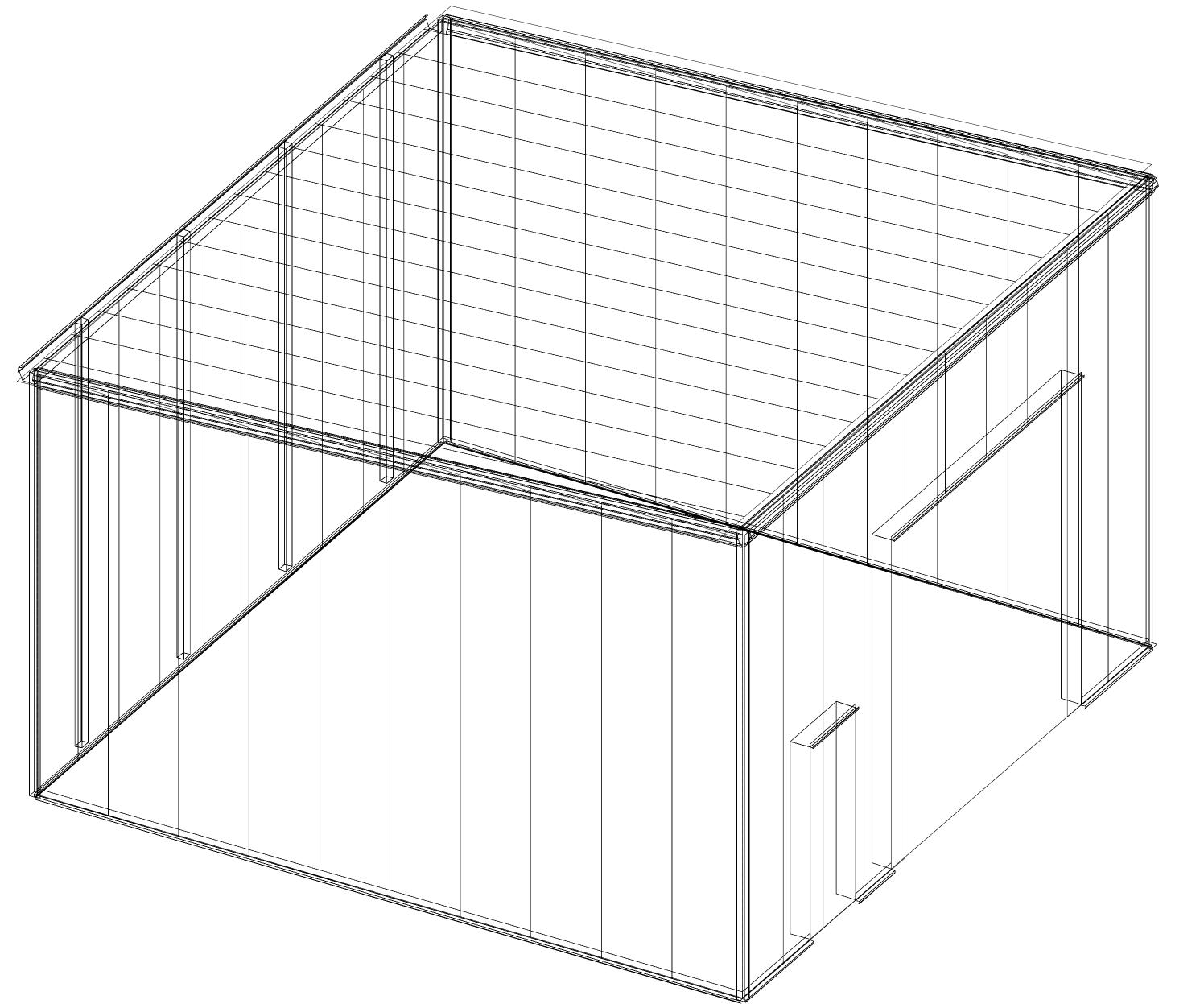


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DRAWING INDEX DRAWING RELEASE HISTORY **DRAWING TITLE PAGES TYPE DATE** DESCRIPTION **Cover Sheet Anchor Rod Drawings Rev 0** 01/31/24 FOR CONSTRUCTION Codes and Loads **Permit Drawings Rev 0** 01/31/24 **PERMIT SET- For Building Dept. Approval Notes Anchor Rod Plan** 4-5 **Primary Structural** 6-10 **Secondary Structural** 11-18 Covering 19-30 **Special Drawings Standard Erection Details Planograph Details**

<u>elemartec</u> OCUMENTS. COMMENTS SHALL NOT BE CONSTRUED AS RELIEVI HE SUPPLIER / SUBCONTRACTOR FROM STRICT COMPLIANCE WI UCH DOCUMENTS. THE SUPPLIER / SUBCONTRACTOR REMAIN ☐ REVIEWED ☐ REVIEWED AS NOTED ☐ REVISE & RESUBMIT ☐ REJECTED



VP Buildings 3200 Players Club Circle Memphis TN 38125

THE VP ENGINEER'S SEAL APPLIES ONLY TO THE WORK PRODUCT OF VP AND DESIGN AND PERFORMANCE REQUIREMENTS SPECIFIED BY VP. THE VP ENGINEER'S SEAL DOES NOT APPLY TO THE PERFORMANCE OR DESIGN OF ANY OTHER PRODUCT OR COMPONENT FURNISHED BY VP EXCEPT TO ANY DESIGN OR PERFORMANCE REQUIREMENTS SPECIFIED BY VP.

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THE GENERAL CONTRACTOR AND/OR ERECTOR IS SOLELY RESPONSIBLE FOR ACCURATE GOOD QUALITY WORKMANSHIP IN ERECTING THIS BUILDING IN ACCORDANCE WITH THIS DRAWING, DETAILS REFERENCED IN THIS DRAWING, ALL APPLICABLE VP BUILDINGS ERECTION GUIDES, AND INDUSTRY STANDARDS PERTAINING TO PROPER ERECTION, INCLUDING THE CORRECT USE OF TEMPORARY BRACING.

QUASAR







COVER SHEET Lemartec Corporation CUSTOMER Duke Energy Dunn, North Carolina VP BUILDINGS VARCO PRUDEN **Duke Energy Dunn Operations Center - Weld Shop** 23068 - Weld Shop

GENERAL NOTES

ASTM DESIGNATION

A529, A572, A588, A992

A529, A572, A1011, A1018 A653, A1011 A572, A510 A36, A529, A572, A588, A992

GRADE 60 GRADE 50 GRADE 36 OR 50 **GRADE 50 GRADE B**

GRADE 55

A653, A792 **GRADE 50 OR GRADE 80**

HIGH STRENGTH BOLT TIGHTENING REQUIREMENTS

IT IS THE RESPONSIBILITY OF THE ERECTOR TO ENSURE PROPER BOLT TIGHTNESS IN ACCORDANCE WITH APPLICABLE REGULATIONS. SEE RCSC SPECIFICATION FOR STRUCTURAL JOINTS USING HIGH STRENGTH BOLTS FOR MORE INFORMATION. SEE ERECTION GUIDE FOR BOLT TIGHTENING INSTRUCTIONS. THE FOLLOWING CRITERIA MAY BE USED TO DETERMINE THE BOLT TIGHTNESS (I.E.-SNUG TIGHT OR PRE-TENSION) UNLESS REQUIRED OTHERWISE BY LOCAL JURISDICTION OR CONTRACT.

ALL A490 BOLTS SHALL BE "PRE-TENSIONED". A325 BOLTS IN PRIMARY FRAMING AND BRACING CONNECTIONS MAY BE "SNUG-TIGHT" EXCEPT AS FOLLOWS;

PRE-TENSION A325 BOLTS IF BUILDING SUPPORTS A CRANE GREATER THAN 5 TON CAPACITY.

PRE-TENSION A325 BOLTS IF BUILDING SUPPORTS MACHINERY THAT CREATES VIBRATION, IMPACT, OR STRESS REVERSALS ON CONNECTIONS.

PRE-TENSION A325 BOLTS IF LOCATED IN HIGH SEISMIC AREAS. FOR IBC BASED CODES; HIGH SEISMIC IS DESIGN CATEGORY D, E OR F. SEE CODES AND LOADS SECTION BELOW FOR DETAILS.

PRE-TENSION ANY CONNECTION WITH DESIGNATION A325-SC. SLIP CRITICAL (SC) CONNECTIONS MUST BE FREE OF PAINT, OIL OR OTHER MATERIALS THAT REDUCE FRICTION AT CONTACT SURFACES. GALVANIZED OR LIGHTLY RUSTED SURFACES ARE ACCEPTABLE.

IN CANADA, ALL A325 AND A490 BOLTS SHALL BE "PRE-TENSIONED", EXCEPT FOR SECONDARY MEMBERS AND FLANGE BRACES.

SECONDARY MEMBERS AND FLANGE BRACE CONNECTIONS ARE ALWAYS "SNUG TIGHT", UNLESS INDICATED OTHERWISE IN **ERECTION DRAWING DETAILS.**

INSPECTION AND TESTING

MATERIALS

3 PLATE WELDED SECTIONS

HOT ROLLED MILL SHAPES

HOT ROLLED ANGLES

BRACE RODS

CLADDING

COLD FORMED LIGHT GAGE SHAPES

HOLLOW STRUCTURAL SECTION (HSS)

SPECIAL INSPECTIONS AND TESTING REQUIRED BY AUTHORITY HAVING JURISDICTION (AHJ) DURING CONSTRUCTION AND/OR STEEL FABRICATION IS THE RESPONSIBILITY OF THE OWNER OR OWNERS AUTHORIZED AGENT. WHEN REQUIRED, THE OWNER SHALL EMPLOY A QUALITY ASSURANCE AGENCY (QAA) APPROVED BY THE AHJ. THE BUILDER IS RESPONSIBLE TO COORDINATE BETWEEN THE QAA FIRM AND BBNA FABRICATION FACILITIES. THE TYPE AND EXTENT OF SPECIAL INSPECTIONS AND NDT WELD TESTING MUST BE SPECIFICALLY STIPULATED IN CONTRACT DOCUMENTS OR BBNA WILL ASSUME SPECIAL INSPECTIONS AND/OR NDT TESTING ARE WAIVED AS PERMITTED BY THE BUILDING CODE BASED ON BBNA FACILITIES IAS AC472 ACCREDITATION.

> Harnett COUNTY NORTH CAROLINA

> > This document has been electronically signed and sealed by W. Jason Clymer, PE using my Digital Signature with PE seal affixed. Printed copies of this document are not considered signed and sealed, and the signature must be verified on any electronic copy.

23-016000-01

DRAWN / CHECK

01/31/2024

Codes and Loads WHEN MULTIPLE BUILDINGS ARE INVOLVED, SPECIFIC LOAD FACTORS FOR DIFFERING OCCUPANCIES, BUILDING DIMENSIONS, HEIGHTS, FRAMING SYSTEMS, ROOF SLOPES, ETC., MAY RESULT IN DIFFERENT LOAD APPLICATION FACTORS THAN INDICATED BELOW. SEE CALCULATIONS FOR FURTHER DETAILS. WIND LOADS ARE APPLIED TO OVERALL BUILDING ENVELOPE. COMMON WALLS BETWEEN CONNECTED SHAPES ARE NOT SUBJECT TO EXTERNAL WIND LOADS. State: North Carolina Country: United States City: Dunn County: Harnett Building Code Building Code: 2018 North Carolina Building Code Structural: 10AISC - ASD Rainfall: I: 12.00 inches per hour Cold Form: 12AISI - ASD f'c: 3000.00 psi Concrete Based on Building Code: 2015 International Building Code Building Risk/Occupancy Category: II (Standard Occupancy Structure) Dead and Collateral Loads Material Dead Weight Roof Live Load Roof Live Load: 20.00 psf Reducible Collateral Gravity: 5.00 psf Roof Covering + Second. Dead Load: 2.89 psf Frame Weight (assumed for seismic):2.50 psf Collateral Uplift: 0.00 psf Wind Load Snow Load Seismic Load Wind Speed: Vult: 119.00 (Vasd: 92.18) mph Lateral Force Resisting Systems using Equivalent Force Procedure Ground Snow Load: pg: 10.00 psf The 'All Heights' Method is Used - User Modified Flat Roof Snow: pf: 6.93 psf Mapped MCE Acceleration: Ss: 17.90 %g Wind Exposure: C - Kz: 0.882 Design Snow (Sloped): ps: 6.93 psf Mapped MCE Acceleration: S1: 8.40 %g Parts Wind Exposure Factor: 0.882 Rain Surcharge: 0.00 Site Class: Stiff soil (D) Specified Minimum Roof Snow: 10.00 psf (Code) Wind Enclosure: Enclosed Seismic Importance: Ie: 1.000 Topographic Factor: Kzt: 1.0000 Design Acceleration Parameter: Sds: 0.1909 Exposure Factor: 1 Fully Exposed - Ce: 0.90 Hurricane Prone Region Design Acceleration Parameter: Sd1: 0.0000 Snow Importance: Is: 1.000 NOT Windborne Debris Region Thermal Factor: Kept just above freezing - Ct: 1.10 Seismic Design Category:: B Ground / Roof Conversion: 0.70 Base Elevation: 0/0/0 Seismic Snow Load: 0.00 psf Primary Zone Strip Width: 2a: 9/0/0 Unobstructed, Slippery % Snow Used in Seismic: 0.00 Diaphragm Condition: Flexible Parts / Portions Zone Strip Width: a: 3/0/0 Velocity Pressure: qz: 27.18 psf Fundamental Period Height Used: 18/11/4 Transverse Direction Parameters System NOT detailed for Seismic Redundancy Factor: Rho: 1.00 Fundamental Period: Ta: 0.0000 R-Factor: 3.00 Overstrength Factor: Omega: 2.50 Deflection Amplification Factor: Cd: 3.00 Base Shear: V: 0.0100 x W - USR Longitudinal Direction Parameters System NOT detailed for Seismic Redundancy Factor: Rho: 1.00 Fundamental Period: Ta: 0.0000 R-Factor: 3.00 Overstrength Factor: Omega: 2.50 Deflection Amplification Factor: Cd: 3.00 Base Shear: V: 0.0100 x W - USR Weld Shop Roof: A THIS DRAWING, INCLUDING THE INFORMATION HEREON, REMAINS THE PROPERTY OF VP BUILDINGS. THE VP ENGINEER'S SEAL APPLIES ONLY TO THE IT IS PROVIDED SOLELY FOR ERECTING THE BUILDING DESCRIBED IN THE APPLICABLE PURCHASE WORK PRODUCT OF VP AND DESIGN AND PERFORMANCE REQUIREMENTS SPECIFIED BY ORDER AND MAY BE REPRODUCED ONLY FOR THAT PURPOSE. IT SHALL NOT BE MODIFIED, VP. THE VP ENGINEER'S SEAL DOES NOT APPLY BUILDINGS. TO THE PERFORMANCE OR DESIGN OF ANY OTHER PRODUCT OR COMPONENT FURNISHED THE GENERAL CONTRACTOR AND/OR ERECTOR IS SOLELY RESPONSIBLE FOR ACCURATE GOOD BY VP EXCEPT TO ANY DESIGN OR QUALITY WORKMANSHIP IN ERECTING THIS BUILDING IN ACCORDANCE WITH THIS DRAWING, PERFORMANCE REQUIREMENTS SPECIFIED BY DETAILS REFERENCED IN THIS DRAWING, ALL APPLICABLE VP BUILDINGS ERECTION GUIDES, AND INDUSTRY STANDARDS PERTAINING TO PROPER ERECTION, INCLUDING THE CORRECT USE OF TEMPORARY BRACING.

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Clymer, PE using my Digital Signature
with PE seal affixed. Printed copies of
this document are not considered signed and sealed, and the signature must be verified on any electronic

PERMIT SET- For Building Dept. Approval

3200 Players Club Circle Memphis TN 38125 DESCRIPTION **Lemartec Corporation** CUSTOMER Duke Energy **Dunn, North Carolina**

VP BUILDINGS Duke Energy Dunn Operations Center - Weld Shop A BlueScope Steel Company VARCO PRUDEN VPC VERSION: 2023.4a

01/31/2024 DRAWN/CHECK MB

23-016000-01

NTS 1/31/2024 16:40:57

FILENAME: Duke Energy - Weld Shop

BUILDERS PO# 23068 - Weld Shop

CODES AND LOADS

a division of BlueScope Buildings North America, Inc

VP Buildings

BUILDER/CONTRACTOR RESPONSIBILITIES

VP Buildings follows the guidelines as outlined in the AISC and MBMA Codes of Standard Practice. VP Buildings standard product specifications, design, fabrication, quality criteria shall govern all work unless stipulated otherwise in the contract documents. In case of discrepancies between VP Buildings structural plans and plans for other trades, VP Buildings structural plans shall govern.

It is the responsibility of the Builder to obtain approvals and permits from all governing agencies and jurisdictions as required. Approval of VP Buildings drawings constitutes the builders acceptance of VP interpretation of the contract purchase order. Unless specific design criteria concerning interface design and details are furnished as part of the contract, VP Buildings design assumptions shall govern.

VP engineers are not Project Engineers or Engineer of Record for the overall project. VP engineering supply sealed engineering design data and drawings for VP supplied material as part of the overall project for use by others to obtain permits, approvals, and coordinate with other trades. All interface and/or compatibility of any materials not furnished by VP are to be considered and coordinated by the builder or A/E firm.

CONSTRUCTION & ERECTION RESPONSIBILITY

The Builder is responsible for construction in strict accordance with VP Buildings "FOR CONSTRUCTION" drawings and all applicable product installation guides. VP is not responsible for work done from any other VP drawings that are not marked "FOR CONSTRUCTION", nor any drawings prepared by others.

As erected field assemblies of members shall be as specified in MBMA Code of Standard Practice (in Canada - CSA S16), which require L/500 tolerance of installed members. Occasional field work including shimming, cutting, coping, and drilling for final fit-up are considered part of erection. Specified field work and field welding conditions indicated on these drawings shall also be included in the erectors scope of work. See Erection Guide for shimming procedure. For building with top riding bridge cranes see Crane Data drawing for column plumb tolerance.

The building erector shall be properly licensed and experienced in erecting metal building systems. The Builder is responsible for having knowledge of, and shall comply with, all OSHA requirements and all other governing site safety criteria. The builder is responsible for designing, supplying, locating and installing temporary supports and bracing during erection of the building. VP bracing is designed for code required loads after building completion and shall not be considered as adequate erection bracing. See Erection Guide.

Shimming of steel buildings during erection may be required to accomodate allowable tolerances during fabrication and erection. Special care should be taken by the building erector to shim connections where key dimensions must be maintained for building performance as even small tolerances can have a significant impact on critical dimensions such as height, clearances and plumbness, especially as the size of the member or building increases. Conditions where shimming should be expected can include but are not limited to large door openings, critical clear height requirements, cranes, buildings greater than 45 feet in height, clear spans greater than 125 feet and adjacent frames with different characteristics (like clear span frames adjacent to an endwall or modular frame). Shims are normally provided by the erector, but may be ordered upon request by contacting your Project Manager.

EXISTING STRUCTURES

VP must be advised of any structure that is within 20 ft. of VP's building. Load effects from snow drifting, wind effects, and seismic separation must be considered for both the new and existing structures. VP has designed the new VP building for these effects. The owner/builder are responsible for employing a Professional Engineer to review and verify the existing structure for all load effects from the adjacent VP building.

BRACING

Tension brace rods work in pairs to balance forces caused by initial tensioning. Care must be taken while tightening brace rods so as not to cause accidental or misalignment of components. All rods must be installed loose and then tightened. Rods should not exhibit excessive sag. For long or heavy rods, or angles it may be necessary to support the rods at mid-bay by suspending them from secondary members.

Bracing for seismic or wind loading of objects or equipment that are not a part of the VP structure must be designed by a qualified professional to deliver lateral loads to primary frames and rod bracing struts. Equipment bracing and suspension connections must not impose torsion or minor axis loads, or cause local distortion in any VP components. VP accepts no responsibility for design or installation of bracing systems not furnished by VP.

FIELD WELDING

All field welding shall be done at the direction of a design professional, and done in accordance with governing requirements (AWS in USA, CWB in Canada) by welders qualified to perform the welding as directed by the applicable welding procedure specification (WPS). A WPS shall be prepared by the contractor for each welding variation specified. The contractor is responsible for any special welding inspection as required by local jurisdiction. Filler metal shall be 70 ksi (480 MPa) tensile strength. For welds in high seismic force resisting system (Seismic Cat D, E or F), minimum Charpy V-Notch toughness shall meet AISC-341 criteria (20 ft-lbs min @ 0Deg F). Interpass temperatures shall not exceed 550Deg F (300Deg C).

DELIVERIES

It is the responsibility of the builder to have adequate equipment available at the job site to unload trucks in a safe and timely manner. The Builder will be responsible for all retention charges from carriers as a result of job site unloading delays.

SIGNAGE

The Builder is responsible for furnishing signs as required by Code and the Building Department, including but not limited to, exits, occupancy limits, floor loading limits, and bulk storage limits. Floor loading signs shall clearly indicate maximum floor live load permitted. Bulk storage facilities shall have signs clearly posted on all loaded walls indicating the type of commodity stored and the maximum storage height. Signs shall be clearly visible when building is fully loaded to design level. Overloading of floors or walls may result in failure.

Claims for damage or shorts MUST be noted on the Bill-of-Lading or delivery receipt and filed against the carrier by the consignee as per VP's Terms of Sales (F.O.B. Plant) under the Uniform Commercial Code. It is critical that damages or shorts be noted on the Bill-of-Lading or you have little recourse with the carrier. Immediately upon delivery of material, material quantities are verified by the Builder against quantities billed on the shipping document. Neither the Manufacturer nor the carrier is responsible for material shortages against quantities billed on the shipping document if such shortages are not noted on the shipping documents upon delivery of material and acknowledged by the carriers agent. For materials concealed in bundles, boxes, or crates, shortages must be reported immediately upon unpacking. Should products get wet, bundled and crated materials must be unpacked and unbundled immediately to provide drainage of trapped moisture. See Erection Guide for proper job site storage procedure.

SEALANTS

Sealants shall be applied in strict accordance with VP details or weather tightness will be compromised. Sealant must be applied in temperatures and weather conditions consistent with labeling.

INDEPENDENT MEZZANINES

Independent mezzanines must be designed by a professional engineer. The engineer must ensure that proper isolation from the VP building has been provided to avoid structural damage due to differential movements, or inadvertently apply loads to the VP structure. VP accepts no responsibility for the design of the independent mezzanine.

FIRE CODE COMPLIANCE

It is the responsibility of the project design professional and builder to comply with local fire code regulations including consideration of, but not limited to, building use and occupancy, all building construction materials, separation requirements, egress requirements, fire protection systems, etc. Builder shall advise VP of any special requirements to be furnished by VP.

FIELD MODIFICATIONS

Modifications to this building from details and instructions contained on these drawings must be approved in writing by VP Buildings engineers, or other licensed structural engineer. This includes, but is not limited to, removal of roof or wall cladding, removing or moving any flange braces or rod braces, cutting of openings for doors, windows or RTU's, correction of fabrication errors, etc. The owner shall not impose loads to this structure beyond what is specified for this building in the contract documents. VP Buildings accepts no responsibility for the consequences of any unauthorized additions, alterations, or added loads to this structure.

If the builder intends to invoice VP Buildings for modifications in excess of \$1000, The builder must notify VP Buildings immediately, and obtain a Work Authorization from VP Buildings prior to proceeding. All final claims must be submitted to VP Buildings with all supporting documentation within 30 days of the building completion. Claims submitted without work authorizations, or after 30 days will not be accepted. Correction of minor misfits, shimming and plumbing, moderate amount of reaming, drilling, chipping / cutting and minor welding are considered by Code of Standard Practice to be part of erection are not subject to claim reimbursement.

CONCRETE/MASONRY/CONVENTIONAL STUD WALLS

The engineer responsible for the design of the wall system is responsible for coordinating with, or specifying to VP Buildings, any wall to steel compatibility issues such as drift and deflection compatibility, special base details, and wall to VP steel connections. All fasteners, sealant and counter flashing of wall systems are to be provided by contractor. The engineer responsible for the wall shall design the anchorage to VP supporting elements consistent with Code required forces.

PANELS

Oil canning is an inherent characteristic of cold formed steel panels. It is the result of several factors that include induced stresses in the raw material delivered to VP, fabrication methods. installation procedures, and post installation thermal forces. Thru fastened panels will exhibit some dimpling when installed, especially when insulation is installed between panels and secondary supports. Dimpling can be minimized by careful installation, taking care not to over drive fasteners.

Roof rumble is a phenomenon that is caused by wind gusts lifting up on the roof panels and then springing back into place. All panels experience this action to some degree, especially with concealed clip Standing Seam panels. Roof rumble noise may be minimized by providing a layer of blanket insulation between the panels and any hard support surface such as steel secondary members, substrates such as plywood, steel decking, or rigid board insulation. A minimum of 3 inch thick blanket is recommended over steel secondary members, or 2 inch over substrates.

Oil canning, dimpling, and roof rumble do not affect the structural integrity or weather tightness of the panels and is not grounds for rejection of panels.

The Standing Seam joint detail is designed with an interlocking feature for ease of installation. However, it is imperative that installed Standing Seam panels be secured to the secondary structural members and properly seamed prior to departure from the job site each day.

SKYLIGHTS

Local building departments may require added fall restraint due to conditions that may affect the skylight structural integrity. It is the responsibility of the builder to determine and provide any added fall restraint under the skylight as may be required by your building department.

RAIN WATER RUNOFF

Drainage systems must be designed by the project professional to comply with code requirements. VP is not responsible for drainage designs, overflow scuppers, down piping, etc. The project professional and contractor are responsible to ensure that primary drains and overflow devices such as scuppers and auxiliary drains are provided as required for the required rain intensity at the building perimeter and at valley conditions to prevent ponding.

STEEL SHOP COAT

The purpose of VP's shop coat is to provide protection for the steel members during transportation, during temporary job site storage and during erection. Standard shop formulation is not designed to perform as a finish coat when exposed to environmental conditions. Members shall be kept free of the ground and properly drained during job site storage. It is the Builder's responsibility to ensure that if a finish coat is being applied over VP shop coat that the painting contractor verifies compatibility between his finish coat and VP's shop coat.

VP BUILDINGS ACCREDITATIONS AND APPROVALS

Fabricator Approvals

IAS AC472 Approvals: (www.iasonline.org/services/metal-building-inspection) Listed under BlueScope Buildings North America, Inc. City of Los Angeles, CA #FB00031; City of Houston, TX 767 & 429; City of Phoenix, AZ C19-02008; Clark County, NV 43 & 833, San Bernardino County, CA 289 State of Utah, City of Richmond, CA.

Design Approvals

IAS AC472 Approvals: (www.iasonline.org/services/metal-building-inspection) Listed under Varco Pruden Buildings, a Division of BlueScope Buildings North America, Inc.

Canadian CSA A660 Certifications

(www.cwbgroup.org) Listed under BlueScope Buildings North America, Inc.

Engineering Certifications of Authorization

USA--AL#CA-5589-E; AZ#22225-0; AR#576; FL#30427; GA#PEF007551; ID#C-2470; IL#184-002649; KS#E-29; KY#4490; LA#EF6722; MS#E-0592; MO#E-2010007736; NC#F-0998; ND#1579PE; NJ#24GA28318800; NV#20437; OH#05898; OK#CA4170PE; RI#8838; SC#6206; SD#C-1787; TX#F4828; VA#0411001520; VA#0411001518; WA#4119; WV#C03059-00 CAN--AB#P08900; NB#F0951; NL#D0044; NS#30123; NT#P062; ON#100148796; and YT#PP134

ICC Evaluation Reports (www.icc-es.org)

SSR Roof System - #ESR-2527

State of Florida Product Approvals (www.floridabuilding.org)

Approved Products Listed Under VP Buildings, Inc.

VP TextureClad - See Transamerican Structuroc, Inc.

Dade Co. Product Approval (www.miamidade.gov/buildingcode)

Approved Products Listed Under Varco Pruden Buildings, Inc.

VP TextureClad - See Transamerican Structuroc. Inc.

Underwriter's Laboratory Approvals (Available only when specified in contract)

SSR Roof-UL#TGKX-113; SSR Composite Roof Class 90-UL#TGKX-113A;

SSR Roof w/Super Block; Class 90-UL#TGKX-328;

Panel Rib Roof UL Class 60-UL#TGKX-60; Panel Rib Roof UL Class 90-UL#TGKX-64;

VP SLR II Roof Class 90-UL#TGKX-90, -180, -435, -435A, -176, -238, -238A, -238B

Factory Mutual Approved Assemblies (Available only when specified in contract)

SSR Roof Systems are approved in various type applications and listed in FM Approval Guide.

