ADDENDUM NO. 01

June 3, 2022

Franklin Township – New Elementary 5120 Senour Rd. Indianapolis, IN, 46239

TO: ALL BIDDERS OF RECORD

This Addendum forms a part of and modifies the Bidding Requirements, Contract Forms, Contract Conditions, the Specifications, and the Drawings dated May 11, 2022, by Schmidt Associates. Acknowledge receipt of the Addendum in the space provided on the Bid Form. Failure to do so may subject the Bidder to disqualification.

This Addendum consists of Pages ADD 1 - 1 through ADD 1 - 4, Specification Sections 00 31 00-Indiana Bid Form Revised, 00 43 50 – Sub and Products, and attached Schmidt Associates Addendum 1 dated May 31, 2022, consisting of 5 pages and Specification Sections 11 51 23 Library Stack Systems, Updated Specification Sections 10 11 00 Visual Display Units, 10 14 00 Signage, 10 21 23 Cubicle Curtains and Tracks. Addendum Drawings S1AF, S1BF, S1CF, S1DF, S2AF, S2BF, S2CF, S3AR, S3BR, S3CR, S3DR, S-010, S-011, S-402, S-501, S-502, S-503, S-504, S-505, S-506, S-507, S-508, S-700, IN1B2, I-601, AF1B1, AF1D1, AF1A2, AF1C2, AF1D2, AC1A1, AC1B1, AR101, A-302, A-510, A-511, A-512, MH1A1, MH1A2, MH1B1, MH1B2, MH1C1, MH1C2, MH1D1, MH1D2, MP1A1, MP1A2, MP1B1, MP1B2, MP1C1, MP1C2, MP1D1, MP1D2, MR101, M-402, M-504, M-501, M-603, PF1B1, PP1B1, P-601, P-913, ES101, ES102, EL1B1, EL1A2, EL1C2, EP1A1, EP1B1, EP1C1, EP1D1, EP1A2, EP1B2, EP1C2, EP1D2, E-402, E-403, ER101, E-601, E-605, E-606, E-607, E-608, E-609, E-610, E-611, E-613, T-001, TF1A1, TF1A2, TF1B1, TF1B2, and T-501

GENERAL NOTE

Bid Opening Date & Time Change
2:00 PM (local time), June 16, 2022
Franklin Township Community School Corporation – Board Room
6141 S. Franklin Road,
Indianapolis, IN 46259

A. SPECIFICATION SECTION 00 31 00 BID FORM

1. Reissued Specification Section is attached herein.

B. <u>SPECIFICATION SECTION 00 43 50 SUBCONTRACTORS AND PRODUCTS LISTS</u>

1. Reissued Specification Section is attached herein.

C. SPECIFICATION SECTION 01 12 00 MULTIPLE CONTRACT SUMMARY

- 1. Paragraph 3.03 Bid Categories
 - N. BID CATEGORY NO. 13 ELECTRICAL & TECHNOLOGY Update Bid Category to reflect "BID CATEGORY NO. 14 ELECTRICAL & TECHNOLOGY".

Delete the following specification section:

27 13 00 Communications Backbone Cabling

27 15 13 Communications Copper Horizontal Cabling

Add the following clarifications:

- 6. Communications Backbone Cabling will be Owner provided.
- 7. Communications Copper Horizontal Cabling will be Owner provided.
- 8. Provide lighting circuit with junction box and 6' long light fixture whip for all fixtures indicated in Alternate NO. 12 as part of the base bid.
- 9. Provide pricing to furnish and install Fixture Types L1, L1S, L2, L3, L3S, L4, L4S, L5, L5S, L6, L6S, X1C1, X1W1, X1W2 and X2C1 per the manufacturers specified on Drawing E605 for Bid Alternate No. 12.

O. BID CATEGORY NO. 15 – LIGHTING

Section 26 51 19 LED Interior Lighting

Section 26 52 13 Emergency and Exit Lighting

Add the following clarifications:

- 1. There is NO BASE BID WORK for Bid Category 15; Bid Category No. 15 shall be bid via <u>Bid Alternate No. 12 ONLY</u>.
- 2. Bid Category No. 15 is the equivalent of Bid Alternate No. 12 using Energy Harness fixtures. Energy Harness shall furnish and install fixture types L1, L1S, L2, L3, L3S, L4, L4S, L5, L5S, L6, L6S, X1C1, X1W1, X1W2 and X2C1. Work shall include supporting fixtures to the structure and final terminations. Match the fixture counts indicated in the bid documents and lumen output to provide the lighting levels in each type of room.
- 3. Bid Category No. 14 Contractor shall provide lighting circuit with junction box and 6' long light fixture whip for all fixtures indicated in the bid documents.

D. SPECIFICATION SECTION 01 23 00 - BID ALTERNATES

Paragraph 1.04 SCHEDULE OF ALTERNATES

Add the following Alternates:

G. ALTERNATE NO. 7 – CONDENSING BOILERS

Base Bid: No Condensing Boilers.

Alternate 07A: Provide cost to furnish and install KN-Series Boilers (B-1, B-2, AND B-3) by Advanced Thermal Hydronics as indicated in the Bid Document.

Alternate 07B: Provide cost to furnish and install Fulton Boiler Works, Inc. Boilers (B-1, B-2, AND B-3) as indicated in the Bid Documents.

H. ALTERNATE NO. 8 – AIR HANDLING UNITS

Base Bid: No Air Handling Units.

Alternate 08A: Provide cost to furnish and install Trane Air Handling Units (AHU-1, AHU-2, AHU-3, AND AHU-4) as indicated in the Bid Documents.

Alternate 08B: Provide cost to furnish and install Daikin Air Handling Units (AHU-1, AHU-2, AHU-3, AND AHU-4) as indicated in the Bid Documents.

I. ALTERNATE NO. 9 – ROOF TOP UNIT

Base Bid: No Roof Top Unit.

Alternate 09A: Provide cost to furnish and install Trane Roof Top Unit (RTU-1) as indicated in the Bid Documents.

Alternate 09B: Provide cost to furnish and install Daikin Roof Top Unit (RTU-1) indicated in the Bid Documents.

J. ALTERNATE NO. 10 – CHILLER

Base Bid: No Chiller.

Alternate 10A: Provide cost to furnish and install Trane Chiller (CH-1) as

indicated in the Bid Documents.

Alternate 10B: Provide cost to furnish and install Daikin Chiller (CH-1) as

indicated in the Bid Documents.

Alternate 10C: Provide cost to furnish and install Carrier Chiller (CH-1) as

indicated in the Bid Documents.

K. ALTERNATE NO. 11 – VERTICAL UNIT VENTILATORS

Base Bid: No Vertical Unit Ventilators.

Alternate 10A: Provide cost to furnish and install Temspec Vertical Unit

Ventilators as indicated in the Bid Documents.

Alternate 10B: Provide cost to furnish and install Change Air Vertical Unit

Ventilators as indicated in the Bid Documents.

L. <u>ALTERNATE NO. 12 – LIGHT FIXTURES</u>

Base Bid: No Work.

Alternate: Provide fixture types L1, L1S, L2, L3, L3S, L4, L4S, L5, L5S, L6, L6S,

X1C1, X1W1, X1W2 and X2C1. Work shall include support to structure and final terminations of these light fixtures using the specified

manufacturers as indicated on Drawing E605.

CONTRACTOR'S BID FOR PUBLIC WORKS FORM NO. 96

Format (Revised 2013) (Amended for FTCSC)

Franklin Township New Elementary

(Franklin Township Community School Corporation (Marion County, Indiana)

PART I

(To be completed for all bids. Please type or print)

		Date (month	, day, year):
BIDDER (Firm) _			
Address			P.O. Box
City/State/Zip			
Person to contact re	garding this Bid		
Pursuant to notices complete the public		fers to furnish labor an	d/or materials necessary to
	Insert Category	y No. (s) and Name(s)	
	oject, <i>Franklin Township</i> tions prepared by <i>Schmid</i> 5204 , as follows:		
BASE BID			
For the sum of	(Sum in words)		
		DOLLARS (\$	(Sum in figures)
			(Sum in figures)

The undersigned acknowl Receipt of Addenda No. (
PROPOSAL TIME			
Bidder agrees that this Bidays from the due date, an within said sixty (60) cons	d Bids may be accepted	or rejected during this	period. Bids not accepted
Attended pre-bid conferer	nce YES	NO	_
Has visited the jobsite	YES	NO	_
The Bidder has reviewed to Of the schedule can be me		in Section 01 32 00 an NO	
Bidder has included their will perform work on the 13-18-5 or IC 4-13-18-6.	public work project and	d meets or exceeds the	requirements set in IC 4-
The Skillman Corporation measure the active partice Disabled Individual-Own provided full and equal of	ripation of Minority- Owned Businesses. The Pro-	wned, Women-Owned, ogram is to ensure that	Veteran – Owned and MWVDBEs are
Bidder has included:	DBE: YES MBE: YES WBE: YES VBE: YES	_% NO _% NO	_
The undersigned further s	agrees to furnish a hone	d or certified check wis	th this Rid for an amount

The undersigned further agrees to furnish a bond or certified check with this Bid for an amount specified in the Notice to Bidders. If Alternate Bids apply, submit a proposal for each in accordance with the Plans and Specifications.

If additional units of material included in the contract are needed, the cost of units must be the same as that shown in the original contract if accepted by the governmental unit. If the bid is to be awarded on a unit bases, the itemization of the units shall be shown on a separate attachment.

The contractor and his subcontractors, if any, shall not discriminate against or intimidate any employee, or applicant for employment, to be employed in the performance of this contract, with respect to any matter directly or indirectly related to employment because of race, religion, color, sex, national origin or ancestry. Breach of this covenant may be regarded as a material breach of the contract.

CERTIFICATION OF USE OF UNITED STATES STEEL PRODUCTS (if applicable)

I, the undersigned bidder, or agent as a contractor on a public works project, understand my statutory obligation to use steel products made in the United States (I.C. 5-16-8-2). I hereby certify that I and all subcontractors employed by me for this project will use U.S. steel on this project if awarded. I understand that violations hereunder may result in forfeiture of contractual payments.

ALTERNATE BIDS

A blank entry or an entry of "No Bid", "N/A", or similar entry on any Alternate will cause the bid to be rejected as non-responsive only if that Alternate is selected. If no change in the bid amount is required, indicate "No Change".

MARK "ADD" OR "DEDUCT" FOR EACH ALTERNATE

<u>Alternate Bid No. 1 – Ballistic Resistant Film – Limited Scope</u>

Change the Base Bid the sum of			
(sum in words)			
			ADD
	DOLLARS (\$ (sum in figur		DEDUCT
		,	
Alternate Bid No. 2 – Ballistic Resistant Film	<u> – Extended Scope</u>		
Change the Base Bid the sum of			
(sum in words)			
	DOLLARS (\$)	ADD DEDUCT
	(sum in figur		DEDUCT
Alternate Bid No. 3 – Additional Parking Lot			
Change the Base Bid the sum of (sum in words)			
	DOLLADO (A	,	ADD
	DOLLARS (\$ (sum in figur		DEDUCT
Alternate Bid No. 4 – Accel/Deccel Lane on S	Senour Road		
Change the Base Bid the sum of			
(sum in words)			
	DOLLARS (\$)	ADD DEDUCT
	(sum in figur		

Alternate Bid No. 5 – Additional Poured-In-Place Safety Surface Change the Base Bid the sum of_____ (sum in words) **ADD** _DOLLARS (\$_____) (sum in figures) DEDUCT Alternate Bid No. 6 – Pedestrian Pathway Lighting Change the Base Bid the sum of (sum in words) ADD _DOLLARS (\$____) (sum in figures) **DEDUCT** Alternate Bid No. 7a – Provide cost to furnish and install KN-Series Boilers (B-1, B-2, AND B-3) by Advanced Thermal Hydronics as indicated in the Bid Document. Change the Base Bid the sum of (sum in words) ADD _DOLLARS (\$____) (sum in figures) **DEDUCT** Alternate Bid No. 7b – Provide cost to furnish and install Fulton Boiler Works, Inc. Boilers (B-1, B-2, AND B-3) as indicated in the Bid Documents. Change the Base Bid the sum of (sum in words) **ADD** DOLLARS (\$____) (sum in figures) **DEDUCT** Alternate Bid No. 8a – Provide cost to furnish and install Trane Air Handling Units (AHU-1, AHU-2, AHU-3, AND AHU-4) as indicated in the Bid Documents. Change the Base Bid the sum of (sum in words) ADD _____DOLLARS (\$_____) **DEDUCT** (sum in figures) Alternate Bid No. 8b – Provide cost to furnish and install Daikin Air Handling Units (AHU-1, AHU-2, AHU-3, AND AHU-4) as indicated in the Bid Documents. Change the Base Bid the sum of (sum in words) **ADD**

_DOLLARS (\$____) (sum in figures)

DEDUCT

<u>Alternate Bid No. 9a</u> – Provide cost to furnish and indicated in the Bid Documents.	l install Trane Roof Top Unit (RTU	(-1) as
Change the Base Bid the sum of		
(sum in words)		4 D.D.
	DOLLARS (\$	ADD DEDUCT
	_DOLLARS (\$)	DLDCCT
<u>Alternate Bid No. 9b</u> – Provide cost to furnish and indicated in the Bid Documents.	d install Daikin Roof Top Unit (RT	U-1) as
Change the Base Bid the sum of		
(sum in words)		
	7011179 (A	ADD
	_DOLLARS (\$) (sum in figures)	DEDUCT
<u>Alternate Bid No. 10a</u> – Provide cost to furnish ar the Bid Documents.	nd install Trane Chiller (CH-1) as in	ndicated in
Change the Base Bid the sum of		
(sum in words)		ADD
	_DOLLARS (\$) (sum in figures)	DEDUCT
<u>Alternate Bid No. 10b</u> – Provide cost to furnish and the Bid Documents.	nd install Daikin Chiller (CH-1) as i	indicated in
Change the Base Bid the sum of		
(sum in words)		
	DOLLARG (A	ADD
	_DOLLARS (\$) (sum in figures)	DEDUCT
Alternate Bid No. 10c – Provide cost to furnish ar the Bid Documents.	nd install Carrier Chiller (CH-1) as	indicated in
Change the Base Bid the sum of		
(sum in words)		
	DOLL ADD (A	ADD
	_DOLLARS (\$) (sum in figures)	DEDUCT
	(Bulli III IIguica)	

Alternate Bid No. 11a – Provide cost to furnindicated in the Bid Documents.	ish and install Temspec Vo	ertical Unit V	entilators as
Change the Base Bid the sum of(sum in words)			
	DOLLARS (\$(sum	in figures)	ADD DEDUCT
Alternate Bid No. 11b – Provide cost to furn as indicated in the Bid Documents.	ish and install Change Air	Vertical Uni	t Ventilators
Change the Base Bid the sum of(sum in words)			
	DOLLARS (\$(sum	in figures)	ADD DEDUCT
Alternate Bid No. 12 – Lighting			
Change the Base Bid the sum of (sum in words)			
	DOLLARS (\$(sum	in figures)	ADD DEDUCT

PART II

(For projects of \$150,000 or more – IC 36-1-12-4)

These statements to be submitted under oath by each bidder with and as a part of his bid. (Attach additional pages for each section as needed.)

SECTION I EXPERIENCE QUESTIONNAIRE

1.	What public works projects has your organization completed for the period of one (1)
	year prior to the date of the current bid?

Contract Amount	Class of Work	Completion Date	Name and Address of Owner

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•)	What nublic wor	Ze nrojacte are	a now in nroces	of construction	htt tiolir	Organization
/	What public wor	N 8 1 11 1 11 11 11 11 11 11 11 11 11 11	5 HUW III DIUCESS	COLCONISH HUMAN	170 001111	OLYMINATION !

Contract Amount	Class of Work	Completion Date	Name and Address of Owner

3.	Have you ever failed to complete any work awarded to you?why?	If so, where and
4.	List references from private firms for which you have performed work.	

SECTION II PLAN AND EQUIPMENT QUESTIONNAIRE

1.	Explain your plan or layout for performing proposed Work. (Examples could include a narrative of when you could begin, complete the project, number of workers, etc. and any other information which you believe would enable the governmental unit to consider your bid.)
2.	Please list the names and addresses of all subcontractors (i.e. persons or firms outside your own firm who have performed part of the work) that you have used on public works projects during the past five (5) years along with a brief description of the work done by each subcontractor.
3.	If you intend to sublet any portion of the work, state the name and addresses of each subcontractor, equipment to be used by the subcontractor, and whether you will required a bond. However, if you are unable to currently provide a listing, please understand a listing must be provided prior to contract approval. Until the completion of the proposed project, you are under a continuing obligation to immediately notify the governmental unit in the event that you subsequently determine that you will use a subcontractor on the proposed project.

4.	used by subcontractors may also be required to be listed by the governmental unit.
5.	Have you into contracts or received offers for all materials which substantiate the prices used in preparing your proposal? If not, please explain the rationale used which corroborate the process listed.
	corroborate the process fisted.

SECTION III CONTRACTOR'S FINANCIAL STATEMENT

Attachment of Bidder's financial statement is mandatory. Any Bid submitted without said financial statement as required by statute shall thereby be rendered invalid. The financial statement provided hereunder to the governing body awarding the Contract must be specific enough in detail so that said governing body can make a proper determination of the Bidder's capability for completing the Project if awarded.

SECTION IV CONTRACTOR NON-COLLUSION AFFIDAVIT

The undersigned Bidder or agent, being duly sworn on oath, says that he has not, nor has any other member, representative, or agent of the firm, company, corporation or partnership represented by him, entered into any combination, collusion or agreement with any person relative to the price to be bid by anyone at such letting nor to prevent any person from bidding nor to induce anyone to refrain from bidding, and that this Bid is made without reference to any other bid and without any agreement, understanding or combination with any other person in reference to such bidding.

He further says that no person or persons, firms, or corporations has, have, or will receive directly or indirectly, any rebate, fee, gift, commission, or thing of value on account of such contract.

SECTION V OATH AND AFFIRMATION

I HEREBY AFFIRM UNDER THE PENALTIES OF PERJURY THAT THE FACTS AND INFORMATION CONTAINED IN THE FOREGOING BID FOR PUBLIC WORKS ARE TRUE AND CORRECT

Dated at	this	day of	, 20	
			(Name of Org	anization)
	Ву			
			(Title of Perso	on Signing)
		WLEDGEMI	ENT	
STATE OF)			
COUNTY OF) SS:)			
Before me, a Notary Pul	olic, personally appe	ared the abov	e-named	
Swore that the statemen	ts contained in the fo	oregoing docu	ment are true and	correct.
Subscribed and sworn to	before me this	(lay of	,
(Title)				
	Notary Public			
My Commission Expire	s:			
County of Residence:				

END OF SECTION 00 31 00

SECTION 00 43 50 - SUBCONTRACTORS AND PRODUCTS LIST

PART 1 - GENERAL

1.01 DESCRIPTION

- A. The two (2) low responsive Bidders in each Bid Category shall furnish electronically, the following Subcontractors and Products List to the Construction Manager within **two (2) working days (48 hrs.)** of bid opening, unless submitted with Bid. The blanks appropriate to the Bid Category(ies) on which they bid shall be completed.
 - 1. The Owner and Architect shall have the right to select any material or equipment named in the Specifications for any particular item where the Bidder either fails to list same or lists more than one name for the item in question.
 - 2. It is intended that this list will show the manufacturer and supplier of major items of work that will be subcontracted and to whom.

1.02 INSTRUCTIONS FOR SUBCONTRACTORS AND PRODUCTS LISTS

- A. Each Bidder shall submit a copy of his list of subcontractors and manufacturers of products and equipment proposed for work indicated as required above.
- B. The list shall be submitted on forms provided and shall be completely executed. "As Specified" or "With Equipment" type of terminology will not be accepted.
- C. Under "Subcontractor", insert the name of the firm which the Bidder proposes to have perform the respective work. If work will be done by the Prime Bidder and no subcontract will be awarded, state "By Own Forces".
- D. Submission does not constitute acceptance for use of listed manufacturers' products. Materials and subcontractors are subject to the provisions of the General Conditions and "Standard of Product Acceptability" and must be formally reviewed and adjudged acceptable by the Architect/Engineer.
- E. Engineer, Architect and Owner reserve the right to reject submissions of materials, work, or subcontractors that do not, in their opinion, meet the requirements of Drawings, Specifications or job conditions.
- F. Materials and subcontractors used for work on the Project shall be in accordance with accepted material list.
 - 1. The list is intended to assure use of materials and vendors acceptably equivalent to those specified and is not a substitution sheet or complete listing of required materials or services.

2. Substitutions for listed items will not be allowed, except when termed acceptable, in writing by the Architect/Engineer, provided that substitution will result in a cost savings to the Owner, determined by the Owner to be a better product, or is made necessary due to unavailability of listed item. Unavailability shall be confirmed in writing by manufacturer named on accepted list.

1.03 CIVIL AND ARCHITECTURAL WORK SUBCONTRACTORS AND PRODUCTS LIST

BID CATEGORY NO.		
	(Insert Category No. and Name)	
NAME OF BIDDER		

The undersigned hereby submits the following Subcontractors and Products List which becomes a part of the undersigned Contract proposal. Subcontractor purchased material, equipment, and labor shall be under the direct management and control of the Prime Contractor. If a dual listing of manufacturers and subcontractors is herein made, it is understood the Architect/Engineer (not the Contractor) will select the manufacturer or subcontractor of his choice. State the XBE Designation.

CIVIL AND ARCHITECTURAL WORK

Section	<u>Description</u>	<u>XBE</u>	Subcontractor	<u>Manufacturer</u>
03 30 00	Cast-In-Place Concrete			
04 20 00	Unit Masonry			
05 12 00	Structural Steel Framing			
05 21 00	Steel Joist Framing			
05 31 00	Steel Decking			
05 40 00	Cold-Formed Metal Framing			
05 50 00	Metal Fabrications			
05 51 00	Metal Stairs			
05 52 13	Pipe and Tube Railings			
05 73 00	Decorative Metal Railings			

Section	<u>Description</u>	XBE	Subcontractor	<u>Manufacturer</u>
06 10 53	Miscellaneous Rough Carpentry			
06 16 00	Sheathing			
06 40 23	Interior Architectural Woodwork			
07 17 00	Bentonite Waterproofing			
07 21 00	Thermal Insulation			
07 24 13.99	Direct-Applied Exterior Finish Systems (DEFS)			
07 41 13.16	Standing-Seam Metal Roof Panels			
07 54 23	Thermoplastic Polyolefin (TPO) Roofing			
07 71 00	Roof Specialties			
07 72 00	Roof Accessories			
07 72 53	Snow Guards			
07 84 13	Penetration Firestopping			
07 84 46	Fire-Resistive Joint Systems			
07 92 00	Joint Sealants			
07 95 00	Expansion Control			
08 11 13	Hollow Metal Doors and Frames			
08 14 16	Flush Wood Doors			
08 31 13	Access Doors and Frames			
08 41 13	Aluminum-Framed Entrances and Storefronts			

Section	<u>Description</u>	XBE	Subcontractor	<u>Manufacturer</u>
08 41 26	All-Glass Entrances and Storefronts			
08 71 00	Door Hardware			
08 80 00	Glazing			
08 87 23	Safety and Security Window Laminates			
08 90 00	Louvers and Vents			
09 22 16	Non-Structural Metal Framing			
09 29 00	Gypsum Board			
09 30 00	Tiling			
09 51 13	Acoustical Panel Ceilings			
09 64 66	Wood Athletic Flooring			
09 65 13	Resilient Base and Accessories			
09 65 16	Resilient Sheet Flooring			
09 65 19	Resilient Tile Flooring			
09 67 23.13	Resinous Flooring - Level 1			
09 67 23.17	Resinous Flooring - Level 3			
09 68 13	Tile Carpeting			
09 91 23.99	Interior Painting			
09 96 00.99	High Performance Coatings			
10 11 00	Visual Display Units			
10 14 00	Signage			
10 21 13.17	Phenolic-Core Toilet Compartments			

Section	Description	<u>XBE</u>	Subcontractor	<u>Manufacturer</u>
10 21 23	Cubicle Curtains and Track			
10 22 39.13	Folding Glass-Panel Partitions			
10 26 00	Wall and Door Protection			
10 28 00	Toilet, Bath, And Laundry Accessories			
10 44 13	Fire Extinguisher Cabinets			
10 51 13	Metal Lockers			
10 75 00	Flagpoles			
10 81 13	Bird Control Devices			
11 40 00	Foodservice Equipment			
11 61 43	Stage Curtains			
11 66 23	Gymnasium Equipment			
11 66 43.99	Interior Scoreboards			
11 68 00	Play Field Equipment and Structures			
12 00 50.99	C: Cafeteria Furniture & Equipment			
12 24 13	Roller Window Shades			
12 32 00	Manufactured Wood Casework			
12 36 61.16	Solid Surfacing Countertops			
12 66 00	Telescoping Stands			
12 93 00	Site Furnishings			
14 24 00	Hydraulic Elevators			
14 42 00	Wheelchair Lifts			

Section	Description	XBE	Subcontractor	<u>Manufacturer</u>
31 10 00	Site Clearing			
31 20 00	Earth Moving			
32 12 16	Asphalt Paving			
32 13 13	Concrete Paving			
32 13 73	Concrete Paving Joint Sealants			
32 18 16.13	Playground Protective Surfacing			
32 31 13	Chain Link Fences and Gates			
32 31 19	Decorative Metal Fences and Gates			
32 92 00	Turf and Grasses			
32 93 00	Plants			
33 41 00	Storm Utility Drainage Piping			
33 44 19.15	Stormwater Hydrodynamic Grit Separator			
1				

Name of Bidder:	Date:
Address:	
City/State/Zip:	
Telephone:	
By:	

1.04 MECHANICAL WORK SUBCONTRACTORS AND PRODUCTS LIST

BID CATEGORY NO.		
	(Insert Category No. and Name)	
NAME OF BIDDER		

The undersigned hereby submits the following Subcontractors and Products List which becomes a part of the undersigned Contract proposal. Subcontractor purchased material, equipment, and labor shall be under the direct management and control of the Prime Contractor. If dual listing of manufacturers or subcontractors is herein made, it is understood the Architect/Engineer (not the Contractor) will select the manufacturer or subcontractor of his choice.

MECHANICAL WORK

Section	<u>Description</u>	<u>XBE</u>	Subcontractor	<u>Manufacturer</u>
21 05 17	Sleeves and Sleeve Seals for Fire- Suppression Piping			
21 05 18	Escutcheons for Fire- Suppression Piping			
21 05 23	General-Duty Valves for Water-Based Fire- Suppression Piping			
21 13 13	Wet-Pipe Sprinkler Systems			
22 05 17	Sleeves and Sleeve Seals for Plumbing Piping			
22 05 18	Escutcheons for Plumbing Piping			
22 05 19	Meters and Gages for Plumbing Piping			
22 05 23.12	Ball Valves for Plumbing Piping			
22 05 23.14	Check Valves for Plumbing Piping			

Section	Description	<u>XBE</u>	Subcontractor	<u>Manufacturer</u>
22 05 23.15	Gate Valves for Plumbing Piping			
22 05 29	Hangers and Supports for Plumbing Piping and Equipment			
22 05 53	Identification for Plumbing Piping and Equipment			
22 07 19	Plumbing Piping Insulation			
22 11 13	Facility Water Distribution Piping (Site)			
22 11 16	Domestic Water Piping (Building)			
22 11 19	Domestic Water Piping Specialties			
22 11 23.99	Plumbing Pumps			
22 13 13	Facility Sanitary Sewers (Site)			
22 13 16	Sanitary Waste, Storm, And Vent Piping (Building)			
22 13 19	Sanitary Waste Piping Specialties			
22 14 23	Storm Drainage Piping Specialties			
22 34 00	Fuel-Fired, Domestic- Water Heaters			
22 41 00	Residential Plumbing Fixtures			
22 42 13.13	Commercial Water Closets			
22 42 13.16	Commercial Urinals			

Section	Description	<u>XBE</u>	Subcontractor	<u>Manufacturer</u>
22 42 16.13	Commercial Lavatories			
22 42 16.16	Commercial Sinks			
22 47 16	Pressure Water Coolers			
23 05 00	Common Work Results for HVAC			
23 05 13	Common Motor Requirements for HVAC Equipment			
23 05 16	Expansion Fittings and Loops 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 53	Identification for HVAC Piping and Equipment			
23 05 93	Testing, Adjusting, And Balancing for HVAC			
23 07 13	Duct Insulation			
23 07 16	HVAC Equipment Insulation			
23 07 19	HVAC Piping Insulation			
23 09 00.99	Direct Digital Control Systems			
23 11 23	Facility Natural-Gas Piping System			
23 21 13	Hydronic Piping			

Section	Description	<u>XBE</u>	Subcontractor	<u>Manufacturer</u>
23 21 16	Hydronic Piping Specialties			
23 21 23	Hydronic Pumps			
23 23 00	Refrigerant Piping			
23 25 00	HVAC Water Treatment			
23 25 13	Water Treatment for Closed-Loop Hydronic Systems			
23 31 13	Metal Ducts			
23 33 00	Air Duct Accessories			
23 34 33	HVAC Power Ventilators			
23 36 00	Air Terminal Units			
23 37 13.99	Diffusers, Registers, and Grilles			
23 37 16.99	Fabric Air-Distribution Devices			
23 37 23	HVAC Gravity Ventilators			
23 52 16	Condensing Boilers			
23 62 00.99	Air-Cooled Condensing Units			
23 64 26.21	Air-Cooled, Rotary- Screw Water Chillers			
23 73 23.99	VAV Custom Air Handling Units			
23 81 26	Split-System Air- Conditioners			
23 82 19	Fan Coil Units			
23 82 23.98	Vertical Unit Ventilators			
23 82 39	Unit Heaters			

Section	<u>Description</u>	<u>XBE</u>	Subcontractor	<u>Manufacturer</u>
23 82 39.16	Propeller Unit Heaters			
23 82 39.19	Wall and Ceiling Unit Heaters			

Plumbing Fixtures:	Manufacturer:
a <u>)</u>	
b)	<u> </u>
c)	
d)	
e)	
f)	
g)	
h)	
i)	
j)	
k)	
1)	
·	
Name of Bidder:	Date:
Address:	
City/State/Zip:	
Telephone:	
Ву:	

1.05 ELECTRICAL WORK SUBCONTRACTORS AND PRODUCTS LIST

BID CATEGORY NO.		
	(Insert Category No. and Name)	
NAME OF BIDDER		

The undersigned hereby submits the following Subcontractors and Products List which becomes a part of the undersigned Contract proposal. Subcontractor purchased material, equipment, and labor shall be under the direct management and control of the Prime Contractor. If dual listing of manufacturers or subcontractors is herein made, it is understood the Architect/Engineer (not the Contractor) will select the manufacturer or subcontractor of his choice.

ELECTRICAL WORK

Section	<u>Description</u>	<u>XBE</u>	Subcontractor	<u>Manufacturer</u>
26 05 00	Common Work Results for Electrical			
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	Raceways and Boxes for Electrical Systems			
26 05 43	Underground Ducts and Raceways for Electrical Systems			
26 05 44	Sleeves and Sleeve Seals for Electrical Raceways and Cabling			
26 05 53	Identification for Electrical Systems			
26 05 74.99	Short-Circuit/ Coordination Study/Arc Flash Risk Assessment			

Section	Description	<u>XBE</u>	Subcontractor	<u>Manufacturer</u>
26 09 23	Lighting Control Devices			
26 22 13	Low-Voltage Distribution Transformers			
26 24 13	Switchboards			
26 24 16	Panelboards			
26 25 50.99	Generator Docking Station			
26 27 26	Wiring Devices			
26 28 13	Fuses			
26 28 16	Enclosed Switches and Circuit Breakers			
26 29 13	Enclosed Controllers			
26 29 23	Variable-Frequency Motor Controllers			
26 32 13.16	Gaseous Emergency Engine Generators			
26 36 00	Transfer Switches			
26 43 13	Surge Protection for Low-Voltage Electrical Power Circuits			
27 05 28	Pathways for Communications Systems			
27 05 36	Cable Trays for Communications Systems			
27 11 00	Communications Equipment Room Fittings			
27 17 00.99	Telecommunications Grounding and Bonding			

Section	Description	<u>XBE</u>	Subcontractor	<u>Manufacturer</u>
27 17 50.99	Communications Entrance Conduits			
27 51 20.99	Sound Reinforcement System (Gymnasium)			
27 51 23.99	Intercommunications System			
27 52 24.99	Cafetorium Sound System			
27 77 10.99	Audio/Video Systems			
28 13 00.99	Electronic Access Control System (ACS)			
28 46 21	Addressable Fire-Alarm Systems			

Name of Bidder:	Date:
A 11	
Address:	
City/State/Zip:	
Telephone:	
By:	

END OF SECTION 00 43 50

ADDENDUM NO. 1 MAY 31, 2022

PREPARED BY SCHMIDT ASSOCIATES FOR:

FRANKLIN TOWNSHIP NEW ELEMENTARY SCHOOL FRANKLIN TOWNSHIP COMMUNITY SCHOOL CORPORATION

This Addendum consists of 5 Addendum pages and 117 attachment pages totaling 122 pages.

Acknowledge receipt of this Addendum by inserting its number on the Bid Form. Failure to do so may subject the Bid to disqualification. This Addendum is part of the Contract Documents.

Bidder is encouraged to verify with reprographer of record all Addenda issued (do not rely exclusively on third party plan room services).

PART 1 - CHANGES TO PRIOR ADDENDA (NOT APPLICABLE)

PART 2 - CHANGES TO THE PROJECT MANUAL

Modifications described herein shall be incorporated in the Project Manual. All other Work shall remain unchanged.

2.1 DIVISION 06 – WOOD, PLASTICS, AND COMPOSITES

A. Section 064023 "INTERIOR ARCHITECTURAL WOODWORK"

1. DELETE AND REPLACE Article 2.3 as follows:

"2.3 CUSTOM RECEPTION DESKS

- A. Provide custom reception desks as indicated on Drawings. Provide accessories, finishing, and hardware as indicated on Drawings and specified in this Section and Section 12 32 00.
 - 1. Plastic Laminate Patterns and Colors:
 - a. PL-1: Wilsonart; Natural Cotton 4946-38.
 - b. PL-2: Wilsonart; Pewter Mesh 4878-38.
 - c. PL-3: Formica; Citadel Warp 5882-58."
- 2. ADD Paragraph 2.5.C. as follows:

"C. Wood Wall Panels: Basis-of-Design product Vertical Grain Arabica by Stikwood. Provide manufacturers standard trim at outside corners matching wood grain and color."

2.2 DIVISION 08 – OPENINGS

A. Section 088000 "GLAZING"

1. ADD Article 2.9 as follows:

"2.9 WINDOW FILM (WF)

A. Window Film: Perforated vinyl window film with printed graphic and one-way visibility.

- 1. Basis-of-design: Subject to compliance provide ImageVue by MDC Wallcovering.
 - a. Perforation Pattern: Approximately 65/35 (35 percent open).
 - b. Perforation Size: 0.06 inch.
 - c. Film Material: 8-mil calendered PVC.
 - d. Roll Size: 54 inches by 25 feet.
 - e. Graphic: Stock image of clouds provided by MDC Wallcovering and approved by Architect."

2.3 DIVISION 09 – FINISHES

A. Section 096723.17 "RESINOUS FLOORING – LEVEL 3"

- 1. DELETE Subparagraph 1.2.B.2. in its entirety.
- 2. DELETE & REPLACE Paragraph 2.3.G. as follows.
 - "G. Resinous Flooring Flake System.
 - 1. Body Coats (Flakes):
 - a. Product: Bioflake.
 - b. Resin: Moisture Insensitive Cementitious Urethane.
 - c. Formulation Description: Water-based Cementitious Urethane.
 - d. Type: Pigmented.
 - e. Application Method: Self-leveling slurry with broadcast aggregates.
 - f. Number of Coats: One (flakes).
 - g. Total Thickness of Coats: 1/4 inch.
 - h. Aggregates: Flakes.
 - Color: To be selected from manufacturers full range of standard colors.
 - 1) RSF-1/2 & RSFB-1/2: Pyrite."

B. Section 099123.99 "INTERIOR PAINTING"

- 1. DELETE Article 2.3 in its entirety.
- 2. DELETE Article 2.4 in its entirety.

2.4 DIVISION 10 – SPECIALTIES

- A. Section 101100 "VISUAL DISPLAY UNITS"
- 1. DELETE AND REPLACE Section 101100 per the attached.
- B. Section 101400 "SIGNAGE"

- 1. DELETE AND REPLACE Section 101400 per the attached.
- C. Section 102123 "CUBICLE CURTAINS AND TRACK"
- 1. DELETE AND REPLACE Section 102123 per the attached.

2.5 DIVISION 11 – EQUIPMENT

- A. Section 115123 "LIBRARY STACK SYSTEMS"
- 1. ADD Section 115123 per the attached.

2.6 DIVISION 27 – COMMUNICATIONS

- A. Section 271300 "COMMUNICATIONS BACKBONE CABLING"
- 1. DELETE Section 171300 in its entirety.

"Owner's contractor providing cabling"

- B. Section 271513 "COMMUNICATIONS COPPER HORIZONTAL CABLING"
- 1. DELETE Section 171513 in its entirety.

"Owner's contractor providing cabling"

PART 3 - CHANGES TO THE DRAWINGS

Modifications described herein shall be incorporated in the Drawings. All other Work shall remain unchanged.

3.1 DRAWING SHEETS: ADDITIONS, DELETIONS AND REPLACEMENTS DRAWING NO. INDICATE ACTION: REPLACE (R). ADD

DIAWING NO.	INDICATE ACTION. NET LACE (N), ADD
	(A), DELETE (D)
S-SERIES DRAWINGS	
S 1AF	DELETE AND REPLACE
S 1BF	DELETE AND REPLACE
S 1CF	DELETE AND REPLACE
S 1DF	DELETE AND REPLACE
S2AF	DELETE AND REPLACE
S 2BF	DELETE AND REPLACE
S 2CF	DELETE AND REPLACE
S 3AR	DELETE AND REPLACE
S 3BR	DELETE AND REPLACE
S 3CR	DELETE AND REPLACE
S3DR	DELETE AND REPLACE

S-010	DELETE AND REPLACE
S-011	DELETE AND REPLACE
S-402	DELETE AND REPLACE
S-501	DELETE AND REPLACE
S-502	DELETE AND REPLACE
S-503	DELETE AND REPLACE
S-504	DELETE AND REPLACE
S-505	DELETE AND REPLACE
S-506	DELETE AND REPLACE
S-507	DELETE AND REPLACE
S-508	DELETE AND REPLACE
S-700	DELETE AND REPLACE
A-SERIES DRAWINGS	
IN1B2	DELETE AND REPLACE
I-601	DELETE AND REPLACE
I-SERIES DRAWINGS	
AF1B1	DELETE AND REPLACE
AF1D1	DELETE AND REPLACE
AF1A2	DELETE AND REPLACE
AF1C2	DELETE AND REPLACE
AF1D2	DELETE AND REPLACE
AC1A1	DELETE AND REPLACE
AC1B1	DELETE AND REPLACE
AR101	DELETE AND REPLACE
A-302	DELETE AND REPLACE
A-510	DELETE AND REPLACE
A-511	DELETE AND REPLACE
A-512	DELETE AND REPLACE
M-SERIES DRAWINGS	
MH1A1	DELETE AND REPLACE
MH1A2	DELETE AND REPLACE
MH1B1	DELETE AND REPLACE
MH1B2	DELETE AND REPLACE
MH1C1	DELETE AND REPLACE
MH1C2	DELETE AND REPLACE
MH1D1	DELETE AND REPLACE
MH1D2	DELETE AND REPLACE
MP1A1	DELETE AND REPLACE
MP1A2	DELETE AND REPLACE
MP1B1	DELETE AND REPLACE
MP1B2	DELETE AND REPLACE
MP1C1	DELETE AND REPLACE
MP1C2	DELETE AND REPLACE
MP1D1	DELETE AND REPLACE
MP1D2	DELETE AND REPLACE
MR101	DELETE AND REPLACE
M-402	DELETE AND REPLACE

M-504	DELETE AND REPLACE
M-501	DELETE AND REPLACE
M-603	DELETE AND REPLACE
P-SERIES DRAWINGS	
PF1B1	DELETE AND REPLACE
PP1B1	DELETE AND REPLACE
P-601	DELETE AND REPLACE
P-913	DELETE AND REPLACE
E-SERIES DRAWINGS	
ES101	DELETE AND REPLACE
ES102	DELETE AND REPLACE
EL1B1	DELETE AND REPLACE
EL1A2	DELETE AND REPLACE
EL1C2	DELETE AND REPLACE
EP1A1	DELETE AND REPLACE
EP1B1	DELETE AND REPLACE
EP1C1	DELETE AND REPLACE
EP1D1	DELETE AND REPLACE
EP1A2	DELETE AND REPLACE
EP1B2	DELETE AND REPLACE
EP1C2	DELETE AND REPLACE
EP1D2	DELETE AND REPLACE
E-402	DELETE AND REPLACE
E-403	DELETE AND REPLACE
ER101	DELETE AND REPLACE
E-601	DELETE AND REPLACE
E-605	DELETE AND REPLACE
E-606	DELETE AND REPLACE
E-607	DELETE AND REPLACE
E-608	DELETE AND REPLACE
E-609	DELETE AND REPLACE
E-610	DELETE AND REPLACE
E-611	DELETE AND REPLACE DELETE AND REPLACE
E-613 T-SERIES DRAWINGS	DELETE AND REPLACE
T-001	DELETE AND REPLACE
TF1A1	DELETE AND REPLACE DELETE AND REPLACE
TF1A1	DELETE AND REPLACE DELETE AND REPLACE
TF1B1	DELETE AND REPLACE DELETE AND REPLACE
TF1B1	DELETE AND REPLACE DELETE AND REPLACE
T-501	DELETE AND REPLACE DELETE AND REPLACE
1-301	DELETE AND REPLACE

END OF ADDENDUM 1

SECTION 101100 - VISUAL DISPLAY SURFACES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:
 - 1. Markerboards.
 - 2. Tackboards.

B. Related Sections:

1. Division 09 Section "Gypsum Board•••" for coordination of back-blocking requirements in gypsum board walls.

1.3 DEFINITIONS

- A. Tackboard: Framed or unframed, tackable, visual display board assembly.
- B. Visual Display Board Assembly: Visual display surface that is factory fabricated into composite panel form, either with or without a perimeter frame; includes chalkboards, markerboards, and tackboards.
- C. Visual Display Surface: Surfaces that are used to convey information visually, including surfaces of chalkboards, markerboards, tackboards, and surfacing materials that are not fabricated into composite panel form but are applied directly to walls.

1.4 ACTION SUBMITTALS

- A. Product Data with Shop Drawings and Product Schedule:
 - 1. Product Data: For each type of product indicated. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes for visual display surfaces.
 - a. Include individual panel weights for sliding visual display units.
 - 2. Shop Drawings: For visual display surfaces. Include plans, elevations, sections, details, and attachments to other work.

- a. Show locations of panel joints.
- b. Include sections of typical trim members.

1.5 QUALITY ASSURANCE

- A. Installer Qualifications: Manufacturer's authorized representative who is trained and approved for installation of motor-operated, sliding visual display units required for this Project.
- B. Source Limitations: Obtain visual display surfaces from single source from single manufacturer.
- C. Surface-Burning Characteristics: As determined by testing identical products according to ASTM E 84 by a qualified testing agency. Identify products with appropriate markings of applicable testing agency.
 - 1. Flame-Spread Index: 25 or less.
 - 2. Smoke-Developed Index: 450 or less.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Deliver factory-built visual display surfaces, including factory-applied trim where indicated, completely assembled in one piece without joints, where possible. If dimensions exceed maximum manufactured panel size, provide two or more pieces of equal length as acceptable to Architect. When overall dimensions require delivery in separate units, prefit components at the factory, disassemble for delivery, and make final joints at the site.
- B. Store visual display surfaces vertically with packing materials between each unit.

1.7 PROJECT CONDITIONS

- A. Environmental Limitations: Do not deliver or install visual display surfaces until spaces are enclosed and weathertight, wet work in spaces is complete and dry, work above ceilings is complete, and temporary HVAC system is operating and maintaining ambient temperature and humidity conditions at occupancy levels during the remainder of the construction period.
- B. Field Measurements: Verify actual dimensions of construction contiguous with visual display surfaces by field measurements before fabrication.
 - 1. Allow for trimming and fitting where taking field measurements before fabrication might delay the Work.

1.8 WARRANTY

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

- 1. Failures include, but are not limited to, the following:
 - a. Surfaces lose original writing and erasing qualities.
 - b. Surfaces exhibit crazing, cracking, or flaking.
- 2. Warranty Period: 50 years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 MATERIALS, GENERAL

- A. Porcelain-Enamel Face Sheet: Manufacturer's standard steel sheet with porcelain-enamel coating fused to steel; uncoated thickness indicated.
 - 1. Gloss Finish: Gloss as indicated; dry-erase markers wipe clean with dry cloth or standard eraser.
- B. Polyester Fabric: Nondirectional weave, 100 percent polyester; weighing not less than 15 oz./sq. yd.; with surface-burning characteristics indicated.
- C. Particleboard: ANSI A208.1, Grade M-1.
- D. Fiberboard: ASTM C 208.
- E. Extruded Aluminum: ASTM B 221, Alloy 6063.

2.2 MARKERBOARD ASSEMBLIES

- A. Porcelain-Enamel Markerboards: Balanced, high-pressure, factory-laminated markerboard assembly of three-ply construction consisting of backing sheet, core material, and 0.021-inchthick, porcelain-enamel face sheet with low-gloss finish.
 - 1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. AARCO Products, Inc.
 - b. Claridge Products and Equipment, Inc.
 - c. Marsh Industries, Inc.; Visual Products Group.
 - 2. Particleboard Core: 3/8 inch thick; with 0.015-inch- thick, aluminum sheet backing.
 - 3. Laminating Adhesive: Manufacturer's standard, moisture-resistant thermoplastic type.

2.3 TACKBOARD ASSEMBLIES

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

- 1. AARCO Products, Inc.
- 2. Claridge Products and Equipment, Inc.
- 3. Marsh Industries, Inc.; Visual Products Group.
- B. Polyester-Fabric-Faced Tackboard <**TB**>: 1/8-inch- thick, polyester-fabric-faced cork sheet factory laminated to 3/8-inch- thick fiberboard backing.

2.4 MARKERBOARD TACKBOARD ACCESSORIES

- A. Aluminum Frames and Trim: Fabricated from not less than 0.062-inch- thick, extruded aluminum; of size and shape indicated on Drawings.
 - 1. Factory-Applied Trim: Manufacturer's standard.
- B. Chalktray: Manufacturer's standard, continuous.
- C. Map Rail: Provide the following accessories:
 - 1. Display Rail: Continuous and integral with map rail; fabricated from cork approximately 1 to 2 inches wide.
 - 2. End Stops: Located at each end of map rail.
 - 3. Map Hooks and Clips: Two map hooks with flexible metal clips for every 48 inches of map rail or fraction thereof.
 - 4. Flag Holder: One for each room.
 - 5. Paper Holder: Extruded aluminum; designed to hold paper by clamping action.

2.5 FABRICATION

- A. Porcelain-Enamel Visual Display Assemblies: Laminate porcelain-enamel face sheet and backing sheet to core material under heat and pressure with manufacturer's standard flexible, waterproof adhesive.
- B. Visual Display Boards: Factory Field assemble visual display boards unless otherwise indicated.
 - 1. Where factory-applied trim is indicated, trim shall be assembled and attached to visual display boards at manufacturer's factory before shipment.
- C. Factory-Assembled Visual Display Units: Coordinate factory-assembled units with trim and accessories indicated. Join parts with a neat, precision fit.
 - 1. Make joints only where total length exceeds maximum manufactured length. Fabricate with minimum number of joints, .
 - a. Joints are not to be in the middle of the board assembly, create two joints when needed to avoid prime writing surface.

- 2. Provide manufacturer's standard vertical-joint spline system between abutting sections of markerboards.
- 3. Provide manufacturer's standard mullion trim at joints between markerboards tackboards of combination units.
- 4. Where size of visual display boards or other conditions require support in addition to normal trim, provide structural supports or modify trim as indicated or as selected by Architect from manufacturer's standard structural support accessories to suit conditions indicated.
- D. Aluminum Frames and Trim: Fabricate units straight and of single lengths, keeping joints to a minimum. Miter corners to a neat, hairline closure.
 - 1. Where factory-applied trim is indicated, trim shall be assembled and attached to visual display units at manufacturer's factory before shipment.

2.6 GENERAL FINISH REQUIREMENTS

- A. Comply with NAAMM's "Metal Finishes Manual for Architectural and Metal Products" for recommendations for applying and designating finishes.
- B. Protect mechanical finishes on exposed surfaces from damage by applying a strippable, temporary protective covering before shipping.
- C. Appearance of Finished Work: Noticeable variations in same piece are not acceptable. Variations in appearance of adjoining components are acceptable if they are within the range of approved Samples and are assembled or installed to minimize contrast.

2.7 ALUMINUM FINISHES

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

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates and conditions, with Installer present, for compliance with requirements for installation tolerances, surface conditions of wall, and other conditions affecting performance of the Work.
- B. Examine walls and partitions for proper preparation and backing for visual display surfaces.
- C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Comply with manufacturer's written instructions for surface preparation.
- B. Clean substrates of substances that could impair the performance of and affect the smooth, finished surfaces of visual display boards, including dirt, mold, and mildew.
- C. Prepare surfaces to achieve a smooth, dry, clean surface free of flaking, unsound coatings, cracks, defects, projections, depressions, and substances that will impair bond between visual display surfaces and wall surfaces.

3.3 INSTALLATION, GENERAL

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

3.4 INSTALLATION OF FIELD-FABRICATED VISUAL DISPLAY BOARDS AND ASSEMBLIES

- A. Field-Assembled Visual Display Units: Coordinate field-assembled units with grounds, trim, and accessories indicated. Join parts with a neat, precision fit.
 - 1. Make joints only where total length exceeds maximum manufactured length. Fabricate with minimum number of joints, balanced around center of board, as acceptable to Architect.
 - 2. Provide manufacturer's standard vertical-joint spline system between abutting sections of markerboards.
 - 3. Provide manufacturer's standard mullion trim at joints between markerboards tackboards of combination units.
 - 4. Where size of visual display boards or other conditions require support in addition to normal trim, provide structural supports or modify trim as indicated or as selected by Architect from manufacturer's standard structural support accessories to suit conditions indicated.

3.5 INSTALLATION OF FACTORY-FABRICATED VISUAL DISPLAY BOARDS AND ASSEMBLIES

- A. Visual Display Boards: Attach visual display boards to wall surfaces with egg-size adhesive gobs at 16 inches (400 mm) o.c., horizontally and vertically.
- B. Visual Display Boards: Attach concealed clips, hangers, and grounds to wall surfaces and to visual display boards with fasteners at not more than 16 inches (400 mm) o.c. Secure both top and bottom of boards to walls.

- 1. Field-Applied Aluminum Trim: Attach trim over edges of visual display boards and conceal grounds and clips. Attach trim to boards with fasteners at not more than 24 inches o.c.
 - a. Attach chalktrays to boards with fasteners at not more than 12 inches o.c.

3.6 CLEANING AND PROTECTION

- A. Clean visual display surfaces according to manufacturer's written instructions. Attach one cleaning label to visual display surface in each room.
- B. Touch up factory-applied finishes to restore damaged or soiled areas.
- C. Cover and protect visual display surfaces after installation and cleaning.

END OF SECTION

SECTION 101400 - SIGNAGE

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes the following:
 - 1. Plaques.
 - 2. Dimensional characters.
 - 3. Panel signs.
- B. Related Sections include the following:
 - 1. Division 01 Section "Temporary Facilities and Controls" for temporary Project identification signs and for temporary information and directional signs.
 - 2. Division 10 Section "Post and Panel/Pylon Signage" for freestanding signs.
 - 3. Division 22 Section "Identification for Plumbing Piping and Equipment" for labels, tags, and nameplates for plumbing systems and equipment.
 - 4. Division 23 Section "Identification for HVAC Piping and Equipment" for labels, tags, and nameplates for HVAC systems and equipment.
 - 5. Division 26 Sections for electrical service and connections for illuminated signs.
 - 6. Division 26 Section "Identification for Electrical Systems" for labels, tags, and nameplates for electrical equipment.
 - 7. Division 26 Section "Interior Lighting" for illuminated Exit signs.

1.3 DEFINITIONS

A. ADA-ABA Accessibility Guidelines: U.S. Architectural & Transportation Barriers Compliance Board's "Americans with Disabilities Act (ADA) Accessibility Guidelines for Buildings and Facilities; Architectural Barriers Act (ABA) Accessibility Guidelines."

1.4 ACTION SUBMITTALS

- A. Product Data, Shop Drawings and Sign Schedule:
 - 1. Shop Drawings: Show fabrication and installation details for signs.
 - a. Show sign mounting heights, locations of supplementary supports to be provided by others, and accessories.

- b. Provide message list, typestyles, graphic elements, including tactile characters and Braille, and layout for each sign.
- 2. Sign Schedule: Use same designations indicated on Drawings.

1.5 QUALITY ASSURANCE

- A. Installer Qualifications: Fabricator of products.
- B. Fabricator Qualifications: Shop that employs skilled workers who custom-fabricate products similar to those required for this Project and whose products have a record of successful in-service performance.
- C. Source Limitations for Signs: Obtain each sign type indicated from one source from a single manufacturer.
- D. Regulatory Requirements: Comply with applicable provisions in ADA-ABA Accessibility Guidelines.

1.6 PROJECT CONDITIONS

- A. Weather Limitations: Proceed with installation only when existing and forecasted weather conditions permit installation of signs in exterior locations to be performed according to manufacturers' written instructions and warranty requirements.
- B. Field Measurements: Verify recess openings by field measurements before fabrication and indicate measurements on Shop Drawings.

1.7 COORDINATION

A. Coordinate placement of anchorage devices with templates for installing signs.

1.8 WARRANTY

- A. Special Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace components of signs that fail in materials or workmanship within specified warranty period.
 - 1. Failures include, but are not limited to, the following:
 - a. Deterioration of metal and polymer finishes beyond normal weathering.
 - b. Deterioration of embedded graphic image colors and sign lamination.
 - 2. Warranty Period: Five years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Acrylic Sheet: ASTM D 4802, Category A-1 (cell-cast sheet), Type UVA (UV absorbing).

2.2 PLAQUES

- A. Permanent interior dedication plaque in building lobby or main vestibule recognizing:
 - 1. Name of Building
 - 2. Date of Completion
 - 3. Owner
 - a. Name of School Board Members
 - b. Name of Superintendent
 - 4. Construction Manager
 - 5. Architect
 - 6. Include graphic of the seal of Franklin Township Community School Corporation
- B. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - 1. Advance Corporation; Braille-Tac Division.
 - 2. A. R. K. Ramos.
 - 3. essential architectural signs, inc.
 - 4. Gemini Incorporated.
 - 5. ISF Signs
 - 6. Matthews International Corporation; Bronze Division.
 - 7. Metal Arts; Div. of L&H Mfg. Co.
 - 8. Mills Manufacturing Company.
 - 9. Nelson-Harkins Industries.
 - 10. Sign Solutions
 - 11. Southwell Company (The).
- C. Cast Plaques: Provide castings free of pits, scale, sand holes, and other defects, as follows:
 - 1. Size: 850 square inches.
 - 2. Plaque Material: Aluminum Bronze.
 - 3. Mounting: Rosettes and fasteners matching plaque finish Concealed studs for substrates encountered.

