

ALBANY NORTH SIDE - BUILDING STORAGE ADDITION

5995 W. AMELIA EARHART DRIVE, SALT LAKE CITY UTAH, 84116

Architect: Geroux Architects, PLLC Contact: Joe Geroux, NCARB 917.686.6517

Owner Contact: Erin Mathis - Facilities Engineer 801.505.6964



CONSTRUCTION SET

MARCH 6, 2024

These documents are being submitted for pricing only and have been submitted to Salt Lake City Building Permit. All final contractor to pricing to be adjusted based on the final approved permit set. All information is condiential and shall not be shared with other parties.

ZONING: Salt Lake City Zoning Ordinance (Title 21A)

Zone: Salt Lake City M-1
Use: Warehouse
Lot Size: 23.49 Acres
Allowable Building Height: Maximum Structure Height 85'-0" (Not Applicable)
Actual Building Height: 32'-6"

Minimum Yard Requirements: Front & Corner Side 15'; Interior Side & Rear None

PROJECT DESCRIPTION:

The project includes the addition of new warehouse floor area for storage and distribution located on the North side of the existing facility.

SUBCONSULTANTS:

Structural Engineer:
Dunn & Associates
380 W. 800 S. #100
Salt Lake City, Utah 84101

Electircal Engineering:
Hunt Electric Inc.
1863 Alexander Street
Salt Lake City, Utah 84119

LEGAL DESCRIPTION:

Lot 4, Bonneville Center Plat A Amended Lots 3 & 4. 7596-2684 7834-0864 7859-1093 9076-7702

DEFERRED SUBMITTALS:

- 1. Fire Alarm Systems / Controls
- 2. Fire Suppression Calculations / Shop Drawing Submittal
- 3. Metal Stud Framing & Siesmic Connections
- 4. Seismic Bracing for Mechanical, Electrical, Plumbing Components per ASCE 7.

PROJECT DATA: SQFT AREA

North Addition = 6,566 sqft

Total Area = 6,566 sqft

MINIMUM R-VALUES:

IBC 2021 - 2021 IECC Table C402.1.3.

GLAZING (FENESTRATION U-FACTOR) ROOF R-VALUE

= N/A = R-30 ci

STEEL FRAMED WALL R-VALUE = R-30 cl SLAB R-VALUE (within 4' of interior foundation) = R-15 for 24" below slab

CODE REVIEW:

Applicable Codes: Salt Lake City Building Department & Fire Department 2021 IEBC - Compliance Method = Prescriptive Compliance Method (Ch 3 & 5). 2021 International Building Code (IBC) w/ Utah State Amendments which Include: Building, Plumbing, Fuel/Gas, Mechanical, and Fire Codes.

2020 National Electrical Code (NEC) State of Utah Title 15A requirements have been compiled into these CD's 2021 International Energy Conservation Code (IECC) ANSI A117.1-2009

Occupancy Existing Building = F-1

Construction Type Existing Building = IIB (Ch 6)

Allowable Area Unlimited

Actual Area 5,566 sqft (Addition)

Allowable Height N/A (See 503.1.3) (Also Note 504.4 = 12 Stories w/ Sprinkler).

Actual Height 1 Story - 32'-6"

Number of Exits Required = 2 Provided = 3

Sprinklers: Provided with Existing Building. Will be provided to new addition. NFPA 13.

Sprinkler Design is by Deffered Submittal. GC to Submit layout for Approval by

Salt Lake City Fire Department and Authority Having Jurisdiction.

Fire Separations 508.3. Non - Required

Existing 2 Hour Exterior Wall. All Penetrations will be fire caulked.

1 Hour provided between Electrical
Fire Resistance Ratings | See IBC Table 601 for Type II B - Building Elements (Hours)

Primary Structure = 0

Bearing Walls = 0 (0 Exterior; 0 Interior)

Non Bearing Walls & Partitions Ext. / Int. = 0 (Electrical Load requires this to have a 1 Hour Separation)

Floor Construction = 0 (12" Concrete Slab on Grade)

Roof Construction = 0

Exterior Walls based on Fire Separation Distance (Hours) = Greater then 30'-0" = 0

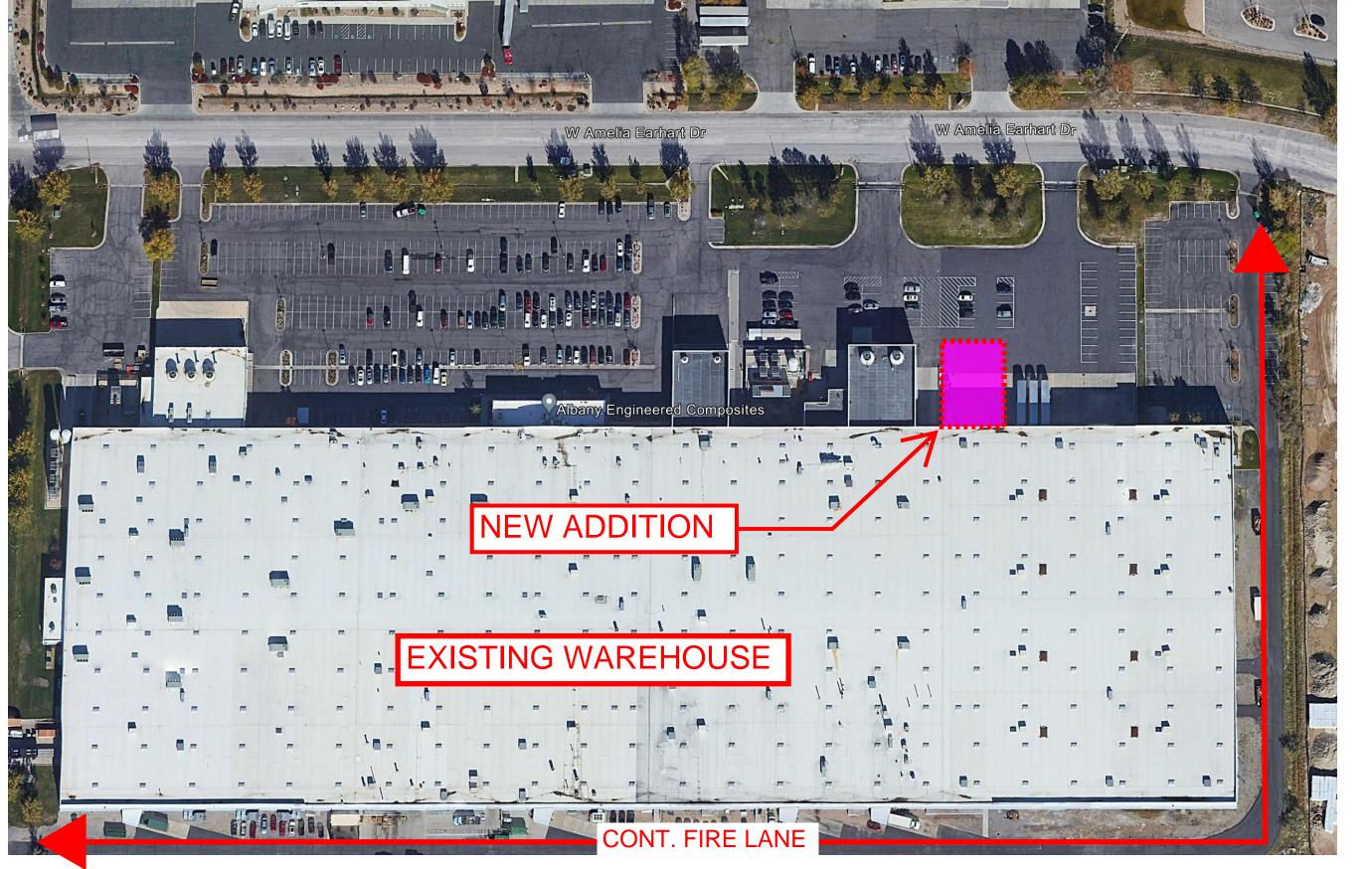
Plumbing Fixtures N/A

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GENERAL NOTES

1. IF THERE ARE ANY CONFLICTS BETWEEN ITEMS ON DRAWINGS AND GENERAL NOTES, THE MOST STRINGENT REQUIREMENT AND HIGHEST PRICE PRODUCT GOVERNS 2. ACTUAL SITE DIMENSIONS MAY VARY, CONTRACTOR TO VERIFY ALL DIMENSIONS BEFORE STARTING WORK. CONTRACTOR TO NOTIFY ARCHITECT UPON DISCOVERY OF ANY DISCREPENCIES.

SHE	EET INDEX:	PERMIT SUBMISSION 03.06.2024
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AG002	SPECIFICATIONS	X
AG003	GENERAL SPECIFICATIONS	X
A100	OVERALL SITE PLAN	X
C1.0	ENLARGED SITE PLAN	X
C2.1	GRADING PLAN	X
C2,2	UTILITY PLAN	X
C2.3	TRENCH DRAIN DETAILS	X

ARCHITECTURAL

\200	DEMOLITION PLAN	Х		
\201	FLOOR PLAN	Χ		
\202	ROOF PLAN	Χ		
\300	EXTERIOR ELEVATIONS	Χ		
\400	SECTIONS	Χ		
\500	DOOR SCHEDULE & DETAILS	Χ		
	.201 .202 .300 .400	201 FLOOR PLAN 202 ROOF PLAN 300 EXTERIOR ELEVATIONS 400 SECTIONS	X X X X X X X X X X	201 FLOOR PLAN

STRUCTURAL

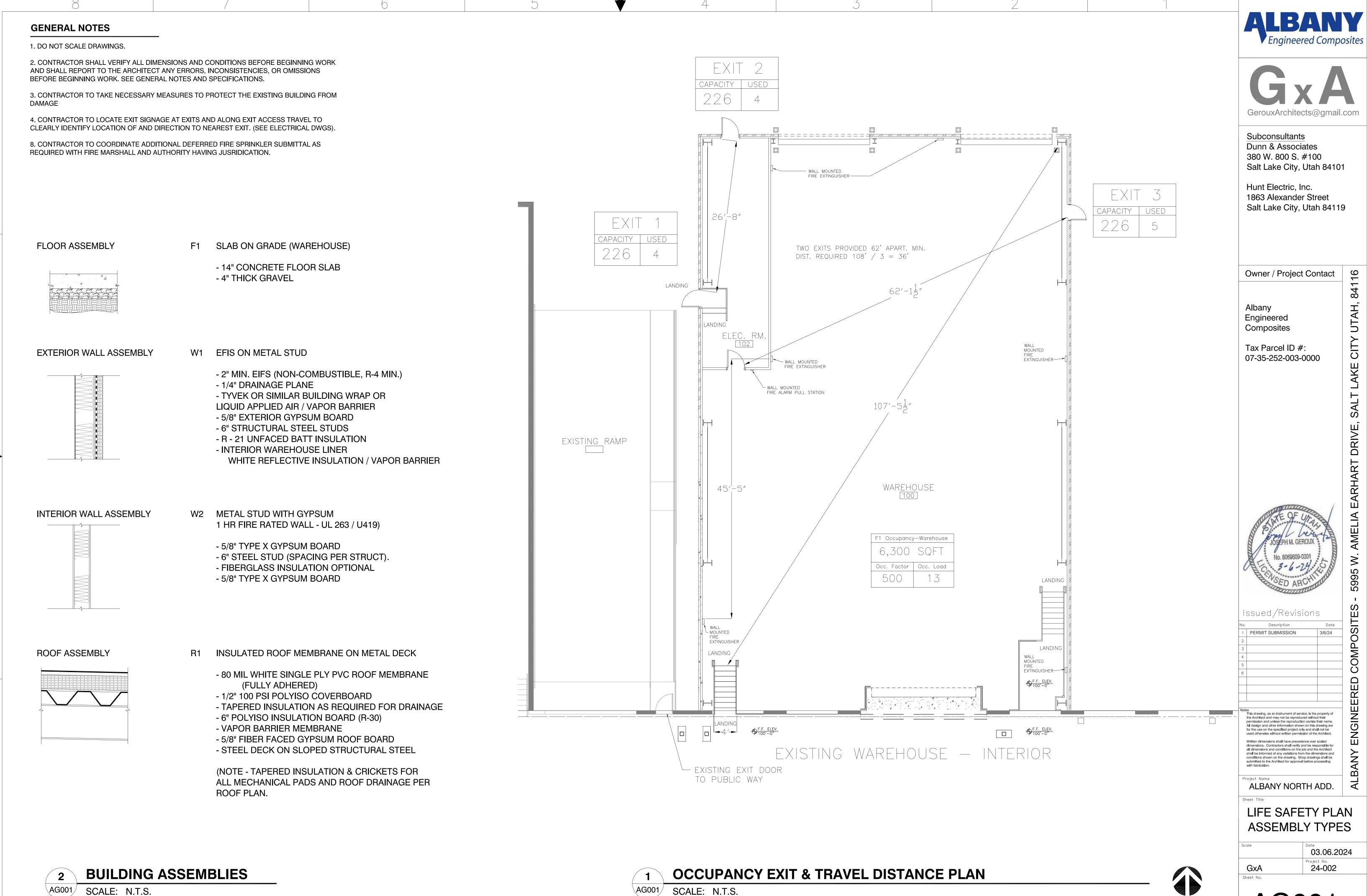
S001	STRUCTURAL NOTES	X	
S002	STRUCTURAL NOTES	X	
S003	STRUCTURAL NOTES	Х	
S101	FOOTING FOUNDATION PLAN	Х	
S102	ROOF FRAMING PLAN	Х	
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S202	MOMENT FRAME DETAILS	Х	
S210	NEW WALL OPENING	Х	
S303	WIND GIRT ELEVATIONS	Х	
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S701	ROOF FRAMING DETAILS	Х	
S702	ROOF FRAMING DETAILS	Х	
S801	SCHEDULES	Х	
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MECHANICAL / PLUMBING

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M100	MECHANICAL FLOOR PLAN	Х	
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ELECTRICAL

E001	GENERAL NOTES	Х	
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E004	ELECTRICAL SCHEDULE	Χ	
E005	ELECTRICAL SCHEDULE	Χ	
E101	ENLARGE POWER LIGHITNG PLAN	Х	
E301	ENLARGED ELECTRICAL ROOM PLAN	Х	



AG001

NORTH

CITY UTAH,

LAKE

ENGINEERED

1.1 GENERAL NOTES

- A. The intent of these drawings and specifications is to include all labour, materials and services necessary for the completion of all work shown, prescribed or reasonably implied, but not limited to that explicitly indicated in the contract documents.
- B. See Cover for all applicable codes.
- Contractor to submit shop drawings to Architect for review for all products being installed. The approval of shop drawings will not relieve the contractor from responsibility for deviations from the drawings or specifications unless he or she has (in writing) brought to attention such deviations, at the time of submission, nor will it relieve the contract of responsibility for errors of any sort in the shop drawings.
- Dimensions shown in the documents take precedence over all others. Under no circumstances will dimensions be scaled directly from drawings. Large scale drawings take precedence over small scale drawings. The contractor will notify the Architect of any discrepancies or conflicts.
- E. Floor elevations are as noted with a drop between existing slab and new slab.
- F. The general contractor and all subcontractors will verify all dimensions and conditions on the job site prior to beginning of construction and report any discrepancies to the architect.
- G. The contractor shall have 1 hardcopy of the approved construction drawings and building permit on site for use by all parties.
- H. The general contractor / subcontractors will furnish adequate shoring, bracing, barricades and protective measures, etc., required to safely protect the entire construction site and periphery, and will be fully responsible for on site construction safety and protocols per local and state requirements.
- . All symbols and abbreviations used on the drawings are considered to be construction standards. If the contractor has questions regarding abbreviations or their exact meaning, the contractor will notify the Architect for clarifications.
- J. Details marked "typical" will apply in all cases unless specifically indicated otherwise.
- K. No substitutions to the documents will be allowed without prior written approval by the Owner or Architect.L. The contractor will provide protection for all pedestrians, site visitors, employees, consultants and all
- others within the project area.

 1. Contractor shall assume responsibility for securing all chattel and real property on the job site.
- N. Contractor shall assume responsibility for fire, theft, destruction, or vandalism on job site during construction.
- O. All walls, floors, doors, & door frames shall be constructed plumb, level and true, and rigidly connected as
- required by seismic requirements per local and state building codes.

 P. Contractor will verify with equipment manufacturers required pad size and base, as well as verify locations for all mechanical and electrical equipment and power, water and drain installations prior to proceeding with work.
- Q. The contractor shall verify all field measurements as necessary to insure proper fit of walls, doors, fixtures, and equipment.
- R. The contractor will provide to the Owner an operations manual for all equipment installed including all instructions, warranties and documents pertaining to the aforementioned equipment.
- S. Contact between dissimilar metals must be protected to prevent any deterioration due to galvanic action or
- T. All installed materials and equipment shall bear a U.L., ASTM, I.C.B.O. or similarly accepted listing. All
- manufactured materials used must be installed bearing the appropriate labels identifying this fact.

 U. The Owner or Architect shall in no way be responsible for the means and methods of work performed, the safety in or about the site, performance of the work, or the timeliness in which the work is performed.
- V. The contractor shall not allow unauthorized personnel on the job site.
- W. All omissions and conflicts between the various elements of the drawings and/or specifications shall be brought to the attention of the Architect immediately before proceeding with any so work related to the possible omission or conflict. No changes are to be made unless the Architect and Owner is notified in writing
- X. The contractor shall be responsible for the enforcement of Federal and State of Utah Occupational Safety and Health Administration requirements and regulations.

DIVISION 2 - SITE WORK

2.1 SOILS ENGINEERING

A. Soils report to be completed with excavation of site and as required by jurisdiction.

2.2 GENERAL

- A. The contractor shall feild verify the location of all existing utility services in the area to be excavated prior to the beginning of excavation. Bluestakes call numbers include 811, 801-208-2100. Contractor shall cal 811 before digging. I
- B. Soil compaction and site preparation shall be in accordance with the certification of the letter from the soils / geotechincal engineer.
- C. Finish excavation for foundation shall be neat and true to line with loose material removed from excavation.

 D. The footing excavations shall be kept free from loose material and standing water.
- E. The contractor shall provide for dewatering of excavations for either surface water, seepage or ground water. F. The contractor shall provide and install all cribbing, sheathing and shoring required to safely retain any earth banks.
- G. The contractor shall brace or protect from lateral loads the foundation and retaining walls until attached floors or slabs are completely in place and have attained full strength.H. The contractor shall protect all utility and service lines encountered during excavation and backfilling. Damage
- to the lines caused during the course of construction to be repaired by contractor.

 I. Footing backfill and utility trench backfill within building area shall be mechanically compacted in layers to the
- approval of the Architect, Soils or Structural Engineer. Flooding is not be permitted.
- J. Subsurface drainage shall be provided behind retaining walls if retaining is installed.K. Contractor to protect all existing landscaping and retore any damaged landscaping in kind.
- L. The contractor shall coordinate all site work with the work of other trades to insure orderly progress of the total work and shall take precautionary measures to protect all underground work shown on the contract documents and other underground work not indicated.
- M. The site shall be cleared of all stumps, roots and other deleterious materials to a depth of not less than twelve inches below ground surfaces in the area to be occupied by the building or proposed structure.
- N. All horizontal walking surfaces to be continuous and without abrupt vertical changes exceeding ½" maximum. All horizontal walking surfaces will be maintained slip resistant.
- O. Any obstruction which overhangs a pedestrian's way will be a minimum of eighty inches above the walking surface as measured from the bottom of the obstruction.

DIVISION 3 - CONCRETE - SEE STRUCTURAL

DIVISION 4 - MASONRY - N/A

DIVISION 5 - STEEL - SEE STRUCTURAL

DIVISION 6 - WOOD - N/A

DIVISION 7 - THERMAL AND MOISTURE PROTECTION

7.1 FLASHING

A. All flashing, counterflashing, and coping when of metal shall be of not less than No. 26 U.S. gauge corrosion-resistant metal or as shown on plans or refer to SMACHA specifications.

B. Flash and counterflash at all roof to wall conditions. G.I. flash and caulk wood beams and outlookers projecting

through exterior walls or roof surfaces.

C. Flash all exterior openings with approved waterproofing, which conforms to the standards of local and state codes. Flash at horizontal projections from vent, or battered exterior surface.

D. Miscellaneous sheet metal: downspouts, diverters and gutter refer to detail notes.

E. Provide cap flashing on all exposed walls and at roof penetrations.

F. Provide a butyl based flexible flashing or a liquid applied flashing system at all wall penetrations.

7.2 SEALANTS

A. Caulk all flashings at doors, louvers and exterior openings. Use butyl base or equal.

7.3 WATERPROOFING

A. Provide dampproofing on all foundation walls. Sump pump pit shall be full waterproofed with an approved epoxy finish.

7.4 INSULATION (Refer to Sec R302 of I.B.C.)

A. All exterior walls to have R21 Batt insulation. Wall R-Value = R-20 Min.

B. Roof to be Polyiso exterior Insulation. R-30 Min. If GC proceeds with built up layering of Poly-Iso Insulation Boards - SubContractor to stagger all joints so no two joints align.

C. Foundation walls to have 2" Rigid board insulation on interior face only. R-10 Min.

7.5 ROOFING

A. All roofing shall conform to the requirements of IRC 2018.

B. All roofing materials shall be applied in strict conformance with the manufacturer's specifications.

C. See roof plan for roofing materials.

D. In the event asphalt shingles are used, they shall comply with the IRC 2018 standards and shall be architectural sheathed roofs, but not less than four nails per each strip shingle not more than 36 inches wide and two nails per each shingle 18 inches wide shall be used.

E. Asphalt shingles shall be approved self-sealing or hand-sealed installed over an underlayment consisting of two layers 15 lb. building felt, applied shingle fashion.

F. Waterproofing membrane (Liquid Applied)

DIVISION 8 - DOORS, WINDOWS, AND GLAZINGS

8.1 - GLASS - N/A

8.2 WEATHERSTRIPPING AND THRESHOLDS

A. All exterior doors shall be weatherstripped to meet the current air infiltration standards of the American National Standards Institute and should be certified and labeled.

B. Provide weatherstripping completely around exterior doors.

8.3 HOLLOW METAL DOORS

GENERAL

American National Standards Institute/Steel Door Institute (ANSI/A250.8) "Recommended Specifications for Standard Steel Doors and Frames." National Fire Protection Association (N.F.P.A.) #80 Standard for Fire Doors and Fire Windows, Steel Door Institute (S.D.I.) all publication standards. Door Hardware Institute (D.H.I.) all publication standards. U.L. 10C, fire listed products. American Society for Testing Materia(A.S.T.M.)A1008/A1008MStandard Specification for Steel, Sheet, Cold-Rolled, Carbon, Structural, High-Strength Low-Alloy and High-Strength Low-Alloy with Improved FormabilityA568/A568MStandard Specification for Steel, Sheet, Carbon, and High-Strength, Low-Alloy, Hot-Rolled and Cold-Rolled, General Requirements forA924/A924MStandard Specification for General Requirements for Steel Sheet, Metallic-Coated by the Hot-Dip ProcessA653/A653MStandard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process.

Shop Drawings: Submit for fabrication and installation of steel doors and frames. Include details of each frame type, elevations of door design types, conditions at openings, details of construction, location and installation requirements of finish hardware and reinforcements, and details of joints and connections. Show anchorage and accessory items required for installation. Submit manufacturer's technical product data substantiating that products comply with requirements.

Provide Fire Rated Doors as Listed on the Door Schedule. Delivery Storage and Handling: For welded frames, provide channel steel shipping spreader welded to the bottom of each jamb at door opening to prevent damage in transit and jobsite handling. Shipping spreader shall be removed and replaced with a "setting" spreader at bottom of frame at time of frame installation (see "Installation"). General contractor shall inspect hollow metal work upon delivery for damage. Minor damage may be repaired provided refinished items are equal in all respects to new work and acceptable to architect; otherwise, remove and replace damaged items as required.

PRODUCTS

Manufacturers: CURRIES Company or approved equal. Steel Requirements: All doors and frames to be manufactured of commercial quality, stretcher leveled flatness, cold rolled steel per ASTM A1008 and A568 general requirements or galvanized steel sheet shall be as per ASTM A924 or A653 hot dip galvanized to A60 minimum coating weight standard. Internal reinforcing may be manufactured of hot rolled pickled and oiled steel per ASTM A1011.

Steel Doors: Comply with ANSI/A250.8/SDI 100. Provide metal doors in 20, 18, 16, or 14 gauge steel as (cont.) specified on plans in accordance with performance levels defined in ANSI/A250.8/SDI 100 and ANSI A250.4

Test Procedure and Acceptance Criteria for Physical Endurance. Door size cycle tested to be 4070 to

EXECUTION

Erection Installation: Install hollow metal units in accordance with manufacturer's instructions and final shop drawings. Fit doors to frames and floors with proper clearances and to achieve the maximum operational effectiveness and appearance of each unit. S.D.I. 122 "Installation and Troubleshooting Guide for Standard Steel Doors and Frames".

INSULATED ROLLING SERVICE DOORS.

- A. ANSI/DASMA 108 American National Standards Institute Standard Method For Testing Sectional Garage Doors And Rolling Doors: Determination Of Structural Performance Under Uniform Static Air Pressure Difference.
- B. NFRC 102 Test Procedure for Measuring the Steady-State Thermal Transmittance of Fenestration Systems.
- C. ASTM E 90 Standard Test Method for Laboratory Measurement of Airborne Sound Transmission Loss of Building Partitions and Element. ASTM E 330 Standard Test Method for Structural Performance of Exterior Windows, Doors, Skylights and Curtain Walls by Uniform Static Air Pressure Difference. ASTM A 653 Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process. ASTM A 924 Standard Specification for General Requirements for Steel Sheet, Metallic-Coated by the Hot-Dip Process.
- D. NEMA 250 Enclosures for Electrical Equipment (1000 Volts Maximum).
- E. NEMA MG 1 Motors and Generators.

DESIGN / PERFORMANCE REQUIREMENTS

- A. Single-Source Responsibility: Provide doors, tracks, motors, and accessories from one manufacturer for each type of door. Provide secondary components from source acceptable to manufacturer of primary components.
- B. Products Requiring Electrical Connection: Listed and classified by Underwriters Laboratories, Inc. acceptable to authority having jurisdiction as suitable for purpose specified.

SUBMITTALS

- C. Product Data: Manufacturer's data sheets on each product to be used, including:
 - 1. Preparation instructions and recommendations.
- Storage and handling requirements and recommendations.
- 3. Details of construction and fabrication.
- 4. Installation instructions.
- C. Shop Drawings: Include detailed plans, elevations, details of framing members, anchoring methods, required clearances, hardware, and accessories. Include relationship with adjacent construction.

MANUFACTURER

Overhead Door Company or approved equal.

DIVISION 9 - FINISHES

9.1 EXTERIOR METAL AND MATERIALS

A. See Elevation Elevations for materials. Provide Submittal for all Self Draining EFIS. Systems.

9.2 INTERIOR FINISH MATERIALS

A. Gypsum wallboard:

- 1. All gypsum wallboard shall be installed in accordance with the provisions of the 2018 IBC, applicable edition, State and local codes.
- 2. All walls to be 5/8" UL Listed gypsum wallboard unless otherwise noted. Refer to floor plans and sections for fire rated walls and assemblies.
- 4. The size & spacing of fasteners shall comply w/ 2018 IBC, State and local building codes.3. Provide metal trim at all exposed edges and external corners. Metal trim shall be galvanized.

DIVISION 10 - SPECIALTIES

10.1 - Vertical Parapet Access Ladder

Follow ASTM B 209 - Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate.
ASTM B 221 - Standard Specification for Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes. OSHA 1910.27 - Fixed Ladders.

SUBMITTALS

Shop Drawings: Detail fabrication and erection of each ladder indicated. Include plans, elevations, sections, and details of metal fabrications and their connections. Provide templates for anchors and bolts specified for installation under other Sections. Provide reaction loads for each hanger and bracket.

MANUFACTURERS

1. O'Keeffe's, Inc. (Tel: (415) 824-4900; info@okeeffes.com. Web: http://www.okeeffes.com.

2. National Ladder & Scaffold Co.; Upnovr; or approved equal.

WARRANTY

A. Manufacturer has responsibility for an extended Corrective Period for work of this Section for a period of 10 years commencing on the shipment date of the product against all the conditions indicated below, and when notified in writing from Owner, manufacturer shall promptly and without inconvenience and cost to Owner correct said deficiencies.

Defects in materials and workmanship.

Deterioration of material and surface performance below minimum OSHA standards as certified by independent third party testing laboratory. Ordinary wear and tear, unusual abuse or neglect excepted.

Within the warranty period, the manufacturer shall, at its option, repair, replace, or refund the purchase price of

Manufacturer shall be notified immediately of defective products, and be given a reasonable opportunity to inspect the goods prior to return. Manufacturer will not assume responsibility, or compensation, for unauthorized repairs or labor. Manufacturer makes no other warranty, expressed or implied, to the merchantability, fitness for a particular purpose, design, sale, installation, or use, of the ladder; and shall not be liable for incidental or consequential damages, losses of or expenses, resulting from the use of ladder products.

EXTRA MATERIALS

Furnish touchup kit for each type and color of paint finish provided.





Subconsultants
Dunn & Associates
380 W. 800 S. #100
Salt Lake City, Utah 84101

Hunt Electric, Inc. 1863 Alexander Street Salt Lake City, Utah 84119

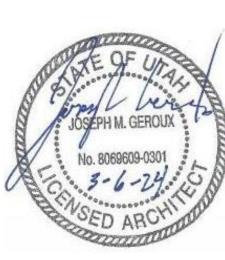
Owner / Project Contact

UTAH,

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Albany Engineered Composites

Tax Parcel ID #: 07-35-252-003-0000



Issued/Revisions

1 PERMIT SUBMISSION 3/6/24
2 3 4 5 6 6

Description

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oject Name
ALBANY NORTH ADD.

conditions shown on the drawing. Shop drawings shall be submitted to the Architect for approval before proceeding

SPECIFICATIONS

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 Date

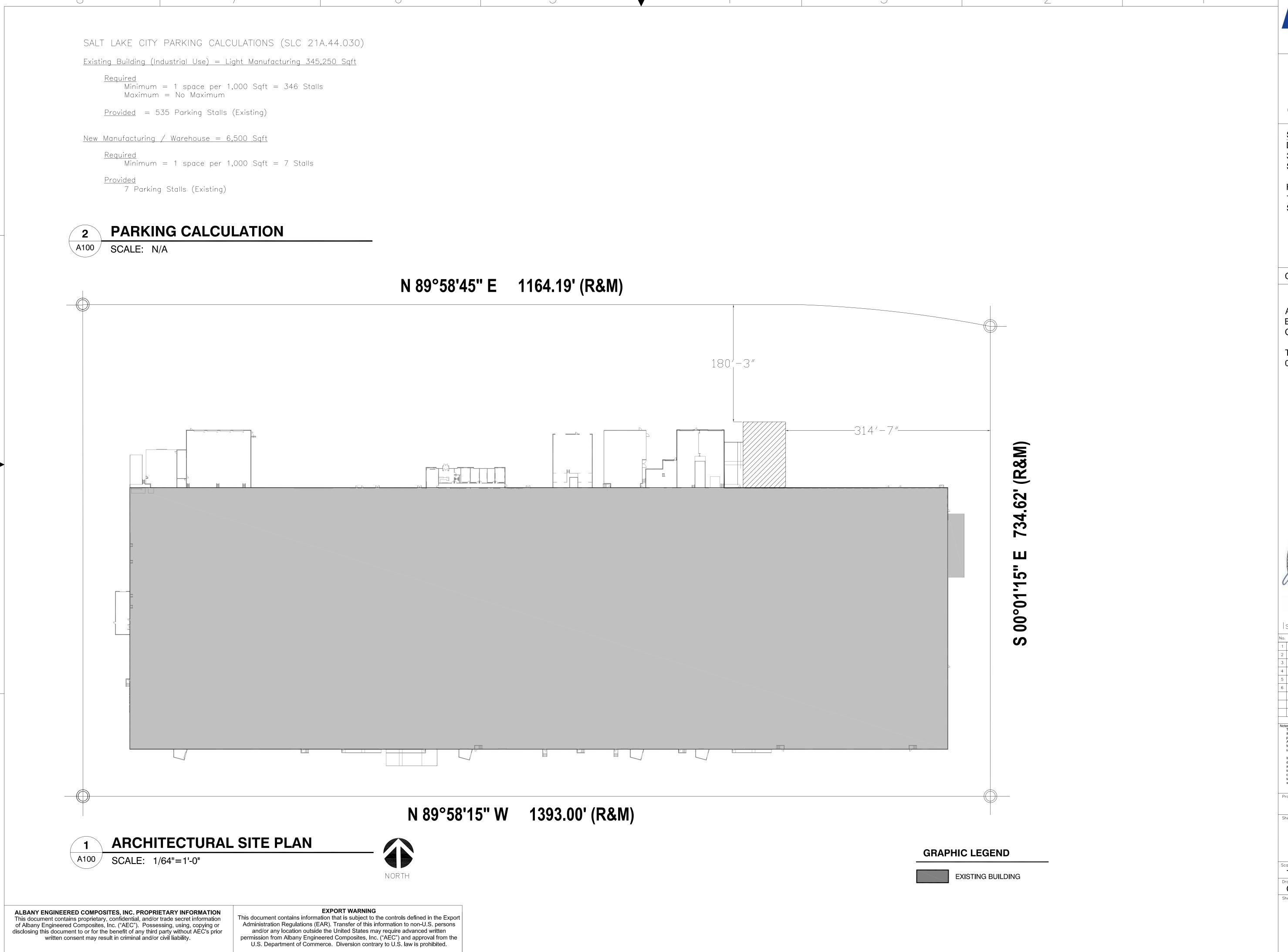
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Sheet No.

