

INVITATION FOR BIDS

CCK-2561-22 ADDENDUM # 1 07/30/2021

ATTENTION: This is not an order. Read all instructions, terms and conditions carefully.

IMPORTANT: BID AND ADDENDUM MUST BE RECEIVED BY 08/17/2021 @ 3:00 P.M. LEXINGTON, KY TIME

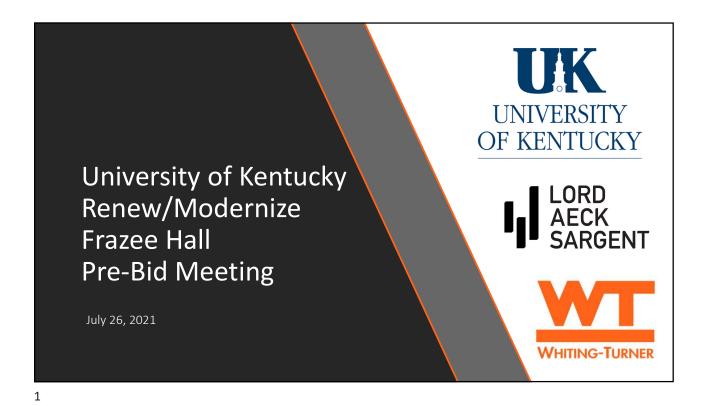
Bidder must acknowledge receipt of this and any addendum as stated in the Invitation for Bids.

1. Please refer to and incorporate within the offer, the attached addendum items from Whiting-Turner and Lord Aeck Sargent.

OFFICIAL APPROVAL UNIVERSITY OF KENTUCKY	<u>SIGNATURE</u>
Markey galdy	
Procurement Manager / (859) 323-5405	Typed or Printed Name

Bidders shall conform to the following clarifications, corrections and changes, as same shall become binding on the Contract to be issued in response to this Invitation for Bids. Bidders must acknowledge receipt of this Addendum in the space provided on the Form of Proposal. Failure to do so may subject Bidder to disqualification.

- Clarification to Subcontract <u>All Work Categories:</u> Please see the attached Pre-Bid Presentation and Sign-In sheet.
- **2.** Clarification to Subcontract All Work Categories: The substantial completion date for the project is June 25th, 2022. The Bid Amount shall include the cost for all trades to have their work completed on or before this date.
- 3. Addition of Subcontract WC 00A Combination Bids: This project will offer the opportunity for bidders to provide a combination bid for multiple work categories as indicated on the form of proposal. The intent is to offer a reduced price if awarded multiple work categories for reduced overhead, supervision and greater economy of scale. Bidders can elect to submit only a combination bid or submit both combination and individual work category bids.
- **4. Clarification to Subcontract WC 01B:** Please see the attached revised WC 01B bid form. Revised scope includes: added wood framing and subfloor infill at recess left at two fireplaces, added door frame protection. The Bid Amount shall include the cost to provide this scope.
- 5. Clarification to Subcontract <u>WC 02B</u>: Please see the attached revised WC 02B bid form. Revised scope includes: Demo of remaining stair A handrail, demo of masonry walls at fireplace/chimney, Removal of extruded nails from bottom of wood joists, revisions to items to purchase for the break area. The Bid Amount shall include the cost to provide this scope.
- **6.** Clarification to Subcontract <u>WC 04B</u>: Please see the attached revised WC 04B bid form. Revised scope includes: Additional patching at historic interior masonry walls. The Bid Amount shall include the cost to provide this scope.
- 7. Clarification to Subcontract <u>WC 07B</u>: Please see the attached revised WC 07B bid form. Revised scope includes: Hiring a third-party waterproofing consultant to review plans and conduct first work inspections of the building envelope. The Bid Amount shall include the cost to provide this scope.
- 8. Clarification to Subcontract <u>WC 08B</u>: Please see the attached revised WC 08B bid form. Revised scope includes: Removal of plywood and handrail at existing window openings prior to installation of new windows and removal storage and reinstallation of glass rail at student center temporary exit. The Bid Amount shall include the cost to provide this scope.
- **9.** Clarification to Subcontract <u>WC 31A</u>: Please see the attached revised WC 31A bid form. Revised scope includes: Metering temporary water connections and paying for water usage, providing temporary stair scaffold at student center exit for the duration of the Administration Drive shutdown. The Bid Amount shall include the cost to provide this scope.
- **10. Clarification to Subcontract WC 32A**: Please see the attached revised WC 32A bid form. Revised scope include: replacement of landscaping at the temporary walkway adjacent to Administration Drive. The Bid Amount shall include the cost to provide this scope.
- **11. Clarification to Subcontract** <u>All Work Categories:</u> Please see the attached LAS Addenda #1 narrative and revised drawings and revised specification sections. The Bid Amount shall include the cost to provide this scope.

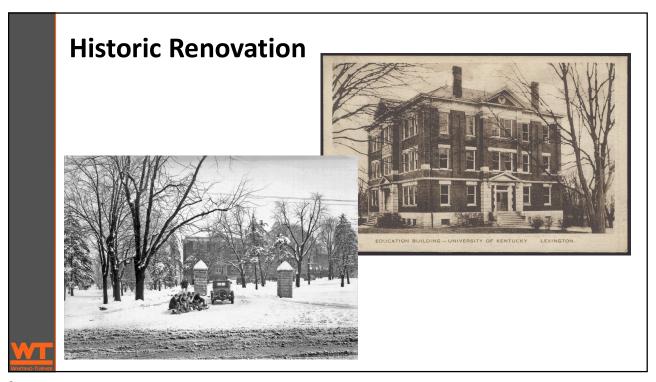


Project Overview

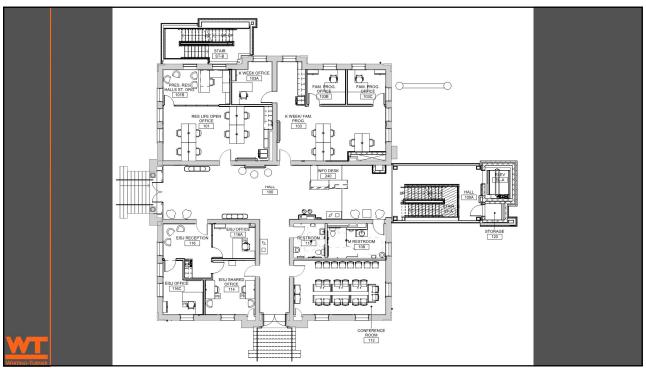
Project Location:
Frazee Hall
406 Administration Drive
Lexington KY, 40508

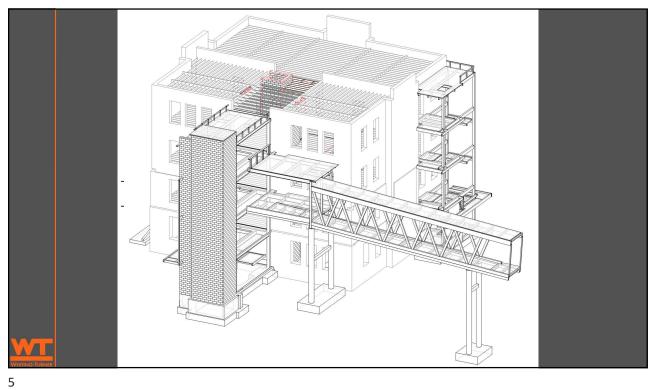


WHITING-TURNE



3







Alternate #1 – Card Readers

Base Bid

- All Security Pathways
- 16 Doors with Security

Add Alternate

• 54 Added Doors with Security

Base Bid HW	Alt 1 HW
1-02	CL01B
AR01	AR01
CKL02	CKL02
1-02	CL01B
CKL01	CKL01
AKR01	AKR01



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Alternate #2 – Terraced Seat Walls

Alternate #3 – Wood Flooring

Base Bid

Add Alternate

- Raise depressed slab on deck according to thinner flooring
- Engineered Wood Floor Hardwood flooring on ¾" sleeper system at slab on deck
 - A. Engineered Wood Flooring Type WD1
 - Species: Maple
 - 2. Manufacturers:
 - a. Armstrong World Industries
 - b. Mohawk
 - c. Mannington
 - d. Shaw Floors
 - e. Approved Equal

- B. Wood Strip Flooring Type WD2:
 - Species: Maple.
 - 2. Grade: Second and better.
 - Cut: Quarter sawn.
 Moisture Content:
 - Moisture Content: 7 to 9 percent.
 - Actual Thickness: 3/4 inch.
 - Actual Width: 2 1/4" inches.
 - Actual Width: Match historic condition.
 - Edge: Tongue and Groove.
 - End: End matched.
 - 10. Length: Random, minimum of 9 inches.



Alternate #4 - Pedestrian Walkway ALTERNATE #4 VALUE

Bid Schedule

Bid Questions Due - August 3rd, 2021 Final Addendum – August 10th, 2021 Bids Due - August 17th, 2021 @ 3:00PM EST

*Apparent low bidder to submit Determination of Responsibility forms within 24 hours of bid opening.

Scope review meetings will be scheduled immediately following bid opening.



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Construction Schedule

Construction Start Date – September 13th, 2021

Sitework & Site Utilities – Sep 15th – Jan 17th

Building Foundations - Oct 28th – Dec 23rd

Structure - Dec 15th - Apr 8th

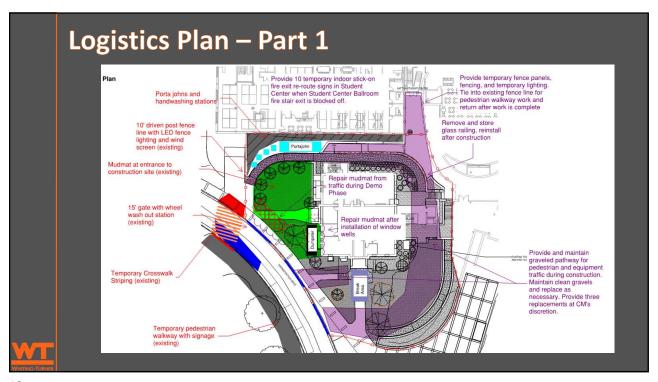
Skin – Feb 2nd – May 19th

Interior Rough-in – Dec 8th – Apr 18th

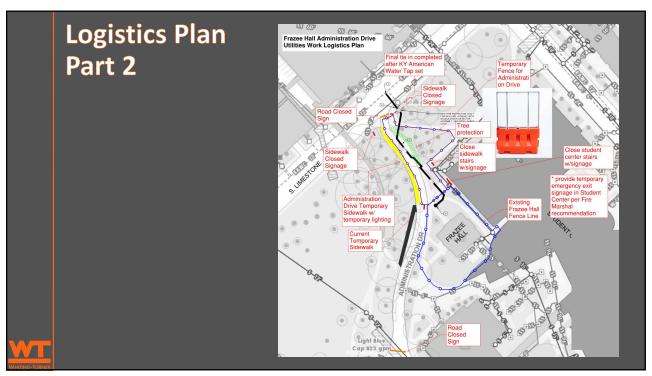
Finishes – Feb 7th – Jun 1st

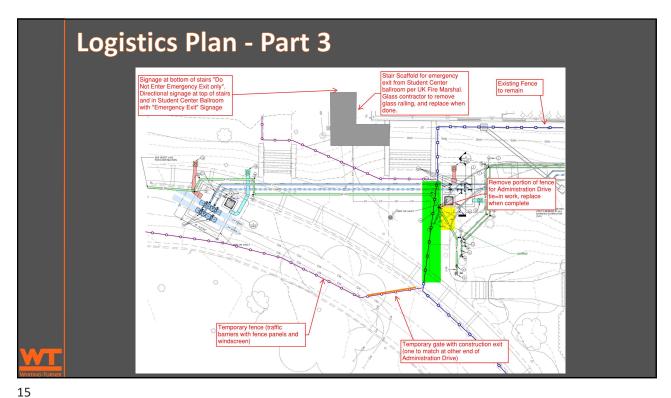
Substantial Completion – June 25th, 2022





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LJ

MBE/WBE Participation

- Goal: 10% of Total Procurement cost to be for participation of Minority-Owned and Woman-Owned Businesses
- It is a request of each Bidder to include in its bid, 10% of MBE/WBE participation
- A Good Faith Effort to achieve the goal shall be made by each bidder. If requirement is not met bidder must submit written documentation of their Good Faith Effort.



WHITING TURN

Safety

REQUIREMENTS

- All Subs
 - Site Specific Safety Plan
 - Silica Control Program
 - Designated Safety Director w/ weekly site visit and report
 - Safety Plans (AHA & PTP)
 - Onsite First Aid Kit and Spill Kit
 - COVID-19 Mitigation Plan
- Foreman/Competent Persons
 - OSHA 30
 - First Aid/CPR
- All Onsite Workers
 - OSHA 10
 - · 2 Hour Asbestos and Lead Awareness Training





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Quality Control

REQUIREMENTS

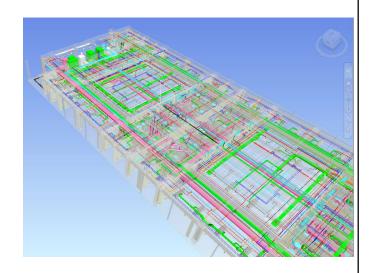
- Project specific Quality Control plan
- On site Quality Control Director
- Weekly QC's and walk throughs with reporting
- "Just in time" deliveries due to limited lay down area
- Collaboration/coordination with WT and other Subcontractors for deliveries and installation
- Tools: Plangrid & Touchplan





BIM Coordination

- Laser Scan of existing building completed after Phase 1 Demo
- MEP Subs to model their scope and coordinate with existing field conditions
- 23A to perform clash detection between all MEP models
- See BIM Coordination Plan for details



WT

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Questions & Answers

CCK-2561-22 - Frazee Hall Pre-Bid Meeting Sign-in				
Company Name	Name	Email Address	Trade Package(s)	
TJ Dyer	Kyle Lemmink	klemmink@tjdyer.com	Plumbing	
Staggs & Fisher Consulting Engineers	Wayne Thomas	Wthomas@sfengineering.com	Design Team	
Staggs and Fisher	Dan Bransom	dbransom@sfengineering.com	Engineering	
O'ROURKE Wrecking Conpany	Jeremy Hudson	Jhudson@orourkewrecking.com	Demolition	
Renaissance Historic Exteriors	Brian Lockie	Blockie@renroof.com	Roofing, masonry	
S and D Construction Management Inc.	Sean Edwards	seanedwards89@gmail.com	Demolition, General Trades	
UK	Sandy Redmon	Sredmon@uky.edu	Not applicable	
Staggs & Fisher	Melissa LaClair	Mlaclair@sfengineering.com	Design team	
Frei Mechanical Contractors	Charley Handel	charleschandel@aol.com	Mechanical & Plumbing	
Kemper Construction	Timothy Poynter	tpoynter@kemper.construction	All	
Kalkreuth Roofing and Sheet Metal	Justin Spillman	Jspillman@krsm.net	Roofing, Metal Panels	
Lord Aeck Sargent	Elisabeth Hunt	Elisabeth.hunt@lordaecksargent.com	Architect	
Richard Goettle, Inc	Clayton Plute	Cplute@goettle.com	Deep Foundations	
UK	Ken Scott	Kesc245@uky.edu	N/A	
Dixon Electric	Shane Coomer	Shane.coomer@dixonelectric.com	Electrical	
Lagco Mechanical	Jamie Beazley	jamie@lagco.com	Mechanical	
Arrow Electric Co Inc	Bowen Hockensmith	bhockensmith@arrowelectric.com	26A. Electrical	
Facility Commissioning Group	Todd Yates	todd@facomgrp.com	Commissioning Provider	
E.C. Matthews Company	Patrick Thurston	Pthurston@ecmatthews.com	01B, 03A, 05A	
Central Kentucky Glass	Dennis Martin	Dennis@ckgemail.com	Glass and Glazing	
H&R Mech	Rick Napier	Rnapier@hrmech.com	Mechanical	
Green city demolition	Marshall caudill	Marshal@greencitydemolition.com	Demolition	
DCF Course	Durandara kuran	haradaa hara Otharafaaraa	Demontable Partitions, Marker Boards, Shades, Signage, Landscape	
RCF Group	Brandon Lucas	brandon.lucas@thercfgroup.com	Construction/Management, Furniture and Furnishings, Decommissioning Services, Move Management Services	
Cutter Pulliam Electric	Bill Hostetler	cpe001@windsteam.net	26A	
Johnson Controls Fire Protection LP	William Fraley	william.fraley@jci.com	Alarm / Detection	
The Blinds Man	Steve McDonald	smcdonald@theblindsman.net	Shades blinds shutters Motorization	

UNIVERSITY OF KENTUCKY CAPITAL CONSTRUCTION PROCUREMENT SECTION FORM OF PROPOSAL RENEW/MODERNIZE FRAZEE HALL

Subcontract 00A –	Subcontract 00A – Combination Bid Packages			
Project No. <u>2511.8</u> Project Title: <u>RENEW/MODERNIZE FRAZEE HALL</u> Purchasing Officer: <u>Matt Spalding</u>				
	shall be followed exactly in submitting a st, an additional copy will be furnished upon Contract Documents.			
This Proposal is submitted by:				
Date:	(NAME AND ADDRESS OF BIDDER)			
Telephone:				
TO: BID CLERK	INVITATION TO BID: CCK-2561-22			
UNIVERSITY OF KENTUCKY CAPITAL CONSTRUCTION PROCUREMENT RM. 322 SERVICE BUILDING	BID OPENING DATES: August 17, 2021 TRADE CONTRACT DESCRIPTION: COMBINATION BIDS			
411 SOUTH LIMESTONE	TRADE CONTRACT NO.: 00A			
LEXINGTON, KY 40506-0005	TIME: 3:00 P.M. E.D.T.			
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 recei	pt of the following Addenda:			
ADDENDUM NO	DATED			
ADDENDUM NO	DATED			
ADDENDUM NO	DATED			
(Insert the number and date of any Addenda issued and received. If none has been issued and received, the word NONE should be inserted.)				

FORM OF PROPOSAL

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);
- That the submitted Bid or Bids covering Capital Construction Procurement Section Invitation No. <u>CCK-2561-22</u> 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	Y		TITLE
PRINT NAM	ИЕ		FIRM
ADDRESS_			PHONE ()
			FAX <u>(</u>)
CITY EMAIL	STATE	ZIP CODE	DATE

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.

Combination Bid Packages

Instructions:

When submitting a combination bid please place check marks below to indicate which work categories you are including in this form and fill in the lump sum and alternate prices for that combination. (Bidder must check a minimum of two boxes to qualify as a combination bid.) With this proposal you must also submit pages 8 through the end of the Forms of Proposal from <u>each</u> individual bid packages. By completing a combination bid you are responsible for the information included in each individual bid package (including general work requirements, scope of work, etc.).

	rk Categories: Please Indicate ALL Work Categories uded in Your Bid	Must Check at Least Two
1.	01B – General Requirements	
2.	02B – Selective Demo	
3.	03A – Concrete	
4.	04A – Masonry	
5.	·	
6.	05A – Structural & Miscellaneous Steel	
7.		
8.	07A – Roofing	
9.	07B – Waterproofing	
10.	07C – Metal Panels	
	07D – Fireproofing	
	08A – Doors, Hardware & Security	
	08B – Glass & Glazing	
14.	09A – Metal Framing, Drywall & Ceilings	
	09B – Flooring	
	09C – Painting & Refinishing	
17.	09D – Ceramic Tile	
	10A – Accessories	
	10B – Demountable Partitions	
	10C – Signage	
21.	12A – Window Treatments	
	14A – Elevator	
	21A – Fire Protection	
24.	23A – Plumbing, HVAC & TAB	
	23B – Controls	
	26A – Electrical & Fire Alarm	
27.	31A – Sitework & Utilities	
	31B – Deep Foundations	
	32A – Landscape & Irrigation	
30.	32B – Hardscape	

For clarity, write on the line below which Work Categories are included in this bid.
Work Categories Included:
LUMP SUM PROPOSAL
The Bidder, in compliance with the Invitation to Bid CCK-2561-22 having examined the drawings, specifications, related documents and having visited the site of the proposed work, and being familiar with all the conditions surrounding the construction of the proposed project including the availability of materials and labor, hereby submits the following bid to furnish all labor, materials, and supplies and to construct the project in accordance with the Bid Documents within the time set forth therein and at the prices stated below. These prices are to cover all expenses incurred in performing the work required under the Contract Documents, of which this Bid is a part.
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.
Bidder hereby agrees that all escalation cost associated with materials and/or labor have been included in the stated unit cost, through the projected duration dates as stated in the preliminary project construction schedule.
FOR THE LUMP SUM OF
(USE WORDS)DOLLARS ANDCENTS.
DOLLARS ANDCENTS. (USE WORDS) (USE WORDS)
(\$) (USE FIGURES)
BID ALTERNATES
Add Alternate No. 1: Card Readers
FOR THE LUMP SUM OF
(USE WORDS)
(USE WORDS) DOLLARS AND (USE WORDS) CENTS.
(\$) (USE FIGURES)

<u>Add</u>	Alternate No. 2: Terraced Sea	t Wall		
FOR	THE LUMP SUM OF			
		(USE \	WORDS)	
	(USE WORDS)	_ DOLLARS AND		_CENTS.
	(USE WORDS)		(USE WORDS)	
(\$	(USE FIGURES)			
<u>Add</u>	Alternate No. 3: Wood Flooring	g		
FOR	THE LUMP SUM OF			
		(USE \	WORDS)	
	(USE WORDS)	DOLLARS AND		CENTS.
	(USE WORDS)	_	(USE WORDS)	_
(\$	(USE FIGURES)			
<u>Add</u>	Alternate No. 4: Pedestrian W	alkway and Gatton St	udent Center	
FOR	THE LUMP SUM OF			
		(USE \	WORDS)	
		DOLLARS AND		CENTS.
	(USE WORDS)		(USE WORDS)	_
(\$	(USE FIGURES)			

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	(06)	_Woman-Owned Large Business
(02)	_Large Business	(07)	_Disadvantaged Woman-Owned Small Business
(03)	_Disadvantaged Small Business	(80)	_Disadvantaged Woman-Owned Large Business
(04)	_Disadvantaged Large Business	(09)	_Other
(05)	Woman-Owned Small Rusiness		

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 Black Americans, Hispanic Americans, Native Americans, Asian-Pacific Americans 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, 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)
- Authentication of Bid and Statement of Non-Collusion and Non-Conflict of Interest.
- 4. List of Materials and Equipment.
- 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.

TRADE CONTRACT - 00A - COMBINATION BIDS

This section defines in summary, without limitations by the descriptions, significant items of the scope of work to be performed by the Subcontractor and any special provision related to the Subcontractor's execution of the Work and the Project. The details of the scope of work are further defined in Drawings, Specifications, and other provisions contained in the Project Documents.

Unit 00A – COMBINATION BIDS

All Work Categories are to be used as references for information regarding the combination bids noted above. Individual Work Categories will be combined to form the combination bids, with all scope and form items in the individual Work Categories applying.

END OF SPECIFIC SCOPE

UNIVERSITY OF KENTUCKY CAPITAL CONSTRUCTION PROCUREMENT SECTION FORM OF PROPOSAL RENEW/MODERNIZE FRAZEE HALL

Subcontract 01B – General Requirements			
Project No. <u>2511.8</u> Project Title: <u>RENEW/MODERNIZE FRAZEE HALL</u> Purchasing Officer: <u>Matt Spalding</u>			
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:			
Date:	(NAME AND ADDRESS OF BIDDER)		
Telephone:			
TO: BID CLERK UNIVERSITY OF KENTUCKY	INVITATION TO BID: CCK-2561-22		
CAPITAL CONSTRUCTION	BID OPENING DATES: August 17, 2021		
PROCUREMENT	TRADE CONTRACT DESCRIPTION:		
RM. 322 SERVICE BUILDING	General Requirements		
411 SOUTH LIMESTONE LEXINGTON, KY 40506-0005	TRADE CONTRACT NO.: <u>01B</u> TIME: 3:00 P.M. E.D.T.		
EEXINGTON, KT 40300-0003	TIME. 3.00 F.M. L.D.T.		
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		
(Insert the number and date of any Addenda issued and received. If none has been issued and received, the word NONE should be inserted.)			

FORM OF PROPOSAL

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);
- That the submitted Bid or Bids covering Capital Construction Procurement Section Invitation No. <u>CCK-2561-22</u> 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 B	Y		TITLE
PRINT NAI	ME		FIRM
ADDRESS			PHONE ()
			FAX <u>()</u>
CITY EMAIL	STATE	ZIP CODE	DATE

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, in compliance with the Invitation to Bid <u>CCK-2561-22</u> having examined the drawings, specifications, related documents and having visited the site of the proposed work, and being familiar with all the conditions surrounding the construction of the proposed project including the availability of materials and labor, hereby submits the following bid to furnish all labor, materials, and supplies and to construct the project in accordance with the Bid Documents within the time set forth therein and at the prices stated below. These prices are to cover all expenses incurred in performing the work required under the Contract Documents, of which this Bid is a part.

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.

Bidder hereby agrees that all escalation cost associated with materials and/or labor have been included in the stated unit cost, through the projected duration dates as stated in the preliminary project construction schedule.

THE LUMP SUM OF			
	(USE	WORDS)	
(USE WORDS)	DOLLARS AND _	(USE WORDS)	CENTS.
(USE FIGURES)			
ALTERNATES			
Alternate No. 1: Card Reade	rs		
THE LUMP SUM OF	(USE	WORDS)	
(USE WORDS)	DOLLARS AND _	(USE WORDS)	CENTS.
(USE FIGURES)			
	(USE WORDS) (USE FIGURES) ALTERNATES Alternate No. 1: Card Reade THE LUMP SUM OF (USE WORDS)	DOLLARS AND	(USE WORDS) DOLLARS AND (USE WORDS) (USE WORDS) (USE FIGURES) ALTERNATES Alternate No. 1: Card Readers THE LUMP SUM OF (USE WORDS) (USE WORDS) (USE WORDS)

Add A	Alternate No. 2: Terraced Se	at Wall			
FOR	THE LUMP SUM OF(USE WORDS)				
	(USE WORDS)	DOLLARS AND _	(1.00 11.00 10.00	CENTS.	
	(USE WORDS)		(USE WORDS)		
(\$	(USE FIGURES)				
Add A	Alternate No. 3: Wood Floori	ng			
FOR	THE LUMP SUM OF				
	(USE WORDS)				
		DOLLARS AND		CENTS	
	(USE WORDS)		(USE WORDS)	021110.	
(\$	(USE FIGURES)				
Add A	Alternate No. 4: Pedestrian V	Valkway and Gatton St	udent Center		
FOR	THE LUMP SUM OF				
	(USE WORDS)				
				CENTS	
	(USE WORDS)	DOLLARS AND _	(USE WORDS)	CENTS.	
(\$					
` -	(USE FIGURES)				

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	(06)Woman-Owned Large Business
(02)Large Business	(07)Disadvantaged Woman-Owned Small Business
(03)Disadvantaged Small Business	(08)Disadvantaged Woman-Owned Large Business
(04)Disadvantaged Large Business	(09)Other
(05) Woman-Owned Small Busines	99

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 Black Americans, Hispanic Americans, Native Americans, Asian-Pacific Americans 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, 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)
- Authentication of Bid and Statement of Non-Collusion and Non-Conflict of Interest.
- 4. List of Materials and Equipment.
- 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 are required to complete and submit the following information with their bid.

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

ITEM	UNIT	COST PER UNIT

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 bidder will be required to complete and submit to the University the following information by twelve (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.

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

Provide the address, phone number and contact information for the following Subcontractor/suppliers:

DIVISION OF WORK	NAME AND ADDRESS OF SUBCONTRACTOR

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 bidder will be required to complete and submit to the University the following information by twelve (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.

	·
ITEM DESCRIPTION	MANUFACTURER/SUPPLIER

IDENTIFICATION OF MINORITY SUBCONTRACTORS AND MATERIAL SUPPLIERS

Participation of Minority and Women owned Contractors and businesses.

The University of Kentucky encourages and supports the participation of minority and women owned businesses.

1.	Minority and Women Subcontractors		
2.	Minority and Women Material Suppliers		
SUPE	RINTENDENT		
project	ordance with Article 17 of the General Conditions a full-time superintendent will be required on this t. Below, please list the superintendent your firm will employ on this project. The successful Bidder required to furnish a resume of the superintendents' qualifications and or past projects.		
List the	e Superintendent's Name		

Revised 3/22/06

TRADE CONTRACT - 01B - General Requirements

This section defines in summary, without limitations by the descriptions, significant items of the scope of work to be performed by the Subcontractor and any special provision related to the Subcontractor's execution of the Work and the Project. The details of the scope of work are further defined in Drawings, Specifications, and other provisions contained in the Project Documents.

The work covered under this Contract includes but is not limited to the following specific work items:

Unit 01B – General Requirements

This work shall include all items indicated in **Section A:** General Scope of Work, as such items apply to this work unless specifically noted otherwise herein.

This work primarily includes, but is not limited to the following specification sections as well as related work specified or shown elsewhere in the Contract Documents:

All specifications as they relate to this General Requirements scope of work

***Note: This Subcontractor is responsible for the requirements of the <u>complete</u> <u>Contract Documents</u> as they pertain to this Unit of Work.

- Scope of Work It is the intent for this project that this Subcontractor performs all work scoped herein and as specified in the Project Manual and Contract Drawings. This Subcontractor shall furnish 100% of the labor, supervision, materials, tools, equipment, operators, hauling, rigging, temp. shoring, shop drawings, submittals, layout, unloading, scaffolding, ladders, hoisting, transportation, taxes, permits, engineering, support functions, bonds, warranties, guarantees, and any other items or services necessary for and reasonably incidental to safely execute and complete the work scoped herein, whether temporary or permanent, in full compliance with all drawings, specifications, addenda, general conditions, requirements, and other related documents as indicated herein.
- 2. <u>PlanGrid License</u> This Subcontractor has included the necessary license(s) to PlanGrid for their office and field staff for field reference and notifications. Please note that drawings posted on PlanGrid do not supersede the Contract Documents and should only be used for reference and notifications. All submittals, RFIs, and installation work should conform to the Contract Documents. Additionally, this Subcontractor will provide to the Construction Manager (5) one-year PlanGrid "Crane" licenses to use at their discretion. These licenses shall go into effect starting January 3rd, 2022. Emails for licenses to be confirmed with the Construction Manager.
- 3. Site Fencing This Subcontractor shall provide and install temporary fence (fence panel on water filled jersey barrier) and road/sidewalk closure signage per logistics plan. This subcontractor shall rework fencing for each phase of construction. (See logistics plan for locations and amounts of fencing and temporary signage.) This subcontractor shall provide a fencing allowance of \$10,000 and a signage allowance of \$5,000 to be used for items above-and-beyond what is shown in the logistics plan. At any time during the course of the project Whiting-Turner may elect to use any unspent portion of this allowance for other added items within this Scope of Work. Also, any unspent portion of this allowance may be returned to Whiting-Turner at any time during the project. This allowance does not alleviate this Subcontractor from any of their contractual requirements spelled out in the Contract Documents or their contractual requirements spelled out in this Subcontract. This allowance cannot be spent without written authorization from Whiting-Turner. Any unspent portion of this allowance will be returned to UK at the end of the project via a subcontract change order to this Subcontractor.
- 4. <u>Erosion Control Maintenance</u> This Subcontractor is responsible for the development, permitting and installation of a SWPPP for all additional areas for this project phase. This shall include but not be limited to the

Administration Drive utilities work. This Subcontractor will also be responsible for maintenance, and removal thereof, of all erosion control measures and jobsite entries for the duration of the project.

- 5. <u>Safety</u> This Subcontractor has included \$10,000 for WT safety to be directed by the Construction Manager. The Construction Manager will direct the use of these costs to replace safety equipment, provide safety incentives, etc. through the duration of the project.
- 6. Building Shoring This Subcontractor shall provide and install engineered shoring system throughout existing building, continuously from foundation to third floor, to support structural modifications of existing building. See Demo/Reconstruction Sequencing Notes on S200 series drawings. Modify and remove shoring as demolition and construction progresses. Provide shoring at location of new girder/CMU wall. (S201 Note 6) In addition, this subcontractor shall provide a \$10,000 allowance for additional building shoring to be used as directed by the Construction Manager. At any time during the course of the project Whiting-Turner may elect to use any unspent portion of this allowance for other added items within this Scope of Work. Also, any unspent portion of this allowance may be returned to Whiting-Turner at any time during the project. This allowance does not alleviate this Subcontractor from any of their contractual requirements spelled out in the Contract Documents or their contractual requirements spelled out in this Subcontract. This allowance cannot be spent without written authorization from Whiting-Turner. Any unspent portion of this allowance will be returned to UK at the end of the project via a subcontract change order to this Subcontractor.
- 7. <u>Wood Framing</u> This subcontractor shall provide and install all new wood framing per the contract documents to include but not be limited to the following:
 - Provide and install new wood floor and ceiling joists as shown on structural drawings.
 - Replace wood joists as necessary to accommodate new work. (S201 Note 5)
 - Provide and install all new joist hangers including where joists are supported by CMU (S201 Note 10)
 - Provide and install new wood girders and new supports for girders. (S201 Note 7 & Note 8)
 - Provide and install new wood ledger for support of subfloor. (S201 Note 13)
 - Provide and install wood bracing at new columns and at top chords of wood trusses. (S201 S203 Note 15; S204 - Note 2)
 - Provide and install framed openings for new attic and roof hatches. (AD104 Note 4; S204 Note 6 & Note 9)
 - Provide and install new wood roof rafters at location of elevator demo. Provide new roof sheathing at same location and provide temporary protection of area until roofer is onsite. (S204 Note 5)
 - Provide and install wood framing at roof MEP penetration (S204 Note 10)
 - Provide and install wood blocking at roof ladder and at post were not supported by girder (S204 Note 11 & Note 12)
 - Provide and install all support and blocking as required for tie-back anchors in existing roofing. Coordinate with 07A sub for locations and sizing. (S204 - Note 13)
 - Provide and install wood framing and subfloor to infill the floor at the recessed area left at the two fireplaces on the first floor.
- 8. <u>Subflooring</u> This Subcontractor shall provide and install new subflooring throughout existing building. See floor sheathing layout J/S403. This subcontractor shall provide and install new wood platform in attic at top of access hatch as indicated on the contract documents.
- 9. <u>Existing Building Structural Modifications</u> This subcontractor shall provide and install new steel floor support for existing building. This shall include but not be limited to the following:
 - Shoring and cutting existing wood floor joists, "sandwiching" new steel beam with wood joists and throughbolting and reattachment of existing wood joists at new support beam. (Detail A/S406; Detail J/S407)
 - All steel including new columns, baseplates, anchor bolts, embeds and beams. (S200 Note 9)
 - All embeds for existing building structural modifications, demo of existing masonry wythes to create beam pocket and filling the beam pocket with non-shrink grout (Detail A/S406)

- Built-up Lintel This Subcontractor shall provide and install built-up steel lintel at existing load-bearing masonry wall. (Detail B/S408) See lintel installation notes and coordinate with 02B subcontractor for demolition of exterior wall.
- 11. Existing Pavers This subcontractor shall remove existing pavers from limits of construction and store offsite. (C-103 Note 18) Store already removed pavers offsite as well. (C-103 Note 8) Deliver back to site when hardscape subcontractor is ready for reinstallation.
- 12. <u>Housekeeping & Equipment Pads</u> Provide and install all housekeeping and equipment pads both interior and exterior. (U100 Note 23; H301) Provide and install curb for fan plenum case per HVAC drawings. (H301)
- 13. Protection of Existing to Remain Items This subcontractor shall protect the following existing items to remain: Protect limestone threshold at Level 1 entrances plan south and plan west. (AD101 Note 3)

 Protect limestone cheek walls to remain at exterior stair plan south. (AD202 Note 1)

 Protect all door frames and door frame trim to remain both at interior and exterior doors. This subcontractor shall also provide protection at new door frames once installed.
- 14. Weather Protection This subcontractor shall maintain all temporary weather protection installed by others at exterior openings. The intent is to prevent any major water intrusion into the existing building. If temporary weather protection is damaged through the course of construction or if major water intrusion occurs this subcontractor shall be responsible for repair, replacement, or reapplication of temporary measures. This subcontractor shall provide temporary weather protection at broken window at entrance (AD201 Note 5)
- 15. <u>Fall Protection</u> This subcontractor shall maintain all fall protection installed by others at exterior openings. If temporary fall protection is damaged through the course of construction this subcontractor shall be responsible for repair, and replacement of said fall protection. This subcontractor shall remove fall protection as construction progresses and fall protection is no longer required.
- 16. <u>Folding Access Ladder</u> This subcontractor to provide and install metal folding ladder and hatch for access to attic. Also provide and install associated safety rail at access opening.
- 17. <u>Crawlspace Vent</u> This subcontractor shall replace vent at bottom of limestone wall with solid metal cover. (A201 Note 2)
- Precast Concrete Treads This Subcontractor shall provide and install precast concrete stair treads as required by the contract documents.
- 19. This subcontractor shall provide and install grout for the infill of the elevator door sills. This subcontractor shall also slope ledges inside of elevator shaft using mortar.
- 20. This subcontractor shall purchase twenty (20) E Permit parking passes for the full duration of the project. These passes shall be used at the sole discretion of the construction manager to be assigned to subcontractors for parking near site.
- 21. This subcontractor shall provide a shooting boom forklift (lull) with a minimum 42' lift height for the full duration of the project. This lull will be shared by all subcontractors throughout the course of the project and all subcontractors shall provide their own operator. The primary use will be for offloading deliveries and booming material up to the required floor. Use of the lull must be scheduled and final approval for use must be given by the WT Superintendent.
 - This subcontractor shall provide all fuel and maintenance for the lull for the duration of the project.
- 22. Alternates This subcontractor shall review all four alternates as listed in specification section 012300 and as shown in the contract documents. This subcontractor shall provide alternate pricing for each alternate as applicable for this scope of work. If no applicable work exists, then alternate pricing shall be \$0. Items listed below shall part of this subcontractor's scope for the add alternates. This list is NOT a comprehensive list and is only intended as additional clarification.

- a. Alternate No. 4 Protect existing to remain electrical and A/V equipment in student center. (AD102 Note 1)
- b. Alternate No. 4 Remove, protect, store and reinstall monitor in Green Room. (AD102 Note 5)
- 23. <u>Traffic Control</u> This Subcontractor will provide a flagman with stop signs and appropriate training to assist and manage traffic flow, for deliveries to make a safe and secure exit out of the Construction site. This Subcontractor is fully aware that the construction site is within a high traffic campus corridor with continuing operations throughout the construction process. To that end, this Subcontractor will work hand in hand with the Construction Manager to ensure deliveries, manpower, and general construction traffic are conducted in such a manner as to provide a safe and undisturbed environment for the pedestrian and vehicular traffic, which includes but is not limited to: cleanup of all vehicle debris, mud, materials, adjusting haul routes and hours, adjusting exit routes, parking in designated areas, deferring to campus traffic, posting flagmen, etc.
- 24. Overtime Work This Subcontractor shall perform all work within the time frames established in the Construction Schedule. This Subcontractor shall submit a plan to the Construction Manager before beginning work outlining his means and methods for completing work within the time frames established. The plan shall show required daily production rates, methods for monitoring actual daily production and a detailed contingency plan outlining how lost time will be made up (including time lost due to normal seasonal weather). This plan will show durations to meet or beat schedule that included crew size, number of crews, number of days and hours per week with detail.

25. Appropriate Common Requirements:

- a) Submittals Subcontractor will in a timely and expedient manner provide submittals, drawings, etc. as required by contract specifications and Whiting-Turner Project Manager
- Warranties Subcontractor will provide all required warranties as called out in contract documents and specifications.
- c) O&M documentation Subcontractor will provide all required Operation & Maintenance as called out in contract documents and specifications.
- d) Permits and inspections this Subcontractor will provide for all permits and inspections as required to complete this scope of work. Additionally, Subcontractor will endeavor to inform Whiting-Turner of any permit requirements that may be beyond this Subcontractor's ability to acquire.
- e) Safety Subcontractor will adhere to all Federal, State, Local, University, and Whiting-Turner Safety requirements as set forth in all applicable law and project documents. Additionally, Subcontractor will adhere to all safety directives and practices; as may be issued from time to time by Whiting-Turner personnel.

END OF SPECIFIC SCOPE

UNIVERSITY OF KENTUCKY CAPITAL CONSTRUCTION PROCUREMENT SECTION FORM OF PROPOSAL RENEW/MODERNIZE FRAZEE HALL

Subcontract 02B – Selective Demolition				
Project No. <u>2511.8</u> Project Title: <u>RENEW/MODERNIZE FRAZEE HALL</u> Purchasing Officer: <u>Matt Spalding</u>				
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:				
Date:	(NAME AND ADDRESS OF BIDDER)			
Telephone:				
TO: BID CLERK UNIVERSITY OF KENTUCKY CAPITAL CONSTRUCTION	INVITATION TO BID: CCK-2561-22 BID OPENING DATES: August 17, 2021			
PROCUREMENT RM. 322 SERVICE BUILDING	TRADE CONTRACT DESCRIPTION: Selective Demolition			
411 SOUTH LIMESTONE	TRADE CONTRACT NO.: 02B			
LEXINGTON, KY 40506-0005	TIME: 3:00 P.M. E.D.T.			
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			
(Insert the number and date of any Addenda issued and received. If none has been issued and received, the word NONE should be inserted.)				

FORM OF PROPOSAL

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);
- That the submitted Bid or Bids covering Capital Construction Procurement Section Invitation No. <u>CCK-2561-22</u> 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 NAM	1E		FIRM
ADDRESS_			PHONE ()
0.77		710.000	FAX <u>(</u>)
CITY EMAIL	STATE	ZIP CODE	DATE

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, in compliance with the Invitation to Bid <u>CCK-2561-22</u> having examined the drawings, specifications, related documents and having visited the site of the proposed work, and being familiar with all the conditions surrounding the construction of the proposed project including the availability of materials and labor, hereby submits the following bid to furnish all labor, materials, and supplies and to construct the project in accordance with the Bid Documents within the time set forth therein and at the prices stated below. These prices are to cover all expenses incurred in performing the work required under the Contract Documents, of which this Bid is a part.

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.

Bidder hereby agrees that all escalation cost associated with materials and/or labor have been included in the stated unit cost, through the projected duration dates as stated in the preliminary project construction schedule.

FOR	THE LUMP SUM OF				
	(USE WORDS)				
	(USE WORDS)	_ DOLLARS AND	(USE WORDS)	_CENTS.	
(\$	(USE FIGURES)				
BID A	<u>ALTERNATES</u>				
<u>Add</u>	Alternate No. 1: Card Readers	:			
FOR	THE LUMP SUM OF				
		(USE \	WORDS)		
	(USE WORDS)	_DOLLARS AND _	(USE WORDS)	_CENTS.	
(\$	(USE FIGURES)				

Add A	Alternate No. 2: Terraced Se	at Wall				
FOR	THE LUMP SUM OF	(USE W	VORDS)			
	(USE WUKDS)					
	(USE WORDS)	DOLLARS AND		CENTS.		
	(USE WORDS)		(USE WORDS)			
(\$	(USE FIGURES)					
Add A	Alternate No. 3: Wood Floori	ng				
FOR	THE LUMP SUM OF					
	(USE WORDS)					
				CENTS		
	(USE WORDS)	DOLLARS AND	(USE WORDS)	CENTS.		
(\$	(USE FIGURES)					
Add A	Alternate No. 4: Pedestrian V	Valkway and Gatton Stu	ident Center			
FOR	THE LUMP SUM OF					
(USE WORDS)						
				OFNITO		
	(USE WORDS)	DOLLARS AND	(USE WORDS)	CENTS.		
	(5525.125)		(222)			
(\$	(USE FIGURES)					
	(USE FIGURES)					

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	(06)	_Woman-Owned Large Business
(02)	_Large Business	(07)	_Disadvantaged Woman-Owned Small Business
(03)	_Disadvantaged Small Business	(80)	_Disadvantaged Woman-Owned Large Business
(04)	_Disadvantaged Large Business	(09)	_Other
(05)	Woman-Owned Small Business		

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 Black Americans, Hispanic Americans, Native Americans, Asian-Pacific Americans 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, 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)
- Authentication of Bid and Statement of Non-Collusion and Non-Conflict of Interest.
- 4. List of Materials and Equipment.
- 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 are required to complete and submit the following information with their bid.

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

ITEM	UNIT	COST PER UNIT
Foreman	HR	\$
Laborer	HR	\$

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 bidder will be required to complete and submit to the University the following information by twelve (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.

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

Provide the address, phone number and contact information for the following Subcontractor/suppliers:

DIVISION OF WORK	NAME AND ADDRESS OF SUBCONTRACTOR

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 bidder will be required to complete and submit to the University the following information by twelve (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.

ITEM DESCRIPTION	MANUFACTURER/SUPPLIER

IDENTIFICATION OF MINORITY SUBCONTRACTORS AND MATERIAL SUPPLIERS

Participation of Minority and Women owned Contractors and businesses.

The University of Kentucky encourages and supports the participation of minority and women owned businesses.

1.	Minority and Women Subcontractors
2.	Minority and Women Material Suppliers
SUPE	RINTENDENT
projec	ordance with Article 17 of the General Conditions a full-time superintendent will be required on this t. Below, please list the superintendent your firm will employ on this project. The successful Bidde required to furnish a resume of the superintendents' qualifications and or past projects.
List th	e Superintendent's Name
Revised	3/22/06

TRADE CONTRACT - 02B - Selective Demolition

This section defines in summary, without limitations by the descriptions, significant items of the scope of work to be performed by the Subcontractor and any special provision related to the Subcontractor's execution of the Work and the Project. The details of the scope of work are further defined in Drawings, Specifications, and other provisions contained in the Project Documents.

The work covered under this Contract includes but is not limited to the following specific work items:

Unit 02B – Selective Demolition

This work shall include all items indicated in **Section A:** General Scope of Work, as such items apply to this work unless specifically noted otherwise herein.

This work primarily includes, but is not limited to the following specification sections as well as related work specified or shown elsewhere in the Contract Documents:

All specifications as they related to the Selective Demolition scope of work.

***Note: This Subcontractor is responsible for the requirements of the <u>complete</u> Contract Documents as they pertain to this Unit of Work.

- Scope of Work It is the intent for this project that the Selective Demolition Subcontractor performs all the
 work as scoped herein and as specified in the Project Manual and Contract Drawings. This Subcontractor shall
 furnish 100% supervision, labor, material, equipment, tools, appliances, warranties and guarantees, and
 everything necessary to selectively demolish, and prepare Frazee Hall for follow on renovation in full
 compliance with the Contract Documents.
- 2. <u>PlanGrid License</u> This Subcontractor has included the necessary license(s) to PlanGrid for their office and field staff for field reference and notifications. Please note that drawings posted on PlanGrid do not supersede the Contract Documents and should only be used for reference and notifications. All submittals, RFIs, and installation work should conform to the Contract Documents.
- 3. <u>Stair A & Elevator Shaft Demo</u> This Subcontractor shall demolish existing Stair A, Elevator Shaft and associated remaining walls that support these structures. This shall include but not be limited to the following:
 - Demo Stair A and all remaining handrail and handrail anchors/supports (AD100 AD105 General Note B)
 - Demo Elevator Shaft (AD100 AD105 General Note G; AD104 Note 2) Demo existing roof rafters attached to elevator shaft (S204 Note 5) Demo concrete slab and steel joists over existing elevator shaft. (S204 Note 7)
 - Demo shaft walls to the plan north and plan south of existing Stair A
 - Demo wall plan west of Stair A all floors. This currently supports Stair A and should be demoed along with Stair A demo.
 - Demo third floor wall in front of elevator (AD 103 Note 1)
 - During demo of elevator shaft, coordinate with 01B subcontractor for temporary patching of roofing.
- 4. Exterior Wall at Stair A This Subcontractor shall demolish the exterior wall adjacent to Stair A for the full height of the building. (AD100 & AD101 Note 1; AD102 & AD103 Note 2; AD203 Note 2) This Subcontractor shall coordinate with 01B for lintel
- 5. <u>Exterior Components Demo</u> This Subcontractor shall demolish existing exterior components. This shall include but not be limited to the following:
 - Demo existing window well x3 (AD201 Note 6; AD202 Note 5; C-103 Note 16))

- Demo basement stair, retaining wall, canopy, railing, and door at plan south (AD100 AD105 General Note E; AD202 - Note 4 & Note 6)
- Demo exterior stairs at plan south, limestone cheek walls and threshold to remain (AD100 AD105 General Note D; AD202 Note 1)
- Demo remaining outside air units and associated piping into building (C-103 Note 15)
- Demo and salvage cornice at building exterior. (AD201 Note 3; AD 204 Note 7)
- 6. <u>Interior Components Demo</u> This Subcontractor shall demolish remaining interior components. This shall include but not be limited to the following:
 - Cut and demo new openings in bearing walls (AD100 AD105 General Note C)
 - Demo concrete over wooden joists Level 01 (AD101 Note 4)
 - Cut and demo portions of exterior wall for new Stair B doors (AD 204 Note 2)
 - Demo existing pipe columns, wood girders and steel posts all levels. (AD100 AD105 General Note F; S201 Note 14) Coordinate with 01B for this work as shoring must be complete prior to removal. Also include demo of existing footings for pipe columns. (S200 Note 13)
 - Demo attic access hatch. (AD104 Note 1)
 - Demo masonry walls at locations where fireplace/chimney once existed. (Not noted but shown as a dashed line at plan south of AD100 & AD101.)
 - Remove extruded nails from bottom of wood floor joists at all locations where wood floor joists will remain exposed to view or where they will impact the installation of new finishes.
- 7. <u>Basement Floor Demo</u> This Subcontractor shall cut and demolish basement flooring, subflooring and floor supports, to include but not limited to all wood subflooring on wood joists, concrete on wood joists and concrete slab on grade to the limits shown and as required for the installation of shoring, new foundations and under slab MEP items. (S200 Note 7)
- 8. <u>Remaining MEP Demo</u> This Subcontractor shall demolish existing MEP utilities under basement flooring and demo all other MEP items remaining in building. (AD100 AD105 General Note H)
- 9. <u>Hazardous Materials</u> All known Asbestos Containing Materials (ACM) where removed during an earlier bid package. This subcontractor shall provide an allowance of \$20,000 to abate and remove any unknown ACM that may be uncovered during this phase of demolition and construction. At any time during the project Whiting-Turner may elect to use any unspent portion of this allowance for other added items within this Scope of Work. Also, any unspent portion of this allowance may be returned to Whiting-Turner at any time during the project. This allowance does not alleviate this Subcontractor from any of their contractual requirements spelled out in the Contract Documents or their contractual requirements spelled out in this Subcontract. This allowance cannot be spent without written authorization from Whiting-Turner. Any unspent portion of this allowance will be returned to UK at the end of the project via a subcontract change order to this Subcontractor.
- 10. This Subcontractor shall provide and additional 100 labor hours for additional demolition that is above-and-beyond what is required for this scope of work.
- 11. <u>Plaster Removal</u> This Subcontractor shall remove plaster from bearing wall on Level 02 and 03, plan West. See dashed walls on AD102 & AD103
- 12. <u>Window Casings</u> This Subcontractor shall remove all window casings scheduled to be demolished in Contract Drawings.
- 13. <u>Disposal</u> This Subcontractor shall provide a means of disposal for all steel, concrete and masonry demolished within this scope of work.
- 14. <u>Shoring</u> This Subcontractor shall coordinate with 01B for building shoring prior to demo of any structural items. This Subcontractor shall also provide miscellaneous/supplemental shoring at shaft walls, exterior wall, door openings where main building shoring is not present.

- 15. <u>Coordination</u> The Subcontractor acknowledges that portions of this Subcontractor's scope of work are to be completed in conjunction with work by others and agrees to all coordination and sequencing as required. All demolition activities that could affect nearby occupied buildings must be cleared with the Construction Manager one week in advance. All deliveries must be coordinated with the Construction Manager in advance of the delivery.
- 16. Weather Protection This Subcontractor will provide weather protection on existing building after demolition is complete. As a portion of the existing building exterior becomes demolished and exposed to the outside elements and weather, this Subcontractor shall provide weather protection on that particular portion to ensure no weather damage will occur.
- 17. <u>Fall Protection</u> At any opening created by this subcontractor that creates a fall hazard of greater than 6ft, this subcontractor shall provide a permanent means of fall protection which meets all OSHA and Whiting-Turner fall protection standards. This includes, but is not limited to, installing fall protection at Stair A, window openings and window / door wells.
- 18. <u>Scaffolding</u> This Subcontractor shall provide, maintain, and dismantle designed scaffold systems necessary to complete the demolition scope of work.
- 19. Out of Sequence Work This Subcontractor agrees and understands that some work may be required to be performed out of sequence to facilitate the construction schedule. This will include at a minimum three mobilizations to perform selective demolition.
- 20. <u>Protection</u> This Subcontractor shall take measures required to protect existing structures during all work performed. This Subcontractor is to provide dust control measures and public safety mechanisms to be adequate to owner's standards for the University of Kentucky's campus. All protective measures are to be outlined in Subcontractor's site plan and schedule to be given to Whiting-Turner Construction Manager prior to any work beginning.
- 21. <u>Protection of Materials</u> This Subcontractor is responsible for the protection of adjacent materials and finishes products prior to starting work as well as of the work installed by this Subcontractor. Damage to adjacent surfaces or finish products will be repaired or replaced by this Subcontractor at no additional cost to the Owner or Construction Manager.
- 22. <u>Break Area</u> This subcontractor shall provide a communal break area for the project. All items will become property of the owner at the conclusion of the project. This shall include providing and setup of the following:
 - a) 4x 10x20 tents with window sidewalls ABCCANOPY EZ Pop Up or similar https://www.amazon.com/dp/B08DKLRJ9M/ref=twister_B088NMLKC6?_encoding=UTF8&th=1
 - 6x Ceiling mounted outdoor electric heaters DONYER POWER 1500W or similar https://www.amazon.com/DONYER-POWER-Outdoor-Electric-Ceiling/dp/B07FFPZK4C/ref=zg bs 553782 19? encoding=UTF8&refRID=PET8HE1GEF712YB5N7EW&th=1
 - c) 6x 4x Commercial outdoor fans Tornado 24 Inch or similar –

 https://www.amazon.com/Tornado-Circulator-Industrial-CommercialResidential/dp/B07DVPWG6L/ref=sr 1 9?dchild=1&keywords=outdoor+fans&qid=1626131257&sr=8-9
 - d) 1x Large Evaporative Cooler. Hessaire MC61M or similar https://www.amazon.com/Hessaire-Products-MC61M-Mobile-Evaporative/dp/B00LBQKTBC/
 - e) 10x 6ft plastic folding table
 - f) 40x plastic folding chairs
 - g) 1x Resin Storage Shed for storage of break area items. Craftsman 7' x 7' Gable Storage Shed or similar https://www.lowes.com/pd/CRAFTSMAN-Common-7-ft-x-7-ft-Actual-Interior-Dimensions-6-8-ft-x-6-8-ft-Craftsman-Resin-Storage-Shed-Gable-Storage-Shed/1001052346
 - h) 10x 50ft heavy duty extension cords
 - i) 5x 100ft heavy duty extension cords
 - j) 200x S hooks for extension cord hanging. Checkers Quick Hook or similar https://www.checkers-safety.com/quick-hook-overhead-hanging-cable-protection

- 23. <u>Alternates</u> This subcontractor shall review all four alternates as listed in specification section 012300 and as shown in the contract documents. This subcontractor shall provide alternate pricing for each alternate as applicable for this scope of work. If no applicable work exists, then alternate pricing shall be \$0. Items listed below shall part of this subcontractor's scope for the add alternates. This list is NOT a comprehensive list and is only intended as additional clarification.
 - a) Add Alternate No. 4 Demo interiors in student center as shown
 - b) Add Alternate No. 4 Demo opening in exterior wall of student center
- 24. <u>Traffic Control</u> This Subcontractor will provide a flagman with stop signs and appropriate training to assist and manage traffic flow, for deliveries to make a safe and secure exit out of the Construction site. This Subcontractor is fully aware that the construction site is within a high traffic campus corridor with continuing operations throughout the construction process. To that end, this Subcontractor will work hand in hand with the Construction Manager to ensure deliveries, manpower, and general construction traffic are conducted in such a manner as to provide a safe and undisturbed environment for the pedestrian and vehicular traffic, which includes but is not limited to: cleanup of all vehicle debris, mud, materials, adjusting haul routes and hours, adjusting exit routes, parking in designated areas, deferring to campus traffic, posting flagmen, etc.
- 25. Overtime Work This Subcontractor shall perform all work within the time frames established in the Construction Schedule. This Subcontractor shall submit a plan to the Construction Manager before beginning work outlining his means and methods for completing work within the time frames established. The plan shall show required daily production rates, methods for monitoring actual daily production and a detailed contingency plan outlining how lost time will be made up (including time lost due to normal seasonal weather). This plan will show durations to meet or beat schedule that included crew size, number of crews, number of days and hours per week with detail.

26. Appropriate Common Requirements:

- Submittals Subcontractor will in a timely and expedient manner provide submittals, drawings, etc. as required by contract specifications and Whiting-Turner Project Manager
- Warranties Subcontractor will provide all required warranties as called out in contract documents and specifications.
- O&M documentation Subcontractor will provide all required Operation & Maintenance as called out in contract documents and specifications.
- Permits and inspections this Subcontractor will provide for all permits and inspections as required to complete this scope of work. Additionally, Subcontractor will endeavor to inform Whiting-Turner of any permit requirements that may be beyond this Subcontractor's ability to acquire.
- Safety Subcontractor will adhere to all Federal, State, Local, University, and Whiting-Turner Safety
 requirements as set forth in all applicable law and project documents. Additionally, Subcontractor will
 adhere to all safety directives and practices as may be issued from time to time by Whiting-Turner
 personnel.

END OF SPECIFIC SCOPE

UNIVERSITY OF KENTUCKY CAPITAL CONSTRUCTION PROCUREMENT SECTION FORM OF PROPOSAL RENEW/MODERNIZE FRAZEE HALL

Subcontract 04B – FAÇADE RESTORATION			
Project No. <u>2511.8</u> Purchasing Officer: <u>Matt Spaldir</u>	Project Title: <u>RENEW/MODERNIZE FRAZEE HALL</u>		
•	oosal shall be followed exactly in submitting a is lost, an additional copy will be furnished upon ling Contract Documents.		
This Proposal is submitted by:			
Date:	(NAME AND ADDRESS OF BIDDER)		
Telephone:			
TO: BID CLERK UNIVERSITY OF KENTUCK	INVITATION TO BID: <u>CCK-2561-22</u>		
CAPITAL CONSTRUCTION	BID OPENING DATES: August 17, 2021		
PROCUREMENT	TRADE CONTRACT DESCRIPTION:		
RM. 322 SERVICE BUILDIN 411 SOUTH LIMESTONE	IG <u>Façade Restoration</u> TRADE CONTRACT NO.: 04B		
LEXINGTON, KY 40506-00			
having carefully examined the site of Documents as defined in Article I of Specifications affecting the work as furnish all labor, materials, supplies	of the Work, the Drawings and complete Contract of the General Conditions, as well as the sprepared by the Consultant, hereby proposes to and services required to construct the Project in aments, within the time set forth therein, and at the tion.		
The Bidder hereby acknowledges r	receipt of the following Addenda:		
ADDENDUM NO	DATED		
ADDENDUM NO	DATED		
ADDENDUM NO	DATED		
(Insert the number and date of any issued and received, the word NON	Addenda issued and received. If none has been NE should be inserted.)		

FORM OF PROPOSAL

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);
- That the submitted Bid or Bids covering Capital Construction Procurement Section Invitation No. <u>CCK-2561-22</u> 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 B	Y		TITLE
PRINT NAI	ME		FIRM
ADDRESS			PHONE ()
			FAX <u>()</u>
CITY EMAIL	STATE	ZIP CODE	DATE

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

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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, in compliance with the Invitation to Bid <u>CCK-2561-22</u> having examined the drawings, specifications, related documents and having visited the site of the proposed work, and being familiar with all the conditions surrounding the construction of the proposed project including the availability of materials and labor, hereby submits the following bid to furnish all labor, materials, and supplies and to construct the project in accordance with the Bid Documents within the time set forth therein and at the prices stated below. These prices are to cover all expenses incurred in performing the work required under the Contract Documents, of which this Bid is a part.

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.

Bidder hereby agrees that all escalation cost associated with materials and/or labor have been included in the stated unit cost, through the projected duration dates as stated in the preliminary project construction schedule.

FOR	R THE LUMP SUM OF				
	(USE WORDS)				
	(USE WORDS)	DOLLARS AND _	(USE WORDS)	CENTS.	
(\$	(USE FIGURES)				
BID /	<u>ALTERNATES</u>				
<u>Add</u>	Alternate No. 1: Card Reade	rs			
FOR	R THE LUMP SUM OF		WORDS)		
	(USE WORDS)	DOLLARS AND _	(USE WORDS)	CENTS.	
(\$	(USE FIGURES)				

Add A	Alternate No. 2: Terraced Se	at Wall			
FOR	THE LUMP SUM OF(USE WORDS)				
	(USE WORDS)				
	(USE WORDS)	_ DOLLARS AND _	(110=1110==0)	CENTS.	
	(USE WORDS)		(USE WORDS)		
(\$	(USE FIGURES)				
Add A	Alternate No. 3: Wood Floori	ng			
FOR	THE LUMP SUM OF				
	(USE WORDS)				
		DOLLARS AND		CENTS	
	(USE WORDS)		(USE WORDS)	0	
(\$	(USE FIGURES)				
Add /	Alternate No. 4: Pedestrian V	Valkway and Gatton St	udent Center		
FOR	THE LUMP SUM OF				
. 0.1	(USE \		WORDS)		
				CENTS	
	(USE WORDS)	_ DOLLARS AND _	(USE WORDS)	CENTS.	
/					
(Φ	(USE FIGURES)				

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	(06)Woman-Owned Large Business
(02)Large Business	(07)Disadvantaged Woman-Owned Small Business
(03)Disadvantaged Small Business	(08) Disadvantaged Woman-Owned Large Business
(04)Disadvantaged Large Business	(09)Other
(05) Woman-Owned Small Business	

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 Black Americans, Hispanic Americans, Native Americans, Asian-Pacific Americans 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, 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)
- 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 are required to complete and submit the following information with their bid.

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

ITEM	UNIT	COST PER UNIT
Façade Cleaning	SF	\$
Repointing	SF	\$
L2 Lintel Install	EA	\$
		\$
		\$
		\$
		\$
		\$

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 bidder will be required to complete and submit to the University the following information by twelve (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.

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

Provide the address, phone number and contact information for the following subcontractor/suppliers:

DIVISION OF WORK	NAME AND ADDRESS OF SUBCONTRACTOR

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 bidder will be required to complete and submit to the University the following information by twelve (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.

ITEM DESCRIPTION	MANUFACTURER/SUPPLIER

IDENTIFICATION OF MINORITY SUBCONTRACTORS AND MATERIAL SUPPLIERS

Participation of Minority and Women owned Contractors and businesses.

The University of Kentucky encourages and supports the participation of minority and women owned businesses.

1.	Minority and Women Subcontractors			
2.	Minority and Women Material Suppliers			
SUPE	RINTENDENT			
projec	ordance with Article 17 of the General Conditions a full-time superintendent will be required on this t. Below, please list the superintendent your firm will employ on this project. The successful Bidder required to furnish a resume of the superintendents' qualifications and or past projects.			
List the	e Superintendent's Name			

Revised 3/22/06

TRADE CONTRACT - 04B - FAÇADE RESTORATION

This section defines in summary, without limitations by the descriptions, significant items of the scope of work to be performed by the Subcontractor and any special provision related to the Subcontractor's execution of the Work and the Project. The details of the scope of work are further defined in Drawings, Specifications, and other provisions contained in the Project Documents.

Unit 04B – Façade Restoration

This work shall include all items indicated in **Section A:** General Scope of Work, as such items apply to this work unless specifically noted otherwise herein.

This work primarily includes, but is not limited to the following specification sections as well as related work specified or shown elsewhere in the Contract Documents:

Masonry & Stone as specified in contract documents

***Note: This Subcontractor is responsible for the requirements of the <u>complete</u>

<u>Contract Documents</u> as they pertain to this Unit of Work.

- Scope of Work This Subcontractor is responsible for all the work as scoped herein and as specified in the Project Manual and Contract Drawings. This Subcontractor shall furnish 100% supervision, labor, material, accessories, equipment, tools, shop drawings, submittals, layout, unloading, appliances, rigging, ladders, hoisting, scaffolding, transportation, taxes, warranties and guarantees, and everything necessary to completely furnish and install all of the required concrete unit masonry in full compliance with the Contract Documents. This Subcontractor shall install the following items furnished and delivered by others: All L2 steel lintels at new and existing masonry openings within the existing building; Recessed mounted Knox box
- 2. <u>PlanGrid License</u> This Subcontractor has included the necessary license(s) to PlanGrid for their office and field staff for field reference and notifications. Please note that drawings posted on PlanGrid do not supersede the Contract Documents and should only be used for reference and notifications. All submittals, RFIs, and installation work should conform to the Contract Documents.
- 3. <u>Façade Restoration</u> This Subcontractor shall furnish and install all necessary materials for a comprehensive façade restoration in strict compliance with the contract documents. This shall include but not be limited to:
 - Repoint 10% of existing brick/stone façade
 - Clean all existing brick/stone façade
 - Repoint existing stone stairs per A531
 - Repoint stoops per A532
 - Remove fire escape anchors and install and repoint brick and install and repoint brick where anchors are already removed. (AD204 Note 3 & Note 4) This is above-and-beyond the 10% repointing allowance.
 - Patch and repair holes in limestone and remove stair bracket from limestone. (AD204 Note 5 & Note 6)
 - Patch limestone where existing stair railing has been removed. (AD201 Note 1)
 - Install the new recessed Knox box within the existing masonry façade.
 - Furnish and install all materials required at the masonry infill for the new door openings at Stair B. Façade material to match existing adjacent material. (A222 Detail A3; A602 Detail C4) Lintels provided by others and installed by this subcontractor.
 - Replace damaged bricks, assume approximately 200 bricks to match existing. (A201 A204 General Note B)
 - Investigate all existing steel lintels and notify the construction manager of which lintels require replacement.

- Repair upper and mid-level metal cornice where significant damage or corrosion has occurred. Replace areas in kind, assume 25%. (A201 A204 General Note H)
- Repoint Kentucky Limestone base, assume 10% (A201 A204 General Note I)
- Repoint all headers and sills at Indiana Limestone. (A201 A204 General Note J)
- Provide and install brick infill noted on A211. This is above-and-beyond the 200 replacement brick.
- Provide and install mortal infill below limestone cheek walls and limestone base at NW building entrance (A531).
- Strike vertical and horizontal at limestone threshold. Install mesh weep and repoint mortar joints. NW and SW entries (A531 & A532 Note 6).
- Patch damaged sections of limestone stairs (A531 & A532).
- Replace concrete trim at door entry, replace in kind (A532 Note 3).
- This subcontractor shall supply and install all materials required at the masonry infill for the stone window infill (A607 Detail A1) This shall include but not be limited to all: Concrete masonry units, stone veneer, cut stone sill.
- 4. <u>Historic Interior Masonry</u> This Subcontractor shall furnish and install all necessary materials to complete all scope related to the patching and repair of the historic interior masonry in strict compliance with the contract documents. This shall include but not be limited to:
- Repoint 10% or interior brick. (A611 General Note B)
- Clean all existing brick (interior)
- Install L2 lintels at new and existing masonry openings inside of existing building
- Patching of all trenches in masonry where electrical contractor is required to conceal new conduits in existing walls.
- Removal of all existing anchors and patching of holes at all existing interior masonry walls to remain.
- Patching of holes and penetrations left from the demolition of the existing Stair A. This shall include anchor holes from the handrails and holes from structural anchors from the stair itself.
- There is an existing masonry shaft at the basement and third floor that was damaged during the Phase 1 demolition that requires patching. This will require patching approximately 20sf of brick.
- Patching of existing penetrations through masonry walls that are not re-used for the new MEP trades. Bidders should walk the site and review the extent of existing penetrations.
- 5. Patching & Repair This subcontractor shall provide an allowance of \$5,000 for façade patching and repair that is above-and-beyond what is required for this scope. At any time during the course of the project Whiting-Turner may elect to use any unspent portion of this allowance for other added items within this Scope of Work. Also, any unspent portion of this allowance may be returned to Whiting-Turner at any time during the project. This allowance does not alleviate this Subcontractor from any of their contractual requirements spelled out in the Contract Documents or their contractual requirements spelled out in this Subcontract. This allowance cannot be spent without written authorization from Whiting-Turner. Any unspent portion of this allowance will be returned to UK at the end of the project via a subcontract change order to this Subcontractor.
- 6. Traffic Control This Subcontractor will provide a flagman with stop signs and appropriate training to assist and manage traffic flow, for deliveries to make a safe and secure exit out of the Construction site. This Subcontractor is fully aware that the construction site is within a high traffic campus corridor with continuing operations throughout the construction process. To that end, this Subcontractor will work hand in hand with the Construction Manager to ensure deliveries, manpower, and general construction traffic are conducted in such a manner as to provide a safe and undisturbed environment for the pedestrian and vehicular traffic, which includes but is not limited to: cleanup of all vehicle debris, mud, materials, adjusting haul routes and hours, adjusting exit routes, parking in designated areas, deferring to campus traffic, posting flagmen, etc.
- 7. Overtime Work This Subcontractor shall perform all work within the time frames established in the Construction Schedule. This Subcontractor shall submit a plan to the Construction Manager before beginning work outlining his means and methods for completing work within the time frames established. The plan shall show required daily production rates, methods for monitoring actual daily production and a

detailed contingency plan outlining how lost time will be made up (including time lost due to normal seasonal weather). This plan will show durations to meet or beat schedule that included crew size, number of crews, number of days and hours per week with detail.

8. Appropriate Common Requirements:

- Submittals Subcontractor will in a timely and expedient manner provide submittals, drawings, etc. as required by contract specifications and Whiting-Turner Project Manager
- Warranties Subcontractor will provide all required warranties as called out in contract documents and specifications.
- O&M documentation Subcontractor will provide all required Operation & Maintenance as called out in contract documents and specifications.
- Permits and inspections this Subcontractor will provide for all permits and inspections as required to complete this scope of work. Additionally, Subcontractor will endeavor to inform Whiting-Turner of any permit requirements that may be beyond this Subcontractor's ability to acquire.
- Safety Subcontractor will adhere to all Federal, State, Local, University, and Whiting-Turner Safety
 requirements as set forth in all applicable law and project documents. Additionally, Subcontractor will
 adhere to all safety directives and practices as may be issued from time to time by Whiting-Turner
 personnel.
- 9. <u>Alternates</u> This subcontractor shall review all four alternates as listed in specification section 012300 and as shown in the contract documents. This subcontractor shall provide alternate pricing for each alternate as applicable for this scope of work. If no applicable work exists, then alternate pricing shall be \$0.

END OF SPECIFIC SCOPE

UNIVERSITY OF KENTUCKY CAPITAL CONSTRUCTION PROCUREMENT SECTION FORM OF PROPOSAL RENEW/MODERNIZE FRAZEE HALL

Subcontract 07B – Waterproofing				
Project No. <u>2511.8</u> Project Title: <u>RENEW/MODERNIZE FRAZEE HALL</u> Purchasing Officer: <u>Matt Spalding</u>				
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:	(MAME AND ADDRESS OF DIDDED)			
Date:	(NAME AND ADDRESS OF BIDDER)			
Telephone:				
TO: BID CLERK UNIVERSITY OF KENTUCKY	INVITATION TO BID: CCK-2561-22			
CAPITAL CONSTRUCTION	BID OPENING DATES: August 17, 2021			
PROCUREMENT RM. 322 SERVICE BUILDING	TRADE CONTRACT DESCRIPTION:			
411 SOUTH LIMESTONE	Waterproofing TRADE CONTRACT NO.: 07B			
LEXINGTON, KY 40506-0005	TIME: 3 <u>:00 P.M. E.D.T.</u>			
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			
(Insert the number and date of any Addenda issued and received. If none has been issued and received, the word NONE should be inserted.)				

FORM OF PROPOSAL

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);
- That the submitted Bid or Bids covering Capital Construction Procurement Section Invitation No. <u>CCK-2561-22</u> 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 B	Y		TITLE
PRINT NAI	ME		FIRM
ADDRESS			PHONE ()
			FAX <u>(</u>)
CITY EMAIL	STATE	ZIP CODE	DATE

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, in compliance with the Invitation to Bid <u>CCK-2561-22</u> having examined the drawings, specifications, related documents and having visited the site of the proposed work, and being familiar with all the conditions surrounding the construction of the proposed project including the availability of materials and labor, hereby submits the following bid to furnish all labor, materials, and supplies and to construct the project in accordance with the Bid Documents within the time set forth therein and at the prices stated below. These prices are to cover all expenses incurred in performing the work required under the Contract Documents, of which this Bid is a part.

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.

Bidder hereby agrees that all escalation cost associated with materials and/or labor have been included in the stated unit cost, through the projected duration dates as stated in the preliminary project construction schedule.

FOR	THE LUMP SUM OF				
		(USE	(USE WORDS)		
	(USE WORDS)	DOLLARS AND _	(USE WORDS)	CENTS.	
(\$	(USE FIGURES)		(OCL WONDO)		
BID /	ALTERNATES				
	Alternate No. 1: Card Reade	ers			
FOR	THE LUMP SUM OF				
		(USE	WORDS)		
	(USE WORDS)	DOLLARS AND _	(USE WORDS)	CENTS.	
(\$	(USE FIGURES)				

FOR	THE LUMP SUM OF			
		(USE	WORDS)	
	(USE WORDS)	_ DOLLARS AND _	(USE WORDS)	_CENTS.
(\$	(USE FIGURES)			
Add A	Alternate No. 3: Wood Floorii	ng		
FOR	THE LUMP SUM OF			
		(USE	WORDS)	
	(USE WORDS)	_ DOLLARS AND _	(USE WORDS)	_CENTS.
(\$	(USE FIGURES)			
Add /	Alternate No. 4: Pedestrian V	Valkway and Gatton St	udent Center	
FOR	THE LUMP SUM OF			
		(USE	WORDS)	
	(USE WORDS)	_ DOLLARS AND _	(USE WORDS)	_CENTS.
(\$	(USE FIGURES)		,	

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	(06)	_Woman-Owned Large Business
(02)	_Large Business	(07)	_Disadvantaged Woman-Owned Small Business
(03)	_Disadvantaged Small Business	(80)	_Disadvantaged Woman-Owned Large Business
(04)	_Disadvantaged Large Business	(09)	_Other
(05)	Woman-Owned Small Rusiness		

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 Black Americans, Hispanic Americans, Native Americans, Asian-Pacific Americans and other minorities or individuals found to be disadvantaged by the SBA.
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- (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.
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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.
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- 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)

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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 are required to complete and submit the following information with their bid.

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

ITEM	UNIT	COST PER UNIT
Installer	HR	
Foreman	HR	
Below-grade WP	SF	
Air & Vapor Barrier	SF	
Expansion Joint	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 bidder will be required to complete and submit to the University the following information by twelve (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.

Provide the address, phone number and contact information for the following Subcontractor/suppliers:

DIVISION OF WORK	NAME AND ADDRESS OF SUBCONTRACTOR

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.

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

	·
ITEM DESCRIPTION	MANUFACTURER/SUPPLIER

IDENTIFICATION OF MINORITY SUBCONTRACTORS AND MATERIAL SUPPLIERS

Participation of Minority and Women owned Contractors and businesses.

The University of Kentucky encourages and supports the participation of minority and women owned businesses.

1.	Minority and Women Subcontractors		
2.	Minority and Women Material Suppliers		
SUPE	RINTENDENT		
projec	ordance with Article 17 of the General Conditions a full-time superintendent will be required on this t. Below, please list the superintendent your firm will employ on this project. The successful Bidder required to furnish a resume of the superintendents' qualifications and or past projects.		
List th	e Superintendent's Name		
Revised	3/22/06		

TRADE CONTRACT - 07B - Waterproofing

This section defines in summary, without limitations by the descriptions, significant items of the scope of work to be performed by the Subcontractor and any special provision related to the Subcontractor's execution of the Work and the Project. The details of the scope of work are further defined in Drawings, Specifications, and other provisions contained in the Project Documents.

The work covered under this Contract includes but is not limited to the following specific work items:

Unit 07B – Waterproofing

This work shall include all items indicated in **Section A:** General Scope of Work, as such items apply to this work unless specifically noted otherwise herein.

This work primarily includes, but is not limited to the following specification sections as well as related work specified or shown elsewhere in the Contract Documents:

All specifications as they relate to the Waterproofing scope of work.

***Note: This Subcontractor is responsible for the requirements of the <u>complete</u> <u>Contract Documents</u> as they pertain to this Unit of Work.

- Scope of Work It is the intent for this project that this Subcontractor performs all work scoped herein and as specified in the Project Manual and Contract Drawings. This Subcontractor shall furnish 100% of the labor, supervision, materials, tools, equipment, operators, hauling, rigging, temp. shoring, shop drawings, submittals, layout, unloading, scaffolding, ladders, hoisting, transportation, taxes, permits, engineering, support functions, bonds, warranties, guarantees, and any other items or services necessary for and reasonably incidental to safely execute and complete the work scoped herein, whether temporary or permanent, in full compliance with all drawings, specifications, addenda, general conditions, requirements, and other related documents as indicated herein.
- 2. <u>PlanGrid License</u> This Subcontractor has included the necessary license(s) to PlanGrid for their office and field staff for field reference and notifications. Please note that drawings posted on PlanGrid do not supersede the Contract Documents and should only be used for reference and notifications. All submittals, RFIs, and installation work should conform to the Contract Documents.
- 3. <u>Joint Sealers/Sealants</u> This Contractor shall furnish and install all joint sealants to dissimilar materials and all necessary materials for a comprehensive installation in strict compliance with the contract documents. All provisions required for this unit of work are applicable to this work. The Subcontractor shall exclude all hardscaping sealant, and all joint sealant to similar materials. Examples of responsibility are as follows, but are not limited to:
 - Gypsum Sheathing to Adjacent
 - Concrete to Adjacent
 - Metal Panel to Adjacent
 - Window/Curtain Wall to Adjacent
 - CMU, Brick or Stone to Adjacent
 - Steel to Adjacent
- 4. <u>Below Grade Applied Waterproofing</u> This subcontractor shall install water proofing below grade at site retaining and seat walls per details on the LH series drawings. This shall include all drainage and protection board. This subcontractor shall be responsible for all applied waterproofing at elevator pits, window well retaining wall and manholes as shown on S701. This shall include all drainage and protection board. This subcontractor shall provide below grade waterproofing at

- 5. This subcontractor shall provide and install all expansion joint and expansion joint covers that are part of specification section 079200 and 079513. (See A522 A527 for majority of expansion joint details) This shall include all interior and exterior expansion joints to include but not be limited to the following:
 - Foam Seals
 - Compressions Seals
 - Floor to floor expansion joints
 - Floor to wall expansion joints
 - Wall expansion joints
 - Ceiling expansion joints
 - Foam seals between roof and existing building (A525 Detail D5 & E10)
- 6. <u>Miscellaneous Waterproofing Items</u> This subcontractor shall include the following items:
 - Crystalline waterproofing slurry
 - Bituminous damp proofing
 - Apply backer rod and joint sealant at all entry perimeter and jamb edges (A531 & A532 General Note G)
 - Provide waterproofing membrane and drainage layer at historical entries (A532)
- 7. <u>Air and Vapor Barrier</u> This Contractor shall furnish and install all Fluid-Applied Air and Vapor Barrier for a comprehensive installation in strict compliance with the contract documents on all exterior sheathing. This shall apply to all substrates behind all skin types.
- 8. This subcontractor shall provide an allowance of \$5,000 for additional waterproofing that goes above and beyond this scope of work. At any time during the course of the project Whiting-Turner may elect to use any unspent portion of this allowance for other added items within this Scope of Work. Also, any unspent portion of this allowance may be returned to Whiting-Turner at any time during the project. This allowance does not alleviate this Subcontractor from any of their contractual requirements spelled out in the Contract Documents or their contractual requirements spelled out in this Subcontract. This allowance cannot be spent without written authorization from Whiting-Turner. Any unspent portion of this allowance will be returned to UK at the end of the project via a subcontract change order to this Subcontractor.
- 9. Mockup This Subcontractor shall furnish and install Joint Sealants as described above for the project mockup. All provisions required are applicable to this scope of work.
- 10. <u>Surface Preparation</u> This Subcontractor will provide misc. surface preparation if minor work is required to install this scope of work. In the event this Subcontractor discovers large areas of substrate that have not been prepared per specification or manufacturer's requirements, this Subcontractor will provide written notification to the Construction Manager in order for others to fix.
- 11. Weather Subcontractor shall proceed with his work only when weather conditions comply with Manufacturer's recommendations and will permit the materials to be applied in accordance with those recommendations.
- 12. <u>Watertight system</u> The complete waterproofing system is to be installed watertight. Damage to finished materials of other Subcontractors and vendors resulting from leaks in the waterproofing system shall be the responsibility and liability of this Subcontractor, including all direct and indirect costs of repair.
- 13. <u>Metal Flashing</u> This Subcontractor shall furnish and install stainless steel flashing as required by the contract documents.
- 14. Waterproofing Consultant This subcontractor shall hire a third-party waterproofing consultant to complete a plan review for all waterproofing details to ensure details are acceptable for watertightness. This consultant shall also conduct first work inspections of major waterproofing systems to include but not be limited to the following: below grade waterproofing, vapor and air barrier, joint sealants, expansion joints, windows, curtainwall system, etc.

- 15. <u>Traffic Control</u> This Subcontractor will provide a flagman with stop signs and appropriate training to assist and manage traffic flow, for deliveries to make a safe and secure exit out of the Construction site. This Subcontractor is fully aware that the construction site is within a high traffic campus corridor with continuing operations throughout the construction process. To that end, this Subcontractor will work hand in hand with the Construction Manager to ensure deliveries, manpower, and general construction traffic are conducted in such a manner as to provide a safe and undisturbed environment for the pedestrian and vehicular traffic, which includes but is not limited to: cleanup of all vehicle debris, mud, materials, adjusting haul routes and hours, adjusting exit routes, parking in designated areas, deferring to campus traffic, posting flagmen, etc.
- 16. Overtime Work This Subcontractor shall perform all work within the time frames established in the Construction Schedule. This Subcontractor shall submit a plan to the Construction Manager before beginning work outlining his means and methods for completing work within the time frames established. The plan shall show required daily production rates, methods for monitoring actual daily production and a detailed contingency plan outlining how lost time will be made up (including time lost due to normal seasonal weather). This plan will show durations to meet or beat schedule that included crew size, number of crews, number of days and hours per week with detail.

17. Appropriate Common Requirements:

- a) Submittals Subcontractor will in a timely and expedient manner provide submittals, drawings, etc. as required by contract specifications and Whiting-Turner Project Manager
- Warranties Subcontractor will provide all required warranties as called out in contract documents and specifications.
- c) O&M documentation Subcontractor will provide all required Operation & Maintenance as called out in contract documents and specifications.
- d) Permits and inspections this Subcontractor will provide for all permits and inspections as required to complete this scope of work. Additionally, Subcontractor will endeavor to inform Whiting-Turner of any permit requirements that may be beyond this Subcontractor's ability to acquire.
- e) Safety Subcontractor will adhere to all Federal, State, Local, University, and Whiting-Turner Safety requirements as set forth in all applicable law and project documents. Additionally, Subcontractor will adhere to all safety directives and practices; as may be issued from time to time by Whiting-Turner personnel.
- 19. <u>Alternates</u> This subcontractor shall review all four alternates as listed in specification section 012300 and as shown in the contract documents. This subcontractor shall provide alternate pricing for each alternate as applicable for this scope of work. If no applicable work exists, then alternate pricing shall be \$0. Items listed below shall part of this subcontractor's scope for the add alternates. This list is NOT a comprehensive list and is only intended as additional clarification.
 - Add Alternate No. 4 Waterproofing at Pedestrian Walkway
 - o Expansion joints between walkway and existing buildings

END OF SPECIFIC SCOPE

UNIVERSITY OF KENTUCKY CAPITAL CONSTRUCTION PROCUREMENT SECTION FORM OF PROPOSAL RENEW/MODERNIZE FRAZEE HALL

Subcontract 08B – Glass & Glazing					
Project No. <u>2511.8</u> Purchasing Officer: <u>Matt Spalding</u>	Project Title: Renew/Modernize Frazee Hall				
proposal for this work. If this copy is los	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:					
Date:	(NAME AND ADDRESS OF BIDDER)				
Telephone:					
TO: BID CLERK UNIVERSITY OF KENTUCKY	INVITATION TO BID: CCK-2561-22				
CAPITAL CONSTRUCTION	BID OPENING DATES: August 17, 2021				
PROCUREMENT	TRADE CONTRACT DESCRIPTION:				
RM. 322 SERVICE BUILDING	Interior Glass, Glazing, & Metal Panels				
411 SOUTH LIMESTONE LEXINGTON, KY 40506-0005	TRADE CONTRACT NO.: 08B TIME: 3:00 P.M. E.D.T.				
22/11/01/01/, 101 10000 0000	11WE. 0.001 .W. E.B.T.				
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 recei	pt of the following Addenda:				
ADDENDUM NO	DATED				
ADDENDUM NO	DATED				
ADDENDUM NO					
(Insert the number and date of any Add issued and received, the word NONE s	lenda issued and received. If none has been hould be inserted.)				

FORM OF PROPOSAL

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);
- That the submitted Bid or Bids covering Capital Construction Procurement Section Invitation No. <u>CCK-2561-22</u> 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 B	Υ		TITLE
PRINT NA	ME		FIRM
ADDRESS	<u> </u>		PHONE ()
			FAX ()
CITY EMAIL	STATE	ZIP CODE	DATE

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, in compliance with the Invitation to Bid <u>CCK-2561-22</u> having examined the drawings, specifications, related documents and having visited the site of the proposed work, and being familiar with all the conditions surrounding the construction of the proposed project including the availability of materials and labor, hereby submits the following bid to furnish all labor, materials, and supplies and to construct the project in accordance with the Bid Documents within the time set forth therein and at the prices stated below. These prices are to cover all expenses incurred in performing the work required under the Contract Documents, of which this Bid is a part.

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.

Bidder hereby agrees that all escalation cost associated with materials and/or labor have been included in the stated unit cost, through the projected duration dates as stated in the preliminary project construction schedule.