2.3 DIMENSIONAL CHARACTERS

- A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - 1. ACE Sign Systems, Inc.
 - 2. Advance Corporation; Braille-Tac Division.
 - 3. A. R. K. Ramos.
 - 4. ASI-Modulex, Inc.
 - 5. Charleston Industries, Inc.
 - 6. essential architectural signs, inc.
 - 7. Gemini Incorporated.
 - 8. Grimco, Inc.
 - 9. ISF Signs
 - 10. Innerface Sign Systems, Inc.
 - 11. Metal Arts; Div. of L&H Mfg. Co.
 - 12. Mills Manufacturing Company.
 - 13. Mohawk Sign Systems.
 - 14. Nelson-Harkins Industries.
 - 15. Signature Signs, Incorporated.
 - 16. Sign Solutions
 - 17. Southwell Company (The).
- B. Characters: Provide characters with , eased edges. Comply with the following requirements:
 - 1. Aluminum Sheet: 0.25 inch thick.
 - a. Finish: Painted.
 - 2. Character size: As indicated on Drawings.
 - 3. Character Finish/Color: Cast Aluminum, matte edges.
 - 4. Thickness: As required for performance and anticipated loads. 1" minimum.
 - 5. Font: As indicated on drawings.
 - 6. Mounting: Projected mount with collars and threaded studs set in adhesive.
 - a. Exterior: 1" (one inch)
 - b. Interior: 1/2" (one half inch)
 - 7. Location: As indicated on Drawings.
 - 8. Quantity: As indicated on Drawings.
 - 9. Bituminous Paint: Cold-Applied asphalt emulsion complying with ASTM D 1187.

2.4 PANEL SIGNS

A. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

- B. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
- C. Basis-of-Design Product: Subject to compliance with requirements, provide [the product indicated on Drawings] <Insert manufacturer's name; product name or designation> or a comparable product by one of the following:
 - 1. ACE Sign Systems, Inc.
 - 2. Advance Corporation; Braille-Tac Division.
 - 3. Allen Industries Architectural Signage
 - 4. ASI-Modulex, Inc.
 - 5. Best Sign Systems Inc.
 - 6. Fossil Industries, Inc.
 - 7. essential architectural signs, inc.
 - 8. Gemini Incorporated.
 - 9. Grimco, Inc.
 - 10. ISF Signs
 - 11. Innerface Sign Systems, Inc.
 - 12. InPro Corporation
 - 13. Matthews International Corporation; Bronze Division.
 - 14. Mills Manufacturing Company.
 - 15. Mohawk Sign Systems.
 - 16. Nelson-Harkins Industries.
 - 17. Signature Signs, Incorporated.
 - 18. Sign Solutions
- D. Interior Panel Signs: Provide smooth sign panel surfaces constructed to remain flat under installed conditions within a tolerance of plus or minus 1/16 inch measured diagonally from corner to corner, complying with the following requirements:
 - 1. Edge Condition: [Square cut] [Beveled] [Bullnose].
 - 2. Corner Condition: [Square] [Rounded to radius indicated].
 - 3. Mounting: [Framed] [Unframed] [As indicated].
 - a. Wall mounted with two-face tape.
 - b. Manufacturer's standard anchors for substrates encountered.
 - 4. Custom Paint Colors: Match [Pantone] < Insert system> color matching system.
 - 5. Color: [As indicated] [As selected by Architect from manufacturer's full range] <Insert color>.
 - 6. Tactile Characters: Characters and Grade 2 Braille raised 1/32 inch above surface with contrasting colors.
- E. Brackets: Fabricate brackets and fittings for bracket-mounted signs from extruded aluminum to suit panel sign construction and mounting conditions indicated. Factory paint brackets in color [matching background color of panel sign] [matching Architect's sample] <Insert color>.

- F. Changeable Message Inserts: Fabricate signs to allow insertion of changeable messages in the form of [slide-in inserts] [transparent covers with paper inserts printed by Owner] [changeable panel inserts for use in fixed frames] < Insert description>.
 - 1. Furnish insert material and software for creating text and symbols for [**PC-Windows**] [**Macintosh**] computers for Owner production of paper inserts.
 - 2. Furnish insert material cut-to-size for changeable message insert.
- G. Colored Coatings for Acrylic Sheet: For copy [and] [background] [and frame] colors, provide colored coatings, including inks, dyes, and paints, that are recommended by acrylic manufacturers for optimum adherence to acrylic surface and are UV and water resistant for [three] [five] years for application intended.
 - 1. Custom Paint Colors: Match [Pantone] < Insert system> color matching system.
 - 2. Color: [As indicated] [As selected by Architect from manufacturer's full range] <Insert color>.

H. Panel Sign Schedule:

- 1. Sign Type < Insert designation>:
 - a. Sign Size: [As indicated] <Insert dimensions>.
 - b. Message Panel Material: [As indicated] < Insert material>.
 - c. Message Panel Finish/Color: < Insert finish/color.>
 - d. Background Finish/Color: < Insert finish/color.>
 - e. Character Size: [As indicated] < Insert size>.
 - f. Character Finish/Color: < Insert finish/color.>
 - g. Panel Sign Frame Finish/Color: < Insert finish/color.>
 - h. Text/Message: [As indicated] < Insert text/message>.
 - i. Location: [As indicated] < Insert designation>.
 - j. Room: < Insert designation.>
 - k. Quantity: < Insert number.>

2.5 ACCESSORIES

A. Anchors and Inserts: Provide nonferrous-metal or hot-dip galvanized anchors and inserts for exterior installations and elsewhere as required for corrosion resistance. Use toothed steel or lead expansion-bolt devices for drilled-in-place anchors. Furnish inserts, as required, to be set into concrete or masonry work.

2.6 FABRICATION

A. General: Provide manufacturer's standard signs of configurations indicated.

- Welded Connections: Comply with AWS standards for recommended practices in shop welding. Provide welds behind finished surfaces without distortion or discoloration of exposed side. Clean exposed welded surfaces of welding flux and dress exposed and contact surfaces.
- 2. Mill joints to tight, hairline fit. Form joints exposed to weather to exclude water penetration.
- 3. Preassemble signs in the shop to greatest extent possible. Disassemble signs only as necessary for shipping and handling limitations. Clearly mark units for reassembly and installation, in location not exposed to view after final assembly.
- 4. Conceal fasteners if possible; otherwise, locate fasteners where they will be inconspicuous.

2.7 FINISHES, GENERAL

- A. Comply with NAAMM's "Metal Finishes Manual for Architectural and Metal Products" for recommendations for applying and designating finishes.
- B. Protect mechanical finishes on exposed surfaces from damage by applying a strippable, temporary protective covering before shipping.
- C. Appearance of Finished Work: Variations in appearance of abutting or adjacent pieces are acceptable if they are within one-half of the range of approved Samples. Noticeable variations in the same piece are not acceptable. Variations in appearance of other components are acceptable if they are within the range of approved Samples and are assembled or installed to minimize contrast.

2.8 ACRYLIC SHEET FINISHES

A. Colored Coatings for Acrylic Sheet: For copy [and] [background] [and frame] colors, provide colored coatings, including inks, dyes, and paints, that are recommended by acrylic manufacturers for optimum adherence to acrylic surface and that are UV and water resistant for [three] [five] years for application intended.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates, areas, and conditions, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of work.
- B. Verify that itemsare sized and located to accommodate signs.
- C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION

- A. Locate signs and accessories where indicated, using mounting methods of types described and complying with manufacturer's written instructions.
 - 1. Install signs level, plumb, and at heights indicated, with sign surfaces free of distortion and other defects in appearance.
 - 2. Interior Wall Signs: Install signs on walls adjacent to latch side of door where applicable. Where not indicated or possible, such as double doors, install signs on nearest adjacent walls. Locate to allow approach within 3 inches of sign without encountering protruding objects or standing within swing of door.
- B. Wall-Mounted Signs: Comply with sign manufacturer's written instructions except where more stringent requirements apply.
 - 1. Two-Face Tape: Mount signs to smooth, nonporous surfaces. Do not use this method for vinyl-covered or rough surfaces.
- C. Dimensional Characters: Mount characters using standard fastening methods to comply with manufacturer's written instructions for character form, type of mounting, wall construction, and condition of exposure indicated. Provide heavy paper template to establish character spacing and to locate holes for fasteners.
 - 1. Flush Mounting: Mount characters with backs in contact with wall surface.
 - 2. Projected Mounting: Mount characters at projection distance from wall surface indicated.

3.3 CLEANING AND PROTECTION

A. After installation, clean soiled sign surfaces according to manufacturer's written instructions. Protect signs from damage until acceptance by Owner.

END OF SECTION

SECTION 102123 - CUBICLE CURTAINS AND TRACK

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes the following:
 - 1. Curtain tracks and curtain carriers.
 - 2. Cubicle curtains.
- B. Related Sections include the following:
 - 1. Division 06 Section "Miscellaneous Rough Carpentry" for wood blocking for mounting items requiring anchorage.
 - 2. Division 09 Section "Acoustical Panel Ceilings" for metal framing and furring for mounting items requiring anchorage.

1.3 PERFORMANCE REQUIREMENTS

- A. Curtains: Provide curtain fabrics with the following characteristics:
 - 1. Fabrics are launderable to a temperature of not less than 160 deg F 90 deg F.
 - 2. Fabrics are flame resistant and are identical to those that have passed NFPA 701 when tested by a testing and inspecting agency acceptable to authorities having jurisdiction.
 - a. Identify fabrics with appropriate markings of applicable testing and inspecting agency.

1.4 ACTION SUBMITTALS

- A. Product Data with Shop Drawings:
 - 1. Shop Drawings: Show layout and types of cubicles, sizes of curtains, number of carriers, anchorage details, and conditions requiring accessories. Indicate dimensions taken from field measurements.
 - a. Include details on blocking above ceiling.

1.5 PROJECT CONDITIONS

A. Environmental Limitations: Do not install cubicles until spaces are enclosed and weatherproof, wet work in spaces is complete and dry, work above ceilings is complete, and ambient temperature and humidity conditions are maintained at the levels indicated for Project when occupied for its intended use.

PART 2 - PRODUCTS

2.1 CURTAIN TRACKS

- A. Basis-of-Design Product: Subject to compliance with requirements, provide "Model No. 98" as manufactured by Imperial Fastener Co. or a comparable product by one of the following:
 - 1. Coldraco, Inc.
 - 2. Diamond Drapery Co.
 - 3. General Cubicle Company, Inc.
 - 4. Grant Co.
 - 5. InPro Corporation.
 - 6. Nelson, A. R. Co.
- B. Extruded-Aluminum Track: Not less than 5/8 inch wide by 1/2 inch high; with minimum wall thickness of 0.058 inch.
 - 1. Curved Track: Factory-fabricated, 12-inch- radius bends.
 - 2. Finish: Clear anodized.
- C. Track Accessories: Fabricate splices, end caps, connectors, end stops, coupling and joining sleeves, wall flanges, brackets, ceiling clips, and other accessories from same material and with same finish as track.
 - 1. End Stop: Nonremovable.
- D. Curtain Carriers: Two nylon rollers and nylon axle with chrome-plated steel hook.
- E. Exposed Fasteners: Stainless steel.
- F. Concealed Fasteners: Stainless steel.

2.2 CURTAINS (CC)

- A. Cubicle Curtain Fabric: Curtain manufacturer's standard, 100 percent polyester, inherently and permanently flame resistant, stain resistant, and antimicrobial.
 - 1. Basis-of-Design Product: Subject to compliance with requirements, provide Architex or a comparable product by one of the following:

- a. Momentum,
- b. Designtex.
- 2. Pattern: Rx 1008.
- 3. Color: Tranquil.
- B. Curtain Grommets: Two-piece, rolled-edge, rustproof, nickel-plated brass; spaced not more than 6 inches o.c.; machined into top hem.
- C. PVC-Strip Curtain Drop: 18 inches (457 mm) long, with chrome-plated steel hook.

2.3 CURTAIN FABRICATION

- A. Fabricate curtains to comply with the following requirements:
 - 1. Width: Equal to track length from which curtain is hung plus 10 percent added fullness, but not less than 12 inches added fullness.
 - 2. Length: Equal to floor-to-ceiling height minus 18 inches (457 mm) from finished ceiling at top, and minus distance above the finished floor at bottom as follows:
 - a. Cubicle Curtains: 12 inches.
 - 3. Top Hem: Not less than 1 inch and not more than 1-1/2 inches wide, triple thickness, reinforced with integral web, and double lock stitched.
 - 4. Bottom Hem: Not less than 1 inch and not more than 1-1/2 inches wide, triple thickness, reinforced, and double lock stitched.
 - 5. Side Hems: Not less than 1/2 inch and not more than 1-1/4 inches wide, with triple turned edges, and single lock stitched.
- B. Vertical Seams: Not less than 1/2 inch wide, double turned and double stitched.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates and conditions, with Installer present, for compliance with requirements for installation tolerances, and other conditions affecting performance of work.
 - 1. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION

- A. General: Install tracks level and plumb, according to manufacturer's written instructions.
- B. Up to 16 feet in length, provide track fabricated from 1 continuous length.

- 1. Curtain Track Mounting: Surface.
- C. Surface Track Mounting: Fasten surface-mounted tracks at intervals of not less than 24 inches. Fasten support at each splice and tangent point of each corner. Center fasteners in track to ensure unencumbered carrier operation. Attach track to ceiling as follows:
 - 1. Mechanically fasten directly to finished ceiling with toggle bolts.
 - 2. Mechanically fasten to suspended ceiling grid with screws.
- D. Track Accessories: Install splices, end caps, connectors, end stops, coupling and joining sleeves, and other accessories as required for a secure and operational installation.
- E. Curtain Carriers: Provide curtain carriers adequate for 6-inch spacing along full length of curtain plus an additional carrier.

Curtains: Hang curtains on each curtain track.END OF SECTION

SECTION 115123 - LIBRARY STACK SYSTEMS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:
 - 1. Wood-case shelving.

1.3 ACTION SUBMITTALS

- A. Product Data: For each type of product.
 - 1. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes for library stack systems and accessories.
- B. Shop Drawings:
 - 1. Include plans, elevations, sections, and details.
 - 2. Show clear-aisle widths from face of units.
 - 3. Detail fabrication and installation of library stack systems, including methods of anchoring them to building structures at locations recommended by manufacturer.
- C. Samples for Initial Selection: For units with factory-applied finishes, 6 inches in size.

1.4 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For Installer.
- B. Sample Warranty: For manufacturer's special warranty.

1.5 CLOSEOUT SUBMITTALS

A. Maintenance Data: For library stack systems to include in maintenance manuals.

1.6 MAINTENANCE MATERIAL SUBMITTALS

- A. Furnish extra materials that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.
 - 1. Shelf Units: Five percent of quantity installed for each size and type indicated, but no fewer than 10 units.

1.7 QUALITY ASSURANCE

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

1.8 FIELD CONDITIONS

A. Environmental Limitations: Do not deliver or install wood shelving until building is enclosed, wet work is complete, and HVAC system is operating and maintaining temperature and relative humidity at occupancy levels during the remainder of the construction period.

1.9 WARRANTY

- A. Special Warranty: Manufacturer agrees to repair or replace components of library stack systems that fail in materials or workmanship within specified warranty period.
 - 1. Failures include, but are not limited to, the following:
 - a. Deterioration of metal finishes and other materials beyond normal wear.
 - 2. Warranty Period: Five years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. Seismic Performance: Library stack systems shall withstand the effects of earthquake motions determined according to ASCE/SEI 7.

2.2 WOOD-CASE SHELVING

A. Wood-Case Library Shelving: Shelving designed for library use, consisting of base frame and full end, top, and back panels, with end panels made to receive pins to support adjustable shelves.

- 1. Manufacturers: Subject to compliance with requirements, provide products by the following:
 - a. Brodart Co; Contract Library Furniture DIvision.
 - b. Liat.
 - c. Worden Company.
 - d. Jasper Library Furniture; DIvision of Jasper Seating Company, Inc.
 - e. Russwood.

2. Bookstack Units (BS-1):

- a. Type: Fixed, Self-supporting units.
- b. Configuration: Single-faced units.
- c. Width: 36 inches.
- d. Height: 30 inches.
- e. Shelf Depth: 15 inches nominal.
- f. Shelves: Provide the following style and number of shelves:
 - 1) One, flat adjustable shelves.
 - 2) One, fixed bottom wood base shelf.
- g. Base Frames: Solid hardwood toe kick, back rail, and two end cleats, 3 to 4 inches high, designed to support bottom shelf and fabricated to attach and tie together vertical panels.
- h. Bottom Shelf: Solid hardwood boards glued together, 3/4 inch thick, or veneer panels, 1 inch thick, with 1/4-inch solid-wood banding.
- i. Adjustable Wood Shelves: Panels consisting of solid hardwood boards glued together, 3/4 inch thick, or veneer panels, 1 inch thick, with 1/4-inch solid-wood banding, and grooved on underside to rest securely on supporting pins.
- j. End Panels: Panels consisting of solid hardwood boards glued together, 3/4 inch thick, veneer-faced panels, five or nine ply, 1 inch thick, with 1/4-inch solid-wood banding. Provide two rows of holes at 1-1/4-inch intervals for 5/16-inch shelf-support pins on one side of end panels and both sides of intermediate panels.
- k. Tops: 3/4- to 1-inch- thick veneer- faced panels banded with 2- to 3-inch solid hardwood fasciae on one side for single-faced units and on two sides for double-faced units, fabricated to attach and tie together vertical panels.
- 1. Divider Panels: Veneer-faced panels, 1/4 inch thick, at each double-faced unit.

3. Bookstack Units (BS-2):

- a. Type: Fixed, Self-supporting units.
- b. Configuration: Single-faced units.
- c. Width: 36 inches (914 mm).
- d. Height: 60 inches.
- e. Shelf Depth: 15 inches nominal.
- f. Shelves: Provide the following style and number of shelves:
 - 1) Four, flat adjustable shelves.
 - 2) One, fixed bottom wood base shelf.

- g. Base Frames: Solid hardwood toe kick, back rail, and two end cleats, 3 to 4 inches (76 to 102 mm) high, designed to support bottom shelf and fabricated to attach and tie together vertical panels.
- h. Bottom Shelf: Solid hardwood boards glued together, 3/4 inch (19 mm) thick, or veneer panels, 1 inch (25 mm) thick, with 1/4-inch (6.3-mm) solid-wood banding.
- i. Adjustable Wood Shelves: Panels consisting of solid hardwood boards glued together, 3/4 inch (19 mm) thick, or veneer panels, 1 inch (25 mm) thick, with 1/4-inch (6.3-mm) solid-wood banding, and grooved on underside to rest securely on supporting pins.
- j. End Panels: Panels consisting of solid hardwood boards glued together, 3/4 inch (19 mm) thick, veneer-faced panels, five or nine ply, 1 inch (25 mm) thick, with 1/4-inch (6.3-mm) solid-wood banding. Provide two rows of holes at 1-1/4-inch (32-mm) intervals for 5/16-inch (7.9-mm) shelf-support pins on one side of end panels and both sides of intermediate panels.
- k. Tops: 3/4- to 1-inch- (19- to 25-mm-) thick veneer- faced panels banded with 2- to 3-inch (50- to 76-mm) solid hardwood fasciae on one side for single-faced units and on two sides for double-faced units, fabricated to attach and tie together vertical panels.

Retain "Divider Panels" Paragraph below for double-faced units.

1. Divider Panels: Veneer-faced panels, 1/4 inch (6.3 mm) thick, at each double-faced unit.

2.3 WOOD MATERIALS

- A. Solid Wood: Clear hardwood lumber, selected for compatible grain and color.
 - 1. Wood Species and Cut: Red oak, plain sliced.
 - 2. Staining and Finish: As selected by Architect from manufacturer's full range.
- B. Edgebanding: Minimum 1/8-inch- thick solid wood of same species as face veneer.
 - 1. Colors: As selected by Architect from manufacturer's full range.

2.4 GENERAL FINISH REQUIREMENTS

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

2.5 WOOD FINISHES

A. Finishing: Apply manufacturer's standard, baked, clear finish, consisting of a sealer and a conversion varnish or nitrocellulose lacquer UV-curing resin topcoat. Sand and wipe clean between applications of sealer and topcoat.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine areas, with Installer present, for compliance with requirements for installation tolerances, location of framing and reinforcements, and other conditions affecting performance of the Work.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Vacuum finished floor over which shelving is to be installed.
- B. Before installing wood-case shelving, condition materials to average prevailing humidity in installation areas for a minimum of 48 hours unless longer conditioning is recommended by manufacturer.

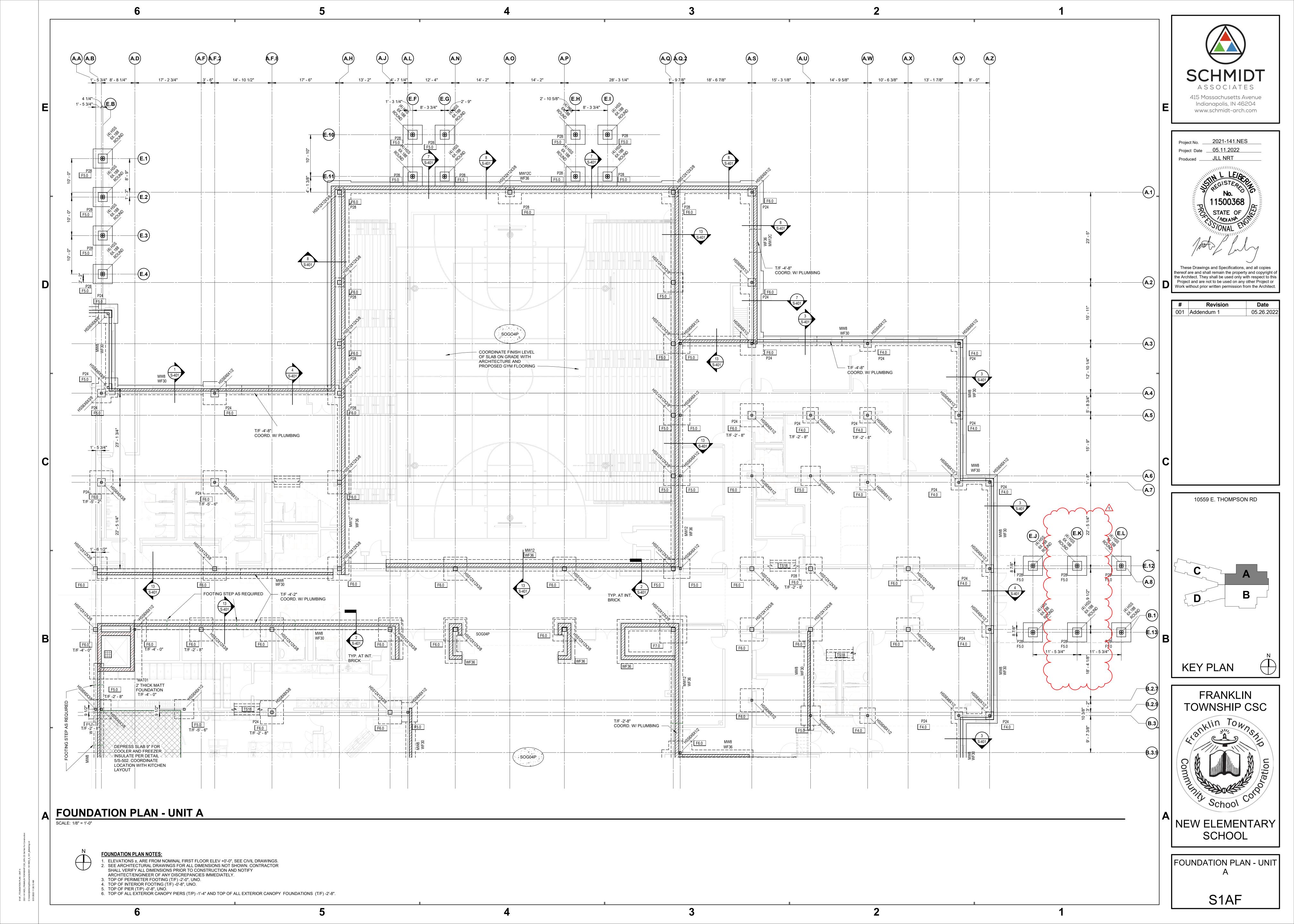
3.3 INSTALLATION

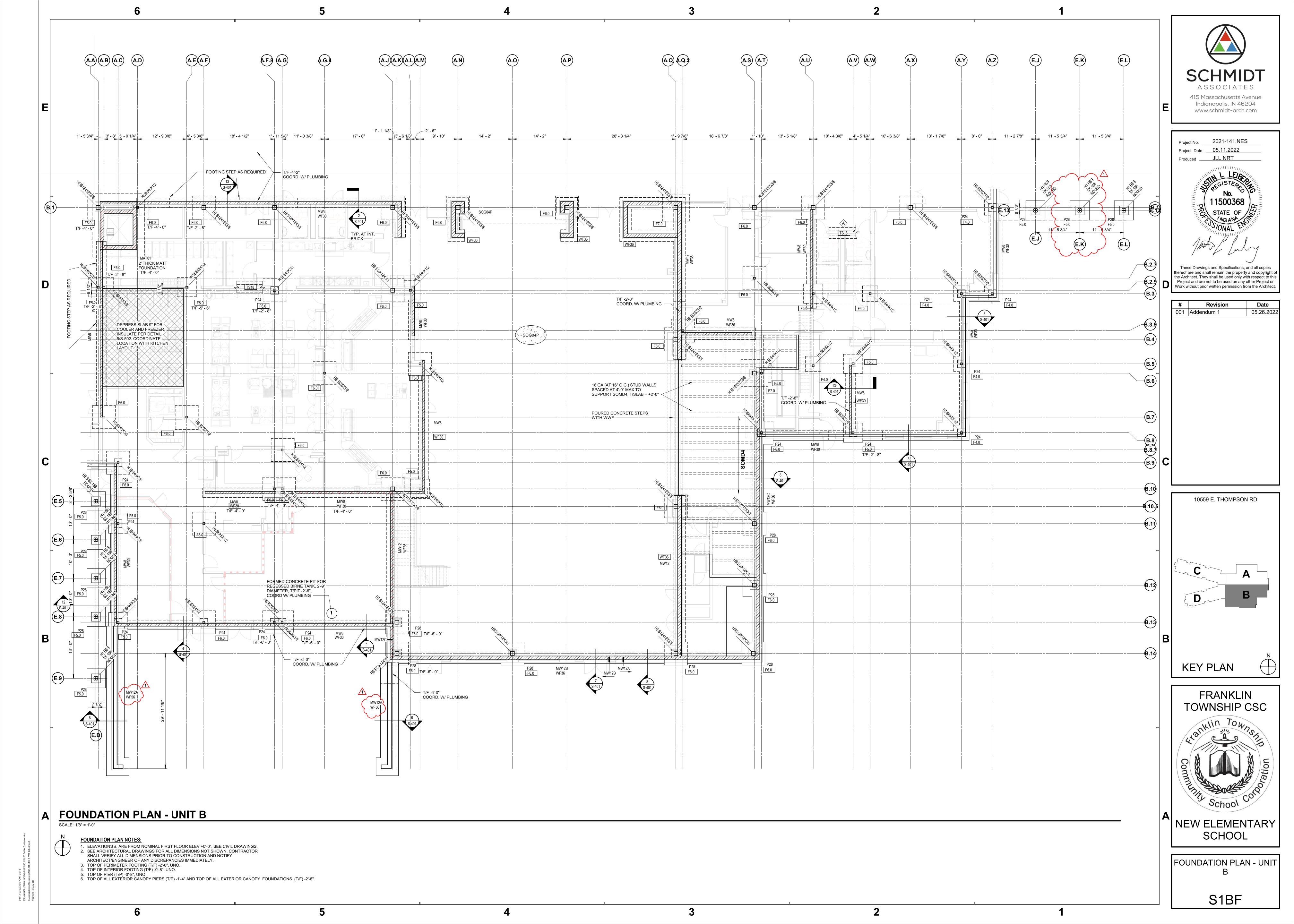
- A. Install library stack systems at locations indicated on Drawings and according to manufacturer's written instructions.
- B. Enclosure Panels: Install with concealed fasteners.
- C. Level and plumb bookstack units to a tolerance of 1/8 inch in 96 inches.
- D. Install type of shelves at locations indicated and at spacing indicated or, if not indicated, at equal spacing in each unit.

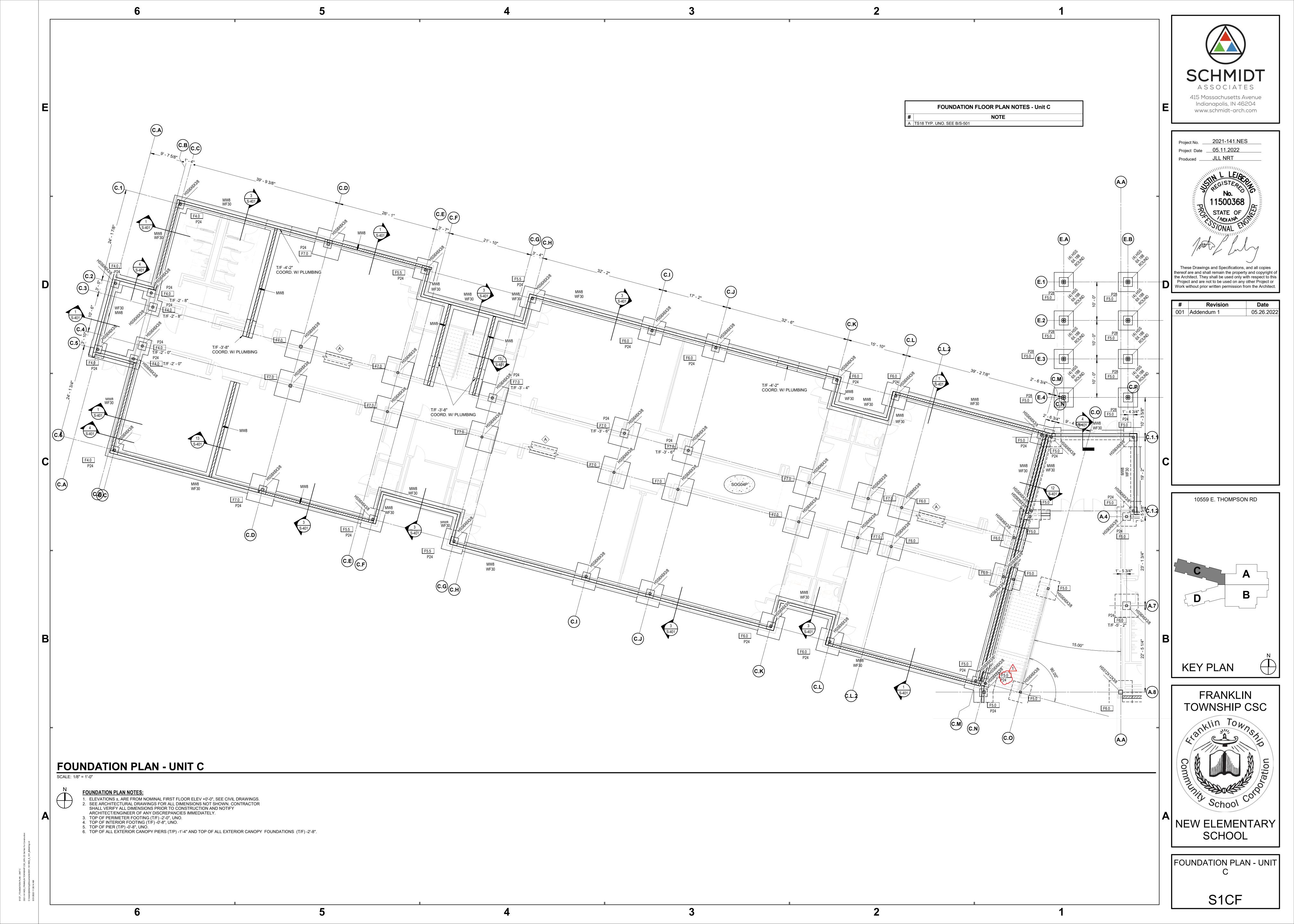
3.4 CLEANING AND PROTECTING

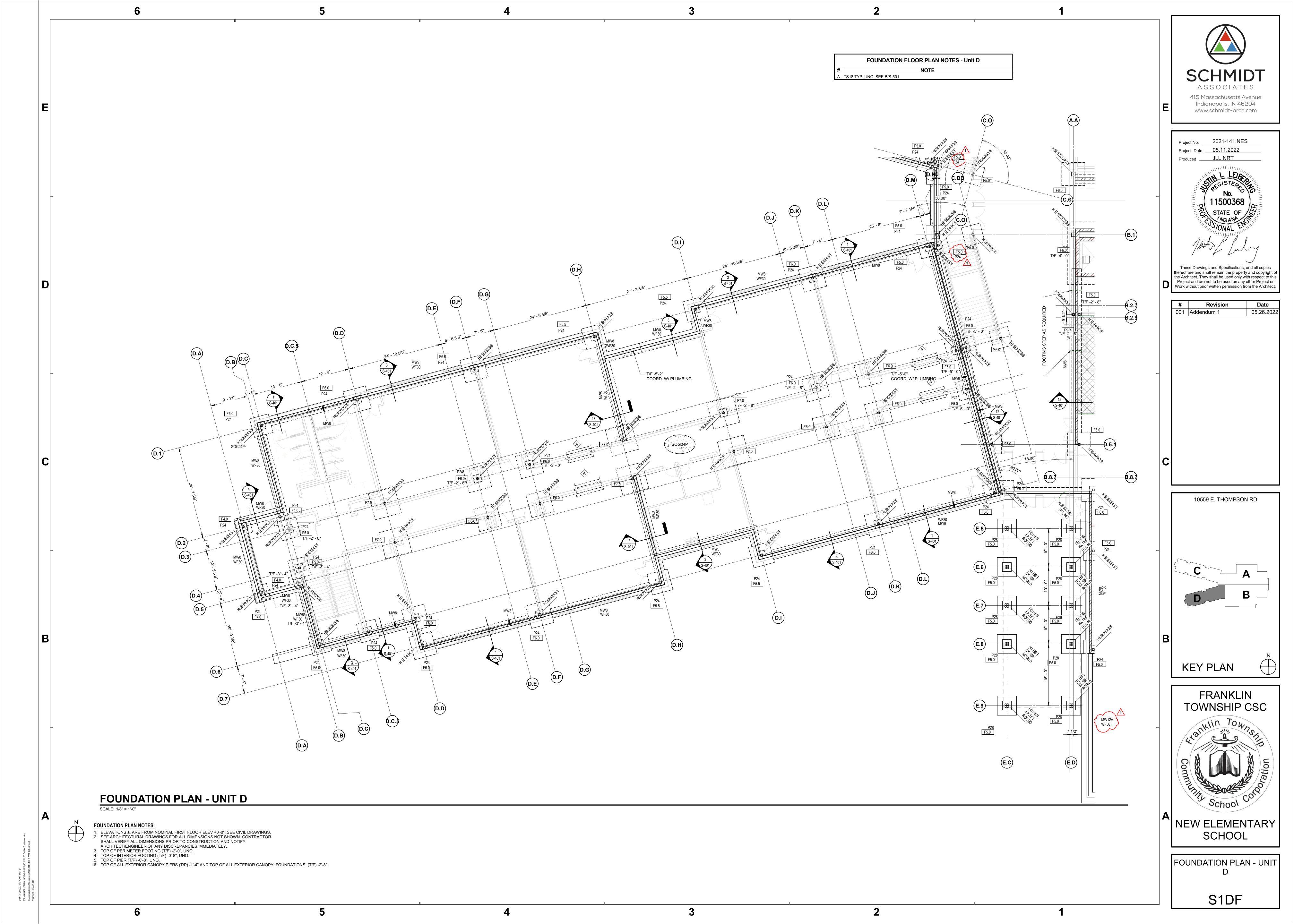
- A. Repair or remove and replace defective work as directed on completion of installation.
- B. Clean finished surfaces, touch up as required, and remove or refinish damaged or soiled areas to match original factory finish, as approved by Architect.
- C. Protect installed products from damage during remainder of the construction period.

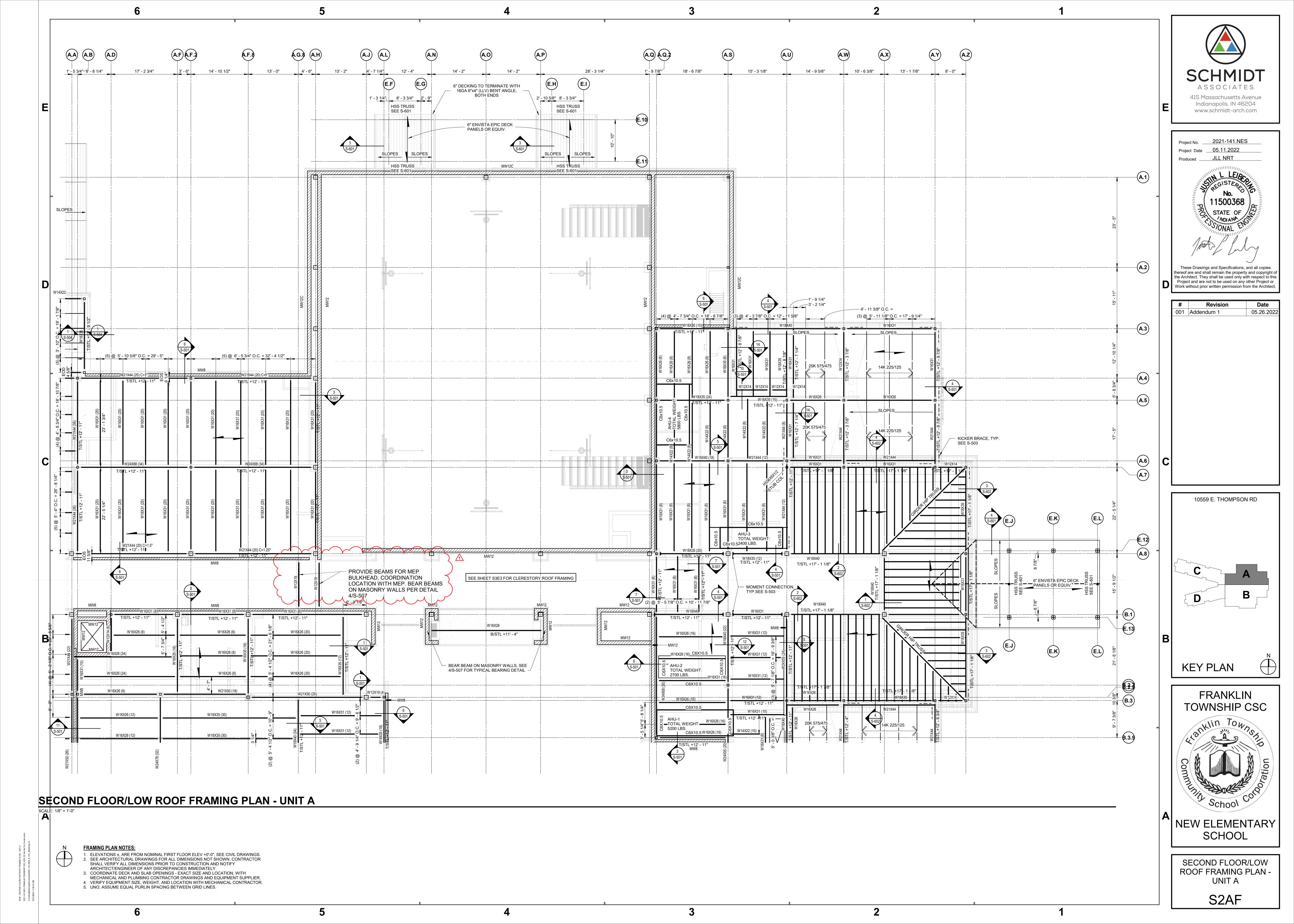
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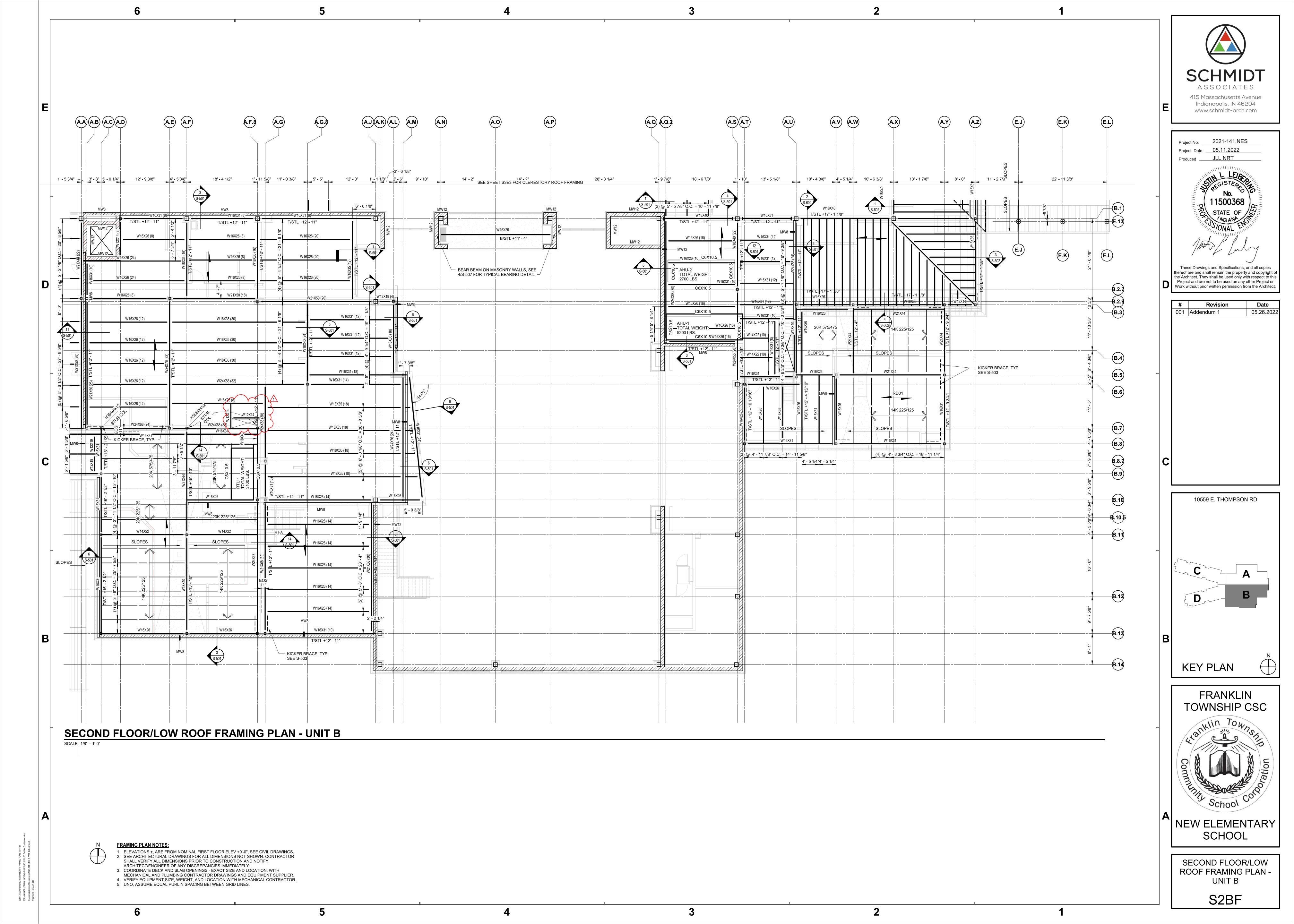