AG002



ALBANY

Engineered Composites

GerouxArchitects@gmail.com

Subconsultants
Dunn & Associates
380 W. 800 S. #100
Salt Lake City, Utah 84101

Hunt Electric, Inc. 1863 Alexander Street Salt Lake City, Utah 84119

Owner / Project Contact

Albany Engineered Composites

Tax Parcel ID #: 07-35-252-003-0000

CITY UTAH,

SALT LAKE

JOSEPH M. GEROUX

No. 8069609-0301

SED ARCHITICAL

Issued/Revisions

 No.
 Description
 Date

 1
 PERMIT SUBMISSION
 3/6/24

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Notes

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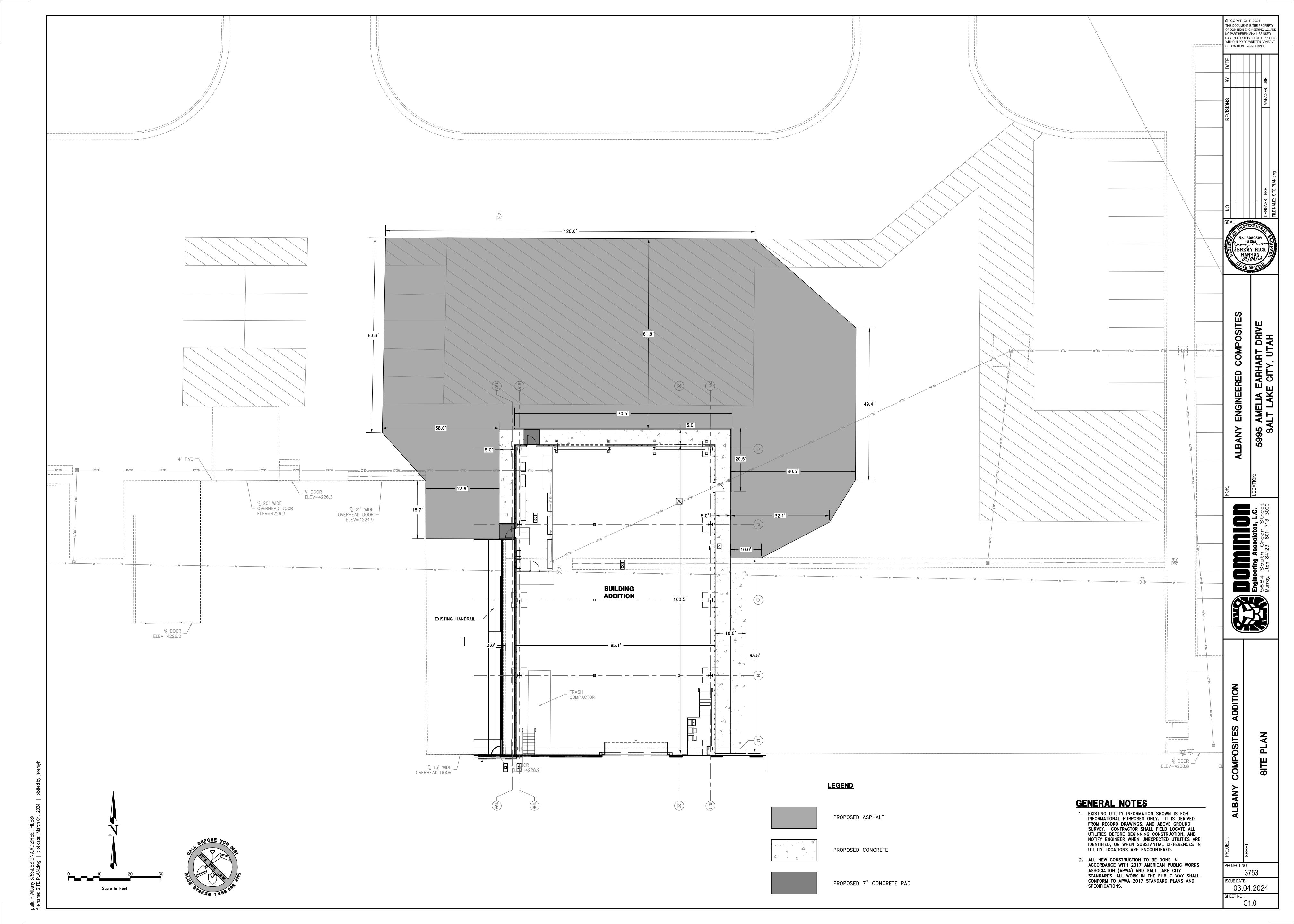
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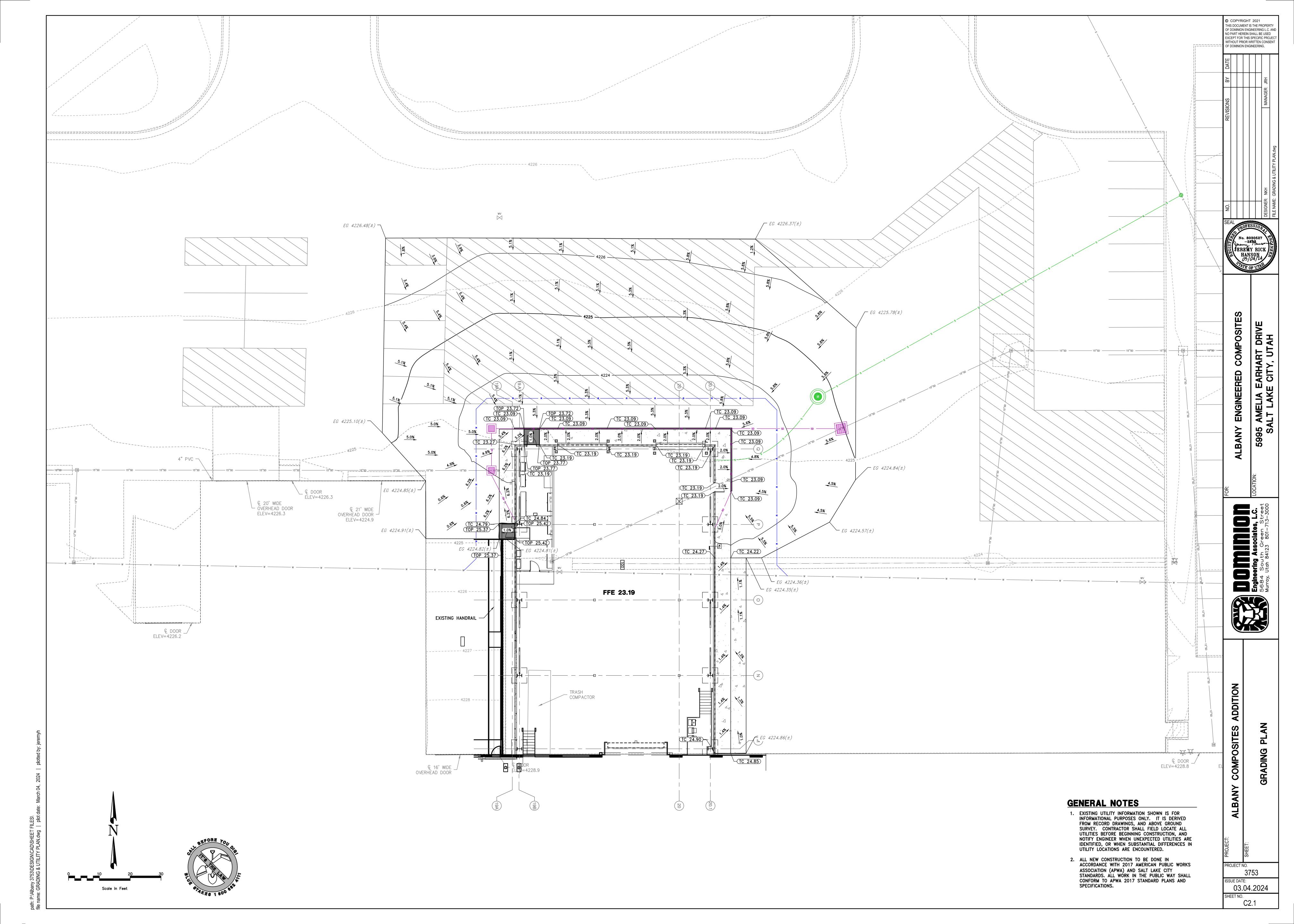
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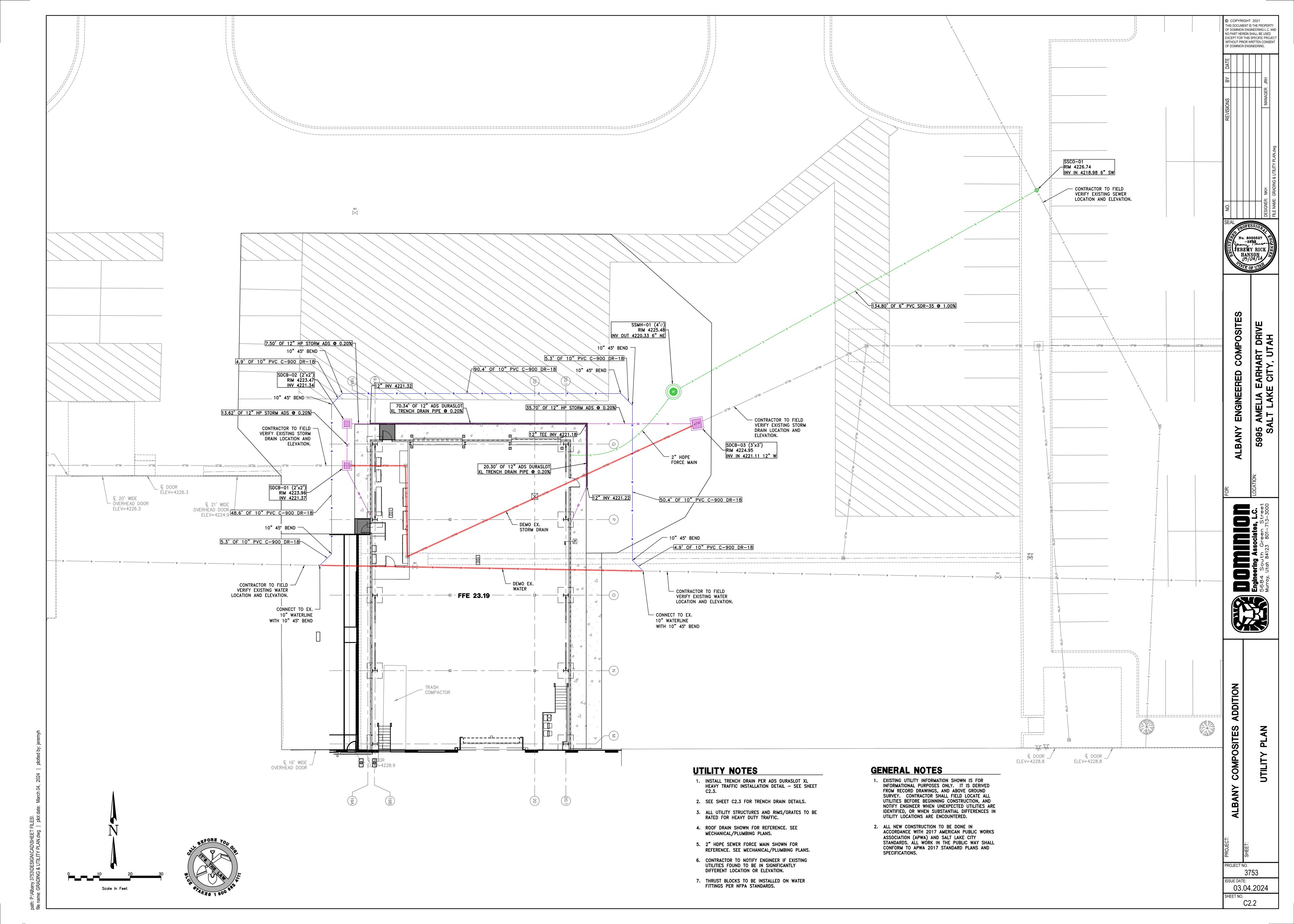
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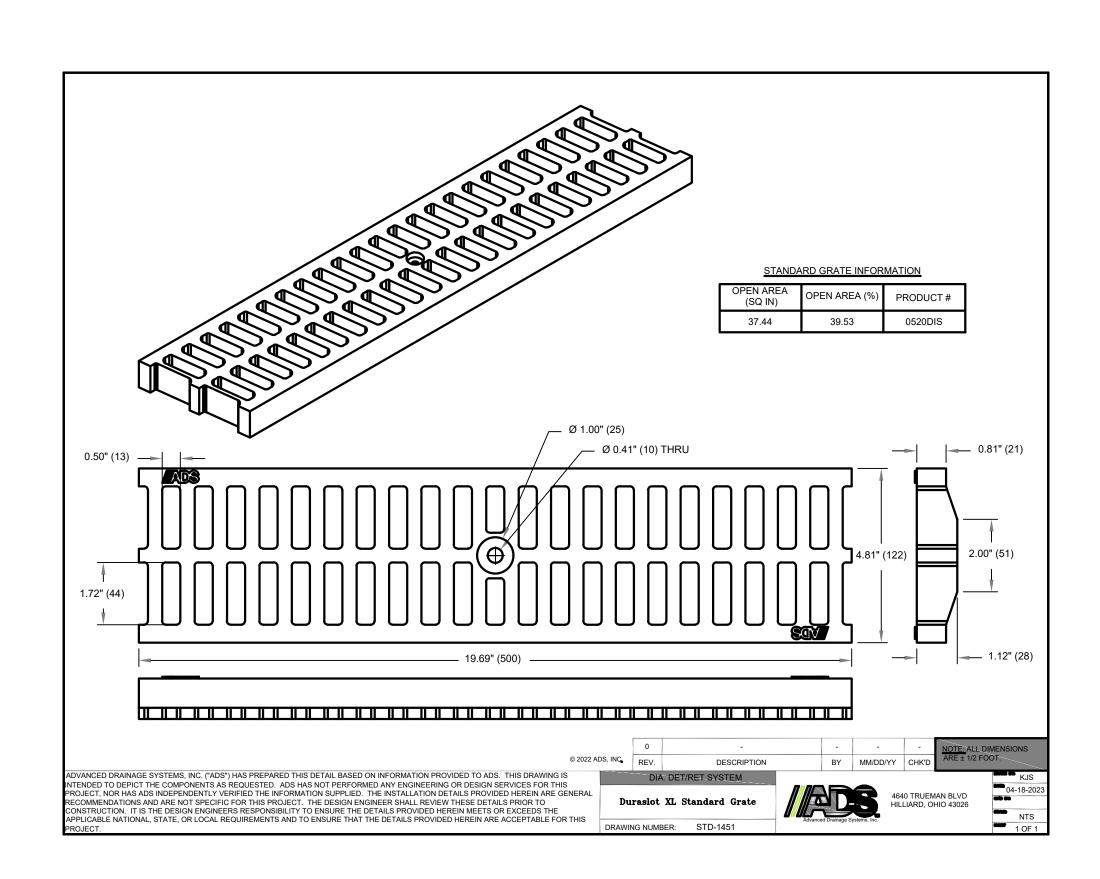
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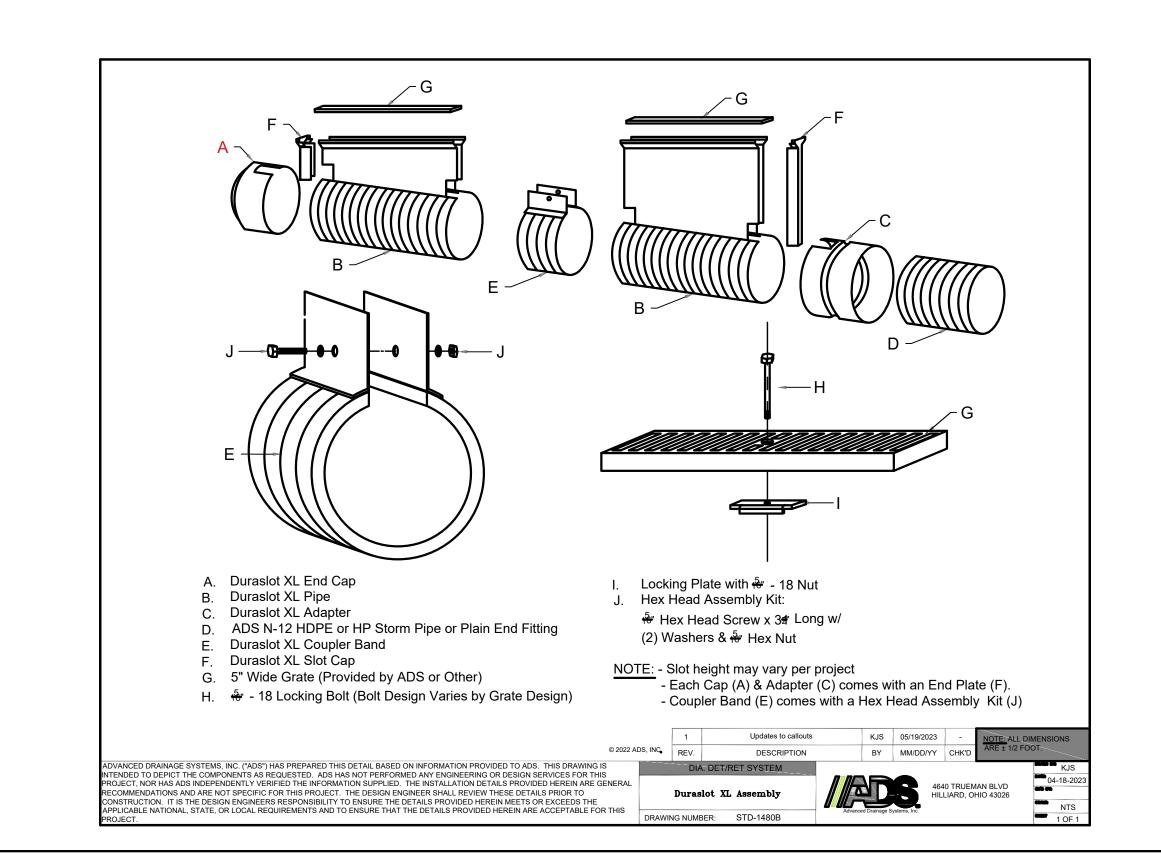
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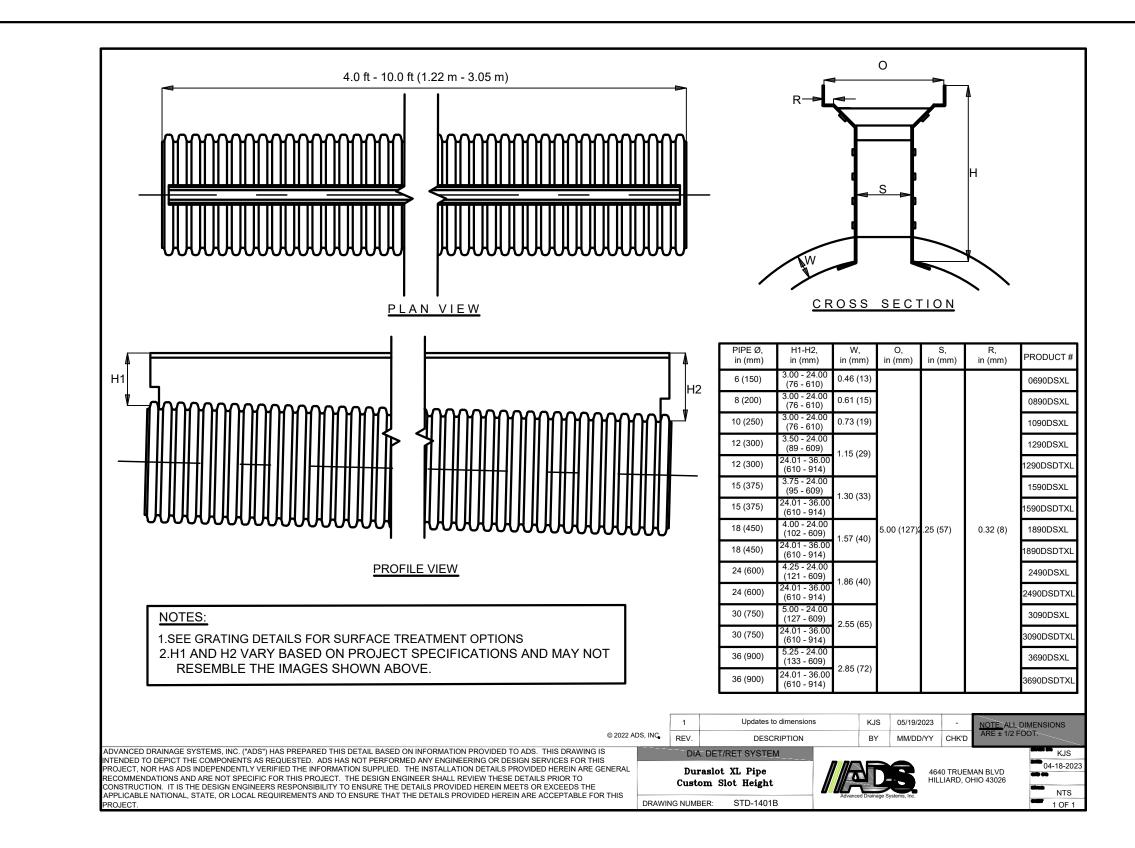


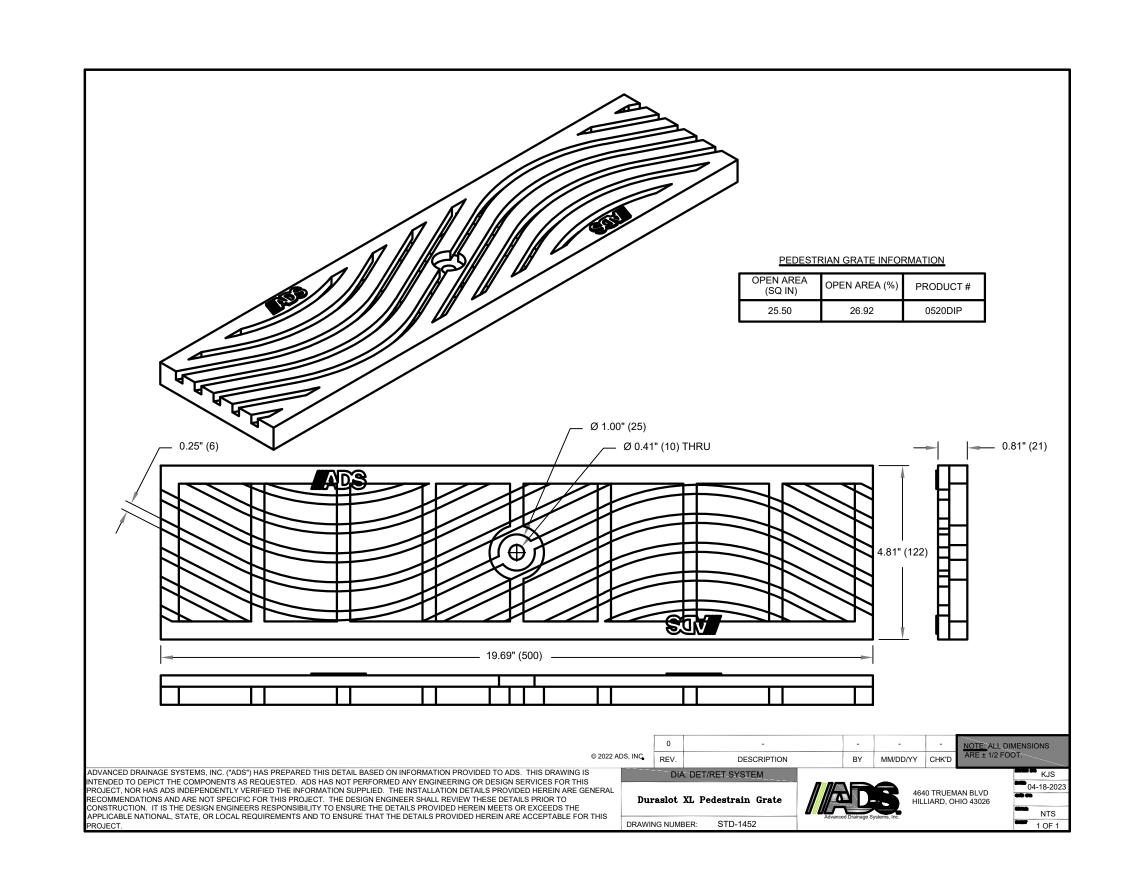


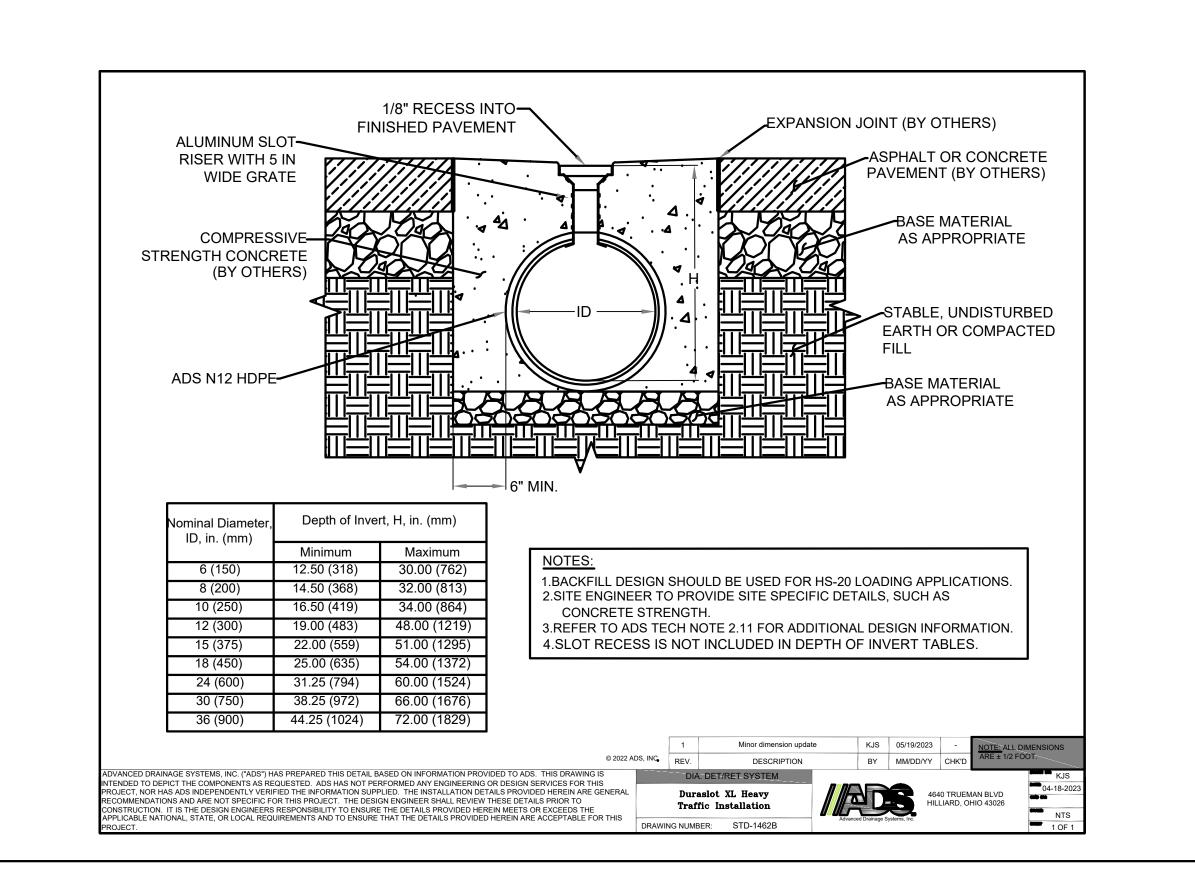


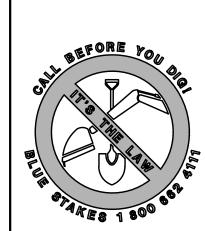












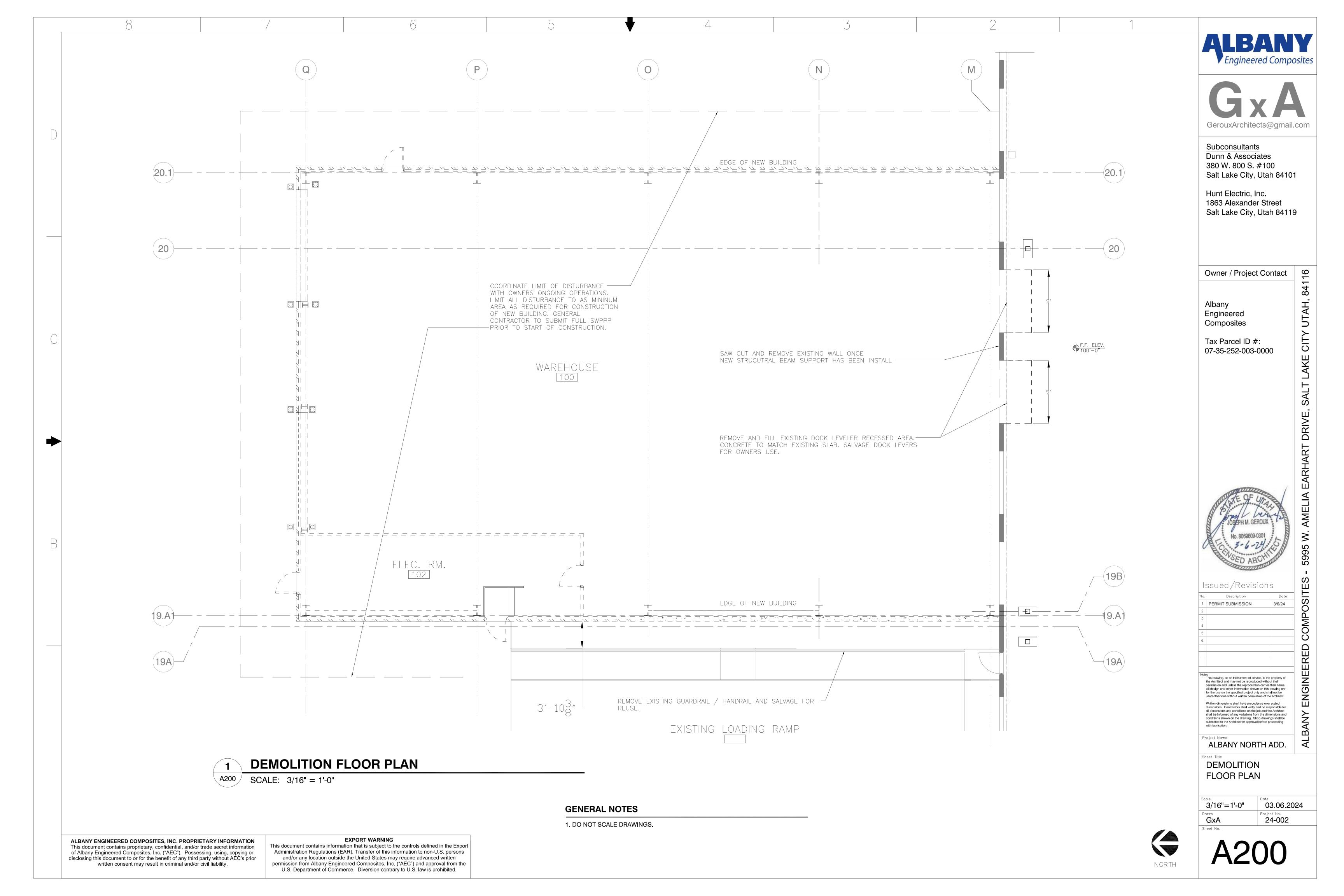
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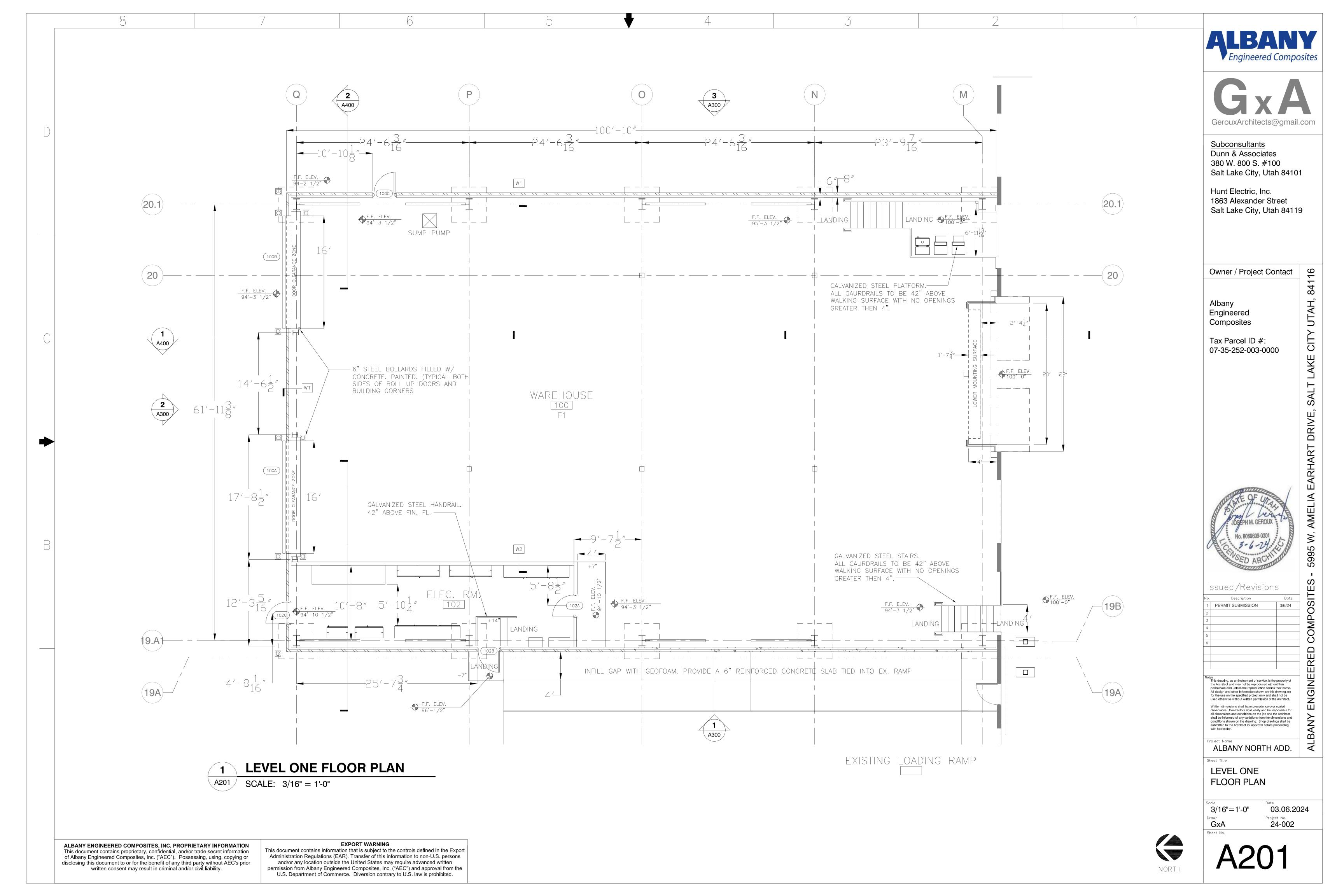
NO PART HEREIN SHALL BE USED EXCEPT FOR THIS SPECIFIC PROJECT

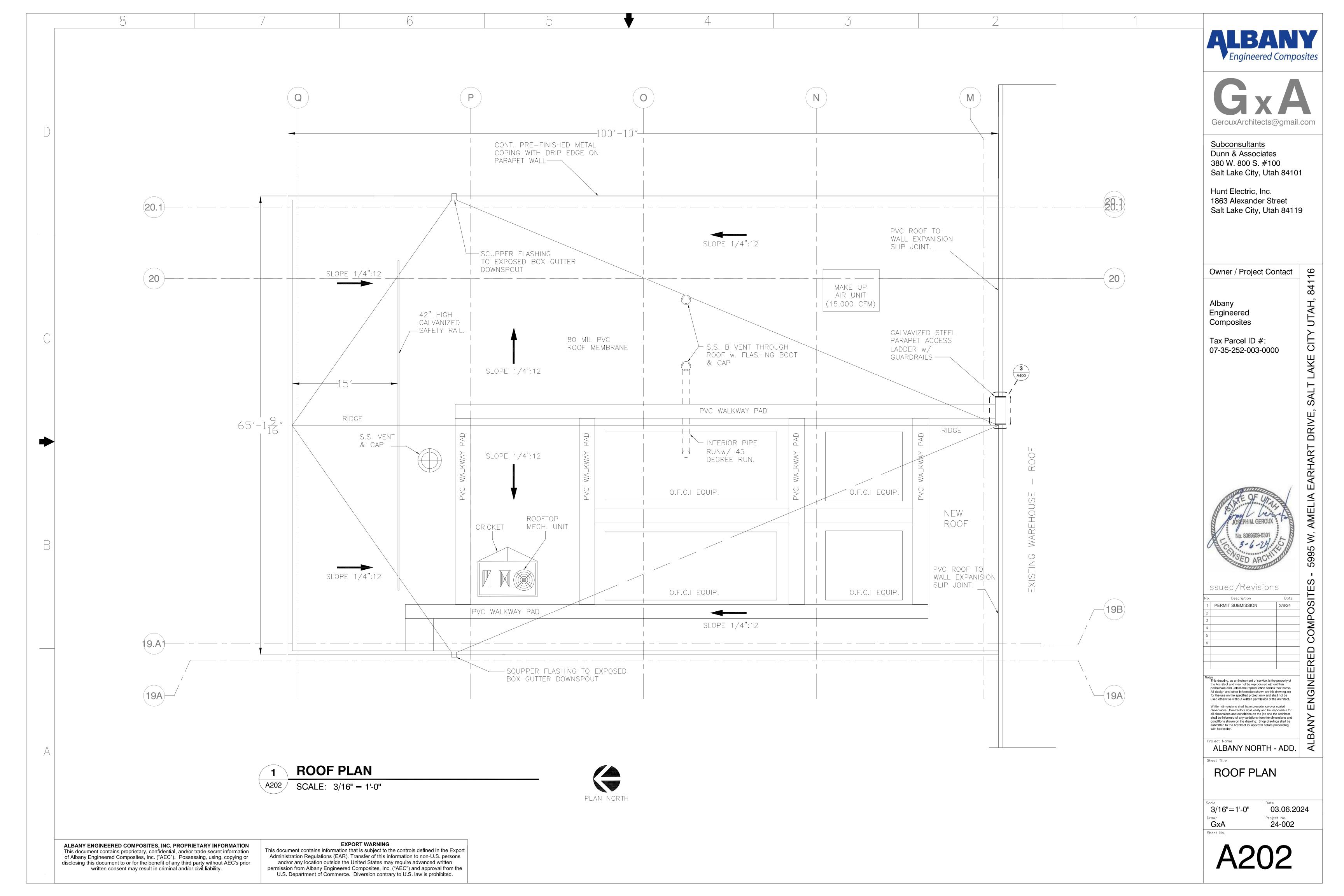
WITHOUT PRIOR WRITTEN CONSENT OF DOMINION ENGINEERING.

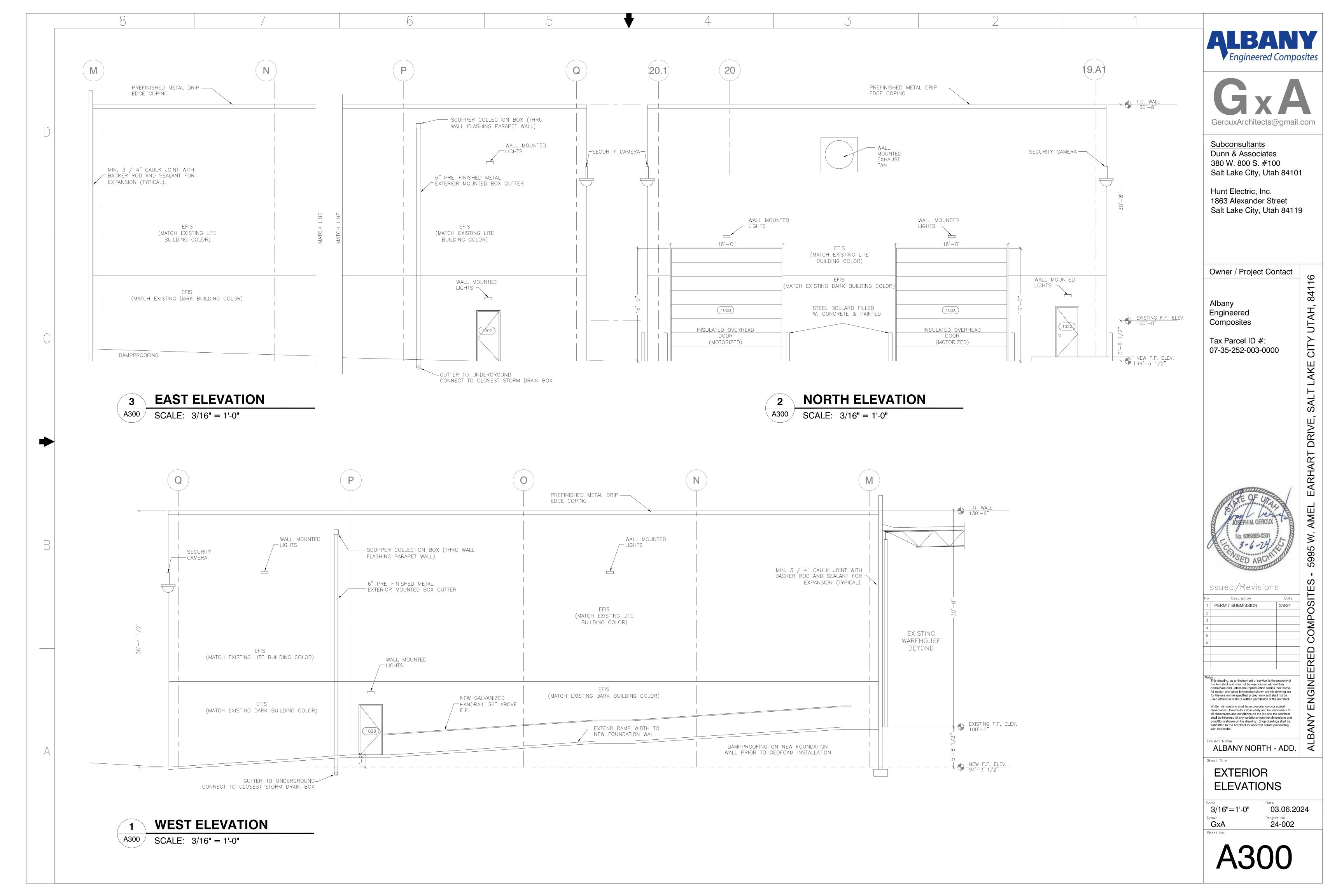
ISSUE DATE: 03.04.2024

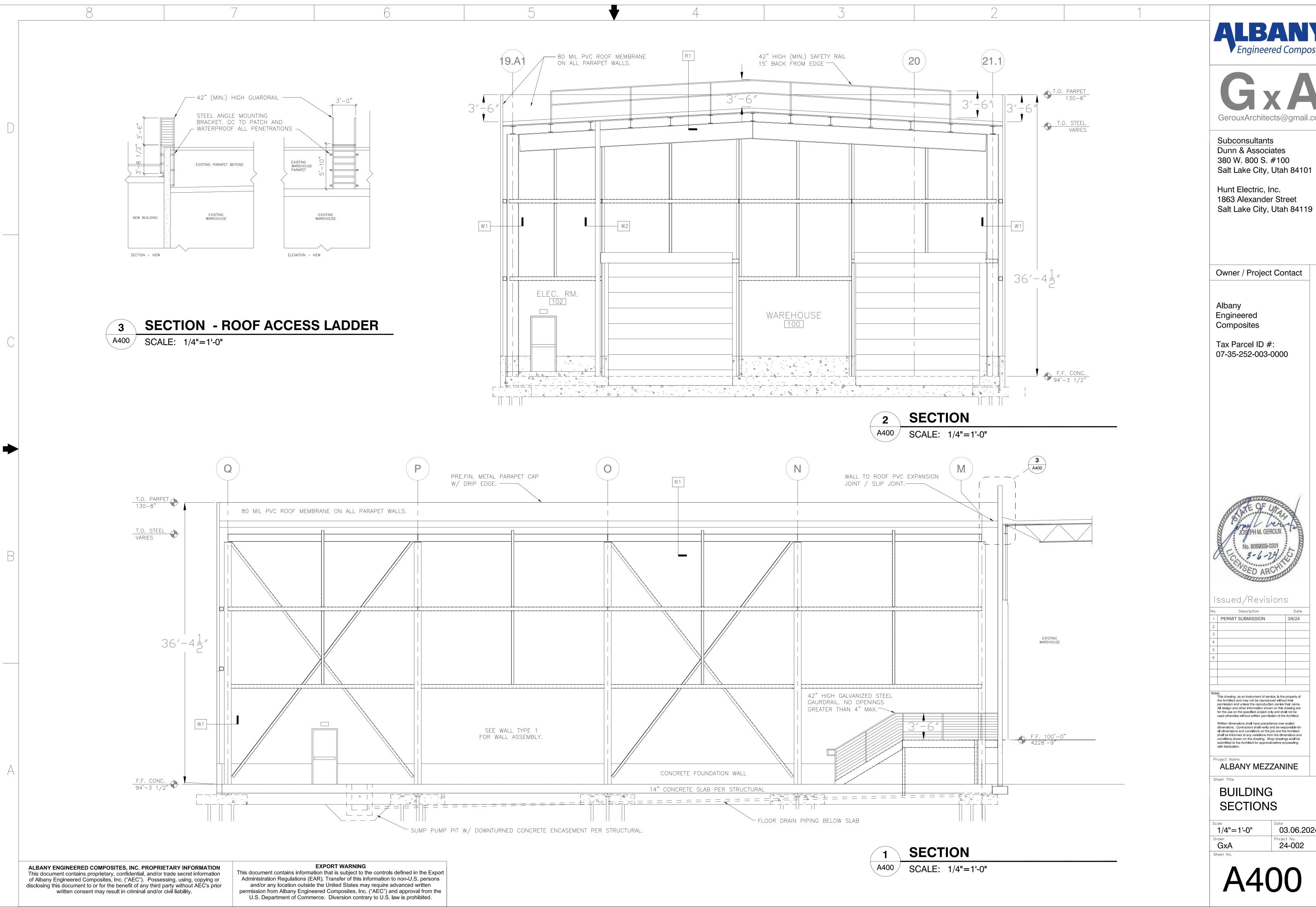
C2.3











ALBANY

Engineered Composites

Subconsultants Dunn & Associates 380 W. 800 S. #100 Salt Lake City, Utah 84101

Hunt Electric, Inc. 1863 Alexander Street

Owner / Project Contact

Tax Parcel ID #:

07-35-252-003-0000

ART DRIVE, SALT LAKE CITY UTAH, 84116

Issued/Revisions

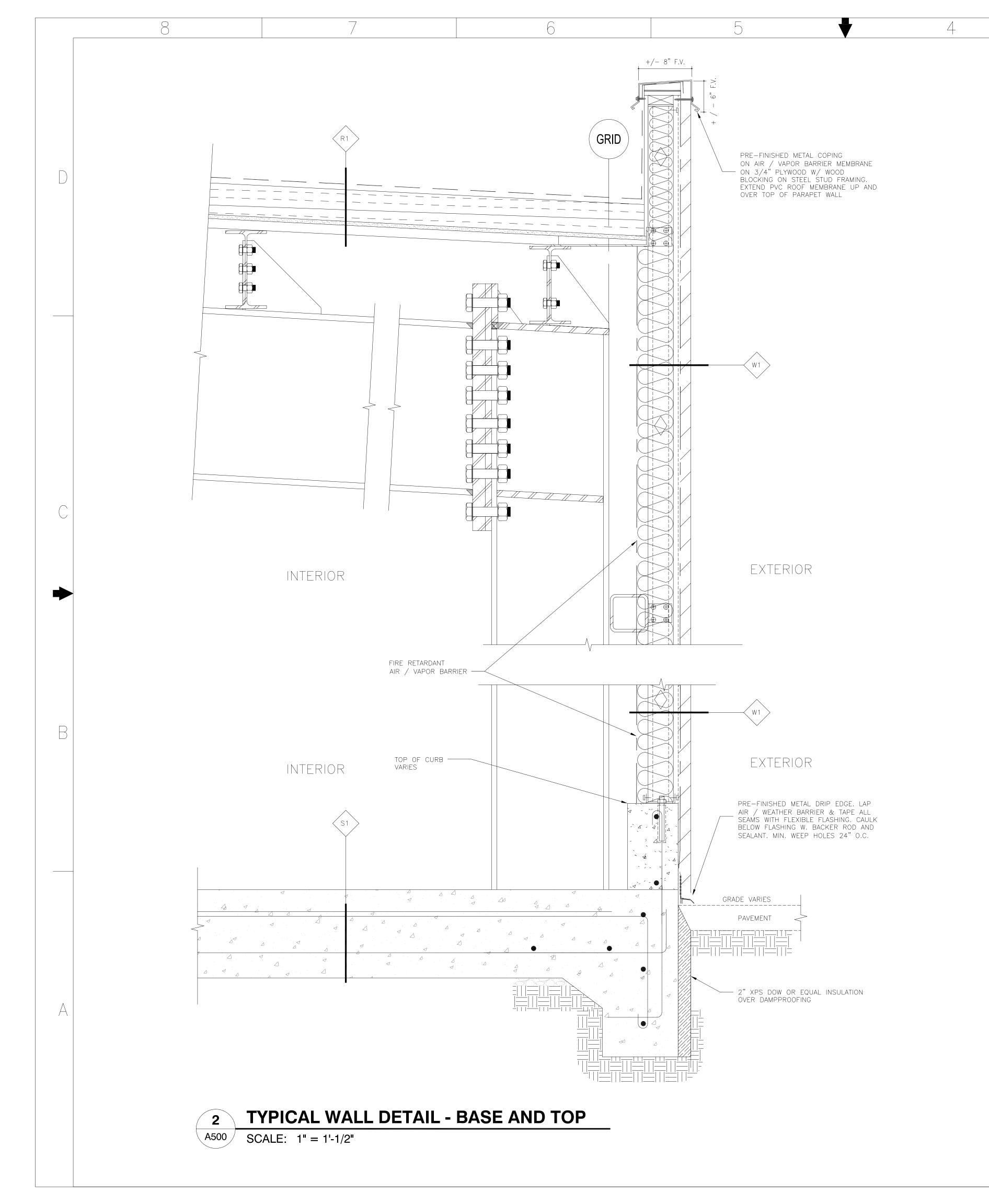
3/6/24

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ALBANY MEZZANINE

SECTIONS

03.06.2024 24-002

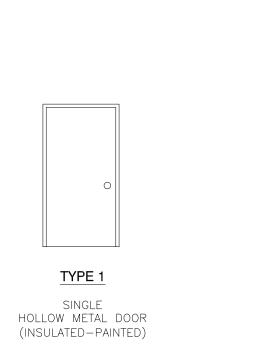


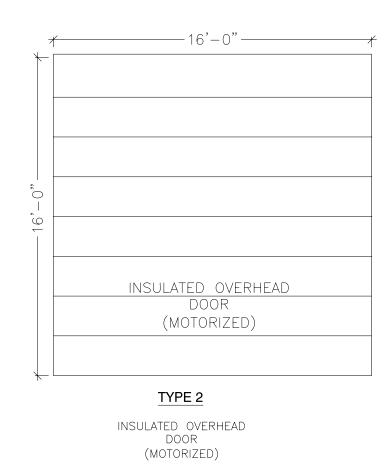
DOOR SCHEDULE

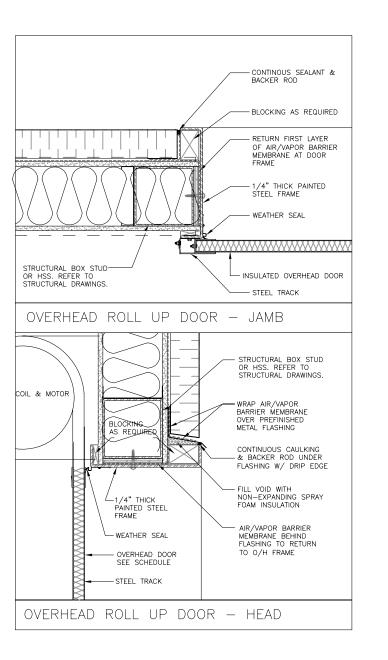
DOOR #	OPERATION	SIZE		DOC)R		DOOR NOTES
			FIRE RATING (M	TYPE	MATERIAL	H S N N	EXTERIOR WALLS ARE 6" METAL STUDS. INTERIOR WALL IS 6" METAL STUD.
100A	OVERHEAD	16'X16'	N/A	2	НМ	PAINT	MOTERIZED / INSULATED
100B	OVERHEAD	16'X16'	N/A	2	НМ	PAINT	MOTERIZED / INSULATED
100C	SWING	3'X7'	N/A	1	НМ	PAINT	EXIT / LATCH-LEVER w/ PANIC
102A	SWING	3'X7'	N/A	1	НМ	PAINT	EXIT / LATCH-LEVER w/ PANIC
102B	SWING	3'X7'	N/A	1	НМ	PAINT	EXIT / LATCH-LEVER w/ PANIC
102C	SWING	3'X7'	N/A	1	НМ	PAINT	EXIT / LATCH-LEVER w/ PANIC

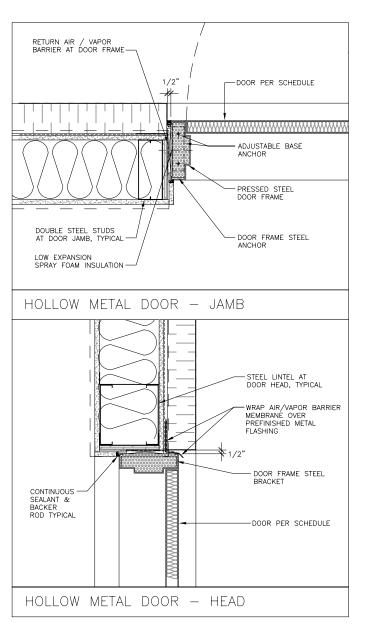
COORDINATE POWER TO ANY DOORS PER OWNER DIRECTION THAT REQUIRE SECURITY MONITORING AND KEY CARD ACCESS CONTROL.