24 Ga SSR (0.0227" Nominal), is available in Class 1-60, 1-75, 1-90. 22Ga SSR (0.0277"

Nominal), is available in Class 1-75, 1-90-, 1-120.

SLR II Roof Systems are approved in various type applications and listed in FM Approval Guide.

VP Buildings

24 Ga SLR II (0.0227" Nominal), is available in Class 1-75 and 1-120.

This document has been electronically signed and sealed by W. Jason Clymer, PE using my Digital Signature with PE seal affixed. Printed copies of this document are not considered signed and sealed, and the signature must be verified on any electronic

PERMIT SET- For Building Dept. Approval

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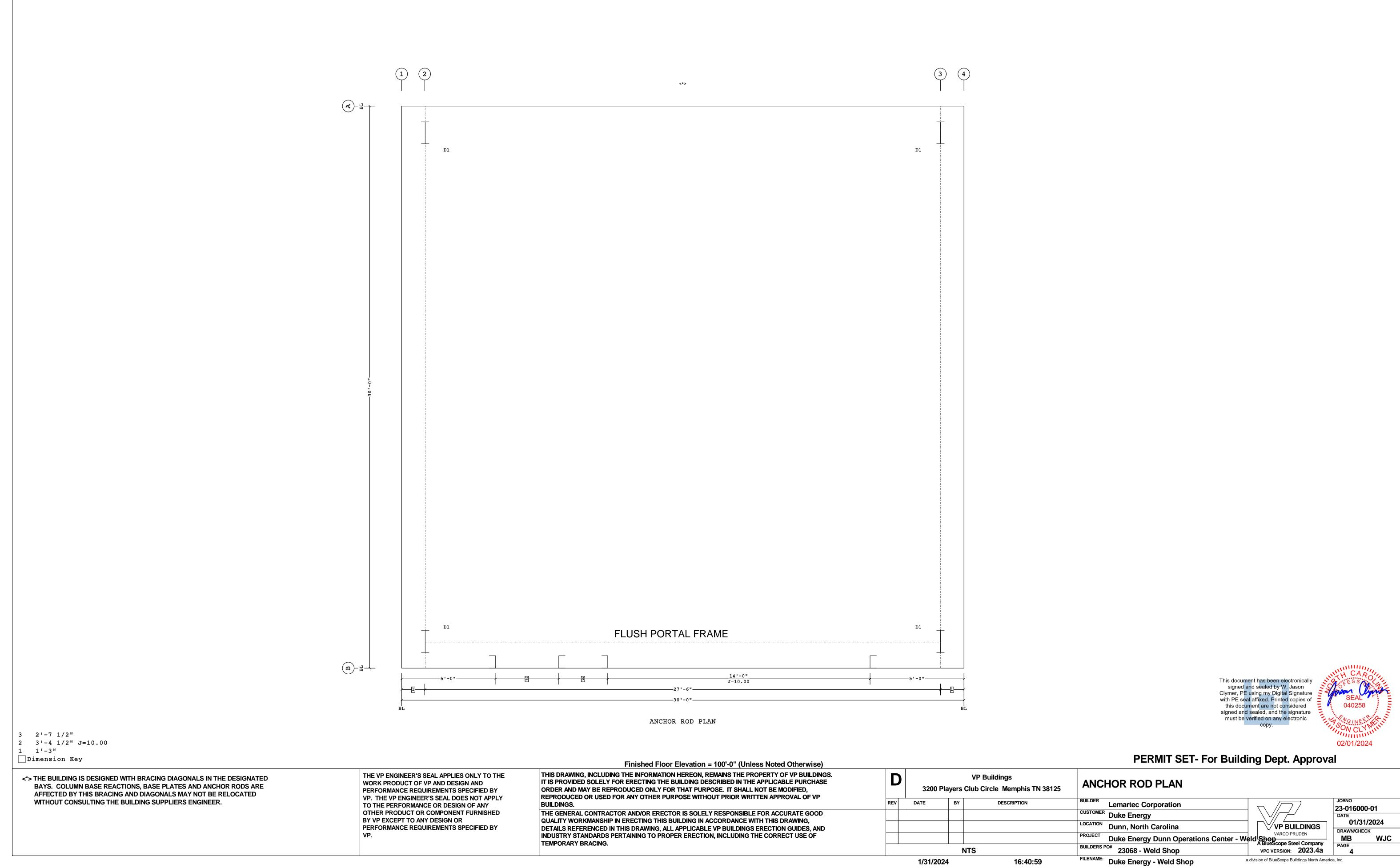
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D **ERECTION NOTES** 3200 Players Club Circle Memphis TN 38125 DESCRIPTION DATE **Lemartec Corporation** CUSTOMER Duke Energy Dunn, North Carolina Duke Energy Dunn Operations Center - Weld Shop A BlueScope Steel Company BUILDERS PO# 23068 - Weld Shop NTS

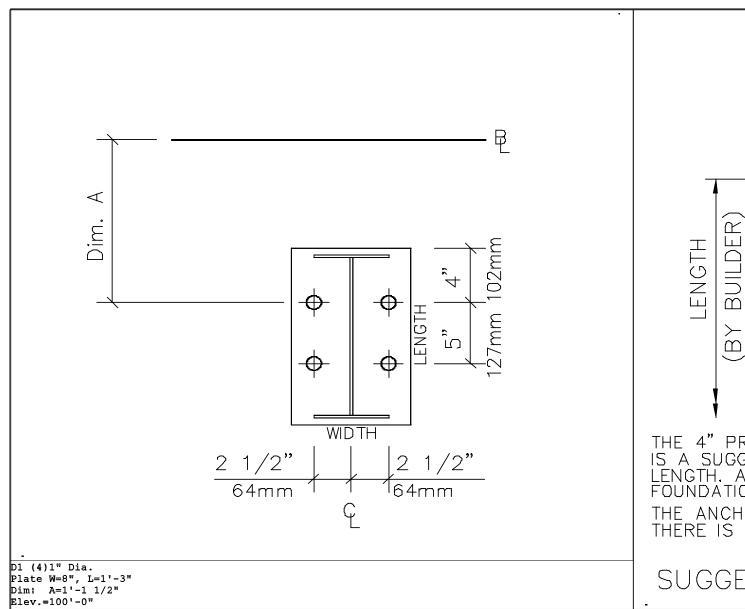
VP BUILDINGS VARCO PRUDEN **VPC VERSION: 2023.4a** a division of BlueScope Buildings North America, Inc

23-016000-01 01/31/2024 DRAWN/CHECK MB **WJC**

FILENAME: Duke Energy - Weld Shop 1/31/2024 16:40:58



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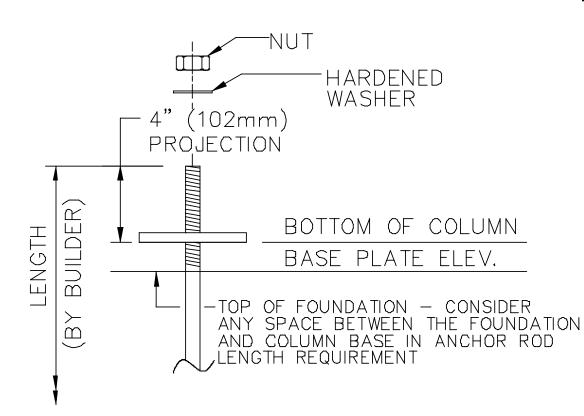


<*> THE BUILDING IS DESIGNED WITH BRACING DIAGONALS IN THE DESIGNATED

AFFECTED BY THIS BRACING AND DIAGONALS MAY NOT BE RELOCATED

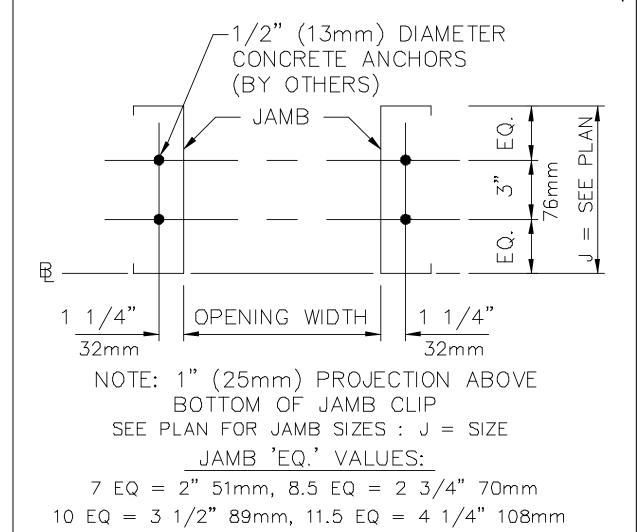
WITHOUT CONSULTING THE BUILDING SUPPLIERS ENGINEER.

BAYS. COLUMN BASE REACTIONS, BASE PLATES AND ANCHOR RODS ARE

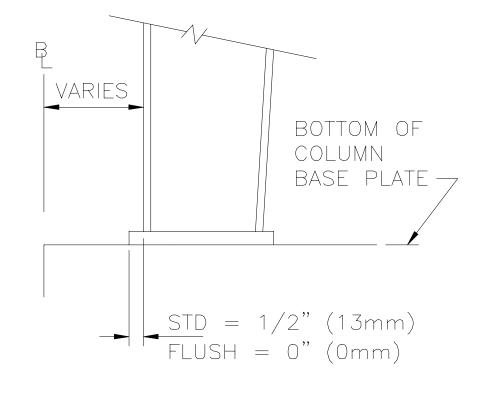


THE 4" PROJECTION ABOVE THE BOTTOM OF THE BASE PLATE IS A SUGGESTED MINIMUM TO ENSURE ADEQUATE ANCHOR ROD LENGTH, A DIFFERENT PROJECTION MAY BE REQUIRED BY THE FOUNDATION DESIGNER. THE ANCHOR ROD PROJECTION MAY NEED TO BE CUT OFF IF THERE IS INTERFERENCE WITH OTHER PARTS.

SUGGESTED ANCHOR ROD PROJECTION

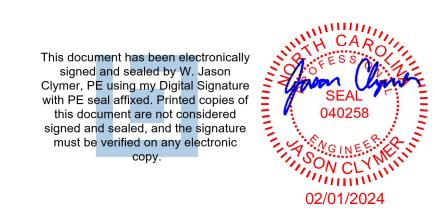


FRAMED OPENING DETAIL



TYPICAL COLUMN BASE PLATE DETAIL

- 1. ANCHOR RODS, NUTS, HARDENED WASHERS AND ANY OTHER EMBEDDED ITEMS ARE TO BE FURNISHED BY CONTRACTOR.
- 2. ANCHOR ROD DIAMETERS WERE DETERMINED BY ALLOWABLE SHEAR AND TENSION PER AISC SPECIFICATIONS (FY=36KSI). (ASTM F1554 GRADE 36) ANCHOR ROD LENGTH, EFFECTS OF EMBEDDED ANCHOR ROD EDGE DIMENSIONS AND METHOD OF TRANSFERRING FORCES FROM ANCHOR RODS TO FOOTINGS ARE TO BE DETERMINED BY OTHERS.
- 3. UNLESS OTHERWISE SPECIFIED, ANCHOR RODS ARE DESIGNED AND DETAILED AS "CAST-IN-PLACE" ANCHOR RODS WITH "SNUG TIGHT" CONNECTIONS.
- 4. FOUNDATION MUST BE LEVEL, SQUARE AND SMOOTH. ANCHOR RODS MUST BE ACCURATELY PLACED AS SHOWN ON THIS DRAWING OR STEEL WILL NOT FIT. THE BUILDER IS RESPONSIBLE FOR ACCURATE SETTING OF ANCHOR RODS PER AISC CODE OF STANDARD PRACTICE, SEC 7.5 VARIATIONS ARE SUMMARIZED BELOW;
- a. CENTERS OF ANY TWO AR'S WITHIN A COLUMN BASE GROUP; +-1/8"
- b. CENTERS OF ADJACENT AR GROUPS; +-1/4" c. TOPS OF AR'S; +-1/2"
- d. ACCUMULATED DIM BETWEEN CENTERS OF AR GROUPS ALONG COLUMN LINE; +-1/4" PER 100FT., NOT TO EXCEED 1" TOTAL.
- e. DIM FROM CENTER OF ANY AR GROUP FROM COLUMN LINE; +-1/4"
- 5. DESIGN LOADS AND REACTIONS ARE FURNISHED IN THE REACTIONS REPORT.



Finished Floor Elevation = 100'-0" (Unless Noted Otherwise)

THE VP ENGINEER'S SEAL APPLIES ONLY TO THE WORK PRODUCT OF VP AND DESIGN AND PERFORMANCE REQUIREMENTS SPECIFIED BY VP. THE VP ENGINEER'S SEAL DOES NOT APPLY TO THE PERFORMANCE OR DESIGN OF ANY OTHER PRODUCT OR COMPONENT FURNISHED BY VP EXCEPT TO ANY DESIGN OR

PERFORMANCE REQUIREMENTS SPECIFIED BY

Timorica Floor Elevation = 100 0 (offices Noted Office Wise)
THIS DRAWING, INCLUDING THE INFORMATION HEREON, REMAINS THE PROPERTY OF VP BUILDINGS. IT IS PROVIDED SOLELY FOR ERECTING THE BUILDING DESCRIBED IN THE APPLICABLE PURCHASE
ORDER AND MAY BE REPRODUCED ONLY FOR THAT PURPOSE. IT SHALL NOT BE MODIFIED,
REPRODUCED OR USED FOR ANY OTHER PURPOSE WITHOUT PRIOR WRITTEN APPROVAL OF VP
BUILDINGS.
THE GENERAL CONTRACTOR AND/OR ERECTOR IS SOLELY RESPONSIBLE FOR ACCURATE GOOD

D0112111001
THE GENERAL CONTRACTOR AND/OR ERECTOR IS SOLELY RESPONSIBLE FOR ACCURATE GOOD
QUALITY WORKMANSHIP IN ERECTING THIS BUILDING IN ACCORDANCE WITH THIS DRAWING,
DETAILS REFERENCED IN THIS DRAWING, ALL APPLICABLE VP BUILDINGS ERECTION GUIDES, AND
INDUSTRY STANDARDS PERTAINING TO PROPER ERECTION, INCLUDING THE CORRECT USE OF
TEMPORARY BRACING.

	PERMIT SET- For Building Dept. Approva
VP Buildings 3200 Players Club Circle Memphis TN 38125	ANCHOR ROD DETAILS

DESCRIPTION Lemartec Corporation CUSTOMER Duke Energy LOCATION Dunn, North Carolina VP BUILDINGS Duke Energy Dunn Operations Center - Weld A Blue Scope Steel Company BUILDERS PO# 23068 - Weld Shop NTS VPC VERSION: 2023.4a

1/31/2024

FILENAME: Duke Energy - Weld Shop

a division of BlueScope Buildings North America, Inc.

VARCO PRUDEN

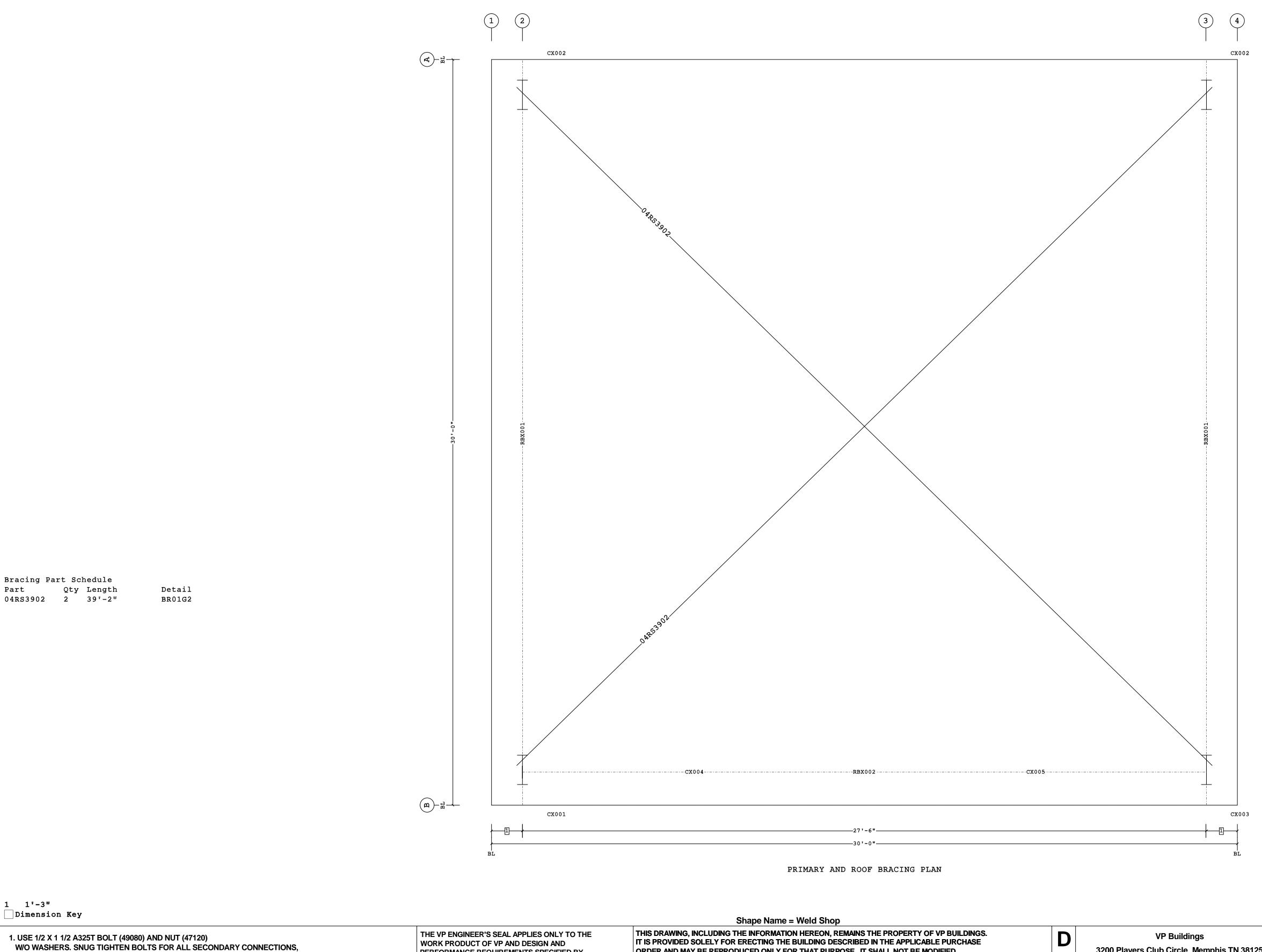
23-016000-01

DRAWN/CHECK

MB

01/31/2024

16:41:24



This document has been electronically signed and sealed by W. Jason Clymer, PE using my Digital Signature with PE seal affixed. Printed copies of this document are not considered signed and sealed, and the signature must be verified on any electronic copy.

CAROLLES S

SEAL

040258

PERMIT SET- For Building Dept. Approval

1. USE 1/2 X 1 1/2 A325T BOLT (49080) AND NUT (47120)
W/O WASHERS. SNUG TIGHTEN BOLTS FOR ALL SECONDARY CONNECTIONS,
SECONDARY CLIP CONNECTIONS, AND FLANGE BRACE CONNECTIONS,
UNLESS NOTED OTHERWISE.

2. SLOT REINFORCEMENT PLATES NEED NOT BE LOCATED ON THE SAME SIDE OF THE WEB AS THE HILLSIDE WASHER.

WORK PRODUCT OF VP AND DESIGN AND PERFORMANCE REQUIREMENTS SPECIFIED BY VP. THE VP ENGINEER'S SEAL DOES NOT APPLY TO THE PERFORMANCE OR DESIGN OF ANY OTHER PRODUCT OR COMPONENT FURNISHED BY VP EXCEPT TO ANY DESIGN OR PERFORMANCE REQUIREMENTS SPECIFIED BY

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3200 P	ayers	VP Buildings Club Circle Memphis TN 38125	PRIM	ARY AND ROOF BRACING P	LAN
DATE	BY	DESCRIPTION	BUILDER	Lemartec Corporation	
			CUSTOMER	Duke Energy	
			LOCATION	Dunn, North Carolina	
			PROJECT	Duke Energy Dunn Operations Center - W	eld Shog

NTS

1/31/2024

BUILDERS PO# 23068 - Weld Shop

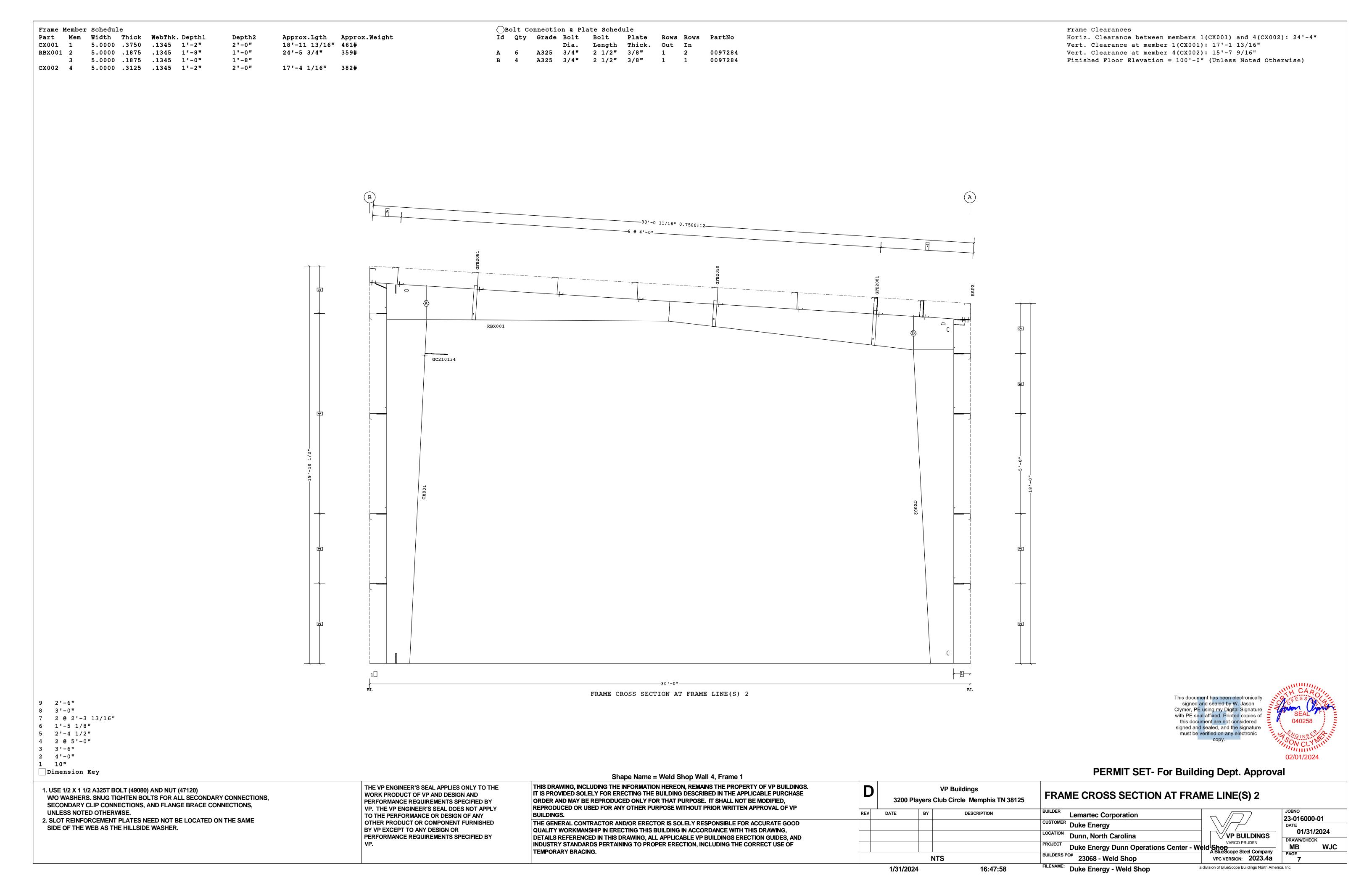
16:47:56 Duke Energy - Weld Shop

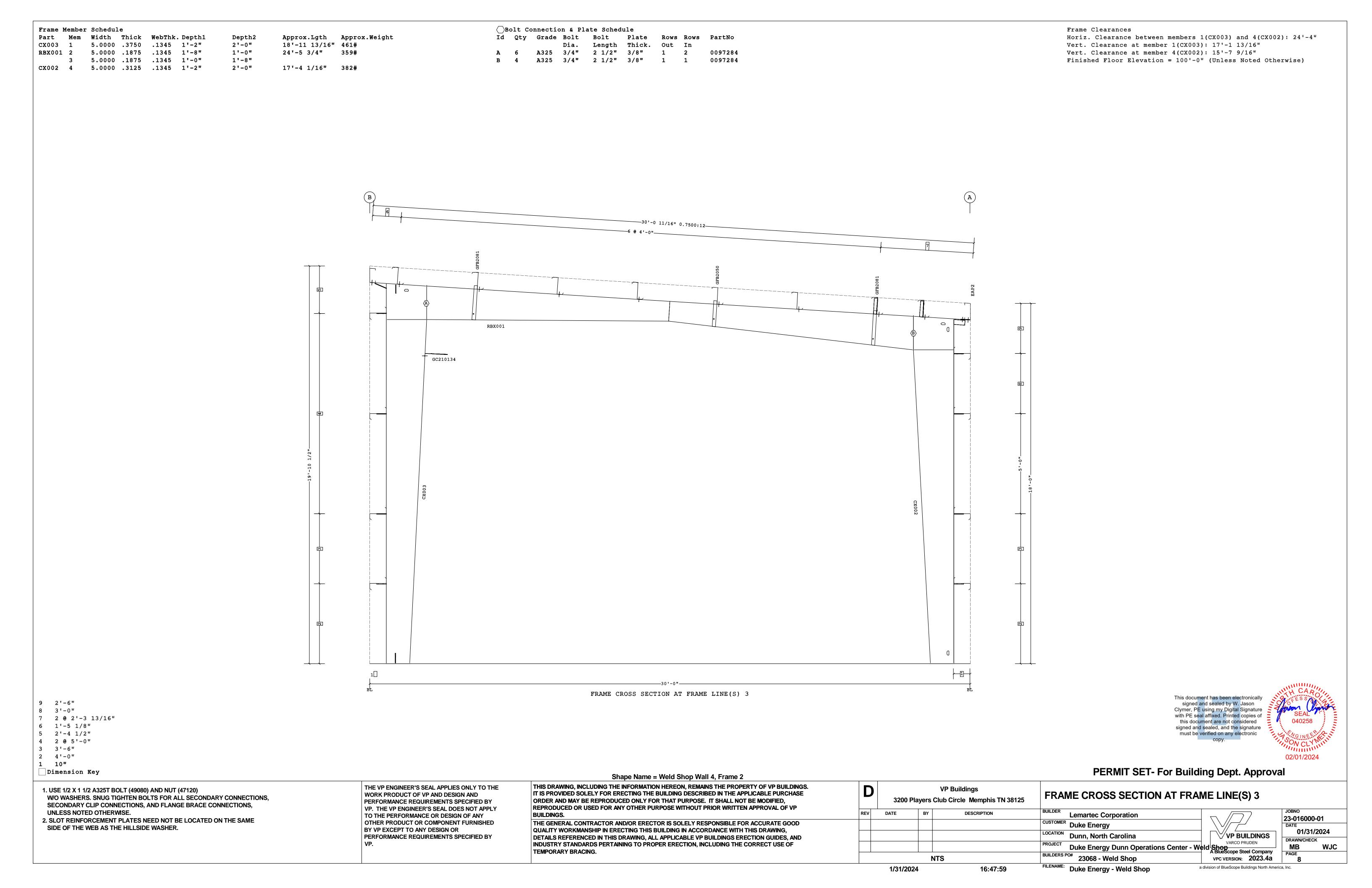
S Center - Weld Shop A BlueScope Steel Company VPC VERSION: 2023.4a

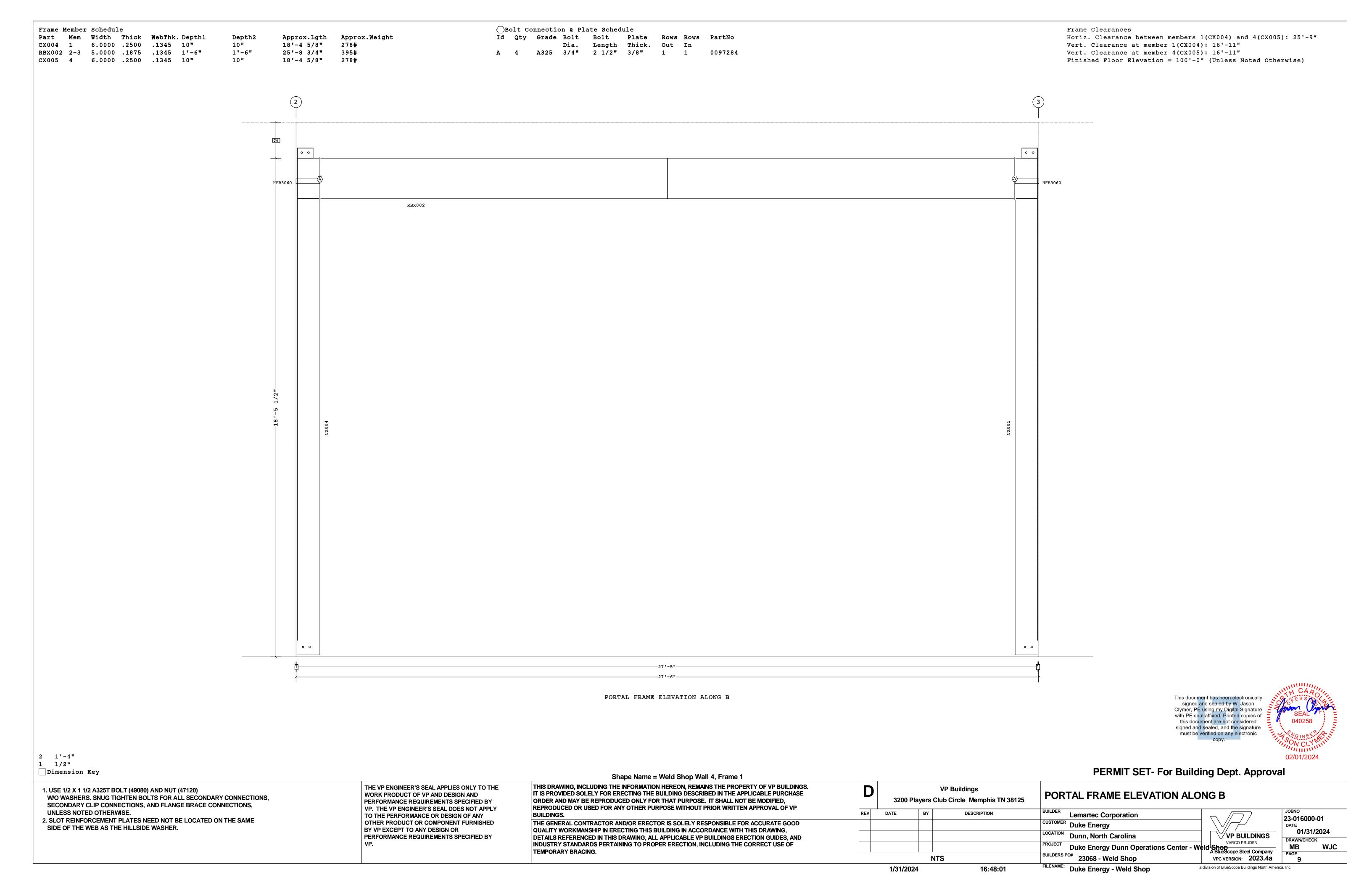
a division of BlueScope Buildings North America, Inc.

