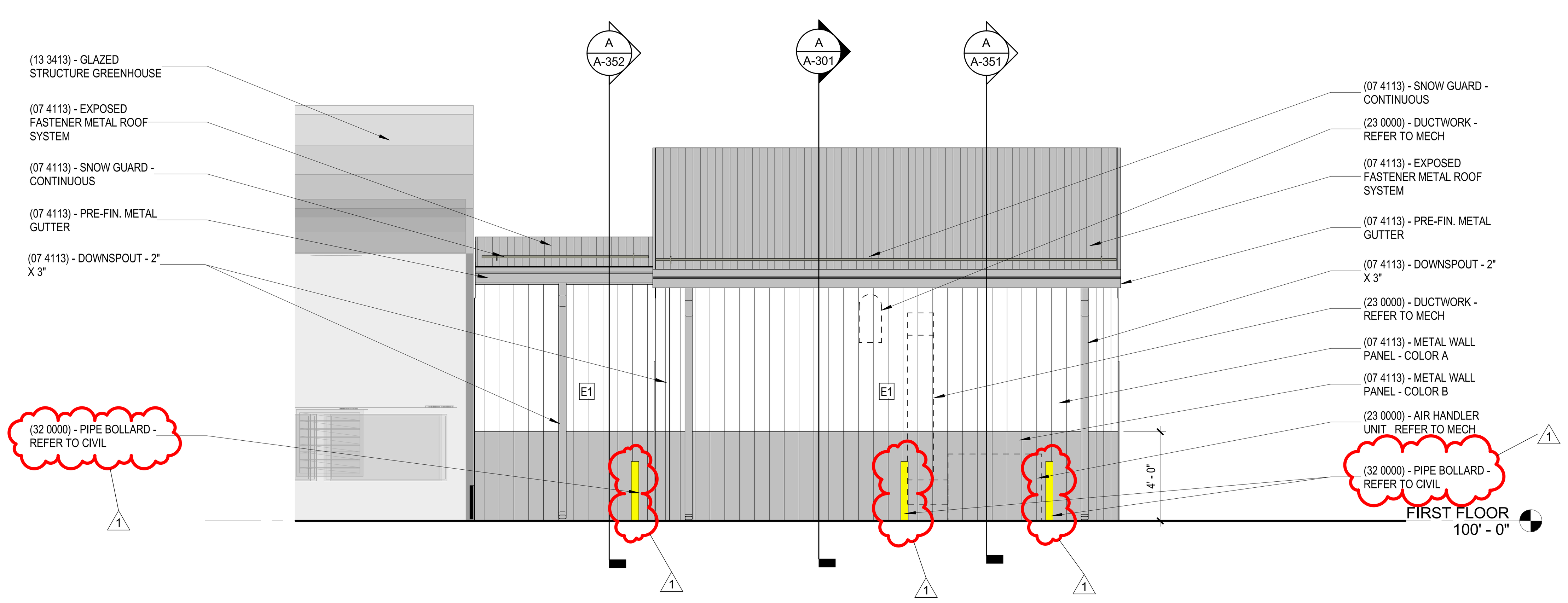
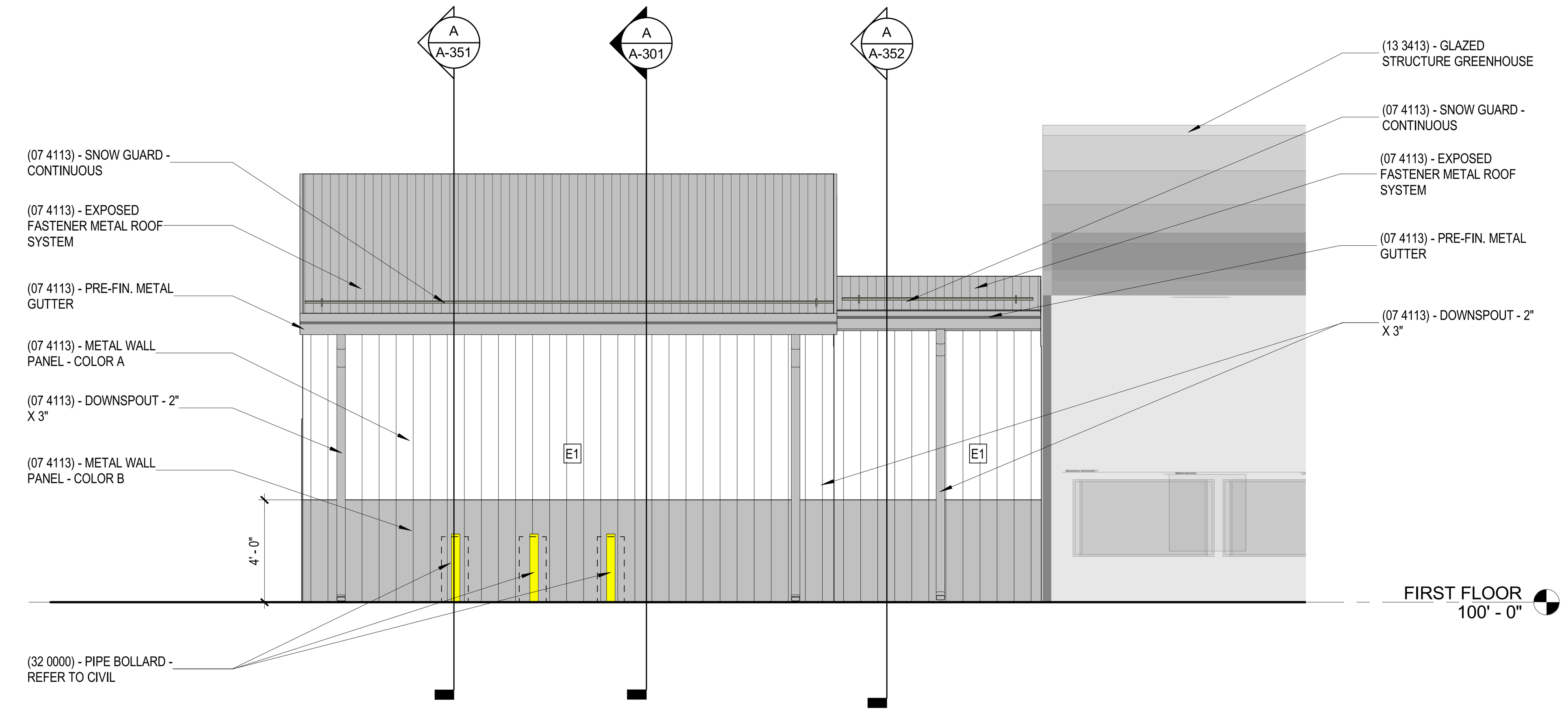
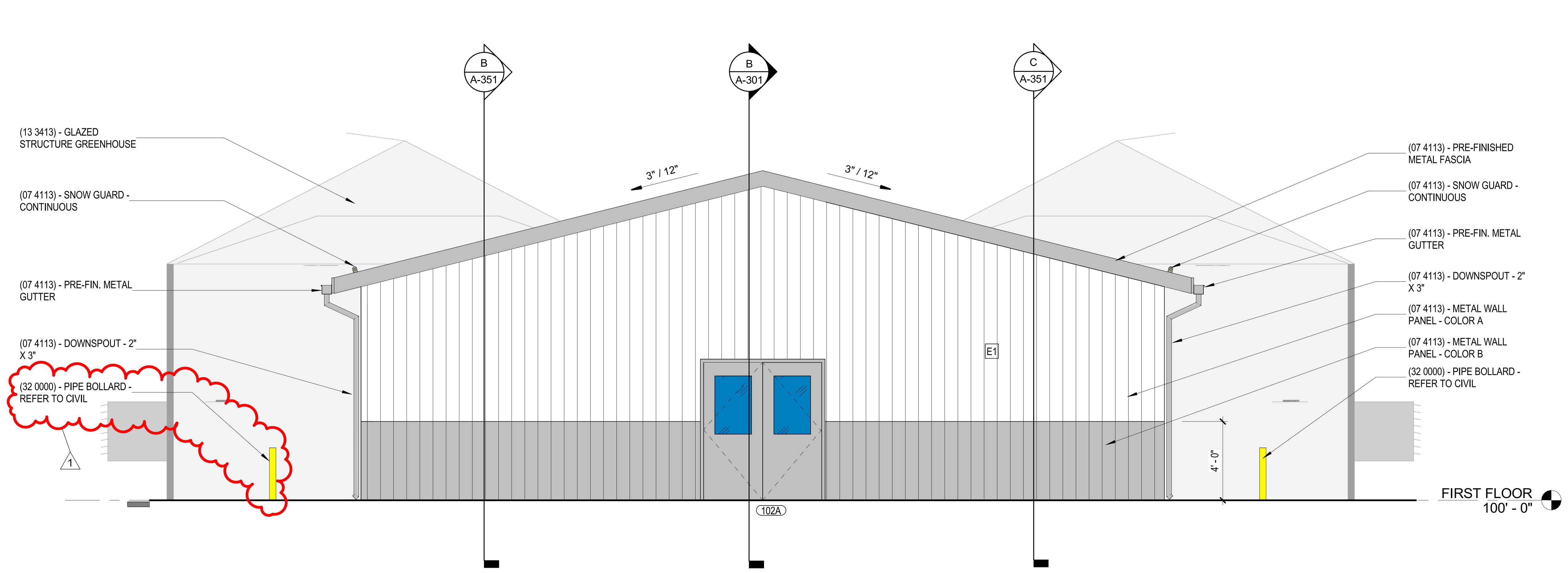


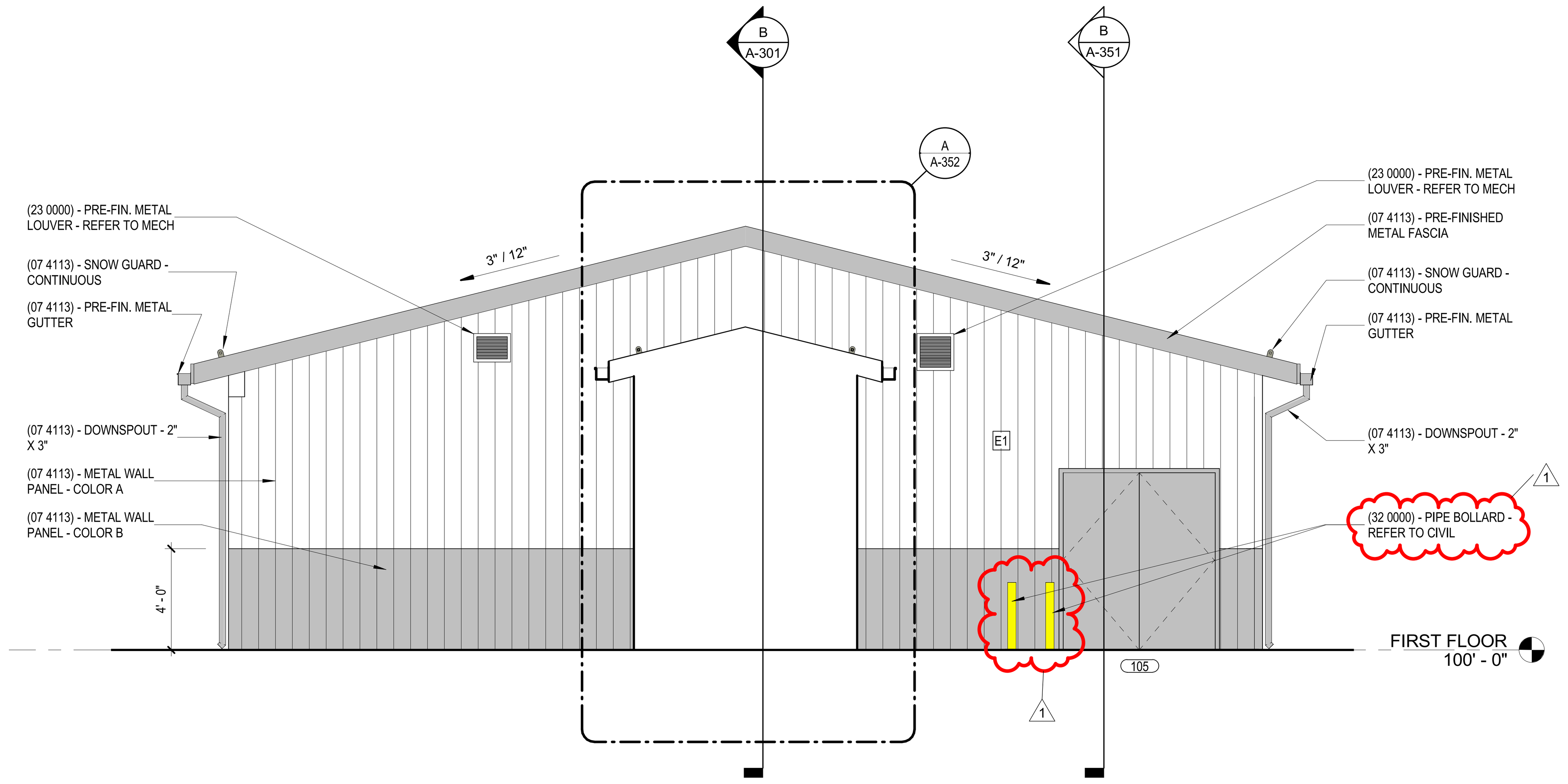
A EAST BUILDING ELEVATION- BASE BID
1/4" = 1'-0"



B WEST BUILDING ELEVATION - BASE BID
1/4" = 1'-0"

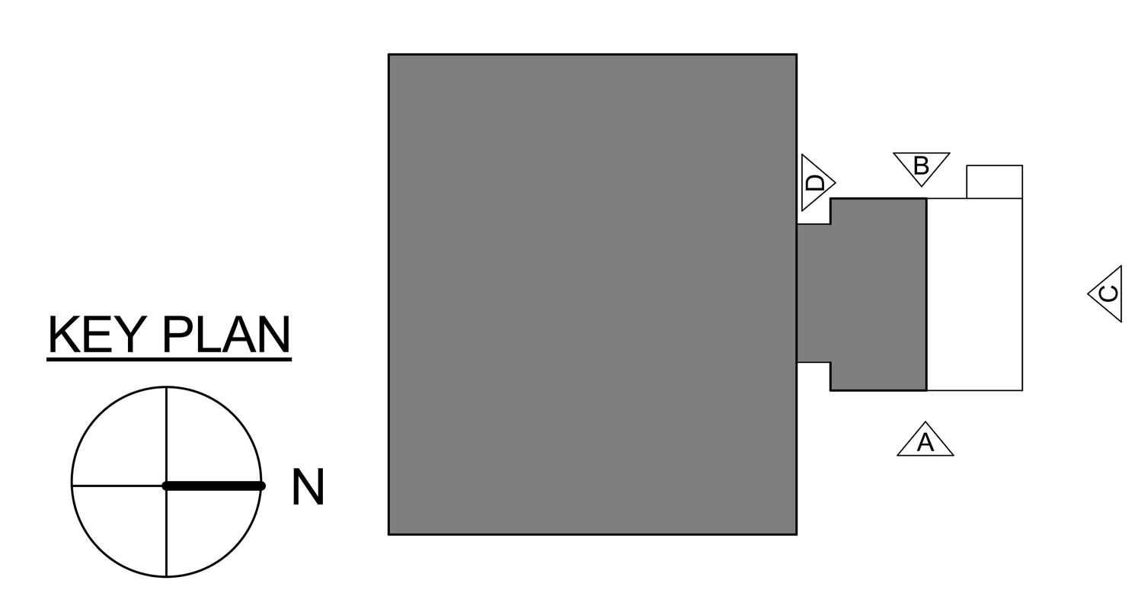


C NORTH BUILDING ELEVATION - BASE BID
1/4" = 1'-0"



D SOUTH BUILDING ELEVATION - BASE BID
1/4" = 1'-0"

KEY PLAN



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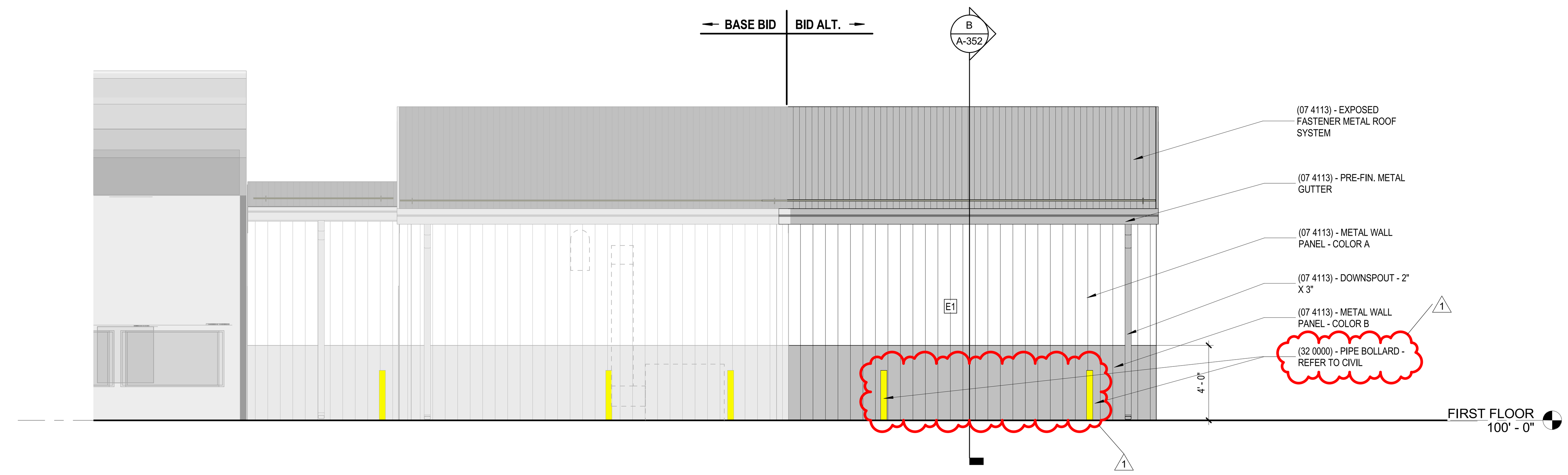
PROJECT	202448
DATE	03/03/2025