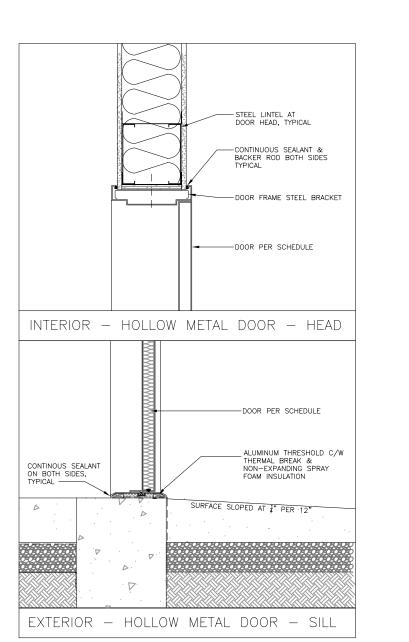
DOOR TYPES











1 DOOR DETAILS / SCHEDULE A500 SCALE: 1" = 1'-1/2"

ALBANY

Engineered Composites

GerouxArchitects@gmail.com

Subconsultants
Dunn & Associates
380 W. 800 S. #100
Salt Lake City, Utah 84101

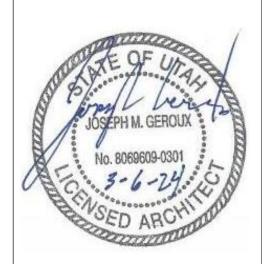
Hunt Electric, Inc. 1863 Alexander Street Salt Lake City, Utah 84119

Owner / Project Contact

Albany Engineered Composites

Tax Parcel ID #: 07-35-252-003-0000

SALT LAKE CITY UTAH, 84116



Issued/Revisions

Description Date
PERMIT SUBMISSION 3/6/24

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Written dimensions shall have precedence over scaled dimensions. Contractors shall verify and be responsible for all dimensions and conditions on the job and the Architect shall be informed of any variations from the dimensions and conditions shown on the drawing. Shop drawings shall be submitted to the Architect for approval before proceeding with fabrication

ENGINEERED

ALBANY NORTH ADD.

DOOR SCHEDULE
DETAILS

AS SHOWN 03.06.2024

Drawn GxA Project No. 24-002

A500

1. The structural notes are intended to complement the project specifications. Specific notes and details in the drawings shall govern over the structural notes and typical details. Typical details and sections shall apply where specific details are not shown. The contractor shall verify all site conditions and dimensions. If actual conditions differ from those shown in the contract drawings, the contractor

shall immediately notify the architect/engineer before proceeding with the fabrication or construction of any affected elements. Discrepancies should be brought the attention of the architect prior to fabrication or construction. 4. Drawings shall not be scaled for the purpose of preparing shop drawings or for construction. Where dimensions on the design drawings are not provided or inferred, the contractor may scale drawings only to estimate member lengths for the purpose of bidding.

Changes to these contract drawings may be made only by an authorized representative of Dunn Associates, Inc. D

held responsible or liable for any claims arising directly or indirectly from changes made without written authorization by an authorized representative of Dunn Associates, Inc. 6. Omissions or conflicts between the contract drawings and/or specifications shall be brought to the attention of the architect/engineer before

proceeding with any work involved. In case of conflict, follow the most stringent requirement as directed by the architect/engineer at no additional The contractor shall submit a written request to the architect/engineer before proceeding with any changes, substitutions, or modifications. Any work done by the contractor before receiving written approval will be at the contractor's risk. These contract documents note and describe potential bid alternate details that may be requested from and approved by the Engineer of Record during the bidding and negotiation phase. The contractor may also submit to the architect/engineer for approval other substitutions or modifications to the design drawings as bid alternates during the bidding and negotiation phase. Field modifications to structural elements are not permitted without notification and approval by the Engineer of

8. The contractor shall coordinate with all trades any items that are to be integrated into the structural system such as openings, penetrations, mechanical and electrical equipment, etc. Structural drawings do not show all openings. Refer to other discipline drawings. Sizes and locations of mechanical and other equipment that differs from those shown on the contract drawings shall be reported to the architect/engineer. Contractor shall take measures as required to insure that construction loads shall not exceed design loads for the structure.

). Any structural items shown on other discipline's drawings that are not shown on the structural drawings, but that are noted as "refer to structural drawings" for additional information, shall be brought to the attention of the structural engineer by the contractor. 10. Items such as fireproofing, waterproofing, insulation, vapor barrier, etc, may be shown or noted on structural drawings for reference only. Refer to

the architectural drawings or specifications for more information. 11. The contractor shall be responsible for means, methods, techniques, sequences, and procedures in order to comply with the contract drawings and specifications. The contractor shall provide adequate shoring and bracing as required for the chosen method of erection. Shoring and bracing shall remain in place until final connections for the permanent members are completed. The building shall not be considered stable until all connections are completed. Walls shall not be considered self-supporting and shall be braced until the floor/roof system is completed.

12. Site observations by a field representative of Dunn Associates, Inc. shall not be construed as approval of construction, the procedures, nor special 13. All work shall be done in accordance with OSHA requirements. Potential conflicts between these documents and OSHA requirements shall be brought to the attention of the structural engineer before proceeding with the work.

14. Shop Drawings and submittals: A. Shop drawings include plans, details, calculations and/or other relevant design information. Review of shop drawings and submittals by Dunn Associates, Inc. is for general compliance only and is not intended for approval. The shop drawing review shall not relieve the contractor from

the responsibility of completing the project according to the contract documents. B. Submittals for the following items shall be submitted to the Project Architect/Engineer for review prior to fabrication and/or installation:

 Concrete Mix Design 2. Concrete Reinforcing

> Anchorage and Embeds Structural Steel

Governing Building Code-----

Deferred Design Items C. Quality control submittals shall be submitted to special inspector for review prior to fabrication/installation. Courtesy copies shall be provided to

the project architect and engineer for their records. D. Detailing and shop drawing production for structural elements will require information (including dimensions) contained in the architectural, structural and/or other consultants' drawings. The structural drawings shall be used in conjunction with the architectural and other consultant's drawings. See the Architectural Drawings for dimensions, doors, windows, non-bearing interior and exterior walls, elevations, slopes, stairs, curbs, drains, recesses, depressions, railings, waterproofing, finishes, chamfers, kerfs, etc.

E. Shop drawings made from reproductions of the structural drawings will be rejected unless the contractor signs a release agreement prior to the shop drawings being reviewed. The contractor may also obtain electronic files of the plan sheets after signing a release agreement. Electronic files of the detail sheets and schedule sheets will not be made available.

F. The Contractor may choose to submit shop drawings and submittals for review electronically. The Contractor may do this provided a minimum of one hard copy set is submitted for review. The submittal will be stamped as received by Dunn Associates, Inc. when the hard copy is received by our office. Hard copies of small submittals need not be submitted if the Contractor receives the approval for this exception by the Engineer of Record.

------ International Building Code 2021

BASIS OF DESIGN

Serviceability Criteria

B. Deflection Limits-----

A. Interstory Seismic/Wind Drift-----

ı	۷.	Nisk Galegoly	· II
	3.	Roof Live Load (Not concurrent with Roof Snow Load)	20 psf or 300 lbs
	4.	Roof Snow Load	
		A. Ground Snow Load	$P_0 = 28 \text{ psf}$
		B. Flat Roof Snow Load	P _f = 20 psf
		C. Snow Exposure Factor	C _e = 1.0
		D. Thermal Factor	
		E. Slope Factor	
		F. Snow Load Importance Factor	$I_{s} = 1.0$
	5.	Wind Load	
		A. Basic Wind Design Speed	V = 105 mph (Vasd = 0.78V)
		B. Wind Exposure	
		C. Internal Pressure Coefficient	± 0.18
		D. Components and Cladding	
	6.	Seismic Design Criteria	
		A. Mapped Spectral Response Accelerations	
		1. 0.2-Second (Short) Period Acceleration	S _S = 1.321
		2. 1-Second Acceleration	
		B. Design Spectral Response Accelerations	
		0.2-Second (Short) Period Acceleration	S _{DS} = 1.057
		2. 1-Second Acceleration	$ S_{D1} = 0.570$
		C. Site Class (Soil Profile)	D - Default
		D. Seismic Importance Factor	
		E. Seismic Design Category	D
		F. Lateral Force Resisting System(s)	Ordinary Steel Moment Frames / Steel Ordinary Concentrically Braced Frames
		Response Modification Coefficient	R = 3.5 / 3.25
		System Overstrength Factor	
		3. Deflection Amplification Factor	C _d = 3 / 3.25
			V = C _s *W = 0.302W, where W is structural weight
		G. Analysis Procedure	Equivalent Lateral Force

BUILDING MAXIMUM STORY DRIFT								
Level	Floor to floor	Elastic S	Story Drift	Inelastic Story Drift				
	neignt (feet)	Story Drift (inch)	Drift Ratio	Story Drift (inch)	Drift Ratio			
2	35' - 1"	2.75"	0.0067	8.25"	0.02			
	Level 2	Level Floor to floor height (feet)	Level Floor to floor Elastic S height (feet) Story Drift (inch)	Level Floor to floor Elastic Story Drift Story Drift (inch) Drift Ratio	Level Floor to floor height (feet) Elastic Story Drift Inelastic Story Drift (inch) Drift Ratio Story Drift (inch)			

----- $\Delta a < 0.02h$ ('h' is story height)

----L/240------ L/360

--- Total------ Live/Snow/Wind

---- L/480----- L/600(1/4" max)

---- L/360(3/8" max)

GENERAL STRUCTURAL NOTES

---- ASTM C1107 Grade B Non-Shrink Grout------Non-shrink grout shall be prepackaged, non-metallic and non-gaseous. Furnish certified independent test data to Structural Engineer.

Compressive Strength in 28 days = 7,500 psi J. Refer to architectural drawings for structural steel fireproofing or architecturally exposed steel requirements. K. All steel, connectors and embeds exposed to weather shall be galvanized, unless noted otherwise.

A. Welds may be performed in the shop or the field. Designations of field welds on the Contract Documents are shown where it is anticipated field welds may be required, and are shown only for the purpose of assisting the Contractor in the bidding process. The Contractor shall coordinate the welding sequence between sub-contractors, and any costs associated with variations in the welding sequence are outside the scope of the Design Engineer, and are the responsibility of the Contractor. Field welding is to be minimized where possible. Contractor is to verify that the sequencing of welds meets all safety regulations, and the requirements of the Construction Documents and their referenced codes. Welding in the 'k' region of wide flange

members is prohibited unless noted otherwise. B. Provide full depth web stiffener plates at one side of all beams at all bearing points, unless noted otherwise. Stiffener plates shall be the thickness called out below unless noted otherwise. Stiffeners shall be welded on both sides of the plate-to-flange and plate-to-web interfaces. ---- STIFFENER THICKNESS & WELD SIZE Less than 8 1/4"--------- 1/4" & 3/16"

8 1/4" to 12 1/4"-------- 3/8" & 1/4" 12 1/4" to 16 1/2"-------- 1/2" & 5/16" 16 1/2" to 20 3/4"--------- 5/8" & 3/8"

C. Bolting and Fasteners 1. Ordinary steel-to-steel connections, simple span framing, and beam/girder-to-bearing plates are the standard connection used throughout the design drawings, unless noted otherwise:

a. Use A325N bolts or tension-controlled bolts Tighten these fasteners to a "snug tight" condition. c. Where a steel-to-steel connection is not shown, provide a framed connection per AISC for one half the total uniform load capacity of the beam for the span and steel specified.

2. Pretensioned connections are shown on the structural design drawings. They join steel-to-steel connections, unless noted otherwise: a. Use A325N or A325X bolts or tension-controlled bolts.

b. Pretension these fasteners as required by AISC "Specification for Structural Joints Using ASTM A325 or a A490 bolts." 3. Slip Critical connections (SC) are shown on the structural design drawings. They join steel-to-steel connections in Seismic Load-Resisting 4. Fasteners and washers shall not be reused. Scrap dirty, rusted, or water-contaminated bolt assemblies.

D. Weld Access Holes and Temporary Attachments . Fabricate beam copes and weld access holes using the geometry described in AISC 360 Section J1.6.

2. Runoff tabs are to be removed unless noted otherwise. E. Backup Bars: Remove backup bars from connections in demand critical welds, unless noted otherwise. Backgouge the root and weld to sound metal.

Reweld the gouged area and add a 5/16" reinforcing fille F. Protected Zones: No connections, other than those on the design drawings, shall be made within the protected zone of the SLRS as identified in AISC

1. Locate headed studs, welds, miscellaneous metal, etc outside of the protected zone. 2. Paint the protected zones with bright paint before and after fire coating operations to identify them.

G. All welds not noted on drawings shall be minimum 1/4" fillet welds. H. All structural steel members shall be considered as an unrestrained fire-resistance-rated assembly.

A. Reinforcing Bars: Do not weld rebar except as specifically detailed in the drawings. In such cases, use only AWS standards. Do not substitute

reinforcing bars for deformed bar anchors, structural bolts, or headed stud anchors.

B. Do not weld anchor bolts, including "tack" welds. C. Headed Stud Anchor welding and Deformed Bar Anchor welding shall conform to the manufacturer's specifications.

Roof not Shown

Figure 30.3-1

psf

psf

A =

psf

10.00 ft² | 20.00 ft² | 50.00 ft² | XX.00 ft²

11.38 -30.11 10.97 -28.45 10.44 -26.26 10.04 -24.60

19.41 -20.61 18.77 -19.97 17.92 -19.12 17.28 -18.48

100.00 ft² | 200.00 ft² | 500.00 ft² | XXX.00 ft²

psf

Concrete shall be supplied in accordance with ACI 318 and the following requirements:

Concrete Use	Comp. Strength f 'c (psi)	Exposure Classes per ACI 318 19.3.1 (a,b,c)	Nominal Max. Aggregate Size
Footings / Pile Caps	4000	F0, S0, W0, C1	3/4"
Other Walls	4000	F0, S0, W0, C0	3/4"
Interior Slabs on Grade (d,e,f)	4000	F0, S0, W0, C0	3/4"

a. Cement type (ASTM C150 or C595), max. water/cement ratio and fly ash to comply with ACI 318 Table 19.3.2.1.

b. Air content ± 1.5%, to comply with ACI 318 Tables 19.3.2.1 and 19.3.3.1, initially measured at point of final placement and point of discharge. Subsequent measurements may occur only at point of discharge provided air content is adjusted to account for placement losses. Air content shall be adjusted for the use of admixtures, fly ash and aggregate size. Air-entraining admixtures shall comply with ASTM C260 (when used). Calcium chloride shall not be added to the concrete mix. Unreinforced concrete slabs on grade may use calcium chloride as permitted by ACI

d. For any exposed slab on grade, the contractor is to notify the engineer of record at least 7 days prior to any pours to discuss the concrete mix design being used as well as present their means and methods of addressing concrete phenomena such as cracking, curling, spalling, etc.

e. Interior slabs on grade shall have a drying shrinkage maximum of 0.040% by ASTM C157 (7-day soak time permitted). Test results shall be submitted with mix designs.

f. For slab on grade 6" or thicker, a maximum aggregate size of 1 1/2" is permitted. g. Contractor shall provide verification that mix design for lightweight concrete over metal deck has a maximum dry weight density of 110 ± 3 pcf per ASTM - C567.

project completion. The building area shall be stripped of all vegetation, topsoil, and debris. Following stripping, all undocumented fill soils and any Materials unless noted otherwise --- ASTM C33 A. Normal Weight aggregates--- B. Light Weight aggregates ASTM C330 C. Fly Ash, Class C or F Pozzolan----- ASTM C618 D. Reinforcing Steel

> -- ASTM A615 Grade 60 2. Subject to the above requirements, ASTM A615 Grade 75 steel may be used at the contractor's option, except in special moment frames, special concrete shear walls, shear stirrups or torsional reinforcement. Deformed Bar Anchors (DBA) ------- ASTM A49

> > -- ASTM A108

 Headed Stud Anchors (HSA) ---G. Anchor Bolts: See steel and/or wood section(s) of general notes

H. No aluminum conduit or product containing aluminum or any other material injurious to concrete shall be embedded in concrete. 2. The contractor shall be responsible for the design, detailing, care, placement and removal of all formwork and shores.

A. Supporting forms and shoring shall not be removed until structural members have acquired sufficient strength to safely support their own weight and any construction load to which they may be subjected. In no case, however, shall forms and shoring be removed in less than 24 hours after concrete placement.

B. Suspended slabs shall be re-supported after form removal until concrete reaches its 28-day specified compressive strength.

3. Reinforcement shall have the following concrete clear cover: A. Cast-in-place Concrete

1. Cast against and permanently exposed to earth----- 3" 2. Formed concrete exposed to earth or weather: #6 thru #18 bars-----#5 and smaller bars------ 1 1/2

3. Concrete not exposed to weather or in contact with ground: Slabs, Walls, Joists; #11 bars and smaller ----- 3/4" Beams, Columns: Primary Reinforcement, Ties,----- 1 1/2" Stirrups, Spirals

Construction Joints and Control Joints: A. Provide a beveled 2" x 4" x continuous or intermittent keyway in all horizontal and vertical construction joints including between top of footing and foundation walls. In addition, all joints shall be intentionally roughened to a full amplitude of approximately 1/4". B. Control joints shall be installed in slabs on grade so the length to width ratio of the slab is no more than 1.25:1. Control joints shall be

completed within 12 hours of concrete placement. Control joints may be installed by either: 1. Saw cut with depth of 1/4 the thickness of the slab .. Tooled joints with depth of 1/4 the thickness of the slab

above, align joints in concrete walls with masonry control joints.

C. Install control joints in slabs on grade at a spacing not to exceed 30 times the slab thickness in any direction, unless noted otherwise. Construction joints in slabs on grade shall not exceed a distance of 125'-0" on center in any direction. D. Install construction joints in walls at a spacing not to exceed 30 times the wall thickness, except in concrete shear walls. For masonry walls

E. Construction joints are not permitted in suspended slabs or beams unless specifically noted on the construction documents or submitted by the Contractor to the Engineer of Record for review. Construction A. Use chairs or other support devices recommended by the CRSI to support bar and tie reinforcement bars and WWR prior to placing concrete.

WWR shall be continuously supported at 36" on center maximum. Reinforcing steel for slabs on grade shall be adequately supported on precast concrete units. Lifting the reinforcing off the grade during placement of concrete is not permitted. B. Contractor shall coordinate placement of all openings, curbs, dowels, sleeves, conduits, bolts, inserts and other embedded items prior to

concrete placement.

C. All embeds and dowels shall be securely tied to formwork or to adjacent rebar prior to concrete placement. D. No pipes, ducts, sleeves, etc. shall be placed in structural concrete unless specifically detailed or approved by the structural engineer. Penetrations through walls when approved shall be built into the wall prior to concrete placement. Penetrations will not be allowed in footings

or grade beams unless detailed. Piping shall be routed around these elements and footings stepped to avoid piping. . Reinforcing bars shall not be welded unless specifically shown on drawings. In such cases, use only AWS standards. Do not substitute reinforcing bars for DBAs or HSAs.

F. Reinforcing bars shall not be field bent, except as shown in the contract drawings or permitted by the EOR. G. Top of concrete columns shall be flush $(\pm 1/4")$ with bottom of supported cast-in-place members.

A. Lap splice lengths shall be detailed to comply with the "Reinforcing Bar Lap Splice Schedule" contained within the contract drawings. Do not splice stirrups and ties. Do not splice vertical bars in retaining walls unless specifically shown.

2. At shear wall boundary elements lap lengths shall be increased by 25%. 3. Splices may be made with mechanical splices capable of 125% of yield strength of the bar being spliced (Type 1). Splices located within lateral resisting elements shall also develop the tensile strength of the bar (Type 2). Mechanical splices shall be the positive connecting type coupler and shall meet all ACI requirements. Use "Cadweld", "Lenton" Standard Couplers, "Bar-Lock" or equal with internal protector. If mechanical splices are used, splices or couplers on adjacent bars shall be staggered a minimum of 24" apart along the longitudinal axis of the reinforcing bars.

B. All 90, 135 and 180° hooks shown graphically in the drawings shall be detailed as ACI standard hooks, unless noted otherwise.

C. At joints provide reinforcing dowels to match the member reinforcing, unless noted otherwise. D. At all discontinuous control or construction slab on grade joints, provide (2) #4 x 48".

. Provide corner bars at intersecting wall corners using the same bar size and spacing as the horizontal wall reinforcing. F. All vertical reinforcing shall be doweled to footings, or to the structure below with the same size and spacing as the vertical reinforcing for the element above. Dowels extending into footings shall terminate with a 90° standard hook and shall extend to within 4" of the bottom of the

footing. Footing dowels (#8 bars and smaller) with hooks need not extend more than 20" into footings. G. See details for reinforcing around miscellaneous openings. All recesses that interrupt reinforcing shall be reinforced the same as an opening. H. Reference ACI 315 for additional detailing requirements.

9. Contractor required to submit concrete mix design for review by the engineer prior to any placement of concrete. 10. All concrete shall be mixed and placed per ACI 304. Contractor shall refer to and follow the recommendations in ACI 305R for hot weather

concreting and ACI 306R for cold weather concreting. 11. Construction activity or storage of materials shall not take place on newly placed concrete until the concrete achieves sufficient strength to provide adequate support.

POST-INSTALLED ANCHORS

1. Post-installed anchors shall only be used where specifically detailed or called for on the design drawings. If circumstances arise during construction where the Contractor desires to substitute a post-installed anchor in place of a cast-in-place anchor, the Contractor shall submit a formal written

request for each circumstance to the Architect and Engineer for review. 2. Follow all ICC Evaluation Report and manufacturers' requirements and recommendations for post-installed anchor installation. Where conflicts may

exist, the most stringent requirement applies. 3. Post-installed anchors that are exposed to exterior conditions, or interior spaces where moisture can accumulate, shall be either galvanized or

stainless steel anchors. 4. All holes in hollow, brick, or stone masonry shall be drilled in the "rotary-only" mode with the hammer function off.

5. For installation of adhesive anchors horizontally or vertically inclined, installers must have AMI/CRSI Adhesive Anchor Installer Certification. 6. Adhesive anchors shall be as specified in the Contract Documents. If no specific adhesive is specified, or if a particular product is preferred, the Contractor may submit a request for an adhesive from the following list prior to design of the anchor. Follow manufacturer and ICC evaluation report requirements for installation temperature of adhesive anchors. Adhesive anchors shall not be installed or cured outside of approved temperature ranges. Adhesive anchors may not be installed in concrete less than 21 days old without prior approval.

A. Eligible adhesive anchors in concrete (normal weight only)

1. HIT-RE 500v3 by Hilti (ESR-3814) 2. SET-3G by Simpson (ESR-4057) 3. SET-XP by Simpson (ESR-2508)

4. AT-XP by Simpson (IAPMO ES ER-0263) Pure 110+ by Dewalt (ESR-3298) 6. AC200+ Gold by Dewalt (ESR-4027)

HIT-HY 200 V3 by Hilti (ESR-4868)

7. Mechanical anchors shall be as specified in the Contract Documents. If no specific mechanical anchor is specified, or if a particular product is preferred, the Contractor may submit a request for an anchor from the following list prior to design of the anchor.

A. Eligible mechanical anchors in concrete 1. Kwik Bolt TZ2 by Hilti (ESR-4266) 2. Kwik HUS-EZ by Hilti (ESR-3027)

3. HDI-P TZ by Hilti (ESR-4236) 4. Strong-Bolt 2 by Simpson (ESR-3037)

5. Titen HD by Simpson (ESR-2713) 6. Torq-cut by Simpson (ESR-2705)

7. Trubolt+ by ITW (ESR-2427) 8. Tapcon/Sammy Anchors by ITW (ESR-2202)

9. Power-Stud+ SD2 by Dewalt (ESR-2502) 10. Power-Stud+ SD4 and SD6 Stainless by Dewalt (ESR-2502) 11. Snake+ by Dewalt (ESR-2272)

12. Screw-Bolt+ by Dewalt (ESR-3889) 13. Mini Undercut+ by Dewalt (ESR-3912)

8. The Contractor may also submit for review and approval, the manufacturer's ICC evaluation report of alternate anchor systems not listed above. The alternate system shall provide minimum capacities equal to or greater than the specified anchor system. The alternate system shall be approved by the engineer of record prior to the substitution.

METAL DECKING

1. Steel deck shall comply with the latest requirements of the Steel Deck Institute.

Steel deck material shall comply with the manufacturer's ICC Report and have a minimum yield strength of 33k; 3. All deck shall be 3-span continuous minimum. In areas where 3-span conditions are not possible, the contractor shall provide heavier gauge deck as required to provide the equivalent loading of the specified deck under a 3-span condition.

4. Loads from plumbing, fire sprinklers, HVAC ducts, light fixtures, architectural elements, or equipment of any kind, may only be attached to the roof deck provided the attachment and loading meets the 'Suspended Loads from Metal Deck' detail supplied in the drawings.

5. Conduits are permitted in deck slabs subject to local code requirements and fire rating considerations. When conduit is installed in the slab, it shall be limited to conduits the lesser of 2" in diameter or less than 1/3 the concrete thickness over the deck flutes, and that no crossovers occur, and that conduit is spaced at least 18" apart with a 3/4" minimum cover and placed a minimum of 1" above top of deck flutes. Conduits shall not be run in bottom deck ribs. For conduits not able to meet spacing requirements, see typical detail for conduits in reinforced concrete over metal deck. Aluminum conduits in concrete slabs shall be coated or covered to prevent aluminum - concrete reaction and electrolytic action between aluminum

6. All members supporting deck shall be dry before welding.

7. Crimp seams before button punching or welding interlocking seams. 8. Where deck is to receive sprayed-on fire proofing, painted deck shall be coated with special paint that will allow the sprayed-on fire proofing to adhere to the painted deck.

9. All welds performed on roof deck or galvanized deck are to be painted. 10. Steel deck shall be galvanized (G60) when used above or below mechanical equipment rooms. 11. Steel roof deck shall be painted with interlocking side seams with the following minimum properties:

Type/Ga------S(in3/ft)--------I (in4/ft)------Allowable shear value------Notes 1 1/2" B/20------Typ. Roof A. Weld steel roof deck to supporting framing members with 3/4" diameter puddle welds at the following spacings (Closer spacings may be used to develop minimum shear requirements):

1. 6" on center to all supports perpendicular to deck corrugations (7 welds per 36" sheet). 6" on center to all supports parallel to deck corrugations.

B. Interlocking side seams between adjacent pieces of decking may be attached with "PunchLok II" by Verco Manufacturing (VSC2) or "ASC DeltaGrip side seam connection" by ASC Steel Deck at 12" on center.

C. The Contractor may submit, for review and approval, the manufacturer's ICC report of an alternate method of deck attachment, including Hilti X-HSN 24 (open web joist attachment) and Hilti X-ENP 19 (steel beam attachment). The alternate method shall provide minimum deck diaphragm shear values equal to or greater than those noted above. The alternate method shall be approved by the engineer of record prior to

D. Provide a minimum deck bearing of 2". Lap splices shall be centered over the support. To ensure proper lap placement, 4" of lap is recommended, however, it may be reduced to 2" minimum. Deck laps less than the minimum will need to be replaced with deck that meets the

DEFERRED SUBMITTALS

1. Deferred submittals are items that are not part of our scope which require architectural and/or engineering review. Deferred submittals include plans, details, calculations and/or other relevant design information stamped by a Professional Engineer licensed in the state in which construction

2. Deferred submittals shall first be submitted to the project architect and/or engineer for review and coordination. Upon completion of the architect/engineer review, the architect/engineer will submit the deferred submittals to the Building Official for review and approval. The submittal to the Building Official shall include a notation stating that the architect/engineer review has been performed and that the plans and calculations for the deferred submittal items are found to be in general conformance with the design drawings with no exceptions.

shall be available at the jobsite throughout construction. 4. Items requiring deferred submittals are listed below. These items shall be designed and fabricated by the manufacturer according to specifications given in the construction documents.

3. Construction related to deferred submittals shall not commence until the Building Official has approved the submittal. Approved deferred submittals

A. Handrails (by steel manufacturer). Steel suppliers to provide any additional required support steel beyond that of the main building framing system shown on the design drawings. Steel handrails shall be designed to the deflection limits in the Basis of Design notes, and shall accommodate lateral building drifts listed in the Maximum Story Drift Table between adjacent floors, both perpendicular and parallel.

B. Seismic Bracing for mechanical, electrical and plumbing components per ASCE 7, Chapter 13 (by MEP consultant) C. Grouted Micropiles (by supplier). The jurisdiction may require this submittal to be included with permit.

GerouxArchitects@gmail.com

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NORTH ADDITION

GENERAL

COMRIE

03/04/2024

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DUNN ASSOCIATES, INC

PH: 801-575-8877 FAX: 801-575-8875

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SUPPLIED BY THE ARCHITECT. THEY ARE PROVIDED ON

THE STRUCTURAL PLANS AND DETAILS FOR THE

DIMENSIONS AND ELEVATIONS WITH ARCHITECTURAL

CONVENIENCE OF THE CONTRACTOR. VERIFY

DRAWINGS.

ARCHITECTURAL MODEL DATED 03.16.2023

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Consulting Structural Engineers

2024.03.04

PERMIT SET

STRUCTURAL NOTES

proceeding with fabrication

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A. Wide Flange Sections---------- ASTM A992 (50 ksi) Notch-toughness requirements apply for Group 3, 4, and 5 shapes with flange thickness greater than 1 1/2" and plate 2" and thicker which are a part of the Seismic Load Resisting System (SLRS). Minimum Charpy V-Notch requirements are 20 ft-lbs at 70°F. Braced/Moment Frames-------- ASTM A572 Grade 50 --- ASTM A53 Grade B Type E/S D. Hollow Structural Shapes ---- ASTM A500 Grade C (50 ksi) Rectangular-------- ASTM A500 Grade C (46 ksi) E. Other Structural Shapes (M, C, etc), Threaded Rod--- ASTM A36 Bolted Connections-----G. Anchor Bolts

heavy hex nuts with 5/16" min plate washers. Bottom assembly to include double heavy hex nuts with similar washer. Nuts to be snug tight.

1. Shielded Metal Arc Welding----------- AWS A5.1, low-hydrogen only Low-hydrogen restrictions do not apply when welding sheet steels in accordance with AWS D1.3, including attaching these steels to structural members.

E7XT-4 or E7XT-11 electrodes are not permitted. 4. Intermixing of welds made from self-shielded welding electrodes with welds made by other processes is not allowed in seismic critical

5. Where demand critical welds are required, provide filler metals meeting the following minimum mechanical properties: 58ksi yield strength,

Deformed Bar Anchors (DBA)---------- ASTM A496

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A. American Institute of Steel Construction (AISC) 360, "Specification for Structural Steel Buildings," with "Commentary". B. AISC 341 "Seismic Provisions for Structural Steel Buildings."

C. AISC 303 "Code of Standard Practice" excluding sections 3.4, 4.4 and 4.4.1. D. AISC "Specification for Structural Joints Using High Strength Bolts"

STRUCTURAL STEEL

E. American Welding Society (AWS), Structural Welding Codes D1.1, D1.3, D1.4, and D1.8, except as modified by the "Steel Construction Material:

PLAN

Figure 30.3-2A

All wind pressures include a load factor of 0.6

All wind pressures include a load factor of 0.6

Z | Figure

1' 30.3-2A

1. Soils Investigation Report:----- None

Soil bearing pressure:------

compacted fill as noted in these drawings.

<u>EARTHWORK</u>

Roof Pressure Diagram (Zones 1-3, including overhangs 'OH' where applicable) and Wall Pressure Diagram (Zones 4-5)

psf

2 30.3-2A/30.3-1 19.41 -38.14 18.77 -36.01 17.92 -33.19 17.28 -31.05

3 30.3-2A/30.3-1 19.41 -38.14 18.77 -36.01 17.92 -33.19 17.28 -31.05

4 P 30.3-1/30.3-2A 20.08 -21.33 19.42 -20.67 18.55 -19.79 17.88 -19.13

4 P 30.3-1/30.3-2A 20.08 -39.48 19.42 -37.27 18.55 -34.35 17.88 -32.14

4 P 30.3-1/30.3-2A 59.56 41.42 56.69 40.09 52.89 38.34 50.02 37.01

5 30.3-1 19.41 -24.22 18.77 -22.94 17.92 -21.25 17.28 -19.97

5_P 30.3-1/30.3-2A 20.08 -25.07 19.42 -23.75 18.55 -21.99 17.88 -20.67

5 P 30.3-1/30.3-2A 20.08 -39.48 19.42 -37.27 18.55 -34.35 17.88 -32.14

5 P 30.3-1/30.3-2A 59.56 45.16 56.69 43.17 52.89 40.54 50.02 38.55

Wind Pressure Summary for C&C Zones based Upon Areas Ch 30 Pt 1 (Table 2 of 2)

10.04 -17.39 10.04 -14.73 10.04 -12.71

16.64 -17.84 15.79 -17.00 15.79 -17.00

---- 1500 psf - Assumed for design

----- 30" minimum

4. Clear excavations of debris and loose soil prior to placing footings. All footings shall bear on undisturbed natural sub-grade or engineered

2. Clearing: Remove all existing structures and associated foundations, slabs, fencing, asphalt, concrete, and incidental structures as necessary for

4. Contractor shall provide measures necessary to prevent damage to or settlement of new or existing construction and utilities on or adjacent to

undesirable materials or conditions. Remove sub-grade materials that are unsuitable and replace with compacted structural fill or 2,000 psi lean

passing a #200 sieve. Fill beneath footings shall be compacted to at least 95% of the maximum laboratory density as determined by ASTM D 1557.

8. Floor slabs shall be underlain by a granular layer at least 4" thick. The granular layer shall have a maximum size less than 1" with not more than

6. Proof roll the entire building pad area with normal compaction equipment to check for the presence of unsuitable fills, soft spots, or other

7. Compacted structural fill: All fill material shall be a well-graded granular material with a maximum size less than 3" and with not more than 15%

5% passing a #200 sieve and shall be compacted to at least 90% of the maximum laboratory density as determined by ASTM D 1557.

1. Codes and Standards: Fabrication, Erection and Quality Control of structural steel shall comply with the latest edition of the following:

2 30.3-2A/30.3-1 16.64 -28.92 15.79 -26.10 15.79 -26.10

3 30.3-2A/30.3-1 16.64 -28.92 15.79 -26.10 15.79 -26.10

4 P 30.3-1/30.3-2A 17.22 -18.47 16.34 -17.59 16.34 -17.59

4 P 30.3-1/30.3-2A 17.22 -29.93 16.34 -27.01 16.34 -27.01

30.3-1 16.64 -18.69 15.79 -17.00 15.79 -17.00

5 P 30.3-1/30.3-2A 17.22 -19.34 16.34 -17.59 16.34 -17.59

5_P 30.3-1/30.3-2A 17.22 -29.93 16.34 -27.01 16.34 -27.01

5 P 30.3-1/30.3-2A 47.15 36.56 43.35 33.94 43.35 33.94

Consult the project specifications for earthwork requirements. In absence of information, refer to the following notes.

All fill shall be tested. Compacted structural fill shall be placed in lifts not exceeding 8" in uncompacted thickness.

remaining loose natural soils shall be excavated to expose competent natural soils.

9. The special inspector shall review all excavations and fill placement prior to placing concrete.

Contractor shall provide temporary shoring for excavations as required.

5. Contractor shall provide dewatering as required to protect the site from flooding.

4 P 30.3-1/30.3-2A 47.15 35.69 43.35 33.94 43.35 33.94

Wind Pressure Summary for C&C Zones based Upon Areas Ch 30 Pt 1 (Table 1 of 2)

| A <= | A = |

----- ASTM F3125 Grade A325 with ASTM A563 heavy hex nuts and ASTM F436 washers.

1. All Columns unless noted otherwise: ASTM F1554 Grade 105 with ASTM A563 heavy hex nuts. Nuts to be snug tight. Braced Frame/Moment Frame Columns unless noted otherwise: ASTM F1554 Grade 105 (equiv to A193 Grade B7) with ASTM A563

H. Weld Filler Metal

2. Gas-Metal & Metal-Cored Arc Welding----- AWS A5.18 --- AWS A5.20 Flux-Cored Arc Welding-----welds, unless tested in accordance with AWS D1.8, annex B. The Field Erection Contractor is responsible for verifying that intermixing of self-shielded weld metal with weld metal of other processes will not occur, or alternatively, the welding procedure is qualified by testing.

70ksi tensile strength, 22% elongation, Charpy V-Notch toughnesses of 20ft-lbs at 0°F and 40 ft-lbs at 70°F. J. Headed Stud Anchors (HSA)---------- ASTM A108

written consent may result in criminal and/or civil liability.

Headed Stud Anchor

Hollow Structural Section

International Building Code

International Code Council

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GENERAL STRUCTURAL NOTES

JLM

GerouxArchitects@gmail.com

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shall be submitted to the Architect for approval before

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2024.03.04 230103

G. Soils (1705.6): Special inspections and tests of existing site soil conditions, fill materials and placement, and load-bearing requirements shall be <u>ABBREVIATIONS</u> performed in accordance with the approved soils report and Table 1705.6 in the construction documents. The Special Inspector shall verify that

during fill placement, proper materials and procedures are used. The approved geotechnical report and the construction documents shall be

H. Driven Deep Foundations (1705.7): Special inspections and tests shall be performed during installation of driven deep foundation elements as specified in Table 1705.7 in the construction documents. The approved geotechnical report and the construction documents shall be used to determine compliance. . Helical Pile Foundations (1705.9): Continuous special inspections shall be performed during installation of helical pile foundations. Information

recorded shall include installation equipment used, pile dimensions, tip elevations, final depth, final installation torque and other pertinent data as required. The approved geotechnical report and the construction documents shall be used to determine compliance. J. Fabricated Items (1705.10). Where fabrication of structural, load bearing or lateral load-resisting members or assemblies is being conducted on the premises of a fabricator's shop, special inspections of the fabricated items shall be performed during fabrication. Special inspections during fabrication are not required where the work is done on the premises of a fabricator registered and approved by the building official to perform such work without special inspection. At the completion of fabrication, the approved fabricators shall submit a certificate of compliance to the

Owner for submittal to the Building Official stating that the work was performed in accordance with the approved construction documents. K. See architectural drawings for additional required inspections pertaining to sprayed fire-resistant materials (1705.14), mastic and intumescent fire-resistant coatings (1705.15), EIFS (1705.16), fire resistant penetrations and joints (1705.17), or smoke control systems (1705.18).

L. Post-Installed Anchors: Special inspections and tests shall be performed during installation of post-installed anchors according to the requirements of the ICC Evaluation Report and table 1705.3 in the construction documents. 5. Special Inspections for Seismic Resistance (1705.12): Special inspections for seismic resistance are required for this project per IBC section

A. Structural Steel (1705.12.1): Special Inspections for seismic resistance shall be in accordance with the following as applicable: 1. Seismic Force-Resisting Systems; Special Inspections of structural steel in the seismic force-resisting systems of buildings and structures assigned to Seismic Design Category B, C, D, E, or F shall be performed in accordance with the Quality Assurance

requirements of AISC 341 and the construction documents. Structural Steel Elements; Special Inspections of structural steel elements in the seismic force-resisting systems of buildings and structures assigned to Seismic Design Category B, C, D, E, or F other than those covered in section5.A.1 above, including struts, collectors, chords, and foundation elements, shall be performed in accordance with the Quality Assurance requirements of AISC 341 and the construction documents.

B. Architectural Components (1705.12.5): Periodic special inspection is required for the erection and fastening of exterior cladding, interior and exterior nonbearing walls and interior and exterior veneer in structures assigned to Seismic Design Category D, E, or F. Access Floors. Periodic special inspection is required for the anchorage of access floors in structures assigned to Seismic Design

C. Plumbing, Mechanical, and Electrical Components (1705.12.6): Periodic special inspection of plumbing, mechanical, and electrical components shall be required for the following: Anchorage of electrical equipment for emergency and standby power systems in structures assigned to Seismic Design Category C, D,

Anchorage of other electrical equipment is structures assigned to Seismic Design Category E or F. Installation and anchorage of piping systems designed to carry hazardous materials and their associated mechanical units in structures assigned to Seismic Design Category C, D, E, or F.

Installation and anchorage of ductwork designed to carry hazardous materials in structures assigned to Seismic Design Category C, D, Installation and anchorage of vibration isolated systems in structures assigned to Seismic Design Category C, D, E, or F where the approved construction documents require a nominal clearance of 1/4" or less between the equipment support frame and restraint.

Installation of mechanical and electrical equipment, including duct work, piping systems, and their structural supports, where automatic fire sprinkler systems are installed in structures assigned to Seismic Design Category C, D, E, or F to verify proper clearances have been maintained. Where flexible sprinkler hose fittings are used, special inspection of minimum clearances is not required. 6. Testing for Seismic Resistance (1705.13): Testing for seismic resistance is required for this project per IBC section 1705.13.