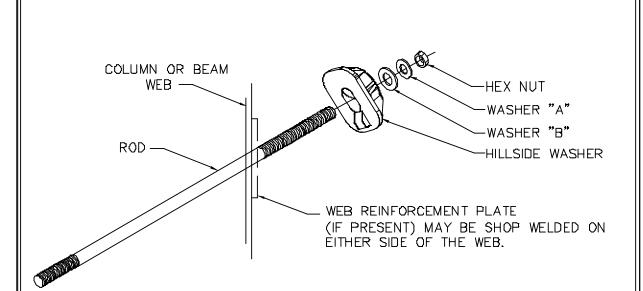
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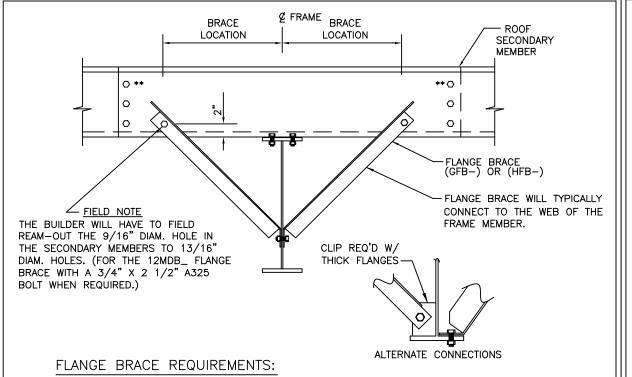
	DESCRIPTION/PART NO							
ROD	NUT	HARD STEEL ROUND WASHER	HARD STEEL WASHER	HILLSIDE				
DIAM	וטאו	Α	B	WASHER				
3/8"	95321	3/8" FLAT WASHER (96408)	1/2" BEVEL SQUARE WASHER (46040)					
1/2"	95230	1/2" FLAT WASHER (95872)	3/4" FLAT ROUND WASHER (95946)	543334				
5/8"	95233	5/8" FLAT WASHER (95945)	374 TEAT ROOMD WASHER (95940)					
3/4"	95235	3/4" FLAT WASHER (95946)	1" FLAT ROUND WASHER (95948)	543335				
7/8"	95237	7/8" FLAT WASHER (95947)	T FLAT ROUND WASHER (93946)	243233				
1"	95238	1" FLAT WASHER (95948)	1 1/8" FLAT ROUND WASHER (95949)	543336				
1 1/B"	95239	1 1/8" FLAT WASHER (95949)	1 1/6 TEAT ROUND WASHER (53345)	040000				

ROD BRACE

WEB SLOT ASSEMBLY

REV. DATE:08/02/17 REV. NO. 04

BR01G2



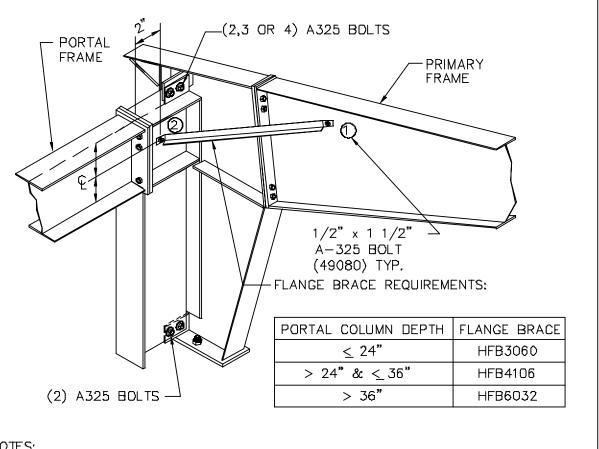
RULE#1- ALL FLANGE BRACES ON CROSS SECTIONS MUST BE INSTALLED. RULE#2— SINGLE FLANGE BRACES ARE REQUIRED WHEN PART MARK ON CROSS SECTION IS NOT ACCOMPANIED BY (2).

RULE#3- FLANGE BRACES ARE REQUIRED BOTH SIDES OF THE FRAME WEB WHEN PART MARK IS ACCOMPANIED BY (2). RULE#4- WHENEVER POSSIBLE, PLACE SINGLE BRACES TOWARD THE CENTER OF THE BUILDING, RULE#5- WHENEVER POSSIBLE, PLACE ALL SINGLE BRACES ON THE SAME

** 10" & 11 1/2" PURLINS REQUIRE 3 BOLTS AT EACH END OF PURLIN LAP.

REV, DATE: 05/08/18 REV, NO. 02 TYPICAL FLANGE BRACE CONNECTIONS BR06AE CONT. PURLIN LAP SHOWN, CONT. GIRT & SIMPLE PURLIN|||

SIDE OF THE FRAME WEB.



FOR FLANGE BRACE CONNECTIONS.

2 DRILL 9/16" HOLE IN PORTAL FRAME COLUMN WEB APPROX. 2"

FROM BOLTING PLATE @ BEAM C.

BR12K1

REV. DATE:03/17/16 REV. NO. 03 FLUSH PORTAL FRAME CONNECTION

FLANGE BRACE CONNECTION AND LOCATION

F = FEET G = GAGECX*** = CDLUMN (PLATE) I = INCHES O = OPERATIONCGX*** = COLUMN (GAGE)E = EIGHTHS C = FIN/COLORWCX*** = COLUMN (HOTROLL)PANEL/COVERING RBX*** = RAFTER (PLATE)W 1 3 1 1 7 2 6 1 K T D BGX*** = RAFTER (GAGE)* FFIIEGGOCCC WRX*** = RAFTER (HOTROLL)LENGTH CODE TRX*** = TRUSS RAFTERINSULATION 1 B 1 3 O 1 O 3 6 O 3 O W V ICX*** = INTERIOR COLUMN* * F F F I I I I I I E C C PCX*** = PIPE COLUMN LENGTH WIDTH THK CODE TCX*** = TUBE COLUMN SECONDARY (STANDARD) EPX*** = ENDPOST (PLATE)0 B Z 1 9 1 1 4 1 7 - - - - -* * * F F I I E G G * * * * * EGX*** = ENDPOST (GAGE)DEPTH | LENGTH GAGE ADJUST.CODES CBX*** = CANOPY (PLATE)CBX*** = PIGGYBACK CANOPY SECONDARY (SPECIAL) 0 0 1 0 8 Z 1 9 1 1 4 1 7 - - - $DCC^{***} = 8 1/2$ " GAGE POST * * * * * * F F I I E G G * * * DCE*** = 10" GAGE POST COUNTER DEPTH& LENGTH GAGE ADJUST.CODES ROD BRACING RS = THREADS BOTH ENDS 0 3 R S 2 5 1 0

1 E * * F F I I RU = CLEVIS BOTH ENDSDIA LENGTH RP = THREAD BOTH ENDS - NO HILLSIDESREV. DATE:08/29/12 REV. NO. 01 MARK NUMBER KEY

EN50B1

RT = THREADS ONE END - CLEVIS ONE END

COMMON GENERATED MARK NUMBERS

BASIC ERECTION GUIDE REQUIRED FOR THIS PROJECT: REFER TO: VARCO PRUDEN BUILDINGS BASIC ERECTION GUIDE The Field Guide for correctly storing and erecting Varco Pruden Metal Building Systems BACK COVER: 4001 BASIC ERECTION GUIDE REV. DATE:01/30/14 REV. NO. 00

ENV002

BASIC ERECTION GUIDE - STRUCTURAL

This document has been electronically signed and sealed by W. Jason
Clymer, PE using my Digital Signature
with PE seal affixed. Printed copies of
this document are not considered signed and sealed, and the signature must be verified on any electronic

PERMIT SET- For Building Dept. Approval

1. USE 1/2 X 1 1/2 A325T BOLT (49080) AND NUT (47120) W/O WASHERS. SNUG TIGHTEN BOLTS FOR ALL SECONDARY CONNECTIONS, SECONDARY CLIP CONNECTIONS, AND FLANGE BRACE CONNECTIONS, **UNLESS NOTED OTHERWISE.**

2. SLOT REINFORCEMENT PLATES NEED NOT BE LOCATED ON THE SAME SIDE OF THE WEB AS THE HILLSIDE WASHER.

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INDUSTRY STANDARDS PERTAINING TO PROPER ERECTION, INCLUDING THE CORRECT USE OF

TEMPORARY BRACING.

THIS DRAWING, INCLUDING THE INFORMATION HEREON, REMAINS THE PROPERTY OF VP BUILDINGS.

3200 Players Club Circle Memphis TN 38125 DESCRIPTION NTS

VP Buildings

PRIMARY BRACING SED'S Lemartec Corporation CUSTOMER Duke Energy LOCATION Dunn, North Carolina Duke Energy Dunn Operations Center - Weld Shop A BlueScope Steel Company BUILDERS PO# 23068 - Weld Shop

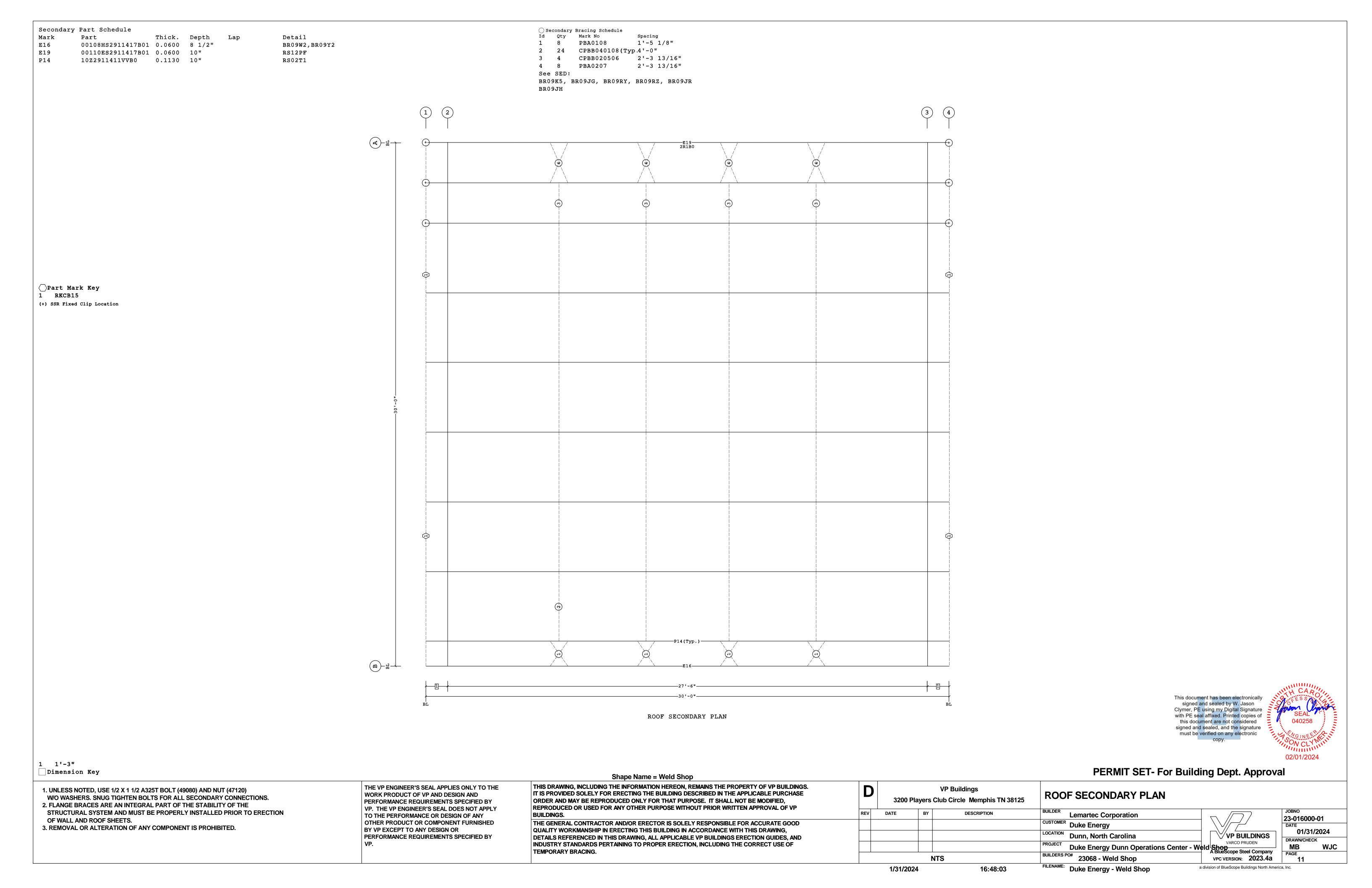
23-016000-01 01/31/2024 VP BUILDINGS DRAWN/CHECK VARCO PRUDEN MB VPC VERSION: 2023.4a

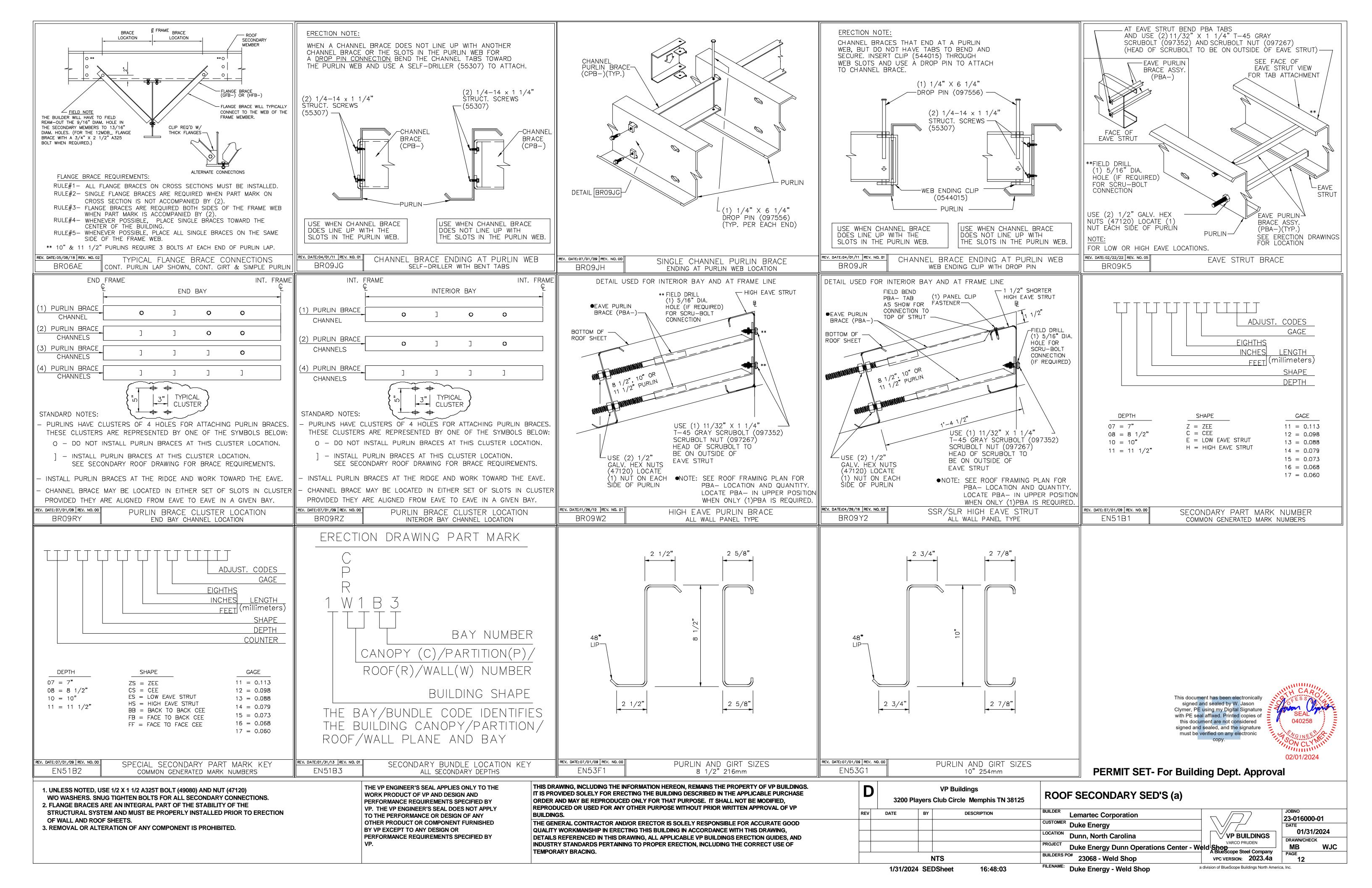
1/31/2024 SEDSheet

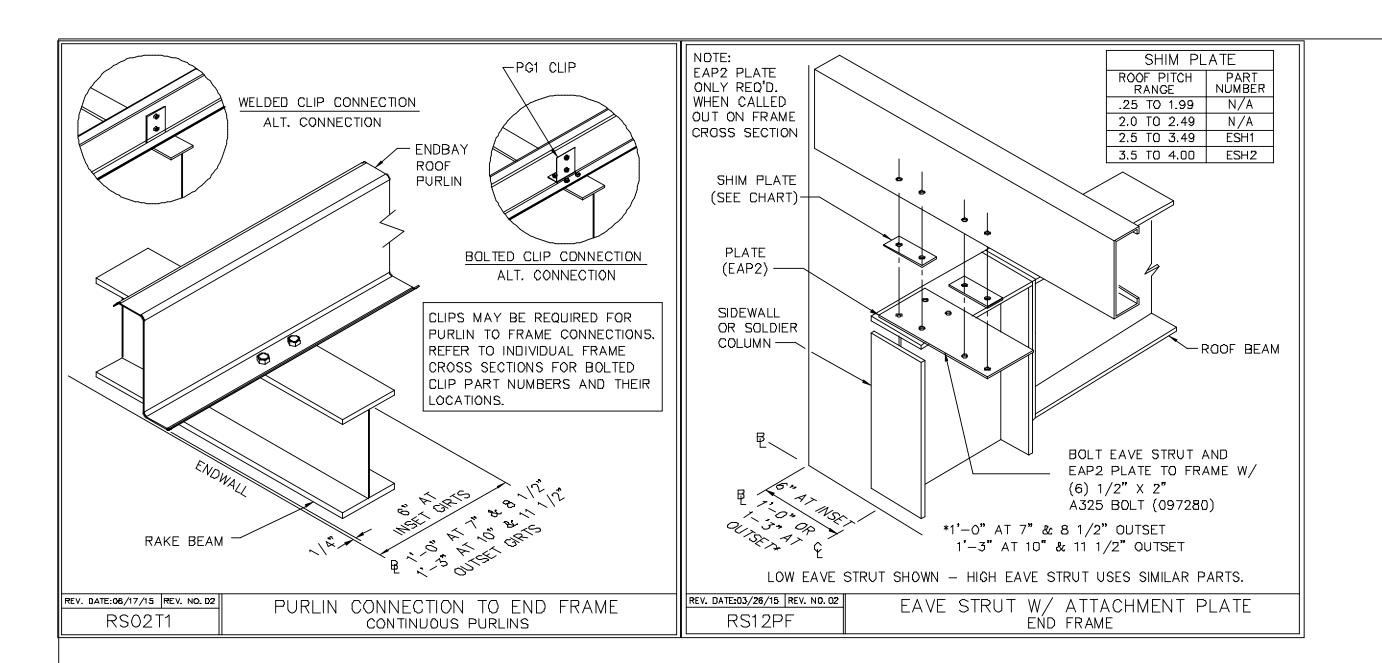
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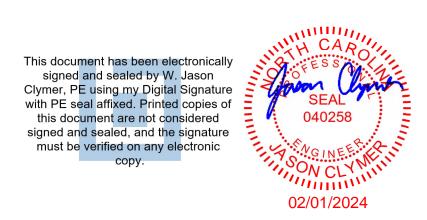
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23-016000-01

DRAWN/CHECK

MB

01/31/2024

PERMIT SET- For Building Dept. Approval

1. UNLESS NOTED, USE 1/2 X 1 1/2 A325T BOLT (49080) AND NUT (47120)

W/O WASHERS. SNUG TIGHTEN BOLTS FOR ALL SECONDARY CONNECTIONS. 2. FLANGE BRACES ARE AN INTEGRAL PART OF THE STABILITY OF THE STRUCTURAL SYSTEM AND MUST BE PROPERLY INSTALLED PRIOR TO ERECTION

OF WALL AND ROOF SHEETS. 3. REMOVAL OR ALTERATION OF ANY COMPONENT IS PROHIBITED.

THE VP ENGINEER'S SEAL APPLIES ONLY TO THE WORK PRODUCT OF VP AND DESIGN AND PERFORMANCE REQUIREMENTS SPECIFIED BY VP. THE VP ENGINEER'S SEAL DOES NOT APPLY TO THE PERFORMANCE OR DESIGN OF ANY OTHER PRODUCT OR COMPONENT FURNISHED BY VP EXCEPT TO ANY DESIGN OR PERFORMANCE REQUIREMENTS SPECIFIED BY

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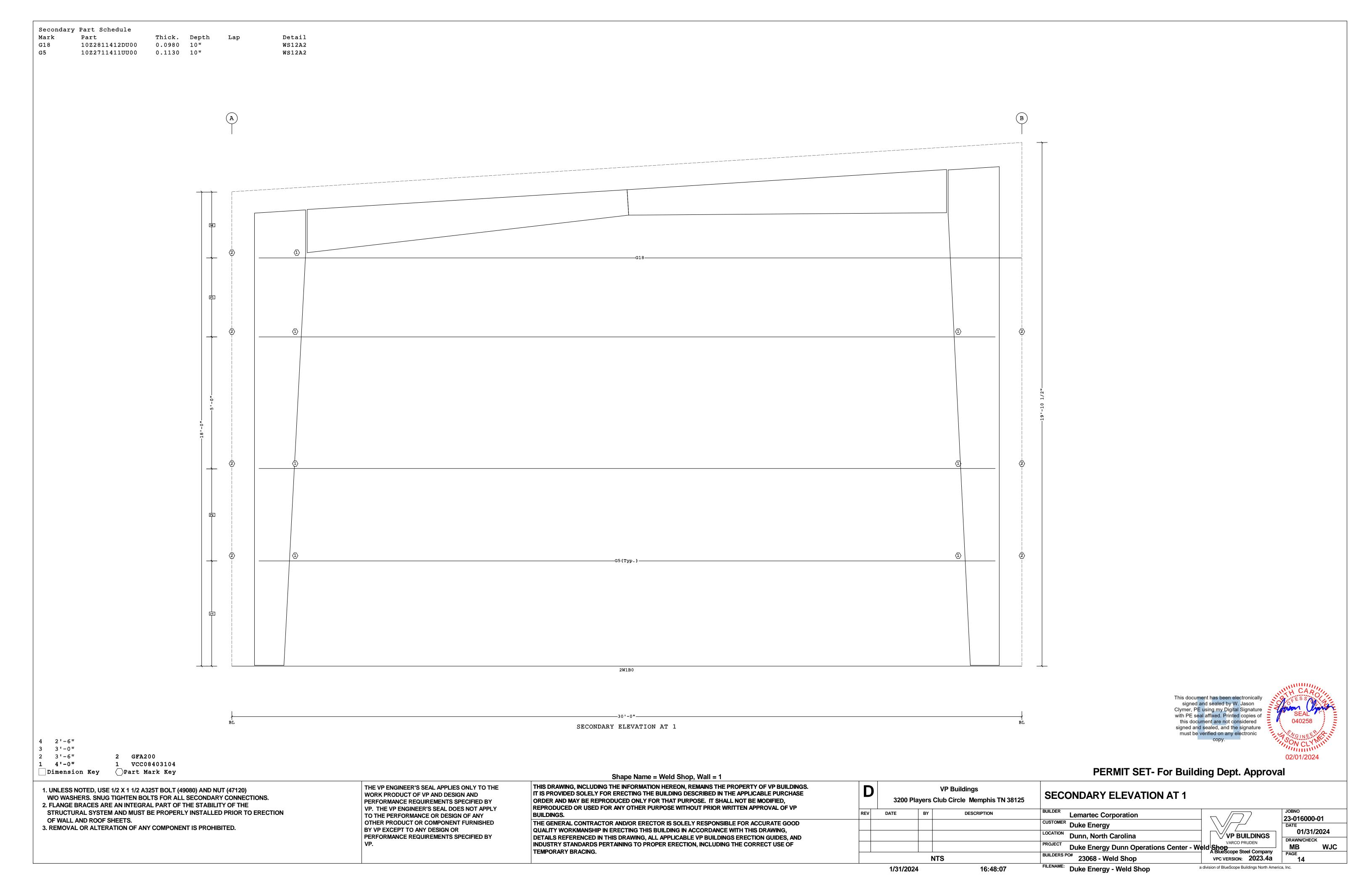
TEMPORARY BRACING.