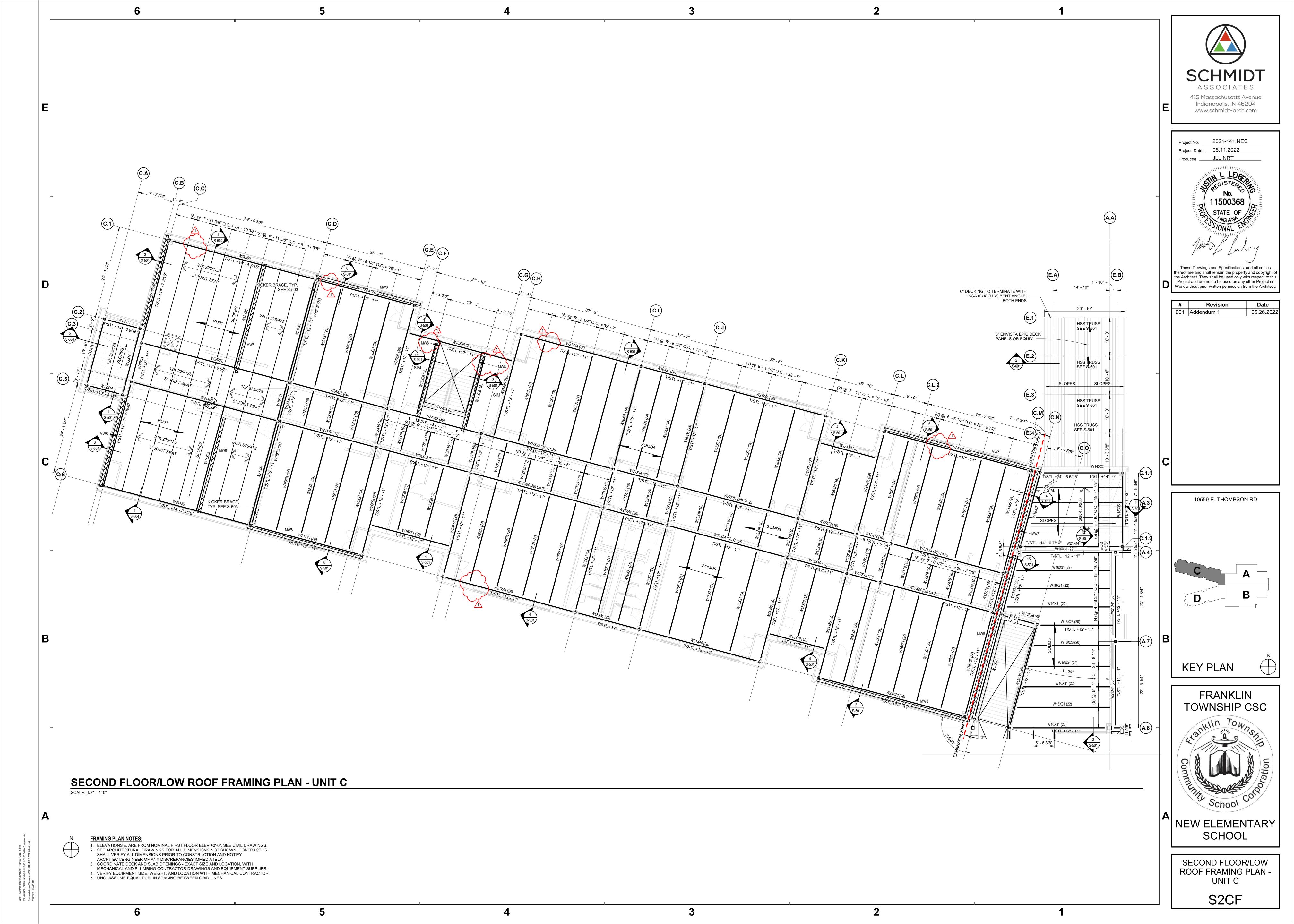


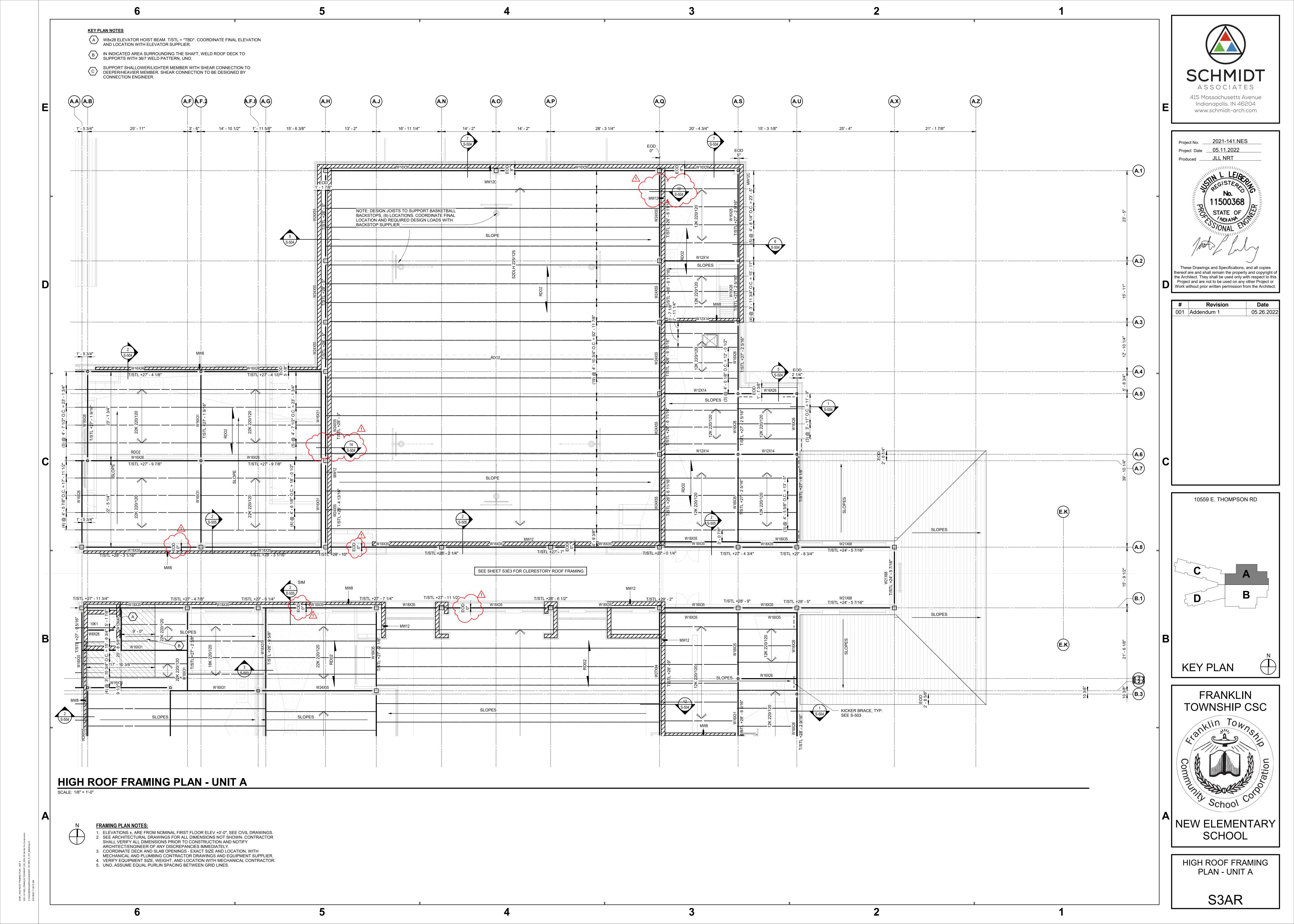


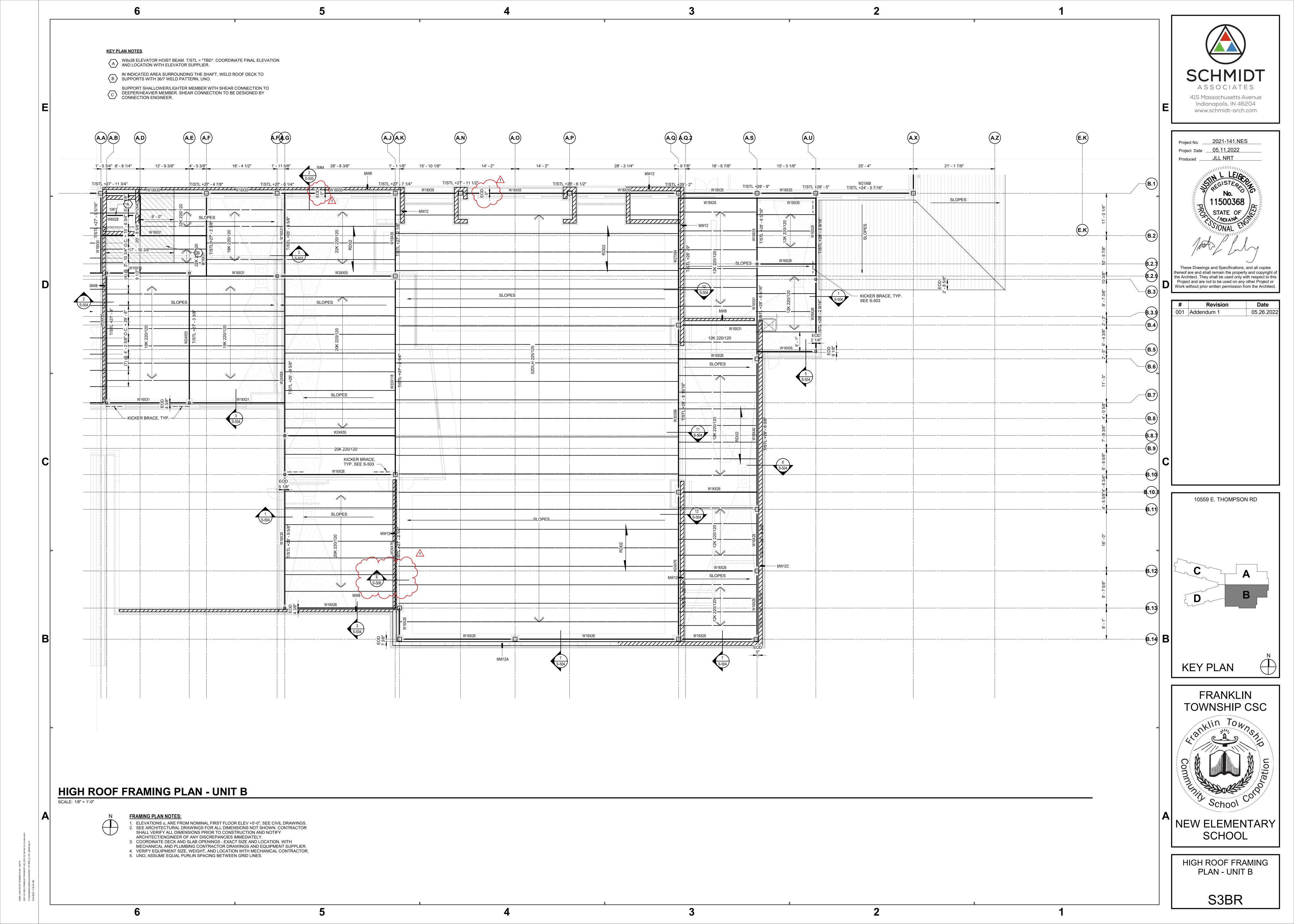


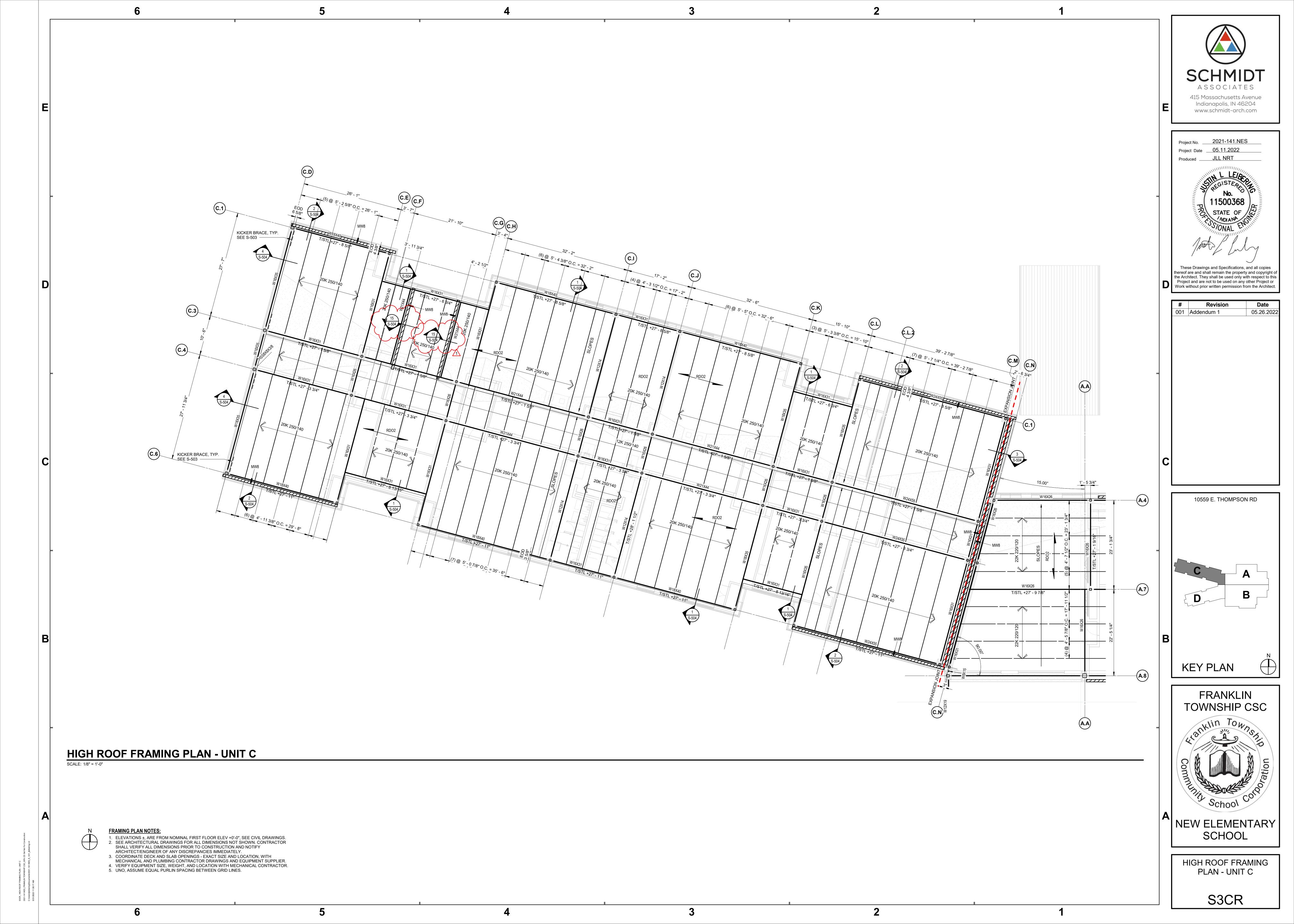


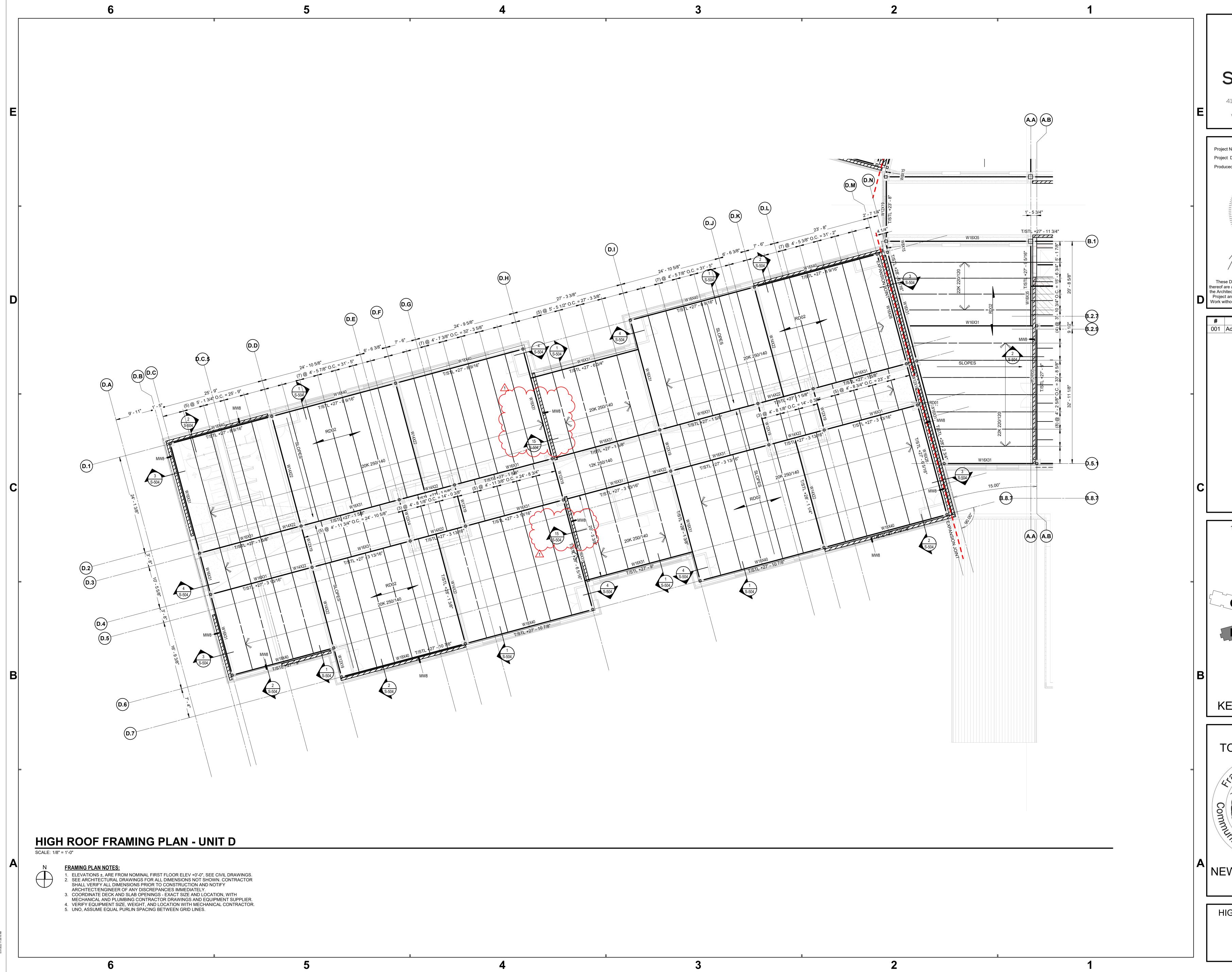








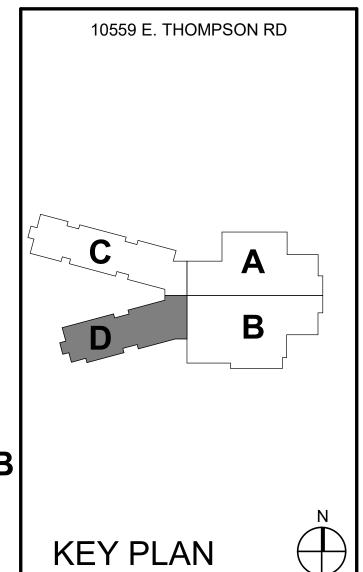




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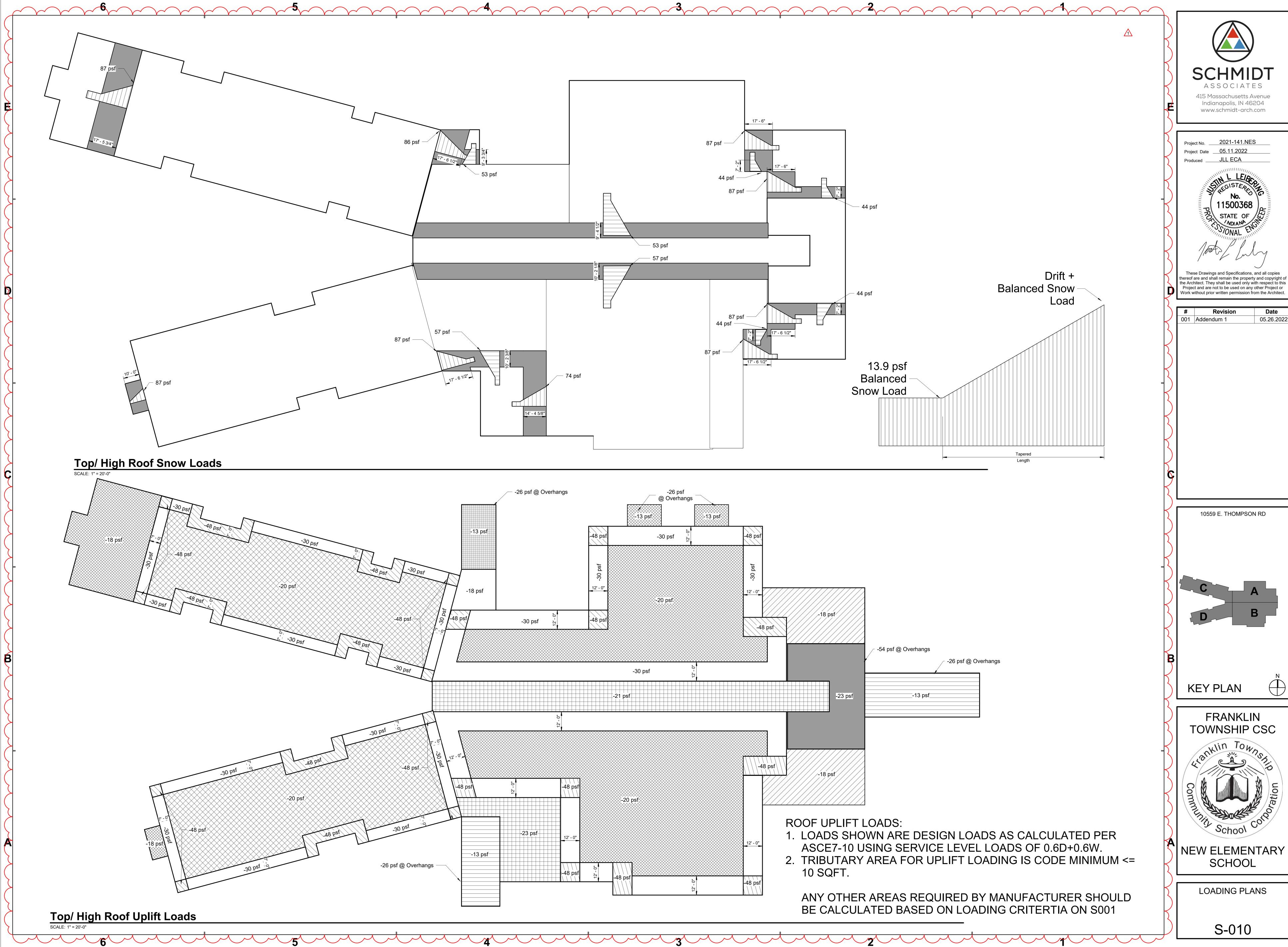
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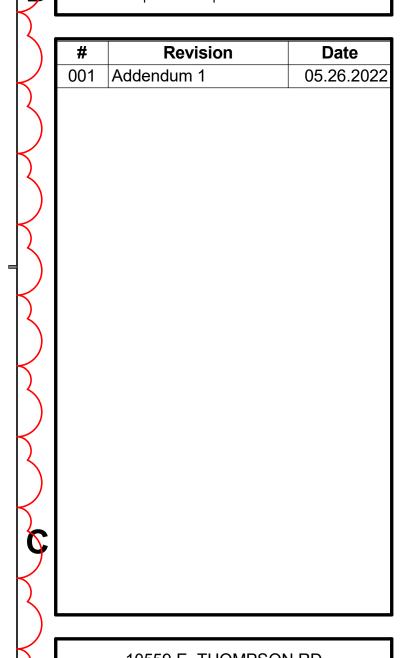


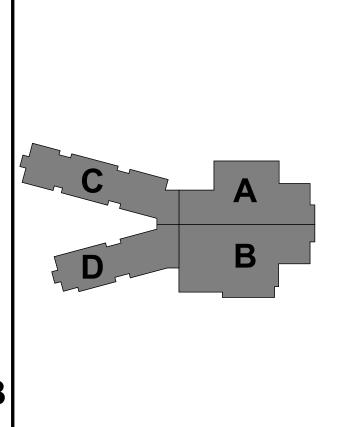


HIGH ROOF FRAMING
PLAN - UNIT D

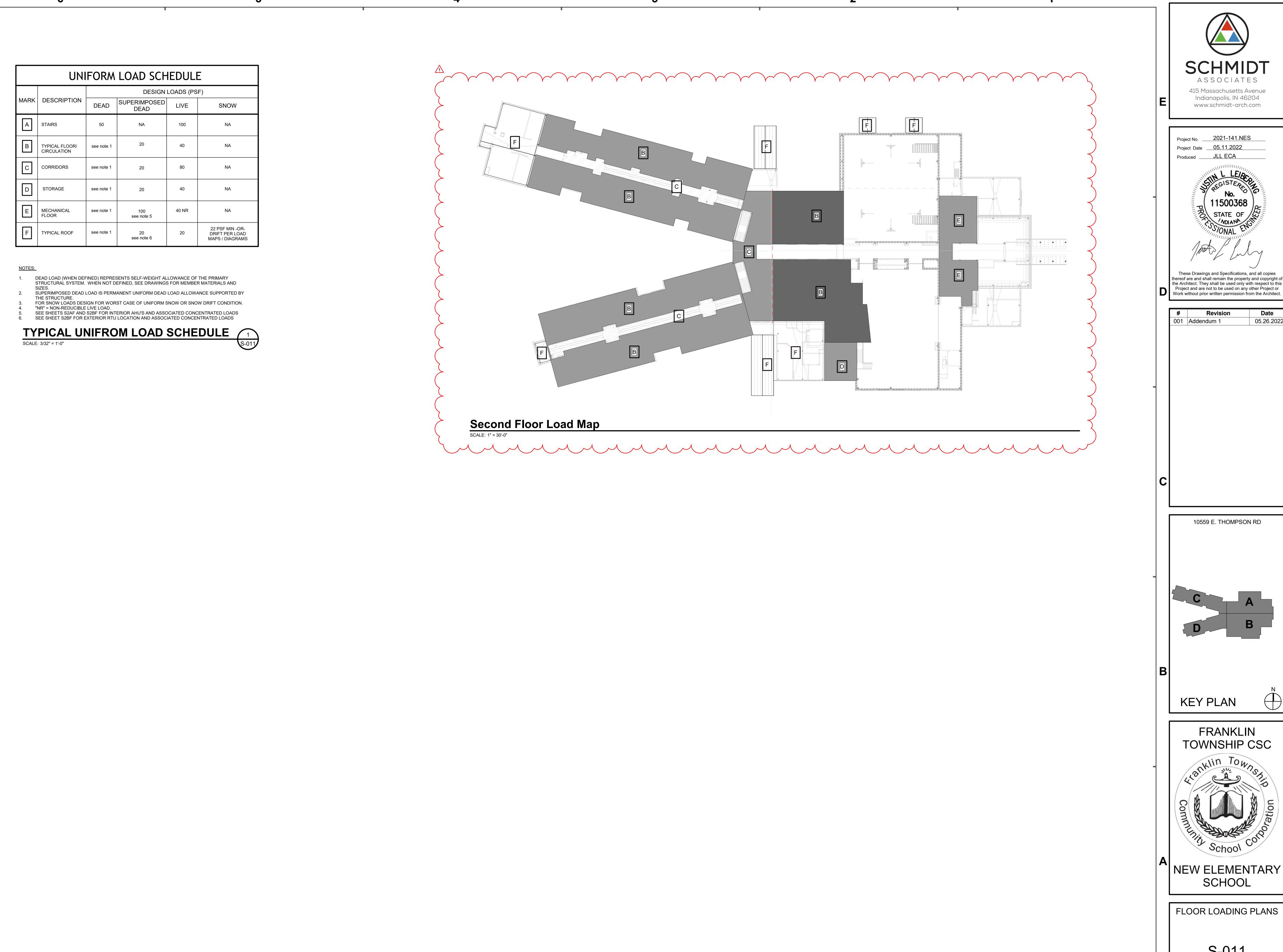
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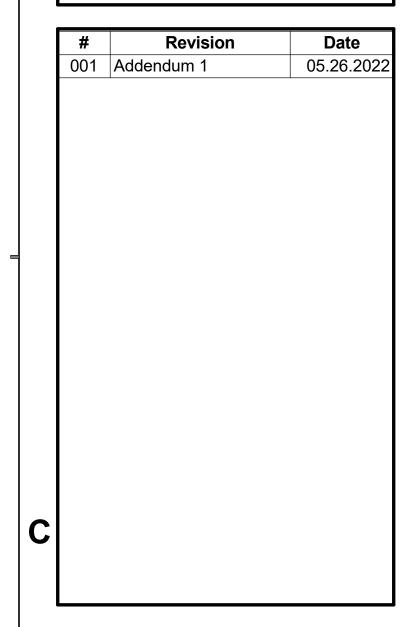


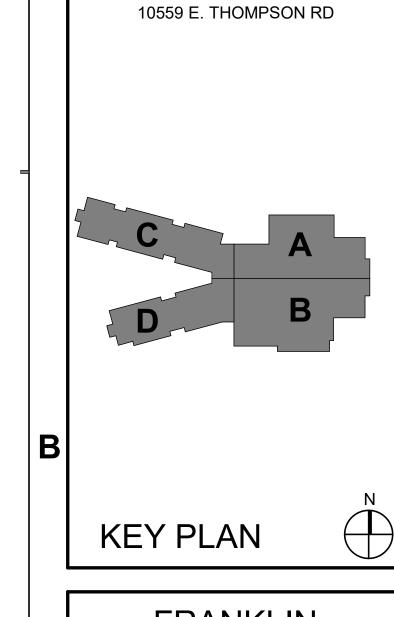




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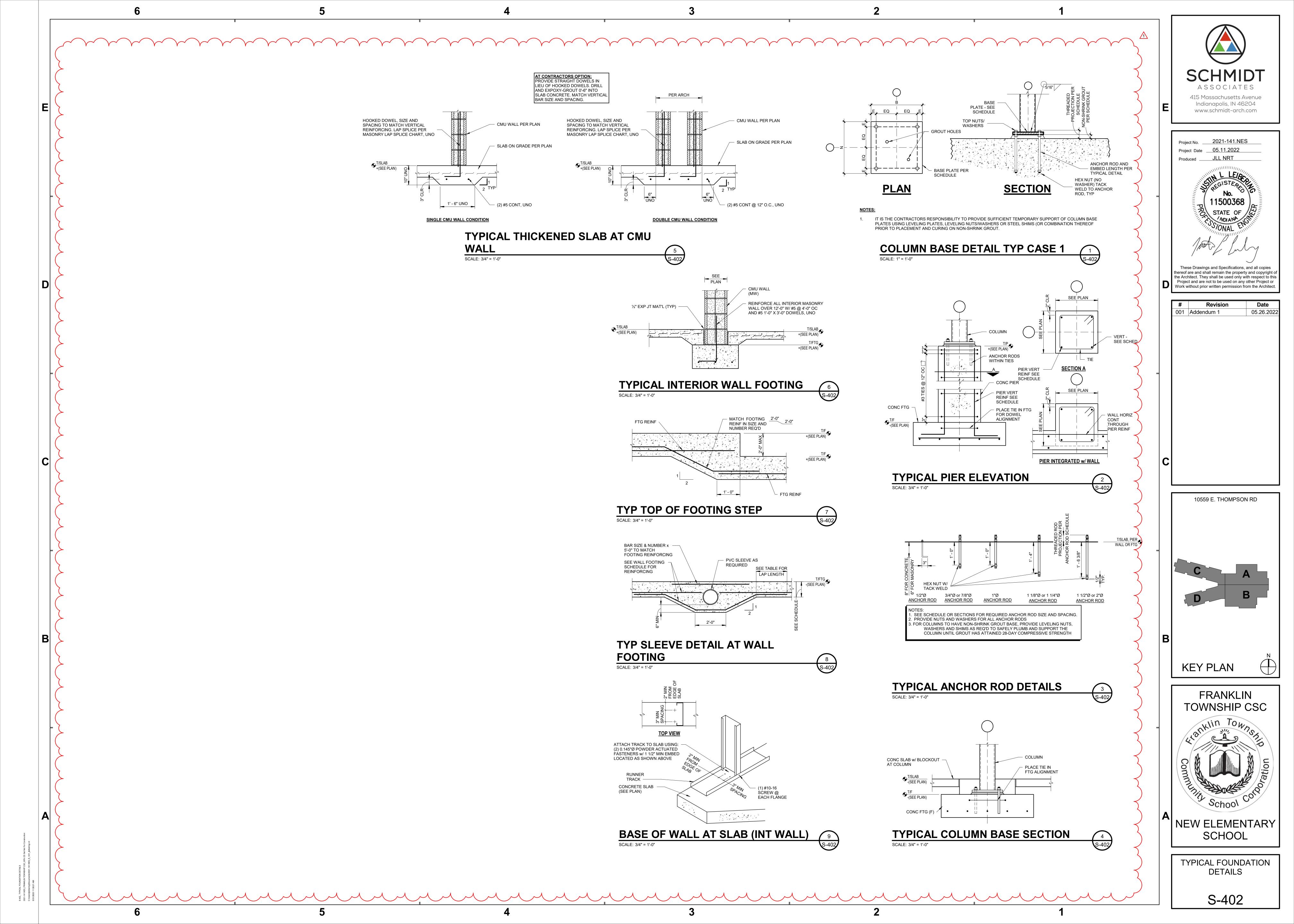
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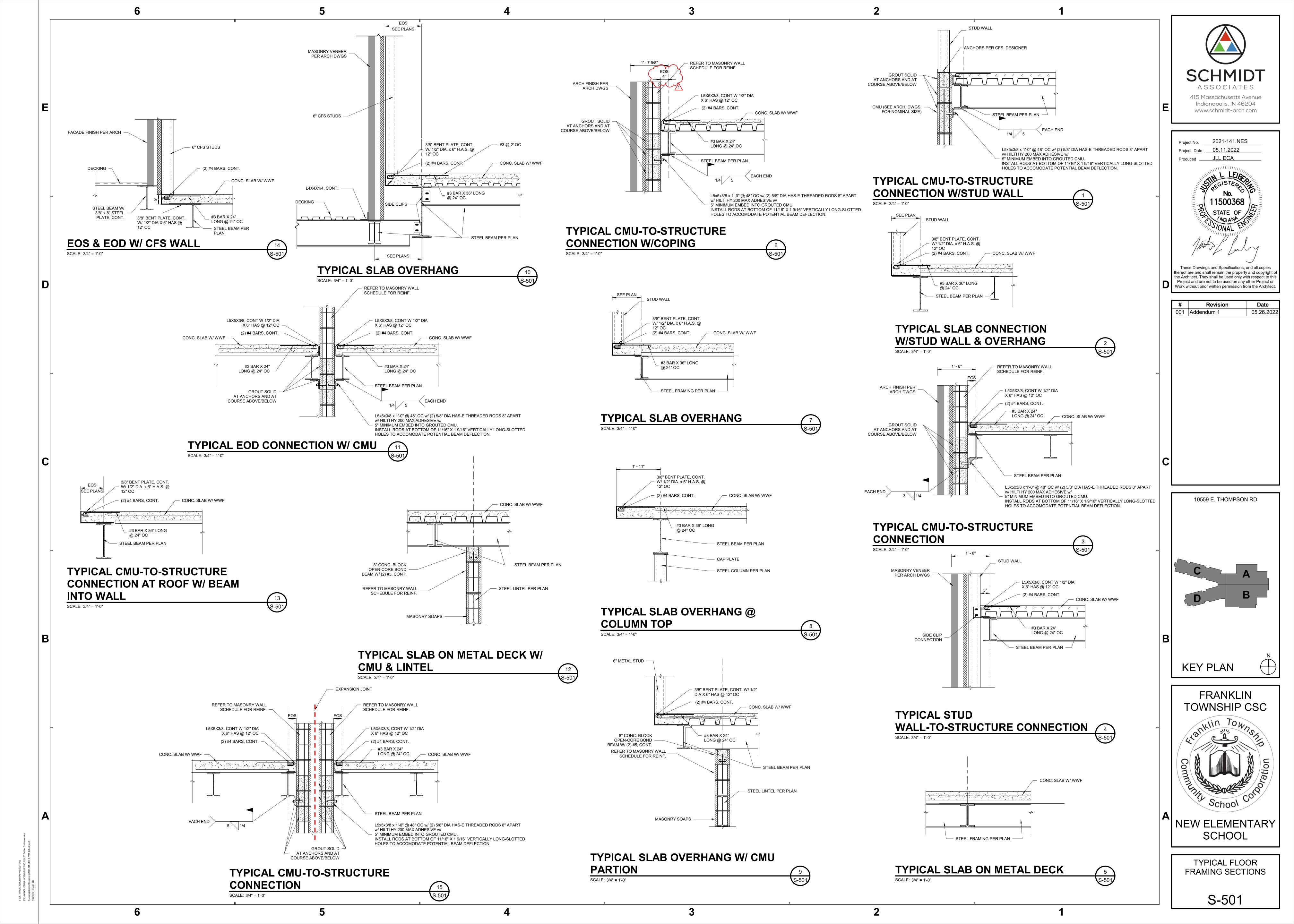


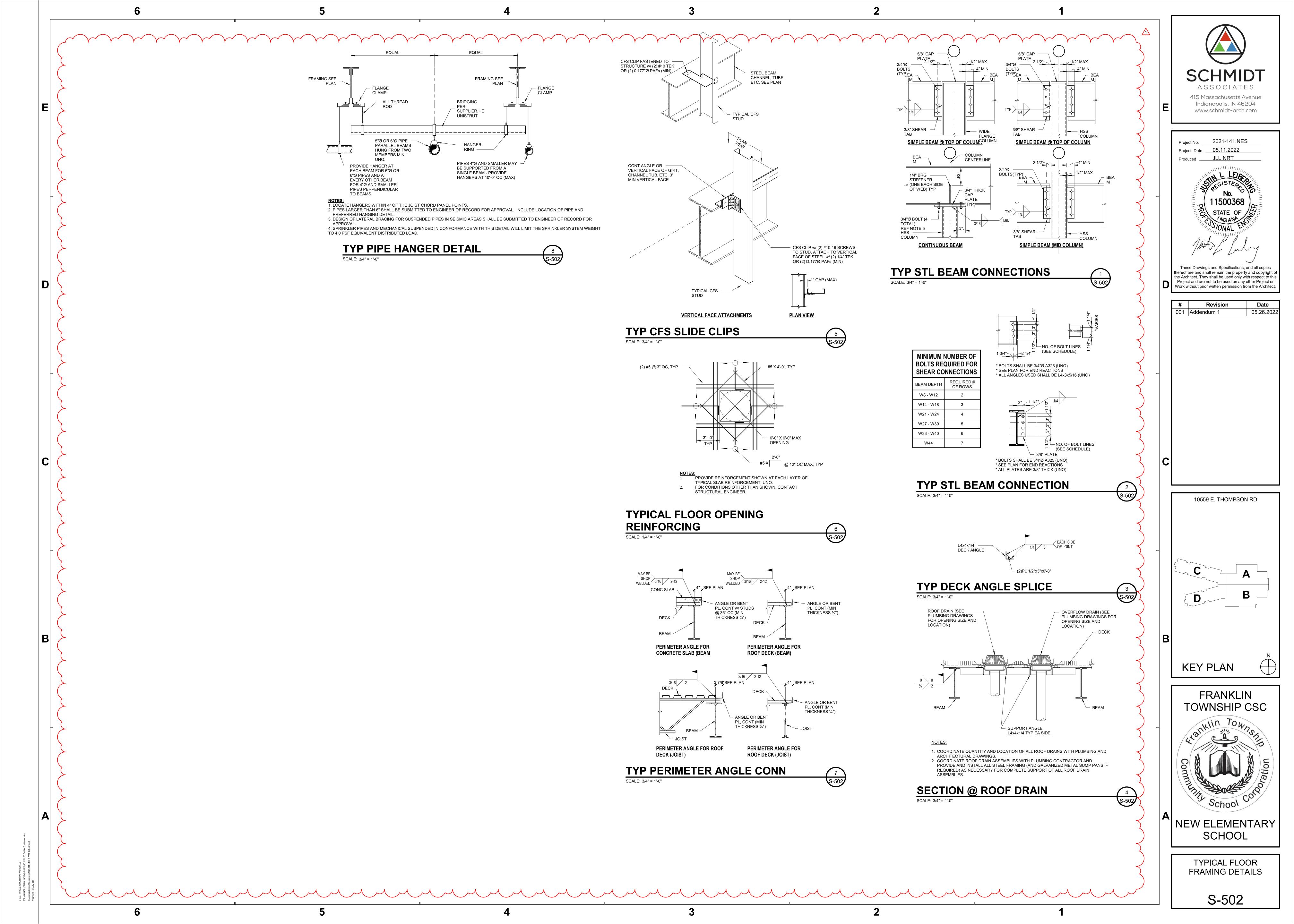


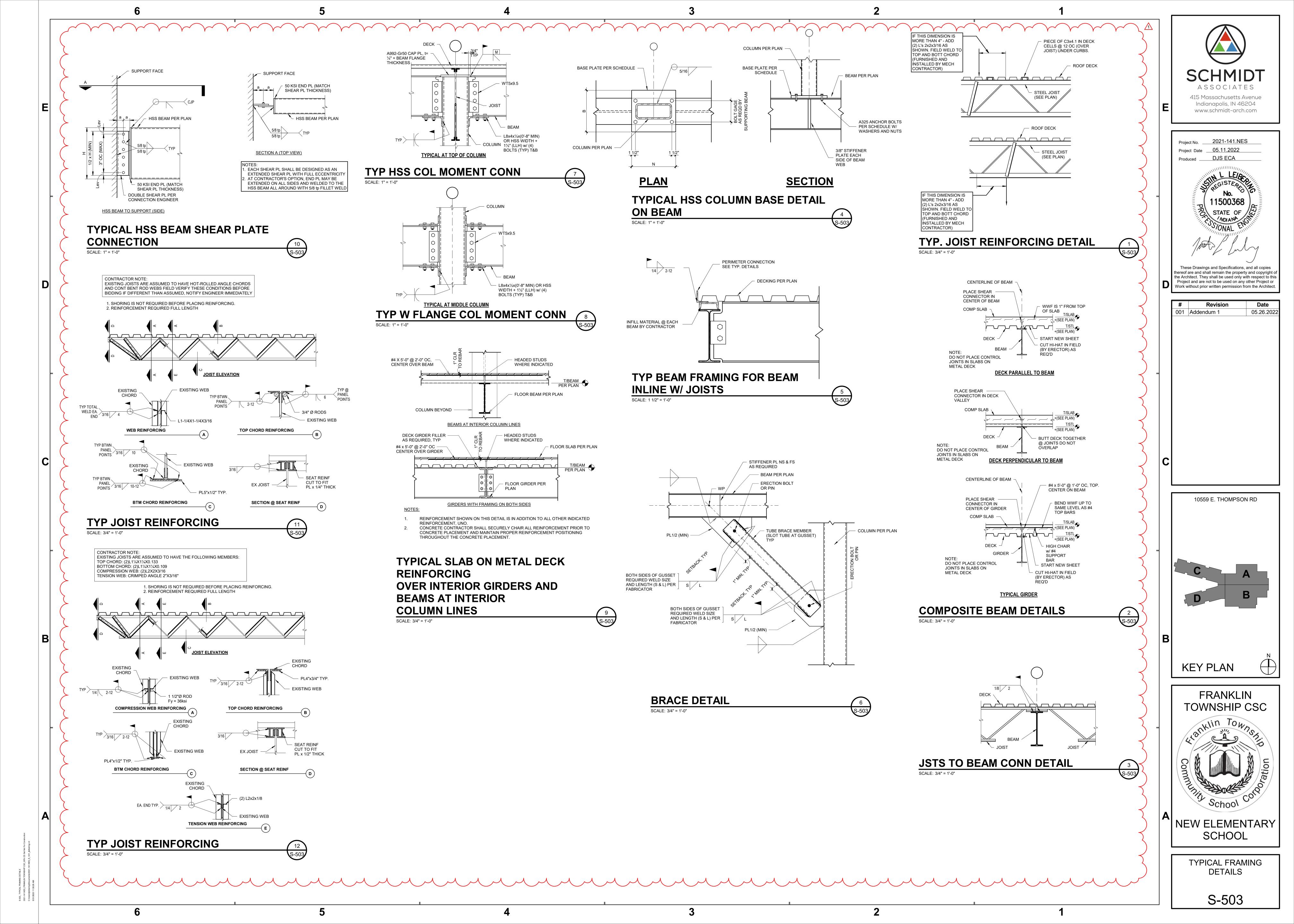


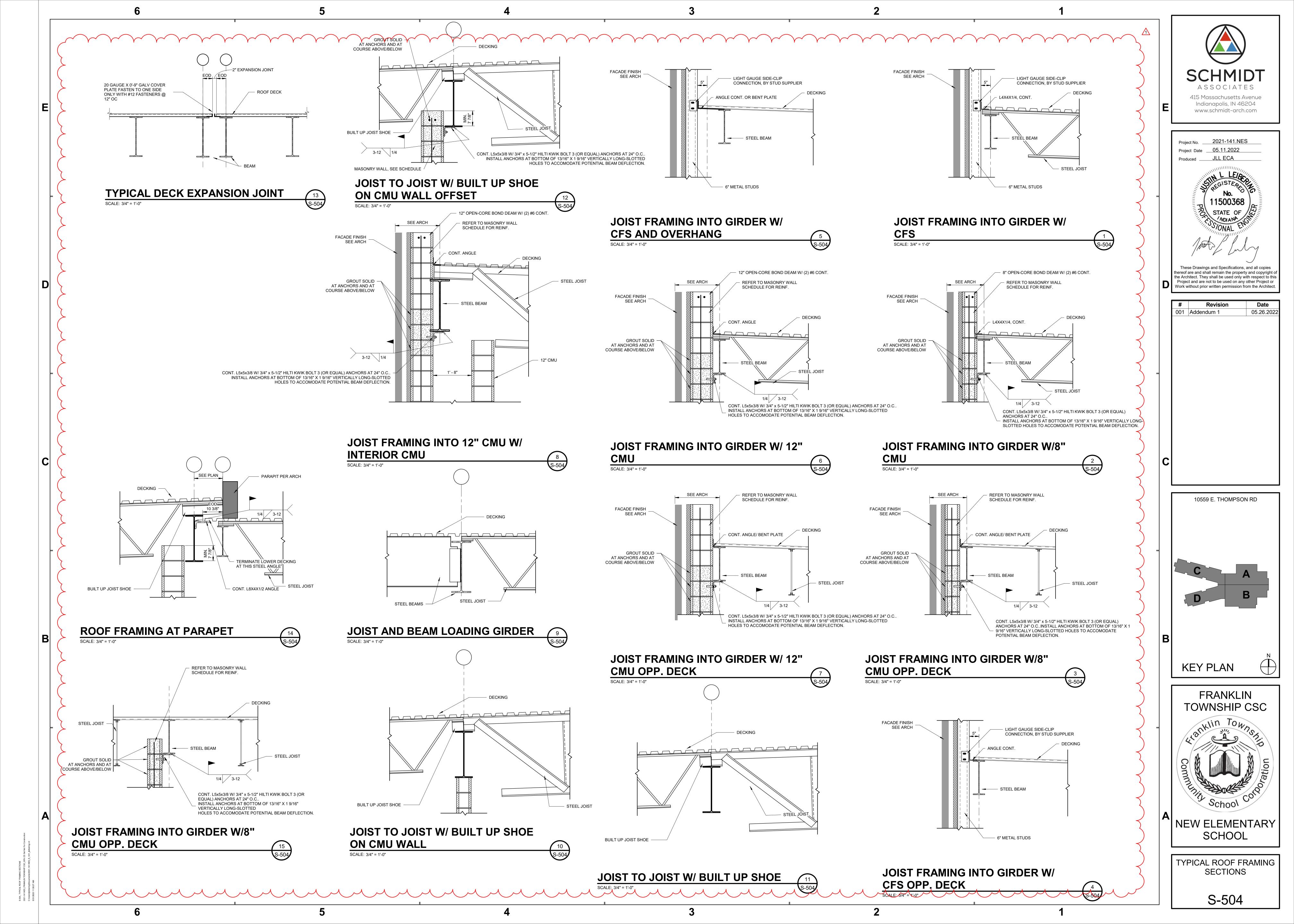
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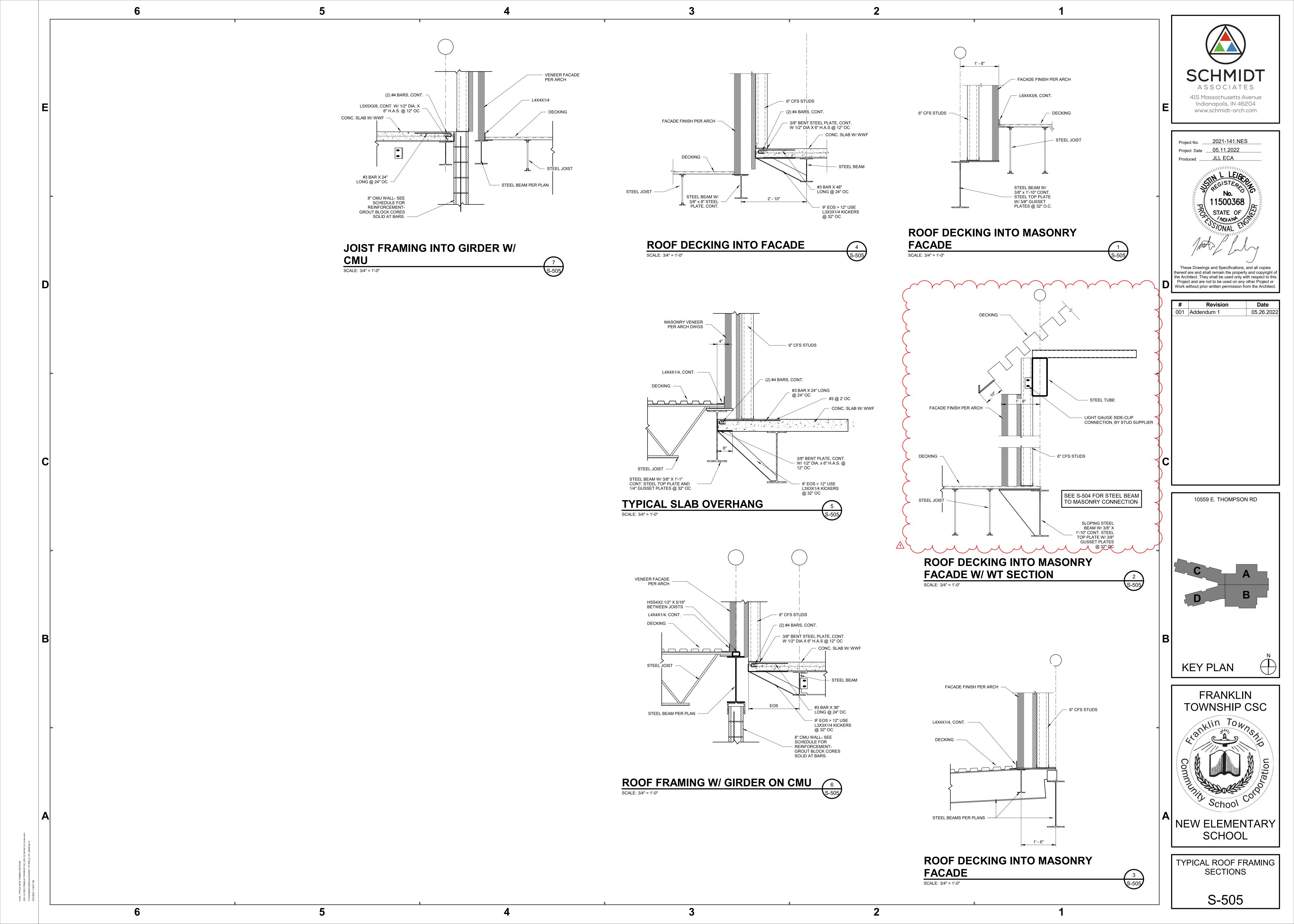


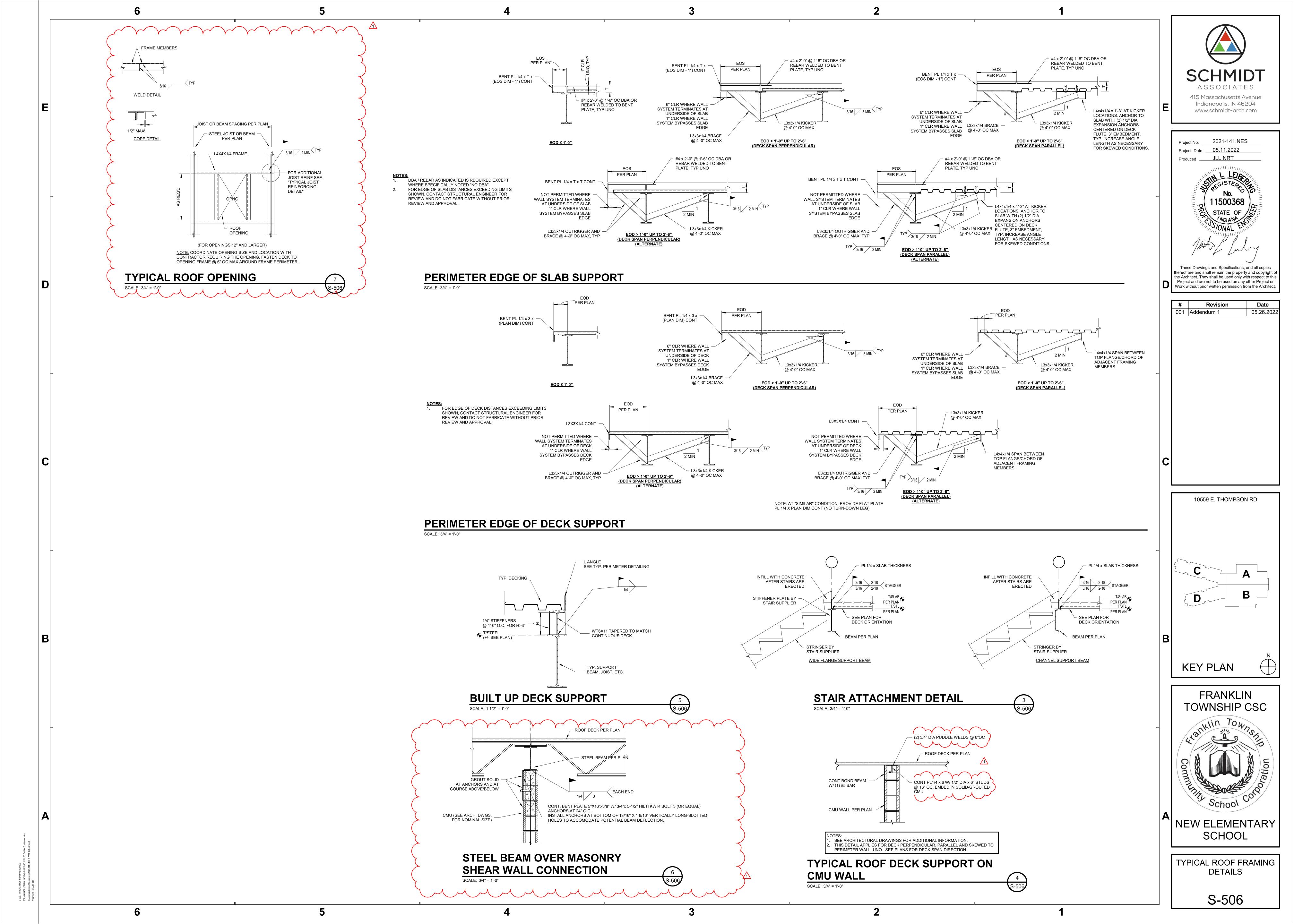


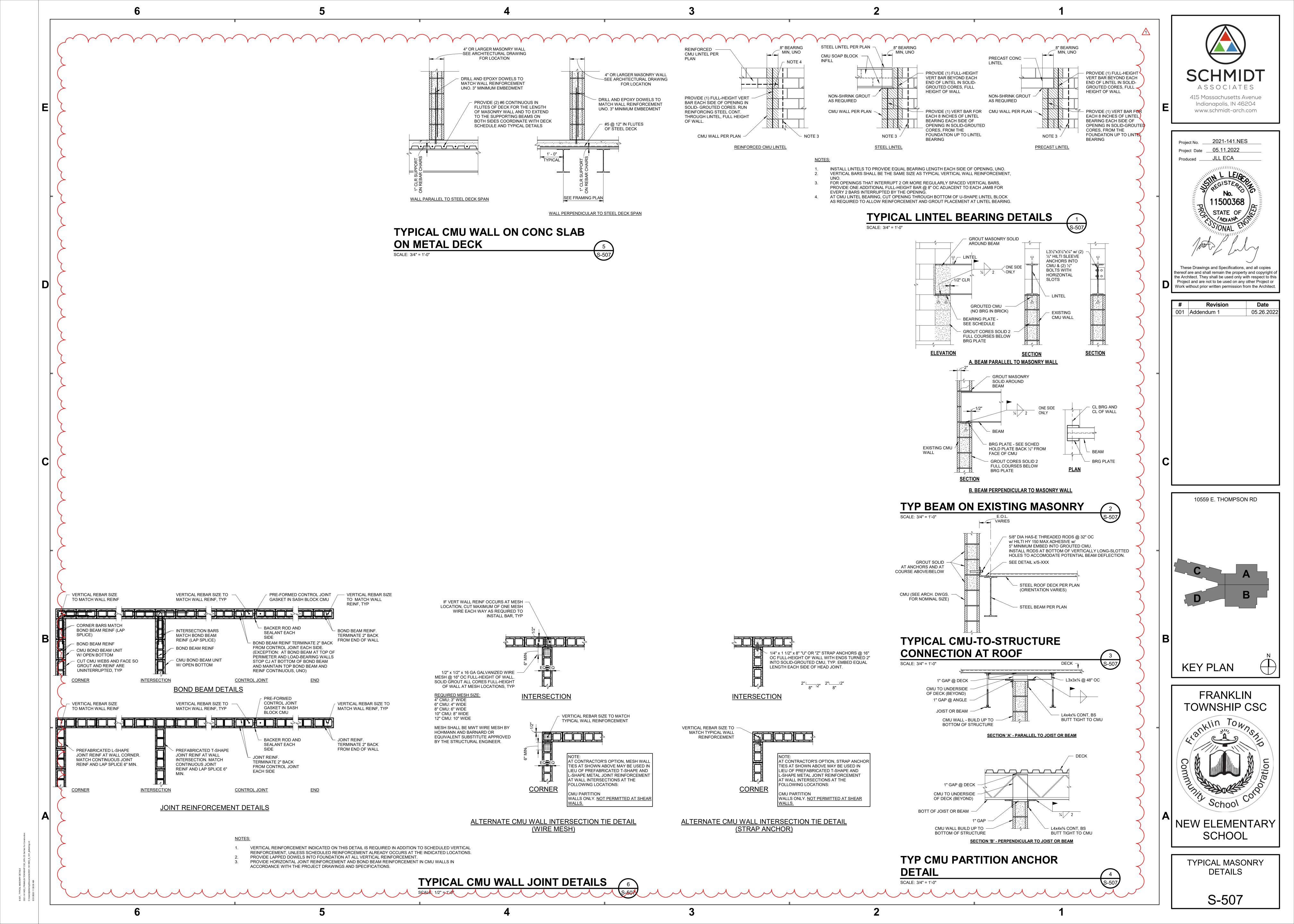


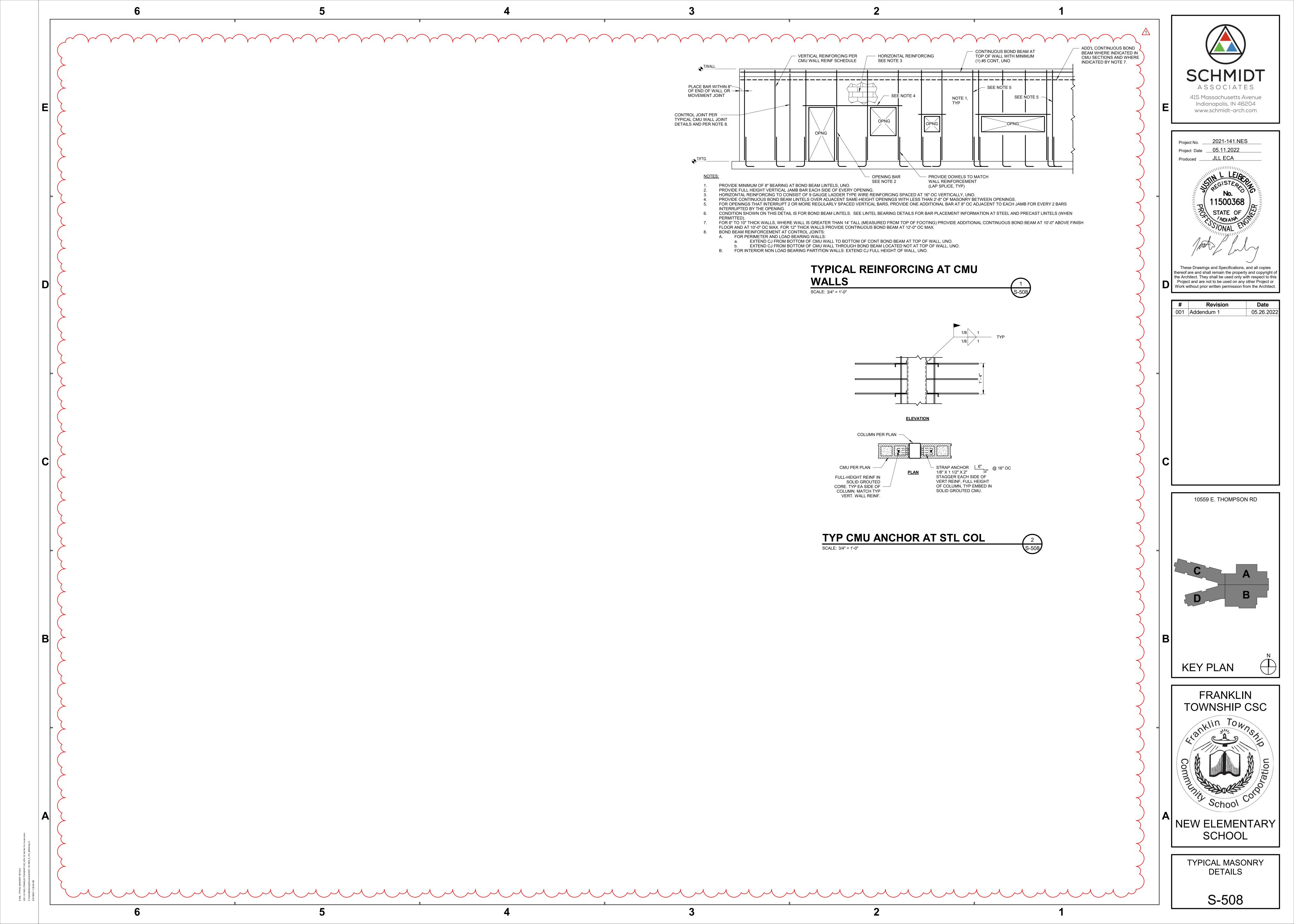












- 1. db = DIAMETER OF BAR BEING DEVELOPED
- Lc = COMPRESSION LAP SPLICE LENGTH Ld = TENSION DEVELOPMENT LENGTH OF STRAIGHT BARS
- Ldh = TENSION DEVELOPMENT LENGTH OF HOOKED BARS Ldt = TENSION DEVELOPMENT LENGTH OF HEADED BARS Ldc = COMPRESSION DEVELOPMENT LENGTH OF STRAIGHT BARS
- 2. TABULATED VALUES ARE CALCULATED PER THE PROVISIONS OF ACI 318
- 3. TABULATED VALUES ARE FOR NON-EPOXY-COATED GRADE 60 REINFORCEMENT IN NORMAL WEIGHT CONCRETE.
- 4. WHERE BARS OF DIFFERENT SIZES ARE LAPPED IN TENSION. THE LAP LENGTH SHALL BE THE LARGER OF Ltd OF THE LARGER BAR AND Lt OF THE SMALLER BAR. 5. WHERE BARS OF DIFFERENT SIZES ARE LAPPED IN COMPRESSION, THE LAP LENGTH SHALL BE THE LARGER OF Ldc OF THE LARGER BAR AND Lc OF THE SMALLER BAR.
- 6. TABULATED VALUES FOR Lt ASSUME THE FOLLOWING: A) MINIMUM CLEAR SPACING BETWEEN REBAR IS THE GREATER OF THE BAR DIAMETER AND 1 INCH.
- B) MINIMUM CLEAR COVER IS 3/4 INCHES OR GREATER. C) BARS BEING SPLICED ARE NOT REQUIRED TO BE ENCLOSED WITHIN REINFOREMENT ACTING AS CONFINEMENT TIES
- 7. TABULATED VALUES FOR Ld ASSUME ONE OF THE FOLLOWING CONDITIONS IS PROVIDED: WHERE THESE CONDITIONS AREN'T ABLE TO BE MET. CONTACT
- ENGINEER OF RECORD FOR CONDITION SPECIFIC VALUES: A) BARS BEING DEVELOPED ARE ENLCOSED WITHIN REINFORCEMENT ACTING AS CONFINEMENT TIES, <u>AND</u> CLEAR SPACING OF BARS BEING DEVELOPED IS GREATER THAN OR EQUAL TO db, <u>AND</u> CLEAR COVER TO BAR BEING DEVELOPED IS GREATER THAN OR EQUAL TO db

 B) CLEAR SPACING OF BARS BEING DEVELOPED IS GREATER THAN OR EQUAL TO 2 TIMES db, <u>AND</u> CLEAR COVER TO BAR BEING DEVELOPED IS GREATER
- . TABULATED VALUES FOR Ldt ARE ONLY VALID FOR NORMAL WEIGHT CONCRETE WITH CLEAR COVER NOT LESS THAN 2 TIMES db AND CLEAR SPACING NOT LESS THAN 4 TIMES db (CLEAR COVER AND SPACING REQUIREMENTS LISTED IN THE GENERAL NOTES APPLY TO THE HEAD/ANCHOR, CLEAR COVER AND SPACING IN THIS PROVISION ARE WITH RESPECT TO THE REINFORCING ONLY)
- 9. LENGTHS IN THE SCHEDULE SHALL BE MULTIPLIED BY THE FOLLOWING MODIFICATION FACTORS AS FOLLOWS: A) WHERE GRADE 75 REINFORCING IS USED, MULTIPLY THE TABLE VALUES AS FOLLOWS:
- i) Lt, Ld, Ldh, Ldc NOT PERMITTED
- B) WHERE MORE THAN 12 INCHES OF FRESH CONCRETE IS CAST BELOW THE BAR, ALSO REFERRED TO AS "TOP BARS" ("OTHER BARS" ARE ALL OTHER REINFORCING WHERE THIS DOES NOT APPLY) i) Lt, Ld
- ii) Lc, Ldh, Ldt, Ldc NO MODIFICATION C) WHERE EPOXY REBAR IS USED. MULTIPLY THE TABLE VALUES AS FOLLOWS:
- i) Lt, Ld (TOP BARS) ii) Lt, Ld (OTHER BARS)
- iii) Ldh, Ldt iv) Lc.Ldc
- NO MODIFICATION D) WHERE LIGHT-WEIGHT CONCRETE IS USED, MULTIPLY TABLE VALUE AS FOLLOWS: i) Lt, Ld, Ldh, Ldc

10. THIS TABLE IS NOT VALID FOR BUNDLED BARS.

				C	OLUMN FOO	OTING SCHED	ULE					
	F	tg Dime	nsions	Bottom Reinforcing								
				ļ	Short Directi	on	L	ong Direction	on			
Mark	Width	Length	Thickness	No	Size	Length	No	Size	Length	Remarks		
F4.0	4' - 0"	4' - 0"	1' - 0"	4	#5	3' - 6"	4	#5	3' - 6"			
F5.0	5' - 0"	5' - 0"	1' - 2"	5	#5	4' - 6"	5	#5	4' - 6"			
F5.5	5' - 6"	5' - 6"	1' - 2"	6	#5	5' - 0"	6	#5	5' - 0"			
F6.0	6' - 0"	6' - 0"	1' - 4"	7	#5	5' - 6"	7	#5	5' - 6"			
F7.0	7' - 0"	7' - 0"	1' - 6"	8	#6	6' - 6"	8	#6	6' - 6"			

- Concrete Wall Schedule Notes:
- 1. Provide concrete cover to closest bar as indicated. 2. Provide wheel spacers or CRSI Typ. Bar Bend T5 at 36" each way to assure adequate concrete cover. 3. See sections for all bars not included in schedule.
- 4. Horizontal Bar Location: In = Horiz. bars inside of verical bars, Out = Horiz. Bars outside of vert. bars.