Seismic Force-resisting Systems. Non-destructive testing of structural steel in the seismic force-resisting systems of structures assigned to Seismic Design Category B, C, D, E, or F shall be performed in accordance with the Quality Assurance requirements of Structural Steel Elements. Non-destructive testing of structural steel elements in the seismic force-resisting systems of structures assigned to Seismic Design Category B, C, D, E, or F shall be performed in accordance with the Quality Assurance requirements of

B. Non-Structural Components (1705.13.2): For structures assigned to Seismic Design Category B, C, D, E, or F where the requirements of ASCE 7 Section 13.2.1 for nonstructural components, supports or attachments are met by seismic qualification as specified in Item #2 therein, the registered design professional of the applicable discipline shall specify on the approved construction documents the requirements for seismic qualification by analysis, testing, or experience data. Certificates of Compliance for the seismic qualification shall be submitted to the

Building Official. Special Inspections for Wind Resistance (1705.11): Special inspections for wind resistance are not required for this project per IBC Section

8. Structural Observations/Site Observations (1704.6): Structural observations are not required for this project per IBC section 1704.6. A. Site Observations are part of the Dunn Associates, Inc. contract with the Architect/Owner. The stages of construction listed below will serve as suggested stages of construction to be observed. The Contractor shall notify (in writing) the Engineer of Record at least 7 days prior to the following stages of construction so that the Engineer may have the opportunity to review the work.

Initial placing of any concrete, including but not limited to: footings, slabs on grade or concrete over steel deck

B. Structural observation/Site observation reports will be provided to the Architect. Distribution to the Contractor, Owner, and/or Building Official

9. Seismic/Wind Main Force Resisting Systems That Require Special Inspections A. Steel Moment Frames

B. Composite Steel and Concrete Deck Diaphragms

A. Structural Steel (1705.13.1):

Anchor Bolt Above Kip(s) = 1000 PoundsAlternate Kips Per Lineal Foot Additional KSF Kips Per Square Foot **Bottom Bar** Pounds (#) Building Location Blocking MAX Below Maximum Beam MECH Mechanical MEZZ Bottom Mezzanine Bridging MFB BRDG Moment Frame Beam Bearing Moment Frame Column MFR BTWN Between Manufacturer BYND Beyond MIN Minimum MISC Miscellaneous Cantilevered Metal Control Joint Not To Scale Complete Joint Penetration Center Line Non-shrink Column On Center Concrete Connection CONN OPNG Opening CONT Continuous Opposite COORD Coordinate Center Power Actuated Fastener PCF Pounds per Cubic Foot PEN PERP Deck Bearing Penetrate or Penetration **Deformed Bar Anchor** Perpendicular PJP Partial Joint Penetration **Demand Critical Weld** Pounds per Lineal Foot PREFAB Diameter Prefabricated Pounds per Square Foo Dimension Drawing Pounds per Square Inch REINF Existing Reinforce REQD Each Required Each Face RTU Roof Top Unit Elevation SCHED Electrical Engineer Equal SFRS SIM **ENGR** Seismic Force Resisting System EQUIP SOG Equipment Slab on Grade Equally Spaced STD Standard STIFF Each Way Stiffener **Expansion Joint** STL Exterior STRUCT Structural Top and Bottom Top Bar Footing Temperature THRU Through Gage Top of Galvanized Typical GSN General Structural Notes Unless Noted Otherwise

WWR

Welded Wire Reinforcement

Working Point

			TABLE N5.6-1 COMBINED WITH TABLE INSPECTION TASKS PRIOR TO BOLT				
	AISC	AISC	VISUAL INSPECTION TASKS PRIOR TO BOLTING	C	(C	(QA
	360	341	VIOUNE INC. ECTION THORE I MORE TO BOLLING	TASK	DOC.	TASK	DO
1.	•		Manufacturer's certifications available for fastener materials	0	-	Р	-
2.	•		Fasteners marked in accordance with ASTM requirements	0	-	0	-
3.	•	•	Proper fasteners selected for the joint detail (grade, type, bolt length if threads are to be excluded from shear plane)	0	-	0	-
4.	•	•	Proper bolting procedure selected for joint detail	0	-	0	-
5.	•	•	Connecting elements, including the appropriate faying surface condition and hole preparation, if specified, meet applicable requirements	0	-	0	-
6.	•	•	Pre-installation verification testing by installation personnel observed and documented for fastener assemblies and methods used	Р	D	0	D
7.	•	•	Proper storage provided for bolts, nuts, washers and other fastener components	0	-	0	-

DEFINITION OF INSPECTION TASK ABBREVIATIONS

Perform: These inspections shall be performed prior to the final acceptance of the item.

D Document: The inspector shall prepare reports indicating that the work has been performed in accordance with the

contract documents. The report need not provide detailed measurements for joint fit-up, WPS settings, completed welds,

O Observe: The inspector shall observe these functions on a random, daily basis

Operations need not be delayed pending observations.

	TABLE N5.6-2 COMBINED WITH TABLE J7-2								
			INSPECTION TASKS DURING BOLT	ING					
	AISC AISC VISUAL INSPECTION TASKS DURING BOLTING QC					QA			
	360	341	341 VISUAL INSPECTION TASKS DURING BOLTING		DOC.	TASK	DOC.		
1.	•	•	Fastener assemblies of suitable condition placed in all holes and washers (if required) and nuts are positioned as required	0	-	0	-		
2.	•	•	Joint brought to the snug-tight condition prior to the pretensioning operation	0	-	0	-		
3.	•	•	Fastener component not turned by the wrench prevented from rotating	0	-	0	-		
4.	•	•	Fasteners are pretensioned in accordance with the RCSC Specification progressing systematically from the most rigid point toward the free edges	0	-	0	-		

	TABLE N5.6-3 COMBINED WITH TABLE J7-3 INSPECTION TASKS AFTER BOLTING								
	AISC	AISC	VISUAL INSPECTION TASKS AFTER BOLTING	Q	<u>.</u> C	QA			
	360	341	VISUAL INSPECTION TASKS AFTER BOLTING	TASK	DOC.	TASK	DOC.		
1.	•	•	Document acceptance or rejection of bolted connections	Р	D	Р	D		

DUNN ASSOCIATES, INC Consulting Structural Engineers

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building official shall require testing in accordance with the appropriate standards and criteria for the materials. disclosing this document to or for the benefit of any third party without AEC's

SPECIAL INSPECTION, TESTING AND STRUCTURAL OBSERVATION REQUIREMENTS

A. Special inspections and testing as required per the approved construction documents and per IBC Chapter 17 shall be provided for this project

C. The special inspection and testing requirements of this section of the General Structural Notes and the special inspection tables serve as the

A. Each Contractor responsible for the construction of a main wind or seismic force-resisting system, a designated seismic system, or a wind or

seismic force-resisting component listed in the statement of special inspections shall submit a written statement of responsibility to the Building

Official and Owner prior to commencing with the work involved. It shall contain acknowledgement of awareness of the special requirements

B. The Contractor shall coordinate and cooperate with all the required inspections, testing, and/or structural observations required for the project.

D. The Contractor shall not proceed with subsequent work until required inspections, testing, and/or structural observations have been provided.

A. Prior to the start of the construction, each approved agency shall provide written documentation to the Building Official, demonstrating the

C. Inspection reports shall indicate whether the work inspected was or was not completed in conformance to the approved construction

competence and relevant experience or training of the special inspectors who will perform the special inspections and tests during construction.

E. The Special Inspector shall notify the Architect/Engineer of any non-conforming work or discrepancies that the Contractor cannot readily correct.

F. Any uncorrected non-conforming work or discrepancies shall be brought to the attention of the Architect/Engineer and the Building Official prior

b. Material properties verifying compliance with the requirements of AWS D1.4 for weldability for reinforcing bars other than ASTM A706.

c. Mill tests for ASTM A615 reinforcing bars used to resist earthquake induced forces in special moment frames, special structural walls

Materials and systems required to be installed in accordance with additional manufacturer's instructions that prescribe requirements not

A. Special Cases (1705.1.1): Special Inspection and tests shall be required for proposed work that is, in the opinion of the Building Official, unusual

B. Steel Construction (1705.2): The special inspections and nondestructive testing of steel construction in buildings shall be in accordance with the

1. Structural Steel. Special inspections and non-destructive testing of structural steel elements in buildings, structures, and portions

thereof shall be in accordance with the Quality Assurance inspection requirements of AISC 360 and tables in the construction

2. Cold-Formed Steel Deck. Special inspections and qualification of welding special inspectors for cold-formed steel floor and roof deck

Provide welder qualification records to verify project welders are tested and qualified in accordance with AWS D1.1 before welding

a. Special, restricted welder qualification testing is required for welders joining the bottom-flange through the weld access hole

structural or miscellaneous steels, D1.3 before welding sheet steels (10 gauge and thinner), and D1.4 before welding reinforcing steel.

connection in demand critical welds. Qualify welders for the minimum groove angle and maximum deposition rate used in

Provide welder identification methodology. The fabricator/erector shall maintain a system by which the welder who has welded a joint

Provide welding procedures that comply with AWS D1.1, D1.3, D1.4, D1.8, as required by the project. Welding procedures shall be

a. Provide weld filler metal product data sheets identifying optimum welding parameters and storage conditions with each welding

Provide mill/material test reports (MTR) or certificates of conformance (CC) that verify compliance of furnished materials to the requirements of the approved contract documents. MTRs or CCs are required for structural shapes, plate, metal deck, fasteners, headed studs, DBAs, weld filler metal, and bolt assemblies used as primary, load-bearing members. Maintain the heat number

a. Qualify in accordance with the recommended practices of the American Society of Nondestructive Testing, SNT-TC-1A, latest

b. Pass eye examinations meeting: (1) ASTM requirements at least once a year, and (2) AWS D1.1 every three years.

2. Only Level II and Level III technicians, qualified by testing in the applicable method, are permitted to interpret nondestructive testing

Only Senior Certified or Certified Welding Inspectors (SCWI, CWI) are permitted to evaluate welds. Certified Associate Welding

c. That the Inspection Agencies' ultrasonic testing procedures are qualified by weld mockups similar to AWS D1.1, Annex S. E. Structural Steel: Special inspection and non-destructive testing (NDT) are required during the fabrication and erection of any load-bearing members and assemblies. Special inspection, except NDT, may be waived when the work is performed in a fabricating shop, or by an erector approved by the Building Official to perform work without Special Inspection. NDT of welds completed in an approved fabricator's shop may be performed by the fabricator when approved by the Building Official. When the fabricator performs the NDT, the fabricator shall submit the NDT reports for review by the Special Inspector. Special inspection and NDT shall be provided per the special inspection tables for structural steel in

1. Perform all welding and welding special inspection activities in accordance with AWS D1.1, D1.3, D1.4, and D1.8, AISC 360 Chapter N, and AISC 341 Chapter J, as appropriate for the material form and welding methods employed. Approved methods and acceptance

Perform all bolting and bolting inspection activities in accordance with AISC Specification for Structural Structural Joints Using High

a. Ultrasonic testing (UT), magnetic particle testing (MT), penetrant testing (PT), and radiographic testing (RT), where required, shall

b. All NDT shall be documented. NDT reports shall be distributed to the fabricator/erector, the Building Official, the Contractor, and

c. Amount of NDT is permitted to be reduced according to AISC 360 Chapter N and AISC 341 Chapter J if appropriate criteria are

Magnetic particle test or penetrant test all thermally cut surfaces of access holes for flange or web thicknesses exceeding 2".

b. Samples of non-shrink grout shall be tested for compressive strength at least daily, with additional tests required for each additional

Magnetic particle test or penetrant test all thermally cut surfaces of beam copes access holes for flange or web thicknesses

exceeding 1 ½" for members of the seismic force resisting system in Seismic Design Categories C thru F. Any crack shall be

loaded structures, unless otherwise designated on the design drawings or project specifications.

F. Concrete (1705.3): Special inspections and tests of concrete construction shall be performed in accordance with Table 1705.3 in the

Special inspections of welding of and qualifications of special inspectors for reinforcing bars shall be in accordance with the

2. In the absence of sufficient data or documentation providing evidence of conformance to quality standards for concrete materials, the

be performed in accordance with AWS D1.1/D1.1M. Acceptance criteria shall be in accordance with AWS D1.1/D1.1M for statically

b. Project ultrasonic testing technicians, testing demand critical welds, are trained and qualified in accordance with AWS D1.8, Annex

b. Identify the maximum welding heat input per inch of weld (KJ/in) permitted by the welding procedures

Identify the maximum deposition rate that will be used while welding on any demand critical weld.

Provide bolt storage and installation procedures to the approved inspection agency for review.

traceability of structural shapes and plate used as primary, load bearing members.

d. Level III must be qualified by ASNT testing in the applicable method under review.

Inspectors may evaluate welds when under the direct supervision of a SCWI and/or CWI.

Strength Bolts, AISC 360 Chapter N, and AISC 341 Chapter J, as applicable.

met, and if approved by the Building Official and the Engineer of Record. d. Requirements for structures in Seismic Design Categories C thru F:

Special inspections and Testing for Non-Shrink Grout are required as follows:

requirements of AWS D1.4 for special inspections and for special inspector qualifications.

a. Periodic special inspection verifying the use of required mix design.

Non-Destructive Testing (NDT) of welds is required as follows:

Ultrasonic test all complete joint penetration groove

Provide typical welding filler metal Certificates of Conformance that identify the WPS Heat Input Envelope. Provide a preliminary welding repair procedure to follow should welding repairs be required within the Seismic Protected Zone.

production. Follow the instructions for supplemental qualification testing in AWS D1.8, Section 5.1. Qualification testing must take

documents. Exception: Railing systems composed of structural steel elements shall be limited to welding inspection of welds at the

Construction materials and systems that are alternatives to materials and systems prescribed by the IBC.

B. An independent agency, or agencies, employed by the Owner, shall perform the special inspection and testing services required.

Engineer of Record's statement of special inspections and structural observations required by IBC Chapter 17.

C. The Contractor shall maintain access to and exposure of the work which requires special inspection or testing.

F. The Contractor shall notify the Engineer of Record at least (7) days prior to any required structural observations.

D. Non-conforming work and/or discrepancies shall be brought to the Contractor's immediate attention for correction.

b. The seismic qualifications of nonstructural components, supports, and attachments.

or coupling beams in structures assigned to Seismic Design Category B, C, D, E, or F.

shall be in accordance with the Quality Assurance inspection requirements of SDI QA/QC.

Submit documentation to the approved inspection agency for review before welding.

Provide Level III non-destructive testing (NDT) personnel certifications.

place within two years from the start of this project.

made available to welders and inspectors.

D. Structural Steel Non-Destructive Testing (NDT) Personnel Qualifications

 Approved Inspection Agency will certify the following: a. Level III inspector has reviewed the NDT procedures.

criteria are established in these codes.

deemed unacceptable.

construction documents.

c. Be certified in accordance with the AWS QC-1, latest edition.

NDT personnel will:

the construction documents.

or member can be identified. Stamps, if used, shall be the low stress type.

E. The Contractor shall correct all work found to be deficient, and re-test at no additional cost to the Owner.

Special Inspections and Testing

Contractor Responsibilities (1704.4)

Special Inspector Responsibilities (1704.2)

to completion of that phase of the work.

G. Submit the following to the Building Official:

2. Certificates of Compliance for:

Reports of:

4. Special Inspections (1705)

Special Inspections and Testing Reports.

a. Pre-construction tests for shotcrete.

in its nature, such as, but not limited to, the following:

C. Quality Control Submittals for Structural Steel

unless waived by the Building Official.

contained in the statement of special inspection.

G. Submit all required documentation to the Special Inspector for review.

B. Special Inspectors shall keep records of their inspections and testing.

a. Fabrication of structural elements from approved fabricators.

Unusual design applications of materials described in the IBC.

contained in the IBC or in standards referenced by the IBC.

EXPORT WARNING

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Owner / Project Contact

Albany Engineered Composites

Tax Parcel ID #: 07-35-252-003-0000

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CITY UTAH,

DRIVE,

Written dimensions shall have precedence over scaled dimensions. Contractors shall verify and be responsible for all dimensions and conditions on the job and the Architect shall be informed of any variations from the dimensions and conditions shown on the drawing. Shop drawings shall be submitted to the Architect for approval before proceeding with fabrication.

This drawing, as an instrument of service, is the property of the Architect and may not be reproduced without their

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NORTH ADDITION

GENERAL STRUCTURAL NOTES

2024.03.04 230103

TABLE 1705.6: REQUIRED SPECIAL INSPECTIONS AND TESTS OF SOILS							
TYPE	CONTINUOUS SPECIAL INSPECTION	PERIODIC SPECIAL INSPECTION					
Verify materials below shallow foundations are adequate to achieve the design bearing capacity.	-	Х					
Verify excavations are extended to proper depth and have reached proper material.	-	Х					
Perform classification and testing of compacted fill materials.	-	Х					
Verify use of proper materials, densities and lift thickness during placement and compaction of compacted fill.	X	-					
Prior to placement of compacted fill, inspect subgrade and verify that site has been prepared properly.	-	Х					

TYPE	CONTINUOUS SPECIAL INSPECTION	PERIODIC SPECIAL INSPECTION
. Verify element materials, sizes and lengths comply with the requirements.	X	-
Determine capacities of test elements and conduct additional load tests, as required.	X	-
8. Inspect driving operations and maintain complete and accurate records for each element.	X	-
I. Verify placement locations and plumbness, confirm type and size of hammer, record number of blows per foot of penetration, determine required penetrations to achieve design capacity, record tip and butt elevations and document any damage to foundation element.	X	-
i. For steel elements, perform additional special inspections in accordance with Section 1705.2.	-	-
For concrete elements and concrete-filled elements, perform tests and additional special inspections in accordance with Section 1705.3.	-	-
7. For specialty elements, perform additional inspections as determined by the registered design professional in responsible charge.	-	-

TABLE J9-1					
INSPECTION OF COMPOSITE STRUCTURES PRIOR TO CONCRETE PLACEMENT					
INSPECTION OF COMPOSITE STRUCTURES	C	QC)A	
PRIOR TO CONCRETE PLACEMENT	TASK	DOC.	TASK	DOC.	
Material identification of reinforcing steel (Type/Grade)	0	-	0	-	
Determination of carbon equivalent for reinforcing steel other than ASTM A706	0	-	0	-	
Proper reinforcing steel size, spacing and orientation	0	-	0	-	
Reinforcing steel has not been rebent in the field	0	-	0	-	
Reinforcing steel has been tied and supported as required	0	-	0	-	
Required reinforcing steel clearances have been provided	0	-	0	-	
Composite member has required size	0	-	0	-	

TABLE J9-2 INSPECTION OF COMPOSITE STRUCTURES DURING (CONCR	RETE P	LACEN	//ENT
INSPECTION OF COMPOSITE STRUCTURES	QC		QA	
DURING CONCRETE PLACEMENT	TASK	DOC.	TASK	DOC.
Concrete: Material identification (mix design, compressive strength, maximum large aggreg size, maximum slump)	0	D	0	D
Limits on water added at the truck or pump	0	D	0	D
Proper placement techniques to limit segregation	0	-	0	-

TABLE J9-3 INSPECTION OF COMPOSITE STRUCTURES AFTER CO	ONCRE	ETE PL	ACEM	ENT
INSPECTION OF COMPOSITE STRUCTURES AFTER CONCRETE PLACEMENT	TASK	DOC.	QA TASK DO	
Achievement of minimum specified concrete compressive strength at specified age	-	D	-	D

TABLE J8-1 OTHER INSPECTION TASKS				
OTHER INSPECTION TASKS	Q	C	QA C. TASK DOC. P D	
OTHER INGLEGITOR PACKS	TASK	DOC.	TASK	DOC.
RBS requirements, if applicable	Р	D	Р	D
Protected zone - no holes and unapproved attachments made by fabricator or erector, as applicable	Р	D	Р	D

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U.S. Department of Commerce. Diversion contrary to U.S. law is prohibited.
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AISC AISC		VISUAL INSPECTION TASKS PRIOR TO WELDING	QC		QA	
360	341	VISUAL INSPECTION TASKS FRIOR TO WELDING	TASK	DOC.	TASK	DOC
•		Welder qualification records and continuity records	Р	-	0	-
•		Welding procedure specification (WPSs) available	Р	-	Р	-
•		Manufacturer certification for welding consumables available	Р	-	Р	-
•	•	Material identification (type/grade)	0	-	0	-
•	•	Welder identification system ^a	0	-	0	-
•	•	Fit-up of groove welds (including joint geometry) Joint preparation Dimensions (alignment, root opening, root face, bevel) Cleanliness (condition of steel surfaces) Tacking (tack weld quality and location) Backing type and fit (if applicable)	P/O**		0	-
	•	Fit-up of CJP groove welds of HSS T-, Y-, and K-joints without backing (including joint geometry) • Joint preparation • Dimensions (alignment, root opening, root face, bevel) • Cleanliness (condition of steel surfaces) • Tacking (tack weld quality and location)	P	-	0	-
•	•	Configuration and finish of access holes	0	-	0	-
•	•	Fit-up of fillet welds Dimensions (alignment, gaps at root) Cleanliness (condition of steel surfaces) Tacking (tack weld quality and location)	P/O**	-	0	-
•		Check welding equipment	0	_	0	-

^aThe fabricator or erector, as applicable, shall maintain a system by which a welder who has welded a joint or member can be identified, Stamps, if used, shall be low stress type.

** Follow performance of this inspection task for ten welds to be made by a given welder, with the welder demonstrating understanding of requirements and possession of skills and tools to verify these items, the Perform designation of this task shall be reduced to Observe, and the welder shall perform this task. Should the inspector determine that the welder has discontinued performance of this task, the task shall be returned to Perform until such time as the inspector has re-established adequate assurance that the welder will perform the inspection tasks listed.

		VISUAL INSPECTION TASKS DURING W	/ELDIN	G		
	AISC	VICUAL INCRECTION TACKS DUDING WELDING	C	(C	C	QΑ
)	341	VISUAL INSPECTION TASKS DURING WELDING	TASK	DOC.	TASK	
	•	 WPS followed Settings on welding equipment Travel speed Selected welding materials Shielding gas type/flow rate Preheat applied Interpass temperature maintained (min/max) Proper position (F, V, H, OH) Intermix of filler metals avoided unless approved 	0	-	0	
	•	Use of qualified welders	0	-	0	
	•	Control and handling of welding consumables				

TABLE N5.4-2 COMBINED WITH TABLE J6-2

	 Travel speed Selected welding materials Shielding gas type/flow rate Preheat applied Interpass temperature maintained (min/max) Proper position (F, V, H, OH) Intermix of filler metals avoided unless approved 	0	-	0	-
•	Use of qualified welders	0	-	0	-
•	Control and handling of welding consumables • Packaging • Exposure control	0	-	0	-
• •	No welding over cracked tack welds	0	-	0	-
•	Environmental conditions Wind speed within limits Precipitation and temperature	0	-	0	-
•	Welding techniques Interpass and final cleaning Each pass within profile limitations Each pass meets quality requirements	0	-	0	-
•	Placement and installation of steel headed stud anchors	Р	-	Р	-

AISC AISC		ISC VICUAL INSPECTION TASKS AFTER WELDING	C	QC)A
360	341	VISUAL INSPECTION TASKS AFTER WELDING	TASK	DOC.	TASK	DOC.
•	•	Welds cleaned	0	-	0	-
•	•	Size, length and location of welds	Р	-	Р	-
•	•	 Welds meet visual acceptance criteria Crack prohibition Weld/ base-metal fusion Crater cross section Weld profiles and size Undercut Porosity 	Р	D	Р	D
•		Arc strikes	Р	-	Р	-
•		k-area ¹	Р	D	Р	D
•		Weld acceptance or rejection of welded joint or member	Р	-	Р	-
	•	Placement of reinforcing or contouring fillet welds (if required)	Р	D	Р	D
•	•	Backing removed, weld tabs removed and finished, and fillet welds added (if required)	Р	D	Р	D
•	•	Repair activities	Р	-	Р	D
•		Document acceptance or rejection of welded joint or member	Р	D	Р	D
•		No prohibited welds have been added without the approval of the EOR.	0	-	0	_

TYPE	CONTINUOUS SPECIAL INSPECTION	PERIODIC SPECIAL INSPECTION	REFERENCED STANDARD ^a	IBC REFERENCE
Inspect reinforcement , including prestressing tendons, and verify placement	-	X	ACI 318 Ch. 20, 25.2, 25.3, 26.6.1-26.6.3	1908.4
 Reinforcing bar welding Verify weldability of reinforcing bars other than ASTM A 706; 	-	X	AWS D1.4 ACI 318: 26.6.4	-
b. Inspect single-pass fillet welds, maximum 5/16"; and c. inspect all other welds	- X	X -		
Inspect anchors cast in concrete.	-	Х	ACI 318; 17.8.2	-
4. Inspect anchors post-installed in hardened concrete members. a. Adhesive anchors installed in horizontally or upwardly inclined orientations to resist sustained tension loads	Х	-	ACI 318: 17.8.2.4	-
b. Mechanical anchors and adhesive anchors not defined in 4.a.	-	Х	ACI 318: 17.8.2	
5. Verify use of required design mix.	-	X	ACI 318: Ch 19, 26.4.3, 26.4.4	1904.1, 1904.2 1908.2, 1908.3
6. Prior to concrete placement, fabricate specimens for strength tests, perform slump and air content tests, and determine the temperature of the concrete.	X	-	ASTM C 172 ASTM C 31 ACI 318: 26.5, 26.12	1908.10
7. Inspect concrete and shotcrete placement for proper application techniques.	Х	-	ACI 318: 26.5	1908.6, 1908.7, 1908.8
8. Verify maintenance of specified curing temperature and techniques.	-	X	ACI 318: 26.5.3-26.5.5	1908.9
9. Inspect prestressed concrete for:a. Application of prestressing forces; andb. Grouting of bonded prestressing tendons.	X	-	ACI 318: 26.10	-
10.Inspect erection of precast concrete members.	-	Х	ACI 318: Ch. 26.9	-
11. Verify in-situ concrete strength, prior to stressing of tendons in post-tensioned concrete and prior to removal of shores and forms from beams and structural slabs.	-	X	ACI 318: 26.11.2	-
12.Inspect formwork for shape, location and dimensions of the concrete	-	Х	ACI 318: 26.11.1.2(b)	-

For SI: 1 inch = 25.4 mm.

member being formed.

a. Where applicable, see Section 1705.12. Special inspection for seismic resistance.

b. Specific requirements for special inspection shall be included in the research report for the anchor issued by an approved source in accordance with 17.8.2 in ACI 318, or other qualification procedures. Where specific requirements are not provided, special inspection requirements shall be specified by the registered design professional and shall be approved by the building official prior to the commencement of the work.



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> 2024.03.04 PERMIT SET

THESE STRUCTURAL DRAWINGS ARE BASED ON ARCHITECTURAL MODEL DATED 03.16.2023

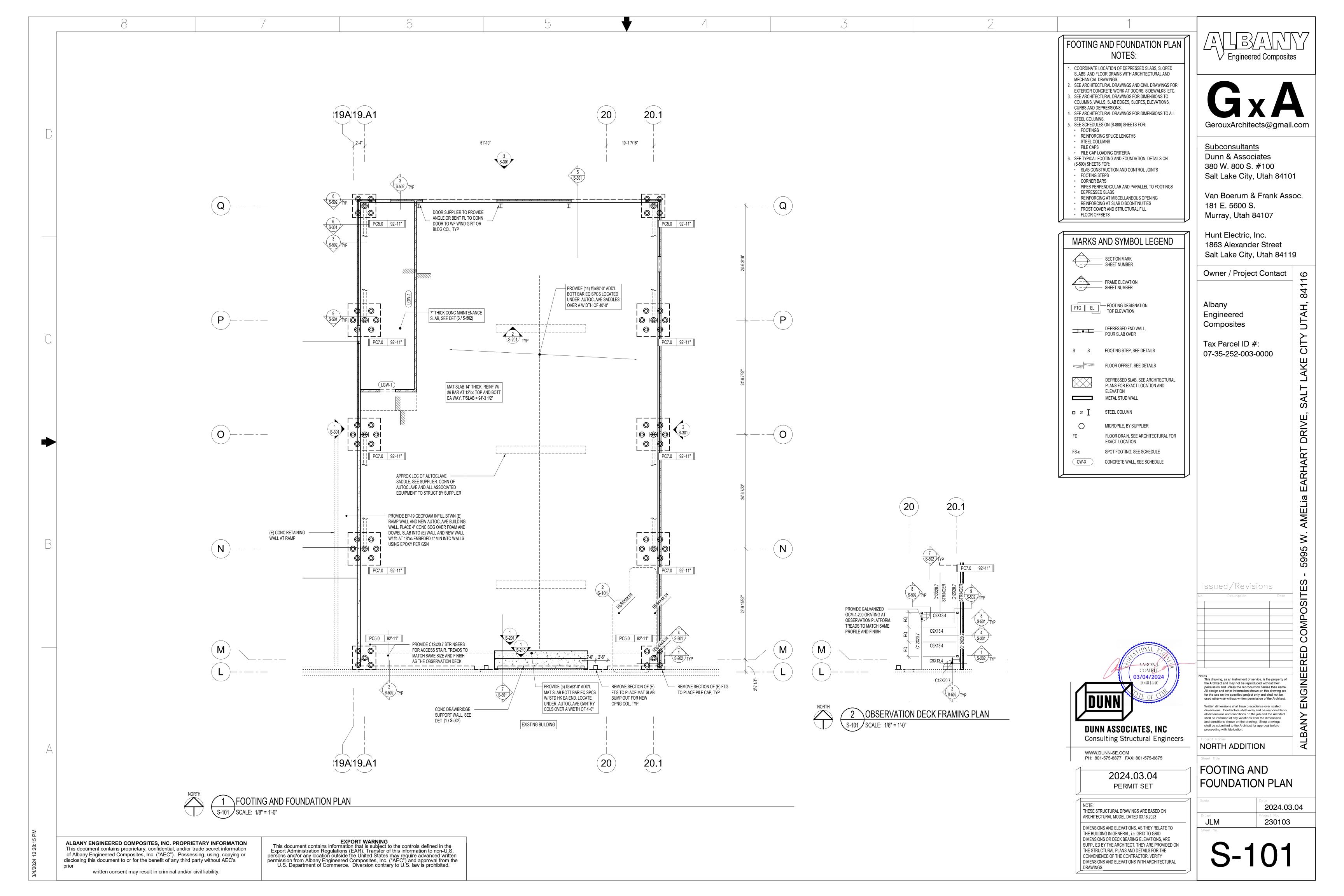
DIMENSIONS AND ELEVATIONS, AS THEY RELATE TO THE BUILDING IN GENERAL, i.e. GRID TO GRID DIMENSIONS OR DECK BEARING ELEVATIONS, ARE SUPPLIED BY THE ARCHITECT. THEY ARE PROVIDED ON THE STRUCTURAL PLANS AND DETAILS FOR THE CONVENIENCE OF THE CONTRACTOR. VERIFY DIMENSIONS AND ELEVATIONS WITH ARCHITECTURAL DRAWINGS.

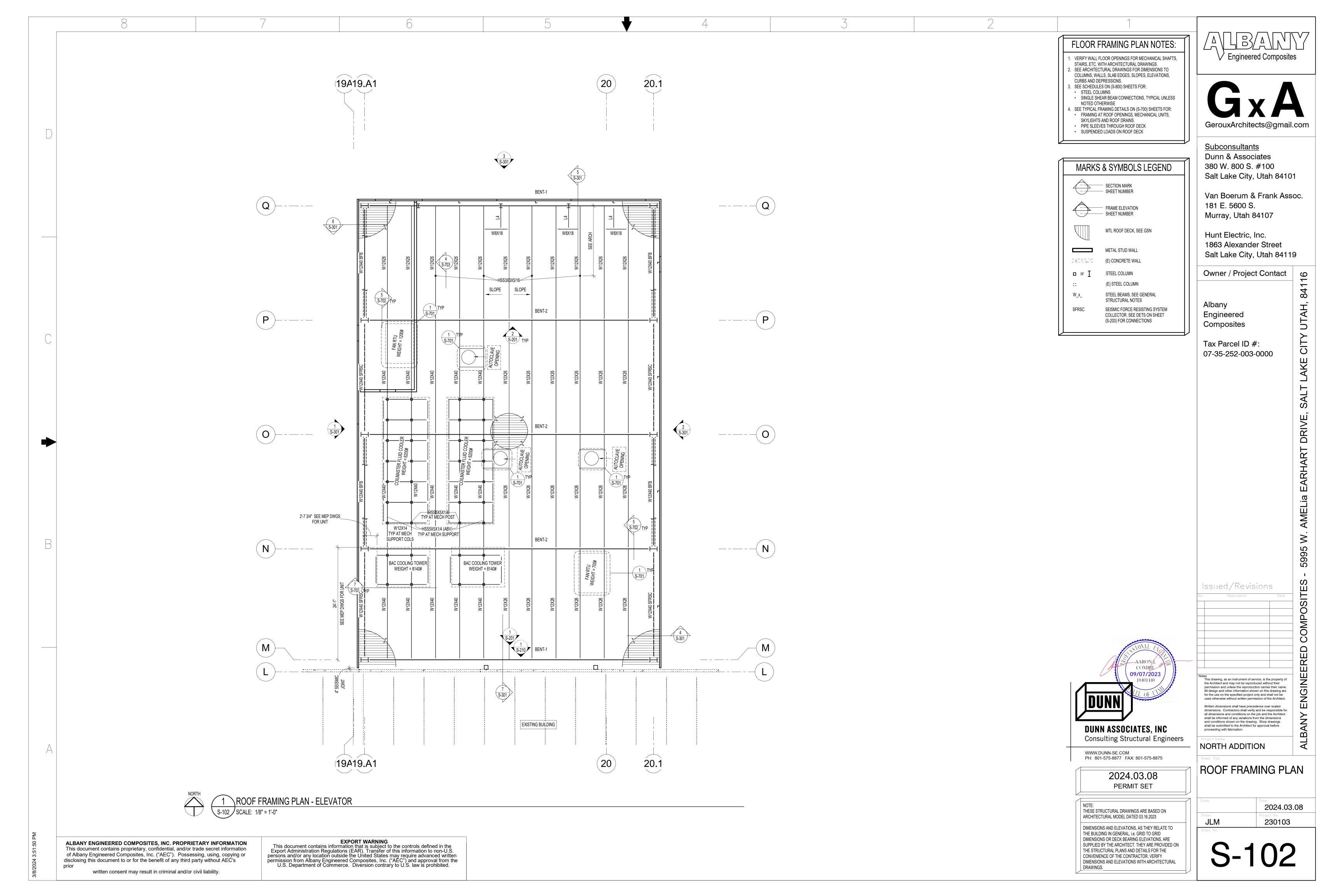
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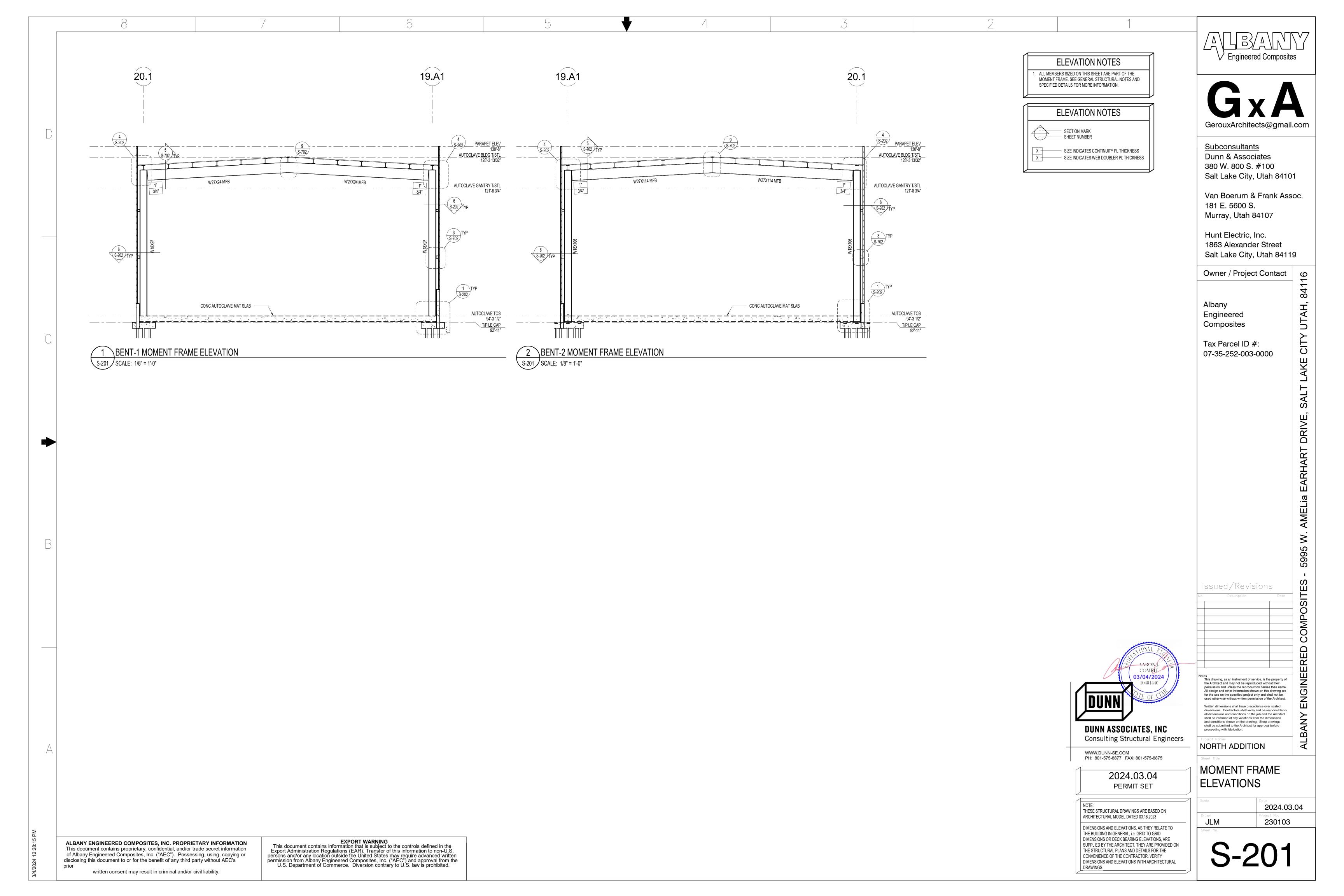
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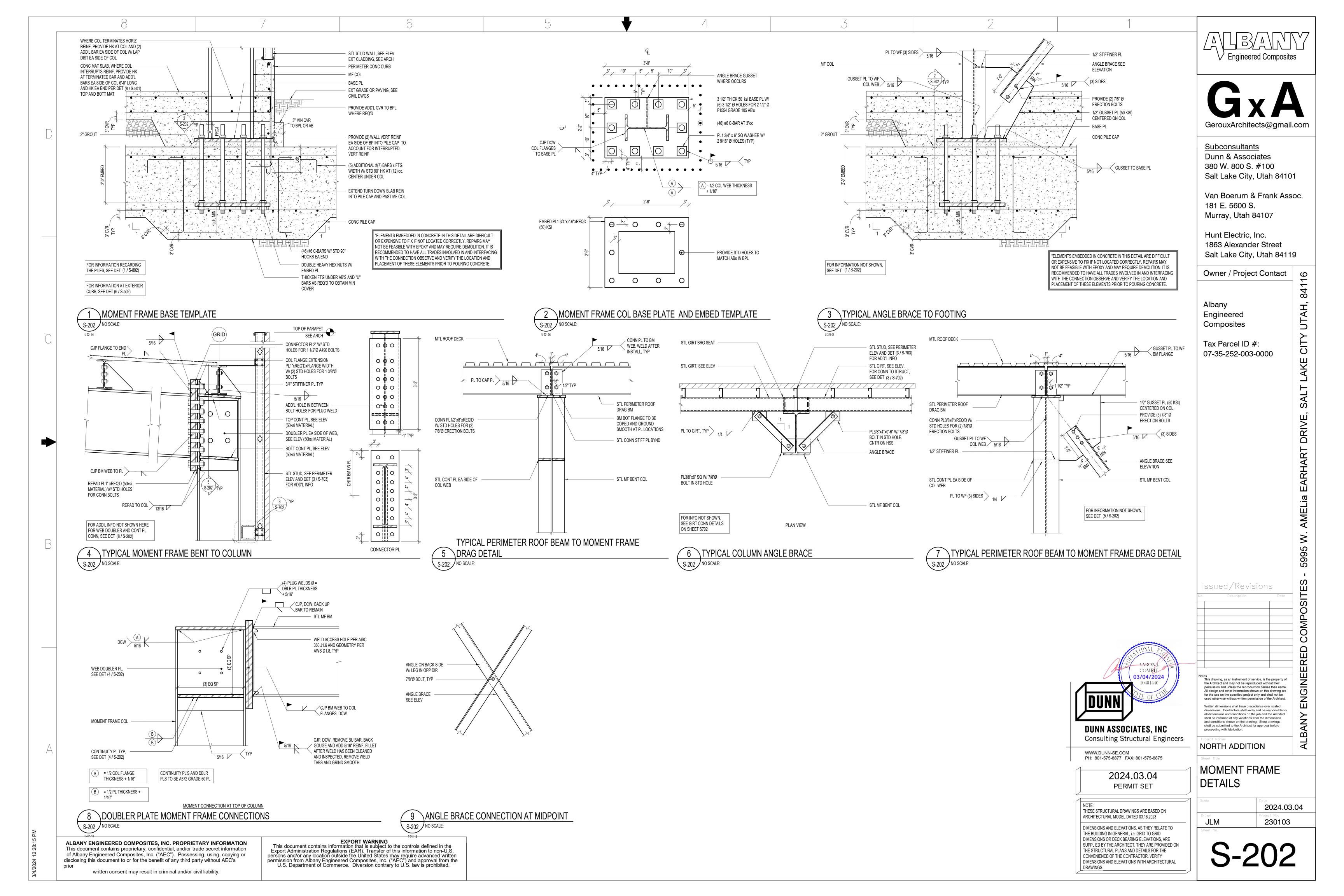
When welding of doubler plates, continuity plates or stiffeners has been performed in the k-area, visually inspect the web k-area

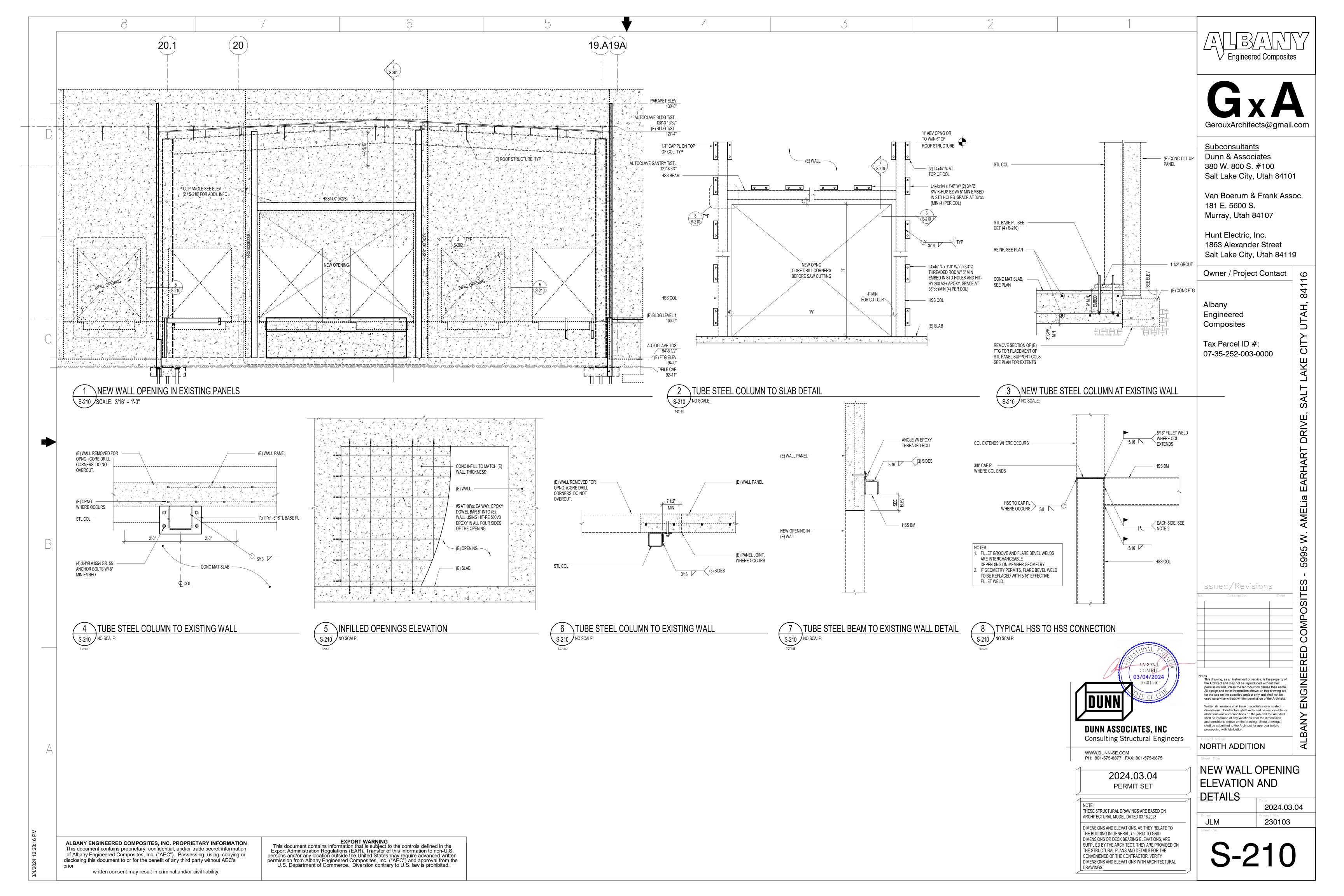
for cracks within 3 in. (75mm) of the weld.