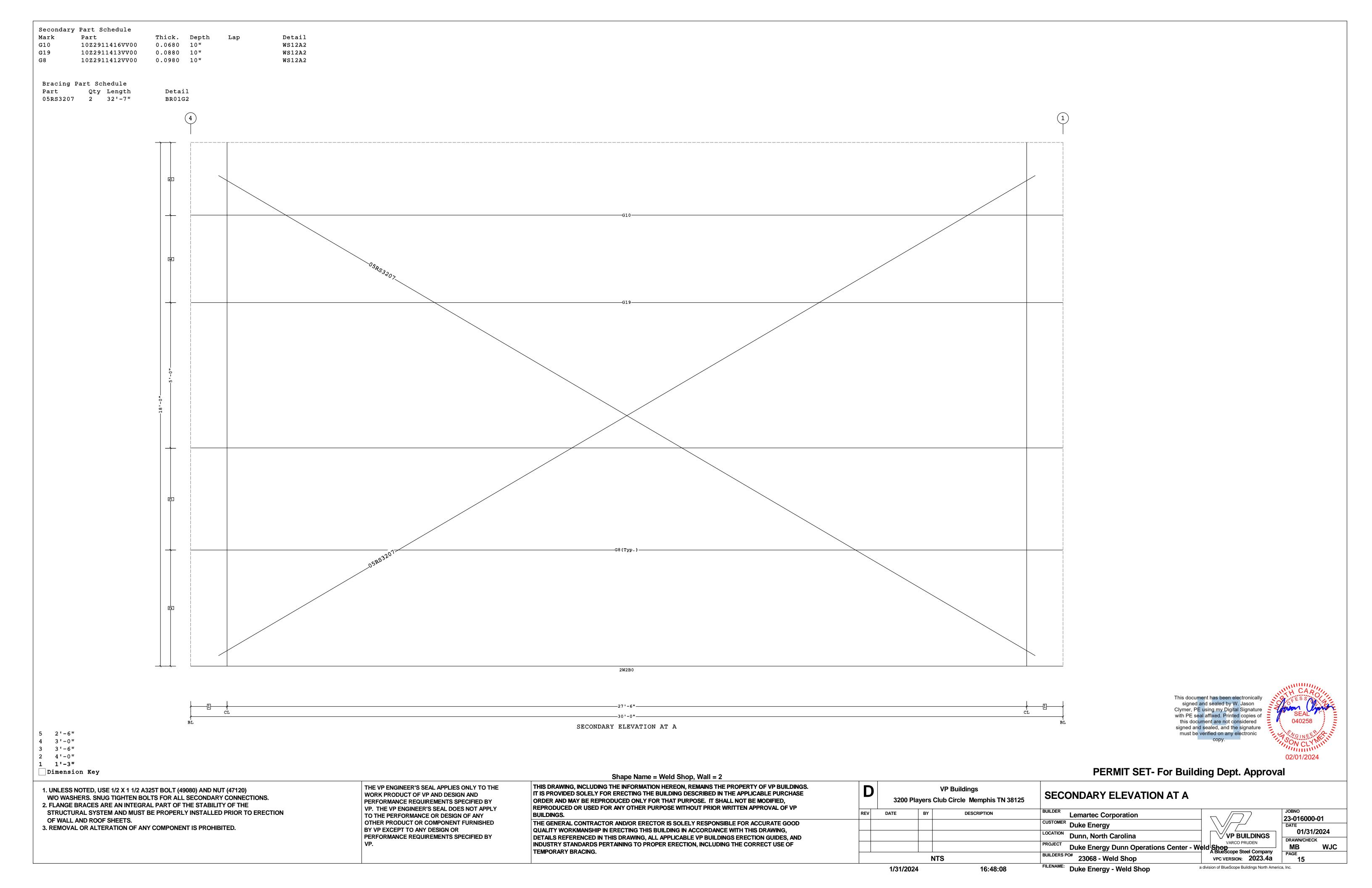
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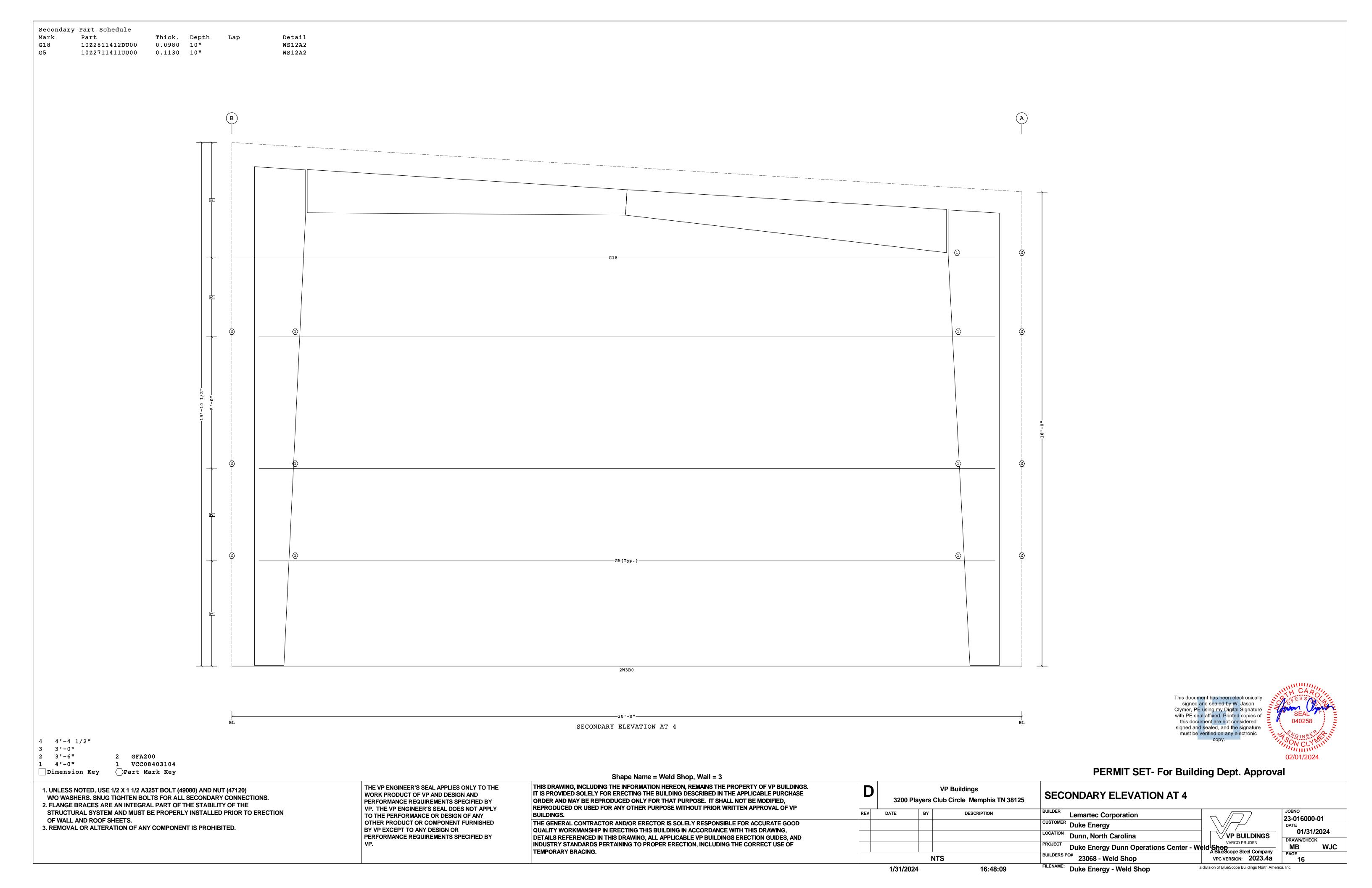
DETAILS REFERENCED IN THIS DRAWING, ALL APPLICABLE VP BUILDINGS ERECTION GUIDES, AND INDUSTRY STANDARDS PERTAINING TO PROPER ERECTION, INCLUDING THE CORRECT USE OF

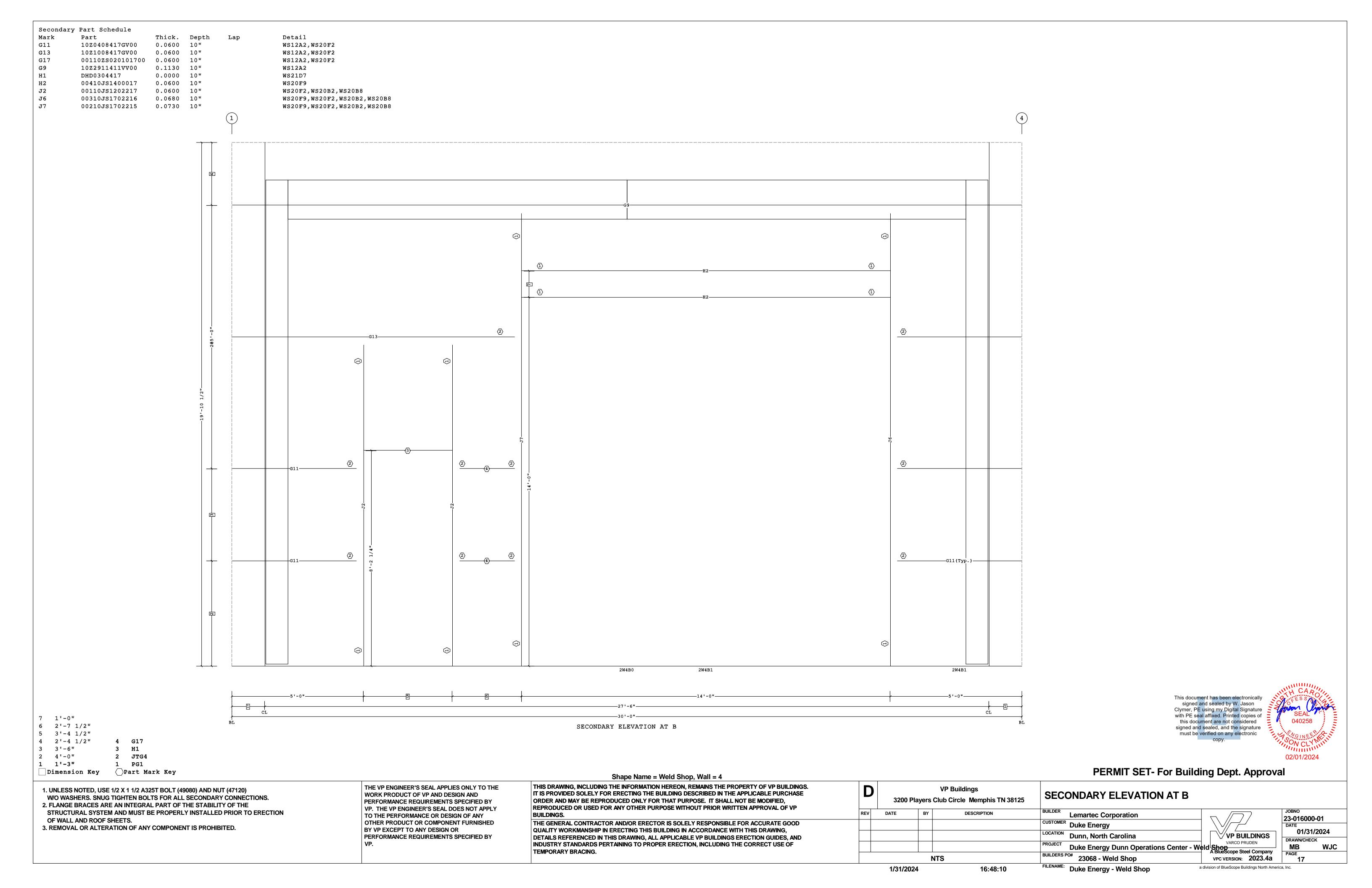
3200 Play	ers (Club Circle Memphis TN 38125	ROO	F SECONDARY SED'S (b)	
DATE	BY	DESCRIPTION	BUILDER	Lemartec Corporation	
			CUSTOMER	Duke Energy	
				Dunn, North Carolina	VP BUILDINGS
			PROJECT	Duke Energy Dunn Operations Center - Wo	varco Pruden eld Shop
	N	ITS	BUILDERS P	^{O#} 23068 - Weld Shop	VPC VERSION: 2023.4a

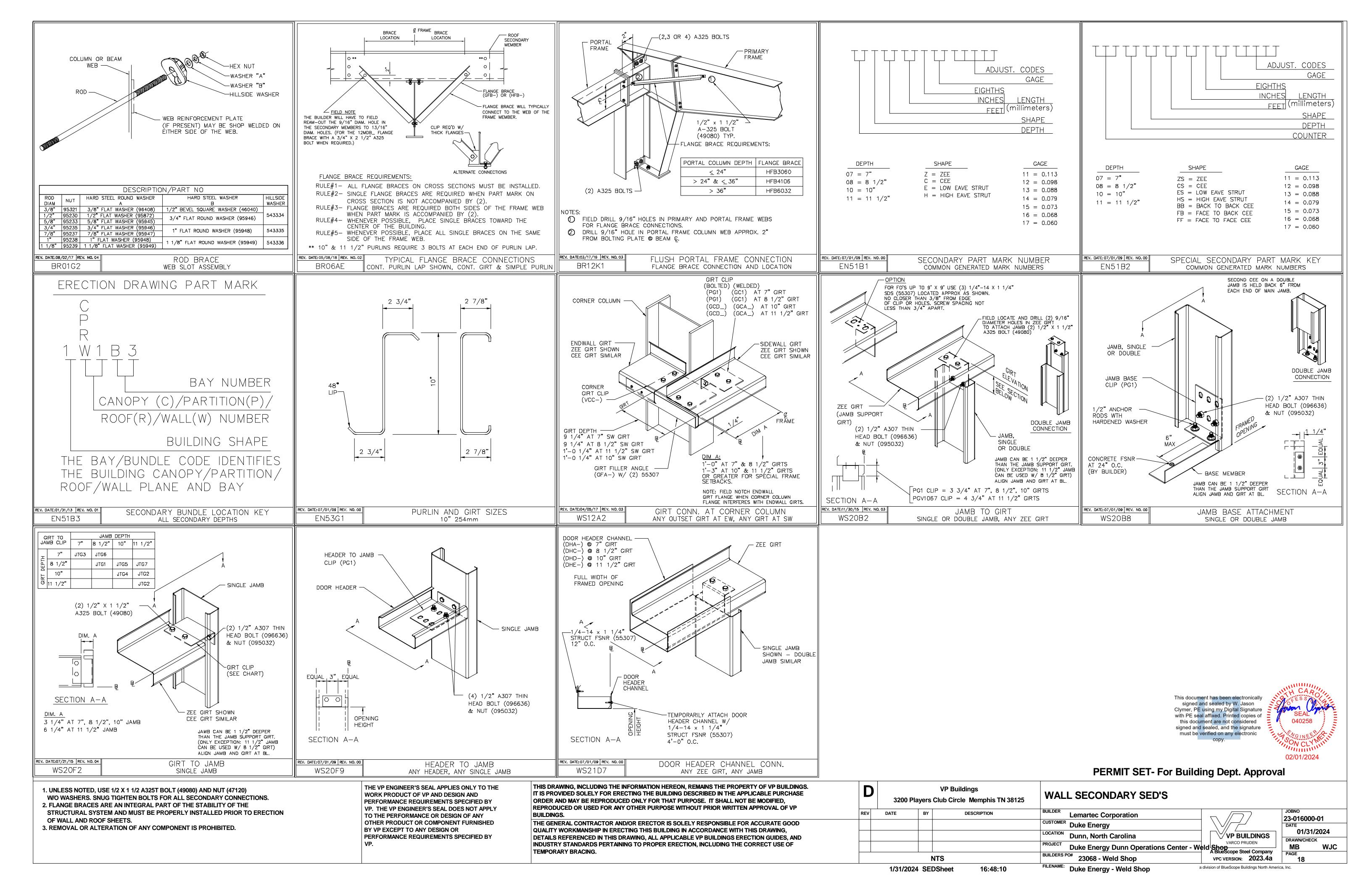
VP Buildings











#9 16 29'-10 1/2" SSR 24 2 G TD T1 BS1, FPRF1, GGC1, MCC1 Cool Zinc Gray RC38N1 Oper. Code:2=SQ,SQ T2 MCC1 Cool Zinc Gray RC38AJ Finish:G=Galvalume T3 (15)560778 EN01B2, EN52D1, ENV001, ENV011, RC00A1, RCV326 Not Applicable Color:TD=Standard Color Accessory Schedule Detail Qty Color Description Cool Arctic White Walk Door Canopy 4 x 4 6 W ENV003 Dektite Kit #3 1/4" - 4" Not Applicable RA14A1, RA14B1, RA14D1 Т3 Т3 т3 Т3 ROOF COVERING PLAN Dimension Key
1 1'-0" Starter Panel (Cut Dim. = 1'-1") Shape Name = Weld Shop THIS DRAWING, INCLUDING THE INFORMATION HEREON, REMAINS THE PROPERTY OF VP BUILDINGS. THE VP ENGINEER'S SEAL APPLIES ONLY TO THE 1. PRE-DRILLING 1/8 DIAMETER HOLES FOR STRUCTURAL FASTENERS
detailed for a UL90 rating Construction #113 or 113A
MAY BE REQUIRED FOR HEAVY GAGE NESTED ZEE'S AND/OR FASTENERS
The roof panels on this project has been to STRUCTURAL BEAMS VP Buildings IT IS PROVIDED SOLELY FOR ERECTING THE BUILDING DESCRIBED IN THE APPLICABLE PURCHASE **ROOF COVERING PLAN** WORK PRODUCT OF VP AND DESIGN AND 3200 Players Club Circle Memphis TN 38125 PERFORMANCE REQUIREMENTS SPECIFIED BY ORDER AND MAY BE REPRODUCED ONLY FOR THAT PURPOSE. IT SHALL NOT BE MODIFIED, REPRODUCED OR USED FOR ANY OTHER PURPOSE WITHOUT PRIOR WRITTEN APPROVAL OF VP 2. STEEL PANELS ARE AN INTEGRAL PART OF THE STRUCTURAL SYSTEM.

TEMPORARY BRACING.

Trim Schedule

Id Parts

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Planograph Schedule

Id Details

T3 S-090028

T1

PERMIT SET- For Building Dept. Approval

VP. THE VP ENGINEER'S SEAL DOES NOT APPLY TO THE PERFORMANCE OR DESIGN OF ANY

OTHER PRODUCT OR COMPONENT FURNISHED

PERFORMANCE REQUIREMENTS SPECIFIED BY

BY VP EXCEPT TO ANY DESIGN OR

Covering Schedule

Id Qty Length

Type Gage OP Fin. Color

REMOVAL OR ALTERATION WITHOUT PRIOR AUTHORIZATION IS PROHIBITED.

3. DUE TO MANUFACTURING LIMITATIONS SHORT PANELS MAY REQUIRE

4. SEE JOB DETAILS FOR COVERING AND TRIM FASTENER SPECIFICATION.

FIELD CUTTING, SEE THE COVERING SCHEDULE FOR CUT LENGTHS.

THE GENERAL CONTRACTOR AND/OR ERECTOR IS SOLELY RESPONSIBLE FOR ACCURATE GOOD QUALITY WORKMANSHIP IN ERECTING THIS BUILDING IN ACCORDANCE WITH THIS DRAWING,

DETAILS REFERENCED IN THIS DRAWING, ALL APPLICABLE VP BUILDINGS ERECTION GUIDES, AND

INDUSTRY STANDARDS PERTAINING TO PROPER ERECTION, INCLUDING THE CORRECT USE OF

Color

Details

Lemartec Corporation CUSTOMER Duke Energy LOCATION Dunn, North Carolina Duke Energy Dunn Operations Center - Weld Shop A BlueScope Steel Company BUILDERS PO# 23068 - Weld Shop

16:48:13

VPC VERSION: 2023.4a

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23-016000-01

MB

01/31/2024

NTS

1/31/2024

FILENAME: Duke Energy - Weld Shop

#13 10 W 17'-10 3/4" 26 1 K OW 2 1/4" Left to Right T1 (2)BG2415,(3)BT10 Cool Cotton White WSR065, EN52A1, ENV003, RC00A1, WC01AB, WC04G1, WS27B2,WS27D2 Oper. Code:1=SQ,SQ Finish:K=KXL (Kynar) Cool Cotton White WC20A1 T3 (4) RFR10-130, (2) RKF16, (4) RSB10, (4) RSC10 Color:OW=Cool Cotton White Cool Zinc Gray RC10A2,RC30A1,RS10L5 COVERING ELEVATION AT 1 Fastener Schedule Part Description 0097584-102 (T-2) #12-14 x 1 1/4 $^{\text{w}}$, 5/16 $^{\text{w}}$ Hex Hd, SS Cap w/Washer 0097581-102 (T-1) $1/4-14 \times 7/8$, 5/16 Hex Hd, SS Cap w/Washer Shape Name = Weld Shop, Wall = 1

TEMPORARY BRACING.

Trim Schedule

Id Parts

VP Buildings COVERING ELEVATION AT 1

1. PRE-DRILLING 1/8 DIAMETER HOLES FOR STRUCTURAL FASTENERS MAY BE REQUIRED FOR HEAVY GAGE NESTED ZEE'S AND/OR FASTENERS TO STRUCTURAL BEAMS

2. STEEL PANELS ARE AN INTEGRAL PART OF THE STRUCTURAL SYSTEM. REMOVAL OR ALTERATION WITHOUT PRIOR AUTHORIZATION IS PROHIBITED. 3. DUE TO MANUFACTURING LIMITATIONS SHORT PANELS MAY REQUIRE FIELD CUTTING, SEE THE COVERING SCHEDULE FOR CUT LENGTHS.

4. SEE JOB DETAILS FOR COVERING AND TRIM FASTENER SPECIFICATION.

Covering Schedule

Id Qty Type Start Length Gage OP Fin. Color Increment Direction

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Color

Details

3200 Players Club Circle Memphis TN 38125

Lemartec Corporation CUSTOMER Duke Energy LOCATION Dunn, North Carolina Duke Energy Dunn Operations Center - Weld Shop A Blue Scope Steel Company BUILDERS PO# 23068 - Weld Shop

01/31/2024 **VP BUILDINGS** DRAWN/CHECK MB VPC VERSION: 2023.4a a division of BlueScope Buildings North America, Inc.

23-016000-01

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signed and sealed, and the signature must be verified on any electronic

PERMIT SET- For Building Dept. Approval

1/31/2024

NTS

16:48:15

FILENAME: Duke Energy - Weld Shop

WS27B2,WS27D2 Oper. Code:1=SQ,SQ Cool Cotton White Finish:K=KXL (Kynar) T2 CT20 WC20A1 RC32A1, RC38E1, RC61A6, RCV324, RCV536, WC04G1, WC11F1 Color:OW=Cool Cotton White T3 EG201, EG121, (3) PCA10A, (9) STR4 Cool Zinc Gray T4 5CE75, (2) CP510, DN1, (4) DST1 Cool Zinc Gray RC38P1 COVERING ELEVATION AT A Fastener Schedule Part 0097584-102 (T-2) #12-14 x 1 1/4 $^{\text{w}}$, 5/16 $^{\text{w}}$ Hex Hd, SS Cap w/Washer 0097581-102 (T-1) $1/4-14 \times 7/8$, 5/16 Hex Hd, SS Cap w/Washer PERMIT SET- For Building Dept. Approval Shape Name = Weld Shop, Wall = 2 THIS DRAWING, INCLUDING THE INFORMATION HEREON, REMAINS THE PROPERTY OF VP BUILDINGS.

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PERFORMANCE REQUIREMENTS SPECIFIED BY

WORK PRODUCT OF VP AND DESIGN AND

TO THE PERFORMANCE OR DESIGN OF ANY

BY VP EXCEPT TO ANY DESIGN OR

Trim Schedule

T1 (2)BG2415,(3)BT10

Id Parts

Color

Cool Cotton White

Details

WSR065, EN52A1, ENV003, RC00A1, WC01AB, WC04G1,

Covering Schedule

Id Qty Type Start Length Gage OP Fin. Color Direction

1. PRE-DRILLING 1/8 DIAMETER HOLES FOR STRUCTURAL FASTENERS

TO STRUCTURAL BEAMS

MAY BE REQUIRED FOR HEAVY GAGE NESTED ZEE'S AND/OR FASTENERS

REMOVAL OR ALTERATION WITHOUT PRIOR AUTHORIZATION IS PROHIBITED.

2. STEEL PANELS ARE AN INTEGRAL PART OF THE STRUCTURAL SYSTEM.

3. DUE TO MANUFACTURING LIMITATIONS SHORT PANELS MAY REQUIRE

4. SEE JOB DETAILS FOR COVERING AND TRIM FASTENER SPECIFICATION.

FIELD CUTTING, SEE THE COVERING SCHEDULE FOR CUT LENGTHS.

#2 10 W 18'-0 7/8" 26 1 K OW Left to Right

NTS 1/31/2024

VP Buildings

3200 Players Club Circle Memphis TN 38125

Duke Energy Dunn Operations Center - Weld Shop A BlueScope Steel Company

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VP BUILDINGS

VPC VERSION: 2023.4a

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23-016000-01

DRAWN/CHECK

MB

01/31/2024

LOCATION Dunn, North Carolina

BUILDERS PO# 23068 - Weld Shop

CUSTOMER Duke Energy

16:48:16

FILENAME: Duke Energy - Weld Shop

COVERING ELEVATION AT A

Lemartec Corporation

Oper. Code:1=SQ,SQ WS27B2,WS27D2 Finish:K=KXL (Kynar) Cool Cotton White WC20A1 Color:OW=Cool Cotton White T3 (4) RFR10-130, (2) RKF16, (4) RSB10, (4) RSC10 Cool Zinc Gray RC10A2,RC30A1,RS10L5 COVERING ELEVATION AT 4 Fastener Schedule Part 0097584-102 (T-2) $\#12-14 \times 1 1/4$ $\#_{v} 5/16$ Hex Hd, SS Cap w/Washer 0097581-102 (T-1) 1/4-14 x 7/8", 5/16" Hex Hd, SS Cap w/Washer

Trim Schedule

T1 (2)BG2415,(3)BT10

Color

Cool Cotton White

Details

WSR065, EN52A1, ENV003, RC00A1, WC01AB, WC04G1,

Id Parts

1. PRE-DRILLING 1/8 DIAMETER HOLES FOR STRUCTURAL FASTENERS MAY BE REQUIRED FOR HEAVY GAGE NESTED ZEE'S AND/OR FASTENERS

Covering Schedule

#4 10 W 19^v-7^w

Id Qty Type Start Length Gage OP Fin. Color Increment Direction

26 1 K OW -2 1/4" Left to Right

TO STRUCTURAL BEAMS 2. STEEL PANELS ARE AN INTEGRAL PART OF THE STRUCTURAL SYSTEM. REMOVAL OR ALTERATION WITHOUT PRIOR AUTHORIZATION IS PROHIBITED. 3. DUE TO MANUFACTURING LIMITATIONS SHORT PANELS MAY REQUIRE

FIELD CUTTING, SEE THE COVERING SCHEDULE FOR CUT LENGTHS.

4. SEE JOB DETAILS FOR COVERING AND TRIM FASTENER SPECIFICATION.

WORK PRODUCT OF VP AND DESIGN AND PERFORMANCE REQUIREMENTS SPECIFIED BY VP. THE VP ENGINEER'S SEAL DOES NOT APPLY TO THE PERFORMANCE OR DESIGN OF ANY OTHER PRODUCT OR COMPONENT FURNISHED BY VP EXCEPT TO ANY DESIGN OR PERFORMANCE REQUIREMENTS SPECIFIED BY

THE VP ENGINEER'S SEAL APPLIES ONLY TO THE

Shape Name = Weld Shop, Wall = 3 THIS DRAWING, INCLUDING THE INFORMATION HEREON, REMAINS THE PROPERTY OF VP BUILDINGS. IT IS PROVIDED SOLELY FOR ERECTING THE BUILDING DESCRIBED IN THE APPLICABLE PURCHASE ORDER AND MAY BE REPRODUCED ONLY FOR THAT PURPOSE. IT SHALL NOT BE MODIFIED, REPRODUCED OR USED FOR ANY OTHER PURPOSE WITHOUT PRIOR WRITTEN APPROVAL OF VP

THE GENERAL CONTRACTOR AND/OR ERECTOR IS SOLELY RESPONSIBLE FOR ACCURATE GOOD QUALITY WORKMANSHIP IN ERECTING THIS BUILDING IN ACCORDANCE WITH THIS DRAWING, DETAILS REFERENCED IN THIS DRAWING, ALL APPLICABLE VP BUILDINGS ERECTION GUIDES, AND INDUSTRY STANDARDS PERTAINING TO PROPER ERECTION, INCLUDING THE CORRECT USE OF TEMPORARY BRACING.