REVISIONS

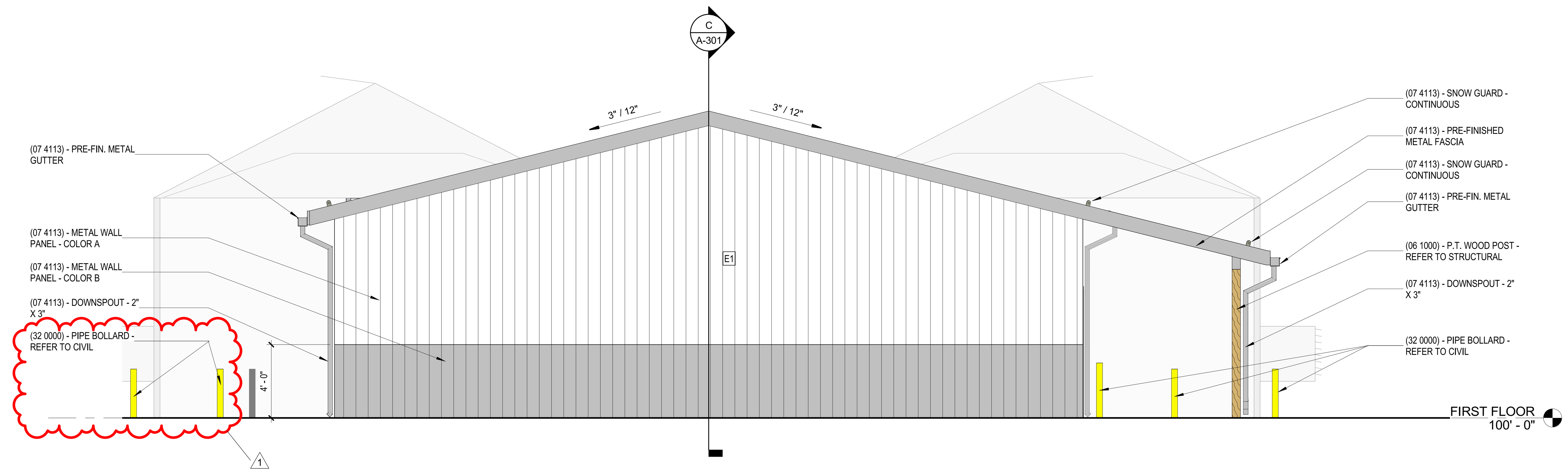
No.	Description	Date
1	Addendum 1	4-10-25

BUILDING ELEVATIONS

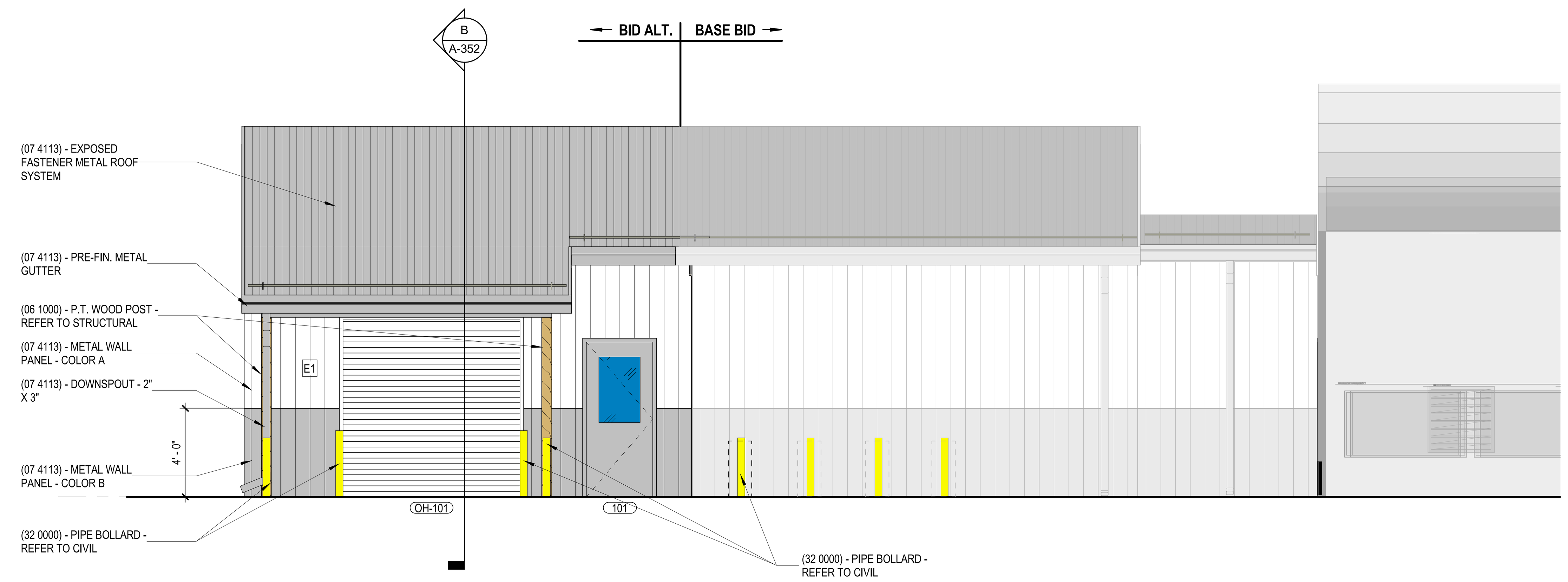
A-201



A EAST BUILDING ELEVATION - BID ALTERNATE #1
1/4" = 1'-0"

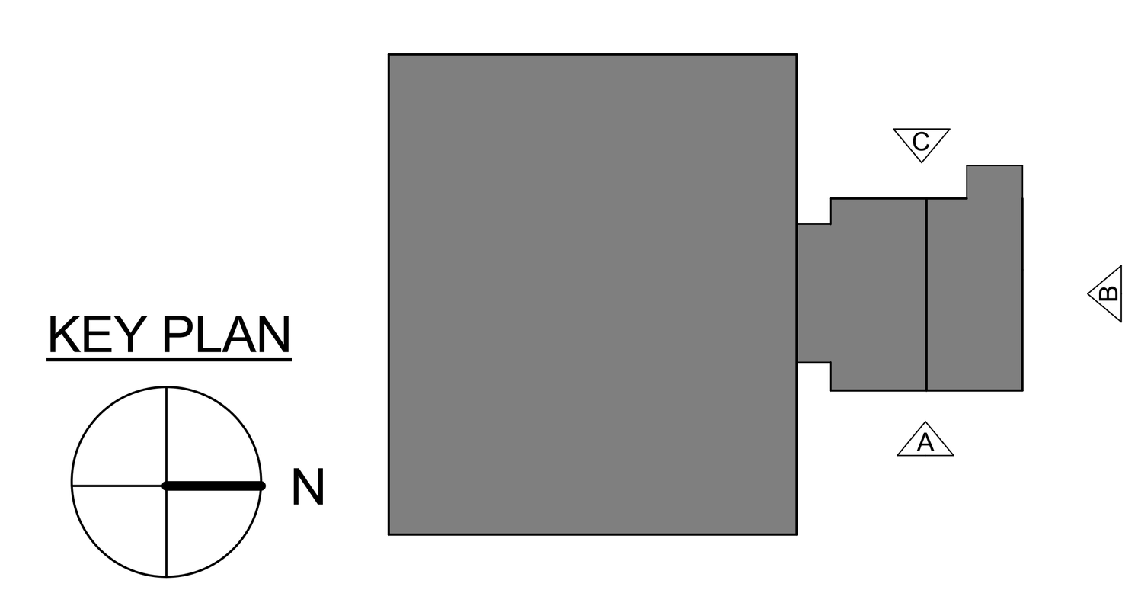


B NORTH BUILDING ELEVATION - BID ALTERNATE #1
1/4" = 1'-0"



C WEST BUILDING ELEVATION - BID ALTERNATE #1
1/4" = 1'-0"

KEY PLAN



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UNIVERSITY OF KENTUCKY
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ARCHITECTURAL

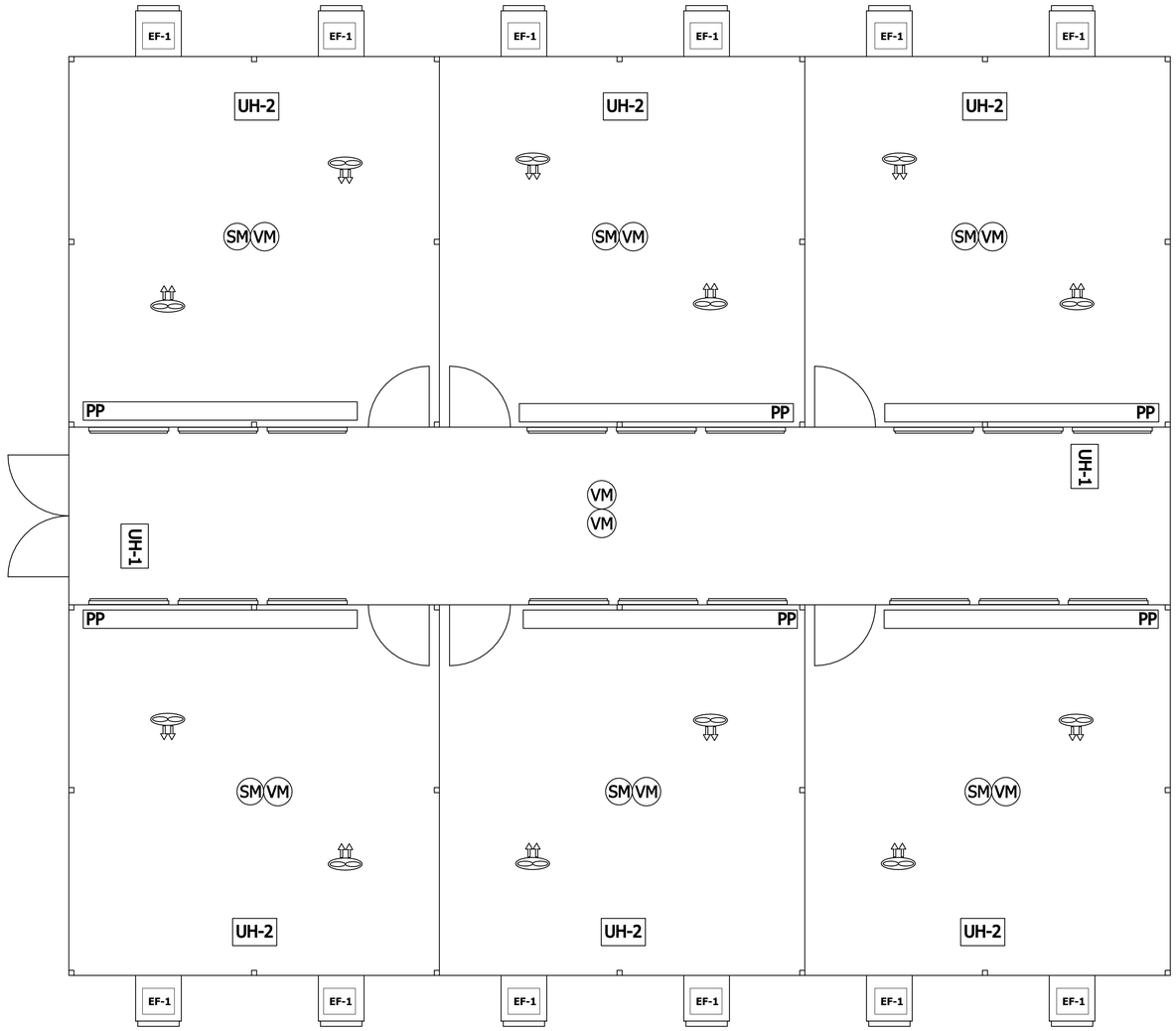
PROJECT	202448
DATE	03/03/2025

REVISIONS

No.	Description	Date
1	Addendum 1	4-10-25

BUILDING ELEVATIONS - BID ALTERNATE

A-202

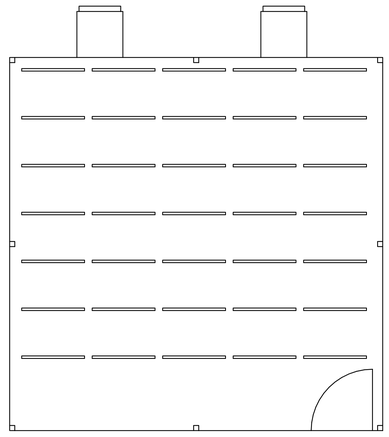


GREENHOUSE PLAN - EQUIPMENT LAYOUT

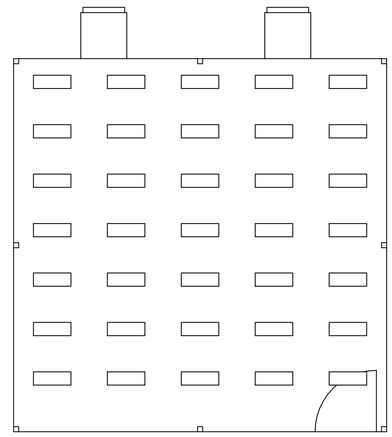
GREENHOUSE EQUIPMENT TABLE						
#	SYMBOL	DESCRIPTION	QTY	VOLTS/Ø	AMPS	HP/W
1	EF-1	EXHAUST FAN ACME FQ30WBP	12	208/3	3.8	3/4HP
2	UH-1	UNIT HEATER MODINE HD30	2	120	4.2	1/15HP
3	UH-2	UNIT HEATER MODINE HD60	6	120	3.75	1/12HP
5	SM	SHADE MOTOR	6	120	0.68	1/20HP
6	VM	ROOF MOTOR	8	120	2.5	1/5HP
8		HAF FAN VK-12	12	120	1.3	1/10HP
8	PP	PAD PUMP ACME 205	6	120	2.9	1/3HP
9		PHILIPS GPL TLL 550 DRW_MB	210	208/1	0.96	200W
10		MOTORIZED SHUTTER	18	120	0.13	17W

NOTES:
1. ALL GREENHOUSE EQUIPMENT LISTED TO BE PROVIDED BY THE GREENHOUSE SUPPLIER
2. REFER TO SPECIFICATIONS DOCUMENT FOR ANY ACCESSORIES REQUIRED TO BE PROVIDED WITH GREENHOUSE EQUIPMENT
3. ALL ITEMS LISTED TO BE CONTROLLED BY GREENHOUSE ENVIRONMENTAL CONTROL SYSTEM
4. PROVIDE FLEXIBLE PLUMBING CONNECTION BETWEEN WATER SUPPLY AND EVAPORATIVE COOLING PAD SYSTEM
5. PROVIDE OSHA APPROVED MESH GUARD FOR ALL EXHAUST FANS

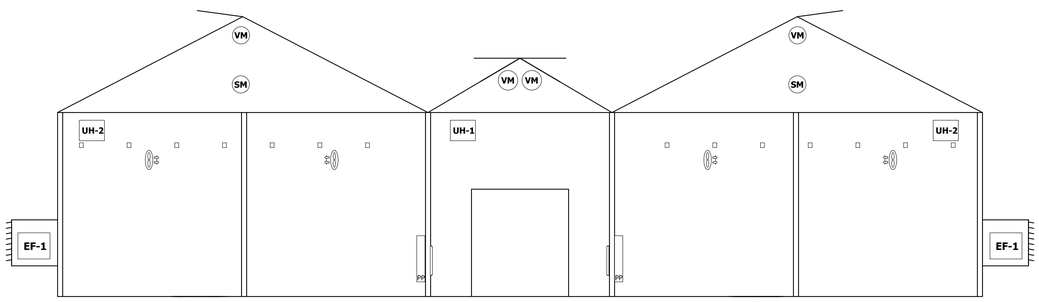
ALTERNATE GREENHOUSE EQUIPMENT TABLE						
#	SYMBOL	DESCRIPTION	QTY	VOLTS/Ø	AMPS	HP/W
9		PHILIPS TLC 1830 DRW_EBW	210	208/1	2.88	600W



BASE BID
GREENHOUSE SUPPLEMENTAL LIGHTING LAYOUT
200 µmol/s/m2 TARGET
LED MODULE: PHILIPS GPL TLL 550 DRW_MB



BID ALTERNATE
GREENHOUSE SUPPLEMENTAL LIGHTING LAYOUT
600 µmol/s/m2 TARGET with 0-10v Dimming
LED MODULE: PHILIPS TLC 1830 DRW_EBW



GREENHOUSE SECTION - EQUIPMENT LAYOUT

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ARCHITECTURAL

PROJECT	202448
DATE	03/03/2025

REVISIONS

No.	Description	Date
1	Lighting Alternate Correction	4/10/25

GREENHOUSE EQUIPMENT LAYOUT

G-102

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PANELBOARD AND WIRING SCHEDULE

PANEL: MDP **MAINS TYPE:** MCB **PANEL INTERRUPTING RATING:** 10,000 AIC
VOLTAGE: 208Y/120V,3P,4W **SPD:** **LOCATION:** MECH 105
AMPERES: 1000 A **MOUNTING:** SURFACE **SUPPLY FROM:**