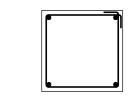
MASONRY SHEAR WALL SCHEDULE											
			Vert	ical Wall R	einforcing	J	Horiz	Horiz Reinf Top of Wall Bond Beam Reinforcing			
			Reinfor	cing	Dowel R	einforcing					
Mark	Thickness	Size	Spa	Location	Size	Spa	Size	Spa	No. of	Size	Remarks
MW8	7 5/8"	#5	2' - 8"	Center	#5	2' - 8"	Ladder	1' - 4"	2	#5	
MW12	11 5/8"	#7	2' - 8"	Center	#7	2' - 8"	Ladder	1' - 4"	2	#5	
MW12A	11 5/8"	#8	1' - 4"	Center	#7	2' - 8"	Ladder	1' - 4"	2	#5	
MW12B	11 5/8"	#8	8"	Center	#7	2' - 8"	Ladder	1' - 4"	2	#5	
MW12C	11 5/8"	#7	2' - 8"	Ea Face	#7	2' - 8"	Ladder	1' - 4"	2	#5	

Masonry Wall Schedule Notes

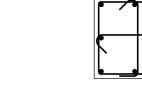
- 1. Provide 2" cover from outside face for bars in each face.
- 2. Grout all cores with rebar solid, unless solid grouted wall is shown. 3. Provide ladder type horizontal reinforcement at 16" o.c. above grade and 8" o.c. below grade
- and at parapets, unless noted otherwise. Side and cross rods shall be #9 wire, galvanized, see specifications. Cut joint reinforcement at control joints.
- 4. Provide bond beam with (2) #5 cont. at top of wall, unless noted otherwise. See schedule for additional bond beams.
- 5. CMU parition walls not explicitly labeled shall be reinforced with #5@48" o.c. for 6" and 8" CMU, #6@48" o.c. for 10" CMU and #7@48" o.c. for 12" CMU

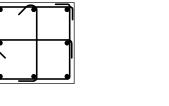
	PIER SCHEDULE										
	Pier Size		Pier Size Vert Reinf			Ties					
Mark	Width	Length	No	Size	Size	Spa	Tie Type	Remarks			
P24	2' - 0"	2' - 0"	4	#8	#3	1' - 0"	TYPE A				

- 1. Provide 2 inch concrete cover over ties.
- 2. Space first tie 2" from top of footing, last tie 2" from top of pier. 3. Provide (3) ties in top of pier, spacing = 2 1/2" on center. 4. Provide CRSI typical bar bend T5 for all ties.
- 5. Provide CRSI typical bar bend T9 additional ties for all piers with more than four vertical bars. 6. Provide 90° Hook for all ties per CRSI detailing standards.



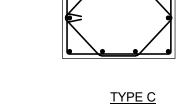
TYPE A





TYPE B

P28 2'-4" 2'-4" 8 #7 #3 1'-0" TYPEB



COLUMN BASE PLATE SCHEDULE PLATE SIZE ANCHOR RODS ASE PLATE COLUMNS QTY DIA EQ B" X N" X T" BP0 16" X 16" X 1.25" HSS6x6 COLUMNS 18" X 18" X 1.5" ISS8x8 COLUMNS HSS12x12 COLUMNS 24" X 24" X 2"

THICKENED SLAB SCHEDULE

TS18 1' - 0" 1' - 6" 3 #5 See detail B/S-501

Bottom Reinf

Transverse Reinf

Remarks

Remarks

NOTES

6", 8", 10", 12" CMU

6", 8", 10", 12" CMU

6", 8", 10", 12" CMU

I" MASONRY VENEER

I" MASONRY VENEER

4" MASONRY VENEER

SOLID GROUTED

POUR GROUT AT

BLOCK

COURSES OF BLOCK.

SAME TIME AS LINTEL

W/ (2) #5 CONT BARS

PLB

PLB

PLB

PLC

PLC

PLC

Mark | Thickness | Width | Reinf No of | Size |

WALL FOOTING SCHEDULE

PRESCRIPTIVE LINTEL SCHEDULE

GENERAL NOTE: PROVIDE LINTELS IN THIS SCHEDULE FOR MASONRY OPENINGS WHERE

SPECIFIC LINTELS (L#) ARE NOT OTHERWISE INDICATED. WHERE A SPECIFIC LINTEL (L#) IS

BEYOND THE LIMITS AND/OR MATERIALS IDENTIFIED IN THIS SCHEDULE WHERE SPECIFIC

CLEAR OPENING

UP TO 3'-4"

>3'-4" UP TO 6'-4"

>6'-4" UP TO 10'-4"

UP TO 4'-0"

>4'-0" UP TO 6'-0"

>6'-0" UP TO 8'-0"

LINTELS (L#) ARE NOT OTHERWISE INDICATED, CONTACT THE STRUCTURAL ENGINEER FOR

INDICATED FOR A PARTICULAR OPENING, PROVIDE THE SPECIFIC LINTEL (L#). FOR OPENINGS

Longitudinal Reinf

WF56 4'-8" 1'-4" 6 #5 NA 0"

Thickened Slab Schedule Notes:

1. Reinforcing clearance at bottom and sides of footings = 3'

REQUIRED LINTEL SIZE AND TYPE.

W x 8 H (NOMINAL) CMU

W x 16 H (NOMINAL) CMU

W x 24 H (NOMINAL) CMU

L3 1/2 x 3 1/2 x 5/16

L5 x 3 1/2 x 5/16 (LLV)

L6 x 3 1/2 x 3/8 (LLV)

- (1) 4"W NOMINAL

PC LINTEL W/ (1) #4 BAR T&B

(fc = 4000 psi)

PRESCRIPTIVE LINTEL SCHEDULE NOTES:

ALL LINTELS BEAR 0'-8" ONTO SUPPORTING WALLS, UNO.

ALL STEEL LINTELS IN EXTERIOR WALLS SHALL BE GALVANIZED.

TYPES

3 5/8"—

Dimensions

| Mark | Width | Thickness |

WF30 2' - 6" 1' - 0"

WF36 3' - 0" 1' - 4"

Wall Footing Schedule Notes:

BP2

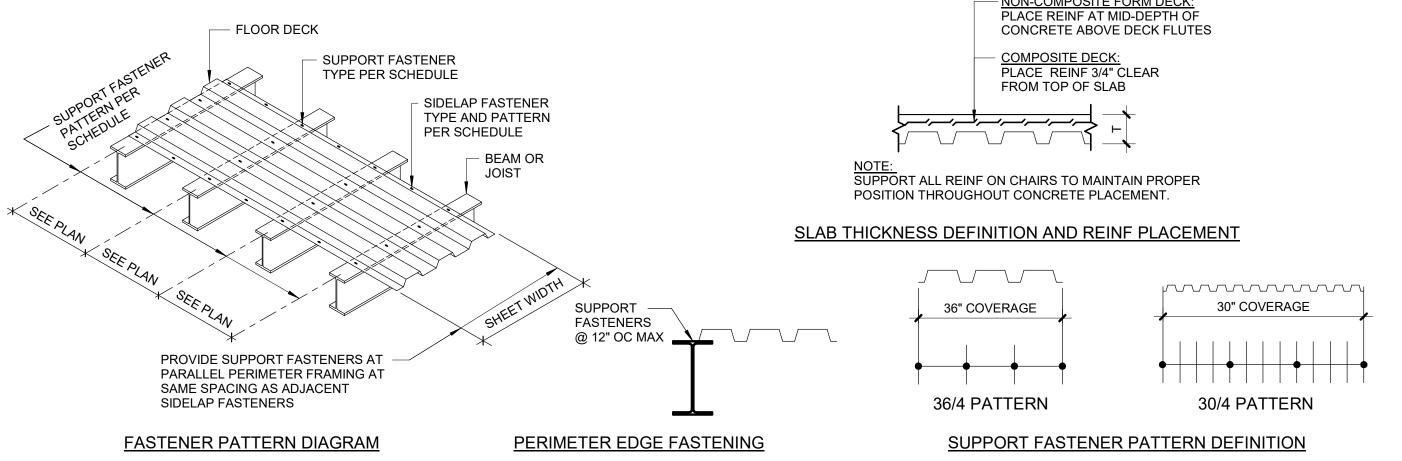
1. REFER TO S-402 FOR TYPICAL BASE PLATE FOUNDATION DETAIL

ANCHOR ROD TABLE

ANCHOR ROD DIA	BASEPLATE HOLE DIA	MINIMUM WASHER SIZE	MINIMUM WASHER THICKNESS	MINIMUM PROJ ABOVE T/CONC	NON-SHRINK GROUT BED THK	MIN EDGE DISTANCE, E	REMARKS
3/4"	1 5/16"	2"	1/4"	8"	2"	1 1/2"	
1"	1 13/16"	3"	3/8"	8"	2"	2"	
1 1/4"	2 1/16"	3"	1/2"	10"	3"	2"	
1 1/2"	2 5/16"	3 1/2"	1/2"	10"	3"	2 1/2"	
1 3/4"	2 3/4"	4"	5/8"	10"	3"	3"	

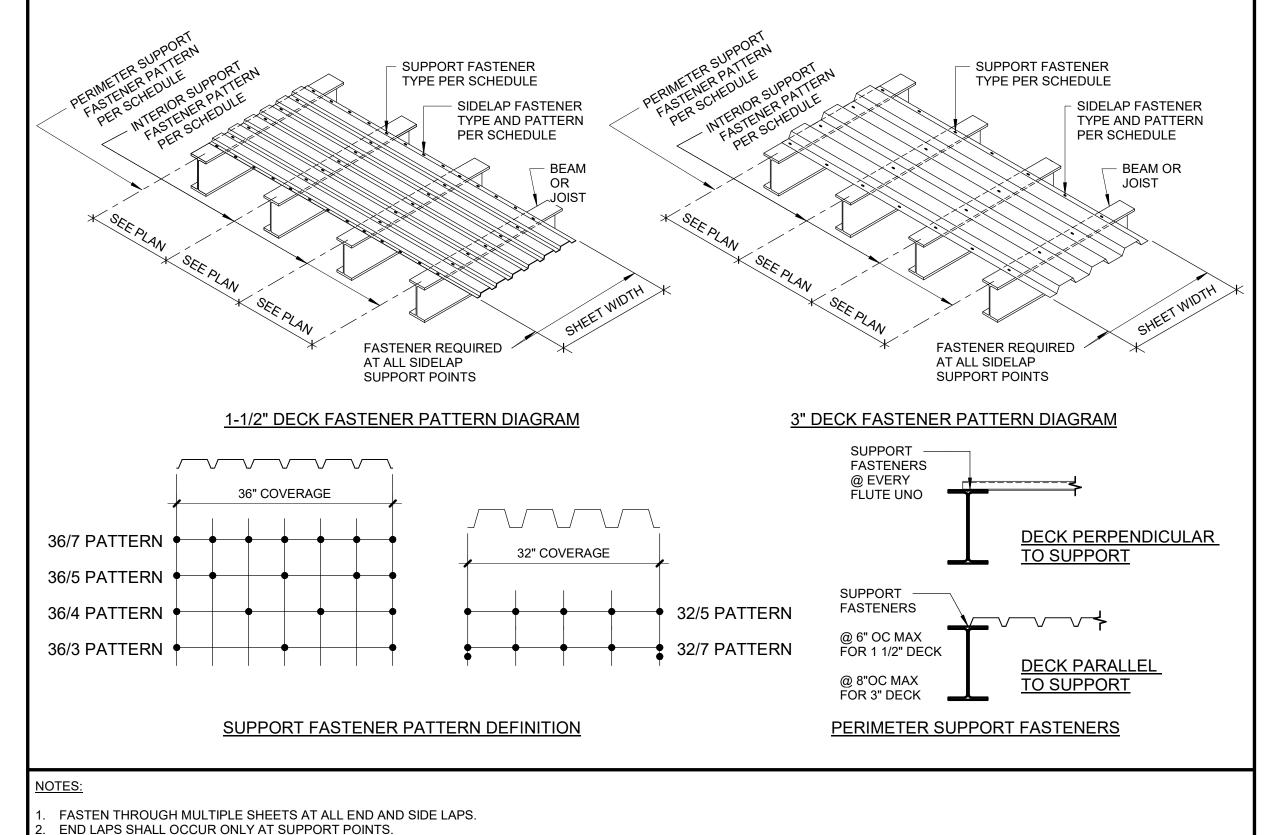
- ANCHOR RODS ARE ASTM F1554 GR. 36 UNO.
- PROVIDE WELDED PLATE WASHERS IN ACCORDANCE WITH TYPICAL DETAIL AT ALL STEEL BRACED FRAMES AND MOMENT FRAMES, UNO. REFER TO S-402 FOR ANCHOR ROD EMBEDMENT DEPTH.

SLAB ON METAL DECK SCHEDULE YIELD SUPPORT | SUPPORT | SIDELAP SIDELAP / | GAUGE | STRENGTH BASIS OF DESIGN FASTENER | FASTENER | FASTENER TYPE FINISH REINFORCING DECK (NOTE 6) PATTERN TYPE TYPE PATTERN SOMD5 18 GA 50 KSI COMPOSITE 6x6-W1.4xW1.4 WWR VULCRAFT 2VLI-36 36/4 SEE NOTE 5 SOMD4 22 GA 50 KSI NON-COMP SEE NOTE 5 SEE NOTE 5 AT PLATFORM 6x6-W1.4xW1.4 WWR 36/4 VULCRAFT 1.0C-36



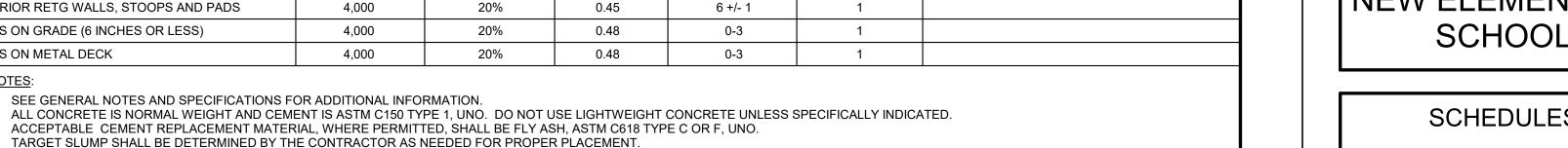
- CONCRETE TO BE NORMAL WEIGHT, UNO. FASTEN THROUGH MULTIPLE SHEETS AT ALL END AND SIDE LAPS. END LAPS SHALL OCCUR ONLY AT SUPPORT POINTS.
- DECK SHALL BE INSTALLED IN A MINIMUM THREE SPAN CONDITION WHEREVER POSSIBLE. WHERE THREE SPAN CONDITION IS NOT POSSIBLE, NOTIFY STRUCTURAL ENGINEER PRIOR TO FABRICATION OF DECK SO THAT EVALUATION OF THE LESSER SPAN CONDITION(S) CAN BE PERFORMED.
- FOR DECK SPANS 5'-0" OR LESS, PROVIDE ONE SIDELAP FASTENER AT MID-SPAN OF EACH JOIST OR BEAM SPACE. FOR DECK SPANS EXCEEDING 5'-0", PROVIDE SIDELAP FASTENERS AT 3'-0" OC, MAX. USE DECK MANUFACTURER'S RECOMMENDED PUNCHED
- SIDELAPS FOR COMPOSITE DECK AND NON-NESTING FORM DECK, UNO. USE #10 TEK SCREWS AT DECK WITH NESTED SIDELAPS, UNO. PROVIDE DECK WITH ALL PROPERTIES MEETING OR EXCEEDING THE INDICATED BASIS OF DESIGN DECK.

MARK	HEIGHT	GAUGE	TYPE	FINISH	SUPPORT FASTENER TYPE	PERIMETER SUPPORT FASTENER PATTERN	INTERIOR SUPPORT FASTENER PATTERN	SIDELAP FASTENER TYPE	SIDELAP FASTENER PATTERN	NOTES
RD01	1.5"	20 GA	TYPE B	GALV AND PAINTED	3/4" DIA PUDDLE WELDS	SEE BELOW	36/4	#10 TEK SCREWS	18" O.C. MAX	1.5B-36 VULCRAFT 20 GAUGE, AT LOW ROOFS < 25'-0'
RD02	1.5"	20 GA	TYPE B	GALV AND PAINTED	3/4" DIA PUDDLE WELDS	SEE BELOW	36/5	#10 TEK SCREWS	12" O.C. MAX	1.5B-36 VULCRAFT 20 GAUGE, AT HIGH ROOFS > 25'-0

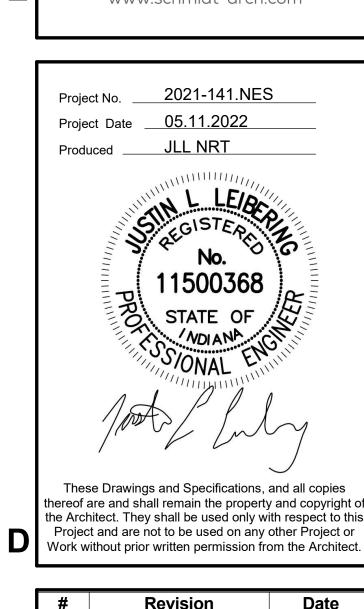


CONCRETE MIX SCHEDULE										
CONCRETE USAGE	28-DAY COMPRESSIVE STRENGTH (PSI)	MAX CEMENT REPLACEMENT (NOTE 3)	MAXIMUM W/CM RATIO	AIR CONTENT (PERCENT)	MAXIMUM AGGREGATE SIZE (INCHES)	NOTES				
FOOTINGS	3,000	20%	0.55	0-3	1.5					
GRADE BEAMS, PIERS, FOUNDATION WALLS	4,000	20%	0.50	0-3	1					
EXTERIOR RETG WALLS, STOOPS AND PADS	4,000	20%	0.45	6 +/- 1	1					
SLABS ON GRADE (6 INCHES OR LESS)	4,000	20%	0.48	0-3	1					
SLABS ON METAL DECK	4,000	20%	0.48	0-3	1					

DECK SHALL BE INSTALLED IN A MINIMUM THREE SPAN CONDITION WHEREVER POSSIBLE. WHERE THREE SPAN CONDITION IS NOT POSSIBLE, NOTIFY STRUCTURAL

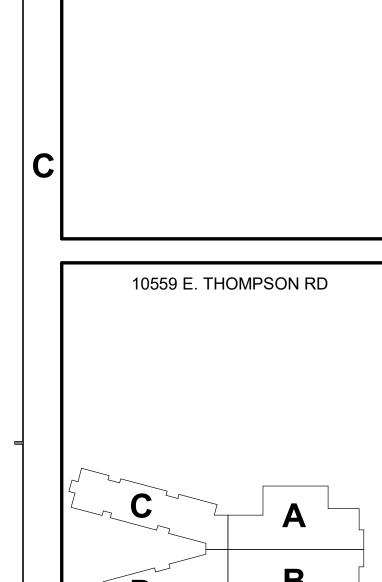


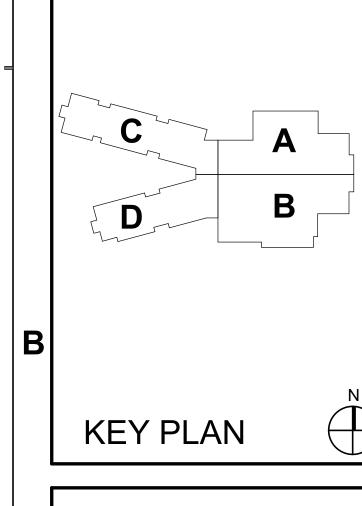




001 Addendum 1

05.26.2022





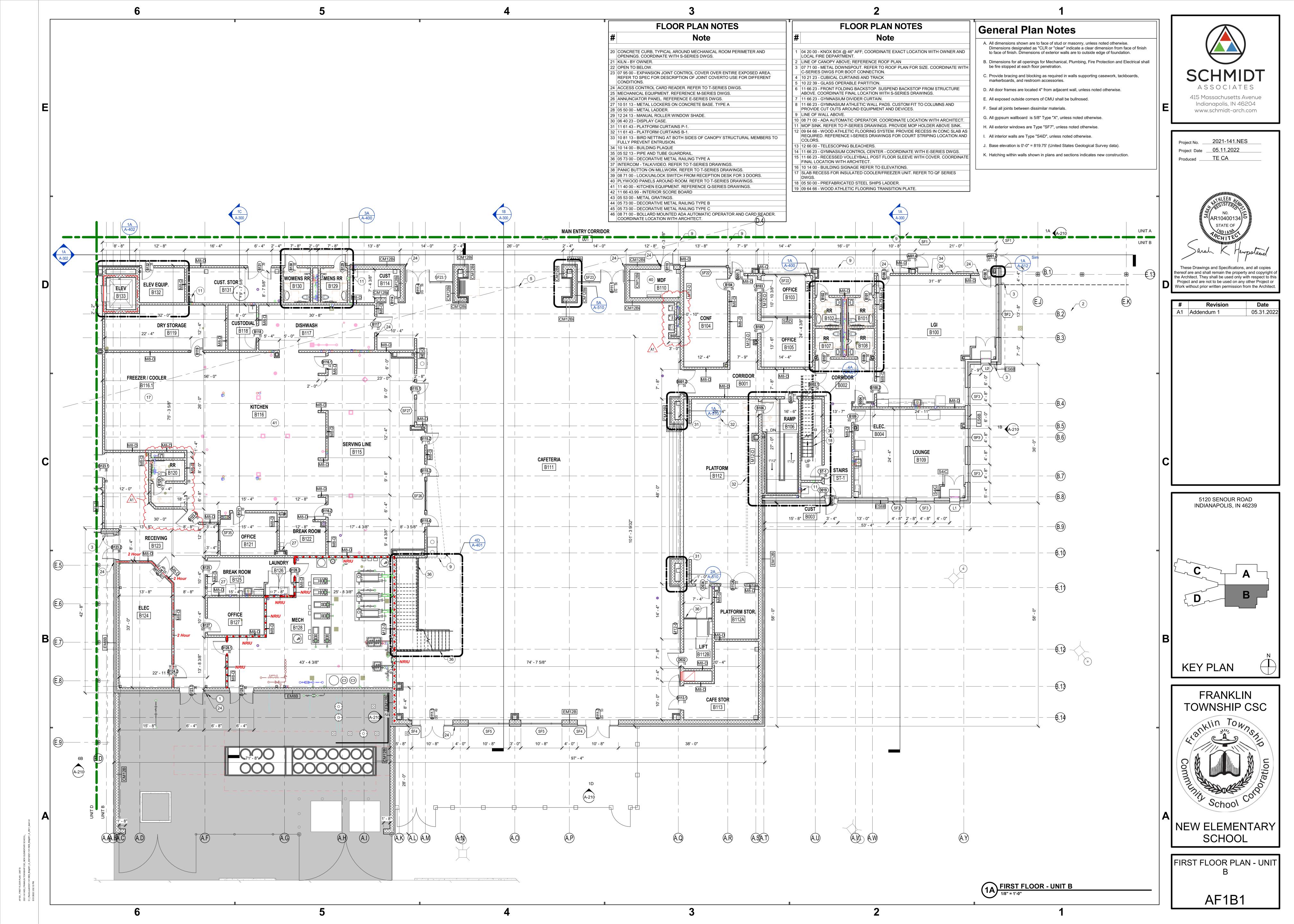


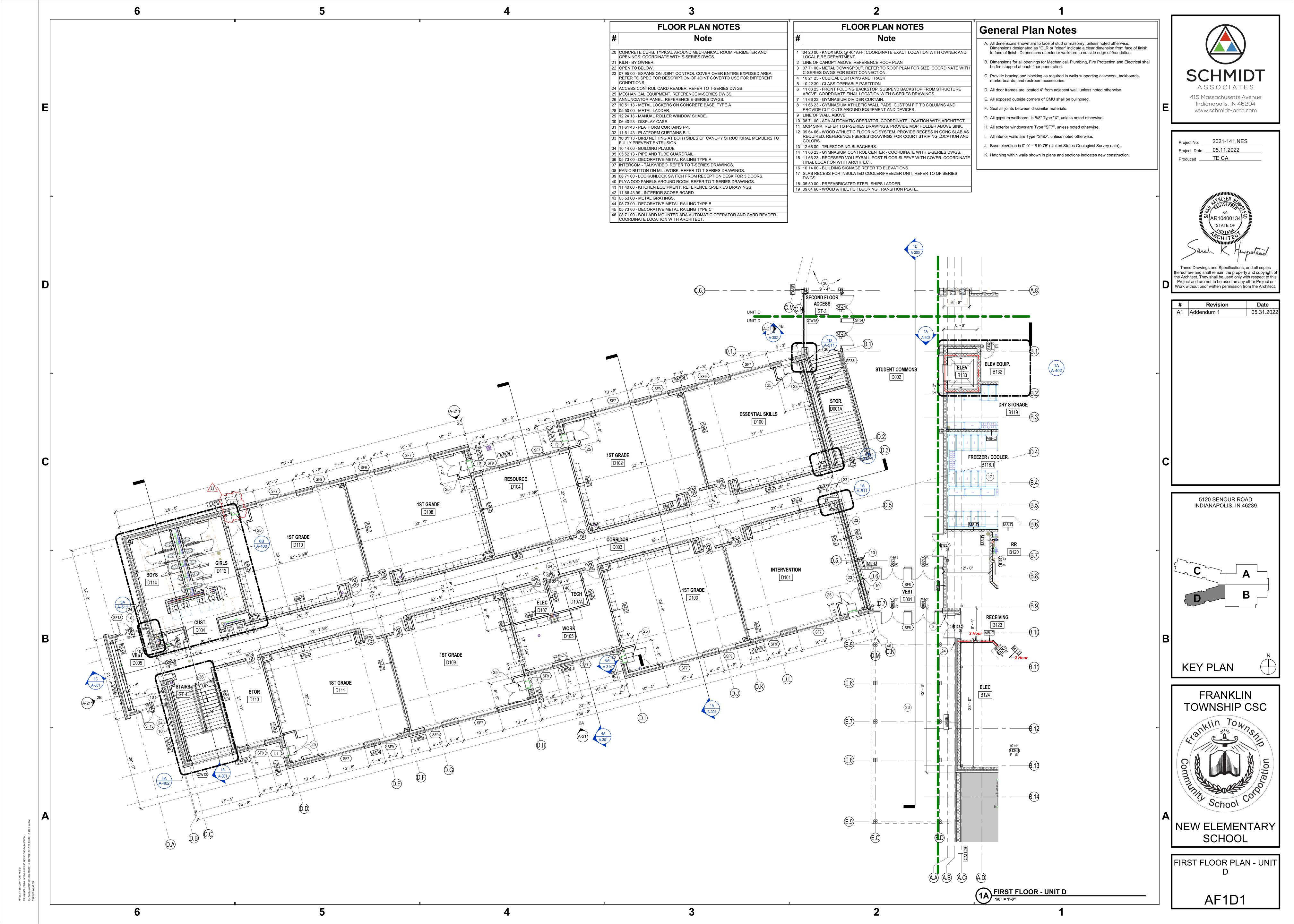
SCHEDULES

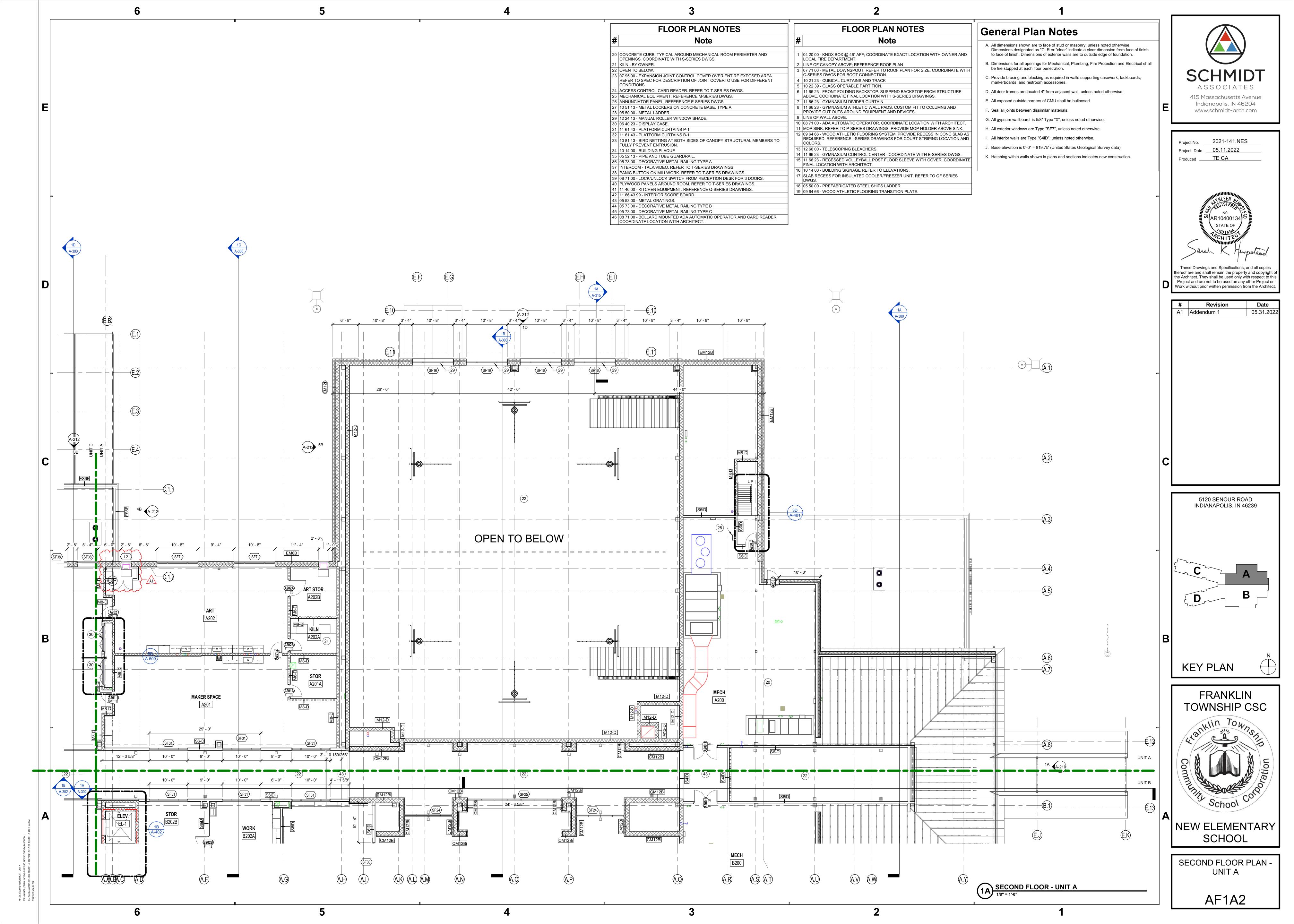
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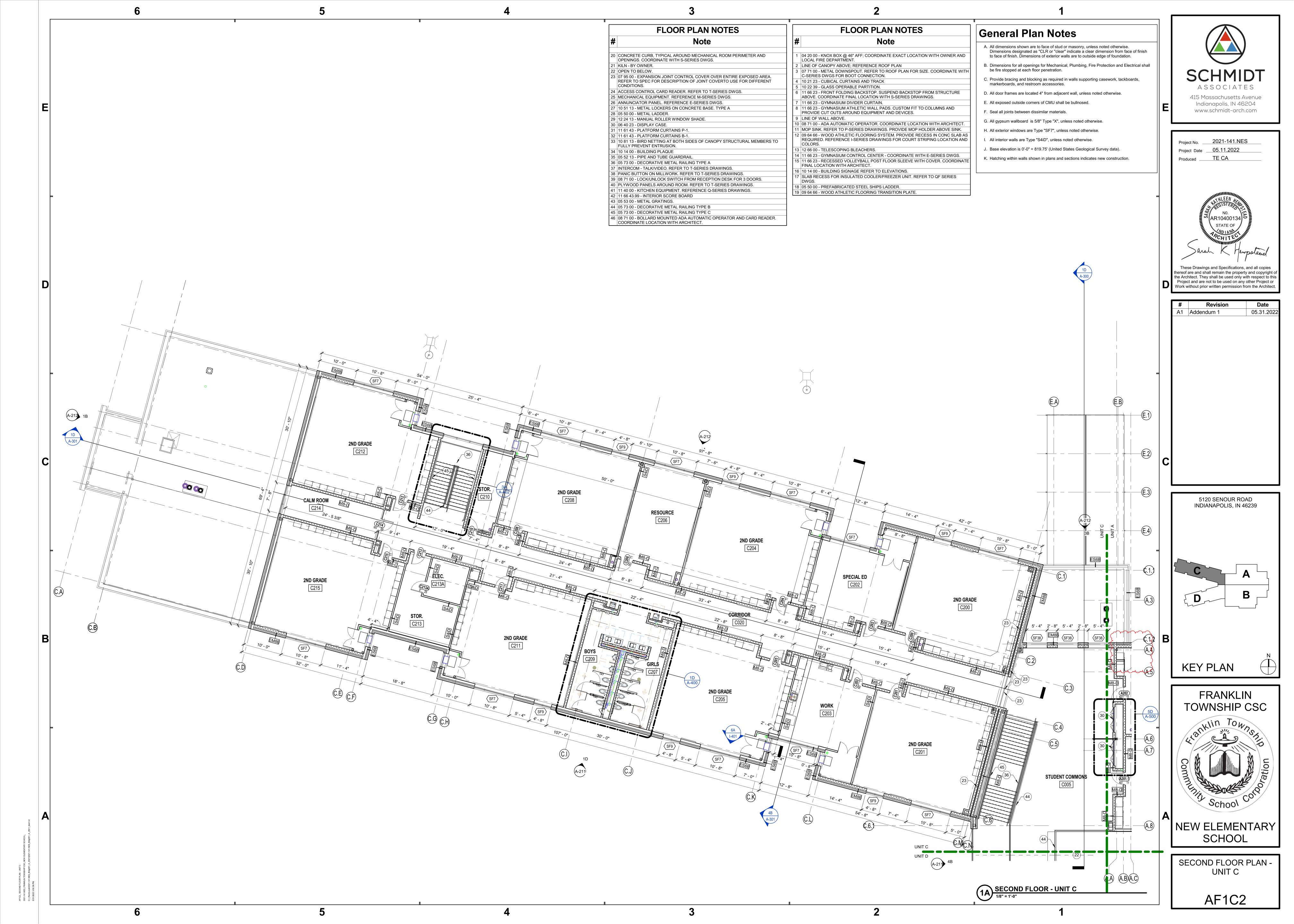
ENGINEER PRIOR TO FABRICATION OF DECK SO THAT EVALUATION OF THE LESSER SPAN CONDITION(S) CAN BE PERFORMED.

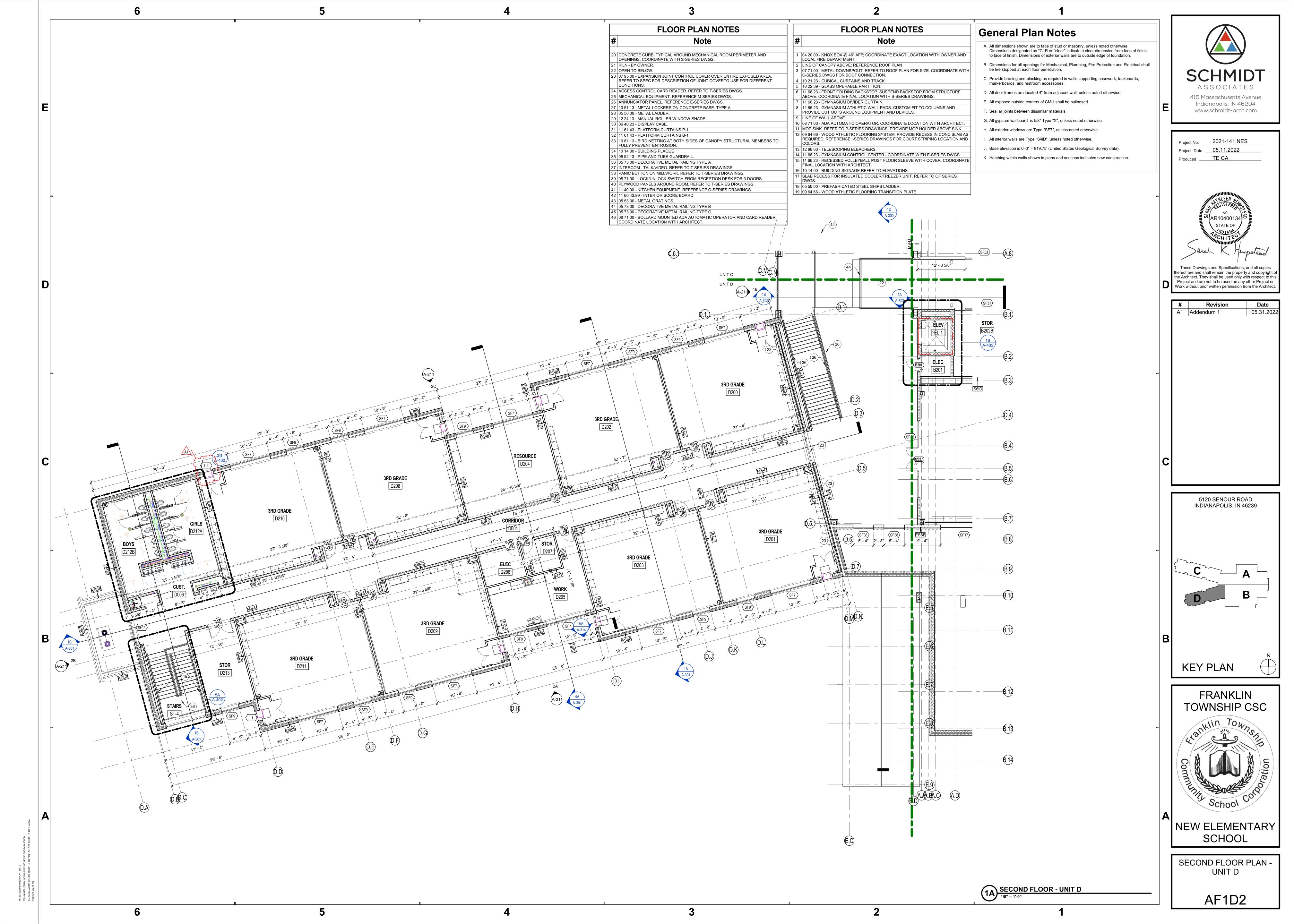
PROVIDE 36/7 FASTENER PATTERN AT ALL BRACED FRAMES AND MOMENT FRAMES.