PERMIT SET- For Building Dept. Approval VP Buildings

COVERING ELEVATION AT 4 3200 Players Club Circle Memphis TN 38125 **Lemartec Corporation** 23-016000-01 CUSTOMER Duke Energy 01/31/2024 LOCATION Dunn, North Carolina **VP BUILDINGS** DRAWN/CHECK Duke Energy Dunn Operations Center - Weld Shop A BlueScope Steel Company MB BUILDERS PO# 23068 - Weld Shop

1/31/2024

NTS

16:48:17

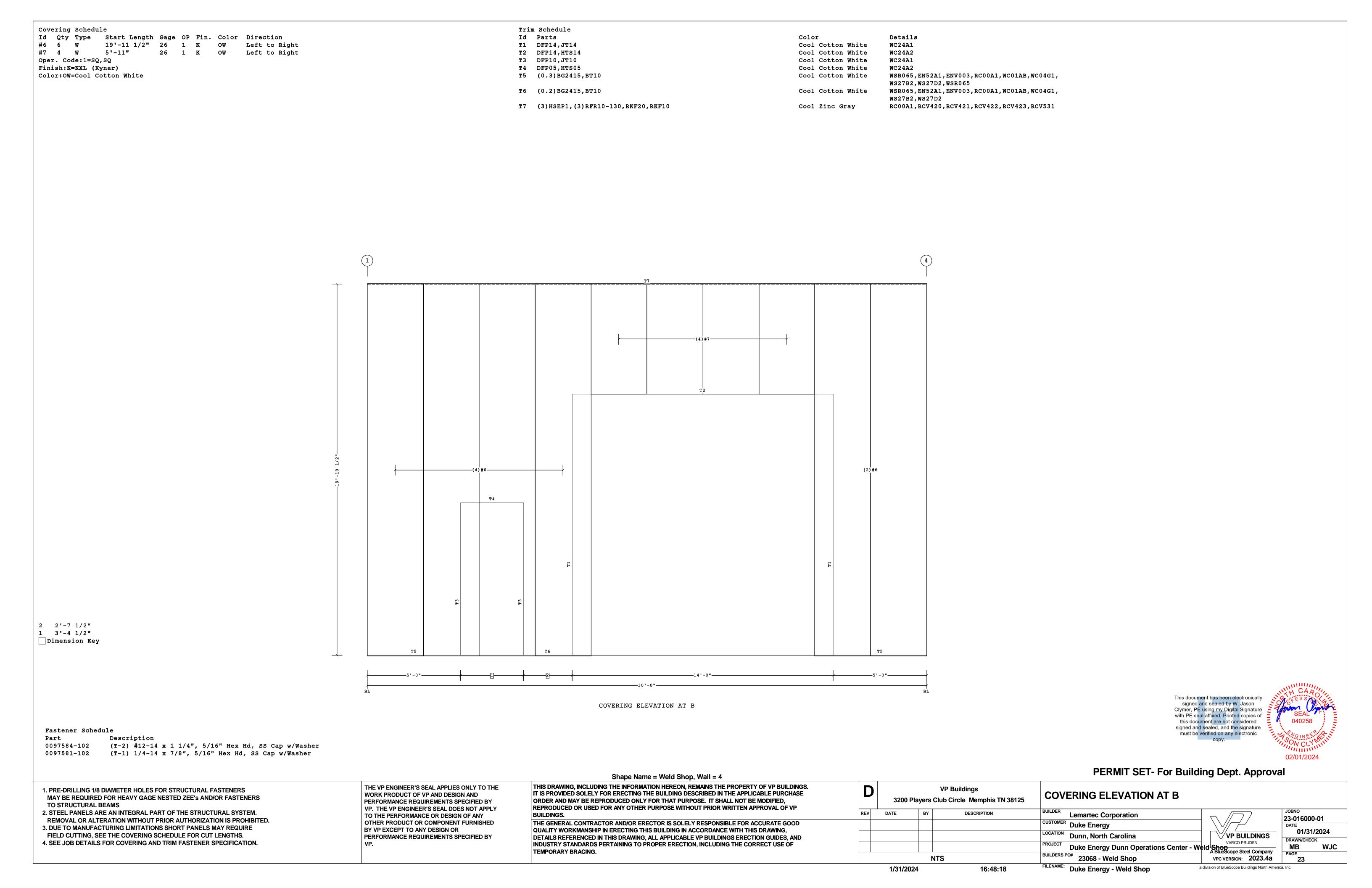
FILENAME: Duke Energy - Weld Shop

a division of BlueScope Buildings North America, Inc.

VPC VERSION: 2023.4a

This document has been electronically signed and sealed by W. Jason Clymer, PE using my Digital Signature with PE seal affixed. Printed copies of this document are not considered

signed and sealed, and the signature must be verified on any electronic



Id Qty Type Length Gage OP Finish Color Direction Id Parts Color Details #1 10 DLN 8 -0 W 26 1 K OW Left to Right T1 (3)LPJT Match Wall Color WCV062,WLV013 Oper. Code:1=SQ,SQ T2 (2)LPJT Match Wall Color WCV062,WLV014,WLV015 Finish:K=KXL (Kynar) Color:OW=Cool Cotton White WALL LINER ELEVATION AT 1 (View from inside Building) This document has been electronically signed and sealed by W. Jason Clymer, PE using my Digital Signature with PE seal affixed. Printed copies of this document are not considered Fastener Schedule signed and sealed, and the signature must be verified on any electronic Description Part 0097584-102 (T-2) #12-14 x 1 1/4 $^{\text{w}}$, 5/16 $^{\text{w}}$ Hex Hd, SS Cap w/Washer 0097581-102 (T-1) 1/4-14 x 7/8 , 5/16 Hex Hd, SS Cap w/Washer PERMIT SET- For Building Dept. Approval Shape Name = Weld Shop, Wall = 1 THIS DRAWING, INCLUDING THE INFORMATION HEREON, REMAINS THE PROPERTY OF VP BUILDINGS. THE VP ENGINEER'S SEAL APPLIES ONLY TO THE **VP Buildings** 1. PRE-DRILLING 1/8 DIAMETER HOLES FOR STRUCTURAL FASTENERS IT IS PROVIDED SOLELY FOR ERECTING THE BUILDING DESCRIBED IN THE APPLICABLE PURCHASE WALL LINER ELEVATION AT 1 WORK PRODUCT OF VP AND DESIGN AND MAY BE REQUIRED FOR HEAVY GAGE NESTED ZEE'S AND/OR FASTENERS 3200 Players Club Circle Memphis TN 38125 ORDER AND MAY BE REPRODUCED ONLY FOR THAT PURPOSE. IT SHALL NOT BE MODIFIED, PERFORMANCE REQUIREMENTS SPECIFIED BY TO STRUCTURAL BEAMS

Trim Schedule

NTS

a division of BlueScope Buildings North America, Inc.

VP BUILDINGS

VPC VERSION: 2023.4a

23-016000-01

DRAWN/CHECK

MB

01/31/2024

1/31/2024

16:48:19

DESCRIPTION

Duke Energy Dunn Operations Center - Weld Shop A Blue Scope Steel Company

FILENAME: Duke Energy - Weld Shop

LOCATION Dunn, North Carolina

BUILDERS PO# 23068 - Weld Shop

CUSTOMER Duke Energy

Lemartec Corporation

BY VP EXCEPT TO ANY DESIGN OR PERFORMANCE REQUIREMENTS SPECIFIED BY

Wall Liner Schedule

2. STEEL PANELS ARE AN INTEGRAL PART OF THE STRUCTURAL SYSTEM.

3. DUE TO MANUFACTURING LIMITATIONS SHORT PANELS MAY REQUIRE

4. SEE JOB DETAILS FOR COVERING AND TRIM FASTENER SPECIFICATION.

FIELD CUTTING, SEE THE COVERING SCHEDULE FOR CUT LENGTHS.

REMOVAL OR ALTERATION WITHOUT PRIOR AUTHORIZATION IS PROHIBITED.

VP. THE VP ENGINEER'S SEAL DOES NOT APPLY TO THE PERFORMANCE OR DESIGN OF ANY OTHER PRODUCT OR COMPONENT FURNISHED

REPRODUCED OR USED FOR ANY OTHER PURPOSE WITHOUT PRIOR WRITTEN APPROVAL OF VP BUILDINGS. THE GENERAL CONTRACTOR AND/OR ERECTOR IS SOLELY RESPONSIBLE FOR ACCURATE GOOD

DETAILS REFERENCED IN THIS DRAWING, ALL APPLICABLE VP BUILDINGS ERECTION GUIDES, AND

INDUSTRY STANDARDS PERTAINING TO PROPER ERECTION, INCLUDING THE CORRECT USE OF

QUALITY WORKMANSHIP IN ERECTING THIS BUILDING IN ACCORDANCE WITH THIS DRAWING,

TEMPORARY BRACING.

Wall Liner Schedule Trim Schedule Id Qty Type Length Gage OP Finish Color Direction Id Parts Color Details #3 10 DLN 8 -0 W 26 1 K OW Left to Right T1 (3)LPJT Match Wall Color WCV062,WLV013 Oper. Code:1=SQ,SQ T2 (2)LPJT Match Wall Color WCV062,WLV014,WLV015 Finish:K=KXL (Kynar) T3 (2)LPJT WLV015 Match Wall Color Color:OW=Cool Cotton White WALL LINER ELEVATION AT A (View from inside Building) This document has been electronically signed and sealed by W. Jason Clymer, PE using my Digital Signature with PE seal affixed. Printed copies of this document are not considered signed and sealed, and the signature must be verified on any electronic Fastener Schedule Part (T-2) #12-14 x 1 1/4", 5/16" Hex Hd, SS Cap w/Washer 0097584-102 0097581-102 $(T-1) 1/4-14 \times 7/8$, 5/16 Hex Hd, SS Cap w/Washer PERMIT SET- For Building Dept. Approval Shape Name = Weld Shop, Wall = 2 THIS DRAWING, INCLUDING THE INFORMATION HEREON, REMAINS THE PROPERTY OF VP BUILDINGS. THE VP ENGINEER'S SEAL APPLIES ONLY TO THE **VP Buildings** 1. PRE-DRILLING 1/8 DIAMETER HOLES FOR STRUCTURAL FASTENERS IT IS PROVIDED SOLELY FOR ERECTING THE BUILDING DESCRIBED IN THE APPLICABLE PURCHASE WALL LINER ELEVATION AT A WORK PRODUCT OF VP AND DESIGN AND MAY BE REQUIRED FOR HEAVY GAGE NESTED ZEE'S AND/OR FASTENERS 3200 Players Club Circle Memphis TN 38125 ORDER AND MAY BE REPRODUCED ONLY FOR THAT PURPOSE. IT SHALL NOT BE MODIFIED, PERFORMANCE REQUIREMENTS SPECIFIED BY TO STRUCTURAL BEAMS REPRODUCED OR USED FOR ANY OTHER PURPOSE WITHOUT PRIOR WRITTEN APPROVAL OF VP VP. THE VP ENGINEER'S SEAL DOES NOT APPLY 2. STEEL PANELS ARE AN INTEGRAL PART OF THE STRUCTURAL SYSTEM. DESCRIPTION BUILDINGS. Lemartec Corporation TO THE PERFORMANCE OR DESIGN OF ANY 23-016000-01 REMOVAL OR ALTERATION WITHOUT PRIOR AUTHORIZATION IS PROHIBITED. CUSTOMER Duke Energy OTHER PRODUCT OR COMPONENT FURNISHED THE GENERAL CONTRACTOR AND/OR ERECTOR IS SOLELY RESPONSIBLE FOR ACCURATE GOOD 3. DUE TO MANUFACTURING LIMITATIONS SHORT PANELS MAY REQUIRE BY VP EXCEPT TO ANY DESIGN OR QUALITY WORKMANSHIP IN ERECTING THIS BUILDING IN ACCORDANCE WITH THIS DRAWING, 01/31/2024 LOCATION Dunn, North Carolina FIELD CUTTING, SEE THE COVERING SCHEDULE FOR CUT LENGTHS. **VP BUILDINGS** PERFORMANCE REQUIREMENTS SPECIFIED BY DETAILS REFERENCED IN THIS DRAWING, ALL APPLICABLE VP BUILDINGS ERECTION GUIDES, AND DRAWN/CHECK 4. SEE JOB DETAILS FOR COVERING AND TRIM FASTENER SPECIFICATION. Duke Energy Dunn Operations Center - Weld Shop A Blue Scope Steel Company VARCO PRUDEN INDUSTRY STANDARDS PERTAINING TO PROPER ERECTION, INCLUDING THE CORRECT USE OF MB TEMPORARY BRACING. BUILDERS PO# 23068 - Weld Shop VPC VERSION: 2023.4a NTS FILENAME: Duke Energy - Weld Shop

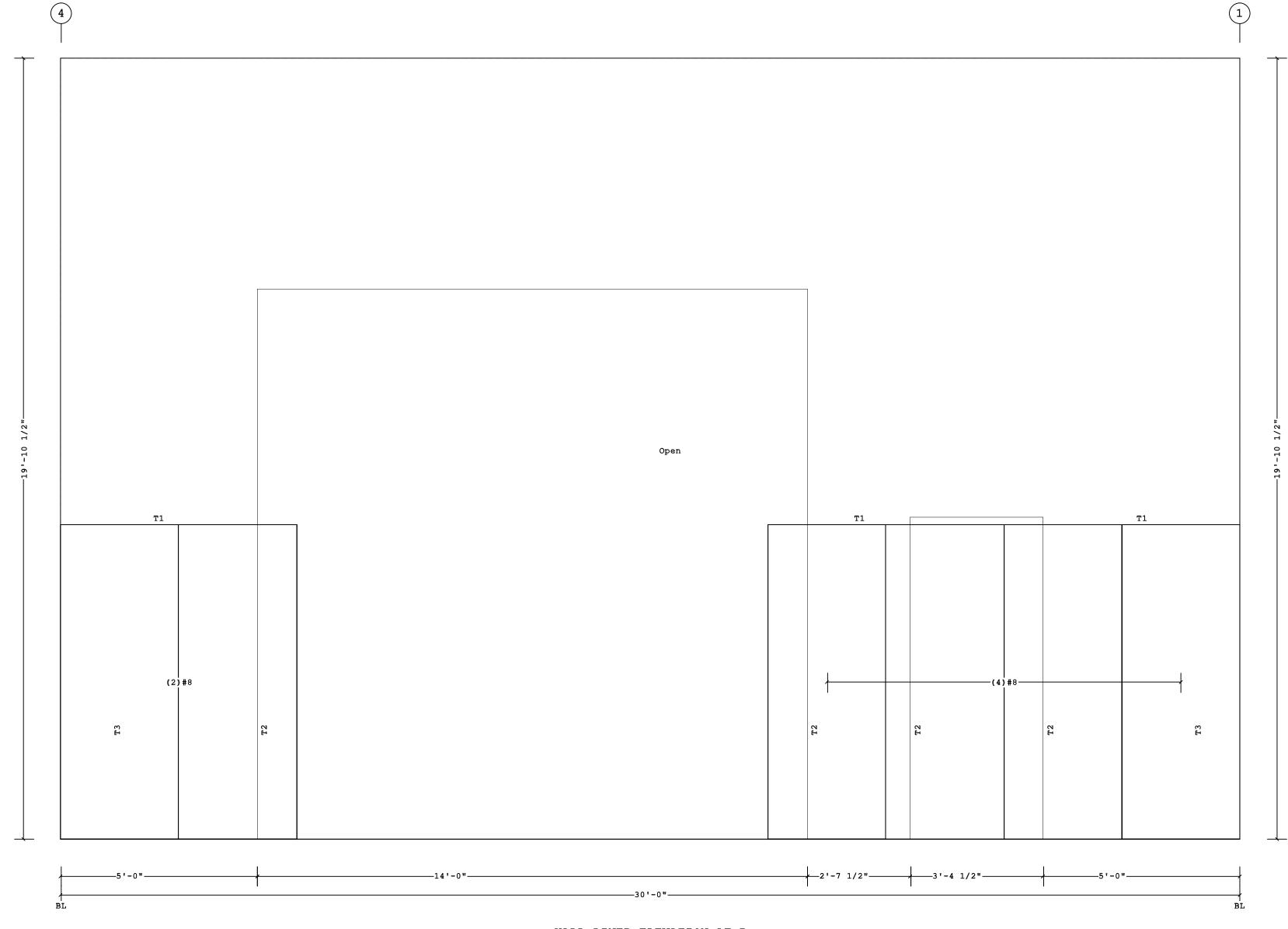
1/31/2024

16:48:21

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Wall Liner Schedule Trim Schedule Id Qty Type Length Gage OP Finish Color Direction Id Parts Color Details #5 10 DLN 8 -0 W 26 1 K OW Left to Right T1 (3)LPJT Match Wall Color WCV062,WLV013 Oper. Code:1=SQ,SQ T2 (2)LPJT Match Wall Color WCV062,WLV014,WLV015 Finish: K=KXL (Kynar) Color:OW=Cool Cotton White WALL LINER ELEVATION AT 4 (View from inside Building) This document has been electronically signed and sealed by W. Jason Clymer, PE using my Digital Signature with PE seal affixed. Printed copies of this document are not considered Fastener Schedule Part Description signed and sealed, and the signature must be verified on any electronic 0097584-102 (T-2) #12-14 x 1 1/4 $^{\text{w}}$, 5/16 $^{\text{w}}$ Hex Hd, SS Cap w/Washer (T-1) 1/4-14 x 7/8", 5/16" Hex Hd, SS Cap w/Washer 0097581-102 PERMIT SET- For Building Dept. Approval Shape Name = Weld Shop, Wall = 3 THIS DRAWING, INCLUDING THE INFORMATION HEREON, REMAINS THE PROPERTY OF VP BUILDINGS. THE VP ENGINEER'S SEAL APPLIES ONLY TO THE **VP Buildings** 1. PRE-DRILLING 1/8 DIAMETER HOLES FOR STRUCTURAL FASTENERS IT IS PROVIDED SOLELY FOR ERECTING THE BUILDING DESCRIBED IN THE APPLICABLE PURCHASE WALL LINER ELEVATION AT 4 WORK PRODUCT OF VP AND DESIGN AND MAY BE REQUIRED FOR HEAVY GAGE NESTED ZEE'S AND/OR FASTENERS 3200 Players Club Circle Memphis TN 38125 ORDER AND MAY BE REPRODUCED ONLY FOR THAT PURPOSE. IT SHALL NOT BE MODIFIED, PERFORMANCE REQUIREMENTS SPECIFIED BY TO STRUCTURAL BEAMS REPRODUCED OR USED FOR ANY OTHER PURPOSE WITHOUT PRIOR WRITTEN APPROVAL OF VP VP. THE VP ENGINEER'S SEAL DOES NOT APPLY 2. STEEL PANELS ARE AN INTEGRAL PART OF THE STRUCTURAL SYSTEM. DESCRIPTION BUILDINGS. Lemartec Corporation TO THE PERFORMANCE OR DESIGN OF ANY 23-016000-01 REMOVAL OR ALTERATION WITHOUT PRIOR AUTHORIZATION IS PROHIBITED. CUSTOMER Duke Energy OTHER PRODUCT OR COMPONENT FURNISHED THE GENERAL CONTRACTOR AND/OR ERECTOR IS SOLELY RESPONSIBLE FOR ACCURATE GOOD 3. DUE TO MANUFACTURING LIMITATIONS SHORT PANELS MAY REQUIRE BY VP EXCEPT TO ANY DESIGN OR QUALITY WORKMANSHIP IN ERECTING THIS BUILDING IN ACCORDANCE WITH THIS DRAWING, 01/31/2024 LOCATION Dunn, North Carolina FIELD CUTTING, SEE THE COVERING SCHEDULE FOR CUT LENGTHS. **VP BUILDINGS** PERFORMANCE REQUIREMENTS SPECIFIED BY DETAILS REFERENCED IN THIS DRAWING, ALL APPLICABLE VP BUILDINGS ERECTION GUIDES, AND DRAWN/CHECK 4. SEE JOB DETAILS FOR COVERING AND TRIM FASTENER SPECIFICATION. Duke Energy Dunn Operations Center - Weld Shop A Blue Scope Steel Company INDUSTRY STANDARDS PERTAINING TO PROPER ERECTION, INCLUDING THE CORRECT USE OF MB TEMPORARY BRACING. BUILDERS PO# 23068 - Weld Shop NTS VPC VERSION: 2023.4a FILENAME: Duke Energy - Weld Shop a division of BlueScope Buildings North America, Inc. 1/31/2024 16:48:22

Wall Liner Schedule Trim Schedule Id Qty Type Length Details Gage OP Finish Color Direction Id Parts Color 26 1 K OW Left to Right #8 6 DLN 8 -0 W T1 LPJT Match Wall Color WCV062,WLV013 Oper. Code:1=SQ,SQ T2 (0.7)LPJT Match Wall Color WCV062,WLV007 Finish:K=KXL (Kynar) T3 (2)LPJT WLV015 Match Wall Color Color:OW=Cool Cotton White



WALL LINER ELEVATION AT B (View from inside Building)

Fastener Schedule

Part Description

0097584-102 (T-2) $\#12-14 \times 1 1/4 \%$, 5/16 % Hex Hd, SS Cap % Washer

0097581-102 (T-1) $1/4-14 \times 7/8^{w}$, $5/16^{w}$ Hex Hd, SS Cap w/Washer

Shape Name = Weld Shop, Wall = 4

This document has been electronically signed and sealed by W. Jason Clymer, PE using my Digital Signature with PE seal affixed. Printed copies of this document are not considered signed and sealed, and the signature must be verified on any electronic copy.

23-016000-01

MB

01/31/2024

PERMIT SET- For Building Dept. Approval
WALL LINER ELEVATION AT B

1. PRE-DRILLING 1/8 DIAMETER HOLES FOR STRUCTURAL FASTENERS
MAY BE REQUIRED FOR HEAVY GAGE NESTED ZEE'S AND/OR FASTENERS
TO STRUCTURAL BEAMS

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 DUE TO MANUFACTURING LIMITATIONS SHORT PANELS MAY REQUIRE FIELD CUTTING, SEE THE COVERING SCHEDULE FOR CUT LENGTHS.
 SEE JOB DETAILS FOR COVERING AND TRIM FASTENER SPECIFICATION. THE VP ENGINEER'S SEAL APPLIES ONLY TO THE WORK PRODUCT OF VP AND DESIGN AND PERFORMANCE REQUIREMENTS SPECIFIED BY VP. THE VP ENGINEER'S SEAL DOES NOT APPLY TO THE PERFORMANCE OR DESIGN OF ANY OTHER PRODUCT OR COMPONENT FURNISHED BY VP EXCEPT TO ANY DESIGN OR PERFORMANCE REQUIREMENTS SPECIFIED BY

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BUILDINGS.

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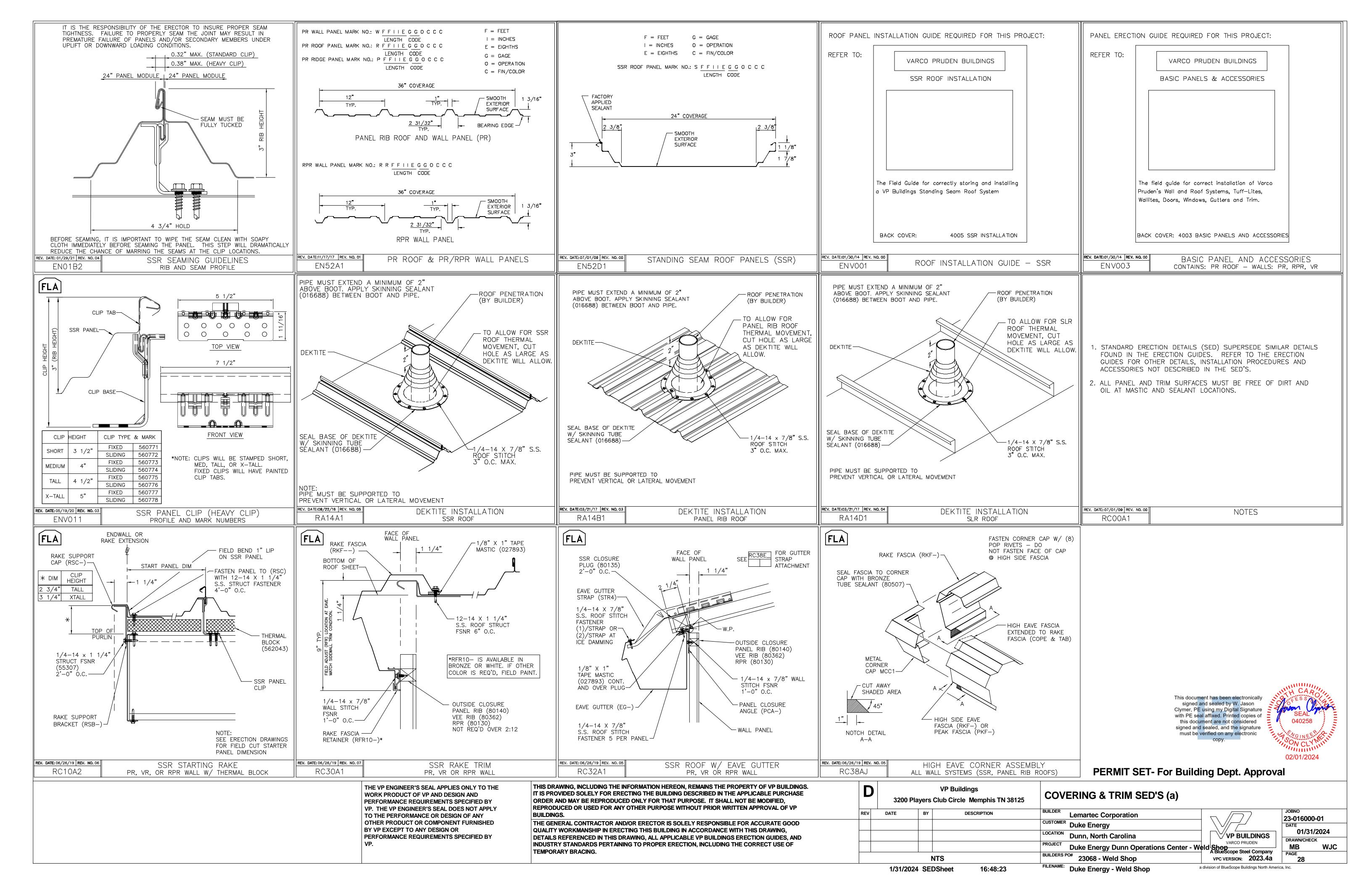
3200 F	Players	Club Circle Memphis TN 38125	VVAL	L LINER ELEVATION AT D	
DATE	BY	DESCRIPTION	BUILDER	Lemartec Corporation	
			CUSTOMER	Duke Energy	
			LOCATION	Dunn, North Carolina	VP BUILDINGS
			PROJECT	Duke Energy Dunn Operations Center - W	eld Shop VARCO PRUDEN A Riversone Steel Company
	ı	NTS	BUILDERS I	^{20#} 23068 - Weld Shop	vpc version: 2023.4a