NOTES	CIRCUIT DESCRIPTION	HOT, NEUT, GND	OCP	P	CKT	A		B		C		CKT	P	OCP	HOT, NEUT, GND	CIRCUIT DESCRIPTION	NOTES
					1	28.3	1.0					2	1	20	1-#12, 1-#12, 1-#12	OVERHEAD DOOR	
2	PANEL DP	3-#500, 1-#500, 1-#4	300	3	3			29.7	0.9			4	1	20	1-#12, 1-#12, 1-#12	REC	
					5					25.3	0.9	6	1	20	1-#12, 1-#12, 1-#12	REC	
	REC	1-#12, 1-#12, 1-#12	20	1	7	0.9	0.2					8	1	20	1-#12, 1-#12, 1-#12	REC - SPRAY CHAMBER	
	WH-01	1-#12, 1-#12, 1-#12	15	1	9			0.6	0.5			10	1	20	1-#12, 1-#12, 1-#12	REC	
1	AUTOCLAVE	2-#8, 1-#8, 1-#10	35	2	11					2.8	0.7	12	1	20	1-#12, 1-#12, 1-#12	REC	
					13	2.8	0.5					14	1	20	1-#12, 1-#12, 1-#12	EYE WASH	
1	AUTOCLAVE	2-#8, 1-#8, 1-#10	35	2	15			2.8	0.5			16	1	20	1-#12, 1-#12, 1-#12	STEAM GENERATOR	
					17					2.8	0.7	18	1	20	1-#12, 1-#12, 1-#12	REC	
1	AERATION CART RECEPTACLE	2-#8, 1-#8, 1-#10	35	2	19	1.8	0.5					20	1	20	1-#12, 1-#12, 1-#12	GENERATOR BATTERY CHARGER	
					21			1.8	0.7			22	1	20	1-#12, 1-#12, 1-#12	LTNG	
	MAU-01	2-#12, 1-#12, 1-#12	15	2	23					0.9	0.4	24	1	20	1-#12, 1-#12, 1-#12	LTNG	
					25	0.9	0.5					26	1	20	1-#12, 1-#12, 1-#12	GENERATOR BLOCK HEATER	
	CU-12/SS-12	2-#12, 1-#12, 1-#12	15	2	27			1.2	1.3			28					
					29					1.2	1.3	30	3	20	3-#12, 1-#12, 1-#12	SOIL MIXER RECEPTACLE	1
	CU-30/SS-30	2-#10, 1-#10, 1-#10	30	2	31	2.4	1.3					32					
					33			2.4	1.2			34	1	20	1-#12, 1-#12, 1-#12	RP-01	
	CU-18/SS-18	2-#10, 1-#10, 1-#10	30	2	35					2.0	0.9	36	1	20	1-#12, 1-#12, 1-#12	LTNG GREENHOUSE	
					37	2.0	0.0					38	1	20	--	SPARE	
	CU-24/SS-24	2-#10, 1-#10, 1-#10	30	2	39			2.0	0.0			40					
					41					2.0	0.0	42	3	60	--	SPARE	
	ERV-01	2-#12, 1-#12, 1-#12	15	2	43	0.4	0.0					44					
					45			0.4	0.0			46	1	20	--	SPARE	
	SPARE	--	20	1	47					0.0	0.0	48	1	20	--	SPARE	
1	SPARE	--	20	1	49	0.0	0.0					50					
1	SPARE	--	20	1	51			0.0	0.0			52	3	35	--	SPD	
1	SPARE	--	20	1	53					0.0	0.0	54					
						43.4 kVA		46.1 kVA		42.0 kVA							
						364 A		386 A		350 A							

LOAD CLASSIFICATION	CONNECTED LOAD	DEMAND FACTOR	ESTIMATED DEMAND	PANEL TOTALS	
EQUIP	3472 VA	100.00%	3472 VA	TOTAL CONNECTED LOAD:	131543 VA
HVAC	49139 VA	85.00%	41768 VA	TOTAL ESTIMATED DEMAND:	111739 VA
LTNG	44065 VA	100.00%	44065 VA	TOTAL CONNECTED CURRENT:	365 A
REC	34868 VA	64.34%	22434 VA	TOTAL ESTIMATED DEMAND CURRENT:	310 A
				25 % ADDITIONAL CAPACITY:	78 A
				TOTAL PANEL CURRENT:	388 A

NOTES: WHERE NOT LISTED, WIRE AND CONDUIT SHALL BE BE MINIMUM PER SPECIFICATIONS. SPARE BREAKERS TO BE 20A/1P.
1. PROVIDE GFI TYPE CIRCUIT BREAKER.
2. ALTERNATE #4 - CIRCUIT SHALL BE RATED FOR 600A ONLY IF ALTERNATE #4 IS AWARDED. REFER TO POWER ONE-LINE DIAGRAMS.
3. MAIN CIRCUIT BREAKER SHALL BE 100% RATED.

PANELBOARD AND WIRING SCHEDULE

PANEL: DP **MAINS TYPE:** MCB **PANEL INTERRUPTING RATING:** 10,000 AIC
VOLTAGE: 208Y/120V,3P,4W **SPD:** **LOCATION:** PREP ROOM 102
AMPERES: 300 A **MOUNTING:** SURFACE **SUPPLY FROM:** MDP

NOTES	CIRCUIT DESCRIPTION	HOT, NEUT, GND	OCP	P	CKT	A		B		C		CKT	P	OCP	HOT, NEUT, GND	CIRCUIT DESCRIPTION	NOTES
					1	4.1	4.6					2					
	GP1	3-#3/0, 1-#3/0, 1-#6	150	3	3			4.6	4.3			4	3	150	3-#3/0, 1-#3/0, 1-#6	GP2	
					5					4.5	4.3	6					
					7	4.7	4.4					8					
	GP3	3-#3/0, 1-#3/0, 1-#6	150	3	9			4.9	4.6			10	3	150	3-#3/0, 1-#3/0, 1-#6	GP4	
					11					3.6	4.2	12					
					13	4.7	4.3					14					
	GP5	3-#3/0, 1-#3/0, 1-#6	150	3	15			4.9	4.8			16	3	150	3-#3/0, 1-#3/0, 1-#6	GP6	
					17					3.6	4.1	18					
	GH CONTROL PANELS	1-#12, 1-#12, 1-#12	20	1	19	0.2	0.4					20	1	20	1-#12, 1-#12, 1-#12	COMMUNICATIONS RACK	
	REC	1-#12, 1-#12, 1-#12	20	1	21			0.4	1.4			22	1	20	1-#10, 1-#10, 1-#10	RECS GH CORRIDOR	
	REC	1-#12, 1-#12, 1-#12	20	1	23					0.4	0.6	24	1	15	1-#12, 1-#12, 1-#12	ROOF MOTORS GH CORRIDOR	
	HEATERS GH CORRIDOR	1-#12, 1-#12, 1-#12	15	1	25	1.0	--					26	1	--	--	SPACE	
	SPACE	--	--	1	27			--	--			28	1	--	--	SPACE	
	SPACE	--	--	1	29					--	--	30	1	--	--	SPACE	
	SPARE	--	20	1	31	0.0	--					32	1	--	--	SPACE	
	SPARE	--	20	1	33			0.0	--			34	1	--	--	SPACE	
	SPARE	--	20	1	35					0.0	0.0	36	1	20	--	SPARE	
					37	0.0	0.0					38	1	20	--	SPARE	
	SPARE	--	150	3	39			0.0	0.0			40	1	20	--	SPARE	1
					41					0.0	0.0	42	1	20	--	SPARE	1
						28.3 kVA		29.7 kVA		25.3 kVA							
						239 A		252 A		211 A							

LOAD CLASSIFICATION	CONNECTED LOAD	DEMAND FACTOR	ESTIMATED DEMAND	PANEL TOTALS	
EQUIP	2472 VA	100.00%	2472 VA	TOTAL CONNECTED LOAD:	83266 VA
HVAC	28972 VA	85.00%	24626 VA	TOTAL ESTIMATED DEMAND:	78920 VA
LTNG	42000 VA	100.00%	42000 VA	TOTAL CONNECTED CURRENT:	231 A
REC	9822 VA	100.00%	9822 VA	TOTAL ESTIMATED DEMAND CURRENT:	219 A
				25 % ADDITIONAL CAPACITY:	55 A
				TOTAL PANEL CURRENT:	274 A

NOTES: WHERE NOT LISTED, WIRE AND CONDUIT SHALL BE BE MINIMUM PER SPECIFICATIONS. SPARE BREAKERS TO BE 20A/1P.
1. PROVIDE GFI TYPE CIRCUIT BREAKER.
2. ALTERNATE #4 - MAIN CIRCUIT BREAKER SHALL BE RATED FOR 600A ONLY IF ALTERNATE #4 IS AWARDED. REFER TO POWER ONE-LINE DIAGRAMS.
3. PROVIDE WITH LOCKABLE CIRCUIT BREAKER.

PANELBOARD AND WIRING SCHEDULE

PANEL: GP1 **MAINS TYPE:** MLO **PANEL INTERRUPTING RATING:** 10,000 AIC
VOLTAGE: 208Y/120V,3P,4W **SPD:** **LOCATION:** GREENHOUSE 108
AMPERES: 150 A **MOUNTING:** SURFACE **SUPPLY FROM:** DP

NOTES	CIRCUIT DESCRIPTION	HOT, NEUT, GND	OCP	P	CKT	A		B		C		CKT	P	OCP	HOT, NEUT, GND	CIRCUIT DESCRIPTION	NOTES
					1	0.9	0.5					2	1	15	1-#12, 1-#12, 1-#12	UH-2	
	EXHAUST FANS BAY 1	3-#12, 1-#12, 1-#12	15	3	3			0.9	0.3			4	1	15	1-#12, 1-#12, 1-#12	HAF FANS	
					5					0.9	0.5	6	1	20	1-#12, 1-#12, 1-#12	RECS	
	ROOF MOTOR	1-#12, 1-#12, 1-#12	15	1	7	0.3	0.1					8	1	15	1-#12, 1-#12, 1-#12	SHADE MOTOR	
	ENVIRONMENTAL CONTACTOR...	1-#12, 1-#12, 1-#12	20	1	9			0.5	0.4			10	1	15	1-#12, 1-#12, 1-#12	PAD PUMP	
	MOTORIZED SHUTTERS	1-#12, 1-#12, 1-#12	20	1	11					0.1	0.5	12	1	20	1-#12, 1-#12, 1-#12	ENVIRONMENTAL CONTROL PANEL	
	RECS	1-#12, 1-#12, 1-#12	20	1	13	0.4	1.0					14	2	20	2-#12, 1-#12, 1-#12	LTNG BAY 1	1,3
1,3	LTNG BAY 1	2-#12, 1-#12, 1-#12	20	2	15			1.5	1.0			16					
					17					1.5	1.0	18	2	20	2-#12, 1-#12, 1-#12	LTNG BAY 1	1,3
1,2	ALT #4 LIGHTING	--	15	2	19	0.0	1.0					20					
					21			0.0	0.0			22	2	15	--	ALT #4 LIGHTING	1,2
1,2	ALT #4 LIGHTING	--	15	2	23					0.0	0.0	24					
					25	0.0	0.0					26	2	15	--	ALT #4 LIGHTING	1,2
1,2	ALT #4 LIGHTING	--	15	2	27			0.0	0.0			28					
					29					0.0	--	30	1	--	--	SPACE	
1,2	ALT #4 LIGHTING	--	15	2	31	0.0	--					32	1	--	--	SPACE	
					33			0.0	--			34	1	--	--	SPACE	
	SPARE	--	20	1	35					0.0	0.0	36	1	20	--	SPARE	
	SPARE	--	20	1	37	0.0	0.0					38	1	20	--	SPARE	
1	SPARE	--	20	1	39			0.0	0.0			40	1	20	--	SPARE	
1	SPARE	--	20	1	41					0.0	0.0	42	1	20	--	SPARE	
						4.1 kVA		4.6 kVA		4.5 kVA							
						34 A		39 A		38 A							

LOAD CLASSIFICATION	CONNECTED LOAD	DEMAND FACTOR	ESTIMATED DEMAND	PANEL TOTALS	
EQUIP	312 VA	100.00%	312 VA	TOTAL CONNECTED LOAD:	13180 VA
HVAC	4586 VA	85.00%	3898 VA	TOTAL ESTIMATED DEMAND:	12492 VA
LTNG	7000 VA	100.00%	7000 VA	TOTAL CONNECTED CURRENT:	37 A
REC	1282 VA	100.00%	1282 VA	TOTAL ESTIMATED DEMAND CURRENT:	35 A
				25 % ADDITIONAL CAPACITY:	9 A
				TOTAL PANEL CURRENT:	43 A

NOTES: WHERE NOT LISTED, WIRE AND CONDUIT SHALL BE BE MINIMUM PER SPECIFICATIONS. SPARE BREAKERS TO BE 20A/1P.
1. PROVIDE GFI TYPE CIRCUIT BREAKER
2. CIRCUIT BREAKER SHALL ONLY BE PROVIDED AND UTILIZED ONLY IF ALTERNATE #4 IS ACCEPTED. ASSOCIATED CIRCUITING SHALL BE RATED FOR 15 AMPS.
3. CIRCUIT BREAKER AND ASSOCIATED CIRCUITING SHALL BE RATED FOR 15 AMPS IF ALTERNATE #4 IS ACCEPTED.
4. PANEL SHALL BE NEMA 3R RATED.

PANELBOARD AND WIRING SCHEDULE

PANEL: GP2 **MAINS TYPE:** MLO **PANEL INTERRUPTING RATING:** 10,000 AIC
VOLTAGE: 208Y/120V,3P,4W **SPD:** **LOCATION:** GREENHOUSE 107
AMPERES: 150 A **MOUNTING:** SURFACE **SUPPLY FROM:** DP

NOTES	CIRCUIT DESCRIPTION	HOT, NEUT, GND	OCP	P	CKT	A		B		C		CKT	P	OCP	HOT, NEUT, GND	CIRCUIT DESCRIPTION	NOTES
					1	0.9	0.5					2	1	15	1-#12, 1-#12, 1-#12	UH-2	
	EXHAUST FANS	3-#12, 1-#12, 1-#12	15	3	3			0.9	0.1			4	1	20	1-#12, 1-#12, 1-#12	SHADE MOTORS	
					5					0.9	0.5	6	1	20	1-#12, 1-#12, 1-#12	ENVIRONMENTAL CONTACTOR...	
	ROOF MOTORS	1-#12, 1-#12, 1-#12	15	1	7	0.3	0.4					8	1	15	1-#12, 1-#12, 1-#12	PAD PUMPS	
	ENVIRONMENTAL CONTROL PANEL	1-#12, 1-#12, 1-#12	20	1	9			0.5	0.3			10	1	15	1-#12, 1-#12, 1-#12	HAF FANS	
	RECS	1-#12, 1-#12, 1-#12	20	1	11					0.5	0.4	12	1	20	1-#12, 1-#12, 1-#12	RECS	
	MOTORIZED SHUTTERS	1-#12, 1-#12, 1-#12	20	1	13	0.1	1.5					14	2	20	2-#12, 1-#12, 1-#12	LTNG BAY 2	1,3
1,3	LTNG BAY 2	2-#12, 1-#12, 1-#12	20	2	15			1.0	1.5			16					
					17					1.0	1.0	18	2	20	2-#12, 1-#12, 1-#12	LTNG BAY 2	1,3
1,2	ALT #4 LIGHTING	--	15	2	19	0.0	1.0					20					
					21			0.0	0.0			22	2	15	--	ALT #4 LIGHTING	1,2
1,2	ALT #4 LIGHTING	--	15	2	23					0.0	0.0	24					
					25	0.0	0.0					26	2	15	--	ALT #4 LIGHTING	1,2
1,2	ALT #4 LIGHTING	--	15	2	27			0.0	0.0			28					
					29					0.0	--	30	1	--	--	SPACE	
1,2	ALT #4 LIGHTING	--	15	2	31	0.0	--					32	1	--	--	SPACE	
					33			0.0	--			34	1	--	--	SPACE	
	SPARE	--	20	1	35					0.0	0.0	36	1	20	--	SPARE	
	SPARE	--	20	1	37	0.0	0.0					38	1	20	--	SPARE	
1	SPARE	--	20	1	39			0.0	0.0			40	1	20	--	SPARE	
1	SPARE	--	20	1	41					0.0	0.0	42	1	20	--	SPARE	
						4.6 kVA		4.3 kVA		4.3 kVA							
						38 A		36 A		36 A							

LOAD CLASSIFICATION	CONNECTED LOAD	DEMAND FACTOR	ESTIMATED DEMAND	PANEL TOTALS	
EQUIP	312 VA	100.00%	312 VA	TOTAL CONNECTED LOAD:	13180 VA
HVAC	4586 VA	85.00%	3898 VA	TOTAL ESTIMATED DEMAND:	12492 VA
LTNG	7000 VA	100.00%	7000 VA	TOTAL CONNECTED CURRENT:	37 A
REC	1282 VA	100.00%	1282 VA	TOTAL ESTIMATED DEMAND CURRENT:	35 A
				25 % ADDITIONAL CAPACITY:	9 A
				TOTAL PANEL CURRENT:	43 A

NOTES: WHERE NOT LISTED, WIRE AND CONDUIT SHALL BE BE MINIMUM PER SPECIFICATIONS. SPARE BREAKERS TO BE 20A/1P.
1. PROVIDE GFI TYPE CIRCUIT BREAKER
2. CIRCUIT BREAKER SHALL ONLY BE PROVIDED AND UTILIZED ONLY IF ALTERNATE #4 IS ACCEPTED. ASSOCIATED CIRCUITING SHALL BE RATED FOR 15 AMPS.
3. CIRCUIT BREAKER AND ASSOCIATED CIRCUITING SHALL BE RATED FOR 15 AMPS IF ALTERNATE #4 IS ACCEPTED.
4. PANEL SHALL BE NEMA 3R RATED.