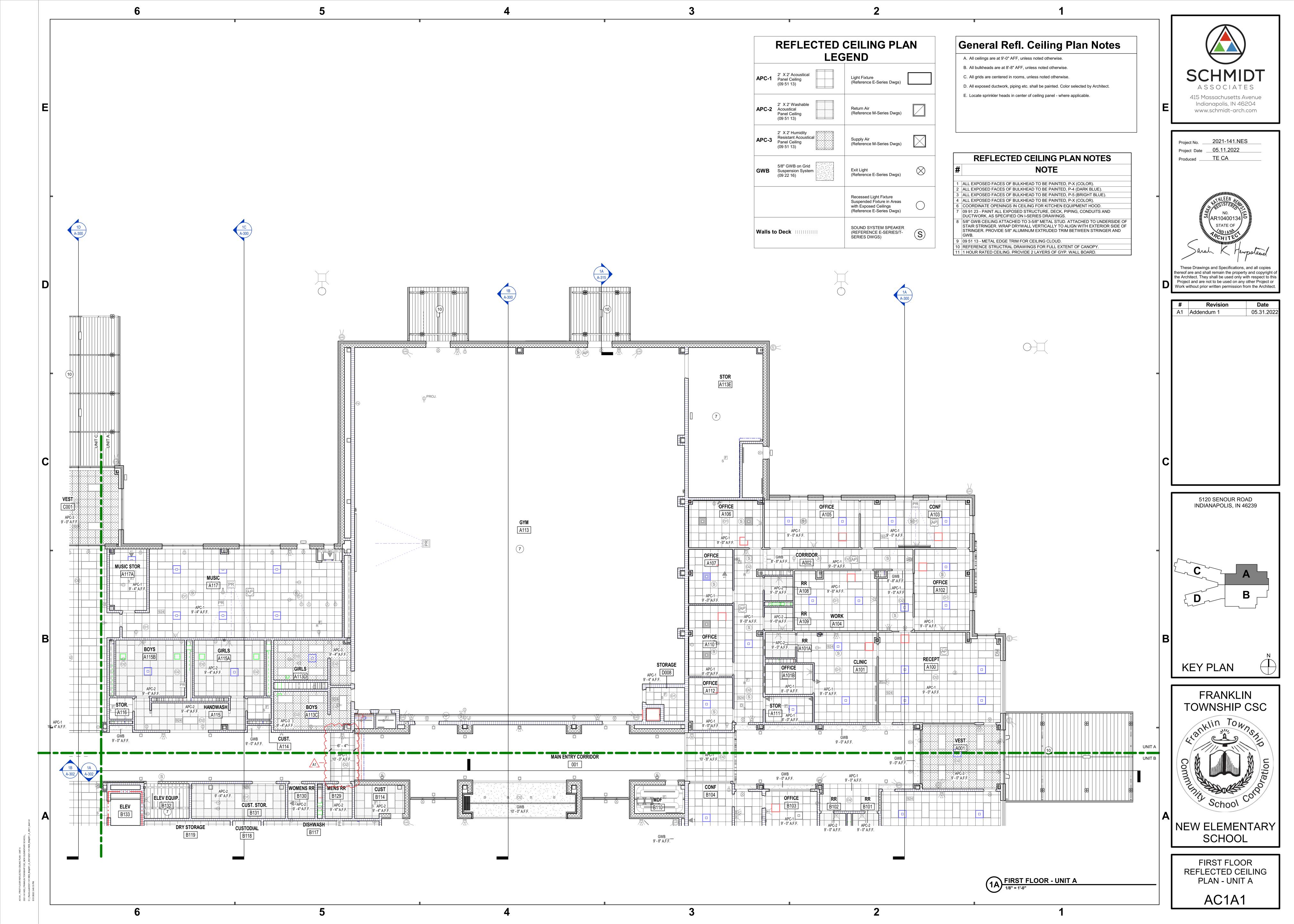


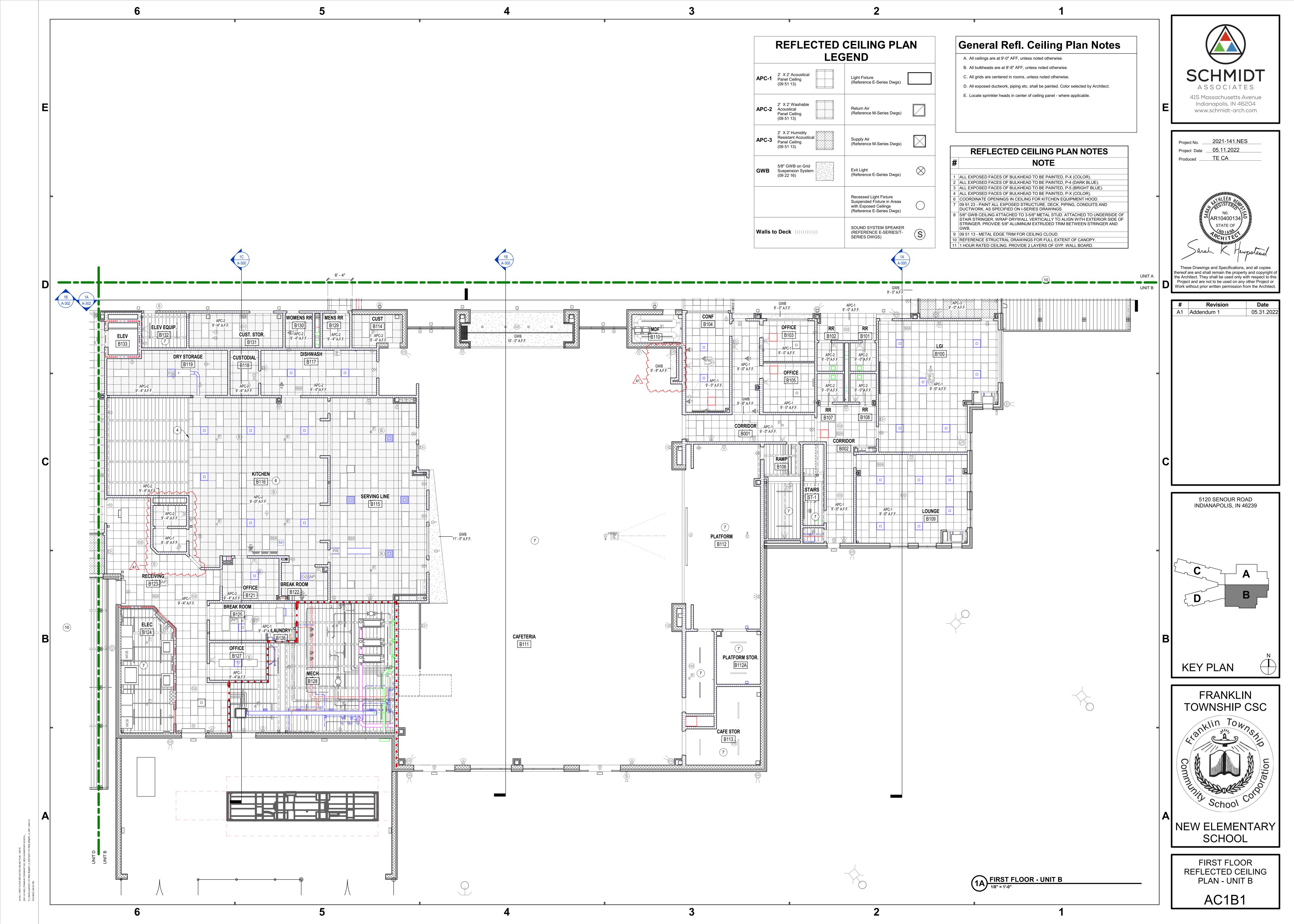


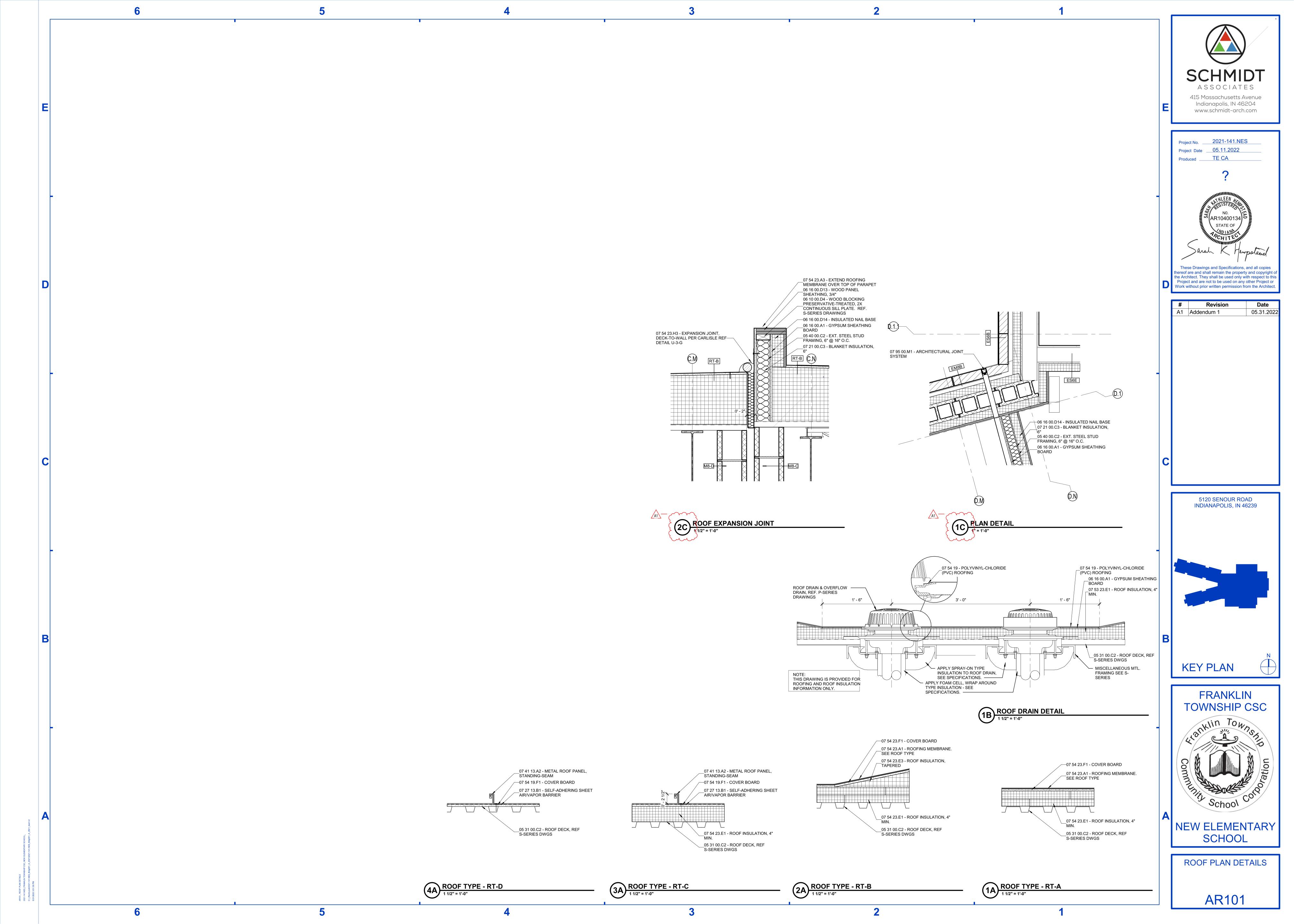


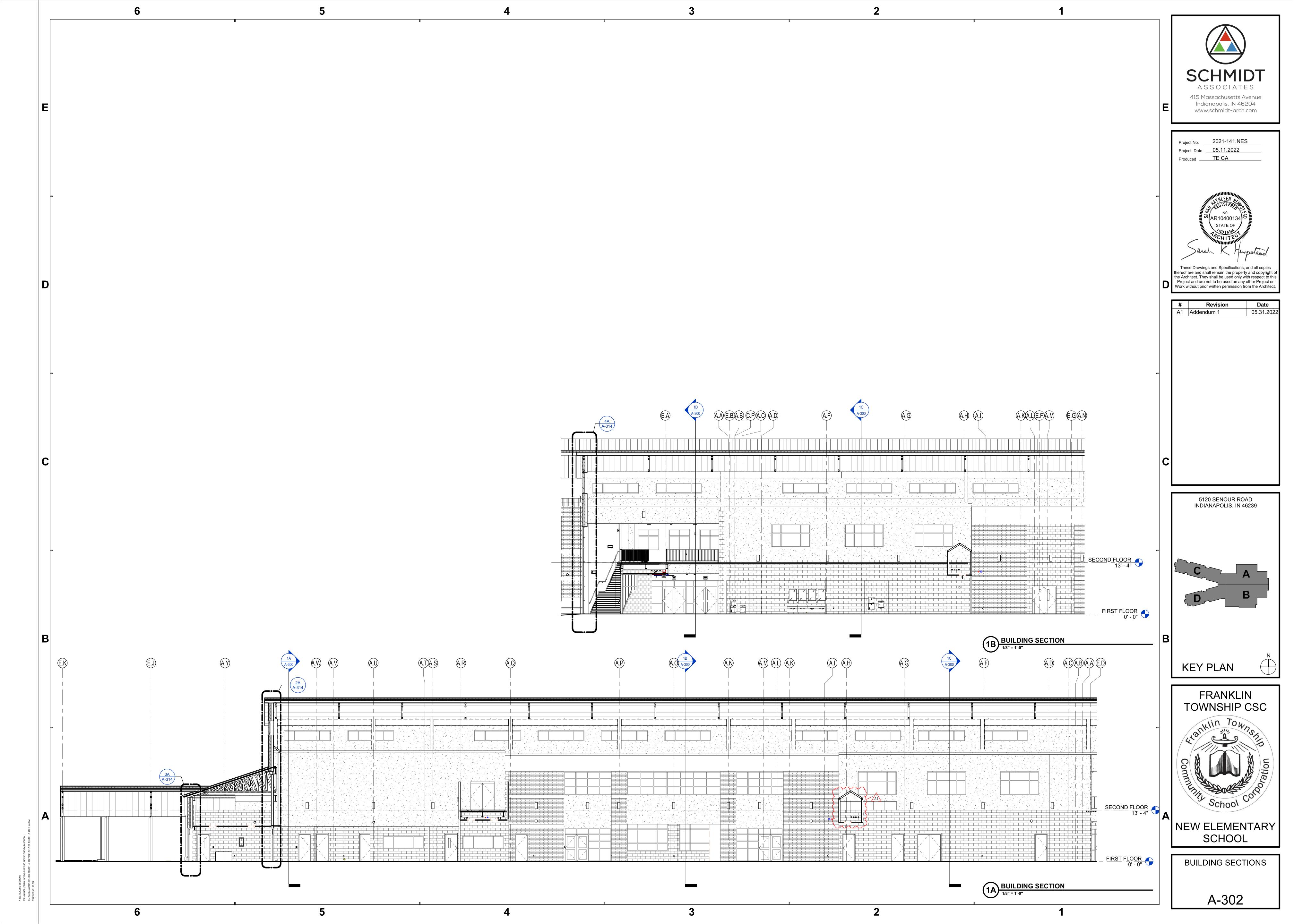


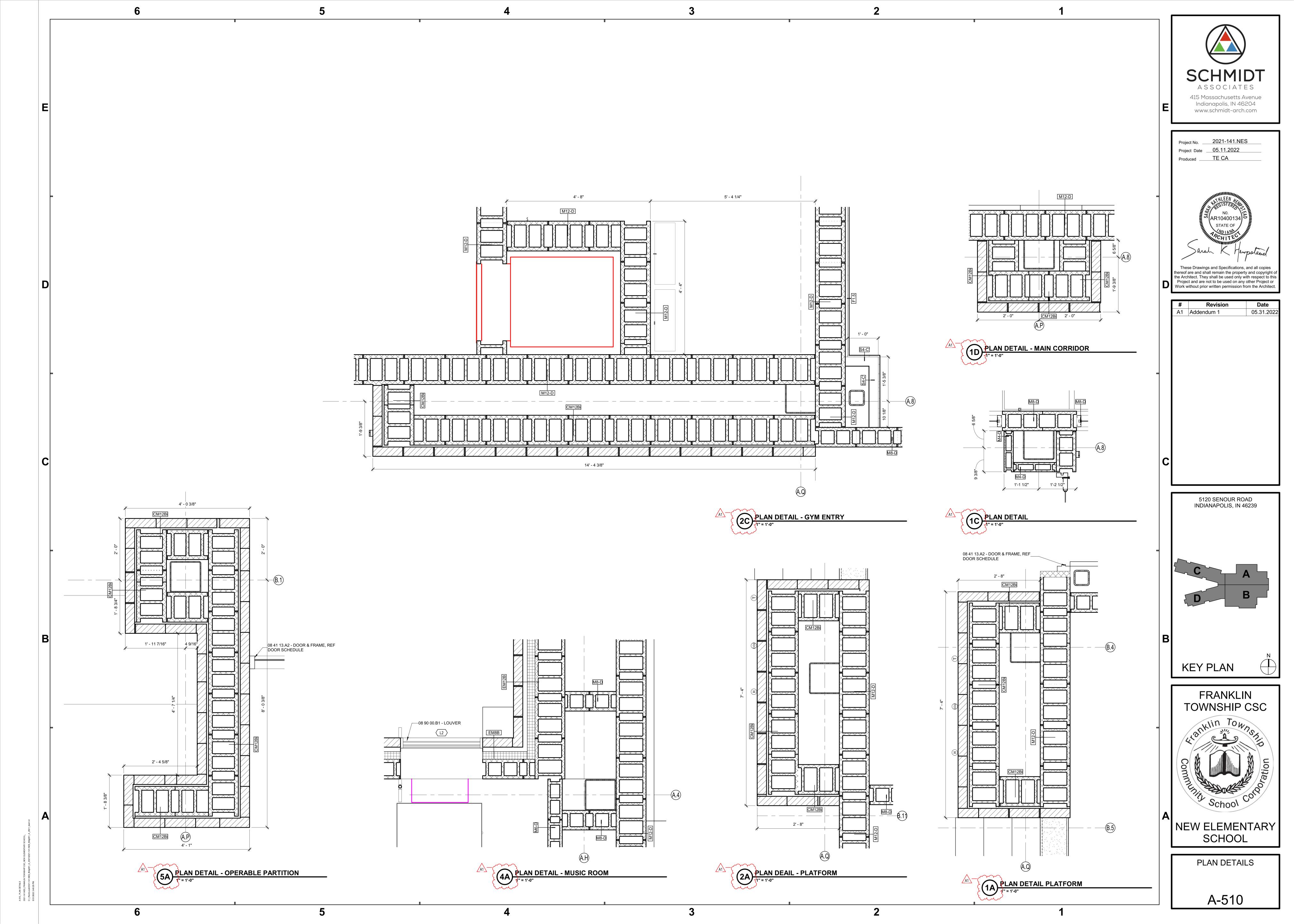


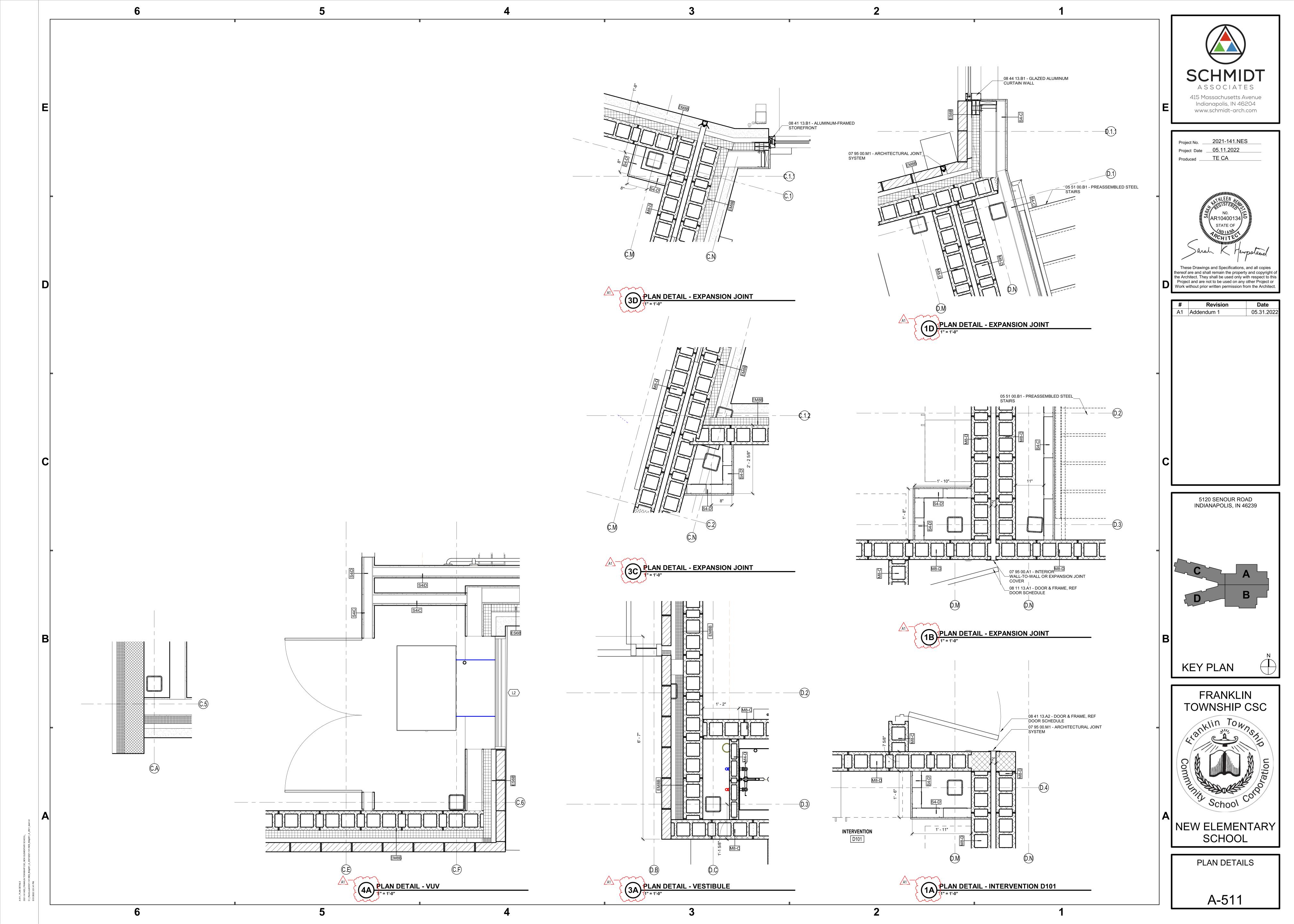


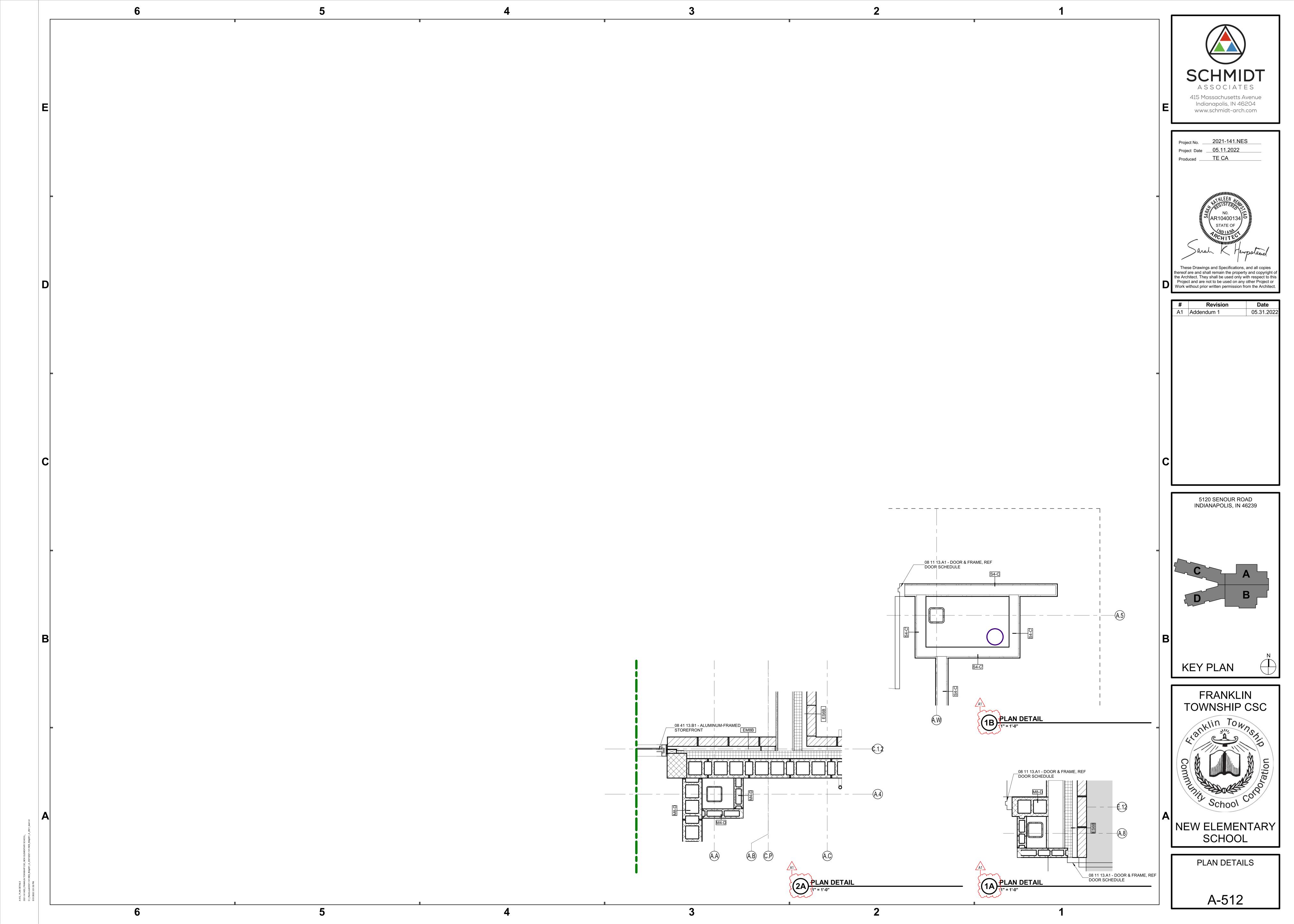


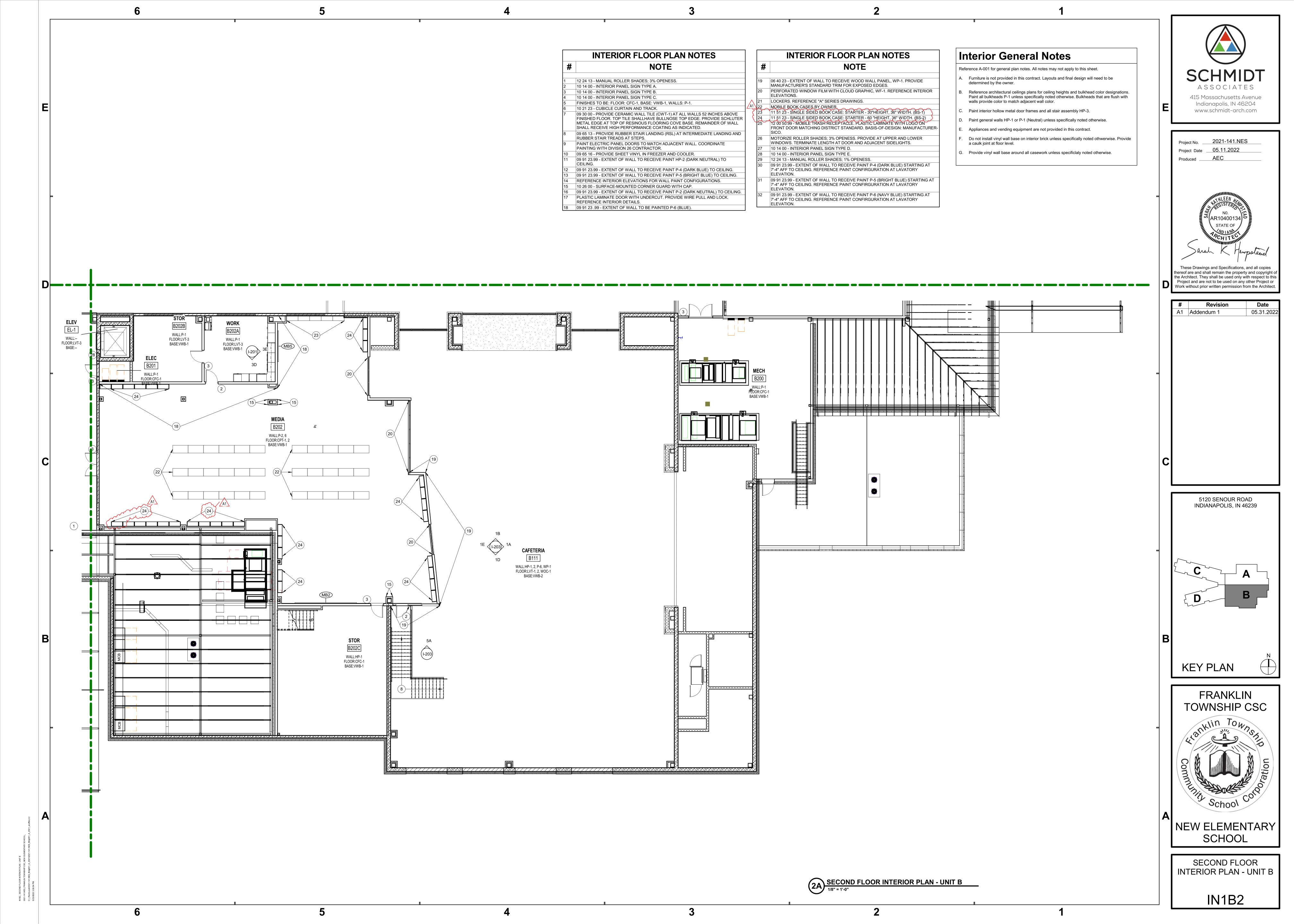


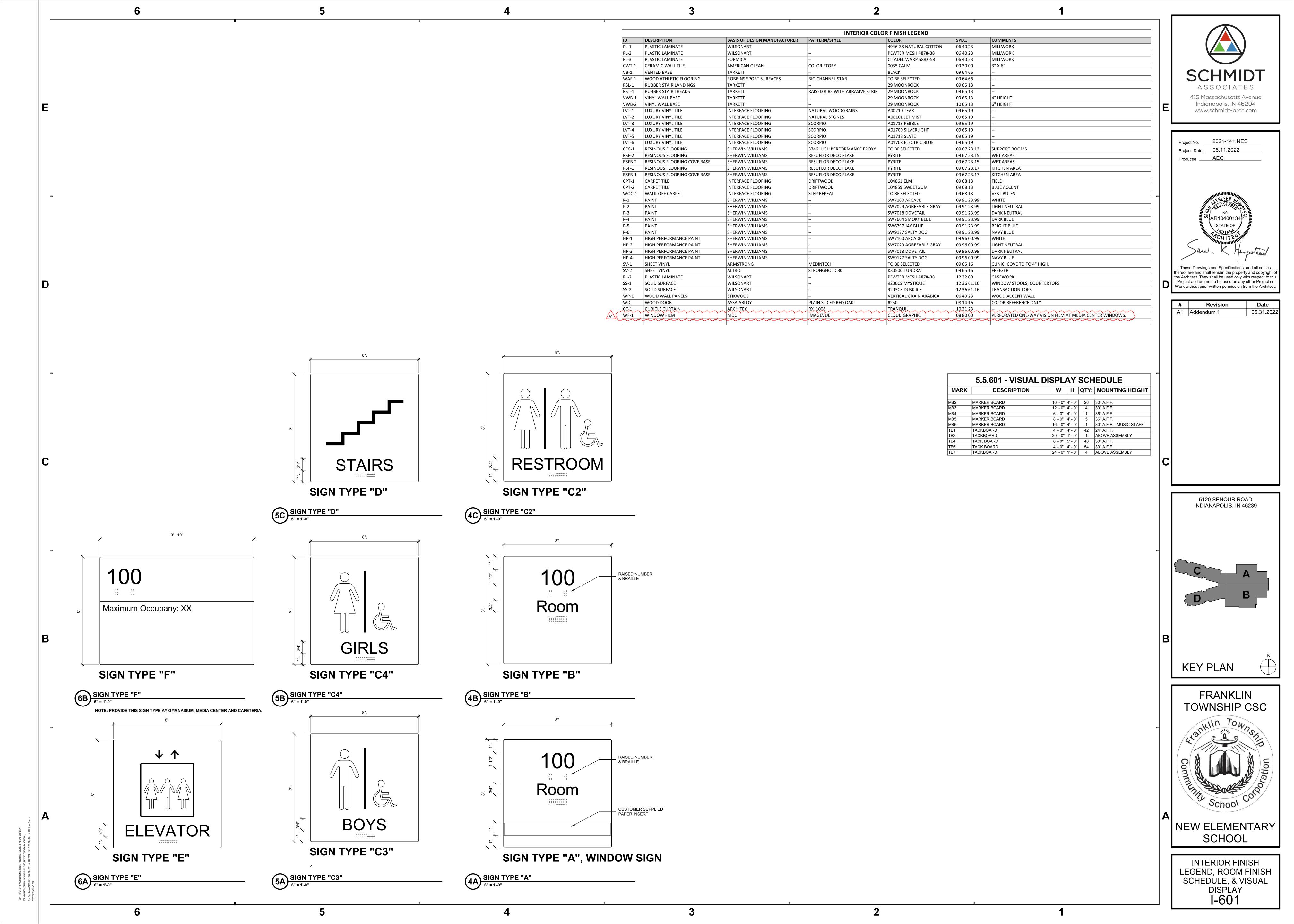


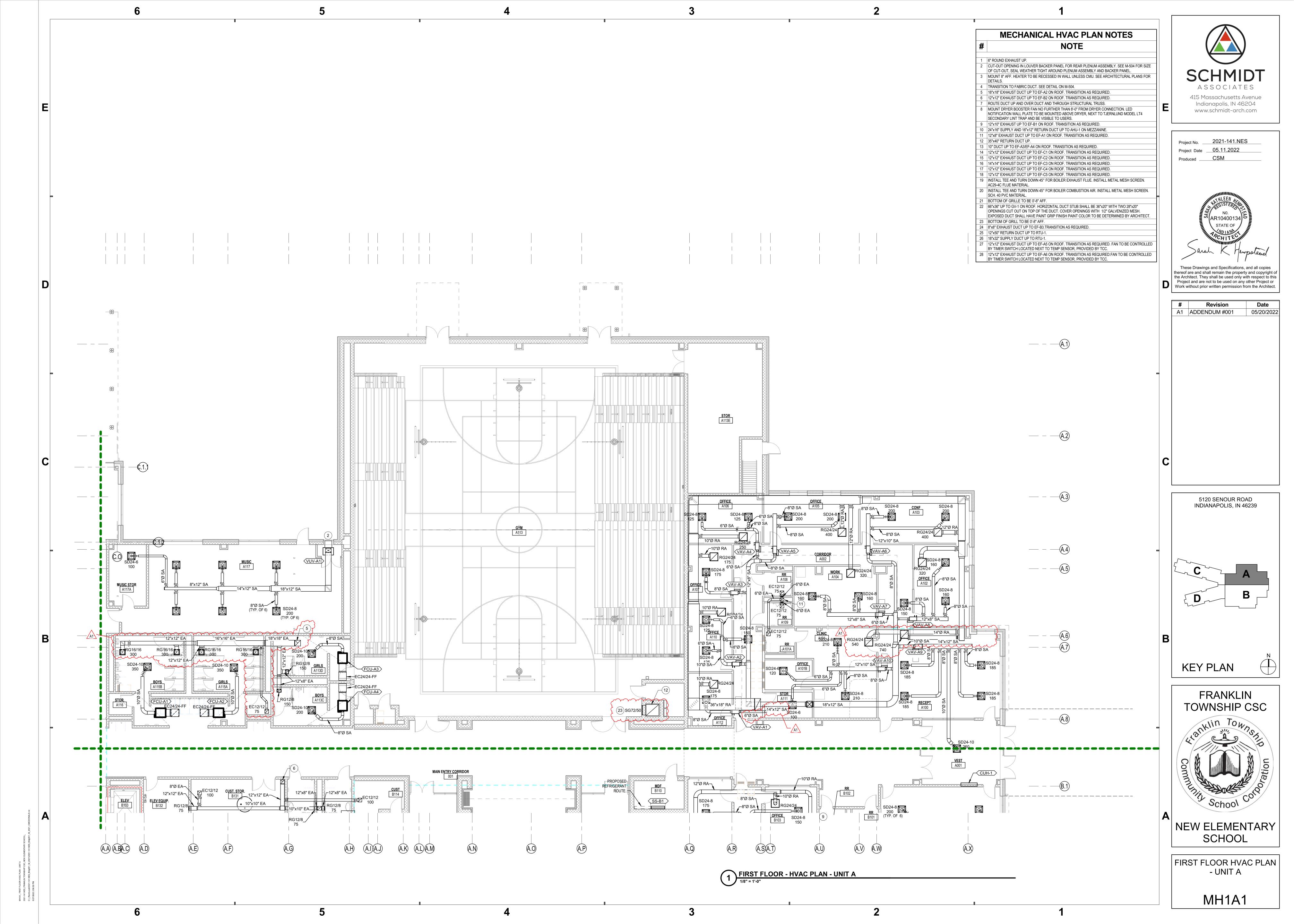


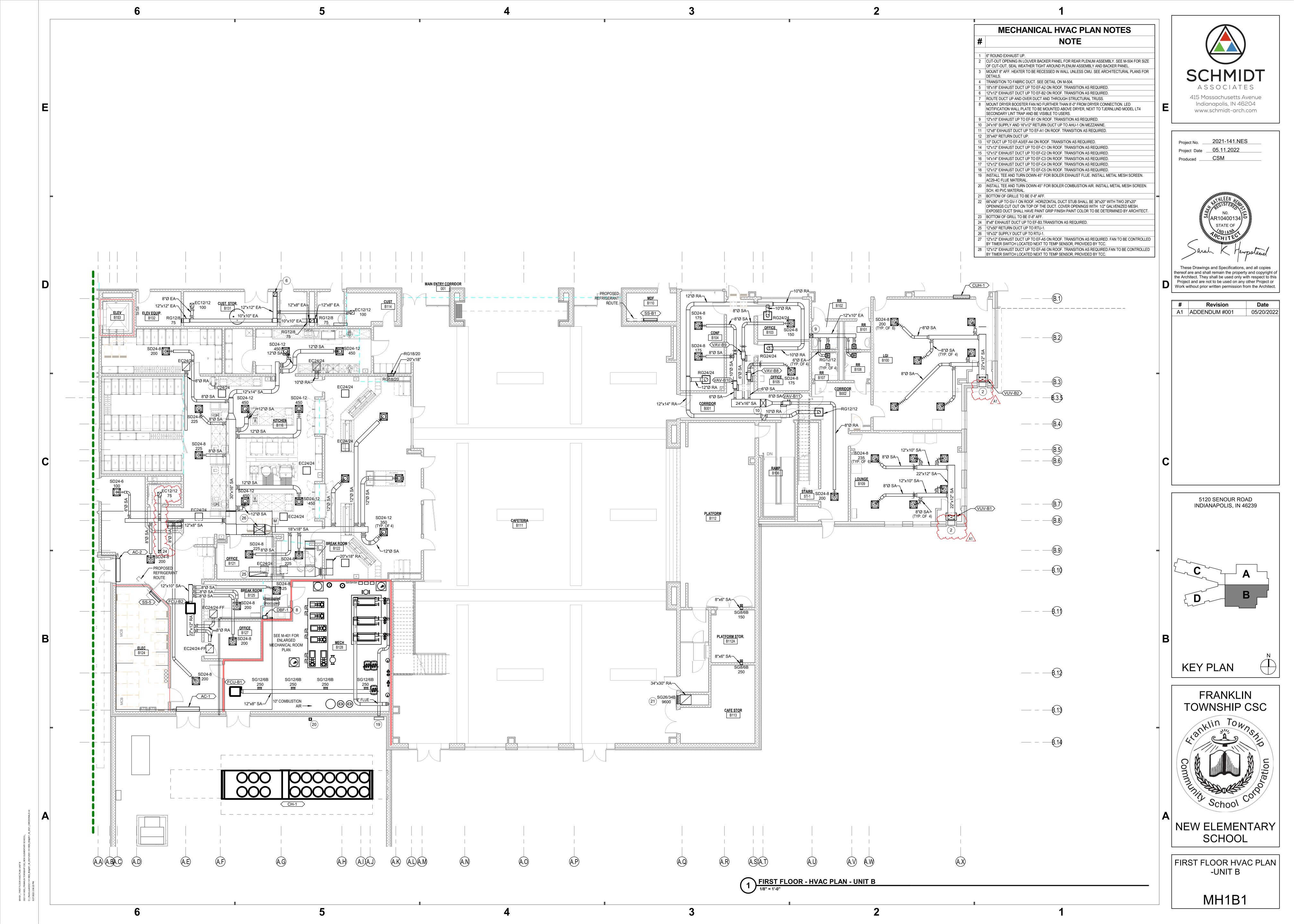






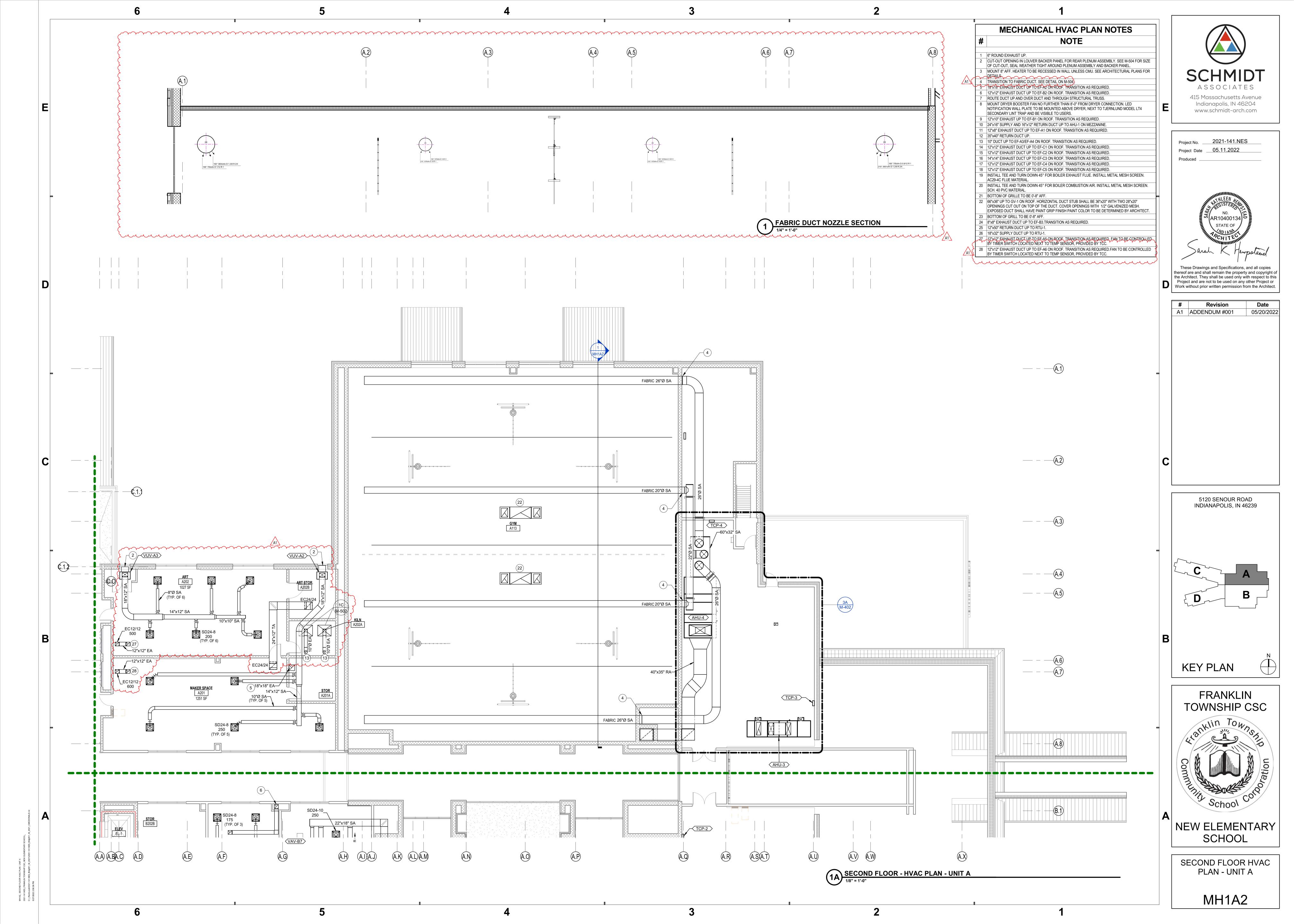


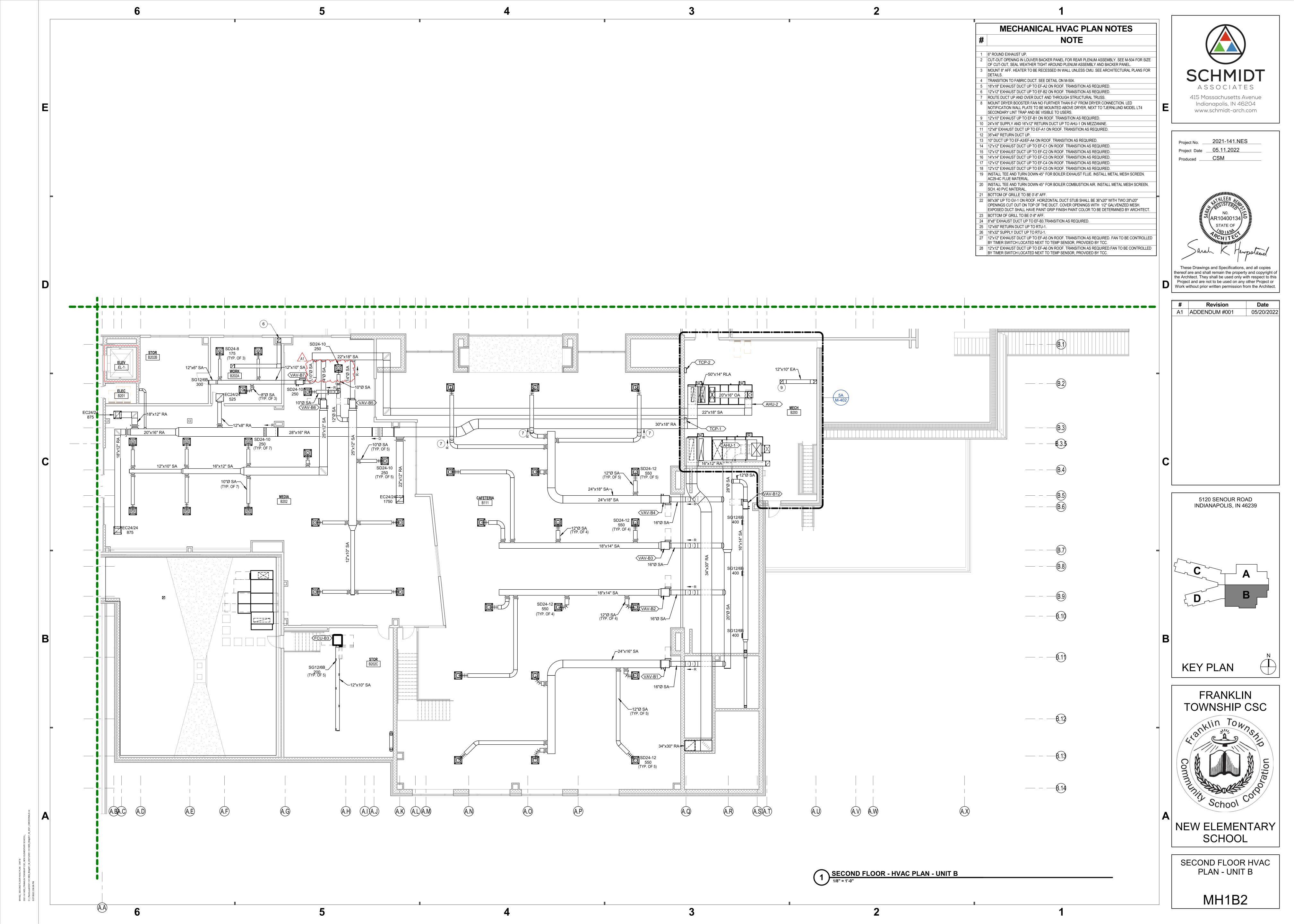




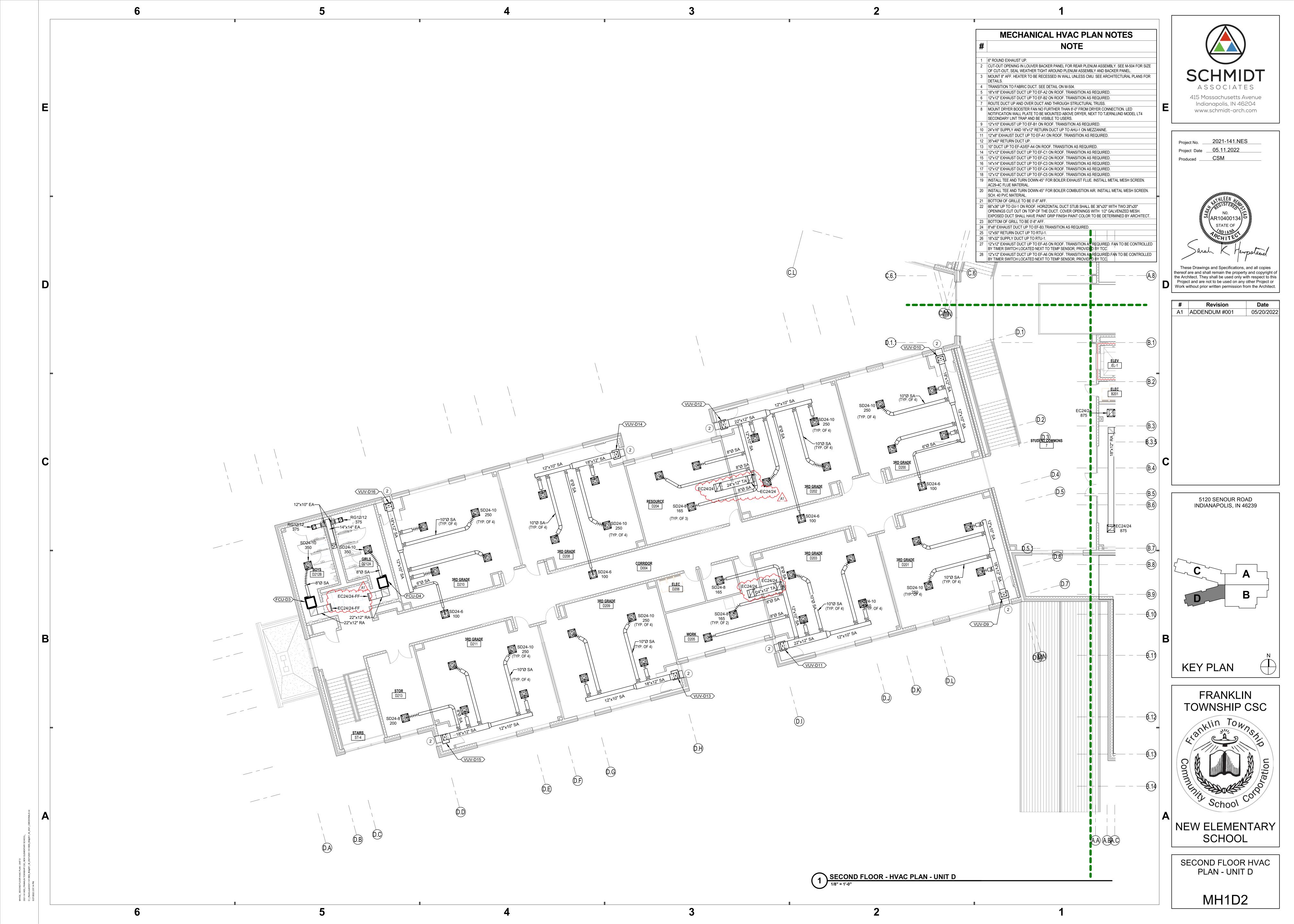


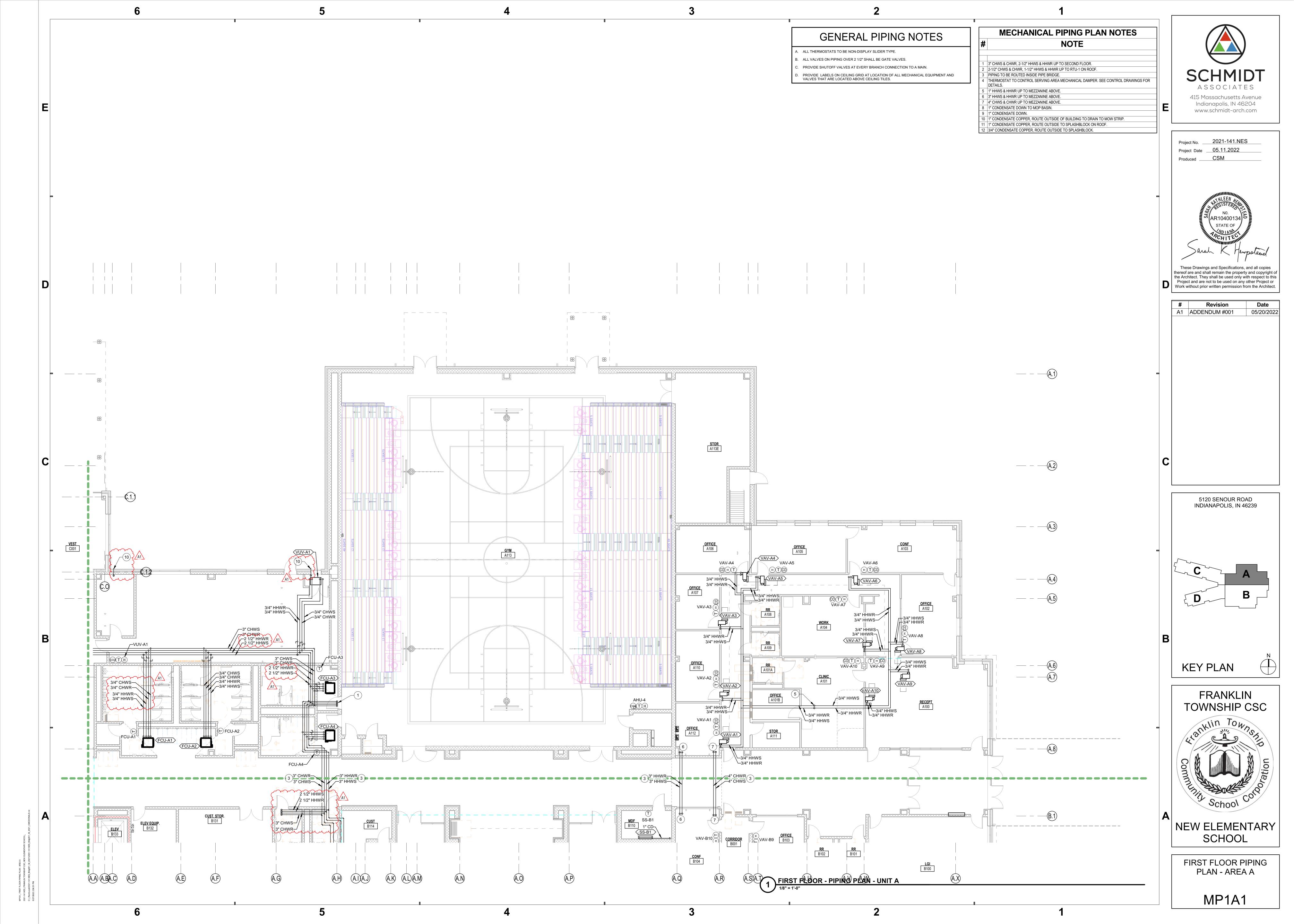


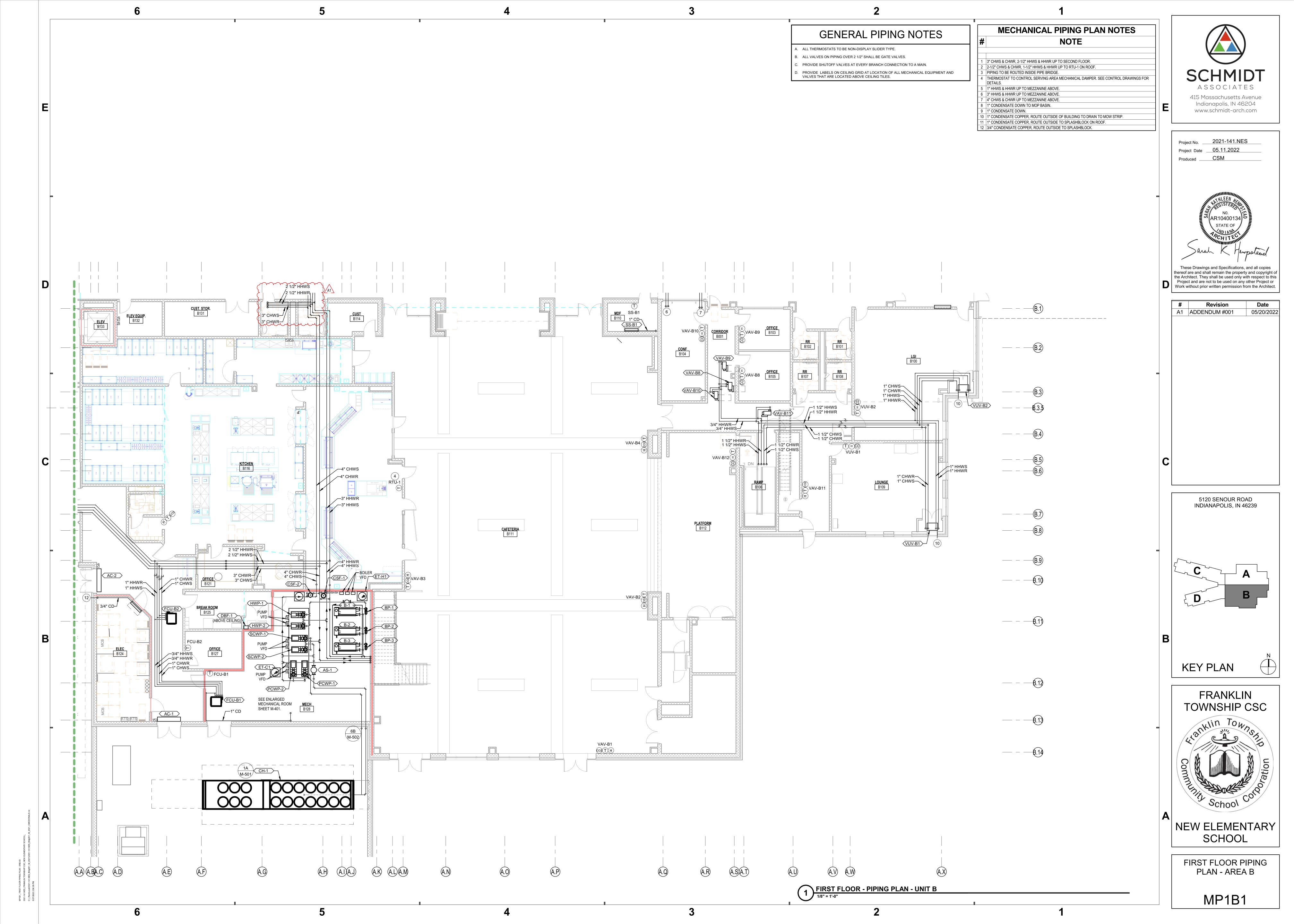


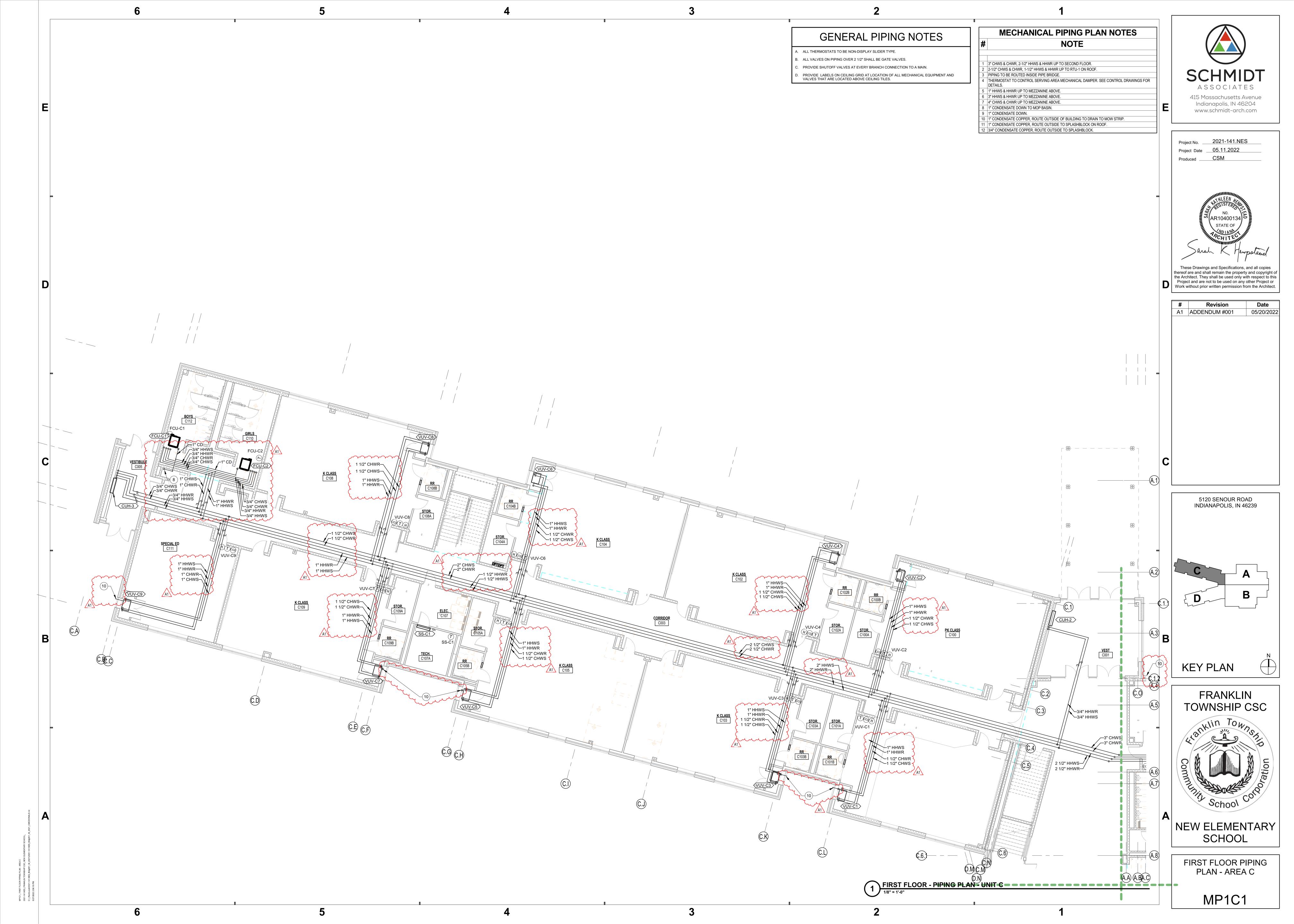


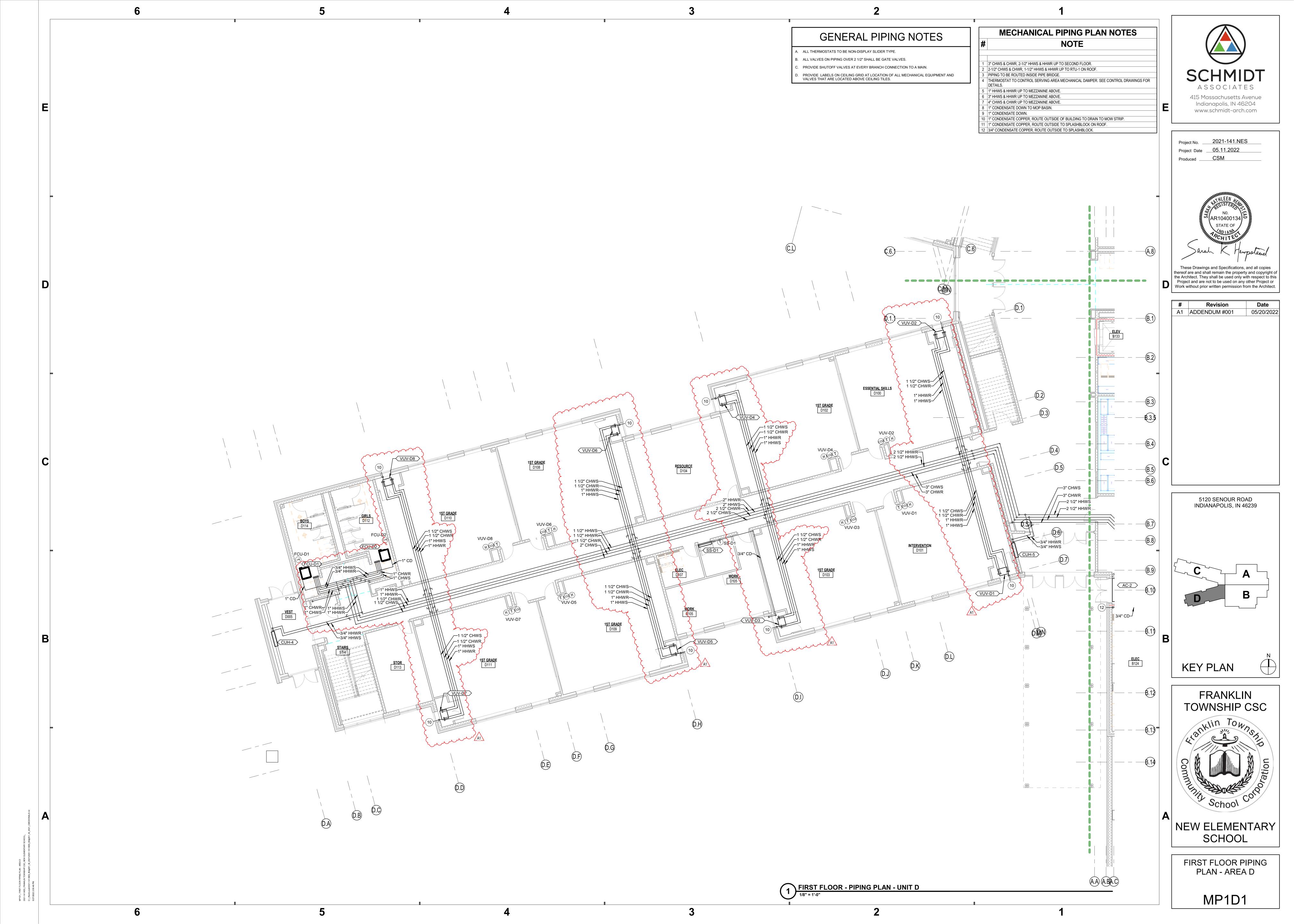


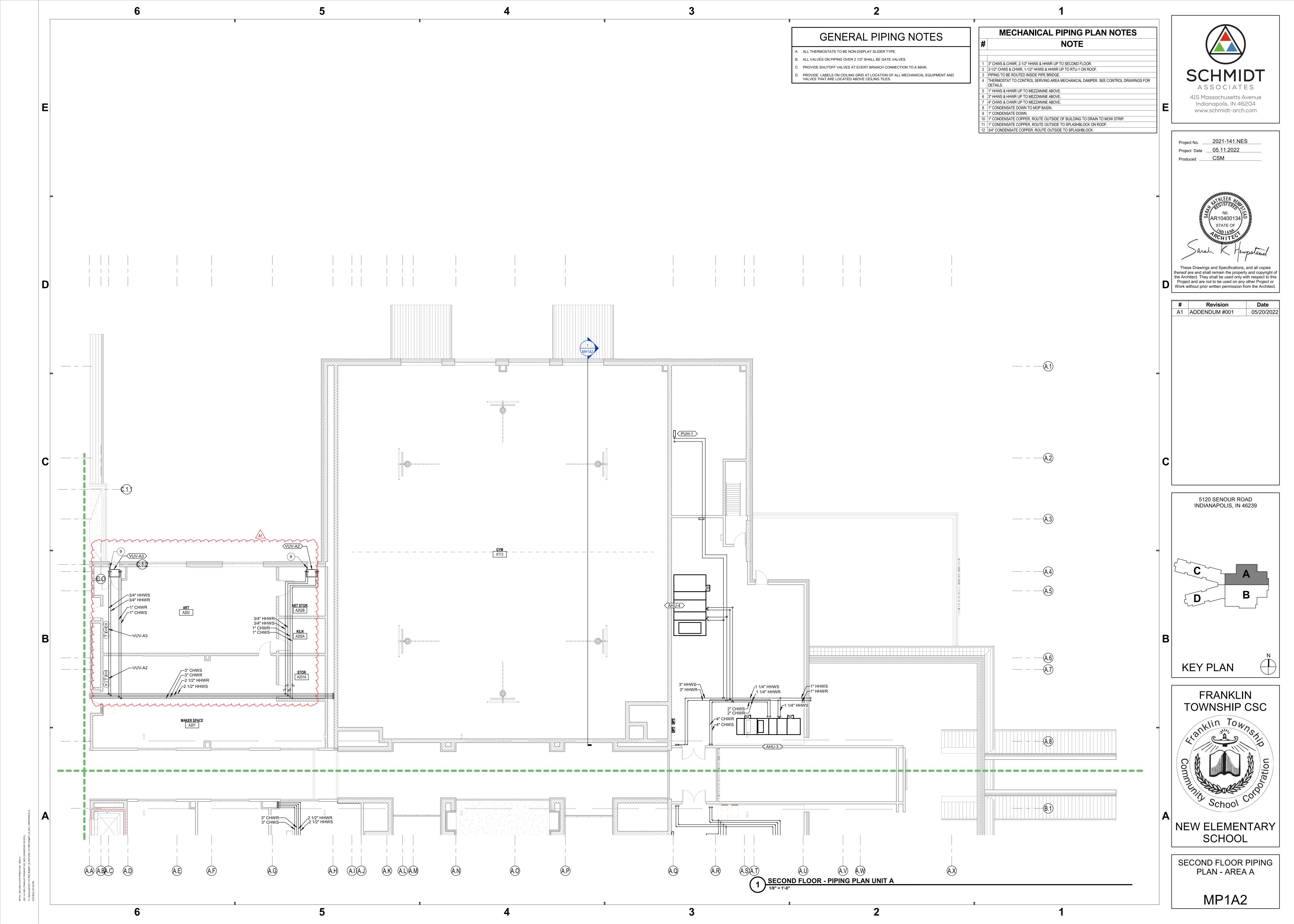


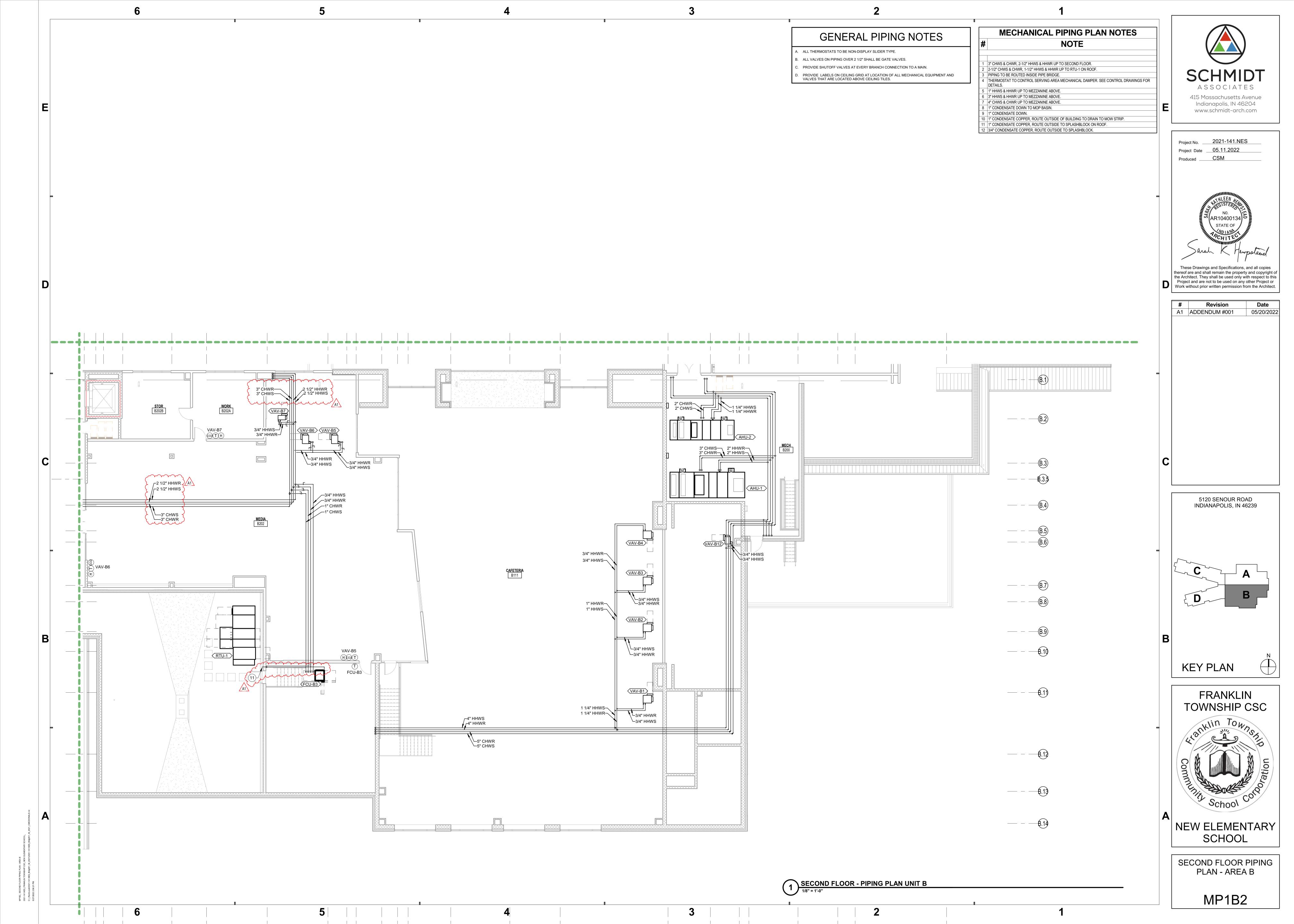


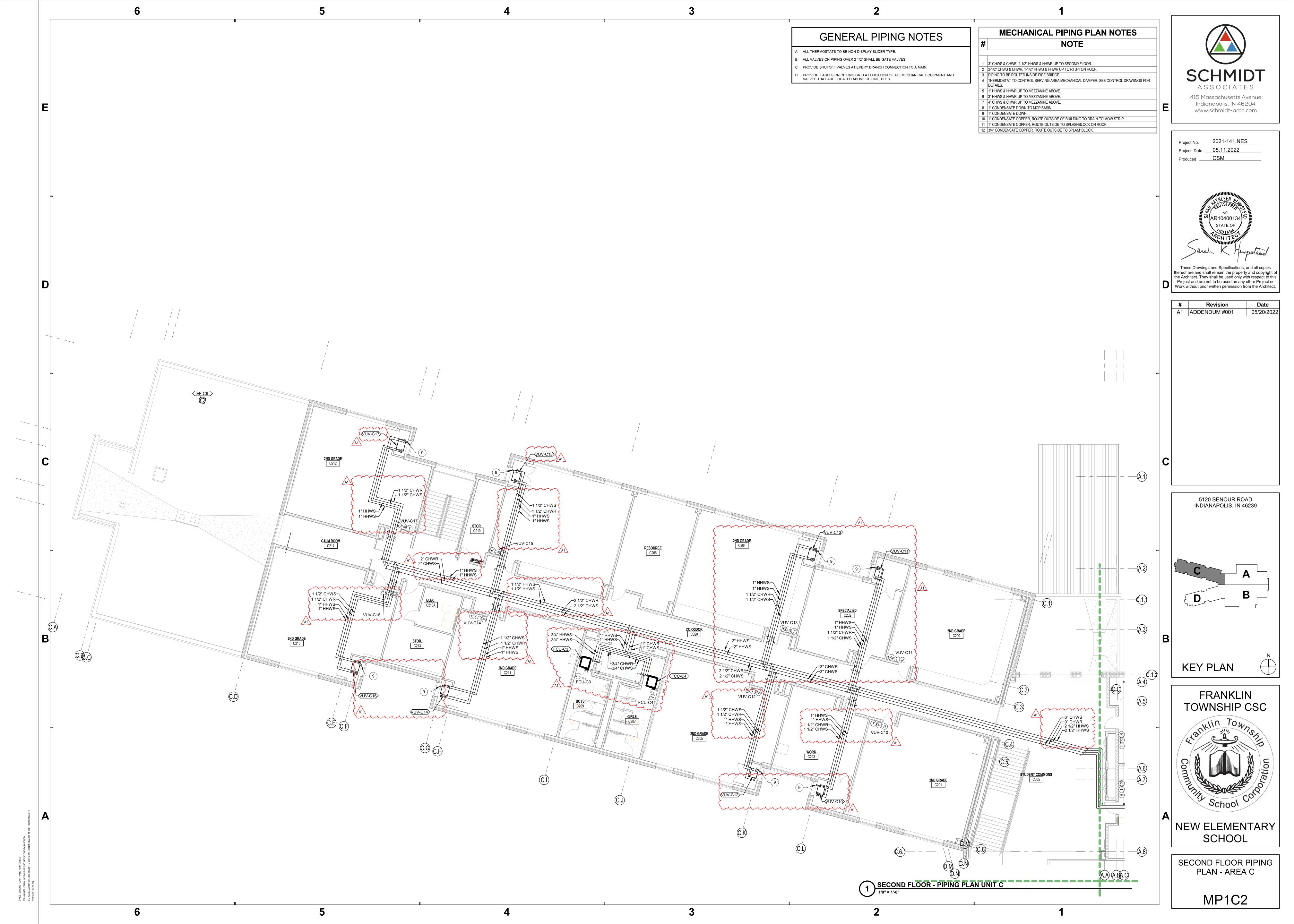


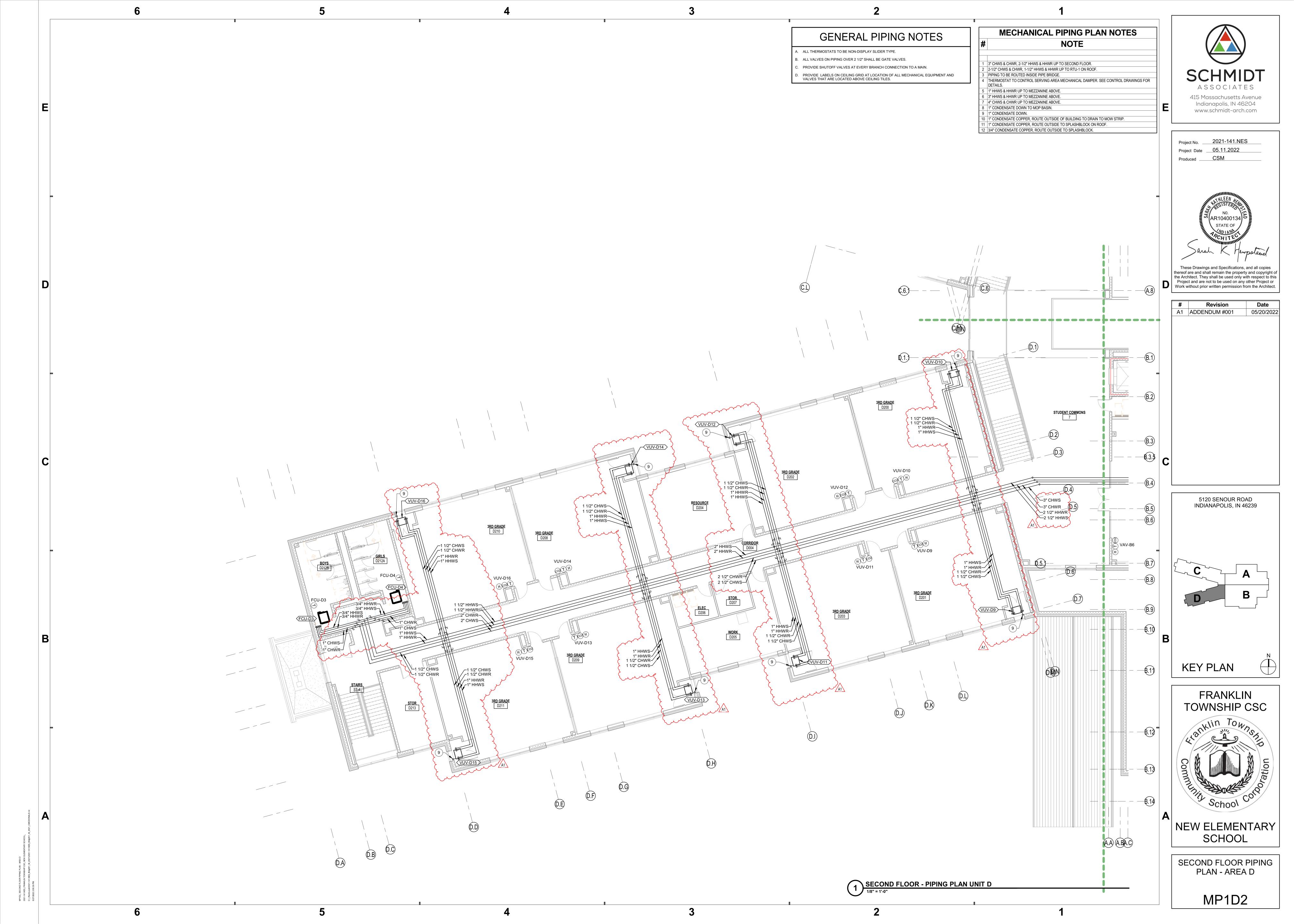


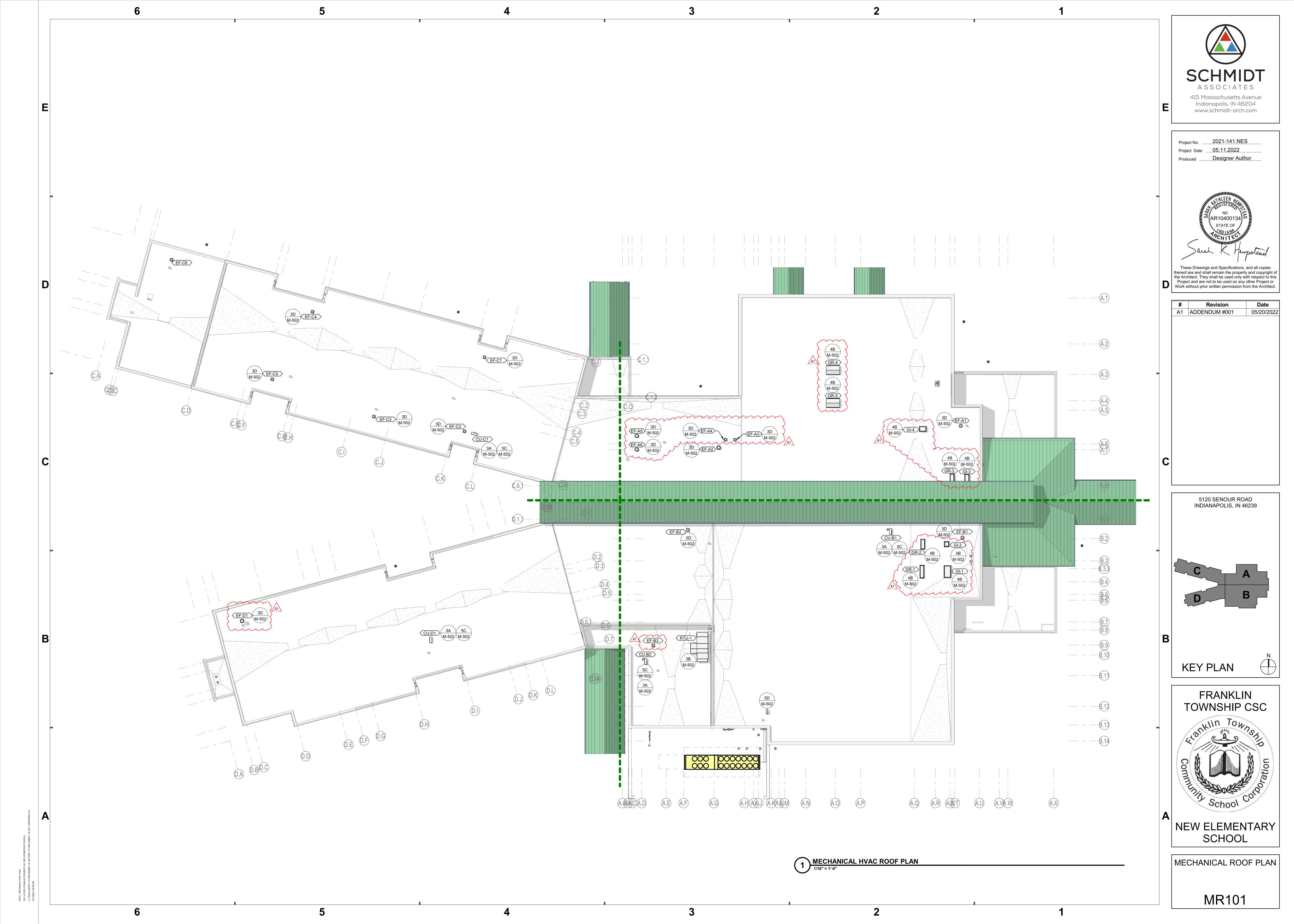


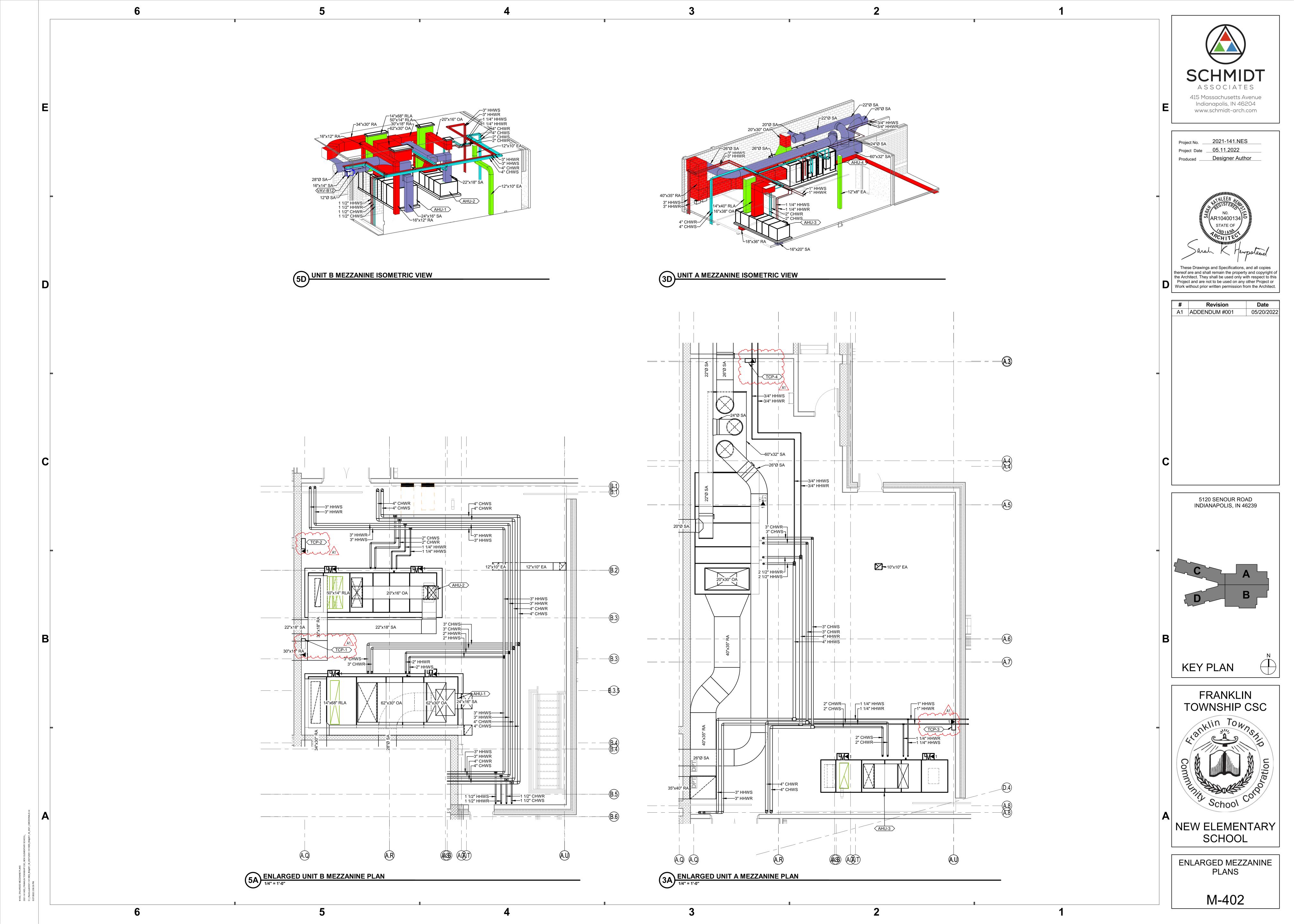


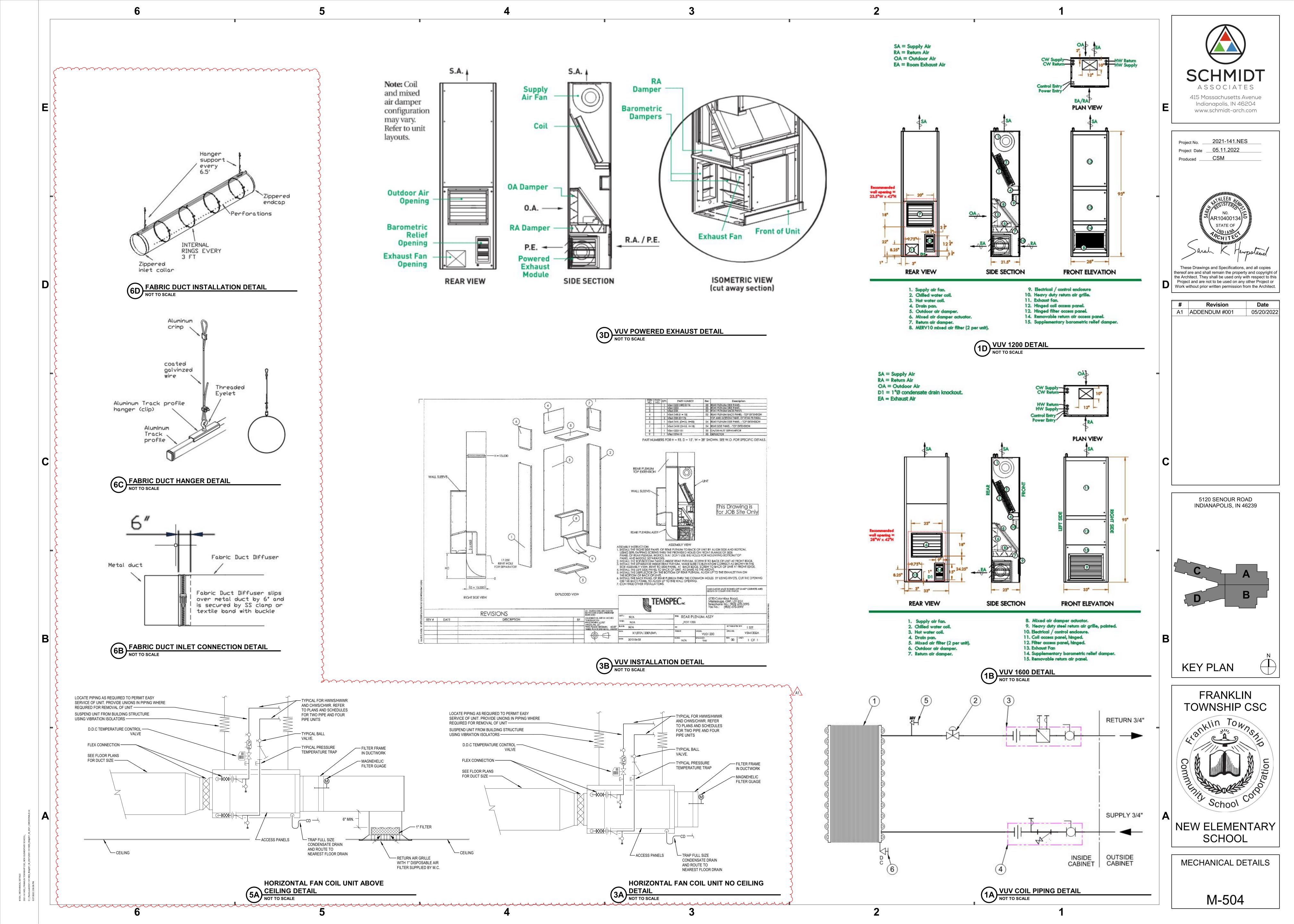


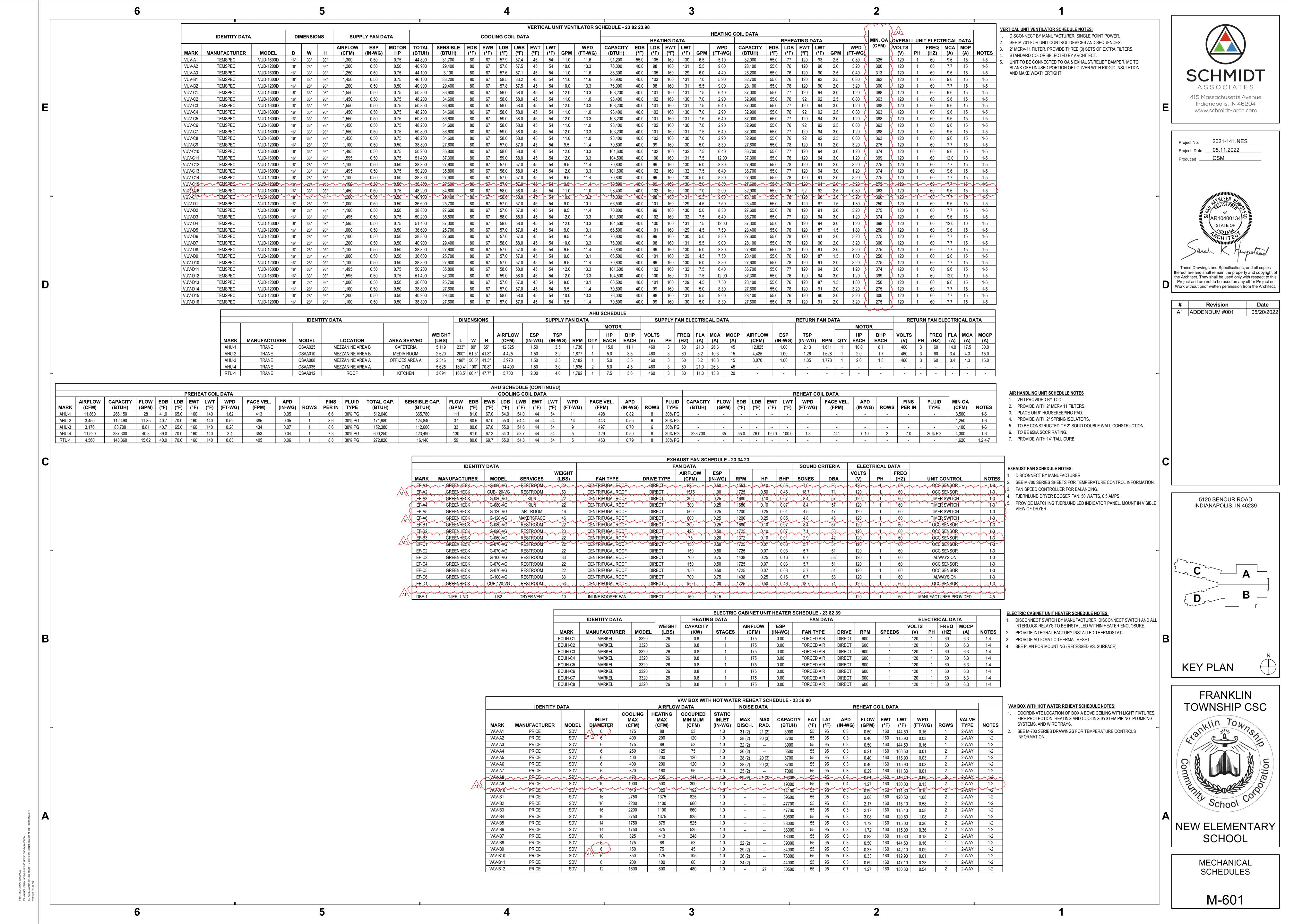


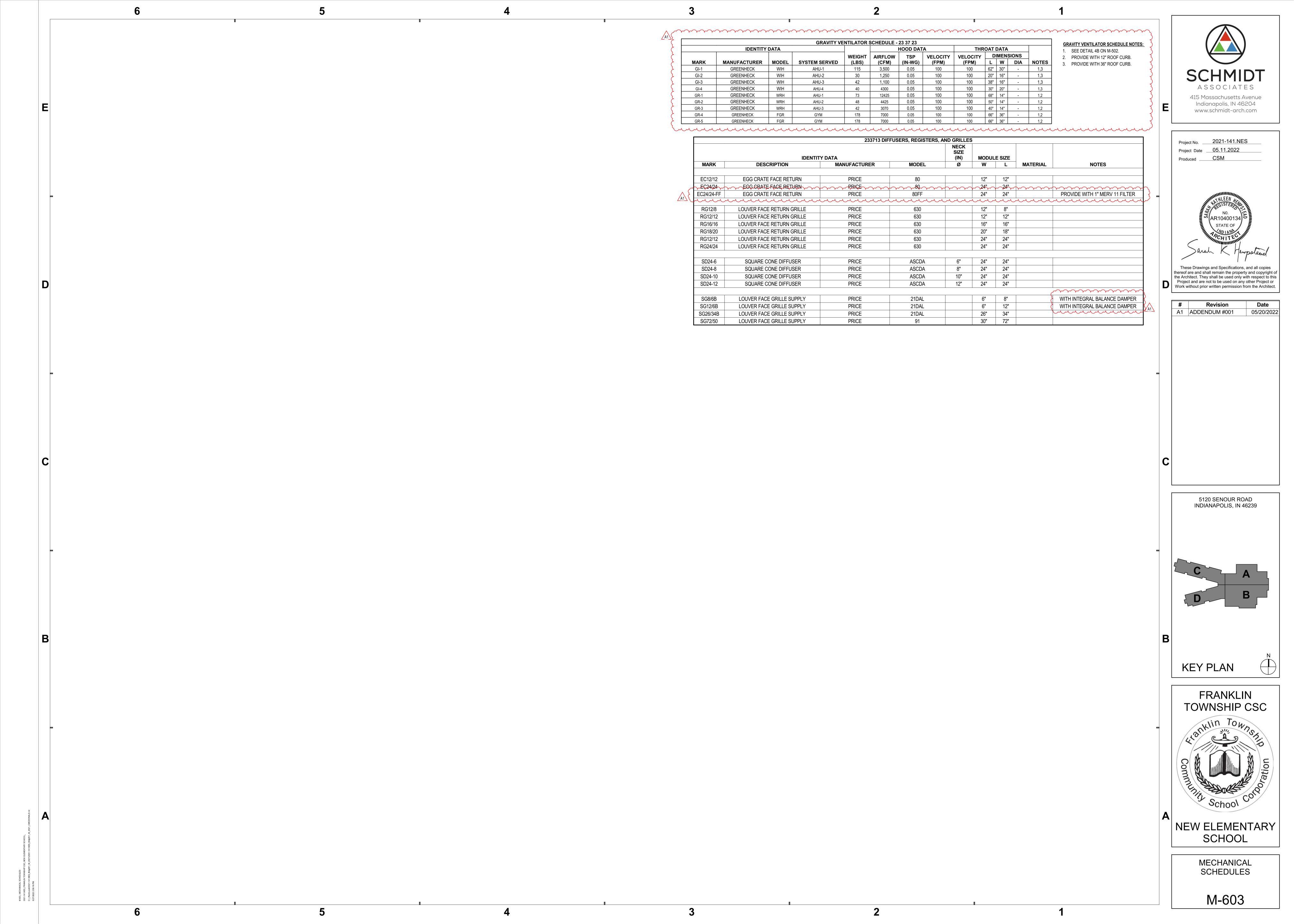


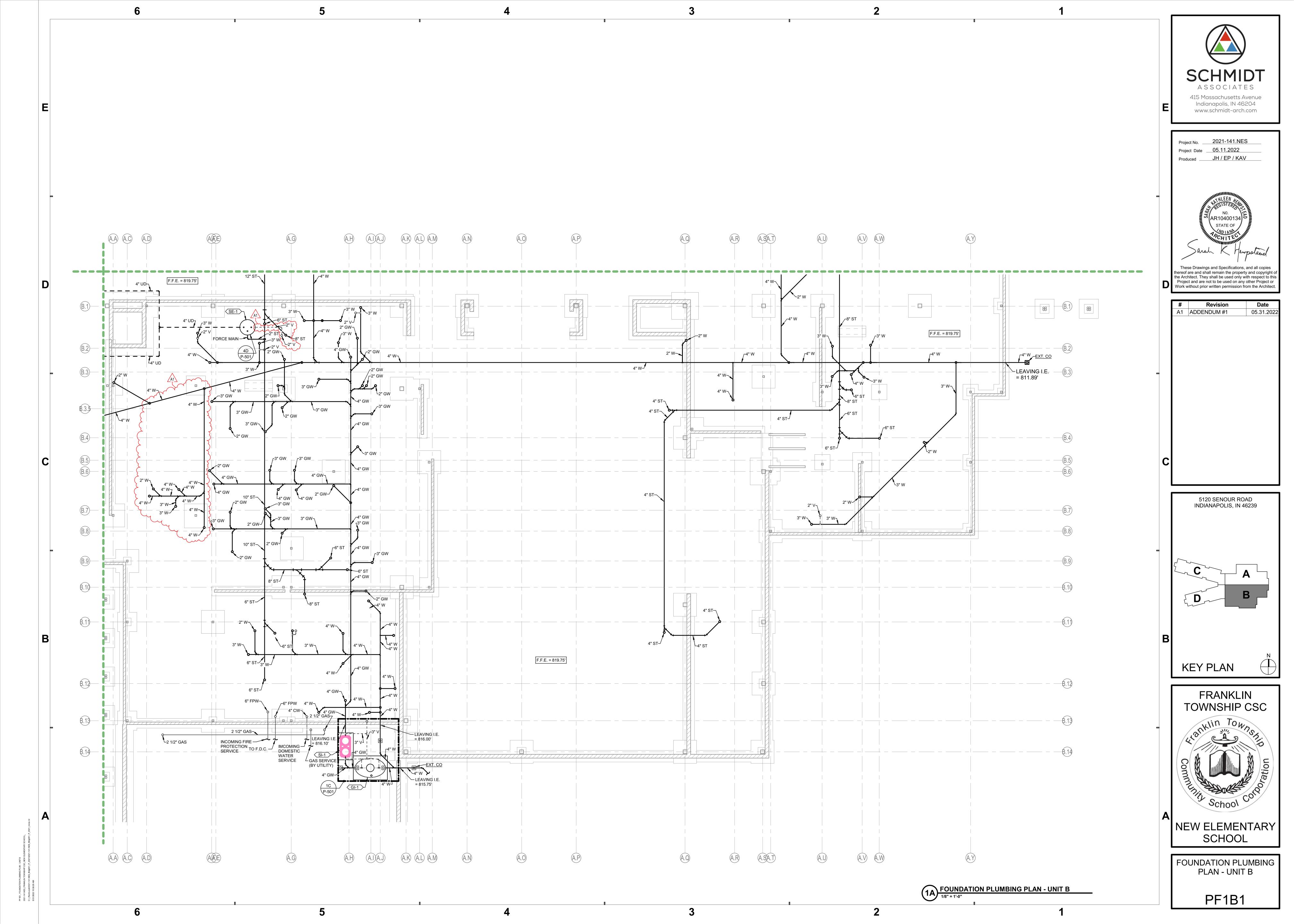




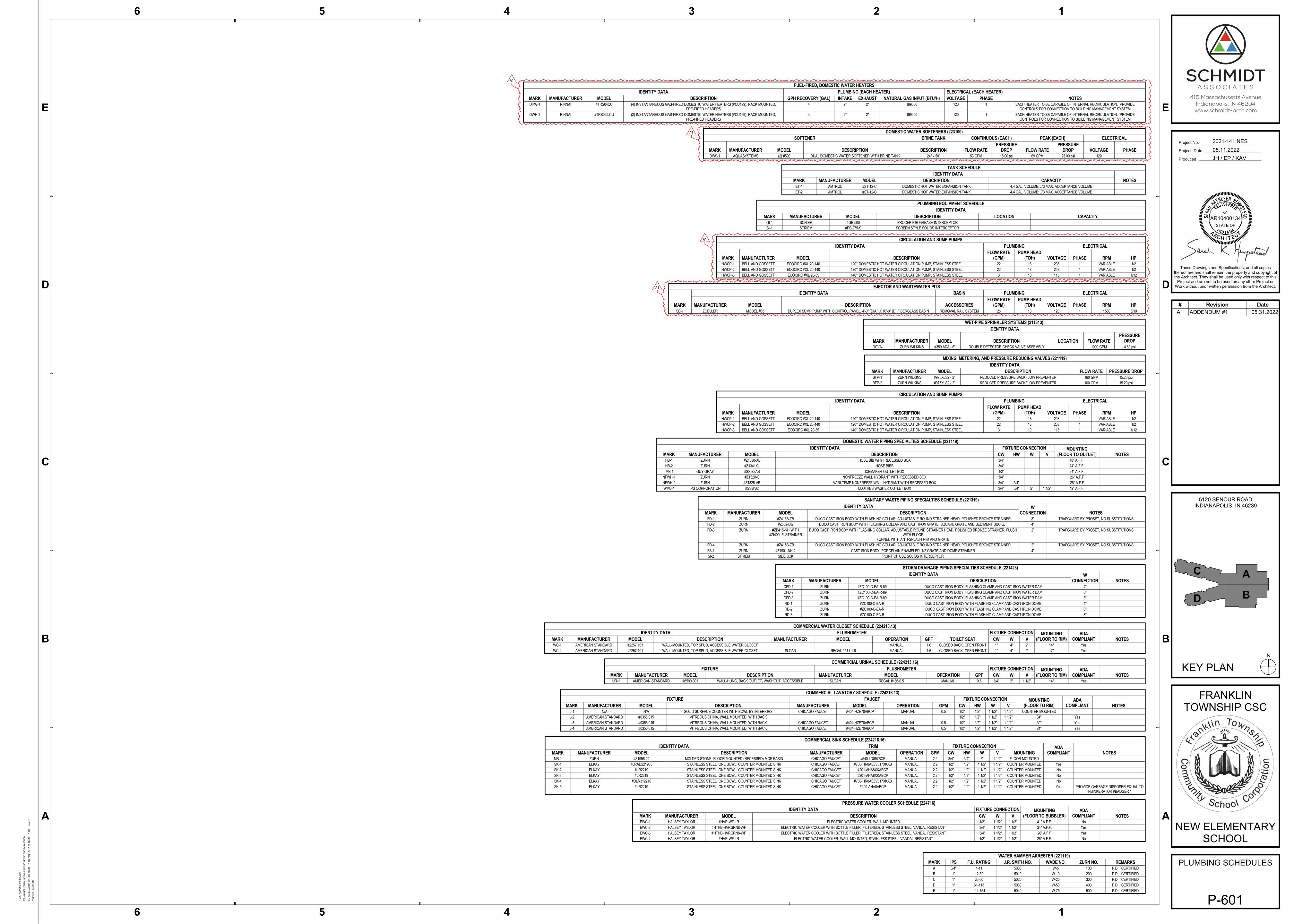


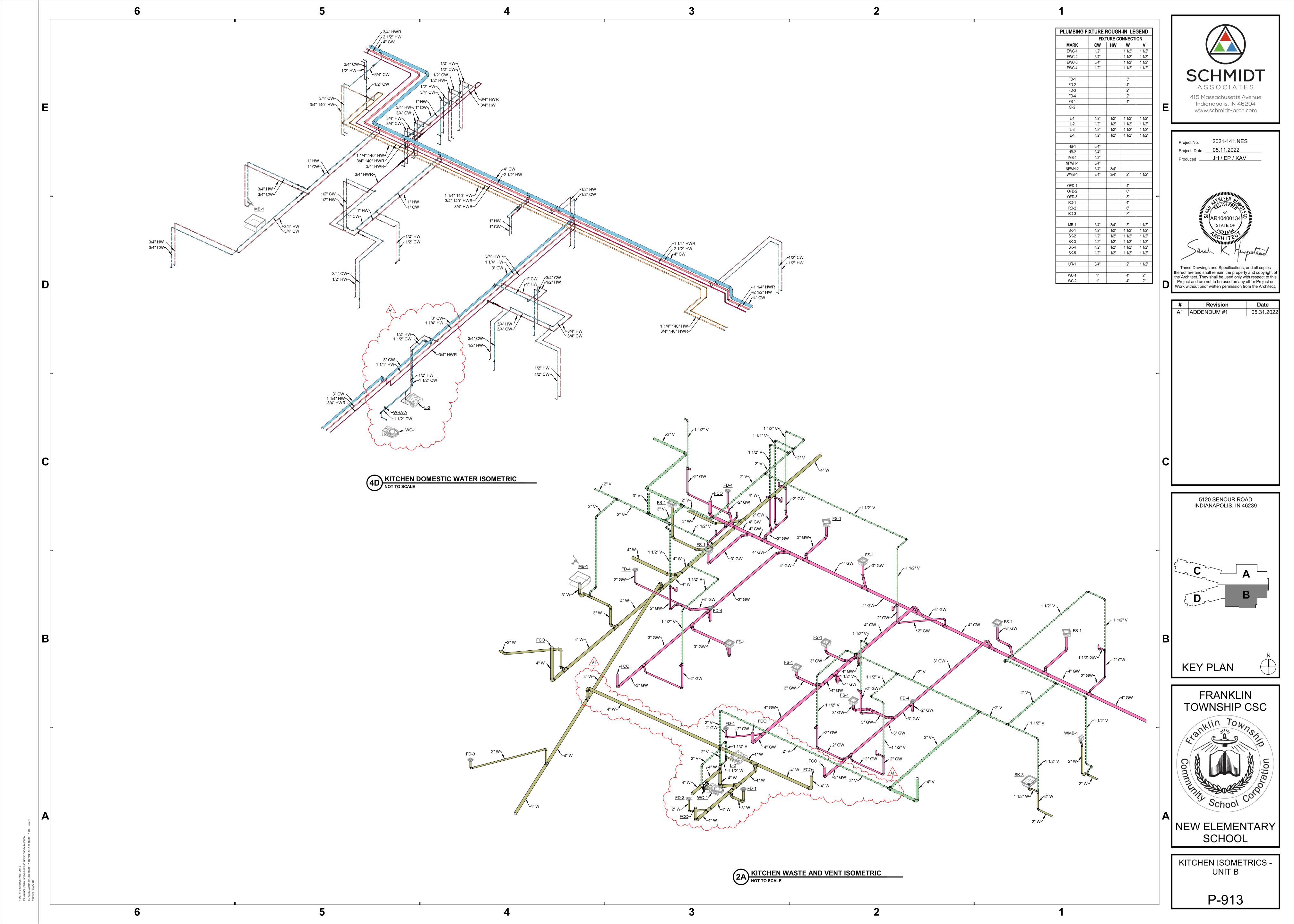


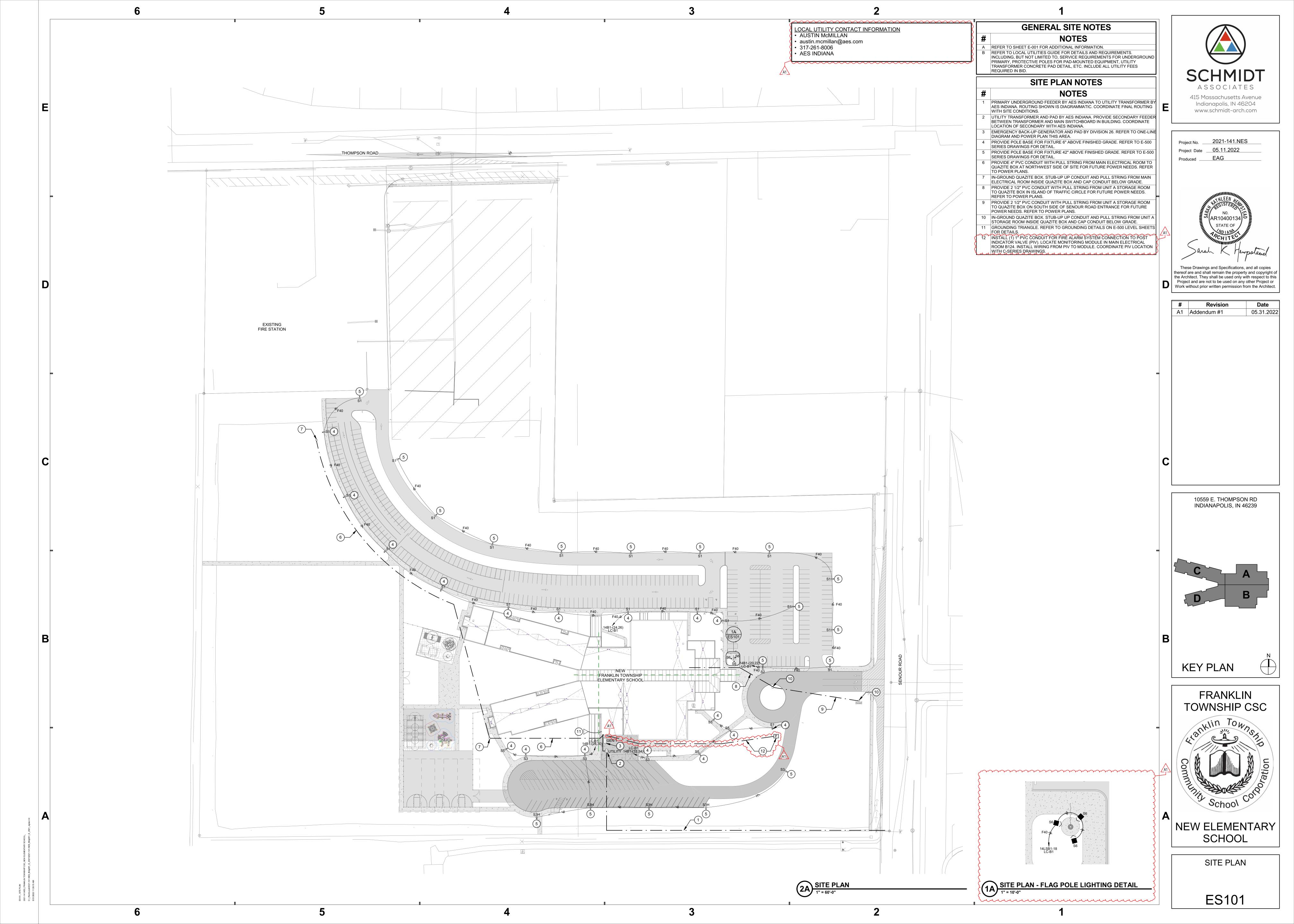


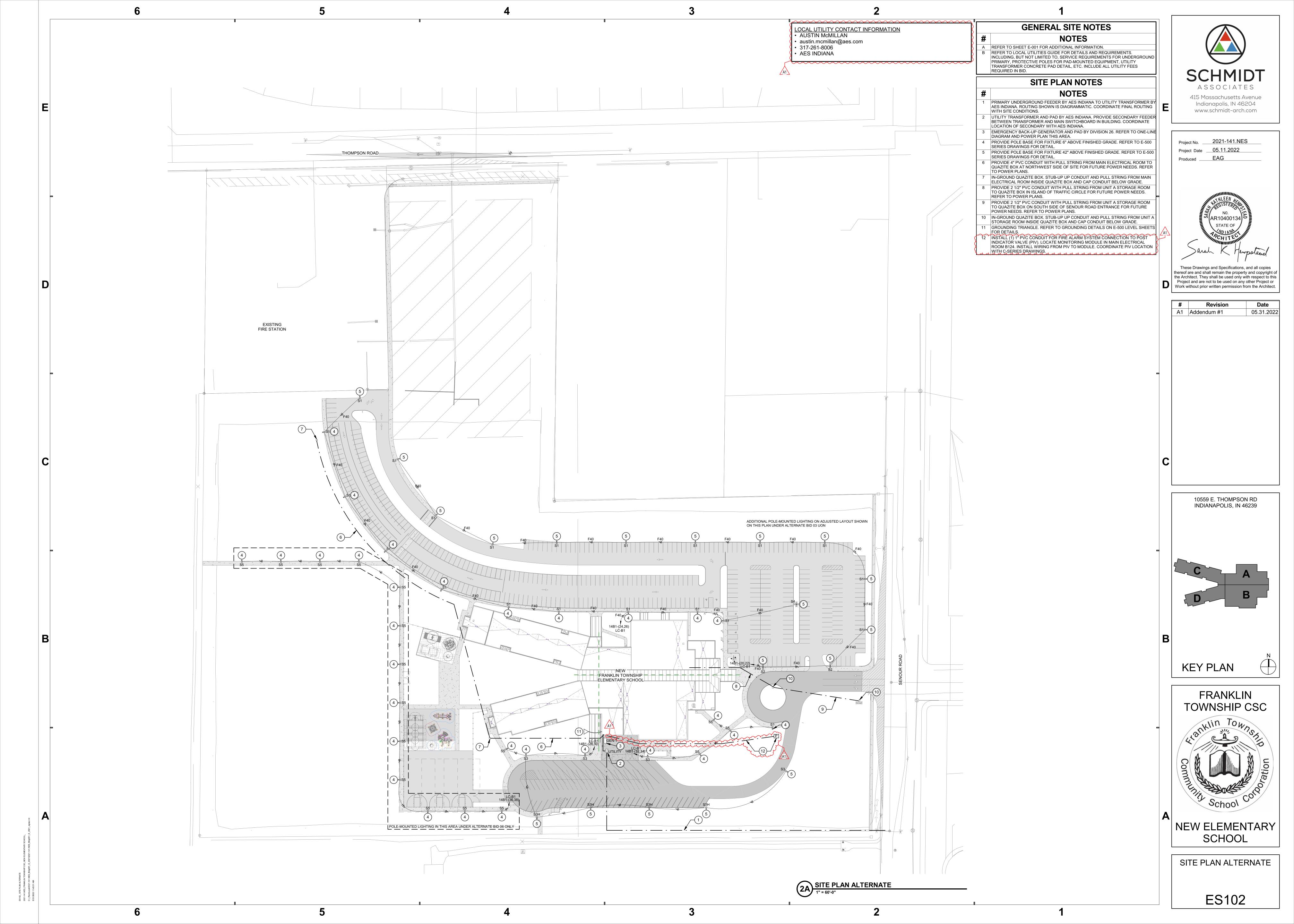


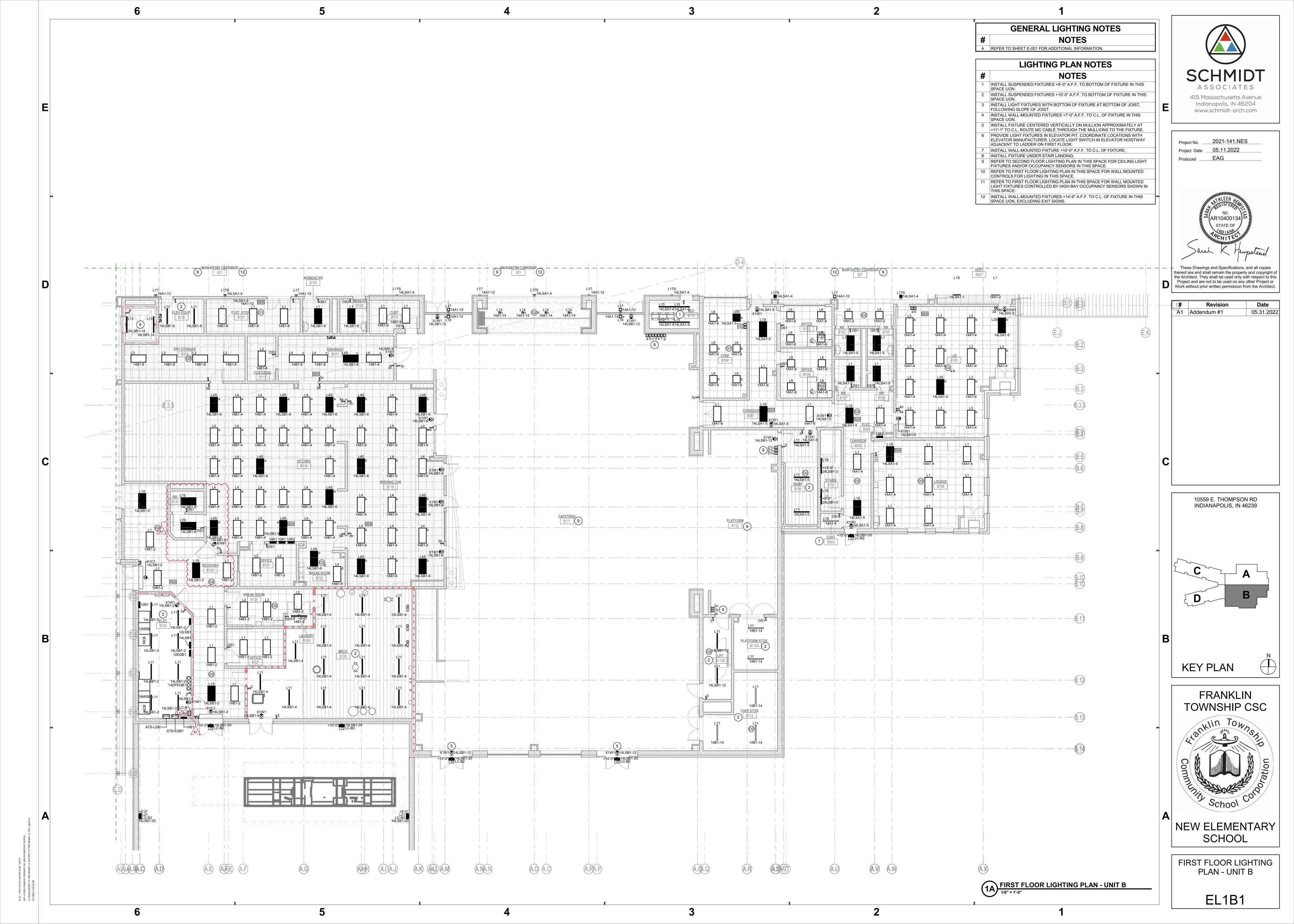


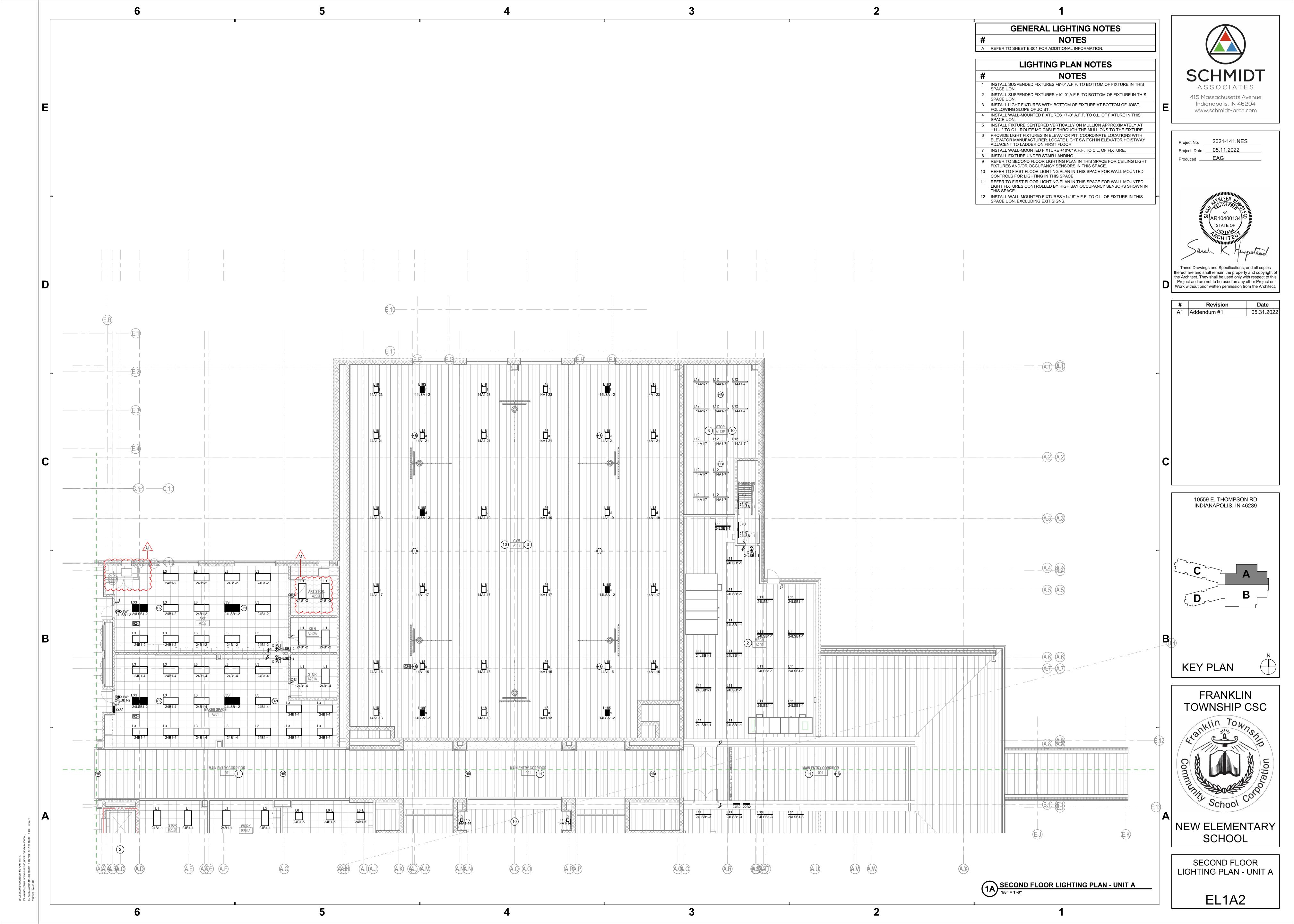


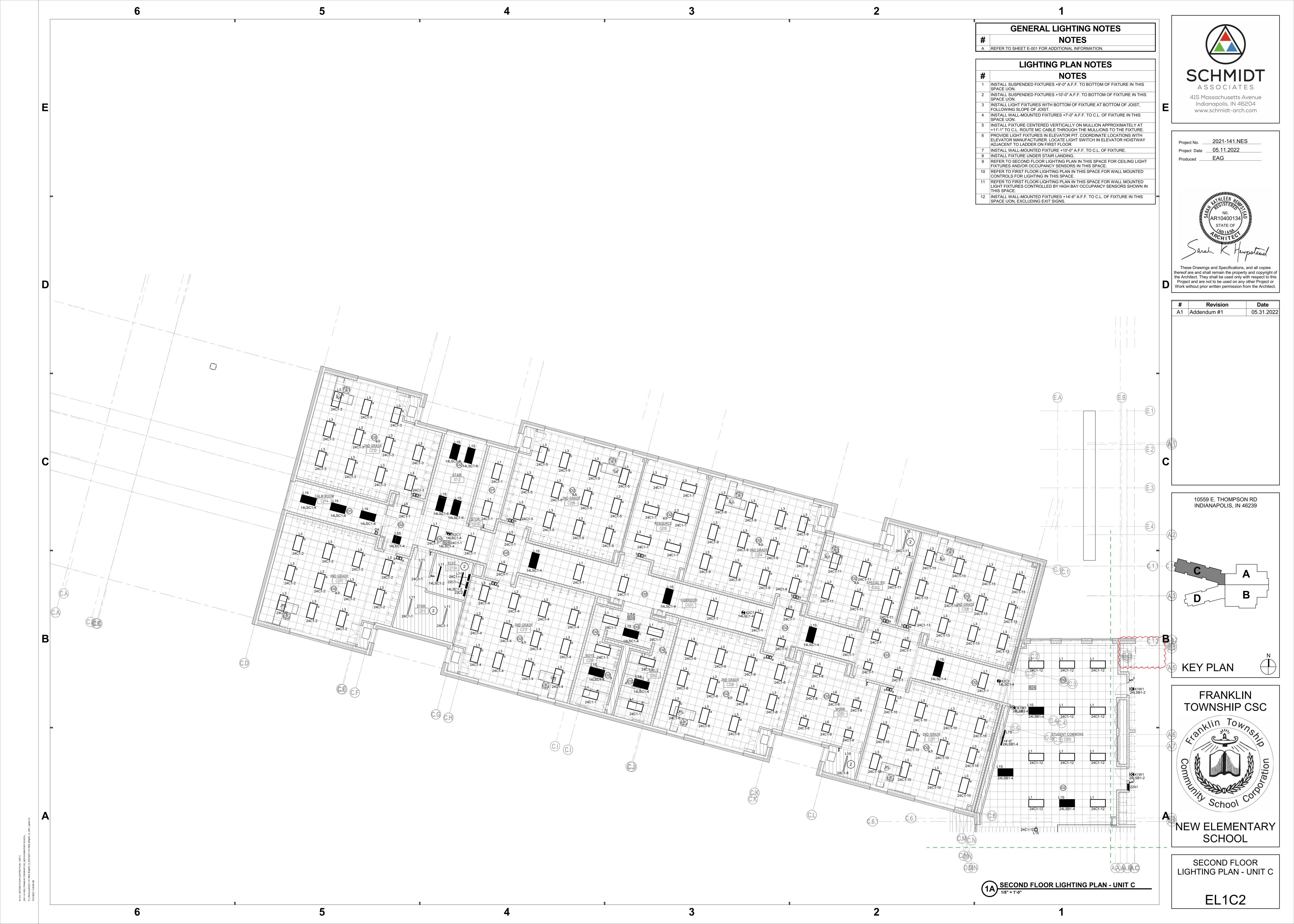


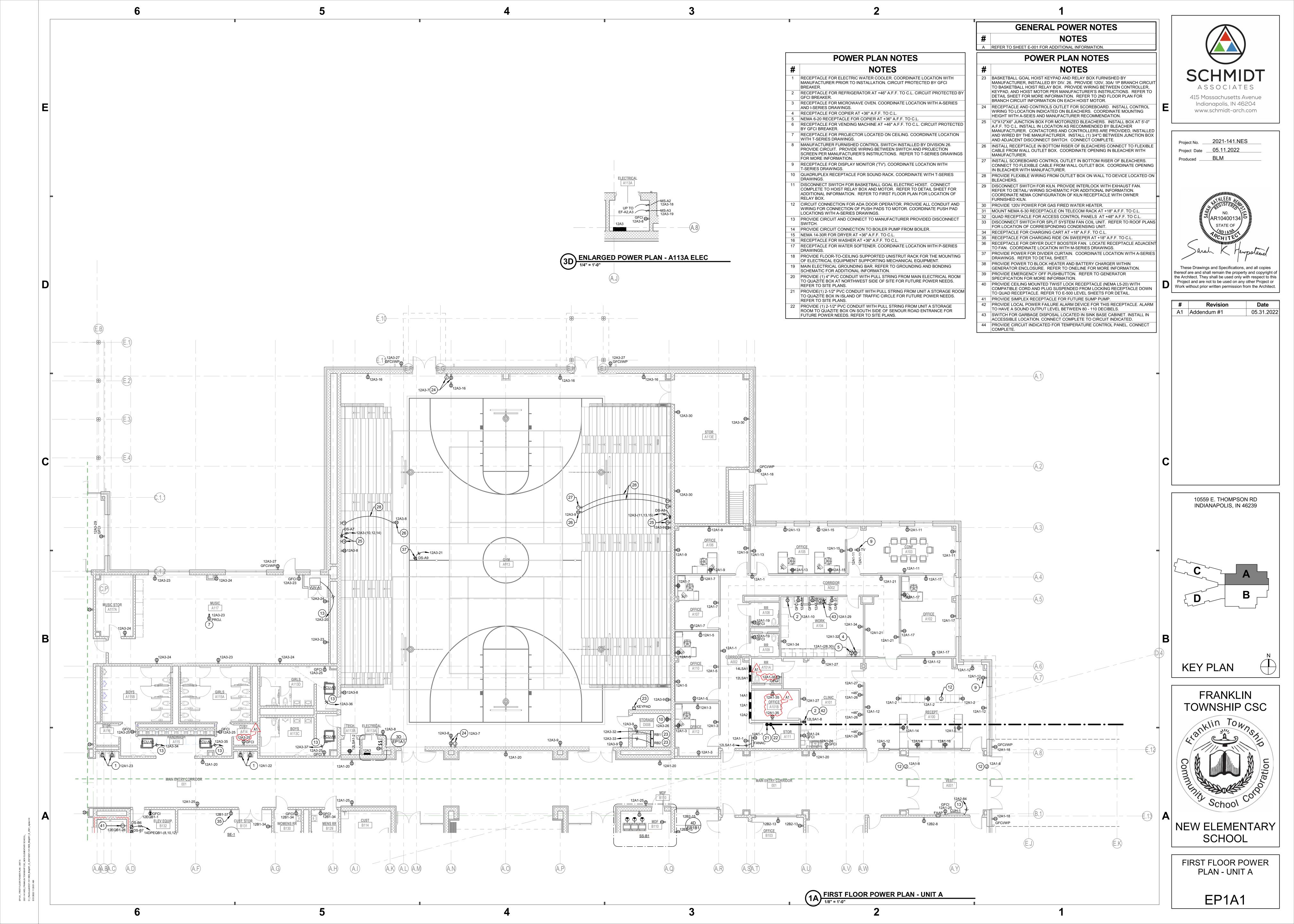


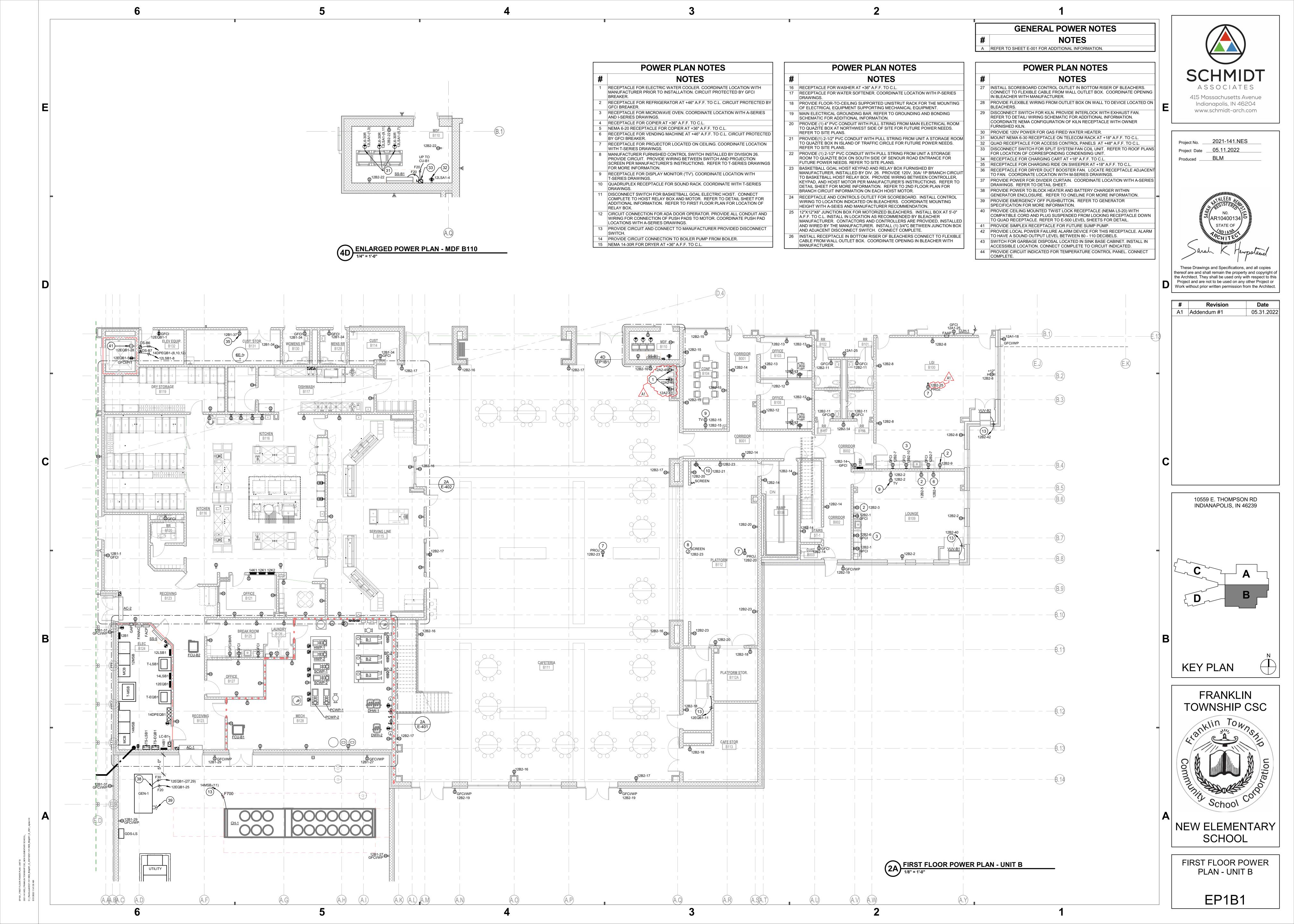




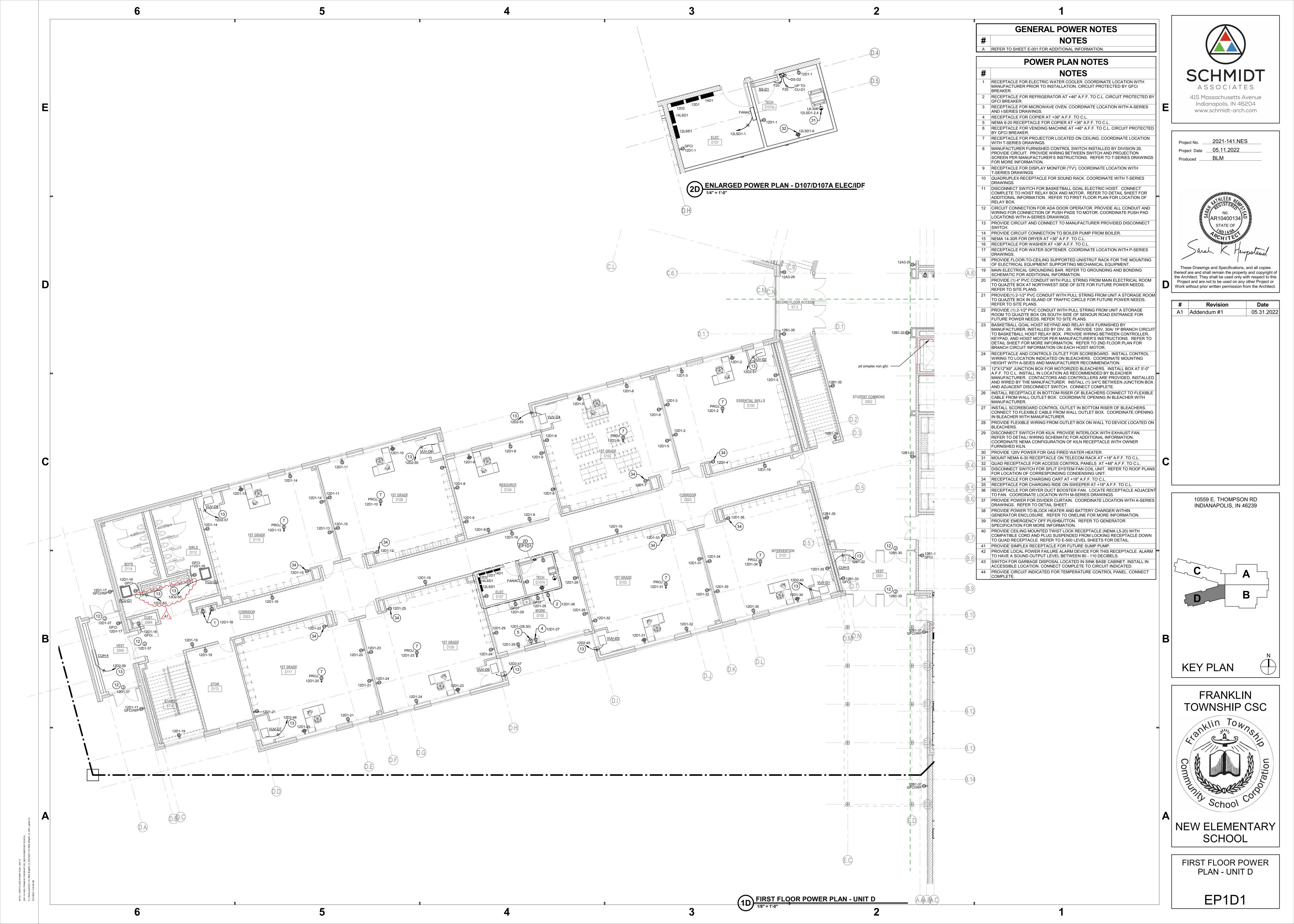


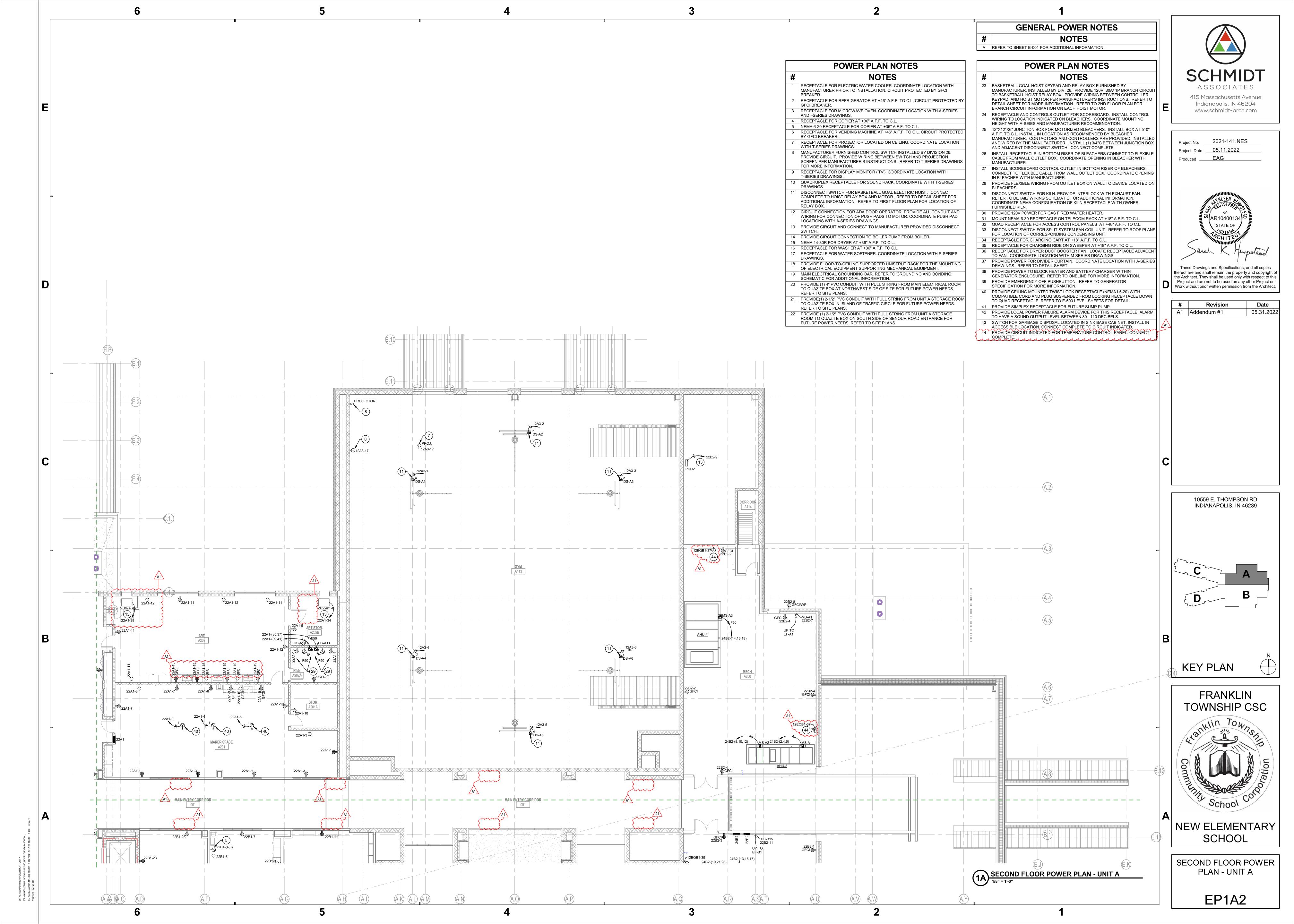


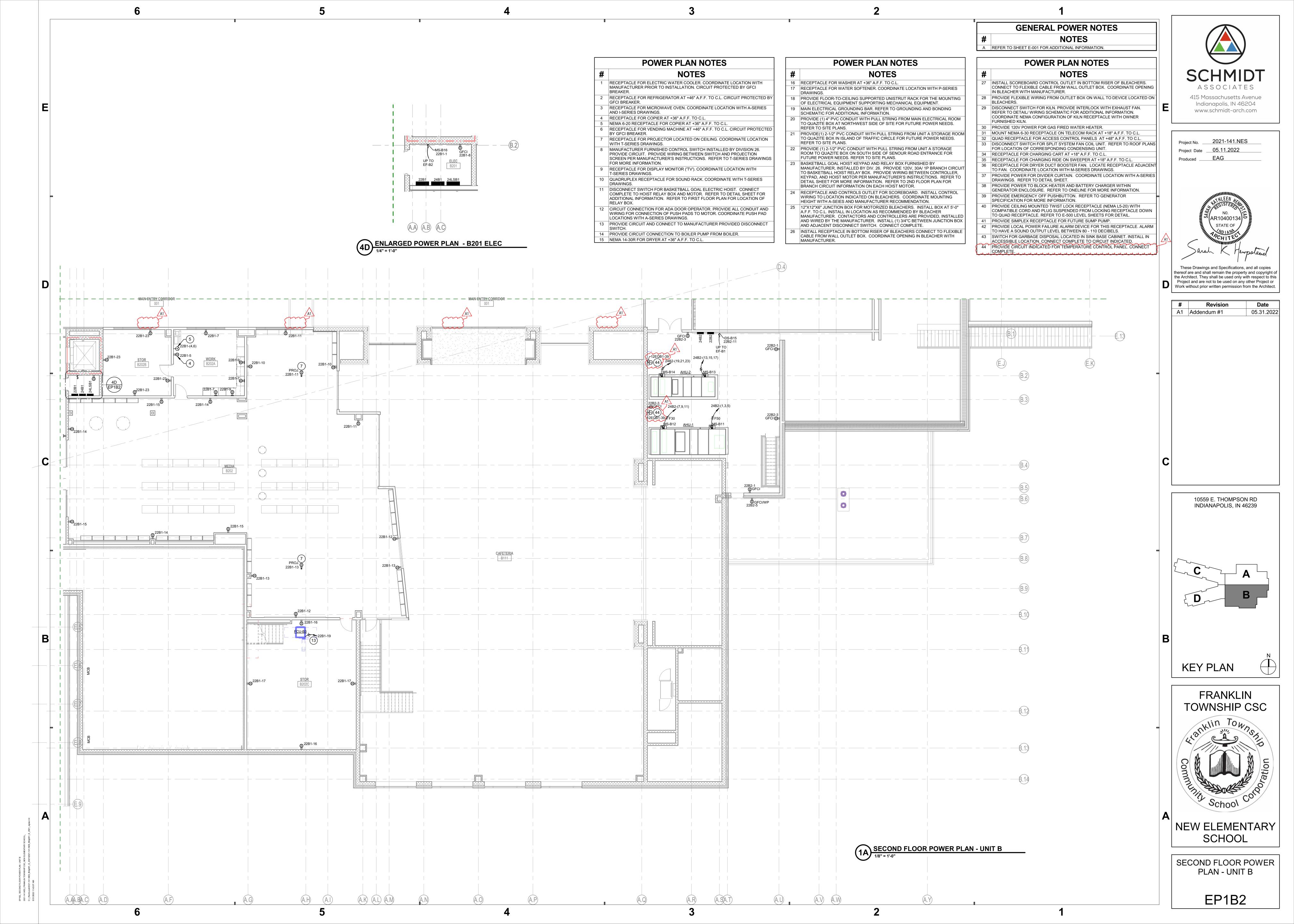


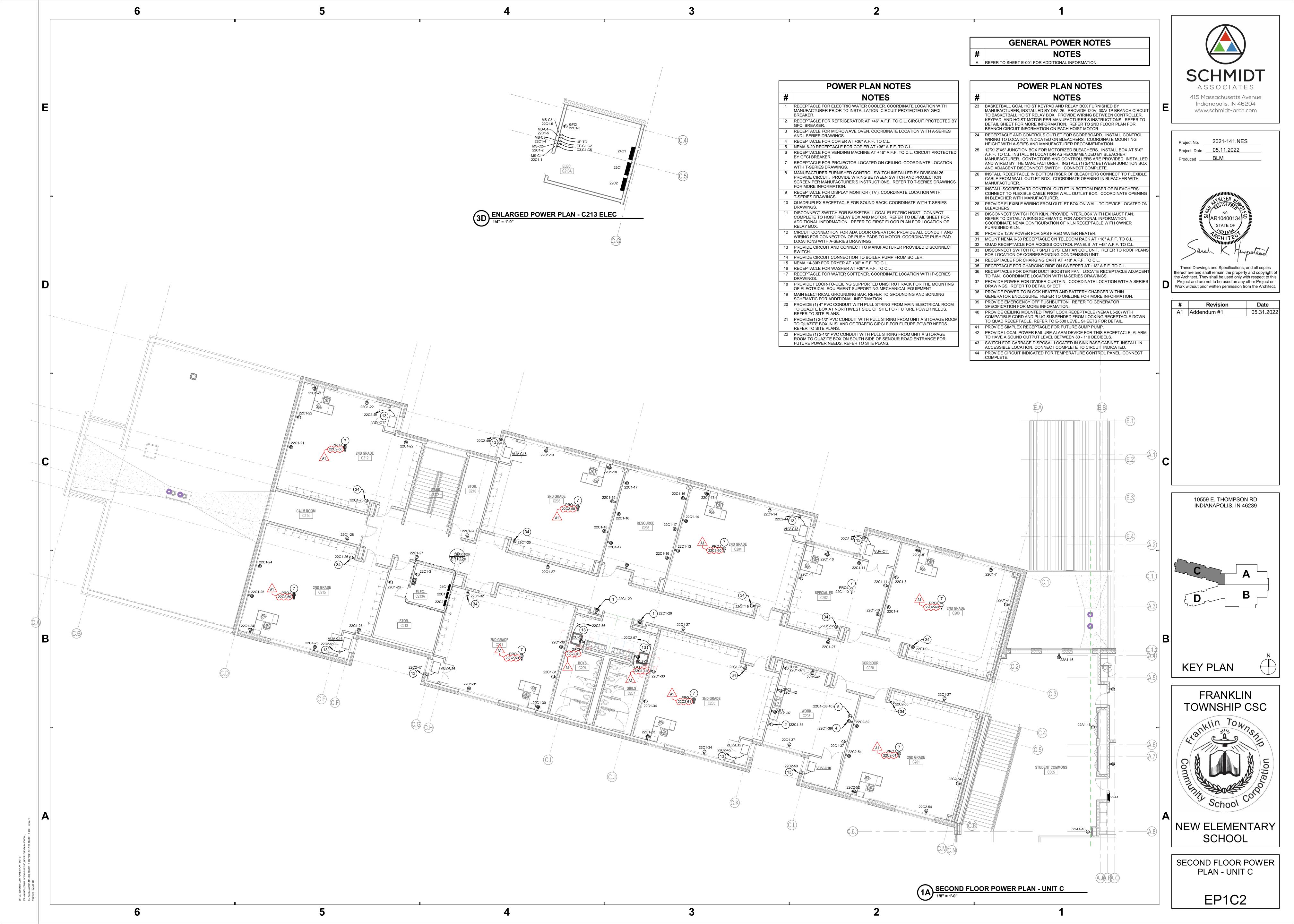


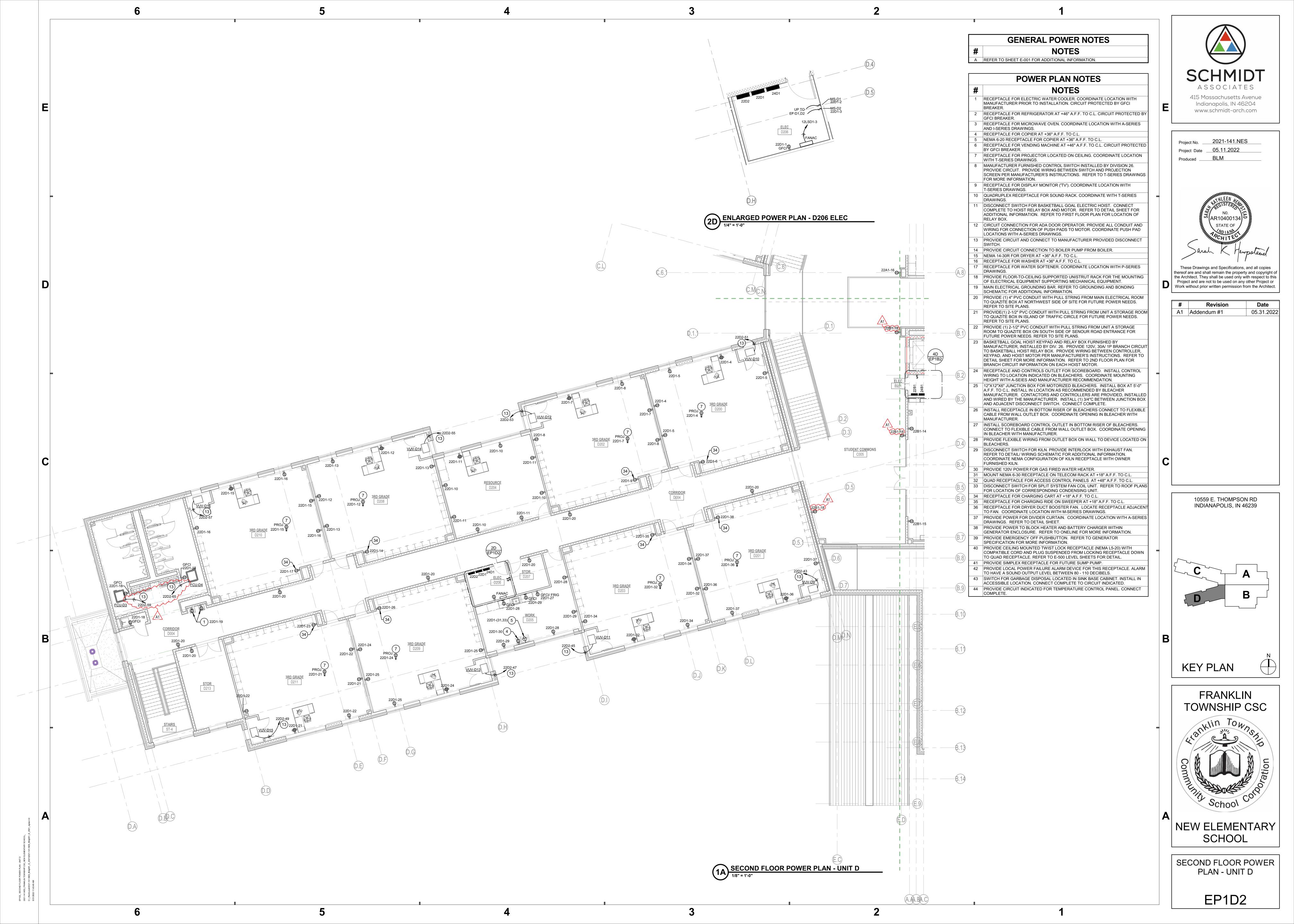


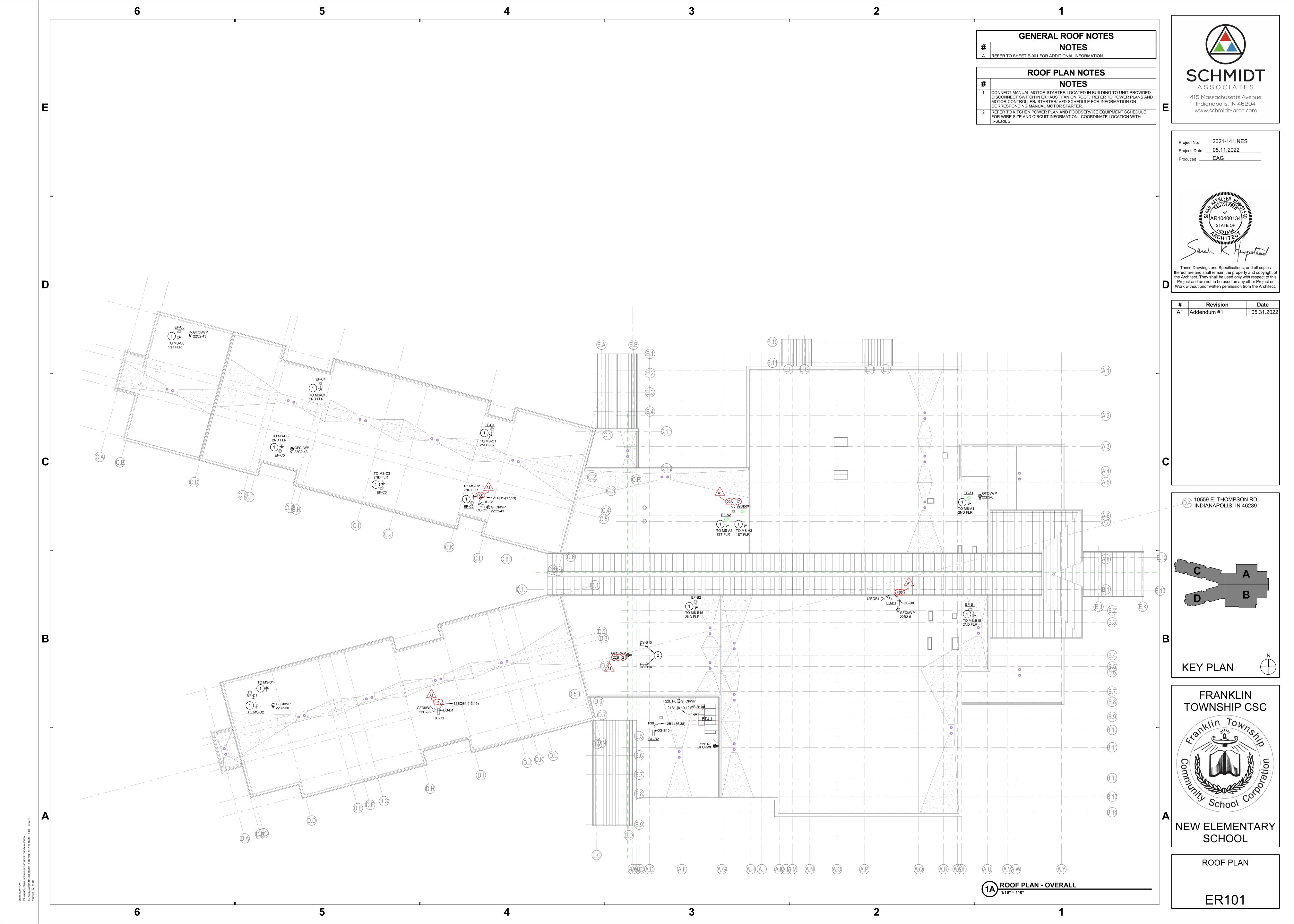


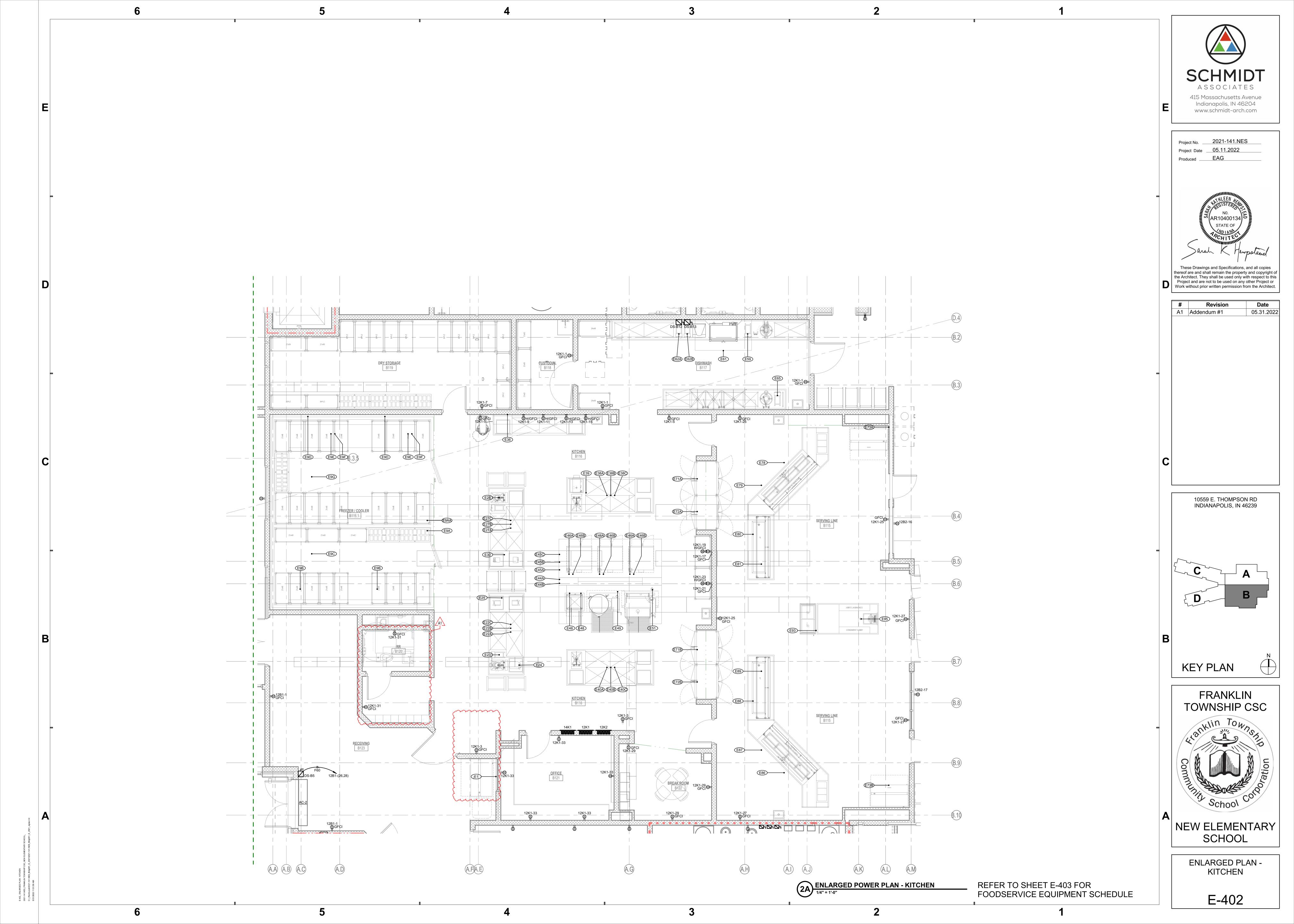




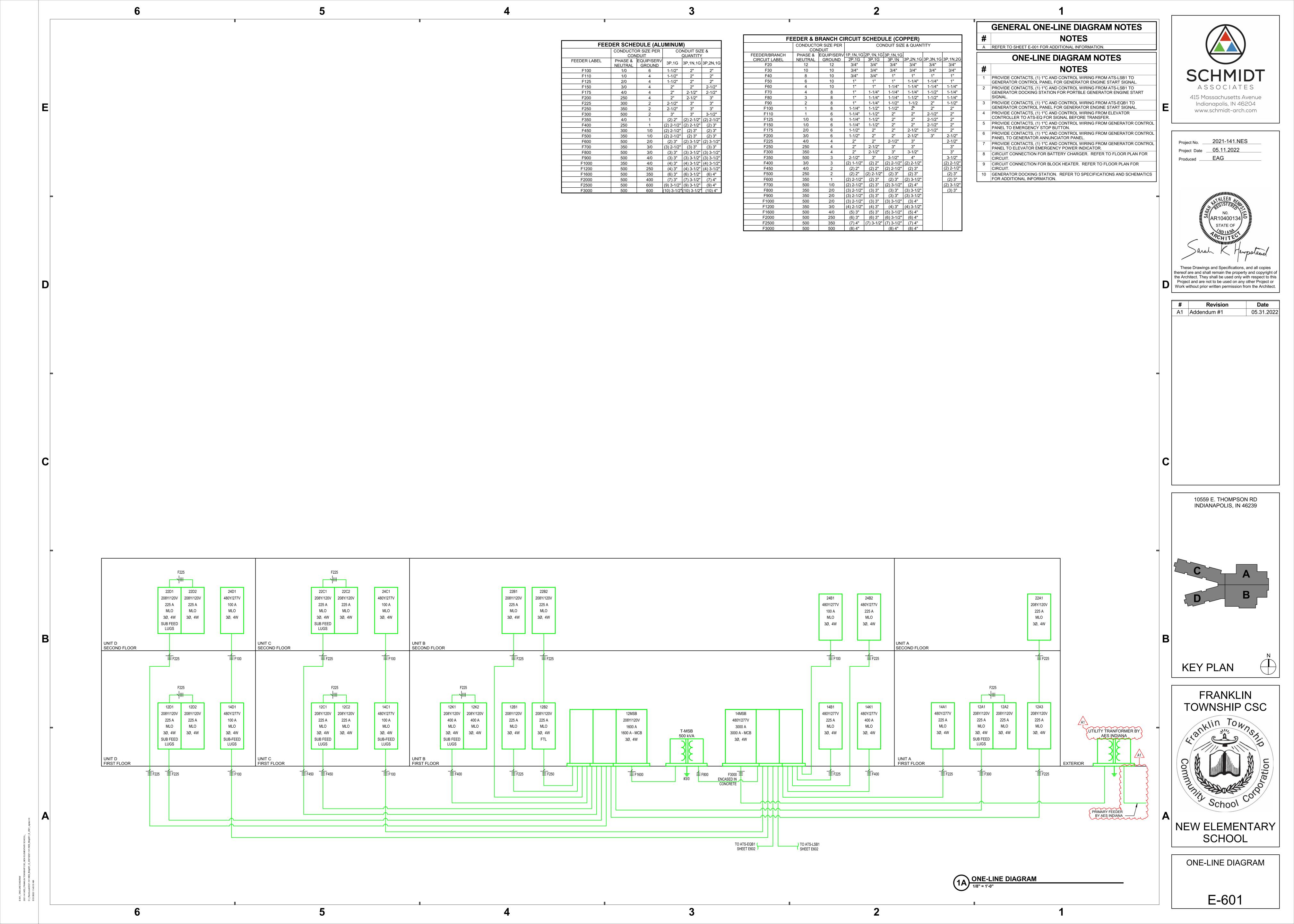




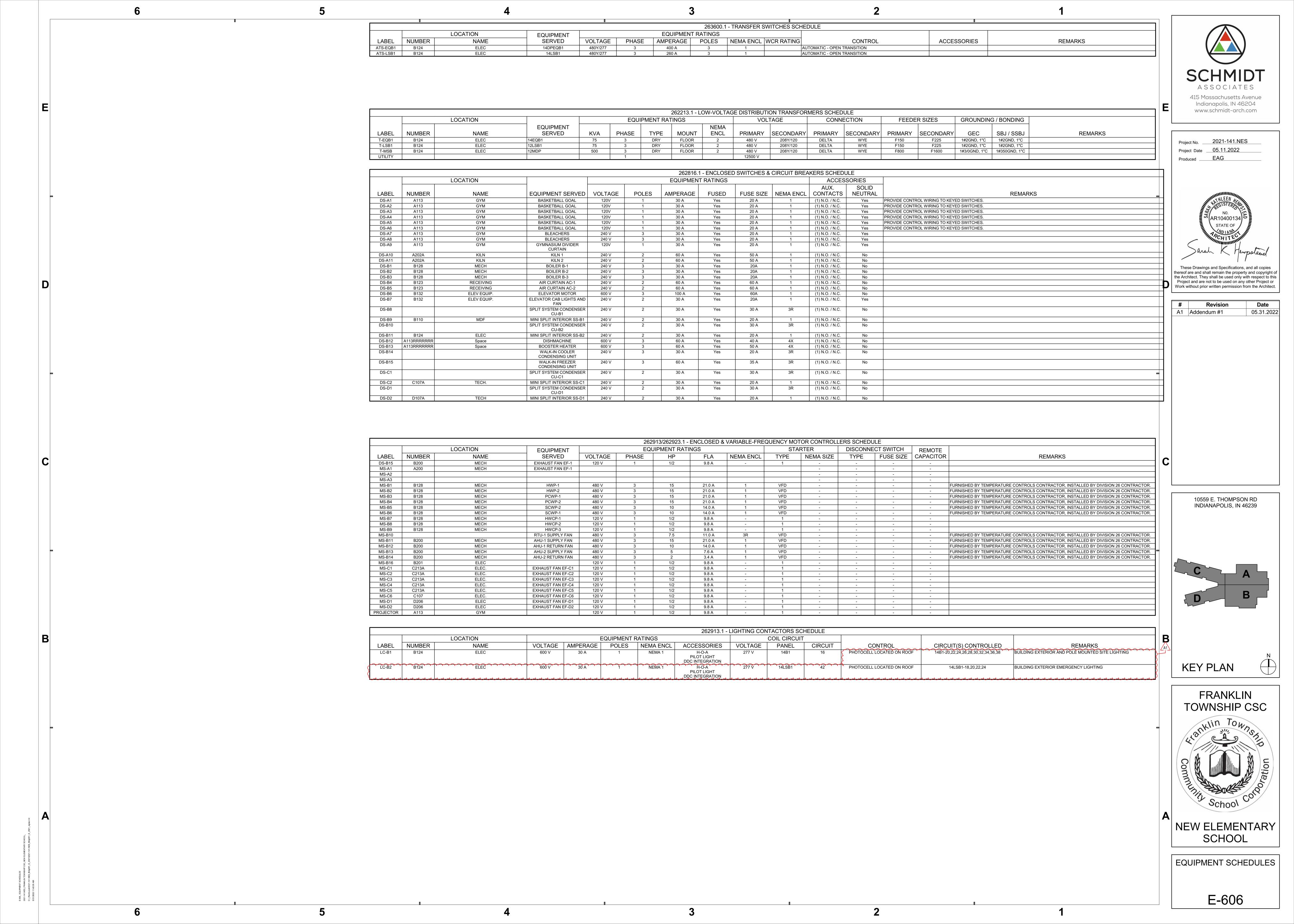


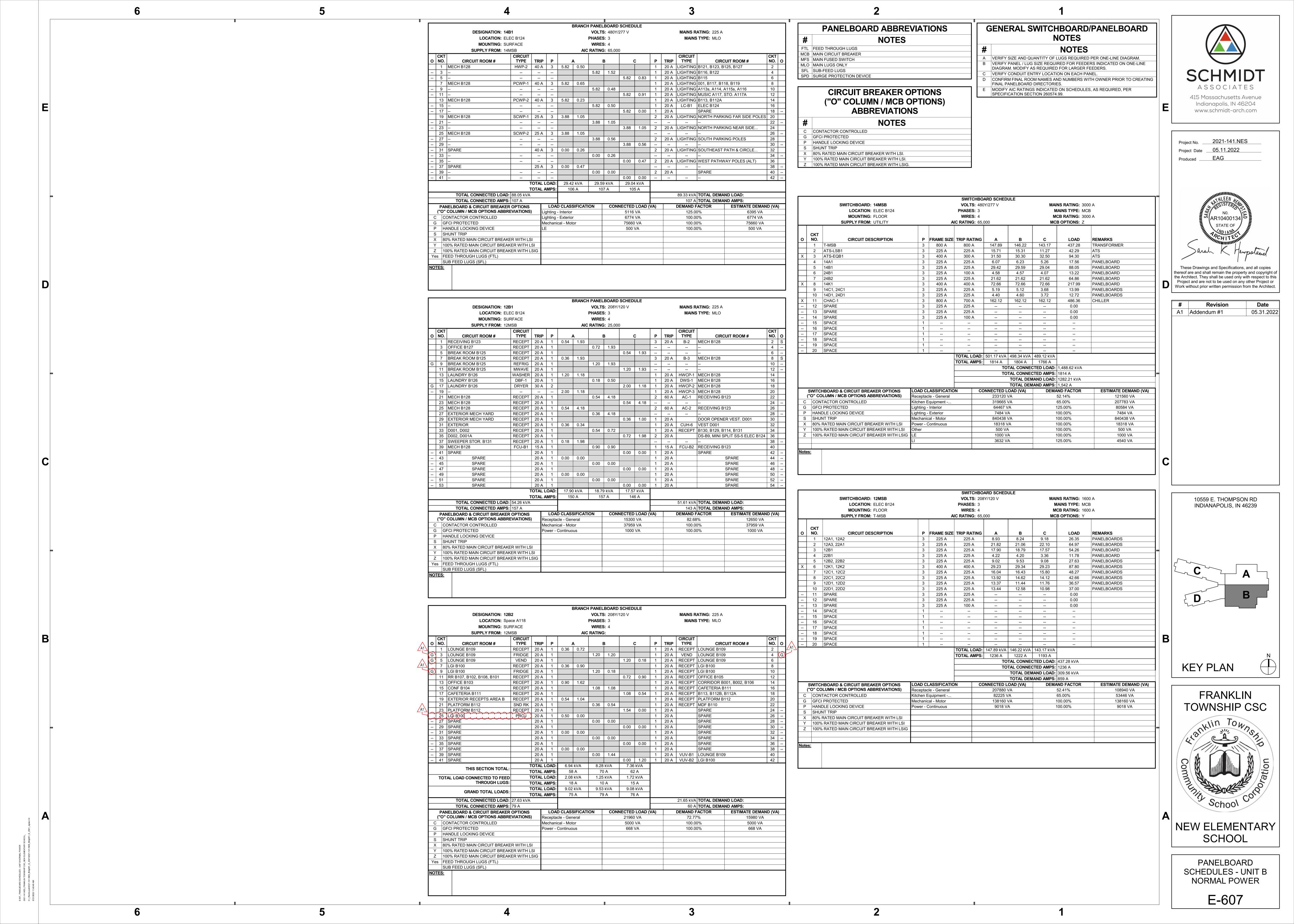


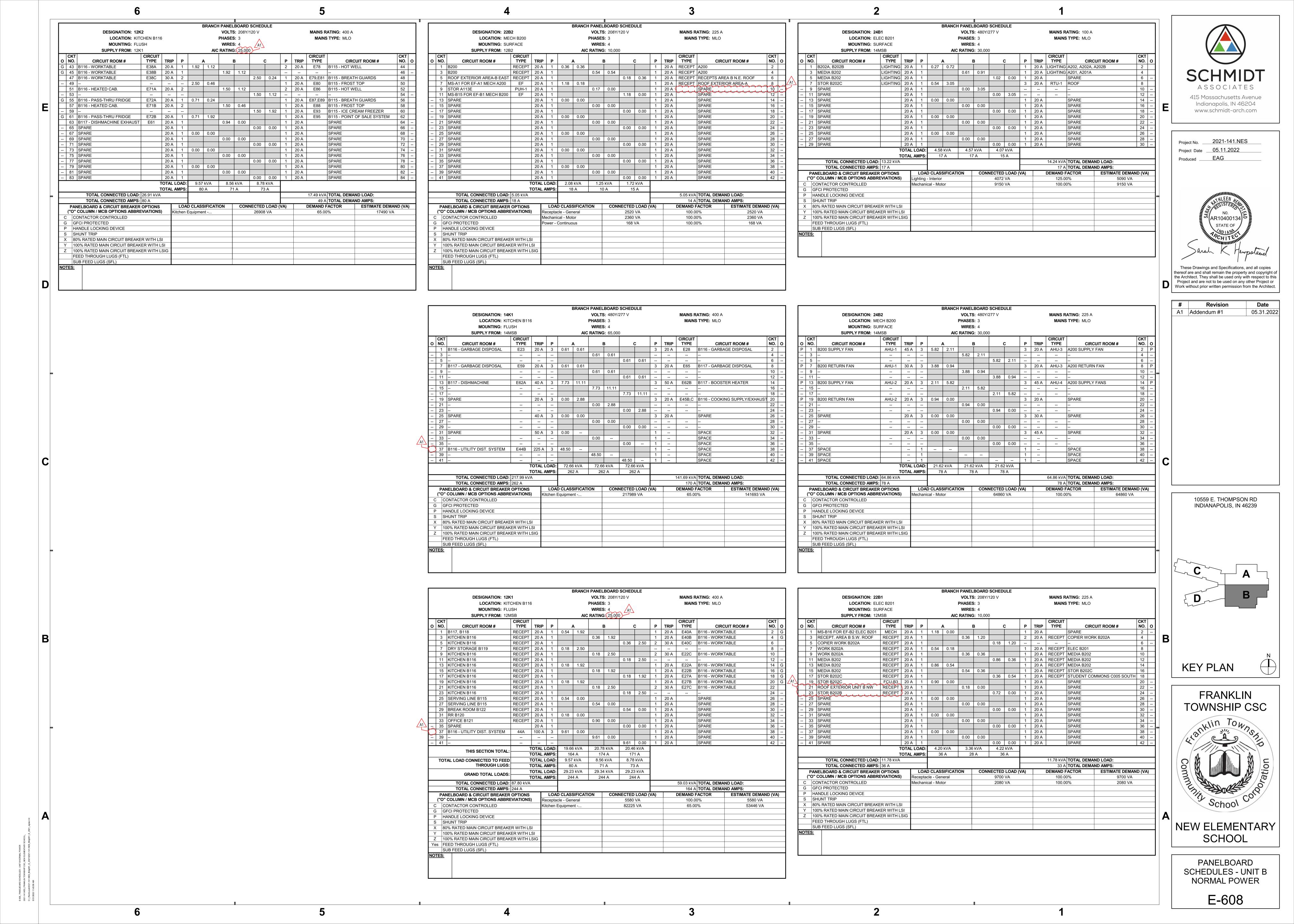
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		114000.1 - FOODSERVICE EQUIPMENT SCHEDULE LOCATION FEEDER/BRANCH CIRCUIT WIDE OTY									
		LAB F	DATE VICTORIES	EQUIPMENT SERVED SINGLE SIDED 16-CRATE MILK COOLER	VOLTAGE	PHASE AMPERAGE 1 2.70 A	PANEL CI	IRCUIT SIZE	WIRE QTY P N 0		
		E9/	B116.1 FREEZER / COOLER A B116.1 FREEZER / COOLER	WALK-IN COOLER LIGHTS & DOOR OPTIONS WALK-IN FREEZER LIGHTS & DOOR OPTIONS	120 V 120 V	1 16.00 A 1 16.00 A	12EQB1 12EQB1	8 F20 24 F20	1 1 1 1	1 DIRECT CONNECTION; DROP FROM ABOVE 1 DIRECT CONNECTION; DROP FROM ABOVE	
		E9 E9 E9	B116.1 FREEZER / COOLER B116.1 FREEZER / COOLER	WALK-IN COOLER EVAPORATOR FANS WALK-IN COOLER CONDENSING UNIT WALK-IN FREEZER HEATED DRAIN TAPE	120 V 208 V 120 V	1 1.60 A 3 11.27 A 1 8.00 A	12EQB1 1 12EQB1 1	10 F20 12,14,16 F20 26 F20	1 1 3 0 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1 DIRECT CONNECTION; DROP FROM ABOVE 1 EXTEND CIRCUIT THROUGH DISCONNECT SWITCH ON ROOF; COORDINATE LOCATION 1 DIRECT CONNECTION; DROP FROM ABOVE	SCHMIDT
		E9 E9	B116.1 FREEZER / COOLER	WALK-IN FREEZER EVAPORATOR FANS WALK-IN FREEZER EVAPORATOR HEATER WALK-IN FREEZER CONDENSING UNIT	208 V 208 V 208 V	1 2.00 A 1 17.60 A 3 22.97 A	12EQB1 1	F20 F30 18,20,22 F40	2 0 2 0 3 0	1 DIRECT CONNECTION; DROP FROM ABOVE; POWER FED FROM FREEZER CONDENSING UNIT 1 DIRECT CONNECTION; DROP FROM ABOVE; POWER FED FROM FREEZER CONDENSING UNIT 1 EXTEND CIRCUIT THROUGH DISCONNECT SWITCH ON ROOF; COORDINATE LOCATION ON ROOF.	415 Massachusetts Avenue
E		E22		VEGETABLE PREP WORKTABLE VEGETABLE PREP WORKTABLE	120 V 120 V	1 16.00 A 1 16.00 A	12K1 12K1	14 F20 16 F20	1 1 1	DIRECT CONNECTION TO JUNCTION BOX ON UNDERSIDE OF WORKTABLE; STUB UP; CIRCUIT PROTECTED BY GFCI CIRCUIT BREAKER DIRECT CONNECTION TO JUNCTION BOX ON UNDERSIDE OF WORKTABLE; STUB UP; CIRCUIT PROTECTED BY GFCI CIRCUIT BREAKER	Indianapolis, IN 46204 www.schmidt-arch.com
		E22 E2	B116 KITCHEN	VEGETABLE PREP WORKTABLE GARBAGE DISPOSAL SYSTEM	208 V 480 V	1 24.00 A 3 2.20 A		10,12 F30 1,3,5 F20	2 0 3 0	1 DIRECT CONNECTION TO JUNCTION BOX ON UNDERSIDE OF WORKTABLE; STUB UP 1 EXTEND DIRECT CONNECTION SERVICE THROUGH KEC FURNISHED CONTROL PANEL; STUB UP	
		E2	B116 KITCHEN B116 KITCHEN A B116 KITCHEN	COUNTERTOP FOOD PROCESSOR ELECTRIC CAN OPENER VEGETABLE PREP WORKTABLE	120 V 120 V 120 V	1 3.00 A 1 1.50 A 1 16.00 A	12K1	F20 F20 18 F20	1 1 1 1 1 1	1 SERVICE FROM RECEPTACLE ON WORKTABLE 1 SERVICE FROM RECEPTACLE ON WORKTABLE 1 DIRECT CONNECTION TO JUNCTION BOX ON UNDERSIDE OF WORKTABLE; STUB UP; CIRCUIT PROTECTED BY GFCI CIRCUIT	Project No. <u>2021-141.NES</u> Project Date <u>05.11.2022</u>
		E27	B116 KITCHEN	VEGETABLE PREP WORKTABLE	120 V	1 16.00 A	12K1	20 F20	1 1	BREAKER 1 DIRECT CONNECTION TO JUNCTION BOX ON UNDERSIDE OF WORKTABLE; STUB UP; CIRCUIT PROTECTED BY GFCI CIRCUIT BREAKER	Produced EAG
		E27 E2 E3	B116 KITCHEN	VEGETABLE PREP WORKTABLE GARBAGE DISPOSAL SYSTEM COUNTERTOP DIGITAL SCALE	208 V 480 V 120 V	1 24.00 A 3 2.20 A 1 1.50 A		22,24 F30 2,4,6 F20 F20	2 0 3 0 1 1	DIRECT CONNECTION TO JUNCTION BOX ON UNDERSIDE OF WORKTABLE; STUB UP EXTEND DIRECT CONNECTION SERVICE THROUGH KEC FURNISHED CONTROL PANEL; STUB UP SERVICE FROM RECEPTACLE ON WORKTABLE	
		E38		40 QUART FLOOR MIXER KITCHEN PREP WORKTABLE	208 V 120 V	1 9.30 A 1 16.00 A		F20 43 F20	2 0 1	PLUG CONNECTION; +46" A.F.F. TO C.L.; NEMA 6-15 RECEPTACLE DIRECT CONNECTION TO JUNCTION BOX ON UNDERSIDE OF WORKTABLE; STUB UP; CIRCUIT PROTECTED BY GFCI CIRCUIT BREAKER	
		E38		KITCHEN PREP WORKTABLE KITCHEN PREP WORKTABLE	120 V 208 V	1 16.00 A 1 24.00 A		45 F20 47,49 F30	1 1 2 0	DIRECT CONNECTION TO JUNCTION BOX ON UNDERSIDE OF WORKTABLE; STUB UP; CIRCUIT PROTECTED BY GFCI CIRCUIT BREAKER DIRECT CONNECTION TO JUNCTION BOX ON UNDERSIDE OF WORKTABLE; STUB UP	NO.
			B116 KITCHEN B116 KITCHEN A B116 KITCHEN	COUNTERTOP HOT WATER DISPENSER KITCHEN PREP WORKTABLE	208 V 120 V	1 24.00 A 1 16.00 A	12K1	F30 2 F20	2 0 1	1 SERVICE FROM NEMA 6-30 RECEPTACLE ON WORKTABLE 1 DIRECT CONNECTION TO JUNCTION BOX ON UNDERSIDE OF WORKTABLE; STUB UP; CIRCUIT PROTECTED BY GFCI CIRCUIT BREAKER	AR10400134 STATE OF
		E40	C B116 KITCHEN	KITCHEN PREP WORKTABLE KITCHEN PREP WORKTABLE	120 V 208 V	1 16.00 A 1 24.00 A		4 F20 6,8 F30	1 1 2 0	DIRECT CONNECTION TO JUNCTION BOX ON UNDERSIDE OF WORKTABLE; STUB UP; CIRCUIT PROTECTED BY GFCI CIRCUIT BREAKER DIRECT CONNECTION TO JUNCTION BOX ON UNDERSIDE OF WORKTABLE; STUB UP (EXTEND DIRECT CONNECTION THROUGH UTILITY DISTRIBUTION SYSTEM; STUB UP; INTERCONNECT SHUNT TRIP MAIN	A1 NO IANA CHITECHITINA
		E44 E44		UTILITY DISTRIBUTION SYSTEM - 120/208V, 3-PHASE UTILITY DISTRIBUTION SYSTEM - 480V, 3-PHASE	208 V 480 V	3 80.00 A 3 175.00 A		37,39,41 F100 37,39,41 F225	3 1 3	CIRCUIT BREAKER IN UTILITY DISTRIBUTION SYSTEM WITH FIRE ALARM SYSTEM 1 EXTEND DIRECT CONNECTION THROUGH UTILITY DISTRIBUTION SYSTEM; STUB UP; INTERCONNECT SHUNT TRIP MAIN	Sarah K Hempsteerel
			A B116 KITCHEN B B116 KITCHEN	COOKING VENTILATION (LIGHTS) COOKING VENTILATION (EXHAUST FAN)	120 V 480 V	1 16.00 A 3 3.30 A	14K1 2	F20 20,22,24 F20	1 1 3 0	CIRCUIT BREAKER IN UTILITY DISTRIBUTION SYSTEM WITH FIRE ALARM SYSTEM DIRECT CONNECTION TO JUNCTION BOX ON TOP OF HOOD; DROP FROM ABOVE POWER FED FROM SUPPLY FAN; EXTEND CIRCUIT THROUGH DISCONNECT SWITCH ON ROOF; EXTEND POWER WIRING FROM MOTOR STARTED TO CONNECTION BOINT ON EXHAUST FAN; PROVIDE CONDUIT AND FOUR WIRES FROM TERMINAL PLOCE.	These Drawings and Specifications, and all copies thereof are and shall remain the property and copyright of the Architect. They shall be used only with respect to this
D		E _A !	C B116 KITCHEN	COOKING VENTILATION (SUPPLY FAN)	480 V	3 7.10 A	14K1 2	20,22,24 F20	3 0	MOTOR STARTER TO CONNECTION POINT ON EXHAUST FAN; PROVIDE CONDUIT AND FOUR WIRES FROM TERMINAL BLOCK ON EXHAUST FAN HOOD TO EXHAUST FAN MOTOR STARTER PANEL; COORDINATE LOCATIONS; REFER TO KEC PLANS AND DETAILS 1 EXTEND CIRCUIT THROUGH DISCONNECT SWITCH ON ROOF; COORDINATE LOCATIONS; REFER TO KEC PLANS AND DETAILS	Project and are not to be used on any other Project or Work without prior written permission from the Architect.
		E45 E46 E46 E46	B B116 KITCHEN	DOUBLE DECK CONVECTION OVEN (TOP) DOUBLE DECK CONVECTION OVEN (BOTTOM)	480 V 480 V	3 14.00 A 3 14.00 A	1401 2	F20 F20	3 0 3	1 DIRECT CONNECTION TO EQUIPMENT FROM 480V UTILITY DISTRIBUTION SYSTEM 1 DIRECT CONNECTION TO EQUIPMENT FROM 480V UTILITY DISTRIBUTION SYSTEM	# Revision Date