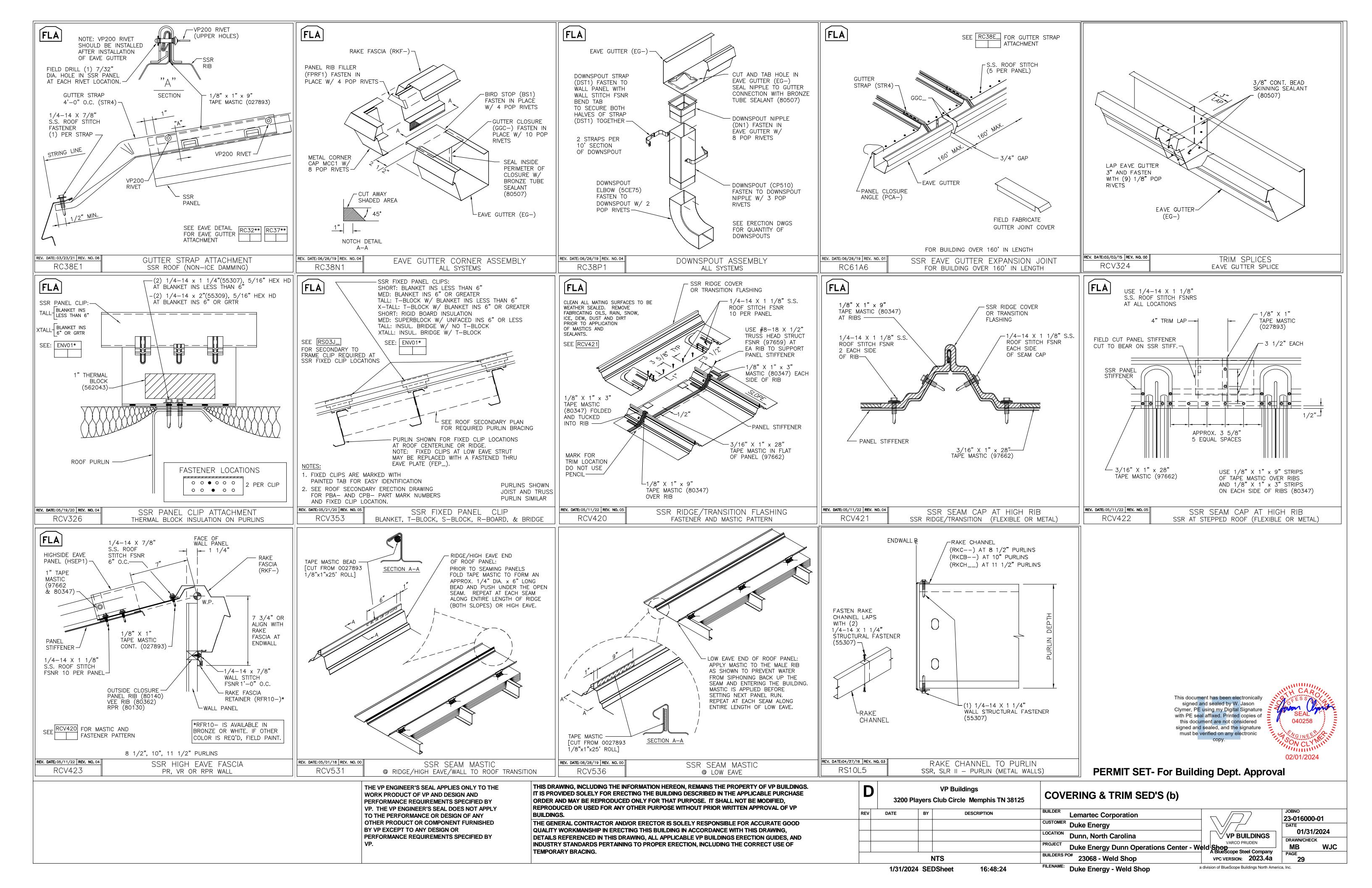
VP Buildings

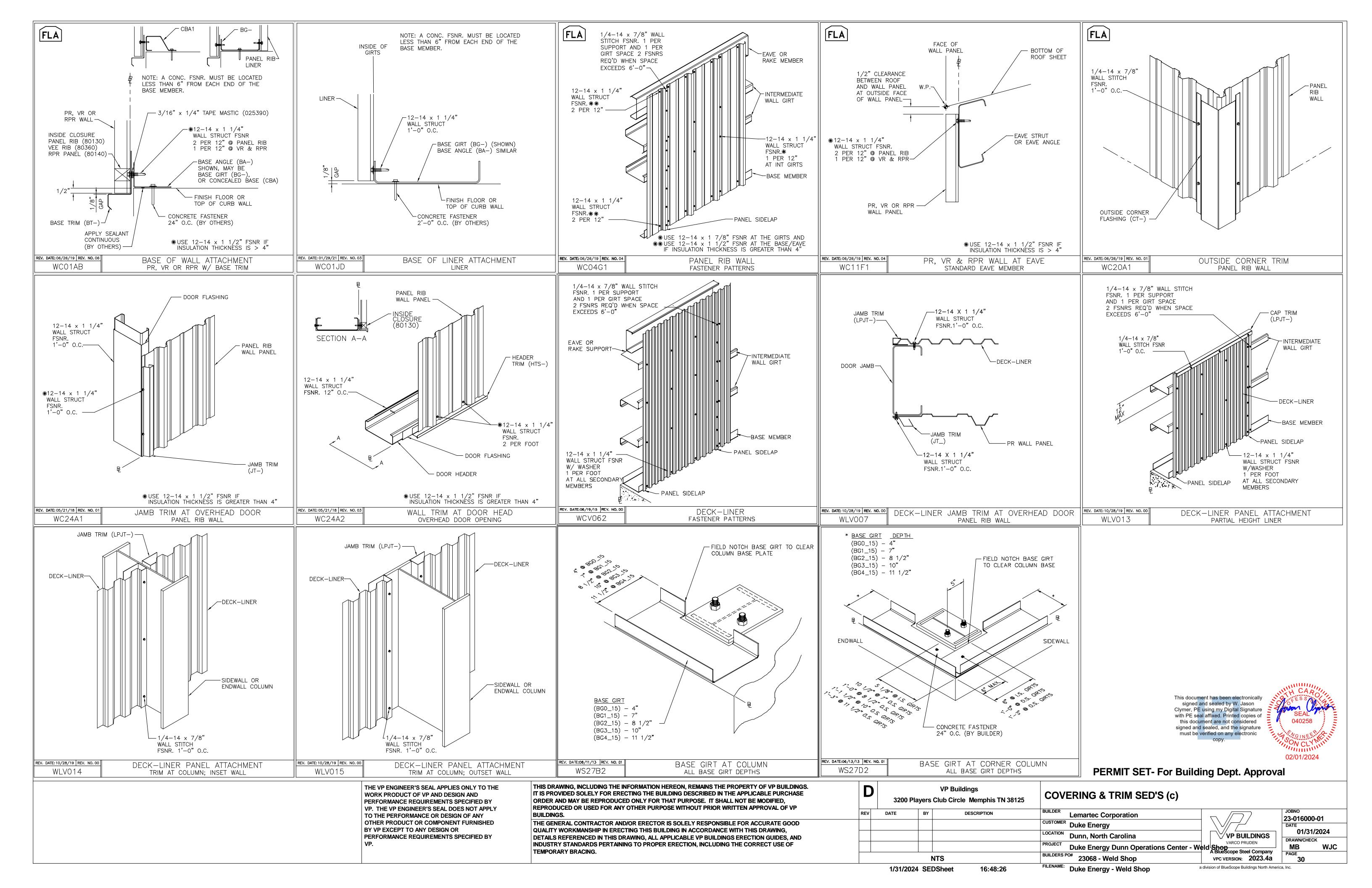
1/31/2024

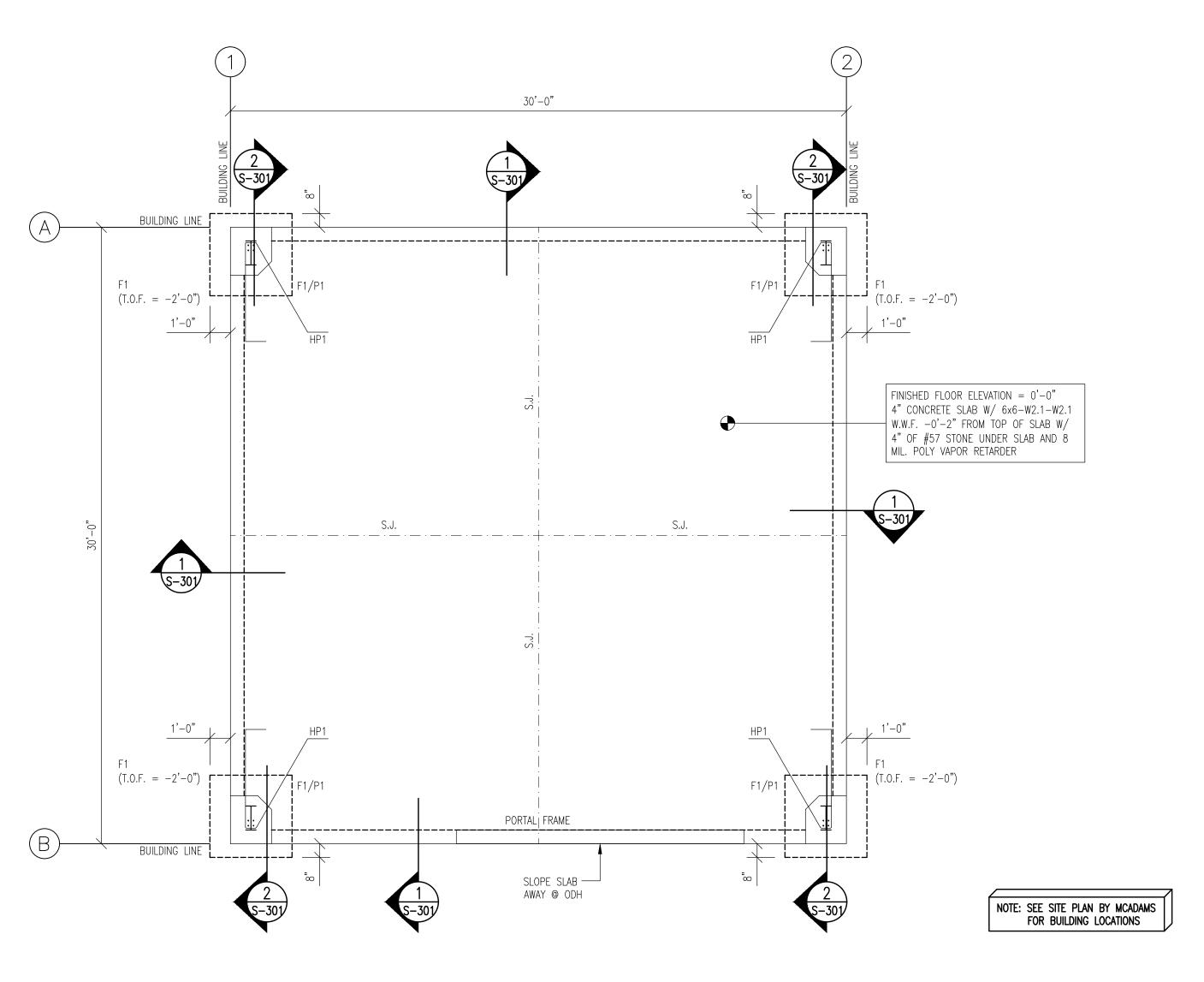
16:48:23 FILENAME: Duke Energy - Weld Shop

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WELD SHOP FOUNDATION PLAN

FOUNDATION SCHEDULE 4'-0"x4'-0"x1'-0" | 5-#5 BARS E.W.

f'c = 3500psi

GENERAL NOTES - WELD SHOP FOUNDATION PLAN:

I. SEE PLAN FOR T.O.F. ELEVATIONS. MAINTAIN A 12" MINIMUM OF COVER OVER PERIMETER WALL T.O.F.'s TYPICAL. GC SHALL COORDINATE T.O.F. ELEVATIONS W/ SITE PLAN TO DETERMINE IF ADEQUATE FOOTING DEPTH WILL NEED TO BE PROVIDED.

2. COORDINATE FLOOR DRAINS AND ANY SLOPED FLOOR AREA REQUIREMENTS WITH THE PLUMBING

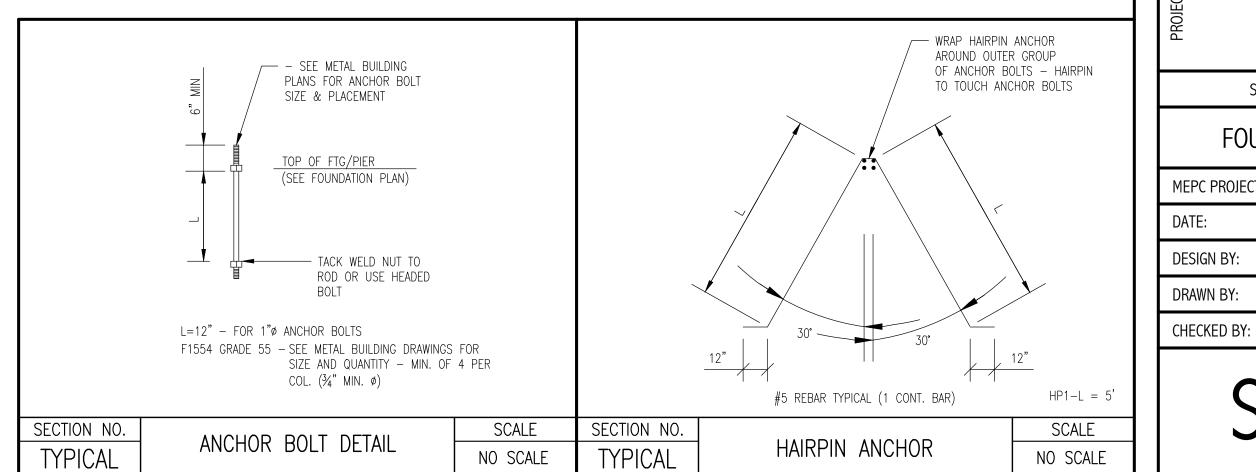
3. GC SHALL COORDINATE WITH THE PLUMBING CONTRACTOR FOR ANY STEP DOWNS IN THE T.O.F.'s IF REQUIRED TO ALLOW PLUMBING TO EXIT THE BUILDING.

4. GC SHOULD AVOID LEAVING OPEN TRENCH EXCAVATIONS FOR THE FOOTINGS FOR LONG PERIODS WHEN INCLEMENT WEATHER IS ANTICIPATED. IN GENERAL ALL EXCAVATIONS MADE SHOULD BE POURED ON THE DAY OF THE EXCAVATION IF INCLEMENT WEATHER IS EXPECTED.

5. CONTRACTOR SHALL COORDINATE FOR LOCAL INSPECTING AUTHORITY TO REVIEW AND APPROVE ALL FOOTING TRENCHES PRIOR TO THE PLACEMENT OF ANY FOOTING CONCRETE. IF FOOTINGS FAIL INSPECTION CONTRACTOR SHALL CONTACT THE ENGINEER FOR RECOMMENDATIONS.

6. FOUNDATION DESIGN BASED ON A PRESUMPTIVE SOIL BEARING PRESSURE OF 2000 PSF. GC SHALL HAVE SOIL TESTING FIRM TO VERIFY PRESUMPTIVE BEARING PRESSURE PRIOR TO PLACEMENT OF THE CONCRETE FOOTINGS. ANY AREAS DETERMINED NOT TO PROVIDE THIS STATED SOIL BEARING PRESSURE SHALL BE BROUGHT TO THE ENGINEERS ATTENTION.

7. FOUNDATION DESIGN BASED ON VARCO PRUDEN PRE-ENGINEERED METAL BUILDING DRAWINGS DATED 🖡 2-1-2024. IF REVISIONS ARE MADE TO THE REFERENCED PRE-ENGINEERED METAL BUILDING DRAWINGS, CONTACT ENGINEER FOR FOUNDATION DESIGN REVIEW.



MOOREFIELD ENGINEERING, PC STRUCTURAL ENGINEERS University Commercial Center 7990 North Point Blvd., Suite 209

Winston-Salem, NC 27106 T: 336-593-9623 F: 336-593-3912

email: office@mepc-consultants.com

www.mepc-consultants.com

REVISIONS

PROGRESS REVIEW #1: 9-13-24
PROGRESS REVIEW #2: PROGRESS REVIEW #3:
ISSUE FOR CONST.: 9-18-24 REVISION #1: REVISION #2 REVISION #3: These plans and the design shown thereon are

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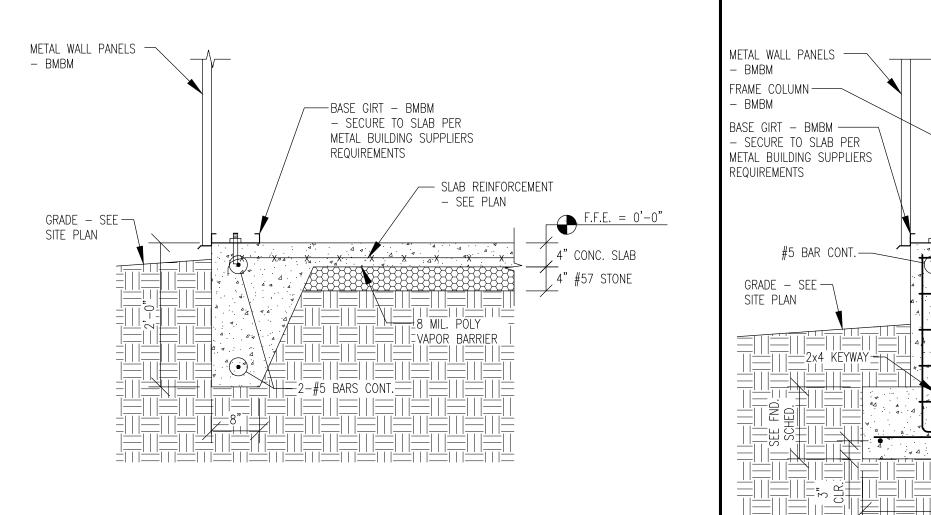
a **MasTec** company

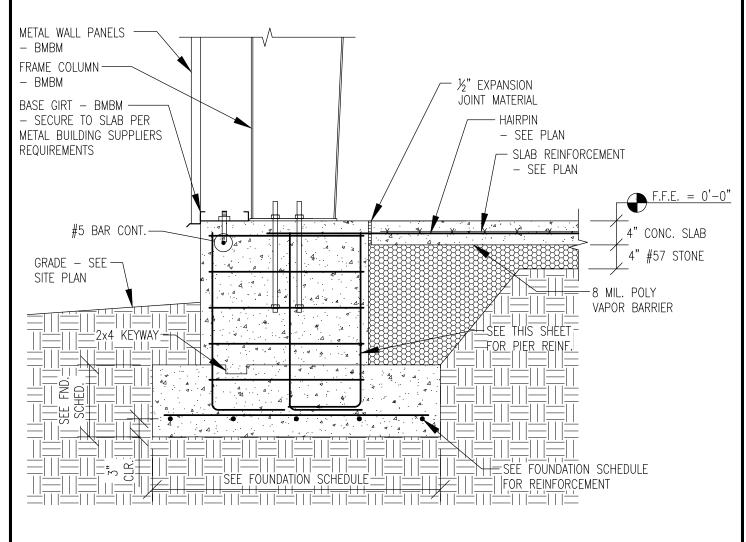
ENERGY /ELD SHOP

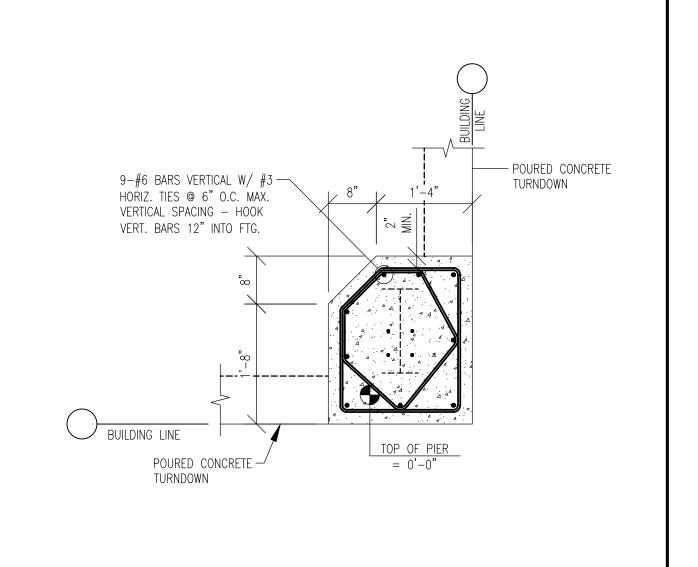
SCALE: 1/4" = 1'-0"

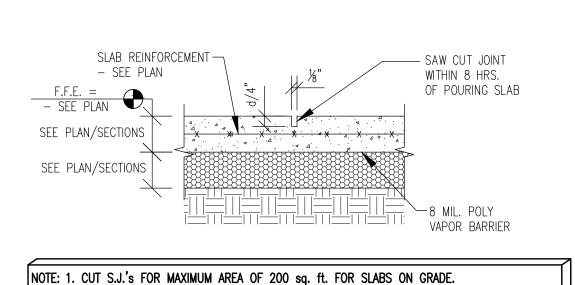
FOUNDATION PLAN

MEPC PROJECT NO.: 9-18-24 DESIGN BY: JWM/PCC DRAWN BY:









2. SUBMIT LAYOUT OF C.J. AND S.J. LOCATIONS FOR REVIEW PRIOR TO THE SLAB POUR.

SECTION NO.

TYPICAL

SCALE

NO SCALE

SCALE SLAB SAWED CUT JOINT (S.J.) NO SCALE

SPECIFICATIONS

S-301

DIVISION 1 - GENERAL REQUIREMENTS

I. GENERAL

SECTION NO.

A. THE STRUCTURAL DRAWINGS AND SPECIFICATIONS REPRESENT THE FINISHED STRUCTURE, AND, EXCEPT WHERE SPECIFICALLY SHOWN, DO NOT INDICATE THE METHOD OR MEANS OF CONSTRUCTION. THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK AND SHALL BE SOLELY RESPONSIBLE FOR ALL CONSTRUCTION MEANS, METHODS, PROCEDURES, TECHNIQUES, AND SEQUENCES.

SECTION

- B. THE STRUCTURE HAS BEEN DESIGNED TO RESIST DESIGN LOADS ONLY AS A COMPLETED STRUCTURE. APPLICATIONS OF CONSTRUCTION LOADS TO THE PARTIALLY COMPLETED STRUCTURE SHALL BE CONSIDERED BY THE CONTRACTOR AND SO INCLUDED IN THE DESIGN OF SHORING, BRACING, FORMWORK, AND ANY OTHER SUPPORTING ELEMENTS PROVIDED FOR CONSTRUCTION OF THE STRUCTURE. DURING ERECTION AND UNTIL ALL PERMANENT ARE MADE, THE CONTRACTOR MUST PROVIDE TEMPORARY BRACING FOR THE STRUCTURE IN ALL DIRECTIONS.
- C. THE GENERAL CONTRACTOR SHALL CHECK AND VERIFY ALL DIMENSIONS AND GRADE CONDITIONS (BOTH NEW AND EXISTING), REPORTING ANY DISCREPANCIES TO THE ENGINEER PRIOR TO ORDERING MATERIALS OR PROCEEDING WITH ANY PHASE OF THE WORK.
- D. DO NOT SCALE DIMENSIONS FROM DRAWINGS. THE CONTRACTOR SHALL REQUEST, FROM THE ENGINEER, NECESSARY
- E. WHERE ANY DISCREPANCIES OCCUR BETWEEN PLANS, DETAILS, STRUCTURAL GENERAL NOTES, AND SPECIFICATIONS, THE MORE STRINGENT REQUIREMENTS SHALL GOVERN.

II. CODES, SPECIFICATIONS AND STANDARDS

- A. APPLICABLE BUILDING CODE: THE CONTRACT DOCUMENTS ARE BASED ON THE REQUIREMENTS OF THE:
- 1. 2018 NORTH CAROLINA BUILDING CODE 2. BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE (ACI 318-14)
- 3. 2010 SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS (ANSI/AISC 360-10)
- III. DESIGN LOADS (NCBC 2018): A. FLOOR LIVE LOAD: SECTION 1607.10
- 1. SLAB ON GRADE = <u>100</u> PSF B. ROOF LIVE LOAD: SECTION 1607.12
- 1. ROOF = 20 PSF
- C. ROOF SNOW LOAD DATA: SECTION 1608 1. FLAT ROOF SNOW LOAD. $P_f = 6.93$ PSF
- 2. SNOW EXPOSURE FACTOR, $C_e = 0.9$
- 3. SNOW IMPORTANCE FACTOR, $I_s = 1.0$ 4. ROOF THERMAL FACTOR, $C_t = 1.1$
- D. WIND DESIGN DATA: SECTION 1609
- 1. ULTIMATE DESIGN WIND SPEED, $V_{ult} = 119$ MPH 2. RISK CATEGORY = II
- 3. WIND EXPOSURE CATEGORY = \underline{C}
- 4. COMPONENTS & CLADDING DESIGN PRESSURES (ULTIMATE):
- a. ROOF INTERIOR ZONES = 36 PSF b. ROOF EDGE ZONES = 42 PSF
- c. ROOF CORNER ZONES = 56 PSF
- d. WALL INTERIOR ZONES = 33 PSF
- e. WALL EDGE ZONES = 41 PSF
- E. EARTHQUAKE DESIGN DATA: SECTION 1613 1. RISK CATEGORY = II
- 2. SEISMIC IMPORTANCE FACTOR, $l_e = 1.0$
- 3. MAPPED SPECTRAL RESPONSE ACCELERATION PARAMETERS: a. SHORT PERIOD, $S_s = 0.179$
- b. 1 SECOND PERIOD, $S_1 = 0.084$
- 4. SITE CLASS = \underline{D} 5. DESIGN SPECTRAL RESPONSE ACCELERATION PARAMETERS:
- a. SHORT PERIOD, $S_{ds} = 0.1909$ b. 1 SECOND PERIOD, $S_{d1} = 0.135$
- 6. SEISMIC DESIGN CATEGORY = C 7. BASIC SEISMIC FORCE-RESISTING SYSTEM: STEEL SYSTEMS NOT SPECIFICALLY DETAILED FOR SEISMIC RESISTANCE
- 8. DESIGN BASE SHEAR a. $V_x = ...7^K$
- b. $V_{v} = ...7^{K}$ 9. SEIŚMIC RESPONSE COEFFICIENT, CS = 0.064
- 10. RESPONSE MODIFICATION COEFFICIENT, R = 3.011. ANALYSIS PROCEDURE: EQUIVALENT LATERAL FORCE (1613)

IV. SUBMITTALS

- A. SHOP DRAWINGS AND SUBMITTALS SHALL BE SUBMITTED TO THE ENGINEER BEFORE BEGINNING CONSTRUCTION.
- B. CLEARLY SPECIFY AND DEVIATIONS FROM THE CONTRACT DOCUMENTS ON ALL SUBMITTALS. C. THE CONTRACTOR SHALL REVIEW EACH SUBMITTAL BEFORE SUBMITTING TO THE ENGINEER.
- D. THE FOLLOWING SUBMITTALS ARE RECOMMENDED FOR THIS PROJECT:
- 1. CAST-IN-PLACE CONCRETE a. COMPLY WITH SUBMITTAL REQUIREMENTS IN ACI 301/318
- b. PRODUCT DATA
- c. DESIGN MIXTURES (HISTORICAL DATA OR TRIAL BATCH)
- d. REBAR SHOP DRAWING

A QUALIFIED PROFESSIONAL ENGINEER WHO APPROVED THE SHOP DRAWINGS.

DIVISION 2 - FOUNDATIONS

SECTION NO.

2 S-301

I. GEOTECHNICAL REPORT - FOUNDATION DESIGN IS BASED ON A PRESUMPTIVE SOIL BEARING PRESSURE OF 2000 PSF (TO BE VERIFIED BY THE GENERAL CONTRACTOR AT THE TIME OF CONSTRUCTION).

SECTION

- II. SOIL EXCAVATION AND REPLACEMENT
- A. REMOVE ALL LOOSE FILL MATERIAL WITH DEBRIS EXTENDING 5 FOOT BEYOND BUILDING FOOTPRINT TO THE MORE CONSOLIDATED MATERIAL AS APPROVED BY THE GEOTECHNICAL ENGINEER. REPLACE WITH SELECT FILL MATERIAL IN 8" TO 10" LOOSE LIFTS AS DIRECTED BY GEOTECHNICAL ENGINEER. COMPACT SELECT FILL MATERIAL TO 95% OF THE STANDARD PROCTOR MAXIMUM DRY DENSITY ACCORDING TO ASTM D 698.
- B. REVIEW SOIL REPORT BORING HOLES FOR INITIAL ESTIMATES OF EXCAVATION DEPTHS. THE GEOTECHNICAL ENGINEER SHALL APPROVE FINAL EXCAVATIONS OF FOOTING AND DRILLED PIER BEARING STRATA.

III. SLAB-ON-GRADE CONSTRUCTION

- 1. IMMEDIATELY PRIOR TO PLACEMENT OF CRUSHED STONE BELOW SLAB, THE LAST ONE FOOT OF SUBGRADE SHOULD BE RECOMPACTED TO 95% OF THE STANDARD PROCTOR MAXIMUM DRY DENSITY AS DETERMINED BY ASTM D698 TO DENSIFY ANY SOILS DISTURBED BY CONSTRUCTION OPERATIONS.
- 2. PROVIDE A 4" MINIMUM LAYER OF CLEAN "" CRUSHED STONE OR WASHED GRAVEL BELOW THE SLAB ON GRADE.
- 3. PROVIDE VAPOR BARRIER OF 8 MIL. POLYETHYLENE SHEET OVER THE FINAL FILL BELOW THE CONCRETE SLABS. U.N.O.
- B. CRANE LOADS THE CONTRACTOR IS CAUTIONED AGAINST LOADING THE SLAB ON GRADE WITH CRANE LOADS. THE SLAB HAS NOT BEEN DESIGNED FOR CRANE LOADS AND MAY REQUIRE AN INCREASE IN SLAB THICKNESS AND/OR REINFORCEMENT. THE CONTRACTOR IS REQUIRED TO SUBMIT A PROPOSED PLAN IF CRANE SUPPORT IS REQUIRED ON SLABS-ON-GRADE TO THE ENGINEER FOR REVIEW PRIOR TO COMMENCING WORK.