PANELBOARD AND WIRING SCHEDULE

PANEL: GP3 **MAINS TYPE:** MLO **PANEL INTERRUPTING RATING:** 10,000 AIC
VOLTAGE: 208Y/120V,3P,4W **SPD:** **LOCATION:** GREENHOUSE 110
AMPERES: 150 A **MOUNTING:** SURFACE **SUPPLY FROM:** DP

NOTES	CIRCUIT DESCRIPTION	HOT, NEUT, GND	OCP	P	CKT	A		B		C		CKT	P	OCP	HOT, NEUT, GND	CIRCUIT DESCRIPTION	NOTES
					1	0.9	0.5					2	1	20	1-#12, 1-#12, 1-#12	REC	
	EXHAUST FANS	3-#12, 1-#12, 1-#12	15	3	3			0.9	0.5			4	1	15	1-#12, 1-#12, 1-#12	UH-2	
					5					0.9	0.3	6	1	15	1-#12, 1-#12, 1-#12	HAF FANS	
	ROOF MOTOR	1-#12, 1-#12, 1-#12	15	1	7	0.3	0.1					8	1	20	1-#12, 1-#12, 1-#12	SHADE MOTOR	
	ENVIRONMENTAL CONTACTOR...	1-#12, 1-#12, 1-#12	20	1	9			0.5	0.5			10	1	20	1-#12, 1-#12, 1-#12	ENVIRONMENTAL CONTROL PANEL	
	PAD PUMP	1-#12, 1-#12, 1-#12	15	1	11					0.4	0.0	12	1	20	1-#12, 1-#12, 1-#12	MOTORIZED SHUTTERS	
	RECS	1-#12, 1-#12, 1-#12	20	1	13	0.4	1.5					14	2	20	2-#12, 1-#12, 1-#12	LTNG BAY 3	1,3
1,3	LTNG BAY 3	2-#12, 1-#12, 1-#12	20	2	15			1.0	1.5			16					
					17					1.0	1.0	18	2	20	2-#12, 1-#12, 1-#12	LTNG BAY 3	1,3
1,2	ALT #4 LIGHTING	--	15	2	19	0.0	1.0					20					
					21			0.0	0.0			22	2	15	--	ALT #4 LIGHTING	1,2
1,2	ALT #4 LIGHTING	--	15	2	23					0.0	0.0	24					
					25	0.0	0.0					26	2	15	--	ALT #4 LIGHTING	1,2
1,2	ALT #4 LIGHTING	--	15	2	27			0.0	0.0			28					
					29					0.0	--	30	1	--	--	SPACE	
1,2	ALT #4 LIGHTING	--	15	2	31	0.0	--					32	1	--	--	SPACE	
					33			0.0	--			34	1	--	--	SPACE	
	SPARE	--	20	1	35					0.0	0.0	36	1	20	--	SPARE	
	SPARE	--	20	1	37	0.0	0.0					38	1	20	--	SPARE	
1	SPARE	--	20	1	39			0.0	0.0			40	1	20	--	SPARE	
1	SPARE	--	20	1	41					0.0	0.0	42	1	20	--	SPARE	
						4.7 kVA		4.9 kVA		3.6 kVA							
						41 A		42 A		30 A							

LOAD CLASSIFICATION	CONNECTED LOAD	DEMAND FACTOR	ESTIMATED DEMAND	PANEL TOTALS	
EQUIP	312 VA	100.00%	312 VA	TOTAL CONNECTED LOAD:	13129 VA
HVAC	4535 VA	85.00%	3855 VA	TOTAL ESTIMATED DEMAND:	12449 VA
LTNG	7000 VA	100.00%	7000 VA	TOTAL CONNECTED CURRENT:	36 A
REC	1282 VA	100.00%	1282 VA	TOTAL ESTIMATED DEMAND CURRENT:	35 A
				25 % ADDITIONAL CAPACITY:	9 A
				TOTAL PANEL CURRENT:	43 A

NOTES: WHERE NOT LISTED, WIRE AND CONDUIT SHALL BE BE MINIMUM PER SPECIFICATIONS. SPARE BREAKERS TO BE 20A/1P.
1. PROVIDE GFI TYPE CIRCUIT BREAKER
2. CIRCUIT BREAKER SHALL ONLY BE PROVIDED AND UTILIZED ONLY IF ALTERNATE #4 IS ACCEPTED. ASSOCIATED CIRCUITING SHALL BE RATED FOR 15 AMPS.
3. CIRCUIT BREAKER AND ASSOCIATED CIRCUITING SHALL BE RATED FOR 15 AMPS IF ALTERNATE #4 IS ACCEPTED.
4. PANEL SHALL BE NEMA 3R RATED.

PANELBOARD AND WIRING SCHEDULE

PANEL: GP4 **MAINS TYPE:** MLO **PANEL INTERRUPTING RATING:** 10,000 AIC
VOLTAGE: 208Y/120V,3P,4W **SPD:** **LOCATION:** GREENHOUSE 109
AMPERES: 150 A **MOUNTING:** SURFACE **SUPPLY FROM:** DP

NOTES	CIRCUIT DESCRIPTION	HOT, NEUT, GND	OCP	P	CKT	A		B		C		CKT	P	OCP	HOT, NEUT, GND	CIRCUIT DESCRIPTION	NOTES
					1	0.9	0.5					2	1	20	1-#12, 1-#12, 1-#12	RECS	
	EXHAUST FANS	3-#12, 1-#12, 1-#12	15	3	3			0.9	0.5			4	1	15	1-#12, 1-#12, 1-#12	UH-2	
					5					0.9	0.3	6	1	15	1-#12, 1-#12, 1-#12	HAF FANS	
	SHADE MOTOR	1-#12, 1-#12, 1-#12	15	1	7	0.1	0.3					8	1	15	1-#12, 1-#12, 1-#12	ROOF MOTOR	
	PAD PUMP	1-#12, 1-#12, 1-#12	15	1	9			0.4	0.4			10	1	20	1-#12, 1-#12, 1-#12	RECS	
	ENVIRONMENTAL CONTROL PANEL	1-#12, 1-#12, 1-#12	20	1	11					0.5	0.5	12	1	20	1-#12, 1-#12, 1-#12	ENVIRONMENTAL CONTACTOR...	
	MOTORIZED SHUTTERS	1-#12, 1-#12, 1-#12	15	1	13	0.1	1.5					14	2	20	2-#12, 1-#12, 1-#12	LTNG BAY 4	1,3
1,3	LTNG BAY 4	2-#12, 1-#12, 1-#12	20	2	15			1.0	1.5			16					
					17					1.0	1.0	18	2	20	2-#12, 1-#12, 1-#12	LTNG BAY 4	1,3
1,2	ALT #4 LIGHTING	--	15	2	19	0.0	1.0					20					
					21			0.0	0.0			22	2	15	--	ALT #4 LIGHTING	1,2
1,2	ALT #4 LIGHTING	--	15	2	23					0.0	0.0	24					
					25	0.0	0.0					26	2	15	--	ALT #4 LIGHTING	1,2
1,2	ALT #4 LIGHTING	--	15	2	27			0.0	0.0			28					
					29					0.0	--	30	1	--	--	SPACE	
1,2	ALT #4 LIGHTING	--	15	2	31	0.0	--					32	1	--	--	SPACE	
					33			0.0	--			34	1	--	--	SPACE	
	SPARE	--	20	1	35					0.0	0.0	36	1	20	--	SPARE	
	SPARE	--	20	1	37	0.0	0.0					38	1	20	--	SPARE	
1	SPARE	--	20	1	39			0.0	0.0			40	1	20	--	SPARE	
1	SPARE	--	20	1	41					0.0	0.0	42	1	20	--	SPARE	
						4.4 kVA		4.6 kVA		4.2 kVA							
						37 A		38 A		35 A							

LOAD CLASSIFICATION	CONNECTED LOAD	DEMAND FACTOR	ESTIMATED DEMAND	PANEL TOTALS	
EQUIP	312 VA	100.00%	312 VA	TOTAL CONNECTED LOAD:	13180 VA
HVAC	4586 VA	85.00%	3898 VA	TOTAL ESTIMATED DEMAND:	12492 VA
LTNG	7000 VA	100.00%	7000 VA	TOTAL CONNECTED CURRENT:	37 A
REC	1282 VA	100.00%	1282 VA	TOTAL ESTIMATED DEMAND CURRENT:	35 A
				25 % ADDITIONAL CAPACITY:	9 A
				TOTAL PANEL CURRENT:	43 A

NOTES: WHERE NOT LISTED, WIRE AND CONDUIT SHALL BE BE MINIMUM PER SPECIFICATIONS. SPARE BREAKERS TO BE 20A/1P.
1. PROVIDE GFI TYPE CIRCUIT BREAKER
2. CIRCUIT BREAKER SHALL ONLY BE PROVIDED AND UTILIZED ONLY IF ALTERNATE #4 IS ACCEPTED. ASSOCIATED CIRCUITING SHALL BE RATED FOR 15 AMPS.
3. CIRCUIT BREAKER AND ASSOCIATED CIRCUITING SHALL BE RATED FOR 15 AMPS IF ALTERNATE #4 IS ACCEPTED.
4. PANEL SHALL BE NEMA 3R RATED.

PANELBOARD AND WIRING SCHEDULE

PANEL: GP5 **MAINS TYPE:** MLO **PANEL INTERRUPTING RATING:** 10,000 AIC
VOLTAGE: 208Y/120V,3P,4W **SPD:** **LOCATION:** GREENHOUSE 112
AMPERES: 150 A **MOUNTING:** SURFACE **SUPPLY FROM:** DP

NOTES	CIRCUIT DESCRIPTION	HOT, NEUT, GND	OCP	P	CKT	A		B		C		CKT	P	OCP	HOT, NEUT, GND	CIRCUIT DESCRIPTION	NOTES
					1	0.9	0.5					2	1	20	1-#12, 1-#12, 1-#12	RECS	
	EXHAUST FANS	3-#12, 1-#12, 1-#12	15	3	3			0.9	0.5			4	1	15	1-#12, 1-#12, 1-#12	UH-2	
					5					0.9	0.3	6	1	15	1-#12, 1-#12, 1-#12	HAF FANS	
	ROOF MOTOR	1-#12, 1-#12, 1-#12	15	1	7	0.3	0.1					8	1	15	1-#12, 1-#12, 1-#12	SHADE MOTOR	
	ENVIRONMENTAL CONTROL PANEL	1-#12, 1-#12, 1-#12	20	1	9			0.5	0.5			10	1	20	1-#12, 1-#12, 1-#12	ENVIRONMENTAL CONTACTOR...	
	PAD PUMP	1-#12, 1-#12, 1-#12	15	1	11					0.4	0.1	12	1	15	1-#12, 1-#12, 1-#12	MOTORIZED SHUTTERS	
	RECS	1-#12, 1-#12, 1-#12	20	1	13	0.4	1.5					14	2	20	2-#12, 1-#12, 1-#12	LTNG BAY 5	1,3
1,3	LTNG BAY 5	2-#12, 1-#12, 1-#12	20	2	15			1.0	1.5			16					
					17					1.0	1.0	18	2	20	2-#12, 1-#12, 1-#12	LTNG BAY 5	1,3
1,2	ALT #4 LIGHTING	--	15	2	19	0.0	1.0					20					
					21			0.0	0.0			22	2	15	--	ALT #4 LIGHTING	1,2
1,2	ALT #4 LIGHTING	--	15	2	23					0.0	0.0	24					
					25	0.0	0.0					26	2	15	--	ALT #4 LIGHTING	1,2
1,2	ALT #4 LIGHTING	--	15	2	27			0.0	0.0			28					
					29					0.0	--	30	1	--	--	SPACE	
1,2	ALT #4 LIGHTING	--	15	2	31	0.0	--					32	1	--	--	SPACE	
					33			0.0	--			34	1	--	--	SPACE	
	SPARE	--	20	1	35					0.0	0.0	36	1	20	--	SPARE	
	SPARE	--	20	1	37	0.0	0.0					38	1	20	--	SPARE	
1	SPARE	--	20	1	39			0.0	0.0			40	1	20	--	SPARE	
1	SPARE	--	20	1	41					0.0	0.0	42	1	20	--	SPARE	
						4.7 kVA		4.9 kVA		3.6 kVA							
						40 A		42 A		30 A							

LOAD CLASSIFICATION	CONNECTED LOAD	DEMAND FACTOR	ESTIMATED DEMAND	PANEL TOTALS	
EQUIP	312 VA	100.00%	312 VA	TOTAL CONNECTED LOAD:	13180 VA
HVAC	4586 VA	85.00%	3898 VA	TOTAL ESTIMATED DEMAND:	12492 VA
LTNG	7000 VA	100.00%	7000 VA	TOTAL CONNECTED CURRENT:	37 A
REC	1282 VA	100.00%	1282 VA	TOTAL ESTIMATED DEMAND CURRENT:	35 A
				25 % ADDITIONAL CAPACITY:	9 A
				TOTAL PANEL CURRENT:	43 A

NOTES: WHERE NOT LISTED, WIRE AND CONDUIT SHALL BE BE MINIMUM PER SPECIFICATIONS. SPARE BREAKERS TO BE 20A/1P.
1. PROVIDE GFI TYPE CIRCUIT BREAKER
2. CIRCUIT BREAKER SHALL ONLY BE PROVIDED AND UTILIZED ONLY IF ALTERNATE #4 IS ACCEPTED. ASSOCIATED CIRCUITING SHALL BE RATED FOR 15 AMPS.
3. CIRCUIT BREAKER AND ASSOCIATED CIRCUITING SHALL BE RATED FOR 15 AMPS IF ALTERNATE #4 IS ACCEPTED.
4. PANEL SHALL BE NEMA 3R RATED.

PANELBOARD AND WIRING SCHEDULE

PANEL: GP6 **MAINS TYPE:** MLO **PANEL INTERRUPTING RATING:** 10,000 AIC
VOLTAGE: 208Y/120V,3P,4W **SPD:** **LOCATION:** GREENHOUSE 111
AMPERES: 150 A **MOUNTING:** SURFACE **SUPPLY FROM:** DP

NOTES	CIRCUIT DESCRIPTION	HOT, NEUT, GND	OCP	P	CKT	A		B		C		CKT	P	OCP	HOT, NEUT, GND	CIRCUIT DESCRIPTION	NOTES
					1	0.9	0.5					2	1	15	1-#12, 1-#12, 1-#12	UH-2	
	EXHAUST FANS	3-#12, 1-#12, 1-#12	15	3	3			0.9	0.5			4	1	20	1-#12, 1-#12, 1-#12	RECS	
					5					0.9	0.3	6	1	15	1-#12, 1-#12, 1-#12	HAF FANS	
	SHADE MOTOR	1-#12, 1-#12, 1-#12	15	1	7	0.1	0.3					8	1	15	1-#12, 1-#12, 1-#12	ROOF MOTOR	
	RECS	1-#12, 1-#12, 1-#12	20	1	9			0.4	0.5			10	1	20	1-#12, 1-#12, 1-#12	ENVIRONMENTAL CONTACTOR...	
	ENVIRONMENTAL CONTROL PANEL	1-#12, 1-#12, 1-#12	20	1	11					0.5	0.4	12	1	15	1-#12, 1-#12, 1-#12	PAD PUMP	
	MOTORIZED SHUTTERS	1-#12, 1-#12, 1-#12	15	1	13	0.1	1.5					14	2	20	2-#12, 1-#12, 1-#12	LTNG BAY 6	1,3
1,3	LTNG BAY 6	2-#12, 1-#12, 1-#12	20	2	15			1.0	1.5			16					
					17					1.0	1.0	18	2	20	2-#12, 1-#12, 1-#12	LTNG BAY 6	1,3
1,2	ALT #4 LIGHTING	--	15	2	19	0.0	1.0					20					
					21			0.0	0.0			22	2	15	--	ALT #4 LIGHTING	1,2
1,2	ALT #4 LIGHTING	--	15	2	23					0.0	0.0	24					
					25	0.0	0.0					26	2	15	--	ALT #4 LIGHTING	1,2
1,2	ALT #4 LIGHTING	--	15	2	27			0.0	0.0			28					
					29					0.0	--	30	1	--	--	SPACE	
1,2	ALT #4 LIGHTING	--	15	2	31	0.0	--					32	1	--	--	SPACE	
					33			0.0	--			34	1	--	--	SPACE	
	SPARE	--	20	1	35					0.0	0.0	36	1	20	--	SPARE	
	SPARE	--	20	1	37	0.0	0.0					38	1	20	--	SPARE	
1	SPARE	--	20	1	39			0.0	0.0			40	1	20	--	SPARE	
1	SPARE	--	20	1	41					0.0	0.0	42	1	20	--	SPARE	
						4.3 kVA		4.8 kVA		4.1 kVA							
						36 A		40 A		34 A							

LOAD CLASSIFICATION	CONNECTED LOAD	DEMAND FACTOR	ESTIMATED DEMAND	PANEL TOTALS	
EQUIP	312 VA	100.00%	312 VA	TOTAL CONNECTED LOAD:	13180 VA
HVAC	4586 VA	85.00%	3898 VA	TOTAL ESTIMATED DEMAND:	12492 VA
LTNG	7000 VA	100.00%	7000 VA	TOTAL CONNECTED CURRENT:	37 A
REC	1282 VA	100.00%	1282 VA	TOTAL ESTIMATED DEMAND CURRENT:	35 A
				25 % ADDITIONAL CAPACITY:	9 A
				TOTAL PANEL CURRENT:	43 A

NOTES: WHERE NOT LISTED, WIRE AND CONDUIT SHALL BE BE MINIMUM PER SPECIFICATIONS. SPARE BREAKERS TO BE 20A/1P.
1. PROVIDE GFI TYPE CIRCUIT BREAKER
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3. CIRCUIT BREAKER AND ASSOCIATED CIRCUITING SHALL BE RATED FOR 15 AMPS IF ALTERNATE #4 IS ACCEPTED.
4. PANEL SHALL BE NEMA 3R RATED.