FOF	R THE LUMP SUM OF			
		(USE	WORDS)	
	(USE WORDS)	DOLLARS AND _	(USE WORDS)	CENTS.
(\$	(USE FIGURES)			
BID .	<u>ALTERNATES</u>			
<u>Add</u>	Alternate No. 1: Card Reade	ers		
FOF	R THE LUMP SUM OF	(USE	WORDS)	
	(USE WORDS)	DOLLARS AND _	(USE WORDS)	CENTS.
(\$	(USE FIGURES)			

Add A	Alternate No. 2: Terraced Se	eat Wall		
FOR	THE LUMP SUM OF	(USE)	WORDS)	
		(03E	WORDS)	
	(USE WORDS)	DOLLARS AND _	(USE WORDS)	CENTS.
(\$	(USE FIGURES)			
Add A	Alternate No. 3: Wood Floori	ing		
FOR	THE LUMP SUM OF			
	(USE WORDS)			
		DOLLARS AND		CENTS.
	(USE WORDS)		(USE WORDS)	
(\$	(USE FIGURES)			
Add A	Alternate No. 4: Pedestrian \	Walkway and Gatton St	udent Center	
EOD	THE LUMP SUM OF			
IOI	THE LOWE SOM OF	(USE	WORDS)	
		DOLLARS AND _		CENTS.
	(USE WORDS)		(USE WORDS)	
(\$	(USE FIGURES)			

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	(06)Woman-Owned Large Business
(02)Large Business	(07)Disadvantaged Woman-Owned Small Business
(03)Disadvantaged Small Business	(08)Disadvantaged Woman-Owned Large Business
(04)Disadvantaged Large Business	(09)Other
(05) Woman-Owned Small Business	

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 Black Americans, Hispanic Americans, Native Americans, Asian-Pacific Americans 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, 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)
- 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 are required to complete and submit the following information with their bid.

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

ITEM	UNIT	COST PER UNIT
Installer	HR	
Foreman	HR	

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.

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Provide the address, phone number and contact information for the following subcontractor/suppliers:

DIVISION OF WORK	NAME AND ADDRESS OF SUBCONTRACTOR

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.

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IDENTIFICATION OF MINORITY SUBCONTRACTORS AND MATERIAL SUPPLIERS

Participation of Minority and Women owned Contractors and businesses.

The University of Kentucky encourages and supports the participation of minority and women owned businesses.

1.	Minority and Women Subcontractors			
2.	Minority and Women Material Suppliers			
SUPER	RINTENDENT			
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List the	e Superintendent's Name			
Revised 3	7/22/06			

TRADE CONTRACT - 08B - Glass & Glazing

This section defines in summary, without limitations by the descriptions, significant items of the scope of work to be performed by the Subcontractor and any special provision related to the Subcontractor's execution of the Work and the Project. The details of the scope of work are further defined in Drawings, Specifications, and other provisions contained in the Project Documents.

The work covered under this Contract includes but is not limited to the following specific work items:

This work shall include all items indicated in **Section A:** General Scope of Work, as such items apply to this work unless specifically noted otherwise herein.

This work primarily includes, but is not limited to the following specification sections as well as related work specified or shown elsewhere in the Contract Documents:

Interior Glass, Glazing, & Metal Panels as specified in contract documents

***Note: This Subcontractor is responsible for the requirements of the <u>complete</u> Contract Documents as they pertain to this Unit of Work.

- 1. Scope of Work It is the intent for this project that this Subcontractor perform all the work as scoped herein and as specified in the Project Manual and Contract Drawings. This Subcontractor shall furnish 100% supervision, labor, material, equipment, tools, appliances, warranties and guarantees, and everything necessary to completely detail, fabricate, tag, and deliver F.O.B. to jobsite, and install all of the required:
 - Provide and install curtainwall at new stair towers. This shall include all accessories such as anchorage brackets, extruded trim, internal weep drainage system, etc.
 - Provide and install new windows at existing openings. This shall include but not be limited to the following:
 - Removal of temporary opening protection (plywood and handrail) just prior to new window install.
 - Removal all exterior brick trim
 - o Surface preparation at existing opening
 - o Provide all new fire-retardant treated wood blocking
 - Provide flashing at head, jambs, and sills that extend full depth of window frame
 - Provide exterior perimeter caulk joint that adheres to both profile panning and flexible flashing membrane in each opening.
 - Provide and install new storefront windows at new bridge and stair tower.
 - Provide and install new storefront frames, doors and hardware including electrified hardware. Security
 devices and wiring will be by others.
 - Provide and install all glazing to include insulated glass, tempered glass, infill panels, spandrels, silk screened ceramic frit glass etc.
 - Provide and install applied film to all glazing as shown on the contract documents. (Ex. see remarks on door schedule.)
 - To the best extent possible this subcontractor shall verify rough-opening dimensions for windows and door prior to fabricating.
 - Provide and install all joint sealants, air seal, weather barrier/seal, edge seal, gasket seal, etc. associated with this scope of work.
 - This subcontractor shall be responsible for all means of access including all scaffolding, lifts, etc. to complete the installation of this scope of work.

- This subcontractor shall remove, store, protect and reinstall existing railing and glass from site retaining wall as shown on LH101. This subcontractor shall do the same for the glass railing at the Student Center exit stair during the duration for the Administration Drive shutdown. (This is shown on page 3 of the site logistics plan.) Storage shall be maintained offsite due to limited site storage.
- This subcontractor shall provide and install new glass railing at top of exterior retaining walls to include all anchoring, support steel tubing, rail shoe, glass, top railing, grout and joint sealants.
- This subcontractor shall provide and install joint sealants relating to this scope of work. This shall include joint sealant between curtainwall and steel shown on A524 Detail A1.
- This subcontractor shall provide and install the smoke baffles around the perimeter of Stair A.
- Provide and install clear float glass at NW entry door (A531 Detail F5).
- Provide and install film on widows as required by the contract documents.

This work will be completed in full compliance with the Contract Documents. The technique used to install this scope of work will be the responsibility of this contractor. The techniques established shall allow for all requirements set forth in the Contract Documents.

- 2. <u>Materials & Accessories</u> This Subcontractor shall furnish and install all flashing, trim, wood blocking, caulking, accessories, anchors, fasteners, clips, aluminum framing, glazing, dustless strikes, extruded aluminum caps with insulation where window mullions meet walls, anchors and any other items necessary to furnish and complete the systems associated with this unit of work as detailed within the Contract Documents.
- 3. <u>Doors & Accessories</u> This Subcontractor shall furnish and install all storefront doors, hardware, glazing, thresholds, fasteners, closures, power supplies, handicap push buttons, exit devices, weather stripping, and accessories for storefront doors. This Subcontractor shall provide necessary raceways for electrical wiring, security wiring, etc. within all doors and frames provided within this scope. This Subcontractor will wire all low voltage connections from auto operators to the push buttons. 120 V power and wiring from power supply and upstream will be by others.
- 4. <u>PlanGrid License</u> This Subcontractor has included the necessary license(s) to PlanGrid for their office and field staff for field reference and notifications. Please note that drawings posted on PlanGrid do not supersede the Contract Documents and should only be used for reference and notifications. All submittals, RFIs, and installation work should conform to the Contract Documents.
- 5. <u>Glass Handrails</u> This subcontractor shall furnish and install the glass guardrails as shown on the landscaping plans. This shall include removal, offsite storage and reinstallation of existing glass guardrails.
- 6. <u>Flashing</u> This subcontractor shall be responsible for all pre-finished aluminum flashing and trim that is directly adjacent to all windows, storefront, and curtainwall. This shall include but not be limited to all window head, jambs and sills.
- 7. <u>Caulking</u> This Subcontractor shall furnish and install all interior caulking and sealants, backer rod, and fastener penetrations for all the items associated with this unit of work. This includes caulking this Subcontractors work to the adjacent substrates and surfaces to complete a complete and final product.
- 8. Shop Drawings and Coordination This Subcontractor shall provide all of the required coordination between the approved shop drawings and the preparation and fabrication of the glazing systems. This Subcontractor will be responsible for the reproduction of all shop drawings and other submittals including the cost thereof. This includes "field use" shop drawings that are to be sent to the jobsite immediately after shop drawings have been approved. This Subcontractor shall immediately commence with the preparation of all items to be submitted/approved as required by the Construction Documents.
- 9. <u>Coordination</u> This Subcontractor acknowledges that portions of this Subcontractor's scope of work are to be installed in conjunction with work by others and agrees to all coordination and sequencing as required by the Construction Manager. Coordinate all deliveries with the Construction Manager.

- 10. <u>Field Measurements</u> This Subcontractor shall be responsible for field measurements as required to perform this scope of work. The requirements of field measurements shall not alter or extend the contract schedule.
- 11. Existing Structures This Subcontractor shall survey and examine all existing adjacent structures to determine all information necessary to furnish and install the glazing systems. This Subcontractor shall clean or repair any damage to existing structures that results from executing this Scope of Work.
- 12. <u>Storage</u> This Subcontractor is responsible for protection of all stored materials on site. Store materials in an upright position, off the ground, undercover, and protected from weather, direct sunlight, and construction activities. Protect materials and finish during handling and installation to prevent damage. Special precautions will be required due to increased wind loading and weather conditions.
- 13. <u>Protection of Materials</u> This Subcontractor is responsible for the protection of adjacent materials and finishes products prior to starting work as well as of the work installed by this Contractor. Damage to adjacent surfaces or finish products will be repaired or replaced by this Contractor at no additional cost to the Owner or Construction Manager.
- 14. <u>Craftsmanship</u> This Subcontractor understands that the work performed under this Trade Contract is an integral part of the finish product and will install all such items in a manner clearly indicative of the best trade practices possible. Any items installed in a manner not representing the best workmanship possible shall be reworked until they meet with CM approval. This work shall be done at no additional cost to the Construction Manager or Owner.
- 15. <u>Samples</u> This Subcontractor shall provide samples for initial material selection and for verification with specified size, type, and quantities as stated within the Specifications.
- 16. <u>Cleaning</u> This Subcontractor shall clean all glazing and frames upon completion of his work. This includes the removal of all stickers, sealants, or other items that are not cleanable with soap and water if these were caused by this Subcontractor's work. It is agreed that a final cleaning shall not be included in this scope of work.
- 17. <u>Acceptance of Substrates</u> This Subcontractor will verify the dimensions and any other conditions (including moisture content) of the substrate to confirm that it is acceptable prior to beginning this unit of work. This Subcontractor should review the substrate and notify the Construction Manager in writing of any deficiencies. Commencement of this unit of work shall constitute acceptance of substrates.
- 18. <u>Supplemental Framing</u> This Subcontractor shall provide any supplemental framing requirements to properly support this work that is not shown on the contract documents.
- 19. <u>Surveying</u> It is this Subcontractors responsibility to survey opening sizes, supports, and other conditions affecting this work at least two weeks prior to installation. Notify Whiting-Turner immediately of any problems.
- 20. <u>Proper Operation</u> It is this Subcontractor responsibility to install all doors leveled, plumb, and square to ensure a properly functional and operating door.
- 21. <u>Traffic Control</u> This Subcontractor will provide a flagman with stop signs and appropriate training to assist and manage traffic flow, for deliveries to make a safe and secure exit out of the Construction site. This Subcontractor is fully aware that the construction site is within a high traffic campus corridor with continuing operations throughout the construction process. To that end, this Subcontractor will work hand in hand with the Construction Manager to ensure deliveries, manpower, and general construction traffic are conducted in such a manner as to provide a safe and undisturbed environment for the pedestrian and vehicular traffic, which includes but is not limited to: cleanup of all vehicle debris, mud, materials, adjusting haul routes and hours, adjusting exit routes, parking in designated areas, deferring to campus traffic, posting flagmen, etc.
- 22. Overtime Work This Subcontractor shall perform all work within the time frames established in the Construction Schedule. This Subcontractor shall submit a plan to the Construction Manager before beginning

work outlining his means and methods for completing work within the time frames established. The plan shall show required daily production rates, methods for monitoring actual daily production and a detailed contingency plan outlining how lost time will be made up (including time lost due to normal seasonal weather). This plan will show durations to meet or beat schedule that included crew size, number of crews, number of days and hours per week with detail.

23. Appropriate Common Requirements:

- Submittals Subcontractor will in a timely and expedient manner provide submittals, drawings, etc. as required by contract specifications and Whiting-Turner Project Manager.
- Warranties Subcontractor will provide all required warranties as called out in contract documents and specifications.
- O&M documentation Subcontractor will provide all required Operation & Maintenance as called out in contract documents and specifications.
- Permits and inspections this Subcontractor will provide for all permits and inspections as required to complete this scope of work. Additionally, Subcontractor will endeavor to inform Whiting-Turner of any permit requirements that may be beyond this Subcontractor's ability to acquire.
- Safety Subcontractor will adhere to all Federal, State, Local, University, and Whiting-Turner Safety
 requirements as set forth in all applicable law and project documents. Additionally, Subcontractor will
 adhere to all safety directives and practices as may be issued from time to time by Whiting-Turner
 personnel.
- 24. <u>Alternates</u> This subcontractor shall review all four alternates as listed in specification section 012300 and as shown in the contract documents. This subcontractor shall provide alternate pricing for each alternate as applicable for this scope of work. If no applicable work exists, then alternate pricing shall be \$0.
 - Add Alternate No. 4
 - Storefront windows at pedestrian bridge
 - Storefront door A300M
 - o Storefront door 200H (should be continuous curtainwall in base bid)

END OF SPECIFIC SCOPE

UNIVERSITY OF KENTUCKY – Renew/Modernize Frazee Hall UK Project No. 2511.8

UNIVERSITY OF KENTUCKY CAPITAL CONSTRUCTION PROCUREMENT SECTION FORM OF PROPOSAL RENEW/MODERNIZE FRAZEE HALL

Subcontract 31	A – Earthwork & Utilities
Project No. <u>2511.8</u> Proje Purchasing Officer: <u>Matt Spalding</u>	ct Title: RENEW/MODERNIZE FRAZEE HALL
	I shall be followed exactly in submitting a st, an additional copy will be furnished upon Contract Documents.
This Proposal is submitted by:	
Date:	(NAME AND ADDRESS OF BIDDER)
Telephone:	
TO: BID CLERK UNIVERSITY OF KENTUCKY	INVITATION TO BID: CCK-2561-22
CAPITAL CONSTRUCTION	BID OPENING DATES: August 17, 2021
PROCUREMENT	TRADE CONTRACT DESCRIPTION:
RM. 322 SERVICE BUILDING 411 SOUTH LIMESTONE	Earthwork & Utilities
LEXINGTON, KY 40506-0005	TRADE CONTRACT NO.: 31A TIME: 3:00 P.M. E.D.T.
having carefully examined the site of th Documents as defined in Article I of the Specifications affecting the work as pre furnish all labor, materials, supplies and	pared by the Consultant, hereby proposes to d services required to construct the Project in hts, within the time set forth therein, and at the
The Bidder hereby acknowledges recei	pt of the following Addenda:
ADDENDUM NO	DATED
ADDENDUM NO	
ADDENDUM NO	DATED
(Insert the number and date of any Add issued and received, the word NONE s	lenda issued and received. If none has been hould be inserted.)

I hereby certify:

FORM OF PROPOSAL

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

- 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-2561-22 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			PHONE ()
			FAX()
CITY EMAIL	STATE	ZIP CODE	DATE

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, in compliance with the Invitation to Bid CCK-2561-22 having examined the drawings, specifications, related documents and having visited the site of the proposed work, and being familiar with all the conditions surrounding the construction of the proposed project including the availability of materials and labor, hereby submits the following bid to furnish all labor, materials, and supplies and to construct the project in accordance with the Bid Documents within the time set forth therein and at the prices stated below. These prices are to cover all expenses incurred in performing the work required under the Contract Documents, of which this Bid is a part.

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.

Bidder hereby agrees that all escalation cost associated with materials and/or labor have been included in the stated unit cost, through the projected duration dates as stated in the preliminary project construction schedule.

FOR	THE LUMP SUM OF			
		(USE	WORDS)	
	(USE WORDS)	_ DOLLARS AND _	(USE WORDS)	CENTS.
(\$	(USE FIGURES)			
BID /	<u>ALTERNATES</u>			
<u>Add</u>	Alternate No. 1: Card Readers	3		
FOR	THE LUMP SUM OF		WORDS)	
(\$	(USE WORDS) (USE FIGURES)	_ DOLLARS AND _	(USE WORDS)	CENTS.

<u>Add</u>	Alternate No. 2: Terraced Sea	at Wall			
FOR	FOR THE LUMP SUM OF				
		(USE WO	RDS)		
	(USE WORDS)	_ DOLLARS AND(U	JSE WORDS)	CENTS.	
(\$	(USE FIGURES)				
<u>Add</u>	Alternate No. 3: Wood Flooring	ng			
FOR	THE LUMP SUM OF				
		(USE WO	RDS)		
	(USE WORDS)	_ DOLLARS AND	ISE WORDS)	CENTS.	
(\$,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		
<u>Add</u>	Alternate No. 4: Pedestrian V	/alkway and Gatton Stude	ent Center		
FOR	THE LUMP SUM OF				
		(USE WO	RDS)		
	(USE WORDS)	_ DOLLARS AND(U	JSE WORDS)	CENTS.	
(\$	(USE FIGURES)				

BUSINESS CLASSIFICATION

Please co	omplete this form wh	nich is necessar	y for the U	niversity of h	Kentucky vend	lor databas	e.
Mark only	one classification.	Refer to "Defin	itions" for a	assistance ir	determining	correct clas	sification

(01)	_Small Business	(06)	Woman-Owned Large Business
(02)	_Large Business	(07)	Disadvantaged Woman-Owned Small Business
(03)	_Disadvantaged Small Business	(80)	_Disadvantaged Woman-Owned Large Business
(04)	_Disadvantaged Large Business	(09)	_Other
(05)	Woman-Owned Small Business		

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 Black Americans, Hispanic Americans, Native Americans, Asian-Pacific Americans 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, 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)
- 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 are required to complete and submit the following information with their bid.

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

ITEM	UNIT	COST PER UNIT
Rock Removal	CY	\$
Unsuitable Soil Removal from Site	СҮ	\$
Suitable Soil Removal from Site	СУ	\$
Soil Haul-in to Site	СУ	\$
Compacted Stone	TN	\$
Laborer	HR	\$
Operator	HR	\$
Foreman	HR	\$
Street Cleaning	HR	\$
Flagmen	HR	\$

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 bidder will be required to complete and submit to the University the following information by twelve (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.

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

Provide the address, phone number and contact information for the following subcontractor/suppliers:

DIVISION OF WORK	NAME AND ADDRESS OF SUBCONTRACTOR
Sanitary & Storm Sewer	
Site Work	
Site Demolition	
Shoring, Bracing, and Underpinning	
Clearing & Grubbing	

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 bidder will be required to complete and submit to the University the following information by twelve (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.

ITEM DESCRIPTION	MANUFACTURER/SUPPLIER
Excavators	
Front End Loaders	
Dump Trucks	
Mini-Ex	
Skid-Steer	
Bulldozer	

IDENTIFICATION OF MINORITY SUBCONTRACTORS AND MATERIAL SUPPLIERS

Participation of Minority and Women owned Contractors and businesses.

The University of Kentucky encourages and supports the participation of minority and women owned businesses.

1.	Minority and Women Subcontractors			
2.	Minority and Women Material Suppliers			
SUPE	RINTENDENT			
project	ordance with Article 17 of the General Conditions a full-time superintendent will be required on this . Below, please list the superintendent your firm will employ on this project. The successful Bidder required to furnish a resume of the superintendents' qualifications and or past projects.			
List the	Superintendent's Name			

TRADE CONTRACT - 31A - Earthwork & Utilities

This section defines in summary, without limitations by the descriptions, significant items of the scope of work to be performed by the Subcontractor and any special provision related to the Subcontractor's execution of the Work and the Project. The details of the scope of work are further defined in Drawings, Specifications, and other provisions contained in the Project Documents.

Unit 31A – Earthwork & Utilities

This work shall include all items indicated in **Section A: General Scope of Work**, as such items apply to this work unless specifically noted otherwise herein.

This work primarily includes, but is not limited to the following specification sections as well as related work specified or shown elsewhere in the Contract Documents:

Earthwork & Utilities as specified in contract documents

***Note: This Subcontractor is responsible for the requirements of the <u>complete</u> <u>Contract Documents</u> as they pertain to this Unit of Work.

- Scope of Work It is the intent for this project that this Subcontractor performs all work scoped herein and as specified in the Project Manual and Contract Drawings. This Subcontractor shall furnish 100% of the labor, supervision, materials, tools, equipment, operators, hauling, rigging, temp. shoring, shop drawings, submittals, layout, unloading, scaffolding, ladders, hoisting, transportation, taxes, permits, engineering, support functions, bonds, warranties, guarantees, and any other items or services necessary for and reasonably incidental to safely execute and complete the work scoped herein, whether temporary or permanent, in full compliance with all drawings, specifications, addenda, general conditions, requirements, and other related documents as indicated herein.
- 2. <u>Utility Locating</u> This subcontractor shall be responsible for utility locating by using both 811 and private utility locator. Coordinate with UK for locating campus utilities.

 This subcontractor must adhere to WTs utility avoidance policy and must pothole when locating or excavating around existing utilities.
- 3. <u>Erosion Control</u> Perimeter erosions controls installed by others. This subcontractor shall provide any additional erosion control measures if the perimeter controls are not adequate to contain erosion caused by this scope of work. This shall include sediment traps and/or other protection means. (C-102 Soil Erosion Control Note 4)
 - This subcontractor shall provide inlet protection at newly installed storm structures immediately after construction. (C-102 Soil Erosion Control Note 8)
 - This subcontractor shall provide a \$5,000 allowance for additional erosion control to be installed at the direction of the construction manager. This is above and beyond the perimeter erosion control and supplemental controls provided by this subcontractor. At any time during the course of the project Whiting-Turner may elect to use any unspent portion of this allowance for other added items within this Scope of Work. Also, any unspent portion of this allowance may be returned to Whiting-Turner at any time during the project. This allowance does not alleviate this Subcontractor from any of their contractual requirements spelled out in the Contract Documents or their contractual requirements spelled out in this Subcontract. This allowance cannot be spent without written authorization from Whiting-Turner. Any unspent portion of this allowance will be returned to UK at the end of the project via a subcontract change order to this Subcontractor.
- 4. <u>Clearing & Grubbing</u> This subcontractor shall be responsible for clearing and grubbing site and be responsible for all temporary seeding or other temporary means of ground cover. (C-102 Soil Erosion Control Note 3; C-

- 103 Note 4) The Subcontractor shall strip vegetation, topsoil, roots and other unsuitable material to a depth determined by the Structural testing/Inspection Agency.
- 5. Shoring This subcontractor shall provide all shoring for excavations for this project. This subcontractor shall provide a shoring plan for approval by the construction manager. Due to the small site footprint, a limited amount of sloping and benching can be accommodated so this subcontractor should assume using engineered shoring for most trenching and excavations. At the manholes and elevator pit this subcontractor must provide appropriate shoring to allow other trades to perform their work. This subcontractor should consider and provide as necessary: shotcrete, soil nailings or lagging walls in these areas.
- 6. <u>Selective Site Demolition</u> This subcontractor shall be responsible for the following site demolition:
 - Sawcutting and removal of existing concrete sidewalks, walkways, pathways, etc. per the contract documents and logistics plan. (C-103 Note 2)
 - Sawcutting and removal of asphalt in Administration drive as required for utilities install. (Limits not shown)
 - Demolition of existing storm inlets, trench drains and piping per the contract documents (C-103 Note 3)
 - Demolition of site stairs, landings, walls and railings per the contract documents (C-103 Note 9)
 - Demolition of site retaining walls (C-103 Note 11)
 - Demolition of wall to support construction efforts. (C-103 Note 12)
 - Remove river rock landscaping (C-103 Note 13)
 - Demolition of existing sanitary structure and associated piping. (C-103 Note 14; U100 Note 7 & 8)
 - Demolition of existing steam piping from vault to building. (U100 Note 3)
 - Demolition of existing domestic water service to building (U100 Note 28)
- 7. <u>Ductbank Demo</u> This subcontractor shall coordinate with electrical subcontractor and excavate the existing electrical and telecommunications ductbanks. The electrical subcontractor will determine the extents of demo of the existing ductbank and this subcontractor shall be responsible for said demo.
- 8. Excavation This Subcontractor shall perform excavation to the depths and limits on the drawings and as specified herein, including all necessary rock removal, in accordance with the Contract Documents. Do not excavate to full depth when there is a probability of rain, frost forming or ground freezing in excavation before concrete is placed. The Subcontractor is responsible for covering the fill dirt with plastic, erosion control (including maintenance), and cleanliness of this site. Within the building footprint the building pad shall be excavated to subgrade +1' shown in the Contract Documents. Final subgrade excavation within the building footprint will be by others. This subcontractor shall be responsible for excavation for all utilities and utility vault to include but not be limited to: Chilled Water, Steam, Fire Suppression, Storm, Water, Telecom, Electrical
- 9. This subcontractor shall excavate for electrician to install new electrical and telecommunications ductbanks. Coordinate with electrician for amount of excavation and provide input of grades and coordination with other utilities. (C-106 Note 6 & 13) This subcontractor shall be responsible for backfilling of new ductbanks once the electrician has completed the work.
- 10. <u>Survey</u> Prior to construction, the Subcontractor will have the project site staked and certified by a surveyor who is licensed in the state of Kentucky. If discrepancies between actual lines and elevations exist, notify Construction Manager before proceeding with drilling activities. This Subcontractor shall be responsible for all surveying of the site so that this scope of work may be completed. This may require multiple surveys.
- 11. <u>Finished Grades</u> The Subcontractor is responsible for the importing/exporting of material to achieve the appropriate finish grades. This Subcontractor is also responsible for all slope protection required as per the OSHA Safety requirements.

- 12. <u>Encountering Groundwater</u> This Subcontractor shall provide dewatering of any groundwater if encountered during excavation and fill operations. The Subcontractor shall also be responsible for all temporary and permanent dewatering needed for construction.
- 13. <u>Protection</u> The Subcontractor shall coordinate and do his grading work in a way that protects existing grades, subgrades, and fills from surface water. All demucking and pumping of surface water from excavations, if necessary, is part of this work.
 - Any site walls to remain should be protected by this Subcontractor. Document condition prior to protection being installed. (C-103 Note 9)
 - This subcontractor shall protect existing steam vents through durations of project as directed by mechanical engineer. (C-102 Note 6)
- 14. Proof rolling After stripping or excavation, and before any fill placement, the Subcontractor shall proof roll areas with a minimum of two coverages of a loaded dump truck or scraper in each of two perpendicular directions. Areas found to be soft or pumping shall have the soft soil removed and replaced with structural fill and compacted as outlined by the Contract Documents.
- 15. <u>Stockpile</u> This Subcontractor will be responsible for all hauling off and hauling in materials needed to complete the necessary scope of work. Due to the limited size of the site, stockpiles shall not be allowed unless an individual exception is made at the sole discretion of the WT Superintendent. This Subcontractor understands that as there is little to no staging area, the vast majority or all of the spoils will need to be removed from the project sight and has accounted for such.
- 16. <u>Construction Entrances</u> This subcontractor shall install new construction entrances per the logistics plan. (C-102 Soil Erosion Control Note 1) This subcontractor shall be responsible for the modification and repair of existing site entrance and mudmat as necessary to complete this scope of work. (Reference logistics plan for existing mudmat and entrance location.) This Subcontractor is to maintain control measures by mucking out and disposing of sediment as needed at said entrances. Removal and disposal of construction entrances at prior to backfilling and landscaping will be the responsibility of this subcontractor.
- 17. <u>Site Utilities</u> This subcontractor shall be responsible for the installation of all site utilities (excluding electrical and telecom) to include but not be limited to the following:
 - a) Storm Sewer (C-106 Note 1, 2, 3, 4, 7, 8, 12, 15 & 17)
 - i) Including but not limited to: manholes, manhole frames, manhole covers, manhole steps, piping, foundation/french drains, trench drains, inspections, testing, etc.
 - b) Sanitary Sewer (C-106 Note 5)
 - i) Including but not limited to: manholes, manhole frames, manhole covers, manhole steps, piping, fittings, gaskets, waterstop, clean-outs, testing, inspections, etc. (U100 Note 6)
 - c) Chilled Water (C-106 Note 9)
 - i) Including but not limited to: piping, insulation, fittings, valves, drains, temperature gauges, pressure gauges, anchors, startup testing, survey, as-builts, etc. (U101 Note 12, 14, 15)
 - ii) Items for chilled water manholes to include: vault lid access doors, vault ladders, sump pumps and associated piping, vent discharge lines, exhaust fans, vent plenums, vent plenum drain lines, vent intakes and exhaust frames and covers, concrete collars, etc. (U101 Note 10, 13)
 - d) Steam (C-106 Note 10)
 - i) Including but not limited to: piping, insulation, valves, testing, startup, wall anchors, linkseal, core drilling, etc. (U100 Note 2)
 - e) Fire Protection (C-106 Note 11)
 - i) Including but not limited to: fire protection vault, piping, shutoff valves, check valves, valve boxes, meters, fire hydrant, thrust blocks, post indicator valves, fire department connection, miscellaneous concrete pads, testing, inspections, final tie-in, startup, etc. (U100 Note 5; U101 Notes 3 6; U103 Notes 2 & 3)
 - f) Domestic Water Service (C-106 Note 14; U100 Notes 9, 27, 28)
 - i) This subcontractor to coordinate with KAWC for installation of new domestic water meter and water service to building.

This Subcontractor is responsible for terminating each utility scoped herein within 5' of each building line. If these systems are in place inside 5' of the building line at the time of installation, then this contractor will be responsible for final connections.

- 18. This subcontractor shall be responsible for backfilling utilities with lean concrete where utilities pass below a footing and will be in the influence zone or where they are installed below an existing footing.
- 19. <u>Temporary Collection of Existing or Disturbed Storm Systems</u> This Subcontractor shall be responsible for all temporary diversion of storm water from all the existing and/or disturbed storm systems. (C-103 Note 3) This subcontractor shall plug or demo storm drain as noted on the drawings. (C-103 Note 10)
- 20. Spoils This Subcontractor shall be responsible for removing all spoils including but not limited to: from deep foundations, footings, site utilities, and other excavation required by the concrete, and MEP scope of work. The concrete Subcontractor will be responsible to stockpile all spoils for removal/reuse and this Subcontractor is responsible for removing stockpiled spoils from the site or reusing them on-site.
- Backfill Walls This Subcontractor shall be responsible for backfilling all footings, building foundation walls, site retaining walls and manholes. This shall be done in lifts, in coordination with the Waterproofing Subcontractor.
- 22. <u>Site Conditions</u> All other existing site conditions are to be verified prior to start of construction. Any variances in conditions must be documented prior to construction. If Whiting-Turner is not notified in writing, it shall be the responsibility of this Subcontractor to make any corrections or remediation necessary at no additional cost. In addition, this Subcontractor shall protect all existing conditions and surroundings as so not to damage during construction. This includes any damage that could result from surface water. If any existing items, which are to be left undisturbed, are damaged by this Subcontractor it shall be its responsibility to repair.
- 23. <u>Subsurface Conditions</u> A copy of a Geotechnical Exploration of the site is included in the Project Manual. The data is not intended as a representation or warranty of the continuity of such conditions. Owner will not be responsible for interpretation or conclusions drawn there from by the Trade Contractor. The Subcontractor may examine the site and make his own subsurface explorations at no additional cost to the Construction Manager or Owner. Notify the Construction Manager prior to making any subsurface explorations.
- 24. <u>Street Cleaning</u> The Subcontractor shall maintain a safe and clean environment of all streets and sidewalks as a result of this scope of work. This Subcontractor shall ensure that vehicles and/or equipment do not track mud, dirt or dust onto adjacent streets or sidewalks. Any mud, dirt, or dust tracked onto adjacent streets and sidewalks shall be cleaned up immediately.
- 25. This subcontractor shall be responsible for providing the vault lid access doors for the cast-in-place utility vaults to be installed by the 03A sub. This sub shall verify accuracy and quality of install prior to the lid being cast in place.
- 26. This subcontractor shall supply and install the ladders in the cast-in-place utility vaults. These should be prefab ladders and installed after concrete has cured.
- 27. This subcontractor must clean the permanent storm structures of any sediment at the conclusion of the project. (C-102 Soil Erosion Control Note 7)
- 28. This subcontractor shall provide and install magnetic marker tape for sanitary sewer lines if piping is non-metallic.
- 29. Any existing utility that is exposed during excavation but is intended to remain should be supported for the duration of excavation.

- 30. This subcontractor shall provide all utility service markers per the contract documents. This shall include electrical and telecommunication ductbank markers. Coordinate with 26A for locations and elevations.
- 31. This subcontractor shall remove existing condensate pump in steam vault and connect inlet and outlet piping for pumped discharge together.
- 32. This subcontractor to carry an allowance for \$30,000 to KAWC to tap main in S. Limestone and provide 8" water service to fire protection vault. (U103 Note 1)
- 33. Stone This Subcontractor shall include all woven geofabric and 8" of stone at job site equipment and pedestrian pathways. (Reference logistics plan for site roads and pathways.) This subcontractor shall freshen up pathways with new stone as necessary, at a minimum of three times at the discretion of the construction manager.
- 34. <u>Crane Staging</u> This subcontractor shall provide additional grading and stone as required to give access to a crane for the structural steel erection. Coordinate with 05A Subcontractor for exact location and requirements. Removal of site pathway and crane staging area will be the responsibility of this subcontractor prior to backfill and landscaping.
- 35. <u>Temporary Water Connection</u> This subcontractor shall provide and install a temporary metered water connection for used during construction activities. This will be needed specifically by the deep foundations and concrete trades so pipe sizing and volume requirements should be coordinated with said trades. All cost of temporary water usage shall be included by this subcontractor and paid either to UK or the utility company.
- 36. <u>Emergency Exit Stair Tower</u> For the duration of the Administration Drive shutdown this subcontractor shall provide, install and maintain a temporary stair scaffold coming out of the student center stairwell for emergency exiting of pedestrians from the Student Center ballrooms. This is shown on page 3 of the site logistics plan.
- 37. <u>Alternates</u> This subcontractor shall review all four alternates as listed in specification section 012300 and as shown in the contract documents. This subcontractor shall provide alternate pricing for each alternate as applicable for this scope of work. If no applicable work exists, then alternate pricing shall be \$0. Items listed below shall part of this subcontractor's scope for the add alternates. This list is NOT a comprehensive list and is only intended as additional clarification.
 - a) Add Alternate No. 2 Provide add alternate for storm structure and piping associated to Line C
- 38. Traffic Control This Subcontractor will provide a flagmen with stop signs and appropriate training to assist and manage traffic flow, for haul trucks to make a safe and secure exit out of the Construction site. This Subcontractor is fully aware that the construction site is within a high traffic campus corridor with continuing operations throughout the construction process. To that end, this Subcontractor will work hand in hand with the Construction Manager to ensure deliveries, manpower, and general construction traffic are conducted in such a manner as to provide a safe and undisturbed environment for the pedestrian and vehicular traffic, which includes but is not limited to: cleanup of all vehicle debris, mud, materials, adjusting haul routes and hours, adjusting exit routes, parking in designated areas, deferring to campus traffic, posting flagmen, etc.
- 39. Overtime Work This Subcontractor shall perform all work within the time frames established in the Construction Schedule. This Subcontractor shall submit a plan to the Construction Manager before beginning work outlining his means and methods for completing work within the time frames established. The plan shall show required daily production rates, methods for monitoring actual daily production and a detailed contingency plan outlining how lost time will be made up (including time lost due to normal seasonal weather). This plan will show durations to meet or beat schedule that included crew size, number of crews, number of days and hours per week with detail. All activities related to the shutdown of Administration drive are critical and dates and durations are not flexible. This subcontractor shall bid these specific activities as 50-hour work weeks (at a minimum) in order to expedite and keep these activities on track.
- 40. Appropriate Common Requirements:

- a) Submittals Subcontractor will in a timely and expedient manner provide submittals, drawings, etc. as required by contract specifications and Whiting-Turner Project Manager
- b) Warranties Subcontractor will provide all required warranties as called out in contract documents and specifications.
- c) O&M documentation Subcontractor will provide all required Operation & Maintenance as called out in contract documents and specifications.
- d) Permits and inspections this Subcontractor will provide for all permits and inspections as required to complete this scope of work. Additionally, Subcontractor will endeavor to inform Whiting-Turner of any permit requirements that may be beyond this Subcontractor's ability to acquire.
- e) Safety Subcontractor will adhere to all Federal, State, Local, University, and Whiting-Turner Safety requirements as set forth in all applicable law and project documents. Additionally, Subcontractor will adhere to all safety directives and practices as may be issued from time to time by Whiting-Turner personnel.

END OF SPECIFIC SCOPE

UNIVERSITY OF KENTUCKY CAPITAL CONSTRUCTION PROCUREMENT SECTION FORM OF PROPOSAL RENEW/MODERNIZE FRAZEE HALL

Subcontract 32A – Landscape & Irrigation		
	ect Title: RENEW/MODERNIZE FRAZEE HALL	
	I shall be followed exactly in submitting a st, an additional copy will be furnished upon Contract Documents.	
This Proposal is submitted by: Date:	(NAME AND ADDRESS OF BIDDER)	
Telephone:		
TO: BID CLERK UNIVERSITY OF KENTUCKY CAPITAL CONSTRUCTION PROCUREMENT RM. 322 SERVICE BUILDING	BID OPENING DATES: August 17, 2021 TRADE CONTRACT DESCRIPTION: Landscape & Irrigation	
411 SOUTH LIMESTONE LEXINGTON, KY 40506-0005	TRADE CONTRACT NO.: 32A TIME: 3:00 P.M. E.D.T.	
having carefully examined the site of th Documents as defined in Article I of the Specifications affecting the work as pre furnish all labor, materials, supplies and	pared by the Consultant, hereby proposes to d services required to construct the Project in hts, within the time set forth therein, and at the	
The Bidder hereby acknowledges receipt of the following Addenda:		
ADDENDUM NOADDENDUM NOADDENDUM NOADDENDUM NO	DATED DATED	
(Insert the number and date of any Addenda issued and received. If none has been issued and received, the word NONE should be inserted.)		

FORM OF PROPOSAL

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);
- That the submitted Bid or Bids covering Capital Construction Procurement Section Invitation No. <u>CCK-2561-22</u> 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		<u> </u>	PHONE ()
			FAX <u>(</u>)
CITY EMAIL	STATE	ZIP CODE	DATE

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, in compliance with the Invitation to Bid CCK-2561-22 having examined the drawings, specifications, related documents and having visited the site of the proposed work, and being familiar with all the conditions surrounding the construction of the proposed project including the availability of materials and labor, hereby submits the following bid to furnish all labor, materials, and supplies and to construct the project in accordance with the Bid Documents within the time set forth therein and at the prices stated below. These prices are to cover all expenses incurred in performing the work required under the Contract Documents, of which this Bid is a part.

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.

Bidder hereby agrees that all escalation cost associated with materials and/or labor have been included in the stated unit cost, through the projected duration dates as stated in the preliminary project construction schedule.

FOR	R THE LUMP SUM OF			
		(USE	WORDS)	
	(USE WORDS)	DOLLARS AND _	(USE WORDS)	CENTS.
(\$	(USE FIGURES)			
BID A	<u>ALTERNATES</u>			
<u>Add</u>	Alternate No. 1: Card Reade	ers		
FOR	R THE LUMP SUM OF		(MODDO)	
		(USE	WORDS)	
	(USE WORDS)	DOLLARS AND _	(USE WORDS)	CENTS.
(\$	(USE FIGURES)			

Add A	Alternate No. 2: Terraced Se	at Wall		
FOR	THE LUMP SUM OF	(USF	WORDS)	
		(00L	vvordo)	
	(USE WORDS)	_ DOLLARS AND _	(105 MODDO)	CENTS.
	(USE WORDS)		(USE WORDS)	
(\$	(USE FIGURES)			
Add A	Alternate No. 3: Wood Floori	ng		
FOR	THE LUMP SUM OF			
(USE WORDS)				
				CENTS
	(USE WORDS)	DOLLANG AND _	(USE WORDS)	OLIVIO.
(\$	(USE FIGURES)			
Add A	Alternate No. 4: Pedestrian V	Valkway and Gatton St	udent Center	
FOR	THE LUMP SUM OF			
. 0	(USE WORDS)			
				OFNITO
	(USE WORDS)	_ DOLLARS AND _	(USE WORDS)	CENTS.
			()	
(\$	(USE FIGURES)			

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	(06)	Woman-Owned Large Business
(02)	_Large Business	(07)	Disadvantaged Woman-Owned Small Business
(03)	_Disadvantaged Small Business	(80)	_Disadvantaged Woman-Owned Large Business
(04)	_Disadvantaged Large Business	(09)	_Other
(05)	Woman-Owned Small Business		

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 Black Americans, Hispanic Americans, Native Americans, Asian-Pacific Americans 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, 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)
- 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 are required to complete and submit the following information with their bid.

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

ITEM	UNIT	COST PER UNIT
Sod (laid and watered)	SF	
Trees (planted & staked)	EA	
Shrubs (planted)	EA	
Plantings (planted)	EA	
Mulch (placed)	CY	
Topsoil (placed)	CY	
Laborer	HR	
Foreman	HR	

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 bidder will be required to complete and submit to the University the following information by twelve (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.

Provide the address, phone number and contact information for the following subcontractor/suppliers:

DIVISION OF WORK	NAME AND ADDRESS OF SUBCONTRACTOR

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 bidder will be required to complete and submit to the University the following information by twelve (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.

ITEM DESCRIPTION	MANUFACTURER/SUPPLIER

IDENTIFICATION OF MINORITY SUBCONTRACTORS AND MATERIAL SUPPLIERS

Participation of Minority and Women owned Contractors and businesses.

The University of Kentucky encourages and supports the participation of minority and women owned businesses.

1.	Minority and Women Subcontractors
2.	Minority and Women Material Suppliers
SUPE	RINTENDENT
projec	ordance with Article 17 of the General Conditions a full-time superintendent will be required on this t. Below, please list the superintendent your firm will employ on this project. The successful Bidder required to furnish a resume of the superintendents' qualifications and or past projects.
List the	e Superintendent's Name
Revised	3/22/06

TRADE CONTRACT - 32A - LANDSCAPE & IRRIGATION

This section defines in summary, without limitations by the descriptions, significant items of the scope of work to be performed by the Subcontractor and any special provision related to the Subcontractor's execution of the Work and the Project. The details of the scope of work are further defined in Drawings, Specifications, and other provisions contained in the Project Documents.

Unit 32A – Landscape & Irrigation

This work shall include all items indicated in **Section A:** General Scope of Work, as such items apply to this work unless specifically noted otherwise herein.

This work primarily includes, but is not limited to the following specification sections as well as related work specified or shown elsewhere in the Contract Documents:

All Specification Sections as they relate to the Landscape & Irrigation scope of work.

***Note: This Subcontractor is responsible for the requirements of the <u>complete</u> <u>Contract Documents</u> as they pertain to this Unit of Work.

- 1. Scope of Work It is the intent for this project is that this Subcontractor performs all works scoped herein and as specified in the Project Manual and Contract Drawings. This Subcontractor shall furnish 100% of the labor, supervision, materials, tools, equipment, shop drawings, submittals, layout, unloading, scaffolding, ladders, hoisting, transportation, taxes, permits, engineering, support functions, insurance, bonds, warranties, guarantees, and any other items or services necessary for and reasonably incidental to safely execute and complete the work scoped herein, whether temporary or permanent, in full compliance with all drawings, specifications, addenda, general conditions, requirements, and other related documents as indicated herein.
- 2. <u>PlanGrid License</u> This Subcontractor has included the necessary license(s) to PlanGrid for their office and field staff for field reference and notifications. Please note that drawings posted on PlanGrid do not supersede the Contract Documents and should only be used for reference and notifications. All submittals, RFIs, and installation work should conform to the Contract Documents.
- 3. <u>Landscape</u> This Subcontractor shall furnish and install ALL landscape materials and components shown or called out for in the Construction Documents including, but not limited to, filling materials, irrigation systems, drainage board, soil testing, plant selections, felt fabric, planting or top soil, bedding, plantings, mulches, composts, light weight planting medium, gravel or decorative rock, turf, sod, shrubs, trees, soil amendments, existing lawn re-conditioning, sub drainage, maintenance period, and all necessary materials for a comprehensive installation in strict compliance with the Contract Documents.
- 4. This subcontractor shall replace all sod, mulch and landscaping that has been disturbed at the location of the temporary walkway that is installed adjacent to Administration Drive. Extents of the walkway is shown on page 1 of the site logistics plan.
- 5. <u>Steel Edging</u> This Subcontractor will furnish and install steeling edging around all planting beds and as shown in the contract documents.
- 6. <u>Layout</u> –This Subcontractor shall provide all additional surveying, engineering, field dimensions, and layout as necessary to complete his work. The layout of this work shall be coordinated with the work of other trades. All work shall be laid out far enough in advance that any discrepancies or conflicts can be resolved without

delaying the overall work. Any such discrepancies shall be reported to the Construction Manager in writing (requesting written clarification) prior to proceeding.

- 7. <u>Irrigation</u> This subcontractor shall be responsible for all irrigation as required by the contract documents. Sleeves below hardscapes will be installed by others. This shall include all piping, fittings, wiring, valves, decoders, valve boxes, spray heads, rotors, drip lines and other accessories required for a complete irrigation scope of work. Irrigation devices must be RainBird to match existing student center system. This subcontract shall provide all rerouting and tie-in to existing system as required to provide a fully functioning system. This subcontractor shall flush all lines prior to installing nozzles.
- 8. Coordination & Sequencing At the beginning of this project, this subcontractor shall be responsible for isolating the zones with-in the construction limits. This will require the subcontractor to cut and cap the existing PVC line and associated controls conduit/wiring. The existing pipe/conduit shall be protected with a weatherproof box and the wires must be protected with an approved waterproof splice kit. This shall be done at two locations, at the "plan west" of the site on IR101 and at the student center on the "plan east" of IR101. A metallic junction box can be used inside the student center for protecting wiring where they are cut and capped. Once the piping is capped inside the student center, this subcontractor shall grout and seal existing penetrations through the student center wall. At the point of connection inside the student center building, this subcontractor shall be responsible for running piping and controls conduit and wiring inside the building and coring the existing retaining wall to new stub-out location. This subcontractor shall properly seal penetrations to be weathertight.
- 9. Training This subcontractor shall provide re-training to the owner/operator on the new irrigation system.
- 10. Existing Soil Condition It is the responsibility of this Subcontractor to examine, test, and investigate the existing soil conditions to identify his materials source compliance.
- 11. Necessary Items for Completion The Subcontractor will provide all items necessary for a complete and total turnkey landscaping package, including compliance with requirements of the Contract Documents, applicable codes, and governing authorities.
- 12. <u>Weather</u> Subcontractor shall proceed with his work only when weather conditions will permit the materials to be installed in accordance with those recommendations.
- 13. Quality Control/ Quality Assurance—Demonstrate the required qualifications, license, tests, and certifications for manufacturer and suppliers as stipulated indicated in project specifications. Subcontractor is to conduct the required tests by hiring a third party approved testing agency (as required) for material and installation tests per the contract documents.
- 14. <u>Surface Protection</u> Subcontractor is to provide the proper protection for the landscape varies layers including, filling materials, topsoil, planting medium, roots of trees, etc. It is the responsibility of this subcontractor to protect each of landscape layers from weather conditions, erosion, traffic abuse, etc.
- 15. <u>Maintenance</u> This Subcontractor will provide maintenance services for all landscaping work included in this scope of work as well as for the new zones of the irrigation system. This will include winterizing the system during the first year. This maintenance period shall begin upon the date of substantial completion.
- 16. Mobilizations This Subcontractor has included multiple mobilizations to complete this work.
- 17. Trees This Subcontractor shall provide and install all tree staking and gator bags as required by the contract

documents.

- 18. <u>Fertilizer</u> This Subcontractor shall provide and install fertilizer and fertilizer tablets as required by the contract documents
- 19. Grading This subcontractor shall be responsible for fine grading and final grading for all landscaping areas.
- 20. <u>Alternates</u> This subcontractor shall review all four alternates as listed in specification section 012300 and as shown in the contract documents. This subcontractor shall provide alternate pricing for each alternate as applicable for this scope of work. If no applicable work exists, then alternate pricing shall be \$0.
- 21. <u>Traffic Control</u> This Subcontractor will provide a flagman with stop signs and appropriate training to assist and manage traffic flow, for deliveries to make a safe and secure exit out of the Construction site. This Subcontractor is fully aware that the construction site is within a high traffic campus corridor with continuing operations throughout the construction process. To that end, this Subcontractor will work hand in hand with the Construction Manager to ensure deliveries, manpower, and general construction traffic are conducted in such a manner as to provide a safe and undisturbed environment for the pedestrian and vehicular traffic, which includes but is not limited to: cleanup of all vehicle debris, mud, materials, adjusting haul routes and hours, adjusting exit routes, parking in designated areas, deferring to campus traffic, posting flagmen, etc.
- 22. Overtime Work This Subcontractor shall perform all work within the time frames established in the Construction Schedule. This Subcontractor shall submit a plan to the Construction Manager before beginning work outlining his means and methods for completing work within the time frames established. The plan shall show required daily production rates, methods for monitoring actual daily production and a detailed contingency plan outlining how lost time will be made up (including time lost due to normal seasonal weather). This plan will show durations to meet or beat schedule that included crew size, number of crews, number of days and hours per week with detail.

23. Appropriate Common Requirements:

- a. Submittals Subcontractor will in a timely and expedient manner provide submittals, drawings, etc. as required by contract specifications and Whiting-Turner Project Manager
- b. Warranties Subcontractor will provide all required warranties as called out in contract documents and specifications.
- c. O&M documentation Subcontractor will provide all required Operation & Maintenance as called out in contract documents and specifications.
- d. Permits and inspections this Subcontractor will provide for all permits and inspections as required to complete this scope of work. Additionally, Subcontractor will endeavor to inform Whiting-Turner of any permit requirements that may be beyond this Subcontractor's ability to acquire.
- e. Safety Subcontractor will adhere to all Federal, State, Local, University, and Whiting-Turner Safety requirements as set forth in all applicable law and project documents. Additionally, Subcontractor will adhere to all safety directives and practices as may be issued from time to time by Whiting-Turner personnel.

END OF SPECIFIC SCOPE



PROJECT NAME	PROJECT NO.
University of Kentucky	11396-00
2511.8 Renew/Modernize Facilities	
(Frazee Hall)	
CONTRACTOR	DATE OF INSTRUCTION
Whiting-Turner	July 30, 2021
OWNER	DOCUMENT NUMBER
University of Kentucky	Addendum #1

GENERAL DESCRIPTION AND REMARKS

This addendum forms a part of the Contract Documents and modifies the original Construction Documents previously issued as noted below.

This addendum consists of ____ pages, and the attachments listed below, all with a revision date of 7/30/21, unless otherwise noted. Drawings listed herewith and attached indicate revisions with clouds. Modifications to documents included in this addendum are primarily related to the following:

- 1. Specification sections added.
- 2. Coordination items between disciplines.
- 3. Clarification items.

The documents stated herein revise or modify the reference specification or drawing noted.

MODIFICATIONS TO THE SPECIFICATIONS (In modified specifications, new text is indicated by highlighting and deleted text is stricken through.)

Section #: Title Date	
00 01 10 TABLE OF CONTENTS July 3	30, 2021
COMMISSIONING HVAC, HVAC CONTROLS, DOMESTIC HOT 01 91 13 WATER, LIGHTING CONTROLS, AND SECURITY SYSTEMS July 3	30, 2021
07 61 00 SHEET METAL ROOFING July 3	30, 2021
07 71 23 GUTTERS AND DOWNSPOUTS July 3	30, 2021
08 51 13 ALUMINUM WINDOWS July 3	30, 2021
10 14 00 SIGNAGE July 3	30, 2021
23 08 00 COMMISSIONING OF DOMESTIC HOT WATER July 3	30, 2021
23 08 00 COMMISSIONING OF HVAC AND HVAC CONTROLS July 3	30, 2021
26 08 00 COMMISSIONING OF LIGHTING CONTROLS July 3	30, 2021
28 08 00 COMMISSIONING OF SECURITY SYSTEM July 3	30, 2021
32 92 00 STAGING, HANDLING, AND INSTALLATION OF NEW TREES July 3	30, 2021



Sheet#:	Title	Date
CIVIL		
C-103	SITE DEMOLITION	7/30/21
	 Notes 4 and 5 were modified to reflect elements already removed under a previous contract. 	
C-105	SITE GRADING PLAN	7/30/21
	 Spot elevation clarification at the top of the east side stair connection to the student center patio. 	
LANDSCAPE		7/30/21
LH100	OVERALL SITE IMPROVEMENT/LIMITS OF DISTURBANCE PLAN	
	 Note change to reference asphalt paving specification Northernmost ramp concrete hatch added to reflect replacement 	
	 Concrete Paving quantity updated to reflect concrete ramp. 	
LH101	SITE PLAN	7/30/21
	 Note change to reference asphalt paving specification Northernmost ramp concrete hatch added to reflect replacement 	
	Concrete Paving quantity updated to reflect concrete ramp.	
LH201	LAYOUT PLAN	7/30/21
	 Northernmost ramp concrete hatch added to reflect replacement 	
	 Concrete Paving quantity updated to reflect concrete ramp. 	
STRUCTURAL		
S101	GENERAL NOTES	7/30/21
	Revised note 12 in General section	
S102	GENERAL NOTES	
	 Revised note 3 in Loose Lintel Schedule section 	
S200	FOUNDATION PLAN	
	 Revised tag notes 3, 7, and 12 Added tag notes 15 and 16 Added plan note 10 Revisions at Stair B Revised extents and details of new slab on grade inside existing building 	
S201	FIRST FLOOR FRAMING PLAN	
	Revised tag note 15	
S202	SECOND FLOOR FRAMING PLAN	
	Revised tag note 15	



S203	THIRD FLOOR FRAMING PLAN	
	Revised tag note 15	
S204	ROOF FRAMING PLAN	
	 Revised tag notes 5, 6, 7, and 11 	
	Revised framing and notes on plan A/S204	
	Revised partial plan detail B/S204	
S303	TYPICAL FOUNDATION DETAILS	
	 Revised piers P1, P2, and P4 in detail E/S303 	
S402	TYPICAL FRAMING DETAILS	
	 Revised Type IV connection in detail D/S402 	
S408	FRAMING SECTIONS	
	Revised roof/parapet condition in section A/S408	
	 Revised brick support and edge angle size in section C/S408 Revised angle note in section D/S408 	3
	Revised angle note in section E/S408 Revised hole note and edge angle size in section E/S408	
S501	STEEL COLUMN SCHEDULE	
	 Revised base plate and anchor rod information for several columns in the column schedule 	
S602	PEDWAY TRUSS DETAILS	
	 Added guardrail to section E/S602 	
S702	WEST VAULT PLANS AND SECTIONS	
	 Moved sump location and added slab bars in plan A/S702 Added waterstops to section C/S702 	
S703	EAST VAULT PLANS AND SECTIONS	
	Moved sump location and added slab bars in plan A/S703	
	 Added waterstops to section C/S703 	
ARCHITECTURA	<u>\L</u>	
AD100	GROUND FLOOR DEMOLITION PLAN	7/30/21
	Demolition Legend updated.	
	 Utility tunnel extents shown. Additional floor slab removed. 	
	 Additional floor slab removed. Dimension added for exterior wall removal. 	
	Extents of trim removal noted on plans.	
AD101	FIRST FLOOR DEMOLITION PLAN	7/30/21
	Demolition Legend updated.	
	 Dimension added for exterior wall removal. 	
	 Extents of trim removal noted on plans. 	
AD102	SECOND FLOOR DEMOLITION PLAN	7/30/21
	Demolition Legend updated. Dimension added for outsign well removal.	
	 Dimension added for exterior wall removal. 	

	Extents of trim removal noted on plans.	
AD103	 THIRD FLOOR DEMOLITION PLAN Demolition Legend updated. Dimension added for exterior wall removal. Extents of trim removal noted on plans. 	7/30/21
AD104	 ATTIC FLOOR DEMOLITION PLAN Demolition Legend updated. Note 6 added for removal of existing plaster and lathe ceiling 	7/30/21 J.
AD204	NORTHEAST DEMOLITION ELEVATION	7/30/21
	Extent of cornice and mid-cornice removal updated.	
A100	 GROUND FLOOR – PLAN General Notes updated. Dimensions added. Wall types added. 	7/30/21
A101	 FIRST FLOOR – PLAN General Notes updated. Dimensions added. 	7/30/21
A102	 SECOND FLOOR – PLAN General Notes updated. Dimensions added. Wall types added. 	7/30/21
A103	 THIRD FLOOR – PLAN General Notes updated. Dimensions added. Wall types added. 	7/30/21
A104	ATTIC FLOOR PLAN	7/30/21
A105	Note 3 updated. BOOF BLAN	7/30/21
A105	 Note 3 updated. Safety rail keynote added at Addition Roof Hatch Cricket added at Frazee roof hatch. 	7730/21
A111	ENLARGED PLANS	7/30/21
	 New Work Legend added. General Notes updated. Added wall for Card Reader installation outside Storage Room 020 on Ground Floor. Wall types added. 	
A112	STUDENT CENTER STORAGE ENLARGED PLAN – ALTERNATE	47/30/21
	New Work Legend added.General Notes updated.	



A401

Card Reader and Push buttons shown on plans. NORTHWEST ELEVATION A201 7/30/21 Stone patch keynote added at retaining wall. Located second below ground floor slab vent to be covered with metal cover. SOUTHEAST ELEVATION A203 7/30/21 Located below ground floor slab vent to be covered with metal cover. **ADDITION ELEVATIONS** A205 7/30/21 Note 1 added for base bid pricing at second floor of the curtain wall. A206 **ADDITION ELEVATIONS** 7/30/21 Extents of brick reduced at top of elevator shaft near roof Dimensions updated. A208 PEDESTRIAN WALKWAY ELEVATIONS - ALTERNATE 4 7/30/21 Align note added for pedestrian walkway elevation. A301 VERTICAL CIRCULATION - STAIR A 7/30/21 Dimensions updated at stair risers. A302 VERTICAL CIRCULATION - STAIR A 7/30/21 Material Keynote legend added. A303 VERTICAL CIRCULATION - STAIR B 7/30/21 Dimensions updated at stair risers. **VERTICAL CIRCULATION – STAIR DETAILS** A304 7/30/21 Keynotes added. Base of floor mounted post added. VERTICAL CIRCULATION - STAIR DETAILS A305 7/30/21 Keynote removed. VERTICAL CIRCULATION - PEDESTRIAN WALKWAY -A306 **ALTERNATE 4** 7/30/21 Reference details and sections added. Dimensions added. Keynotes added. A307 **VERTICAL CIRCULATION – ELEVATOR** 7/30/21 Reference detail added. GROUND FLOOR REFLECTED CEILING PLAN 7/30/21 A400 General Notes updated. RCP Legend updated.

FIRST FLOOR REFLECTED CEILING PLAN

General Notes updated.



7/30/21

	RCP Legend updated.	
	Reference detail added.	
A402	SECOND FLOOR REFLECTED CEILING PLAN	7/30/21
	General Notes updated.RCP Legend updated.	
A403	THIRD FLOOR REFLECTED CEILING PLAN	7/20/24
A403	General Notes updated.	7/30/21
	RCP Legend updated.	
A404	THIRD FLOOR REFLECTED CEILING PLAN	7/30/21
	General Notes updated.	.,
	RCP Legend updated.	
	 Note 2 removed, along with 36x36 access hatch from ceiling plan. 	
A405	ENLARGED REFLECTED CEILING PLANS	7/30/21
	General Notes added.	
	RCP Legend updated.	
	 Dimensions added to sprinklers. 	
A406	ENLARGED REFLECTED CEILING PLANS	7/30/21
	General Notes added. COD La random detail.	
4.407	RCP Legend updated. This applies a series of the ser	= 100101
A407	ENLARGED REFLECTED CEILING PLANS	7/30/21
	General Notes added.RCP Legend updated.	
	Dimensions updated.	
A408	CEILING DETAILS	7/30/21
	Keynotes added.	
A409	CEILING DETAILS	7/30/21
	 Hat channel framing and keynote added at metal panel soffit detail. 	
A412	STUDENT CENTER LEVEL THREE REFLECTED CEILING PLAN	7/30/21
	 Ceiling removal and replacement extents added per conduit install to Telecomm room 	
A502	PLAN DETAILS – ADDITION	7/30/21
	Keynotes added.	
A506	PLAN DETAILS – PEDESTRIAN WALKWAY – ALTERNATE 4	7/30/21
	Weather barrier updated at detail A10	
A512	SECTION DETAILS	7/30/21
	Note 4 updated.	
	 Foundation Drain note added to detail A4 	
A513	SECTION DETAILS	7/30/21



	 Dimensions added to beams at canopy of detail D1 	
A514	SECTION DETAILS	7/30/21
	 Slope of roof at wing wall added at detail F1. 	
	Weep note added at detail A5	
A525	EXPANSION JOINTS – STAIR B	7/30/21
	 Note 11 changed to Note 10 at detail D5. 	
A527	EXPANSION JOINTS – PEDESTRIAN WALKWAY – ALTERNATE 4	7/30/21
	 Keynote added at detail F10. 	
A604	WINDOW ELEVATIONS & SCHEDULE	7/30/21
	Window Type P removed from schedule, these are for the	
	 louvers located on the Ground level. Historic replicated lugs added to window elevations. 	
	 Historic replicated lugs added to window elevations. Exterior Finish notes updated for window colors to refer to 	
	window panning and frame as two different colors.	
A605	WINDOW DETAILS	7/30/21
	 Joint sealant added at sill condition. 	
A606	WINDOW DETAILS	7/30/21
	 Joint sealant added at sill condition. 	
A607	WINDOW DETAILS	7/30/21
	Joint sealant added at sill condition.	
A621	ENLARGED CASEWORK PLANS & ELEVATIONS	7/30/21
	Material keynote legend added.	
A622	ENLARGED CASEWORK PLANS & ELEVATIONS	7/30/21
	Filler panels included.	
	Elevation tag added.	
A629	ENLARGED RESTROOM PLAN AND ELEVATIONS	7/30/21
	General Notes updated.	
A710	FINISH FLOOR PLAN – GROUND FLOOR	7/30/21
	 Storage room floors changed from LVT3 to GEF1 	
A800	FURNITURE PLAN – GROUND FLOOR (REFERENCE ONLY)	7/30/21
	 Note 1 added at trash/recycle container. 	
A801	FURNITURE PLAN – FIRST FLOOR (REFERENCE ONLY)	7/30/21
	 Note 1 added at trash/recycle containers. 	
	 Note 2 added at confidential fax cabinet. 	
A802	FURNITURE PLAN – SECOND FLOOR (REFERENCE ONLY)	7/30/21
	 Note 1 added at trash/recycle container. 	
A803	FURNITURE PLAN – THIRD FLOOR (REFERENCE ONLY)	7/30/21
	 Note 1 added at trash/recycle container. 	



Note 2 added at confidential fax cabinet.

UTILITIES

U100 SITE UTILITIES PLAN - EAST

Modify existing sanitary routing to be removed.

Modify existing domestic water meter location and scope of

work for domestic water.

FIRE PROTECTION AND DOMESTIC WATER SITE UTILITIES

U103 PLAN

Add domestic water scope of work for water meter and water

line

MECHANICAL

Mechanical General

The circle with a PC in it is a "photo sensor" symbol and should not have shown up on the mechanical drawings.

H102 SECOND FLOOR - HVAC PLAN

Add thermostat to room 213 as shown.

Add Alternate #4 area.

H103 THIRD FLOOR - HVAC PLAN

Add note 4 to fan coil in Office 307 as shown.

H202 SECOND FLOOR - HYDRONIC PLAN

Add Alternate #4 area.

ENLARGED PLANS H303

Modify steam piping to heat exchangers.

H400 HVAC FLOW DIAGRAM

Modify steam piping to heat exchangers.

INSTRUMENTATION AND CONTROLS IC503

Modify the Controls Matrix

PLUMBING

P102 SECOND FLOOR - SANITARY WASTE & VENT PLAN

Add Alternate #4 area.

P202 SECOND FLOOR - DOMESTIC WATER PLAN

Add Alternate #4 area.

PLUMBING ATTIC & ROOF PLAN. SCHEDULES AND DETAILS P400

Modify sanitary vents to pass thru flat portion of roof.

Modify Domestic Water Entrance Detail.

FIRE PROTECTION

FP102 SECOND FLOOR - FIRE PROTECTION PLAN

Add Alternate #4 area.

ELECTRICAL	
E00	ELECTRICAL LEGEND AND GENERAL NOTES
	 Updated legend to include photo sensor symbol.
E200	GROUND FLOOR – POWER PLAN
	 Exterior receptacle on elevator wall shall be at height that is accessible above planter.
	 Conduit for Stairwell B receptacles shall follow route of fire protection lines through existing wall.
E201	FIRST FLOOR – POWER PLAN
	Updated circuiting for Stairwell B receptacles
E202	SECOND FLOOR – POWER PLAN
	Updated circuiting for Stairwell B receptacles
E203	THIRD FLOOR – POWER PLAN
	Updated circuiting for Stairwell B receptacles
Instructions by	_
Kelly Gawinek	

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COPY: Design and Construction Team



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03 30 00 - Cast-in-Place Concrete

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03 39 00 - Concrete Curing and Sealing

DIVISION 04 -- MASONRY

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04 09 20 - Masonry Repair and Re-Pointing

04 20 00 - Unit Masonry

04 43 13 - Stone Masonry Veneer

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05 10 00 - Structural Anchors

- 05 12 00 Structural Steel Framing
- 05 12 13 Architecturally Exposed Structural Steel Framing
- 05 31 00 Steel Decking
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 - 06 16 43 Gypsum Sheathing
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 - 06 41 00 Architectural Wood Casework
 - 06 49 00 Exterior Architectural Woodwork
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 - 07 16 16 Crystalline Waterproofing Slurry Coat
 - 07 21 00 Board and Batt Insulation
 - 07 21 26 Blown Insulation
 - 07 25 10 Weather-Resistant Barrier (Liquid-Applied)
 - 07 25 30 Weather-Resistant Barrier (Adhesive Sheet)
 - 07 26 16 Underslab Vapor Retarders
 - 07 31 26 Slate Shingles
 - 07 42 13 Metal Wall Panels
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 - 07 50 00 Membrane Roofing
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 - 07 71 23 Gutters and Downspouts
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 - 09 21 00 Plaster
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- 22 11 13 Facility Water Distribution Piping
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- 22 33 00 Electric, Domestic-Water Heaters
- 22 40 00 Plumbing Fixtures
- 22 84 01 Planting Irrigation

DIVISION 23 -- HEATING, VENTILATING, AND AIR-CONDITIONING (HVAC)

- 23 00 00 General Provisions for HVAC Systems
- 23 05 13 Common Motor Requirements for HVAC Equipment
- 23 05 17 Sleeves and Sleeve Seals for HVAC Piping
- 23 05 18 Escutcheons for HVAC Piping
- 23 05 19 Meters and Gages for HVAC Piping
- 23 05 23 General-Duty Valves for HVAC Piping
- 23 05 29 Hangers and Supports for HVAC Piping and Equipment
- 23 05 48 Vibration Controls for HVAC
- 23 05 53 Identification for HVAC Piping and Equipment
- 23 05 93 Testing, Adjusting, and Balancing for HVAC

- 23 07 00 HVAC Piping Insulation
- 23 07 13 Duct Insulation

23 08 00 - Commissioning of HVAC and HVAC Controls

- 23 09 00 Automatic Temperature Controls
- 23 21 12 Hydronic Piping
- 23 21 14 Direct Buried Chilled Water Piping Insulation
- 23 21 15 Direct Buried Chilled Water Piping
- 23 21 16 Hydronic Piping Specialties
- 23 21 23 Hydronic Pumps
- 23 22 13 Steam and Condensate Piping
- 23 22 16 Steam and Condensate Piping Specialties
- 23 22 19 Direct Buried Steam and Condensate Distribution Piping
- 23 22 23 Steam Condensate Pumps
- 23 23 00 Refrigerant Piping
- 23 25 00 HVAC Water Treatment
- 23 31 13 Metal Ducts
- 23 33 00 Air Duct Accessories
- 23 37 13 Diffusers, Registers and Grilles
- 23 57 00 Heat Exchangers for HVAC
- 23 74 33 Dedicated Outdoor-Air Units
- 23 81 26 Split-System Air-Conditioners
- 23 82 16 Air Coils
- 23 82 19 Fan Coil Units
- **DIVISION 26 -- ELECTRICAL**
 - 26 00 00 General Electrical Provisions
 - 26 05 00 Common Work Results for Electrical
 - 26 05 13 Medium-Voltage Cables
 - 26 05 19 Low-Voltage Electrical Power Conductors and Cables
 - 26 05 26 Grounding and Bonding for Electrical Systems
 - 26 05 29 Hangers and Supports for Electrical Systems
 - 26 05 33 Raceway and Boxes for Electrical Systems
 - 26 05 36 Cable Trays for Electrical Systems
 - 26 05 43 Underground Ducts and Raceways for Electrical Systems
 - 26 05 53 Electrical for Systems Identification
 - 26 05 73.13 Short-Circuit Studies
 - 26 05 73.16 Coordination Studies
 - <u>26 08 00 Commissioning of Lighting Controls</u>
 - 26 09 23 Lighting Control Devices
 - 26 09 43 Relay-Based Lighting Controls
 - 26 24 13 Switchboards
 - 26 24 16 Panelboards
 - 26 27 26 Wiring Devices

- 26 28 13 Fuses
- 26 28 16 Enclosed Switches and Circuit Breakers
- 26 29 13.03 Manual and Magnetic Motor Controllers
- 26 41 13 Lightning Protection for Structures
- 26 51 19 LED Interior Lighting
- 26 56 19 LED Exterior Lighting

DIVISION 27 -- COMMUNICATIONS

- 27 05 00 Common Work Results for Communications
- 27 11 00 Communications Equipment Room Fittings
- 27 13 00 Communications Backbone Cabling
- 27 15 00 Communications Horizontal Cabling
- 27 53 13 Clock Systems

DIVISION 28 -- ELECTRONIC SAFETY AND SECURITY

- 28 05 00 Common Work Results for Electronic Safety and Security
- 28 08 00 Commissioning of Security System
- 28 16 00 Perimeter Security Safety
- 28 20 00 Video Surveillance
- 28 46 21.11 Addressable Fire-Alarm Systems

DIVISION 31 -- EARTHWORK

- 31 10 00 Site Clearing and Stripping
- 31 23 00 Excavation, Fill, Backfill, and Grading
- 31 23 16.26 Rock Removal
- 31 23 19 Dewatering
- 31 25 00 Slope Protection and Erosion Control
- 31 31 16 Soil Treatment for Termite Control
- 31 32 19 Geotextiles
- 31 65 13 Rock Anchors

DIVISION 32 -- EXTERIOR IMPROVEMENTS

- 32 01 90 Operation and Maintenance of Planting
- 32 11 23 Aggregate Base Course
- 32 11 26 Asphaltic Concrete Paving
- 32 14 00 Unit Pavers
- 32 16 13 Concrete Curb and Gutter, Sidewalks, and Aprons
- 32 92 00 Staging, Handling, and Installation of New Trees
- 32 92 23 Sodding
- 32 93 00 Selection of New Trees and Shrubs

DIVISION 33 -- UTILITIES

33 00 10 - Buried Piping and Appurtenances

END OF SECTION

SECTION 01 91 13 - COMMISSIONING HVAC, HVAC CONTROLS, DOMESTIC HOT WATER, LIGHTING CONTROLS, AND SECURITY SYSTEMS

PART 1 – GENERAL

1.1 RELATED WORK

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions, and other Division-1 Specification Sections, apply to work of this Section.
- B. Division 22 Plumbing
- C. Division 23 Heating Ventilating and Air Conditioning
- D. Division 26 Electrical
- E. Division 28 Electronic Safety and Security

1.2 SUMMARY

- A. Section includes commissioning process requirements for the following systems:
 - 1. HVAC and HVAC Controls
 - 2. Domestic Hot Water
 - 3. Lighting Controls
 - 4. Security

B. Section Includes:

- 1. General requirements for coordinating and scheduling commissioning.
- 2. Commissioning meetings.
- 3. Commissioning documentation and scheduling commissioning.
- Construction checklists, including, but not limited to, installation checks, startup, performance tests, and performance test demonstration.
- 5. Commissioning tests and commissioning test demonstration.
- 6. Adjusting, verifying, and documenting identified systems and assemblies.

1.3 REFERENCES

- A. Drawings and general provisions of contract, including general and supplementary conditions, general mechanical provisions and Division-1 Specification sections, apply to work of this section.
- B. AABC National Standards for Total System Balance 2016
- C. ASHRAE Standard 202 2018: Commissioning Process for Buildings and Systems
- D. ASHRAE Guideline 0 2019: The Commissioning Process
- E. ASHRAE Guideline 0.2 2015: Commissioning Process for Existing Buildings and Assemblies
- F. ASHRAE Guideline 1.1 2007: HVAC&R Technical Requirements for the Commissioning Process
- G. ASHRAE Guideline 1.2 2019: Technical Requirements for the Commissioning Process for Existing HVAC&R Systems and Assemblies
- H. ASHRAE Guideline 1.3 2018: Building Operation and Maintenance Training for the HVAC&R Commissioning Process
- I. ASHRAE Guideline 1.4 2014: Procedures for Preparing Facility Systems Manuals
- J. ASHRAE 1.5 2017: The Commissioning Process for Smoke Control Systems
- K. ASHRAE Commissioning Definitions and Terminology for the Building Industry: A Common Overview 2018
- L. ACG Commissioning Guideline 2005
- M. ANSI/ASHRAE/IES Standard 90.1 2016; Energy Standard for Buildings Except Low Rise Residential Buildings (SI Edition)
- N. ANSI/ASHRAE/IES Standard 189.1 2014: Standard for the Design of High-Performance Green Buildings
- O. BCA New Construction Building Commissioning Best Practices -2018
- P. BICSI: Telecommunications Distribution Methods Manual, 14th Edition
- Q. ICC G4 2018 Guideline for Commissioning
- R. ICC International Energy Conservation Code (IeCC) 2012; Section C408
- S. NECA 90: Commissioning Building Electrical Systems 2015

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- T. NETA-ATS: Standard for Acceptance Testing Specifications for Electrical Power Equipment and Systems 2017
- U. NFPA 70: National Electrical Code 2017
- V. NFPA 72: National Fire Alarm and Signaling Code 2013
- W. National Institute of Building Sciences (NIBS) Whole Building Design Guide
- X. 2018 Kentucky Building Code
- Y. NFPA 110: Standard for Emergency and Standby Power Systems 2019

1.4 DESCRIPTION OF WORK

- A. The purpose of the commissioning process is to provide the owner/operator of the facility with a high level of assurance that the commissioned systems have been installed in the prescribed manner, and operate within the performance guidelines set out in the Owner's Project Requirements (OPR). The Commissioning Authority (CxA) shall provide the owner with an unbiased, objective view of the system's installation, operation, and performance. This process is not intended to eliminate or reduce the responsibility of the design team or installing contractors to provide a finished product. Commissioning is intended to enhance the quality of system start-up and aid in the orderly transfer of systems for beneficial use by the owner. The CxA will be a member of the construction team, administrating and coordinating commissioning activities with the design team, construction manager, subcontractors, manufacturers and equipment suppliers.
- B. The independent commissioning authority (CxA) is contracted directly with the owner for this project. This commissioning plan has been included for reference only to define contractors' responsibilities. Each contractor should review this procedure and include adequate time in their proposal.

1.5 INSTALLING CONTRACTORS CLOSE-OUT SUBMITTALS

- A. Commissioning Report Supplemental Information:
 - 1. At Construction Phase Commissioning Completion, provide the following:
 - a. Startup reports
 - b. Approved test procedures
 - c. Test data forms, completed and signed
 - d. Controls point-to-point verification documentation
 - e. Preliminary test and balance report(s)
 - f. Progress reports
 - g. Commissioning issues reports showing resolution of issues
 - h. Correspondence or other documents related to resolution of issues
 - i. Other reports required by commissioning authority
- B. Provide Operation and Maintenance Data: For proprietary test equipment, instrumentation, and tools to include in operation and maintenance manuals.

PART 2 - PRODUCTS

2.1 Not used.

PART 3 - EXECUTION

3.1 ROLES OF THE COMMISSIONING AUTHORITY

- A. The primary responsibility is to inform the owner, the construction manager and design team on the status, integration, and performance of commissioned systems within the facility.
- B. The CxA shall function as a catalyst and initiator to disseminate information and assist the design and construction teams in implementing completion of the construction process. This shall include system verification, functional performance testing, and conformance with the intended design of each system. Services include documenting construction observations, verification and functional performance testing, and documenting proper distribution of performance and operating information to the owner's O&M staff.

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- C. The CxA shall observe and coordinate testing as required to assure system performance meets the Basis of Design and Owner's Project Requirements.
- D. The CxA shall provide technical expertise to oversee and verify the correction of deficiencies found during the commissioning process.
- E. The CxA is to remain an independent party with specific knowledge of commissioned systems on the project. The CxA shall investigate the scope and extent of the problem and facilitate communication to determine responsibilities by delineating specifications. The CxA shall monitor resolution for conformance with design intent and prevailing industry standards.
- F. The CxA shall document the date of acceptance as determined by the construction manager, owner and design team.

3.2 SYSTEMS INCLUDED IN THE COMMISSIONING PROCESS

- A. HVAC and HVAC Controls
- B. Domestic Hot Water
- C. Lighting Controls
- D. Security Systems (Security Management and Video Management Systems)

CONTRACTOR SCHEDULING 3.3

- A. Commissioning Schedule: Integrate commissioning into Contractor's construction schedule.
 - 1. Include detailed commissioning activities in monthly updated Contractor's construction schedule and short interval schedule submittals.
 - 2. Schedule the start date and duration for the following commissioning activities:
 - a. Submittals.
 - b. Preliminary operation and maintenance manual submittals.
 - c. System verification checklists
 - d. Operation and Maintenance Manuals
 - e. Startup
 - f. Functional performance tests

 - g. Operation and Maintenance Trainingh. As-Built/Existing Conditions Documents
 - i. Near End of Warranty Review

B. Two-Week Look-Ahead Commissioning Schedule:

- 1. Two weeks prior to the beginning of tests, submit a detailed two-week look-ahead schedule. Thereafter, submit updated two-week look-ahead schedules weekly for the duration of commissioning.
- C. Owner's Witness Coordination:
 - 1. Coordinate Owner's witness participation via Architect.
 - 2. Notify Architect of commissioning schedule changes at least one week in advance for activities requiring the participation of Owner's witness.

3.4 COMMISSIONING PLAN

A. Commissioning Team

1. The Commissioning Team (CT) shall consist of key parties involved in design, construction and testing of this facility. It is necessary for each agency to appoint team members that will have longterm commitments to this project. One team member shall be provided by each of the parties listed below:

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- a. Owner Representative University of Kentucky
- b. Project Architect Lord Aeck Sargent Architect
- c. Design Engineer Staggs & Fisher Engineers
- d. Commissioning Authority (CxA)
- e. General Contractor (GC)
- f. Mechanical Contractor (MC)
- g. Sheet Metal Contractor (SM)
- h. Controls Installation Contractor (CIC)
- i. Controls Supplier (CS)
- j. Test and Balance Contractor (TABC)
- k. Electrical Contractor (EC)
- I. Lighting Controls Equipment Contractor (LCEC)
- m. Security System Contractor (SSC)

B. Owner's Project Requirements and Basis of Design Documents

- 1. The Owner's Project Requirements (OPR) is a written document prepared by the owner and the design team that details the functional requirements of a project and the expectations of how it will be used and operated.
- 2. The Basis of Design (BOD) is a document prepared by the design team that records the concepts, calculations, decisions, and product selections used to meet the Owner's Project Requirements and to satisfy applicable regulatory requirements, standards, and guidelines. This instrument contains narrative descriptions and supporting documentation.
- C. The CxA will review the OPR and BOD documents for commissioning provisions, functional performance, optimizing of performance, accessibility, TAB provisions, testing provisions and O&M considerations.

D. Commissioning Meetings

Commissioning meetings will be held in conjunction with progress meetings as necessary. The CxA
will be on site for the Cx meetings. Commissioning meetings will be used to address any problems
that alter the design intent or affect the commissioning process.

E. Resolution Tracking Forms (RTF)

- 1. The use of Resolution Tracking Forms is a method employed by the CxA to monitor and record problems, their causes, and solutions. The use of these lists promotes communication between the installing contractors, design team, commissioning agent, and owner, in order to expedite their resolution in a timely manner.
- The CxA will regularly submit RTF's to the Commissioning Team in order to document and resolve deficiencies as quickly as possible. The frequency of RTF submission will be adjusted as project conditions dictate.

F. System Verification Checklists (SVC) / Manufacturers' Checklists

- 1. The CxA will write SVC's based on the contract documents. These tests will be created for systems and subsystems. See section 3.2 <u>SYSTEMS INCLUDED IN THE COMMISSIONING PROCESS</u> for list of systems to be commissioned. Draft copies will be submitted to the Commissioning Team for review and comment prior to placement on the job site. A master copy of the SVC's will be bound in a three-ring binder and placed on the job site for completion by the installing contractors. No system will be started until the appropriate SVC's have been completed.
- 2. The CxA will review the SVC for each piece of equipment prior to start-up.
- 3. The equipment manufacturers' checklists must also be reviewed by the CxA prior to start-up. These lists must be completed by the installing contractor, and reviewed by the CxA before start-up commences.

G. Start-Up

1. Start-up of major commissioned systems will be witnessed the CxA. The appropriate contractors and/or manufacturer's representative will be required on site to perform start-up. No system will be started until the appropriate SVC's have been completed.

H. Controls Monitoring

1. Close monitoring of the Control Supplier's (CS) progress will promote efficient coordination of the TAB work. The CS will be expected to submit point-to-point checklists verifying that his work has been completed and all systems are ready for TAB work and Functional Performance Testing.

I. TAB Monitoring

- 1. The preliminary TAB report set-up will be reviewed prior to HVAC equipment start-up, in order to assure that the final TAB report format and content are acceptable.
- 2. TAB work will be monitored so that any problems that prevent or hinder proper air and water balance can be addressed and corrected with minimal delays.
- 3. A pencil copy of the TAB report will be reviewed prior to submission of the final TAB report and before Functional Performance Tests can begin. A written CxA review will be submitted to the TAB contractor and to the Design Team for their comments. A TAB report approved by the DT will be required before Functional Performance Testing can be carried out. The CxA will visit the site during the TAB process in order to assist TABC and CC in the effective completion of their scope of work.

J. Functional Performance Tests (FPT)

- 1. The CxA will write FPT's based on the OPR. These tests will be created for systems and subsystems. See section 3.2 'SYSTEMS INCLUDED IN THE COMMISSIONING PROCESS' for list of systems to be commissioned above. Each major system will be tested. A random sample of each subsystem will be tested. This will be coordinated and witnessed by the CxA and the owner's maintenance staff. Witnessing the FPT's will serve as a compliment to the O&M Training. No FPT's will be performed until the system and related subsystems SVC's are completed by installing contractors, startup reports have been submitted, the TAB report has been submitted and reviewed, and the completion of the control system has been documented through point-to-point checklists and other documentation.
- 2. The Functional Performance Tests shall include HVAC, HVAC Controls, Domestic Hot Water, Lighting Controls and Security Systems equipment.
 - a. Fan Coil Units will be tested at minimum and maximum airflow setpoints, and under automatic control. Intermediate settings will be tested as necessary.
 - b. Hydronic Pumps will be tested for conformance to OPR and BOD.
 - c. DDC control systems will be tested as necessary to achieve OPR conformance.
 - d. HVAC systems will be tested to assure that the building as an integrated system operates properly.
 - e. Domestic Hot Water systems will be tested in designed modes under relevant operating conditions for conformance to OPR and BOD.
 - f. Lighting Controls will be tested to assure that the building as an integrated system operates properly.
 - g. The security system contractor will demonstrate to the CxA design intent conformance of video management system (VMS) operation including cameras, camera network and recording. With the CxA present the security system contractor will verify proper operation of commissioned systems.
 - h. The security system contractor will demonstrate to the CxA design intent conformance of Security Management System (SMS) operation including Access Control, Duress Buttons, Emergency Call Boxes, electrified door hardware interfaces to other systems and remote monitoring and control. With the CxA present, the security system contractor will verify proper operation of commissioned systems.
- 3. Off-season mode testing will be implemented as necessary to assure conformance with the OPR. Installing contractors will be expected to participate as required by the project specifications.

3.4 ROLES AND RESPONSIBILITES OF INSTALLING CONTRACTORS

A. Installing Contractor Roles

- 1. General Contractor (GC)
- 2. Mechanical Contractor (MC)
- 3. Sheet Metal Contractor (SMC)
- 4. Testing, Adjusting and Balance Contractor (TABC)
- 5. Temperature Controls Contractor (TCC)
- 6. Electrical Contractor (EC)
- 7. Lighting Controls Equipment Contractor (LCEC)
- 8. Plumbing Contractor (PC)
- 9. Security System Contractor (SSC)

B. General Contractor Responsibilities (GC)

- 1. Assure acceptable representation, with the means and authority to prepare and coordinate execution of the commissioning program as described in the contract documents.
- Assure that the CxA shall receive a copy of all construction documents, addenda, change orders and appropriate approved submittals and shop drawings for review and use in development of the commissioning plan.
- 3. Coordinate inclusion of commissioning activities in the construction schedule.
- 4. Facilitate resolution of deficiencies identified by observation or performance testing.

C. Mechanical Contractor (MC) Responsibilities

- 1. Include requirements for submittal data (including partial load data), O&M data, and training in each purchase order or sub-contract.
- 2. Assure cooperation and participation of specialty sub-contractors such as sheet metal, piping, refrigeration, water treatment, temperature controls, and TAB in commissioning activities.
- Assure participation of major equipment manufacturers in appropriate startup, training, and testing activities.
- 4. Attend commissioning meetings scheduled by the CxA.
- 5. Assist the CxA in system verification and performance testing.
- 6. Prepare preliminary schedule for commissioned system inspections, O&M manual submission, training sessions, pipe and duct system testing, flushing and cleaning, equipment start-up, system verification, performance testing, and system completion for use by the CxA. Update schedule as appropriate throughout the construction period.
- Complete System Verification Checklists and manufacturer's pre-start checklists prior to scheduling startup of commissioned equipment.
- 8. Monitor and respond to Resolution Tracking Forms distributed by the CxA in order to expedite corrective actions necessary to achieve design intent.
- 9. Notify the CxA a minimum of two weeks in advance of scheduled system start-up.
- 10. Update drawings to as-built condition and review with the CxA throughout the construction process.
- 11. Schedule vendor and subcontractor provided training sessions as required by project specifications.
- 12. Provide written notification that the following work has been completed in accordance with the project specifications, and that the equipment, systems and sub-systems are operating in accordance with design intent.
 - a. HVAC equipment including fans, air handling units, dehumidification units, ductwork, dampers, terminal devices, etc.
 - Fire detection and smoke detection devices furnished under other divisions as they affect the operation of the HVAC systems.
 - c. That BAS is functioning in accordance with design intent.
- 13. Participate in the Functional Performance Tests as required to achieve design intent.
- 14. Participate in the off-season mode testing as required to achieve design intent.
- 15. Participate in O&M Training as required by project specifications.
- 16. Provide a complete set of as-built drawings and O&M manuals for review.