		E4 E4	B116 KITCHEN	HIGH WATTAGE MICROWAVE OVEN 40 GALLON TILTING KETTLE	208 V 480 V	1 28.00 A 3 29.00 A		F30 F40	3 0	PLUG CONNECTION; NEMA 6-30 RECEPTACLE; EXTEND CIRCUIT TO TO RECEPTACLE FROM 120/208V UTILITY DISTRIBUTION SYSTEM DIRECT CONNECTION TO EQUIPMENT FROM 480V UTILITY DISTRIBUTION SYSTEM	A1 Addendum #1 05.31.2022
		E5 E5 E6	A113RRRRRR Space	40 GALLON TILTING SKILLET GARBAGE DISPOSAL SYSTEM DISHMACHINE EXHAUST VENTILATION	480 V 480 V 120 V	3 19.00 A 3 2.20 A 1 7.80 A		7,9,11 F20 63 F20	3 0 1 1	DIRECT CONNECTION TO EQUIPMENT FROM 480V UTILITY DISTRIBUTION SYSTEM EXTEND DIRECT CONNECTION SERVICE THROUGH KEC FURNISHED CONTROL PANEL; STUB UP EXTEND CIRCUIT THROUGH DISCONNECT SWITCH IN EXHAUST FAN ON ROOF; INTERCONNECT EXHAUST FAN WITH DISHMACHINE FAN CONTROLLER	
		E62 E62	A113RRRRRR Space	DISHMACHINE TANK HEAT, MOTOR, & CONTROLS DISHMACHINE BOOSTER HEATER	480 V 480 V	3 27.90 A 3 40.10 A	14K1 1	13,15,17 F40 14,16,18 F50	3 0 3 0	1 EXTEND CIRCUIT THROUGH DISCONNECT SWITCH. INTERCONNECT EXHAUST FAN WITH DISHMACHINE. 1 EXTEND CIRCUIT THROUGH DISCONNECT SWITCH. INTERCONNECT BOOSTER HEATER WITH DISHMACHINE.	
			A B116 KITCHEN B B116 KITCHEN	GARBAGE DISPOSAL SYSTEM TWO DOOR PASS-THRU HEATED CABINET TWO DOOR PASS-THRU HEATED CABINET	480 V 208 V 208 V	3 2.20 A 1 14.42 A 1 14.42 A	12K2 12K2	8,10,12 F20 51,53 F20 57,59 F20	2 0 2 0	1 EXTEND DIRECT CONNECTION SERVICE THROUGH KEC FURNISHED CONTROL PANEL; STUB UP 1 DIRECT CONNECTION; +90" A.F.F. ON WALL ABOVE UNIT 1 DIRECT CONNECTION; +90" A.F.F. ON WALL ABOVE UNIT	
-		E72 E72 E73	A B116 KITCHEN B B116 KITCHEN A A113CCCCCCC Space	TWO DOOR PASS-THRU REFRIGERATOR TWO DOOR PASS-THRU REFRIGERATOR SINGLE SIDED 16-CRATE MILK COOLER	120 V 120 V 120 V	1 5.90 A 1 5.90 A 1 2.70 A	12K2 12K2 12EQB1	55 F20 61 F20 4 F20	1 1 1 1 1 1	PLUG CONNECTION; +90" A.F.F. TO C.L.; NEMA 5-20 RECEPTACLE; CIRCUIT PROTECTED BY GFCI CIRCUIT BREAKER PLUG CONNECTION; +90" A.F.F. TO C.L.; NEMA 5-20 RECEPTACLE; CIRCUIT PROTECTED BY GFCI CIRCUIT BREAKER PLUG CONNECTION; +18" A.F.F. TO C.L.; NEMA 5-20 RECEPTACLE; CIRCUIT PROTECTED BY GFCI CIRCUIT BREAKER	
			CC A113CCCCCC Space CC	SINGLE SIDED 16-CRATE MILK COOLER	120 V	1 2.70 A	12EQB1	6 F20	1 1	1 PLUG CONNECTION; +18" A.F.F. TO C.L.; NEMA 5-20 RECEPTACLE; CIRCUIT PROTECTED BY GFCI CIRCUIT BREAKER	
			A113CCCCCC Space CC A113CCCCCC Space	DROP-IN FOUR PAN HOT WELL (SLIMLINE) HOT FOOD BREATH GUARD	208 V 120 V	1 10.80 A 1 1.00 A	12K2 12K2	44,46 F20 48 F20	2 0 1 1	DIRECT CONNECTION TO JUNCTION BOX ON UNDERSIDE OF SERVING COUNTER BASE; STUB UP DIRECT CONNECTION TO JUNCTION BOX ON UNDERSIDE OF SERVING COUNTER BASE; STUB UP	
			A113CCCCCC Space CC	DROP-IN THREE PAN FROST TOP (SLIMLINE)	120 V	1 3.80 A	12K2	50 F20	1 1	1 PLUG CONNECTION; NEMA 5-20 RECEPTACLE IN OUTLET BOX ON UNDERSIDE OF SERVING COUNTER BASE; STUB UP; CIRCUIT PROTECTED BY GFCI CIRCUIT BREAKER	
		E8 E8	A113CCCCCC Space CC A113CCCCCC Space	FROST TOP BREATH GUARD DROP-IN FOUR PAN HOT WELL (SLIMLINE)	120 V 208 V	1 1.00 A 1 10.80 A	12K2 12K2	48 F20 52,54 F20	2 0	DIRECT CONNECTION TO JUNCTION BOX ON UNDERSIDE OF SERVING COUNTER BASE; STUB UP DIRECT CONNECTION TO JUNCTION BOX ON UNDERSIDE OF SERVING COUNTER BASE; STUB UP	
C		E8	cc	HOT FOOD BREATH GUARD DROP-IN THREE PAN FROST TOP (SLIMLINE)	120 V	1 1.00 A	12K2	56 F20	1 1		C
		E8 E8	CC	FROST TOP BREATH GUARD	120 V 120 V	1 3.80 A 1 1.00 A	12K2 12K2	58 F20 56 F20	1 1	PROTECTED BY GFCI CIRCUIT BREAKER 1 DIRECT CONNECTION TO JUNCTION BOX ON UNDERSIDE OF SERVING COUNTER BASE; STUB UP	
		E9	CC	ICE CREAM NOVELTY FREEZER POINT OF SALE SYSTEM	120 V	1 16.00 A 1 16.00 A	12K2	60 F20 62 F20	1 1	PLUG CONNECTION; NEMA 5-20 RECEPTACLE IN OUTLET BOX ON UNDERSIDE OF SERVING COUNTER BASE; STUB UP; CIRCUIT PROTECTED BY GFCI CIRCUIT BREAKER 1 PLUG CONNECTION; NEMA 5-20 RECEPTACLE IN OUTLET BOX ON UNDERSIDE OF SERVING COUNTER BASE; STUB UP; CIRCUIT	40550 F. THOMPOON DD
			CC spass		120 0		.2.12	32 123	<u> </u>	PROTECTED BY GFCI CIRCUIT BREAKER	10559 E. THOMPSON RD INDIANAPOLIS, IN 46239
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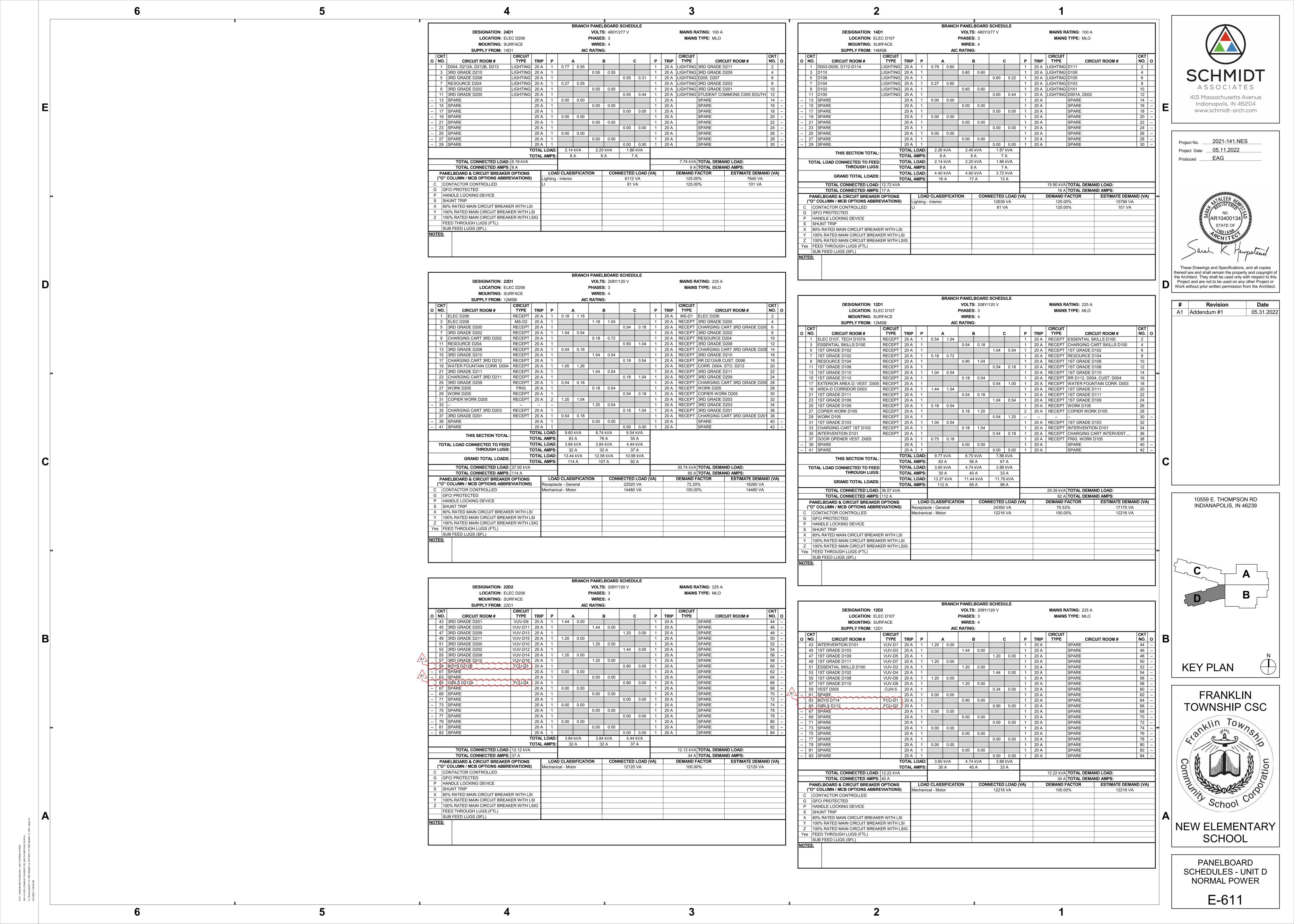


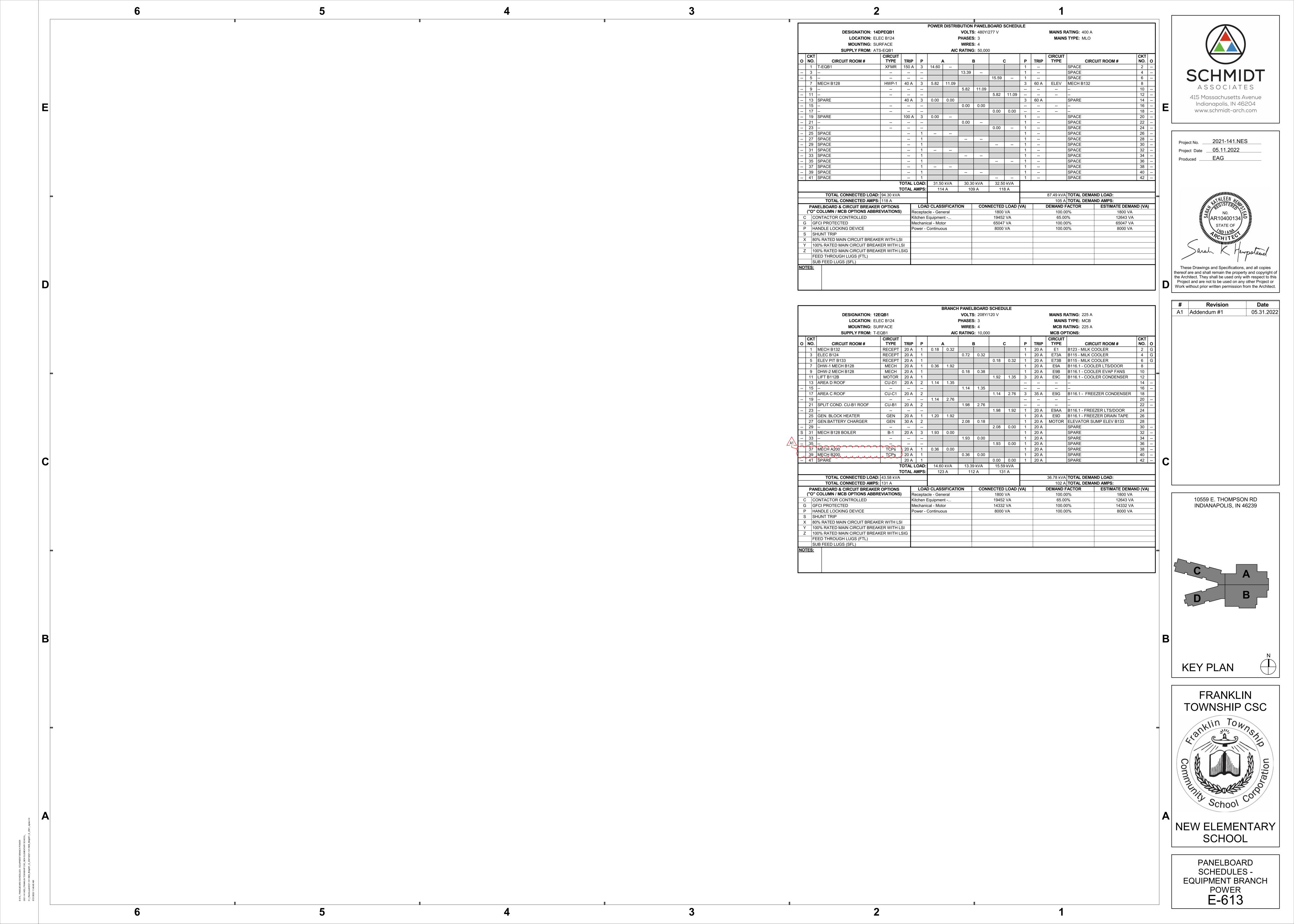












TELECOMMUNICATIONS DEFINITIONS AND ABBREVIATIONS DEFINITIONS

ACCEPTANCE TEST - A TEST OR SET OF TESTS PERFORMED TO DEMONSTRATE SATISFACTORY COMPLETION OF A PREDETERMINED TASK OR GROUP OF TASKS ON WHICH ACCEPTANCE IS DEPENDANT.

ACCESS POINT (AP) - THE CENTRAL OR CONTROL POINT IN A WIRELESS CELL THAT ACTS AS A LINK FOR TRAFFIC TO AND FROM WIRELESS DEVICES IN THE CELL THE AP ALSO CONNECTS WIRELESS DEVICES TO THE WIRED PORTION OF THE NETWORK.

ACTIVE CIRCUIT - A VOICE/DATA/VIDEO CHANNEL CONNECTED TO A CIRCUIT

ACTIVE EQUIPMENT - ENERGIZED EQUIPMENT USED FOR RECEIVING OR TRANSMITTING ANALOG OR DIGITAL SIGNALS.

ADMINISTRATION - THE METHODOLOGY DEFINING THE DOCUMENTATION REQUIREMENTS OF A CABLING SYSTEM AND ITS CONTAINMENT, THE LABELING OF FUNCTIONAL ELEMENTS AND THE PROCESS BY WHICH MOVES, ADDS, AND CHANGES ARE RECORDED. (ISO) ALIEN CROSSTALK - UNWANTED TRANSFER OF SIGNAL FROM ONE OR MORE CIRCUITS IN A GIVEN CABLE TO OTHER CIRCUITS IN ANOTHER CABLE

ATTENUATION-TO-CROSSTALK RATION (ACR) - THE RATIO OBTAINED BY SUBTRACTING INSERTION LOSS (ATTENUATION [DB]) FROM NEAR-END CROSSTALK (DB). ACR IS NORMALLY STATED AT A GIVEN FREQUENCY. SEE SIGNAL-TO-NOISE RATIO.

ATTENUATION - THE DECREASE IN MAGNITUDE OF TRANSMISSION SIGNAL STRENGTH BETWEEN POINTS, EXPRESSED IN DB AS THE RATIO OF OUTPUT TO INPUT

BACKBONE - A FACILITY (E.G., PATHWAY, CABLE, OR CONDUCTORS) BETWEEN ANY OF THE FOLLOWING SPACES: TELECOMMUNICATIONS ENCLOSURES, TELECOMMUNICATIONS ROOMS, EQUIPMENT ROOMS, AND ENTRANCE FACILITIES.

BACKBONE BONDING CONDUCTOR - A COPPER CONDUCTOR EXTENDING FROM THE TELECOMMUNICATIONS MAIN GROUNDING BUSBAR TO THE FARTHEST FLOOR

BALANCED TWISTED-PAIR CABLE - A MULTI-CONDUCTOR CABLE COMPRISING TWO OR MORE COPPER CONDUCTORS TWISTED IN A MANNER DESIGNED TO CANCEL ELECTRICAL INTERFERENCE.

HERTZ. IT IS USED TO DENOTE THE POTENTIAL TRANSMISSION CAPACITY OF THE MEDIUM, DEVICE, OR SYSTEM.

BEND RADIUS - 1. MAXIMUM RADIUS THAT A CABLE CAN BE BENT TO AVOID PHYSICAL OR ELECTRICAL DAMAGE OR CAUSE ADVERSE TRANSMISSION PERFORMANCE. 2. RADIUS OF CURVATURE THAT A MEDIA CAN BEND WITHOUT SIGNAL DEGRADATION.

BONDING CONDUCTOR (BC) - A CONDUCTOR USED SPECIFICALLY FOR THE PURPOSE OF BONDING.

BORING - A METHOD TO DISPLACE EARTH UNDER THE GROUND WITHOUT BREAKING THE GROUND SURFACE (TRENCHING) OR CUTTING GROUND SURFACES (E.G.

CABLING SYSTEM - A SPECIFIC SYSTEM OF TELECOMMUNICATIONS CABLES, EQUIPMENT/PATCH CORDS, CONNECTING HARDWARE, AND OTHER COMPONENTS THAT IS SUPPLIED AS A SINGLE ENTITY.

CARD READER - A SECURITY SYSTEM DEVICE THAT READS CODED CARDS.

CELL - THE FIXED AREA IN WHICH A WIRELESS DEVICES OPERATES

CROSS-CONNECT - A FACILITY ENABLING THE TERMINATION OF CABLE ELEMENTS AND THEIR INTERCONNECTION OR CROSS-CONNECTION. (TIA)

CROSSTALK - UNWANTED TRANSFER OF SIGNAL FROM ONE OR MORE CIRCUITS TO OTHER CIRCUITS

CUTOVER - THE PROCESS OF SWITCHING FROM OLD NETWORK COMPONENTS TO NEW NETWORK COMPONENTS.

DAISY-CHAIN TOPOLOGY - DEVICES ARE CONNECTED IN SERIES, ONE AFTER THE OTHER, AND THE TRANSMITTED SIGNALS GO TO THE FIRST DEVICES, THEN THE SECOND, ETC.

DATA - ELECTRONICALLY ENCODED INFORMATION. (TIA)

DATA COMMUNICATION - THE TRANSMISSION AND RECEPTION OF ELECTRONICALLY CODED INFORMATION.

DATA NETWORK - AN INTERCONNECTED SYSTEM OF COMPUTERS, PERIPHERALS, AND SOFTWARE OVER WHICH COMMANDS, FILES, AND MESSAGES ARE SENT

DECIBEL (DB) - A LOGARITHMIC UNIT FOR MEASURING THE RELATIVE POWER OR STRENGTH OF A SIGNAL

DELAY SKEW - THE DIFFERENCE IN PROPAGATION DELAY BETWEEN ANY TWO PAIRS WITHIN THE SAME CABLE SHEATH. (TIA)

DEMARCATION POINT (DP) - 1. A POINT WHERE THE OPERATIONAL CONTROL OR OWNERSHIP CHANGES. (TIA) 2. THE POINT OF INTERFACE BETWEEN SERVICE

DIELECTRIC - 1. THE NONCONDUCTIVE PROPERTIES OF AN INSULATING MATERIAL THAT RESISTS THE PASSAGE OF ELECTRIC CURRENT. THE INSULATION SURROUNDING A COPPER CONDUCTOR IS KNOWN AS A DIELECTRIC. 2. A MATERIAL THAT IS NONMETALLIC AND NONCONDUCTIVE. 3. A NONCONDUCTOR OF

DIRECT-BURIED CABLE - A TELECOMMUNICATIONS CABLE DESIGNED TO BE INSTALLED UNDER THE SURFACE OF THE EARTH, IN DIRECT CONTACT WITH THE SOIL.

ELECTROMAGNETIC INTERFERENCE (EMI) - RADIATED OR CONDUCTED ELECTROMAGNETIC ENERGY THAT HAS AN UNDESIRABLE EFFECT ON ELECTRONIC EQUIPMENT OR SIGNAL TRANSMISSIONS. (TIA)