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STATE OF KENTUCKY
GREGORY M. BRUMAGEN
26077
LICENSED
PROFESSIONAL ENGINEER

RESERVED FOR AHJ STAMP

CMTA
A LEGENCE Company

CONSTRUCTION DOCUMENTS

UKREC GREENHOUSE/HEADHOUSE

UNIVERSITY OF KENTUCKY
PRINCETON, KENTUCKY

ELECTRICAL

PROJECT	202448/XKPG22
DATE	04/10/25

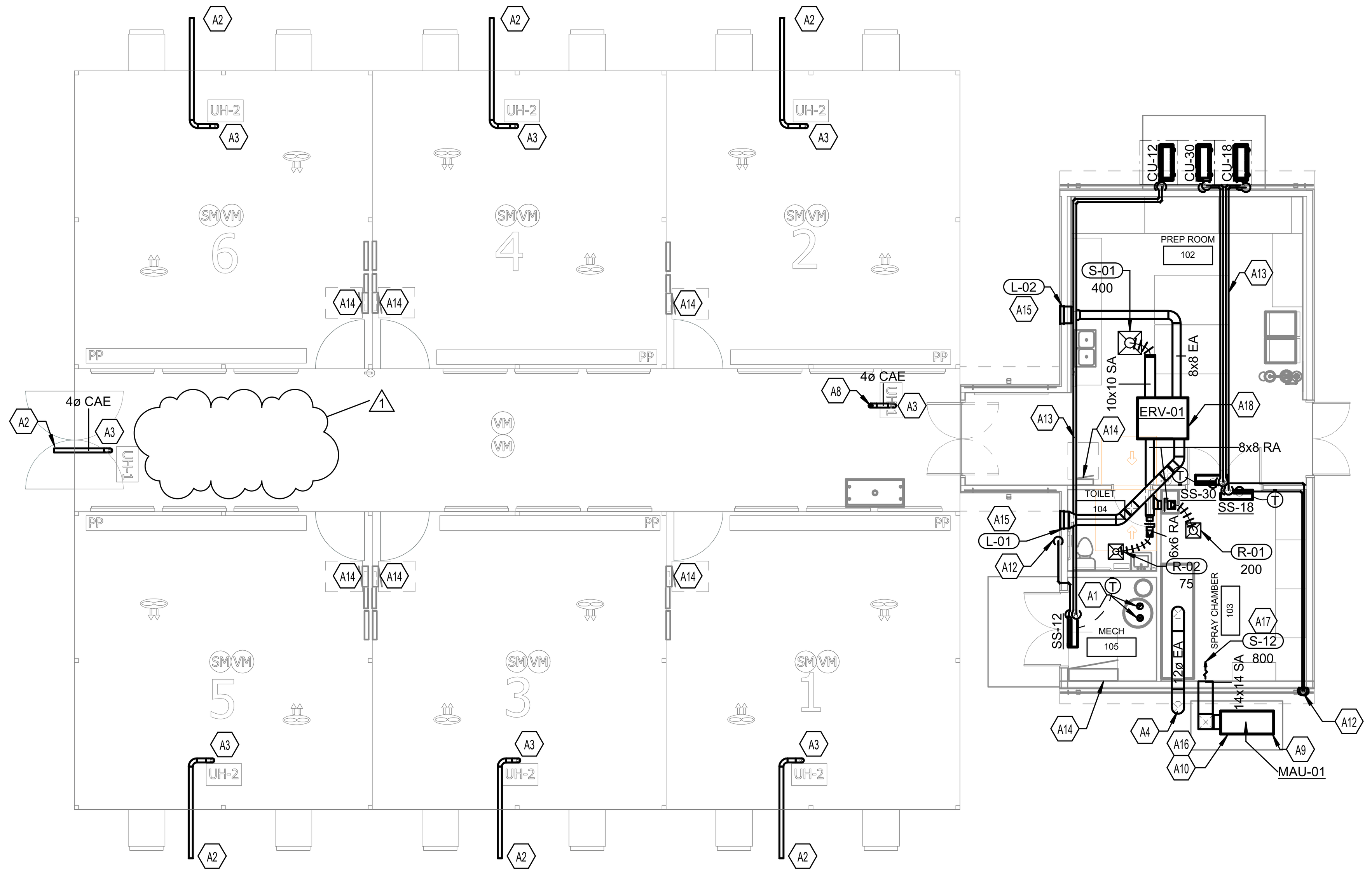
REVISIONS

No.	Description	Date
1	ADDENDUM 1	4/10/25

ELECTRICAL PANEL SCHEDULES

E6.0

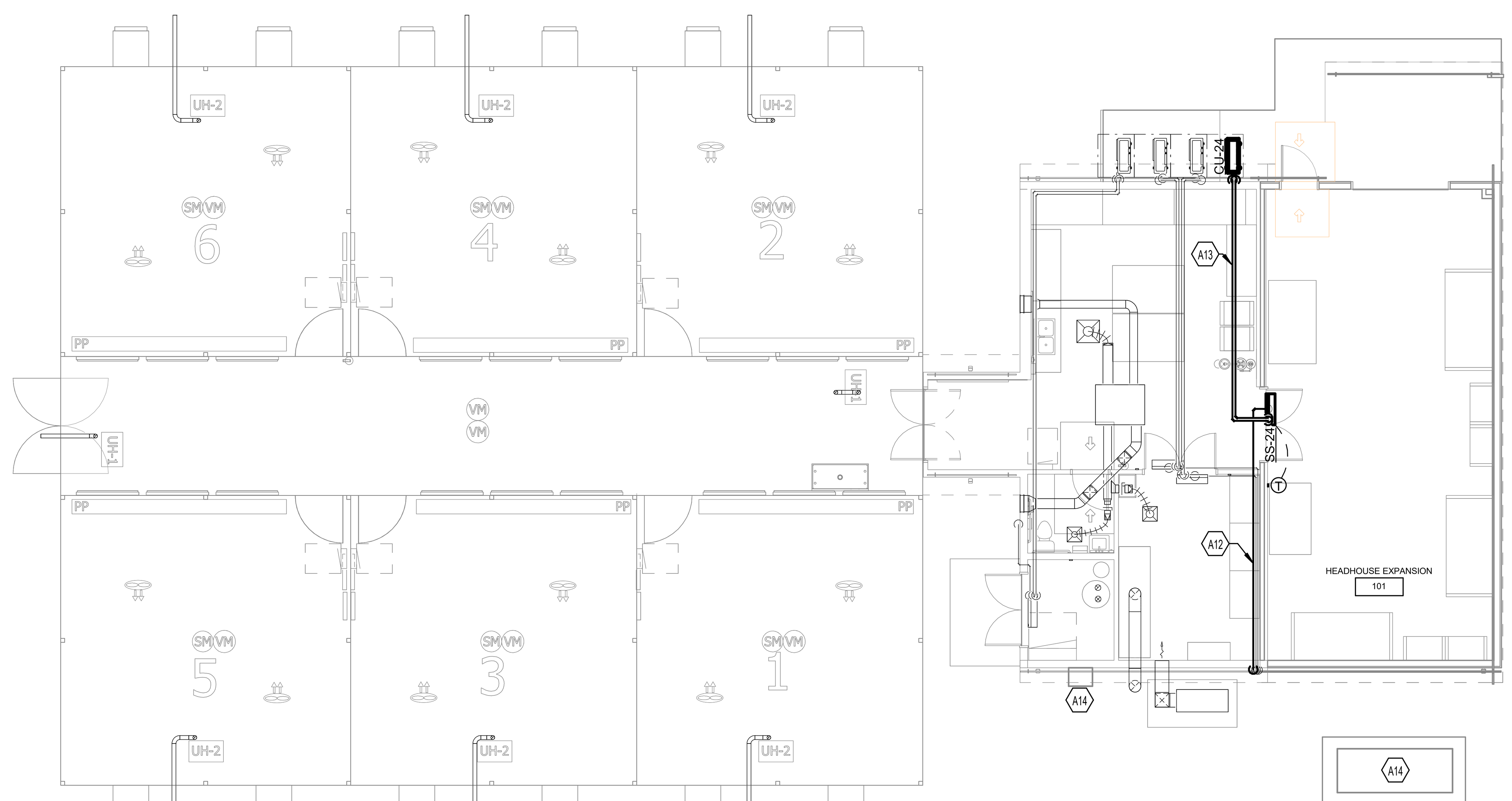
4/7/2025 4:54:18 PM



MECHANICAL PLAN - BASE BID

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

0 2' 4' 8' 16' 24' 32'



MECHANICAL PLAN - HEADHOUSE EXPANSION ALTERNATE

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

0 2' 4' 8' 16' 24' 32'

GENERAL HVAC DESIGN NOTES:

A. IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO INSTALL MANUAL BALANCING DAMPERS IN THE DUCTWORK PER RUNOUT DETAIL FOR ALL GRILLES, REGISTERS, AND DIFFUSERS WHICH LIST A CFM. IN ALL CASES DAMPERS ARE TO BE INSTALLED IN AN ACCESSIBLE LOCATION.

B. REFER TO STRUCTURAL DRAWINGS FOR REQUIREMENTS OF HANGING FROM JOISTS.

C. ELECTRICAL PANELS SHOWN FOR REFERENCE ONLY. REFER TO ELECTRICAL DRAWINGS. NO DUCT OR PIPING SHALL BE ROUTED OVER ELECTRICAL PANELS.

D. PRIOR TO BALANCING, BALANCE CONTRACTOR SHALL HAVE A PRE-BALANCE MEETING ON-SITE WITH ENGINEER TO REVIEW BALANCING PROCEDURE FOR SYSTEM.

E. REFER TO ARCHITECTURAL PLANS FOR ALL RATED WALLS. COORDINATE REQUIRED FIRESTOPPING ACCORDINGLY.

F. PROJECT INTERFACES EXTENSIVELY WITH GREENHOUSE VENDOR WALLS, ROOFS, ETC. REFER TO GREENHOUSE VENDOR DRAWINGS AND COORDINATE MOUNTING OF ALL COMPONENTS WITH GREENHOUSE MANUFACTURER. ANY DAMAGE OR IMPROPER INSTALLATION DUE TO FAILURE TO COORDINATE WITH GREENHOUSE INSTALLER WILL BE REPLACED BY CONTRACTOR AT HIS OWN EXPENSE.

TAGGED NOTES

##

A1 PROVIDE TERMINATION THROUGH THE ROOF USING A CONCENTRIC EXHAUST/INTAKE. TERMINATE WITH GREENHECK ALUMINUM SPUN GRAVITY HOOD, OR EQUAL, WITH BACK DRAFT DAMPER AND A BIRD SCREEN. PATCH AND SEAL THE ROOF PENETRATION AIR AND WATER TIGHT.

A2 TERMINATE COMBUSTIBLE EXHAUST AIR THROUGH THE WALL IN CODE APPROVED MANNER AND PROVIDE ALUMINUM BIRD SCREEN. REFER TO SPECIFICATIONS, UNIT HEATER FLUE VENT DETAIL, AND MANUFACTURER'S INSTALLATION GUIDE.

A3 PROVIDE FLUE EXHAUST VENT DOWN TO THE GAS POWERED UNIT HEATERS. REFER TO THE MANUFACTURER'S INSTALLATION MANUAL AND SPECIFICATIONS TO PROVIDE CONNECTION.

A4 PROVIDE STAINLESS STEEL EXHAUST DUCT FOR THE OWNER PROVIDED SPRAY CHAMBER. MAKE FINAL CONNECTIONS TO SPRAY CHAMBER AS REQUIRED BY THE MANUFACTURER. PROVIDE TERMINATION WITH A BIRD SCREEN. REFER TO MANUFACTURER'S INSTALLATION MANUAL AND SPECIFICATIONS.

A8 TERMINATE COMBUSTIBLE EXHAUST AIR THROUGH THE ROOF IN CODE APPROVED MANNER AND TERMINATE USING A FLUE VENT CAP AND PROVIDE AN ALUMINUM BIRD SCREEN. REFER TO SPECIFICATIONS, UNIT HEATER FLUE VENT DETAIL, AND MANUFACTURER'S INSTALLATION GUIDE.

A9 PROVIDE WITH FACTORY MOUNTED CONTROLS AND SET THE UNIT DISCHARGE TEMPERATURE TO 70 DEGREES FAHRENHEIT. REFER TO MAKE UP AIR UNIT SCHEDULE AND SPECIFICATIONS.

A10 PROVIDE EQUIPMENT CURB PER MANUFACTURER'S REQUIREMENTS.

A12 CONDENSATE TO SPILL TO GRADE. TERMINATE THE CONDENSATE PIPING 1' AFF. REFER TO MANUFACTURER'S INSTALLATION MANUAL AND SPECIFICATIONS FOR CONDENSATE PIPE SIZING. TYPICAL.

A13 ROUTE THE REFRIGERANT SUPPLY AND RETURN PIPING TOGETHER AND HIGH AND TIGHT AGAINST THE ROOF ASSEMBLY AND PROVIDE SUPPORTS EVERY 3 FEET.

A14 ELECTRICAL EQUIPMENT AND PANELS SHOWN FOR REFERENCE ONLY. REFER TO ELECTRICAL DRAWINGS FOR DETAILS. TYPICAL.

A15 RUN THE ENTIRE LENGTH OF THE DUCT ABOVE THE CEILING AND PROVIDE THE LOUVERS AS INDICATED. REFER TO THE LOUVER SCHEDULE.

A16 ELECTRICAL CONTRACTOR TO INTERFACE THE MAKE UP AIR UNIT AND THE SPRAY CHAMBER EXHAUST FAN TO MATCH THE ON AND OFF STATUS. REFER TO ELECTRICAL DRAWINGS.

A17 PROVIDE THE THE SIDEWALL GRILLE AT 8 FEET AFF.

A18 ERV TO BE INTERLOCKED WITH THE OCCUPANCY SENSOR. PROVIDE 24V CONNECTION TO THE OCCUPANCY SENSOR. REFER TO ELECTRICAL PLANS.

N

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RESERVED FOR AHJ STAMP

CMTA
A LEGENCE Company

CONSTRUCTION DOCUMENTS

UKREC GREENHOUSE/HEADHOUSE

UNIVERSITY OF KENTUCKY
PRINCETON, KENTUCKY

MECHANICAL

PROJECT	202448/XKPG22
DATE	04/10/25

REVISIONS

No.	Description	Date
1	ADDENDUM 1	4/10/25

FLOOR PLAN - MECHANICAL

M2.0

PLUMBING FIXTURE SCHEDULE

TAG	DESCRIPTION	CW	HW	VENT	WASTE/DRAIN
FD-1	FLOOR DRAIN - 6" DIA. : ZURN, ZN-415 OR EQUAL FLOOR DRAIN WITH 6" DIAMETER TOP, TYPE "B" NICKEL BRONZE STRAINER, 4" DRAIN OUTLET AND TRAP PRIMER CONNECTION.	-	-	2"	4"
FD-2	TRENCH DRAIN W/ SANDTRAP : 2 METER LONG JOSAM 200C20 TRENCH DRAIN WITH INLINE SLIT BOX AND SEDIMENT BUCKET WITH SOLID END CAPS AND 200-SSS-E EXTRA HEAVY DUTY GRATE. TRENCH DRAINS SHALL BE INSTALLED PER MANUFACTURER'S INSTRUCTIONS AND IN A CODE APPROVED MANNER.	-	-	-	4"
FD-3	FLOOR DRAIN - 12" X 12" : ZURN, ZN-610 OR EQUAL, FLOOR DRAIN WITH 12"X12" LOCKING GRATE, SECONDARY STRAINER, SEDIMENT BUCKET AND GALVANIZED CAST IRON CONSTRUCTION WITH TRAP PRIMER CONNECTION; NICKEL BRONZE STRAINER; 4" DRAIN OUTLET.	-	-	2"	4"
FPWH	FREEZE-PROOF WALL HYDRANT : ZURN 1300 OR EQUIVALENT, 3/4", ENCASED, FLUSH, NON-FREEZE WALL HYDRANT WITH KEY LOCK AND COMBINATION BACKFLOW PREVENTER/VACUUM BREAKER. MOUNT HYDRANT AT A MINIMUM OF 20" ABOVE FINISHED GRADE. REFER TO MECHANICAL SPECIFICATION FOR ADDITIONAL REQUIREMENTS.	3/4"	-	-	-
HB2	HOSE BIBB (EXPOSED) : WOODFORD MODEL 24 OR EQUAL WITH LOOSE KEY HANDLE POLISHED CHROME FINISH, BRASS CONSTRUCTION. MOUNT HOSE BIBB 18" ABOVE FINISHED FLOOR ELEVATION OF AREA SERVED. REFER TO MECHANICAL SPECIFICATION FOR ADDITIONAL REQUIREMENTS.	1/2"	-	-	-
P-01	THE LAVATORY SHALL BE 20-7/8" WIDTH AND 18" DEPTH. THE BASIN SHALL BE 14-3/4" WIDTH BY 10-1/8" DEPTH. THE LAVATORY SHALL BE MADE OF VITREOUS CHINA AND CAN BE INSTALLED AT ADA HEIGHT WITH REAR OVERFLOW. TOTO MODEL NUMBER LT307A#01 SHALL BE DRILLED FOR SOAP DISPENSER. LAVATORY SHALL BE TOTO MODEL LT307.8. PROVIDE WITH 8" RIGID SPOUT GOOSENECK FAUCET WITH 4" WRIST BLADE CONTROL HANDLES, REAR CENTERED CRUMB CUP STRAINER DRAIN, 3/8" ANGLE SUPPLIES WITH STOPS, KENTUCKY CODE P-TRAP, TAILPIECE AND ESCUTCHEONS.	1/2	1/2"	2"	2"
P-02	WATER CLOSET - FLOOR MOUNTED - MANUAL FLUSH VALVE - ADA COMPLIANT : THE TWO-PIECE TORNADO FLUSH SYSTEM TOILET SHALL BE 1.6 GPF/6.0 LPF. TOILET SHALL HAVE CEFIONTECT CERAMIC GLAZE AND BE AT UNIVERSAL HEIGHT. TOILET SHALL HAVE HIGH-PROFILE TANK, ELONGATED FRONT BOWL AND CHROME TRIP LEVER. TOILET SHALL BE TOTO MODEL CST776CSFG#01.	1-1/2"	-	2"	4"
P-03	SCULLERY SINK - 55"X27" : SINGLE COMPARTMENT STAINLESS STEEL SCULLERY SINK 57"X27" O.D., 55"X24"X12" DEEP I.D., 12" HIGH BACK SPLASH WITH HOLES PUNCHED FOR 3 FAUCETS, 14 GAUGE TYPE 304 STAINLESS STEEL SINK AND 4 STAINLESS STEEL TUBULAR LEGS. PROVIDE WITH THREE BACKSPLASH MOUNTED GOOSENECK SWING SPOUT FAUCETS, AERATOR, TWIST HANDLE DRAIN WITH CRUMB CUP STRAINER, CHROME SUPPLIES, STOPS, KENTUCKY CODE P-TRAP AND ESCUTCHEONS. PROVIDE WITH MODEL ZURN Z-1180 PLASTER TRAP.	3/4"	3/4"	2"	2"
P-04	PREP ROOM SINK :ELKAY HDDSB33229TR3 STAINLESS STEEL 33"X22"X9" 3-HOLE SINGLE BOWL DUAL MOUNT SINK. COUNTER TOP MOUNTED, SWING SPOUT FAUCET WITH 4" WRIST BLADE HANDELS, PROVIDE WITH CHROME SUPPLIES, STOPS, TAILPIECE, KENTUCKY CODE P-TRAP,CRUMB CUP STRAINER DRAINS, CONTINUOUS WASTE AND ESCUTCHEONS. PROVIDE WITH MODEL ZURN Z-1180 PLASTER TRAP.	1/2"	1/2"	2"	2"
P-05	LAUNDRY SINK : PROVIDE LOWES ITEM NUMBER: 552878 MUSTEE 23-IN X 23.5-IN 1-BASIN WHITE FREESTANDING LAUNDRY SINK WITH DRAIN WITH A LOWES ITEM NUMBER: 1233233 PROJECT SOURCE CHROME 2 HANDLE DECK MOUNTED UTILITY FAUCET, VACUUM BREAKER, AND ESCUTCHEONS. PROVIDE WITH A VACUUM BREAKER ON THE FAUCET.	3/4"	NONE	NONE	NONE
P-06	EMERGENCY SHOWER/EYE WASH : GUARDIAN EQUIPMENT G1950 OR EQUAL COMBINATION EYE WASH SAFETY SHOWER STATION. WITH 10" DIAMETER ORANGE ABS PLASTIC SHOWER HEAD, 1" STAY OPEN BALL VALVE WITH STAINLESS STEEL ACTUATING ARM AND PULL ROD, 11-1/2" STAINLESS STEEL EYE WASH BOWL WITH SPRAY HEADS FLIP TOP DUST COVERS. PROVIDE WITH LEONARD TM-5100-STSTL-REC OR EQUAL EMERGENCY MIXING VALVE WITH RECESSED STAINLESS STEEL CABINET.	1-1/4"	1-1/4"	-	-
TP-1	TRAP PRIMER TYPE-1 : PRECISIONS PLUMBING PRODUCTS PRIME-TIME OR EQUAL ELECTRONIC TRAP PRIMING MANIFOLD, WITH ATMOSPHERIC VACUUM BREAKER, PRE-SET 24 HOUR CLOCK, MANUAL OVERRIDE SWITCH, 120 VOLT SOLENOID VALVE WITH 120V/3WIRE CONNECTION. PROVIDE IN 12" X 12" X 4" SURFACE MOUNTED METAL CABINET. PROVIDE WITH 10 OPENING MANIFOLD, UN-USED MANIFOLD OPENING SHALL BE CAPPED. INSTALL UNITED AS REQUIRED BY MANUFACTURER.	3/4"	-	-	-