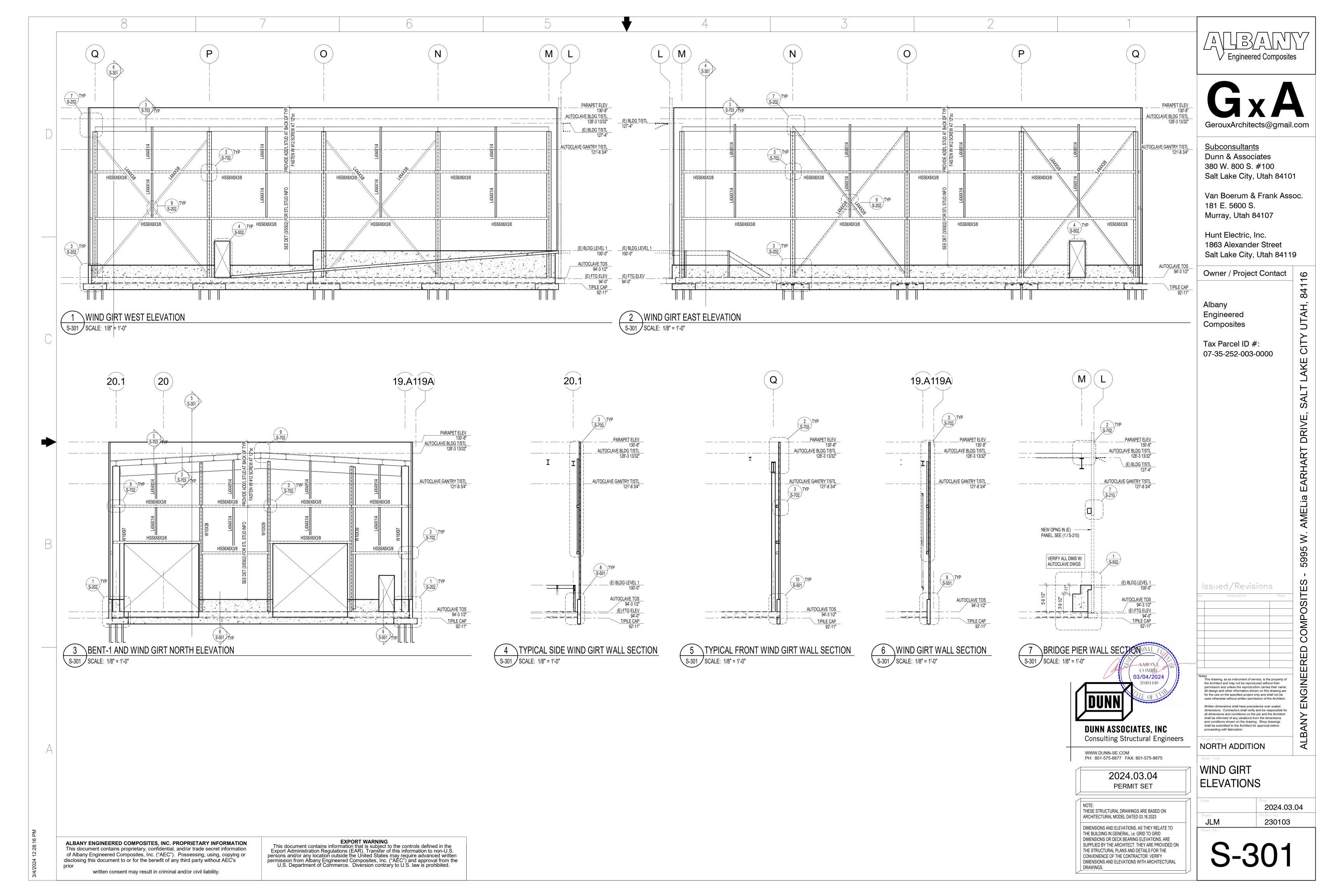


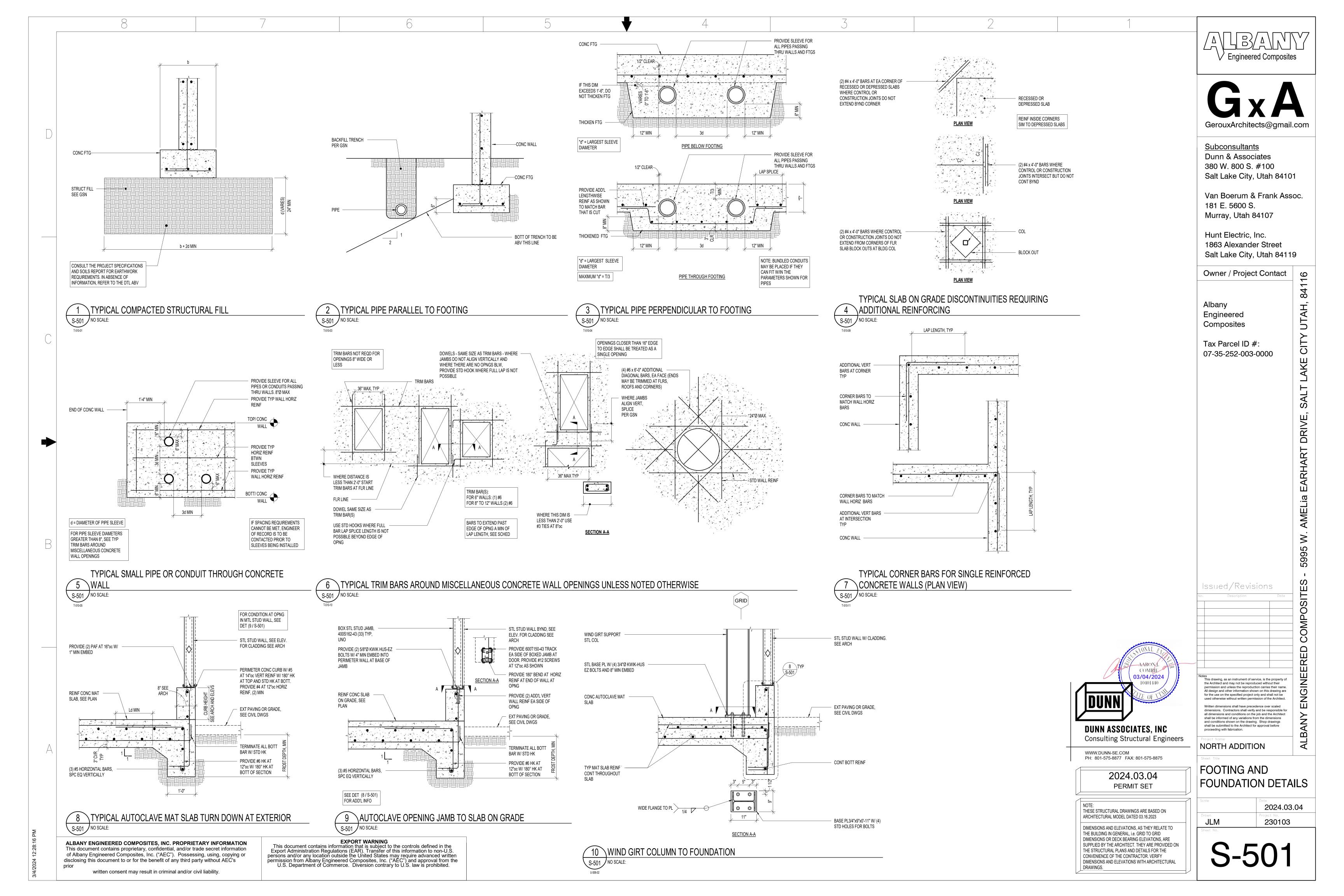


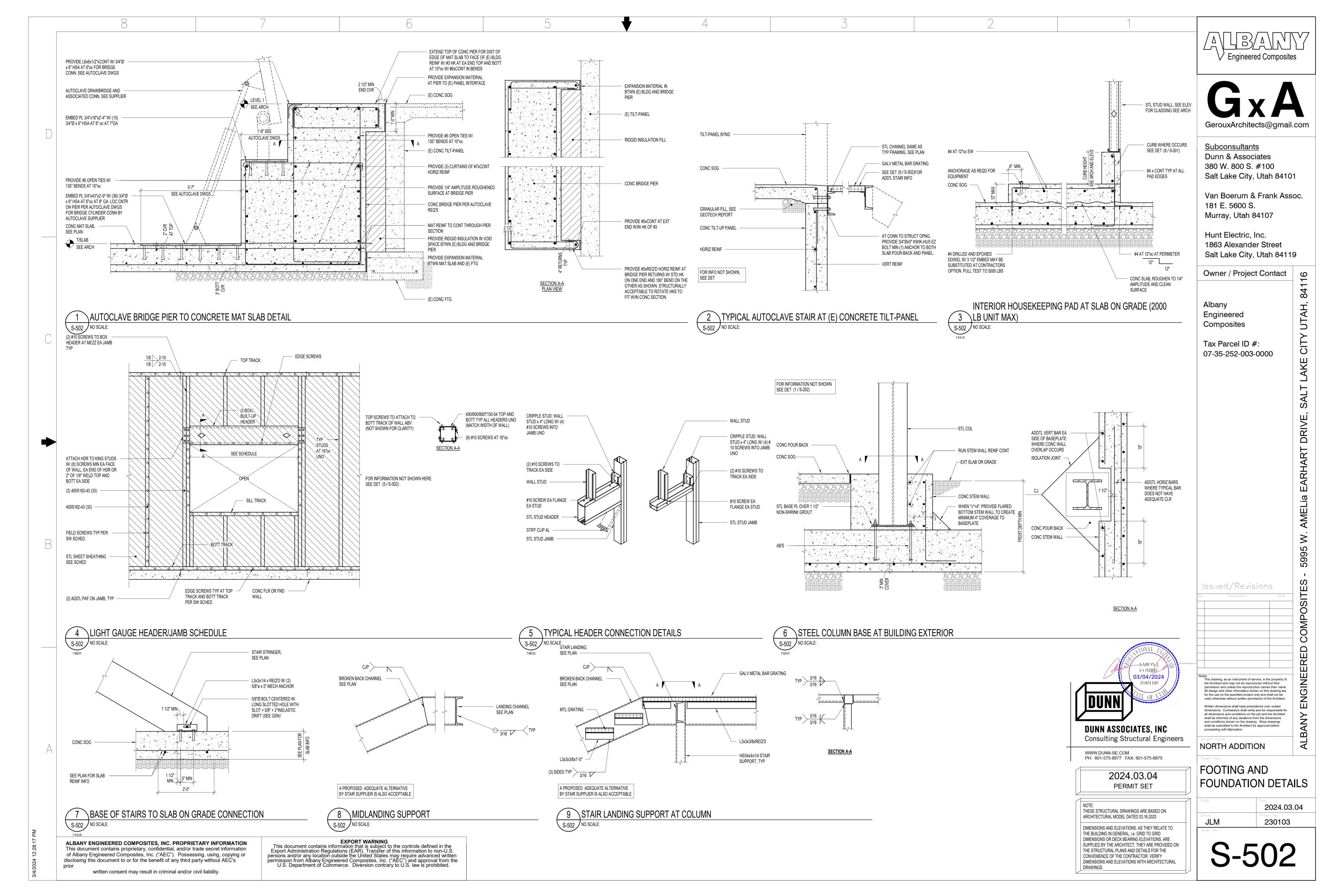


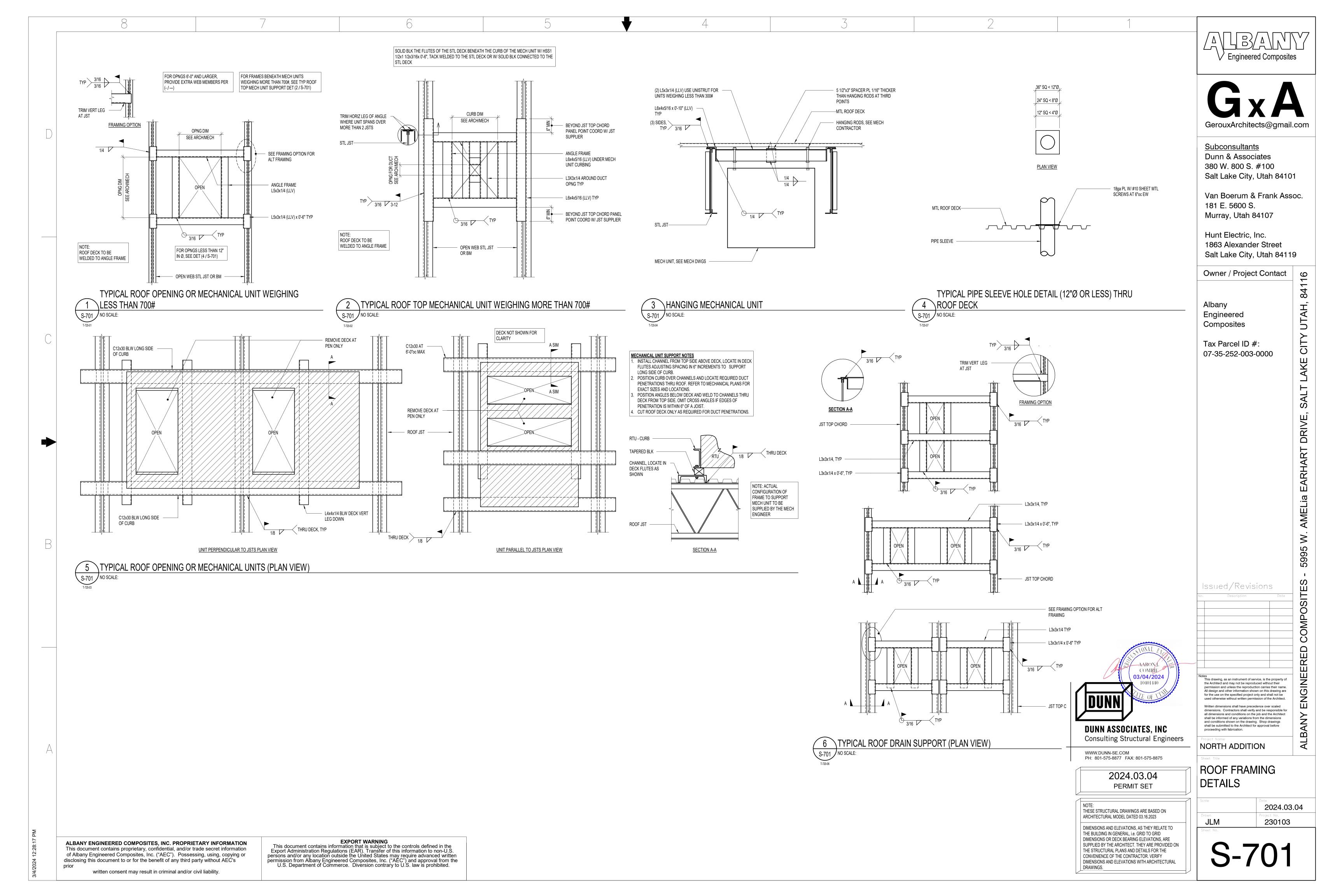


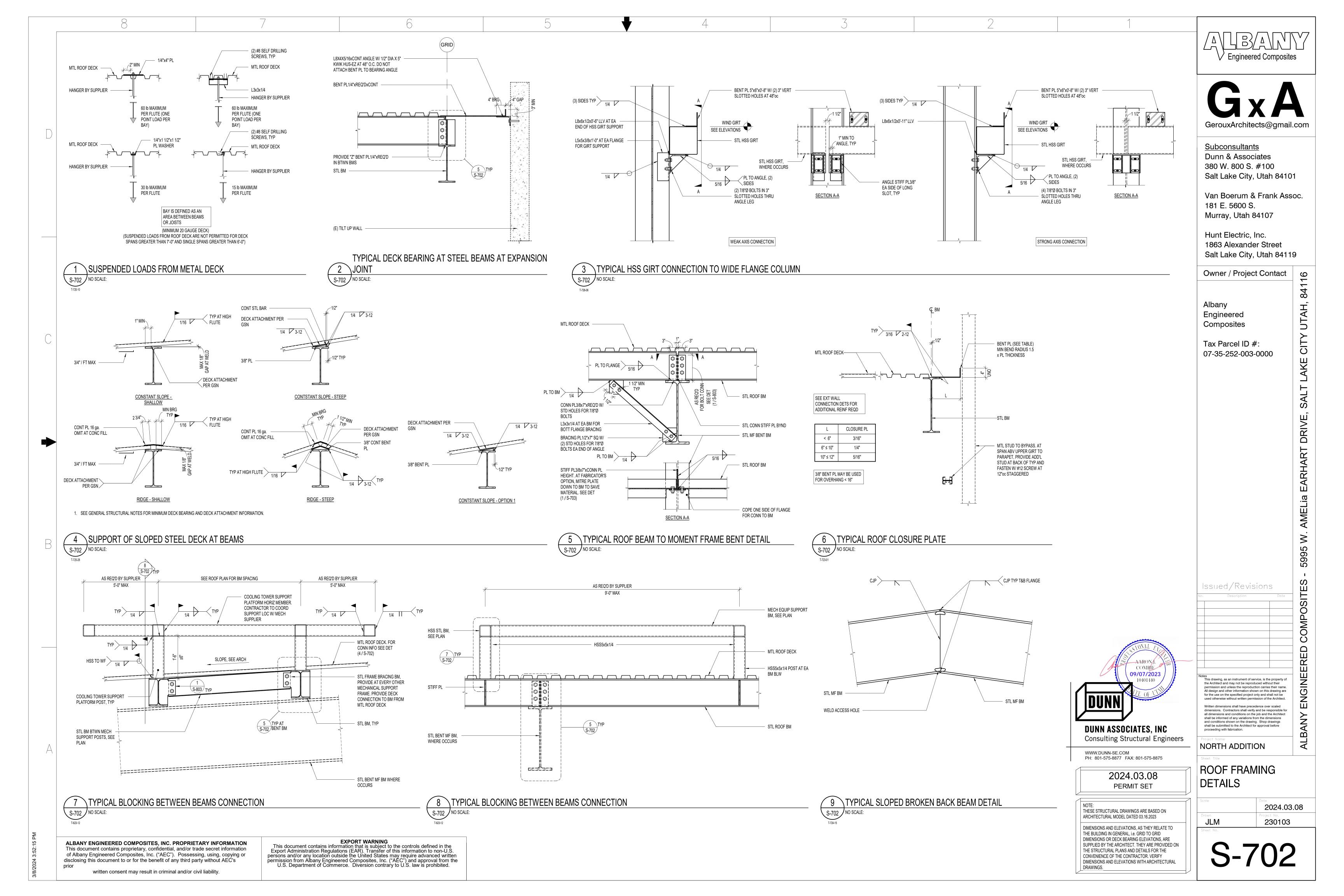


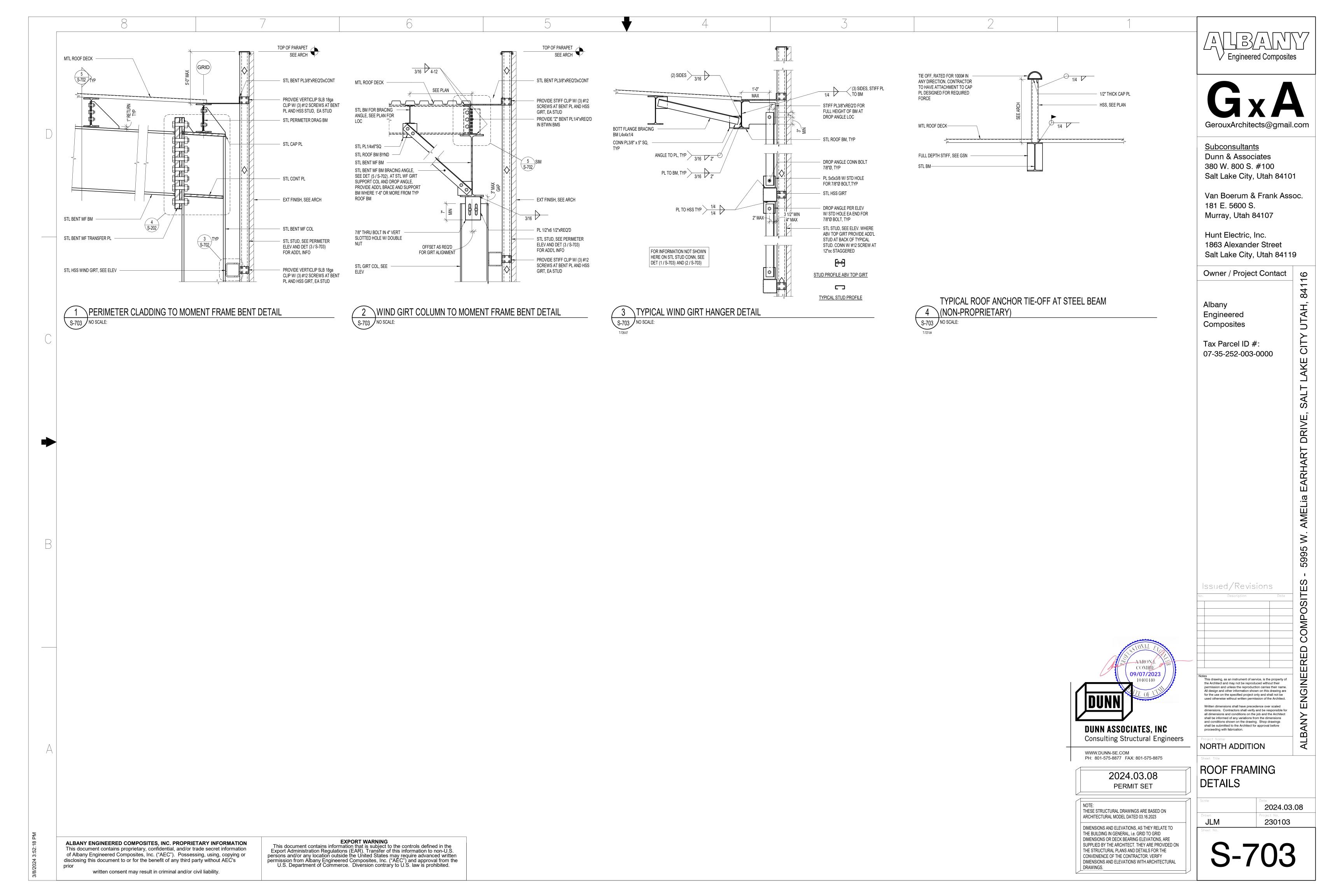


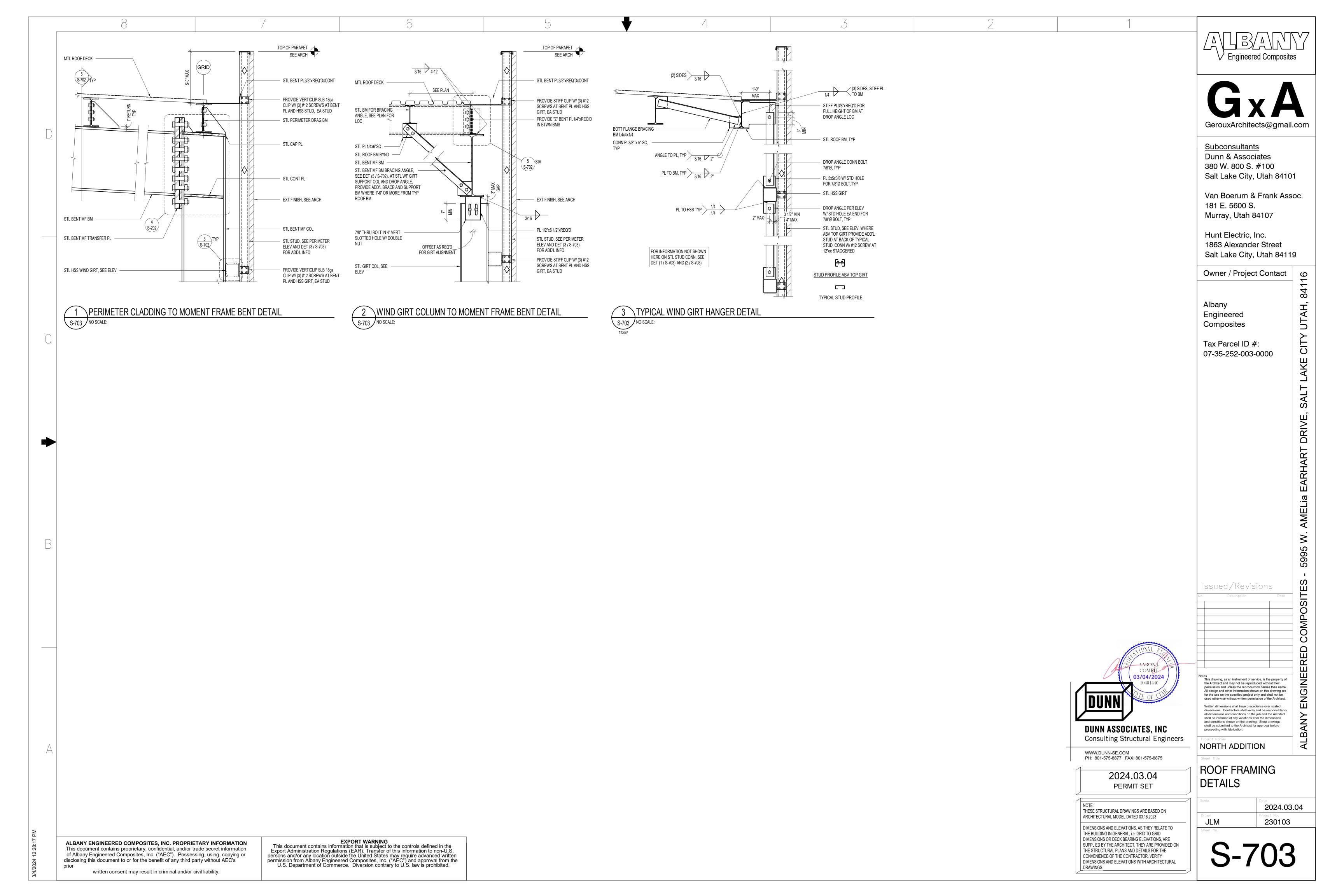












				СО	NCR	RETE	RE	INFO	ORC	ING	BAF	R LA	P SF	PLIC	E S(CHE	DUL	E							
			f'c = 30	000 PSI			f'c = 35	00 PSI			f'c = 40	000 PSI			f'c = 45	00 PSI			f'c = 50	00 PSI			f'c = 60	00 PSI	
ВА	۱R	REG	ULAR	T	OP	REG	ULAR	TO)P	REG	ULAR	TO	OP	REG	JLAR	TO	OP	REGI	JLAR	TO	OP	REGI	ULAR	T	OP
SIZ	ZE	CL	ASS	CL	ASS	CL	ASS	CLA	ASS	CL/	ASS	CL	ASS	CL	ASS	CLA	ASS	CLA	ASS	CLA	ASS	CLA	ASS	CL	ASS
		А	В	Α	В	Α	В	А	В	Α	В	А	В	Α	В	А	В	Α	В	Α	В	Α	В	Α	В
#3	3	17"	22"	22"	28"	16"	21"	21"	26"	15"	19"	19"	25"	14"	18"	18"	23"	13"	17"	17"	22"	12"	16"	16"	20"
#4	4	22"	29"	29"	38"	21"	27"	27"	36"	19"	25"	25"	33"	18"	24"	24"	31"	17"	23"	23"	29"	16"	21"	21"	27"
#!	5	28"	36"	36"	47"	26"	34"	34"	44"	24"	31"	31"	41"	23"	30"	30"	38"	22"	28"	28"	36"	20"	26"	26"	33"
#6	6	33"	43"	43"	56"	31"	40"	40"	52"	29"	37"	37"	49"	27"	35"	35"	46"	26"	34"	34"	44"	24"	31"	31"	40"
#7	7	48"	63"	63"	81"	45"	59"	59"	75"	42"	54"	54"	71"	40"	51"	51"	67"	38"	49"	49"	63"	34"	45"	45"	58"
#8	8	55"	72"	72"	93"	51"	67"	67"	82"	48"	62"	62"	81"	45"	59"	59"	76"	43"	56"	56"	72"	39"	51"	51"	66"
#9	9	62"	81"	81"	105"	58"	75"	75"	98"	54"	70"	70"	91"	51"	66"	66"	86"	48"	63"	63"	81"	44"	57"	57"	74"
#1	0	70"	91"	91"	118"	65"	85"	85"	110"	61"	79"	79"	102"	57"	74"	74"	96"	54"	71"	71"	92"	50"	64"	64"	84"
#1	1	78"	101"	101"	131"	73"	94"	94"	122"	67"	87"	87"	114"	64"	82"	82"	107"	60"	78"	78"	102"	55"	71"	71"	93"

NOTES:

1. THIS SCHEDULE SHALL BE USED FOR ALL SPLICES, UNLESS NOTED OTHERWISE.

2. HORIZONTAL BARS ARE CLASSIFIED AS TOP BARS WHERE 12", OR MORE, OF FRESH CONCRETE IS CAST BELOW

THE REINFORCING BARS.

3. CLASS 'B' SPLICES SHALL BE USED FOR ALL SPLICES UNLESS NOTED OTHERWISE. 4. TIES AND STIRRUPS SHALL NOT BE SPLICED.

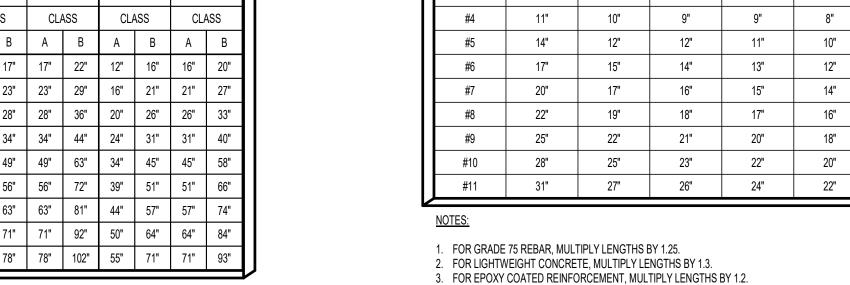
5. FOR ALL LIGHTWEIGHT CONCRETE, LAP LENGTHS SHALL BE MULTIPLIED BY 1.3.

6. FOR ALL EPOXY COATED BARS, LAP LENGTHS SHALL BE MULTIPLIED BY 1.5 FOR BARS WITH CLEAR COVER LESS THAN 3 BAR DIAMETERS OR CLEAR SPACING LESS THAN 6 BAR DIAMETERS, OTHERWISE MULTIPLY BY 1.2. 7. LAP LENGTHS SHALL BE MULTIPLIED BY 1.25 AT SHEARWALL BOUNDARY ELEMENTS.

8. DEVELOPMENT LENGTH 'Ld' IS EQUAL TO CLASS 'A' SPLICE. 9. IF REINFORCING HAS CLEAR COVER LESS THAN ONE BAR DIAMETER, LAP LENGTHS SHALL BE MULTIPLIED BY 1.5.

10. IF REINFORCING IS NOT ENCLOSED IN TIES OR STIRRUPS AND IS SPACED TIGHTER THAN 2 BAR DIAMETERS ON CENTER, LAP LENGTHS SHALL BE MULTIPLIED BY 1.5. 11. LAP LENGTHS SHALL BE MULTIPLIED BY 1.25 FOR GRADE 75 REBAR.

12. WHERE BARS OF DIFFERENT SIZES ARE LAPPED, THE SPLICE LENGTH SHALL BE THE LARGER OF 'Ld' OF THE LARGER BARS AND THE SPLICE LENGTH OF THE SMALLER BAR.



D = 6d FOR #3 - #8

D = 8d FOR #9 - #11

4d OR 2 1/2" MIN

D = 10d FOR #14 - #18

<u>OFFSET</u>

4. FOR HOOKS WITH 2.5" MINIMUM SIDE COVER PERPENDICULAR TO PLANE

JOINTS OR SHEAR WALL BOUNDARY ZONE.

OF HOOK, MULTIPLY LENGTHS BY 0.7. 5. FOR LATERAL LOAD RESISTING ELEMENTS, CRITICAL SECTIONS SHALL BE TAKEN AS THE FACE OF TIE / HOOP AT CONFINED CORES OF COLUMN

HOOKED BAR DEVELOPMENT LENGTHS, Ldh

BAR SIZE | fc = 3000 PSI | fc = 4000 PSI | fc = 4500 PSI | fc = 5000 PSI | fc = 6000 PSI

FACE OF CONC FACE OF CONC -STD -HOOK STANDARD HOOK - CRITICAL SECTION SECTION LATERAL LOAD RESISTING ELEMENT SECTION AT LATERAL LOAD RESISTING ELEMENT TYPICAL SECTION

CONCRETE REINFORCING BAR LAP SCHEDULES AND DIAGRAMS S-801 NO SCALE:

	CONC	RETE WALL S	CHEDULE		
THICKNESS		REINFORCING		WALL TYPE	COMMENTS
111101111200	VERTICAL	HORIZONTAL	TOP AND BOTTOM	***************************************	O O I I I I I I I I I I I I I I I I I I
8"	#4 AT 18"oc	#4 AT 12"oc	(1) #5	A	_
	THICKNESS _	THICKNESS VERTICAL	THICKNESS REINFORCING VERTICAL HORIZONTAL	THICKNESS VERTICAL HORIZONTAL TOP AND BOTTOM	THICKNESS REINFORCING WALL TYPE VERTICAL HORIZONTAL TOP AND BOTTOM WALL TYPE

HORIZONTAL REINFORCING

#4 BARS AT 16"oc

CONCRETE WALL NOTES:

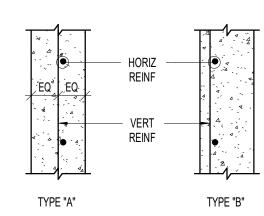
1. SEE GENERAL STRUCTURAL NOTES FOR COVER AND OTHER REQUIREMENTS NOT NOTED IN SCHEDULE. 2. CONCRETE WALLS NOT DESIGNATED ON THE PLANS SHALL BE REINFORCED AS FOLLOWS:

VERTICAL REINFORCING

#4 BARS AT 18"oc #4 BARS AT 18"oc

#4 BARS AT 12"oc #4 BARS AT 16"oc #5 BARS AT 15"oc #4 BARS AT 16"oc EA FACE #4 BARS AT 18"oc EA FACE 3. PLACE STEEL IN THE CENTER OF THE WALL (EXCEPT TYPE 'B' AND RETAINING WALLS). WALLS THICKER THAN 10" SHALL

HAVE TWO CURTAINS OF REINFORCEMENT (PLACED NEAR EA FACE OF THE WALL), UNLESS NOTED OTHERWISE ON THE STRUCTURAL DRAWINGS. WALL REINFORCEMENT PLACEMENT TYPES:







DUNN ASSOCIATES, INC Consulting Structural Engineers

COMRIE 03/04/2024

10401440

WWW.DUNN-SE.COM PH: 801-575-8877 FAX: 801-575-8875

> 2024.03.04 PERMIT SET

THESE STRUCTURAL DRAWINGS ARE BASED ON ARCHITECTURAL MODEL DATED 03.16.2023

DIMENSIONS AND ELEVATIONS, AS THEY RELATE TO THE BUILDING IN GENERAL, i.e. GRID TO GRID DIMENSIONS OR DECK BEARING ELEVATIONS, ARE SUPPLIED BY THE ARCHITECT. THEY ARE PROVIDED ON THE STRUCTURAL PLANS AND DETAILS FOR THE CONVENIENCE OF THE CONTRACTOR, VERIFY DIMENSIONS AND ELEVATIONS WITH ARCHITECTURAL DRAWINGS.

GerouxArchitects@gmail.com

Subconsultants Dunn & Associates 380 W. 800 S. #100 Salt Lake City, Utah 84101

Van Boerum & Frank Assoc. 181 E. 5600 S. Murray, Utah 84107

Hunt Electric, Inc. 1863 Alexander Street Salt Lake City, Utah 84119

Owner / Project Contact

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NORTH ADDITION

shall be submitted to the Architect for approval before

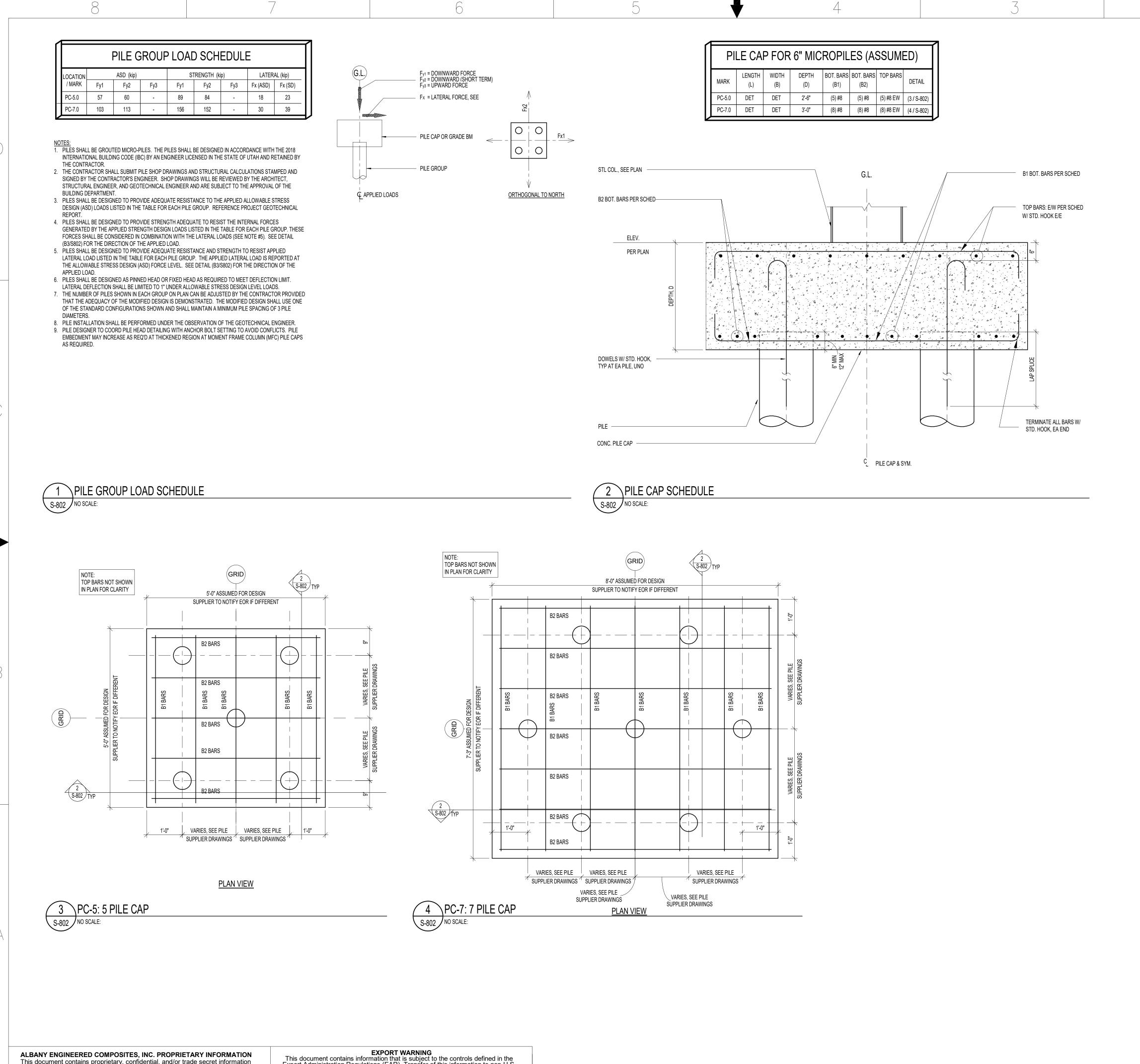
SCHEDULES

2024.03.04 230103

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03/04/2024

DUNN ASSOCIATES, INC

WWW.DUNN-SE.COM

Consulting Structural Engineers

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DIMENSIONS AND ELEVATIONS WITH ARCHITECTURAL

THE STRUCTURAL PLANS AND DETAILS FOR THE

CONVENIENCE OF THE CONTRACTOR. VERIFY

DRAWINGS.

ARCHITECTURAL MODEL DATED 03.16.2023

10401440

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proceeding with fabrication.