D. Sheet Metal Contractor Responsibilities (SMC)

- 1. Include requirements for submittal data (including partial load data), O&M data, and training in each purchase order or sub-contract.
- 2. Assure cooperation and participation of specialty sub-contractors such as piping, refrigeration, water treatment, temperature controls, and TAB in commissioning activities.
- 3. Assure participation of major equipment manufacturers in appropriate startup, training, and testing activities.
- 4. Attend commissioning meetings scheduled by the CxA.
- 5. Assist the CxA in system verification and performance testing.
- 6. Prepare preliminary schedule for commissioned system inspections, O&M manual submission, training sessions, pipe and duct system testing, flushing and cleaning, equipment start-up, system verification, performance testing, and system completion for use by the CxA. Update schedule as appropriate throughout the construction period.
- 7. Complete System Verification Checklists and manufacturer's pre-start checklists prior to scheduling startup of commissioned equipment.
- 8. Monitor and respond to Resolution Tracking Forms distributed by the CxA in order to expedite corrective actions necessary to achieve design intent.
- 9. Notify the CxA a minimum of two weeks in advance of scheduled system start-up.
- 10. Update drawings to as-built condition and review with the CxA throughout the construction process.
- 11. Schedule vendor and subcontractor provided training sessions as required by project specifications.
- 12. Provide written notification that the following work has been completed in accordance with the project specifications, and that the equipment, systems and sub-systems are operating in accordance with design intent.
 - a. HVAC equipment including fans, air handling units, dehumidification units, ductwork, dampers, terminal devices, etc.
 - b. Fire detection and smoke detection devices furnished under other divisions as they affect the operation of the HVAC systems.
- 13. Participate in the Functional Performance Tests as required to achieve design intent.
- 14. Participate in the off-season mode testing as required to achieve design intent.
- 15. Participate in O&M Training as required by project specifications.
- 16. Provide a complete set of as-built drawings and O&M manuals for review.

E. Test and Balance Contractor Responsibilities (TABC)

- 1. Attend commissioning meetings scheduled by the CxA.
- 2. Submit the TAB procedures and preliminary TAB report to the CxA for review at least two weeks prior to beginning TAB work.
- 3. Notify the CxA a minimum of two weeks in advance of scheduled TAB work.
- 4. Provide partial, preliminary TAB Reports by phase, by building section, by system, or as required by the CxA.
- 5. Assist the CxA in system verification and performance testing.
- 6. Monitor and respond to Resolution Tracking Forms distributed by the CxA in order to expedite corrective actions necessary to achieve design intent.
- 7. Participate in verification of the TAB report, which will consist of repeating any selected measurement contained in the TAB report where required by the CxA for verification or diagnostic purposes.
- 8. Participate in the Functional Performance Tests as required to achieve design intent.
- 9. Provide sound and vibration measurements where required to assist in diagnosis of areas exhibiting unacceptable levels of noise or vibration.
- 10. Participate in the off-season mode testing as required to achieve design intent.
- 11. Participate in O&M Training as required by project specifications.

F. Temperature Control Contractor Responsibilities (TCC)

- 1. Review control sequence and component selection for conformance with design intent.
 - a. Verify that specified safeties and interlocks have been selected.
 - b. Verify proper selection of control valves and actuators based on design parameters.
 - c. Verify proper selection of control dampers and actuators based on design parameters.

- d. Verify that sensor selection conforms to design intent.
- 2. Attend commissioning meetings scheduled by the CxA.
- 3. Provide the following submittals to the CxA:
 - a. Hardware and software submittals.
 - b. Control panel construction shop drawings.
 - c. Narrative description of control sequences for each commissioned system and subsystem.
 - d. Schematics showing all control points, sensor locations, point names, actuators, controllers and where necessary, points of access.
 - e. A list of all control points, including analog inputs, analog outputs, digital inputs and digital outputs. Include the values of all parameters for each system point. Provide a separate list for each stand-alone control unit.
 - f. A complete listing of all software routines employed in operating the control system. Also provide a program narrative that describes the logic flow of the software and the functions of each routine and sub-routine. The narrative should also explain individual math or logic operations that are not clear from reading the software listing.
 - g. Hardware operation and maintenance manuals.
 - h. Application software and project applications code manuals.
 - i. Panel and equipment insert documents.
- 4. Verify that specified interfaces provided by others are compatible with BAS hardware and software.
- 5. Coordinate installation and programming of BAS with construction and commissioning schedules.
- Complete System Verification Checklists and manufacturer's pre-start checklists prior to scheduling startup of commissioned equipment.
- 7. Provide control system technician to assist during equipment startup.
- 8. Monitor and respond to Resolution Tracking Forms distributed by the CxA in order to expedite corrective actions necessary to achieve design intent.
- 9. Participate in the Functional Performance Tests as required by the project specifications.
- 10. Provide a control system technician to assist during verification and performance testing.
- 11. Provide system modifications to achieve system operation as defined by the design intent.
- 12. Provide support and coordination for TAB contractor. Provide all devices, such as portable operator terminals and all software for the TAB to use in completing TAB procedures.
- 13. Provide written notification that the TCC scope of work has been completed in accordance with the project specifications, and that the equipment, systems and sub-systems are operating in accordance with design intent, and that BAS is functioning in accordance with design intent.
- 14. Participate in the Functional Performance Tests as required to achieve design intent.
- 15. Participate in the off-season mode testing as required to achieve design intent.
- 16. Participate in O&M Training as required by project specifications. Include training on hardware operations and programming.

G. Electrical Contractor Responsibilities (EC, LCEC)

- 1. Review design for provision of power to the commissioned equipment.
 - a. Verify proper hardware specifications exist for performance as defined by the OPR.
 - b. Verify proper safeties and interlocks are included in the design of electrical connections for HVAC equipment.
- 2. Attend commissioning meetings scheduled by the CxA.
- 3. Verify proper installation and performance of all electrical services provided.
- 4. Complete System Verification Checklists and manufacturer's pre-start checklists prior to scheduling startup of commissioned equipment.
- 5. Monitor and respond to Resolution Tracking Forms distributed by the CxA in order to expedite corrective actions necessary to achieve design intent.
- 6. Provide an electrical system technician to assist during verification and performance testing.
- 7. Participate in the Functional Performance Tests as required to achieve design intent.
- 8. Participate in the off-season mode testing as required to achieve design intent.
- 9. Participate in O&M Training as required by project specifications.
- 10. Provide a complete set of as-built drawings and O&M manuals for review.

- H. Plumbing Contractor Responsibilities (PC)
 - 1. Include cost for commissioning requirements in the contract price.
 - 2. Review design for provision of power to equipment.
 - a. Verify proper hardware specifications exist for performance as defined by the OPR.
 - b. Verify proper safeties and interlocks are included in the design of electrical connections for plumbing equipment.
 - 3. Attend commissioning meetings scheduled by the CxA.
 - 4. Furnish instrumentation required for demonstration of Owner's Project Requirements compliance of installed systems equipment and assemblies for systems to be commissioned.
 - 5. Verify proper installation and performance of all plumbing installation services provided.
 - 6. Complete System Verification Checklists and manufacturer's pre-start checklists prior to scheduling startup of commissioned plumbing equipment.
 - 7. Monitor and respond to Resolution Tracking Forms distributed by the CxA in order to expedite corrective actions necessary to achieve design intent.
 - 8. Provide a plumbing system technician to assist during verification and performance testing.
 - 9. Participate in the Functional Performance Tests as required to achieve design intent.
 - 10. Participate in the off-season mode testing as required to achieve design intent.
 - 11. Participate in O&M Training as required by project specifications.
- I. Security System Contractor Responsibilities (SSC)
 - 1. Include cost for commissioning requirements in the contract price.
 - 2. Review design for provision of power to equipment.
 - a. Verify proper hardware specifications exist for performance as defined by the OPR.
 - b. Verify proper safeties and interlocks are included in the design of electrical connections for plumbing equipment.
 - 3. Attend commissioning meetings scheduled by the CxA.
 - 4. Furnish instrumentation required for demonstration of Owner's Project Requirements compliance of installed systems equipment and assemblies for systems to be commissioned.
 - 5. Verify proper installation and performance of all security installation services provided.
 - 6. Complete System Verification Checklists and manufacturer's pre-start checklists prior to scheduling startup of commissioned security equipment.
 - 7. Coordinate with Owner's personnel (Security Personnel, IT) and their integrator(s) during the installation of the systems.
 - 8. Monitor and respond to Resolution Tracking Forms distributed by the CxA in order to expedite corrective actions necessary to achieve design intent.
 - 9. Provide a security system technician to assist during verification and performance testing.
 - 10. Participate in the Functional Performance Tests as required to achieve design intent.
 - 11. Participate in O&M Training as required by project specifications.
- J. Contractor Commissioning Compliance Issues (Applies to all Installing Contractors):
 - 1. Test results that are not within the range of acceptable results are commissioning compliance issues.
 - 2. Track and report commissioning compliance issues until resolution and retesting are successfully completed.
 - 3. If a test demonstration fails, determine the cause of failure. Direct timely resolution of issue and then repeat the demonstration. If a test demonstration must be repeated due to failure caused by Contractor work or materials, reimburse Owner for billed costs for the participation in the repeated demonstration.
 - 4. Test Results: If a test demonstration fails to meet the acceptance criteria, perform the following:
 - a. Complete a commissioning compliance issue report form promptly on discovery of test results that do not comply with acceptance criteria.
 - b. Submit commissioning compliance issue report form to the Commissioning Team.
 - c. Determine the cause of the failure.
 - d. Establish responsibility for corrective action if the failure is due to conditions found to be Contractor's responsibility.
 - 5. Commissioning Compliance Issue Report: Provide a commissioning compliance issue report for each issue. Do not report multiple issues on the same commissioning compliance issue report.

- a. Exception: If an entire class of devices is determined to exhibit the identical issue, they may be reported on a single commissioning compliance issue report. For example, if all return-air damper actuators that are specified to fail to the open position are found to fail to the closed position, they may be reported on a single commissioning issue report. If a single commissioning issue report is used for multiple commissioning compliance issues, each device shall be identified in the report, and the total number of devices at issue shall be identified.
- b. Complete and submit the commissioning compliance issue report immediately when the condition is observed.
- c. Record the commissioning compliance issue report number and describe the deficient condition on the data form.
- Resolve commissioning compliance issues promptly and report resolutions to the Commissioning Team.
- 6. Diagnose and correct failed test demonstrations as follows:
 - a. Perform diagnostic tests and activities required to determine the fundamental cause of issues observed.
 - b. Record each step of the diagnostic procedure prior to performing the procedure. Update written procedure as changes become necessary.
 - c. Record the results of each step of the diagnostic procedure.
 - d. Record the conclusion of the diagnostic procedure on the fundamental cause of the issue.
 - e. Determine and record corrective measures.
 - f. Include diagnosis of fundamental cause of issues in commissioning compliance issue report.

7. Retest:

- a. Schedule and repeat the complete Functional Performance Test procedure for each test demonstration for which acceptable results are not achieved. Obtain signature of Owner's witness on retest data forms. Repeat test demonstration until acceptable results are achieved. Except for issues that are determined to result from design errors or omissions, or other conditions beyond Contractor's responsibility, compensate Owner for direct costs incurred as the result of repeated test demonstrations to achieve acceptable results.
- 8. Do not correct commissioning compliance issues during test demonstrations.
 - a. Exceptions will be allowed if the cause of the issue is obvious and resolution can be completed in a mutually agreed upon brief timeframe by the Commissioning Team. If corrections are made under this exception, note the deficient conditions on the test data form and issue a commissioning compliance issue report.

END OF SECTION

Addendum #1 11396-00 July 30, 2021

SECTION 07 61 00 - SHEET METAL ROOFING

PART 1 GENERAL

1.01 SUMMARY

- A. Section Includes:
 - 1. Sheet metal roofing.
 - 2. Built-in gutter linings.
 - 3. Sheet metal flashing, trim, closures, covers, clips, etc., comprising a complete system.
 - 4. Downspouts.
 - 5. Fasteners and attachment devices.
 - 6. Underlayment.
 - 7. Joint sealants in contact with work of this Section.
 - 8. Coatings and slip sheets to isolate sheet metal from dissimilar materials.

1.02 REFERENCES

- A. ASTM B32 Standard Specification for Solder Metal; 2008 (Reapproved 2014).
- B. ASTM B370 Standard Specification for Copper Sheet and Strip for Building Construction; 2012 (Reapproved 2019).
- C. ASTM D226/D226M Standard Specification for Asphalt-Saturated Organic Felt Used in Roofing and Waterproofing; 2017.
- D. CDA A4050 Copper in Architecture Handbook; current edition.
- E. SSPC-Paint 12 Cold-Applied Asphalt Mastic (Extra Thick Film); 1982 (Ed. 2000).

1.03 SYSTEM DESCRIPTION

- A. Sheet metal work includes gutters, gutter liners, downspouts, valleys, ridges, edge treatments, trim, flashings, counterflashings, and other sheet metal fabrications specified in this section, indicated on the Drawings, and as required by project conditions. Only the general arrangement and configuration of sheet metal work is indicated on the drawings.
- B. The Contractor is responsible for preparing shop drawings illustrating details of seaming, joining, and fastening of sheet metal work in conformance with the Drawings and this Specification and to accommodate the project conditions on the site, and without change in Contract Time or Price.
- C. Such details shall conform to the CDA A4050 recommendations for maximum life and reliability.
- D. Such details shall provide:
 - 1. Weather-proof performance without relying on sealant.
 - 2. Expansion provisions for running work.
 - 3. Sheet metal roofing that is expected to be leak-free.
 - 4. Sheet metal roofing that can reasonably be expected to last in excess of 75 years without repairs other than required by storm damage.
 - 5. Exception: Where the use of joint sealant is required by the Contract Documents or is required by Project conditions and is approved in writing by the Architect.
- E. Seams and Joints: Where specific types of seams and joints are not indicated in the Contract Documents, select seams and joints in the order that follows:
 - Provide locked seam or joint where, due to slope and interlocking of seam, the seam or joint is inherently weather-proof without the use of solder or sealants.
 - Provide locked and soldered seam or joint where slope and interlocking of seam would allow water penetration, and where rigid construction is required. Prepare edges to be seamed, form seams, and solder.
 - a. Rivet joints for additional strength where recommended by CDA A4050.
 - 3. Provide sealant-filled expansion seams or joints only where lapped or bayonet-type expansion provisions in work cannot be used, or would not be water-and-weather-proof

Obtain the written authorization of the Architect in each case. Form expansion joints of intermeshing hooked flanges, not less than 1 inch deep, filled with mastic sealant concealed within joints.

F. Fastening:

- 1. Employ concealed cleats to fasten sheet metal to the substrate.
- 2. Do not fasten exposed fabrications directly to the substrate.
- 3. Conceal fasteners wherever possible. Obtain the Architect's written authorization where exposed fasteners are proposed.
- 4. Ensure fasteners are permanently sealed against water penetration.

1.04 SUBMITTALS

- A. Product Data for each material.
- B. Installer qualifications: Submit for Architect's approval within 7 days after notice of intent to award of subcontract.
- C. Certificates: Submit with shop drawings.
 - 1. Training completion certificate, including name of each attendee.
- D. Shop Drawings:
 - 1. Metal component profiles.
 - 2. Joints and seams.
 - 3. Joint and seam pattern.
 - 4. Fastening methods.
 - 5. Accessory items.
 - 6. Relationship of roofing materials to adjacent construction.

E. Samples:

- 1. 6-inch-square samples of flat sheet metal, tinned on one edge.
- 2. Submit two samples of each of the following fabrications per each workman who will perform soldering. Identify each workman's samples.
 - a. 6-inch-square samples of flat locked soldered seams fabricated from two, $3-3/4 \times 3$ inch flat sheets, folded to form a 3/4 inch seam. Perform soldering with sheets in a horizontal position.
 - b. 6-inch-square samples of flat locked soldered seams fabricated from two, 3-3/4 x 3 inch flat sheets, folded to form a 3/4 inch seam. Perform soldering with sheets in a sloped position (slope equal to slope existing on the project) and with seam in a horizontal orientation.
 - c. 6-inch-square samples of flat locked soldered seams fabricated from two, $3-3/4 \times 3$ inch flat sheets, folded to form a 3/4 inch seam. Perform soldering with sheets in a vertical position and with seam in a vertical orientation.
 - d. Gutters or gutter liners:
 - 1) 6 to 12 inch long sample of the cross-section of the gutter liner with end cap.
 - 6 to 12 inch long sample of the cross-section of the gutter liner with expansion joint.

1.05 QUALITY ASSURANCE

- A. Installer: A company with at least 15 years of experience with installing products included in this section and which has completed at least 20 installations similar in scope to work included in this section.
 - Submit the names of at least 3 projects within 30 miles of the project site. Include project name, date of completion, name and telephone of Owner contact, name and telephone of Architect
 - 2. Submit within the time limits specified in the Bidding Requirements and General Conditions.

B. Preconstruction Services:

1. The Contractor shall pay for the fee of CDA Representative.

- C. Preconstruction Installer Training: Schedule in advance of submission of Shop Drawings.
 - 1. Schedule 2 consecutive days at the installer's shop for CDA Installer Training. Attendance:
 - a. Installer's foreman, shop crew, and field crew.
 - b. Instructor: CDA Representative.
 - c. Owner's or Architect's representative specializing in sheet metal roofing (optional).
 - 2. Curriculum:
 - a. Lecture by instructor.
 - b. Soldering techniques demonstration by instructor.
 - c. Table-top demonstration exercises by instructor.
 - d. Hands-on table-top exercises by installer.
 - e. Instructional modules to be covered (soldering, standing seam, flat seam, gutters, etc.) shall include each module necessary for performing the work of the Project.
 - 3. If the Installer's foreman and field crew for this Project have received CDA training and individual CDA certificates for the instructional modules applicable to this Project within a period of 3 years prior to the date of bid for this Project, the Contractor may submit a request for a waiver of preconstruction installer training for the Architect's consideration. Requests received after the date established for receipt of bids and issuance of addenda will be considered only in conjunction with a reduction in the Contract Price equal to the cost of the installer's time and materials and the cost of the CDA trainers.
- D. Preconstruction Mock-up and Demonstration:
 - 1. Attendance:
 - a. Installer's foreman and crew.
 - b. Owner's or Architect's representative specializing in sheet metal roofing (optional).
 - 2. Construct mock-ups on site using flat sheet stock (no shop-formed fabrications, unless approved by the Architect) so as to demonstrate on site all aspects of preparation, fabrication, and installation of roofing work.
 - 3. Construct roofing system mock-up with materials and methods identical to those to be used in the actual work.
 - 4. Construct mock-up to include representative tasks and conditions on the Project.
 - 5. Prepare substrate for mock-ups of wood board or plywood sheathing with suitable rigid supporting framing where necessary. Construct mock-ups on the ground. Do not construct mock-ups on the actual building.
 - 6. Retain mock-ups at project site at least until acceptance of the work. Remove mock-ups from the project site thereafter.
- E. Quality Standard:
 - Fabricate and install metal roofing work in accordance with CDA A4050 recommendations (especially sections 7 and 8 of "Copper in Architecture") unless specifically indicated otherwise.

1.06 DELIVERY, STORAGE AND HANDING

- A. Follow metal manufacturer's recommendations for avoiding staining and marring of sheets.
- B. Handle sheets with clean sheet metal worker's gloves.
- C. Do not allow traffic of any kind on work.

1.07 WARRANTY

A. Provide Special Project Warranty specified in Section 01 78 10.

PART 2 PRODUCTS

2.01 SUBSTITUTIONS

A. Refer to Section 01 60 00 - Product Requirements.

2.02 MATERIALS

- A. Copper Sheet: ASTM B370, H00 temper.
 - Temper: H00 "cold-rolled".
 - a. General use, unless otherwise indicated.
 - 2. Weight of Copper Sheet:
 - a. 16 oz. per square foot, unless otherwise indicated.
 - b. Flat Lock Seam Roofing: 20 oz. per square foot.
 - c. Gutter Liner and Adjacent Running Trim: 24 oz. per square foot.
 - d. All Other Running Trim: 20 oz. per square foot.
 - e. Downspout: 16 oz. per square foot.

2.03 ACCESSORY MATERIALS

- A. Fasteners for Copper Sheet:
 - 1. Nails: Copper or hardware bronze, 0.109 inch minimum x not less than 7/8 inch long; barbed with large head.
 - 2. Screws and bolts: Copper, bronze, or brass.
 - 3. Fixed cleats: Copper sheet; 2 inches wide 3 inches long.
 - 4. Expansion cleats: Copper sheet, size and configuration as indicated in CDA A4050 detail 4.1.4.
 - 5. Cleat gage: Fabricate cleats from metal of gage equal to the metal being fastened.
 - 6. Tinner's rivets: Solid; one-piece copper; 3/16" diameter shank; with copper washer.
 - 7. Pop Rivets: Copper with copper drive pins. Pop rivets shall not be used without the written permission of and at the sole discretion of the Architect, which permission may or may not be granted. Pop rivets are not usually permitted, and only occasionally are deemed to be useful.
- B. Fasteners for Underlayment: Same type and material as for roofing sheets; nail through 1-inch-square washers cut from roofing sheet metal. Do not use plastic-cap-type nails.
- C. Solder: ASTM B32.
 - 1. For copper sheet: 50/50 tin-lead solder; rosin flux.
- D. Sealants in contact with Work of this Section:
 - 1. Concealed joints.
 - a. Mastic sealant: Polyisobutylene sealant as specified in Section 07 92 00.
 - b. Polyisobutylene sealant tape: As specified in Section 07 92 00.
 - 2. Exposed joints: Silicone as specified in Section 07 92 00.
- E. Underlayment:
 - 1. No. 15 asphalt felt, ASTM D226/D226M Type I, unperforated.
 - 2. Self-adhesive roofing underlayment as specified in Section 07 31 26.
- F. Slip Sheet: Rosin-sized paper, 5 lb. nominal weight.
- G. Slip Sheet: Nonwoven polyester fabric for use in cold-applied single ply roof systems weighing 6 oz. per square yard; white, nonswelling, rot and mildew resistant.
 - 1. Phillips Fibers Corp: E-6-N Rufon Fabric.
- H. Bituminous Coating: Heavy bodied, sulfur-free, asphalt-based paint; formulated for 15 mil application thickness; SSPC Paint 12.

2.04 FABRICATION

- A. Shop and Field Fabrication:
 - 1. Shop fabricate work to the greatest extent possible.
 - 2. Whenever work of this section is in progress, maintain on the job site a complete set of tools and equipment capable of field fabricating any portion of the Work from flat sheet stock, and capable of field modifying any shop-fabricated item to suit field conditions as if fabricated new.
 - 3. Field tools and equipment shall include:
 - a. Complete range of tongs in the necessary sizes and configurations.

- b. Brake.
- c. Tinning bath.
- d. Soldering coppers.
- e. Shear.
- f. Necessary hand tools.
- g. Other tools and equipment necessary for fabricating and installing Work of this Section.
- 4. Form work to fit substrate.
- 5. Form sheet metal to match profiles indicated, substantially free from oil-canning, buckling, tool marks, fish-mouths, and other defects.
- 6. Where details are not specifically indicated, comply with the CDA A4050 recommendations for metal roofing.
- B. Shop-fabricate work to the greatest extent possible. Form sheet metal to match profiles indicated, substantially free from oil-canning, buckling, tool marks, fish-mouths, and other defects. Form work to fit substrate. Comply with material manufacturer's instructions and recommendations for forming material.
- C. Fasten sheet metal with concealed cleats. Fabricate cleats and attachment devices from same material as sheet metal component being anchored. Employ exposed fasteners only where and if specifically approved by the Architect.
- D. Form a 1/2-inch hem on underside of exposed edges.
- E. Fabricate roofing components including sheets, seams, pans, cleats, strips, clips, cleats, expansion provisions, valleys, ridges, edge treatments, flashing, and other components to match profiles and details indicated and to ensure permanently leak-proof construction. Provide for thermal expansion of sheet metal.
 - 1. Where details are not specifically indicated on the Drawings, comply with the CDA A4050 recommendations for metal roofing, especially 4.0, 4.1, 4.2, and 4.3.6.
- F. Flat Lock Seam Roofing:
 - 1. Nominal pan size: 16-1/2 x 22-1/2 inches finished (18 x 24 flat sheet), 15-3/4 x 21-3/4 coverage.
 - 2. Seams soldered.
 - 3. Expansion battens spacing: As shown on the drawings.
- G. Built-in Gutter Liners:
 - 1. Fabricate gutter liners from expansion joint to expansion joint (or end to end) using one piece of metal without transverse joints, unless otherwise approved.
 - 2. Where transverse joints are required (such as corners without expansion joints) and approved, employ riveted and soldered lap joints. Ensure that sheet is properly prepared to bright metal, and tinned. Form a 1-1/2-inch-wide lap; provide 1 row of tinner's rivets 1/2 inch from edge; pre-punch holes spaced at 2 inches on center; provide a second row of rivets 1/2 inch from opposite edge of lap, staggered with first row. Peen rivets securely against washers. Solder a fully-sweated, water-tight lap.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Examine substrates and conditions under which products of this section are to be installed and verify that work may properly commence. Do not proceed with the work until unsatisfactory conditions have been fully resolved.
 - 1. Verify that nailers, blocking, and other attachment provisions for sheet metal work are properly located and securely fastened to resist effects of wind and thermal stresses.

3.02 PREPARATION

A. Coordinate sheet metal roofing with other sheet metal work and substrate construction to provide a complete and permanently water-tight installation.

- B. Verify shapes and dimensions of surfaces to be covered before fabricating sheet metal.
- C. Clean surfaces to receive sheet metal work. Verify that substrates are smooth and free of protrusions, irregularities, or other defects.
 - 1. Drive nails or other fasteners flush with substrate.
- D. Coat the back side of metal with bituminous coating where it will be in contact with wood, dissimilar metal, or cementitious construction unless surfaces will be separated by self-adhesive roofing underlayment.

3.03 INSTALLATION

- General: Comply with sheet metal manufacturer's installation methods and CDA A4050 recommendations.
 - 1. Fabricate and install work with lines and corners of exposed units true and accurate.
 - 2. Form exposed faces flat and free of buckles, excessive waves, and avoidable tool marks considering temper and reflectivity of metal.
 - 3. Provide uniform, neat seams with minimum exposure of solder, welds, and sealant.
 - 4. Fold back sheet metal to form a hem on concealed side of exposed edges.
 - 5. Conceal fasteners and expansion provision where possible in exposed work, and locate so as to minimize possibility of leakage.
 - 6. Cover and seal fasteners and anchors.

B. Underlayment:

- Install one layer of roofing felt underlayment with ends and edges lapped a minimum of 4 inches. Nail underlayment at 12 inches on center each way, and such that metal fasteners are flush and fully seated and none are exposed to underside of sheet metal roofing.
- 2. Cover with a layer of rosin-sized building paper. Loose-lay the paper or use adhesive or mastic roofing cement to secure. Do not use metal fasteners to secure paper.
- 3. Wherever soldered flat-seam roofing will be installed or wherever a fabrication will be soldered in-situ, install one layer of nonwoven polyester fabric in lieu of rosin-sized paper if mock-up demonstrated that rosin-sized paper or underlayment is excessively damaged by soldering.

3.04 SEAMS AND JOINTS

- A. General: Wherever practicable select joints that are permanently, inherently weather-tight and allow for thermal movement, and do not rely on solder or sealant for their integrity. Otherwise, use soldered joints wherever movement is not essential. Avoid the use of sealant joints except where movement must be accommodated.
- B. Lapped Seams, Soldered and Riveted: Rivet and solder joints for additional strength where indicated or where recommended by CDA A4050. Ensure that sheet is properly prepared to bright metal, and tinned. Form a 1-1/2-inch-wide lap; provide 1 row of tinner's rivets 1/2 inch from edge; pre-punch holes spaced at 2 inches on center; provide a second row of rivets 1/2 inch from opposite edge of lap, staggered with first row. Solder a fully-sweated, water-tight lap.
- C. Expansion Provisions: Where lapped or bayonet-type expansion provisions in work cannot be used, or would not be water-and-weather-proof, form expansion joints of intermeshing hooked flanges, not less than 1 inch deep, filled with mastic sealant concealed within joints.
- D. Sealant Joints: Where movable, non-expansion-type joints are indicated or required for proper performance of roofing, form sheet metal to provide for proper installation of elastomeric sealant as recommended by referenced standards.
- E. Soldered Seams and Joints in Copper Sheet:
 - 1. Clean surfaces to be soldered, removing oils and foreign matter.
 - 2. Abrade sheets to bright metal before soldering.
 - 3. Neatly pre-tin edges of sheets to be soldered in a bath unless configuration prohibits the use of a bath; pretin in situ using heated soldering coppers only where detailed work cannot be tinned in a bath. Pre-tin to a width of 1-1/2 inches.

- 4. Ensure that pre-tinned surfaces are soldered up as permanent work on the same day as pre-tinning occurs. Do not use pre-tinned surfaces that were tinned the previous day.
 - a. Soldered flat seam roofing: Plan and schedule flat seam work such that no seams to be soldered are left overnight. Where the scope and extent of flat seam work requires that work be extended from one day to the next, take special quality control precautions to ensure that each day's work is successfully soldered (reliably fully sweated through) to the previous days work.
- 5. Employ heavy, heated soldering coppers to solder seams. Do not use direct flame torches for soldering.
- 6. Heat surfaces to receive solder and flow solder into joint. Fill joint completely.
- Remove flux and solder spatter from exposed surfaces. Neutralize acidic flux with baking soda and fresh water.
- 8. Cover exposed and concealed surfaces to protect from corrosive spray when soldering coppers are dipped to clean.

F. Moving Joints:

- 1. When ambient temperature is moderate (40-70 degrees F) at time of installation, set joined members for 50 percent movement either way.
- Adjust setting position of joined members proportionally for temperatures above 70 degrees F.
- 3. Do not install sealant at temperatures below 40 degrees F.
- 4. Refer to section on sealants elsewhere in Division 07 for handling and installation requirements for joint sealers.

3.05 CLEANING AND PROTECTION

- A. Repair or replace work which is damaged or defaced, as directed by the Architect.
- B. Remove from sheet metal surfaces any debris or substances which will inhibit uniform weathering.
- C. Protect sheet metal work as recommended by the installer so that completed work will be clean, secured, and without damage at Substantial Completion.

END OF SECTION

SECTION 07 71 23 - GUTTERS AND DOWNSPOUTS

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Gutters.
- B. Downspouts.
- C. Downspout boots.

1.02 REFERENCES

- A. ASTM B370 Standard Specification for Copper Sheet and Strip for Building Construction; 2012 (Reapproved 2019).
- B. SMACNA (ASMM) Architectural Sheet Metal Manual; Sheet Metal and Air Conditioning Contractors' National Association; 2011.

1.03 SUBMITTALS

- A. Product Data:
 - 1. Provide data on prefabricated components.
- B. Samples: Submit two samples, 6 inch long illustrating finish.
- C. Shop Drawings: Indicate configurations, jointing methods, fastening methods, and installation details. Provide a plan drawing indicating type and location of joints.

1.04 DELIVERY, STORAGE, AND PROTECTION

- A. Stack material to prevent twisting, bending, or abrasion, and to provide ventilation. Slope to drain.
- B. Prevent contact with materials that could cause discoloration, staining, or damage.

PART 2 PRODUCTS

2.01 SUBSTITUTIONS

A. Refer to Section 01 60 00 - Product Requirements.

2.02 MATERIALS

- A. Copper: ASTM B370, cold rolled; natural finish.
 - 1. Thickness: 16 oz.
- B. Fasteners:
 - 1. Copper, brass.

2.03 ACCESSORIES

- A. Downspout Boots: Cast iron.
 - 1. Manufacturer: Zurn. Product 4" x 18" Downspout Book with Round Inlet and Outlet
- B. Leaf traps: Copper.

2.04 FABRICATION

- A. Form sections square, true, and accurate in size, in maximum possible lengths, free of distortion or defects detrimental to appearance or performance.
- B. Gutters:
 - 1. SMACNA Rectangular style as indicated on the drawings.
 - 2. Depth: 4" inches. Width: Match existing.
 - 3. Roll-Form gutters in continuous lengths without transverse seams except at expansion joints and corners unless otherwise required or permitted.
 - 4. Fabricate expansion joints as shown in SMACNA Figure 1-6 or 1-7.
 - 5. Provide gutter brackets as shown in SMACNA Figure 1-12.

- a. 1/4 x 1-1/2 inch.
- 6. Provide gutter spacers as shown in SMACNA Figure 1-12
- 7. Rivet seams, end caps, corners, and downspout outlets to form strong, permanent construction.
- 8. Tin edges of copper/stainless sheet, and solder metal joints weathertight. After soldering, remove flux. Wipe and wash solder joints clean.

C. Downspouts:

- 1. SMACNA Fig. 1-31, round profile.
- 2. Shop-fabricated hangers, SMACNA profile as indicated on the drawings.
- 3. Size: 4" round
- 4. Form bends and offsets as required by project conditions.
- 5. Crimp and form slip-joints in downspouts, and secure with mechanical fasteners.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify existing conditions before starting work.
- B. Verify that surfaces are ready to receive work.

3.02 INSTALLATION

- A. Install in accordance with SMACNA instructions.
- B. Box and Ogee Gutters:
 - Do not fix gutter to building with fasteners other than within 2 feet of the center of the gutter length.
 - 2. Support gutters on brackets spaced at not more than 36 inches o.c. Install spacers at not more than 36 inches o.c. Stagger brackets and spacers 18 inches.
 - 3. Provide redundant gutter bed as described on drawings.
- C. Slope gutters to downspouts, as indicated.
- D. Connect downspouts to downspout boots and include leaf traps.
- E. Connect downspout boots to storm sewer system in accordance with requirements in plumbing specifications.

END OF SECTION

SECTION 08 51 13 - ALUMINUM WINDOWS

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Factory-assembled, factory-glazed windows.
- B. Trim.
- C. Sealing of windows to adjacent interior and exterior construction.

1.02 REFERENCES

- A. AAMA 1503 Voluntary Test Method for Thermal Transmittance and Condensation Resistance of Windows, Doors and Glazed Wall Sections; 2009.
- B. AAMA 511 Voluntary Guideline for Forensic Water Penetration Testing of Fenestration Products;2008.
- C. AAMA 701/702 Combined Voluntary Specifications for Pile Weatherstrip and Replaceable Fenestration Weatherseals; 2011.
- D. AAMA CW-10 Care and Handling of Architectural Aluminum From Shop to Site; 2015.
- E. AAMA/WDMA/CSA 101/I.S.2/A440 North American Fenestration Standard/Specification for windows, doors, and skylights; 2017.
- F. ASTM B209 Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate; 2014.
- G. ASTM B221 Standard Specification for Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes; 2014.
- H. ASTM E1105 Standard Test Method for Field Determination of Water Penetration of Installed Exterior Windows, Skylights, Doors, and Curtain Walls, by Uniform or Cyclic Static Air Pressure Difference; 2015.
- I. ASTM E1996 Standard Specification for Performance of Exterior Windows, Curtain Walls, Doors, and Impact Protective Systems Impacted by Windborne Debris in Hurricanes; 2017.
- J. ASTM E2190 Standard Specification for Insulating Glass Unit Performance and Evaluation; 2010.
- K. ASTM E283 Standard Test Method for Determining the Rate of Air Leakage Through Exterior Windows, Curtain Walls, and Doors Under Specified Pressure Differences Across the Specimen; 2004 (Reapproved 2012).
- L. ASTM E330/E330M Standard Test Method for Structural Performance of Exterior Windows, Doors, Skylights and Curtain Walls by Uniform Static Air Pressure Difference; 2014.
- M. ASTM E331 Standard Test Method for Water Penetration of Exterior Windows, Skylights, Doors, and Curtain Walls by Uniform Static Air Pressure Difference; 2000 (Reapproved 2016).
- N. ASTM E783 Standard Test Method for Field Measurement of Air Leakage Through Installed Exterior Windows and Doors; 2002 (Reapproved 2018).
- O. ICC A117.1 Accessible and Usable Buildings and Facilities; 2017.
- P. NFRC 100 Procedure for Determining Fenestration Product U-factors; 2017.
- Q. ANSI A117.1 1986 edition

1.03 SUBMITTALS

- A. Initial Product Information:
 - 1. Product Data: Provide manufacturer's product data demonstrating compliance with the Contract Documents. Illustrate construction of units and internal drainage details.
 - 2. Samples: Submit one full unit 46 x 90 inches in size. Include:
 - a. Frame section.
 - b. Operating sash.

- c. Mullion section.
- d. Factory finishes.
- e. Glass and glazing materials.
- f. Trim.
- 3. Samples: Submit cut-away section 12 x 12 inches in size illustrating:
 - a. Frame section.
 - b. Operating sash.
 - c. Mullion section.
 - d. Factory finishes.
 - e. Glass and glazing materials.
 - f. Trim.
- 4. Manufacturer's Installation Instructions: Include complete preparation, installation, joining, sealing, and cleaning requirements.
- 5. Certificates: Submit independent testing laboratory certification of compliance with AMMA, NFRC, ASTM, and other specified performance criteria.

B. Shop Drawings:

- Indicate opening dimensions, elevations for different types, framed opening tolerances, method for achieving air and vapor barrier seal to adjacent construction, anchorage locations, and requirements for coordinating sealing to and anchoring to adjacent construction.
- 2. Show required trim.
- C. In-Progress Reports:
 - 1. Field test reports.
- D. Closeout Submittals: Warranty.

1.04 QUALITY ASSURANCE

- A. Installer Qualifications:
 - Installers shall hold a current "InstallationMasters" identification card, demonstrating certification through the InstallationMasters Program provided by the Building Environment and Thermal Envelope Council (BETEC) through the U.S. Department of Energy and developed by the American Architectural Manufacturers Association (AAMA). www.installationmastersusa.com.

B. Mock-Up:

- 1. Before beginning the installation of windows, construct a mock-up of one window on the building in a location acceptable to the Architect.
 - a. Mock-up the complete exterior wall assembly including back-up, weather and thermal protection, anchorage devices, flashings, and seals.
 - b. Cover the mock-up with additional materials such as exterior cladding and interior finishes only when all of the following have been satisfied: 1) When mock-up has been accepted by Architect, and 2) Architect so directs in writing.

2. Scheduling:

- a. Provide notice to the Architect of the anticipated starting and ending times and dates when each material included in the mock-up will be constructed, so that the Architect may observe the installation of such materials prior to covering with subsequent materials.
- b. Schedule construction of the entire mock-up to occur over a time period acceptable to the Architect.
- 3. Approved mock-ups (in conjunction with the other requirements of the Contract Documents) shall be a standard of quality for judging the Work.

1.05 DELIVERY, STORAGE, AND PROTECTION

A. Comply with requirements of AAMA CW-10.

B. Protect finished surfaces with wrapping paper or strippable coating during installation. Do not use adhesive papers or sprayed coatings that bond to substrate when exposed to sunlight or weather.

1.06 ENVIRONMENTAL REQUIREMENTS

A. Do not install sealants when ambient temperature is less than 40 degrees F and when temperatures are expected to drop below point during the curing period specified by the sealant manufacturer.

1.07 WARRANTY

- A. Manufacturer's Warranty.
 - Wiindows furnished are certified as fully warranted against any defects in material or workmanship under normal use and service for a period of ten years from date of fabrication.
 - Provide ten year manufacturer warranty against failure of glass seal on insulating glass units, including interpane dusting or misting. Include provision for replacement of failed units.
 - 3. Provide ten year manufacturer warranty against excessive degradation of exterior finish. Include provision for replacement of units with excessive fading, chalking, or flaking.

PART 2 PRODUCTS

2.01 MANUFACTURERS

- A. Aluminum Windows:
 - 1. Basis of Design: Graham Architectural Products; Product Series GT2200 Single Hung.
 - 2. St. Cloud; 5020 series Architectural Grade single-hung historic windows.
 - 3. Winco; 4410S series Architectural Grade single-hung historic windows.
 - B. Substitutions: See Section 01 60 00 Product Requirements.
 - 1. Note: pour and de-bridge thermal breaks are not acceptable.

2.02 PERFORMANCE REQUIREMENTS

- A. Each unit shall be labeled with a certificate attesting to compliance with AAMA/WDMA/CSA 101/I.S.2/A440, NFRC 100, and other applicable standards for the performance levels specified below.
- B. Design windows and size components to withstand the following load requirements, when tested in accordance with ASTM E330/E330M using test loads equal to 1.5 times the design wind loads with 10 second duration of maximum load:
 - 1. Design Wind Loads: As indicated on the Structural Drawings for components and cladding.
 - 2. Member Deflection: Limit member deflection to 1/175 in any direction, with full recovery of glazing materials.
- C. Wind-Borne Debris Resistance: Tested by independent agency and passed in accordance with ASTM E1996 for Wind Zone 1 enhanced protection for large and small missile impact and pressure cycling under design wind pressure.
- D. Windows within accessible and adaptable dwellings shall comply with the following:
 - 1. ANSI A117.1 1986 edition, Section 4.12.
 - 2. ICC A117.1.
- E. Additional Requirements:
 - 1. Comply with AAMA/WDMA/CSA 101/I.S.2/A440 with additional requirements as follows:
 - 2. Performance Class: AW.
 - 3. Performance Grade: 40.
 - 4. Water Leakage: None, when measured in accordance with ASTM E331 with a test pressure difference of 12 lbf/sq ft.

- Air Infiltration: Limit air infiltration through assembly to 0.25 cu ft/min/sq ft of window unit, measured at a reference differential pressure across assembly of 6.24 psf as measured in accordance with ASTM E283.
- Thermal U-factor of window unit, including glazing and framing, determined per NFRC 100: 0.45.
- 7. Maximum SHGC of fenestration: 0.40.
- 8. Condensation Resistance Factor: CRF of 62 when measured in accordance with AAMA 1503.

2.03 WINDOWS

- A. Profiles: Head, jamb, and sill profile as indicated on the drawings. The sashes shall have cast aluminum historic lugs as shown in the drawings. Show lugs in shop drawings.
- B. Aluminum frame and sash; factory fabricated and assembled, factory glazed, and factory finished.
- C. Operation:
 - 1. Fixed, non-operable sash.
 - Single hung.

2.04 GLAZING

- A. General Requirements:
 - 1. Comply with ASTM E2190, Class CBA.
 - 2. Purge inter-pane space with dry air, hermetically sealed.
- B. Clear Insulating Low-E Glass Units: Double pane with glass to elastomer edge seal.
 - 1. Outer pane of clear glass, inner pane of clear glass.
 - 2. Low-E Coating: Place low-e coating on No. 2 surface within the unit.
- C. Edge Seal Construction: Aluminum, bent and soldered corners.

2.05 ACCESSORIES

- A. Provide trim and profiles as shown and as necessary for a complete installation.
 - 1. Basis of Design:
 - a. Typical Panning: Graham Architectural Products; Graham Fulton #2 profile. To be fabricated by manufacturer.
 - b. Deep Panning: Graham Architectural Products; Graham North HS 6.5 inch profile. <u>Manufacturer fabricated.</u>
 - The exterior perimeter caulk joint leg of the profiled pre-set panning must be at least 1.25 inch long in order to provide adequate space for both the backer rod and the exterior perimeter seal at the head and jamb conditions.
- B. Fasteners: Non-corrosive.
 - Do not use exposed fasteners on exterior except where unavoidable for application of hardware. Match finish of adjoining metal.
 - 2. Provide non-magnetic stainless steel, tamper-proof screws for exposed fasteners, where required, or special tamper-proof fasteners.
 - 3. Locate fasteners so as not to disturb the thermal barrier construction of windows.
- C. Anchors, Clips And Window Accessories: Depending on strength and corrosion-inhibiting requirements, fabricate units of aluminum, non-magnetic stainless steel or hot-dip zinc coated steel or iron complying with ASTM A 123.
- D. Provide brackets for securing units to rough opening.
- E. Flexible Flashing around window opening.
 - 1. ProSoCo, Inc.; Fast Flash Liquid flashing membrane: www.prosoco.com.
- F. Operable Sash Weather Stripping:
 - Dual weatherstripping (two independent lines), permanently resilient, profiled to effect weather seal.

- Double weatherstripping using silicone coated woven pile with a polypropylene center fin; permanently resilient, profiled to maintain weather seal in accordance with AAMA 701/702.
- G. Weather Seal: High movement silicone sealant specified in Section 07 92 00.
- H. Provide all related flashings, and anchorage, and attachment devices.
- I. Master Frame: Not more than 4-5 inches in depth.
- J. Locking Hardware: Provide hardware to lock windows in dark bronze.
- K. Provide balances.

2.06 MATERIALS

- A. Extruded Aluminum: ASTM B221, 6063 alloy, T6 temper.
- B. Sheet Aluminum: ASTM B209, 5005 alloy, H12 or H14 temper.

2.07 FABRICATION

- A. Fabricate components with smallest possible clearances and shim spacing around perimeter of assembly that will enable window installation and dynamic movement of perimeter seal.
- B. Accurately fit and secure joints and corners. Make joints flush, hairline, and weatherproof.
- C. Prepare components to receive anchor devices.
- D. Arrange fasteners and attachments to ensure concealment from view.
- E. Prepare components with internal reinforcement for operating hardware.
- F. Provide steel internal reinforcement in mullions as required to meet loading requirements.
- G. Provide internal drainage of glazing spaces to exterior through weep holes.
- H. Factory glaze window units.

2.08 FINISHES

- A. Aluminum Finish:
 - 1. Superior Performance Organic Coating System: AAMA 2605 70% Kynar baked on, electrostatically applied enamel coating.
- B. Color: Frame and panning cColors as scheduled.
- C. Exposed Hardware: Enameled to match window color as scheduled.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that wall openings and adjoining air and vapor seal materials are ready to receive windows.

3.02 PREPARATION

- A. Existing Construction:
 - 1. Existing windows were removed during selective demolition. Secure weather tight covering has been installed at all window openings. Do not remove weather tight covering until new windows are available and ready for immediate installation. Do not leave any openings uncovered at end of working day, during wind-driven precipitation or during excessively cold weather.
 - 2. Remove existing work carefully; avoid damage to existing work to remain.
- B. Perform operations as necessary to prepare openings for proper installation and operation of new retrofit units or new construction units.
- C. Verify openings are in accordance with shop drawings and Architects Drawings.

3.03 INSTALLATION

- A. Install windows in accordance with manufacturer's instructions.
- B. Ensure that aluminum sill angle is in place, secured, and properly sealed water-tight to the weather resistant barrier.
- C. Attach window frame and shims to perimeter opening to accommodate construction tolerances and other irregularities.
 - 1. Raise unit on plastic shims at sill. Do not rest unit directly on sill.
 - 2. Secure unit to rough opening with mounting brackets. Locate brackets within 4 to 6 inches of each corner and additionally at 15 inches o.c. Locate brackets at each mull and check and meeting rail.
 - 3. Do not install brackets along sill or penetrate sill flashing.
 - 4. Locate shims at each mounting bracket.
- D. Align window plumb and level, free of warp or twist. Maintain dimensional tolerances and alignment with adjacent work.
- E. Coordinate attachment and seal of perimeter air barrier and vapor retarder materials.
- F. Install perimeter sealant in accordance with requirements specified in Section 07 92 00 Joint Sealers.
- G. Install operating hardware that is not pre-installed by manufacturer.

3.04 ERECTION TOLERANCES

A. Maximum Variation from Level or Plumb: Not more than 1/16 inches every 3 ft non-cumulative nor more than 1/8 inches per 10 ft.

3.05 FIELD QUALITY CONTROL

- A. Test installed windows assemblies for compliance with performance requirements for water penetration, in accordance with ASTM E1105, and as follows.
 - 1. Arrange the test apparatus so as to test not only the window assembly, but also to test the seal between it and the adjacent weather barrier (such as dampproofing on masonry, weather barrier on sheathing, etc.). Perform testing prior to installation of cladding (such as brick, siding, panels, etc.).
 - 2. Perform testing at a uniform pressure equal to 2/3's of the manufacturer's published laboratory test value for water penetration.
 - 3. First establish an air pressure of 50% of the required value, hold for 5 minutes, and report any water leakage; then establish an air pressure of 75% of the required value, hold for 5 minutes, and report any water leakage; then establish the required air pressure and complete the test in accordance with ASTM E1105.
 - a. Method A: Hold air pressure at 100% of the required value for 15 minutes, and report any water leakage.
 - 4. In the event that the test of a unit fails, perform additional forensic water penetration testing on that same unit in accordance with 1 to identify and analyze the nature of the failure.
- B. Field test for air leakage in accordance with ASTM E783 with uniform static air pressure difference specified in PART 2.
 - Maximum allowable rate of air leakage is 1.5 times the rate specified in PART 2 as indicated in AAMA/WDMA/CSA 101/I.S.2/A440.

C. Frequency:

- 1. Test windows installed on the building at the following frequency:
- 2. Test 5 percent of installed windows; include each type and configuration.
- 3. If any window fails, test additional windows at Contractor's expense.
- D. Replace if required or make corrections necessary to windows that have failed field testing so as to bring them into newly manufactured conforming condition, and retest until performance is satisfactory.

3.06 PROTECTION

A. Do not allow caustic or acidic materials such as cement, lime, mortar, or chemicals (or other agents that would stain or mar) to contact frame or glass surfaces.

3.07 ADJUSTING AND CLEANING

- A. Adjust hardware for smooth operation and secure weathertight closure.
- B. Remove protective material from factory finished surfaces.
- C. Wash surfaces by method recommended and acceptable to window manufacturer; rinse and wipe surfaces clean.
- D. Remove excess sealant by moderate use of solvent acceptable to window manufacturer.
- E. Remove exposed labels only after the approval of the Architect and prior to final completion of the Project. At final completion of the project, glass shall be clean and polished inside and outside, without visible dirt, dust, or staining of any kind.

END OF SECTION

SECTION 10 14 00 - SIGNAGE

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Room and door signs.
- B. Luminous egress path marking and other "glow-in-the-dark" signs.
- C. Emergency evacuation maps.

1.02 REFERENCE STANDARDS

- A. 36 CFR 1191 Americans with Disabilities Act (ADA) Accessibility Guidelines for Buildings and Facilities; Architectural Barriers Act (ABA) Accessibility Guidelines; current edition.
- B. ADA Standards Americans with Disabilities Act (ADA) Standards for Accessible Design; 2010.
- C. ICC A117.1 Accessible and Usable Buildings and Facilities; 2017.

1.03 SUBMITTALS

- A. See Section 01 30 00 Administrative Requirements, for submittal procedures.
- B. Product Data: Manufacturer's printed product literature for each type of sign, indicating sign styles, font, foreground and background colors, locations, overall dimensions of each sign.
- C. Signage Schedule: Provide information sufficient to completely define each sign for fabrication, including room number, room name, other text to be applied, sign and letter sizes, fonts, and colors.
- D. Samples: Submit two samples of each type of sign, of size similar to that required for project, illustrating sign style, font and method of attachment.
- E. Selection Samples: Where colors are not specified, submit two sets of color selection charts or chips.
- F. Manufacturer's Installation Instructions: Include installation templates and attachment devices.

1.03 DELIVERY, STORAGE, AND HANDLING

- A. Package signs as required to prevent damage before installation.
- B. Package room and door signs in sequential order of installation, labeled by floor or building.
- C. Store tape adhesive at normal room temperature.

1.04 FIELD CONDITIONS

- A. Do not install tape adhesive when ambient temperature is lower than recommended by manufacturer.
- B. Maintain this minimum temperature during and after installation of signs.

PART 2 PRODUCTS

2.01 MANUFACTURERS

- A. Flat Signs:
 - 1. Best Sign Systems, Inc: www.bestsigns.com/#sle.
 - Cosco Industries (ADA signs); ADA Series 1: www.coscoarchitecturalsigns.com/#sle.
 - 3. Cosco Industries (non-ADA signs); Changeable Message Signs: www.coscoarchitecturalsigns.com/#sle.
 - 4. FASTSIGNS: www.fastsigns.com/#sle.
 - 5. Inpro: www.inprocorp.com/#sle.
 - 6. Mohawk Sign Systems, Inc: www.mohawksign.com/#sle.
 - 7. Seton Identification Products: www.seton.com/aec/#sle.
 - 8. Substitutions: See Section 01 60 00 Product Requirements.

2.02 SIGNAGE APPLICATIONS

- A. Accessibility Compliance: Signs are required to comply with ADA Standards and ICC A117.1 and applicable building codes, unless otherwise indicated; in the event of conflicting requirements, comply with the most comprehensive and specific requirements.
- B. Room and Door Signs: Provide a sign for every doorway, whether it has a door or not, not including corridors, lobbies, and similar open areas.
 - 1. Sign Type: Flat signs with engraved panel media as specified.
 - 2. Provide "tactile" signage, with letters raised minimum 1/32 inch and Grade II braille.
 - 3. Refer to drawings for size of sign and character height.
 - 4. Office Doors: Identify with the room names and numbers indicated on drawings; in addition, provide "window" section for replaceable occupant name.
 - 5. Conference and Meeting Rooms: Identify with the room names and numbers indicated on drawings.
 - 6. Service Rooms: Identify with the room names and numbers indicated on drawings.
 - 7. Rest Rooms: Identify with pictograms, the names "MEN" and "WOMEN", room numbers indicated on the drawings, and braille.
- C. Luminous Egress Path Marking and Other "Glow-in-the-Dark" Signs: Photoluminescent media.
 - 1. Provide luminous egress path marking as required by local authority having jurisdiction.
- D. Emergency Evacuation Maps:
 - 1. Allow for one map per elevator lobby.
 - 2. Map content to be provided by Owner.
 - Use clear plastic panel silk-screened on reverse, in brushed aluminum frame, screwmounted.

2.03 SIGN TYPES

- A. Flat Signs: Signage media without frame.
 - 1. Edges: Square.
 - 2. Corners: Square.
 - 3. Wall Mounting of One-Sided Signs: Tape adhesive.
- B. Color and Font: Unless otherwise indicated:
 - 1. Character Font: Helvetica, Arial, or other sans serif font.
 - 2. Character Case: Upper case only.
 - 3. Background Color: To be selected by Architect.
 - 4. Character Color: Contrasting color.

2.04 TACTILE SIGNAGE MEDIA

- A. Engraved Panels: Laminated colored plastic; engraved through face to expose core as background color:
 - 1. Total Thickness: 1/16 inch.

2.05 NON-TACTILE SIGNAGE MEDIA

- A. Silk Screened Plastic Panels: Letters and graphics silk screened onto reverse side of plastic surface:
 - 1. Sign Color: Clear.
 - 2. Total Thickness: 1/8 inch.

2.06 ACCESSORIES

A. Tape Adhesive: Double sided tape, permanent adhesive.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that substrate surfaces are ready to receive work.

3.02 INSTALLATION

- A. Install in accordance with manufacturer's instructions.
- B. Install neatly, with horizontal edges level.
- C. Locate signs and mount at heights indicated on drawings and in accordance with ADA Standards and ICC A117.1.
- D. Protect from damage until Date of Substantial Completion; repair or replace damaged items.

END OF SECTION

SECTION 14 21 00 - ELECTRIC TRACTION ELEVATORS

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Complete electric traction elevator systems.
 - Passenger type.
- B. Elevator Maintenance Contract.

1.02 REFERENCE STANDARDS

- A. 16 CFR 1201 Safety Standard for Architectural Glazing Materials; Current Edition.
- B. AAMA 611 Voluntary Specification for Anodized Architectural Aluminum; 2014 (2015 Errata).
- C. ADA Standards Americans with Disabilities Act (ADA) Standards for Accessible Design; 2010.
- D. AISC 360 Specification for Structural Steel Buildings; 2016.
- E. ANSI Z97.1 American National Standard for Safety Glazing Materials Used in Buildings Safety Performance Specifications and Methods of Test; 2015.
- F. ASME A17.1 Safety Code for Elevators and Escalators; 2019.
- G. ASME QEI-1 Standard for the Qualification of Elevator Inspectors; 2018.
- H. ASTM A276/A276M Standard Specification for Stainless Steel Bars and Shapes; 2017.
- I. ASTM A666 Standard Specification for Annealed or Cold-Worked Austenitic Stainless Steel Sheet, Strip, Plate, and Flat Bar; 2015.
- J. ASTM B209 Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate; 2014.
- K. ASTM B209M Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate (Metric); 2014.
- L. ASTM C1048 Standard Specification for Heat-Strengthened and Fully Tempered Flat Glass; 2018.
- M. AWS D1.1/D1.1M Structural Welding Code Steel; 2015, with Errata (2016).
- N. NEMA MG 1 Motors and Generators; 2018.
- O. NFPA 70 National Electrical Code; Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.
- P. NFPA 80 Standard for Fire Doors and Other Opening Protectives; 2019.

1.03 ADMINISTRATIVE REQUIREMENTS

A. Coordination:

- 1. Coordinate work with other installers to provide necessary conduits for proper installation of wiring, including but not limited to, the following:
 - a. Elevator equipment devices remote from elevator machine room or hoistway.
 - b. Telephone service for elevator.
 - c. Elevator pit for lighting and sump pump.
 - d. Fire alarm panel from controller cabinet.
- 2. Coordinate work with other installers for equipment provisions necessary for proper elevator operation, including but not limited to, the following:
 - Automatic transfer switches with auxiliary contacts for emergency power transfer status indication.
 - b. Overcurrent protection devices selected to achieve required selective coordination.

1.04 SUBMITTALS

- A. See Section 01 30 00 Administrative Requirements, for submittal procedures.
- B. Product Data: Submit data on following items:
 - 1. Signal and operating fixtures, operating panels, and indicators.

- 2. Car design, dimensions, layout, and components.
- 3. Car and hoistway door and frame details.
- 4. Electrical characteristics and connection requirements.
- C. Shop Drawings: Include appropriate plans, elevations, sections, diagrams, and details on following items:
 - 1. Elevator Equipment and Machines: Size and location of driving machines, power units, controllers, governors, and other components.
 - 2. Hoistway Components: Size and location of car machine beams, guide rails, buffers, ropes, and other components.
 - 3. Rail bracket spacing; maximum loads imposed on guide rails requiring load transfer to building structural framing.
 - 4. Clearances and over-travel of car and counterweight.
 - 5. Locations in hoistway and machine room of traveling cables and connections for car lighting, telephone, and _____.
 - 6. Location and sizes of hoistway and car doors and frames.
 - 7. Electrical characteristics and connection requirements.
 - 8. Indicate arrangement of elevator equipment and allow for clear passage of equipment through access openings.
- D. Samples: Submit samples illustrating car floor material, car interior finishes, car and hoistway door and frame finishes, and handrail material and finish in the form of cut sheets or finish color selection brochures.
- E. Warranty Documentation: Submit manufacturer warranty and ensure that forms have been completed in Owner's name and registered with manufacturer.
- F. Initial Maintenance Contract.
- G. Maintenance Contract: Submit proposal to Owner for standard one year continuing maintenance contract agreement in accordance with ASME A17.1 and requirements as indicated, starting on date initial maintenance contract is scheduled to expire.
 - 1. Indicate in proposal the services, obligations, conditions, and terms for agreement period and for renewal options.
- H. Operation and Maintenance Data:
 - 1. Parts catalog with complete list of equipment replacement parts; identify each entry with equipment description and identifying code.
 - 2. Operation and maintenance manual.
 - Schematic drawings of equipment, and wiring diagrams of installed electrical equipment with list of corresponding symbols to identify markings on machine room and hoistway apparatus.

1.05 WARRANTY

- A. See Section 01 78 00 Closeout Submittals, for additional warranty requirements.
- B. Provide manufacturer's warranty for elevator operating equipment and devices for one year from Date of Substantial Completion.

PART 2 PRODUCTS

2.01 MANUFACTURERS

- A. Basis of Design Electric Traction Elevators: AVT Lifts; MRL Traction Elevator: www.avtlifts.com.
- B. Other Acceptable Manufacturers Electric Traction Elevators:
 - 1. Otis Elevator Company: www.otis.com/#sle.
 - 2. Schindler Elevator Corporation: www.us.schindler.com/#sle.
 - 3. ThyssenKrupp Elevator: www.thyssenkruppelevator.com/#sle.

- C. The following Elevator installing Companies may supply and install elevator equipment purchased from third party manufacturers but must meet the requirements of this specification:
 - DC Elevator: www.dcelevator.com/.
 - 2. The Murphy Elevator Co.: www.murphyelevator.com
 - 3. Oracle Elevator Company: www.oracleelevator.com.

2.02 ELECTRIC TRACTION ELEVATORS

- A. Electric Traction Passenger Elevator, A:
 - 1. Electric Traction Elevator Equipment:
 - 2. Drive System:
 - 3. Operation Control Type:
 - 4. Service Control Type:
 - a. Standard service control only.
 - 5. Interior Car Height: 93 inch.
 - 6. Electrical Power: 208 volts; alternating current (AC); three phase; 60 Hz.
 - 7. Rated Net Capacity: 3500 pounds.
 - 8. Rated Speed: 200 feet per minute.
 - 9. Hoistway Size: 100 inch wide by 83 inch deep.
 - 10. Interior Car Platform Size: 78 inch wide by 65 inch deep.
 - 11. Elevator Pit Depth: 60 inch.
 - 12. Overhead Clearance at Top Floor: 165 inch.
 - 13. Travel Distance: As indicated on drawings.
 - 14. Number of Stops: As indicated on drawings.
 - 15. Number of Openings: 4 Front.
 - 16. Traction Machine Location: Top of hoistway shaft.

2.03 COMPONENTS

A. Elevator Equipment:

- 1. Motors, Controllers, Controls, Buttons, Wiring, Devices, and Indicators: Comply with NFPA 70 requirements, and refer to Section 26 05 83 for additional requirements.
- Guide Rails, Cables, Counterweights, Sheaves, Buffers, Attachment Brackets and Anchors: Design criteria for components includes safety factors in accordance with applicable requirements of Elevator Code, ASME A17.1.
- 3. Buffers:
 - a. Spring type for elevators with speed less than or equal to 200 feet per minute.
- 4. Lubrication Equipment:
 - a. Provide grease fittings for periodic lubrication of bearings.
 - b. Grease Cups: Automatic feed type.
 - c. Lubrication Points: Visible and easily accessible.

B. Electrical Equipment:

- 1. Motors: NEMA MG 1.
- 2. Boxes, Conduit, Wiring, and Devices: Complying with NFPA 70 and in accordance with Sections 26 05 33.13 and 26 05 83.
- 3. Spare Conductors: Provide ten percent in extra conductors and two pairs of shielded audio cables in traveling cables.
- 4. Include wiring and connections to elevator devices remote from hoistway and between elevator machine room. Provide additional components and wiring to suit machine room layout. Refer to Section 26 05 83.

2.04 PERFORMANCE REQUIREMENTS

- A. Regulatory Requirements: Comply with ASME A17.1, applicable local codes, and authorities having jurisdiction (AHJ).
- B. Accessibility Requirements: Comply with ADA Standards.

- C. Perform structural steel design, fabrication, and installation in accordance with AISC 360.
- D. Perform welding of steel in accordance with AWS D1.1/D1.1M.
- E. Fabricate and install door and frame assemblies in accordance with NFPA 80 and complying with requirements of authorities having jurisdiction (AHJ).
- F. Perform electrical work in accordance with NFPA 70.

2.05 OPERATION CONTROLS

- A. Elevator Controls: Provide landing operating panels and landing indicator panels.
 - 1. Landing Operating Panels: Metallic type, one for originating "Up" and one for originating "Down" calls, one button only at terminating landings; with illuminating indicators.
 - 2. Landing Indicator Panels: Illuminating.
 - 3. Comply with ADA Standards for elevator controls.
- B. Interconnect elevator control system with building security, fire alarm, card access, smoke alarm, and building management control systems.
- C. Door Operation Controls:
 - 1. Program door control to open doors automatically when car arrives at floor landing.
 - 2. Render "Door Close" button inoperative when car is standing at dispatch landing with doors open.
 - 3. Door Safety Devices: Moveable, retractable safety edges, quiet in operation; equipped with photo-electric light rays.

2.06 OPERATION CONTROL TYPE

- A. Single Automatic (Push Button) Operation Control: Applies to car in single elevator shaft.
 - 1. Refer to description provided in ASME A17.1.
 - 2. Set system operation so that momentary pressure of landing button dispatches car from other landing to that landing.
 - 3. Allow call registered by momentary pressure of landing button at any time to remain registered until car stops in response to that landing call.
 - 4. If elevator car door is not opened within predetermined period of time after car has stopped at terminal landing allow car to respond to call registered from other landing.

2.07 EMERGENCY POWER

- A. Set-up elevator operation to run with building emergency power supply when the normal building power supply fails, and in compliance with ASME A17.1 requirements.
- B. Building Emergency Power Supply: Supplied by backup generator; provide elevator system components as required for emergency power characteristics with phase rotation the same as for normal power.
 - 1. Provide transfer switches and auxiliary contacts.
 - Install connections to power feeders.
- C. Emergency Lighting: Comply with ASME A17.1 elevator lighting requirements.
- D. Provide operational control circuitry for adapting the change from normal to emergency power.
- E. Upon transfer to emergency power, advance one elevator at a time to a pre-selected landing, stop car, open doors, disable operating circuits, and hold in standby condition.

2.08 MATERIALS

- A. Stainless Steel Sheet: ASTM A666, Type 304; No. 4 Brushed finish unless otherwise indicated.
- B. Stainless Steel Bars, Shapes and Moldings: ASTM A276/A276M, Type 304.
- C. Aluminum Sheet: ASTM B209 (ASTM B209M), 3105 alloy, O temper.
- D. Tempered Glass: 3/8 inch minimum thickness, fully tempered in compliance with ASME A17.1, 16 CFR 1201, ANSI Z97.1, and ASTM C1048 tempered glass requirements.
- E. Resilient Flooring: Vinyl tile flooring and Resilient base, as specified in Section 09 65 00.

2.09 CAR AND HOISTWAY ENTRANCES

A. Elevator, A:

- 1. Car and Hoistway Entrances:
 - a. Hoistway Fire Rating: 2 Hours.
 - b. Elevator Door Fire Rating: 1-1/2 Hours.
 - c. Framed Opening Finish and Material: Brushed stainless steel.
 - d. Car Door Material: Stainless steel, with rigid sandwich panel construction.
 - e. Hoistway Door Material: Stainless steel, with rigid sandwich panel construction.
 - f. Door Type: Single leaf.
 - g. Door Operation: Side opening, single speed.
 - h. Door Width: 42 inch.
 - i. Door Height: 84 inch.
 - j. Sills: Manufacturer's standard.

2.10 CAR EQUIPMENT AND MATERIALS

A. Elevator Car, A:

- 1. Car Operating Panel: Provide main and auxiliary; flush-mounted applied face plate, with illuminated call buttons corresponding to floors served with "Door Open/Door Close" buttons, "Door Open" button, "Door Close" button, and alarm button.
 - a. Panel Material: Integral with front return; one per car.
 - b. Car Floor Position Indicator: Above door with illuminating position indicators.
 - c. Locate alarm button not more than 35 inch above car finished floor.
 - d. Provide following within service cabinet as part of car operating panel:
 - 1) Switch for each auxiliary operational control, keyed.
 - 2) Switches for fan, light, inspection control, and emergency stop.
 - 3) Emergency light.
 - 4) Telephone cabinet and hard-wired connection with telephone.
- 2. Flooring: Resilient Tile: LVT1, See Finish Legend.
- 3. Wall Base: Recessed stainless steel, 4 inch high.
- 4. Front Return Panel: Match material of car door.
- 5. Door Wall: Stainless steel.
- 6. Side Walls: Stainless steel.
- 7. Rear Wall: Stainless steel.
- 8. Hand Rail: Stainless steel, at three side walls. Provide open clearance space 1-1/2 inch (38 mm) wide to face of wall.
 - a. Stainless Steel Finish: No. 4 Brushed.
- 9. Ceiling:
 - a. Frame Finish: Color anodized aluminum.
 - b. Lay-in Panel: Aluminum sheet.
 - c. Lighting: As selected from manufacturer's standard line.

B. Control Panel

- 1. Keys and switches:
 - a. Provide switches for lights, fan (2-speed), emergency stop and service and/or inspection.
 - Toggle switches shall be located behind a locked door keyed with a best 7-pin small format cylinder. Door to have "Slam door lockset for service cabinet with a Yale or Best 7-pin security switch with removable core by Innovation Industries, Inc. or equal.
 - 2) Key should be removable only in the normal locked position.
 - 3) Use Best Cylinder with removable core and 7-pin small format for CPPD Division and 7-pin small format Yale cylinders with removable core for MPPD. Other Facilities Management Divisions will specify their keying options in specifications.

- b. Provide a two-speed fan switch; key should be removable in all positions; use Best Cylinder with removable core for CPPD and 7-pin Yale with removable core for MPPD). Other Facilities Management Divisions will specify their keying options in specifications.
- c. Provide each car-operating panel with an emergency stop key switch, key should be removable in all positions; use Best Cylinder with removable core for CPPD and 7-pin Yale with removable core for MPPD). Other Facilities Management Divisions will specify their keying options in specifications.
 - 1) Position the cylinder near the bottom of the pushbuttons with the key removable in either position and with one set of normally closed contacts.
 - 2) Mark the switch with etched, engraved, or embossed "ON" and "OFF."
- d. Where special key switches or card readers and/or other devices are used to lock out particular floor and/or functions:
 - 1) Wire controls so as not to interfere with Fire Service operation.
 - 2) Provide temporary inactivated push buttons for each floor even if a key switch, card reader, and/or other devices are required.
- e. For restricted access to a Penthouse mechanical room, provide lock-out keyed switch on the Penthouse push button (the push button is to be activated by the keyed switch); key shall not be removable in the activation position. (Use Best Cylinder with removable core for CPPD and 7-pin Yale with removable core for MPPD). Other Facilities Management Divisions will specify their keying options in specifications.
- f. For unrestricted elevator service to the penthouse, provide a keyed switch to override the Penthouse mechanical room keyed button lock-out switch; key shall be
 removable in all positions (Use Best Cylinder with 7-pin small format removable
 core). Place this over-ride switch in the top area of the car panel. Other Facilities
 Management Divisions will specify their keying options in specifications.

2. Fireman Service Controls

- a. In-car Fireman Service Controls shall be in a reachable, recessed, and in a locked panel in the control panel and at the top portion of the panel.
 - 1) Engrave, etch, or emboss fire service instructions inside the fixture cover in accordance with ASME A17.1a.
 - Key number shall be FEOK1 (Barrel shaped Key) for campus (CPPD) buildings.
 Other Facilities Management Divisions will specify their keying options in specifications if different.
- 3. Provide each car-operating panel with special language etched, engraved, or embossed pertaining to the posting of the Elevator Permit and the Capacity of the elevator.

C. TWO-WAY COMMUNICATIONS

- The device shall consist of a single pushbutton, automatic dialer with appropriate indicator lights, and all other essential features necessary to comply with ADA.
- 2. The emergency phone shall be Ramtel model RR833-OEM and be mounted flush on the back of a hinged door at the bottom portion of the in-car control panel and locked with a barrel key #EX513.
- The communication device shall be as manufactured by Ramtel model RR833-OEM to match the existing elevator emergency communication system including remote location indicator and other existing features now in use.
- 4. A stand-alone flush box-type device is not to be used without approval of the Owner.
- 5. The face plate shall have, including but not necessarily limited to:

EMERGENCY PHONE UNIVERSITY OF KENTUCKY

UK logo to be included - refer to Specification 14 20 00.10.

Other information and instructions on the faceplate are as provided by the Ramtel communication device.

D. Car Accessories:

1. Certificate Frame: Stainless steel frame glazed with clear tempered glass, and attached with tamper-proof screws.

2.11 FINISHES

- A. Clear Anodized Finish: Class I, AAMA 611 AA-M12C22A41 Clear anodic coating with electrolytically deposited organic seal; not less than 0.7 mils, 0.0007 inch thick.
- B. Color Anodized Finish: Class I, AAMA 611 AA-M12C22A44 Electrolytically deposited colored anodic coating not less than 0.7 mils, 0.0007 inch thick.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify existing conditions before starting this work.
- B. Verify that hoistway, pit, and machine room are ready for work of this section.
- C. Verify hoistway shaft and openings are of correct size and within tolerance.
- D. Verify location and size of machine foundation and position of machine foundation bolts.
- E. Verify that electrical power is available and of correct characteristics.

3.02 PREPARATION

- A. Arrange for temporary electrical power for installation work and testing of elevator components. Comply with requirements of Section 01 50 00 Temporary Facilities and Controls.
- B. Maintain elevator pit excavation free of water.

3.03 INSTALLATION

- A. Coordinate this work with installation of hoistway wall construction.
- B. Install system components, and connect equipment to building utilities.
- C. Provide conduit, electrical boxes, wiring, and accessories. Refer to Sections 26 05 33.13 and 26 05 83.
- D. Mount machines, motors, and pumps on vibration and acoustic isolators.
 - 1. Place on structural supports and bearing plates.
 - 2. Securely fasten to building supports.
 - 3. Prevent lateral displacement.
- E. Install hoistway, elevator equipment, and components in accordance with approved shop drawings.
- F. Install guide rails to allow for expansion and contraction movement of guide rails.
- G. Accurately machine and align guide rails, forming smooth joints with machined splice plates.
- H. Install hoistway door sills, frames, and headers in hoistway walls; grout sills in place, set hoistway floor entrances in alignment with car openings, and align plumb with hoistway.
- I. Structural Metal Surfaces: Clean surfaces of rust, oil or grease; wipe clean with solvent; prime with two coats.
- J. Wood Surfaces not Exposed to Public View: Finish with one coat primer; one coat enamel.
- K. Adjust equipment for smooth and quiet operation.

3.04 FIELD QUALITY CONTROL

- A. See Section 01 40 00 Quality Requirements, for additional requirements.
- B. Testing and inspection by regulatory agencies certified in accordance with ASME QEI-1 will be performed at their discretion.
- C. Perform testing and inspection in accordance with requirements.
 - 1. Inspectors shall be certified in accordance with ASME QEI-1.

D. Operational Tests:

- 1. Perform operational tests in the presence of Owner and Architect.
- 2. At an agreed time, and the building occupied with normal building traffic, conduct tests to verify performance.
 - a. Furnish event recording of each landing call registrations, time initiated, and response time throughout entire working day.
- 3. Set period of time elevator takes to travel between typical floor landings at not more than seconds.
 - a. Measure time from moment doors start to close until car has stopped level at next floor landing and doors are opening.

3.05 ADJUSTING

- A. Adjust for smooth acceleration and deceleration of car to minimize passenger discomfort.
- B. Adjust with automatic floor leveling feature at each floor landing to reach 1/4 inch maximum from flush with sill.

3.06 CLEANING

- A. Remove protective coverings from finished surfaces.
- B. Clean surfaces and components in accordance with manufacturers written instructions.

3.07 CLOSEOUT ACTIVITIES

- A. Demonstrate proper operation of equipment to Owner's designated representative.
- B. Training: Train Owner's personnel on cleaning and operation and maintenance of system.
 - 1. Use operation and maintenance manual as training reference, supplemented with additional training materials as required.
 - 2. Provide minimum of two hours of training.

3.08 PROTECTION

- A. Do not permit construction traffic within car after cleaning.
- B. Protect installed products until Date of Substantial Completion.
- C. Touch-up, repair, or replace damaged products and materials before Date of Substantial Completion.

3.09 MAINTENANCE

- A. Provide Initial Maintenance Contract of elevator system and components in accordance with ASME A17.1 and requirements as indicated for twelve months from Date of Substantial Completion.
- B. Perform maintenance contract services using competent and qualified personnel under the supervision and direct employ of the elevator manufacturer or installer.
- C. Include systematic examination, adjustment, and lubrication of elevator equipment.
- D. Perform work without removing cars from use during peak traffic periods.

SECTION 22 08 00 - COMMISSIONING OF DOMESTIC HOT WATER

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions, and other Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes commissioning process requirements for domestic hot water systems, assemblies, and equipment.
- B. Related Sections include the following:
 - 1. Division 1 Section 019113 "Commissioning Of HVAC, HVAC Controls, Domestic Hot Water, Lighting Controls, and Security Systems" for commissioning process requirements.
 - 2. Division 22 Sections for plumbing equipment, systems, and control requirements.

PART 2 - PRODUCTS

2.1 Not used.

PART 3 - EXECUTION

3.1 Not used.

SECTION 23 08 00 - COMMISSIONING OF HVAC AND HVAC CONTROLS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions, and other Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes commissioning process requirements for HVAC and HVAC Controls systems, assemblies, and equipment.
- B. Related Sections include the following:
 - 1. Division 1 Section 019113 "Commissioning Of HVAC, HVAC Controls, Domestic Hot Water, Lighting Controls, and Security Systems" for commissioning process requirements.
 - 2. Division 23 Sections for HVAC equipment, systems, and control requirements.

PART 2 - PRODUCTS

2.1 Not used.

PART 3 - EXECUTION

3.1 Not used.

SECTION 26 08 00 - COMMISSIONING OF LIGHTING CONTROLS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions, and other Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes commissioning process requirements for lighting controls and electrical systems, assemblies, and equipment.
- B. Related Sections include the following:
 - 1. Division 1 Section 019113 "Commissioning Of HVAC, HVAC Controls, Domestic Hot Water, Lighting Controls, and Security Systems" for commissioning process requirements.
 - 2. Division 26 Sections for lighting and power distribution equipment, systems, and control requirements.

PART 2 - PRODUCTS

2.1 Not used.

PART 3 - EXECUTION

3.1 Not used.

DIVISION 28 - ELECTRONIC SAFETY AND SECURITY

SECTION 28 08 00 - COMMISSIONING OF SECURITY SYSTEM

PART 1 – GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions, and other Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes commissioning process requirements for security camera and door systems, assemblies, and equipment.
- B. Related Sections include the following:
 - 1. Division 1 Section 019113 "Commissioning Of HVAC, HVAC Controls, Domestic Hot Water, Lighting Controls, and Security Systems" for commissioning process requirements.
 - 2. Division 28 Sections for security equipment, systems, and control requirements.

PART 2 - PRODUCTS

2.1 Not used.

PART 3 - EXECUTION

3.1 Not used.

END OF SECTION

Addendum #1 11396-00 July 30, 2021

SECTION 32 92 00 - STAGING, HANDLING AND INSTALLATION OF NEW TREES

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Staging and Handling of New Trees.
- **B. SUBMITTALS**
 - 1. See Section 32 9300 Selection of New Trees and Shrubs.

C. QUALITY ASSURANCE

- Installer Qualifications:
 - a. Maintenance Contractor: The contractual entity that performed the planting installation.

D. DELIVERY, STORAGE, AND HANDLING

- 1. Site Preparation Prior to Plant Installation
 - a. Contractor to complete all fine grading and hardscape work within project area prior to shipment of new plant materials to project site. Contractor shall notify Landcape Architect and Owner of any conditions that will prevent proper execution of work.
 - The Contractor shall stake tree locations and notify the Landscape Architect and Owner for approval of location prior to digging pits for trees or other plant materials.
 The Contractor shall make adjustments as directed by Landscape Architect and/or Owner.
- Unloading, Handling and Staging of TREES
 - a. STAGING YARD area and systems should be prepared in advance to adequately hold trees above ground for optimum tree health prior to planting. Many times, even with the best planning and coordination, trees cannot be planted when they are delivered due to construction staging conditions.
 - b. HANDLING Use extreme caution when handling trees. Use a strap or chain cradle (adequate for weight and side of tree and rootball) attached to the root ball to unload and move trees. Strapping and wire baskets can break or loosen. Never move, lift or handle by attaching to or by putting pressure on the tree trunk. Be very careful not to damage or scar trunks and branches.
 - c. UNLOADING Prior to unloading, proper moisture should be maintained in root balls. Trucks should be staged in the shade prior to unloading. Unloading time should be no more than two hours per truck.
 - d. STAND TREES UP Immediately after unloading (no more than one hour after unloading), stand trees up using weights or CMU blocks on 4 sides of root ball. This will reduce risk of sun scald. Propertly staged trees are standing, untied and spaced. DO NOT lean trunks against fencing or other elements during storage.
 - e. TRUNK PROTECTORS Remove cardboard trunk protector within 48 hours of trees being stood upright to reduce rist of later damaged to bark and trunk.
 - f. MOISTURE Monitor moisture in the root ball by probing with a soil probe and manage supplementatl irrigation accordingly. Be careful not to over or under-irrigate.
 - g. COLD During cold weather periods, root balls must be protected from freezing temperatures.

PART 2 PRODUCTS

2.01 SOIL AMENDMENTS

- A. Soil Amendments: Type and quantity as required to achieve specified results, based on soil analysis.
- B. Sand: Clean and free of materials harmful to plants; 95 percent by weight, minimum, passing No.10 (sieve and 10 percent by weight, minimum, passing No.16 (sieve.

- C. Decomposed Wood Derivatives: Ground bark, sawdust, humus or other green wood waste material; free of stones, sticks, and fully composted or stabilized with nitrogen.
- D. Recycled Compost: Well decomposed, stable, weed free; derived from food, agricultural or industrial residuals, biosolids, yard trimmings, or source-separated or mixed solid waste; with no objectionable odors and not resembling the raw material from which it was made; no substances toxic to plants.
- E. Manure: Unleached horse, chicken, or cattle manure, well rotted, containing maximum 25 percent by volume of straw, sawdust, and other bedding materials and no chemicals or ingredients harmful to plants; heat treated to kill weed seeds.
- F. SELF-WATERING BAGS
 - 1. See 32 9300 Selectrion of New Trees and Shrubs
- G. MULCH
 - 1. Mulch all trees per tree installation details.

PART 3 EXECUTION

3.01 TREE PLANTING PROCEDURES

- A. PERCOLATION TEST Prior to planting, check soil drainage with a percolation test. The rate at which water drains through soil affects plants' survial and growth. Poorly-drained soil results in too much water in the root zone and a lack of needed oxygen for healthy roots. To determine percolation rate, dig a hole 1 foot deep, fill with water and see how long it takes to empty. If water level drops more slowly than 1 inch per hour, do not plant until drainage is corrected and satisfactory percolation test is completed.
- B. PREPARATION Before planting, remove any plastic wrap and any circling roots from root ball. Handle tree only by root ball and be certain your equipment including strap and chain cradles are rated for the weight you are lifting.
- C. PLANTING HOLE WIDTH Excavate planting hole at least two times the diameter of root ball. Root ball must be set on compacted foundation and should not settle when saturated with water.
- D. PLANTING HOLE DEPTH Excavate planting hole no deeper than 2" shallower than the rootball depth. If a hold is overexcavated, use size 57 gravel stone placed in bottom of hole, beginning at undisturbed soil, and fill up to level where bottom of rootball should rest. Do not place soil back in an over-excavated hole.
- E. SOIL AND MULCH see 2.01.
- F. EQUIPMENT Use machinery such as treehandler with side-tilt carriage forks (brands such as Lull or JLG) rated to handle weights of rootballs and trees to set root balls in planting pits. Forks should always be carefully positioned above rootball to lift rootball by strapping on top of the root ball with four pick-up points for even weight distribution. Prior to setting rootball in planting pit, forks should be adjusted so that tree is plumb. Place rootball at a level where the trunk flare will be 2" above surrounding finished grade after settling.
- G. STRAIGHT AND PLUMB Maintain tree with forks in a straight & plumb position while backfilling and watering.
- H. BACKFILL/WATER Backfill and tamp in 6" lifts until 1/2 complete. Saturate planting hole with water. After 1/2 backfill, watering and the tree is plumb, add backfill to just below top horizontal ring of the wire basket and completely saturate planting hole with water. Adjust root ball (if necessary) by adjusting forks until tree is straight and plumb, backfill is settled and rootball is stable.
- I. REMOVE FORKS After items A-H are complete and tree is straight and plumb with rootball stable and at proper depth, gently remove forks and also remove:
 - 1. Synthetic strap
 - 2. Cardboard packaging (if any)

- 3. Top portion of wire basket down to and including first horizontal ring
- 4. Burlap from top portion of rootball
- 5. BACKFILL/WATER Complete backfill and thoroughly saturate with water. Repeat this step if necessary to make certain that air pockets do not exist in the backfill.
- 6. ACTIONS TO TAKE IF SOIL ON TOP OF ROOTBALL HAS BECOME DISTORTED
 - a. If soil is bulging or distorted on the top surface of the rootball, very gently tamp the area of bulging or distorted soil as much as possible so that soil is perpendicular to
 - b. If soil is still bulging or distorted, very gently (with a sharp shovel or spade) cut and remove remaining bulge.
- 7. STAKING Immediately after backfill has settled and tree is straight and plumb, stake tree at min. 3 locations along ground (see planting details) to provide stability until root system is thoroughly established in the backfill. Check staking as needed throughout maintenance period to make sure trunk damage does not occur. Check to confirm that tree and rootball are stable before removing staking.
- 8. STRAIGHTENING If for any reason trees need straightening, trees can be straightened by carefully digging out all backfill and root ball, attaching seatbelt strap to the wire basket and lifting. Never pull, push or put pressure on the trunk. If tree roots are significantly established in the backfill, it is best for tree health to wait until dormancy to straighten trees (since roots outside of original rootball will be cut).