1

WATER HEATER SCHEDULE - GAS

MARK	MANUFACTURER	MODEL #	SERVICE	STORAGE (GAL)	RECOVERY @ 100ºF RISE (GPH)	NATURAL GAS INPUT (BTU/HR)	ALLOWABLE GAS PRESSURE RANGE (" WC)	VOLTAGE	PHASE	REMARKS
WH-01	AO SMITH	BTH-199	GREENHOUSE	100.00	235	199900.0	3.5-14	120 V	1	ALL

REMARKS:
1. DIRECT VENTING (SEALED COMBUSTION) REQUIRED.
2. FURNISH WITH CONCENTRIC VENT KIT THRU ROOF. COORDINATE WITH MECHANICAL CONTRACTOR.
3. FURNISH MANUFACTURER'S START-UP AND REPORT.
4. PROVIDE WITH ACID DILUTION KIT. REFER TO DETAIL FOR ADDITIONAL REQUIREMENTS.
5. ALL PLUMBING EQUIPMENT SHALL COMPLY WITH THE LATEST PROVISIONS OF KBC.
6. PROVIDE SINGLE POINT DISCONNECT.
7. BRADFORD WHITE, STATE, AND RHEEM ARE EQUAL.

TEMPERED WATER RECIRCULATION PUMP SCHEDULE

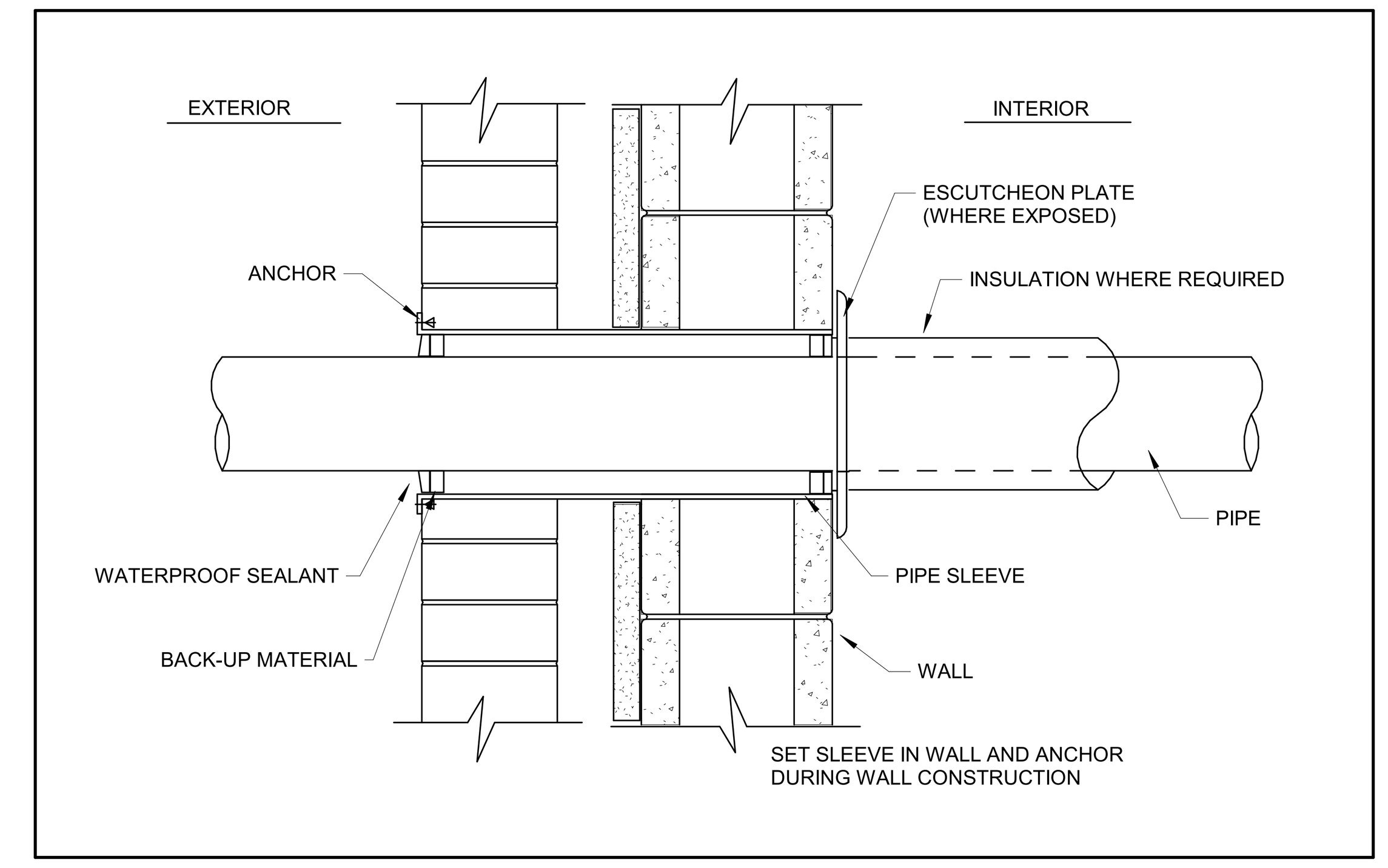
MARK	MANUFACTURER	MODEL	GPM	PRESS DROP (FT HEAD)	MOTOR HP	VOLTAGE	PHASE	REMARKS
RP-1	TACO	0018E-SF4	16	18.00	0.59	120 V	1	ALL

REMARKS:
1. PROVIDE WITH LEAD FREE CONSTRUCTION, DOMESTIC WATER APPLICATION.
2. TACO/GRUNDFOS ARE EQUAL.

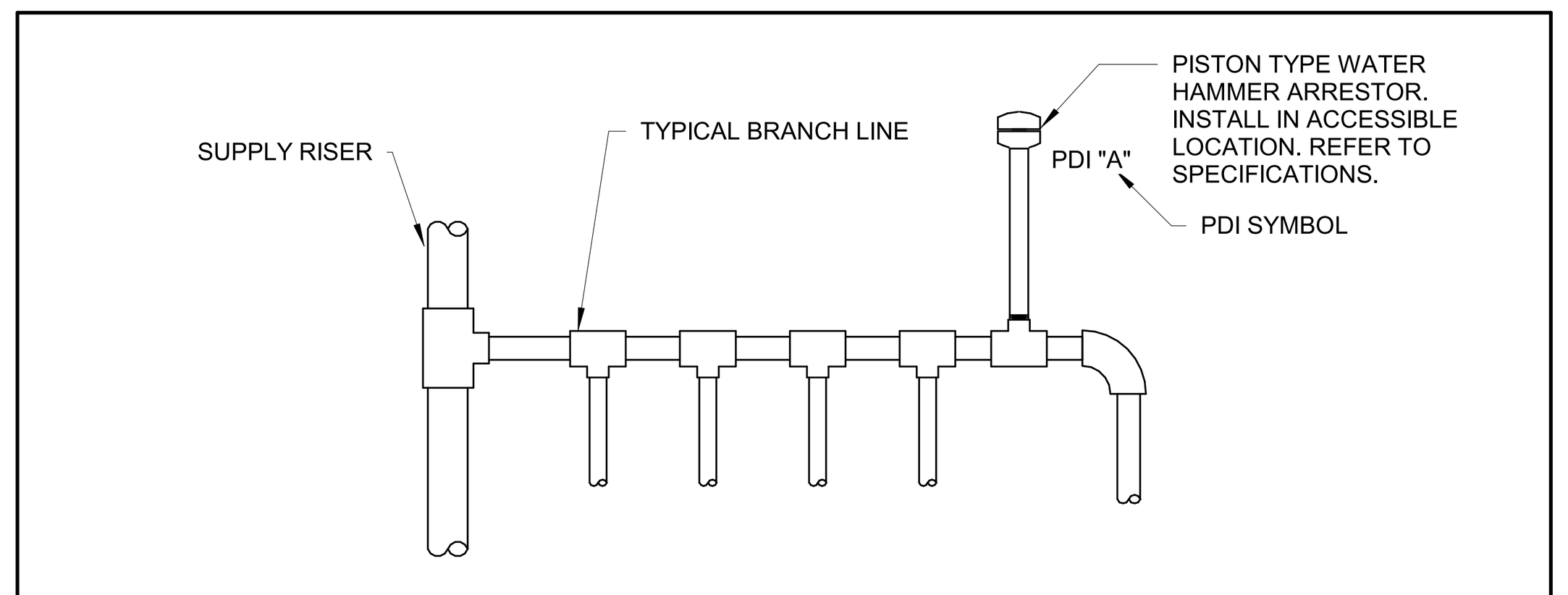
EXPANSION TANK SCHEDULE

MARK	MANUFACTURER	MODEL #	TYPE	SERVICE	PHYSICAL SIZE (IN)		CAPACITY			REMARKS
					DIAMETER	HEIGHT	TANK VOLUME (GALS)	ACCEPTANCE VOLUME (GALS)	AIR CHARGE PRESSURE (PSI)	
ET-01	BELL AND GOSSETT	PTA-20V	DIAPHRAGM	HEADHOUSE	12	21	8.0	5.30	60.00	ALL

REMARKS:
1. WESSELS, TACO, AND ARMSTRONG ARE EQUAL.
2. MUST MEET FEDERAL, LEAD FREE REQUIREMENTS AND BE SUITABLE FOR DOMESTIC WATER USE.



1 ABOVE GRADE PIPE SLEEVE THRU EXTERIOR WALL DETAIL
SCALE: NONE

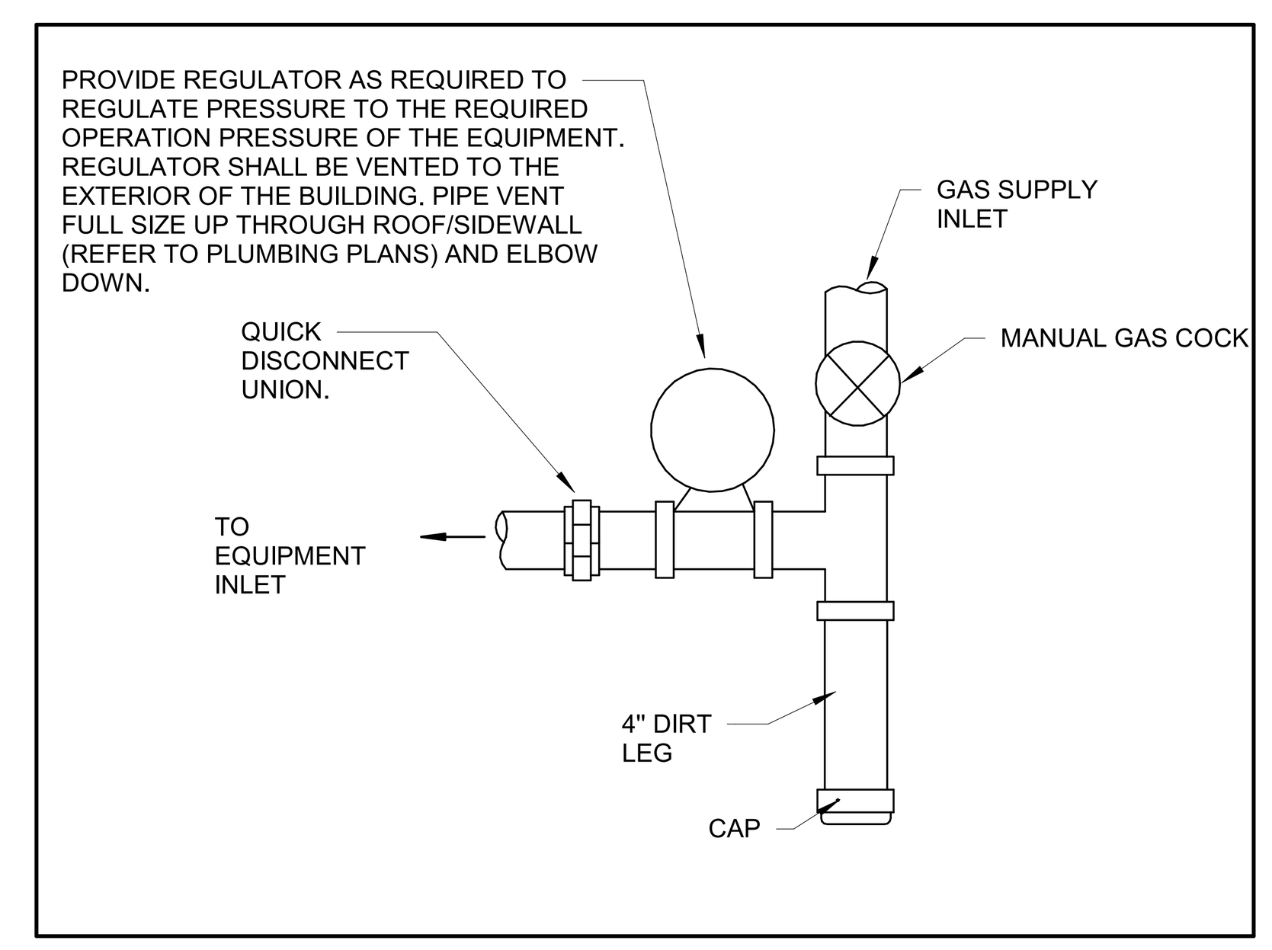


NOTES:
1. PREFERRED INSTALL WATER HAMMER ARRESTORS AT THE END OF BRANCH LINE BETWEEN THE LAST TWO FIXTURES SERVED.
2. ON MULTIPLE FIXTURES BRANCH LINES OVER 20 FEET IN LENGTH, TWO WATER HAMMER ARRESTORS SHOULD BE USED ON EACH LINE WITH THE SECOND UNIT PLACED AT THE APPROXIMATE MIDPOINT OF THE LINE.
3. THE SUM OF THE FIXTURE-UNIT RATINGS OF THE WATER HAMMER ARRESTORS ON EACH BRANCH SHOULD BE EQUAL TO OR GREATER THAN THE TOTAL FIXTURE-UNITS CONNECTED TO THE BRANCH LINE.

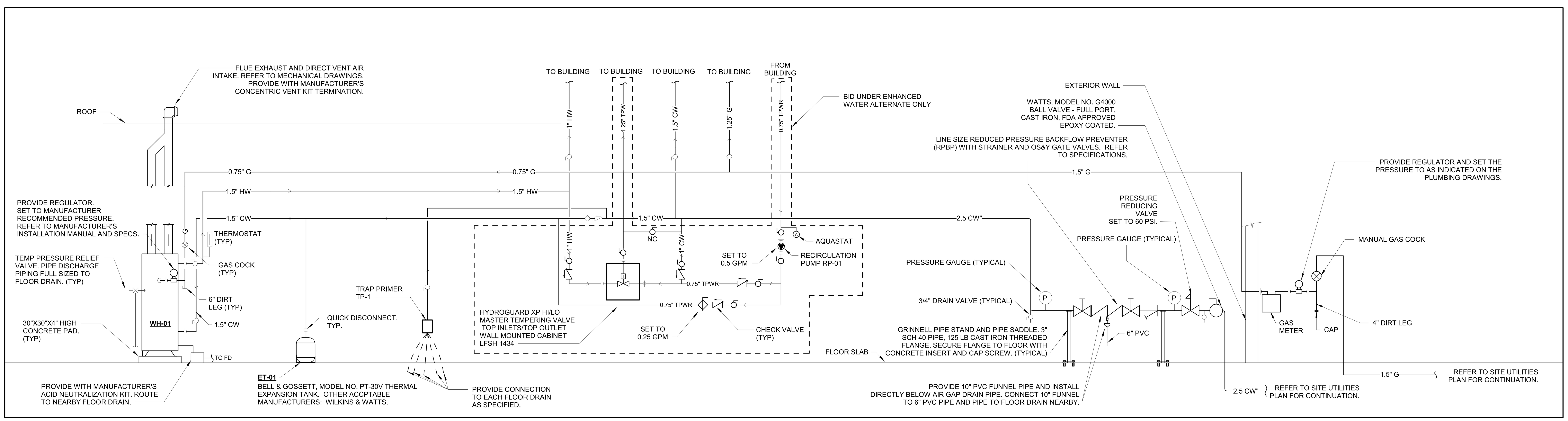
WATER HAMMER ARRESTOR SCHEDULE

PDI SYMBOL	A	B	C	D	E	F
FIXTURE UNIT RATING	1-11	12-32	33-60	61-113	114-154	155-330

3 WATER HAMMER ARRESTOR INSTALLATION DETAIL
SCALE: NONE



2 TYPICAL GAS CONNECTION DETAIL
SCALE: NONE



10 MECHANICAL ROOM PIPING SCHEMATIC
SCALE: NONE

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RESERVED FOR AHJ STAMP

CMTA
A LEGENCE Company

CONSTRUCTION DOCUMENTS

UKREC GREENHOUSE/HEADHOUSE
UNIVERSITY OF KENTUCKY
PRINCETON, KENTUCKY

PLUMBING

PROJECT	202448/XKPG22
DATE	04/10/25

REVISIONS

No.	Description	Date
1	ADDENDUM 1	4/10/25

PLUMBING DETAILS AND SCHEDULES

P4.0

SECTION 101100 - VISUAL DISPLAY SURFACES

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. Visual display board assemblies

1.3 ACTION SUBMITTALS

A. Product Data: For each type of product.

1. Include construction details, material descriptions, dimensions of individual components and profiles, finishes, and accessories for visual display units.