EQUAL LEVEL FAR-END CROSSTALK (ELFEXT) - CROSSTALK MEASURED AT THE OPPOSITE END FROM WHICH THE DISTURBING SIGNAL IS TRANSMITTED, NORMALIZED BY THE ATTENUATION CONTRIBUTION OF THE CABLE OR CABLING.

FAR-END CROSSTALK (FEXT) LOSS - A MEASURE OF THE UNWANTED SIGNAL COUPLING FROM A TRANSMITTER AT THE NEAR END INTO ANOTHER PAIR MEASURED AT THE FAR END, AND RELATIVE TO THE TRANSMITTED SIGNAL LEVEL. ALSO CALLED INPUT/OUTPUT FAR END CROSSTALK LOSS. (TIA)

FAULT TOLERANCE - THE ABILITY OF A SYSTEM TO CONTINUE OPERATIONS AFTER THE FAILURE OF ONE OR MORE COMPONENTS.

FIBER OPTICS - A COMMUNICATION SYSTEM THAT USES OPTICAL FIBER AS ITS MEDIUM. GIGABIT PER SECOND (GB/S) - A TRANSMISSION RATE DENOTING ONE BILLION BITS PER SECOND

GIGAHERTZ (GHZ) - A UNIT OF FREQUENCY DENOTING ONE BILLION CYCLES PER SECOND (HERTZ)

HERTZ (HZ) - 1. A UNIT OF MEASURE USED TO EXPRESS THE RANGE OF FREQUENCIES ASSOCIATED WITH A GIVEN SIGNAL OR COMMUNICATIONS CHANNEL. THIS RANGE IS ALSO CALLED BANDWIDTH. 2. A UNIT OF FREQUENCY EQUAL TO ONE CYCLE PER SECOND.

HOME RUN - A PATHWAY OR CABLE BETWEEN TWO LOCATIONS WITHOUT A SPLICE OR INTERMEDIATE TERMINATIONS POINTS IN BETWEEN. HORIZONTAL CABLE - 1. A PERMANENT ELEMENT OF THE HORIZONTAL CABLING THAT CONNECTS THE TELECOMMUNICATIONS OUTLET/CONNECTOR AT THE WORK

AREA AND THE FIRST PIECE OF CONNECTING HARDWARE IN THE HORIZONTAL OR MAIN CROSS-CONNECT. 2. FOUR PAIR 24 AWG UNSHIELDED TWISTED PAIR (UTP). HORIZONTAL CROSS-CONNECT - A GROUP OF CONNECTORS THAT ALLOWS EQUIPMENT AND BACKBONE CABLING TO BE CROSS-CONNECTED.

INNERDUCT - A NONMETALLIC RACEWAY, USUALLY CIRCULAR, PLACED WITHIN A LARGER PATHWAY. (TIA)

INTERMEDIATE CROSS-CONNECT (IC) - THE CONNECTION POINT BETWEEN A BACKBONE CABLE THAT EXTENDS FROM THE MAIN CROSS-CONNECT AND THE BACKBONE CABLE FROM THE HORIZONTAL CROSS-CONNECT.

LATENCY - THE TIME IT TAKES FOR A SIGNAL TO PASS THROUGH A DEVICE OR NETWORK.

OW-VOLTAGE CABLING/CABLING SYSTEM - TELECOMMUNICATIONS SIGNALING (INCLUDES BUILDING AUTOMATION SIGNALING) VOLTAGE LEVELS ARE TYPICALLY. POWER-LIMITED WHEN COMPARED TO ELECTRICAL POWER CIRCUITS THAT CAN VARY FROM 100 VOLTS ALTERNATING CURRENT (AC) TO 240 VOLTS AC IN COMMERCIAL BUILDINGS. CIRCUITS TYPICALLY USE AN INHERENTLY LIMITED POWER SOURCE WITHOUT OVER-CURRENT PROTECTION OR A NONINHERENTLY LIMITED POWER SOURCE WHERE OVERCURRENT PROTECTION IS REQUIRED. SINCE TELECOMMUNICATIONS CABLING SYSTEMS ARE NOT USED TO DISTRIBUTE ELECTRICAL POWER, THE SIGNALING THAT OCCURS ON THESE COPPER-BASED SYSTEMS IS GENERALLY DESCRIBED AS LOW VOLTAGE.

MAIN CROSS-CONNECT (MC) - THE CROSS-CONNECT NORMALLY LOCATED IN THE (MAIN) TELECOMMUNICATIONS EQUIPMENT ROOM (ER) FOR CROSS-CONNECTION AND INTERCONNECTION OF ENTRANCE CABLES, FIRST-LEVEL BACKBONE CABLES, AND EQUIPMENT CABLES. NEAR-END CROSSTALK (NEXT) LOSS - 1. THE UNWANTED SIGNAL COUPLING BETWEEN PAIRS. IT IS MEASURED AT THE END OF A CABLE NEAREST THE POINT OF

TRANSMISSION. CONTRAST WITH FAR-END CROSSTALK. 2. THE SIGNAL TRANSFER BETWEEN CIRCUITS AT THE SAME (NEAR) END OF THE CABLE.

NETWORK - A GROUP OF THREE OR MORE NODES THAT CAN COMMUNICATE WITH EACH OTHER, EITHER DIRECTLY THROUGH CABLING OR INDIRECTLY THROUGH REPEATERS TO SEPARATE CABLING.

OUTSIDE PLANT (OSP) - TELECOMMUNICATIONS INFRASTRUCTURE DESIGNED FOR INSTALLATION EXTERIOR TO BUILDINGS.

PAIR TWIST - THE UNIFORM TWIST OF AN INSULATED COPPER PAIR THAT HELPS TO REDUCE THE NEGATIVE EFFECTS OF CAPACITANCE IMBALANCE AND _ ELECTROMAGNETIC INDUCTION.

PAIR - TWO INSULATED WIRES TWISTED AROUND EACH OTHER.

PATCH CORD - A LENGTH OF CABLE WITH A PLUG ON ONE OR BOTH ENDS. PATCH PANEL - A CONNECTING HARDWARE SYSTEM THAT FACILITATES CABLE TERMINATION AND CABLING ADMINISTRATION USING PATCH CORDS.

PATHWAY - 1. A SEQUENCE OF CONNECTIONS THAT PROVIDES THE CONNECTIVITY BETWEEN DEVICES ON A NETWORK OR BETWEEN NETWORKS ON AN INTERNETWORK. 2. THE VERTICAL AND HORIZONTAL ROUTE OF THE TELECOMMUNICATIONS CABLE. 3. A FACILITY FOR THE PLACEMENT OF

TELECOMMUNICATIONS CABLE. (TIA) 3. A FACILITY FOR THE PLACEMENT OF TELECOMMUNICATIONS CABLE. (TIA) POWER SUM - USED TO SPECIFY A COMBINATION CROSSTALK FROM MULTIPLE SOURCES.

POWER SUM ATTENUATION-TO-CROSSTALK RATIO - A RATIO IN DB, DETERMINED BY SUBTRACTING THE INSERTION LOSS FROM TH EPOWER SUM NEAR-END

POWER SUM EQUAL LEVEL FAR-END CROSSTALK (PSELFEXT) - A COMPUTATION OF THE UNWANTED SIGNAL COUPLING FROM MULTIPLE TRANSMITTERS AT THE NEAR-END INTO A PAIR MEASURED AT THE FAR-END. AND NORMALIZED TO THE RECEIVED SIGNAL LEVEL. (TIA)

POWER SUM NEAR-END CROSSTALK (PSNEXT) LOSS - A COMPUTATION OF THE UNWANTED SIGNAL COUPLING FROM MULTIPLE TRANSMITTERS AT THE NEAR-END INTO A PAIR MEASURED AT THE NEAR-END. (TIA)

PULL TENSION - THE PULLING FORCE THAT CAN BE APPLIED TO A CABLE. (TIA)

PUNCH DOWN - THE PROCESS OF TERMINATING COPPER CABLE CONDUCTORS ON INSULATION DISPLACEMENT CONNECTION TERMINALS BY USE OF A HANDHELD

QUEUING - A TECHNIQUE THAT REDUCES TRANSMISSION DELAYS BY CLASSIFYING AND SORTING DATA PRIOR TO PROCESSING BY THE TRANSMITTING DEVICE.

RACEWAY - ANY ENCLOSED CHANNEL DESIGNED FOR HOLDING WIRES OR CABLES. (TIA) RADIO FREQUENCY INTERFERENCE - ELECTROMAGNETIC INTERFERENCE WITHIN THE FREQUENCY BAND FOR RADIO TRANSMISSION.

RETURN LOSS - A RATIO, EXPRESSED IN DB, OF THE POWER OF THE OUTGOING SIGNAL TO THE POWER OF THE REFLECTED SIGNAL. (TIA)

REVERSED PAIR - A CONDITION IN WHICH THE CONDUCTORS IN A PAIR ARE TERMINATED IN THE WRONG SEQUENCE.

DEFINITIONS (CONTINUED)

USUALLY FLUSH-MOUNTED IN THE WALL. (TIA)

RIBBON CABLE - AN ASSEMBLY OF CONDUCTORS LAID SIDE BY SIDE IN A GEOMETRIC PLANE AND FASTENED TOGETHER

SCALABILITY - THE ABILITY OF A NETWORK TO GROW WITHOUT DEGRADATION OF QUALITY.

SERVICE LOOP - A SURPLUS OF CABLE AT THE POINT OF TERMINATION TO FACILITATE POTENTIAL FUTURE CHANGES.

SHIELDED ENCLOSURE CABINET - A METAL ELECTRONICS CABINET CONSTRUCTED WITH WELDED SEAMS AND CONDUCTIVE GASKETS ON THE DOORS THAT SERVE AS AN EFFECTIVE SHIELD AGAINST ELECTROMAGNETIC RADIATION.

SPLIT PAIR - TRANSPOSITION OF TWO CONDUCTORS OF SEPARATE PAIRS.

STAR TOPOLOGY - A NETWORK TOPOLOGY IN WHICH SERVICES ARE DISTRIBUTED FROM A CENTRAL POINT

STRUCTURED CABLING SYSTEM - THE COMPLETE COLLECTIVE CONFIGURATION OF TELECOMMUNICATIONS CABLING AND ASSOCIATED HARDWARE AT A GIVEN LOCATION SWEEP - BEND THAT HAS A GENTLE ARC RATHER THAN A SHARP BEND.

TELECOMMUNICATIONS - ANY TRANSMISSION, EMISSION, AND RECEPTION OF SIGNS, SIGNALS, WRITINGS, IMAGES, AND SOUNDS, THAT IS, INFORMATION OF ANY NATURE BY CABLE, RADIO, OPTICAL, OR OTHER ELECTROMAGNETIC SYSTEMS. (TIA)

TELECOMMUNICATIONS BONDING BACKBONE - A CONDUCTOR THAT INTERCONNECTS THE TELECOMMUNICATIONS MAIN GROUNDING BUSBAR (TMGB) TO THE TELECOMMUNICATIONS GROUNDING BUSBAR (TGB). (TIA)

TELECOMMUNICATIONS EQUIPMENT BONDING CONDUCTOR - A CONDUCTOR INSTALLED FROM EACH PIECE OF EQUIPMENT TO THE TELECOMMUNICATIONS GROUNDING BUSBAR OR TELECOMMUNICATIONS MAIN GROUNDING BUSBAR. TELECOMMUNICATIONS CABINET - AN ENCLOSURE USED FOR TERMINATING TELECOMMUNICATIONS CABLES, WIRING, AND CONNECTION DEVICES WITH A HINGED COVER,

TELECOMMUNICATIONS ENCLOSURE - A CASE OR HOUSING FOR TELECOMMUNICATIONS EQUIPMENT, CABLE TERMINATIONS, AND CROSS-CONNECT CABLING. (TIA) TELECOMMUNICATIONS ENTRANCE FACILITY - AN ENTRANCE TO A BUILDING FOR BOTH PUBLIC AND PRIVATE NETWORK SERVICE CABLES (INCLUDING WIRELESS) INCLUDING THE ENTRANCE POINT AT THE BUILDING WALL AND CONTINUING TO THE ENTRANCE ROOM OR SPACE. (TIA) 2. A FACILITY THAT PROVIDES ALL NECESSARY MECHANICAL AND

ELECTRICAL SERVICES, THAT COMPLIES WITH ALL RELEVANT REGULATIONS, FOR THE ENTRY OF TELECOMMUNICATIONS CABLES INTO A BUILDING. (ISO) TELECOMMUNICATIONS EQUIPMENT ROOM - AN ENVIRONMENTALLY CONTROLLED CENTRALIZED SPACE FOR TELECOMMUNICATIONS EQUIPMENT THAT USUALLY HOUSES A MAIN OR INTERMEDIATE CROSS-CONNECT. (TIA)

TELECOMMUNICATIONS GROUNDING BUSBAR - A COMMON POINT OF CONNECTION FOR TELECOMMUNICATIONS SYSTEM AND EQUIPMENT BONDING TO GROUND, AND LOCATED IN THE TELECOMMUNICATIONS ROOM OR EQUIPMENT ROOM.

TELECOMMUNICATIONS MAINTENANCE HOLE - A VAULT LOCATED IN THE GROUND OR EARTH AS PART OF A UNDERGROUND DUCT SYSTEM AND USED TO FACILITY PLACING, CONNECTORIZATION, AND MAINTENANCE OF CABLES AS WELL AS THE PLACING OF ASSOCIATED EQUIPMENT, IN WHICH IT IS EXPECTED THAT A PERSON WILL ENTER TO PERFORM WORK. (TIA)

TELECOMMUNICATIONS INFRASTRUCTURE - A COLLECTION OF THOSE TELECOMMUNICATIONS COMPONENTS, EXCLUDING EQUIPMENT, THAT TOGETHER PROVIDE THE BASIC