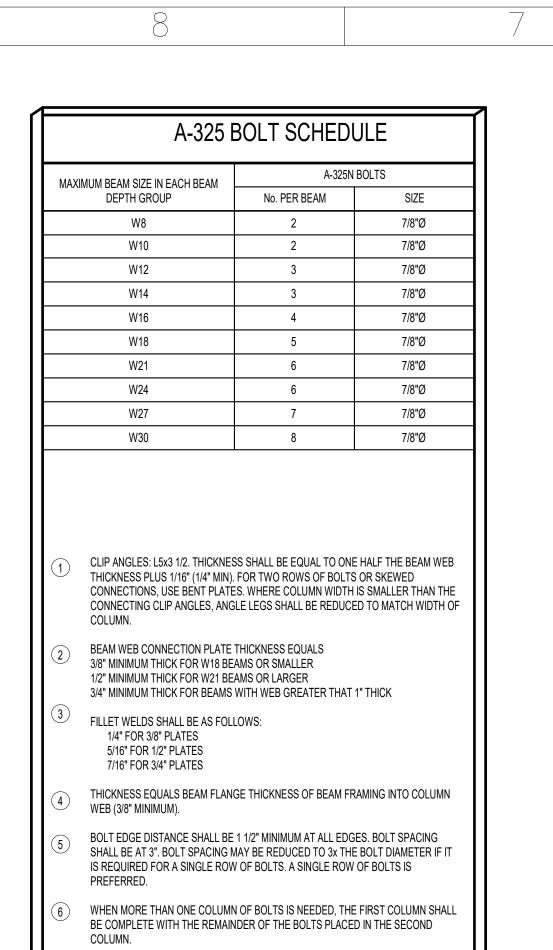
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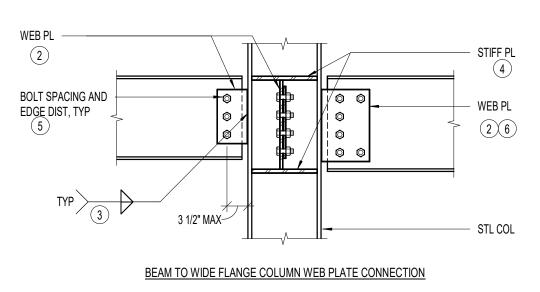
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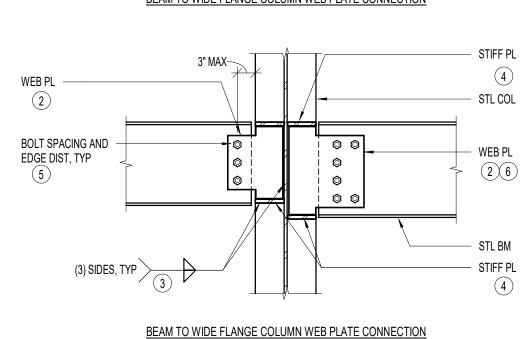
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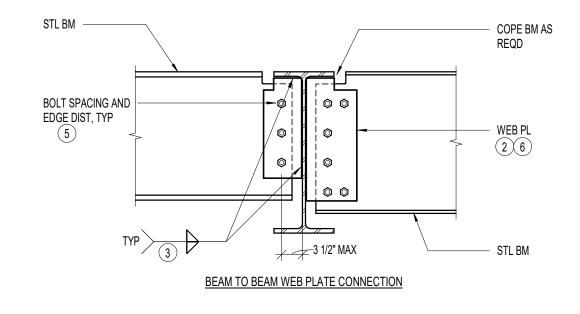
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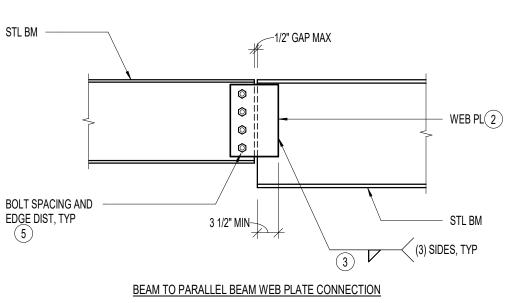
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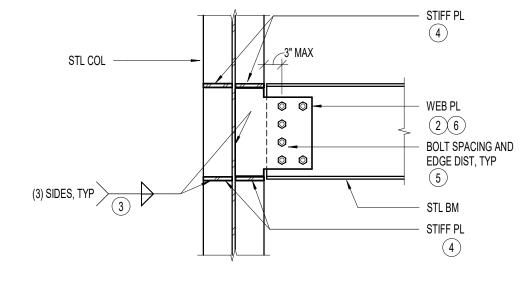








ANCHOR BOLT Ø EMBED DEPTH ASD CAPACITY



SINGLE SIDED BEAM TO WIDE FLANGE COLUMN WEB PLATE CONNECTION

Engineered Composites

GerouxArchitects@gmail.com

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SCHEDULES

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2024.03.04

230103

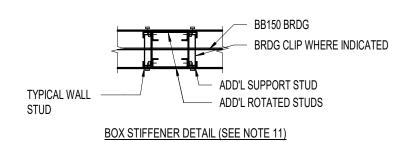
TYPICAL BOLTED WEB PLATE CONNECTIONS WITH BOLT SCHEDULE (SINGLE SHEAR) S-803 NO SCALE:

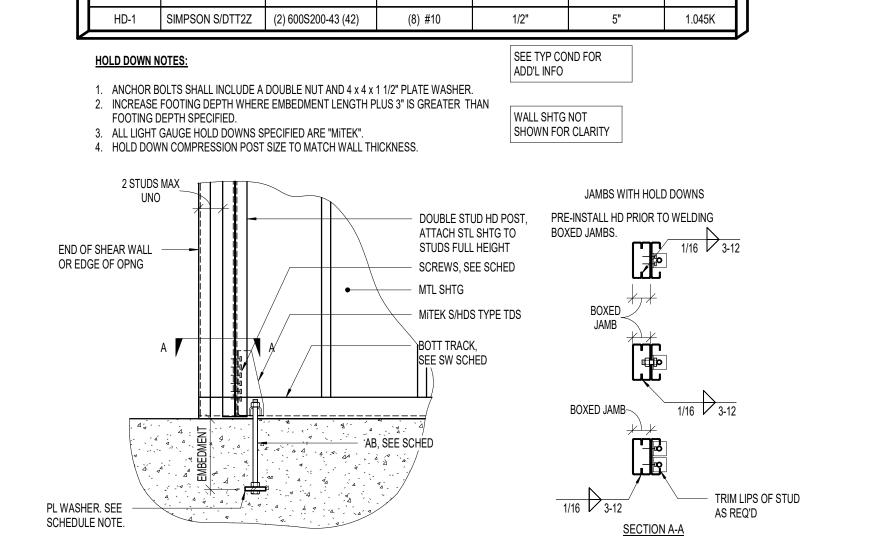
	LIGHT GA	UGE STUDW	ALL SCHEDU	LE	
MARK	SIZE AND SPAN	TOP & BOTT TRACK	LOAD DISTRIBUTION MEMBER	LOCATION (UNO)	BRIDGING CLIP AT EA STUD
LGW-1	600S200-43(33) AT 16"oc	600T125-33(33)		MID	BC-SUBH3.25

1. ALL NON-BEARING WALLS 400/600S125-33 (33) AT 16"cc, TYPICAL UNO.

1/2" PLATE THICKNESS + 5/16"

- 2. ALL TRACKS SHALL BE 400/600T150-54 (50), TYPICAL, UNO. 3. SEE SHEAR WALL SCHEDULE FOR SHEAR WALL SHEATHING, STUD THICKNESS, AND ATTACHMENTS.
- 4. SEE TYPICAL DETAIL (-/--) FOR ADD'L INFORMATION. 5. ATTACH ALL TRACKS TO EACH STUD AT EACH STUD FLANGE WITH #10 SCREWS.
- 6. ATTACH ALL LOAD DISTRIBUTION MEMBERS TO TOP TRACK WITH #10 SCREWS AT 16"cc
- 7. ATTACH ALL LOAD DISTRIBUTION MEMBERS TO FLOOR/ROOF DECK WITH (2) #10 SCREWS AT 12"O.C. TYPICAL AT DECK PERPENDICULAR TO WALL AND (2) #10 SCREWS AT 16"cc TYPICAL AT DECK PARALLEL TO WALL.
- 8. PROVIDE DECK CLOSURE ELEMENTS AS REQUIRED TO ALLOW FULL DEPTH CONCRETE OVER TOP OF WALL, TYPICAL. 9. ATTACH BOTTOM TRACK TO CONCRETE SLAB ON DECK, SUSPENDED SLABS, SLAB ON GRADE, AND/OR FOUNDATION WALLS WITH PAF AT
- 24"cc AT INTERIOR WALLS AND 12"cc AT EXTERIOR WALLS.
- 10. PROVIDE BB150 BRIDGING AT A MAXIMUM SPACING OF 48"cc TYPICAL. 11. IN ADDITION TO BRIDGING, PROVIDE IN PLANE BRACING IN ALL LOAD BEARING WALLS: PROVIDE BOX SHAPE AT 10'-0" ON CENTER MAX. (e.g. WALLS SHORTER THAN 10'-0" REQUIRE (1) STIFFENER, WALLS 10'-0" TO 20'-0" LONG REQUIRE (2) STIFFENERS, AND SO ON.) USE (2) STUD'S
- (SAME SIZE AS WALL STUDS) 90 DEGREES FROM TYPICAL STUDS, ONE EACH FACE OF WALL. PROVIDE A STUD EACH END OF PERPENDICULAR STUDS. ATTACH WITH (8) #10 SCREWS AT 16"cc SEE SECTION A-A BELOW. 12. EDGE DISTANCE OF ALL SCREWS SHALL BE 3/8", MINIMUM.
- 13. ALL OPENINGS IN UTILITY/ELEVATOR SHAFT WALLS TO BE FRAMED USING 400/600JS-34 (33), 400/600JR-34 (33), AND 400/600ES-34 (33) AS





LIGHT GAUGE STEEL HOLD DOWN SCHEDULE

COMPRESSION MEMBERS

SCREWS

LIGHT GAUGE STEEL HOLDDOWN SCHEDULE

HOLD DOWN

MARK

LIGHT GAUGE STEEL STUD WALL SCHEDULE

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- A. WORK INCLUDED: FURNISH ALL LABOR, MATERIALS, EQUIPMENT, APPLIANCES AND NECESSARY INCIDENTALS FOR THE COMPLETE INSTALLATION OF ALL HEATING, VENTILATION AND AIR CONDITIONING AS SHOWN ON THE DRAWINGS AND AS SPECIFIED HEREIN.
- 1. AIR CONDITIONING AND HEATING TO EXISTING A/C UNITS AS INDICATED ON PLANS COMPLETE WITH DUCTWORK, AND CONTROLS.
- B. RELATED WORK INCLUDED IN THIS SECTION:
 - FURNISHING ELECTRICAL DEVICES NECESSARY FOR MECHANICAL WORK, EXCEPT DISCONNECTS UNLESS INDICATED OTHERWISE.
 - 2. LINE AND LOW VOLTAGE WIRING FOR MECHANICAL CONTROLS INCLUDING FINAL CONNECTIONS AS INDICATED ON WIRING DIAGRAMS.
- 3. CONDUIT FOR LINE AND LOW VOLTAGE WIRING FOR MECHANICAL CONTROLS AS INDICATED ON
- 4. RESPONSIBILITY FOR OBTAINING CLARIFICATION OF DISCREPANCIES BETWEEN MECHANICAL AND ELECTRICAL WORK FROM ARCHITECT PRIOR TO PROCEEDING WITH THE WORK.
- 5. RESPONSIBILITY FOR PROPER OPERATION OF AUTOMATIC ELECTRICAL CONTROLS AND
- C. RELATED WORK IN OTHER SECTIONS:
 - 1. ELECTRICAL WORK AS FOLLOWS WILL BE PROVIDED UNDER ELECTRICAL DIVISION:
- CONDUIT FOR LINE VOLTAGE WIRING FOR EQUIPMENT AND DEVICES AS INDICATED OR SPECIFIED EXCEPT CONDUIT FOR LINE AND LOW VOLTAGE WIRING FOR MECHANICAL CONTROLS AS SPECIFIED UNDER DIVISION 15.

EQUIPMENT, AND OF ELECTRIC POWER DRIVEN EQUIPMENT FURNISHED UNDER THIS SECTION.

- B. LINE VOLTAGE WIRING FOR EQUIPMENT AND DEVICES AS INDICATED OR SPECIFIED HEREIN EXCEPT LINE AND LOW VOLTAGE WIRING FOR MECHANICAL CONTROLS AS SPECIFIED UNDER DIVISION 15
- C. PROVIDING DISCONNECT SWITCHES.
- D. INSTALLING ELECTRICAL DEVICES SUCH AS STARTERS AND DISCONNECTS, AND, WHEN INDICATED, FURNISHING ALL SUCH DEVICES.
- E. CODES AND STANDARDS:

IN ADDITION TO THE REQUIREMENTS OF ALL GOVERNING CODES, ORDINANCES AND AGENCIES, CONFORM TO THE REQUIREMENTS OF THE FOLLOWING CODES AND STANDARDS:

- 2018 INTERNATIONAL MECHANICAL CODE
- 2. 2018 INTERNATIONAL BUILDING CODE.
- 2018 INTERNATIONAL PLUMBING CODE.
 2018 INTERNATIONAL ENERGY CONSERVATION CODE.
- 5. 2018 INTERNATIONAL FUEL AND GAS CODE.
- 2017 INTERNATIONAL ELECTRICAL CODE.
- F. ALL GAS FIRED EQUIPMENT SHALL INCLUDE A LABEL INDICATING THAT THE APPLIANCE HAS BEEN ADJUSTED, MODIFIED OR RE-CALIBRATED FOR THE ALTITUDE WHEREIN THE PROJECT IS TO BE LOCATED. THE APPLIANCE SHALL ALSO INCLUDE A COMPLIANCE STATEMENT INDICATING THAT THE APPLIANCE HAS BEEN ADJUSTED, MODIFIED OR RE-CALIBRATED FOR THE PROPER OPERATION AT THE ALTITUDE OF THE PROJECT AND SHALL BE LISTED CAPABLE FOR USE WITH NATURAL GAS OR PROPANE GAS IF PROPANE IS LISTED ON THE DRAWINGS.

01-230051 PRODUCT HANDLING

- A. PROTECTION: TAKE ALL PRECAUTIONS NECESSARY TO PROTECT THE MATERIALS OF THIS SECTION BEFORE, DURING AND AFTER INSTALLATION.
- B. REPLACEMENTS: IN THE EVENT OF DAMAGE, IMMEDIATELY REPAIR ALL DAMAGED AND DEFECTIVE WORK TO THE APPROVAL OF THE ENGINEER, AT NO ADDITIONAL COST TO THE

01-230052 JOB CONDITIONS

A. EXAMINATION OF SITE: EXAMINE THE SITE AND INCLUDE IN BID PROPOSAL ALL CONDITIONS UNDER WHICH WORK IS TO BE PERFORMED.

01-230053 MISCELLANEOUS

- A. PERMIT AND FEES: ARRANGE, APPLY AND PAY FOR ALL NECESSARY PERMITS, INSPECTIONS, EXAMINATIONS AND FEES OR CHARGES REQUIRED BY PUBLIC AUTHORITIES HAVING
- B. LOCATIONS AND ACCESSIBILITY: CONTRACTOR SHALL FULLY INFORM HIMSELF REGARDING PECULIARITIES AND LIMITATIONS OF SPACE AVAILABLE FOR INSTALLATION OF WORK UNDER THIS SECTION. VALVES, MOTORS, CONTROLS AND OTHER DEVICES REQUIRING SERVICE, MAINTENANCE AND ADJUSTMENT SHALL BE PLACED IN FULLY ACCESSIBLE POSITIONS AND LOCATIONS. PROVIDE ACCESS DOORS WHERE REQUIRED IN DUCTWORK AND/OR CONSTRUCTION WHETHER SPECIALLY DETAILED OR NOT, AND RENDER ALL SUCH DEVICES ACCESSIBLE.
- C. SCAFFOLDING: FURNISH ALL SCAFFOLDING, RIGGING AND HOISTING AS REQUIRED FOR THE PROPER EXECUTION OF THE WORK.
- DRAWINGS: DRAWINGS INDICATE DESIRED LOCATION AND ARRANGEMENT OF DUCTWORK, EQUIPMENT, AND OTHER ITEMS, AND ARE TO BE FOLLOWED AS CLOSELY AS POSSIBLE. ALL OFFSETS AND INTERFERENCES MAY NOT BE SHOWN BECAUSE OF THE SCALE OF DRAWINGS. ASSUME THE RESPONSIBILITY FOR COORDINATING THE WORK WITH ALL OTHER TRADES. WORK SPECIFIED AND NOT CLEARLY DEFINED BY THE DRAWINGS SHALL BE INSTALLED AND ARRANGED IN A MANNER SATISFACTORY TO THE ENGINEER. IN THE EVENT CHANGES IN INDICATED LOCATIONS AND ARRANGEMENTS ARE DEEMED NECESSARY BY ENGINEER, THEY SHALL BE MADE BY THIS CONTRACTOR WITHOUT ADDITIONAL CHARGES.
- E. ALL HVAC EQUIPMENT SHALL BE LABELED. INFORMATION ON LABELS SHALL INCLUDE; IDENTIFICATION NUMBER AND NAME SAME AS THE DRAWINGS, FLOW AND STATIC PRESSURE AND THE AREA TO WHICH THE UNIT SERVES. LABELS SHALL BE BLACK FACED FORMICA WITH WHITE ENGRAVED LETTERING AT LEAST 3/16 INCH HIGH.
- F. PROVIDE 4" MINIMUM HEIGHT CONCRETE EQUIPMENT PADS FOR ALL MAJOR MECHANICAL EQUIPMENT. EXTEND THE PAD 6 INCHES LARGER ON ALL SIDES OF THE EQUIPMENT AND PROVIDE 1: BELEVED EDGES. COAT EQUIPMENT PADS IN MECHANICAL ROOMS ABOVE THE MAIN LEVEL WITH WATER PROOF COATING PRIOR TO SETTING EQUIPMENT.

01-230550 SUBMITTALS AND O&M MANUALS

- A. SHOP DRAWINGS: WITHIN 15 DAYS AFTER AWARD OF CONTRACT, AND BEFORE ANY OF THE MATERIALS OF THIS SECTION ARE FABERICATED AND DELIVERED TO THE JOBSITE, SUBMIT COMPLETE SHOP DRAWINGS AND EQUIPMENT SUBMITTALS FOR ENGINEER TO REVIEW IN ACCORDANCE WITH THESE SPECIFICATIONS. SHOW ALL DETAILS OF ALL DUCTWORK, AND FOUIPMENT PADS.
- B. PRODUCT DATA:
 - SUBMIT SIX (6) COPIES OF ALL MANUFACTURER'S PRODUCT DATA SIMULTANEOUSLY WITH ALL SHOP DRAWING SUBMITTALS.
 - PRODUCT DATA TO INCLUDE ALL AIR CONDITIONING EQUIPMENT, HANGERS, FANS AND OTHER STANDARD ITEMS AS REQUIRED TO COMPLEMENT SHOP DRAWINGS FOR A SUBMITTAL INDICATING PRODUCTS TO BE USED ON THIS WORK.
- C. RECORD DRAWINGS: MAINTAIN THROUGHOUT THE PROGRESS OF THE WORK PROJECT RECORD DRAWINGS AND SUBMIT TO THE OWNER.
- D. OPERATION AND MAINTENANCE MANUALS
- a. PROVIDE 4 HARD COPIES OF THE O&M MANUALS.
- PROVIDE AN ELECTRONIC FILE OF THE COMPLETE O&M IN PDF FORMAT.

 PROVIDE RED BUCKRAM BINDERS WITH EASY-VIEW FOR SIZE 8 1/2 x 11 INCH SHEETS,
 - WITH EXPANDABLE CAPACITY FROM 2 INCHES TO 3 1/2 INCHES AS REQUIRED BY THE PROJECT. THE FRONT COVER AND BACKBONE SHALL BE FOIL STAMPED IN WHITE AS FOLLOWS:
 - OPERATING AND MAINTENANCE MANUAL FOR THE

(INSERT PROJECT NAME)

YFAR

VOLUME NO.()

(INSERT MECHANICAL ENGINEER)
MECHANICAL ENGINEER

(INSERT ARCHITECT)
ARCHITECT

- d. PROVIDE AN INDEX SHEET TYPED ON AICO GOLD-LINE INDEXES IN THE FRONT OF THE BINDER. THE MANUAL SHALL INCLUDE THE FOLLOWING.
 - 3. SYSTEM DESCRIPTIONS AND BASIS OF DESIGN
- 4. START-UP PROCEDURE AND OPERATION OF SYSTEM
- . MAINTENANCE AND LUBRICATION TABLE
- OPERATION AND MAINTENANCE BULLETINS
 AUTOMATIC TEMPERATURE CONTROL SEQUENCE OF OPERATION, DESCRIPTION
- OF OPERATION, INTERLOCK AND CONTROL DIAGRAMS, AND CONTROL PANELS.
- B. AIR AND WATER SYSTEM BALANCING REPORTS
- 9. SYSTEM COMMISSIONING REPORTS
- 10. EQUIPMENT START-UP CERTIFICATES
- GUARANTEES: IN ADDITION TO EQUIPMENT WARRANTIES, FURNISH A WRITTEN GUARANTEE AGAINST DEFECTS IN MATERIALS AND WORKMANSHIP FOR ONE YEAR. GUARANTEE SHALL INCLUDE REPAIR OF DAMAGE TO, OR REPLACEMENT OF, ANY PART OF EQUIPMENT OR PREMISES CAUSED BY LEAKS OR BREAKS IN PIPE OR EQUIPMENT PROVIDED UNDER THIS SECTION.

01-230553 HVAC PIPING AND EQUIPMENT IDENTIFICATION

- A. PIPE IDENTIFICATION:
- I. LABEL AND COLOR CODE ALL PIPES WITH CONTENTS CLEARLY IDENTIFIED AND ARROW INDICATING DIRECTION OF FLOW. THE APPLIES TO PIPING RUN ABOVE THE CEILINGS AND IN PIPE TUNNELS AS WELL AS PIPE EXPOSED IN EQUIPMENT ROOMS AND FINISHED AREAS. IDENTIFY PIPES AS THE FOLLOWING LOCATIONS.
- a. ADJACENT TO EACH VALVE.
- AT EVERY POINTS OF ENTRY AND EXIT WHERE PIPING PASSES THROUGH AL
- WALL OR FLOOR.
 ON EACH RISER AND JUNCTION
- A MAXIMUM OF EVERY FIFTY FEET (50') ON LONG CONTENTIOUS LINES FULLY EXPOSED TO VIEW.
- ADJACENT TO ALL SPECIAL FITTINGS OR DEVICES (REGULATING VALVES,
- f. CONNECTION TO EQUIPMENT.
- APPLY MARKERS SO THEY CAN BE READ FROM THE FLOOR.
- PROVIDE ALL TEMPERATURE SELF-STICKING PERMANENT LABELS AND MARKERS AS MANUFACTURED BY W.H. BRADY CO., 727 WEST GLENDALE AVE., MILWAUKEE, WISCONSIN: OR SETON NAME PLATE CORP., 592 BOULEVARD, NEW HAVEN, CONNECTICUT.
- 2.1. PROVIDE UNIFORM PIP COLOR—CODING AND MATCH NEW SYSTEMS. PROVIDE BACKGROUND COLORS SHALL BE AS

SYSTEMS WITH EXISTING FOLLOWS:

- . BLACK: DANGEROUS MATERIALS (HIGH PRESSURE STEAM, NATURAL GAS, CONDENSATE, HIGH PRESSURE REFRIGERANT, HIGH VOLTAGE, ETC.)
- . WHITE: FIRE PROTECTION EQUIPMENT (FIRE SPRINKLER WATER, FIRE PROTECTION
- WHITE: PROTECTIVE MATERIALS (FILTERED WATER)
- 4. WHITE: SAFE MATERIALS (CHILLED WATER, COLD WATER, INSTRUMENT AIR, SANITARY SEWER, ETC.)
- PROVIDE IDENTIFICATION LETTERS TWO INCH (2") HIGH FOR PIPES THREE INCH (3") AND LARGER, AND ONE INCH (1") HIGH FOR PIPES TWO AND ONE-HALF INCHES (2 1/2") AND UNDER.
- B. DUCT IDENTIFICATION: IDENTIFICATION AND LABELING.
- 1. IDENTIFY ALL DUCTS EXPOSED IN MECHANICAL EQUIPMENT ROOM. A SAMPLE DUCT IDENTIFICATION IS AS FOLLOWS: "SUPPLY HOT DUCT—HEATING AUDITORIUM WING."

- C. EQUIPMENT IDENTIFICATION
- 1. IDENTIFY ALL MECHANICAL EQUIPMENT AND ALL OTHER DEVICES WITH SIGNS MADE OF LAMINATED PLASTIC WITH ONE-EIGHT INCH (1/8") OR LARGER ENGRAVED LETTERS; ATTACH SIGNS SECURELY WITH RUST PROOF SCREW OR SOME OTHER PERMANENT MEANS (NO ADHESIVES).
- 2. INCLUDE THE FOLLOWING INFORMATION ON THE EQUIPMENT IDENTIFICATION SIGN: NAME OF EQUIPMENT, IDENTIFICATION ON PLANS AND SCHEDULES, DESIGN CAPACITY AND ANY OTHER IMPORTANT DATA NO INCLUDED ON FACTORY ATTACHED NAME PLATE.
- ATTACH SIGNS TO EQUIPMENT SO THEY CAN BE EASILY READ. ATTACH USING SCREW OR RIVETS.
- 4. A SAMPLE IDENTIFICATION SIGN FOR EQUIPMENT IS AS FOLLOWS:

"SUPPLY FAN -AUDITORIUM F-2 CAPACITY: 49,850 CFM @ 3.5" S.P. (AT 4775 FT. ELEV.)"

"HEATING HOT WATER PUMP CLASSROOM AREA 156 GPM @ 57 FT.HEAD"

PART 2 - PRODUCTS

02-230529 HANGERS AND SUPPORTS FOR HVAC PIPING AND EQUIPMENT.

- A. PROVIDE A RUST RESISTANT STEEL HANGERS, SUPPORTS, RODS AND ACCESSORIES.
- B. PROVIDE HANGERS TO ACCOMMODATE FULL SIZE INSULATION SYSTEM.

02-230548 VIBRATION AND SEISMIC CONTROLS FOR HVAC PIPING AND EQUIPMENT.

ALL ISOLATION MATERIALS, FLEXIBLE CONNECTORS AND SEISMIC RESTRAINTS SHALL BE OF THE SAME VENDOR AND SHALL BE SELECTED AND CERTIFIED USING PUBLISHED OR FACTORY CERTIFIED DATA. ANY VARIANCE OR NON—COMPLIANCE WITH THESE SPECIFICATION REQUIREMENTS SHALL BE CORRECTED BY THE CONTRACTOR IN AN APPROVED MANNER.

- A. DESCRIPTION
 - 1. THE WORK IN THIS SECTION CONSISTS OF FURNISHING ENGINEERING AND MATERIALS NECESSARY FOR THE REQUIRED SEISMIC DESIGN OF SUPPORTS AND ATTACHMENTS FOR SYSTEMS AND EQUIPMENT CONTAINED HEREIN FOR THE PROJECT.
 - UNLESS OTHERWISE SPECIFIED, ALL MECHANICAL, ELECTRICAL, FIRE PROTECTION AND PLUMBING EQUIPMENT, PIPE, AND DUCT SHALL BE RESTRAINED TO RESIST SEISMIC FORCES. RESTRAINTS SHALL MAINTAIN EQUIPMENT, PIPING, AND DUCT WORK IN A CAPTIVE POSITION.
- 3. THE IBC/ASCE 7-05 REQUIRES THAT MECHANICAL & ELECTRICAL COMPONENTS BE ASSIGNED A COMPONENT IMPORTANCE FACTOR. THIS IMPORTANCE FACTOR IS USED TO DETERMINE WHICH EQUIPMENT MAY OR MAY NOT BE EXEMPT FROM SEISMIC DESIGN FORCE REQUIREMENTS. THE COMPONENT IMPORTANCE FACTOR IS DETERMINED AS FOLLOWS:
 - Ip= 1.5 LIFE-SAFETY COMPONENT IS REQUIRED TO FUNCTION AFTER AN
 - EARTHQUAKE.

 In = 1.5 COMPONENT CONTAINS HAZARDOUS OR FLAMMABLE MATERIAL.
 - Ip = 1.5 STORAGE RACKS IN OCCUPANCIES OPEN TO THE GENERAL PUBLIC (E.G., WAREHOUSE RETAIL STORES).
 - WAREHOUSE RETAIL STORES).
 In = 1.0 ALL OTHER COMPONENTS.
- B. GENERAL SEISMIC DESIGN REQUIREMENTS:
 - PER IBC 1613.1, THE SEISMIC RESTRAINT OF NONSTRUCTURAL COMPONENTS SHALL MEET THE REQUIREMENTS OF ASCE 7. IF THE COMPONENT IN QUESTION IS EXEMPTED BY SECTION 13.1.4 OF ASCE 7, A SUBMITTAL NOTING THAT SEISMIC RESTRAINT OF THAT PARTICULAR COMPONENT IS NOT REQUIRED.
 - 2. THE SEISMIC RESTRAINT DESIGN MUST MEET THE REQUIREMENTS LISTED IN TABLE 13.2-1 OF ASCE 7. THESE REQUIREMENTS MAY BE MET BY PROVIDING A PROJECT-SPECIFIC DESIGN PREPARED BY A REGISTERED DESIGN PROFESSIONAL IN THE STATE WERE THE PROJECT IS BEING CONSTRUCTED, AND A MANUFACTURER'S CERTIFICATION THAT THE COMPONENT IS SEISMICALLY QUALIFIED.
 - 3. ON PROJECTS WITH SEISMIC DESIGN CATEGORY C:
 - a. COMPONENTS WITH IP = 1.0 DO NOT REQUIRE SEISMIC DESIGN OR RESTRAINT.
 - b. DUCT: WHERE DUCT IP>1.0, BRACE ALL DUCT > 5 LB/LF
 c. PIPE: WHERE PIPE IP>1.0, BRACE ALL PIPE > 2" DIAMETER.
 - d. EQUIPMENT: WHERE EQUIPMENT IP>1.0, PROVIDE ANCHORAGE OR RESTRAINT DESIGN FOR ALL FLOOR, WALL MOUNTED OR SUSPENDED EQUIPMENT.
- 4. ON PROJECTS WITH SEISMIC DESIGN CATEGORY D:
 - e. SEISMIC ANCHORAGE DESIGN IS NOT REQUIRED FOR FLOOR MOUNTED MECHANICAL, ELECTRICAL, AND PLUMBING COMPONENTS WHERE I P = 1.0 AND FLEXIBLE CONNECTIONS BETWEEN THE COMPONENTS AND ASSOCIATED DUCT WORK, PIPING AND CONDUIT ARE PROVIDED, THE COMPONENTS ARE MOUNTED AT 4 FEET (1219 MM) OR LESS ABOVE A FLOOR LEVEL AND THEY WEIGH 400 POUNDS (1780 N) OR LESS
- 5. SEISMIC ANCHORAGE OR BRACING IS NOT REQUIRED FOR HANGING, WALL MOUNTED, AND FLEXIBLY SUPPORTED MECHANICAL, PLUMBING AND ELECTRICAL COMPONENTS THAT WEIGH 20 POUNDS (89 N) OR LESS, WHERE I P = 1.0 AND FLEXIBLE CONNECTIONS ARE PROVIDED BETWEEN THE COMPONENTS AND ASSOCIATED DUCT WORK, PIPING AND CONDUIT.
- WHERE EQUIPMENT IP>1.0, PROVIDE ANCHORAGE OR RESTRAINT DESIGN FOR ALL FLOOR, WALL MOUNTED OR SUSPENDED EQUIPMENT.
- 7. DUCT:
- a. WHERE DUCT $I_p=1.0$, BRACE ALL RECTANGULAR DUCT > AND EQUAL 6 SQFT, ALL ROUND DUCT > 33" DIAMETER.
- b. WHERE DUCT I_D>1.0, BRACE ALL DUCT > 5 LB/LF
- 8. PIPE:
- a. 1. WHERE PIPE $I_p=1.0$, BRACE ALL PIPE > 3" DIAMETER. b. 2. WHERE PIPE $I_p>1.0$, BRACE ALL PIPE > 1" DIAMETER.
- 9. EQUIPMENT ITEMS INSTALLED IN-LINE AND RIGIDLY MOUNTED AT THE INLET AND OUTLET TO THE DUCT SYSTEM (E.G, FANS, HEAT EXCHANGERS AND HUMIDIFIERS) WITH AN OPERATING WEIGHT LESS THAN 75 POUNDS (334 N) NEED NOT BE BRACED IF THE DUCT RUN IT IS ATTACHED TO IS BRACED. EQUIPMENT WITH AN OPERATING WEIGHT GREATER THAN 75 LBS MUST BE BRACED AND SUPPORTED INDEPENDENT OF THE DUCT.



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conditions shown on the drawing. Shop drawings shall be submitted to the Architect for approval before proceeding with fabrication.

shall be informed of any variations from the dimensions and

MECHANICAL SPECIFICATIONS

ALBANY NORTH - ADD.

Drawn
GxA
Project No.
24-002
Sheet No.

N/A

03.06.2024

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EXPORT WARNING

- SEISMIC RESTRAINTS ARE NOT REQUIRED ON PIPING SUPPORTED BY INDIVIDUAL CLEVIS HANGERS WHERE THE DISTANCE, AS MEASURED FROM THE TOP OF THE PIPE TO THE SUPPORTING STRUCTURE, IS LESS THAN 12 INCHES (305MM) FOR THE ENTIRE PIPE RUN AND THE PIPE CAN ACCOMMODATE THE EXPECTED DEFLECTIONS. TRAPEZE OR DOUBLE ROD HANGERS, WHERE THE DISTANCE FROM THE TOP OF THE TRAPEZE OR SUPPORT TO THE STRUCTURE IS LESS THAN 12 INCHES FOR THE ENTIRE RUN. HVAC DUCTS SUSPENDED FROM HANGERS THAT ARE 12 INCHES (305 MM) OR LESS IN LENGTH FROM THE TOP OF THE DUCT TO THE SUPPORTING STRUCTURE AND THE HANGERS ARE DETAILED TO AVOID SIGNIFICANT BENDING OF THE HANGERS AND THEIR CONNECTIONS. DUCT MUST BE POSITIVELY ATTACHED TO HANGER WITH MINIMUM #10 SCREWS WITHIN 2"FROM THE TOP OF THE DUCT. HANGER RODS SHALL NOT BE CONSTRUCTED IN A MANNER THAT WOULD SUBJECT THE ROD TO BENDING MOMENTS (SWIVEL, EYE BOLT, OR VIBRATION ISOLATION HANGER CONNECTION TO STRUCTURE ARE REQUIRED TO PREVENT BENDING MOMENTS WHEN UTILIZING THIS EXCLUSION). DISPLACEMENT OF THE COMPONENT SHALL NOT CAUSE DAMAGING IMPACT WITH OTHER UTILITIES OR THE STRUCTURE. FLEXIBLE CONNECTIONS ARE REQUIRED BETWEEN UNBRACED SYSTEMS AND EQUIPMENT TO ACCOMMODATE DIFFERENTIAL DISPLACEMENTS. WHERE HVAC SYSTEMS IP>1.0, THIS EXCLUSION SHALL NOT APPLY (PER ASCE 7, 13.6.7).
- 11. L. BRACE SPACING FOR LOW DEFORMABILITY PIPING AND DUCT (E.G., CAST IRON, PVC, FIBERGLASS, GLASS, ETC.) SHALL NOT EXCEED ONE HALF OF THE BRACE SPACING OF HIGH DEFORMABILITY PIPING OR DUCT.
- 2. WHEREVER SYSTEMS OR COMPONENTS ARE VIBRATION ISOLATED, SEISMIC RESTRAINTS MUST BE DESIGNED TO PREVENT SHORT CIRCUITING OF THE ISOLATION SYSTEMS.

C. MANUFACTURER'S RESPONSIBILITIES:

1. THE FOLLOWING SEISMIC RESTRAINT MANUFACTURERS ARE ACCEPTED: INTERNATIONAL SEISMIC APPLICATION TECHNOLOGY (ISAT), AMBER / BOOTH, MASON INDUSTRIES INC. (M.I.), KINETICS NOISE CONTROL INC. (K.N.C.), VIBRATION MOUNTING & CONTROLS, INC. (V.M.C.) AND VIBRO ACOUSTICS.

D. QUALITY CONTROL

ALL SEISMIC RESTRAINT COMPONENTS EXPOSED TO THE WEATHER SHALL BE ZINC OR CADMIUM—PLATED, EPOXY COAT OR PVC COATED, AND/OR GALVANIZED STEEL. NUTS, BOLTS AND WASHERS MAY BE ZINCELECTROPLATED. RESTRAINTS FOR OUTDOOR MOUNTED COMPONENTS SHALL PROVIDE ADEQUATE RESTRAINT FOR THE GREATER OF EITHER WIND OR SEISMIC LOADS REQUIRED BY LOCAL CODES OR WITHSTAND A MINIMUM OF 30 LB. / SQ. FT. APPLIED TO ANY EXPOSED SURFACE OF THE EQUIPMENT.

E. SUBMITTALS

SUBMITTALS MUST INCLUDE SEISMIC BRACING LAYOUT DRAWINGS INDICATING THE LOCATION OF ALL SEISMIC RESTRAINTS. THE SUBMITTAL PACKAGE MUST INCLUDE SEISMIC RESTRAINT DETAILS PROVIDING SPECIFIC INFORMATION RELATING TO THE MATERIALS, TYPE, SIZE, AND LOCATIONS OF ANCHORAGES; MATERIALS USED FOR BRACING; ATTACHMENT REQUIREMENTS OF BRACING TO STRUCTURE AND COMPONENT; AND LOCATIONS OF TRANSVERSE AND LONGITUDINAL SWAY BRACING AND ROD STIFFENERS.

F. VIBRATION ISOLATION PRODUCTS

- 1. ROOFTOP UNIT CURBS AND ISOLATION SYSTEMS
 - G. SPECIFICATION W: NON-ISOLATED SEISMICALLY RATED ROOFTOP CURB SYSTEM THAT IS FLASHED INTO ROOFING MEMBRANE. AIR AND WATERTIGHT CURB SHALL HAVE A NEOPRENE SPONGE SEAL AT THE TOP AND BE RIGID ENOUGH PROVIDE CONTINUOUS PERIMETER SUPPORT FOR ROOFTOP UNIT. CURB MUST PROVIDE MEANS TO POSITIVELY ANCHOR TO CONCRETE DECK, OR BOLT OR WELD DIRECTLY TO STRUCTURAL STEEL TO WITHSTAND SEISMIC LOADING. CURB SHALL PROVIDE A MEANS BY WHICH CONTRACTOR SUPPLIED INSULATION MAY BE INSTALLED FOR THERMAL INSULATION AND ACOUSTIC ATTENUATION. CURBS SHALL ACCOMMODATE ROOF PITCH SHOWN ON DRAWINGS. CURB SHALL USE MINIMUM 16 GAGE GALVANIZED STEEL AND SHALL BE DESIGNED WITH CROSSBRACING REQUIRED TO WITHSTAND THE GREATER OF SEISMIC FORCES (PARA 1.3.4.) OR WIND LOADING PER LOCAL BUILDING CODE. DESIGN MUST BE CERTIFIED BY REGISTERED PROFESSIONAL ENGINEER IN THE EMPLOY OF THE MANUFACTURER. SEISMIC CURBS SHALL BE AMBER/BOOTH TYPE RTC OR EQUAL.
 - b. SPECIFICATION X: AN EXTRUDED ALUMINUM RAIL BASE FOR ROOF TOP AIR CONDITIONING UNITS CONSISTING OF TOP AND BOTTOM WEATHERPROOFED ALUMINUM RAILS FOR MOUNTING BETWEEN EQUIPMENT AND ROOF CURB, INCORPORATING WIND/SEISMIC RESTRAINTS AND A CONTINUOUS AIR AND WATER SEAL WHICH IS PROTECTED FROM ACCIDENTAL PUNCTURE AND DIRECT SUNLIGHT BY AN ALUMINUM WEATHER SHIELD. RAILS SHALL INCORPORATE FREE STANDING, OPEN SPRING ISOLATORS (MINIMUM KX/KY OF 1.0) PROPERLY SPACED AND SIZED AROUND PERIMETER FOR THE DEFLECTION LISTED IN THE ISOLATION SCHEDULE. TO PREVENT LEAKS, RAILS SHALL BE FACTORY ASSEMBLED (TO THE LIMITS OF FREIGHT CARRIERS) AND SHIPPED AS A ONE-PIECE UNIT. WHERE SPLICED, CORNERS TO BE FACTORY ASSEMBLED. SPECIFICATION X RAILS MAY ONLY BE USED WHERE WIND/SEISMIC RESTRAINT ARE CAPABLE OF WITHSTANDING SEISMIC FORCES PER PARAGRAPH 1.3.4. SEISMIC DESIGN OF THE CURB SUPPORTING THE ISOLATION RAIL SHALL BE PROVIDED BY THE ROOF CURB MANUFACTURER. RAILS SHALL BE AMBER/BOOTH TYPE RTIR OR EQUAL.
 - SPECIFICATION Y: SEISMICALLY RATED ROOFTOP ISOLATION CURB SYSTEM THAT IS FLASHED INTO ROOFING MEMBRANE. STANDARD UNIT CURB WILL NOT BE USED. AIR AND WATERTIGHT UPPER CURB SHALL HAVE A NEOPRENE SPONGE SEAL AT THE TOP AND BE RIGID ENOUGH PROVIDE CONTINUOUS PERIMETER SUPPORT FOR ROOFTOP UNIT. THE UPPER CURB SHALL BE SUPPORTED BY TYPE C ISOLATORS WELDED OR BOLTED TO CONTINUOUS STRUCTURAL SUPPORT WHICH IS POSITIVELY ANCHORED TO CONCRETE DECK OR BOLTED OR WELDED TO THE STRUCTURE TO WITHSTAND SEISMIC LOADING. AN EPDM NYLON REINFORCED AIRTIGHT WEATHERPROOF SEAL SHALL CONSOLIDATE THE UPPER AND LOWER CURBS. WEATHERPROOF ACCESS DOORS SHALL BE PROVIDED AT EACH ISOLATOR TO ALLOW ISOLATOR ADJUSTMENT. ISOLATION CURB SHALL PROVIDE A MEANS BY WHICH CONTRACTOR SUPPLIED INSULATION MAY BE INSTALLED FOR THERMAL INSULATION AND ACOUSTIC ATTENUATION. CURBS SHALL ACCOMMODATE ROOF PITCH SHOWN ON DRAWINGS. ISOLATION CURB SHALL USE MINIMUM 16 GAGE GALVANIZED STEEL AND SHALL BE DESIGNED WITH CROSSBRACING REQUIRED TO WITHSTAND THE GREATER OF SEISMIC FORCES (PARA 1.3.4.) OR WIND LOADING PER LOCAL BUILDING CODE DESIGN MUST BE CERTIFIED BY REGISTERED PROFESSIONAL ENGINEER IN THE EMPLOY OF THE MANUFACTURER. ISOLATION CURBS SHALL BE AMBER/BOOTH TYPE RTIC OR EQUAL.