B. Shop Drawings: For visual display units.

1. Include plans, elevations, sections, details, and attachment to other work.
2. Show locations of panel joints. Show locations of field-assembled joints for factory-fabricated units too large to ship in one piece.
3. Include sections of typical trim members.

C. Product Schedule: For visual display units. Use same designations indicated on Drawings.

1.4 INFORMATIONAL SUBMITTALS

A. Qualification Data: For Installer.

B. Product Test Reports: For each visual display unit, for tests performed by manufacturer and witnessed by a qualified testing agency.

C. Sample Warranties: For manufacturer's special warranties.

1.5 CLOSEOUT SUBMITTALS

A. Maintenance Data: For visual display units to include in maintenance manuals.

1.6 QUALITY ASSURANCE

A. Installer Qualifications: An entity that employs installers and supervisors who are trained and approved by manufacturer.

1.7 DELIVERY, STORAGE, AND HANDLING

A. Deliver factory-fabricated visual display units completely assembled in one piece. If dimensions exceed maximum manufactured unit size, or if unit size is impracticable to ship in one piece, provide two or more pieces with joints in locations indicated on approved Shop Drawings.

1.8 FIELD CONDITIONS

A. Environmental Limitations: Do not deliver or install visual display units until spaces are enclosed and weathertight, wet-work in spaces is complete and dry, work above ceilings is complete, and temporary HVAC system is operating and maintaining ambient temperature and humidity conditions at occupancy levels during the remainder of the construction period.

1.9 WARRANTY

A. Special Warranty for Porcelain-Enamel Face Sheets: Manufacturer agrees to repair or replace porcelain-enamel face sheets that fail in materials or workmanship within specified warranty period.

1. Failures include, but are not limited to, the following:

    a. Surfaces lose original writing and erasing qualities.
    b. Surfaces exhibit crazing, cracking, or flaking.

2. Warranty Period: Life of the building.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. Surface-Burning Characteristics: Comply with ASTM E84; testing by a qualified testing agency. Identify products with appropriate markings of applicable testing agency.

1. Flame-Spread Index: 25 or less.
2. Smoke-Developed Index: 450 or less.

2.2 VISUAL DISPLAY BOARD ASSEMBLY

A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

1. Claridge Products and Equipment, Inc.

2. Ghent Manufacturing, Inc.
3. Marsh Industries, Inc.
4. Platinum Visual Systems.
5. PolyVision Corporation.

B. Visual Display Board Assembly (V-1): Factory fabricated.

1. Assembly: Markerboard and tackboard.
2. Corners: Square.
3. Width: As indicated on Drawings.

a. Wall-to-wall assemblies may be field assembled with panels joined with concealed steel splines for smooth alignment.

4. Height: As indicated on Drawings.
5. Mounting Method: Direct to wall, without adhesive.

C. Markerboard Panel: Porcelain-enamel-faced markerboard panel on core indicated.

1. Color: White.

D. Aluminum Frames and Trim: Fabricated from not less than 0.062-inch-thick, extruded aluminum; slim size and standard shape.

1. Aluminum Finish: Clear anodic finish.

E. Joints: Make joints only where total length exceeds maximum manufactured length. Fabricate with minimum number of joints, balanced around center of board, as acceptable to Architect and as indicated on approved Shop Drawings.

F. Chalktray: Manufacturer's standard; continuous.

1. Box Type: Extruded aluminum with slanted front, grooved tray, and cast-aluminum end closures.

2.3 MARKERBOARD PANELS

A. Porcelain-Enamel Markerboard Panels: Balanced, high-pressure, factory-laminated markerboard assembly of three-ply construction, consisting of moisture-barrier backing, core material, and porcelain-enamel face sheet with high-gloss finish. Laminate panels under heat and pressure with manufacturer's standard, flexible waterproof adhesive.

1. Face Sheet Thickness: Manufacturer's standard uncoated base metal thickness.
2. MDF Core: 7/16 inch thick; with manufacturer's standard moisture-barrier backing.
3. Laminating Adhesive: Manufacturer's standard moisture-resistant thermoplastic type.

2.4 MATERIALS

A. Porcelain-Enamel Face Sheet: PEI-1002, with face sheet manufacturer's standard two- or three-coat process.

B. MDF: ANSI A208.2, Grade 130.

C. Extruded Aluminum: ASTM B221, Alloy 6063.

D. Adhesives for Field Application: Mildew-resistant, nonstaining adhesive for use with specific type of panels, sheets, or assemblies; and for substrate application; as recommended in writing by visual display unit manufacturer.

2.5 GENERAL FINISH REQUIREMENTS

A. Comply with NAAMM/NOMMA 500 for recommendations for applying and designating finishes.

B. Protect mechanical finishes on exposed surfaces from damage by applying a strippable, temporary protective covering before shipping.

C. Appearance of Finished Work: Noticeable variations in same piece are unacceptable. Variations in appearance of adjoining components are acceptable if they are within the range of approved Samples and are assembled or installed to minimize contrast.

2.6 ALUMINUM FINISHES

A. Clear Anodic Finish: AAMA 611, AA-M12C22A31, Class II, 0.010 mm or thicker.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates and conditions, with Installer present, for compliance with requirements for installation tolerances, surface conditions of wall, and other conditions affecting performance of the Work.

B. Examine walls and partitions for proper preparation and backing for visual display units.

1. Provide blocking as necessary for installation.

C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. Comply with manufacturer's written instructions for surface preparation.

B. Clean substrates of substances, such as dirt, mold, and mildew, that could impair the performance of and affect the smooth, finished surfaces of visual display boards.

C. Prepare surfaces to achieve a smooth, dry, clean surface free of flaking, unsound coatings, cracks, defects, projections, depressions, and substances that will impair bond between visual display units and wall surfaces.

D. Prime and paint wall surfaces indicated to receive visual display units and direct-applied, floor-to-ceiling (frameless) visual display assemblies and as recommended in writing by primer/sealer manufacturer and visual display unit manufacturer.

E. Walls behind visual display units shall be fully painted with the selected final coat of paint prior to installation.

3.3 INSTALLATION

A. General: Install visual display surfaces in locations and at mounting heights indicated on Drawings, or if not indicated, at heights indicated below. Keep perimeter lines straight, level, and plumb. Provide grounds, clips, backing materials, adhesives, brackets, anchors, trim, and accessories necessary for complete installation.

B. Factory-Fabricated Visual Display Board Assemblies: Attach concealed clips, hangers, and grounds to wall surfaces and to visual display board assemblies with fasteners at not more than 16 inches o.c.. Secure tops and bottoms of boards to walls.

1. Adhesive installation is not permitted.
2. Mount boards using continuous ‘Z’ brackets at the top and ‘L’ brackets at the bottom.

C. Visual Display Board Assembly Mounting Heights: Install visual display units at mounting heights indicated on Drawings, and as follows:

1. All heights will be discussed with the Owner prior to installation and all mounting heights approved prior to installation by the Owner.

3.4 CLEANING AND PROTECTION

A. Clean visual display units in accordance with manufacturer's written instructions. Attach one removable cleaning instructions label to visual display unit in each room.

B. Touch up factory-applied finishes to restore damaged or soiled areas.

C. Cover and protect visual display units after installation and cleaning.

END OF SECTION 101100

SECTION 260533 - RACEWAYS AND FITTINGS

1. GENERAL

A. This section is intended to specify the raceways, conduit, conduit fittings, hangers, junction boxes, splice boxes, specialties and related items necessary to complete the work as shown on the drawings and specified herein.

B. This section specifies basic materials and methods and is a part of each Division 26, 27 and 28 that implies or refers to electrical raceways specified therein.

C. The types of raceways specified in this section include the following:

(1) Steel electrical metallic tubing. (E.M.T.)
(2) Rigid galvanized steel conduit. (G.R.S.)
(3) Intermediate metal conduit (I.M.C.).
(4) Rigid aluminum conduit.
(5) Flexible metal conduit (aluminum or steel)
(6) Liquid - tight flexible metal conduit.
(7) Rigid nonmetallic conduit.
(8) Surface metal raceways.
(9) Wireways, wall ducts and trench ducts.
(10) Cable tray or cable trough.
(11) Duct banks, and their construction.

D. All raceways, as listed in 1C. above and otherwise specified herein shall be provided in compliance with latest editions of all applicable U.L., NEMA, N.E.C. and A.N.S.I. standards. All conduit, raceways and fittings shall be Underwriters Laboratories listed and labeled, or bear the listing of an agency acceptable to the local authority having jurisdiction.

E. All wiring shall be in ¾” or larger conduit, wireway or raceway.

F. Conduit and raceways, as well as supporting inserts in contact with or enclosed in concrete shall comply with the latest edition of all A.C.I. standards and the equipment manufacturer's recommendations for such work.

G. P.V.C. or other non-metallic conduit shall be rated for the maximum operating temperature that could be developed by the conductors it encloses, while in normal operation.

H. The decision of the Engineer shall be final and binding in any case where a question or inquiry arises regarding the suitability of a particular installation or application of raceways, supports or materials, if other than outlined herein.

I. Minimum size of conduit shall be 3/4" trade size. All conduit and raceways shall be sized for the number of conductors contained, in accord with the latest edition of the National Electrical Code or any other applicable standards.

J. The installer of raceway systems shall avoid the use of dissimilar metals within raceway installations that would result in galvanic-action corrosion.

2. MATERIALS

A. STEEL ELECTRICAL METALLIC TUBING

(1) Electrical metallic tubing, (E.M.T.) of corrosion-resistant steel construction shall be permitted for concealed installation in dry interior locations. Electrical metallic tubing shall not be installed in concrete slabs or where exposed to physical damage. Electrical metallic tubing shall be permitted for exposed work in mechanical and electrical rooms and other exposed structure areas where not subjected to physical damage, as determined by the Engineer.

B. RIGID GALVANIZED STEEL CONDUIT

(1) Rigid galvanized steel conduit shall be used where subject to physical damage for exposed work in mechanical spaces, within factory or other industrial work areas, for exposed fit-up work on machinery, for exposed exterior damp or wet location work, in hazardous atmospheres, in exterior underground locations where installed beneath roadways, where ells occur in underground P.V.C. conduits, or where turning out of concrete encased duct banks, and at other locations as specifically called out on the drawings.

ADDENDUM #1

(2) Rigid galvanized steel conduit shall be used for all building interior power wiring or cables of over 600 Volts.

(3) Rigid galvanized steel conduit shall be used for all power wiring or cables routed exposed in the greenhouse areas.

C. INTERMEDIATE METAL CONDUIT

(1) Unless otherwise indicated on the drawings, intermediate metal conduit (I.M.C.) may be used in any location in place of rigid galvanized steel conduit, as permitted by codes, and as approved by the Engineer.

D. RIGID ALUMINUM CONDUIT

(1) Rigid aluminum conduit, shall be permitted for installation indoors in dry locations only. Under no conditions shall it be cast into concrete slabs or pass thru construction where prolonged contact will degrade the aluminum. All ells used in rigid aluminum conduit systems shall be rigid galvanized steel. Rigid aluminum conduit shall always be used for power wiring greater than 5 KVA and higher than 60 Hz frequency.

E. FLEXIBLE METAL CONDUIT

(1) Unless specifically noted otherwise, flexible conduit shall be permitted for final connections from junction box to fixtures or equipment only. Flexible conduit may be constructed of aluminum or steel and shall be installed with connectors designed for the purpose. All flexible metal conduit shall be installed as a single piece. No joints shall be permitted. Flexible conduit shall not be used in wet or dusty locations or where exposed to oil, water or other damaging environments. An equipment grounding conductor or bonding jumper shall be used at all flexible conduit installations. Maximum permitted length of flexible metal conduit shall be 72” unless approved in writing by the Engineer. Flexible metal conduit shall meet the minimum trade sizes listed for general conduits except that 3/8” trade size may be utilized where necessary for fit in walls that are furred out with hat channel of less than 1”.

MC CABLING IS NOT PERMITTED UNLESS APPROVED IN WRITING BY ENGINEER

F. LIQUIDTIGHT FLEXIBLE METAL CONDUIT

(1) Unless specifically noted otherwise, liquidtight flexible conduit shall be permitted for final connections to furniture, fixtures or equipment only. Weatherproof flexible metal conduit shall be wound from a single strip of steel, neoprene covered, equivalent to "Liquatite" or "Sealtite" Type "UA". It shall be installed in such a manner that it will not tend to pull away from the connectors. Provide strain relief fittings equivalent to "Kellems" as required where subject to vibration. Flexible connections to motors in dusty areas shall be dust-tight. Connections in areas exposed to the weather shall be weatherproof. Liquidtight flexible non-metallic conduit is not allowed unless approved by the Engineer.

G. RIGID NON-METALLIC CONDUIT

(1) Rigid non metallic conduit shall be constructed of P.V.C, nominally schedule 40 weight, except where encased in concrete, where it may be "EB" type. If installation will enclose utility company provided conductors, verify exact type required and install in accord with their standards, if more stringent than this specification.

(2) Rigid non-metallic conduit may be used in exterior wet or damp locations where installed underslab or underground. It shall not be run in interior locations, except with special permission from the Engineer for use in corrosive environments, and then only if protected from physical damage. No rigid nonmetallic conduit may be installed in environmental air plenums or cast into above-grade concrete slabs. No rigid nonmetallic conduit may be installed in locations where the ambient temperature might exceed the rating of the raceway.

(3) Where rigid non metallic conduit is placed underground, as for feeder circuits, secondaries or branch circuit runs and where ell is made upward thru a slab on grade, transition the turning ell and the riser to rigid steel conduit to a height of 6" above the concrete slab. Transition may then be made to E.M.T or other approved conduit for remainder of run.

(4) Flexible nonmetallic conduit shall not be used, except by special permission, obtained in writing from the Engineer.

(5) Provide equipment grounding conductors of copper, sized as required by codes, in all circuits installed in rigid nonmetallic raceways.

H. SURFACE METAL RACEWAYS

(1) Surface metal raceways shall be constructed of code gauge corrosion-resistant galvanized steel or aluminum extrusions, and finished in an ivory, buff or grey color as selected by the Architect. Finishes shall be suitable for field painting, prepared by the installing contractor as necessary.

(2) Surface metal raceways, where used as raceways only, shall be sized for the conductors indicated. Nominal minimum size of such raceways shall be equivalent to Wiremold Co. Series #700, or equivalent by Isotrol or other approved manufacturer.

(3) Surface metal raceways to be furnished with integral receptacles shall have Simplex Nema 5-20R outlets spaced on centers as indicated on plans. These shall be Wiremold Co. #2200 Series or equivalent Isotrol or other approved manufacturer.

(4) Surface metal raceways and all components and fittings shall be furnished by a single manufacturer, wherever practical. All trim and cover fittings, flush feed boxes, splices, outlet fittings, etc, necessary for a complete installation shall be provided by the installing contractor. These raceways shall be rigidly mounted with approved fasteners on not to exceed 24" centers in

a run, or 6" from ends and on either side of a corner. Refer to plans for notations on exact types of these raceways and outlet configurations.

I. WIREWAYS

(1) WIREWAYS

a. Wireways of painted steel construction shall be corrosion-resistant, moisture and oil resistant where indicated or necessary. Wireways shall be furnished in nominal sizes of 2 1/2" X 2 1/2", 4" X 4", 6"" X 6", 8" X 8" or 12" X 12", as indicated on plans. Furnish with hinged covers on all runs and removable covers on all fittings, to allow a continuous unobstructed path for conductor installation. Provide knockouts on all runs, unless otherwise indicated or prohibited by codes.

b. Provide wireways with hangers of same manufacturer, installed so as to allow unobstructed access to wireway interior. Install at not to exceed 8'-0" centers, closer as needed at fittings and turns. Use 1/4" rod hangers minimum for up to 4"X4", 3/8" rod minimum up to 8"X8", 1/2" rod minimum for 12" X 12".

c. Wireways shall be equivalent to Square "D" Co. "LD" series, as a minimum standard of construction and quality.

J. DUCT BANKS

(1) Duct banks are defined as a raceway or raceways installed in underground locations, enclosed in a steel-reinforced concrete envelope. They shall be installed where indicated on the drawings or otherwise required.

(2) All concrete used in duct bank construction shall be 3000 PSI minimum 28 day compressive strength unless otherwise noted, in accord with latest A.C.I. standards. Testing of concrete shall be the responsibility of the Contractor, as directed by the engineer. Place concrete against undisturbed earth, or provide forming as needed.

(3) Duct bank raceways shall receive a minimum of 3" concrete cover all sides. Minimum size of any duct bank shall be 12" x 12" square, in cross section. In all cases, local and national codes shall apply to duct bank construction where they exceed the requirements of this specification.

(4) Each corner of duct bank shall receive a minimum No. 4 steel reinforcing bar with 2" minimum concrete cover on all sides. Lap bars fifteen diameters at all splices. Provide stirrup bars bury 60” on center to tie bars together. Stirrups may be #3 bar. Reinforcing steel shall be rigidly supported during pour and vibration, and shall be constructed to ASTM standards.