J. IRRIGATION

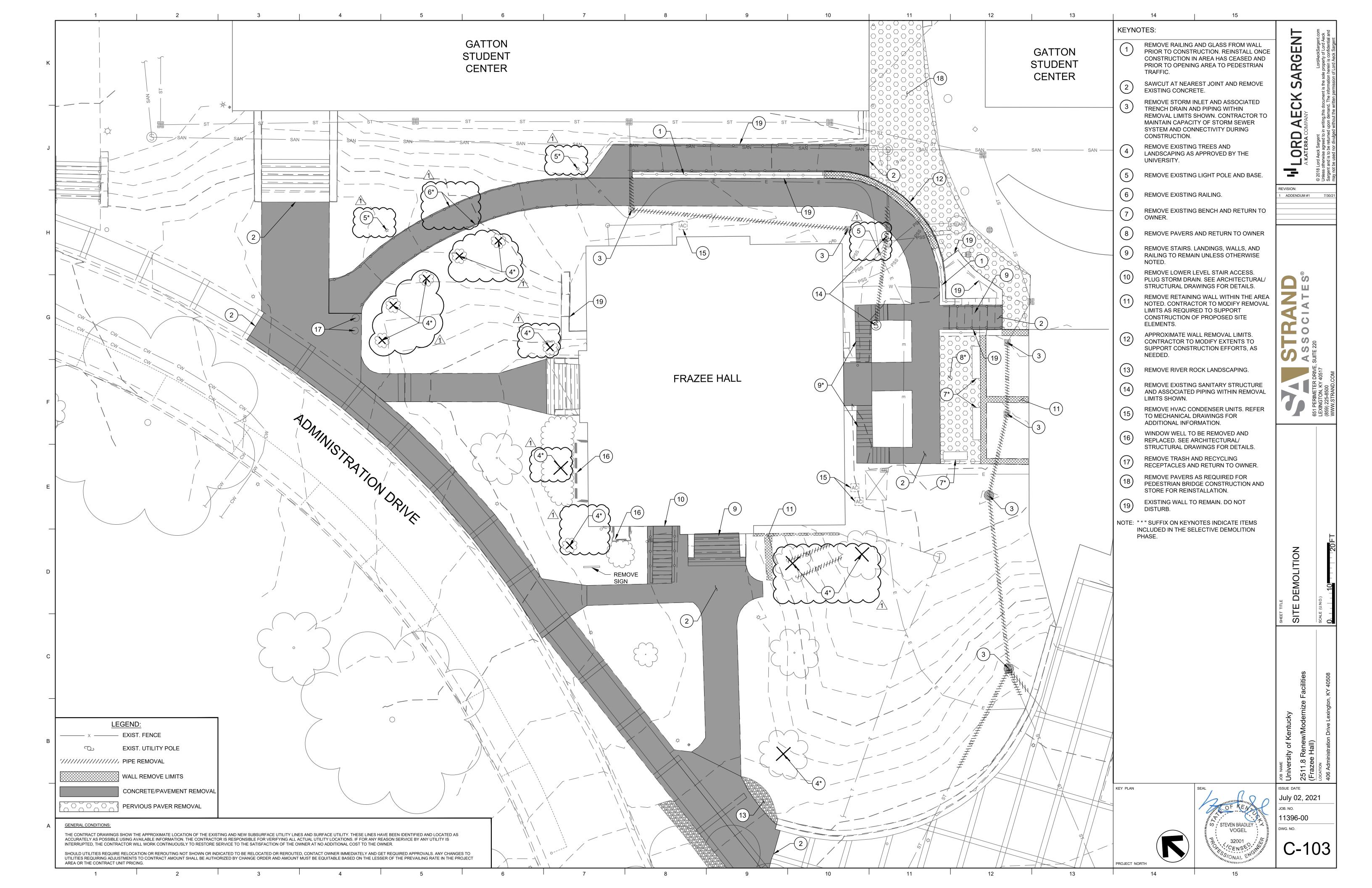
1. Irrigation: Owner's water source may be used. Do not allow plants to wilt; apply water as required to supplement rainfall; do not waste water; do not water plants or areas not needing water; do not water during rainfall; shut off water flow when finished; repair leaks.

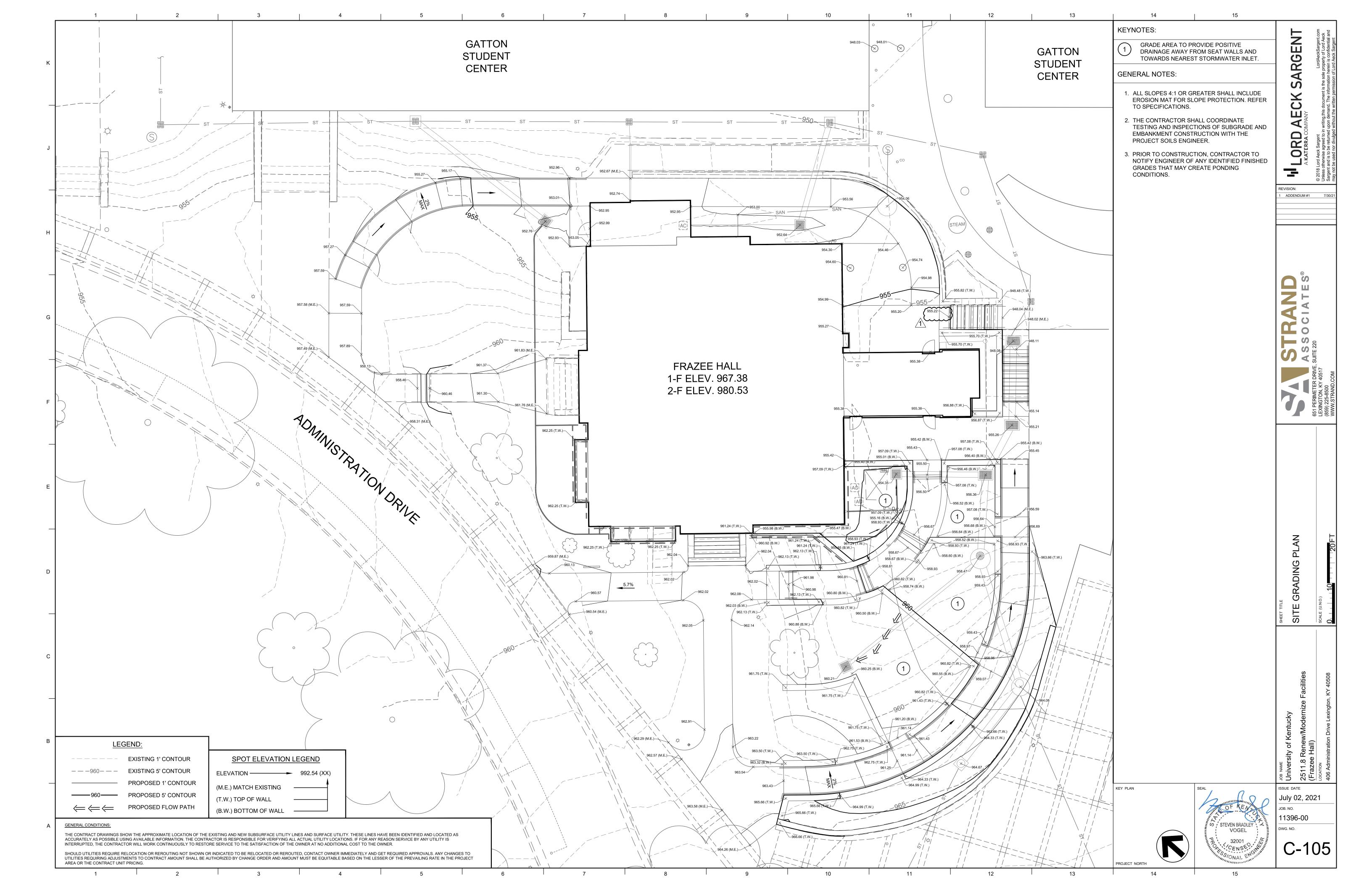
K. TREE MAINTENANCE

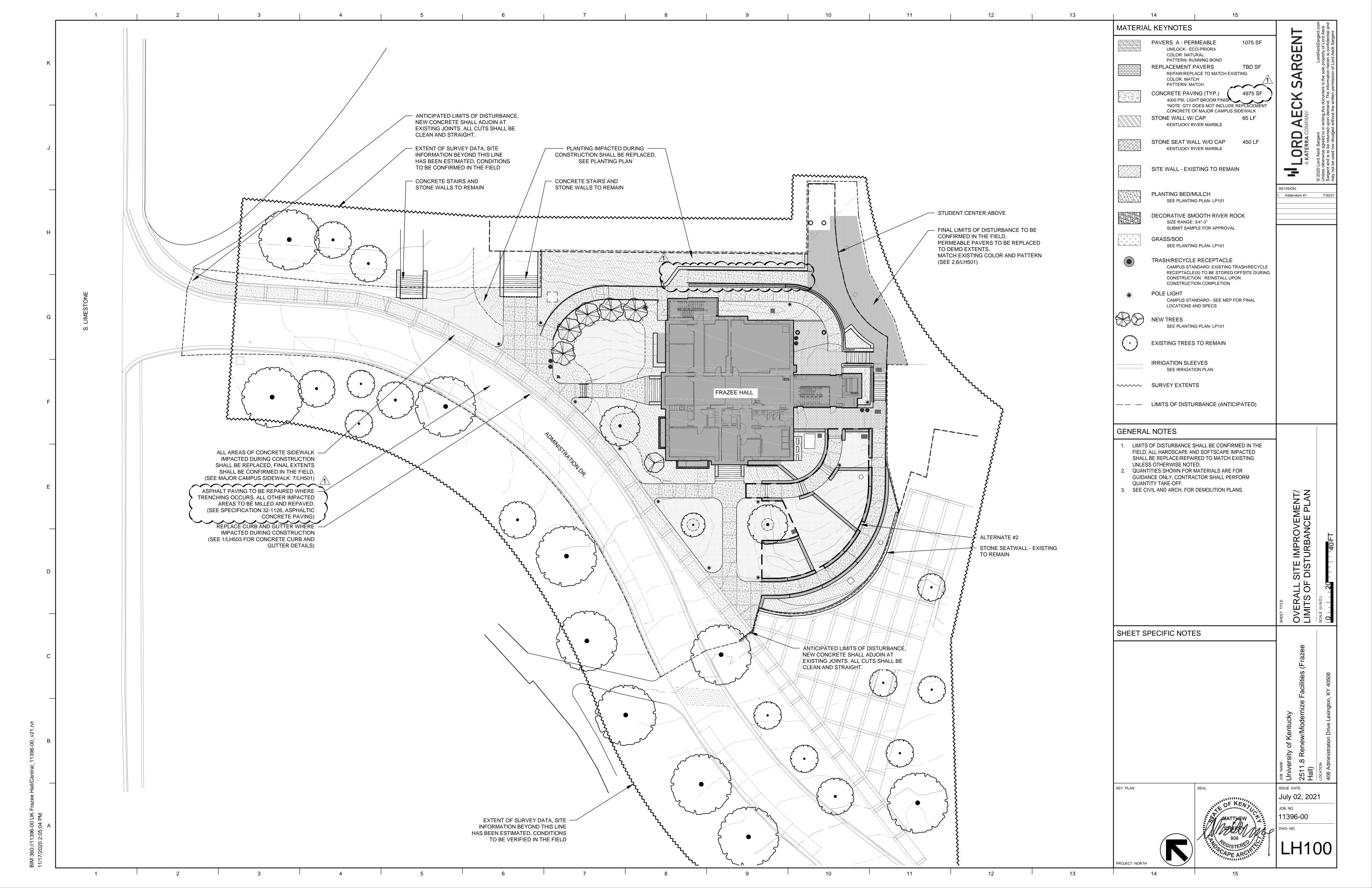
- Trees will be considered dead when main leader has died back or when 25 percent or more of crown has died.
- 2. Adjust stakes, guys and turnbuckles, ties, and trunk wrap as required to promote growth and avoid girdling.

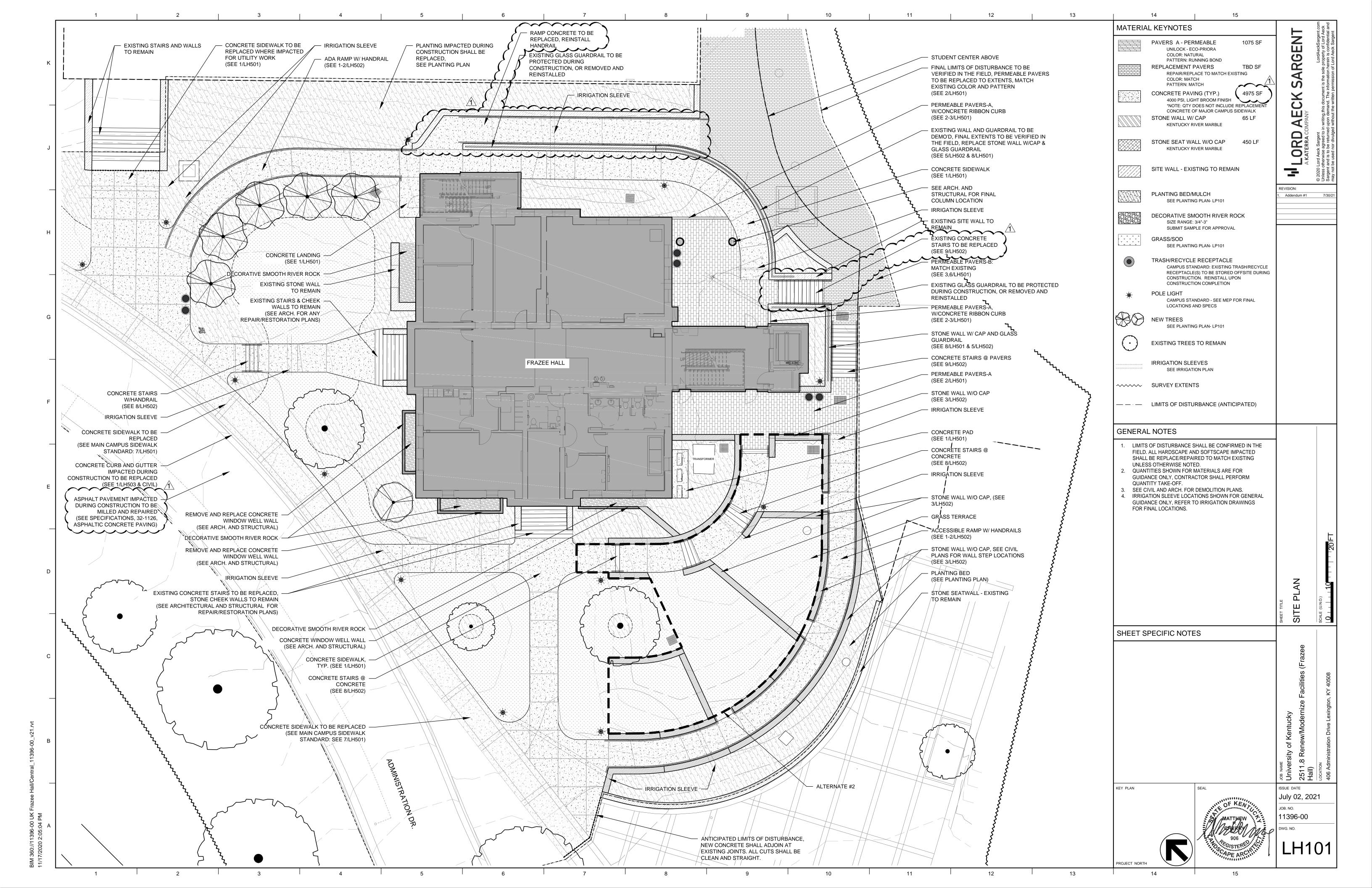
L. CLOSEOUT ACTIVITIES

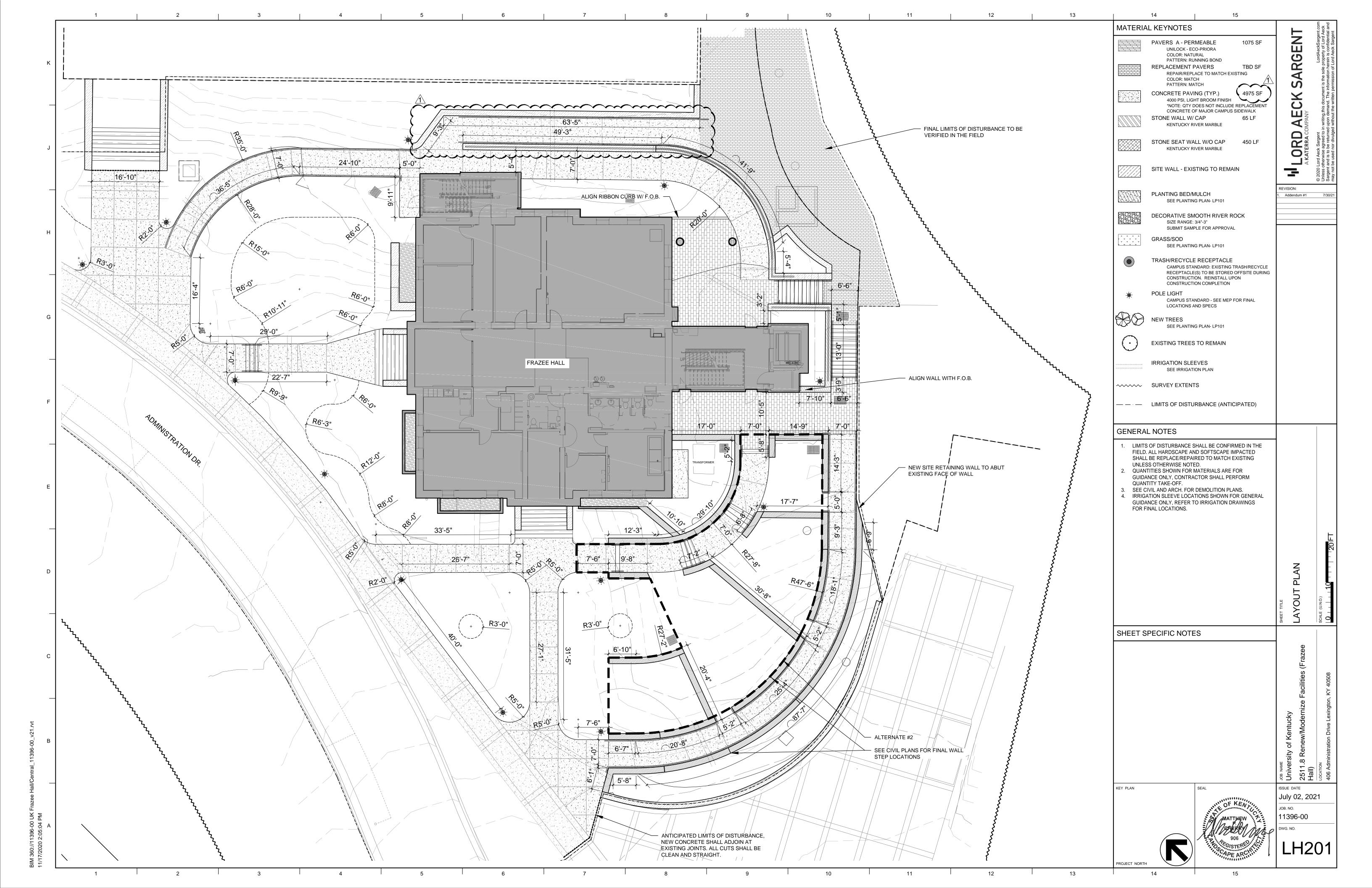
- 1. 10 days prior to end of maintenance period, submit request for final inspection.
- 2. Final inspection will be conducted by Owner and Landscape Architect.











OOF SNOW LOAD (PER ASCE 7-10)		
GROUND SNOW LOAD	$P_g =$	15 PSF
IMPORTANCE FACTOR	ls =	1.1
SNOW EXPOSURE FACTOR	Ce =	1.0
THERMAL FACTOR		
(BUILDING)	Ct =	1.0
(CANOPIES)	Ct =	1.2
RAIN ON SNOW SURCHARGE	Pr=	5 PSF
FLAT-ROOF SNOW LOAD* (Pf = 0.7CeCtIsPg)		
(BUILDING)	Pf = 1	11.6 PSF
(CANOPIES)	Pf = 1	13.9 PSF
MINIMUM-ROOF SNOW LOAD (I Pg)	Pm = 1	16.5 PSF
SLOPED-ROOF SNOW LOAD* (Ps = Cs Pf)		
(BUILDING)	Ps = 1	11.6 PSF
(CANOPIES)	Ps = 1	13.9 PSF
*(INCREASE FOR DRIFTING PER ASCE 7-10, SECTIONS 7.7 & 7.8)		
/IND LOAD (PER ASCE 7-10)		
ULTIMATE DESIGN WIND SPEED	VULT= 1	120 MPH

END ZOI	NE WIDTH				a = 10 FT		
COMPONENTS & CLADDING EXTERNAL PRESSURE ULTIMATE (LRFD) LOADS (PSF)							
EFFECTIVE		LOC	CATION PER AS	CE 7-10:			
WIND AREA (SQ FT)	1	2	3	4	5		
≤10	9.7	9.7	9.7	23.8	23.8		
= 10	-23.8	-39.9	-60.1	-25.8	-31.9		
20	9.1 -23.2	9.1 -35.7	9.1 -49.8	22.7 -24.7	22.7 -29.7		
50	8.3 -22.4	8.3 -30.1	8.3 -36.1	21.3 -23.3	21.3 -26.9		
100	7.7 -21.8	7.7 -25.8	7.7 -25.8	20.2 -22.2	20.2 -24.7		
500				17.7 -19.8	17.7 -19.8		

. WIND LOADING PROVIDED ARE ULTIMATE (LRFD) LOADING. FOR ALLOWABLE STRESS DESIGN MULTIPLY LOADS PROVIDED BY 0.6.

- 2. LOADING PROVIDED IS FOR WORST CASE ROOF HEIGHT. DELEGATED DESIGNERS MAY RECALCULATE LOADS FOR SPECIFIC COMPONENT HEIGHTS USING PARAMETERS
- 3. PRESSURES SHOWN ARE APPLIED NORMAL TO THE SURFACE. 4. PLUS AND MINUS SIGNS SIGNIFY PRESSURES ACTING TOWARD AND AWAY FROM THE
- SURFACES, RESPECTIVELY
- 5. FOR HIP ROOFS WITH $\theta \le 25^{\circ}$, ZONE 3 SHALL BE TREATED AS ZONE 2.
- 6. EACH COMPONENT MUST BE DESIGNED FOR MAXIMUM POSITIVE AND NEGATIVE . FOR COMPONENTS HAVING EFFECTIVE AREAS IN BETWEEN TABULATED VALUES. DESIGN LOADS MAY BE INTERPOLATED. OTHERWISE DESIGN LOAD MUST BE TAKEN FROM THE NEXT LOWEST EFFECTIVE AREA
- B. INTERNAL PRESSURE FOR ENCLOSED BUILDING IS INCLUDED IN ABOVE VALUES. 9. THE NET C&C PRESSURE (INCLUDING INTERNAL PRESSURE) FOR ANY COMPONENT SHALL NOT BE TAKEN LESS THAN 16 PSF ACTING IN EITHER DIRECTION NORMAL TO
- 10. NOTATION:

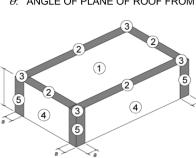
NOMINAL DESIGN WIND SPEED.

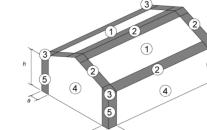
INTERNAL PRESSURE COEFFICIENT

WIND EXPOSURE.

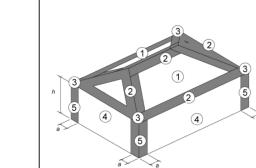
ENCLOSURE ..

- a: 10 PERCENT OF LEAST HORIZONTAL DIMENSION OR 0.4h, WHICHEVER IS SMALLER, BUT NOT LESS THAN EITHER 4% OF LEAST HORIZONTAL DIMENSION OR 3 FT. h: MEAN ROOF HEIGHT, IN FEET, EXCEPT THAT EAVE HEIGHT SHALL BE USED
- FOR ROOF ANGLES θ < 10% heta: ANGLE OF PLANE OF ROOF FROM HORIZONTAL, IN DEGREES.





NEAR - FLAT ROOF $(\theta \le 7^\circ)$



HIP ROOF $(7^{\circ} < \theta \le 27^{\circ})$

SEISMIC BASE SHEAR ...

EARTHQUAKE DESIGN DATA		
COUNTY / STATEFA	YETTE / KE	NTUCK
IMPORTANCE FACTOR	le =	1.2
MAPPED SHORT PERIOD RESPONSE ACCELERATION	Ss =	0.18
MAPPED 1 SECOND PERIOD RESPONSE ACCELERATION	S1 =	0.09
SITE CLASS	C	CLASS
DESIGN SHORT PERIOD SPECTRAL RESPONSE COEFFICIENT	Sds =	0.15
DESIGN 1 SECOND PERIOD SPECTRAL RESPONSE COEFFICIENT	Sd1 =	0.10
SEISMIC DESIGN CATEGORY	CATE	GORY
BASIC STRUCTURAL SYSTEMBUILDI	NG FRAME	SYSTE
SEISMIC RESISTING SYSTEM STEEL SYSTEMS	NOT SPECI	FICALL
DETAILED FOR SE	EISMIC RESI	STANC
RESPONSE MODIFICATION FACTOR	R =	3
SEISMIC RESPONSE COEFFICIENT		
METHOD OF ANALYSISEQUIVALENT LATERAL F	ORCE PROC	CEDUF

DESIGN STRESSES

CONCRETE (STRENGTH DESIGN) MINIMUM COMPRESSIVE STRENGTH IN 28 DA		
FOOTINGS FOR SITE WALLS	f'c =	3,000 PSI
INTERIOR SLABS ON GRADE, PILE CAPS, GRADE BEAMS, WALLS,		
AND CONCRETE ON METAL DECK	f'c =	4,000 PSI
CONCRETE EXPOSED TO FREEZE/THAW	f'c =	5,000 PSI
MECHANICAL VAULT (WALLS, TOP, BASE, AND MANHOLE CURBS)	f'c =	5,000 PSI
REINFORCING BARS (ASTM A615 GRADE 60)	fy =	60,000 PSI
WELDED WIRE FABRIC (ASTM A1064)	fy =	65,000 PSI
WIDE FLANGE AND TEE SHAPES DESIGNATED AS W AND WT (ASTM A992)	fy =	50,000 PSI
WIDE FLANGE AND TEE SHAPES DESIGNATED AS M, S, MT AND ST (ASTM 36)	fy =	36,000 PSI
CHANNELS, ANGLES, PLATES AND BARS (ASTM A572)	fy =	50,000 PSI
STEEL ROOF DECK (ASTM A653)	fy =	33,000 PSI
COMPOSITE STEEL FLOOR DECK (ASTM A653)	fy =	50,000 PSI
HOLLOW STRUCTURAL SECTIONS - RECTANGULAR STEEL TUBES		
(ASTM A500 GRADE C)	fy =	50,000 PSI
HOLLOW STRUCTURAL SECTIONS - ROUND STEEL TUBES		
(ASTM A500 GRADE C)	fy =	46,000 PSI
MASONRY ASSEMBLY COMPRESSIVE STRENGTH f	fm =	2,000 PSI
CONCRETE MASONRY UNIT STRENGTH f	f'm =	2,800 PSI
TYPE S MORTAR STRENGTHf	fm =	1,800 PSI
MASONRY GROUT (ASTM C476) MINIMUM COMPRESSIVE		
STRENGTH IN 28 DAYS f	"m =	2,000 PSI
ROCK BEARING PRESSURE FOR FOUNDATIONS (ROCK ANCHORS ON LIMESTO	NE)	10,000 PSF
SOIL BEARING PRESSURE FOR SITE WALL & VAULT FOUNDATIONS (ASSUMED)		2,000 PSF
,		
<u>DESIGN CRITERIA</u>		

1. STRUCTURE IS DESIGNED IN ACCORDANCE WITH THE 2018 KENTUCKY BUILDING CODE,

2nd EDITION (2015 IBC). 2. MAXIMUM ESTIMATED DEFLECTIONS (IN INCHES) ARE AS FOLLOWS: LIVE LOAD DEAD + LIVE LOAD ROOF MEMBERS L/360 FLOOR MEMBERS INTERIOR L/360 FLOOR MEMBERS SPANDREL L/480 WHERE L = SPAN LENGTH BETWEEN CENTERLINE OF SUPPORTS (INCHES)

FOR CANTILEVERS L = TWICE THE LENGTH OF THE CANTILEVER.

Vasd= 93 MPH

 $. GC_{pi} = \pm 0.18$

FULLY ENCLOSED

EXPOSURE B

1. THE REQUIREMENTS OF THESE GENERAL NOTES APPLY UNLESS OTHERWISE NOTED ON PLANS OR IN SPECIFICATIONS

NO PROVISION HAS BEEN MADE FOR FUTURE HORIZONTAL OR VERTICAL EXPANSION.

- 2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL CONTRACT DOCUMENTS, ADDENDA, AND SUPPLEMENTARY INFORMATION AND DISTRIBUTING SUCH TO ALL SUBCONTRACTORS AND MATERIAL SUPPLIERS PRIOR TO THE PREPARATION AND SUBMITTAL OF SHOP DRAWINGS, FABRICATION, AND INSTALLATION OF ANY STRUCTURAL MEMBERS.
- 3. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS IN THE FIELD PRIOR TO COMMENCING WORK. THE ENGINEER SHALL BE NOTIFIED OF ANY DISCREPANCIES THAT MAY EXIST.
- 4. ANY DISCREPANCIES BETWEEN STRUCTURAL AND ARCHITECTURAL DRAWINGS SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT AND STRUCTURAL ENGINEER.
- 5. DO NOT SCALE DRAWINGS. THE STRUCTURE IS DESIGNED TO FUNCTION AS A UNIT UPON COMPLETION AND IS THEREFORE DEPENDENT UPON DIAPHRAGM ACTION OF THE ROOF DECK AND FLOOR SLAB AND ATTACHMENT TO THE SHEAR WALLS AND FRAMES FOR STABILITY AND FOR RESISTANCE TO WIND AND SEISMIC FORCES. THE CONTRACTOR SHALL FURNISH AND INSTALL ALL NECESSARY BRACING REQUIRED TO PROPERLY CONSTRUCT THE BUILDING UNTIL THESE ELEMENTS ARE COMPLETE AND CAPABLE OF PROVIDING THIS
- 7. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR MEANS AND METHODS TO CONSTRUCT THE STRUCTURE, INCLUDING VERIFICATION OF LOAD CAPACITY OF THE STRUCTURE, NEW OR EXISTING, TO SUPPORT CONSTRUCTION ACTIVITIES, EQUIPMENT, ETC. AND FOR LIMITING THE AMOUNT OF CONSTRUCTION LOAD IMPOSED ON THE STRUCTURAL FRAMING. CONSTRUCTION LOADS SHALL NOT EXCEED THE DESIGN CAPACITY OF THE FRAMING AT THE TIME THE LOADS ARE IMPOSED. DAMAGE TO THE STRUCTURE CAUSED BY CONSTRUCTION ACTIVITIES SHALL BE CORRECTED BY THE
- RESPONSIBLE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER. 8. SHOP DRAWINGS MUST BE CHECKED AND STAMPED BY THE CONTRACTOR PRIOR TO SUBMISSION
- 9. NON-STRUCTURAL ELEMENTS OF THE BUILDING (ARCHITECTURAL FINISHES, MASONRY VENEER AND ASSOCIATED TIES, INSULATION, SHEATHING, DUCTWORK, PIPING, FOUNDATION/FLOOR/ROOF DRAINS, ETC.) ARE TYPICALLY NOT SHOWN ON THE STRUCTURAL DRAWINGS. WHERE NON-STRUCTURAL ELEMENTS ARE SHOWN ON THE STRUCTURAL DRAWINGS, THEY ARE SHOWN FOR REFERENCE AND DESIGN INTENT ONLY, NON-STRUCTURAL ELEMENTS SHALL BE CONSTRUCTED AS SHOWN ON THE
- ARCHITECTURAL, ELECTRICAL, MECHANICAL AND PLUMBING DRAWINGS. ELEVATIONS SHOWN ON STRUCTURAL DRAWINGS ARE IDEALIZED ELEVATIONS BASE ON DECK THICKNESS AND SLOPES SHOWN ON DRAWINGS AND DO NOT ACCOUNT FOR BEAM CAMBER. IT IS THE RESPONSIBILITY OF THE CONTRACTORS TO COORDINATE ANY CAMBER OF THEIR WORK WITH OTHER TRADES AND ADJUST ELEVATIONS AS
- NECESSARY TO ACCOUNT FOR DEAD LOAD DEFLECTION AND THIS CAMBER. 11. WALL OPENINGS AND TERMINATIONS SHOWN ON THE STRUCTURAL DRAWINGS ARE DIAGRAMMATIC ONLY. WALL TERMINATIONS AND OPENING JAMBS, HEADS, AND SILLS SHALL BE CONSTRUCTED AS SHOWN ON THE ARCHITECTURAL DRAWINGS. WHERE VENEERS WRAP JAMBS, DETAIL AND FABRICATE LINTELS TO BEAR ON SOLID STRUCTURE. DO NOT BEAR LINTELS OR BEAMS ON VENEERS (BRICKS, SIDING, ETC.). IF THE ARCHITECTURAL DRAWINGS DO NOT INCLUDE DETAILS FOR ANY OF THESE CONDITIONS, CONSULT WITH ARCHITECT FOR DIRECTION.
- 12. EXISTING CONSTRUCTION SHOWN IS BASED ON GENERAL CONSTRUCTION PRACTICE AND IS NOT GUARANTEED TO BE TRUE OR EXACT. CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDITIONS RELEVANT TO HIS WORK PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL NOTIFY ARCHITECT OF ALL DISCREPANCIES INCLUDING DIMENSIONAL DEVIATIONS BEFORE PROCEEDING WITH THE WORK.
- 13. DETAILS LABELED TYPICAL ON THESE DRAWINGS SHALL APPLY TO ALL SITUATIONS OCCURRING ON THE PROJECT THAT ARE THE SAME OR SIMILAR AND SHALL APPLY REGARDLESS OF WHETHER THEY ARE KEYED ON THE PLANS. CONSTRUCTION NOT SPECIFICALLY INDICATED BY DETAIL OR SECTION SHALL BE SIMILAR TO DETAILS SHOWN FOR SIMILAR CONDITIONS.

FOUNDATION CONSTRUCTION

- 1. FOUNDATIONS ON THIS PROJECT ARE DESIGNED IN ACCORDANCE WITH RECOMMENDATIONS MADE BY S&ME INC, GEOTECHNICAL ENGINEERS, IN THEIR REPORT DATED DECEMBER 1, 2020. THE GEOTECHNICAL REPORT IS PROVIDED AS REFERENCE INFORMATION AVAILABLE TO BIDDERS, BUT IS NOT PART OF THE CONTRACT DOCUMENTS. THE STRUCTURAL ENGINEER IS NOT RESPONSIBLE OR LIABLE FOR THE ACCURACY OF THE INFORMATION PRESENTED IN THE GEOTECHNICAL
- ELEVATIONS GIVEN ARE TO THE TOP OF PILE CAPS AND GRADE BEAMS ALL PILE CAPS MUST BE SUPPORTED ON ROCK ANCHORS THAT EXTEND DOWN TO BEDROCK. SEE DETAILS ON DRAWINGS.
- 4. LOCATE EXISTING UNDERGROUND UTILITIES IN AREAS OF CONSTRUCTION. COORDINATE WITH UTILITY COMPANIES FOR ANY SHUT-OFF REQUIREMENTS OF STILL-5. WHEN EXCAVATIONS APPROACH THE GROUND WATER LEVEL, THE WATER LEVEL SHALL
- BE LOWERED BY AN ACCEPTABLE DEWATERING SYSTEM SO THAT THE WATER LEVEL IS MAINTAINED CONTINUOUSLY A MINIMUM OF 2'-0" BELOW THE EXCAVATION. EXISTING FOUNDATIONS:
- A. EXISTING FOUNDATIONS SHOWN ON DRAWINGS ARE APPROXIMATE. EXACT CONDITIONS MUST BE VERIFIED AT TIME OF CONSTRUCTION. B. WHEN NEW FOOTINGS MEET EXISTING FOOTINGS, THEY SHALL BE STEPPED AT A
- RATIO OF 2 HORIZONTAL TO 1 VERTICAL. C. UNLESS OTHERWISE NOTED, NEW FOOTINGS SHALL NOT BEAR BELOW EXISTING BEFORE BACKFILL, ALL WALLS MUST BE ADEQUATELY BRACED. FOR BACKFILL
- REQUIREMENTS, SEE SPECIFICATIONS AND/OR GEOTECHNICAL ENGINEER'S REPORT. RETAINING WALLS SHALL NOT BE BACKFILLED UNTIL COMPRESSIVE STRENGTH TESTS DEMONSTRATE THAT THE CONCRETE HAS DEVELOPED 100% OF THE REQUIRED 28-DAY COMPRESSIVE STRENGTH FOR THE CLASS OF CONCRETE SPECIFIED. THE CONTRACTOR MAY ELECT TO PREPARE ADDITIONAL TEST CYLINDERS IN ORDER TO DEMONSTRATE THAT THE REQUIRED COMPRESSIVE STRENGTH PRIOR TO THE

MANDATORY 28-DAY COMPRESSIVE STRENGTH TESTS. IN NO CASE SHALL WALLS BE

BACKFILLED PRIOR TO SEVEN (7) DAYS FROM PLACEMENT. 9. FOR PLACEMENT AND COMPACTION OF FILL UNDER SLABS ON GRADE, SEE SPECIFICATIONS. IF NOT OTHERWISE NOTED, COMPACT ALL FILL TO 98% OF OPTIMUM LABORATORY DENSITY IN ACCORDANCE WITH ASTM D698 STANDARD PROCTOR

- METHOD. PLACE FILL IN 6" TO 8" LAYERS AND COMPACT WITH VIBRATORY TAMPING
- 10. SEE ROCK ANCHOR NOTES AND DETAILS FOR ADDITIONAL REQUIREMENTS. 11. SEE ARCHITECTURAL AND SITE DRAWINGS FOR CONTOUR AND LAYOUT OF SITE WALKS AND BREEZEWAYS. SLOPE EXTERIOR CONCRETE 1/8"/ FT AWAY FROM BUILDING, UNLESS NOTED OTHERWISE.
- 12. HIGH PLASTICITY ("FAT") CLAYS WITH A PLASTICITY INDEX OF 30 OR MORE WHICH ARE PRESENT WITHIN 2 FEET OF FINAL SUBGRADE ELEVATION SHALL BE UNDERCUT FOR THE ENTIRE BUILDING AREA TO A DISTANCE OF 5 FEET OUTSIDE THE BUILDING FOOTPRINT. PROOFROLL AT UNDERCUT ELEVATION AND FURTHER UNDERCUT SOFT AND YIELDING MATERIALS TO FIRM MATERIAL AT THE DIRECTION OF THE SPECIAL INSPECTOR. BACKFILL UNDERCUT WITH ON-SITE LEAN CLAY SOILS OR BORROW MATERIALS WITH A PLASTICITY INDEX LESS THAN 18.
- 13. FOUNDATION CONCRETE FOR SOIL-BEARING FOOTINGS SHALL BE PLACED IMMEDIATELY FOLLOWING EXCAVATION. A LEAN CONCRETE (1,500 PSI) MUD MAT SHALL BE PLACED OVER THE PREPARED BEARING MATERIALS IF EXCAVATION MUST REMAIN OPEN DURING INCLEMENT WEATHER OR FOR MORE THAN 72 HOURS
- 14. CONTRACTOR SHALL EXERCISE CAUTION THAT DENSE GRADED AGGREGATE BLANKET BELOW FLOOR SLAB DOES NOT BECOME SATURATED DURING CONSTRUCTION. CONTRACTOR SHALL CAST FLOOR SLAB OR PROVIDE TEMPORARY PROTECTION FOR
- SUBGRADE UNTIL SLAB IS CAST TO PREVENT WATER INFILTRATION INTO SUBGRADE. 15. SURFACE RUNOFF SHALL BE DIRECTED AWAY FROM FOUNDATION EXCAVATIONS AND NOT BE PERMITTED TO POND WITHIN THE BUILDING FOOTPRINT. PROVIDE DRAINAGE TRENCHES FROM FOUNDATION EXCAVATIONS TO DIRECT RAINWATER OUT OF

ROCK ANCHOR CONSTRUCTION

EQUIPMENT

- 1. REFER TO GEOTECHNICAL REPORT PREPARED BY S&ME INC., GEOTECHNICAL
- ENGINEERS, DATED DECEMBER 1, 2020. 2. ALL ROCK ANCHORS SHALL BE INSTALLED FROM THE LEVEL EXISTING AFTER GENERAL EXCAVATION HAS PROGRESSED TO EXTENT REQUIRED. SEE SPECIFICATIONS FOR
- TOLERANCES IN ROCK ANCHOR INSTALLATION. 3. ALL ROCK ANCHORS SHALL BE INSPECTED DURING DRILLING AND PLACING OF GROUT. A COMPLETE REPORT OF EACH ROCK ANCHOR INSTALLED SHALL BE MADE. SEE PLANS AND SPECIFICATIONS FOR REQUIREMENTS OF INSPECTION AND REPORT.
- 4. CENTERLINES OF ALL ROCK ANCHORS SHALL BE CHECKED FOR CONFORMANCE TO SPECIFICATION, ANY DEVIATION FROM THE ACCEPTABLE INSTALLATION TOLERANCES SHALL BE REPORTED TO THE ENGINEER. ANY CORRECTIVE MEASURES REQUIRED BECAUSE OF MISALIGNMENT BEYOND THE PERMISSIBLE TOLERANCE IS THE RESPONSIBILITY OF THE ROCK ANCHOR CONTRACTOR.
- 5. THE LOCATION OF EXISTING SEWER AND UNDERGROUND UTILITIES SHALL BE VERIFIED PRIOR TO THE DRILLING OF ROCK ANCHORS. IF NEW ROCK ANCHORS AS SHOWN ON PLAN WILL ENCROACH UPON THOSE EXISTING STRUCTURES, THE CONTRACTOR SHALL CONTACT THE ENGINEER FOR DIRECTION PRIOR TO PLACING ROCK ANCHORS.
- 6. SEE PLANS AND SPECIFICATIONS FOR ADDITIONAL INFO.

CONCRETE CONSTRUCTION

- 1. ALL CONCRETE CONSTRUCTION TO BE IN ACCORDANCE WITH THE BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE ACI 301-10, ACI 318-14 AND ACI DETAILING
- MANUAL. 2. FURNISH BAR SUPPORTS WHERE NECESSARY DURING CONSTRUCTION.
- 3. PROVIDE PLASTIC, PLASTIC-COATED (NOT PLASTIC-TIPPED) OR STAINLESS STEEL CHAIRS IN ALL CONCRETE EXPOSED TO VIEW IN COMPLETED STRUCTURE.
- 4. PROVIDE PIPE SLEEVES AND INSERTS IN CONCRETE WORK WHERE REQUIRED. SEE ARCHITECTURAL AND MECHANICAL DRAWINGS.
- 5. CONSTRUCTION JOINTS SHALL BE POSITIONED SO AS NOT TO CHANGE THE STRUCTURAL DESIGN REQUIREMENTS. RATIO OF LENGTH TO WIDTH OF POUR SHALL NOT EXCEED 2. LOCATION OF ALL CONSTRUCTION JOINTS SHALL BE APPROVED BY THE
- ENGINEER. 6. WELDING OF REINFORCING BARS (INCLUDING TACK WELDING) IS NOT PERMITTED. 7. PROVIDE HORIZONTAL KEYWAYS IN CONSTRUCTION JOINTS IN BEAMS AND WALLS;
- MINIMUM 1 1/2" DEPTH WITH HEIGHT EQUAL TO ONE-THIRD OF MEMBER DEPTH, UNLESS OTHERWISE SHOWN OR NOTED. 8. ALL EXPOSED CORNERS OF CONCRETE SHALL BE CHAMFERED 45 DEGREES. MINIMUM CHAMFER TO BE 1/2". CURVE THE LEADING EDGE OF STAIR TREADS TO 1/2" RADIUS. 9. REINFORCING FOR SLABS ON GROUND (IN FLAT SHEETS) SHALL BE IN THE MIDDLE OF
- THE SLAB EXCEPT AS OTHERWISE NOTED AND SHALL BE POSITIVELY SUPPORTED AND MAINTAINED IN THIS POSITION DURING PLACEMENT OF CONCRETE. 10. IN STEEL STAIR TREADS WITH CONCRETE FILL, PROVIDE 4x4-W1.4xW1.4 W.W.F. IN FLAT
- 11. <u>USE CORROSION-INHIBITING ADMIXTURE IN ALL CONCRETE FOR MECHANICAL VAULTS.</u>
- SEE SPECIFICATION. 12. BEND ALL HORIZONTAL WALL AND FOOTING BARS 1'-0" AROUND CORNERS OR PROVIDE
- CORNER BARS WITH 2'-0" LAP. 13. PROVIDE FOUNDATION DOWELS FOR ALL WALLS AND PIERS SAME SIZE AND SPACING
- AS VERTICAL STEEL. 14. PROVIDE FOUNDATION DOWELS FOR MASONRY WALLS SAME SIZE AND SPACING AS VERTICAL STEEL. ALL DOWELS SHALL BE WITHIN 8" LATERALLY OF WALL REINFORCING ABOVE AND IN LINE WITH THE WALL REINFORCING. PROVIDE DOWELS FOR ALL ADDITIONAL WALL REINFORCING AT CORNERS, ENDS, JAMBS, INTERSECTIONS AND
- MAY BE POST INSTALLED / DRILLED AND ADHESIVE FASTENED WITH EMBEDMENT AS REQUIRED TO DEVELOP FULL YIELD STRENGTH OF REINFORCING. 15. HORIZONTAL FLOORS THAT HAVE DEFLECTING STRUCTURAL MEMBERS (UNSHORED STEEL BEAMS) SHALL BE FINISHED LEVEL. THE SLAB THICKNESS NOTED IS MINIMUM. ADD CONCRETE AS NECESSARY TO OVERCOME MEMBER DEFLECTIONS.
- 16. SPLICES: ALL REINFORCING SPLICES SHALL BE AS TENSION LAP. U.N.O.

BOTH SIDES OF CONTROL JOINTS. ONLY DOWELS AT THESE ADDITIONAL LOCATIONS

•	of Eloco. Ale itelia oftonio of Eloco of Ale Be Ao Teliolott Exit, o.i.i.o.	
	A. LAP ALL TENSION SPLICES IN ACCORDANCE WITH THE FOLLOWING TABLE. I	MODIFY
	LENGTHS AS NOTED:	
		\neg

BAR	CONCF	RETE COMPI		INCREASE SPLICE LENGTH BY THE FOLLOWING:
SIZE	3,000 PSI	4,000 PSI	5,000 PSI	NOTE: INCREASED LENGTHS ARE ACCUMULATIVE
#3	21"	19"	17"	4 HODIZONITAL TOD BARO WITH OREATED
#4	29"	25"	22"	1. HORIZONTAL TOP BARS WITH GREATER THAN 12" OF CONCRETE BELOW +30 %
#5	36"	31"	28"	2. BAR SPACING LESS THAN 2 BAR
#6	43"	37"	33"	DIAMETERS +50 %
#7	62"	54"	48"	
#8	71"	62"	55"	
#9	80"	70"	62"	
#10	90"	78"	70"	
#11	100"	87"	78"	

l	#10	90"	78"	70"		
	#11	100"	87"	78"		
4-	0011	ODETE DD 0	TEOTION 50	D DEILIEO D	25145145	
17.	CON	CRETEPRO	TECTION FO	OR REINFORG	CEMENT: CO	<u>VER</u>
	A. C	CONCRETE (CAST AGAIN	IST AND PER	MANENTLY EXPOSED TO EARTH	3"
	B. C	CONCRETE E	EXPOSED TO	O EARTH OR	WEATHER	
		NO. 6 TH	ROUGH NO). 18 BARS		2"
		NO. 5 BA	AR, W31 OR	D31 WIRE AN	ID SMALLER	1 ½"
	C. C	CONCRETE I	NOT EXPOS	ED TO WEAT	HER OR IN CONTACT WITH GROUND	
		SLABS A	AND WALLS			
		NO.	. 11 BAR AN	D SMALLER .		3/4"
		BEAMS	AND PIERS			

LOOSE LINTEL SCHEDULE

1. THIS SCHEDULE IS FOR LINTELS OVER MASONRY OPENINGS NOT OTHERWISE SHOWN OR NOTED ON DRAWINGS, INCLUDING NON-BEARING PARTITION WALLS AND VENEERS. A. ANGLES AND SUPPORT PLATES EXPOSED TO WEATHER SHALL BE HOT-DIP

PRIMARY REINFORCEMENT, TIES, STIRRUPS

GALVANIZED. B. MINIMUM BEARING LENGTH FOR ANGLES AND WT'S SHALL BE 6" EACH END. MINIMUM BEARING LENGTH FOR TUBES SHALL BE 8" EACH END. SEE TYPICAL DETAILS FOR

L6x3 1/2x3/8 L.D.V.

- BOND BEAM CONSTRUCTION. C. PROVIDE STEEL ANGLE LINTELS ABOVE ALL DUCT PENETRATIONS 16" AND WIDER THROUGH MASONRY WALLS.
- D. FOR MULTI-WYTHE WALL CONSTRUCTION, PROVIDE LINTEL FOR EACH WYTHE PER SCHEDULE FOR GIVEN WYTHE THICKNESS.

FOR 4" MASONRY WALLS PROVIDE:

7'-7" TO 9'-6"

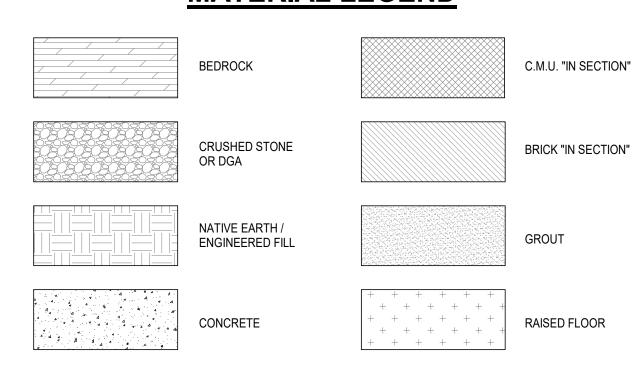
SPAN LIMITS 0" TO 4'-0" L3 1/2x3 1/2x5/16 4'-1" TO 5'-6" L4x3 1/2x 5/16 L.D.V. 5'-7" TO 7'-6" L5x3 1/2x 5/16 L.D.V.

GENERAL NOTES CONTINUED ON SHEET S102.

STRUCTURAL ABBREVIATIONS

APA	AMERICAN PLYWOOD ASSOCIATION	HORIZ	HORIZONTAL
ARCH	ARCHITECTURAL	HSS	HOLLOW STRUCTURAL SECTION
B.L.E.	BRICK LEDGE ELEVATION	LBS	POUNDS
BOT	BOTTOM	I.C.F.	INSULATED CONCRETE FORM
BTWN	BETWEEN	L.D.H.	
CLR	CLEAR	L.D.V.	LONG DIMENSION VERTICAL
CANT	CANTILEVER BEAM	LVL	LAMINATED VENEER LUMBER
C.F.S.	COLD-FORMED STEEL	MANUF.	
C.I.P.	CAST-IN-PLACE	MAX	MAXIMUM
CJP	COMPLETE JOINT PENETRATION	MECH	MECHANICAL
C.M.U.	CONCRETE MASONRY UNIT	M.E.P.	MECHANICAL/ELECTRICAL/PLUMBING
COL	COLUMN	MIN	MINIMUM
CONC	CONCRETE	N.S.	NEAR SIDE
CONT	CONTINUOUS	N.T.S.	NOT TO SCALE
D	DEEP	O.C.	
D.G.A.	DENSE GRADED AGGREGATE	O.P.H.	OPPOSITE HAND
DET	DETAIL	P.A.F.	POWDER ACTUATED FASTENER
DWGS	DRAWINGS	P.E.M.B.	PRE-ENGINEERED METAL BUILDING
EA	EACH	PJP	PARTIAL JOINT PENETRATION
E.F.	EACH FACE	PL	PLATE
ELEV	ELEVATION	R	RADIUS
EMBED	MINIMUM EMBEDMENT DEPTH INTO SUBSTRATE	REINF	REINFORCEMENT
E.O.S.	EDGE OF SLAB	R.T.U.	ROOF TOP UNIT (MECHANICAL)
E.W.	EACH WAY	S.C.	SLIP CRITICAL `
EX	EXISTING	SIM	SIMILAR
EXP	EXPANSION	S.O.G.	SLAB ON GRADE
F.F.E.	FINISHED FLOOR ELEVATION	SP	COLUMN SPLICE
F.R.C.	FIBER REINFORCED CONCRETE	S.S.	STAINLESS STEEL
F.R.P.	FIBER REINFORCED POLYMER	STD	STANDARD
F.R.T.	FIRE RESISTANCE TREATED	TYP	TYPICAL
F.S.	FAR SIDE	U.N.O.	UNLESS NOTED OTHERWISE
FTG	FOOTING	VERT	VERTICAL
F.V.	FIELD VERIFY	W	WIDE
GALV	GALVANIZED	W.W.F.	WELDED WIRE FABRIC
~ ^	0.41105		

MATERIAL LEGEND

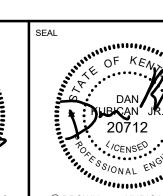


FLOWABLE FILL



RECESSED FLOOR

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July 02, 2021

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© BROWN + KUBICAN, PSC

ISSUE DATE

MASONRY WALL CONSTRUCTION

- 1. MASONRY WALLS SHOWN ON STRUCTURAL DRAWINGS HAVE BEEN DESIGNED IN ACCORDANCE WITH BUILDING CODE REQUIREMENTS FOR MASONRY STRUCTURES
- (ACI 530-13/ASCE 5-13/TMS 402-13) 2. MASONRY WALLS SHOWN ON STRUCTURAL DRAWINGS SHALL BE CONSTRUCTED IN ACCORDANCE WITH SPECIFICATIONS FOR MASONRY STRUCTURES (ACI 530.1-13/ASCE 6-13/TMS 602-13) AND THE PROJECT SPECIFICATIONS. IF THERE ARE ANY CONFLICTS BETWEEN THE TWO, THE MORE RESTRICTIVE REQUIREMENT SHALL BE **APPLICABLE**
- 3. DETERMINE COMPRESSIVE STRENGTH OF MASONRY (fm) BY THE UNIT STRENGTH METHOD (SECTION 1.4B.2 OF ACI 530.1-13/ASCE 6-13/TMS 602-13). THE STRENGTH OF GROUT SHALL BE DETERMINED BY TESTS IN ACCORDANCE WITH ASTM C1019.
- 4. MATERIALS: C.M.U. ASTM C55 OR C90 ASTM C476 GROUT -MORTAR TYPE S
- 5. USE TYPE S MORTAR FOR C.M.U. IN ALL WALLS. 6. INTERSECTING BEARING WALLS SHALL BE ANCHORED BY ONE OF THE FOLLOWING METHODS:
- A. FIFTY PERCENT OF THE UNITS AT THE INTERSECTION SHALL BE LAID IN AN OVERLAPPING MASONRY BONDING PATTERN. WITH ALTERNATE UNITS HAVING A BEARING OF NOT LESS THAN 3" ON THE UNIT BELOW.
- B. WALLS SHALL BE TIED BY GALVANIZED STEEL STRAPS 1 1/2" x 1/4" x 24" WITH 2" BEND AT 90° EACH END. GROUT STRAPS SOLID INTO CORES OF BLOCK AT 24" MAXIMUM VERTICAL SPACING.
- C. THE ABOVE DO NOT APPLY AT CONTROL JOINTS OR WHERE NON-LOAD-BEARING PARTITIONS ABUT BEARING WALLS.
- 7. CORNERS OF BEARING AND EXTERIOR WALLS SHALL BE BUILT IN RUNNING BOND. 8. ALL WALLS SHALL BE LAID IN RUNNING BOND. STACK BOND IS NOT ALLOWED. 9. PROVIDE A MINIMUM OF 16" DEPTH OF SOLID MASONRY UNDER THE BEARING ENDS OF ALL BEAMS AND 8" DEPTH OF SOLID MASONRY UNDER THE BEARING ENDS OF ALL SLABS. GROUT CELLS (2 MINIMUM) BELOW LINTEL BEARING AT JAMBS DOWN TO
- FOUNDATION OR BOND BEAM, WHICHEVER OCCURS FIRST 10. PROVIDE SOLID MASONRY MORTARED INTO PLACE AROUND BEARING ENDS OF ALL BEAMS. COMPLETELY FILL BEARING POCKETS. CUT MASONRY NEATLY AT EXPOSED CONDITIONS.
- 11. NO CHASES, RISERS, CONDUITS, OR TOOTHING OF MASONRY SHALL OCCUR IN MASONRY WALLS WITHIN 18 INCHES OF BEAM BEARING CENTERLINE.
- 12. PROVIDE HORIZONTAL JOINT REINFORCEMENT PER ASTM A951, GALVANIZED, AT 16" CENTERS VERTICALLY. SEE SPECIFICATIONS. IF NOT OTHERWISE NOTED, PROVIDE A GALVANIZED LADDER TYPE JOINT REINFORCEMENT.
- 13. WELDING OF REINFORCING BARS (INCLUDING TACK WELDING) IS NOT PERMITTED. 14. LAP SPLICES FOR REINFORCING CENTERED IN CORES TO BE IN ACCORDANCE WITH THE FOLLOWING TABLE.

BAR SIZE	WALL
	THICKNES
	8" CMU
#3	18"
#4	25"
#5	31"
#6	57"
#7	79"
#8	112"

- 15. SEE DETAILS AND SCHEDULES FOR LOCATIONS AND SIZES OF HORIZONTAL AND VERTICAL REINFORCEMENT
- 16. PROVIDE CORNER BARS FOR ALL BOND BEAM REINFORCEMENT 17. IN ADDITION TO SPACING INDICATED IN SCHEDULE, PROVIDE VERTICAL BARS AT ALL
- CORNERS, ENDS, JAMBS, INTERSECTIONS AND BOTH SIDES OF CONTROL JOINTS. 18. EXTEND ALL VERTICAL REINFORCEMENT THRU MID-HEIGHT BOND BEAMS. EXTEND VERTICAL REINFORCING INTO BOND BEAMS AT TOP OF WALL AND TERMINATE AT 2"
- DOWN FROM TOP OF WALL. 19. PROVIDE DOWELS FROM SUPPORTING MEMBER (PILE CAP, GRADE BEAM, OR SLAB) FOR
- ALL REINFORCED WALLS, SAME SIZE, LOCATION, AND SPACING AS WALL REINFORCING. 20. VERTICAL REINFORCEMENT SHALL BE CENTERED IN CELLS OF MASONRY UNIT, UNLESS
- 21. WHERE REQUIRED BY CONSTRUCTION GEOMETRY/DETAILING, BAR POSITIONERS SHALL BE USED TO HOLD BOND BEAM REINFORCEMENT IN PROPER ALIGNMENT. 22. BAR POSITIONERS SHALL BE USED TO HOLD VERTICAL REINFORCEMENT IN PROPER
- ALIGNMENT WHERE C.M.U. BLOCK IS CONSTRUCTED SUCH THAT THE GROUT POUR HEIGHT EXCEEDS 5 FEET 4 INCHES. 23. BAR POSITIONERS SHALL BE USED TO HOLD VERTICAL REINFORCEMENT IN PROPER
- ALIGNMENT FOR ALL C.M.U. CONSTRUCTION WHERE VERTICAL BARS ARE NOTED TO BE OFF-CENTER IN THE MASONRY CELL, REGARDLESS OF GROUT POUR HEIGHT 24. BAR POSITIONERS ARE NOT REQUIRED WHERE GROUT POURS ARE 5 FEET 4 INCHES OR
- LESS WITH VERTICAL BARS CENTERED IN THE C.M.U. CELL. THE ENGINEER OF RECORD MAY REQUIRE THE USE OF BAR POSITIONERS REGARDLESS OF GROUT POUR HEIGHT IF SPECIAL INSPECTIONS AND/OR SITE OBSERVATIONS INDICATE THAT BARS ARE NOT BEING CORRECTLY POSITIONED.
- 25. WHERE BAR POSITIONERS ARE REQUIRED, VERTICAL BARS SHALL BE HELD IN POSITION AT TOP AND BOTTOM AND AT INTERVALS NOT EXCEEDING 4 FEET.
- 26. GROUTING OF MASONRY LINTELS OVER OPENINGS SHALL BE ACCOMPLISHED IN ONE CONTINUOUS OPERATION. 27. WHERE LOW CUT WEB, OPEN CELLED C.M.U. ARE USED FOR BOND BEAMS, PROVIDE A CONTINUOUS METAL LATH GROUT RETAINER IN THE BED JOINT TO RETAIN GROUT IN
- 28. VERTICAL REINFORCING BARS SHALL HAVE A MINIMUM CLEARANCE OF 3/4" FROM THE MASONRY SURFACE AND NOT LESS THAN ONE BAR DIAMETER BETWEEN BARS.
- 29. MAINTAIN CLEAR DISTANCE OF 1/4" MINIMUM FOR FINE GROUT OR 1/2" MINIMUM FOR COARSE GROUT BETWEEN REINFORCING BARS AND ANY FACE OF MASONRY UNIT.
- 30. MASONRY PROTECTION FOR REINFORCEMENT: <u>COVER = 1 ½"</u> 31. REMOVE MORTAR PROTRUSIONS GREATER THAN 1/2" FROM CELLS BEFORE GROUTING.
- 32. GROUTING SHALL BE STOPPED 1 1/2" BELOW THE TOP OF A COURSE TO FORM A KEY AT
- 33. GROUT ALL CELLS OF CONCRETE MASONRY UNITS BELOW GRADE
- 34. DO NOT EXCEED THE MAXIMUM GROUT POUR HEIGHT FOR EACH GROUT TYPE AND SPACE GIVEN IN THE FOLLOWING TABLE:

GROUT TYPE	MAXIMUM GROUT POUR HEIGHT	MINIMUM WIDTH OF GROUT SPACE	MINIMUM GROUT SPACE DIMENSIONS FOR GROUTING CELLS OF HOLLOW UNITS
FINE	1'-0"	3/4"	1 1/2" x 2"
FINE	5'-4"	2"	2" x 3"
FINE	12'-8"	2 1/2"	2 1/2" x 3"
FINE	24'-0"	3"	3" x 3"
COARSE	1'-0"	1 1/2"	1 1/2" x 3"
COARSE	5'-4"	2"	2 1/2" x 3"
COARSE	12'-8"	2 1/2"	3" x 3"
COARSE	24'-0"	3"	3" x 4"

- 35. PLACE GROUT IN LIFTS NOT EXCEEDING 12'-8" WHERE MASONRY HAS CURED AT LEAST 4 HOURS, THE GROUT SLUMP IS MAINTAINED BETWEEN 10 AND 11 INCHES, AND THERE ARE NO INTERMEDIATE REINFORCED BOND BEAMS BETWEEN THE TOP AND THE BOTTOM OF THE POUR HEIGHT. AT ALL LOCATIONS ELSEWHERE PLACE GROUT IN LIFTS NOT EXCEEDING 5'-4".
- 36. CONSOLIDATE GROUT POURS 12 INCH OR LESS IN HEIGHT BY MECHANICAL VIBRATION OR PUDDLING. CONSOLIDATE POURS EXCEEDING 12 INCH IN HEIGHT BY MECHANICAL VIBRATION AND RECONSOLIDATE BY MECHANICAL VIBRATION AFTER INITIAL WATER LOSS AND SETTLEMENT HAS OCCURRED.
- 37. PROVIDE CLEANOUT HOLES AT LEAST 3 INCHES IN LEAST DIMENSION FOR GROUT POURS OVER 5 FEET IN HEIGHT
- A. AT STRUCTURALLY REINFORCED WALLS PROVIDE CLEANOUT HOLES AT EACH STRUCTURAL VERTICAL REINFORCING BAR.
- B. AT SOLID GROUTED MASONRY, PROVIDE CLEANOUT HOLES AT NOT MORE THAN 32" ON CENTER.
- C. CLEANOUT CLOSURES SHALL BE BRACED TO RESIST GROUT PRESSURES.

- D. GROUT POURS SHALL BE PLANNED SO THAT CLEANOUT HOLES ARE CONCEALED. BELOW SLAB OR BEHIND TRIM, CEILING, OR OTHER FINISHES. WHERE CLEANOUTS CANNOT BE CONCEALED, GROUT SHALL BE APPLIED IN POURS LESS THAN 5 FEET TALL TO FORGO CLEANOUTS.
- 38. SEE ARCHITECTURAL DRAWINGS FOR LOCATIONS OF VERTICAL CONTROL JOINTS. 39. PROVIDE VERTICAL CONTROL JOINT BETWEEN ALL NON-LOADBEARING PARTITIONS
- AND BEARING WALLS. 40. PROVIDE GALVANIZED STEEL SLEEVE / 8 GA WIRE STABILIZING ANCHORS AT 24" O.C. VERTICAL AT ALL JOINTS BETWEEN MASONRY PARTITIONS AND IN-PLACE MASONRY CONSTRUCTION (BEARING OR EXISTING WALL CONSTRUCTION), FASTEN ANCHOR TO IN-
- 41. UNLESS OTHERWISE SHOWN OR NOTED, SPACING OF CONTROL JOINTS SHALL NOT EXCEED 25 FEET.
- 42. AT VERTICAL CONTROL JOINTS, BOND BEAM REINFORCEMENT AND JOINT REINFORCEMENT SHALL BE DISCONTINUOUS. PROVIDE TWO 3/4" DIAMETER SMOOTH DOWELS BY 1'-4" ACROSS EACH CONTROL JOINT AT EACH BOND BEAM, GREASE ONE END. PROVIDE 3/8" THICK FOAM POUR STOP IN HEAD JOINT OF ALL BOND BEAMS AT CONTROL JOINT TO PREVENT BINDING.
- 43. LAP SPLICES FOR HORIZONTAL REINFORCING SHALL BE A MINIMUM OF 40 BAR DIAMETERS.
- 44. DO NOT CONSTRUCT NON-LOADBEARING MASONRY TIGHT TO UNDERSIDE OF STRUCTURE PROVIDE MINIMUM 3/4" GAP AROUND STRUCTURE AND INFILL WITH COMPRESSIBLE INSULATION/SEALANT AS REQUIRED TO MEET ARCHITECTURAL REQUIREMENTS.

STEEL CONSTRUCTION

- 1. STEEL DETAILING, FABRICATION, AND ERECTION SHALL CONFORM TO THE AISC SPECIFICATIONS AND CODE OF STANDARD PRACTICE, AND THE AWS STRUCTURAL WELDING CODE.
- 2. CONNECTIONS WELDED OR HIGH-STRENGTH BOLTED:

PLACE WALL W/ (2) 3/16"Ø x 1 1/4" MASONRY SCREWS.

- A. A325-SC, CLASS A, WITH HARDENED WASHERS USE FOR ALL MOMENT CONNECTIONS, HANGERS, AND OTHER CONNECTIONS AS NOTED ON DRAWINGS. B. A325-N WITH HARDENED WASHERS - USE FOR ALL CONNECTIONS OTHER THAN SLIP
- CRITICAL CONNECTIONS. C. UNLESS SNUG-TIGHT CONNECTIONS ARE NOTED ON THE DRAWINGS AS BEING
- PERMITTED. ALL BOLTS SHALL BE TIGHTENED TO FULL PRETENSIONING LOAD. D. UNLESS SPECIFICALLY NOTED ON THE DRAWINGS OR WITHOUT WRITTEN PERMISSION FROM THE ENGINEER, ALL BOLTS FOR THE PROJECT SHALL BE OF ONE
- ASTM TYPE AND ONE DIAMETER E. USE STANDARD HOLES WITH THE FOLLOWING EXCEPTIONS: OVERSIZE HOLES ARE PERMITTED WHEN BOLTS ARE LOADED IN TENSION; SHORT-SLOTTED HOLES ARE PERMITTED FOR SHEAR LOADING PERPENDICULAR TO THE SLOT IN ANY ONE PLY AT
- EACH FAYING SURFACE. F. HARDENED WASHERS SHALL BE USED OVER ALL OVERSIZED OR SHORT-SLOTTED HOLES IN AN OUTER PLY. WHERE LONG-SLOTTED HOLES ARE USED IN AN OUTER PLY, 5/16" THICK A36 PLATE WASHERS OR CONTINUOUS BAR WITH STANDARD HOLES SHALL BE PROVIDED.
- G. WHERE REACTION IS NOTED, DEVELOP SAME, WHERE NOT NOTED, FOR NON-COMPOSITE BEAMS, CONNECTIONS SHALL DEVELOP ONE-HALF OF THE TOTAL UNIFORM LOAD CAPACITY OF THE BEAM. H. WHEREVER POSSIBLE, USE FRAMED BEAM CONNECTIONS AS LISTED IN TABLES
- 10-1, 10-2, 10-3,10-4, 10-9, 10-10, AND 10-11 OF THE AISC STEEL CONSTRUCTION MANUAL, 13TH EDITION. THE LENGTH OF CONNECTION ANGLES AND PLATES SHALL BE NOT LESS THAN ONE-HALF OF THE T DISTANCE OF THE BEAM WEB. J. PREAPPROVED CONNECTION DETAILS ARE PROVIDED ON DRAWING S401. K. SINGLE PLATE SHEAR CONNECTIONS ARE NOT PERMITTED WHERE THE REACTION

EXCEEDS 50 KIPS, AT FIELD-APPLIED CONNECTIONS, OR CONNECTIONS TO

COLUMNS, TUBE COLUMNS WITH FACE DIMENSION 4" OR LESS, OR CONNECTIONS WITH REACTIONS LESS THAN 15 KIPS). L. THROUGH PLATE CONNECTIONS AT TUBE COLUMNS ARE NOT PERMITTED, UNLESS NOTED OTHERWISE. SHEAR CONNECTIONS TO TUBE COLUMNS SHALL BE WT OR

COLUMNS (OTHER THAN AT SKEWED CONNECTIONS, MOMENT CONNECTIONS, PIPE

- DOUBLE ANGLE KNIFF CONNECTIONS, EXCEPT AS NOTED ABOVE. 3. WELDING ELECTRODES SHALL BE E70XX EXCEPT WHERE OTHER ELECTRODES ARE
- REQUIRED FOR COMPATIBILITY WITH MATERIAL BEING WELDED. 4. ALL SLIP CONNECTIONS SHALL BE PROVIDED WITH A MEANS OF PREVENTING THE NUTS
- FROM UNTHREADING. 5. SHOP DRAWINGS ARE REQUIRED AND SHALL NOTE TYPE OF ELECTRODES, SIZE OF ALL WELDS, AND TYPE AND SIZE OF ALL BOLTS.
- 6. SEE SPECIFICATIONS FOR ALL PRIMING REQUIREMENTS 7. BEAMS BEARING ON MASONRY SHALL BEAR A MINIMUM OF 5" ONTO THE WALL, UNLESS OTHERWISE NOTED. BEAR BEAMS FULL LENGTH OF BEARING PLATES. MASONRY SHALL BE BUILT TIGHT AROUND BEAM UNLESS OTHERWISE NOTED.
- 8. ALL SHOP AND FIELD WELDING SHALL BE DONE BY A CERTIFIED WELDER. 9. DO NOT WELD TO EXISTING STEEL WITHOUT WRITTEN APPROVAL FROM THE ENGINEER 10. MISCELLANEOUS STEEL MEMBERS (ANGLES, TEES, CHANNELS, ETC.) THAT SUPPORT DECK AROUND THE PERIMETER OF A FLOOR OR ROOF AREA SHALL BE CONTINUOUS

EXCEPT AT BUILDING EXPANSION JOINTS. WHERE SPLICES IN THESE MEMBERS MUST

CUR TO FACILITATE ERECTION, PROVIDE PARTIAL PENETRATION SQUARE GROOVE WELD (BUTT JOINT) WITH 3/16" EFFECTIVE THROAT ON ONE SIDE, EACH LEG. MISCELLANEOUS HANGING LOADS SUCH AS STAIR STRINGERS, PIPES, MECHANICAL UNITS, ETC., SUPPORTED BY STEEL MEMBERS SHALL HAVE THESE LOADS APPLIED IN SUCH A MANNER THAT NO TORSIONAL FORCES ARE INDUCED IN THESE MEMBERS, I.E., LOADS SHALL PASS THROUGH THE CENTERLINE OF WIDE FLANGE SECTIONS AND

STEEL DECK CONSTRUCTION

THROUGH THE SHEAR CENTER OF CHANNELS.

- 1. STEEL DECK DETAILING, FABRICATION, AND ERECTION SHALL CONFORM TO THE LATEST, AWS STRUCTURAL WELDING CODE AND THE STEEL DECK INSTITUTE
- 2. STEEL ROOF DECK SHALL BE CONTINUOUS OVER A MINIMUM OF 3 SPANS. STEEL FLOOR DECK SHALL BE CONTINUOUS OVER A MINIMUM OF 2 SPANS.
- 3. DO NOT HANG OR SUPPORT ANY LOADS SUCH AS STUD WALLS, BULKHEADS, PIPES, ETC. FROM STEEL ROOF DECK.
- 4. ROOF DECK CLOSURES AND ACCESSORIES SHALL BE LOCATED IN THE FIELD OF DIAPHRAGM, NOT AT DIAPHRAGM COLLECTOR LOCATIONS SUCH AS MOMENT FRAMES OR SHEAR WALLS.

WOOD CONSTRUCTION

- 1. CONSTRUCTION SHALL CONFORM TO THE NATIONAL DESIGN SPECIFICATIONS FOR WOOD CONSTRUCTION.
- 2. FRAMING PLANS ARE SCHEMATIC; SEE ARCHITECTURAL DRAWINGS FOR DIMENSIONS.
- 3. WOOD STRESS GRADE FOR ALL STRUCTURAL FRAMING MEMBERS: SPRUCE PINE FIR, STUD GRADE
 - SPRUCE PINE FIR, NO. 2 GRADE 2x8, 2x10, 2x12 = SOUTHERN PINE, NO. 2 GRADE
- JOIST HANGERS, SHEET METAL FRAMING CLIPS AND ANGLES, STRAPS, ETC., SHALL BE AS MANUFACTURED BY SIMPSON STRONG-TIE (BASIS OF DESIGN) OR OTHER APPROVED. METAL CONNECTORS SHALL BE GALVANIZED TO G90 THICKNESS FOR UNTREATED LUMBER AND TO G185 THICKNESS FOR PRESERVATIVE TREATED LUMBER. WOOD FRAMING MEMBERS, INCLUDING WOOD SHEATHING, THAT REST ON EXTERIOR
- FOUNDATION WALLS AND ARE LESS THAN 8" FROM EXPOSED EARTH SHALL BE OF PRESERVATIVE-TREATED WOOD. 6. BOLT HOLES IN WOOD SHALL BE 1/16" OVERSIZE. WASHERS SHALL BE USED ON ALL
- BEARINGS OF HEADS AND NUTS AGAINST WOOD. WASHERS SHALL BE STANDARD PLAIN WASHERS, EXCEPT AS OTHERWISE NOTED. BOLTS SHALL CONFORM TO ASTM A307. BOLTS, NUTS, AND WASHERS SHALL BE GALVANIZED WHERE EXPOSED TO THE 7. HOLES IN WOOD SILLS OR PLATES OF SHEAR AND BEARING WALL SHALL BE PLACED IN THE CENTER OF THE PIECE AND SHALL BE NO LARGER IN DIAMETER THAN ONE-THIRD THE WIDTH OF THE SILL OR PLATE. NOTCHING WILL NOT BE ALLOWED. HOLES LARGER

THAN NOTED ABOVE MAY BE BORED INTO THE SILL PROVIDING THE SILL IS

- CONSIDERED CUT AT THE HOLES AND ANCHOR BOLTS ARE PLACED AT EACH SIDE OF 8. WOOD SILLS, UNLESS NOTED, SHALL BE ANCHORED WITH 5/8" DIAMETER x 12" LONG ANCHOR BOLTS SPACED NO GREATER THAN 48" O.C. THERE SHALL BE A MINIMUM OF TWO ANCHORS PER SILL PIECE WITH ONE BOLT LOCATED NOT MORE THAN 12" NOR LESS THAN 4" FROM EACH END OF EACH PIECE. ALL BOLTS SHALL BE ASTM A307 WITH
- 9. DOUBLE PLATES SHALL LAP A MINIMUM OF 4'-0" AT SPLICES AND BE NAILED WITH NO LESS THAN (8) 16d NAILS EXCEPT AS OTHERWISE NOTED OR SHOWN. ALL CUTS IN
- PLATES SHALL OCCUR OVER A SUPPORT. 10. STUD WALLS SUPPORTING BEAMS SHALL HAVE POSTS UNDER BEARING UNLESS OTHERWISE NOTED.

- 11. ALL POSTS OR STUD WALLS INTERSECTING WITH CONCRETE OR MASONRY WALLS SHALL HAVE THE END STUD OR POST BOLTED WITH 1/2" DIAMETER SLEEVE ANCHORS
- 12. HOLES NOT GREATER IN DIAMETER THAN 30 PERCENT OF THE STUD WIDTH MAY BE BORED INTO SINGLE-PLY WOOD STUDS PROVIDED NOT MORE THAN TWO SUCCESSIVE STUDS ARE SO BORED. BORED HOLES SHALL BE CENTERED IN STUD WIDTH WITH EDGE OF HOLE NO CLOSER THAN 1 1/4 INCHES FROM THE EDGE OF STUD.
- 13. BUILT-UP POSTS OF TWO PLIES OR MORE OF STUD SHALL NOT BE CUT, NOTCHED OR BORED WITH GREATER THAN A 1" DIAMETER HOLE.
- 14. CONTINUOUS HORIZONTAL BLOCKING IS REQUIRED AT ALL HORIZONTAL SHEATHING JOINT LOCATIONS IN SHEAR WALLS (BETWEEN HOLD-DOWNS). 15. INSTALL A MINIMUM OF TWO FULL-HEIGHT STUDS (IN ADDITIONS TO JACK STUDS) AT
- JAMBS OF ALL WALL OPENINGS (DOORS, WINDOWS, LOUVERS, ETC.). INSTALL A MINIMUM OF THREE FULL-HEIGHT STUDS WHERE WIDTH OF OPENING EXCEEDS 5'-6". 16. PROVIDE HEADERS OVER ALL OPENINGS IN NONBEARING 2x4 WALLS. ADD ADDITIONAL MEMBER FOR 2x6 WALLS.
 - CLEAR SPAN 0 TO 5'-0" $(2) 2 \times 6$ 5'-0" TO 7'-0" $(2) 2 \times 8$ 7'-0" TO 9'-0" (2) 2 x 10 9'-0" TO 11'-0" (2) 2 x 12
- 17. SEE DRAWINGS FOR HEADERS AT BEARING WALLS. 18. CEILING JOISTS WHERE REQUIRED SHALL BE AS FOLLOWS: (NO ATTIC LIVE LOAD INCLUDED)
 - MEMBER SIZE CLEAR SPAN 2 x 4'S @ 16" O.0 0 TO 8'-0 8'-0" TO 14'-0" 2 x 6'S @ 16" O.C 14'-0" TO 20'-0" 2 x 8'S @ 16" O.C
- 19. CUTTING / NOTCHING OF JOISTS AND BEAMS SHALL NOT BE PERMITTED WITHOUT THE APPROVAL OF THE ENGINEER 20. INSTALL FLOOR JOISTS WITH CROWN EDGE UP.
- 21. UNDER NON-LOADBEARING PARTITIONS, INSTALL DOUBLE JOISTS SEPARATED BY SOLID BLOCKING EQUAL TO WIDTH OF STUDS ABOVE. 22. INSTALL SOLID BLOCKING @ 72" O.C. MAX IN FIRST THREE FLOOR JOIST SPACES WHERE FLOOR JOISTS SPAN PARALLEL TO WALL. CONNECT BLOCKING TO WALL TOP PLATE
- WITH METAL FRAMING ANGLES. 23. INSTALL BRIDGING OF TYPE INDICATED BELOW BETWEEN JOISTS WHERE NOMINAL
- DEPTH-TO-THICKNESS RATIO EXCEEDS 6, AT INTERVALS OF 8 FEET. A. DIAGONAL WOOD BRIDGING FORMED FROM BEVEL CUT NOMINAL 1-INCH BY 4-INCH LUMBER, DOUBLE-CROSSED AND NAILED BOTH ENDS TO JOISTS. B. SOLID WOOD BRIDGING 2 INCHES THICK BY DEPTH OF JOIST, END NAILED TO JOIST C. STEEL BRIDGING INSTALLED TO COMPLY WITH BRIDGING MANUFACTURER'S
- DIRECTIONS. 24. TRUSS HOLD-DOWN (HURRICANE) TIES SHALL BE PLACED ON OUTSIDE OF WALL THROUGH EXTERIOR SHEATHING. AT CONTRACTOR'S OPTION, THE TIES MAY BE INSTALLED ON INTERIOR OF WALL PROVIDED AN ADDITIONAL TIE IS INSTALLED FROM WALL TOP PLATE TO EACH INTERIOR STUD (ON INTERIOR FACE OF WALL)

25. ROOF SHEATHING TO BE CONTINUOUS BENEATH ALL FALSEWORK.

EQUIPMENT SUPPORT

- 1. WHERE EQUIPMENT IS SUPPORTED FROM WOOD FRAMING (INCLUDING RAFTERS, JOISTS, TRUSSES, ETC.), ATTACHMENT SHALL BE MADE SUCH THAT LOAD IS BEARING
- ON WOOD FRAMING. NO TENSION CONNECTION SHALL BE PERMITTED. 2. AT POINT OF LOAD, INSTALL 2x BLOCKING IN DIRECTION PERPENDICULAR TO SPAN OF
- LOADED MEMBER. 3. APPLY LOADS TO MEMBERS THAT ARE DESIGNATED FOR ADDITIONAL LOADS AS NOTED ON DRAWINGS. NOTIFY ENGINEER IF LOADS NOTED ARE EXCEEDED, OR IF LOADS DO NOT OCCUR IN LOCATION ANTICIPATED AND AS INDICATED ON FRAMING PLANS.

SITE OBSERVATION BY THE STRUCTURAL ENGINEER

- 1. THE ENGINEER HAS NO CONTROL OR CHARGE OF, AND SHALL NOT BE RESPONSIBLE FOR CONSTRUCTION MEANS METHODS TECHNIQUES SEQUENCES OR PROCEDURES FOR SAFETY PRECAUTIONS AND PROGRAMS IN CONNECTION WITH THE WORK: FOR THE ACTS OR OMISSION OF THE CONTRACTOR, SUBCONTRACTOR, OR ANY OTHER PERSONS PERFORMING ANY OF THE WORK: OR FOR THE FAILURE OF ANY OF THEM TO
- CARRY OUT THE WORK IN ACCORDANCE WITH THE CONTRACT DOCUMENTS. THE ENGINEER SHALL NOT BE RESPONSIBLE FOR ANY ACTS OR OMISSIONS OF THE ONTRACTOR, ANY SUBCONTRACTOR, MATERIAL SUPPLIER, OR AGENTS THEREOF THE ENGINEER DOES NOT GUARANTEE THE PERFORMANCE OF THE CONTRACTOR AND SHALL NOT BE RESPONSIBLE FOR THE CONTRACTOR'S FAILURE TO PERFORM ITS WORK IN ACCORDANCE WITH THE CONTRACT DOCUMENTS OR APPLICABLE LAWS. CODES. RULES. OR REGULATIONS. THE CONTRACTOR SHALL MAINTAIN SOLE RESPONSIBILITY FOR DEFECTS AND DEFICIENCIES. INCLUDING PROVIDING TESTING AND INSPECTION ONCE SUCH ARE DISCOVERED. AND FOR PROVIDING ENGINEERED
- CORRECTIVE ACTION FOR DESIGN TEAM REVIEW. 3. PERIODIC SITE OBSERVATION BY FIELD REPRESENTATIVES OF BROWN+KUBICAN, PSC IS SOLELY FOR THE PURPOSE OF DETERMINING IF THE WORK OF THE CONTRACTOR IS PROCEEDING IN GENERAL ACCORDANCE WITH THE STRUCTURAL CONTRACT DOCUMENTS. THIS LIMITED SITE OBSERVATION SHALL NOT BE CONSTRUED AS EXHAUSTIVE OR CONTINUOUS TO CHECK THE QUALITY, QUANTITY, OR ACCURACY OF THE CONSTRUCTION WORK BUT RATHER PERIODIC IN FEFORT TO INFORM THE ABOUT GENERAL PROGRESS AND TO ADVISE THE CLIENT ABOUT OBSERVED DEFECTS

AND DEFICIENCIES IN THE WORK OF THE CONTRACTOR. **DEMOLITION AND RECONSTRUCTION NOTES**

- 1. WHERE EXISTING SLAB ON GRADE IS TO BE PARTIALLY REMOVED FOR PLUMBING, UTILITIES, NEW FOOTINGS, ETC., SAWCUT PERIMETER OF SLAB REMOVAL. PLACE NEW VAPOR RETARDER WITHIN EXTENT OF SLAB REMOVAL. DOWEL NEW SLAB TO EXISTING W/ 1/2"Ø x 18" SMOOTH RODS DRILLED 6" INTO EXISTING SLAB AT MID-DEPTH, SEE DETAIL A/S301_SAWCUT CONTRACTION JOINTS IN REPLACEMENT SLABS THAT EXCEED 400 SQ. FT IN SIZE. IF EXISTING SLAB ON GRADE TO BE REMOVED IS NEXT TO EXISTING MASONRY WALL, SAWCUT PERIMETER OF SLAB REMOVAL CAREFULLY TO AVOID
- DAMAGING EXISTING MASONRY WALL. 2. EXTENT OF SLAB REPLACEMENT FOR INSTALLATION OF NEW UTILITIES, ETC. NOT
- SHOWN. CONTRACTOR TO COORDINATE SUCH WORK W/ SUBCONTRACTORS DURING 3. AT NEW OPENINGS IN MASONRY WALLS THAT EXTEND DOWN TO FLOOR, REMOVE
- 4. WHERE EXISTING CONCRETE SLAB ON GRADE IS REMOVED AND REPLACED, LEVEL AND FILL EXISTING SUBGRADE WITH NEW CRUSHED STONE AS REQUIRED FOR PREPARATION 5. WHERE NEW OPENINGS IN EXISTING MASONRY WALLS OVERLAP WITH EXISTING OPENINGS AND LINTELS, CONTRACTOR SHALL SHORE EXISTING ROOF STRUCTURE AND

MASONRY TO 8" MINIMUM BELOW FINISHED FLOOR AND INFILL W/ NEW FLOOR SLAB.

NEW LINTEL AND PATCH WALL CONSTRUCTION TO MATCH EXISTING. 6. PROCESS TO INSTALL STEEL LINTEL IN EXISTING MASONRY WALL: A. SHORE EXISTING WALL AT THE DIRECTION OF CONTRACTOR-EMPLOYED SHORING

WALL CONSTRUCTION, REMOVE EXISTING LINTEL TO ALLOW SPECIFIED BEARING FOR

- ENGINEER B. SAWCUT POCKET IN EXISTING MASONRY FOR STEEL LINTEL. DO NOT OVERCUT CORNERS. GROUT CORES BELOW LINTEL BEARING SOLID DOWN TO FOUNDATION.
- C. INSTALL STEEL LINTEL TIGHTLY INTO POCKET. INFILL LINTEL POCKET W/ SOLID D. SAWCUT WINDOW / DOOR OPENING IN EXISTING MASONRY WALL BENEATH THE LINTEL. DO NOT OVERCUT CORNERS
- E. TOOTH IN NEW MASONRY AT JAMBS AS REQUIRED. 7. REPAIR OF ANY DAMAGE CAUSED TO THE BUILDING DURING DEMOLITION AND CONSTRUCTION IS SOLELY THE RESPONSIBILITY OF THE CONTRACTOR.