TELECOMMUNICATIONS MEDIA - WIRE, CABLE, OR CONDUCTORS USED FOR TELECOMMUNICATIONS. (TIA)

SUPPORT FOR THE DISTRIBUTION OF ALL INFORMATION WITHIN A BUILDING OR CAMPUS.

TELECOMMUNICATIONS OUTLET/CONNECTOR - A CONNECTING DEVICE IN THE WORK AREA ON WHICH HORIZONTAL CABLE OR OUTLET CABLE TERMINATES

TELECOMMUNICATION ROOM - AN ENCLOSED ARCHITECTURAL SPACE FOR HOUSING TELECOMMUNICATIONS EQUIPMENT, CABLE TERMINATIONS, AND CROSS-CONNECT CABLING. (TIA)

TELECOMMUNICATIONS SPACE - AN AREA USED FOR HOUSING THE INSTALLATION AND TERMINATION OF TELECOMMUNICATIONS EQUIPMENT AND CABLE (E.G., COMMON EQUIPMENT ROOMS, EQUIPMENT ROOMS, COMMON TELECOMMUNICATIONS ROOMS, TELECOMMUNICATIONS ROOMS, WORK AREAS, MAINTENANCE HOLES/HANDHOLES).

TRANSPOSED PAIRS - WHEN TWO PAIRS OF CONDUCTORS ARE TERMINATED IN EACH OTHER'S LOCATION. UNDERGROUND - REFERS TO CONDUIT AND MAINTENANCE HOLES SYSTEMS INSTALLED BELOW THE SURFACE OF THE GROUND.

UNDERGROUND CABLE - A TELECOMMUNICATIONS CABLE DESIGNED TO BE INSTALLED UNDER THE SURFACE OF THE EARTH IN A TROUGH OR DUCT THAT ISOLATES THE CABLE FROM DIRECT CONTACT WITH THE SOIL. (TIA)

UTILITY COLUMN - AN ENCLOSED PATHWAY EXTENDING FROM THE CEILING TO FURNITURE OR TO THE FLOOR THAT FORMS A PATHWAY FOR ELECTRICAL WIRING, TELECOMMUNICATIONS CABLE, OR BOTH. (TIA)

WORK AREA (WORK STATION) - A BUILDING SPACE WHERE THE OCCUPANTS INTERACT WITH TELECOMMUNICATIONS TERMINAL EQUIPMENT. (TIA) WORK AREA CABLE (CORD) - A CABLE CONNECTING THE TELECOMMUNICATIONS OUTLET/CONNECTOR TO THE TERMINAL EQUIPMENT

WORK AREA OUTLET - A CONNECTING DEVICE FOR TERMINATION OF HORIZONTAL MEDIA.

ABBREVIATIONS

8P8C - EIGHT PIN, EIGHT CONNECTOR UTP CABLE TERMINATION

ACR - ATTENUATION-TO-CROSSTALK RATIO

ANSI - AMERICAN NATIONAL STANDARDS INSTITUTE AWG - AMERICAN WIRE GAUGE

BAS - BUILDING AUTOMATION SYSTEM

BC - BONDING CONDUCTOR

BCT - BONDING CONDUCTOR FOR TELECOMMUNICATIONS

BICSI - BUILDING INDUSTRY CONSULTING SERVICE INTERNATIONAL CO-OSP - CUSTOMER-OWNED OUTSIDE PLANT

DEMARC - DEMARCATION POINT DPS - DOOR POSITION SWITCH

EAC - ELECTRONIC ACCESS CONTROL

EF - ENTRANCE FACILITY EIA - ELECTRONIC INDUSTRIES ALLIANCE

EMI - ELECTROMAGNETIC INTERFERENCE

ER - TELECOMMUNICATIONS EQUIPMENT ROOM FCC - FEDERAL COMMUNICATIONS COMMISSION

GB - GIGABIT GHZ - GIGAHERTZ

HC - HORIZONTAL CROSS-CONNECT

HZ - HERTZ **IBC - INTERCONNECTING BONDING CONDUCTOR**

IC - INTERMEDIATE CROSS-CONNECT

IDC - INSULATION DISPLACEMENT CONNECTION (OR) IEEE - INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS, INC.

KB - KILOBIT

KB - KILOBYTE KHZ - KILOHERTZ

KM - KILOMETER

LEC - LOCAL EXCHANGE CARRIER

LED - LIGHT-EMITTING DIODE

LAN - LOCAL AREA NETWORK LASER - LIGHT AMPLIFICATION BY STIMULATED EMISSION OF RADIATION MB - MEGABIT

MHZ - MEGAHERTZ

MUTOA - MULTI-USER TELECOMMUNICATIONS OUTLET ASSEMBLY

NEC - NATIONAL ELECTRIC CODE

NTS - NETWORK TRANSPORT SYSTEMS

QOS - QUALITY-OF-SERVICE

RCDD - REGISTERED COMMUNICATIONS DISTRIBUTION DESIGNER

RFI - RADIO FREQUENCY INTERFERENCE

SONET - SYNCHRONOUS OPTICAL NETWORK

TGB - TELECOMMUNICATIONS GROUNDING BUSBAR

TMGB - TELECOMMUNICATIONS MAIN GROUNDING BUSBAR

TR - TELECOMMUNICATIONS ROOM

VGA - VIDEO GRAPHICS ARRAY

WLAN - WIRELESS LOCAL AREA NETWORK

X - CROSS-CONNECT

MC - MAIN CROSS-CONNECT MH - TELECOMMUNICATIONS MAINTENANCE HOLE

MUTO - MULTI-USER TELECOMMUNICATIONS OUTLET

NOS - NETWORK OPERATING SYSTEM

NFPA - NATIONAL FIRE PROTECTION ASSOCIATION

OS - OPERATING SYSTEM

PSACR - POWER SUM ATTENUATION TO CROSSTALK RATIO PSELFEXT - POWER SUM EQUAL LEVEL FAR-END CROSSTALK

RFID - RADIO FREQUENCY IDENTIFICATION

RGB - RED, GREEN, BLUE

SPOOL - SIMULTANEOUS PERIPHERAL OPERATION ONLINE TBB - TELECOMMUNICATIONS BONDING BACKBONE TDMM - TELECOMMUNICATIONS DISTRIBUTION METHODS MANUAL

TIA - TELECOMMUNICATIONS INDUSTRY ASSOCIATION

UTP - UNSHIELDED TWISTED PAIR

VCSEL - VERTICAL CAVITY SURFACE EMITTING LASER

VOD - VIDEO-ON-DEMAND VOIP - VOICE OVER INTERNET PROTOCOL WAP - WIRELESS ACCESS POINT

(2) 1-1/4" CONDUIT: +18" A.F.F. ROUGH-IN TELECOMMUNICATIONS AUDIO / VIDEO OUTLET (1) 2-GANG WALL MTD. CEILING MOUNTED SEE T-SERIES WIRELESS ACCESS POINT OUTLET (CEILING MOUNTED) ROUGH-IN DRAWINGS FOR LOCATIONS CABLE TRAY REFER TO SPECIFICATIONS +96" A.F.F. CABLE TRAY AND ASSOCIATED FOR FURTHER INFORMATION ТО ВОТТОМ HARDWARE FLOOR MOUNTED TELECOMMUNICATIONS CABINET (AS SPECIFIED) TELECOMMUNICATIONS RACK FLOOR MOUNTED (AS SPECIFIED) MOUNTING ROUGH-IN SOUND SYSTEMS SCOPE OF WORK NOTES INFORMATION CEILING MOUNTED INTERCOM SPEAKER (CEILING MOUNTED) CABLING SEE T-SERIES SPEAKER DRAWINGS FOR LOCATIONS ROUGH-IN (1) 1" CONDUIT +96" A.F.F. INTERCOM SPEAKER (WALL MOUNTED) CABLING 1) SINGLE GANG WALL MTD. SPEAKER BOX CEILING MOUNTED CABLING SEE T-SERIES INTERCOM SPEAKER HORN (CEILING MOUNTED) SPEAKER DRAWINGS ROUGH-IN (1) 1" CONDUIT +96" A.F.F. INTERCOM SPEAKER HORN (WALL MOUNTED) CABLING 1) SINGLE GANG WALL MTD. SPEAKER BOX **ROUGH-IN** (1) 1" CONDUIT +18" A.F.F. CABLING) SINGLE GANG MICROPHONE OUTLET (# INDICATES JACK QTY.) WALL MTD. MIC CONNECTOR BOX ROUGH-IN. (1) 1" CONDUIT +46" A.F.F. \bigcirc **CABLING** SINGLE GANG **VOLUME CONTROL** WALL MTD. VOLUME CONTROL BOX CEILING LOCAL SOUND REINFORCEMENT SPEAKER (CEILING MOUNTED) MOUNTED SEE SPEAKER **ROUGH-IN** (1) 1" CONDUIT +96" A.F.F. LOCAL SOUND REINFORCEMENT SPEAKER (WALL MOUNTED) CABLING) SINGLE GANG WALL MTD. SPEAKER BOX ROUGH-IN SR WALL MOUNTED CABLING SOUND SYSTEM CENTRAL EQUIPMENT CABINET CABINET **ROUGH-IN** (1) 1" CONDUIT +46" A.F.F. **CALL-IN BUTTON** 1) SINGLE GANG CABLING BUTTON DEVICE BOX ROUGH-IN (1) 1" CONDUIT +46" A.F.F. CABLING) SINGLE GANG WALL MTD. **BUTTON DEVICE** BOX ROUGH-IN (1) 1" CONDUIT +96" A.F.F. WALL MOUNTED CLOCK CABLING 1) SINGLE GANG WALL MTD. CLOCK BOX ROUGH-IN (1) 1" CONDUIT +96" A.F.F. 00 CABLING) SINGLE GANG RINGER / BELL DEVICE WALL MTD. BELL DEVICE MOUNTING SECURITY SYSTEMS SCOPE OF WORK NOTES INFORMATION HEIGHT CEILING MOUNTED SEE T-SERIES ALL CAMERAS PROVIDED AND SURVEILLANCE CAMERA (CEILING MOUNTED) DRAWINGS FOR INSTALLED BY OWNER. LOCATIONS (1) 1" CONDUIT +96" A.F.F. ALL CAMERAS PROVIDED AND SURVEILLANCE CAMERA (WALL MOUNTED) ROUGH-IN 1) SINGLE GANG WALL MTD. INSTALLED BY OWNER. BOX ROUGH-IN (1) 1" CONDUIT +46" A.F.F. CABLING 1) SINGLE GANG CARD READER WALL MTD. CARD READER BOX SEE EAC DOOR SCHEMATIC DIAGRAM. PROVIDE EAC **ELECTRONIC ACCESS CONTROL INTERFACE ACCESSIBLE** REQUIRED CABLING FOR CONTROL CONTROL MODULE CEILING AND/OR MONITORING.



ALL UTP DATA CABLING REFERRED TO IN THESE DRAWINGS IS BY OWNER'S CONTRACTOR. DO NOT BID HORIZONTAL DATA CABLING OR BACKBONE CABLING. ONLY BID ROUGH-INS AND PATHWAYS FOR THESE SYSTEMS.



NOTES

PROVIDE SINGLE

REDUCER

PROVIDE SINGLE

REDUCER

ALIGN WITH POWER RECEPTACLE

INFORMATION

(1) 1" CONDUIT

(1) 2-GANG

(1) 1" CONDUIT

(1) 2-GANG

BOX

BOX

ROUGH-IN

ROUGH-IN

HEIGHT

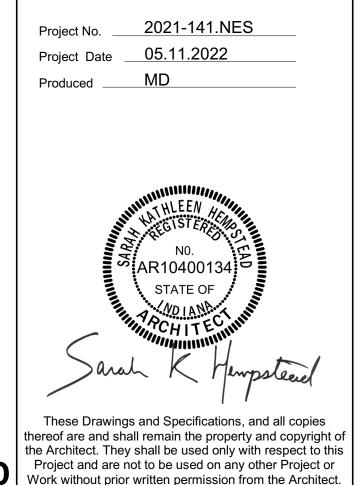
+18" A.F.F

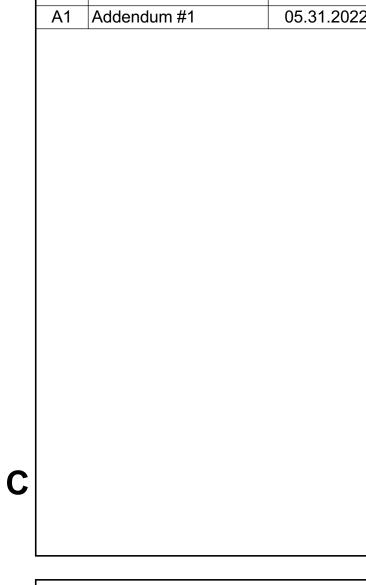
WALL MTD.

2" ABV.

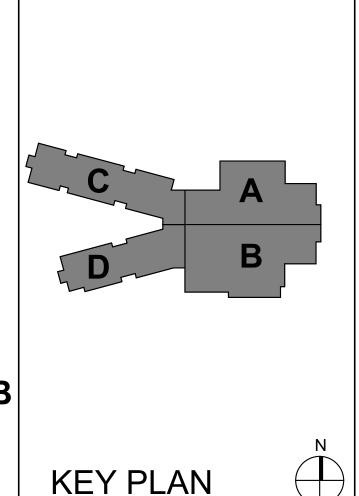
BACKSPLASH

ТО ВОТТОМ





Revision



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INDIANAPOLIS, IN 46239



TELECOMMUNICATIONS SYMBOLS AND **ABBREVIATIONS**

MOUNTING

HEIGHT

AS NOTED ON

AS NOTED ON

CEILING MOUNTED

SEE T-SERIES

DRAWINGS FOR

LOCATIONS

INFORMATION

(2) 1 1/4" CONDUIT,

(1) 2-GANG

PROJECTOR

CEILING PAN

SCOPE OF WORK

ROUGH-IN, MOUNT,

ROUGH-IN, MOUNT

CABLING. MONITOR

TELECOMMUNICATIONS GROUNDING BUSBAR. (TIA)

SIGNAL LEVEL.

BANDWIDTH - A MEASURE OF THE RANGE OF FREQUENCIES ASSOCIATED WITH A GIVEN SIGNAL OR COMMUNICATIONS CHANNEL, TYPICALLY EXPRESSED IN

BICSI - AN INTERNATIONAL TELECOMMUNICATIONS ASSOCIATION.

BONDING - THE PERMANENT JOINING OF METALLIC PARTS TO FORM AN ELECTRICALLY CONDUCTIVE PATH THAT WILL ENSURE ELECTRICAL CONTINUITY AND THE CAPACITY TO CONDUCT SAFELY ANY CURRENT LIKELY TO BE IMPOSED. (TIA)

BONDING CONDUCTOR FOR TELECOMMUNICATIONS (BCT) - A CONDUCTOR THAT INTERCONNECTS THE BUILDINGS SERVICE EQUIPMENT (POWER) GROUND TO

SIDEWALKS, DRIVEWAYS, PARKING LOTS, AND ROAD SURFACES). NORMALLY, AS DIRT IS DISPLACED OR REMOVED, CONDÚIT IS INSERTED.

CATEGORY - A RATING THAT DEFINES THE PERFORMANCE OF CABLING COMPONENTS AND SYSTEMS.

THE TELECOMMUNICATIONS GROUNDING SYSTEM.

COMMUNICATIONS - SEE TELECOMMUNICATIONS.

VIDEO SYSTEMS

CEILING MOUNTED DISPLAY MONITOR

WALL- MOUNTED DISPLAY MONITOR

CEILING-MOUNT PROJECTOR

TELECOMMUNICATIONS OUTLET

TELECOMMUNICATIONS COUNTERTOP OUTLET

NOTES

SEE PROJECTOR

PAN DETAIL

T-001