03-230054 DISCREPANCIES

- A. IN THE EVENT OF DISCREPANCY, IMMEDIATELY NOTIFY THE OWNER.
- DO NOT PROCEED WITH INSTALLATION IN AREAS OF DISCREPANCY UNTIL ALL SUCH DISCREPANCIES HAVE BEEN FULLY RESOLVED. SEE SECTION 2.

03-230055 EQUIPMENT IDENTIFICATION

ALL MAJOR EQUIPMENT SHALL BEAR FIRMLY ATTACHED METAL NAMEPLATES WHICH STATE NAME OF MANUFACTURER, MODEL NUMBER AND ELECTRICAL DATA.

03-230056 INITIAL LUBRICATION, ADJUSTING, AND FILLING SYSTEMS

BEFORE OPERATING ANY MECHANICAL SYSTEMS, EQUIPMENT BEARINGS SHALL BE LUBRICATED AND BOLTS, PULLEYS, AND OTHER MOVING PARTS CHECKED FOR ALIGNMENT AND TOLERANCES IN ACCORDANCE WITH MANUFACTURER'S OPERATING INSTRUCTIONS. VIBRATIONS AND NOISE SHALL BE

03-230057 CLEANING OF EQUIPMENT, MATERIALS AND PREMISES

BE PAINTED SMOOTH AND CLEAN, READY FOR PAINTERS. CLEAN ENTIRE PREMISES OF UNUSED MATERIALS, RUBBISH, DEBRIS, GREASE SPOTS AND DIRT LEFT BY SUBCONTRACTOR.

03-20058 EQUIPMENT AND MATERIAL

INSTALL PER MANUFACTURER'S RECOMMENDATIONS.

03-230059 ACCESSIBILITY

INSTALL WORK READILY ACCESSIBLE FOR NORMAL OPERATION, READING OF INSTRUMENTS, ADJUSTMENT, SERVICE, INSPECTION AND REPAIR, PROVIDE ACCESS PANELS WHERE INDICATED AND REQUIRED. ACCESS PANELS SHALL BE THE RESPONSIBILITY OF RESPECTIVE SUBCONTRACTORS.

03-230593 HVAC TESTING, ADJUSTING, AND BALACNING

- A. BALANCING WORK INCLUDED:
 - 1. COMPLETE TESTING AND BALANCING OF THE HVAC SYSTEM AS HEREIN SPECIFIED.
- 8. VERIFICTION OF CONDITIONS: PRIOR TO TESTING AND BALANCING, INSPECT EQUIPMENT AND MATERIALS AND ARRANGE WITH CONTRACTOR FOR SATISFACTORY CORRECTION OF ALL DEFECTS IN WORKMANSHIP AND/OR MATERIAL THAT COULD AFFECT THE WORK SPECIFIED HEREIN
- C. PROTECTION: AS SPECIFIED HEREIN.
- SYSTEM OPERATION: CONTRACTOR SHALL PUT ALL PARTS OF SYSTEMS IN FULL OPERATION AND SHALL CONTINUE THE OPERATION OF SAME DURING EACH WORKING DAY OF TESTING AND BALANCING.
- TEST DATA: SUBMIT COPY OF TEST DATA TO OWNER ON COMPLETION OF WORK UNDER THIS SECTION
- F. TEST AND BALANCE CONTRACTOR SHALL CERTIFY IN WRITING THAT SYSTEM HAS BEEN ADJUSTED AND BALANCED AND DESIGN CONDITIONS HAVE BEEN ATTAINED IN ALL AREAS OF THE BUILDING.
- G. INSTRUMENTS: INSTRUMENTS USED BY CONTRACTOR SHALL BE ACCURATELY CALIBRATED AND MAINTAINED IN GOOD WORKING ORDER.
- H. AIR DISTRIBUTION TESTING AND BALANCING:
 - . TEST AND RECORD MOTOR FULL LOAD AMPERS AND RPM.
 - 2. TEST AND RECORD SYSTEM STATIC PRESSURES, SUCTION AND DISCHARGE.
 - ADJUST ALL SUPPLY AND RETURN AIR DUCTS TO PROPER DESIGN CFM.
 - IN COOPERATION WITH THE CONTROL MANUFACTURER'S REPRESENTATIVE, THE SETTING ADJUSTMENT OF AUTOMATICALLY OPERATED CONTROLS TO OPERATE AS SPECIFIED, INDICATED AND/OR NOTED.
- I. WITNESS: NOTIFY OWNER IN WRITING TWO WEEKS PRIOR TO TESTING AND BALANCING OF ALL MAJOR EQUIPMENT IN ORDER TO ARRANGE THAT OWNER, S REPRESENTATIVE WILL WITNESS THE TESTS.
- J. BALANCE ALL AIR AND WATER SYSTEMS UPON COMPLETION OF WORK. APPROVED TEST BALANCE CONTRACTORS ARE: BTC SERVICES, INC., CERTIFIED TEST AND BALANCE, AND PAYSON SHEET METAL. OTHER BALANCING CONTRACTORS NEED TO BE APPROVED BY USU PRIOR TO BID.
- K. THE TEST AND BALANCING AGENT SHALL AABC OR NEBB CERTIFIED.
- L. THE TEST AND BALANCE REPORT SHALL BE COMPLETED, SUBMITTED, REVIEWED AND CORRECTED PRIOR TO BUILDING OCCUPANCY.
- M. THE TEST AND BALANCE AGENT SHALL BE PRESENT AT THE FINAL COMPLETION INSPECTION AND BE PREPARED TO PROVIDE RANDOM AIR BALANCE VERIFICATION TESTING.
- N. DOCUMENT MECHANICAL SYSTEM SET POINTS SUCH AS DUCT STATIC DIFFERENTIAL PRESSURE AND HYDRONIC SYSTEM FILL PRESSURE IN THE BALANCING REPORT.

03-230800 HVAC START-UP AND PERFORMANCE VERIFICATION.

- A. THE CONTRACTOR SHALL START-UP AND COMPLETELY VERIFY PERFORMANCE AND OPERATION PRIOR TO NOTIFYING THE ENGINEER OF SUBSTANTIAL COMPLETION.
- 3. THE CONTRACTOR SHALL DEMONSTRATE AT A BARE MINIMUM IN THE PRESENCE OF THE ENGINEER:
 - INSTALLATION VERIFICATION
 STARTUP AND CHECKOUT
 - PERFORMANCE TESTING AND DEMONSTRATION
 - TRAINING CLOSEOUT
- C. THE GENERAL CONTRACTOR WILL PROVIDE THE SPECIFIC SUPPORT AND DOCUMENTATION REQUIRED OF THE MECHANICAL, ELECTRICAL, PLUMBING, AND CONTROLS CONTRACTORS, DESIGNER, OWNER AND OTHER AS APPLICABLE TO ENSURE ACCEPTABLE COMMISSIONING.

MOTORIZED VOLUME DAMPERS

A. MOTORIZED DAMPERS USED IN LOW VELOCITY BRANCH DUCTS TO CONTROL THE VOLUME OR AIR FLOW SHALL BE BRYANT MODEL DAMPRND OR EQUAL.

ROOF MOUNTED INDIRECT GAS FIRED MAKEUP AIR UNIT WITH DX COOLING

- A. PROVIDE PACKAGED, ROOF-MOUNTED HEATING AND MAKE UP AIR UNITS AS MANUFACTURED BY AIRWISE, REZNOR, MODINE, TRANE, OR EQUAL. THESE UNITS SHALL BE DEIGNED FOR 80% THERMAL EFFICIENCY, WITH GRAVITY-VENTED GAS FURNACE, ARRANGED FOR ROOF MOUNTING ON A FIELD ASSEMBLED CURB.
- THE UNITS SHALL INCLUDE A CENTRIFUGAL BLOWER, OPEN DRIP PROOF BLOWER MOTOR, AND AN ADJUSTABLE BELT DRIVE, FACTORY INSTALLED. INCLUDE ALL REQUIRED CONTROLS, DAMPERS, AND INLETS TO PROVIDE AN AIR CONTROL CYCLE OF 100% OUTSIDE AIR INLET, WITH TWO POSITION (OPEN/CLOSED) MOTORIZED DAMPER.
- C. ALL UNITS SHALL BE EQUIPPED FOR USE WITH NATURAL GAS, 24 VOLT CONTROL TRANSFORMER, GRAVITY VENT CAP, INTERMITTENT SPARK PILOT WITH TIMED LOCKOUT, AND A TWO-STAGE GAS VALVE WHICH FIRES 100% OR 50%, AS REQUIRED, ON CALL BY A REMOTE TWO-STAGE THERMOSTAT.
- D. THE GAS FURNACE SHALL CONTAIN A HEAT EXCHANGER OF ALUMINIZED STEEL, DIE-FORMED BURNERS OF ALUMINIZED STEEL, AND AN ALUMINIZED STEEL DRIP PAN.
- E. THE FOLLOWING ACCESSORIES SHALL BE PROVIDED: CONVENIENCE OUTLET, AIR PROVING SWITCH, FIRESTAT, FILTER RACK WITH 2" DISPOSABLE FILTERS, SUMMER/WINTER CONTROL, HIGH AND/OR LOW GAS PRESSURE SWITCHES, OUTSIDE AIR SCREENED HOOD.
- F. THE DUCT FURNACE INCORPORATED INTO THE PACKAGED HEATING AND MAKEUP AIR UNITS SHALL BE DESIGN—CERTIFIED BY THE AMERICAN GAS ASSOCIATION AND BEAR THE A.G.A. LABEL.
- G. CONTRACTOR SHALL PROVIDE A TWO STAGE HEATING/COOLING CONTROL THERMOSTAT.
 - EACH UNIT SHALL HAVE A SINGLE POINT POWER CONNECTION. WIRING SHALL COMPLY WITH NEC. ALL WIRING SHALL BE NUMBER CODED PER THE ELECTRICAL WIRING DIAGRAMS. ALL ELECTRICAL COMPONENTS SHALL BE LABELED ACCORDING TO THE ELECTRICAL DIAGRAM AND BE UL RECOGNIZED WHERE APPLICABLE. EACH UNIT SHALL HAVE A 24 VOLT CONTROL CIRCUIT TRANSFORMER AND CONTROL CIRCUIT FUSE. THE SUPPLY AIR FAN, COMPRESSOR AND CONDENSER FAN MOTOR BRANCH CIRCUITS SHALL BE FURNISHED FOR EACH COMPRESSOR AND CONDENSER FAN MOTOR. THE SUPPLY AIR FAN MOTORS SHALL HAVE CONTRACTORS AND OVERLOAD PROTECTION. MAIN CONTROL PANELS SHALL BE WEATHERPROOF CONSTRUCTION WITH HINGED ACCESS PANEL AND QUICK RELEASE LATCHES. A TERMINAL BOARD SHALL BE PROVIDED FOR THE LOW VOLTAGE CONTROL WIRING. KNOCKOUTS SHALL BE PROVIDED IN THE BOTTOM OF THE MAIN CONTROL PANEL FOR FIELD WIRING ENTRANCE. EACH UNIT SHALL BE FURNISHED WITH A FACTORY INSTALLED STARTER.



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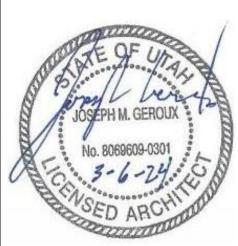
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Project Name

ALBANY NORTH - ADD.

MECHANICAL SPECIFICATIONS

 N/A
 Date

 N/A
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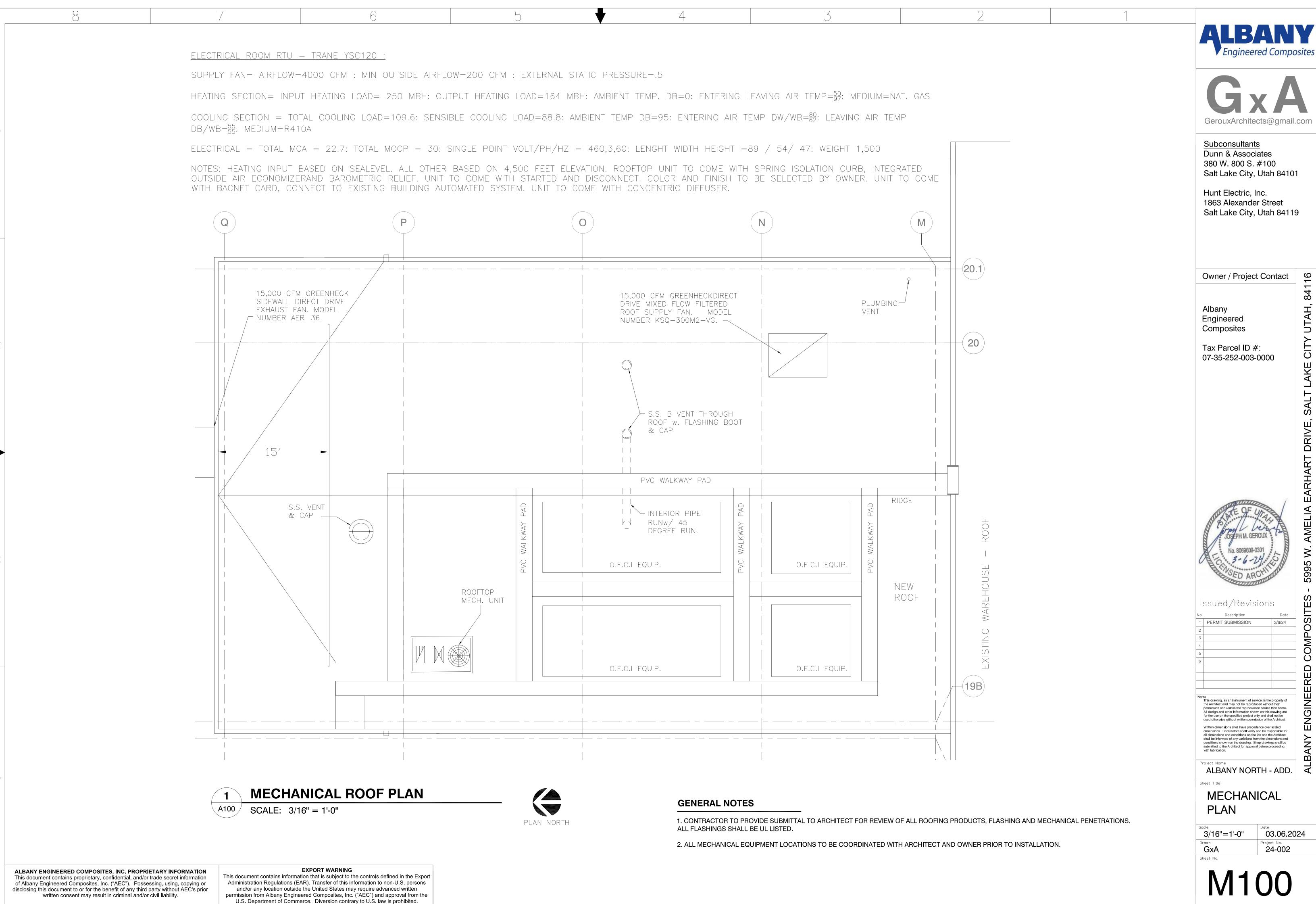
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CODES AND STANDARDS

ALL ITEMS INDICATED ON SITE, ARCHITECTURAL OR MECHANICAL DRAWINGS ARE TO BE PROVIDED COMPLETE FROM POINT OF CONNECTION TO FINISHED FIXTURE IN CONFORMANCE WITH ALL GOVERNING AUTHORITY REQUIREMENTS. NOTHING IN THESE DRAWINGS OR SPECIFICATIONS SHALL BE CONSTRUED TO PERMIT WORK IN VIOLATION OF

01-220100 GENERAL REQUIREMENTS

A. THE GENERAL CONDITIONS, SUPPLEMENTARY CONDITIONS AND DIVISION 1, ARE A PART OF THIS SECTION AND THE CONTRACT FOR THIS WORK AND SHALL APPLY TO THIS SECTION AS FULLY AS IF REPEATED HEREIN.

01-220101 SCOPE OF WORK

FURNISH ALL LABOR, MATERIALS, EQUIPMENT, APPLIANCES AND NECESSARY INCIDENTALS FOR THE COMPLETE INSTALLATION OF ALL PLUMBING AS SHOWN ON THE DRAWINGS AND AS SPECIFIED

A. WORK SPECIFIED IN THIS SECTION

SANITARY SOIL, WASTE AND VENT SYSTEMS.

DOMESTIC COLD WATER SYSTEMS

NATURAL GAS PIPE SYSTEM.

FURNISH AND SET ALL SLEEVES FOR PIPES PASSING THROUGH WALLS AND FLOORS.

PIPE COVERING, INSULATION AND WRAPPING.

EXCAVATION AND BACKFILL.

ROUGH-IN AND FINAL CONNECTIONS TO AIR CONDITIONING EQUIPMENT OF CONDENSATE

ALL PLUMBING FIXTURES, VALVES, AND OTHER MISCELLANEOUS ITEMS OR EQUIPMENT REQUIRED FOR A COMPLETE INSTALLATION.

01-220103 PRODUCT HANDLING

- PROTECTION: TAKE ALL PRECAUTIONS NECESSARY TO PROTECT THE MATERIALS OF THIS SECTION BEFORE, DURING AND AFTER INSTALLATION.
- REPLACEMENTS: IN THE EVENT OF DAMAGE, IMMEDIATELY REPAIR ALL DAMAGED AND DEFECTIVE WORK TO THE APPROVAL OF THE ENGINEER, AT NO ADDITIONAL COST TO THE

01-220104 SUBMITTALS

- MANUFACTURER'S LITERATURE: WITHIN 45 DAYS AFTER AWARD OF CONTRACT AND BEFORE ANY OF THE MATERIALS OF THIS SECTION ARE DELIVERED TO THE JOB SITE. THE CONTRACTOR SHALL SUBMIT TO THE ARCHITECT MANUFACTURER'S DATA ON PRODUCTS AND MATERIALS TO BE USED IN THE INSTALLATION OF PLUMBING SYSTEMS FOR THIS PROJECT. THE REVIEW OF THE SUBMITTED DATA WILL REQUIRE A MINIMUM OF 14 DAYS.
- B. OTHER SUBMITTALS:
- SHOP DRAWINGS.
- STERILIZATION TEST REPORT.
- TEST DATA.
- SETS IN BOUND BOOKLET FORM OF WRITTEN OPERATING AND MAINTENANCE INSTRUCTIONS AND BROCHURES FOR EQUIPMENT SPECIFIED IN THIS SECTION. FULLY INSTRUCT OWNER'S OPERATING PERSONNEL.
- RECORD DRAWINGS: KEEP AN ACCURATE DIMENSIONED RECORD OF AS-BUILT LOCATIONS AND ELEVATIONS, AS REFERRRED TO APPROVED BASE DATUM, OF BURIED CONCEALED.
- OPERATION AND MAINTENANCE INSTRUCTIONS: DELIVER TO ARCHITECT TWO COMPLETE LINES, MANHOLE, CLEANOUTS, VALVES, PLUGGED TEES, CAPPED ENDS, AND OF WORK WHICH IS INSTALLED DIFFERENT FROM SHOWN IN THE PLANS.

01-220105 MISCELLANEOUS

- EXAMINATION OF THE SITE: EXERCISE CARE IN EXAMINING THE SITE AND COORDINATE ALL WORK INDICATED ON THE DRAWINGS WITH EXISTING CONDITIONS. REPORT TO ARCHITECT IN WRITING CONDITIONS THAT WILL PREVENT PROPER PROVISIONS OF THIS WORK. VERIFY DEPTH AND LOCATION OF ALL SERVICE LINES WITH SERVICING COMPANIES HAVING JURISDICTION BEFORE EXCAVATING. BY SUBMISSION OF THE BID, THE CONTRACTOR WARRANTS THAT HE HAS HAS FAMILIARIZED HIMSELF WITH THE EXISTING CONDITIONS AND WILL PERFORM ALL WORK AS REQUIRED FOR HOOKUP AND AS REQUIRED BY THE CONTRACT DOCUMENTS AT NO ADDITIONAL COST.
- PERMITS AND FEES: ARRANGE AND PAY FOR ALL PERMITS, INSPECTIONS AND FEES REQUIRED BY ALL GOVERNING AGENCIES . DELIVER ALL CERTIFICATES TO OWNER THROUGH BE PAID BY
- SERVICE CONNECTIONS: MAKE ALL NECESSARY ARRANGEMENTS WITH APPLICABLE UTILITY COMPANY FOR CONNECTION TO EXISTING SERVICE LINES. PAY ALL FEES ASSOCIATED WITH WORK INCLUDING METERS AND HOOKUP CHARGE, UTILITY ASSESSMENT FEES, IF ANY, WILL
- DRAWINGS: COORDINATE ALL SPACE REQUIREMENTS WITH OTHER TRADES. DRAWINGS INDICATE DESIRED LOCATION AND ARRANGEMENT OF PIPING, EQUIPMENT, AND OTHER ITEMS AND ARE TO BE FOLLOWED AS CLOSELY AS POSSIBLE.
- ALL GAS FIRED EQUIPMENT SHALL INCLUDE A LABEL INDICATING THAT THE APPLIANCE HAS BEEN ADJUSTED, MODIFIED OR RE-CALIBRATED FOR THE ALTITUDE WHEREIN THE PROJECT IS TO BE LOCATED. THE APPLIANCE SHALL ALSO INCLUDE A COMPLIANCE STATEMENT INDICATING THAT THE APPLIANCE HAS BEEN ADJUSTED, MODIFIED OR RE-CALIBRATED FOR THE PROPER OPERATION AT THE ALTITUDE OF THE PROJECT AND SHALL BE LISTED CAPABLE FOR USE WITH NATURAL GAS OR PROPANE GAS IF PROPANE IS LISTED ON THE DRAWINGS.

PART 2 - PLUMBING PIPING

02-220000 GENERAL

- PIPE SLEEVES AND WRAPPING: PROVIDE POLISHED CHROMIUM PLATED AND BRASS SET SCREW FLANGES WHERE PLUMBING PIPING PASS THROUGH WALLS, FLOORS, CEILINGS, AND PARTITIONS IN FINISHED PORTIONS OF BUILDING INCLUDING FLANGES ON PIPES AT FIXTURES ALL SLEEVES IN CONCEALED AND EXTERIOR WALLS SHALL BE 20 GA. GALVANIZED IRON ONE INCH O.D. LARGER THAN THE PIPE, CAULKED IF BELOW GRADE IN A MOISTUREPROOF MANNER. ALL PIPES PENETRATING THROUGH FIRE WALLS AND FLOORS SHALL BE PROPERLY SAFED WITH DOW CORNING 3-6548 SILICONE RTV FOAM OR EQUAL. INSTALL PER MANUFACTURE'S DIRECTION.
- ONE MARKER SHALL BE INSTALLED AT EACH SIDE OF VALVES, SPECIAL FITTINGS AND AT BRANCH TAKE-OFF. IN FURRED SPACES INSTALL ONE BAND 2 FT. ABOVE FLOOR AND 19 IN. BELOW CEILING LINE.
- MATERIALS: MATERIALS WHEN NOT OTHERWISE DEFINITELY SPECIFIED SHALL CONFORM TO THE APPLICABLE ASTM, ASME, AGA, AND ASA STANDARDS.
- ALL GAS FIRED EQUIPMENT SHALL INCLUDE A LABEL INDICATING THAT THE APPLIANCE HAS BEEN ADJUSTED, MODIFIED OR RE-CALIBRATED FOR THE ALTITUDE WHEREIN THE PROJECT IS TO BE LOCATED. THE APPLIANCE SHALL ALSO INCLUDE A COMPLIANCE STATEMENT INDICATING THAT THE APPLIANCE HAS BEEN ADJUSTED, MODIFIED OR RE-CALIBRATED FOR THE PROPER OPERATION AT THE ALTITUDE OF THE PROJECT AND SHALL BE LISTED CAPABLE FOR USE WITH NATURAL GAS OR PROPANE GAS IF PROPANE IS LISTED ON THE DRAWINGS.

02-220700 PIPING INSULATION

- A. PROVIDE CONTINUOUS INSULATION AND JACKETING THROUGH HANGERS AND FLOOR AND WALL PENETRATIONS.
- B. PROVIDE A VALVE STEM EXTENSION TO ACCOMMODATE FULL INSULATION THICKNESS AT ALL VALVES.
- C. PIPING INSULATION SCHEDULE, GENERAL
- 1. ACCEPTABLE PREFORMED PIPE AND TUBULAR INSULATION MATERIALS AND THICKNESSES ARE IDENTIFIED FOR EACH PIPING SYSTEM AND PIPE SIZE RANGE. IF MORE THAN ONE MATERIALS IS LISTED FOR A PIPING SYSTEM, SELECTION FROM MATERIALS LISTED IS CONTRACTOR'S OPTION.
- 2. ITEMS NOT INSULATED: UNLESS OTHERWISE INDICATED, DO NOT INSTALL INSULATION ONT HE FOLLOWING:
 - DRAINAGE PIPING LOCATED IN CRAWL SPACES.
- UNDERGROUND PIPING.
- CHROME-PLATED PIPES AND FITTINGS UNLESS THERE IS A POTENTIAL FOR PERSONNEL INJURY.
- F. INDOOR PIPING INSULATION SCHEDULE
- 1. DOMESTIC COLD WATER:
- a. NPS 1 1/2 AND SMALLER: INSULATION SHALL BE THE FOLLOWING:
 - a1. MINERAL-FIBER, PREFORMED PIP INSULATION, TYPE I: 1 INCH.
- 3. CONDENSATE AND EQUIPMENT DRAIN WATER BELOW 60 DEG F:
- a. ALL PIPE SIZES: INSULATION SHALL BE THE FOLLOWING:
 - MINERAL—FIBER, PREFORMED PIPE INSULATION, TYPE I: 1 INCH.
- H. INDOOR, FIELD-APPLIED JACKET SCHEDULE
- 1. INSTALL JACKET OVER INSULATION MATERIAL. FOR INSULATION WITH FACTORY-APPLIED JACKET, INSTALL THE FIELD-APPLIED JACKET OVER THE FACTORY-APPLIED JACKET.
- 2. IF MORE THAN ONE MATERIAL IS LISTED, SELECTION FROM MATERIALS LISTED IS CONTRACTOR'S OPTION.
- 3. PIPING CONCEALED:
 - a. NONE.
- 4. PIPING, EXPOSED
- a. PVC: 20 MILS THICK
- COLOR:
 - a1. DOMESTIC WATER (HOT AND COLD AND HOT RET): GREEN PVC
 - c1. OTHER PIPING: WHITE PVC
 - d1. ALL OTHER EXPOSED PIPING NO IN MECHANICAL ROOMS: WHITE PVC

02-221100 PIPE AND FITTING SCHEDULE

PIPE AND FITTINGS:

- A. NO PIPE OF A FOREIGN MANUFACTURER WILL BE ACCEPTABLE.
- ALL PIPING, FITTINGS, FLANGES, ETC. SHALL BE FREE FROM DEFECTS AND SHALL COMPLY WITH THE APPROPRIATE ASTM SPECIFICATIONS.
- BLACK STEEL PIPE: ASTM A53 ERW GRADE B, STANDARD WEIGHT (SCHEDULE 40) OR EXTRA STRONG (SCHEDULE 80) AS SPECIFIED.
- COPPER TUBING: ASTM B88, TYPE L OR K AS SPECIFIED.
- PVC PIPE AND FITTINGS: ASTM D1785 CLASS 150 WITH ASTM D 2853 SOLVENT CEMENT JOINTS UNLESS OTHERWISE SPECIFIED. SCHEDULE 40. PVC PLASTIC PIPE FITTINGS: ASTM F 628, SCHEDULE 40.
- ACRYLONITRILE BUTADIENE STYRENE (ABS) PLASTIC PIPE: ASTM D 2661, SCHEDULE 40, ASTM 628, SCHEDULE 40. ABS PLASTIC PIPÉ FITTINGS: ASTM F 409, ACCESSIBLE AND REPLACEABLE, SOVENT CEMENT AND THREADED TYPES, DRAIN PATTERN.
- G. CAST IRON SOIL PIPE AND FITTINGS: ASTM A74
- WELDED BLACK STEEL FITTINGS: ASTM A234 GRADE B, 150-POUND FOR STANDARD WEIGHT PIPING, 300-POUND FOR EXTRA STRONG PIPING, OR OF WEIGHT OR SCHEDULE OF MATCHING
- THREADED MALLEABLE IRON FITTINGS: ANSI B16.3, 150-POUND FOR STANDARD WEIGHT PIPING, 300-POUND FOR EXTRA STRONG PIPING, OR OF WEIGHT OR SCHEDULE OF MATCHING PIPING EITHER BLACK OR GALVANIZED TO MATCH PIPING.
- WELDED FLANGES: ASTM A181 GRADE B. 150-POUND FOR STANDARD WEIGHT PIPING 300-POUND FOR EXTRA STRONG PIPING OR OF EQUAL WEIGHT OF CONNECTED EQUIPMENT.
- COPPER FITTINGS: WROUGHT COPPER, ANSI SPECIFICATION B16.22.
- GAS PIPING IN THE BUILDING AND NOT BURIED SHALL BE STANDARD WEIGHT BLACK STEEL PIPE AND SHALL HAVE WELDED FITTINGS. GAS PIPING BURIED SHALL BE POLYETHYLENE PIPE WITH CONTINUOUS 18 GAUGE TRACING WIRE WITH SCHEDULE 40 BLACK STEEL EPOXY COATED TRANSITION RISERS AND/OR TRANSITION FITTINGS PER ASTM D2513 APPROVED AND INSTALLED IN ACCORDANCE WITH MOUNTAIN FUEL SUPPLY COMPANY REGULATIONS. PAINT ALL EXTERIOR EXPOSED GAS PIPING.
- M. SOLDER:
 - .R.1. JOINTS IN COPPER PIPING ABOVE GRADE SHALL BE STAY SAFE 50 SOLDER OR 95-5 SOLDER SHALL BE SILFOS OR SILVERFLW FOR ALL REGRIGERANT PIPING JOINTS.

02-221116 DOMESTIC WATER PIPING

- A. DOMESTIC WATER PIPING SHALL BE THE FOLLOWING:
 - HARD COPPER TUBE, ASTM B 88, TYPE L; SOLDER-JOINT FITTINGS; AND SOLDERED JOINTS.

02-221123 FACILITY NATURAL-GAS PIPING

- A. NATURAL GAS PIPING SHALL BE THE FOLLOWING:
- STEEL PIPE WITH WROUGHT-STEEL FITTINGS AND WELDED OR THREADED JOINTS.

02-221316 SANITARY WASTE AND VENT PIPING

- A. PROVIDE SANITARY SEWERAGE PIPING FROM THE FOLLOWING:
 - 1. ABOVE GROUND: ALL SIZES. HUBLESS, CAST-IRON PIPE AND FITTINGS CISPI HUBLESS-PIPING COUPLINGS; AND COUPLED JOINTS.
- 2. BELOW SLAB:
 - a. ALL SIZES. HUBLESS. CAST-IRON PIPE AND FITTINGS CISPI HUBLESS-PIPING COUPLINGS: AND COUPLED JOINTS. b. SOLID-WALL PVC PIPE, PVC SOCKET FITTINGS, AND SOLVENT-CEMENTED JOINTS.
- A. PROVIDE VENT PIPING FROM THE FOLLOWING:
- 1. ABOVE GROUND: ALL SIZES. HUBLESS, CAST-IRON PIPE AND FITTINGS CISPI HUBLESS-PIPING COUPLINGS: AND COUPLED JOINTS.
- BELOW SLAB:
- a. ALL SIZES. HUBLESS, CAST-IRON PIPE AND FITTINGS CISPI HUBLESS-PIPING COUPLINGS; AND COUPLED JOINTS. b. SOLID-WALL PVC PIPE, PVC SOCKET FITTINGS, AND SOLVENT-CEMENTED JOINTS.



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Owner / Project Contact

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Albany Engineered Composites

> Tax Parcel ID #: 07-35-252-003-0000



ssued/Revisions

PERMIT SUBMISSION 3/6/24

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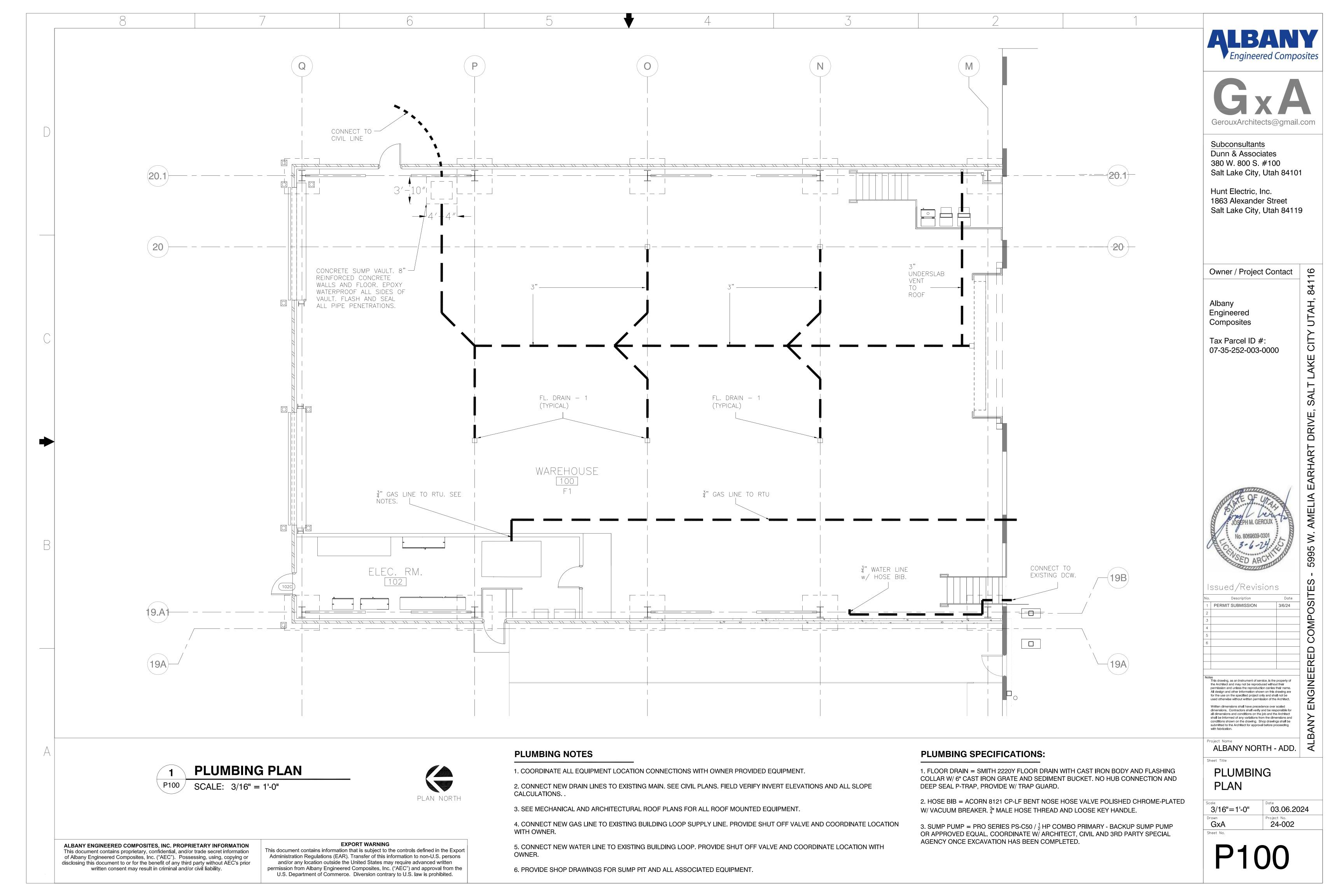
dimensions. Contractors shall verify and be responsible for all dimensions and conditions on the job and the Architect shall be informed of any variations from the dimensions and conditions shown on the drawing. Shop drawings shall be submitted to the Architect for approval before proceeding

Written dimensions shall have precedence over scaled

ALBANY NORTH - ADD.

PLUMBING **SPECIFICATIONS**

03.06.2024 N/A GxA 24-002



COMPO

ENGINEERE

ALBAN

FIRE ALARM SHOP DRAWINGS. SUBMITTALS. BATTERY CALCULATIONS AND VOLTAGE DROP CALCULATIONS ARE A DEFERRED SUBMITTAL. THESE ITEMS SHALL BE SUBMITTED TO FIRE MARSHAL AND APPROVED BY FIRE MARSHAL PRIOR TO BEGINNING ANY WORK ON THE FIRE ALARM SYSTEM.

ELECTRICAL SHEET INDEX

ELECTRICAL SHEET INDEX					
SHEET	NAME				
E001	NOTES, LEGENDS, SCHEDULES				
E002	POWER SINGLE LINE DIAGRAM - SERVICE A PHASE 2				
E003	ELECTRICAL DETAILS				
E004	ELECTRICAL SCHEDULES				
E005	ELECTRICAL SCHEDULES				
E101	LEVEL 1 OVERALL ELECTRICAL POWER PLAN				
E301	ENLARGED ELECTRICAL PLANS				

	LIGHTING SYMBOLS LEGEND
SYMBOL	DESCRIPTION
0	LED LIGHT FIXTURE
	LED LIGHT FIXTURE - EMERGENCY
	RECESSED LED DOWN LIGHT
	RECESSED LED DOWNLIGHT - EMERGENCY
	RECESSED LED WALL WASH OR SPOT FIXTURE
	LED STRIP LIGHT
──	LED STRIP LIGHT - EMERGENCY
	LED LINEAR LIGHT
	LED LINEAR LIGHT - EMERGENCY
$\overline{}$	SURFACE OR PENDANT MOUNTED LED LIGHT
-	SURFACE OR PENDANT MOUNTED LED LIGHT - EMERGENCY
$\overline{}$	RECESSED LED WAFER LIGHT
	RECESSED LED WAFER LIGHT - EMERGENCY
HX	WALL MOUNTED LED LIGHT FIXTURE
H	WALL MOUNTED LED LIGHT FIXTURE - EMERGENCY
	LED TRACK LIGHT HEAD
	FAN
\bigcirc	LED WALL MOUNTED EXIT SIGN - SINGLE SIDED - ARROWS INDICATE DIRECTION
\otimes	LED EXIT SIGN - SINGLE SIDED - ARROWS INDICATE DIRECTION
*	LED EXIT SIGN - DOUBLE SIDED
	LED EXIT SIGN WITH INTEGRAL EMERGENCY LIGHT
<u></u>	LED EMERGENCY LIGHT WITH INTEGRAL BATTERY
\$	SINGLE-POLE SWITCH
\$ a	SWITCH - LOWER CASE LETTER INDICATES ZONE
*	SWITCH - LOW VOLTAGE
\$ ₃	SWITCH - 3 WAY
\$4	SWITCH - 4 WAY
\$ _D	SWITCH - DIMMER
● c	OCCUPANCY SENSOR - CEILING MOUNTED
⊕ w	OCCUPANCY SENSOR - WALL MOUNTED
⊕ _{W2}	OCCUPANCY SENSOR - CEILING MOUNTED DUAL CIRCUIT
PC	PHOTOCELL
0	MANUAL OVERRIDE SWITCH
	CALLOUTS/NOTES LEGEND
SYMBOL	DESCRIPTION
XXX	MECHANICAL EQUIPMENT CALLOUT
\triangle	REVISION CALLOUT

ABBREVIATIONS

ABBREV.

AFF

AHJ

CB

CKT

CLG

CORR

CU

D

DISP

DW

EM

EMT

EWC

E, EX

FA

FACP

FLA

GND

IG

IMC

INS

ISO

KW

LTG

LVL

MLO

OC

RCPT

REQ

RMC

TYP

UG

DESCRIPTION

AMP OR AMPS

ALUMINUM

CONDUIT

CIRCUIT

CEILING

CORRIDOR

COPPER

DRYER

DISPOSAL

DISHWASHER

EMERGENCY

EXISTING

FIRE ALARM

FULL LOAD AMPS

HORSE POWER

INSULATED

ISOLATED

KILOWATTS

LEVEL

ISOLATED GROUND

KILO VOLT AMPERES

INTERMEDIATE METAL CONDUIT

LIQUID TIGHT METAL CONDUIT

MINIMUM CIRCUIT AMPS

MAIN CIRCUIT BREAKER

MAIN LUGS ONLY

NOT IN CONTRACT

MICROWAVE

NIGHT LIGHT

ON CENTER(S)

RECEPTACLES

REQUIREMENTS

MEDIA DISTRIBUTION UNIT

OVER CURRENT PROTECTION

REDUCED ENERGY LET THROUGH DEVICE

PHASE FAILURE RELAY

RIGID METAL CONDUIT

ROCKY MOUNTAIN POWER

RIGID NONMETALLIC CONDUIT

SURGE PROTECTION DEVICE

TELEPHONE TERMINAL BOARD

SURGE SUPPRESSION

TAMPER RESISTANT

UNDERGROUND

WEATHERPROOF

TRANSFORMER

ELECTRIC METALLIC TUBING

ELECTRIC WATER COOLER

FIRE ALARM CONTROL PANEL

FLEXIBLE METAL CONDUIT

GROUND CONDUCTOR

CIRCUIT BREAKER

ABOVE COUNTER

ABOVE FINISHED FLOOR

AUTHORITY HAVING JURISDICTION

	CALLOUTS/NOTES LEGEND
SYMBOL	DESCRIPTION
XXX	MECHANICAL EQUIPMENT CALLOUT
\triangle	REVISION CALLOUT
X XX-X X	LIGHT FIXTURE CALLOUT, TOP = TYPE, MIDDLE = CKT #, BOTTOM = SWITCH
(XXX)	OWNER PROVIDED EQUIPMENT CALLOUT
×	KEYED NOTE
X	WIRE CONDUIT - ALUMINUM
X	WIRE CONDUIT - COPPER
XXX	DETAIL CALLOUT
	ELEVATION CALLOUT

FIRE ALARM SYMBOLS LEGEND

SYMBOL	DESCRIPTION
FACP	FIRE ALARM CONTROL PANEL
NAC	NAC PANEL
FSD	FIRE/SMOKE DAMPER
8	SMOKE DETECTOR WITH VISUAL - CEILING MOUNTED
\$	SMOKE DETECTOR WITH VISUAL - WALL MOUNTED
S	SMOKE DETECTOR
(co)	COMBINATION SMOKE/CARBON DETECTOR

NOTICE: THE DESIGNS SHOWN AND DESCRIBED HEREIN INCLUDING ALL TECHNICAL DRAWINGS, GRAPHICS AND OFFICE PERSONNEL ONLY IN ACCORDANCE WITH THIS NOTICE.