NOTE:
THE GENERAL CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR DESIGNING,
STATE OF THE STATE OF TH SUPPLYING, AND INSTALLING ALL TEMPORARY SHORING NECESSARY TO INSTALI NEW STRUCTURAL ELEMENTS. THE DESIGN OF THE SHORING SHALL BE DONE BY A PROFESSIONAL ENGINEER LICENSED TO PRACTICE IN THE STATE OF KENTUCKY. THE CONTRACTOR SHALL SUBMIT TO THE ARCHITECT (FOR THEIR RECORDS) TEMPORARY SHORING DRAWINGS (PLANS AND ANY NECESSARY DETAILS) THAT ARE SEALED, SIGNED AND DATED BY THE PROFESSIONAL ENGINEER RESPONSIBLE FOR THEIR PREPARATION.

SHORING / BRACING DESIGN AND INSTALLATION

- 1. THE GENERAL TRADES CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ENGINEERING, SUPPLYING, AND INSTALLING ALL TEMPORARY SHORING AND BRACING NECESSARY TO RESIST GRAVITY AND LATERAL LOADS AS THE EXISTING BUILDING IS SELECTIVELY DEMOLISHED AND RECONSTRUCTED WITH NEW STRUCTURAL ELEMENTS THE DESIGN OF SHORING SHALL BE PERFORMED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF KENTUCKY IN CONSIDERATION OF APPLIED. POTENTIAL AND CONSTRUCTION LOADING; CONSTRUCTION METHODS, TECHNIQUES AND SEQUENCE: AND SCHEDULE. THE CONTRACTOR SHALL SUBMIT TO THE ARCHITECT (FOR THEIR RECORDS) TEMPORARY SHORING DRAWINGS (PLANS AND ALL NECESSARY DETAILS) THAT ARE SEALED SIGNED AND DATED BY THE PROFESSIONAL ENGINEER RESPONSIBLE FOR THEIR PREPARATION. SHORING SUBMITTAL SHALL ALSO INCLUDE A WRITTEN DESCRIPTION OF THE INTENDED CONSTRUCTION SEQUENCE, PREPARED BY THE SHORING ENGINEER AND REVIEWED AND APPROVED BY THE CONSTRUCTION. MANAGER PRIOR TO SUBMITTAL TO THE ARCHITECT FOR THEIR RECORDS. SHORING SUBMITTAL SHALL INCLUDE WRITTEN DESCRIPTION OF LOADS AND LOAD
- COMBINATIONS CONSIDERED. 2. SUGGESTED SHORING DETAILS HAVE BEEN INCORPORATED INTO THE CONSTRUCTION DOCUMENTS IN SOME INSTANCES, WHERE PROVIDED, THEY SHALL BE CONSTRUED AS SUGGESTIONS ONLY WHEREIN IF SUCH SCHEME IS USED. THE DESIGN AND DETAILS MUST STILL BE VERIFIED BY (AND FULL RESPONSIBILITY TAKEN) BY THE SHORING 3. SHORING AND BRACING IS REQUIRED, BUT IS NOT LIMITED TO, THE FOLLOWING:
- A. WHERE DEMOLITION OF FLOOR AND / OR ROOF MEMBERS REMOVE LATERAL BRACING TO WALL, COLUMN, OR PIER MEMBERS. B. WHERE NEW OPENINGS IN WALLS MUST BE CREATED
- C. WHERE DEMOLITION OF BEARING WALLS AND / OR SUPPORT BEAMS REMOVE VERTICAL SUPPORT TO GRAVITY LOAD MEMBERS. D. WHERE DEMOLITION OF SHEAR WALLS, BRACED FRAMES, OR OTHER LATERAL LOAD RESISTING SYSTEM REMOVES BUILDING RESISTANCE TO LATERAL WIND, SEISMIC.
- OR EARTH LOADS. 4. CEASE DEMOLITION OPERATIONS AND NOTIFY ARCHITECT IF ANY EXISTING STRUCTURAL ELEMENT TO REMAIN IN SERVICE DEVELOPS CRACK, BOW, DEFLECTION. ETC. OR IF ANY COMPONENT OF THE EXISTING STRUCTURE APPEARS DAMAGED, CORRODED OR OTHERWISE COMPROMISED.

ROOF, FLOOR, OR WALL OPENINGS

- 1. THE CONTRACTOR SHALL VERIFY AND COORDINATE THE NUMBER, SIZE, AND LOCATION OF ALL SLEEVES AND OPENINGS REQUIRED FOR MECHANICAL OR ELECTRICAL ITEMS.
- 2. SLEEVES AND OPENINGS SHALL BE LOCATED IN A MANNER THAT WILL MAINTAIN THE STRUCTURAL INTEGRITY OF THE ROOF, FLOOR, OR WALL SYSTEM. 3. NO STRUCTURAL ELEMENTS ARE TO BE CUT UNLESS SPECIFICALLY APPROVED BY THE
- ENGINEER. OPENINGS / PENETRATIONS / ATTACHMENTS TO STRUCTURE BY OTHER TRADES

 1. THE CONTRACTOR SHALL COORDINATE AND VERIFY THE NUMBER, SIZE, AND LOCATION

OF ALL SLEEVES AND OPENINGS REQUIRED FOR OTHER TRADES IN STRUCTURAL

VERTICAL PENETRATIONS LARGER THAN 2" ARE PROHIBITED

TO GRADE BEAM FOUNDATIONS 1. HORIZONTAL PENETRATIONS SHALL OCCUR IN MIDDLE THIRD OF MEMBER DEPTH AND MIDDLE THIRD OF SPAN. MAXIMUM SIZE TO BE 6".

PENETRATIONS MAY NOT INTERRUPT OR CUT THROUGH REINFORCING.

- TO STRUCTURAL STEEL 1. FIELD CUTTING/DRILLING OF HOLES LARGER THAN 3/8" INTO BEAM FLANGES OR COLUMNS IS PROHIBITED EXCEPT WHERE REQUIRED FOR STRUCTURAL STEEL
- PENETRATIONS / HOLES THROUGH BEAM WEBS MAY BE POSSIBLE. TRADE CONTRACTOR SHALL BE RESPONSIBLE FOR ENGINEERING COST TO VERIFY ADEQUACY AND DESIGN AND FOR INSTALLATION COST OF OPENING AND ANY REINFORCEMENT.

TO FLOOR DECK, ROOF DECK

CONSTRUCTION DOCUMENTS.

1. NO PENETRATIONS LARGER THAN 12" IN DIAMETER / SQUARE SHALL BE FIELD CUT IN THE STRUCTURAL MEMBER WITHOUT APPROVAL OF THE ENGINEER OF RECORD FOR THAT ELEMENT.

2. CUTTING / CORING OF ADJACENT PENETRATIONS, PERPENDICULAR TO THE

- STRUCTURAL SPAN, SHALL BE AVOIDED. ADJACENT PENETRATIONS THAT REMOVE MORE THAN 20% OF SUCH STRUCTURAL ELEMENT, IN ANY GIVEN 3-FOOT LENGTH, ARE RENOVATION AND REUSE OF EXISTING STRUCTURES

 1. THE OWNER SHALL UNDERSTAND THAT EXISTING STRUCTURES MAY HAVE BEEN
- OR NONCOMPLIANT TO CODE AND THAT THE ENGINEER SHALL NOT BE RESPONSIBLE FOR DISCOVERY OF CONSTRUCTION TECHNIQUES, CONDITION, OR ADEQUACY OF EXISTING STRUCTURE TO REMAIN STRUCTURALLY UNMODIFIED AS PART OF THIS

CONSTRUCTED PRIOR TO BUILDING CODE ADOPTION. TO A PREVIOUS CODE EDITION

- 2. IN ELECTING TO REUSE AN EXISTING STRUCTURE THE OWNER SHALL REMAIN SOLELY RESPONSIBLE FOR THE CONDITION AND ADEQUACY OF THE EXISTING STRUCTURE, **EXCEPT WHERE MODIFIED BY THE CONSTRUCTION PROJECT** DISCOVERY OF AND PROVISION FOR DEFERRED MAINTENANCE AND REPAIR OF THE STRUCTURE ARE NOT INCLUDED IN THE SCOPE OF THE ENGINEER OR CONSTRUCTION DOCUMENTS EXCEPT WHERE SPECIFICALLY NOTED OTHERWISE IN THE
- 4. IN KEEPING WITH CURRENT CODE PROVISIONS, EXISTING LOAD-CARRYING STRUCTURAL ELEMENTS MAY HAVE NOT BEEN STRENGTHENED, SUPPLEMENTED, REPLACED, OR OTHERWISE ALTERED IF CALCULATIONS SHOWED: a. NO MORE THAN 5% INCREASE IN DESIGN GRAVITY LOAD APPLIED TO THAT EXISTING STRUCTURAL ELEMENT AS A RESULT OF THE INTENDED ALTERATIONS.

b. NO MORE THAN 10% INCREASE IN DEMAND-CAPACITY RATIO OF AN EXISTING

LATERAL LOAD-CARRYING ELEMENT OR ALTERATION RESULTING IN A STRUCTURAL

AND BUILDING LAYOUT NOTES:

- I. IT IS THE DESIGN INTENT FOR THE FINISHED TOP SURFACE OF THE NEW FLOORS TO ALIGN WITH THE NEW FINISHED TOP SURFACE OF THE ADJACENT EXISTING FLOOR. FLOOR ELEVATIONS SHOWN ON THE DRAWING SET ARE APPROXIMATE. THE STRUCTURAL STEEL CONTRACTOR SHALL HIRE A LICENSED SURVEYOR TO FIELD MEASURE EXISTING FLOOR **ELEVATIONS.** FIELD VERIFIED DIMENSIONS/MEASUREMENTS SHALL BE INCORPORATED IN <u>HE SHOP DRAWINGS PRIOR TO SUBMISSION FOR REVIEW.</u> NEW STORY HEIGHTS LABELED ON THE DRAWING SET SHALL BE ADJUSTED AS REQUIRED TO COMPLY WITH THE FIELD-
- IT IS THE DESIGN INTENT FOR ADDITIONS TO THE EXISTING FRAZEE STRUCTURE TO BE CONSTRUCTED IN A MANNER THAT IS ORTHOGONAL TO THE EXISTING FRAZEE BUILDING. UNLESS SPECIFICALLY DIMENSIONED OTHERWISE. SEE PLANS AND SECTIONS FOR
- WHERE QUESTIONS REGARDING LAYOUT OCCUR, SUBMIT REQUEST FOR INFORMATION (RFI) TO ARCHITECT PRIOR TO CONSTRUCTION AND/OR FABRICATION OF ELEMENTS IN QUESTION.

EXISTING STRUCTURE REFERENCE

VERIFIED MEASUREMENTS AND STATED DESIGN INTENT.

ADDITIONAL LAYOUT AND FIELD MEASUREMENT REQUIREMENTS.

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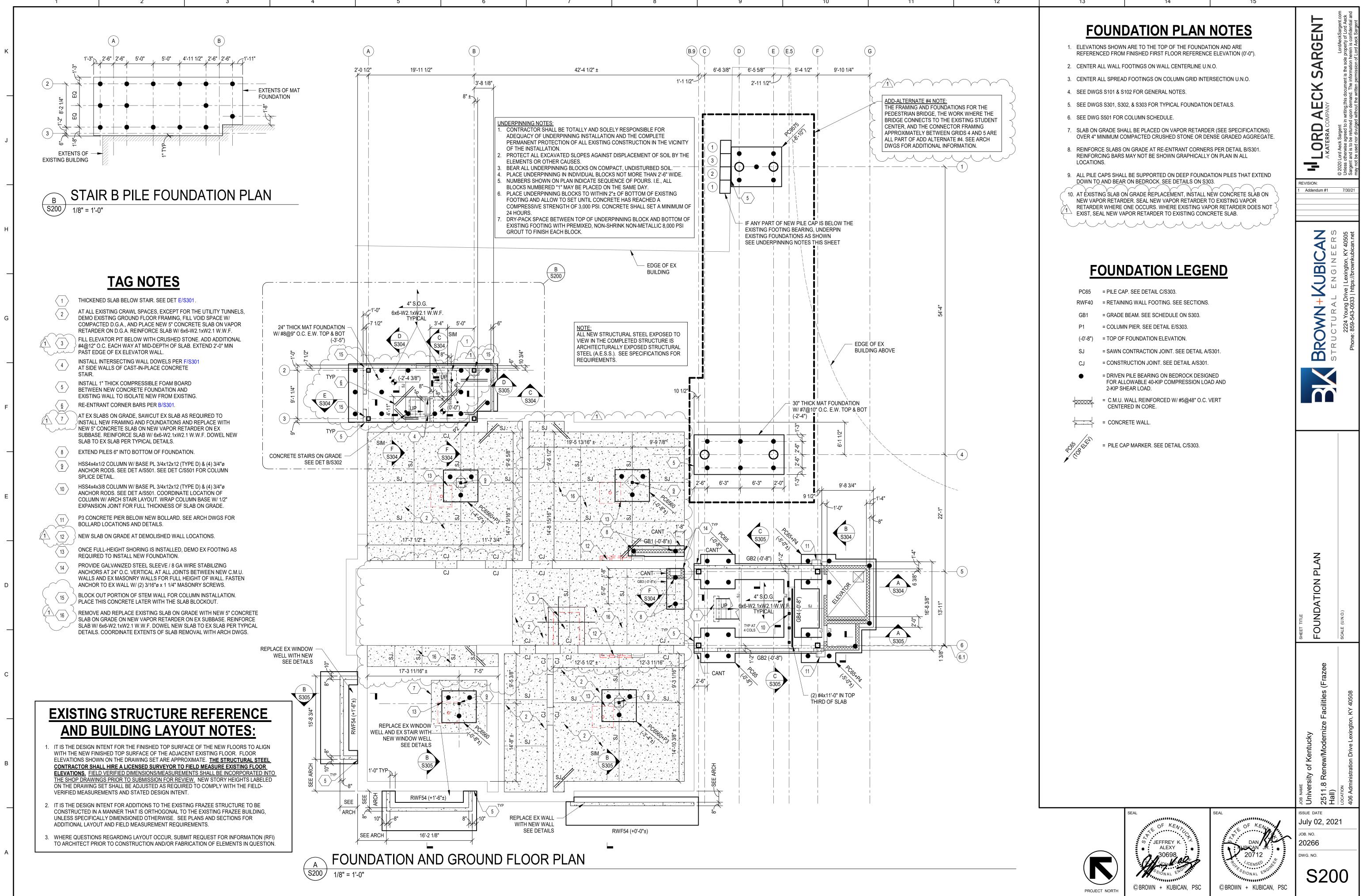
Addendum #1

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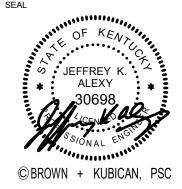
July 02, 2021

ISSUE DATE



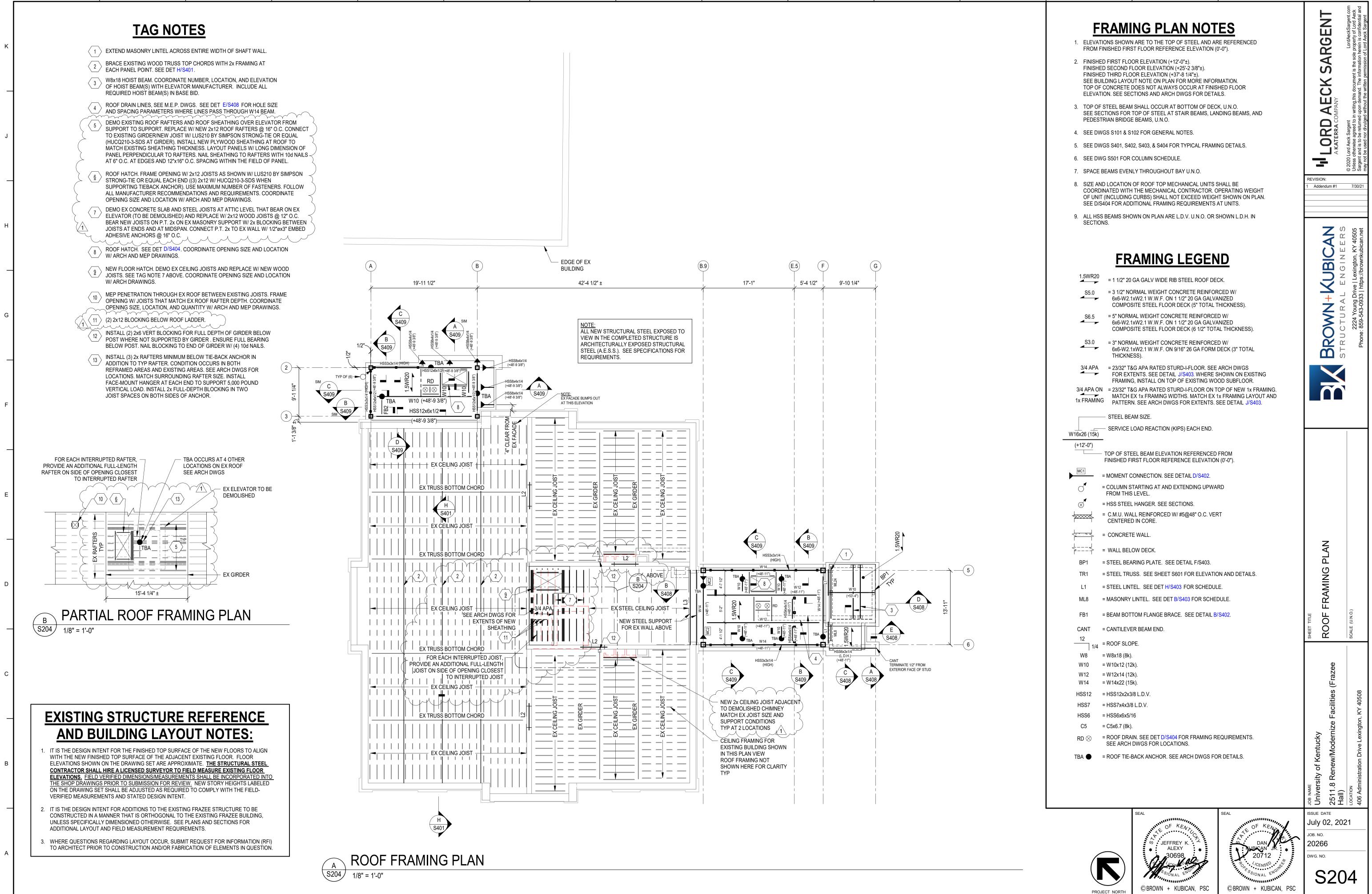
// 360://11396-00 UK Frazee Hall/20266 (Frazee Hall) Structural R21.rv

10 WALLS.

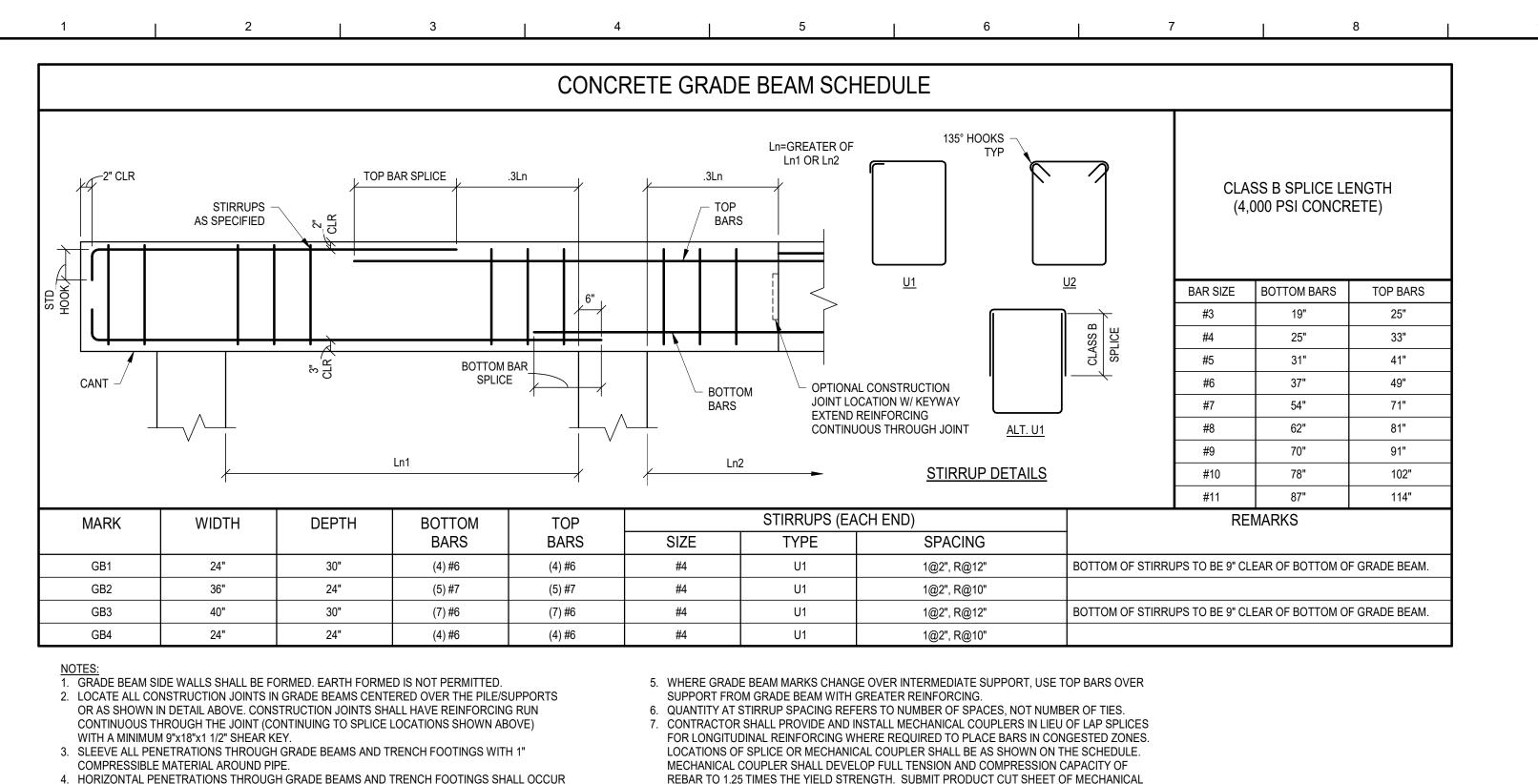




BIM 360://11396-00 UK Frazee Hall/20266 (Frazee Hall) Structural







DISTANCE OF 0.3Ln PAST FIRST SUPPORT.

COUPLERS FOR ENGINEER'S REVIEW WITH REINFORCING SHOP DRAWINGS.

8. WHERE "CANT" NOTED ON PLAN, EXTEND TOP REINFORCEMENT FROM END OF CANTILEVER TO

- SEE DET J/S301 STEEL COLUMN SEE PLAN SEE TYPICAL COLUMN BASE PLATE DETAILS #4@12" O.C. TIES AROUND PERIMETER OF CAP FUTURE SLAB (2) @ 2" O.C. TOP AND BOT FINISHED FLOOR ELEV - SEE PLAN **ANCHOR RODS** - SEE SCHEDULE FOR PILE CAP SIZE AND REINFORCING 180° STANDARD HOOKS REQUIRED - COMPRESSION BEARING PLATE #4 TIE - PILE BY DRIVEN PILE CONTRACTOR TYP (4) SIDES OF PILE EXTEND PILE TO BEAR ON BEDROCK

PILE CAP REINFORCEMENT SCHEDULE TOP LONG SHORT LONG SHORT MARK (7) #7 (6) #7 PC6560 (7) #7 (8) #7 (11) #7 (8) #7 (11) #7

NOTE: PROVIDE STANDARD 180° HOOKS AT EACH END OF REINFORCING BARS. SEE DETAIL C/S303 FOR PILE CAP LAYOUT.

*NOTE:
"PILE" REFERS TO ANY DRIVEN PILE INCLUDING BUT NOT LIMITED TO PUSH PILES, HELICAL PILES, OR

MICROPILES. FINAL SELECTION AND DESIGN OF DRIVEN PILE SHALL BE BY DRIVEN PILE CONTRACTOR.

1. PILE CONTRACTOR SHALL REVIEW SITE CONDITIONS AND LOCATION OF PILE INSTALLATIONS WITHIN THE EXISTING BASEMENT. IT IS EXPECTED THAT THERE WILL BE LIMITED ACCESS AND REDUCED OVERHEAD HEIGHT WHICH MAY REQUIRE SPECIAL EQUIPMENT TO INSTALL THE PILES. PILE CONTRACTOR SHALL INCLUDE IN THEIR BASE BID ANY EXTRA PROVISIONS INCLUDING BUT NOT LIMITED TO, PROTECTION OF EXISTING FACILITY, ADDITIONAL DEMOLITION AND REPLACEMENT OF EXISTING FOR ACCESS, AND TEMPORARY OR PERMENANT RELOCATION OF UTILITIES IF ACCEPTABLE TO MEP ENGINEER AND

2. SEE SPECIFICATION SECTION 31 65 13 FOR FURTHER INFORMATION AND REQUIREMENTS.

ΓΥΡΙCAL GRADE BEAM SCHEDULE

FOOTINGS. PENETRATIONS SHALL NOT INTERRUPT OR CUT THROUGH REINFORCING.

IN THE MIDDLE THIRD OF THE MEMBER DEPTH AND IN THE MIDDLE THIRD OF THE MEMBER SPAN.

VERTICAL PENETRATIONS LARGER THAN 2" ARE PROHIBITED IN GRADE BEAMS AND TRENCH

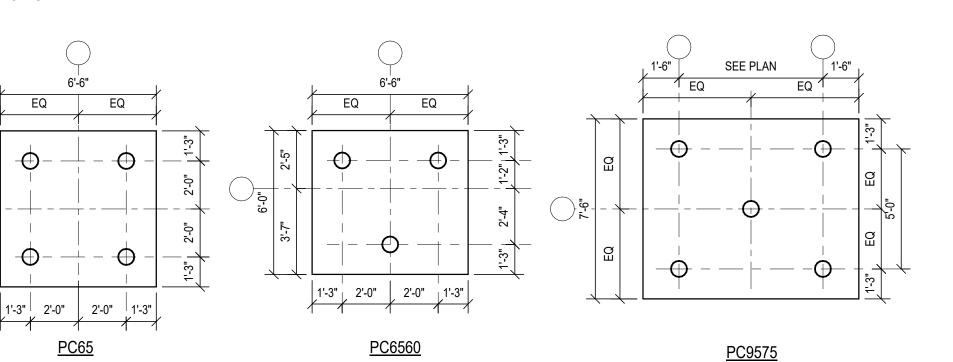
S303 NOT TO SCALE

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. CONTRACTOR IS RESPONSIBLE FOR DETERMINING PILE LENGTH. PILE LENGTHS SHALL BE AS REQUIRED TO ACHIEVE THE ALLOWABLE LOADS

SHOWN AND SHALL BE CONFIRMED BY THE DRIVEN PILE CONTRACTOR AND LOAD-TESTING OF TEST-PILE INSTALLATIONS.

2. PILE CAP OVERALL DIMENSIONS SHALL BE INCREASED AS NECESSARY TO ACCOMMODATE INCIDENTAL PILE MISLOCATION. MAINTAIN MINIMUM EDGE DISTANCES SHOWN IN DETAILS. DO NOT DECREASE OVERALL PILE CAP DIMENSIONS SHOWN IN DETAILS.

THE MAXIMUM PILE SERVICE LOAD PER PILE GROUP IS BASED ON THE ECCENTRIC LOADING, IF ANY, IN THE PILE CAPS SHOWN. THE REQUIRED LOAD IS SUBJECT TO CHANGE IF ANY REVISIONS ARE MADE TO THE GEOMETRY SHOWN TO ACCOMMODATE CONTRACTOR'S SELECTED PILE SYSTEM. PILE CONTRACTOR SHALL INCLUDE IN THEIR BASE BID ANY COSTS ASSOCIATED WITH REVISING OR INCREASING PILE CAP GEOMETRY

FOR THEIR CHOSEN PILE SYSTEM 4. PILE CONTRACTOR SHALL REVIEW SITE CONDITIONS AND LOCATION OF PILE INSTALLATIONS WITHIN THE EXISTING BUILDING. IT IS EXPECTED THAT THERE WILL BE LIMITED ACCESS AND REDUCED OVERHEAD HEIGHT, WHICH MAY REQUIRE SPECIAL EQUIPMENT TO INSTALL THE PILES. PILE CONTRACTOR SHALL INCLUDE IN THEIR BASE BID ANY EXTRA PROVISIONS INCLUDING BUT NOT LIMITED TO, PROTECTION OF EXISTING FACILITY, ADDITIONAL DEMOLITION AND REPLACEMENT OF EXISTING FOR ACCESS, AND TEMPORARY OR PERMANENT RELOCATION OF UTILITIES

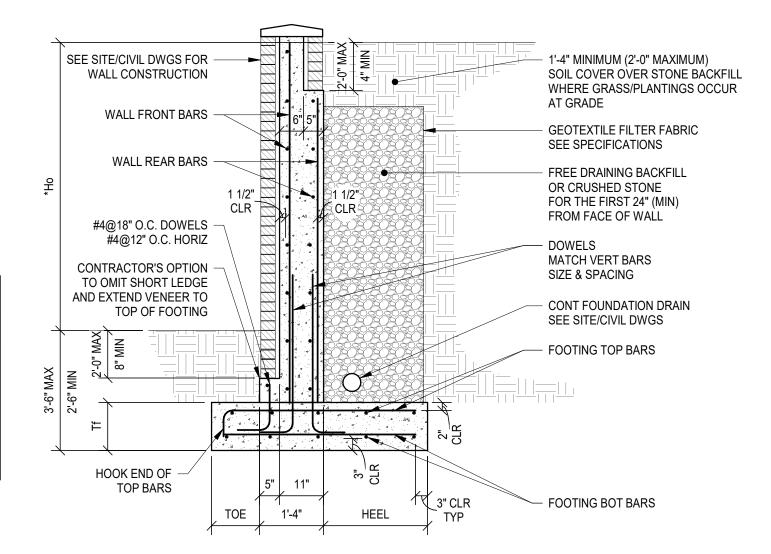
IF ACCEPTABLE TO MEP ENGINEER AND OWNER. 5. SEE SPECIFICATION SECTION 31 65 13 FOR FURTHER INFORMATION AND REQUIREMENTS.

PILE CAP DETAIL

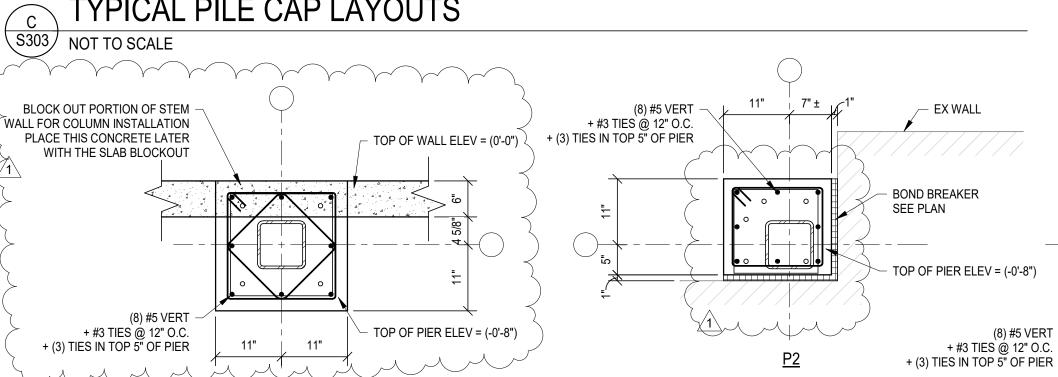
1. GRADE AT HIGH SIDE AND/OR LOW SIDE MAY BE GRASS, PLANTINGS, SITE PAVEMENT. OR OTHER. COORDINATE WITH ARCHITECTURAL AND SITE/CIVIL DRAWINGS FOR PERTINENT INFORMATION. 2. WALL IS DESIGNED FOR DRAINED CONDITION OF THE RETAINED MATERIALS. PROVIDE CONTINUOUS FOUNDATION DRAIN AT BASE OF WALL ON THE RETAINED GRADE SIDE OF WALL. SEE SITE, CIVIL, AND PLUMBING DRAWINGS FOR DRAIN TERMINATION INFORMATION. IF NOT OTHERWISE NOTED, PIPE SHALL DAYLIGHT IN MANNER TO

PERMIT DRAINAGE. B. UNLESS NOTED OTHERWISE, TERMINATE TOP BARS 2" BELOW TOP OF WALL & PROVIDE HORIZONTAL BAR MAXIMUM 4" BELOW TOP OF WALL EACH FACE OF WALL 4. SEE SITE/CIVIL DRAWINGS FOR WALL LAYOUT, WALL ELEVATIONS, AND GRADING.

RETAINING WALL SCHEDULE							
DIM	IENSIONS				REINFOR	CEMENT	
	F	OOTIN	G	F00	TING	WALL	
*Ho	Tf	TOE	HEEL	TOP BARS	BOT BARS	FRONT BARS	REAR BARS
8'-0"	1'-4"	1'-0"	4'-2"	#6@12" O.C. TRANS + (7) #4 LONGITUDINAL	#6@12" O.C. TRANS + (7) #4 LONGITUDINAL	#6@12" O.C. VERT + #4@12" O.C. HORIZ	#6@12" O.C. VERT+ #4@12" O.C. HORIZ
6'-0"	1'-0"	1'-0"	2'-2"	#5@12" O.C. TRANS + (5) #4 LONGITUDINAL	#5@12" O.C. TRANS + (5) #4 LONGITUDINAL	#4@12" O.C. VERT + #4@12" O.C. HORIZ	#4@12" O.C. VERT+ #4@12" O.C. HORIZ
4'-0"	1'-0"	6"	1'-2"	#5@12" O.C. TRANS + (5) #4 LONGITUDINAL	#5@12" O.C. TRANS + (5) #4 LONGITUDINAL	#4@12" O.C. VERT + #4@12" O.C. HORIZ	#4@12" O.C. VERT+ #4@12" O.C. HORIZ

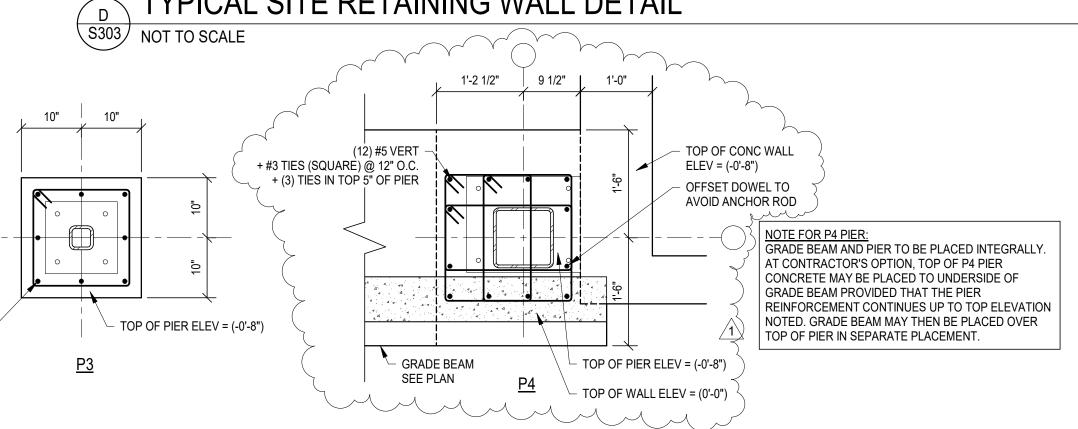


YPICAL PILE CAP LAYOUTS





* CONTACT ENGINEER IF MAXIMUM RETAINED HEIGHT NOTED WILL BE EXCEEDED BASED ON FINISHED GRADING.



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CONCRETE PIER DETAILS S303 NOT TO SCALE

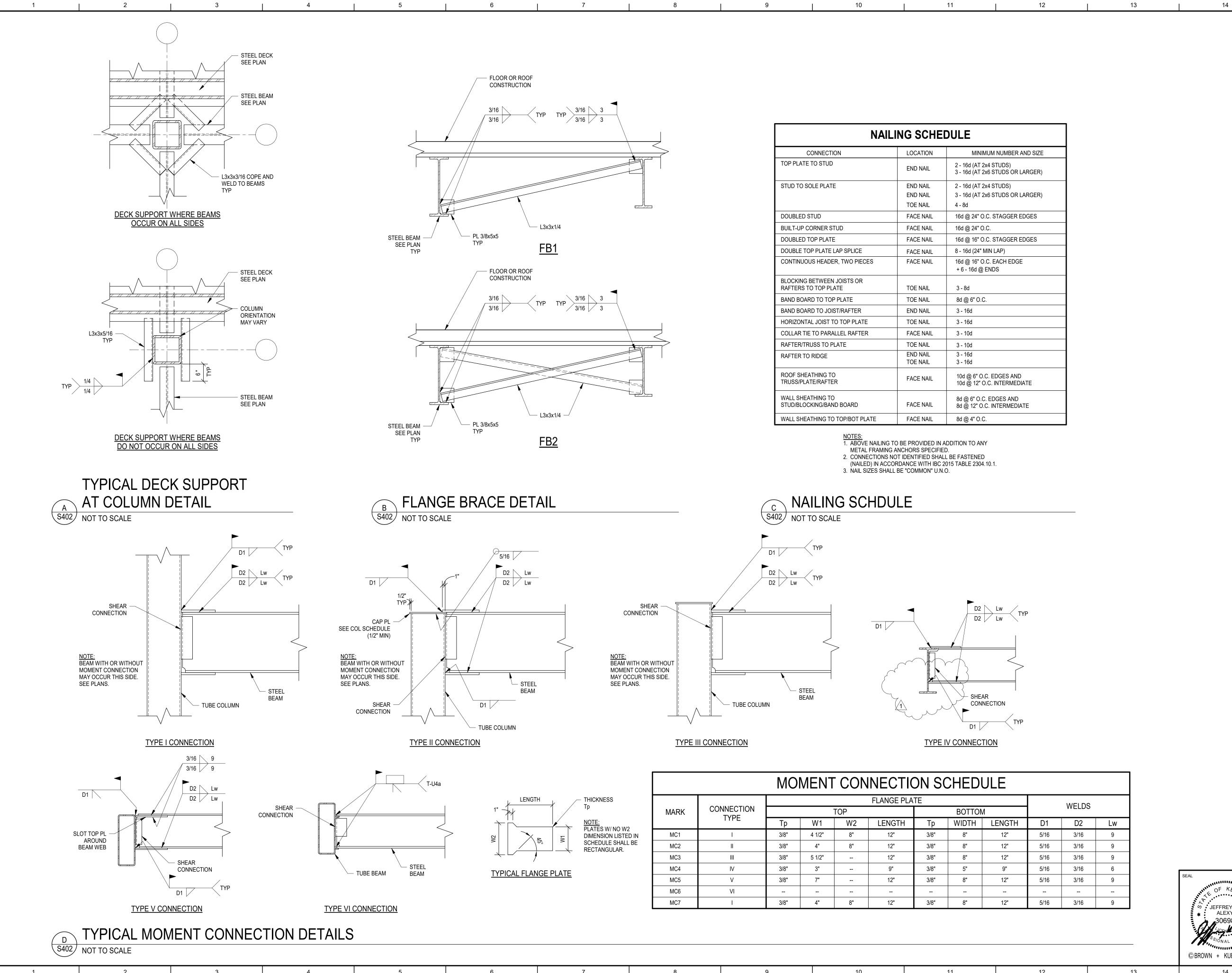
ARGENT

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RD

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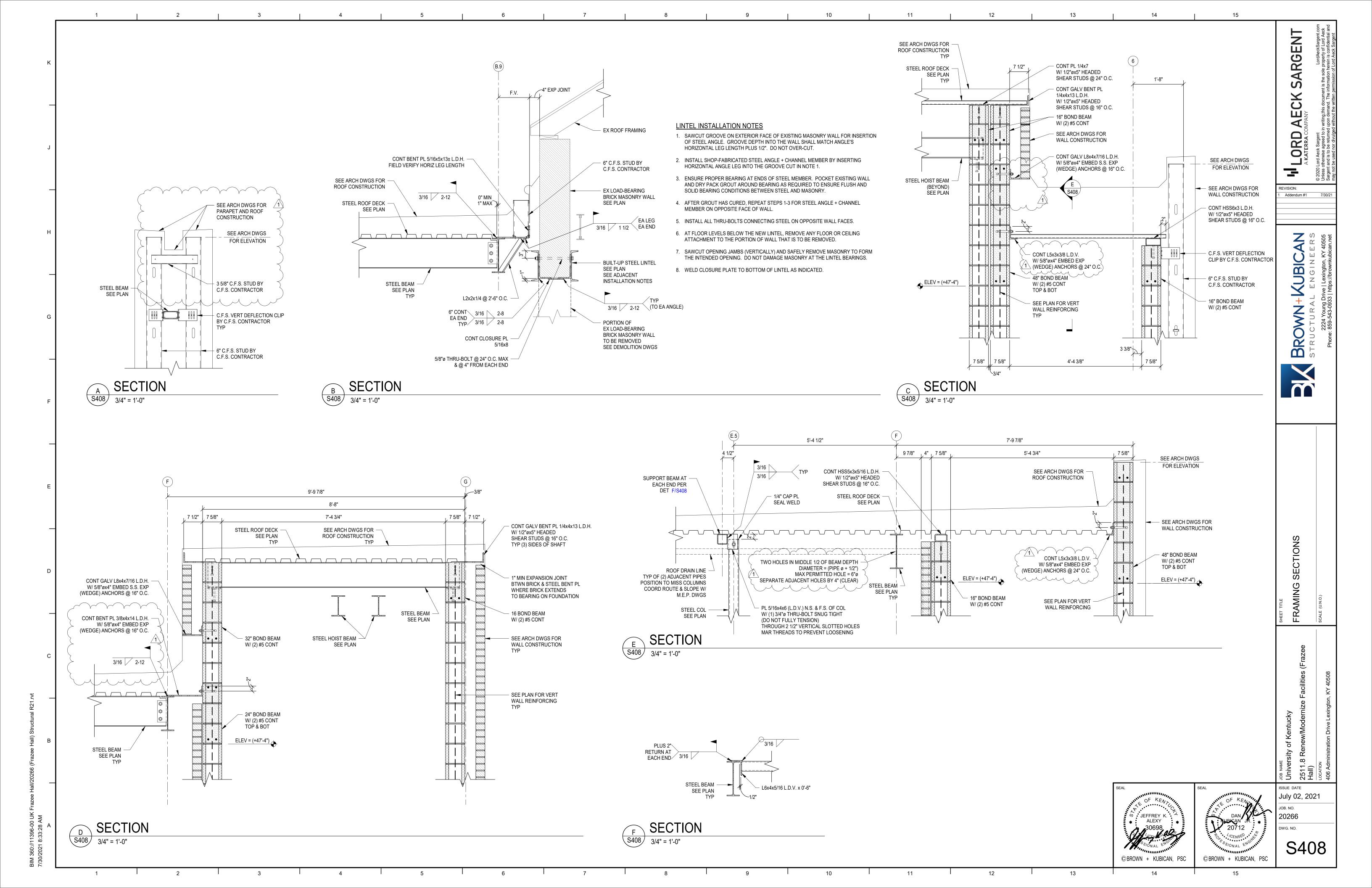
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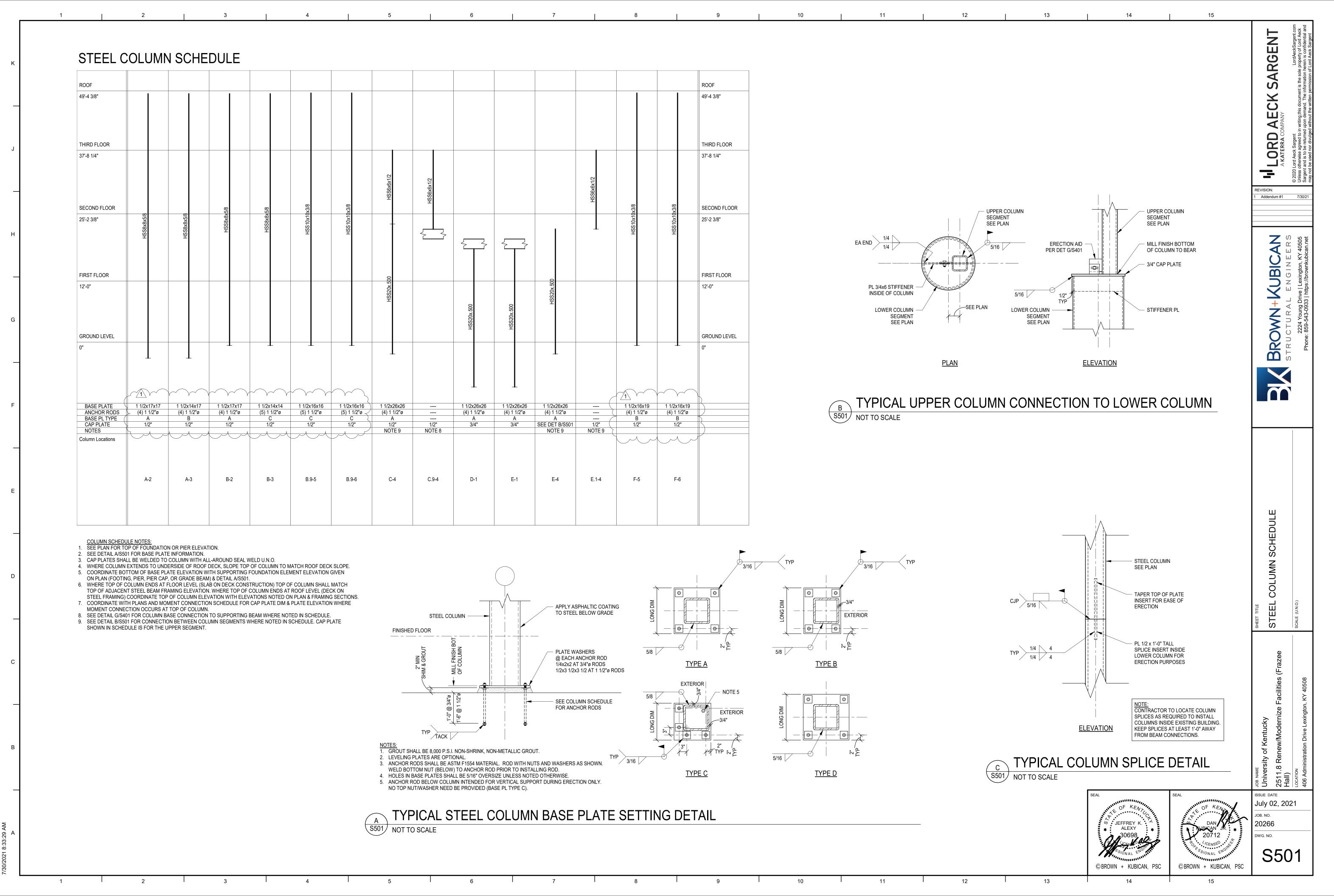
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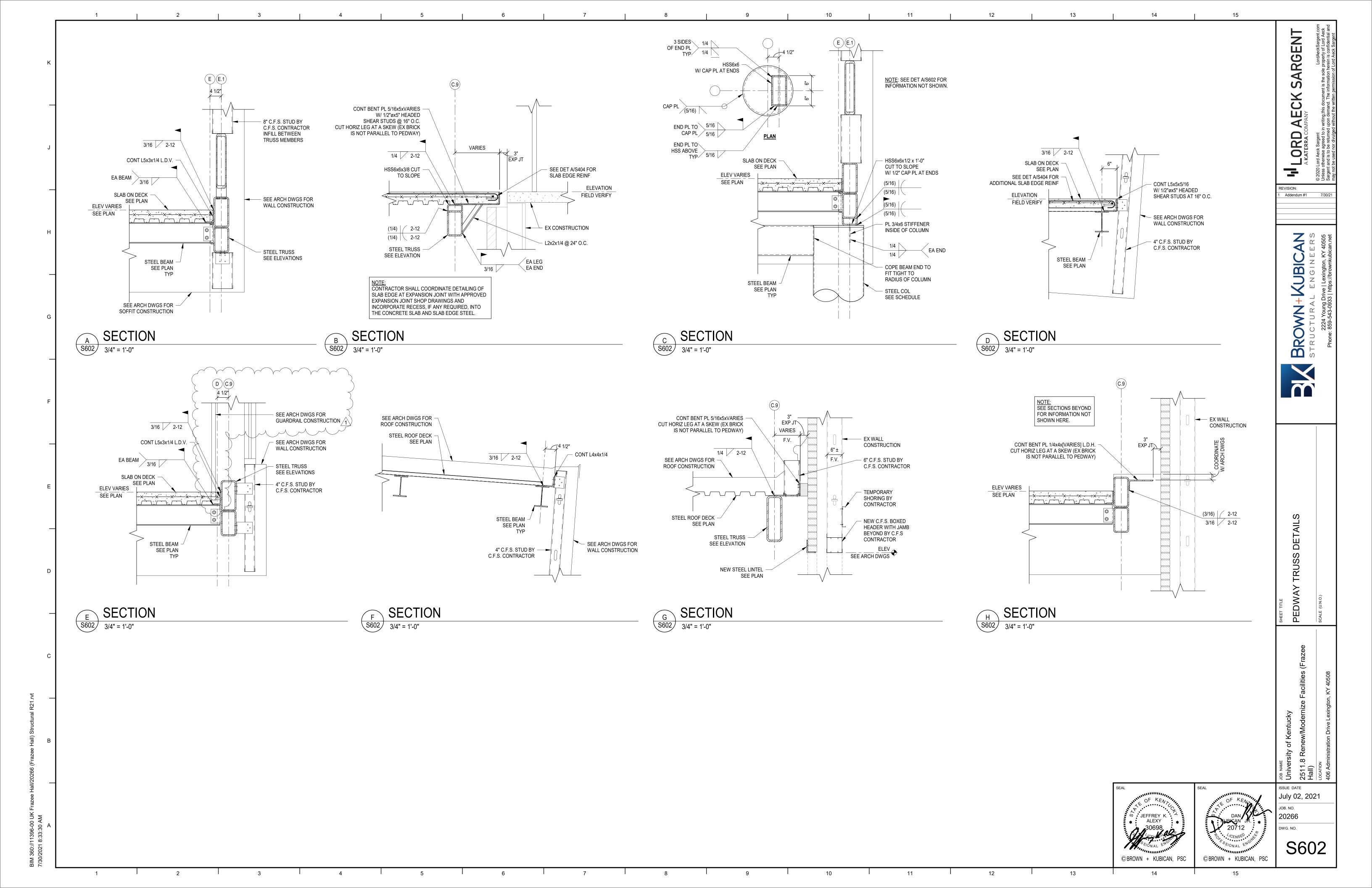
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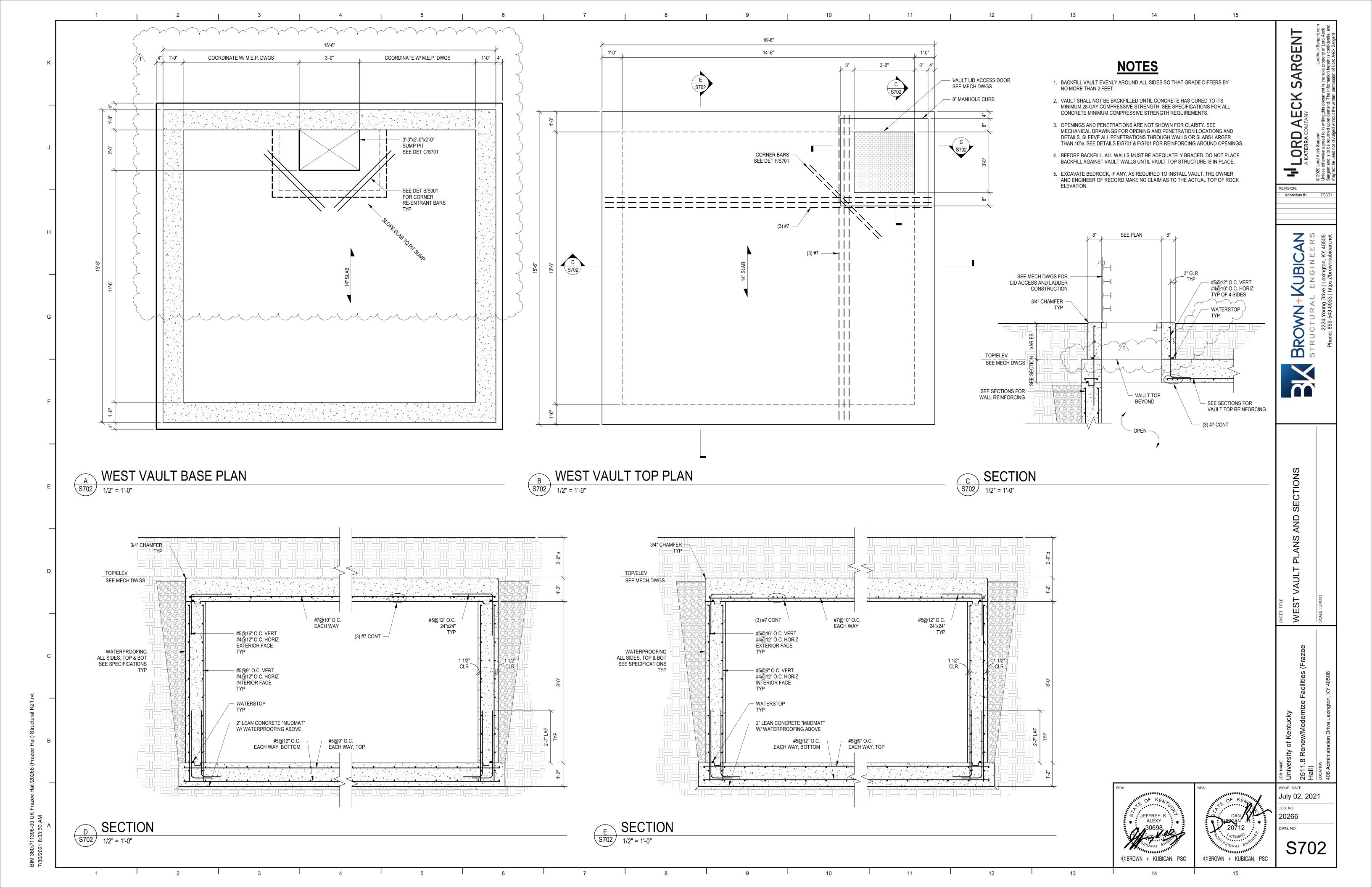
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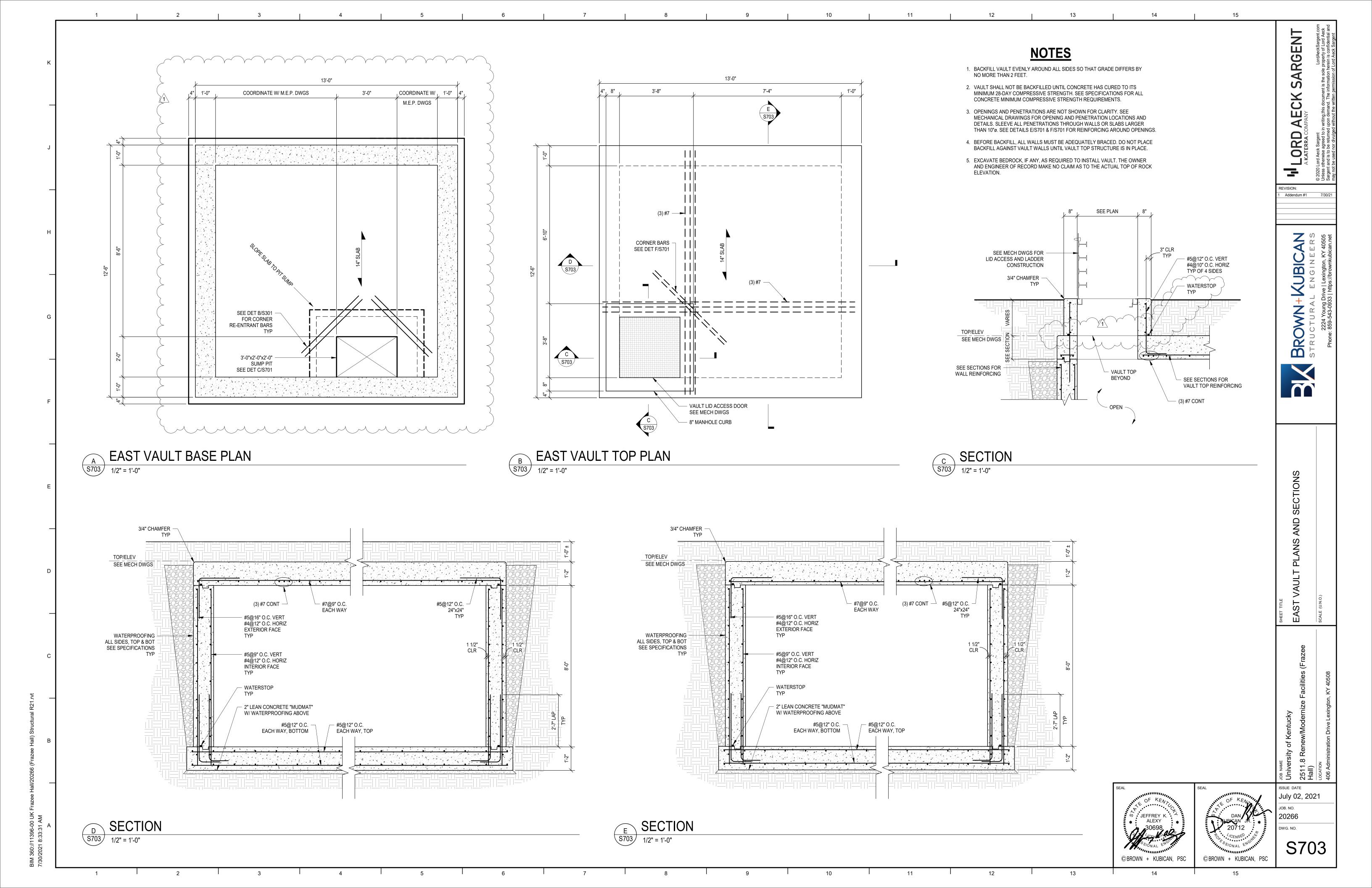
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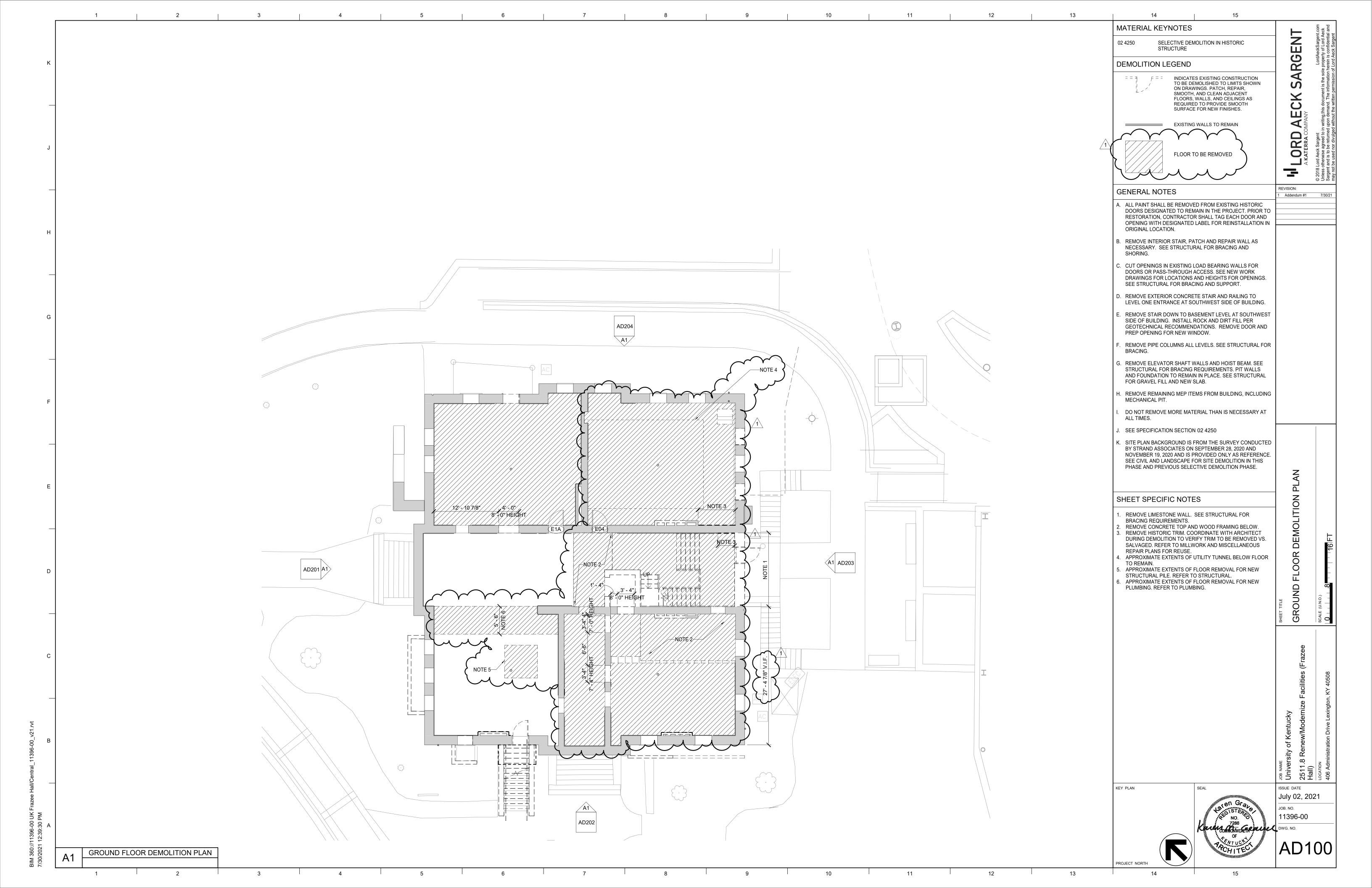