(5) Support for encased raceways shall be as recommended by raceway manufacturer, spaced 8'-0" maximum on centers, rigidly fastened to prevent floating of ducts during concrete pours. Supports shall be of a material compatible with the raceway, and shall be of the interlocking type, forming a rigidly braced installation. Provide base type and intermediate type spacers to suit conduit configurations and sizes.

(6) Where rigid nonmetallic raceways leave concrete duct banks, a transition to rigid steel conduit shall be made 18" inside the concrete envelope. Under no circumstances shall PVC, EB or similar ducts exit concrete envelope, except where duct bank ties into a manhole wall. Provide bell ends at such terminations and dowel duct bank rebars 4" into manhole wall with non-shrink

grout. Refer to details on drawings, as applicable. Slope all raceways within duct bank systems such that they shall drain into manholes or pull boxes. Provide proper drainage at manholes or pull boxes to prevent water accumulation.

(7) Where ducts transition thru manholes, pull boxes or at terminating end, each duct shall be specifically identified. A nomenclature as shown on the drawings or as agreed upon by the installer and engineer shall be utilized to identify each individual duct. A permanent means of identifying each duct, such as engraved lamacoid plates or stamped metal tags shall be used.

K. RACEWAY FITTINGS

(1) Raceway fittings (or condulets) shall be of gray iron, malleable iron or heavy copper-free cast aluminum. They shall be furnished in proper configurations, avoiding excessive plugged openings. Any openings that are left shall be properly plugged. All coverplates shall be gasketed with neoprene or similar approved materials, rated for the environment.

(2) Where required, raceway fittings shall be provided in explosion-proof configurations rated for the atmosphere. Place conduit seal off fittings at each device in accord with applicable codes. Seal off fittings shall be packed with wadding, and poured with an approved non-shrink sealing compound.

(3) Where conduit transitions in a run from a cold to a warm environment, (such as at a freezer, refrigerator or exterior wall) sealoff fittings shall be placed on the warm side immediately at the boundary to prevent migration of condensation within raceway systems.

(4) Expansion fittings shall be provided at all locations where conduits or other raceways cross over expansion joints. Provide copper ground bonding jumpers across expansion fittings.

(5) Conduit bodies, junction boxes and fittings shall be dust tight and threaded for dusty areas, weatherproof for exterior locations and vapor tight for damp areas. Conduit fittings shall be as manufactured by Crouse Hinds, Appleton, Killark or approved equivalent. All surface mounted conduit fittings as with "FS", "FD", "GUB" Types etc., shall be provided with mounting hubs.

(6) Where lighting fixtures, appliances or wiring devices are to be suspended from ceiling outlet boxes, they shall be provided with 3/4" rigid conduit pendants. Outlet boxes shall be malleable iron, provided with self-aligning covers with swivel ball joint and No. 14 gauge steel locking ring. Provide safety chain between building structure and ballast housing of light fixtures for all fixtures, appliances or devices greater than 10 lbs weight. Fixtures shall be installed plumb and level.

(7) Fittings for threaded raceways shall be tapered thread with all burrs removed, reamed ends and cutting oil wiped clean.

(8) Fittings for E.M.T. conduit shall be of the compression type. Conduit stops shall be formed in center of couplings. All EMT connectors and couplings shall be of formed steel construction.

(9) Indentation or die-cast fittings shall not be permitted in any raceway system.

(10) All conduit fittings shall be securely tightened. All threaded fittings shall be engaged seven full threads. Fasteners shall be properly torqued to manufacturer's recommendations.

L. SUPPORTS AND HANGERS

(1) Supports and hangers shall be installed in accord with all applicable codes and standards. They shall be corrosion - resistant, galvanized or furnished with an equivalent protective coating. All electrical raceways shall be hung independently from the building structure with U.L. listed and approved materials. Hangers and supports depending on the support systems of other trades' work shall not be permitted, except with specific approval in writing from the Engineer. The use of tie wire for support or fastening of any raceway system is prohibited. Perforated metal tape shall not be used for raceway support.

(2) No raceway shall be installed on acoustic tile ceiling tees, or in any location that will impair the functioning, access or code-required clearances for any equipment or system.

(3) Supports for raceways shall be of materials compatible with the raceway, of malleable iron, spring steel, stamped steel or other approved material. Die-cast fittings are not permitted for supports.

(4) The installing contractor shall provide all necessary supports and braces for raceways, in a rigid and safe installation, complying with all applicable codes.

(5) Individual conduits run on building walls or equipment shall be secured by one hole galvanized malleable iron or stamped steel pipe strap or "minerallac" 2-piece straps. The straps are to be anchored by an approved means such as expansion anchors, toggle bolts, through bolts, etc. Where required by codes or other standards, provide spacers behind mounting clamps to space conduits off walls.

(6) Individual conduits run on building steel shall be secured by means of clamp supports similar and equal to those manufactured by the C.C. Korn Company, Elcen Co., B-Line or approved equivalent. Provide korn clamps, bulb tee clamps, flange clamps, beam clamps, "minerallacs", etc.

(7) Where feasible, vertical and/or horizontal runs of conduit shall be grouped in common hangers on "trapezes" of channel stock as manufactured by "Unistrut" or equivalent, 1-5/8" minimum depth, 12 gauge. Utilize conduit clamps appropriate to the channel.

(8) Channel strut systems for supporting electrical equipment or raceways in outdoor wet or corrosive locations shall be constructed of 12 gauge minimum hot dip galvanized steel with 9/16" diameter holes on 8" centers, with finish coat of paint as manufactured by Unistrut, B-Line, Kindorf, or approved equivalent. In indoor dry locations, factory finish paint will be acceptable.

(9) The minimum diameter of round all-thread steel rods used for hangers and supports shall be 1/4", 20 threads per inch. All-thread rod shall be furnished with a corrosion-resistant finish.

(10) Welding directly on conduit or fittings is not permitted.

(11) Provide riser support clamps for vertical conduit runs. Riser support clamps shall be of heavy gauge steel construction. Install riser support clamps at each floor level penetration, or as otherwise required.

(12) Provide conduit cable support clamps for vertical conductor runs as required or indicated on plans. Clamps to be insulating wedging plug, with malleable iron support ring. Install within properly sized and anchored junction box.

(13) Spring steel clips and fittings such as those manufactured by HITT-Thomas, Caddy-Erico, or approved equivalent, with black oxide finish are permitted in any indoor dry location for concealed work, where acceptable to the local authority having jurisdiction.

3. INSTALLATION

A. This Contractor shall lay out and install all conduit systems so as to avoid any other service or systems, the proximity of which may prove injurious to the conduit, or conductors which it confines. All conduit systems, except those otherwise specifically shown to the contrary, shall be concealed in the building construction or run above ceilings. Size of all conduit shall as a minimum conform to the National Electrical Code, unless larger size is indicated on the Contract Drawings.

B. No conduit larger than ¾” shall be installed in poured concrete slabs except with permission of the structural engineer. All other shall be held below slab. Conduit shall be held at least 6" from flues or hot water pipes.

C. All exposed conduit shall be installed with runs parallel or perpendicular to walls, structural members or intersections of vertical planes and ceilings, with right angle turns consisting of cast metal fittings or symmetrical bends unless otherwise shown. All conduit shall have supports spaced not more than eight feet apart.

D. Conduit shall be installed in such a manner so as to insure against collection of trapped condensation. All runs of conduit shall be arranged so as to be devoid of traps. Trapped conduit runs shall be provided with explosion proof drains at low points. Runs of conduit between junctions shall not have more than the equivalent of three 90º bends.

E. Junction boxes shall be installed so that conduit runs will not exceed 85', or as shown on the Contract Drawings.

F. Junction boxes, troughs, pull boxes or similar shall contain no more than three circuits. If boxes containing more circuits are deemed necessary for special circumstances such as fit or coordination, the Contractor shall contact the Engineer for written direction.

G. Underground electric, cable TV, telephone service or other rigid steel conduit and underfloor rigid steel conduit below the concrete floor slab shall be painted with two coats of bitumastic paint, such as "Asphaltum".

H. All underground or underfloor conduits shall be swabbed free of all moisture and debris before conductors are pulled.

I. At least two 1 inch and four 3/4 inch conduits shall be stubbed from flush-mounted panelboards into the nearest accessible area for future use. Provide suitable closures for these stubs. Identify each stub with a suitable hang tag.

J. Install electrical raceways in accordance with manufacturer's written instructions, applicable requirements of latest edition of the N.E.C., and NECA "Standard of Installation", complying with recognized industry practices.

K. Coordinate with other trades, including metal and concrete deck trades, as necessary to interface installation of electrical raceways and components.

L. Level and square raceway runs, and install at proper elevations and required heights. Hold tight to structure or route through joists webbing wherever possible, to maximize available space and not restrict other trades.

M. Complete installation of electrical raceways before starting installation of cables or wires within raceways.

N. All underground conduits shall be buried to minimum depth of 24" from the top of the concrete encasement or raceway to finished grade, unless otherwise noted on plans. Observe minimum burial requirements of local utility company where their standards or regulations apply. Conduits containing primary power conductors, (higher than 600 volts to ground) shall be 42" to top below finished grade, unless otherwise noted on plans.

O. All raceways shall be installed to maintain a minimum of 4” clearance below roof decking.

4. SPECIALTIES

A. All EMT terminations at junction boxes, panels, etc. shall be made with case hardened locknuts and appropriate fittings, with insulated throat liners. Insulating terminations shall be manufactured as a single unit. The use of split sleeve insulators is not permitted.

B. All rigid conduit, except main and branch feeders, shall have heavy fiber insulating bushings reinforced with double locknuts. All branch and main feeders shall have insulated bushings with grounding lugs and shall be bonded to enclosures with appropriately sized copper jumpers, except at pad mounted transformers. Bonding jumpers shall be installed as required by the N.E.C. and other applicable codes.

C. All conduit stubbed through floor during construction shall have openings protected with plastic caps approved for this purpose. Connections on both ends of all flexible conduit shall be equivalent to Thomas and Betts, Ideal, Appleton, Efcor, or approved equivalent, rated for the environment.

D. All pulling lines left in open conduit systems shall be non-metallic, left securely tied off at each end.

E. Where spare raceways terminate in switchboards or motor control centers a fish tape barrier shall be provided.

END OF SECTION 260533

CCK#

Question and Response Log

Question Deadline

#	Date	Question	Responder	Response
1	3/27/2025	2023 NEC code has a new section (410.184) for horticulture lighting that requires a special GFCI. My understanding is they are about $600 each. This can be a high cost for a large quantity of the lights for this project. I could not find these lights called out in the specs or drawings.	LLK Greenhouse Solutions	The specifications for the lights were included in the greenhouse section. (133413) The lights for the base bid are on page 5 and the lights for the alternate refer to Add Alternate No.4 in Addendum
2	4/2/2025	Does the greenhouse environmental controller need to have the capability for future irrigation control? If so how many irrigation zones (24v)?	LLK Greenhouse Solutions	Environmental Control System does not need capability for future irrigation control, this project was storm damage replacement which must be like kind, structure that was damaged did not have automated irrigation.
3	4/2/2025	The shade system specs call for a rack and pinion drive system. Usually a 24' long compartment (2-12' sections) is better built with a cable drive system. Rack and pinion drive system generally requires 36' long compartment consisting of 3 12' truss sections.	LLK Greenhouse Solutions	Acceptable to provide drum and cable shade system.
4	4/2/2025	On base bid should the interior walls be 8mm clear for better interior visibility rather than spec of diffused material?	LLK Greenhouse Solutions	Base Bid to remain 8MM diffused polycarbonate for interior partition walls, you can offer 8MM clear as a voluntary alternate.
5	4/2/2025	On lighting in specs it calls for Phillips model 1830 which is available in 208v, drawings call for alternate to be model 1925. This is not available in 208v.	LLK Greenhouse Solutions	Use 1830 TLC DRW_EBW for high light alternate bid, drawing has been corrected
6	4/2/2025	On the lighting do lights need to have 0-10v dimmable capability? 200 micromoles doesn't necessarily need dimming capability according to manufacturer. The 600 micromoles is very high intensity. The manufacturer recommends dimming on this fixture. The 600 micromole option is 3 times the 200 micromole option as a general guideline. The 600 micromole option isn't available as a daisy chain. Would require hardwire to lighting panel individually.	LLK Greenhouse Solutions	Alternate lighting bid requires dimming. This is accomplished with 0-10v dimming adapter for the 1830 TLC in conjunction with the Seed Control System, one dimming zone per compartment. Supplemental product materials attached and corrected drawing calls out 0-10v dimming requirement. Please refer to the TLC Application guide for direction on daisy chain options for the TLC1830 fixture. There are charts in the application guide that show how many fixtures can be daisy chained together.
7	4/3/2025	Does the UK Controls Group require building automation on this Greenhouse building?	CMTA	No. Building automation system is not desired.

8	4/3/2025	Control Panel Location if desired	CMTA	N/A
9	4/3/2025	Where is the responsibility Matrix for UK Controls on the plans or can one be provided if controls are desired	CMTA	N/A
10	4/3/2025	If so, which specific devices are expected to be picked up via BACnet protocol according to UK standards.	CMTA	At the time of installation, only the utility meters will be pulled into the UK control room. The utility meters are being provided with a BACnet/IP card. All other mechanical equipment being provided with a BACnet/IP card will be connected to the UK control room by the UK Controls Department Staff.
11	4/3/2025	Page A-101 Specialties & Equipment Schedule lists several stainless steal work benches. Spec Section 114000 – FOODSERVICE EQUIPMENT does not list approved manufacturers. Please provide approved manufacturers for the stainless steel workbenches.	JRA Architects	LTI Inc., Commerical Stainless, Unline or submitted subsitution request that meets specifications for approval.
12	4/3/2025	The Specialties & Equipment Schedule on page A-101 calls out 10 1100 – VISUAL DISPLAY SURFACES – 6' x 4' Markerboards. Only one is seen on this page. One is seen on detail D, Page A-351. Please provide Spec Section 10 1100 – VISUAL DISPLAY SURFACES and indicate the quantity of markerboards.	JRA Architects	See attached spec 10 1100 - VISUAL DISPLAY SURFACES. Please review the drawings and provide white board where indicated.
13	4/3/2025	Please clarify mechanical equipment being furnished by the owner and to be installed by the contractor.	CMTA	Two Autoclaves and one spray chamber. Refer to mechanical, plumbing, and electric drawings for MEP scope related to the above-mentioned equipment.
14	4/3/2025	The Room Finish Schedule on page A-601 calls out sealed concrete for the floor finish throughout the project. Please indicate if sealed concrete is to be the floor finish in the greenhouse and/or the corridor connecting the greenhouse to the headhouse.	JRA Architects	Sealed concrete is the flooring finish in the Greenhouse and corridor.
15	4/3/2025	Does the greenhouse environmental controller need to have the capability for future irrigation control? If so how many irrigation zones (24v)?	LLK Greenhouse Solutions	Environmental Control System does not need capability for future irrigation control, this project was storm damage replacement which must be like kind, structure that was damaged did not have automated irrigation.
16	4/3/2025	The shade system specs call for a rack and pinion drive system. Usually a 24’ long compartment (2-12’ sections) is better built with a cable drive system. Rack and pinion drive system generally requires 36’ long compartment consisting of 3 12’ truss sections.	LLK Greenhouse Solutions	Acceptable to provide drum and cable shade system.
17	4/3/2025	On base bid should the interior walls be 8mm clear for better interior visibility rather than spec of diffused material?	LLK Greenhouse Solutions	Base Bid to remain 8MM diffused polycarbonate for interior partition walls, you can offer 8MM clear as a voluntary alternate.

18	4/3/2025	On lighting in specs it calls for Phillips model 1830 which is available in 208v, drawings call for alternate to be model 1925. This is not available in 208v.	LLK Greenhouse Solutions	Use 1830 TLC DRW_EBW for high light alternate bid, drawing has been corrected
19	4/3/2025	On the lighting do lights need to have 0-10v dimmable capability? 200 micromoles doesn't necessarily need dimming capability according to manufacturer. The 600 micromoles is very high intensity. The manufacturer recommends dimming on this fixture. The 600 micromole option is 3 times the 200 micromole option as a general guideline. The 600 micromole option isn't available as a daisy chain. Would require hardwire to lighting panel individually.	LLK Greenhouse Solutions	Alternate lighting bid requires dimming. This is accomplished with 0-10v dimming adapter for the 1830 TLC in conjunction with the Seed Control System, one dimming zone per compartment. Supplemental product materials attached and corrected drawing calls out 0-10v dimming requirement. Please refer to the TLC Application guide for direction on daisy chain options for the TLC1830 fixture. There are charts in the application guide that show how many fixtures can be daisy chained together.
20	4/3/2025	Please advise on substantial completion date. Is the 249 days from order or from approved submittals. Greenhouse doesn't go into production until after approved submittals. Lead time on engineer drawings is 6 weeks, fabrication lead time is 6 weeks and 4 months construction timeline. So the 249 days is feasible from Approved submittals.	JRA Architects	249 days from start of project. Refer to Special Conditions, Article 06, Time For Completion. "249 consecutive calendar days from the date of commencement as specified in the Work Order Letter"
21	4/4/2025	Substitution Rquest - Crystal Structures	LLK Greenhouse Solutions	Crystal Structures is not approved.
22	4/4/2025	I am a subcontractor working on a bid for the overhead coiling door section. I am working with Cornell Cookson to get a quote and they are saying I need to ask questions to the architect as to what they want because they suggest 2 possible doors to fit the criteria in the attached section from the plans, but they are saying there is a problem matching the seismic load in the plans. I am attaching the 2 suggested doors from Cornell Cookson. They need to know which one the architects think best fit the plans for the UK Princeton Greenhouse. I am attaching emails from Cornell Cookson showing details about both doors and how they do or do not meet the plans and their message about the seismic load.	JRA Architects	Thermiser Max Low U ESD40 is an acceptable door.
23	4/7/2025	Please confirm the grade type for the interior plywood is the same as the sheathing specified in spec section 061600.	JRA Architects	Grade B - Minimal knots and blemishes. To be filled prior to painting per specification.

24	4/7/2025	What finish is required on the interior plywood? Is it a primer with two coats of paint?	JRA Architects	Finish of interior plywood to be paint. Refer to plans, finish schedule, and specification 099123 - INTERIOR PAINTING.