SYMBOL	DESCRIPTION
FACP	FIRE ALARM CONTROL PANEL
NAC	NAC PANEL
FSD	FIRE/SMOKE DAMPER
8	SMOKE DETECTOR WITH VISUAL - CEILING MOUNTED
∇	

SYMBOL	DESCRIPTION
\ominus	SIMPLEX RECEPTACLE
\bigoplus	TWIST-LOCK RECEPTACLE
\ominus	DUPLEX RECEPTACLE
-	DUPLEX RECEPTACLE - GFCI
$\langle \bigcirc \rangle$	DROP DUPLEX RECEPTACLE - GFCI
$\overline{}$	HALF-SWITCHED DUPLEX RECEPTACLE
	FLOOR BOX WITH DUPLEX 120V RECEPTACLE
	FLOOR BOX WITH 4-PLEX RECEPTACLE AND VOICE/DATA OUTLET
<u> </u>	FOURPLEX RECEPTACLE
—————————————————————————————————————	FOURPLEX RECEPTACLE - GFCI
—— \	BLANK FACE - GFCI
	DROP FOURPLEX RECEPTACLE - GFCI
	SPECIAL PURPOSE RECEPTACLE - THREE PHASE
	SPECIAL PURPOSE RECEPTACLE - SINGLE PHASE
lacksquare	
	NON-FUSED DISCONNECT SWITCH
	FUSED DISCONNECT SWITCH
	COMBINATION STARTER/FUSED DISCONNECT
	STARTER
	ELECTRICAL PANEL
	TELEPHONE TERMINAL BOARD W/GROUND BUSS BAR
DC	DOOR CONTACTOR
ES	ELECTRIC STRIKE
EPO	EMERGENCY POWER OFF
ML	MAGNETIC LOCK
РВ	PUSH BUTTON
PP	POWER PACK
RC	ROOM CONTROLLER
REX	REQUEST TO EXIT
\$ _T	THERMAL SWITCH
6	ELECTRIC MOTOR
J	J-BOX
(DV)	J-BOX FOR DATA/VOICE
M	METER
VFD	VARIABLE FREQUENCY DRIVE
TV	TV OUTLET, REFER TO AV / DATA DRAWINGS FOR CABLE TYPE
	POWER COMMUNICATIONS POLE FOR WORKSTATION FURNITURE
\triangleright	VOICE RECEPTACLE
>	DATA RECEPTACLE
>	COMBINATION VOICE/DATA RECEPTACLE
TYPE	CEILING MOUNT SECURITY CAMERA ("TYPE" INDICATES TYPE OF CAMERA)
H_P _{TYPE}	WALL MOUNT SECURITY CAMERA ("TYPE" INDICATES TYPE OF CAMERA)
CR	CARD READER
KP	SECURITY SYSTEM KEYPAD
•	DOORBELL - EXTERIOR
DB	DOORBELL - INTERIOR
	ADA PUSHBUTTON
	HOME RUN TO PANELBOARD
ه) ۱	CIRCUIT BREAKER

POWER/DATA SYMBOLS LEGEND

DESCRIPTION

SYMBOL

SITE LIGHTING SYMBOLS LEGEND

ELECTRONIC TRIP CIRCUIT BREAKER

FUSE

SITE EIGHTING STINDOLS LEGEND				
SYMBOL	DESCRIPTION			
-	POLE LIGHT			
	POLE LIGHT - TWIN HEAD			
lack	BOLLARD LIGHT			

GENERAL NOTES

- REFER TO THE MECHANICAL SHEETS FOR THE EXACT LOCATION OF THE MECHANICAL EQUIPMENT.
- ALL METALLIC CONDUITS, JOINTS, FITTINGS, ETC., IN CONTACT WITH THE GROUNDS SHALL BE SPIRALLY WRAPPED WITH 3M SCOTCHWRAP-51, 20 MIL TAPE (OR APPROVED EQUAL).
- ALL UNDERGROUND CONDUIT SHALL BE BURIED 24" MINIMUM UNDER THE GROUND.
- FLEXIBLE CONDUITS CAN ONLY BE USED FOR SHORT RUNS (6' MAXIMUM).
- NO CONDUITS SHALL RUN IN DUCT WORK.
- ALL DUPLEX OUTLETS AND SWITCHES SHALL BE 20A, 120V SPEC GRADE, HUBBELL AND PASS & SEYMOUR AND LEVITON ARE APPROVED MANUFACTURERS.
- INSTALL EXIT SIGNS ON THE WALL IF POSSIBLE.
- SWITCHBOARDS, PANELBOARDS, AND MOTOR CONTROL CENTERS SHALL BE FIELD MARKED TO WARN QUALIFIED PERSONS OF POTENTIAL ARC FLASH HAZARDS. THE MARKING SHALL BE LOCATED SO AS TO BE CLEARLY VISIBLE TO QUALIFIED PERSONS BEFORE EXAMINATION, ADJUSTMENT, SERVICING, OR MAINTENANCE OF THE EQUIPMENT. (NEC 110-16).
- FOR 20 AMP CIRCUITS, USE NO. 10 THHN CONDUCTORS FOR CONDUCTOR LENGTH OVER 100 FEET, NO. 8 THHN OVER 200 FEET, NO. 6 THHN OVER 300 FEET AND NO. 4 THHN OVER 400 FEET.
- IF CONDUITS ARE TO BE PLACED WITHIN THE PT SLAB, CONDUITS ARE TO BE SPACED NO CLOSER THAN 4 CONDUIT DIAMETERS OR 4" O.C, WHICHEVER IS GREATER. LIMIT CONDUIT OUTER DIAMETER TO ONE FOURTH OF THE SLAB THICKNESS AND PLACE WITHIN THE CENTER THIRD OF SLAB THICKNESS. CONDUIT IS NOT TO BE TIED TO PARALLEL REBAR AND/OR TENDONS, NOR SHOULD REINFORCEMENT BE MOVED, BENT OR CUT TO ACCOMODATE CONDUIT.
- AIC RATINGS OF ALL OVERCURRENT PROTECTIVE DEVICES SHALL BE EQUAL TO OR GREATER THAN THE AIC RATING SHOWN IN THE PLANS.
- SERVICE EQUIPMENT SHALL BE FIELD MARKED WITH CALCULATED MAXIMUM AVAILABLE FAULT CURRENT AND THE DATE IT WAS CALCULATED (NEC 110-24).
- IN OTHER THAN DWELLING UNITS, IN ADDITION TO THE REQUIREMENTS IN 1 10.16(A), A PERMANENT LABEL SHALL BE FIELD OR FACTORY APPLIED TO SERVICE EQUIPMENT RATED 1200 AMPS OR MORE. THE LABEL SHALL MEET THE REQUIREMENTS OF 110.21(B) AND CONTAIN THE FOLLOWING INFORMATION: (1) NOMINAL SYSTEM VOLTAGE.
 - (2) AVAILABLE FAULT CURRENT AT THE SERVICE OVERCURRENT PROTECTIVE DEVICES.
 - (3) THE CLEARING TIME OF SERVICE OVERCURRENT PROTECTIVE DEVICES BASED ON THE AVAILABLE FAULT CURRENT AT THE SERVICE EQUIPMENT.
 - (4) THE DATE THE LABEL WAS APPLIED.

SEISMIC BRACING REQUIREMENTS

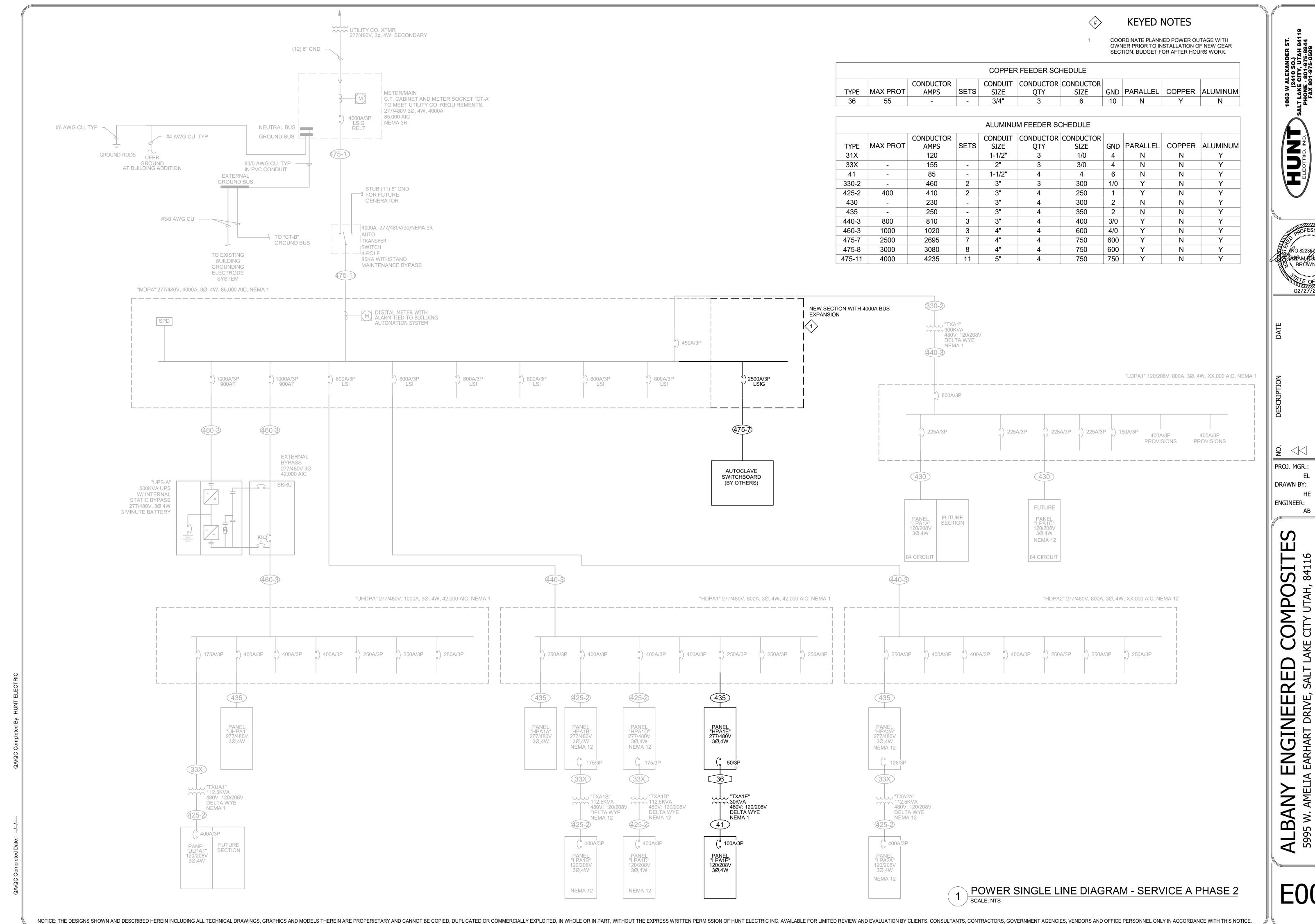
HUNT ELECTRIC IS RESPONSIBLE FOR THE DESIGN AND INSTALLATION OF ALL REQUIRED SEISMIC BRACING BY THE 2018 INTERNATIONAL BUILDING CODE SECTION 1613 EARTHQUAKE LOADS PARAGRAPH 1613.1 SCOPE. RESTRAINT MUST BE PROVIDED FOR THE FOLLOWING CONDITIONS UNLESS OTHERWISE EXCLUDED BY CHAPTER 13 OF ASCE 7-10: (1) Ip > 1.0, (2) MEP COMPONENTS > 400 POUNDS AND SUPPORTED BY A FLOOR OR ROOF: (3) MEP COMPONENTS > 20 POUNDS AND SUPPORTED BY A CEILING OR WALL: OR (4) MEP DISTRIBUTION SYSTEMS WEIGHING > 5 PLF.

HUNT ELECTRIC WILL PROVIDE A COMPLETE SUBMITTAL FOR ALL ELECTRICAL EQUIPMENT TO INCLUDE LOCATION OF EACH SEISMIC BRACE. TYPE AND DESIGN OF THE BRACING, AND A DETAIL OF THE SEISMIC BRACING. THE SUBMITTAL SHALL BE ON 36" X 24" SHEETS AND AT A SCALE OF 1/4" = 1'-0" ALONG WITH A COMPLETE SET OF CALCULATIONS.

THE SUBMITTAL WILL CLEARLY INDICATE WHICH ITEMS ARE REQUIRED TO BE BRACED AND THE MINIMUM BRACING REQUIREMENTS (E.G. PER IBC 103.1 AND CHAPTER 13 OF ASCE 7-10). IN ADDITION THE SUBMITTAL SHALL BE PROVIDED BY A LICENSED PROFESSIONAL ENGINEER LICENSED IN UTAH.

DEFERRED SUBMITTAL

	LLLCTRICAL SHLLT INDLA
SHEET	NAME
E001	NOTES, LEGENDS, SCHEDULES
E002	POWER SINGLE LINE DIAGRAM - SERVICE A PHASE 2
E003	ELECTRICAL DETAILS
E004	ELECTRICAL SCHEDULES
E005	ELECTRICAL SCHEDULES
E101	LEVEL 1 OVERALL ELECTRICAL POWER PLAN
E301	ENLARGED ELECTRICAL PLANS

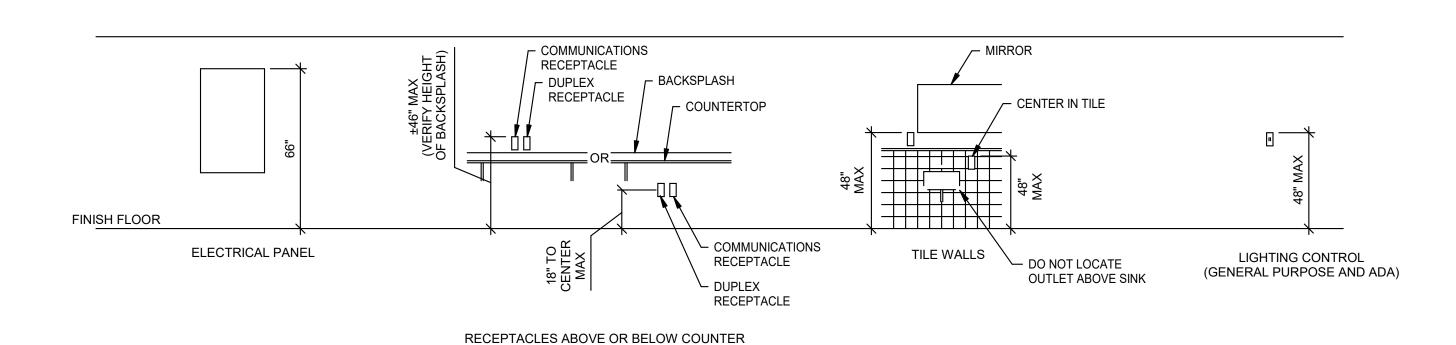


84116 4 ENGINEERED ALBANY

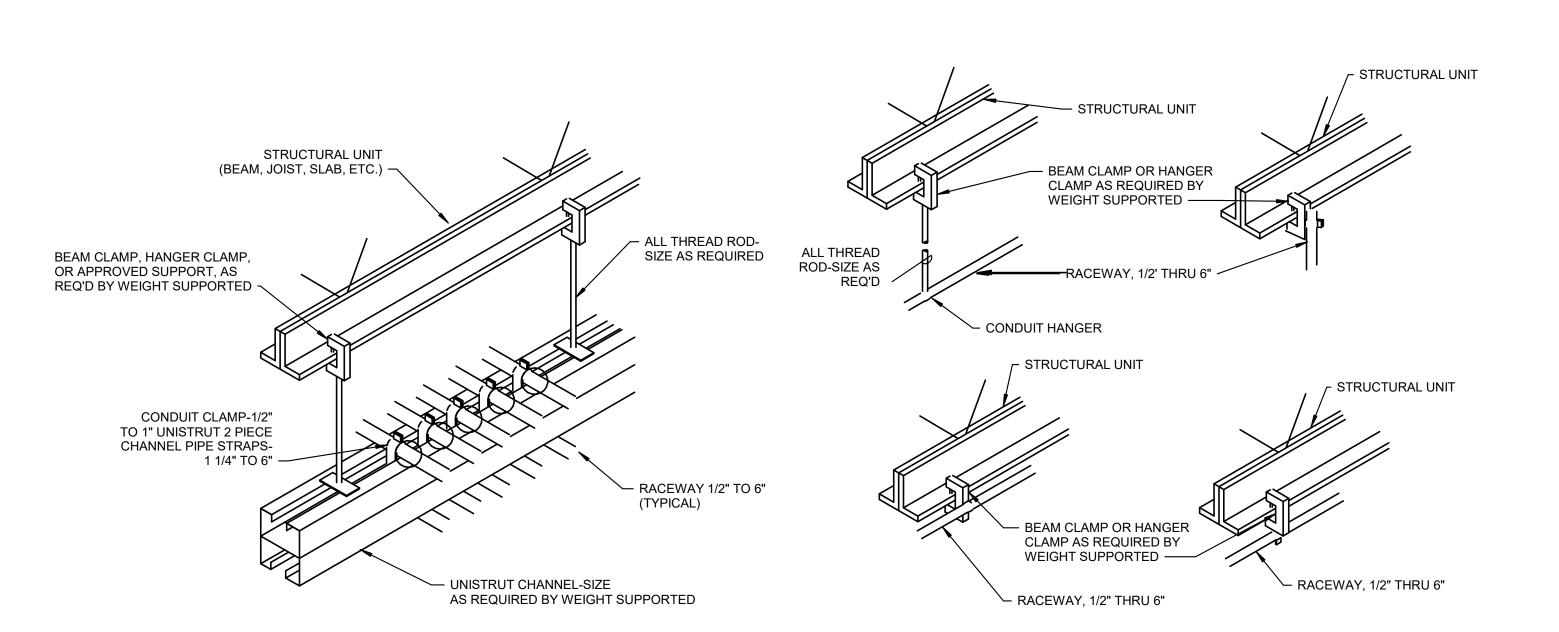
9 4 PROJ. MGR.: DRAWN BY: ENGINEER:

DESIGN-B

ALBANY



2 TYPICAL MOUNTING HEIGHTS SCALE: NTS



TYPICAL CONDUIT RACKING AND SUPPORT DIAGRAMS

5). LONGITUDINAL BRACES, WHEN NEEDED, MUST BE INSTALLED AT BOTH ENDS OF TRAPEZE.

TO THE ALL THREAD ROD OR ATTACHED TO THE ALL THREAD ROD ITSELF.

─ B-LINE CHANNEL

B335-2-BOLT SIZE ADJUSTABLE HINGE

ROD STIFFENER

*SEE NOTE -

OR A TRANSVERSE BRACE ONLY IF DESIRED.

B-LINE CHANNEL TRANSVERSE BRACE

B335-2-1/2 ADJUSTABLE HINGE

B-LINE CHANNEL-SIZE AS REQUIRED -

TRANSVERSE BRACE

OR ALL THREAD ROD.

LONGITUDINAL BRACES

→ B2400 SERIES PIPE STRAPS

- B2000 SERIRES PIPE STRAPS

B335-2 ADJUSTABLE HINGES FOR LONGITUDINAL BRACES MAY BE ATTACHED ON EITHER SIDE ADJACENT

B335-2 ADJUSTABLE HINGES FOR TRANSVERSE BRACES MAY BE ATTACHED TO THE ALL THREAD ROD.

TWO B335-W ADJUSTABLE HINGES MAY BE ATTACHED TO THE STRUT TRAPEZE USING THE SAME BOLT

IT IS NOT NECESSARY TO INSTALL BOTH TRANSVERSE BRACES AND LONGITUDINAL BRACES ON SAME TRAPEZE SUPPORT. EITHER SET OF BRACES MAY BE REMOVED TO FORM A LONGITUDINAL BRACE ONLY

TYPICAL TRAPEZE TRANSVERSE AND LONGITUDINAL BRACING DIAGRAM

ALL THREADED ROD

- HEX NUT &

SQUARE WASHER

B-LINE CHANNEL TRANSVERSE BRACE

LONGITUDINAL BRACE

- B335-2-1/2 ADJUSTABLE HINGE

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LIGHTING FIXTURE S	SCHEDUL	.e - Expansi	ON
ALOG NUMBER	ΙΔΜΡ	TOTAL VA	DESCRIPTION

					1014
TYPE	MANUFACTURER	CATALOG NUMBER	LAMP	TOTAL VA	DESCRIPTION
EX1W	LITHONIA LIGHTING OR EQUAL	LHQM LED G M6	LED	4 VA	WALL MOUNTED SINGLE SIDE LED EXIT SIGN WITH BATTERY BACKUP AND EMERGENCY LIGHT
HB1	GE CURRENT	ABV3 0 90 57 1D NA TQ 42 A D W	LED	158 VA	LED HIGH BAY LIGHT FIXTURE
HB1E	GE CURRENT	ABV3 0 90 57 1D NA TQ 42 A D W EL1	LED	158 VA	LED HIGH BAY LIGHT FIXTURE W/ EMERGENCY BATTERY PACK
WL4E	LITHONIA LIGHTING OR EQUAL	DSXW1 LED 10C 1000 40K T3M MVOLT DDBXD PE E2WC	LED	39 VA	D-SERIES SIZE 1 LED WALL LUMINAIRE - 10 LEDS EM BATTERY PACK PHOTOCELI
WL5	TBD	MATCH EXISTING BUILDING MOUNTED HIGH WALL PACK	LED	130 VA	MATCH EXISTING HIGH LED WALL PACK, PHOTOCELL CONTROL

				MI	FCHANICAI	FOLITPME	ENT SCH	HEDIJI E E	XPANSION						
	EQUIPMENT						141 301	MOCP/	NON-FUSED	FUSED DISC	RK-1 FUSE		WIRE SIZE AND	GROUND WIRE	
IDENTIFICATION	_	QUANTITY	RATING	PHASE	VOLTAGE	FLA/RLA	MCA	MFS	DISC SIZE	SIZE	SIZE	VFD	QTY	SIZE	NOTES
AUTO_C-1	AUTOCLAVE CONTROL EQUIPMENT	1	-	3	480 V	1647 -		2500	-	-	-	-	SEE ONE-LINE	SEE ONE-LINE	11
EF-1	EXHAUST FAN	1	10 HP	3	480 V	9.9	•	25	-	-	-	-	3#10	#10	11
MAU-1	MAKE UP AIR UNIT	1	10 HP	3	480 V	9.9		25	-	-	-	-	3#10	#10	11
OHD-100A	OVERHEAD DOOR	1	-	3	208 V			20	30	-	-	-	3#12	#12	1, NEMA 12
OHD-100B	OVERHEAD DOOR	1	-	3	208 V			20	30	-	-	-	3#12	#12	1, NEMA 12
RTU-1	ROOF TOP UNIT	1	10 TON	3	480 V	- 2	22	25	-	30	25	-	3#10	#10	1, NEMA 3R
SUMP-1	SUMP PUMP		TBD		0 V										

- DISCONNECT SWITCH SHALL HAVE BREAK-BEFORE-MAKE CONTACT. TIE TO VFD EMERGENCY STOP CIRCUIT TO STOP VFD BEFORE SWITCH IS PLACED IN THE OPEN POSITION.
- PROVIDE THERMAL OVERLOAD SWITCH FOR DISCONNECTING MEANS.
- PROVIDE COMBO STARTER/DISCONNECT WITH H.O.A. SWITCH AND (2) N.O. AND (2) N.C. CONTACTS.
- TIE TO 120 VOLT POWER THROUGH FIRE ALARM RELAY. TIE RELAY TO FIRE ALARM CONTROL PANEL FOR CLOSURE OF DAMPER UPON ALARM. CHILLER A SINGLE POINT CONNECTION.
- PROVIDE 120V/20A/1P TOGGLE SWITCH DISCONNECT ADJACENT TO UNIT.
- PROVIDE DUCT SMOKE DETECTOR IN RETURN AIR DUCT. TIE AIR HANDLER CONTROLS TO FIRE ALARM SYSTEM FOR SHUT DOWN OF UNIT UPON ALARM. DISCONNECT CONVENIENCE OUTLET PROVIDED WITH UNIT.
- CONTROLLED VIA WALL SWITCH. INTEGRAL DISCONNECT. DIRECT CONNECT TO UNIT.
- RUN POWER TO CU-xx FIRST, THEN FROM CU-xx TO FC-xx. VERIFY WITH SUBMITTALS.
- CORD AND PLUG CONNECTED.
- PROVIDE DUCT DETECTOR. 15. VFD PROVIDED BY MECHANICAL INSTALL BY ELECTRICAL.

PANEL: LPA1E

LOCATION: SUPPLY FROM: TXA1E **MOUNTTING:** SURFACE **ENCLOSURE:** TYPE 1

VOLTS: 120/208 WYE PHASES: 3 WIRES: 4

A.I.C. RATING: 10K MAINS TYPE: MCB **MAINS RATING:** 100 A MCB RATING: 100 A **SUB-FEED LUGS**

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СКТ	CIRCUIT DESCRIPTION	TRIP	POLES		4	E	3		2	POLES	TRIP		CIRCUIT DESCRIPTION	СКТ
1	ELECTRICAL ROOM RECEPTACLES	20 A	1	720 VA	0 VA					1	20 A	SPARE		2
3	AUTOCLAVE 100 NW RECEPTACLES	20 A	1			720 VA	0 VA			1	20 A	SPARE		4
5	AUTOCLAVE 100 SW RECEPTACLES	20 A	1					540 VA	0 VA	1	20 A	SPARE		6
7	AUTOCLAVE 100 NE RECEPTACLES	20 A	1	540 VA	0 VA					1	20 A	SPARE		8
9	AUTOCLAVE 100 SE RECEPTACLES	20 A	1			540 VA	0 VA			1	20 A	SPARE		10
11	AUTOCLAVE PLATFORM RECEPT	20 A	1					180 VA	0 VA	1	20 A	SPARE		12
13	AUTOCLAVE ROOF TOP RECEPTACLE	20 A	1	360 VA	0 VA					1	20 A	SPARE		14
15	SPARE	20 A	1			0 VA	0 VA			1	20 A	SPARE		16
17	SPARE	20 A	1					0 VA	0 VA	1	20 A	SPARE		18
19	OVERHEAD DOOR -100A	20 A	3	500 VA						1		SPACE		20
21						500 VA				1		SPACE		22
23								500 VA		1		SPACE		24
25	OVERHEAD DOOR -100B	20 A	3	500 VA						1		SPACE		26
27						500 VA				1		SPACE		28
29								500 VA		1		SPACE		30
31	SPARE	20 A	3	0 VA						1		SPACE		32
33						0 VA				1		SPACE		34
35								0 VA		1		SPACE		36
37	SPARE	20 A	1	0 VA						1		SPACE		38
39	SPARE	20 A	1			0 VA				1		SPACE		40
41	SPARE	20 A	1					0 VA		1		SPACE		42
		TOTA	L LOAD:	262	O VA	2260) VA	1720	O VA					
		TOTAI	L AMPS:	23	ВА	20	Α	14	ŀΑ	_				

LOAD CLASSIFICATION	CONNECTED LOAD	DEMAND FACTOR	ESTIMATED DEMAND	PANEL 1	TOTALS
RECEPTACLE	3600 VA	100.00%	3600 VA		
LIGHTING	0 VA	0.00%	0 VA	TOTAL CONN. LOAD:	6600 VA
				TOTAL EST. DEMAND:	6975 VA
				TOTAL CONN.:	18 A
				TOTAL EST. DEMAND:	19 A

PANEL: HPA1E

LOCATION: SUPPLY FROM: HDP1A **MOUNTING:** SURFACE **ENCLOSURE:** TYPE 1

VOLTS: 480/277 WYE PHASES: 3 WIRES: 4

A.I.C. RATING: 14K MAINS TYPE: MLO **MAINS RATING:** 250 A SUB-FEED LUGS:

												1	
СКТ	CIRCUIT DESCRIPTION	TRIP	POLES	A	4	E	3	(С	POLES	TRIP	CIRCUIT DESCRIPTION	СКТ
1	AUTOCLAVE LIGHTING	20 A	1	1755						1		SPACE	2
3	AUTOCLAVE LIGHTING	20 A	1			1909				1		SPACE	4
5	EXTERIOR BUILDING LIGHTING	20 A	1					767 VA		1		SPACE	6
7	RTU	30 A	3	4875						1		SPACE	8
9						4875				1		SPACE	10
11								4875		1		SPACE	12
13	MAU-1	25 A	3	2742						1		SPACE	14
15						2742				1		SPACE	16
17								2742		1		SPACE	18
19	SPARE	20 A	3	0 VA						1		SPACE	20
21						0 VA				1		SPACE	22
23								0 VA		1		SPACE	24
25	SPARE	30 A	3	0 VA						1		SPACE	26
27						0 VA				1		SPACE	28
29								0 VA		1		SPACE	30
31	EF-1	25 A	3	2742						1		SPACE	32
33						2742				1		SPACE	34
35								2742		1		SPACE	36
37	SPARE	20 A	1	0 VA	2620					3	50 A	TXA1E	38
39	SPARE	20 A	1			0 VA	2260						40
41	SPARE	20 A	1					0 VA	1720				42
	1		L LOAD:	1473	5 VA	1452	9 VA	1284					

LOAD CLASSIFICATION	CONNECTED LOAD	DEMAND FACTOR	ESTIMATED DEMAND	PANEL	TOTALS
RECEPTACLE	3600 VA	100.00%	3600 VA		
LIGHTING	4401 VA	125.00%	5501 VA	TOTAL CONN. LOAD:	42111 VA
				TOTAL EST. DEMAND:	45268 VA
				TOTAL CONN.:	51 A
				TOTAL EST. DEMAND:	54 A
NOTES:					

53 A

TOTAL AMPS: 54 A

ALBANY ENGINEERED COMPOSITES
5995 W. AMELIA EARHART DRIVE, SALT LAKE CITY UTAH, 84116

ELECTRICAL SCHEDULES

SCALE:

PERMIT SET

3/7/2024 5:21:56 PM

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PROJ. MGR.:

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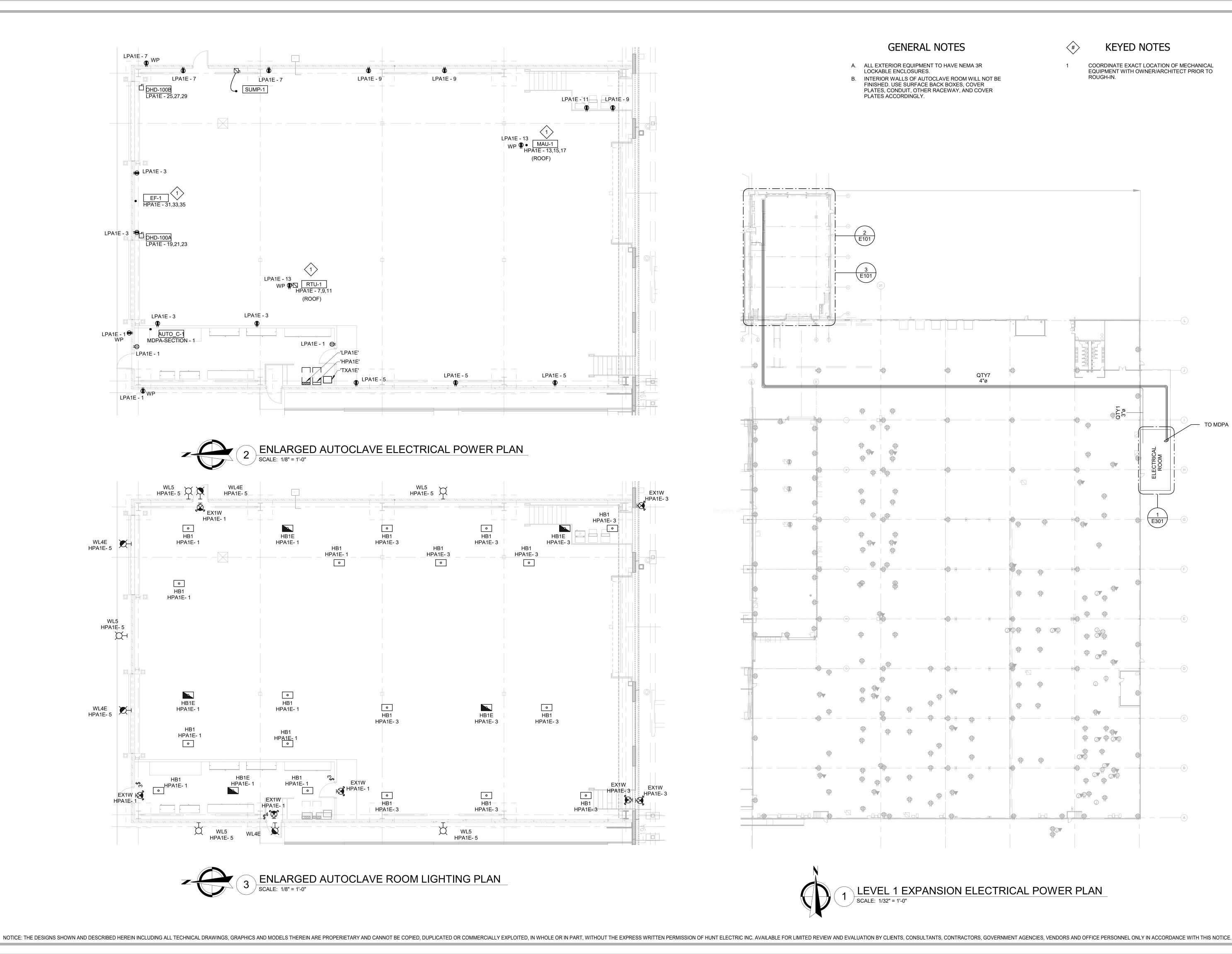
ENGINEER:

										FAUL	T CURRENT CA	ALCULATION								
Utility XFMR Rating:	2500 kVA	Transformer Phase:	3	Impedance (%Z):	6%	Fault Current (Inf. Bus):	50966.66 A	Utility XFMR Secondary Voltage	480											
Panel or Transformer Name	Feeder Length in Feet "L"	Upstream Available Fault Current "I"	Wire Material	Wire Size	Conduit Type	(Based on Wire and Conduit) "C"	Line-to-Line Voltage "E"	Number of Conductors "n"	$\frac{f = \sqrt{3} \times L \times I}{n \times C \times E}$	<u>M = 1</u>	Available Fault Current Isc= M x I	Motor Contribution Isym(mot. cont.)= (Motor Full Load Amps) x 5	Total Available Fault Current Itot=Isc+Isym(mot.cont.)	Transformer KVA Transformer %	Transformer Z Phase	Transformer Primary Voltage	Transformer Secondary Voltage	f = Isc x Vprim x √3 x (%Z) 100,000 x KVAtrans	M = 1 	Transformer Secondary Available Fault Current Isc(secondary)= (Vprim/Vsecondary) x M x Isc(primary)
CT-A (EX)	10	50,967	ALUMINUM	750 MCM	NON-MAGNETIC	23491	480	11	0.01	0.99	50606	0	50606							
MDPA (EX)	70	50,606	ALUMINUM	750 MCM	NON-MAGNETIC	23491	480	11	0.05	0.95	48221	0	48221							
AUTO-1	539	50,606	ALUMINUM	750 MCM	STEEL	21766	480	8	0.57	0.64	32331	0	32331							
HDPA (EX)	50	50,606	ALUMINUM	400 MCM	STEEL	16670	480	3	0.18	0.85	42794	0	42794							
HPA1E	495	42,794	ALUMINUM	350 MCM	STEEL	15484	480	1	4.94	0.17	7209	0	7209							
XFMR1	5	7,209	COPPER	6 AWG	STEEL	2425	480	1	0.05	0.95	6842			30 1	3	480	208	1.90	0.35	5452
LPA1E	5	5,452	ALUMINUM	1 AWG	STEEL	4645	480	1	0.02	0.98	5339	0	5339							

				IN	EC DEMAI	ND CAL	LULA I IOI	N EXPAI	NSION					Total
Panel Name	RECEPTACLE Connected	RECEPTACLE Demand Factor	Power Connected	Power Demand Factor	Motor Connected	Motor Demand Factor	Heating Connected	Heating Demand Factor	HVAC Connected	HVAC Demand Factor	Total Connected	Total Demand Factor	Total Estimated Demand	Estimated Demand Current
ATS-A	23760 VA	71.04%	1368657 VA	100.00%	22454 VA	109.16%			66946 VA	100.00%	1486425 VA	99.75%	1482746 VA	1783 A
ATS-B	41220 VA	62.13%	500 VA	100.00%	4500 VA	108.33%			1500 VA	100.00%	168339 VA	91.58%	154170 VA	185 A
CT-A	23760 VA	71.04%	1368657	100.00%	22454 VA	109.16%			66946 VA	100.00%	1486425	99.75%	1482746	1783 A
			VA								VA		VA	
СТ-В	41220 VA	62.13%	500 VA	100.00%	4500 VA	108.33%			1500 VA	100.00%	168339 VA	91.58%	154170 VA	185 A
HDP1A	16380 VA	80.53%			19454 VA	110.57%			66946 VA	100.00%	107388 VA	100.01%	107399 VA	129 A
HDPA2	12240 VA	90.85%									12240 VA	90.85%	11120 VA	13 A
HDPB1	4320 VA	100.00%									4320 VA	100.00%	4320 VA	5 A
HDPB2	4320 VA 7740 VA	100.00%	500 VA	100.00%	4500 VA	100 220/			1500 VA	100 000/	4320 VA	100.00%	4320 VA 136300 VA	5 A
HDPB3 HPA1A	7740 VA	100.00%	500 VA	100.00%	4500 VA	108.33%			52320 VA	100.00%	134859 VA 53121 VA	101.07% 100.37%	53318 VA	164 A 64 A
HPA1B									32320 VA	100.00%	0 VA	100.37 %	0 VA	04 A 0 A
HPA1D	13500 VA	87.04%									13500 VA	87.04%	11750 VA	14 A
HPA1E	2880 VA	100.00%			19454 VA	110.57%			14626 VA	100.00%	40767 VA	107.37%	43771 VA	53 A
HPA2A	12240 VA	90.85%			10101 771	110.01 70			11020 171	100.0070	12240 VA	90.85%	11120 VA	13 A
HPA2B										+	0 VA	100.00%	0 VA	0 A
HPB2A											0 VA	100.00%	0 VA	0 A
HPBA	11160 VA	94.80%									11160 VA	94.80%	10580 VA	13 A
HPBB	10080 VA	99.60%									10080 VA	99.60%	10040 VA	12 A
LDPA1	7380 VA	100.00%			3000 VA	112.50%					10380 VA	103.61%	10755 VA	30 A
LPA1A	7380 VA	100.00%			3000 VA	112.50%					10380 VA	103.61%	10755 VA	30 A
LPA1B											0 VA	100.00%	0 VA	0 A
LPA1C											0 VA	100.00%	0 VA	0 A
LPA1D	13500 VA	87.04%									13500 VA	87.04%	11750 VA	33 A
LPA1E	2880 VA	100.00%			3000 VA	112.50%					5880 VA	106.38%	6255 VA	17 A
LPA2A	12240 VA	90.85%									12240 VA	90.85%	11120 VA	31 A
LPA2B	4000) (4	100.000/									0 VA	100.00%	0 VA	0 A
LPB1A	4320 VA	100.00%									4320 VA	100.00%	4320 VA	12 A
LPB2A	7560 VA	100.00%									7560 VA	100.00%	7560 VA	21 A
LPB2B LPB2C	1440 VA 6480 VA	100.00%									1440 VA 6480 VA	100.00%	1440 VA 6480 VA	4 A 18 A
LPB3A	7740 VA	100.00%									7740 VA	100.00%	7740 VA	21 A
LPBA	11160 VA	94.80%									11160 VA	94.80%	10580 VA	29 A
LPBB	10080 VA	99.60%									10080 VA	99.60%	10040 VA	28 A
MDPA	23760 VA	71.04%	1368657 VA	100.00%	22454 VA	109.16%			66946 VA	100.00%	1486425 VA	99.75%	1482746 VA	1783 A
IDPA-SEC TION			1368657 VA	100.00%							1368657 VA	100.00%	1368657 VA	1646 A
MDPB	41220 VA	62.13%	500 VA	100.00%	4500 VA	108.33%			1500 VA	100.00%	168339 VA	91.58%	154170 VA	185 A
TXA1	7380 VA	100.00%			3000 VA	112.50%					10380 VA	103.61%	10755 VA	30 A
TXA1D	13500 VA	87.04%									13500 VA	87.04%	11750 VA	33 A
TXA1E	2880 VA	100.00%			3000 VA	112.50%					5880 VA	106.38%	6255 VA	17 A
TXA2A	12240 VA	90.85%									12240 VA	90.85%	11120 VA	31 A
TXA2B											0 VA	100.00%	0 VA	0 A
TXB1	4320 VA	100.00%									4320 VA	100.00%	4320 VA	12 A
TXB2A											0 VA	100.00%	0 VA	0 A
TXB2B											0 VA	100.00%	0 VA	0 A
TXB2C	7740 \ / 4	100.000/									0 VA	100.00%	0 VA	0 A
TXB3A	7740 VA	100.00%									7740 VA	100.00%	7740 VA	21 A
TXBA TXBB	11160 VA 10080 VA	94.80%									11160 VA 10080 VA	94.80%	10580 VA 10040 VA	29 A 28 A
TXUA1	10000 VA	33.UU /0									0 VA	100.00%	0 VA	28 A 0 A
TXUB1	+										0 VA	100.00%	0 VA 0 VA	0 A
UHDPA											0 VA	100.00%	0 VA	0 A
UHDPB											0 VA	100.00%	0 VA	0 A
UHPA1											0 VA	100.00%	0 VA	0 A
UHPB1											0 VA	100.00%	0 VA	0 A
ULPA1											0 VA	100.00%	0 VA	0 A
ULPB1											0 VA	100.00%	0 VA	0 A
UPS-A											0 VA	100.00%	0 VA	0 A
UPS-A											0 VA	100.00%	0 VA	0 A
BYPASS											6) ; ;	400.055	0.145	
UPS-B											0 VA	100.00%	0 VA	0 A
UPS-B	Ì	1			1	ĺ		I		1	0 VA	100.00%	0 VA	0 A

§ << ENGINEER:

DESIGN-BUILD



E101

ALBANY 5995 W. AMELI

1863 W ALEXANDER ST. (2410 SO.) SALT LAKE CITY, UTAH 8411 PHONE - 801-975-8844 FAX 801-975-0509

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PROJ. MGR.:

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COMPOSITES

ENGINEERED

SERVICES

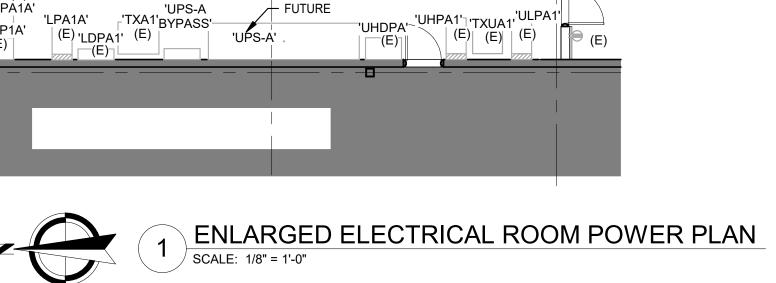
DESIGN-BUILD

A. ALL EXTERIOR EQUIPMENT TO HAVE NEMA 3R LOCKABLE ENCLOSURES.

INSTALL NEW SWITCHBOARD SECTION.

(E) (E) 'MDPA' (E)'MDPB' 'MDPA-SECTION' ELECTRICAL 'LPA1A' 'TXA1'BYPASS'— (E) 'LDPA1' (E) 'U.

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COMPOSITES
AKE CITY UTAH, 84116