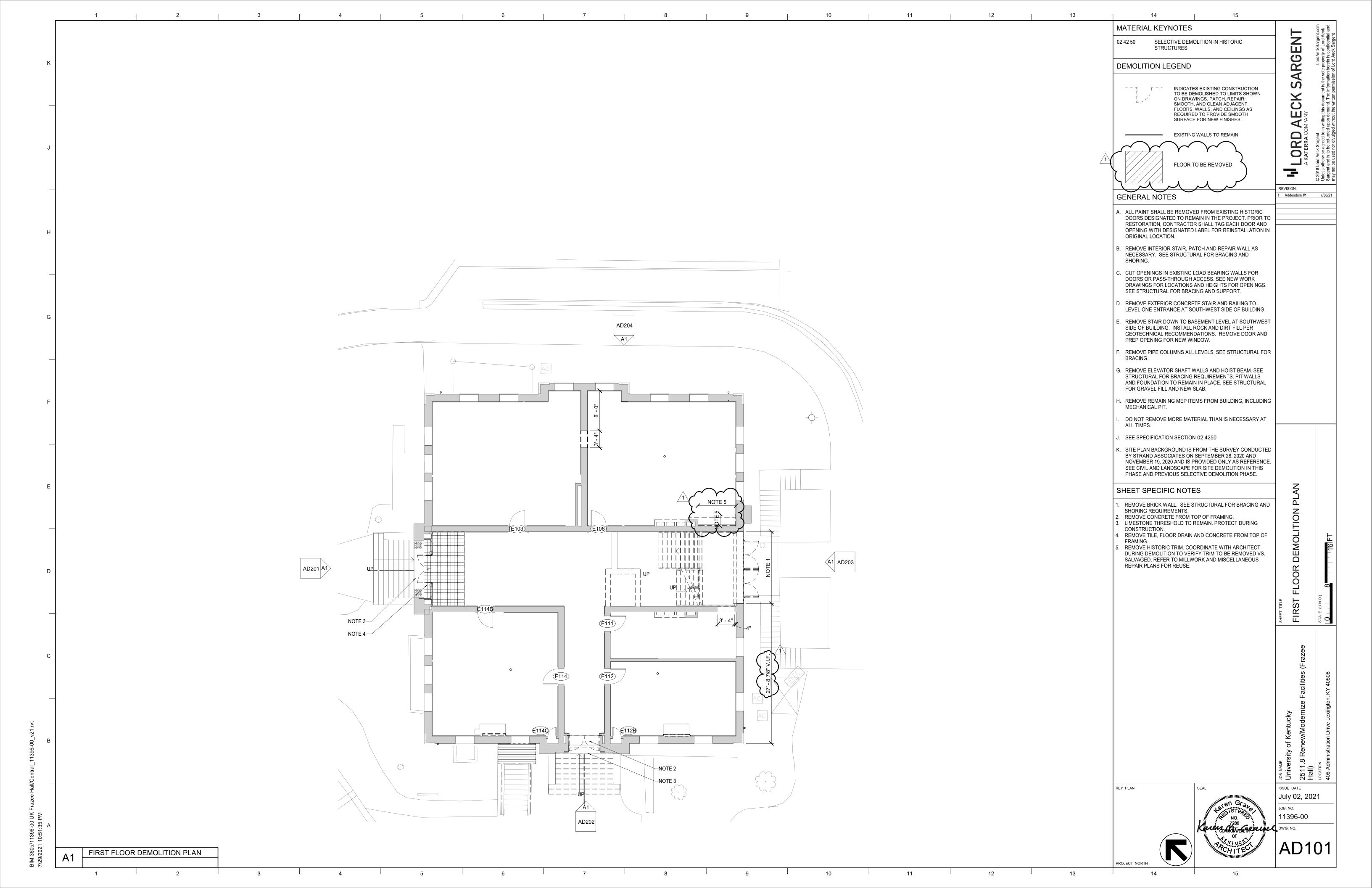


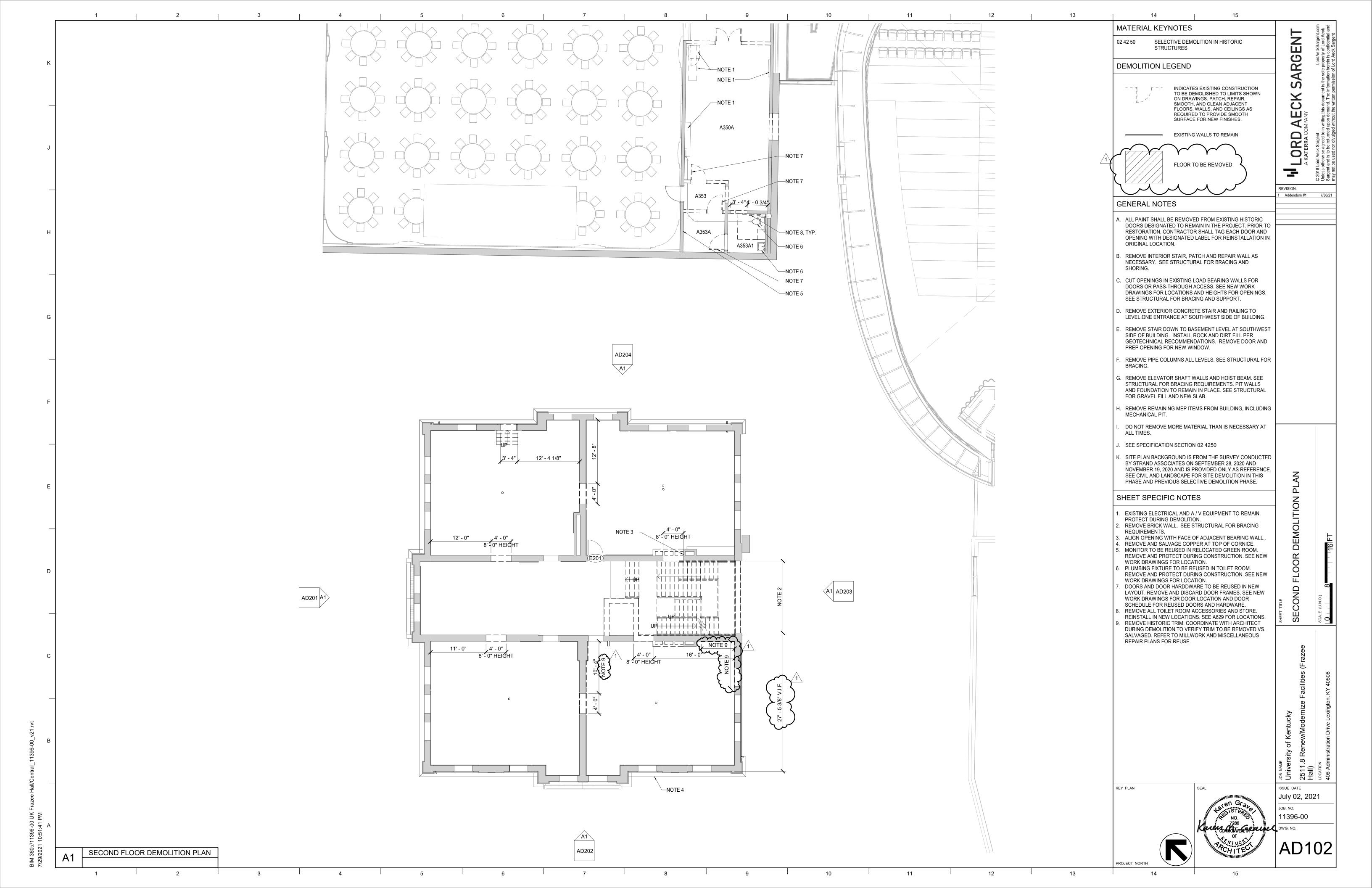


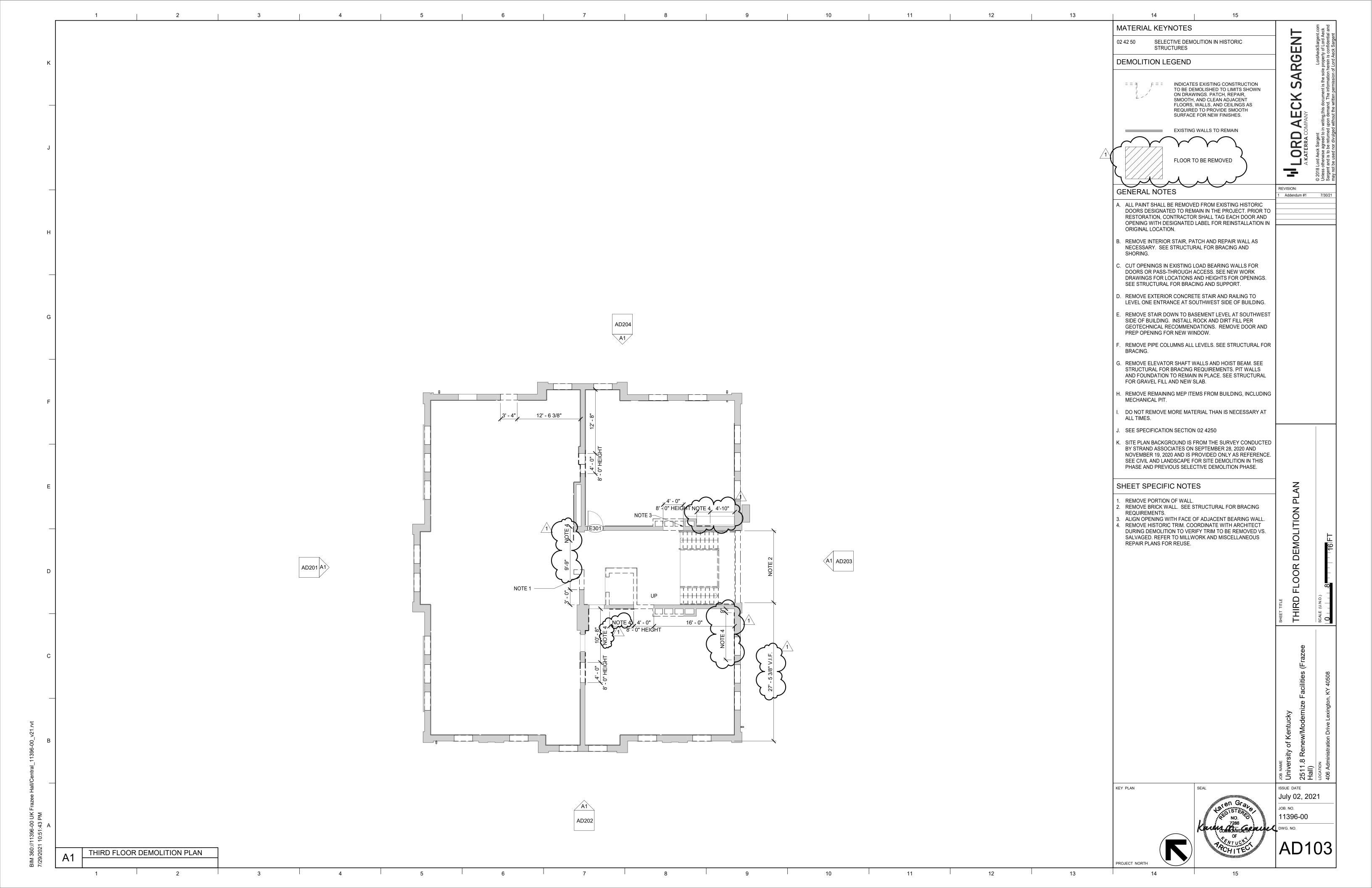


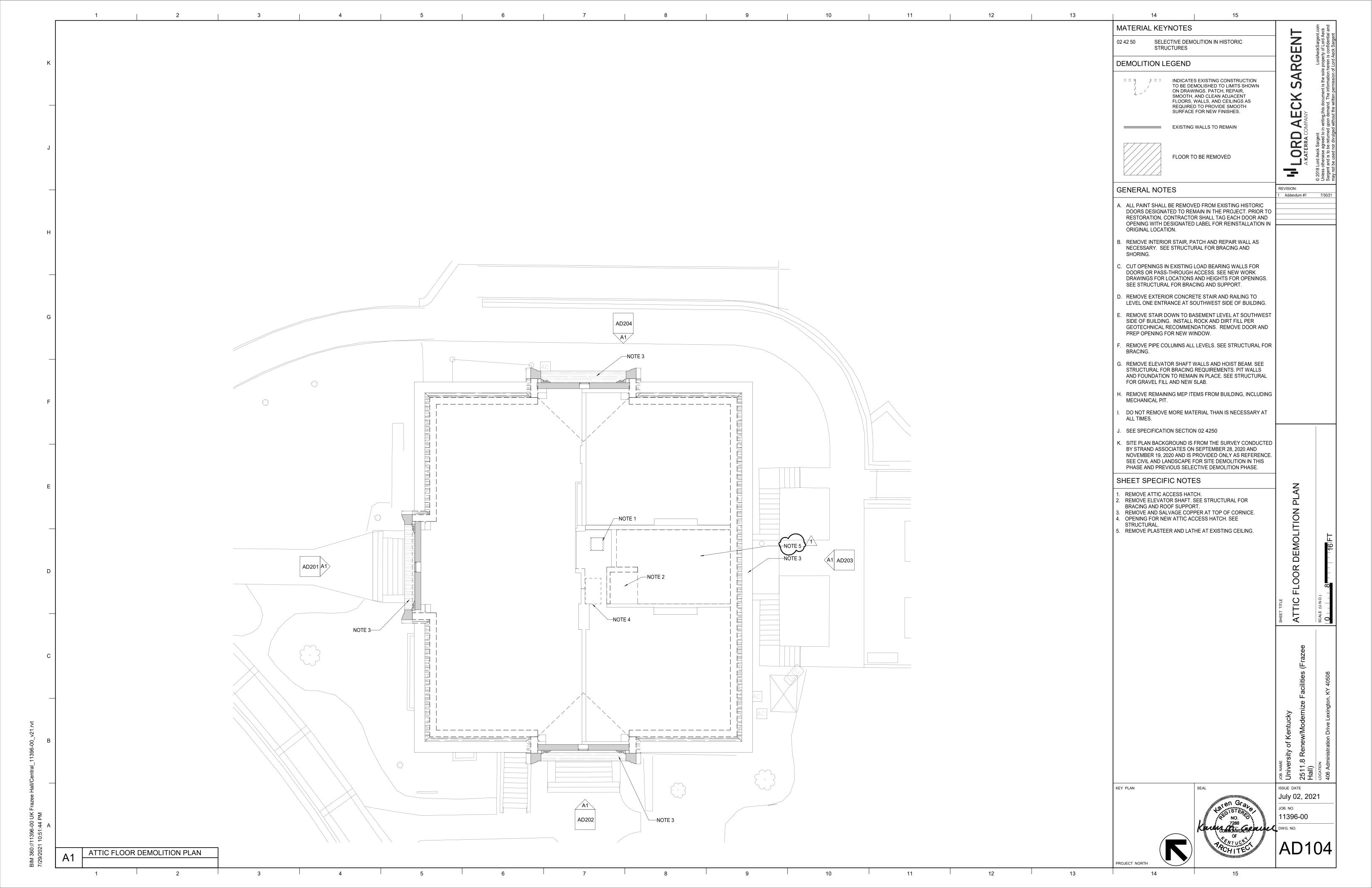


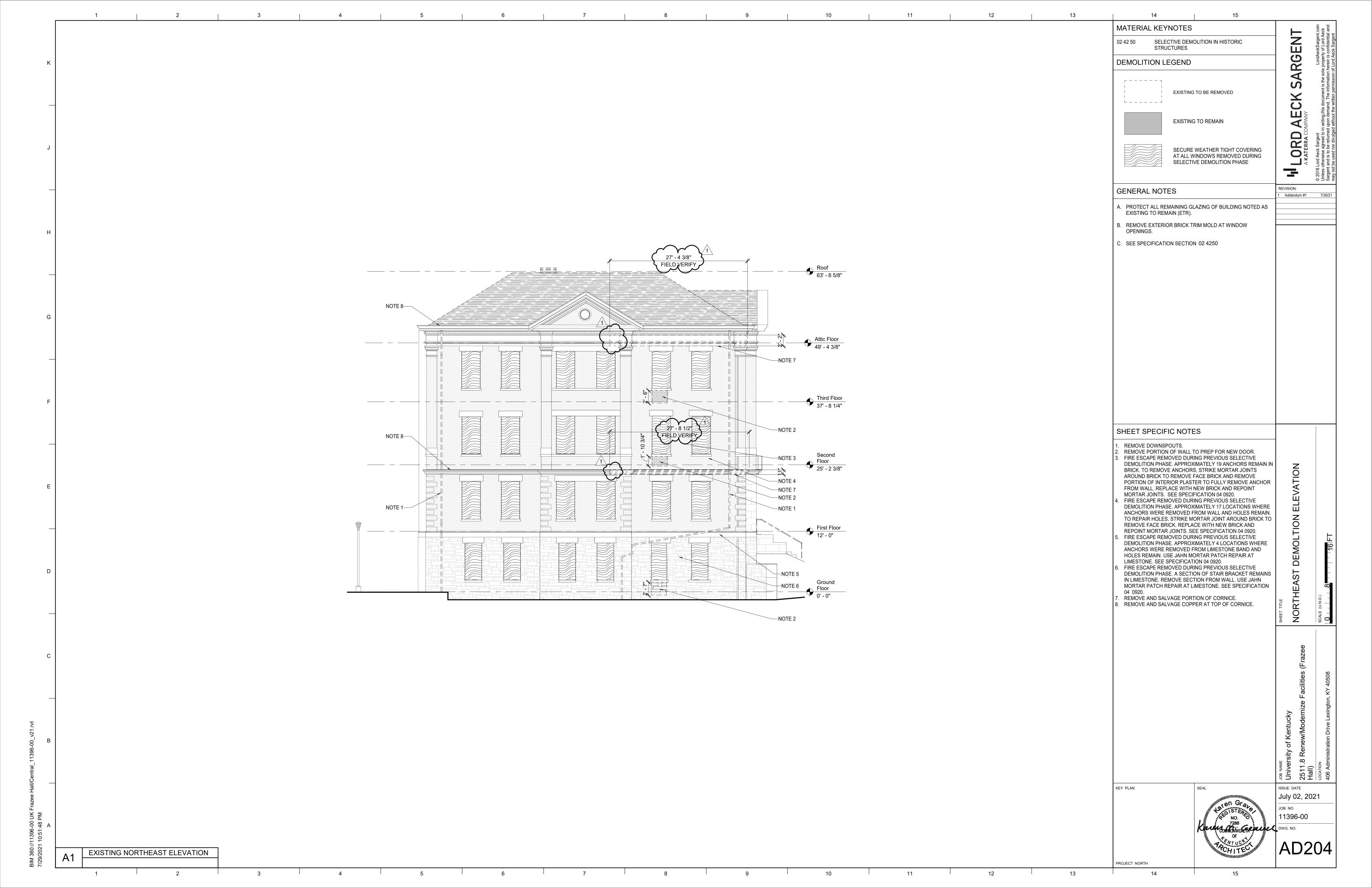


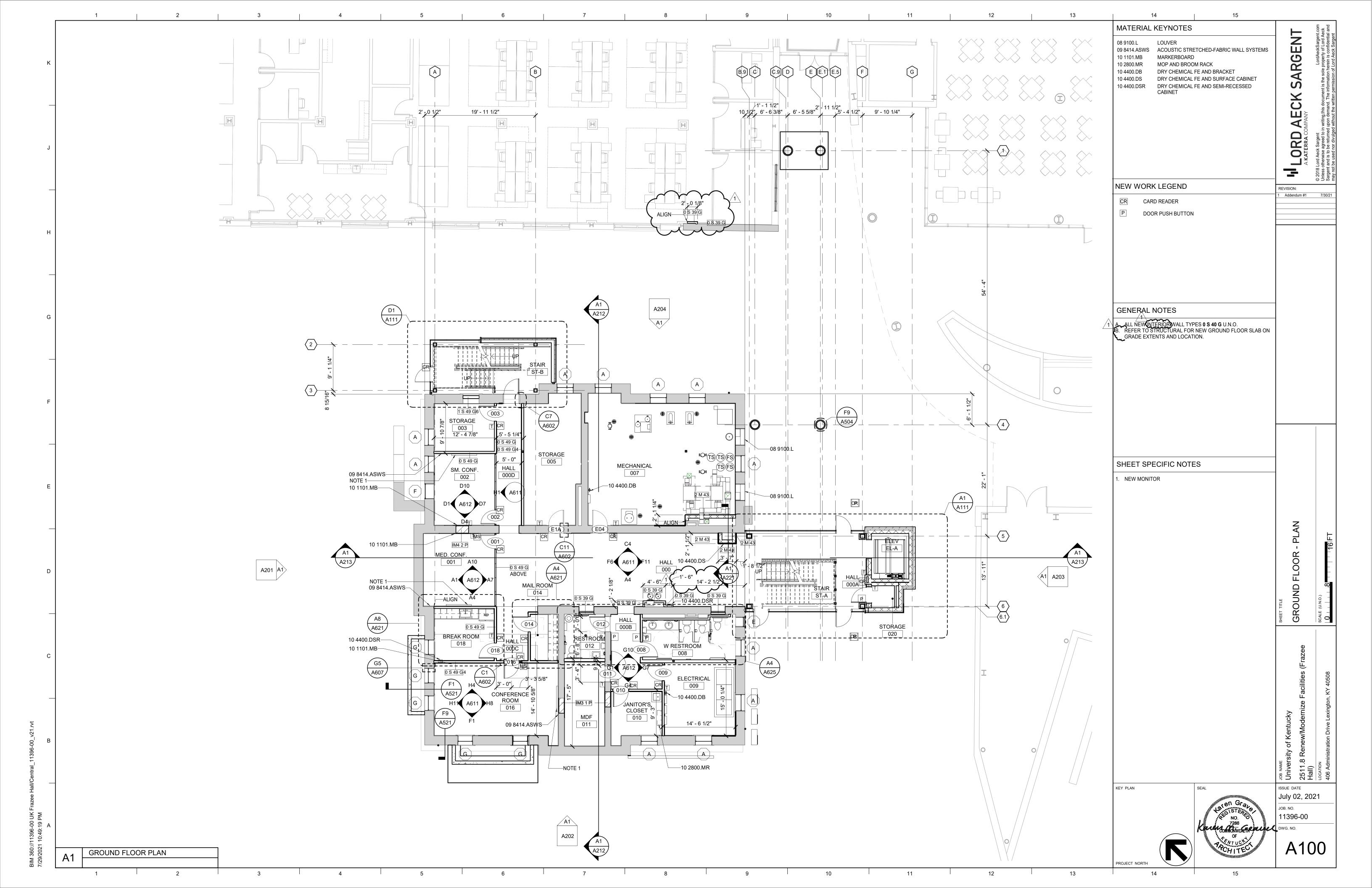


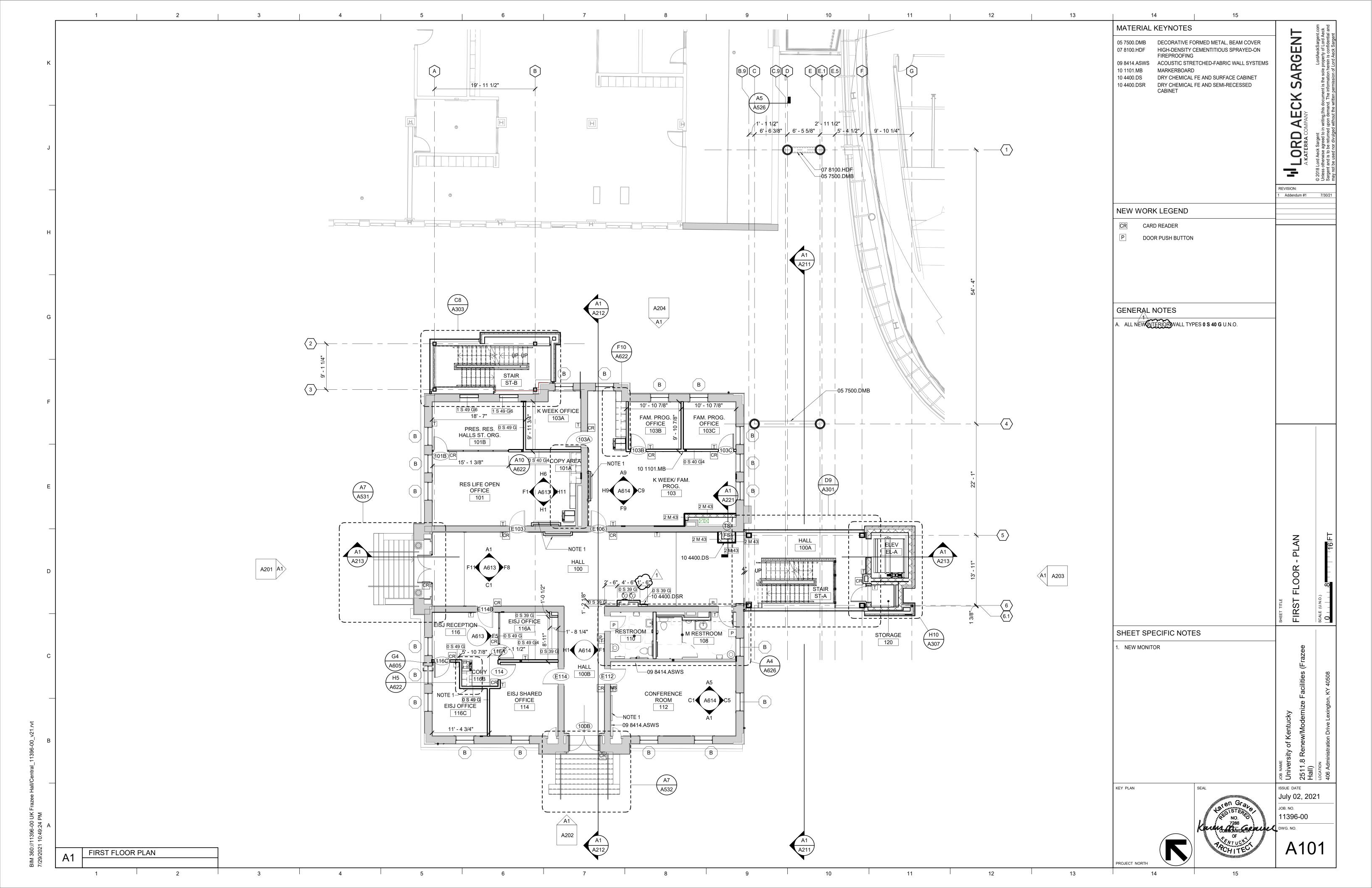


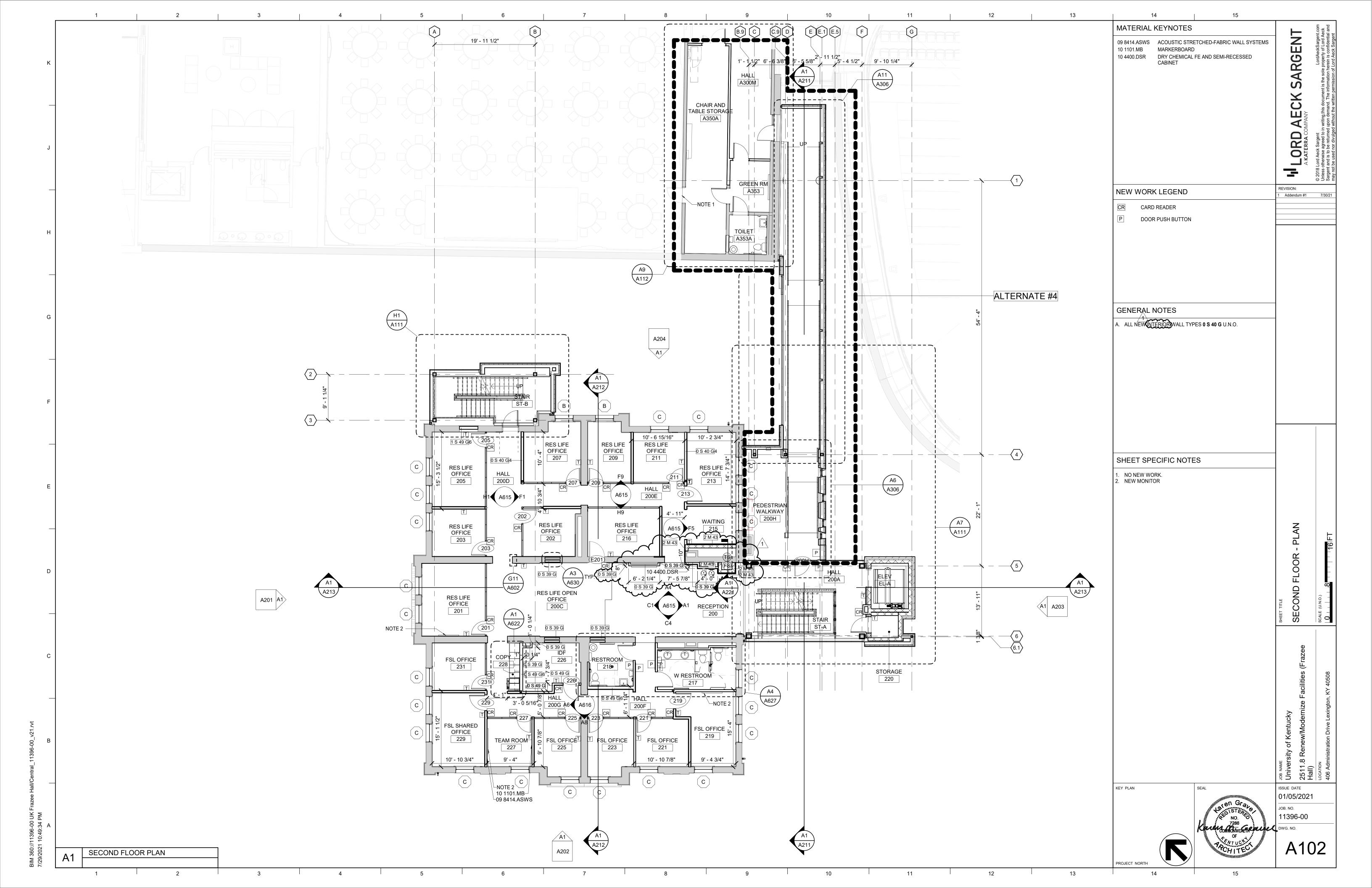


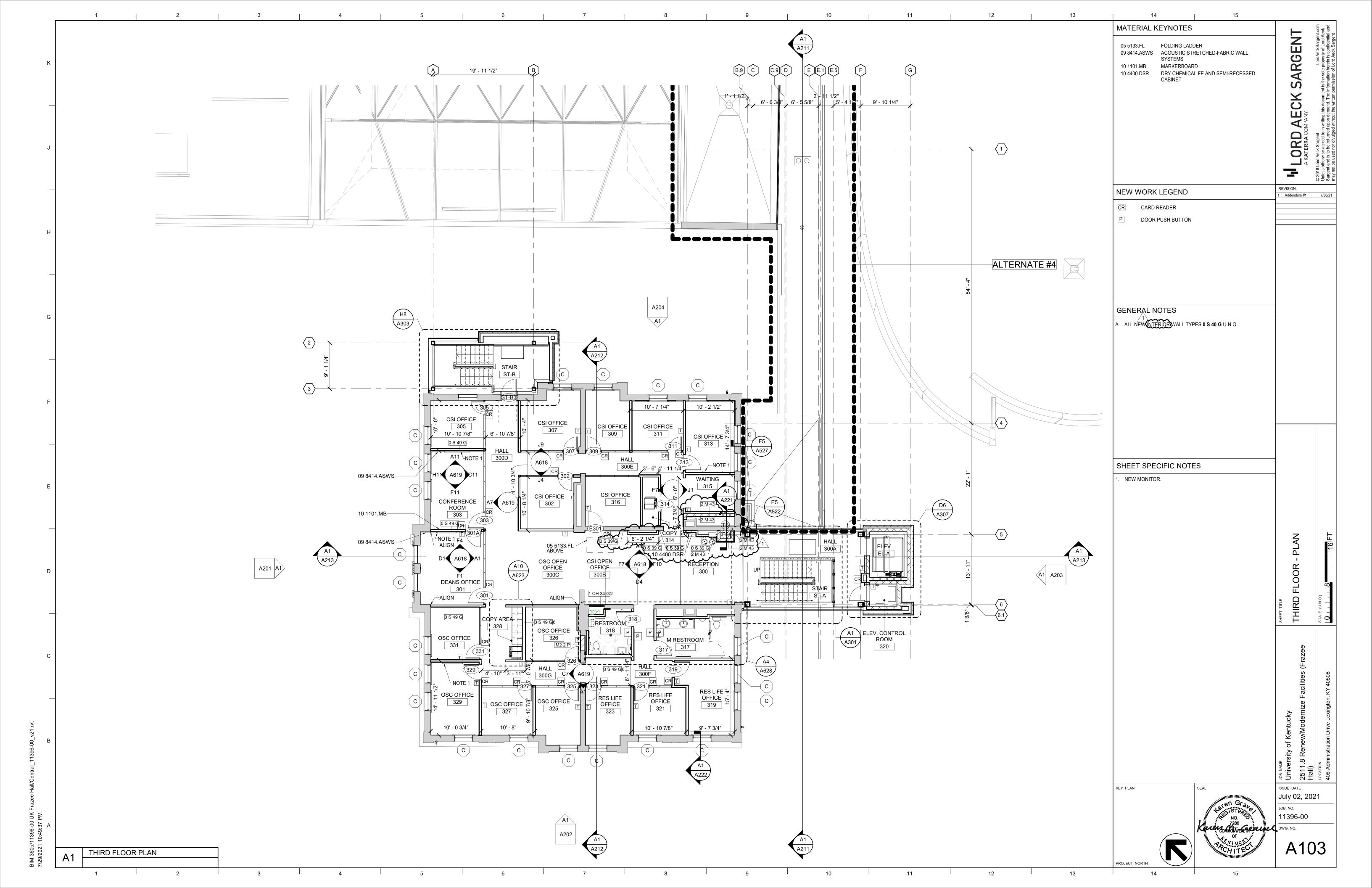


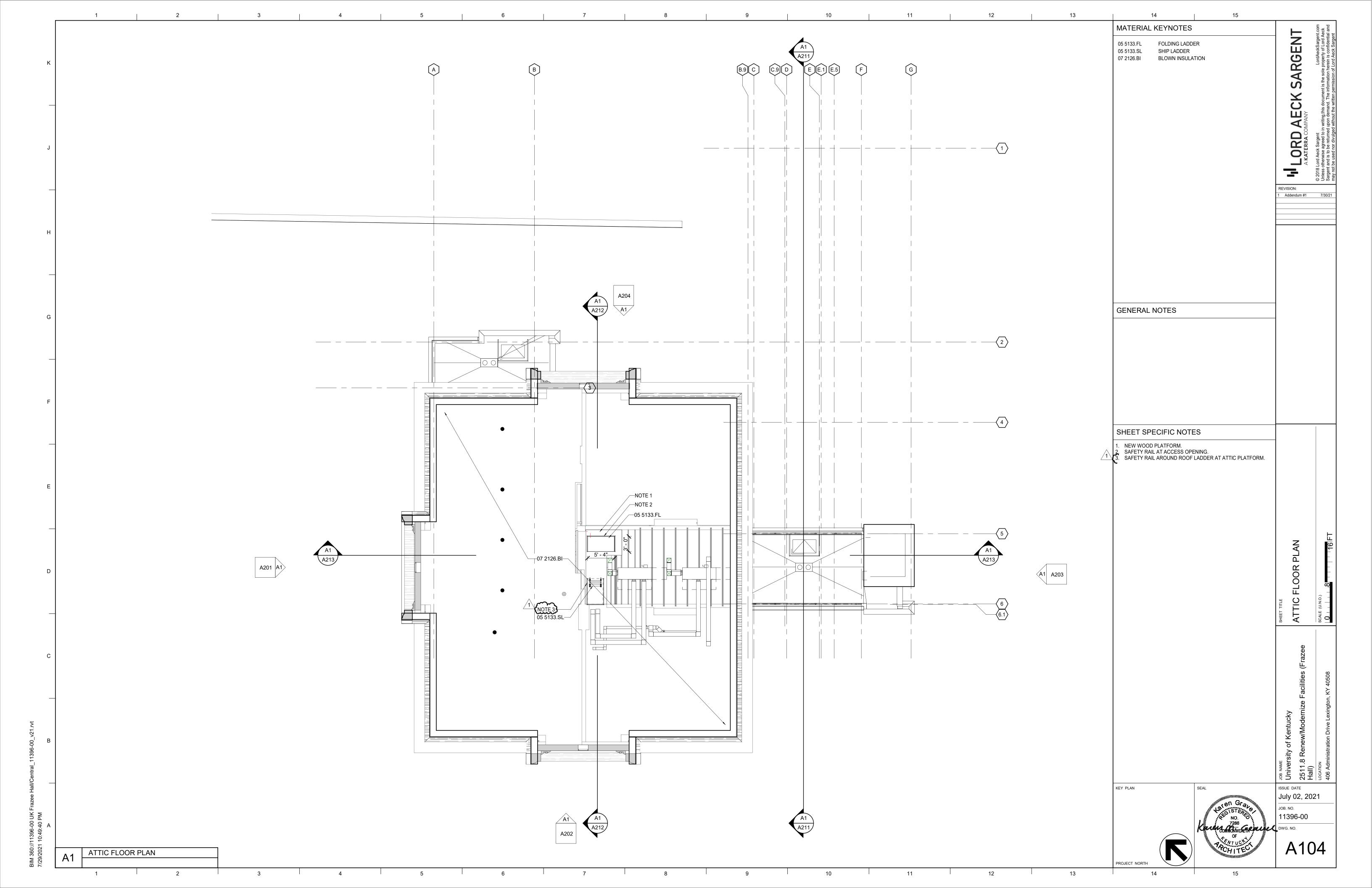


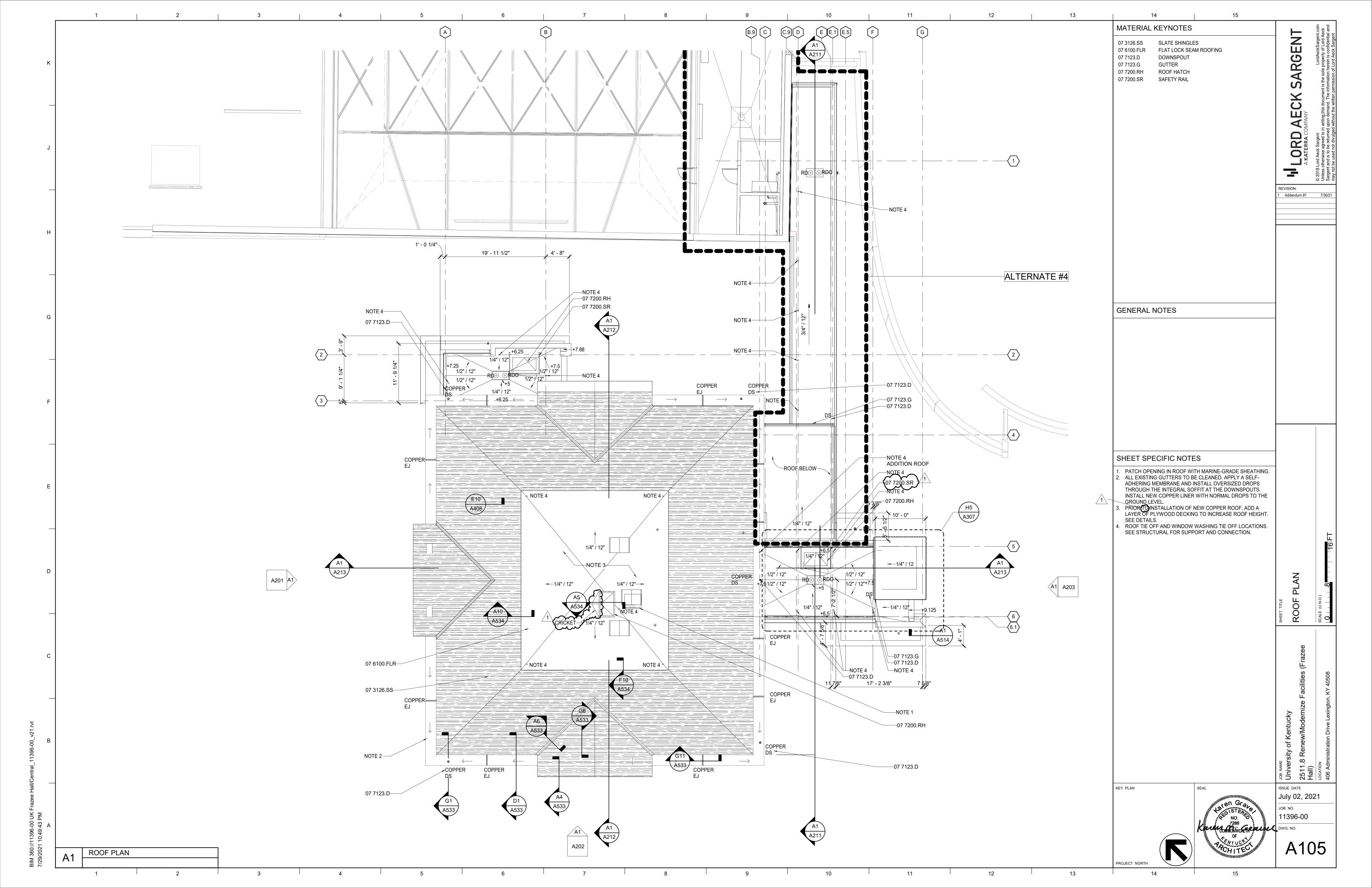


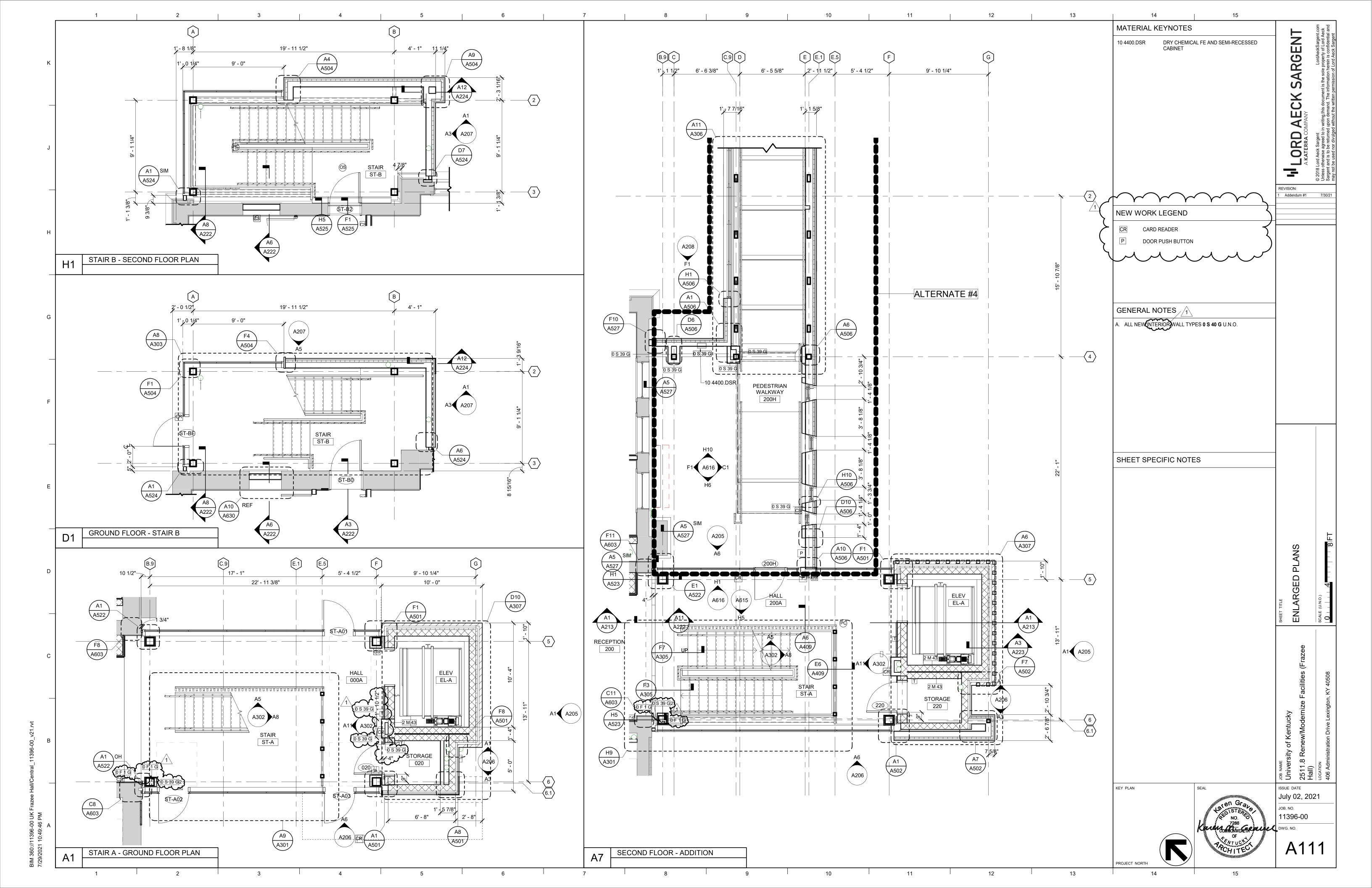


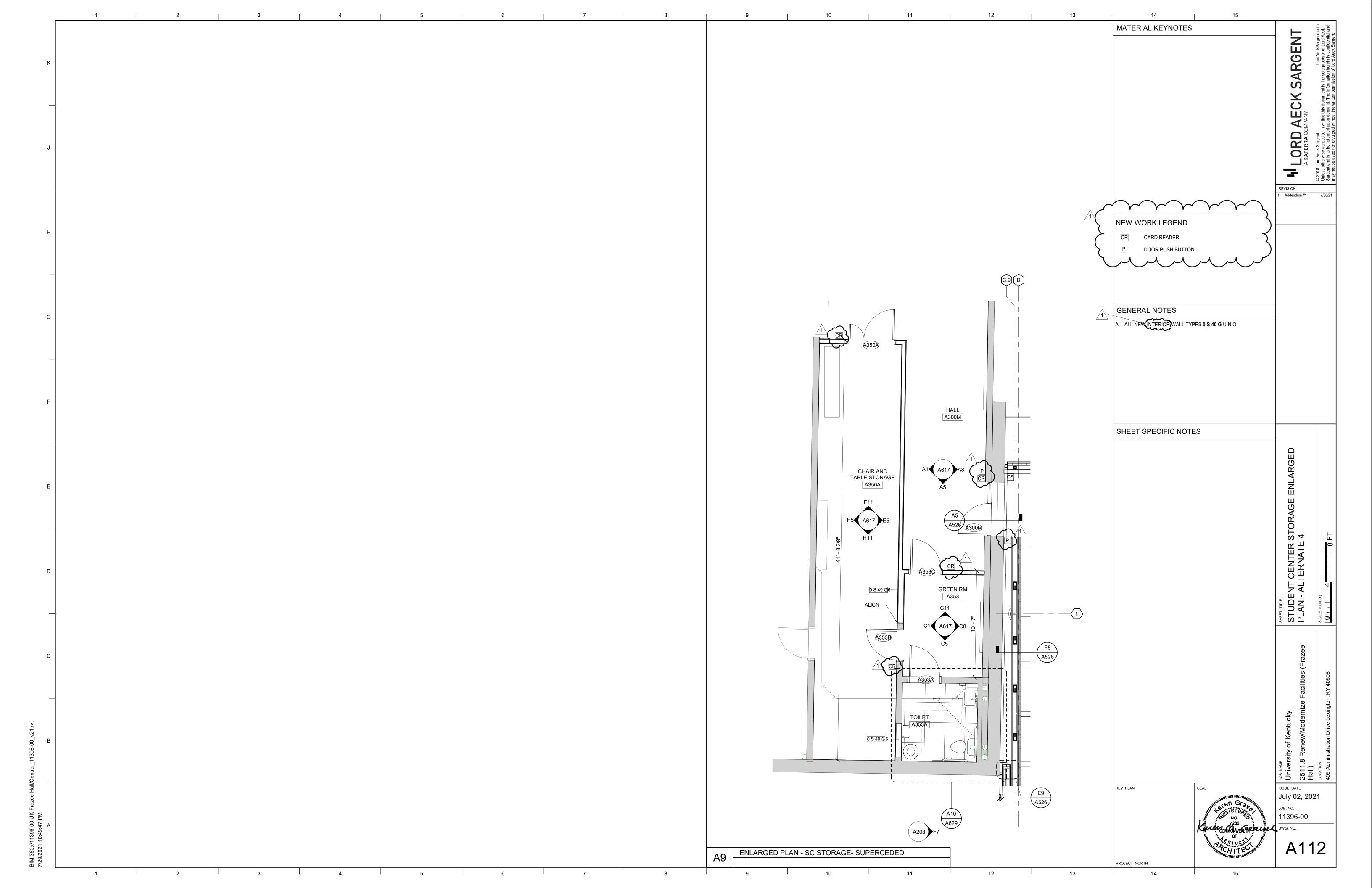


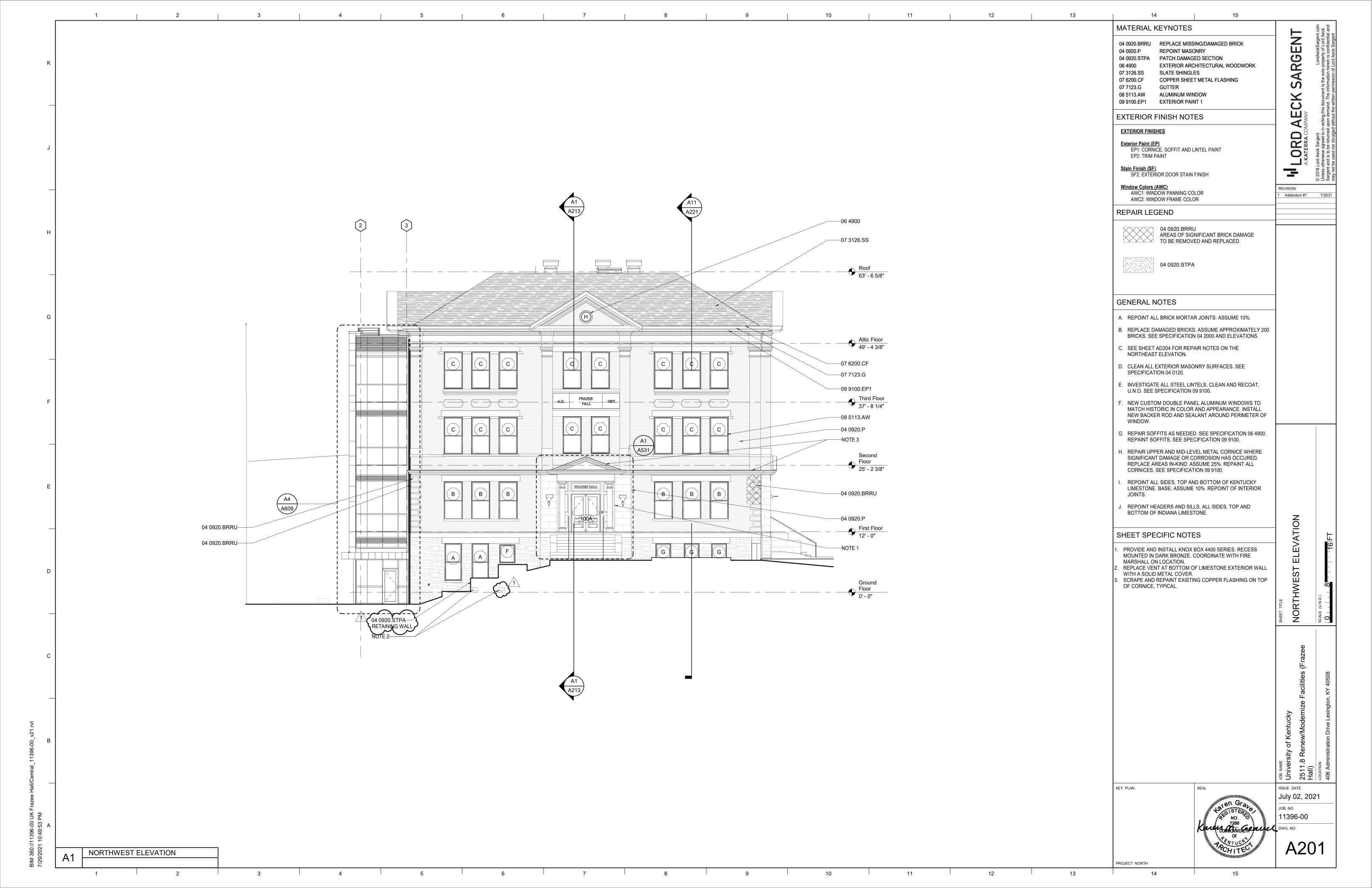


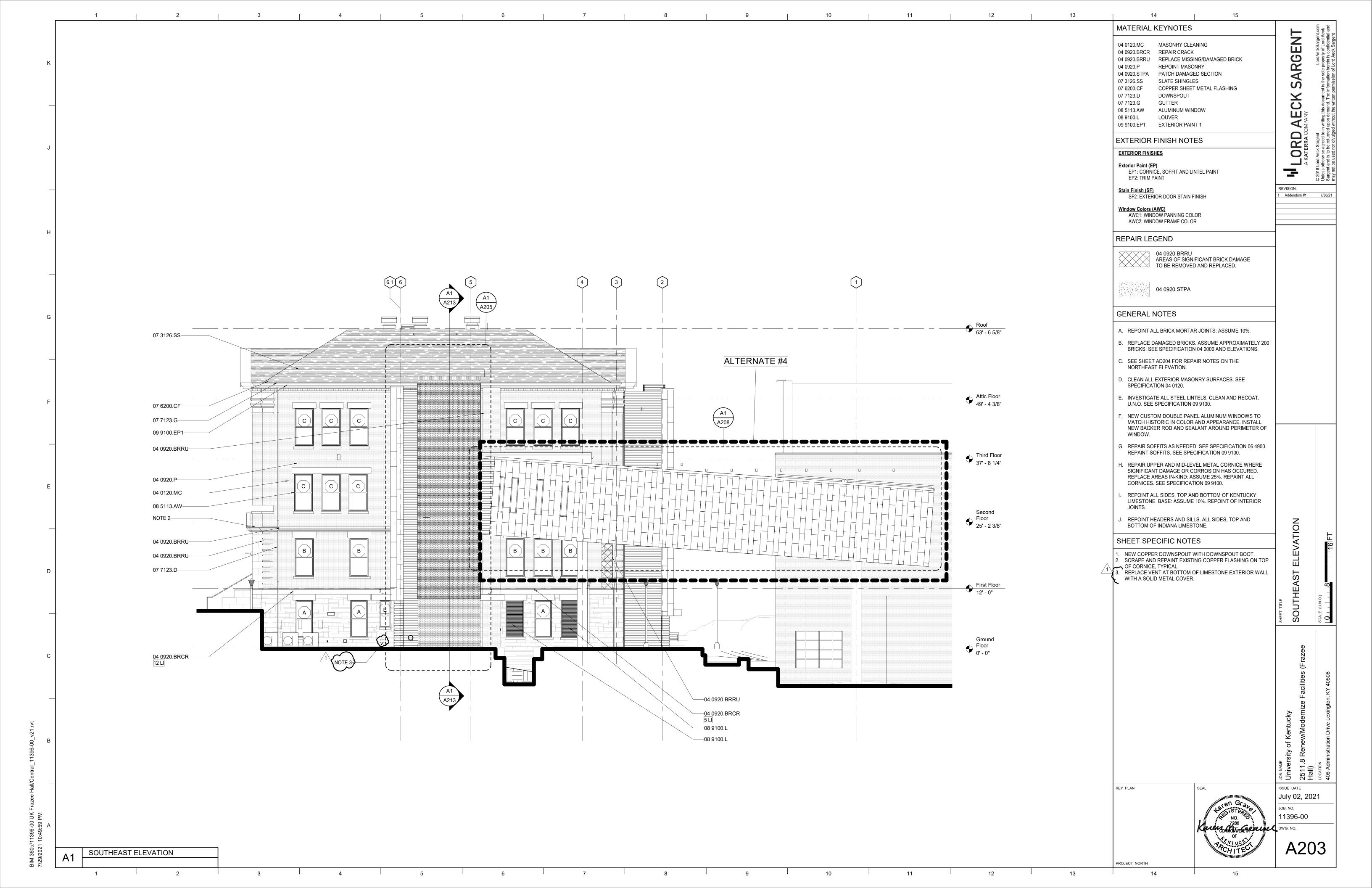


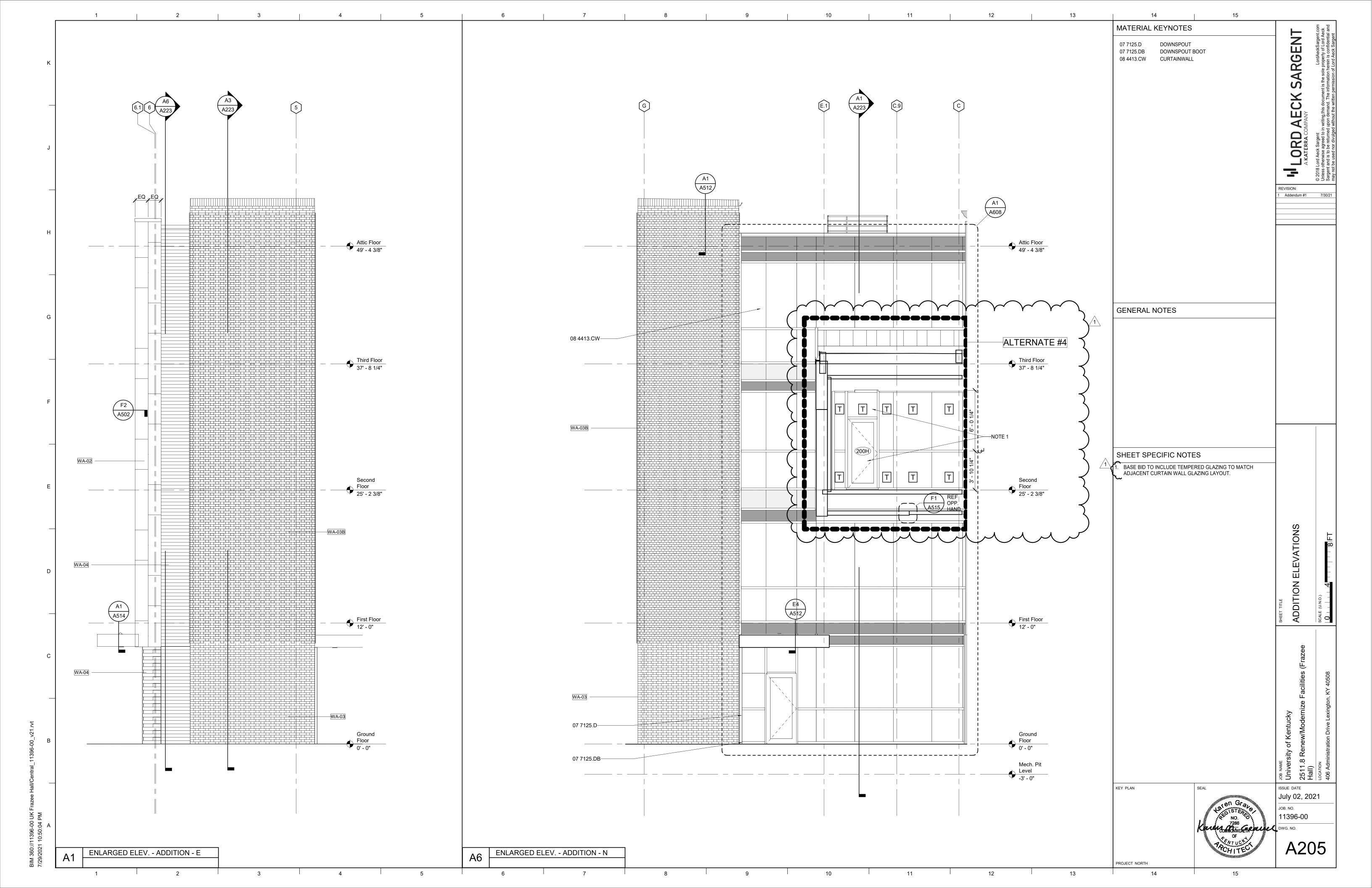


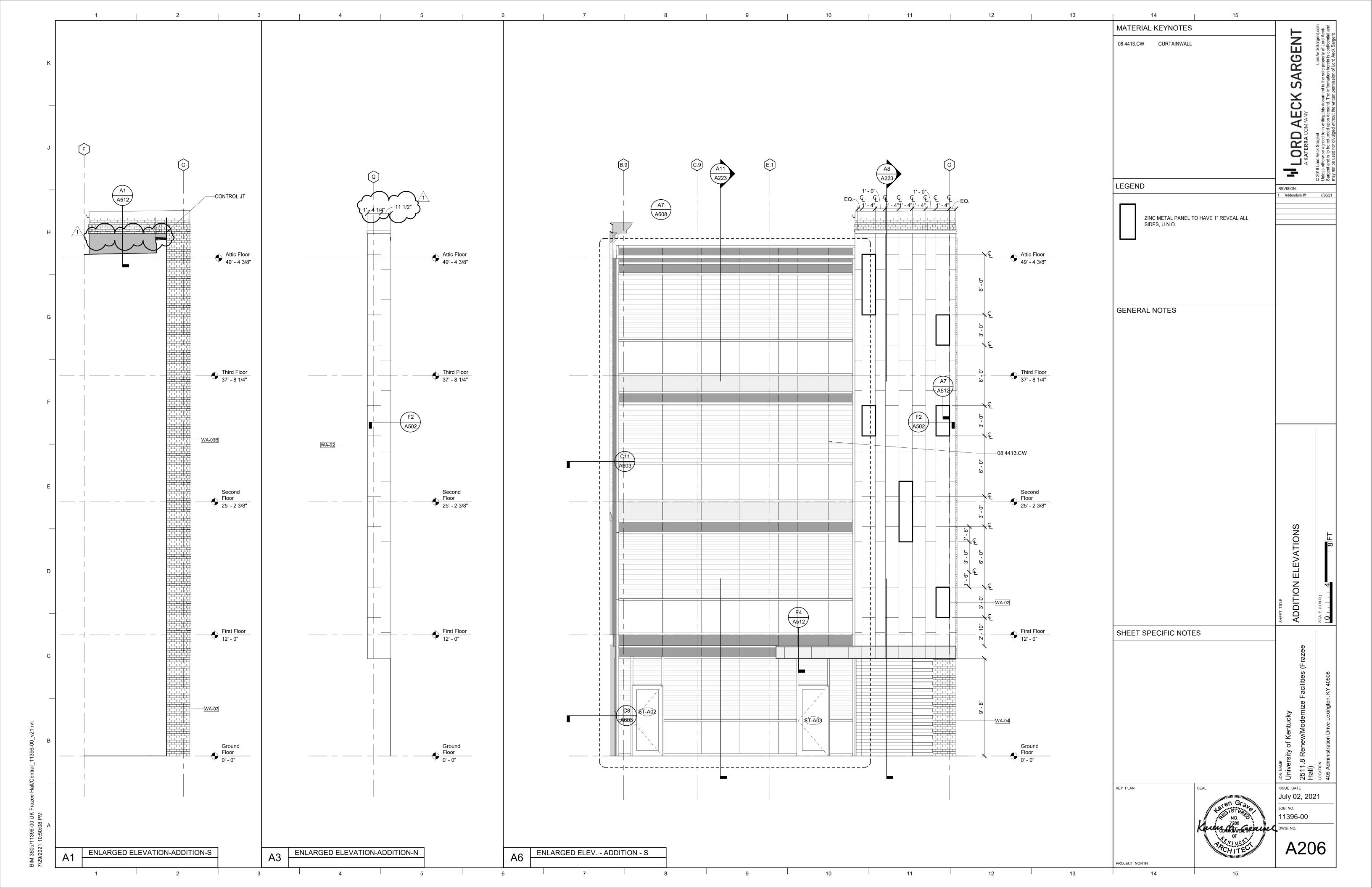


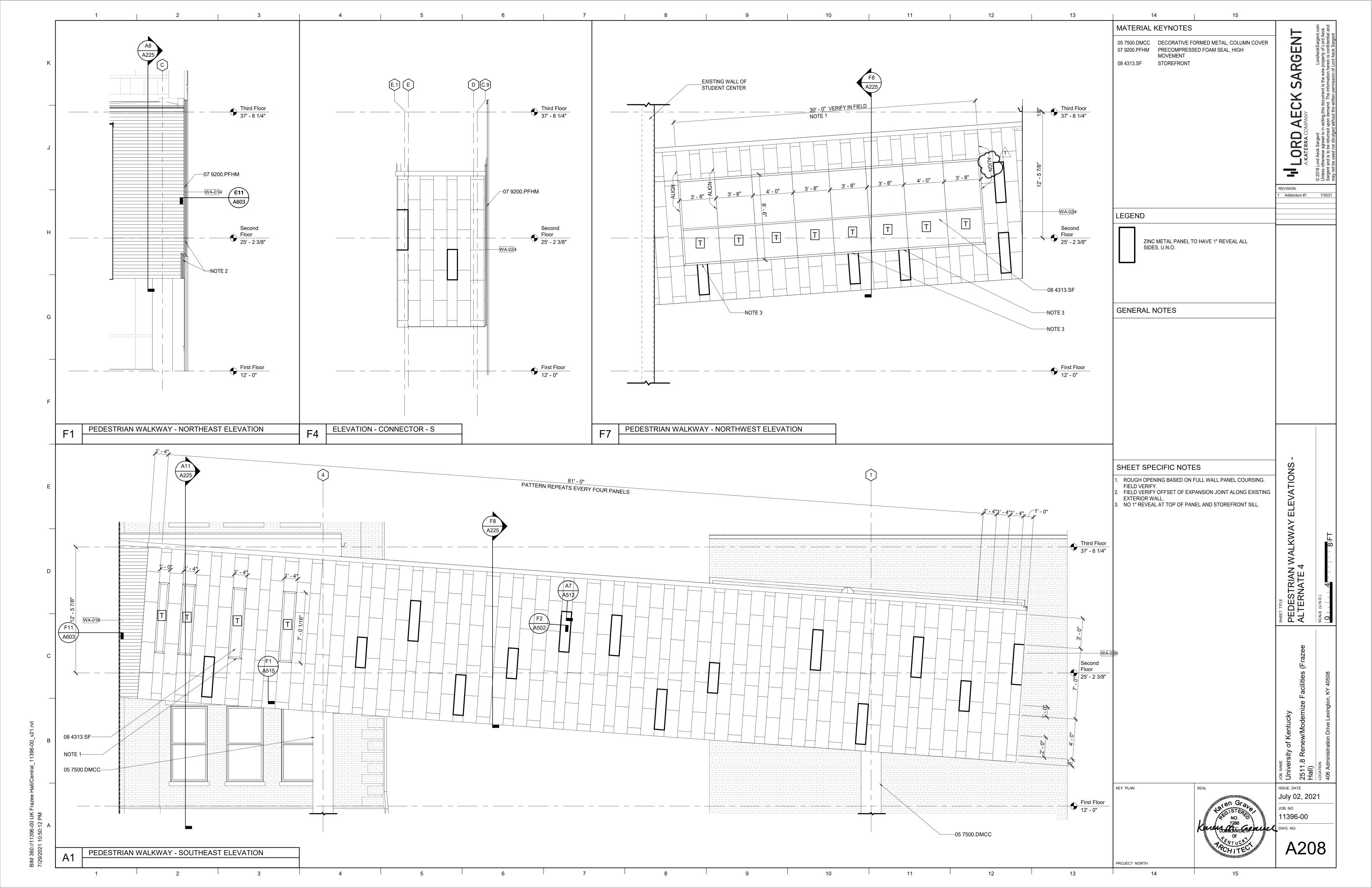


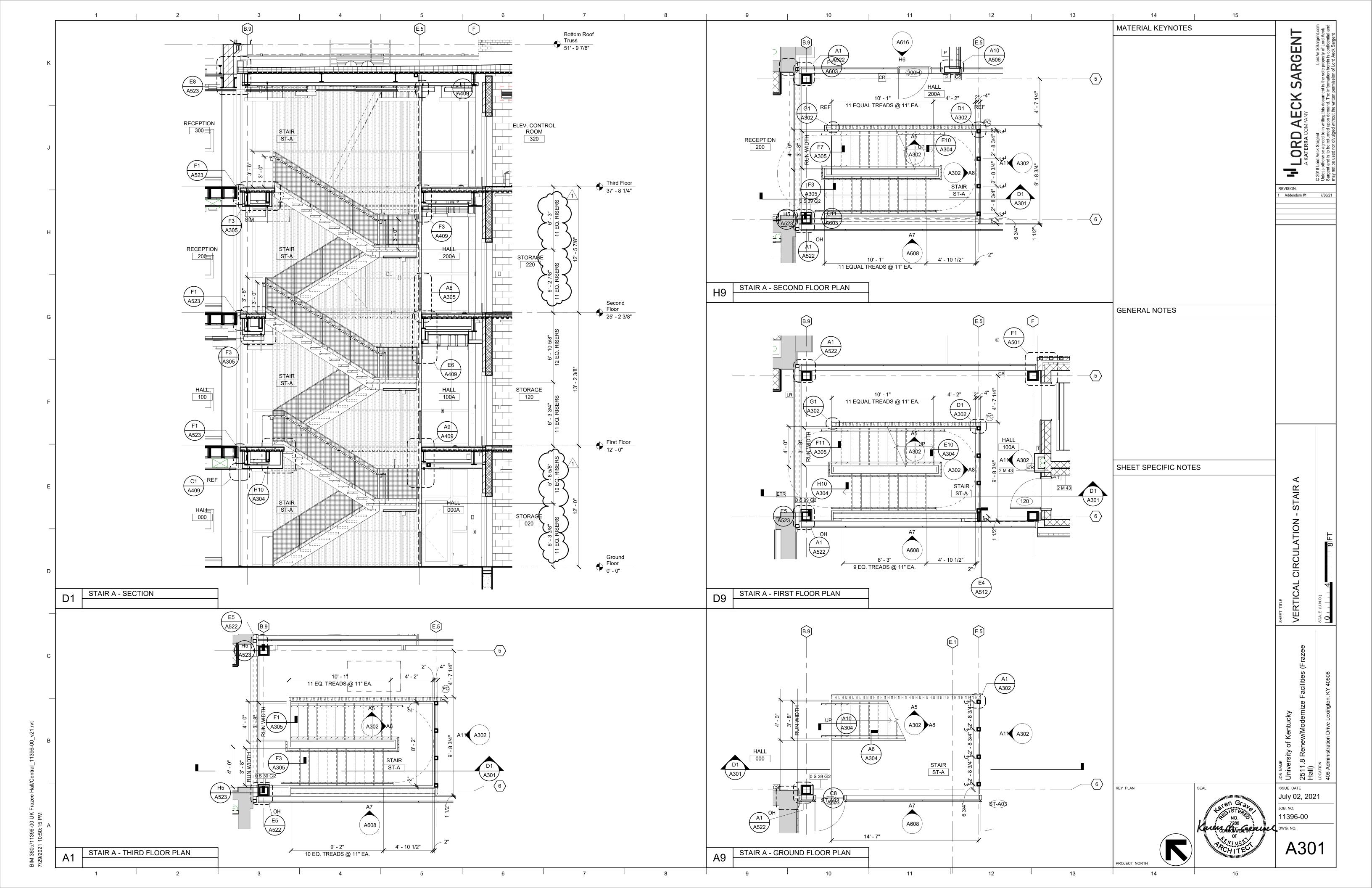


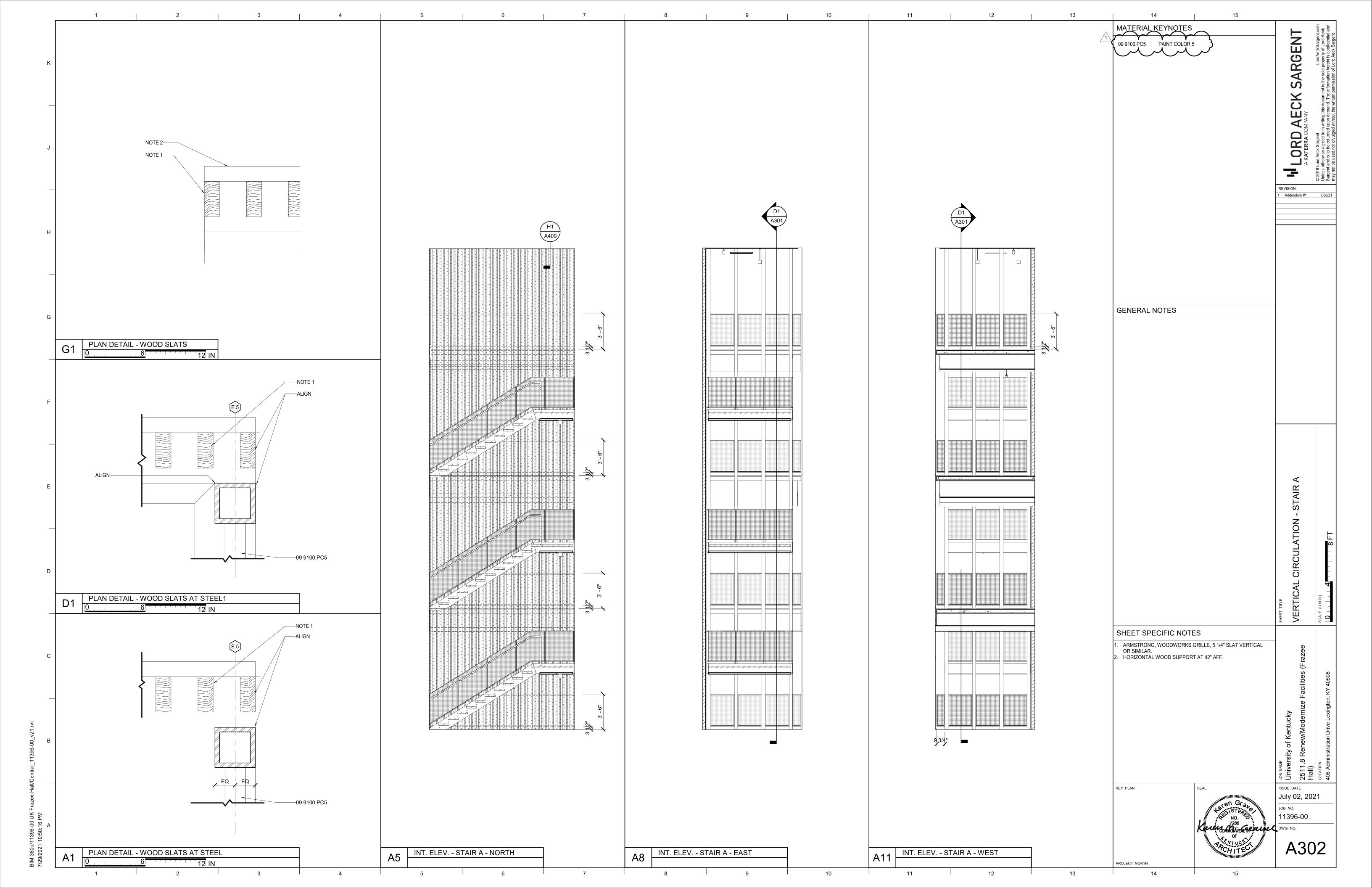


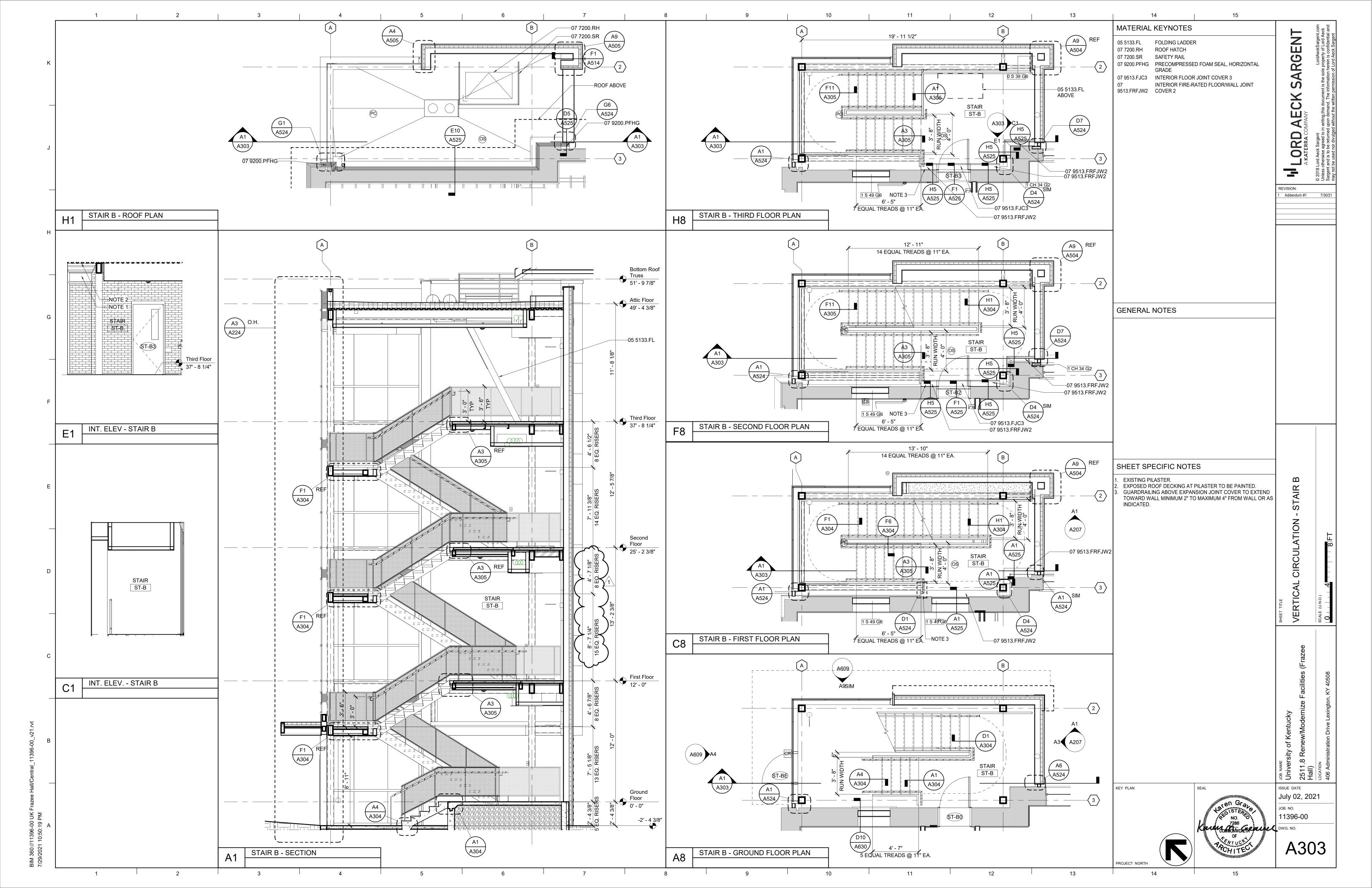


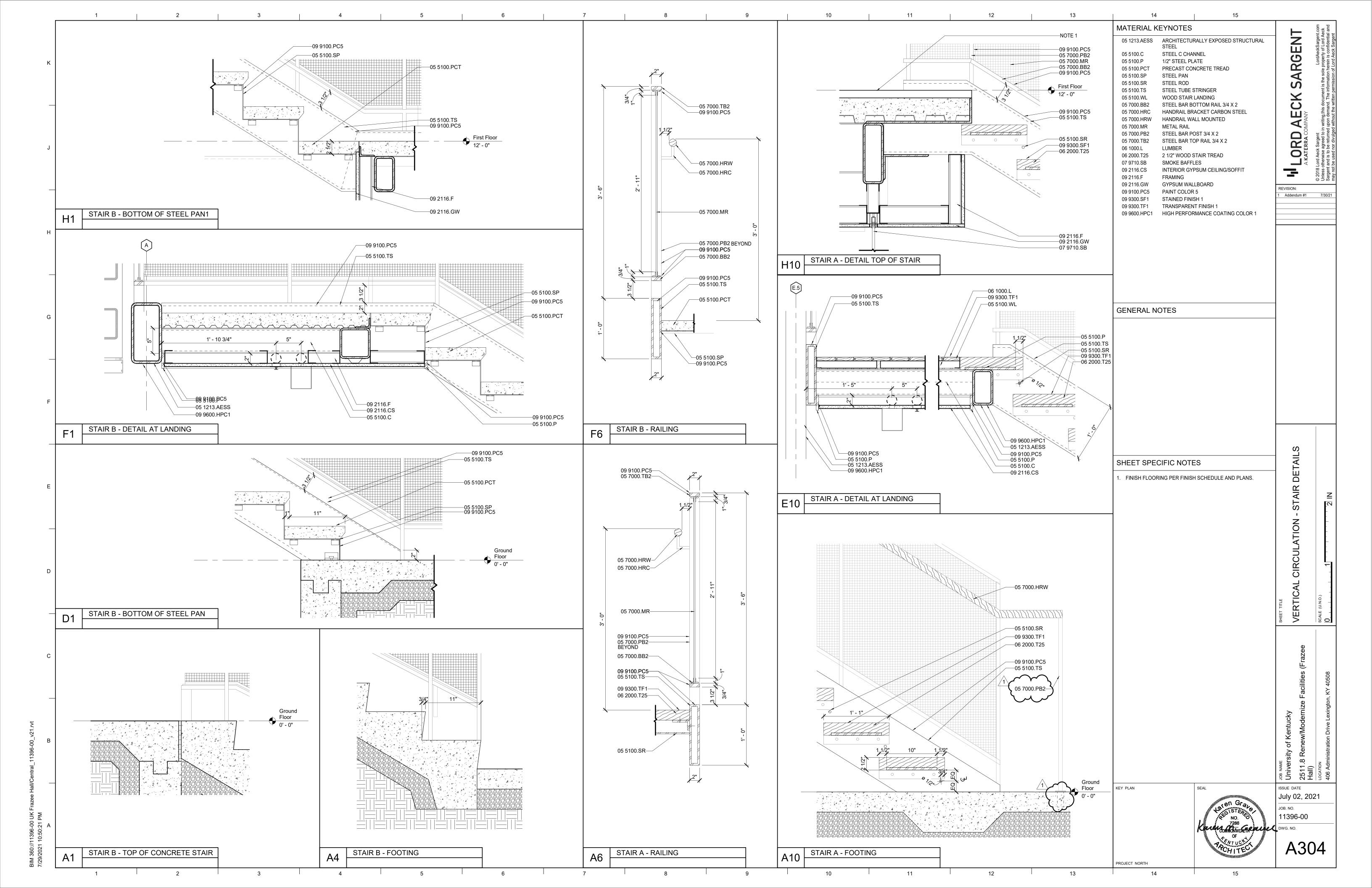


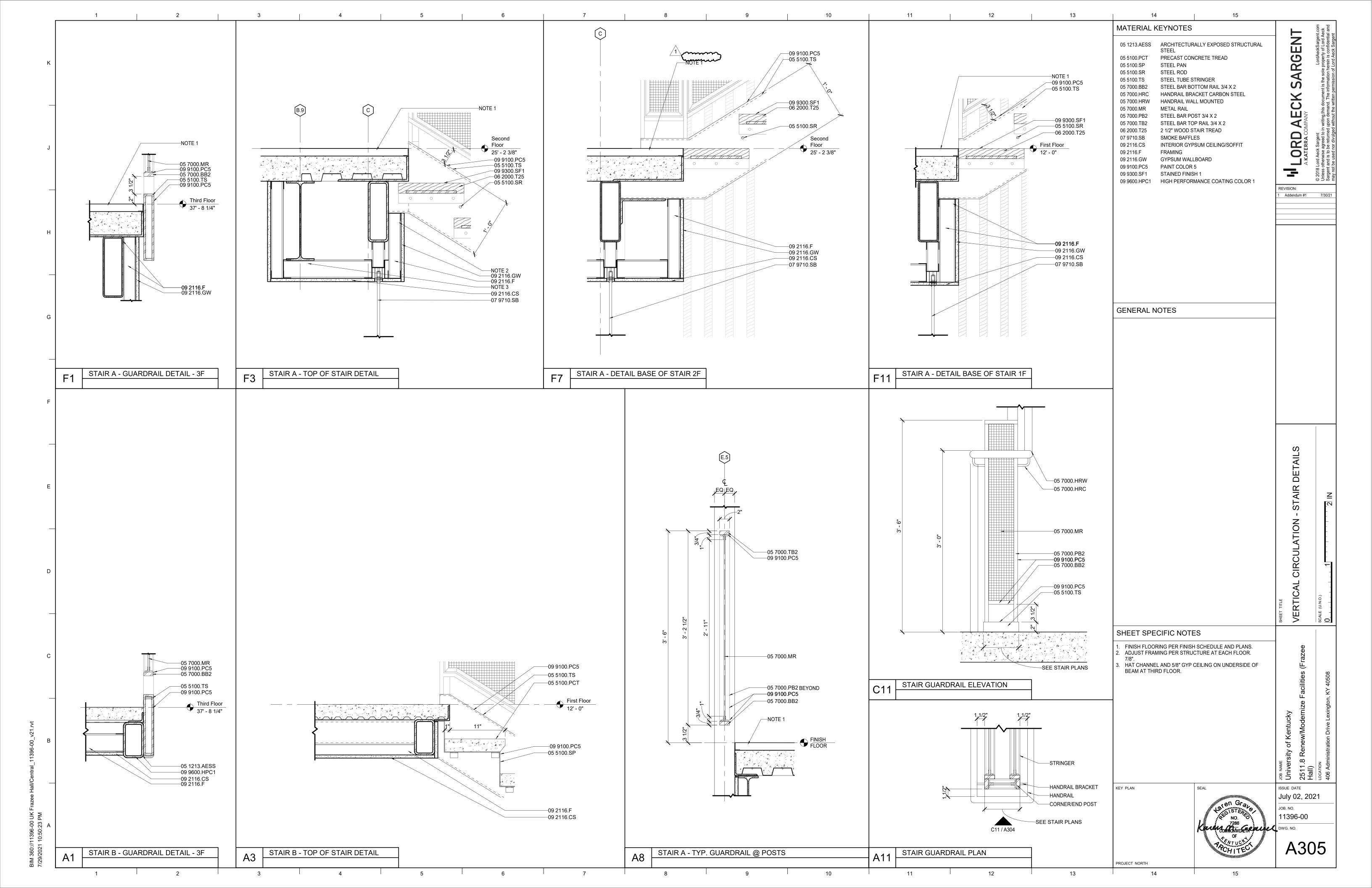


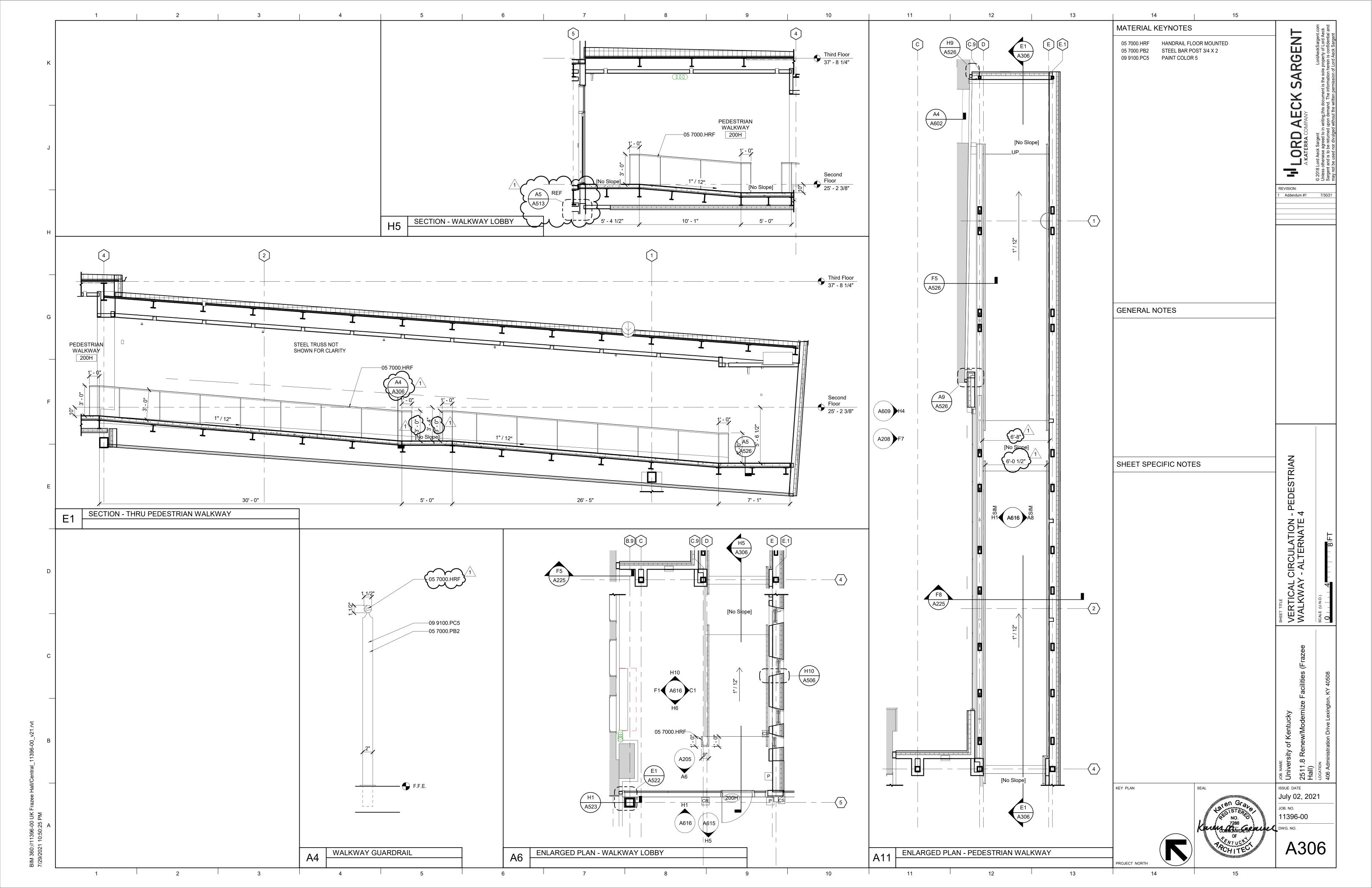


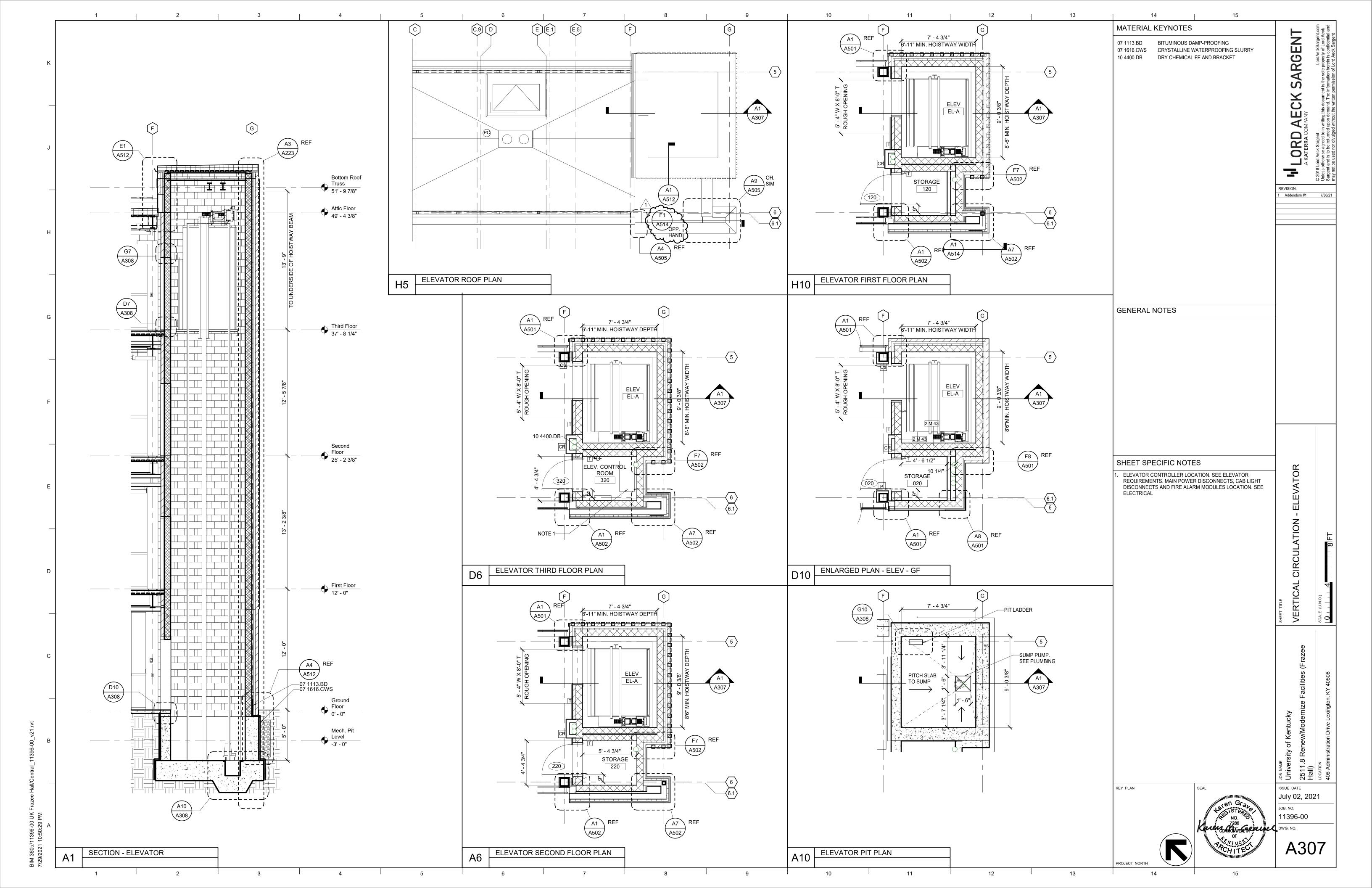


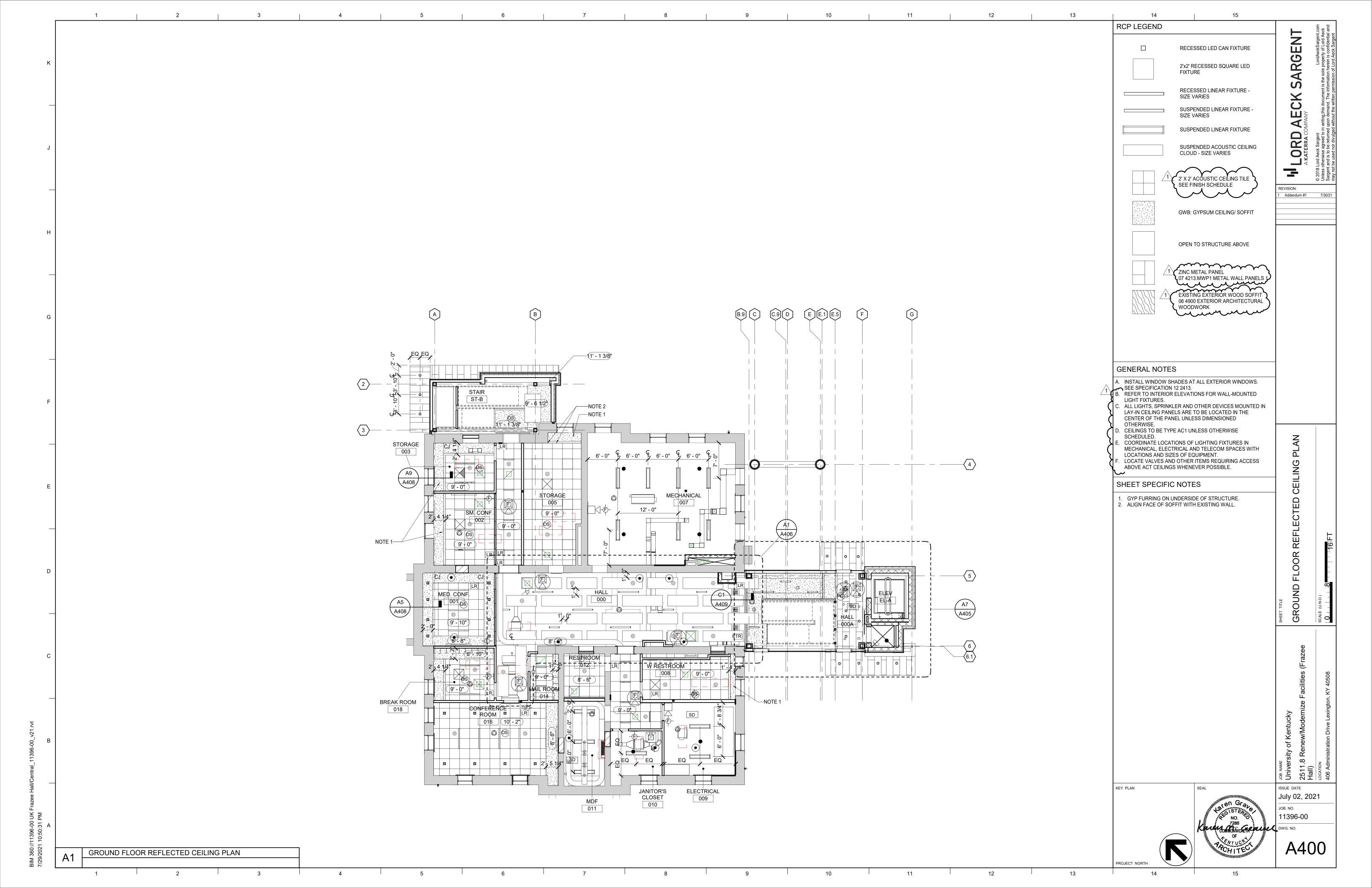


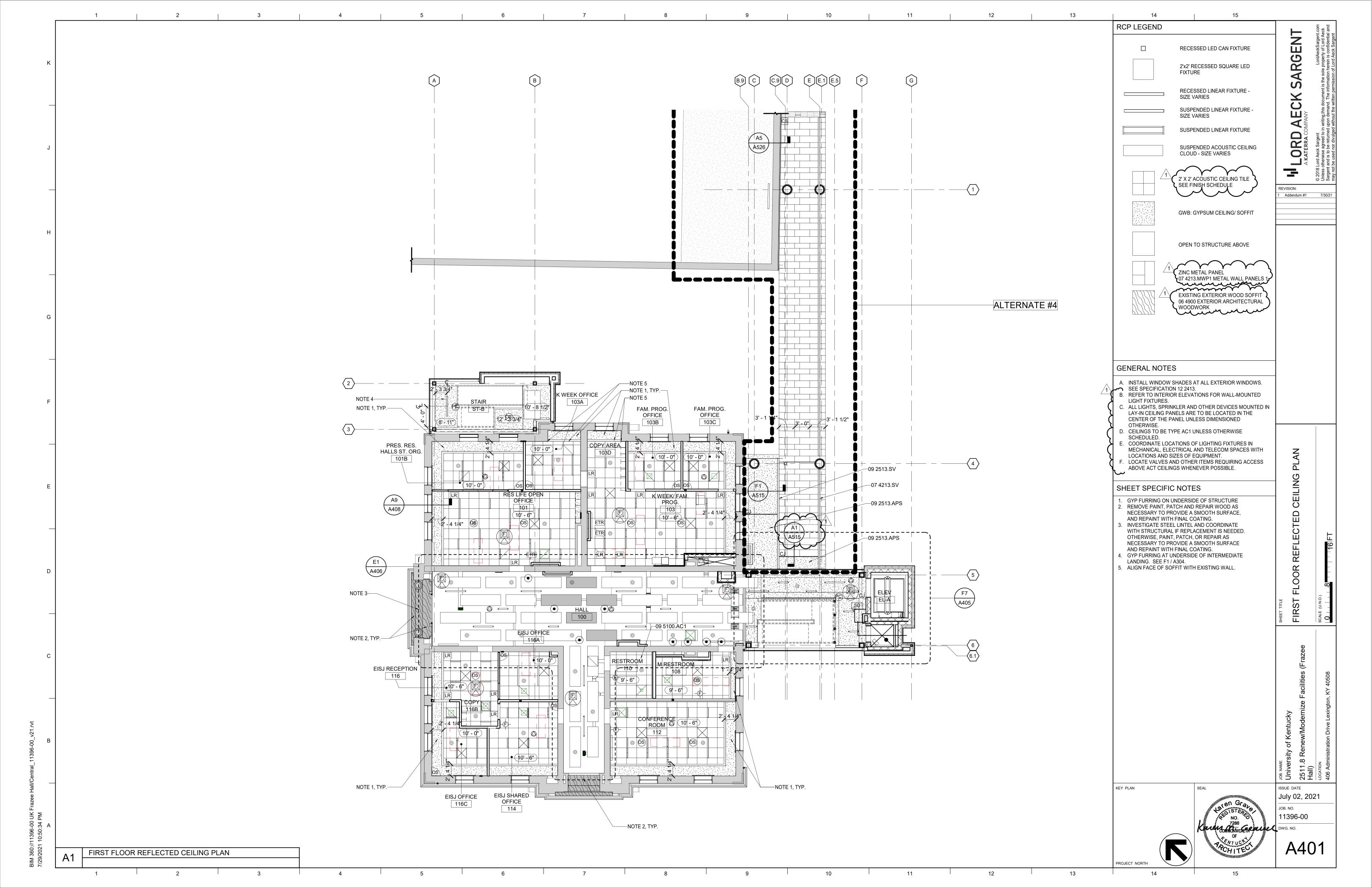


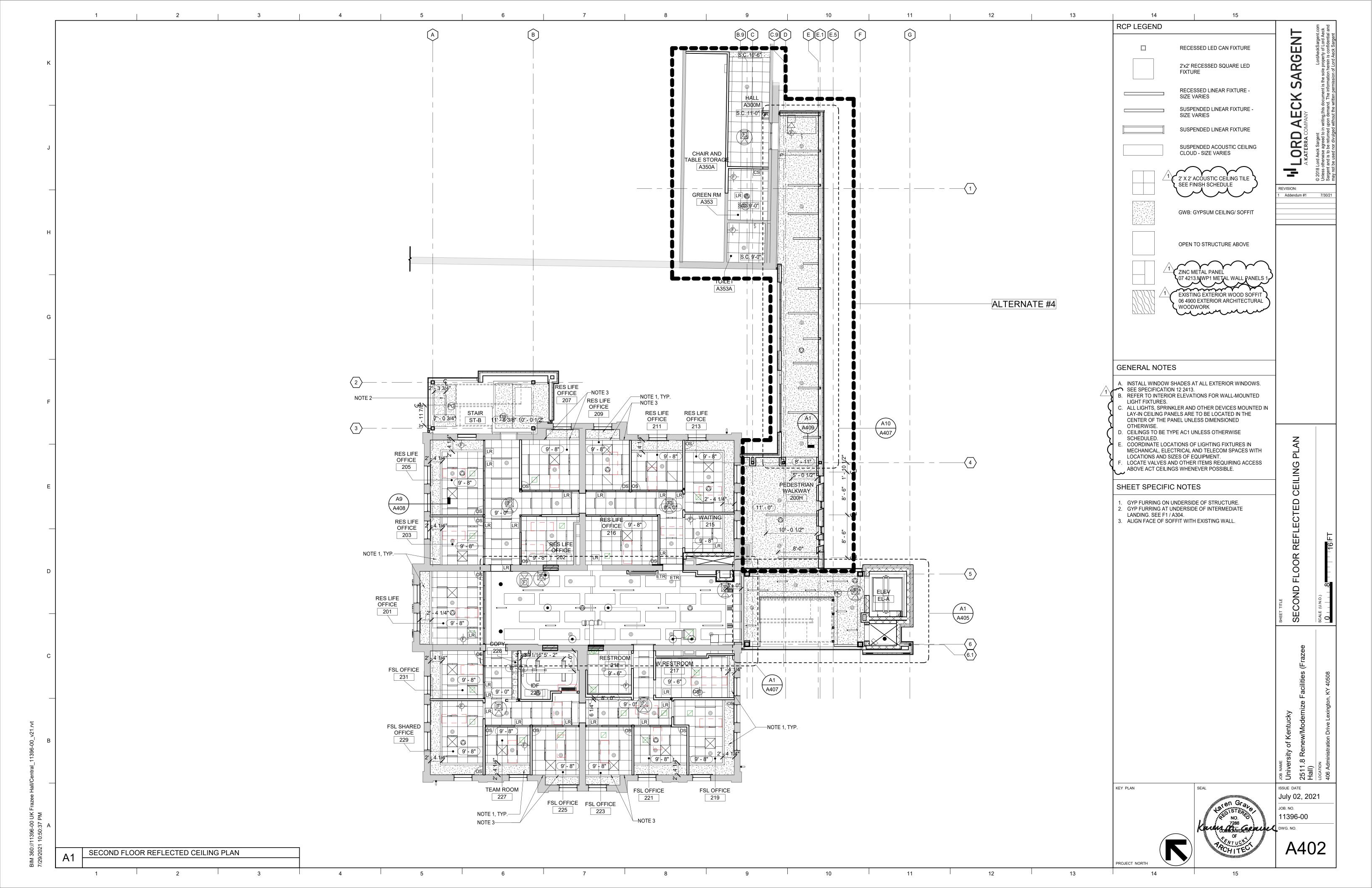


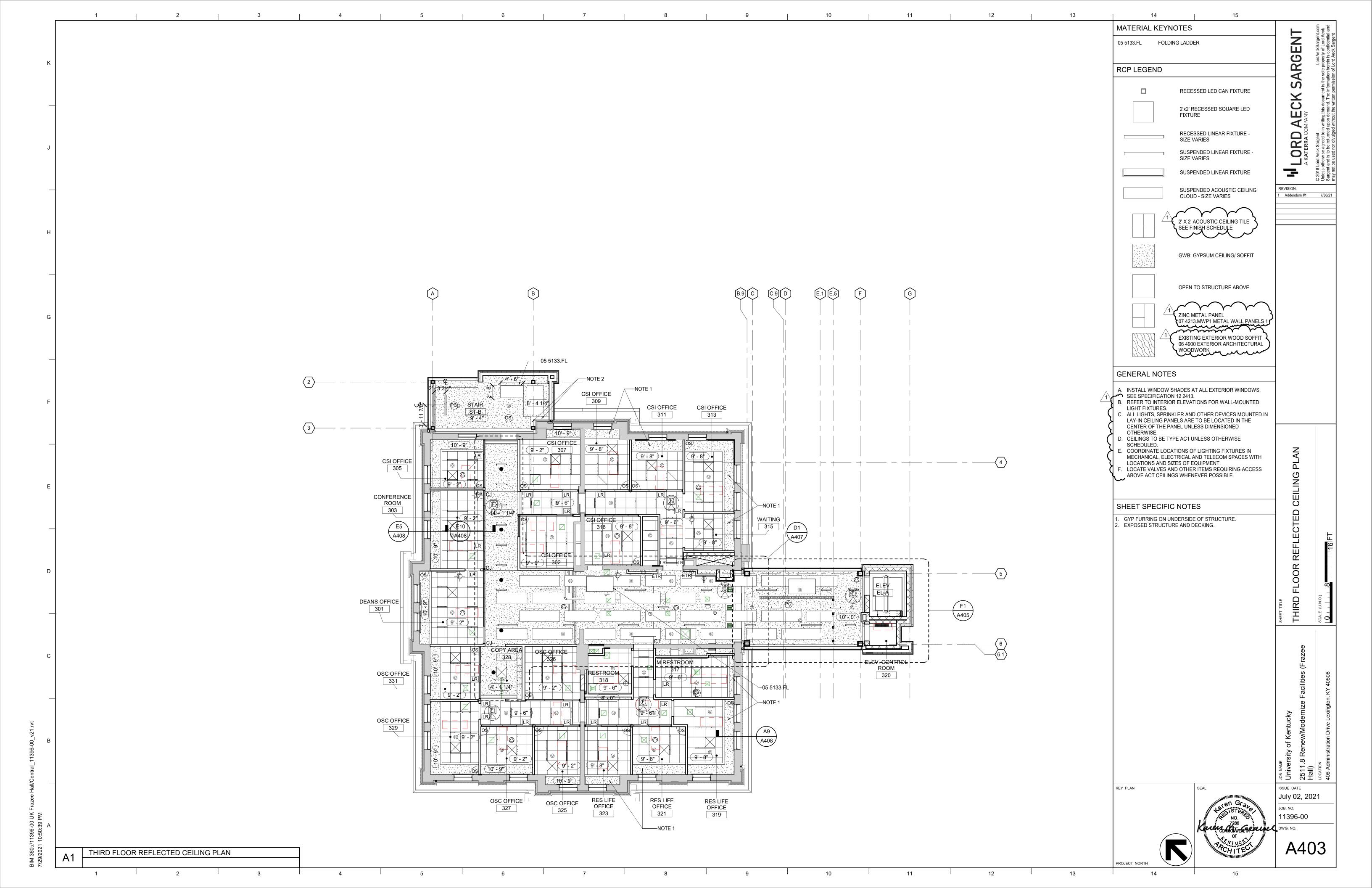


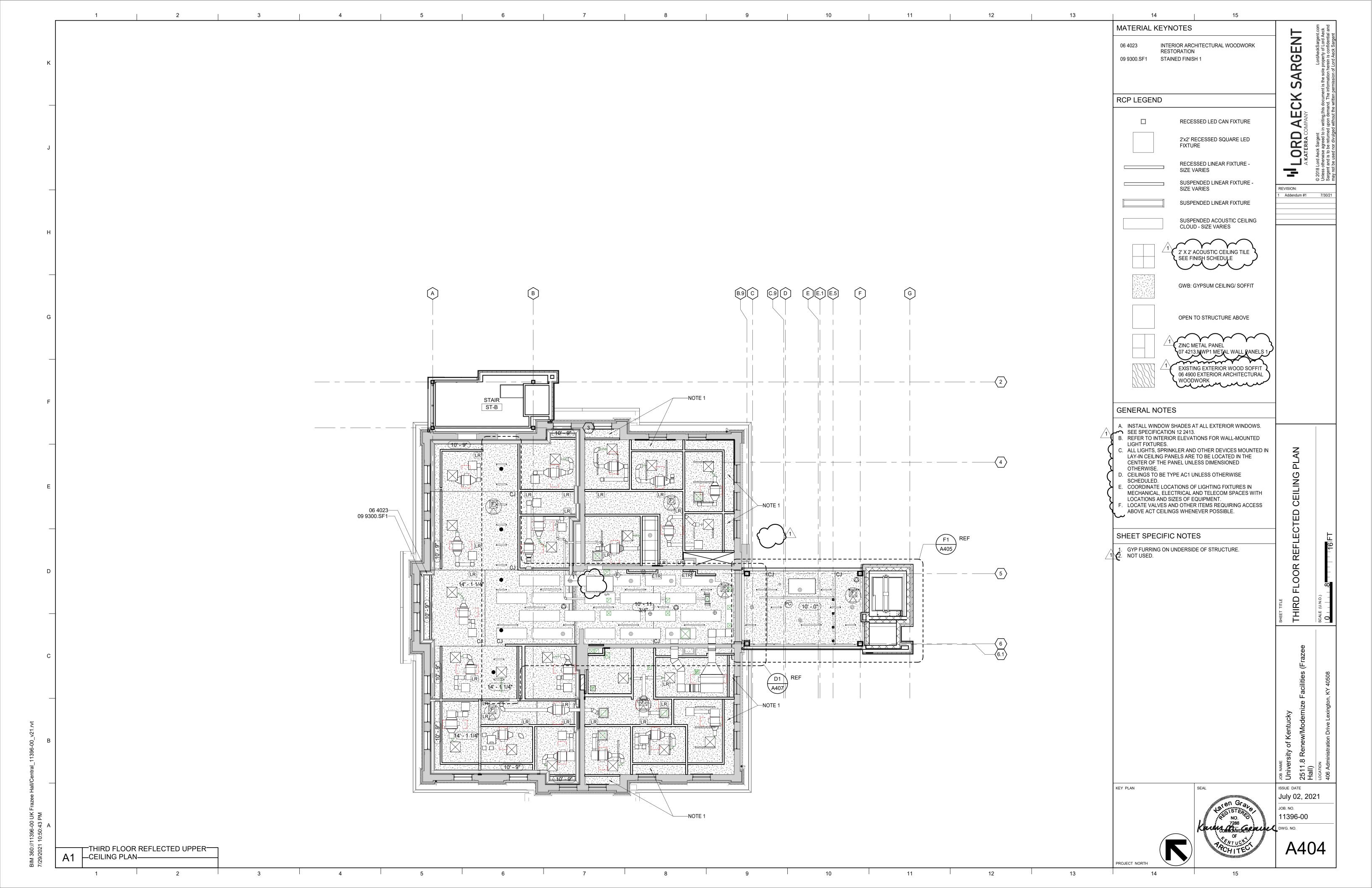


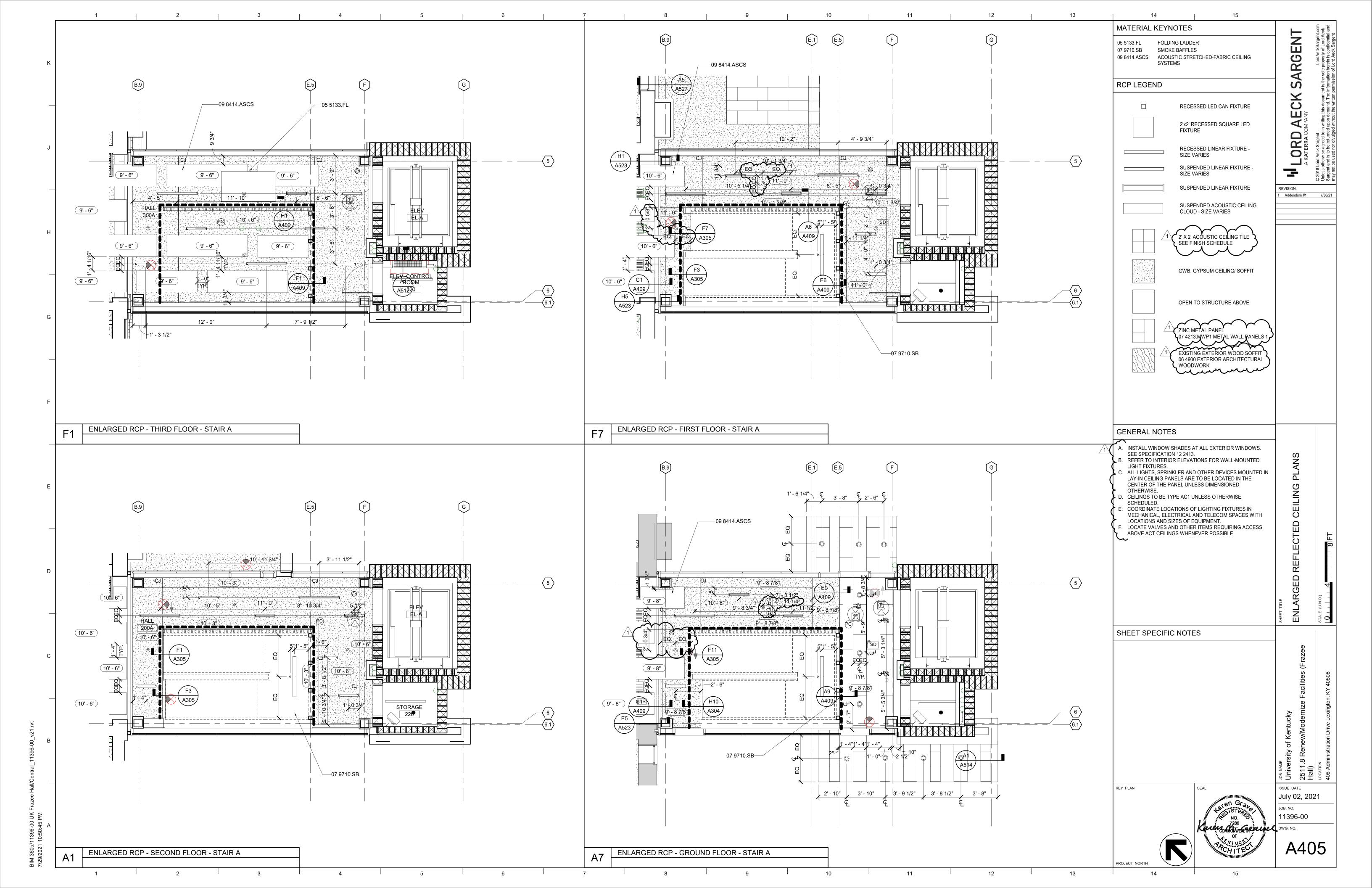


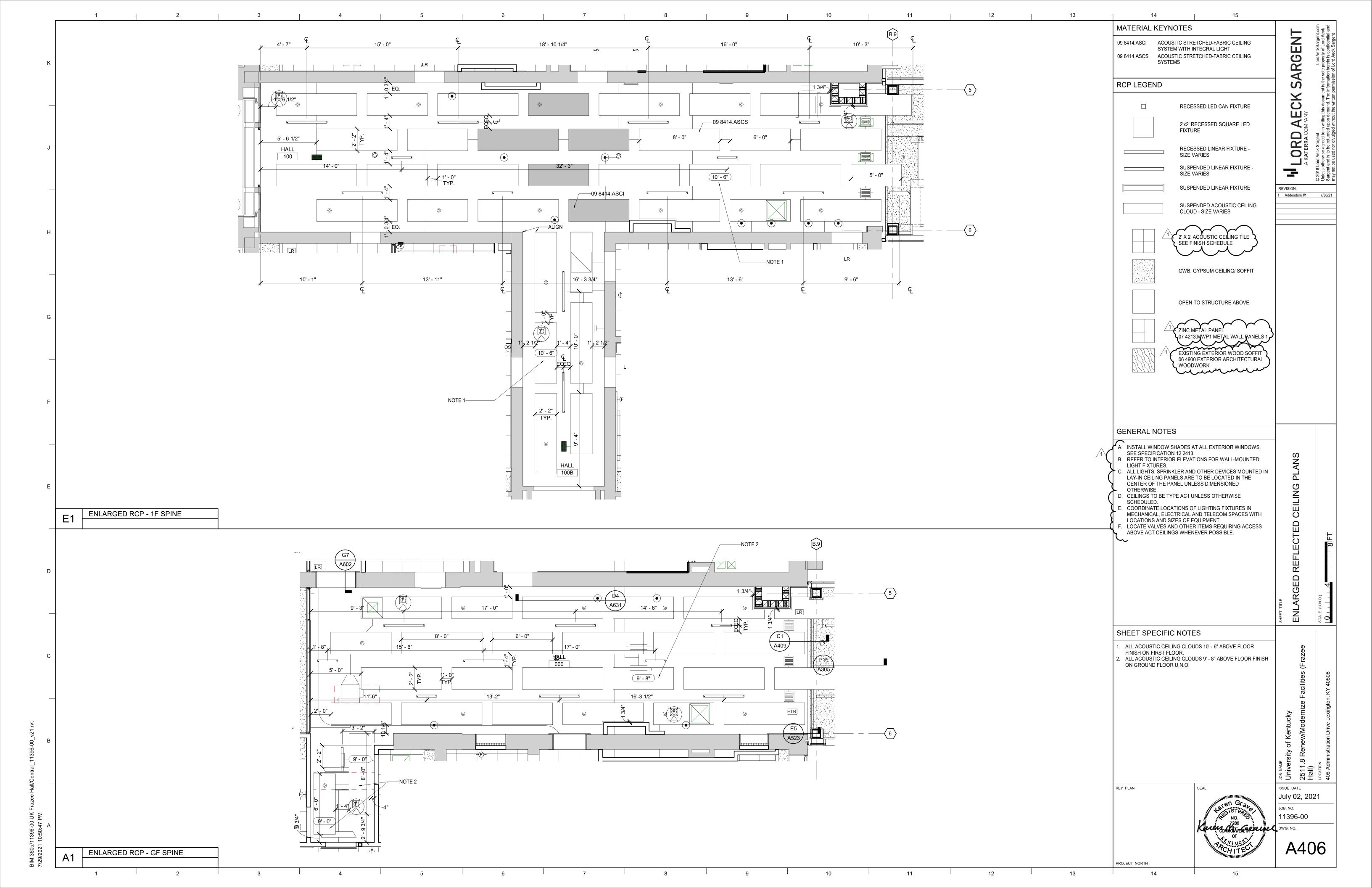


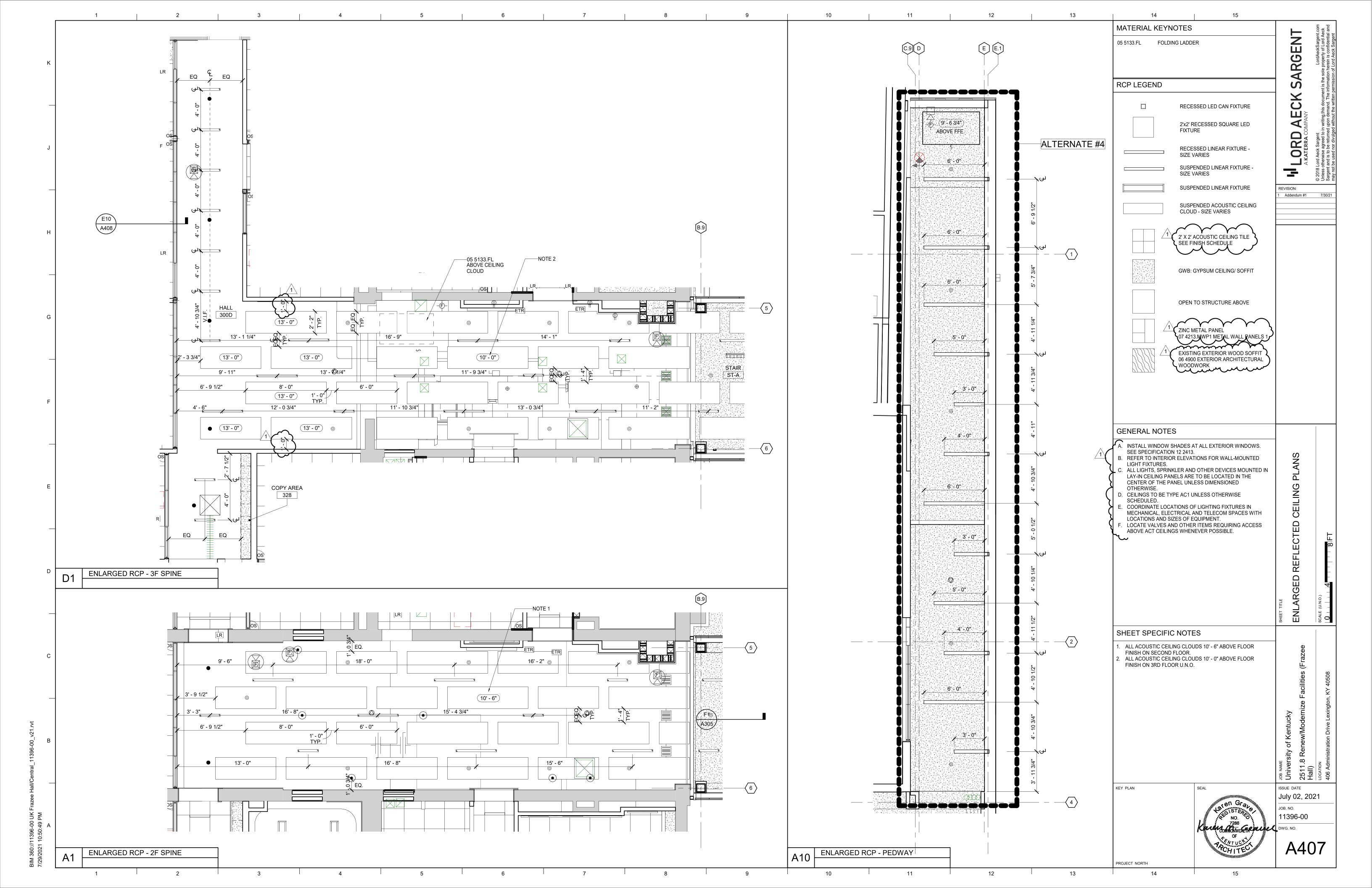


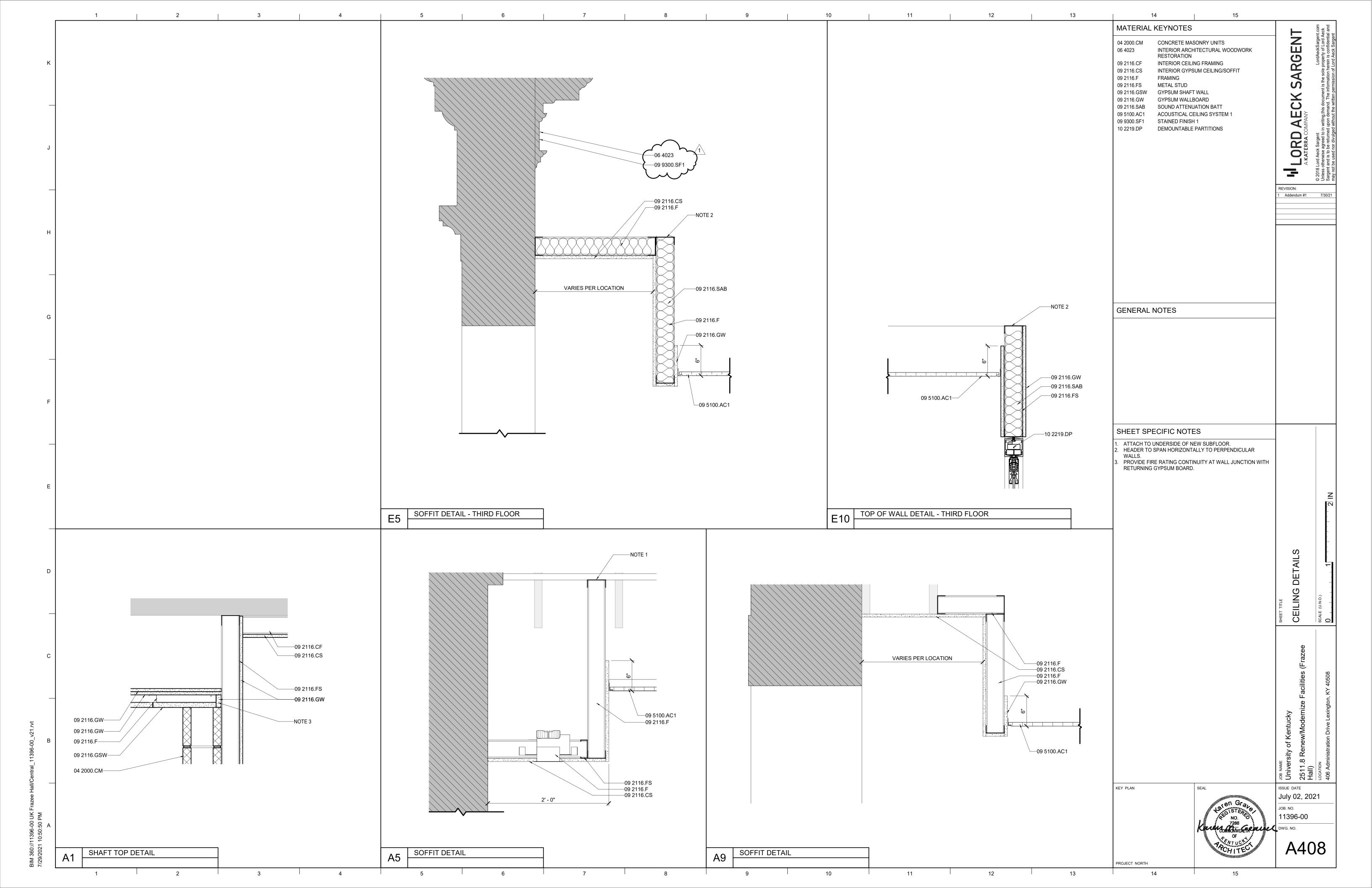


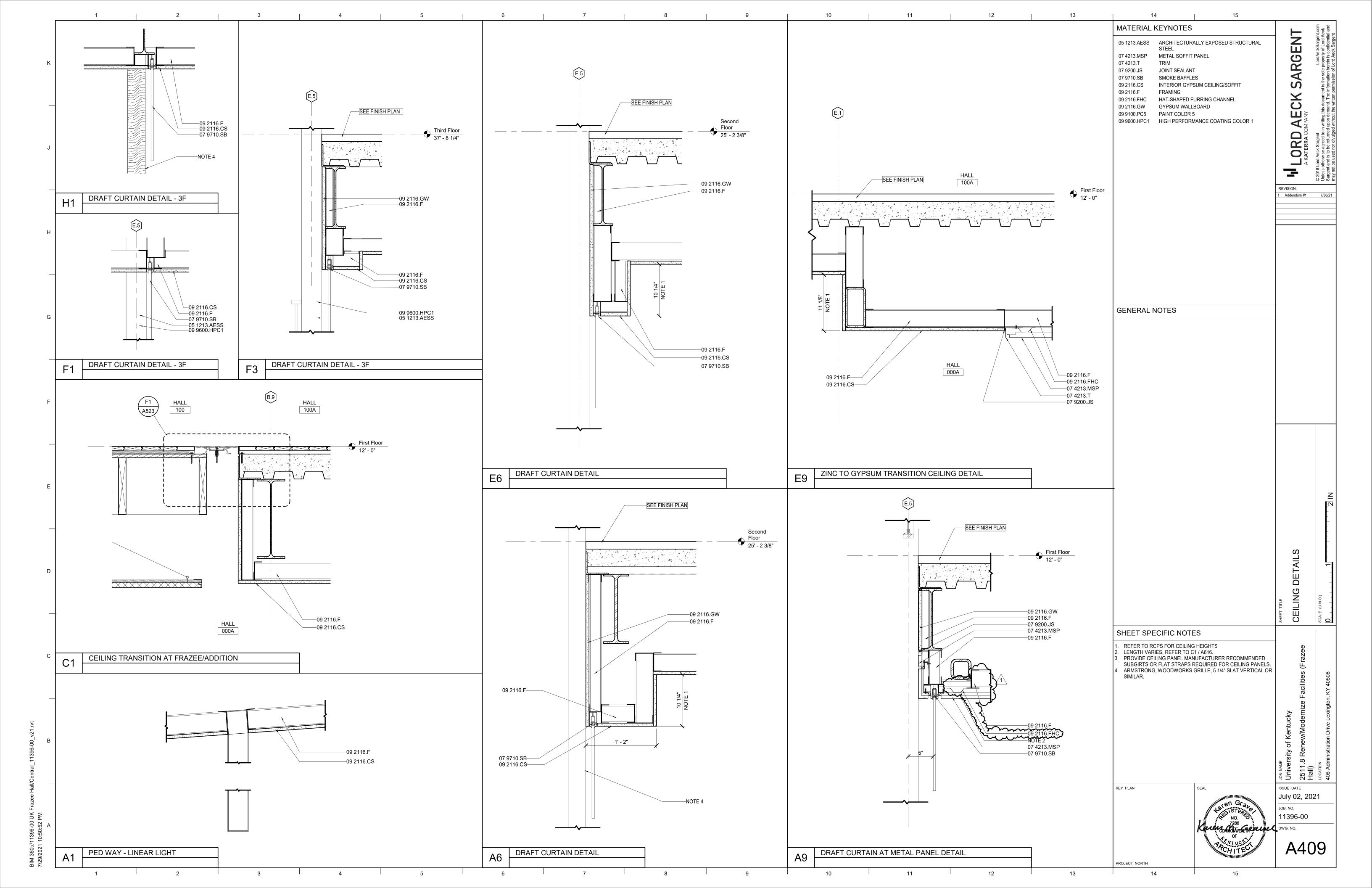


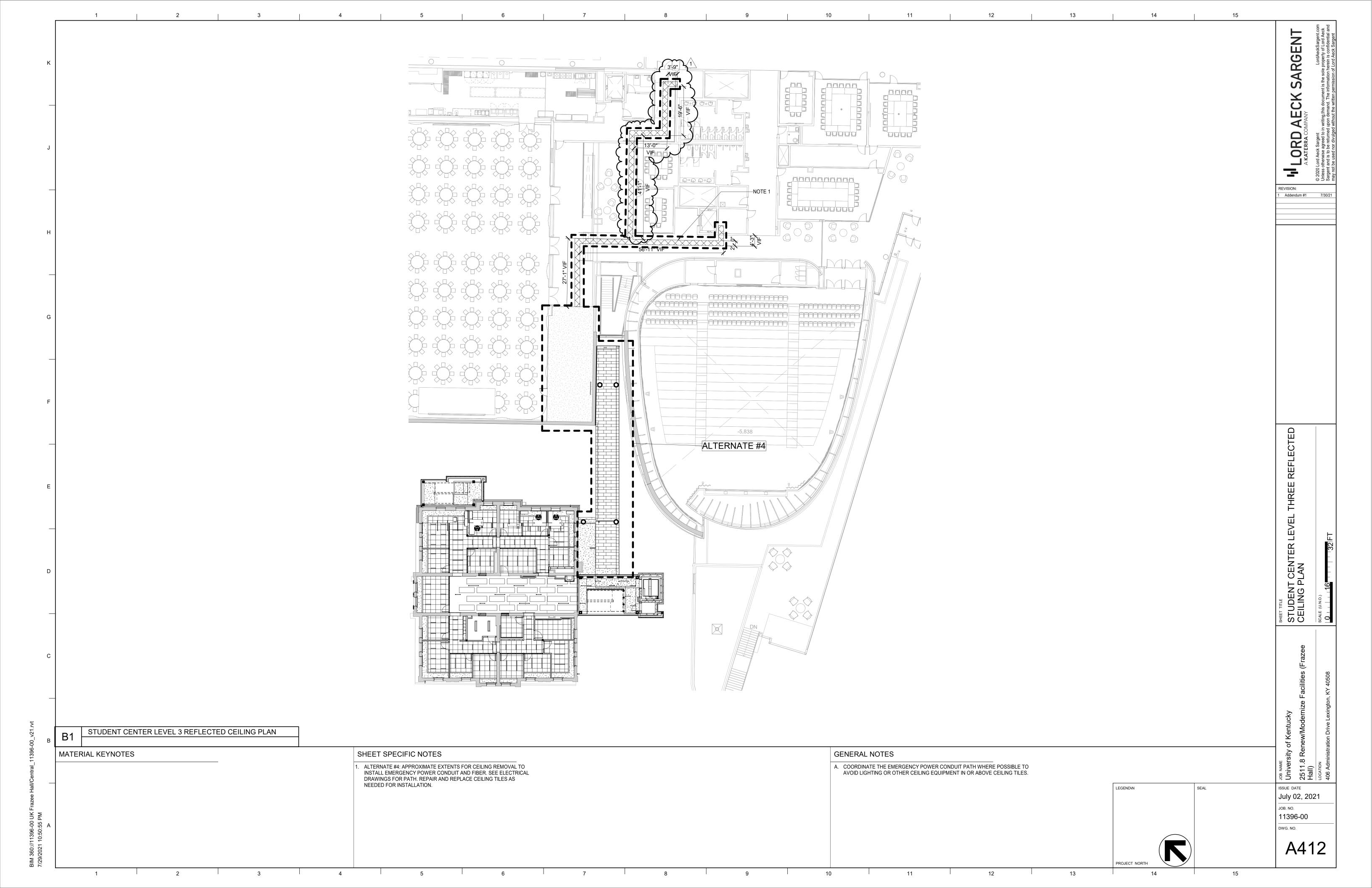


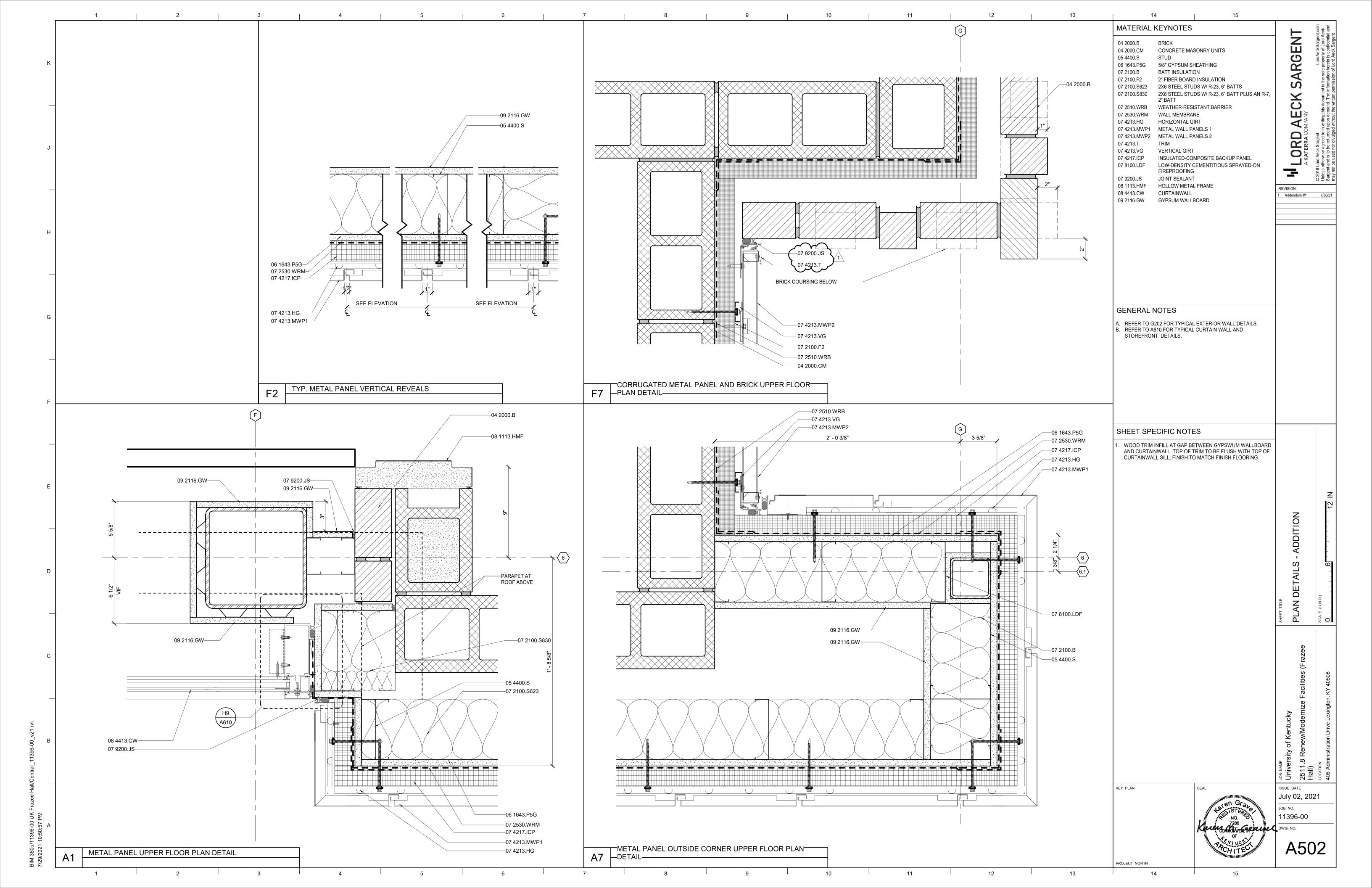


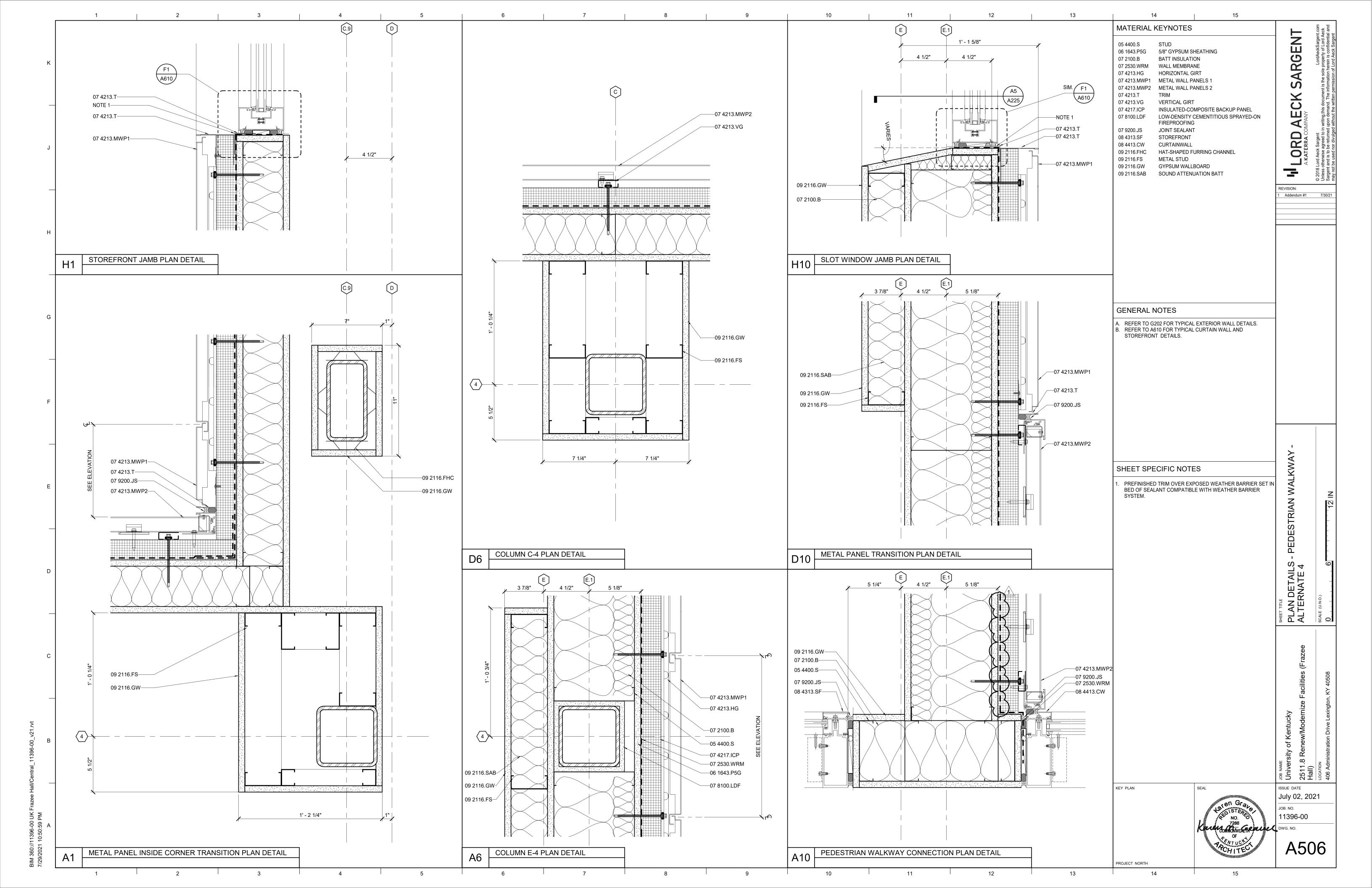


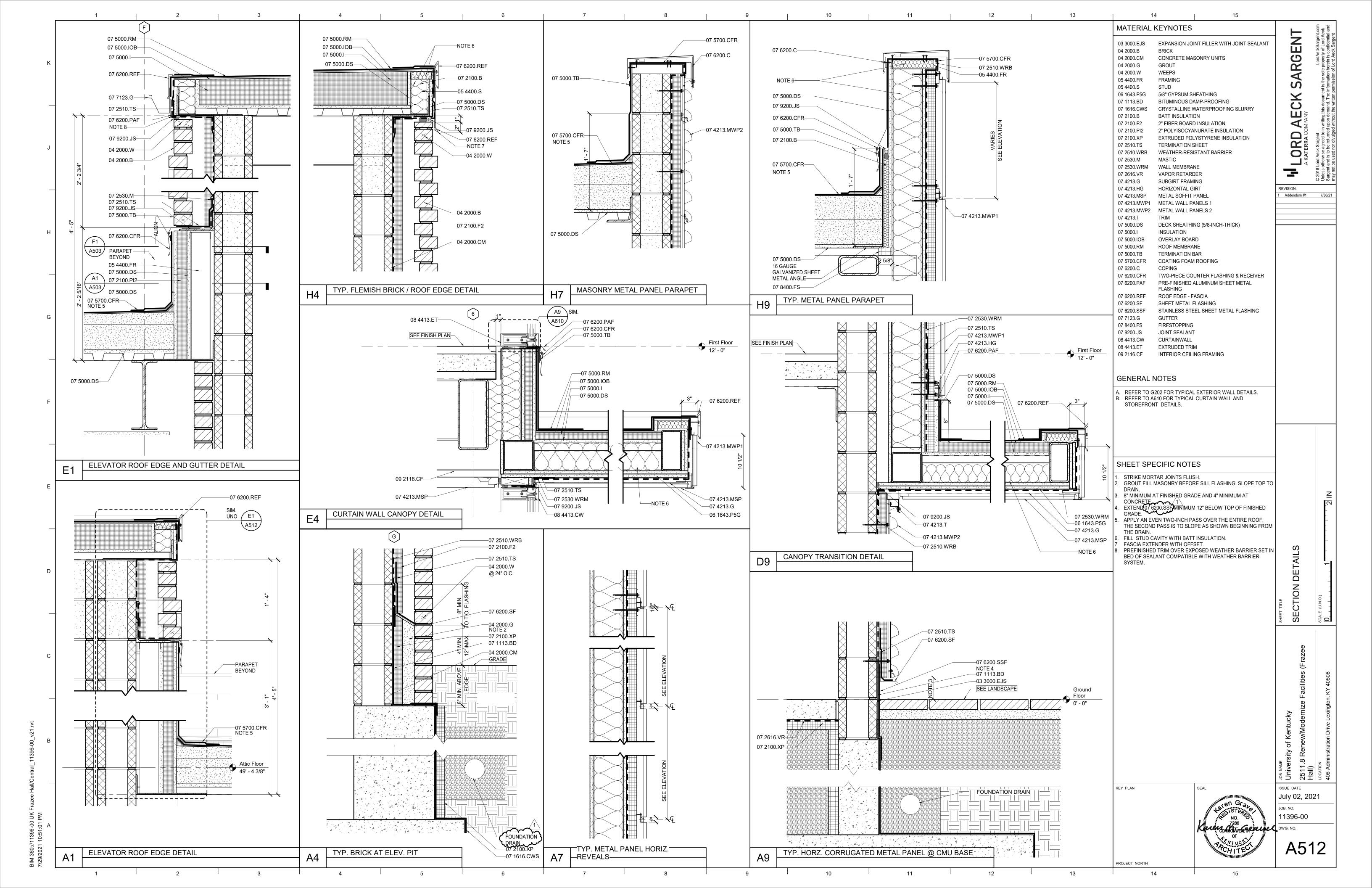


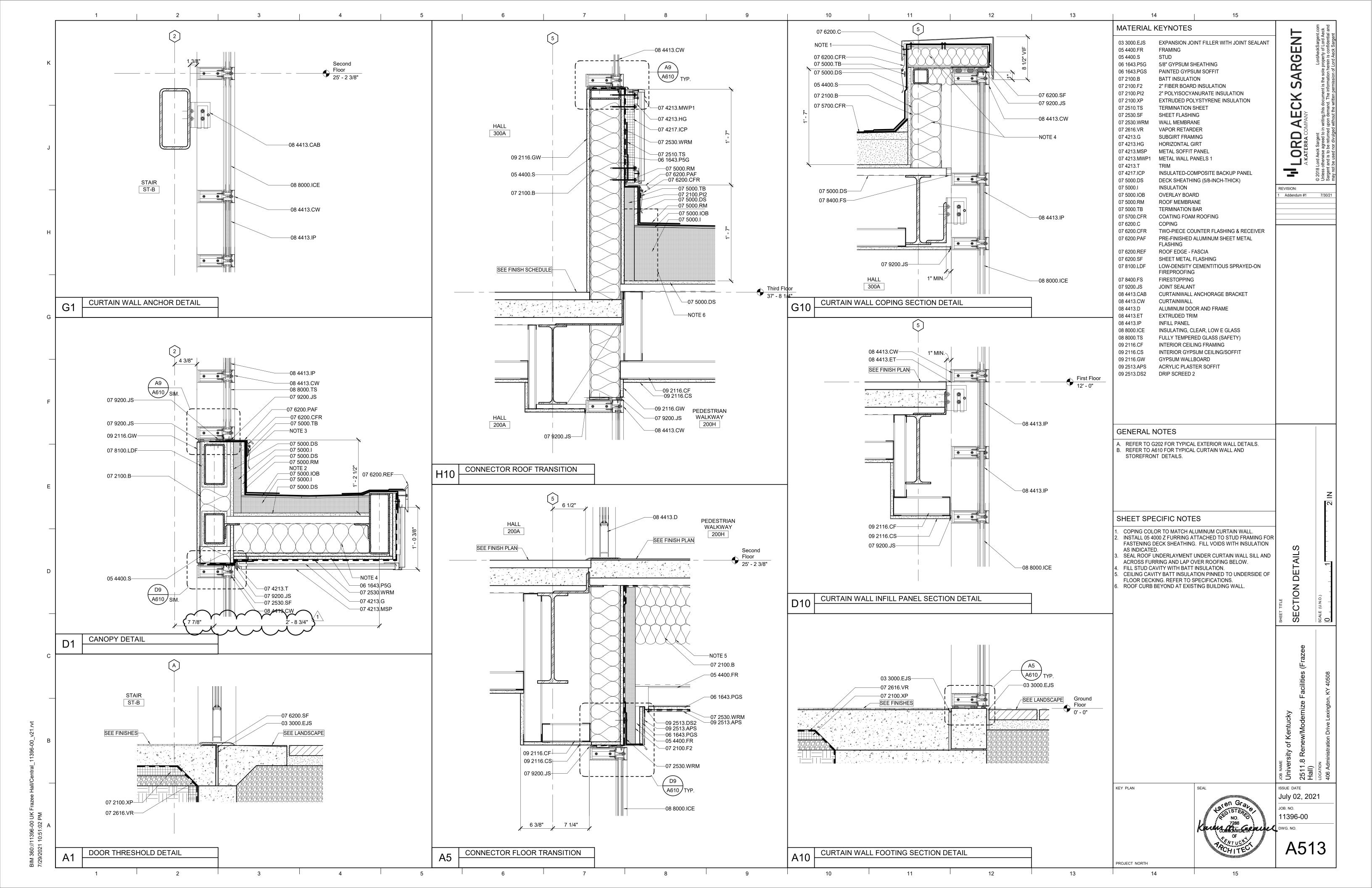


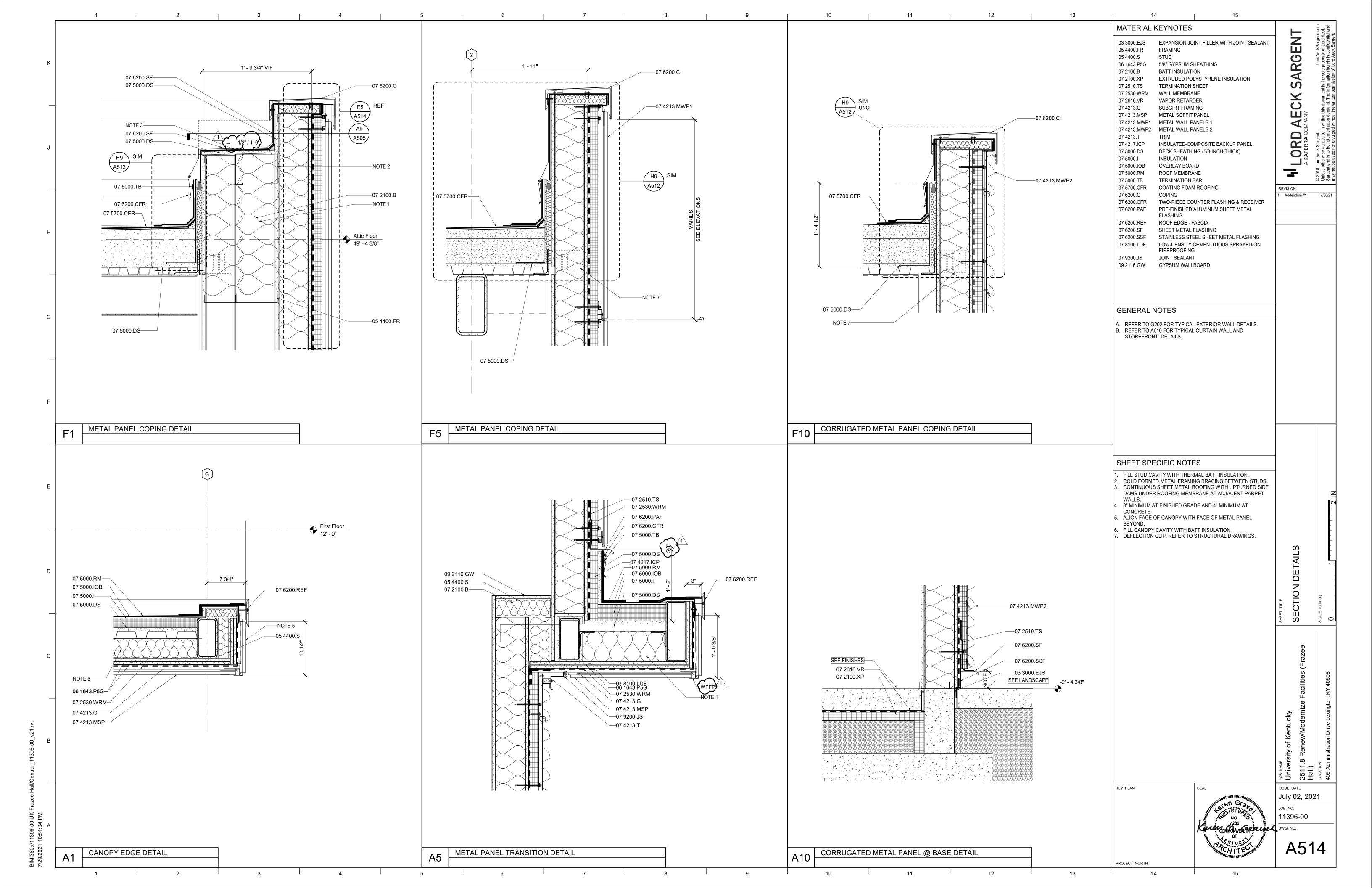


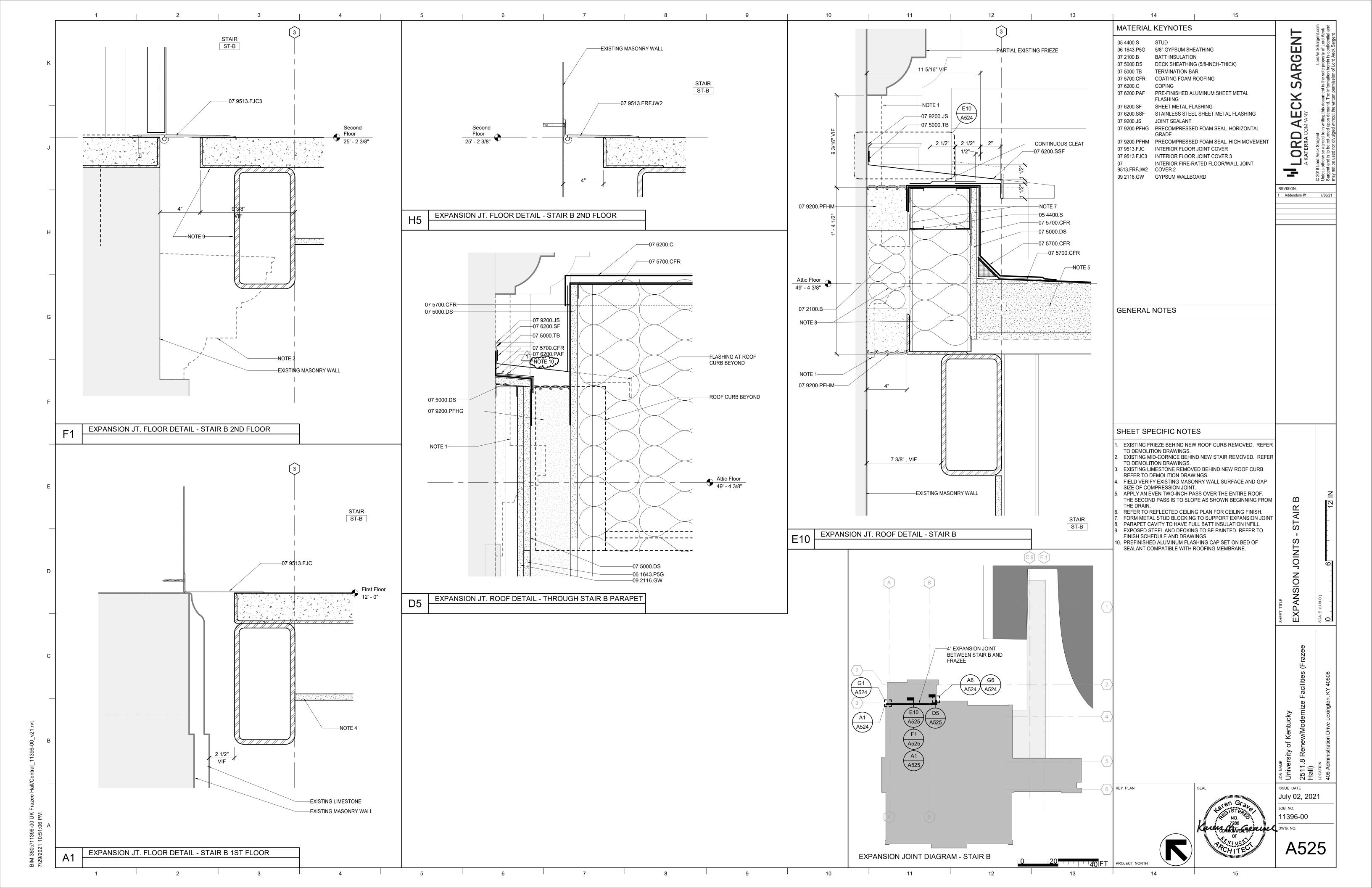


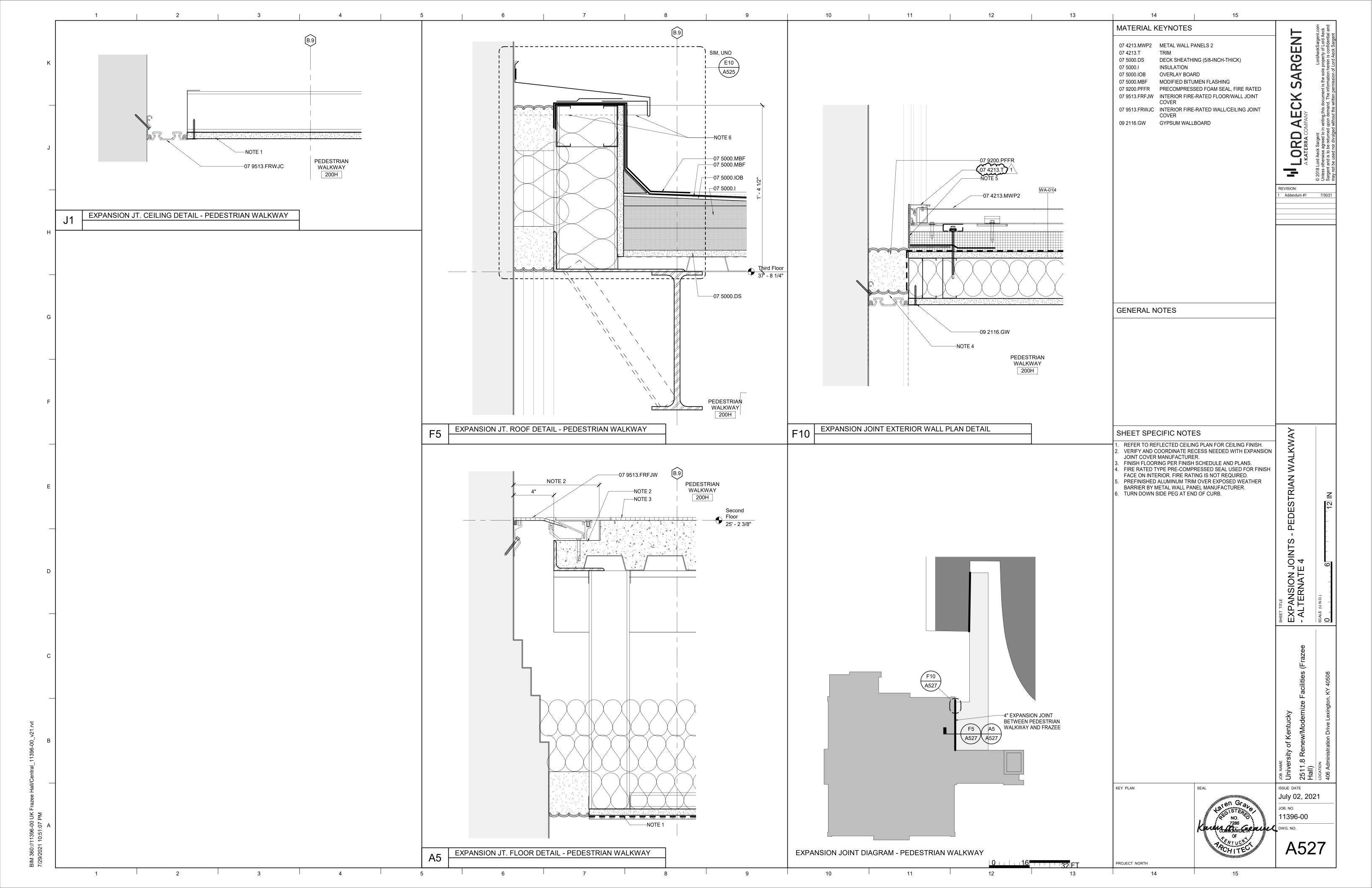


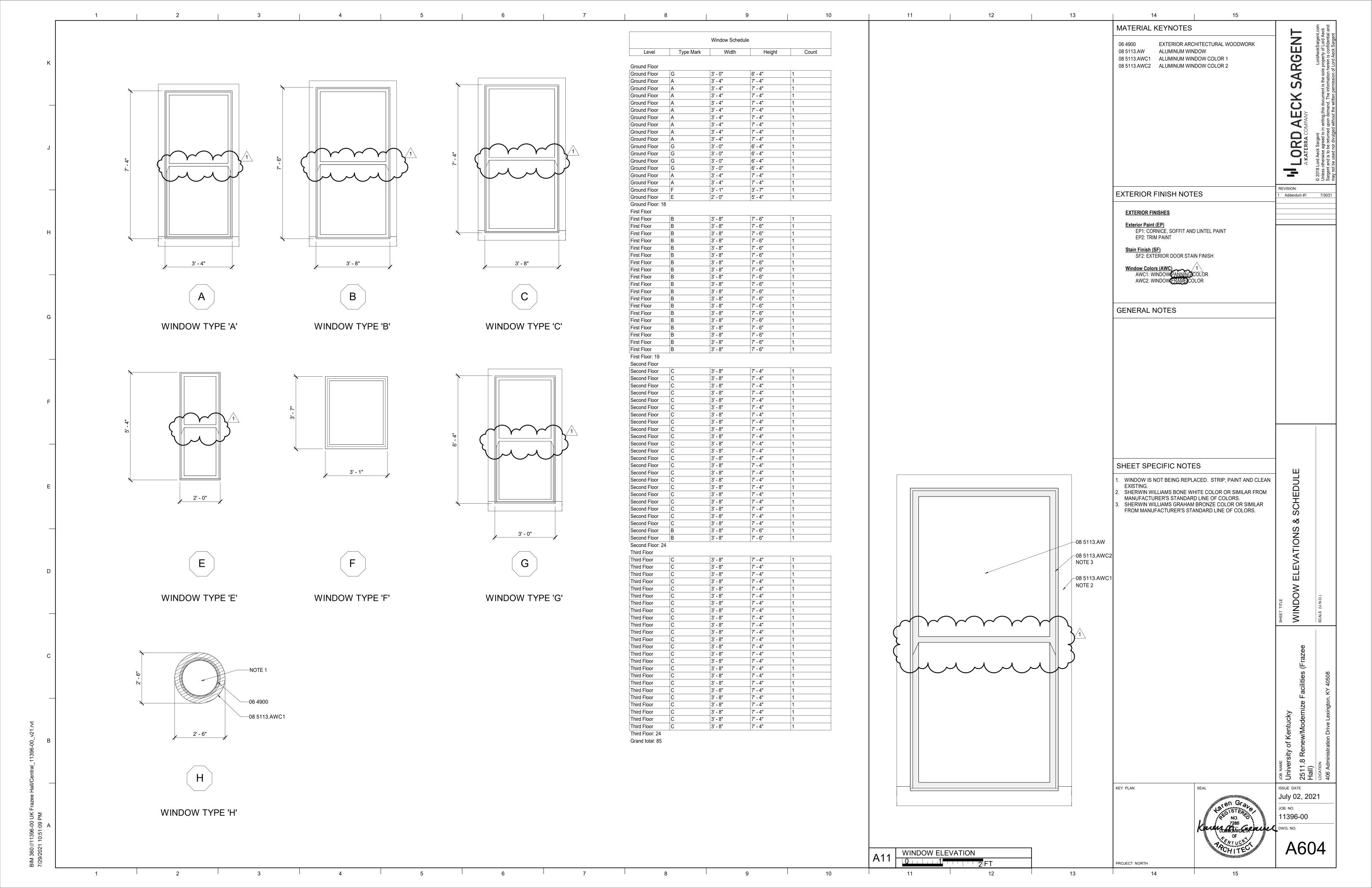


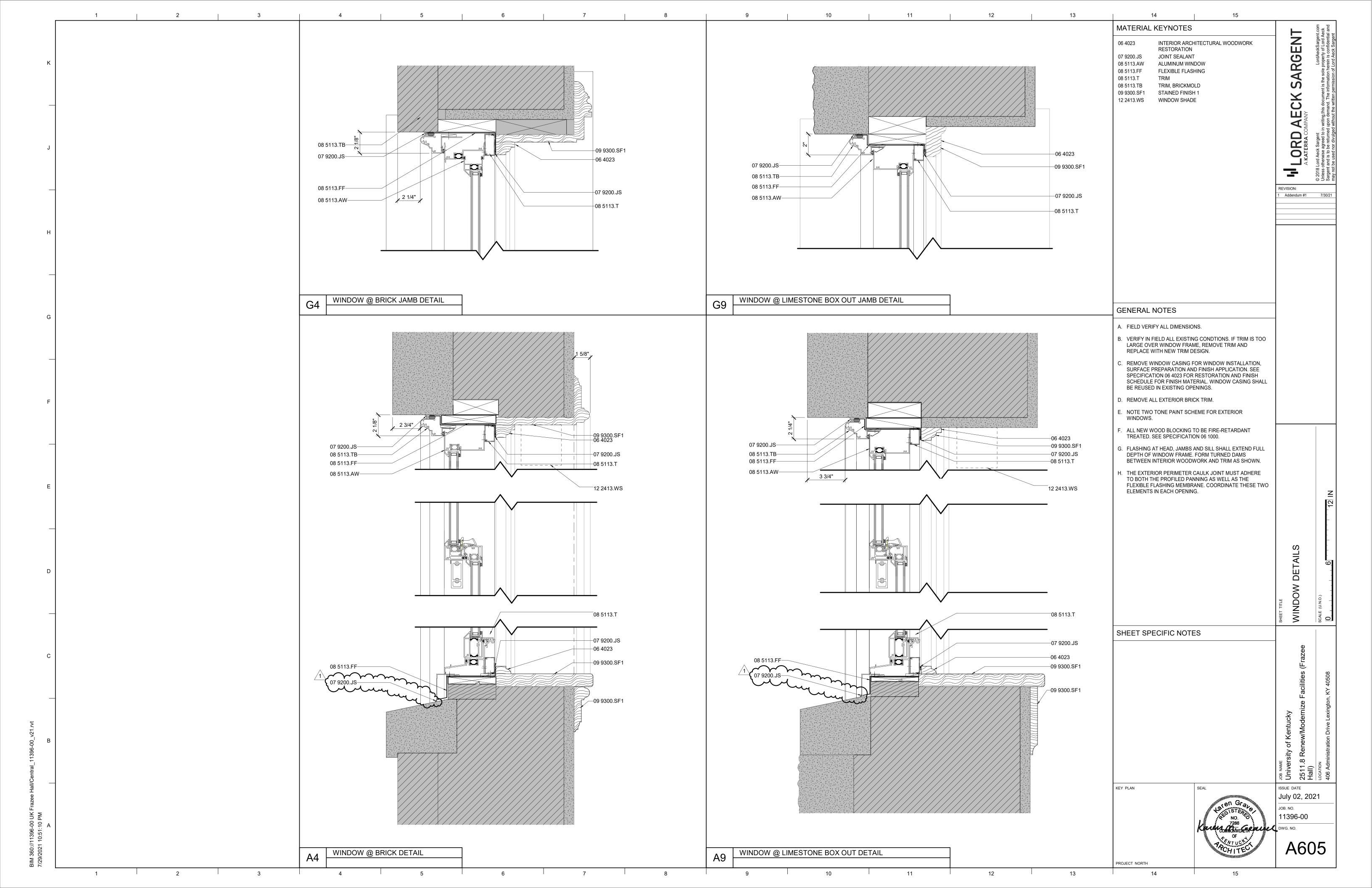


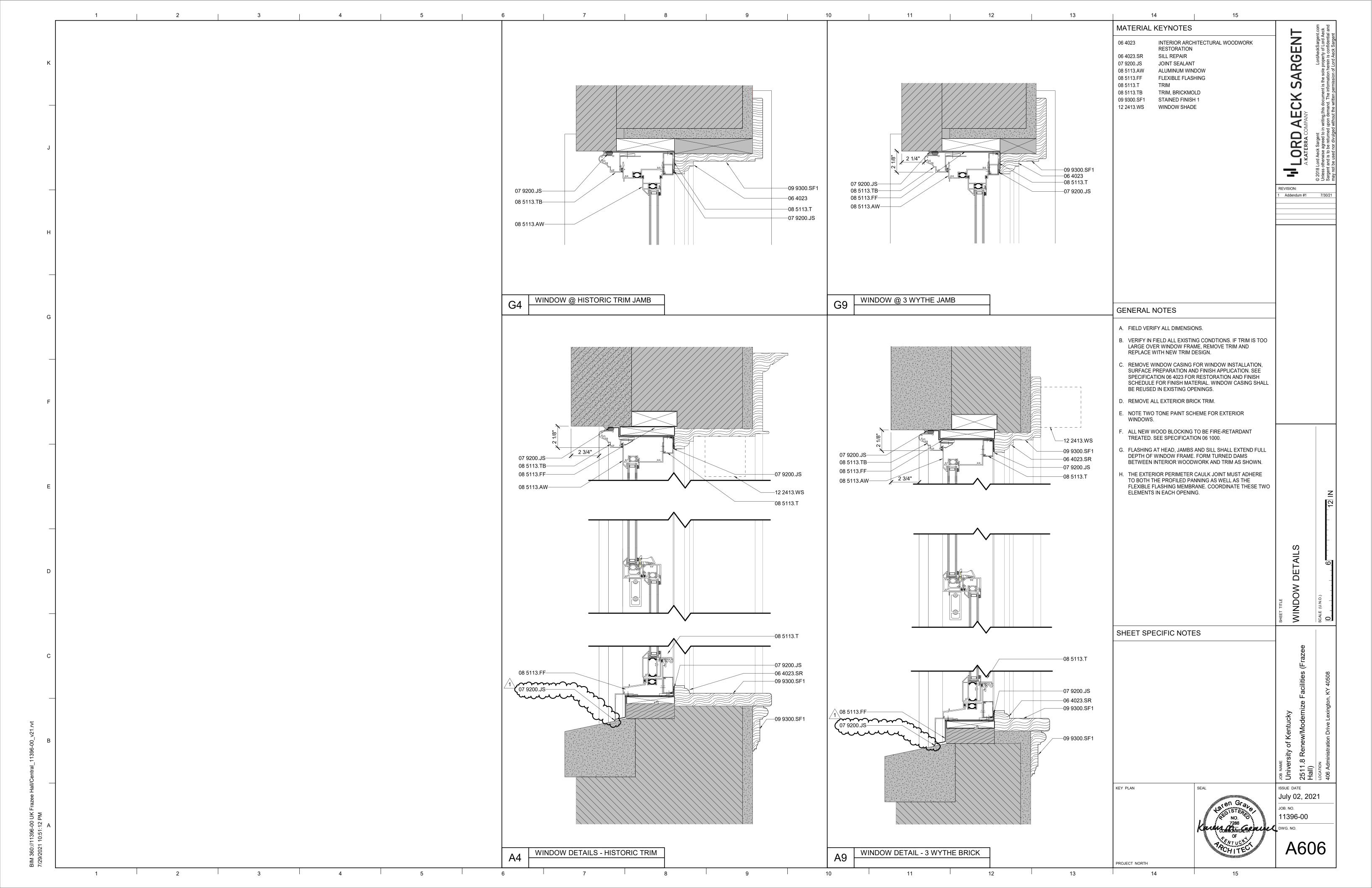


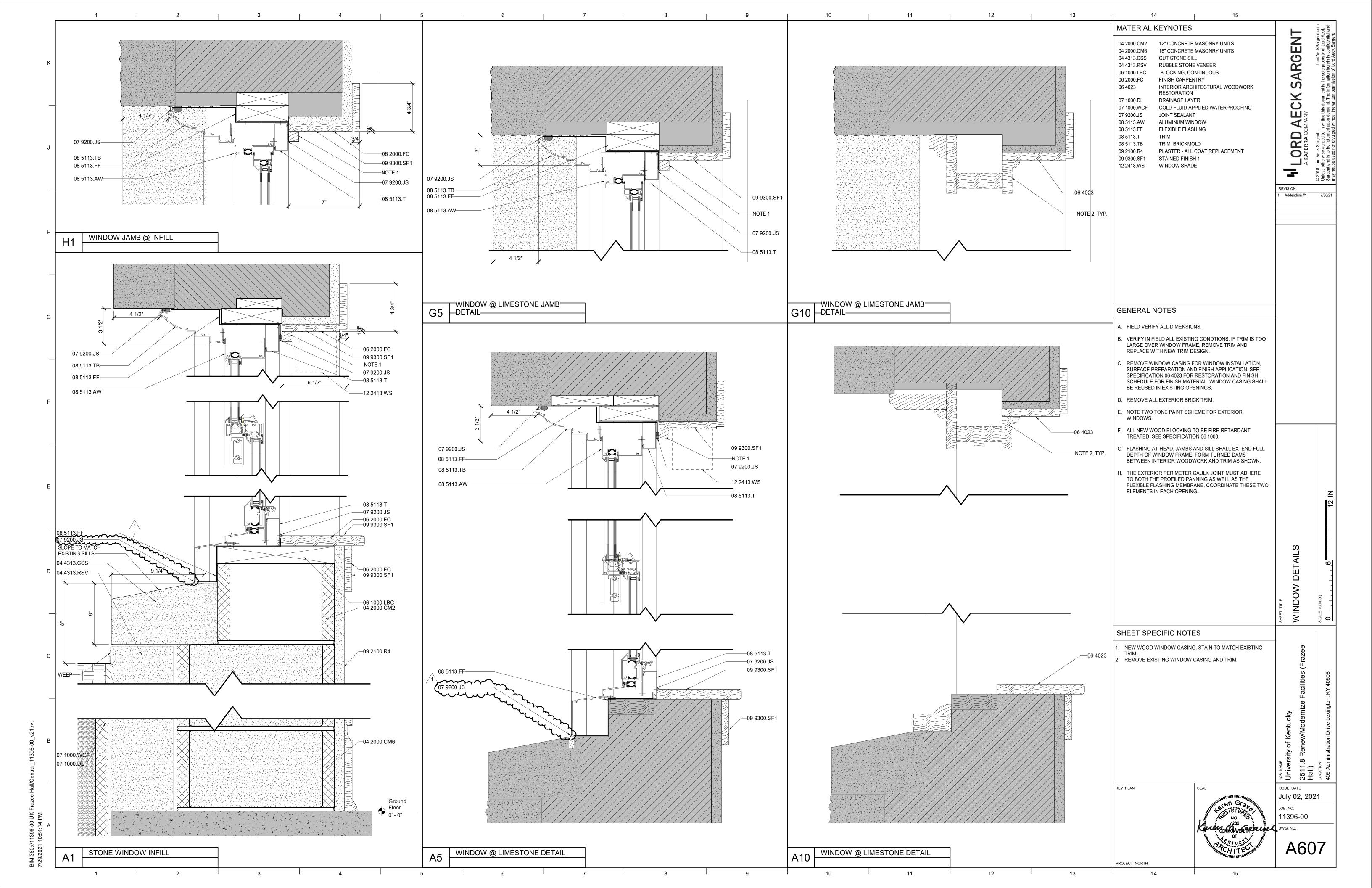


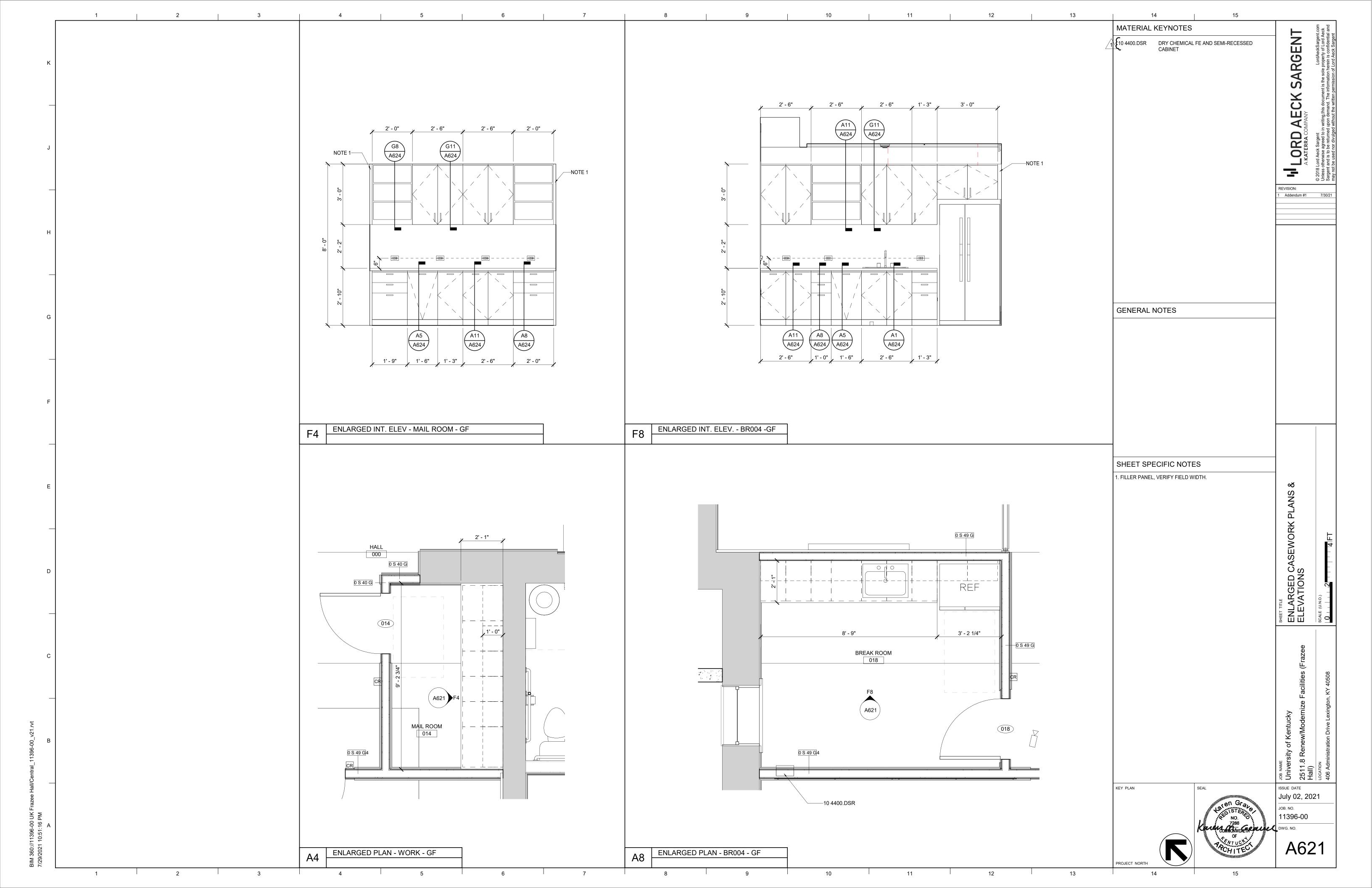


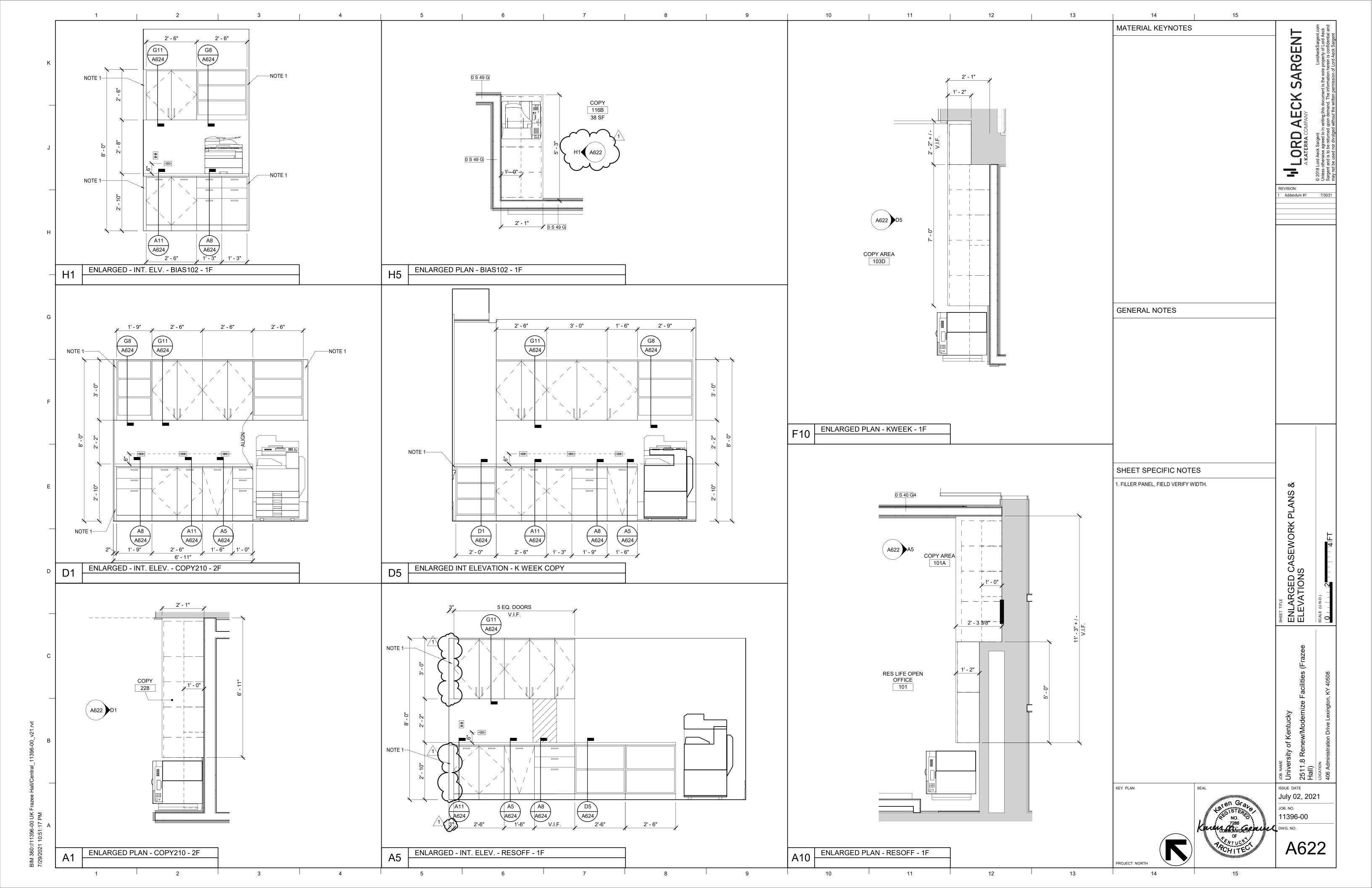


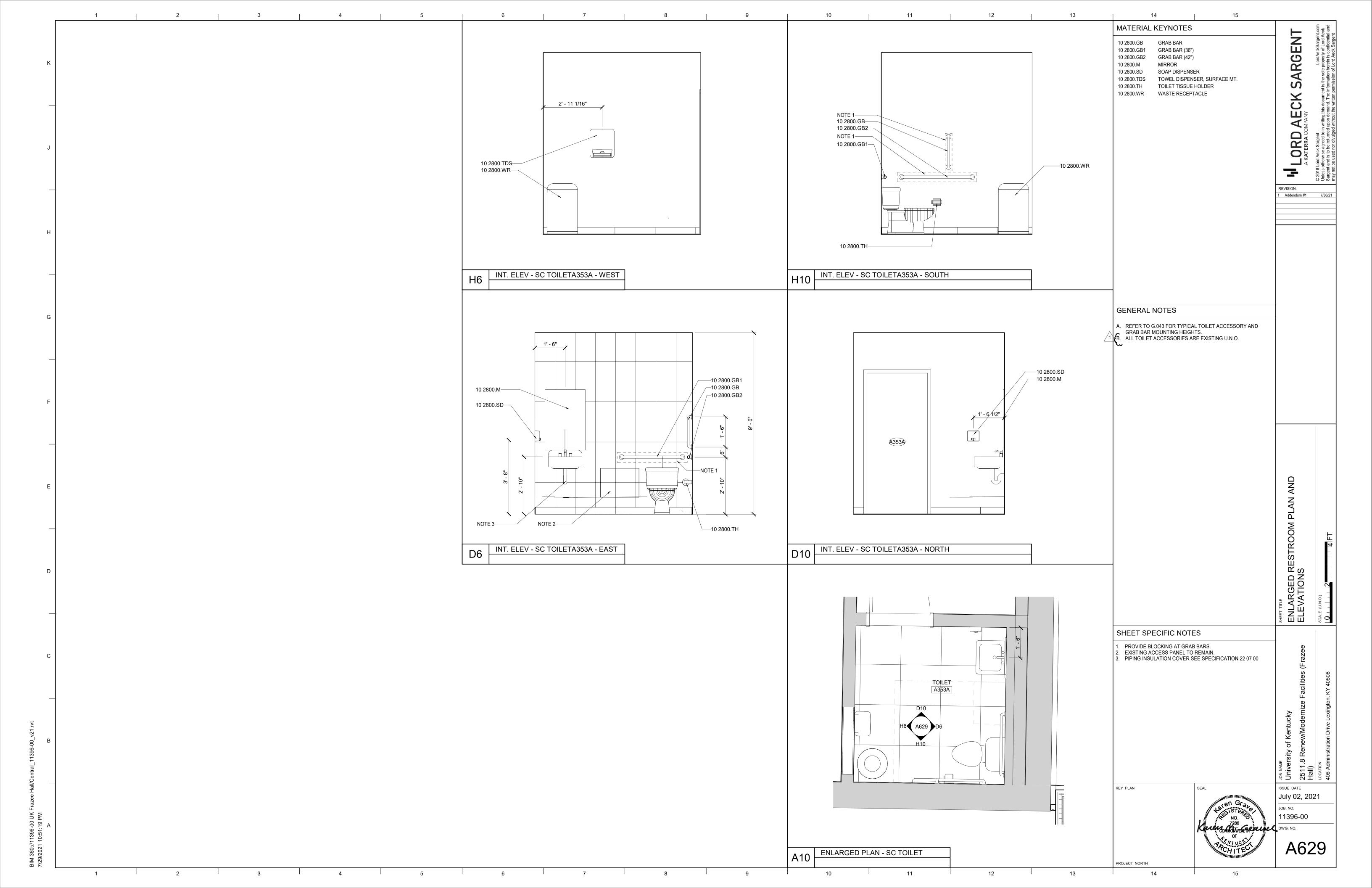


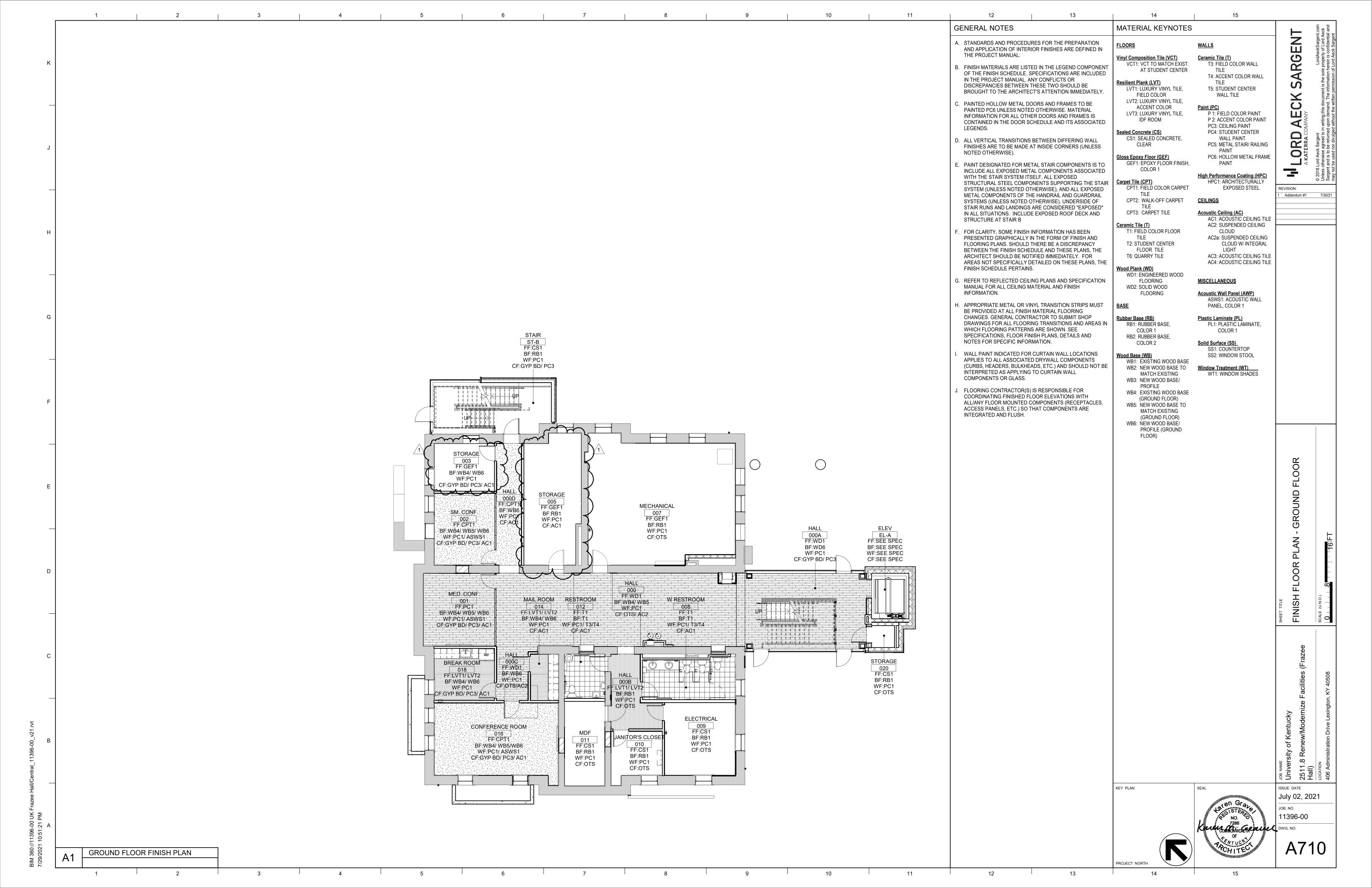


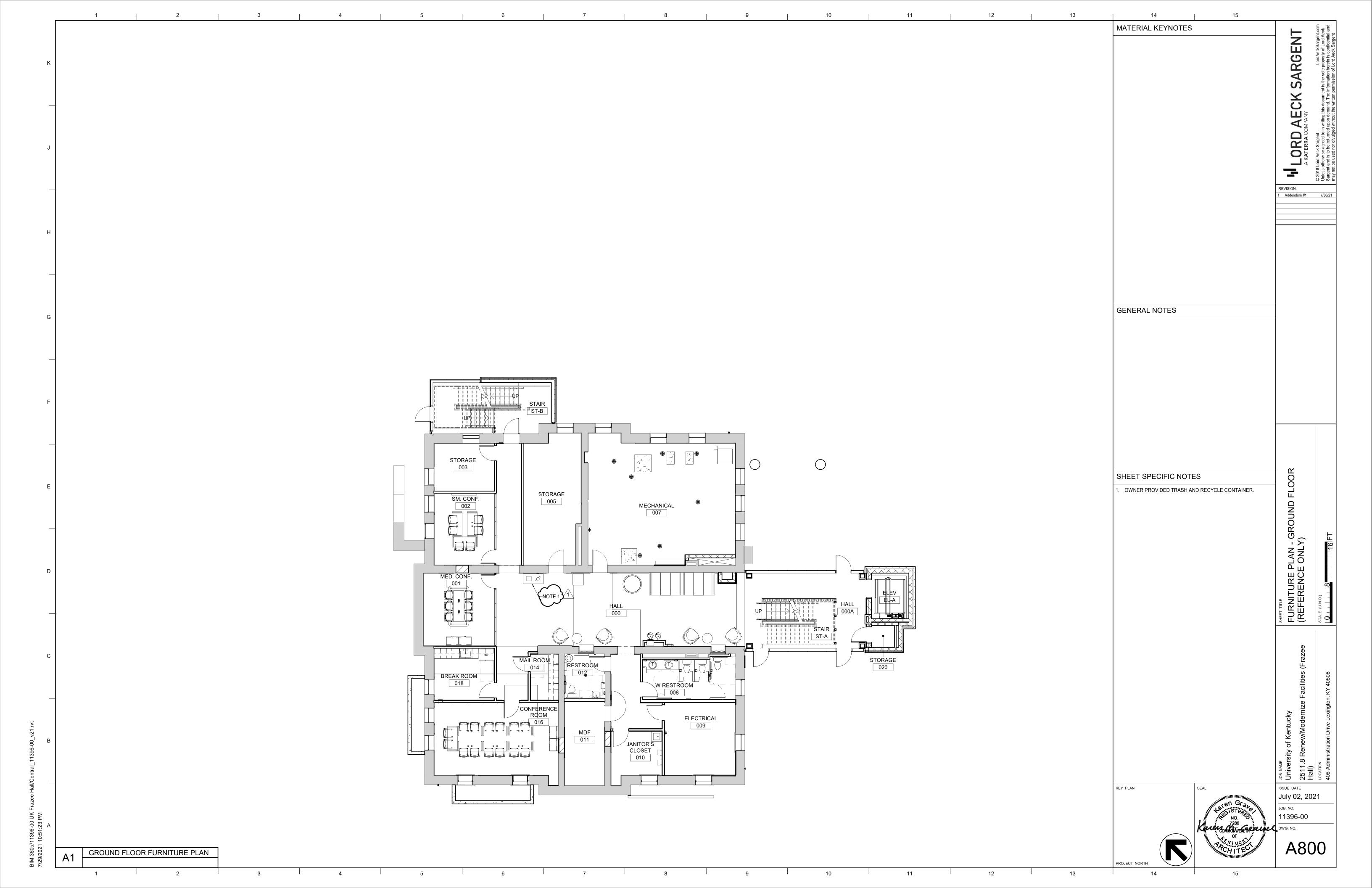


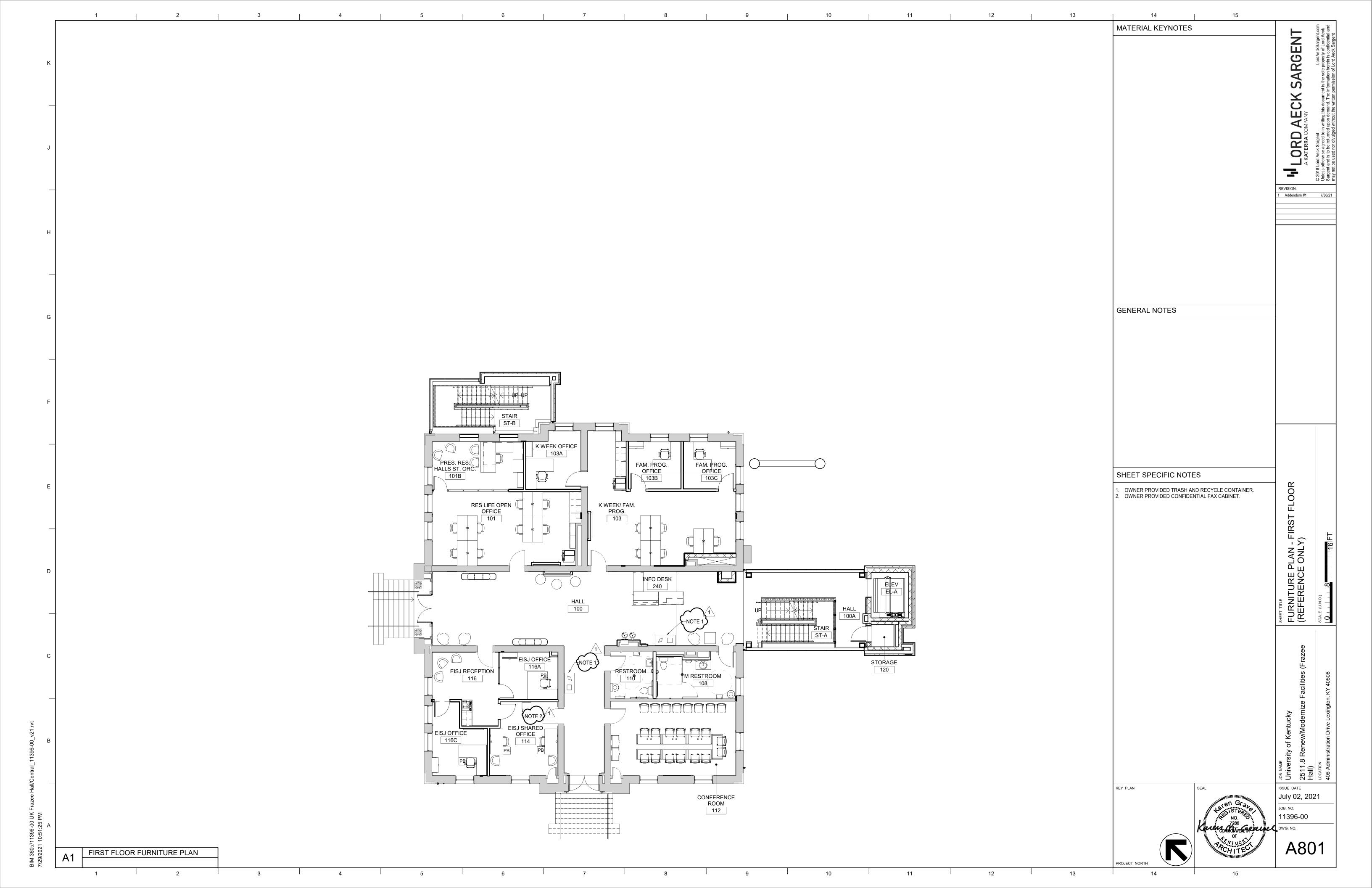






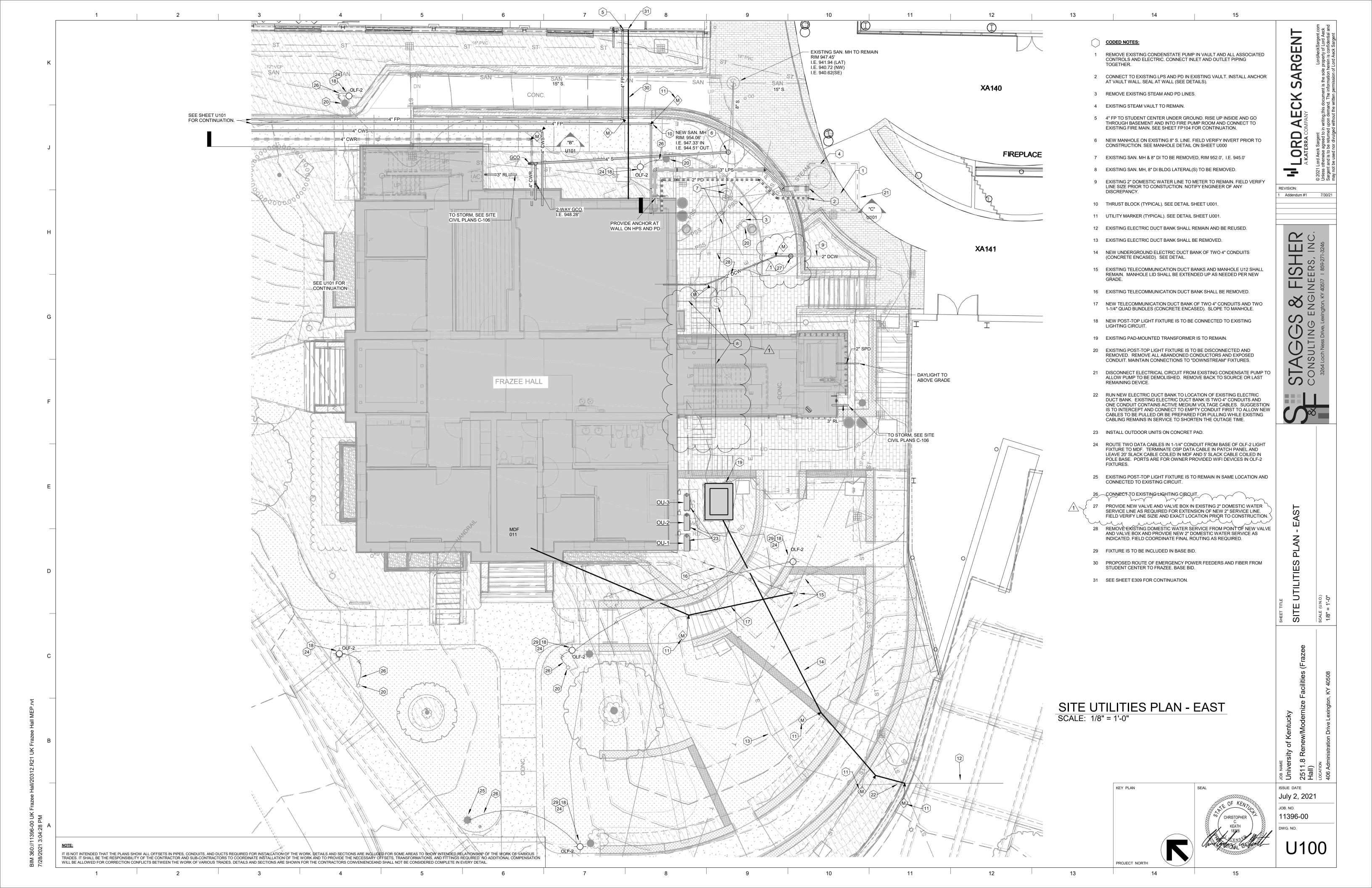


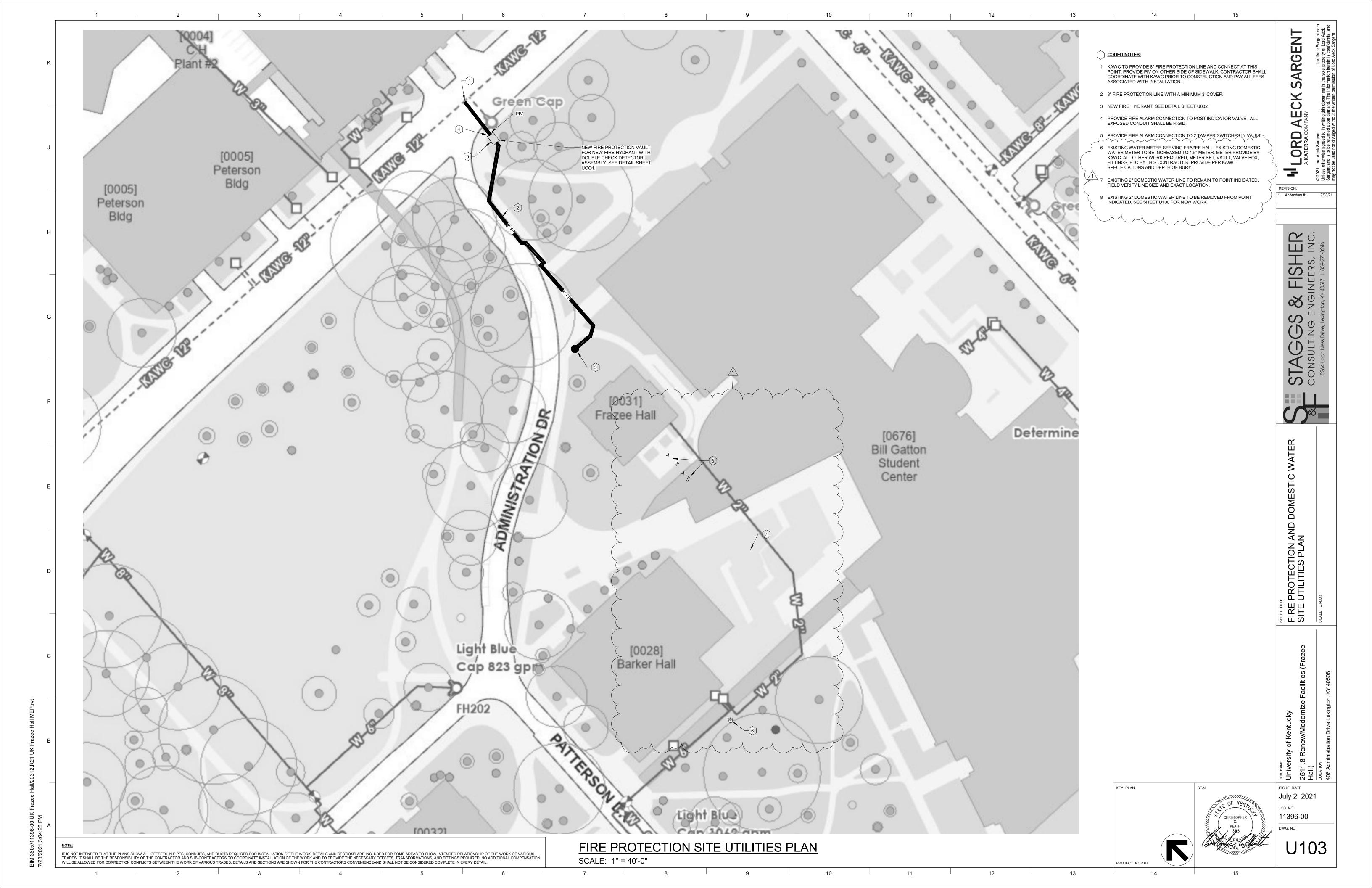


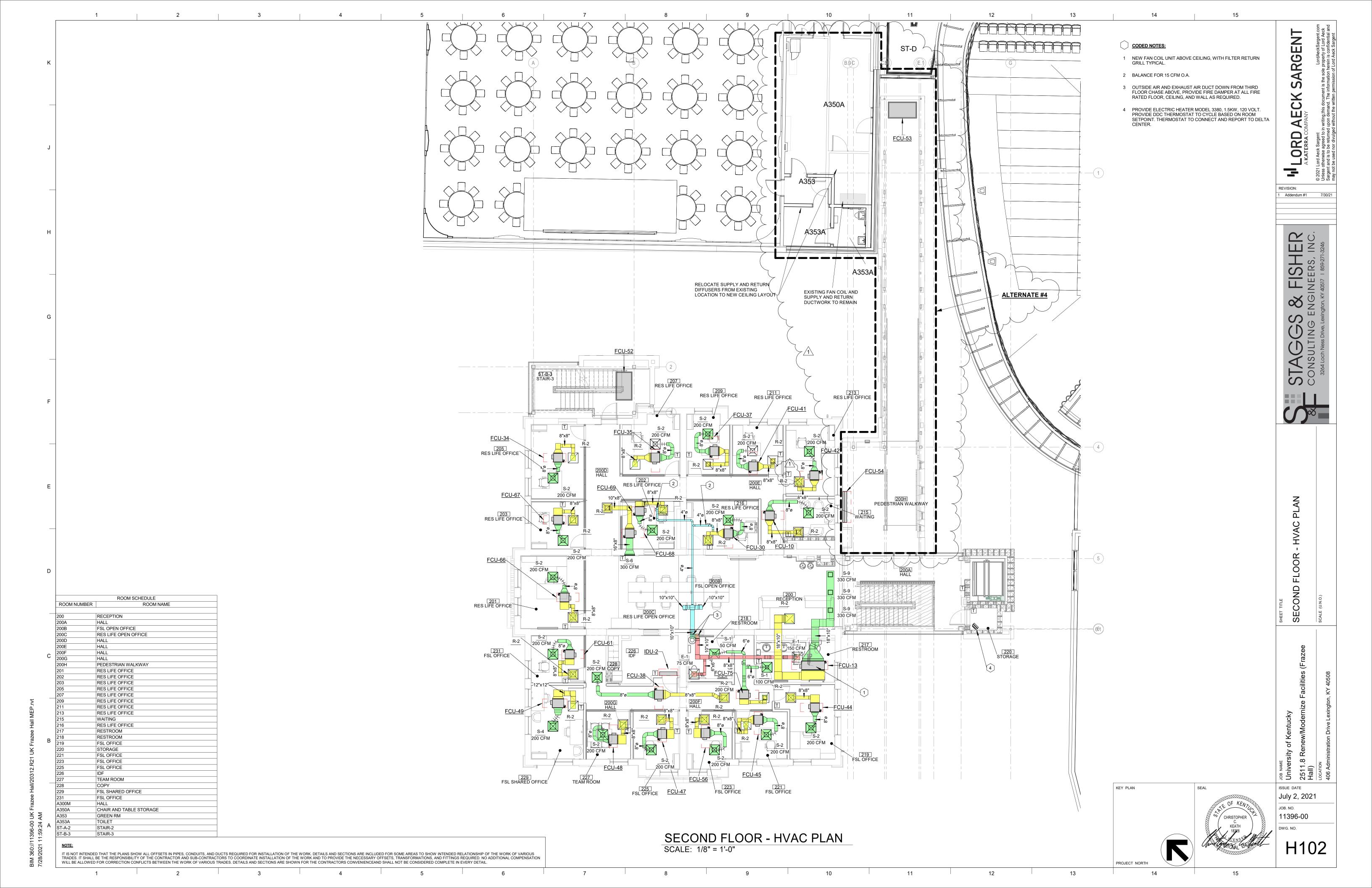


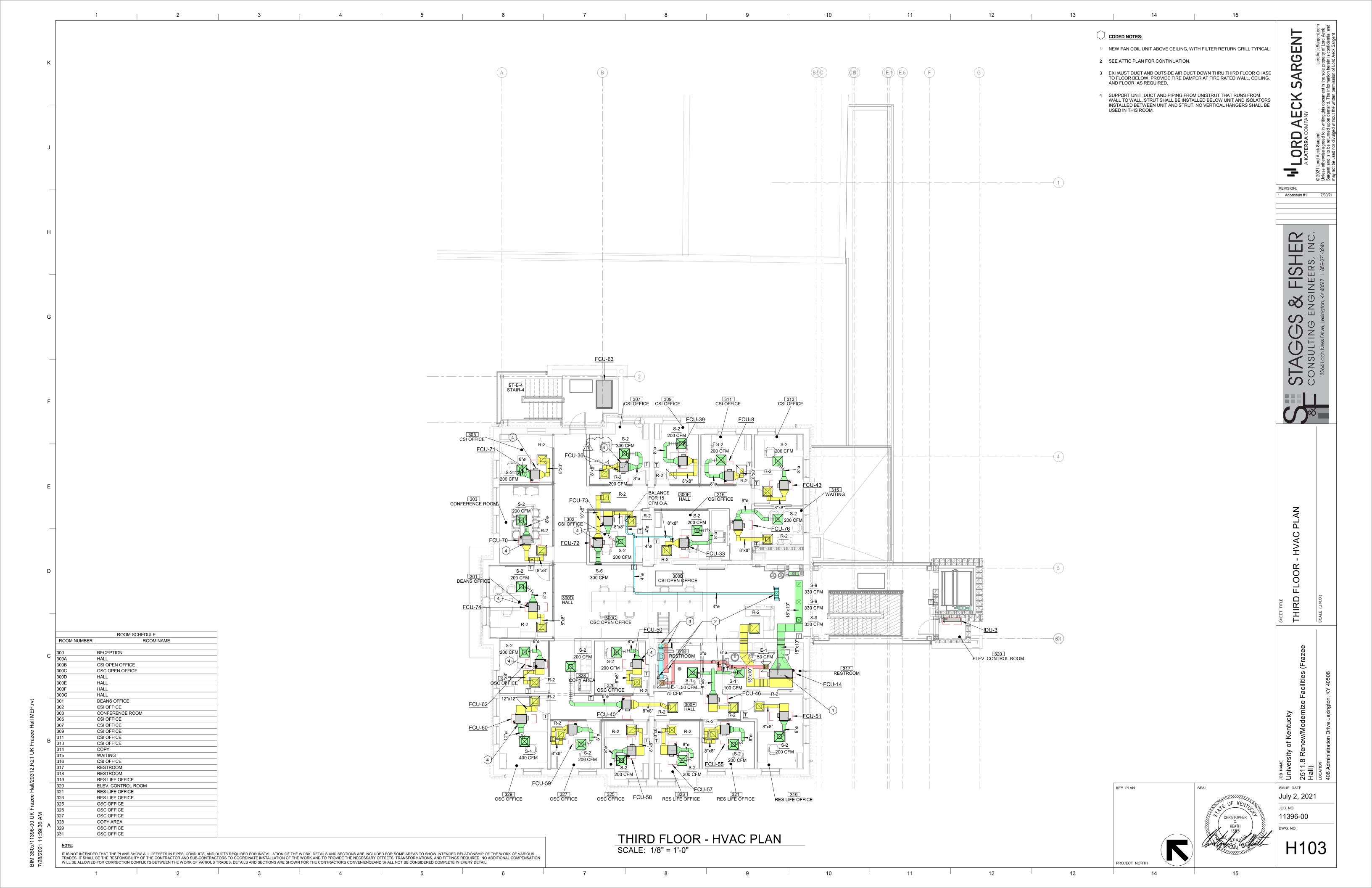


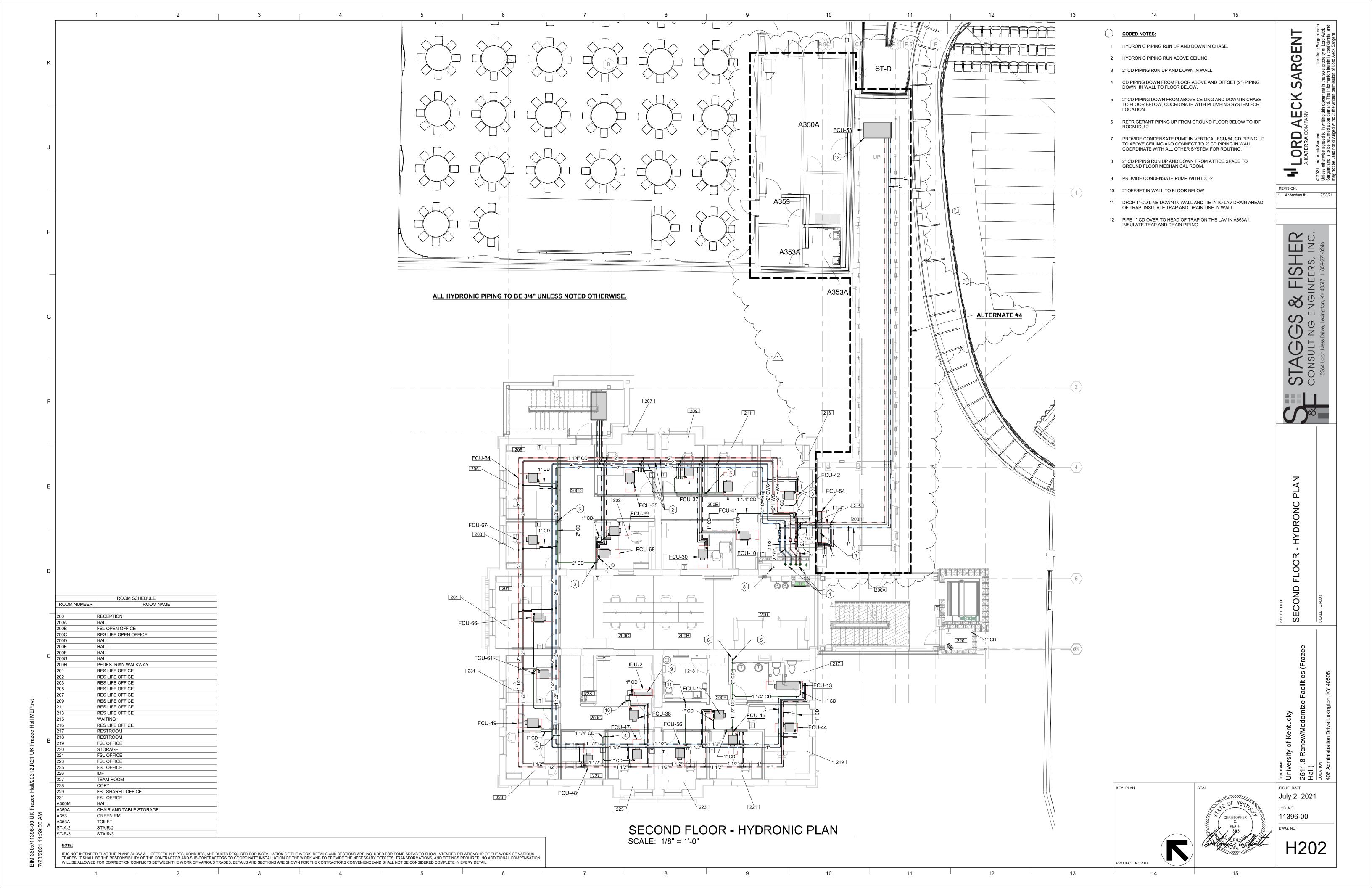


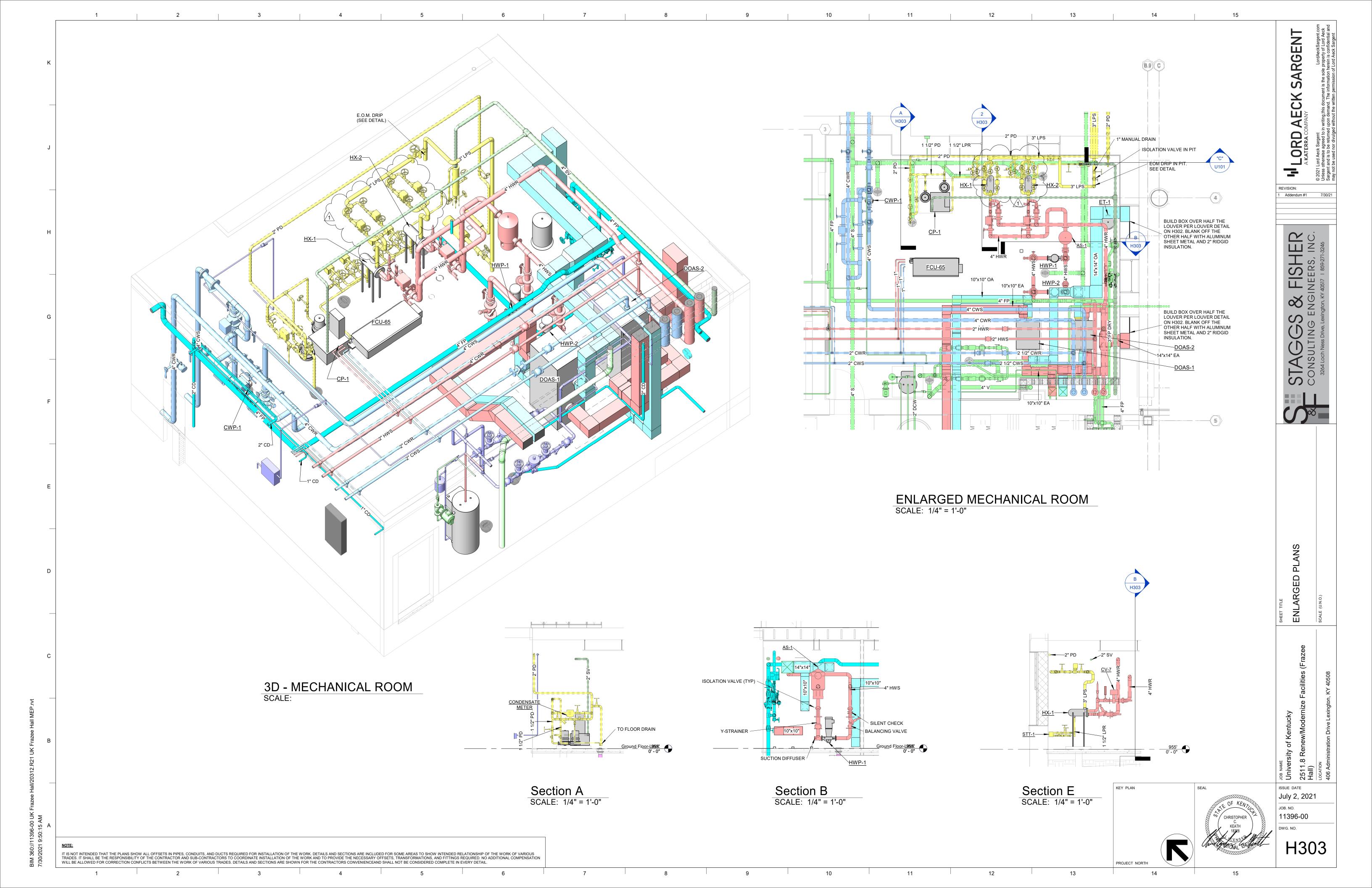


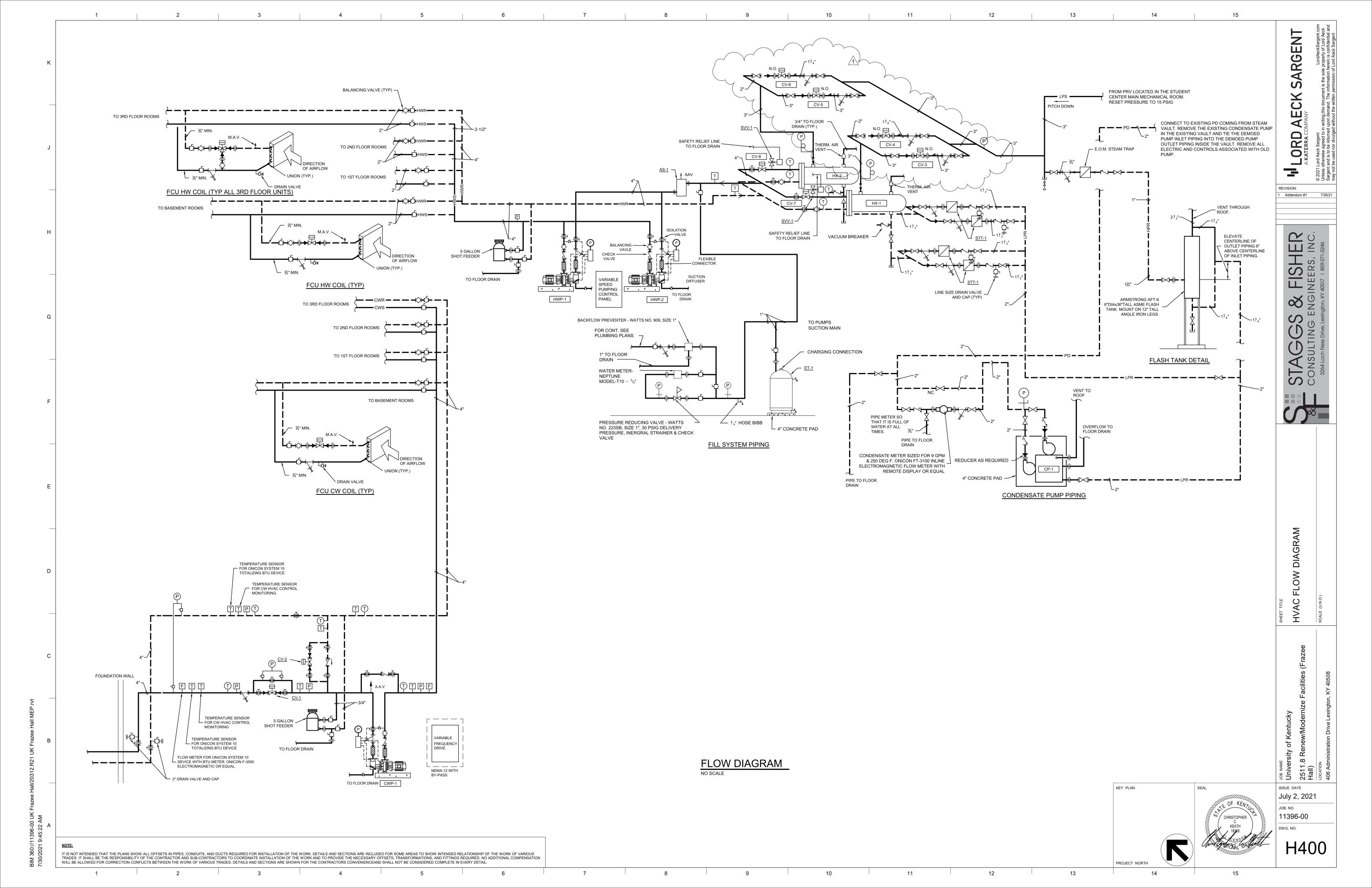












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ISSUE DATE July 2, 2021 JOB. NO. 11396-00 DWG. NO.

Point Name	AI	АО	ВІ	во	ΑV	BV	Loon	Sched	Trand	A lorm	Show On Graphic
	+	AU	ы	ВО	AV	DV	Loop	Scried		Alamii	
Zone Temp	Х								Х		х
Zone Setpoint Adjust	х										х
Zone Override			х						х		x
Fan Status			х						х		x
Fan Start/Stop				х					х		x
Reversing Valve				х					х		х
Compressor				х					х		х
Heating				х					х		х
Emergency Shutdown						х			х	х	х
Schedule								х			х
Heating Setpoint									х		х
Cooling Setpoint									х		х
High Zone Temp										х	
Low Zone Temp										х	
Compressor Runtime Exceeded										х	
Filter Change Required										х	
Fan Failure										х	
Discharge Air Temperature	х								х	х	х

HEATERS SHALL OPERATE FROM THEIR PACKAGED CONTROLS. MONITOR DOMES-TIC HOT WATER TEMPERATURE. PROVIDE REMOTE TEMPERATURE AND HIGH TEM-PERATURE ALARM INDICATION AND REMOTE TEMPERATURE ADJUSTMENT.

											1
	Har	Hardware Points					Sof				
Point Name	Al	АО	ВІ	во	AV	BV	Loop	Sched	Trend	Alarm	Show On Graphic
Building Supply Temp	х								Х	х	х
Water Heater Stop/Start						х		x	Х		x
Heater 1 Supply Temp	х								Х	х	х
Heater 2 Supply Temp	х								Х	х	х
Recirc Pump 1 Status			х						Х	х	х
Recirc Pump 2 Status			х						х	х	х
Return Water Temperature	х								Х		х
Heater 1 Setpoint					х				х		х
Heater 2 Setpoint					х				х		х
Recirc Pump 1						х			х		х
Recirc Pump 2						х			х		х

DUCTLESS MINI-SPLIT UNIT

DDC SHALL MONITOR AND MAKE SETPOINT CHANGES TO SYSTEM THRU SYSTEM MANUFACTURER'S GATEWAY.

COORDINATE WITH SPLIT SYSTEM MANUFACTURER TO PROVIDE THE FOLLOWING, AT A MINIMUM.

- SYSTEM SHALL CONTROL INDOOR UNIT TO MAINTAIN ROOM SETPOINT.
- DDC SYSTEM SHALL HAVE CAPABILITY OF OVERRIDING THERMOSTAT SET-POINTS. IN ADDITION, OWNER WILL HAVE CAPABILITY OF SETTING TEMEPRA-TURE SETPOINT RANGES THRU DDC SYSTEM.
- MONITOR AND PROVIDE NOTIFICASTION FOR ALL ALARMS.

		rdwa	re Poi	ints			Softw	vare Poi	nts		
Point Name	AI	АО	ВІ	во	AV	BV	Loop	Sched	Trend	Alarm	Show On Graphic
Zone Temp	х								х		х
Zone Setpoint Adjust	х										х
Zone Override			х						х		х
Fan Status			х						х		х
Fan Start/Stop				х					х		х
Reversing Valve				х					х		х
Compressor				х					х		х
Heating				х					х		х
Emergency Shutdown						Х			х	х	х
Schedule								х			х
Heating Setpoint									х		х
Cooling Setpoint									х		х
High Zone Temp										х	
Low Zone Temp										х	
Compressor Runtime Exceeded										х	
Filter Change Required										х	
Fan Failure										х	
Discharge Air Temperature	х								х	х	х

DOMESTIC HOT WATER HEATERS

DOMESTIC WATER RECIRCULATING PUMPS SHALL RUN CONTINUOUSLY DURING OC-CUPIED AND OFF DURING UNOCCUPIED. IF MULTIPLE PUMPS, PROVIDE LEAD/LAG CYCLE FOR EQUAL RUNTIME. PROVIDE STATUS/ALARM INFORMATION AS OUTLINED IN THE I/O SUMMARY.

	Har	rdwai	re Po	oints			Sof	tware Poi	nts		
Point Name	AI	АО	ВІ	во	ΑV	в۷	Loop	Sched	Trend	Alarm	Show On Graphic
Building Supply Temp	х								х	х	х
Water Heater Stop/Start						х		х	х		х
Heater 1 Supply Temp	×								х	х	х
Heater 2 Supply Temp	х								х	х	х
Recirc Pump 1 Status			х						х	х	х
Recirc Pump 2 Status			х						х	х	х
Return Water Temperature	×								х		х
Heater 1 Setpoint					х				х		х
Heater 2 Setpoint					х				х		х
Recirc Pump 1						х			х		х
Recirc Pump 2						х			х		х

SUMP PUMPS/DUPLEX STORM AND SEWAGE EJECTORS (INCLUDING IN EXTERIOR

MONITOR ALL SUMP PUMPS, STORM EJECTORS, AND SEWAGE EJECTORS. PRO-VIDE ALARM FOR HIGH WATER LEVEL.

	Ha	rdwar	e Poi	nts			Softw	/are Poi	nts		
Point Name	AI	AO	ВІ	во	ΑV	BV	Loop	Sched	Trend	Alarm	Show On Grap
High Level			Х						х	х	х
Pump Status			Х						х	х	х
Power to Pumps			Х						х	х	Х

EXTERIOR VAULT EXHAUST FAN

MONITOR VAULT TEMPERATURE AND STATUS OF THE EXTERIOR VAULT EXHAUST FANS.

	Ha	rdwar	re Poi	nts			Softw	vare Poi	nts		
Point Name	Al	АО	ВІ	во	ΑV	BV	Loop	Sched	Trend	Alarm	Show On Graphic
Temperature	х								х	х	х
Temperature Setpoint		х							х		x
Fan Status			х						х	х	х
Fan Command				х					х		х
Power to Fan			х						х	х	х

SEQUENCE OF OPERATION - MISCELLANEOUS ITEMS

1.1 MULTIPLE COMPONENTS IN SYSTEMS

A. WHERE MORE THAN ONE COMPONENT IS SHOWN IN A SYSTEM (SUCH AS FANS, VALVES, DAMPERS, ETC.) COMPONENTS SHALL OPERATE TOGETHER IN PARALLEL SEQUENCE.

1.2 RANDOM START SEQUENCE

A. WHEN EMERGENCY POWER OPERATION BEGINS, PROVIDE RANDOM START SEQUENCE FOR FANS AND PUMPS CONNECTED TO THE EMERGENCY POWER SYSTEM SO THAT ALL MOTORS DO NOT START AT ONCE (TO REDUCE START-UP LOAD ON EMERGENCY GENERATOR). START MOTORS REQUIRED BY THE SEQUENCE ONE AT A TIME, WITH A 20 SECOND TIME DELAY (ADJUSTABLE) BETWEEN EACH START

1.3 SAFETY CONTROLS

A. CONNECT ALL SAFETY CONTROLS TO THE SYSTEM SO THAT IF ANY SAFETY CONTROL ACTIVATES, IT WILL PERFORM THE SAFETY FUNCTION AT ALL TIMES THAT ITS SYSTEM IS IN HAND (MANUAL) OR AUTOMATIC POSITION. MANUAL OPERATION SHALL NOT BYPASS ANY FIRE, SMOKE, LOW OR HIGH LIMIT CONTROLS OR SEQUENCES THAT REQUIRE DAMPERS TO BE OPENED BEFORE FANS START, ETC.

- A. <u>CAMPUS FREEZE PROTECTION</u>: WHEN ISSUED THE DOAS AND FAN COILS SHALL LOCK INTO STANDBY/OCCUPIED MODE.
- B. <u>CAMPUS HOT WATER</u>: WHEN ISSUED LOCK ON OR OFF THE HEATING HOT WATER SYSTEM AS COMMANDED BY THE EIP.
- C. <u>CAMPUS CHILLED WATER</u>: WHEN ISSUED LOCK ON OR OFF THE CHILLED WATER SYSTEM AS COMMANDED BY THE EIP.

1.5 CONDESATE METER:

A PROVIDE CONDENSATE METER THAT IS RATED FOR 300°F FOR 2" AND SMALLER IS REGISTERED IN GALLONS THE METER MUST ACCEPT PULSERS TO PERMIT MONITORING BY THE CAMPUS FMS. MUST HAVE A LOCAL READOUT IN A NEMA 4 ENCLOSURE AND INTERFACE WITH AN ONICON OR EQUAL TOTALIZING DISPLAY

1.6 CHILLED WATER BTU METER:

A. PRIMARY CHILLED WATER METER SHALL REPORT BACK TO THE CAMPUS FMS. MUST HAVE A LOCAL READOUT IN A NEMA 4 ENCLOSURE AND INTERFACE WITH AN ONICON OR EQUAL TOTALIZING DISPLAY MODULE. FLOW METER SHALL BE ELECTROMAGNETIC INSERTION STYLE.

1.7 DOMESTIC WATER METER:

A. DOMESTIC WATER METER IS REGISTERED IN GALLONS. THE METER MUST ACCEPT PULSERS TO PERMIT MONITORING BY THE CAMPUS FMS. MUST HAVE A LOCAL READOUT IN A NEMA 4 ENCLOSURE AND INTERFACE WITH AN ONICON OR EQUAL TOTALIZING DISPLAY MODULE.

1.8 BLUE LIGHT:

A. PROVIDE 10 COLOR SCENE CAMPUS STANDARD LIGHTING CONTROL THROUGH THE DELTA ROOM OF THE

KEY PLAN

SEAL

CONTROL SYSTEM MATRIX

CONTROL WIRE AND CONTROL POWER WIRING

INSTALL PRESSURE, TEMPERATURE SENSORS

PROVIDE PRESSURE, TEMPERATURE SENSORS IRRIGATION SYSTEM BACNET INTEGRATOR

ELECTRICAL METER, INTERFACE, INSTALL AND PROGRAMMING

CONDENSATE METER, INTERFACE, INSTALL AND PROGRAMMING DOM. WATER METER, INTERFACE, INSTALL AND PROGRAMMING

INTERFACE TO UNITS BACNET/MSTP INTERFACE, SEE POINTS BELOW

UNIT SHALL BE ENABLED THROUGH AN OCCUPIED/UNOCCUPIED SCHEDULE.

DURING OCCUPIED UNIT SHALL BE SET TO PROVIDE 325 CFM (ADJ.) OUTSIDE

AIR AND 225 CFM (ADJ.) EXHAUST AIR. DURING UNOCCUPIED TIMES UNIT SHALL

BE SET TO PROVIDE 200 CFM (ADJ.) OUTSIDE AIR AND 100 CFM (ADJ.) EXHAUST

AIR. IF OUTSIDE AIR TEMPERATURE DROPS BELOW 0 DEG. F. THE UNIT SHALL

UNIT SHALL OPERATE TO ON INTERNAL CONTROLLER TO PROVIDE NEUTRAL

Binary Values

Status - Supply fan on by Modbus

Status - Exhaust fan on by Modbus

Unit is in dehumidification Mode

Active when any alarm is active

Alarm - Emergency Stop Activated

Alarm - Compressor High Pressure

Alarm - Control Temperature Sensor Failure 68 BV Alarm_SupplyDewpointSensorFailure Alarm - Supply Dewpoint Temperature Sensor Failure R 0 1

Control Temperature; Air leaving enthalpy wheel

Pressure drop across supply air fan venturi

Pressure drop across exhaust air fan venturi

Analog Values

Occupied Heating set point

Unoccupied Heating set point

Analog Values

Compressor Lifetime Run Hours

Enthalpy Wheel Lifetime Run Hours

Supply Blower Lifetime Run Hours

Exhaust Blower Lifetime Run Hours

Occupied dehumidification set point

Occupied Supply Air CFM set point

Occupied Exhaust Air CFM setpoint

Unoccupied dehumidification set point

Unoccupied Supply Air CFM set point

Unoccupied Exhaust Air CFM setpoint

Supply Air Dewpoint Temperature; Air leaving dx coil R -58 F 221 F

Supply Air Dry Bulb Temperature; Air leaving the unit R -58 F 221 F

Unit is in Heating Mode

Unit is in Defrost Mode

Alarm - Dirty Air Filters

Reset alarms by BMS Analog Inputs

BV Alarm_SupplyDryBulbSensorFailure Alarm - Supply Dry Bulb Temperature Sensor Failure

Unit is in Economizer Mode

Alarm - Drain Pan Overflow

Occupied Mode off/on by BMS - Optional

Status - Compressor relay output energized

Status - Reversing valve relay output energized

Alarm - Loss of Airflow or ECM Communications

Status - Enthalpy wheel relay output energized

Turn unit off/on by BMS

AIR AT 72 DEG. F. (ADJ.) TO THE OCCUPIED SPACES.

66 BV Alarm_CompressorLowPressure Alarm - Compressor Low Pressure

CW METER, INTERFACE, INSTALL AND PROGRAMMING

| x | x | x | x | x |

Access | Inactive | Active

R 0.0 iwc 1.00 iwc

R 0.0 iwc 1.00 iwc

R/W 50.0 F 99.0 F

R/W 0.0 F 90.0 F

R/W 100 cfm 500 cfm

R/W 100 cfm 500 cfm

R/W 50.0 F 99.0 F

R/W 100 cfm 500 cfm

R/W 100 cfm 500 cfm

Access Min Max

R 0h 200000h

R 0h 200000h

200000h

R/W 0.0 F 90.0 F

INSTALL COMMUNICATION CABLE

INSTALL MECHANICAL EQUIPMENT

INSTALL FAN COIL CONTROLS

PROGRAM IRRIGATION SYSTEM PROVIDE AND INSTALL VFDS

LIGHTING CONTROL AND INTERFACE

DEDICATED OUTSIDE AIR UNITS:

AVAILABLE FOR INTERFACE.

BE CYCLED OFF.

Index Type Variable Name

BV UnitOn

BV SupplyFan_On

1 BV ExhaustFan_On

BV Compressor_On

13 BV ReversingValve_On

14 BV EnthalpyWheel_On

2 BV Occupied

30 BV CoolMode

32 BV EconMode

BV HeatMode

60 BV Alarm_Global

80 BV Alarm_Reset

Index Type Variable Name

ndex Type Variable Name 50 AV OCC_CoolingSetPoint

Al ControlTemperature

2 Al SupplyDewpointTemperature

4 Al SupplyDifferentialPressure

5 Al ExhaustDifferentialPressure

AV OCC_HeatingSetPoint

52 AV OCC_SA_CFM_SetPoint

54 AV UNOCC_CoolingSetPoint

55 AV UNOCC HeatingSetPoin

Index Type Variable Name 10 IV RunHours_Compressor

56 AV UNOCC_SA_CFM_SetPoint

57 AV UNOCC EA CFM SetPoint

IV RunHours_EnthalpyWheel

2 IV RunHours_SupplyBlower

IV RunHours_ExhaustBlower

3 AV OCC_EA_CFM_SetPoint

Al SupplyDryBulbTemperature

BV DefrostMode

BV Alarm_Airflow

62 BV Alarm_DrainPan

64 BV Alarm_DirtyAirFilter

BV Alarm_EmergencyShutdown

BV Alarm_CompressorHighPressure

BV Alarm_ControlTempSensorFailure

INSTALL CONTROL PANEL

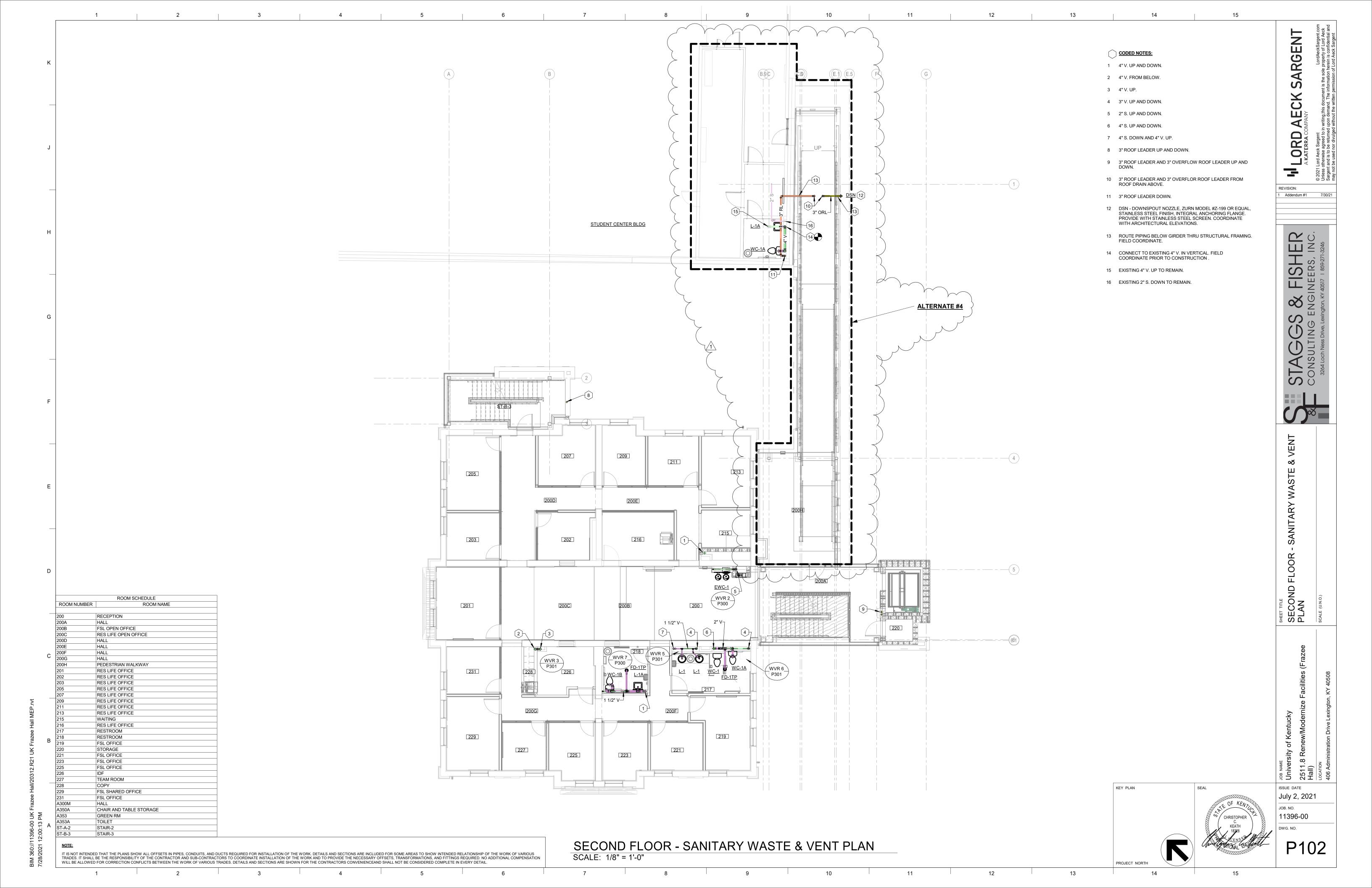
PROGRAM CONTROLS

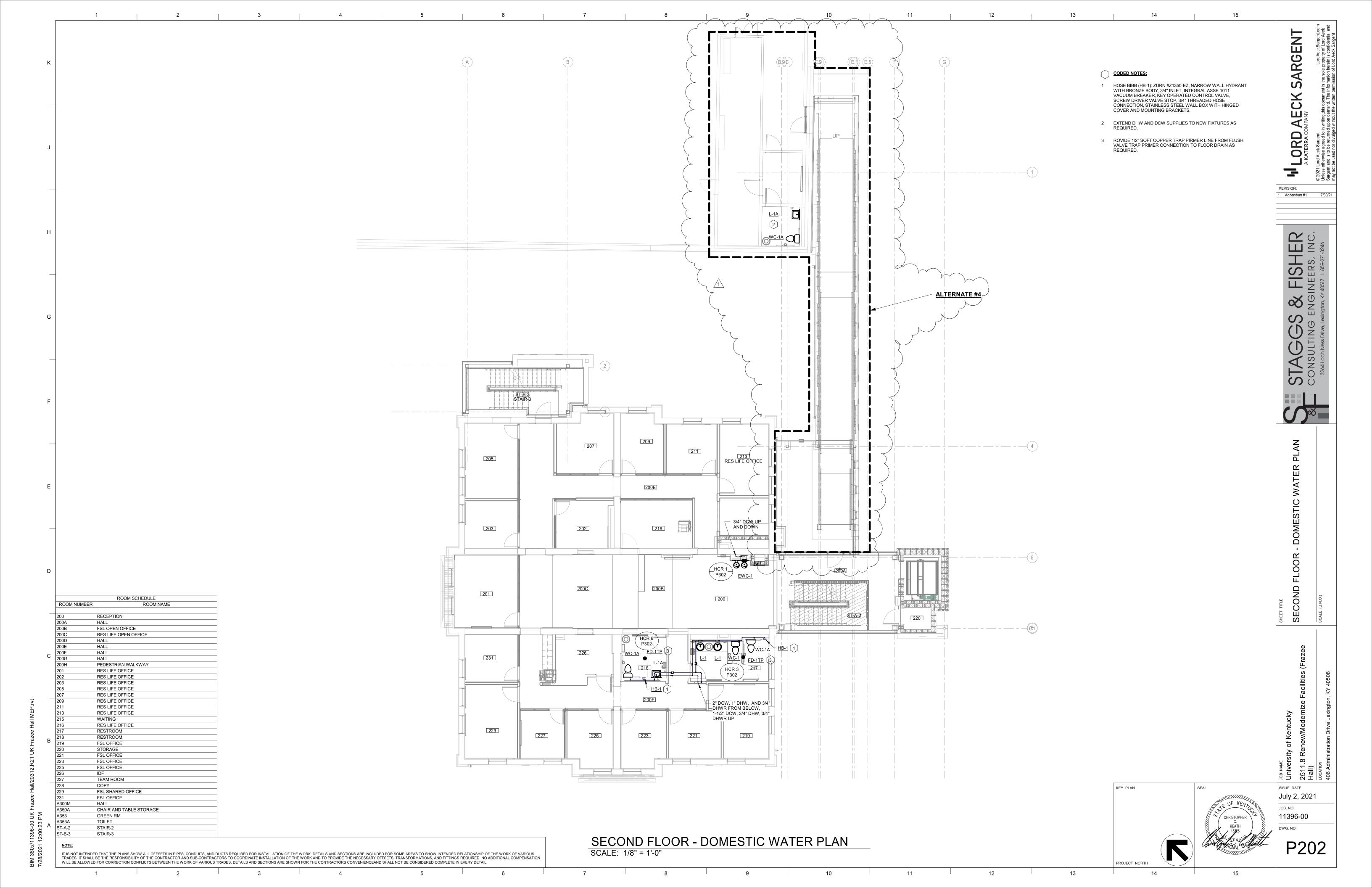
METER INTEGRATION

LIGHTING INTEGRATION

IT IS NOT INTENDED THAT THE PLANS SHOW ALL OFFSETS IN PIPES, CONDUITS, AND DUCTS REQUIRED FOR INSTALLATION OF THE WORK. DETAILS AND SECTIONS ARE INCLUDED FOR SOME AREAS TO SHOW INTENDED RELATIONSHIP OF THE WORK OF VARIOUS TRADES. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND SUB-CONTRACTORS TO COORDINATE INSTALLATION OF THE WORK AND TO PROVIDE THE NECESSARY OFFSETS, TRANSFORMATIONS, AND FITTINGS REQUIRED. NO ADDITIONAL COMPENSATION WILL BE ALLOWED FOR CORRECTION CONFLICTS BETWEEN THE WORK OF VARIOUS TRADES. DETAILS AND SECTIONS ARE SHOWN FOR THE CONTRACTORS CONVENIENCEAND SHALL NOT BE CONSIDERED COMPLETE IN EVERY DETAIL.

PROJECT NORTH

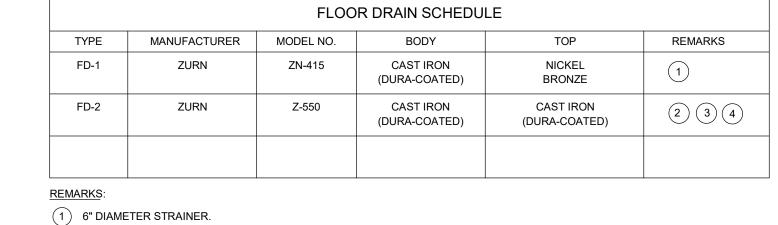




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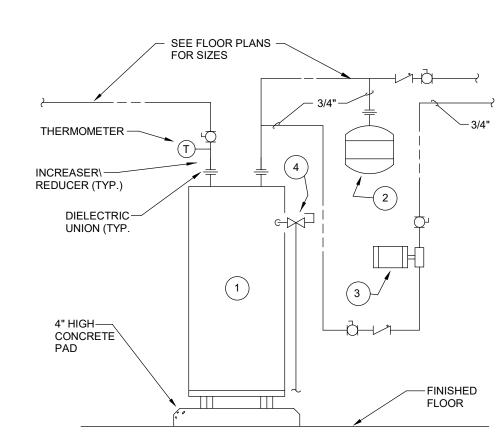
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				F	IXTURE SCHEDULE	AND ROUGI	HING-IN REQUI	REMENTS					
FIXTURE NUMBER	FIXTURE	MFR.	MODEL NO.	FLUSH VALVE, FAUCET	ACCESSORIES	MOUNTING	WALL HUNG, FLOOR MOUNTED, COUNTERTOP	MOUNTING HEIGHT (SEE REMARKS)	НОТ	COLD	WASTE (MIN.)	VENT (MIN.)	REMARKS
WC-1	WATER CLOSET	KOHLER	K-96053-B, WELLCOMME, VITREOUS CHINA, WHITE	SLOAN REGAL 111 SFSM -1.28 GPF, AUTOMATIC	SEAT STANDARD WHITE	STANDARD	FLOOR MOUNT			1"	4"	2"	
WC-1A	WATER CLOSET	KOHLER	K-96057-B, HIGHCLIFF, VITREOUS CHINA, WHITE	SLOAN REGAL 111 SFSM -1.28 GPF, AUTOMATIC	SEAT STANDARD WHITE	ADA	FLOOR MOUNT			1"	4"	2"	PROVIDE SLOAN VBF-72-A2 TRAP PRIMER OR EQUAL
WC-1B	WATER CLOSET	AMERICAN STANDARD	#3641.001, RIGHT WIDTH, VITREOUS CHINA, WHITE	SLOAN REGAL 111 SFSM -1.28 GPF, AUTOMATIC	"RIGHT WIDTH" SEAT, STANDARD WHITE	ADA	FLOOR MOUNT			1"	4"	2"	PROVIDE SLOAN VBF-72-A2 TRAP PRIMER OR EQUAL
U-1	URINAL	KOHLER	K-4904-ET, VITREOUS CHINA	SLOAN REGAL 186 SFSM -0.125 GPF, AUTOMATIC		ADA	WALL HUNG						SEE ARCHITECTURAL DETAILS FOR MOUNTING HEIGHTS.
L-1	LAVATORY	KOHLER	K-2337-4, VITREOUS CHINA	SLOAN EBF-650 -0.5 GPF, AUTOMATIC	GRID STRAINER, P-TRAP, STOPS & SUPPLIES	SEE ARCH. DWGS	COUNTERTOP		1/2"	1/2"	1-1/4" P- TRAP	1-1/2"	
L-1A	LAVATORY	KOHLER	K-1997-4, VITREOUS CHINA	SLOAN EBF-650 -0.5 GPF, AUTOMATIC	GRID STRAINER, P-TRAP, STOPS & SUPPLIES	ADA	WALL HUNG		1/2"	1/2"	1-1/4" P- TRAP	1-1/2"	SEE ARCHITECTURAL DETAILS FOR MOUNTING HEIGHTS. PROVIDE WHITE TRUEBRO LAV GUARDS
S-1	SINK	ELKAY	ELUHAD211555, STAINLESS STEEL	CHICAGO 786-E3, 2.2 GPM, WRIST BLADES, GOOSENECK SWING SPOUT	CUP STRAINER, P-TRAP, STOPS & SUPPLIES	SEE ARCH. DWGS	COUNTER UNDERMOUNT		1/2"	1/2"	1-1/2" P- TRAP	1-1/2"	
EWC-1	WATER COOLER & BOTTLE FILLER	ELKAY	LZWS-LRPBM28K, RECESSED		P-TRAP, SHUT-OFF VALVE, FRONT ACCESS PANEL	BI-LEVEL	WALL HUNG			1/2"	1-1/2"	1-1/2"	MOUNT ADA BUBBLER WITH SPOUT 36" FROM FLOOR, VANDAL RESISTANT, WATER FILTER
MB-1	MOP BASIN	STERN WILLIAMS	SB-902, 24"X24"X12"	T-10-VB SERVICE FAUCET	SS DOME & LINT STRAINER, SS CAPS		FLOOR MOUNTED		1/2"	1/2"	3"	1-1/2"	STAINLESS STEEL MOP HANGER, HOSE & WALL HOOK



- 2) 9" DIAMETER STRAINER.
- DRAINS INDICATED ON THE DRAWINGS WITH A PREFIX "F" SHALL BE PROVIDED WITH A Z-329-9 OVAL FUNNEL, 4" HIGH WITH NICKEL BRONZE FINISH FOR NICKEL BRONZE DRAINS AND DURA-COATED FOR CAST IRON DRAINS.

FLOOR DRAINS INDICATED ON THE DRAWINGS WITH A SUFFIX "TP" SHALL BE PROVIDED WITH A TRAP PRIMER CONNECTION.



ELECTRIC WATER HEATER - A.O. SMITH MODEL NO. DRE - 52, GLASS LINED TANK, 50 GALLON STORAGE, 3 KW. EACH ELEMENT, 9 KW TOTAL, 208 VOLT, 3-PHASE. SET TO 110°F.

- EXPANSION TANK AMTROL AST EXTROL MODEL NO. AST-12, 4.7 GALLON TANK VOLUME, 2.4 GALLON ACCEPTANCE VOLUME, PRECHARGED AT 55 PSIG, ASME TANK.
- DOMESTIC HOT WATER RECIRCULATING PUMP B&G ALL BRONZE SERIES PR, 3/4" 10 GPM AT 11 FT. HEAD, 1750 RPM, 1/6 H.P.,115
- TEMPERATUER-PRESSUER RELIEF VALVE PIPE DISCHARGE LINE FULL SIZE DOWN TO STORAGE ROOM. SEE FLOOR PLAN, FOR

PROJECT NORTH

ELECTRIC WATER HEATER SCALE: NONE

KEY PLAN

ISSUE DATE July 2, 2021 JOB. NO. 11396-00

SARGENT

ECK

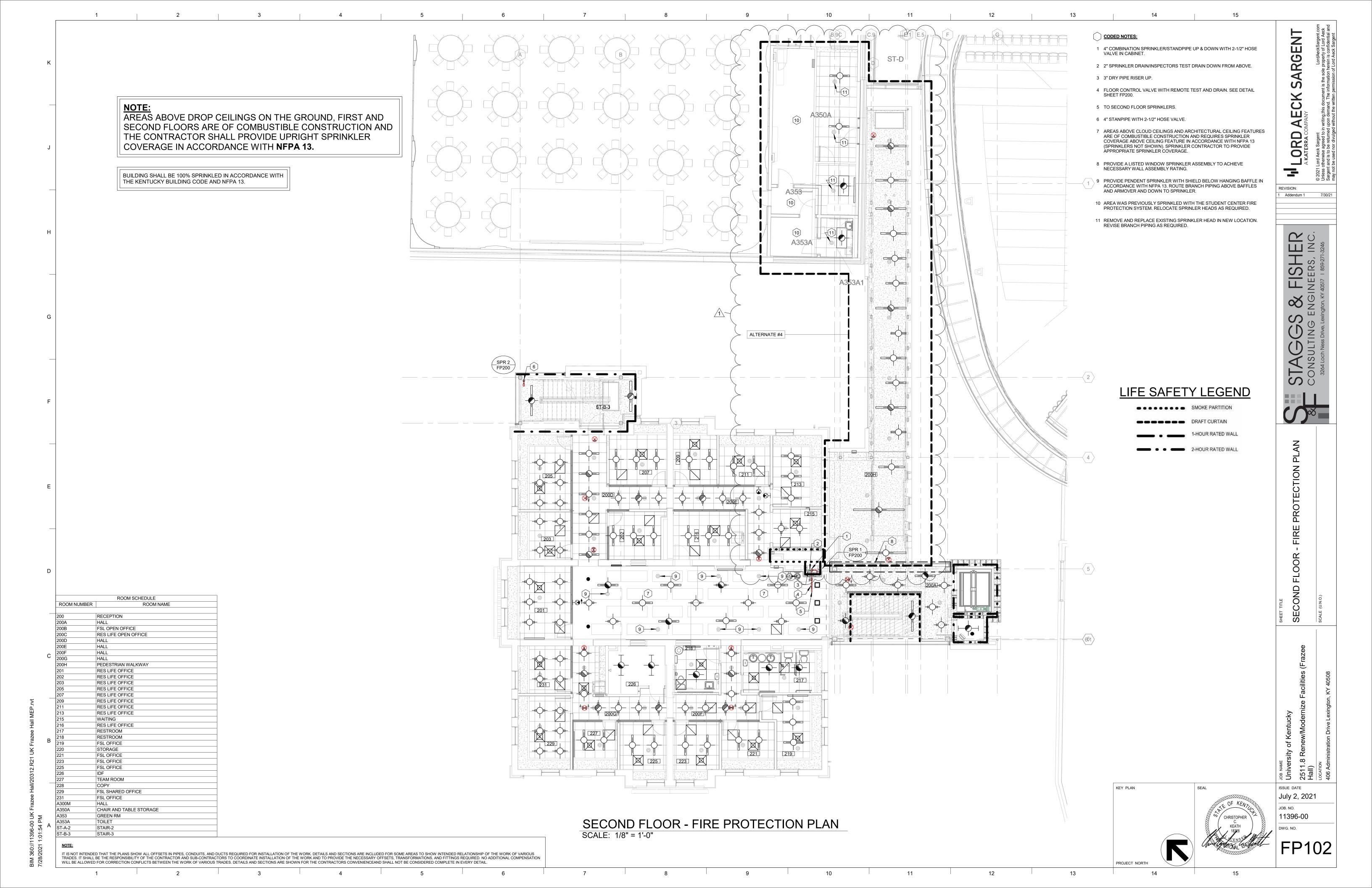
LORD

FISHER NEERS, INC.

REVISION:

CODED NOTES: DOMESTIC WATER ENTRANCE 2" DOMESTIC COLD WATER MAIN FROM METER. 2" REDUCED PRESSURE PRINCIPLE BACKFLOW PREVENTER WITH STRAINER AND O.S.&Y. GATE VALVES. PROVIDE SUPPORTS UNDER EACH VALVE. INSTALL CENTERLINE OF BOTTOM BACK FLOW PREVENTER AT 36" ABOVE FINISHED FLOOR. VERIFY MINIMUM AND MAXIMUM CLEARANCES WITH LOCAL WATER COMPANY. AIR GAP FITTING. PIPE DRAIN LINE FULL SIZE TO OPEN RECEPTACLE. MAIN SHUT-OFF VALVE. TO BUILDING SYSTEM. SEE FLOOR PLANS FOR CONTINUATION. 3/4" DRAIN VALVE. **DOMESTIC WATER ENTRANCE DETAIL**

CODED NOTES: WATER HEATER DETAIL



DWG. NO.

			ELECTRICAL L
EQUIPMEN	NT, CONDUITS, ETC.		TCHES (BOTTOM 44" A.F.F.) PT AS NOTED OTHERWISE)
	CONDUIT BELOW FLOOR	\$	SINGLE POLE
	CONDUIT ABOVE FLOOR	\$2	DOUBLE POLE
0	ENTRANCE POINT OF CONDUIT THROUGH FLOOR	\$3	THREE-WAY
		\$4	FOUR-WAY
	WIREWAY OR CABLE TRAY	\$ _{LV}	LOW-VOLTAGE, MOMENTARY
<u>'</u>	WIRE MOLD (FOR POWER AND/OR DATA)	\$os	OCCUPANCY/VACANCY SENSOR SWITCH
	PANELBOARD OR TERMINAL CABINET (REFER TO PLANS AND RISER FOR SIZE)	\$D	DIMMER
	SECTIONAL SWITCH GEAR	\$_	PILOT LIGHT
	(REFER TO PLANS AND RISER FOR NUMBER OF SECTIONS AND LAYOUT)	\$ _{OL}	THERMAL OVERLOAD
	TRANSFORMER (REFER TO PLANS AND RISER FOR SIZE)	\$P \$OL	THERMAL OVERLOAD WITH PILOT LIGHT
J			KEY OPERATED SWITCH
	ENCLOSED CIRCUIT BREAKER	\$ _K	LIGHTING CONTROL STATION
	DISCONNECT SWITCH	MS	MASTER LIGHTING CONTROL STATION
	FUSED DISCONNECT		
— ·	COMBINATION MAGNETIC STARTER AND FUSED SWITCH		CLES (BOTTOM 16" A.F.F.) EPT AS NOTED OTHERWISE)
<u> </u>	MOTOR	\Rightarrow	DUPLEX CONVENIENCE OUTLET
GROUND			QUADRAPLEX CONVENIENCE OUTLET
	WIRE / CONDUIT	GFI 🛨	GROUND FAULT INTERRUPTING OUTLET
JTRAL ¹	POTTOM OF DEVICE (IN INCUES A F.F.)	WP =	WEATHERPROOF OUTLET
12	BOTTOM OF DEVICE (IN INCHES A.F.F.)	sw =	SWITCHED/CONTROLLED DUPLEX OUTLET
HW	SEE NOTE 1 THIS SHEET	E =	DUPLEX RECEPTACLE ON EMERGENCY CIRCUIT
??	HEADWALL - FOR SERVICES, SEE DETAILS	CM C	CEILING MOUNTED RECEPTACLE.
<u></u>	GROUND	USB	USB DUPLEX RECEPTACLE.
LIGHTIN	G & LIGHTING DEVICES	——————————————————————————————————————	SIMPLEX WALL OUTLET (RATING AS NOTED)
	LIGHTING FIXTURES (REFER TO PLANS FOR TYPES OF FIXTURES THE LF-# DESIGNATES THE	■	WALL OUTLET (240V, 1-PHASE) (RATING AS NOTED)
	TYPE OF FIXTURE)	→	WALL OUTLET (240V, 3-PHASE)
	EMERGENCY LIGHTING FIXTURES (REFER TO PLANS FOR TYPES	•	(RATING AS NOTED) FLOOR BOX / POKE-THRU FOR POWER AND/OR DATA
	OF FIXTURES THE LF-# DESIGNATES THE TYPE OF FIXTURE)		I OWER AND/OR DATA

	SEE NOTE 1 THIS SHEET			
	LIFADWALL FOR OFFICIAL OFFI	_E =	DUPLEX RECEPTACLE ON EMERGENCY CIRCUIT	
	HEADWALL - FOR SERVICES, SEE DETAILS	см	CEILING MOUNTED RECEPTACLE.	
	GROUND	USB	USB DUPLEX RECEPTACLE.	
V	G & LIGHTING DEVICES		SIMPLEX WALL OUTLET (RATING AS NOTED)	
_	LIGHTING FIXTURES (REFER TO PLANS FOR TYPES OF FIXTURES THE LF-# DESIGNATES THE	#	WALL OUTLET (240V, 1-PHASE) (RATING AS NOTED)	
	TYPE OF FIXTURE)	#	WALL OUTLET (240V, 3-PHASE) (RATING AS NOTED)	
_	EMERGENCY LIGHTING FIXTURES (REFER TO PLANS FOR TYPES OF FIXTURES THE LF-# DESIGNATES THE	•	FLOOR BOX / POKE-THRU FOR POWER AND/OR DATA	,
	TYPE OF FIXTURE)	H	HOOD CONNECTION	
\dashv	WALL MOUNTED LIGHTING FIXTURES (REFER TO PLANS FOR TYPES OF FIXTURES THE LF-# DESIGNATES THE	+	EQUIPMENT CONNECTION	
	TYPE OF FIXTURE)	R	CONTROL RELAY	
1	EMERGENCY WALL MOUNTED LIGHTING FIXTURES (REFER TO PLANS FOR TYPES			l
┑	OF FIXTURES THE LF-# DESIGNATES THE TYPE OF FIXTURE)	CON	MUNICATIONS	
}	TRACK LIGHTING		TELECOMMUNICATIONS RACK	
}	EMERGENCY TRACK LIGHTING		DATA OUTLET (DATA & COMMUNICATIONS) (MOUNTED AT 16" TO THE BOTTOM AFF)	

(UNLESS OTHER WISE NOTED)

xD NUMBER OF DATA PORTS

GROUNDING BAR

DOOR PUSH PLATE

DOOR CONTACTS

PANIC BUTTON

SECURITY

xD xC xV

COMMUNICATION OUTLET NOTATION:

NUMBER OF CATV PORTS xV NUMBER OF VOICE PORTS

CARD READER / PROXIMITY READER

T.V./SECURITY CAMERA OUTLET

AUDIO OR GLASS BREAK SENSOR

F	FIRE ALARM
F	FIRE ALARM BREAKGLASS STATION (BOTTOM 44" A.F.F.)
□< ¢ -	FIRE ALARM SPKR/FLASHING LIGHT (80" TO BOTTOM, WALL MNT)
 -	FIRE ALARM FLASHING LIGHT (80" TO BOTTOM, WALL MOUNTED)
	FIRE ALARM SPEAKER (80" TO BOTTOM, WALL MOUNTED)
	FIRE ALARM SPEAKER /FLASHING LIGHT (CEILING MOUNTED)
	FIRE ALARM SPEAKER (CEILING MOUNTED)
S	SINGLE STATION SMOKE DETECTOR (CEILING MOUNTED)
SD	ADDRESSABLE SMOKE DETECTOR (CEILING MOUNTED)
(SD)	DUCT TYPE SMOKE DETECTOR
HD	AUTOMATIC HEAT DETECTOR
FACP	FIRE ALARM CONTROL PANEL
FAAP	FIRE ALARM ANNUNCIATOR PANEL
EDH	ELECTROMAGNETIC DOOR HOLDER
EDC	ELECTROMAGNETIC DOOR CLOSER
TS	TAMPER SWITCH
FS	FLOW SWITCH
RA	REMOTE TEST ACTIVATOR
SOUI	ND AND INTERCOM
XIK	CEILING MOUNTED SPEAKER
	WALL MOUNTED SPEAKER
EK	WALL MOUNTED HORN
AK	ALARM TYPE SPEAKER
\bigcirc	VOLUME CONTROL

¬	
ELECTRIC	CAL ABBREVIATIONS
AFF	ABOVE FINISHED FLOOR
ATCP	AUTOMATIC TEMPERATURE CONTROL PANEL
С	CONDUIT
FA	FIRE ALARM
GFI	GROUND FAULT INTERRUPTER
IG	ISOLATED GROUND
JB	JUNCTION BOX
ттс	TELEPHONE TERMINAL CABINET
W	WIRE
F	FLUSH
Р	PEDESTAL
СКТ	CIRCUIT
REC(S)	RECEPTACLE(S)
LTG	LIGHTING
NL	NIGHT LIGHT
AIC	AMPERE INTERRUPTING CAPACITY
UON	UNLESS OTHERWISE NOTED
WP	WEATHER PROOF
FACP	FIRE ALARM CONTROL PANEL
FAAP	FIRE ALARM ANNUNCIATOR PANEL
LCP	LIGHTING CONTOL PANEL
-	

SOUNE	O AND INTERCOM
XX	CEILING MOUNTED SPEAKER
K	WALL MOUNTED SPEAKER
	WALL MOUNTED HORN
	ALARM TYPE SPEAKER
\otimes	VOLUME CONTROL
\bigcirc_{M}	MASTER INTERCOM STATION
\odot	INTERCOM STATION

(FLUSH TYPE)

(BOTTOM 16" A.F.F.)

CALL IN SWITCH

MICROPHONE OUTLET IN FLOOR

MICROPHONE OUTLET IN WALL

ELECTRICAL GENERAL NOTES

- INSTALL PANELBOARDS WITH THE TOP AT 6-6" ABOVE FINISHED FLOOR.
- PROVIDE SUPPORTS FOR ALL VERTICAL CONDUIT RUNS IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE
- INSTALL SECONDARY UNDERGROUND CONDUCTORS A MINIMUM OF 36" DEEP TO TOP OF CONDUIT OR ENCASEMENT.
- FLUSH-MOUNTED PANELBOARDS SHALL BE PROVIDED WITH FOUR (4) 1" SPARE CONDUITS CONCEALED IN WALL TO ABOVE ACCESSIBLE CEILING, TURN OUT 4" FROM WALL AND CAP
- ELECTRICAL CONTRACTOR SHALL INSTALL ALL ELECTRICAL EQUIPMENT IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE.
- PROVIDE A COPY OF ALL COMPLETED PANEL SCHEDULES IN THE O & M MANUAL.
- LIGHTS IN MECHANICAL SPACES SHALL BE LOCATED SO AS TO CLEAR PIPING, DUCTWORK, AND EQUIPMENT ON CEILING.
- COORDINATE EXACT LOCATION OF ALL LIGHT FIXTURES WITH ARCHITECTURAL REFLECTED CEILING PLANS.
- FLEXIBLE CONDUIT SHALL BE USED FOR FIXTURE WHIPS TO LIGHT FIXTURES. FLEXIBLE CONDUITS TO LIGHT FIXTURES SHALL NOT EXCEED 6'-0" AND SHALL BE A MINIMUM OF 1/2".
- 10. CHAIN FOR SUPPORTING LIGHT FIXTURES SHALL BE GALVANIZED STEEL WELL CHAIN WITH A MINIMUM DEAD WEIGHT CAPACITY OF 100 LBS.
- RECESSED LIGHTING FIXTURE WITHIN A GRID TYPE CEILING TO BE SUPPORTED INDEPENDENTLY FROM THE GRID. SUPPORT FIXTURE FROM STRUCTURE ABOVE WITH 12 GUAGE WIRE ONE ON EACH CORNER.
- 12. WALL MOUNTED OCCUPANCY/VACANCY SENSORS SHALL BE MOUNTED AND INSTALLED IMMEDIATELY BELOW THE CEILING AND PER THE MANUFACTURER'S INSTALLATION INSTRUCTIONS FOR BEST COVERAGE. REFER TO ARCHITECTURAL DRAWINGS FOR CEILING HEIGHTS.
- SWITCHES/CONTROL STATIONS ASSOCIATED WITH DOORS ON THE STRIKE SIDE OF THE DOORS REGARDLESS OF THE INDICATION ON THE ELECTRICAL DRAWINGS. SWITCHES NOT COMPLYING SHALL BE RELOCATED AT THE CONTRACTOR'S ALL CONDUIT SHALL BE HOMERUN TO PANELBOARD AS INDICATED ON THE DRAWINGS. COMBINING OF CIRCUITS IN
- HOMERUNS WILL NOT BE ACCEPTABLE. ANY DEVIATIONS IN SUCH WORK WILL NOT BE APPROVED EXCEPT AS REQUIRED TO MEET THE NATIONAL ELECTRICAL CODE OR BY PERMISSION OF THE ENGINEER.
- 15. ALL CONDUIT SHALL BE CONCEALED IN EXISTING AND NEW WALLS AND CEILINGS EXCEPT MECHANICAL ROOMS. REFER TO SPECIFICATIONS.
- ELECTRICAL CONTRACTOR SHALL LOCATE ALL ELECTRICAL EQUIPMENT AS REQUIRED TO INSURE MINIMUM CLEARANCES ARE PROVIDED IN ACCORDANCE WITH THE N.E.C.
- CONCERNING ALL RISER DIAGRAMS: AN ATTEMPT HAS BEEN MADE TO SHOW ALL DEVICES ON RISER DIAGRAM. ANY DEVICES SHOWN ON FLOOR PLANS AND NOT SHOWN ON RISER DIAGRAMS SHALL BE CONNECTED TO SYSTEM, AS
- 18. ALL SCHEMATICS ARE FOR BID PURPOSES ONLY. SYSTEMS SHALL BE INSTALLED IN ACCORDANCE WITH WIRING DIAGRAMS OBTAINED FROM THE MANUFACTURER.
- 19. ALL DEVICES SHALL BE LOCATED ON CLEAR WALL SPACES, CLEAR OF ALL SHELVING, CHALKBOARDS, TACKBOARDS, CASEWORK, ETC. OUTLETS NOT COMPLYING WITH THE ABOVE SHALL BE RELOCATED AT THE CONTRACTOR'S EXPENSE
- ROUGH-IN FOR ELECTRIC DRINKING FOUNTAINS (WATER COOLERS) SHALL BE PERFORMED IN ACCORDANCE WITH APPROVED SHOP DRAWINGS.
- ROUGH-IN FOR EQUIPMENT SHALL BE DONE IN ACCORDANCE WITH APPROVED SHOP DRAWINGS.
- 22. ELECTRICAL CONTRACTOR SHALL COORDINATE HEIGHT OF ALL DEVICES AT ALL CASEWORK LOCATIONS TO AVOID CONFLICTS. ALL OUTLETS SHALL BE ROUGHED-IN IN ACCORDANCE WITH ARCHITECTURAL CASEWORK ELEVATIONS. EXACT LOCATION OF ALL OUTLETS SHALL BE AS DIRECTED BY THE OWNER.
- 23. COORDINATE EXACT LOCATION OF ALL DEVICES IN THE CEILING WITH THE ARCHITECTURAL, HVAC, LIGHTING, AND FIRE
- THE CONTRACTOR SHALL PROVIDE EQUIPMENT GROUNDING CONDUCTORS IN ALL FEEDERS TO GROUND BUS IN PANELBOARDS AND IN ALL CIRCUITS TO EQUIPMENT AND RECEPTACLES. SEE SPECIFICATIONS.
- ALL EXTERIOR UNDERGROUND CIRCUITS SHALL BE INSTALLED WITH TOP OF CONDUIT OR CONCRETE ENCASEMENT A MINIMUM OF 24" BELOW FINISHED GRADE. UNLESS NOTED OTHERWISE.
- 26. LIQUIDTITE FLEXIBLE METAL CONDUIT (LFMC) SHALL BE USED FOR FIXTURE WHIPS TO MOTORS. FLEXIBLE CONDUIT TO MOTORS SHALL BE A MINIMUM OF 3/4" AND SHALL NOT EXCEED 24" IN LENGTH.
- 27. ALL ELECTRICAL OUTLETS WITHIN 6'-0" OF A WATER SOURCE SHALL BE OF THE GFI TYPE.
- FIRE ALARM SYSTEM LAYOUT IS FOR BID PURPOSES ONLY. SYSTEM SHALL BE INSTALLED AND CONNECTED IN ACCORDANCE WITH WIRING DIAGRAMS OBTAINED FROM MANUFACTURER. DEVICE QUANTITY AND LOCATION SHALL PROVIDE COVERAGE IN ALL AREAS PER NFPA 72. PROVIDE DEVICES AS REQUIRED WHETHER SHOWN ON THE
- 29. PROVIDE 5' EXCESS CABLE COILED ABOVE THE CEILING FOR EACH DATA DROP.
- INSTALL STEEL SLEEVES BETWEEN TELECOMMUNICATIONS ROOMS. SLEEVES SHALL EXTEND 4" AFF AND 4" BELOW THE DECK. A MINIMUM OF TWO (2) SLEEVES ON THREE (3) WALLS IS REQUIRED. ALL SLEEVES MUST BE FIRE CAULKET AND SFALED INITIAL FIRE CAULKING IS THE RESPONSIBILITY OF THE CONTRACTOR INSTALLING THE SLEEVES. INSTALL GROUND BUSHINGS ON ALL SLEEVES AND PROPERLY GROUND TO THE GROUNDING BAR. TELECOMMUNICATIONS ROOMS THAT ARE NOT STACKED WILL REQUIRE THE INSTALLATION OF SIX (6) RISER CONDUITS (4 INCH MINIMUM DIAMETER) WITH PULL STRINGS AND APPROPRIATE JUNCTION PULL BOXES CONNECTING ALL TELECOMMUNICATIONS
- 32. FIRE TREATED PLYWOOD, 3/4 INCH THICK, MUST BE MECHANICALLY FASTENED TO ALL WALLS OF EACH TELECOMMUNICATIONS ROOM. THE FIRE TREATED PLYWOOD WILL BEGIN AT 4" AFF AND END AT 8' 4" AFF. THE ROOM WALLS WILL BE FINISHED WITH DRYWALL (COMPLETELY TAPED, SANDED, AND PAINTED) OR CONCRETE BLOCK
- 33. CABLE TRAY WILL LOOP THE ENTIRE PERIMETER INSIDE A TELECOMMUNICATIONS ROOM AT 8' AFF. MAINTAIN A 4" CLEARANCE FROM EACH WALL. SUPPORT WITH TRAPEZE MADE UP OF ALL THREAD AND UNISTRUT. UNIVERSAL 12" CABLE TRAY WILL BE INSTALLED AT THE TOP OF THE COMMUNICATIONS RACKS SPANNING THE WIDTH OF THE ROOM. RADIUS DROP OUTS WILL BE INSTALLED ON ALL CABLE TRAYS WHERE CABLES EXIT THE TRAY TO A LOWER ELEVATION.
- ALL TELECOMMUNICATIONS ROOMS SHALL HAVE A GROUNDING BAR, WHICH MEASURES 12" LONG BY 4" WIDE BY 1/4" THICK WITH PRE-DRILLED 1/4" HOLES. THE GROUND BAR SHALL BE CONNECTED TO THE MAIN BUILDING GROUND USING # 2 OR GREATER AWG COPPER WIRE WITH A MAXIMUM RESISTANCE OF 0.5 OHMS OR LESS. NEC REQUIREMENTS SHALL
- ALL CABLE TRAY WITHIN THE TELECOMMUNICATIONS ROOM SHALL BE GROUNDED TO THE MAIN BUILDING GROUNDING SYSTEM WITH A WIRE NOT SMALLER THAN #2 AWG COPPER. GROUND WIRE AND CLAMPS WILL BE INSTALLED ON THE EXTERIOR OF THE CABLE TRAY.
- NO MORE THAN AN EQUIVALENT OF 270 DEGREES OF BEND, INCLUDING OFFSETS, IS ALLOWED IN A CONDUIT RUN BETWEEN JUNCTION BOXES OR PULL BOXES.

BONDED TO THE GROUND BAR LOCATED IN THE ROOM.

- CONDUIT THAT TERMINATES IN THE TELECOMMUNICATIONS ROOM MUST HAVE PLASTIC BUSHINGS AND BE WIRE
- 40. ALL COMMUNICATIONS OUTLETS SHALL BE FED WITH CONDUIT AND PULL STRING, WITH AN ABSOLUTE MINIMUM NUMBER OF BENDS FROM THE OUTLET TO THE CABLE TRAY, OR HOMERUN DIRECTLY TO THE TELECOMMUNICATIONS ROOM. PULL BOXES MUST BE INSTALLED AFTER EVERY 270 DEGREES OF BEND (INCLUDING OFFSETS) OR 100 FEET OF
- PREPACKAGED INTUMESCENT MATERIALS ARE THE PREFERRED MATERIAL FOR FIREPROOFING FOR TELECOMMUNICATIONS. DO NOT USE CONCRETE FOR FIRE STOPPING ON CABLE TRAYS, WIREWAYS OR CONDUIT. CONTRACTORS WHO USE THIS METHOD WILL BE REQUIRED TO REPLACE ALL CABLES AFFECTED.
- 42. WHERE BACKBOXES ARE LOCATED IN THE SAME VERTICAL CHANNEL / STUD SPACE ON OPPOSITE SIDES OF THE SAME WALL, PROVIDE SOUND-INSULATING PUTTY AROUND BOXES AS REQUIRED TO ELIMINATE SOUND TRANSMISSION FROM

KEY PLAN

- 43. WHERE WALLS WILL BE TRENCHED TO CONCEAL NEW CONDUITS, TRENCH WIDTH SHALL NOT EXCEED HALF OF A SINGLE BRICK WIDTH. COORDINATE WITH ARCHITECT.
- 44. SECURITY CAMERAS ARE TO BE CEILING MOUNTED UNLESS OTHERWISE SPECIFIED.

THE SYMBOLS LISTED ON THIS SHEET MAY NOT ALL BE USED ON THIS SET OF CONTRACT DRAWINGS, HOWEVER, WHEREVER A SYMBOL IS USED THE ITEM SHALL BE FURNISHED AND INSTALLED.

IT IS NOT INTENDED THAT THE PLANS SHOW ALL OFFSETS IN PIPES, CONDUITS, AND DUCTS REQUIRED FOR INSTALLATION OF THE WORK. DETAILS AND SECTIONS ARE INCLUDED FOR SOME AREAS TO SHOW INTENDED RELATIONSHIP OF THE WORK OF VARIOUS TRADES. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND SUB-CONTRACTORS TO COORDINATE INSTALLATION OF THE WORK AND TO PROVIDE THE NECESSARY OFFSETS, TRANSFORMATIONS, AND FITTINGS REQUIRED. NO ADDITIONAL COMPENSATION WILL BE ALLOWED FOR CORRECTION CONFLICTS BETWEEN THE WORK OF VARIOUS TRADES. DETAILS AND SECTIONS ARE SHOWN FOR THE CONTRACTORS CONVENIENCEAND SHALL NOT BE CONSIDERED COMPLETE IN EVERY DETAIL.

LCP

WALL-MOUNTED WARNING LIGHT

EXIT LIGHT WITH DIRECTION

EXIT LIGHT (WALL MOUNTED)

EMERGENCY BATTERY PACK

LIGHTING CONTROL RELAY

EMERGENCY TRANSFER RELAY

OCCUPANCY / VACANCY SENSOR

WALL MOUNTED OCCUPANCY / VACANCY

(REFER TO LIGHT FIXTURE

= FIXTURE IS A NIGHT LIGHT

DESIGNATION (IF APPLICABLE)

PACK AND EXIT SIGN

PHOTO SENSOR

LIGHTING CONTROL PANEL

LF-# = LIGHT FIXTURE TYPE TAG

= CIRCUIT NÚMBER = SWITCHING/ZONING

COMBINATION EMERGENCY BATTERY

PROJECT NORTH

13. CONTRACTOR SHALL CHECK ALL DOOR SWINGS AND SHALL BE RESPONSIBLE FOR INSTALLING ALL ROOM LIGHT

30. LABEL CABLES BOTH AT THE RACK AND AT THE INDIVIDUAL OUTLET.

(PAINTED) PRIOR TO MOUNTING THE PLYWOOD.

ABSOLUTELY NO "LB'S" ARE ALLOWED IN ANY COMMUNICATIONS CONDUIT INSTALLATION. 38. CONDUIT ENDS AT A CABLE TRAY WILL HAVE PLASTIC BUSHINGS AND BE WIRE BONDED TO THE TRAY.



SEAL