IV. SPREAD FOOTINGS

A, FOOTING EXCAVATION - FOOTINGS SHALL BE NEAT EXCAVATED WHERE POSSIBLE WITH SIDES AND TOP EDGES FREE OF LOOSE OR WET MATERIALS. WHERE NEAT EXCAVATION IS NOT POSSIBLE, FOOTINGS EXCAVATION SHALL BE OPEN CUT WITH EDGES FORMED AND BRACED. ALL FOOTINGS WITH FORMED EDGES SHALL BE BACKFILLED WITH LEAN CONCRETE, CEMENT STABILIZED SAND OR SELECT FILL MATERIAL PLACED IN 8" LIFTS AND COMPACTED TO 95% OF MODIFIED STANDARD PROCTOR MAXIMUM DENSITY OF EACH LIFT. THE BOTTOM EXCAVATION SHALL BE CLEAN AND DRY WITH ALL LOOSE MATERIAL REMOVED FOR AN ESSENTIALLY FLAT BEARING SURFACE. EXCAVATIONS SHALL NOT BE LEFT OVERNIGHT UNLESS A 2" UNREINFORCED SEAL (MUD) SLAB IS PLACED AT THE BOTTOM OF THE FOOTING EXCAVATION.

DIVISION 3

I. CAST-IN-PLACE CONCRETE

PART 1 - GENERAL

1.1 SECTION REQUIREMENTS

A. SUBMIT CONCRETE MIX DESIGNS.

B. COMPLY WITH ASTM C 94; ACI 301, "SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDINGS"; ACI 318, "BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE"; AND CRSI'S "MANUAL OF STANDARD PRACTICE."

PART 2 - PRODUCTS

2.1 MATERIALS

- A. DEFORMED REINFORCING BARS: ASTM A 615, GRADE 60.
- B. WELDED STEEL WIRE FABRIC: ASTM A 185, FLAT SHEETS, NOT ROLLS.
- C. PORTLAND CEMENT: ASTM C 150, TYPE 1.
- D. FLY ASH: ASTM C 618, TYPE F.
- E. AGGREGATES: ASTM C 33, CLASS 4S.
- F. FIBER REINFORCEMENT: NOT ALLOWED
- G. AIR-ENTRAINING ADMIXTURE: ASTM C 260.
- H. CHEMICAL ADMIXTURES: ASTM C 494, WATER REDUCING.
- I. WATER STOPS: FLAT DUMBBELL OR CENTER-BULB TYPE, OF EITHER RUBBER (CRD C 513) OR PVC (CRD C 572).
- J. VAPOR RETARDER: 8 MIL. POLY VAPOR BARRIER.
- K. LIQUID MEMBRANE-FORMING CURING COMPOUND: ASTM C 309, CLEAR.

- A. PROPORTION NORMAL-WEIGHT CONCRETE MIXES TO PROVIDE THE FOLLOWING PROPERTIES:
- 1. COMPRESSIVE STRENGTH: 3500 PSI (24.13 MPA) AT 28 DAYS. 2. SLUMP LIMIT: 4 INCHES (100 MM) AT POINT OF PLACEMENT.
- 3. WATER-CEMENT RATIO: 0.50 MAXIMUM AT POINT OF PLACEMENT.
- 4. AIR CONTENT: 5.5 TO 7.0 PERCENT FOR CONCRETE EXPOSED TO FREEZING AND THAWING, 2 TO 4 PERCENT ELSEWHERE.

e. SHOP DRAWINGS FOR THE DESIGN, ERECTION, AND REMOVAL OF FORMWORK, SHORES, AND RESHORES APPROVED BY PART 3 - EXECUTION

3.1 CONCRETING

 $\frac{3}{4}$ " = 1'-0"

SECTION NO.

TYPICAL

A. CONSTRUCT FORMWORK AND MAINTAIN TOLERANCES AND SURFACE IRREGULARITIES WITHIN ACI 117 LIMITS OF CLASS A FOR CONCRETE EXPOSED TO VIEW AND CLASS C FOR OTHER CONCRETE SURFACES.

P1 - PIER DETAIL

- B. SET WATER STOPS WHERE INDICATED TO ENSURE JOINT WATERTIGHTNESS.
- C. PLACE VAPOR RETARDER ON PREPARED SUBGRADE, WITH JOINTS LAPPED 6 INCHES (150 MM) AND SEALED.
- D. ACCURATELY POSITION, SUPPORT, AND SECURE REINFORCEMENT.
- E. INSTALL CONSTRUCTION, ISOLATION, AND CONTROL JOINTS.
- F. PLACE CONCRETE IN A CONTINUOUS OPERATION AND CONSOLIDATE USING MECHANICAL VIBRATING EQUIPMENT.
- G. PROTECT CONCRETE FROM PHYSICAL DAMAGE OR REDUCED STRENGTH DUE TO WEATHER EXTREMES DURING MIXING, PLACING, AND CURING.
- H. FORMED SURFACE FINISH: SMOOTH-FORMED FINISH FOR CONCRETE EXPOSED TO VIEW, COATED, OR COVERED BY

WATERPROOFING OR OTHER DIRECT-APPLIED MATERIAL; ROUGH-FORMED FINISH ELSEWHERE.

I. UNFORMED SLAB FINISHES: SCRATCH FINISH FOR SURFACES TO RECEIVE MORTAR SETTING BEDS FLOAT FINISH SURFACES FOR INTERIOR STEPS AND RAMPS AND SURFACES TO RECEIVE WATERPROOFING, ROOFING, OR OTHER DIRECT—APPLIED MATERIAL TROWELED FINISH FOR FOOR SURFACES AND FLOORS TO RECEIVE FLOOR COVERINGS, PAINT, OR OTHER THIN FILM-FINISH COATINGS TROWEL AND FINE BROOM FINISH FOR SURFACES TO RECEIVE THIN-SET TILE NONSLIP BROOM FINISH TO EXTERIOF

J. CURE FORMED SURFACES BY MOIST CURING UNTIL FORMS ARE REMOVED.

CONCRETE PLATFORMS, STEPS, AND RAMPS.

- K. BEGIN CURING UNFORMED CONCRETE AFTER FINISHING. APPLY MEMBRANE-FORMING CURING COMPOUND TO CONCRETE.
- L. PROTECT CONCRETE FROM DAMAGE. REPAIR SURFACE DEFECTS IN CONCRETE.

STRUCTURAL ABBREVIATIONS

A.B. = ANCHOR BOLTS

ABC = AGGREGATE BASE COARSE

A.R.F.F.E. = ABOVE REFERENCED FINISHED FLOOR ELEVATION

ALT. = ALTERNATE

ARCH. = ARCHITECTURAL

B.M.B.M. = BY METAL BUILDING MANUFACTURE

BLDG. = BUILDING

BRG. = BEARING

C.J. = CONSTRUCTION/CONTROL JOINT

CLR. = CLEAR

COOR. = COORDINATE

DET. = DETAIL

DIM. = DIMENSIONDWGS. = DRAWINGS

EXP. = EXPANSIONEXIST. = EXISTING

FLR. = FLOOR

FND. = FOUNDATION

HORIZ. = HORIZONTAL HSS = HOLLOW STRUCTURAL SECTION (TUBE OR PIPE)

INT. = INTERIOR

K = KIP (1000 lbs)

LLH = LONG LEG HORIZONTAL

MAX. = MAXIMUM

OPNG. = OPENING

REQD. = REQUIRED

R.F.F.E. = REFERENCED FINISHED FLOOR ELEVATION

SCHD. = SCHEDULE

T&B = TOP AND BOTTOM

T.O.W. = TOP OF WALL

TYP. = TYPICAL

W = WIDE FLANGE MEMBER W/ = WITH

WWF = WELDED WIRE FABRIC * = COORD. WITH SITE PLAN

A.E.F.F.E. = ABOVE EXISTING FINISHED FLOOR ELEVATION A.F.F.E. = ABOVE FINISHED FLOOR ELEVATION

B.F.F.E. = BELOW FINISHED FLOOR ELEVATION

B.R.F.F.E. = BELOW REFERENCED FINISHED FLOOR ELEVATION

B.O.W. = BOTTOM OF WALL

CL = CENTER LINE

CMU = CONCRETE MASONRY UNIT COL. = COLUMN

CONC.= CONCRETE CONN. = CONNECTION

CONST. = CONSTRUCTION CONT. = CONTINUOUS

DIA. = DIAMETER

DWL. = DOWEL

E.A. = EACHE.F.F.E. = EXISTING FINISHED FLOOR ELEVATIONF.J. = FXPANSION JOINT

ELEV. = ELEVATIONE.W. = EACH WAY

> EXT. = EXTENSIONFD - FLOOR DRAIN

FP = FULL PENETRATION FTG. = FOOTINGHK. = HOOK

JT. = JOINT

LLV = LONG LEG VERTICAL MANUF. = MANUFACTURER MAS. = MASONRY

MECH. = MECHANICAL MIN. = MINIMUMNOM. = NOMINALO.C. = ON CENTER SPACING

PC. = PRECASTPL. = PLATEREINF. = REINFORCEMENT

SC. = SLIP CRITICAL SECT. = SECTION

T.O.F. = TOP OF FOOTINGT.O.P. = TOP OF PIER T.O.S. = TOP OF STEEL

U.N.O. = UNLESS NOTED OTHERWISE VERT. = VERTICAL

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REVISION #3

REVISION #

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REVISIONS

PROGRESS REVIEW #1: 9-13-24 PROGRESS REVIEW #2: PROGRESS REVIEW #3: ISSUE FOR CONST.: 9-18-24 REVISION #1 REVISION #:

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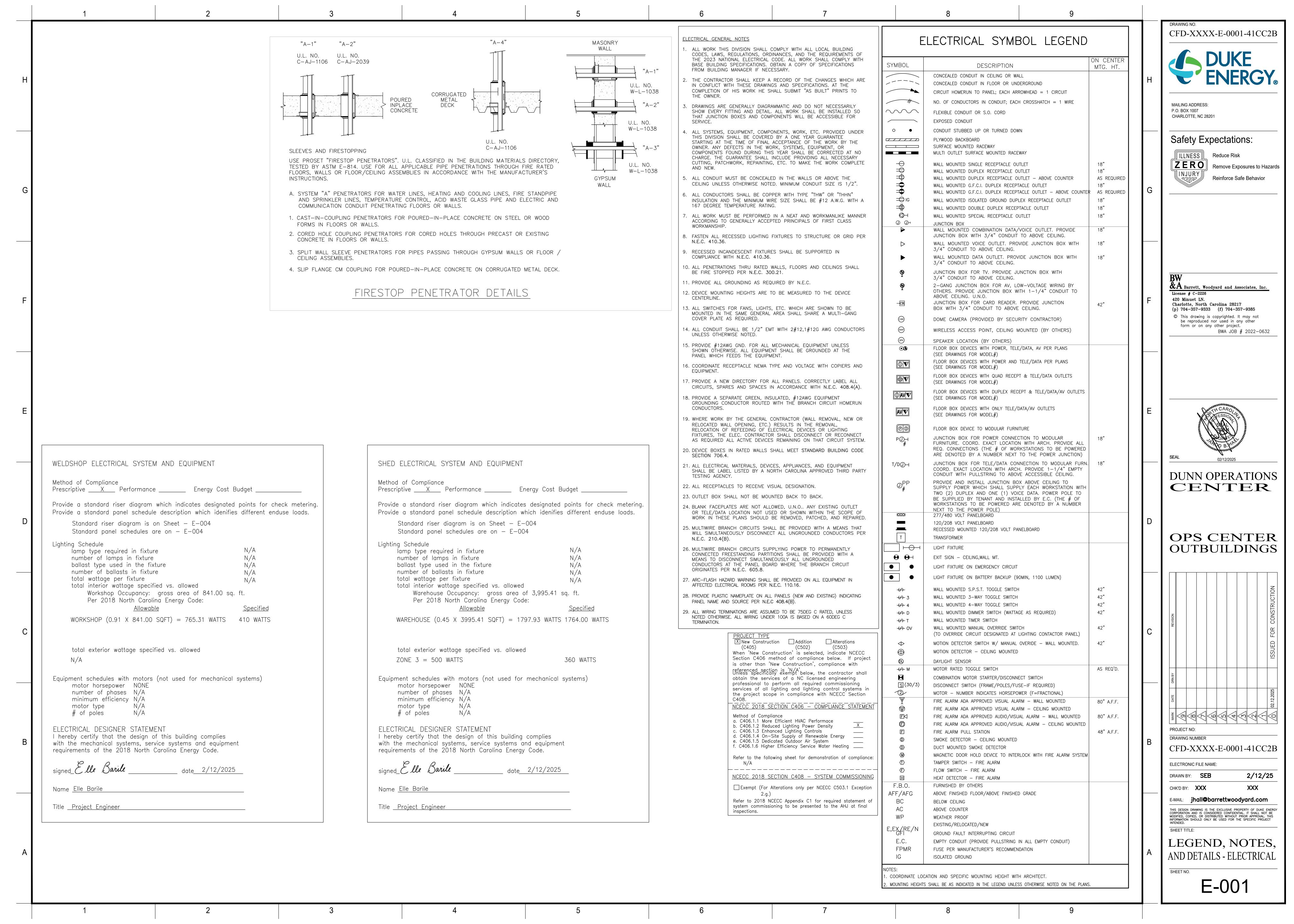
ERGY SHOP BRO RD AROLINA Ш Z JONESBOF NORTH CA 1269 DUNN,

CHECKED BY:

SCALE: 3/4" = 1'-0"SECTIONS, DETAILS &

SPECIFICATIONS MEPC PROJECT NO.: 115-24 DATE: 9-18-24

DESIGN BY: JWM/PCC DRAWN BY:



1	3	4 5	6	7 8	9	
SECTION 260010 ELECTRICAL GENERAL	 Conduit and wire Devices 	2.01 CONDUIT A. Galvanized rigid steel conduit shall be low carbon, hot—dipped	D. Sensor shall operate at 120 VAC or 277 VAC. E. Sensor shall have no minimum load requirement and shall be	communication cable, shall be left with No. 16 gauge wire pulled in them or a pull line as manufactured by Ideal, and		CFD-XXXXX-E-0002-41CC2B
1.0 GENERAL 1.01 SCOPE	3. Coverplates4. Panelboards5. Fuses	galvanized high steel conduit shall be low earbon, not dipped galvanized both inside and out with threaded joints. B. Intermediate metal conduit (IMC) shall be steel, galvanized both	capable of switching from 0 to 500 watt incandescent; 0 to 800 watts fluorescent or 1/6 hp @ 120 VAC, 60 Hz; and 0 to	the ends securely corked or capped. J. Expansion fittings shall be installed in all conduit which pass		6 DIIVE
A. Division 26 includes all Specifications in the 260000 series and the accompanying Electrical Drawings. Provide all labor,	6. Overcurrent devices7. Disconnect switches	inside and out with threaded joints. C. Electrical metallic tubing (EMT) shall be steel, galvanized both	1200 watts fluorescent or 1/3 hp @ 277 VAC, 60 Hz. F. For accuracy and consistency, sensor shall have a DIP switch	through the cross—sectional area of expansion joints. K. Provide non—hardening elastic type duct seal compound, Neer		DUKE
materials and equipment, and all necessary operations to provide the complete scope of the electrical systems intended	8. Lighting fixtures9. Lighting control system10. Dimming system	inside and out. D. Plastic conduit (PVC) shall be schedule 40 PVC heavy wall	controlled, digital time delay adjustable from 15 seconds to 30 minutes.	No. DC., 3M Co. "Scotchfil", or Gardner Bender duct seal, for each conduit entering the building from outside and for each conduit passing from one space into another which is normally	Н	ENERGY ®
under this Division. Division 26 is not a stand—alone document, but a part of the complete Project Documents.	11. Life safety system12. Motor starters	type. A grounding conductor shall be provided. E. Flexible metal conduit shall be flexible steel conduit tubing and	G. Sensor shall have standard 5 year warranty and shall be UL and CUL listed.	at a lower temperature. L. Provide watertight conduit hubs on conduit terminating in a box		
B. Attention is called to the fact that there are many interfaces between the work required in this Division and the work required in other Divisions. Provide the necessary interface	C. All shop drawings and submittals shall be submitted in compliance with the requirements of the general and	shall meet Underwriters Laboratories Standard for Flexible Steel Conduit.	H. Sensor shall be Wattstopper WI Series, Leviton Decora Series or approved equal by engineer.2.09 RECEPTACLES	or cabinet exposed to the weather. M. Space in sleeves or around conduit that pass through fire		MAILING ADDRESS: P.O. BOX 1007 CHARLOTTE, NC 28201
and coordination with other Divisions to provide a complete project.	supplementary conditions. All submittals are to be received electronically in .pdf format only.	F. Liquid—tight flexible metal conduit and liquid—tight non—metallic conduits shall be liquid—tight and sunlight resistant.	A. Duplex receptacles shall be plastic, two-pole, three wire, self-grounding, side wired, 125 volts and 15A rating and shall	resistive or fire rated walls, partitions, floors or ceilings shall be closed by packing with an unlabeled fire resistive material that will maintain the rating of the barrier penetrated.		
1.02 EXISTING CONDITIONS A. Attention is called to the fact that the work is to be	D. All submittals shall bear the name of the manufacturer to be used, along with all associated options and specific input/output requirements clearly marked.	G. Steel conduit approved manufacturers are Allied, Triangle and Republic.	match existing if possible and be equal to the following: Duplex receptacles shall be Hubbell No. CR5262 Series, or	3.02 FLEXIBLE CONDUIT		Safety Expectations:
performed within an existing, operational facility. Prior to the submission of bids, each bidder shall visit the project site, thoroughly investigate and be familiar with all existing	E. All shop drawings and submittals shall include a stamped indication signifying that the submittal has been reviewed for	H. PVC conduit approved manufacturers are Carlon and Triangle. 2.02 CONDUIT FITTINGS	equal by Leviton, P&S or Cooper. Isolated ground type shall be Hubbell No. CR5252IG Series, or equal by Leviton, P&S or Cooper.	A. PVC extruded cover flexible conduit shall be used in making short flexible connections to rotating or vibrating machinery or equipment. The flexible conduit at these locations shall be as		ILLNESS Reduce Risk
conditions, which will affect their work; especially the work to be performed above the existing ceilings.	compliance with the Contract Documents by the Contractor. This stamped indication also represents the fact that the	A. Rigid conduit and IMC conduit fittings shall be zinc—coated, ferrous metal and taper threaded type.	B. Single receptacles shall be two-pole, three wire, self-grounding, side wired, 125 volts and 20A rating and shall be equal to the	short as possible, but shall have a minimum length of 12". B. A green stranded bonding jumper shall be installed outside of		Remove Exposures to Hazards Reinforce Safe Behavior
B. When this project is finished, the work under this Division shall be complete in every respect, completely integrated with all the	Contractor has checked this submittal for its interaction with all other Divisions and certifies by his signature or initials that all coordination has taken place. The stamp shall include the	B. EMT fittings shall be zinc—coated steel and hexnut compression or set—screw type. EMT connectors shall have insulated throats.	following: Single receptacles shall be Hubbell No. HBL5361 Series, or equal by Leviton, P&S or Cooper. Isolated ground type to be Hubbell No. IG—5361 Series, or equal by Leviton,	all flexible conduit that extends directly from a non—flex conduit to a rotating or vibrating machine. Where a junction box is used, the green stranded bonding jumper shall be	G	Tomoree date Benavior
existing systems, and left in perfect operating condition. The electrical service to the building shall not be interrupted at any time without written coordination of the building's Owner. All	date, name of the Contracting Firm, the signature of the Contractor, certification of compliance and approval. This	C. PVC fittings, elbows and cement shall be produced by the same manufacturer. All joints shall be solvent welded in	P&S or Cooper. C. Ground fault circuit interrupt (GFI) receptacles shall be Hubbell	installed inside the flexible conduit and attached to the junction box and to the machine. When the bonding jumper is installed		
existing electrical equipment removed during the project shall be removed from the site after inspection of the building's	stamp shall be on the submittal before the Engineer will review it. F. The engineer will review an individual submittal not more than	accordance with the manufacturer's recommendations. D. Conduit connections to switchboards, motor control centers,	GFR5352, or equal by P&S, Leviton or Cooper. D. Color shall be as selected by the Architect.	outside of the flexible conduit, plastic wire straps shall be used 6" o.c. to secure the jumper to the flexible conduit.		
Owner. All existing electrical systems required to be operating at the project's completion or required to remain in use during the project shall be reconnected, replaced, rerouted or	twice. If the submittal is rejected again on the second review, the contractor will bare all responsibility for paying for the	transformers, panel cabinets, and pull boxes shall have grounding wedge lugs between the bushing and the box or	2.10 COVERPLATES	C. Flexible metal (MC) conduit system may be utilized where concealed in walls and/or millwork only. MC Cable shall run		
otherwise made to fit with proper workmanship techniques and left in safe working order.	engineer's time for additional reviews. Such payments to the engineer shall be withheld from the next monthly pay	locknuts designed to bite into the metal. E. Each conduit end shall be provided with either an insulated	A. Coverplates for flush mounted devices shall be standard size (color or finish to be selected by the architect), Hubbell "P" Series or equal by Leviton, P&S or Cooper.	from point of exit from wall or millwork to nearest structurally support junction box. MC cable will not be permitted to be installed in the above ceiling space and shall not pass through		
C. Connect new work to existing work in a neat and workmanlike manner. Where an existing structure must be cut or existing	2.03 RECORD (AS-BUILT) DRAWINGS AND MAINTENANCE MANUALS	throat connector or separate locknut and insulated bushing. Bushing shall be installed before any wire is pulled. F. Conduit fittings approved manufacturers are Raco, Steel City,	B. Telephone outlet coverplates shall have same finish as above and have a bushed hole in the center.	a fire rated partition. Conductor colors of the MC cable shall comply with 261000 3.03 D.		
utilities interfere, such obstructions shall be bypassed, removed, replaced or relocated, patched and repaired. Work disturbed or damaged shall be replaced or repaired to its prior condition.	A. At job completion, submit to the Architect, an electronic set of the latest plans, in .pdf format, showing all deviations from the Contract Documents. The Drawings shall also have dimensions	O.Z. Gedney, Thomas & Betts and Appleton. G. Expansion fittings shall be provided in all conduit which crosses	C. Coverplates for exterior devices shall be self—closing, die cast aluminum Hubbell WP8M or equal by Leviton, P&S or Cooper.	 MC cable shall be constructed to have an insulated, copper ground conductor. Sheathing with a bare aluminum conductor shall not be used as the ground. 		$\overline{\mathrm{BW}}$
1.03 CODES AND REGULATIONS A. All work under this Division shall comply with all local building	locating all underground conduits. B. At job completion, submit to the Architect, three (3) hardcopy	and expansion joint. 2.03 CONDUCTORS	2.11 PLYWOOD BACKBOARDS A. Provide plywood backboards where shown. Backboards shall be	3.03 WIRING A. All conductors shall be installed in conduit. No conductors		&A Barrett, Woodyard and Associates, Inc. License # C-2226 420 Minuet LN.
codes, laws, regulations, ordinances and the requirements of the 2023 National Electrical Code.	sets of maintenance and instruction manuals for all equipment furnished on the project. Also provide an electronic copy in	A. Conductors shall be copper of 98% conductivity, 600 volt insulation. Sizes specified are AWG gauge for No. 4/0 and	minimum 3/4" thick and sized as shown or to accommodate equipment indicated to be mounted thereon.	shall be pulled into the conduit until the conduit system is complete and plaster had dried. Wire pulling lubricants shall be Gardner—Bender "Wireaide" or Ideal "Yellow 77".		Charlotte, North Carolina 28217 (p) 704-357-9333 (f) 704-357-9385
B. Where conflicts of installation requirements occur between the aforementioned codes, regulations or the Contract Documents, the most restrictive shall govern.	.pdf format. Coordinate file delivery method with the architect. 3.0 EXECUTION	smaller and circular mils (MCM) for all sizes larger than no. 4/0. Conductors No. 10 and smaller shall be solid and type	B. Secure plywood to the building structure and paint with two coats of gray paint.	B. Conductors shall be continuous from outlet to outlet and from outlet to junction box or pull box. All splices and joints shall		© This drawing is copyrighted. It may not be reproduced nor used in any other form or on any other project.
C. Obtain all permits and licenses and pay all fees required by local authorities. Arrange for all necessary inspections required	3.01 COORDINATION A. Coordinate all space requirements with all other Divisions before	"THHN" or "THWN" insulation. No. 8 and larger shall be stranded and type "THW" or "XHHW" insulation.	2.12 SMOKE AND FIRE STOP FITTINGS A. Smoke and Fire Stop Fittings shall be UL listed for that	be carefully and securely made to be mechanically and electrically solid with pressure type connectors, Gardner Bender		BWA JOB # 2022-0632
by the authorities having jurisdiction and provide written certificates of approval to the project Owner or his designated representative.	installing any work. Install work such that adequate space will be allotted for all other work from other Divisions to be installed and also will allow room for future access for repair	2.04 OUTLETS A. Outlet boxes and covers shall be of such form and dimensions	purpose. The fittings used to seal conduit either on the outside of the conduit, busway or cable or internally shall have heat activated intumescent material, which expands to fill all	"Winggard" or Ideal "Wingnut". Tape shall be "Scotch" No. 33 for indoor and No. 88 for outdoor or Gardner Bender No. 95—661. Where connection is made to any terminals of more		
1.04 DEFINITIONS	and maintenance. B. Any work installed without proper coordination shall be relocated	as to be adapted to their specified usage, locations, size and quantity of conductors entering the boxes. In special "Fire Rated" partitions, outlets	voids. Smoke and fire stop fittings shall be O.Z./Gedney "FIRE—SEAL" or Dow Corning silicone RTV foam with an hourly	than 30 amperes capacity and where conductors larger than No. 10 are connected to any terminal, copper terminal lugs		
A. Contract Documents: The complete set of project Drawings and Specifications.	at the Architect's direction without increasing the Contract price.	shall comply with ASTM No. E119. B. Flush ceiling outlets for surface or pendant mounted lighting	fire—rating equal to or higher than the rating of the floor, ceiling or wall through which the cable or conduit passes. The seals for conduit shall be of the flanged type.	shall be bolted to the conductors. Where multiple connections are made to the same terminal, individual lugs for each conductor shall be used. Aluminum conductors, if used for		
B. Provide: Furnish, install and connect. C. Work: All materials installed, including all labor to provide complete system.	C. During the bidding process or the pricing for a guaranteed maximum price, coordinate with all other Divisions for the total	fixtures shall be one—piece 4" square or octagonal pressed steel boxes. Boxes for devices in unfinished masonry walls or	2.13 FUSES	service conductors, shall be made with high compression lugs as manufactured by Square D, Ideal or MAC.		
D. Wiring or Wired: All wire or cable installed in conduit from panelboard to equipment and connected at both ends with all	amount of work required in Division 26. Any work shown or implied in another Division requiring work in Division 26 shall be included in the Contract price regardless of whether or not	stud walls shall be pressed steel, square corner, sectional switch boxes, or shall be 4" square box with a square cornered tile wall cover, set flush with masonry construction.	A. Provide all fuses. All fuses shall be of the same manufacturer. All fuses shall be of the high interrupting rating (200,000 Amps), current limiting type and manufactured by	C. Each conduit shall have a minimum of two (2) conductors pulled in unless that particular conduit is noted as being for	 E	STAL STALL OF BRIDE
required boxes, connectors, couplings, etc. E. Conduit: Rigid steel conduit intermediate metal conduit (I.M.C.),	it is addressed in Division 26. 3.02 PROTECTION OF MATERIALS	Boxes in concrete ceiling slab shall be octagonal, shallow concrete boxes. Welded boxes are not acceptable.	Bussmann. Fuses shall be provided for each fuse cutout and the specified quantity of fuses shall be furnished for spares.	systems other than electrical circuitry and/or future use or unless noted otherwise.		
electrical metallic tubing (EMT) plastic conduit (PVC), or flexible steel conduit.	A. All equipment shall have the original finish when the building is turned over to the Owner.	C. All outlet boxes in plaster or masonry walls or ceiling shall be provided with plaster rings.	B. Circuits 0 to 600 ampere shall be protected by rejection type, current limiting BUSSMANN LOWPEAK Dual Element Fuses	D. Conductors for lighting and receptacle circuits shall have color coded jackets. The wiring shall be color coded with the same color used with its respective phase through the entire job as		B.H.A. B.
1.05 DRAWINGS AND SPECIFICATIONS A. The Drawings and Specifications together are to be considered	B. Protect equipment during construction from dirt, water, chemical, mechanical damage, etc. Protect all conduit openings so that no foreign material will enter the conduit.	D. Junction boxes and all outlets not indicated as containing wiring devices or lighting fixtures shall have covers. Covers for outlets in walls shall be as specified for wall switches and	LPN—RK (250 volts) or LPS—RK (600 volts). All dual—element fuses shall have separate overload and short—circuit clearing chamber. The fuse must hold 500% of rated current for a	follows: 208/120 Volt System 480/277 Volt System		SEAL 02/12/2025
as the Contract Documents. Any work shown in one and not shown in the other, or implied by either, shall be provided to give a complete project.	3.03 TESTS, DEMONSTRATION AND INSTRUCTIONS	receptacles. E. Outlet boxes exposed to the weather and outlet boxes for	minimum of 10 seconds and be listed by Underwriter's Laboratories, Inc., with an interrupting rating of 200,000	Phase A — Black		DUNN OPERATIONS
B. Should any conflicts exist between the Drawings and Specifications or there is an item shown/called for which is	A. Functional Testing:1. Test all systems described in this Division in the presence of the Owner or a designated representative upon completion of	vaportight lighting fixtures and devices shall be of cast iron corrosion resistant type.	amperes RMS symmetrical. The fuses shall be UL Class RK—1. C. Circuits 601 to 6000 ampere shall be protected by current limiting BUSSMANN HI—CAP Time—Delay Fuses KRP—C. Fuses	Neutral — White — Neutral — Gray Ground — Green — Ground — Green		CENTER
not clearly defined, immediately submit a request for clarification. No additional monies will be granted later when a	the work. Demonstrate that the installation is in accordance with Contract Documents. 2. For all new lighting and lighting control systems within the	F. Outlet box approved manufacturers are Appleton, Raco, Steel City or Crouse—Hinds.	shall employ "O" rings as positive seals between the end bells and the glass melamine fuse barrel. The terminals shall be	E. The feeder and service entrance conductors shall be color coded by the use of colored plastic tape applied within 6" of		
C. The Drawings are schematic and are not intended to show the	Contract Documents, the contractor shall obtain the services of a licensed professional engineer (registered to the state	2.05 DISCONNECT SWITCHES A. Disconnect switches shall be "heavy—duty" type, enclosed	opened. Fuses shall be time—delay and must hold 500% of rated current for a minimum of 4 seconds, clear 20 times rated current in 0.1 seconds or less and be listed by	each conductor end. F. Branch circuit conductors shall not be smaller than No. 12 and	D	
exact location outlets, etc. or the routing of conduit. D. The exact location of equipment requiring electrical connections (mechanical equipment, elevators, lights, etc.) shall be as	this project is within) to perform system commissioning in compliance with local energy conservation codes. The contractor shall demonstrate in the presence of the	switches of quick—make, quick—break construction. Switches shall be horsepower rated for 600 volts AC as required. Lugs shall be UL listed for copper and aluminum.	Underwriter's Laboratories, Inc., with an interrupting rating of 200,000 amperes RMS symmetrical. The fuses shall be UL	where the home run from center of load exceeds 100'-0", the conductors from home run outlet to panel shall be No. 10 minimum.		OPS CENTER
located by other Divisions of the Contract Documents. Refer to the Architectural, Structural and Mechanical Documents for	commissioning agent that the installation of such systems are in accordance with the Contract Documents.	B. Padlocking provisions shall be provided for padlocking in the OFF position.	Class L. D. Furnish and turn over to the Owner a minimum of one (1) set	G. For branch circuits terminating in outlet without device, leave minimum of 12" of slack wire coiled for connection of		OUTBUILDINGS
dimensions and details of building construction and provide work described in this Division so that it conforms to the details of the project. The right is reserved to relocate any	B. Any work found not to be in compliance with the Contract Documents shall be repaired or replaced without incurring any additions to the Contract price.	C. Switches shall be furnished in NEMA 1 General purpose enclosure unless noted otherwise. Switches located on the	of spare fuses (set consisting of three fuses) for each type and rating of fuse used. When the number of fuse sets of the same type and rating actually installed exceeds five (5)	equipment. All conductors shall be identified with proper circuit numbers at terminals, junction boxes at panelboards within 6"		
receptacle, switch or other outlet a maximum of 10'-0" before it is permanently installed without incurring additions to the	C. Provide to the Owner and System Commissioning Agent, all instruction on maintenance and operation of all systems and	exterior of the building or in "wet" locations shall have NEMA 3R enclosures.	sets, furnish an additional spare set of fuses for each five (5) or fraction thereof.	of conductor ends. 3.04 OUTLETS		
Contract amount. 1.06 SITE VISIT	equipment provided under this Division. Provide all necessary tools and personnel to thoroughly present these instructions.	D. Fused disconnect switches shall have rejection type fuse clips with dual element, current limiting fuses of rating shown.	E. Provide a cabinet in which to store all spare fuses, Bussman Catalog No. SFC	A. Provide galvanized steel or cast type boxes for all outlets. B. Where outlet boxes are used to support lighting fixtures, the		RUCTIC
A. Visit the site and become familiar with all aspects of the site and existing conditions before submitting Contract price.	The documentation shall include the following, at minimum: 1. Submittal data indicating all selected options. 2. Operation and maintenance manual for all equipment and	E. Disconnect switches shall be mounted to structure. Disconnect switches shall not be mounted to mechanical equipment or ductwork.	F. Acceptable manufacturers are Bussman or equal by Littlefuse. 3.0 EXECUTION	outlet box shall be anchored to the structural members of the building per NEC 314.27.		NOST
B. No allowance will be made for lack of knowledge of existing conditions.	systems. Include routine maintenance actions and cleaning procedures.	2.06 NAMEPLATES A. Nameplates shall have 3/8" high engraved letters.	3.01 CONDUIT A. Rigid steel (or IMC) shall be used for service entrance and all	C. Outlet boxes shall be flush mounted unless they are specifically shown as being used with exposed conduit or are located above a ceiling.	С	FOR (
1.07 DEVIATIONS A. No deviations from the Contract Documents shall be made	3. A schedule for inspecting and recalibrating, where applicable.4. A narrative of how each system is intended to operate, including any recommended set points where adjustment is	B. 120 or 208 volts: white core laminated bakelite with black finish.	feeders and branch circuits where exposed to damage. B. EMT shall be used for branch circuits, fire alarm and telephone when not underground or in concrete in contact with the earth.	D. Where outlets are supplied from conduit run in or below floor slabs, the conduit shall be stubbed up at the location shown		
without the full knowledge and written consent of the Architect. B. If the existing conditions make it desirable to modify the Contract Documents in regard to any item, provide a written	available. D. At project completion, prior to obtaining Certificate of	C. 277 or 480 or higher volts: white core laminated bakelite with red finish.	C. Schedule 40 PVC may be used for all underground feeders, service entrance conductors when encased in 4" of concrete on	and the wall built up around the conduit. E. Cuts for outlet boxes in masonry walls shall be made so that		
request to the Architect. 2.0 PRODUCTS	Occupancy, present at final inspection to the jurisdiction's AHJ a signed and dated statement of system commissioning for all lighting and lighting control systems. The format of the	D. Nameplate shall indicate the panel name and the name of the device or equipment where the power supply/feeder originates.	all sides, or under the lowest floor slab. D. Conduit shall be continuous from outlet to outlet, from outlet	the coverplate will completely cover the cut. The mounting height of switch, receptacle and other outlets may be varied slightly, with the Architects approvals, so that the outlet box,		
2.01 STANDARDS FOR MATERIALS AND WORKMANSHIP A. All materials used shall be new and shall be stamped with the	statement of system commissioning shall be in the form required by the state's energy conservation codes and/or AHJ	2.07 WALL SWITCHES A. Wall switches shall be plastic, totally enclosed, quiet type,	to cabinet, junction box and pull box. Conduit shall enter and be secured to all boxes, etc., in such a manner that each	top or bottom, will occur at a masonry joint. F. The edge of all outlet boxes shall be flush with the surface in		2.2025
Iabel of Underwriters Laboratories, Inc. (UL). B. All materials shall meet the standards of the following	requirements. The document shall be signed by the contractor's licensed professional engineer representative.	self—grounding, 277 volts and 20A rating and shall match existing if possible and equal the following:	system will be electrically continuous from service to all outlets such that a good ground is provided. All conduit from cabinets and junction boxes shall terminate in approved outlet	which they are recessed. The devices that fit into the outlet boxes shall be screwed tight before the coverplate is installed and the coverplate shall not be used as a means of tightening		\(\frac{A}{2}\) \(\frac{Q}{Q}\) \(\frac{A}{V}\) \(\frac{A}{V}\
associations and institutes where applicable: 1. National Fire Protection Association (NFPA)	3.04 GUARANTEE A. All systems, equipment, components, work, etc. provided under	Single Pole: Hubbell No. CS1221, or equal by Leviton, P&S or Cooper. Double Pole: Hubbell No. CS1222, or equal by Leviton, P&S or	boxes or conduit fittings. Conduit connections to any box which has no threaded hub shall be double locknutted.	the devices in place. G. Where outlets are shown as being adjacent and different		PROJECT NO:
2. American Society of Testing Materials (ASTM) 3. American National Standards Institute (ANSI)	this Division shall be covered by a one year guarantee starting at the time of final acceptance of the work by the Owner. Any defects in the work, systems, equipment or components	Cooper. Three—Way: Hubbell No. CS1223, or equal by Leviton, P&S or Cooper.	E. Provide junction boxes or pull boxes where shown and where necessary to avoid excessive runs or too many bends between outlets. The conduit sizes shown may increase if desired to	mounting heights are specified for each, they shall be mounted one directly over the other, on the centerline of the group.	В	DRAWING NUMBER
 National Electrical Manufacturer's Association (NEMA) Institute of Electrical and Electronic Engineers (IEEE) 	found during this year shall be corrected at no charge. The guarantee shall include providing all necessary cutting,	Four—Way: Hubbell No. CS1224, or equal by Leviton, P&S or Cooper.	facilitate the pulling of cables. F. All conduit shall be concealed unless indicated otherwise.	3.05 NAMEPLATES A. Provide specified nameplates on the main switchboard,		CFD-XXXX-E-0002-41CC2B
C. Manufacturers names and catalog numbers specified herein are intended to describe the material and set the standard of	patchwork, repainting, etc. to make the work complete and new. B. Present this guarantee and any additional warranties or	B. Color shall be as selected by architect. C. Flush motor switches with red pilot light and with overload	Install exposed conduit parallel with or at right angles to the building walls and support from walls or ceilings at intervals required by Code with approved galvanized iron clamps or	distribution panels, feeder switches, feeder breakers, panelboards motor control centers, disconnect switches, contactors, starters, transformers, start—stop push buttons and		DRAWN BY: SEB 2/12/25
quality. All bids shall be based on material specified. Requests for approval of material not specified shall be considered if the request is in written form and submitted to the Architect	guarantees on furnished equipment or systems to the Architect. All equipment or system guarantees are in addition to the	protection for fractional horsepower motors shall be Hubbell No. HBL1221PL.	hangers. Concealed conduit above the ceiling shall be supported independent of ceiling construction. Where ceilings	motor switches. B. Provide nameplates on every device in the main switchboard,		CHK'D BY: XXX XXX
no later than fourteen (14) days before bid date. All requests shall conform with the provisions of the general and	general guarantee. END OF SECTION	D. Key switches shall be Hubbell No. HBL1221L 20A Series or approved equal by P&S or Leviton.	of lay—in type are used, conduit must be installed high enough to permit removal of ceiling panels and lighting fixtures. Use threaded rods and hangers for supporting single conduit. Use	distribution panels and motor control centers. C. Nameplates for surface mounted equipment shall be installed		E-MAIL: jhall@barrettwoodyard.com
supplementary conditions. D. Samples of materials requested to be substituted shall be furnished upon the request of the Architect	SECTION 261000	2.08 WALL MOUNTED OCCUPANCY SWITCHES A. The passive infrared sensor shall be a completely self—contained control system that replaces a standard toggle	trapeze hangers consisting of double—nutted threaded rods and "Unistrut" channels or angles of 12 gauge minimum steel for	on the exterior of equipment with sheetmetal screws. Nameplates for flush or recessed mounted equipment shall be installed on the inside of the panel door or cover with epoxy		THIS DESIGN DRAWING IS THE EXCLUSIVE PROPERTY OF DUKE ENERGY CORPORATION AND IS CONSIDERED CONFIDENTIAL. IT SHALL NOT BE MODIFIED, COPIED, OR DISTRIBUTED WITHOUT PRIOR APPROVAL. THIS INFORMATION SHOULD ONLY BE USED FOR THE SPECIFIC PROJECT INTENDED.
furnished upon the request of the Architect. 2.02 SHOP DRAWINGS AND SUBMITTAL .	ELECTRICAL BASIC MATERIALS & METHODS 1.0 GENERAL	switch. Sensor shall have ground wire for safety. Switching mechanism shall be a latching air gap relay, compatible with	supporting multiple conduit. G. Minimum size conduit for branch circuits shall not be smaller than 1/2". Home runs shall extend from outlets shown to	cement. 3.06 WALL SWITCHES AND RECEPTACLES		SHEET TITLE:
A. The Engineer's review of shop drawings or submittals is a cursory review to check for general compliances of submittals with the design intent of the Contract Documents. The	1.01 DESCRIPTION A. All work specified in this Section shall comply with the	electronic ballasts, compact fluorescent and inductive loads. Triac and other harmonic generating devices shall not be allowed.	than 1/2". Home runs shall extend from outlets shown to panel designated. Home runs shown shall not be combined. Home run conduit shall not be smaller than 3/4".	A. Where more than one device is indicated at a location, the devices shall be gang—mounted in combined multi—gang boxes	Δ	SPECIFICATIONS
Engineer's review does not relieve the Contractor of his responsibility of complying with the Contract Documents. All	provisions of Section 260010. B. This Section describes the basic electrical materials and	B. Sensor shall cover up to 1000 sq. ft. for walking motion, with a field of view of 180 degrees.	H. At couplings, conduit ends shall be threaded so that they meet in the coupling. Right and left hand couplings shall not be	and covered jointly by a common coverplate. Provide barriers as required by the devices and voltages being used.		- ELECTRICAL
coordination of the work in strict compliance with the Contract Documents is the sole responsibility of the Contractor.	installation methods that are acceptable and applicable to Division 26.	C. Sensor shall have system which provides superior 180 degree coverage.	used; conduit couplings of the Erikson Type shall be used at locations requiring such joints.	3.07 COVERPLATES A. All junction boxes, outlet boxes, multi-gang switch boxes, utility		SHEET NO.
B. The following items shall be submitted for review:	2.0 PRODUCTS		I. All conduit for future use, for telephone wire, or for data	boxes, etc., shall be covered with a coverplate. The coverplate		E-002
1 2	3	4 5	6	7 8	9	
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	1 2	3	4 5	6	7 8	9	
	shall be a finished plate as specified unless designated	changed without machining, drilling or tapping.	A. The type lamps shall be as specified for each lighting fixture	B. Fluorescent fixtures installed recessed in a suspended ceiling			DRAWING NO. CFD-XXXXX-E-0003-41CC2B
	otherwise. B. Coverplates shall be mounted vertically unless designated	H. Bus bars for the mains shall be of copper sized in accordance with U.L. standards. Full size bars shall be included. Bus bar	in the lighting fixture schedule. B. The lamp catalog number is the catalog number is generally	system shall be supported from the building structure with four (4) 12 gauge wires on each corner of the fixture. In addition, the fixture shall be clipped to members of the ceiling			
	otherwise. 3.08 GROUNDING	taps for panels with single pole branches shall be arranged for sequence phasing of the branch circuit devices. I. Phase bussing shall be full height without reduction. Cross	for Sylvania Lighting and is given as a standard of the quality and performance required. Equal lamps by General Electric or Philips will be acceptable. When a lamp manufacturer's name	suspension system. C. Fluorescent fixtures installed in or on any ceiling other than a			DUKE
н	A. Ground connections shall be in accordance with the National Electrical Code.	and center connectors shall be of the same material as the bus.	is used along with the catalog number in the lighting fixture schedule, it is considered unequaled by any other lamp and shall not be substituted for. The lamp performance with	suspended ceiling system specifically mentioned above shall be supported with concealed steel rods. Rods shall be 1/4"		н	ENERGY ®
	B. Provide an insulated green bonding jumper from the grounding lug of all receptacles to a Steel City "GEE" clip or a machine screw per NEC 250.8 in the outlet box. The ground wire	J. The neutral bus shall utilize setscrews to bond the neutral wire to the neutral bus through holes drilled in the neutral bar. A sheet copper neutral bus utilizing flathead screws to hold the	energy conserving ballasts furnished under this Section shall be certified by a nationally recognized independent testing MG	diameter minimum and shall be located where recommended by the fixture manufacturer. Provide a minimum of two (2) supports for ^{MC} each 4' or 8' fixture chassis. Supports shall be			
	installed behind the device mounting screws will not be acceptable.	neutral wires will not be acceptable. K. Spaces for future devices shall be included as indicated and	laboratory. C. Fluorescent lamps shall be as specified in the Lighting Fixture Schedule.	maximum of 48" centers. For incandescent fixtures, steel hanging wire may be used by attaching the wire to the fixture			MAILING ADDRESS: P.O. BOX 1007 CHARLOTTE. NC 28201
	C. Provide 1 #6-3/4" conduit from the system ground to the telephone company main distribution frame or service cabinet and to each telephone backboard.	shall be bussed for the maximum rated device that can be fitted into them.	D. Incandescent lamps shall be as specified in Lighting Fixture Schedule.	mounting frame. D. Pendant mounted incandescent fixtures shall be stem supported by a fixture stud mounted in the outlet box. Suspended			
	3.09 TELEPHONE CONDUIT SYSTEM A. Telephone service shall include wood backboards and equipment	L. All circuit breakers shall be manually operated, thermal—magnetic, automatic, of the ampacity and poles as indicated. They shall be quick—make, quick—break, both on	E. All incandescent lamps, except quartz tubes, shall be rated for 130 volt operation.	fluorescent fixtures shall have mounting stems located as per the manufacturer's recommendations, but in no case shall have			Safety Expectations:
	cabinets with service entrance conduit as shown. B. Telephone service entrance cable, all branch cabling and	manual and automatic operation. Breakers shall be over—the—center toggle operating type, with the handle going	F. High Intensity Discharge (HID) lamps shall be as specified in the Lighting Fixture Schedule.	less than two (2) stems per chassis. 3.02 AIMING OF ADJUSTABLE LIGHT FIXTURES			Reduce Risk Remove Exposures to Hazards
	telephone instruments shall be provided by the telephone equipment vendor.	to a position between ON and OFF to indicate automatic tripping. All multi-pole breakers shall have internal	2.03 BALLASTS A. Fluorescent ballast shall be electronic type manufactured by	A. All fixtures with lamp position, tilt, shutters, rotation, or other types of adjustments during the final inspection. Fixtures serving areas where day lighting is predominant will be adjusted			Remove Exposures to Hazards Reinforce Safe Behavior
G	C. Provide an outlet and conduit system for the telephones as shown and leave the same in readiness for wiring by others. Provide pull line in all telephone conduit. Terminate all conduit	common trip. Breakers shall have a minimum of 10,000 RMS symmetrical amperes interrupting capacity unless designated otherwise. The breakers furnished shall be determined by the	Motorola, Magnetek or Advance. B. Ballast shall operate lamps at a frequency or 25 KHz or	after sunset. 3.03 LIGHTING FIXTURES IN MILLWORK		G	
	at a uniform height with smooth insulated bushings at the telephone wood backboards.	specifications and by the minimum U.L. labeled RMS symmetrical amperes interrupting capacity at circuit voltage. All circuit breakers shall be bolted on and rigidly braced.	higher with less than 2% lamp flicker. C. Ballast shall operate at an input voltage of 108 — 132 Vac	A. Special attention shall be given to lighting fixtures indicated to be mounted within, under, on or otherwise incorporated into			
	D. Telephone wall outlets shall be pressed steel sectional switch boxes, wall mounted at the locations indicated. Coverplate shall have a bushed hole.	M. Panels having sub—feed lugs for feeding through shall have 8" minimum extra gutter space at the lug end and on one side.	(120V line) or 249 — 305 Vac (277V line) at an input frequency of 60 Hz. Light output shall remain constant for line voltage fluctuation of + 5%.	millwork or cabinetry. B. Refer to the Architectural drawings and details for specific			
	E. Telephone floor outlets shall be floor boxes as specified at the locations indicated.	N. Each panel as a complete unit shall have a short—circuit current rating equal to or greater than the equipment rating indicated.	D. Ballast shall comply with EMI and RFI limits set by the FCC (CFR 47 part 18) for non—residential applications and not	dimensions. This coordination shall occur prior to ordering fixtures to assure fixtures will fit the space limitations of the millwork.			_
	3.10 CONNECTION TO EQUIPMENT A. Equipment furnished by the Owner or under other Sections,	O. Panels shall be as manufactured by General Electric, Square D, or Cutler—Hammer.	interfere with normal electrical equipment. E. Ballast shall withstand transients as specified by ANSI C.62.41	C. This requirement is intended to preclude incurring additions to the Contract due to fixtures being too small or too large for			
	such as mechanical equipment, elevators, escalators, signs, kitchen equipment, etc., will be installed by others. Provide	2.03 TRANSFORMERS A. Branch circuit and distribution transformers shall be the dry	for location category A3 in the normal mode and location category A1 in the common mode. F. Ballast shall meet applicable ANSI standards.	the space. 3.04 FINAL PREPARATION			
	electrical service and make the electrical circuit connection to this equipment. B. Provide PVC insulated flexible cord sets for all cord and plug	type and shall have the ratings indicated. B. Single phase transformers shall be 480 volt primary and	G. Ballast shall have a minimum power factor of 0.99.	A. All plastic covers shall be removed from fluorescent fixtures. B. Clean all lens and reflectors from debris, fingerprints, dust, etc.			${f \&A}$ Barrett, Woodyard and Associates, Inc.
F	connected building appliances and equipment. Cords shall be sized in accordance with electrical circuits indicated. Multiple	120/208 volt secondary. Three phase transformers shall be 480 volt delta primary and 120/208 volt grounded type secondary. Transformers 25 KVA and larger shall have a	H. Ballast shall not be potted or weigh more than 1.3 pounds. I. Ballast shall have less than 10% Total Harmonic Distortion.	END OF SECTION		F	License # C-2226 420 Minuet LN. Charlotte, North Carolina 28217
	conductor cords shall be "SO" cable with PVC jacket and green insulated ground conductor.	minimum of 4 1/2% full capacity primary taps. C. Transformers shall have a U.L. recognized 220 degree insulation	J. Ballast shall have less than 6% Third Harmonic Distortion. K. Ballast height shall be less than or equal to 1.5 inches.	SECTION 269200 MOTOR CONTROLS AND WIRING			 (p) 704-357-9333 (f) 704-357-9385 © This drawing is copyrighted. It may not be reproduced nor used in any other
	 3.11 CORING, CUTTING AND PATCHING A. Set sleeves for conduit accurately before the concrete floors are poured, or set boxes on the forms so as to leave 	system and shall be designed so that under full load, the average conductor temperature rise does not exceed 115	L. Ballast shall have a poke—in wiretrap connector. M. Ballast shall meet sound rating "A".	1.0 GENERAL 1.01 SCOPE			form or on any other project. BWA JOB # 2022-0632
	openings in the floors in which the required sleeves can be subsequently located. Fill in the voids around the sleeves with	degree C. rise above a 40 degree C. ambient and the enclosure does not exceed a 50 degree C. rise at any point. D. Transformer coils shall be of the continuous wound construction	N. Ballast must be Underwriters Laboratories (UL) listed Class P, Type 1 Outdoor.	A. All work specified in this Section shall comply with the provisions of Section 260010.			_
	B. Should the performance of this preliminary work be neglected	and shall be impregnated with non—hygroscopic, thermosetting varnish. All cores to be constructed of high grade, non—aging	O. Ballast shall provide normal rated lamp life as stated by lamp manufacturers.	B. All motors shall be provided under Division 22 and 23. C. A motor starter shall be provided under this Section for each			
	and should cutting be required in order to install conduit, then the expense of the cutting and restoring of surfaces to their original conditions shall be accomplished without incurring	silicon steel with high magnetic permeability, and low hystersesis and eddy current losses. Magnetic flux densities shall be kept well below the saturation point. The core	P. Rapid start ballasts are series wired and shall maintain full cathode heat during operation.	motor except for those specified in Division 22 or 23 to be furnished with integral starters. Motor starters shall be			
	additions to the Contract. 3.12 EQUIPMENT ANCHORING	laminations shall be clamped together with structural steel angles. The completed core and coil shall then be bolted to the base of the enclosure but isolated therefrom by means of	Q. Rapid start ballast shall have less than a 1.5 Lamp Current Crest Factor (LCCF) and instant start ballasts have less than a 1.7 LCCF.	installed either in a Motor Control Center or separately mounted adjacent to the motor served. D. Motor power wiring is defined as those conductors between the			
Е	A. All items of electrical equipment, such as switchboards, motor control centers, transformers, standby generator, etc., shall be securely anchored to the building structure. The anchoring	rubber, vibration—absorbing mounts. There shall be no metal—to—metal contact between the core and coil and the	R. Instant start ballast shall have parallel lamp operation.	energy source and the motor. This power wiring shall be terminated at the motor terminals.		E	GANTH CARO
	shall be accomplished by utilizing a minimum size of 3/8" steel anchor bolts in the structure and to the item of	enclosure. On transformers 500 KVA and smaller, the vibration isolating system shall be designed to provide a permanent fastening of the core and coil to the enclosure. Sound	S. Ballast factor standard is .875+0.025 on all normal light output products. T. Ballasts for "PL" fluorescent lamps shall be coordinated with	E. All control wiring required for automatic starting and stopping of motors shall be provided under Division 22 or 23 unless			SET L SET L S SET L S SET L S S S S S S S S S S S S S S S S S S S
	equipment. A minimum of two (2) anchor bolts shall be provided on each side of each item of equipment with the following exceptions:	isolating systems requiring the complete removal of all fastening devices will not be acceptable. Sound levels shall be guaranteed by the manufacturer not to exceed the following:	lamps and 2-pin or 4-pin configuration ballasts shall be provided to match lamps. Manufacturer for "PL" fluorescent	specifically shown on the electrical drawings. F. Power wiring shall be connected through all line voltage control devices such as firestats and thermostats.			GINE LANGE
	Exception No. 1: If the equipment manufacturer includes more than two (2) anchor Holes per side in the base or base frame	25 to 50 KVA — 45 DB; 51 to 150 KVA — 50 DB; 151 to 300 KVA — 55 DB; 301 to 500 KVA — 60 DB.	fixtures shall be Advance, Roberson, Lightolier or Lutron. U. Ballasts for High Intensity Discharge (HID) lamps shall be	2.0 PRODUCTS			SEAL 02/12/2025
	of the equipment item, then there shall be one anchor for each anchor hole.	E. Transformers 24 KVA and larger shall be in a heavy gauge, sheet steel, ventilated enclosure. The ventilating openings shall	Constant Wattage Autotransformer (CWA) type or equal type with minimum power factor of 0.9.	2.01 MOTOR STARTERS A. Starters for motors 1/3 horsepower or smaller shall be manual			DUNN OPERATIONS
	Exception No. 2: If the equipment manufacturer recommends a particular quantity greater than two (2) per side, then that	be designed to prevent accidental access to live parts in accordance with UL, NEMA, and National Electrical Code standard for ventilated enclosures. Transformers 25 KVA	2.04 DIFFUSERS A. Unless specified otherwise, all prismatic diffusers for fluorescent	unless remote or automatic starting is required, in which case the starters shall be magnetic, full voltage, non—reversing, single—speed, unless otherwise indicated. All other starters			CENTER
	quantity of anchors shall be provided. END OF SECTION	through 112.5 KVA shall be designed so that they can be either floor or wall mounted. Above 112.5 KVA, they shall be floor—mounted design. The entire transformer enclosure shall	lighting fixtures shall be prismatic acrylic KSH K12 with a thickness of 0.125", measured from the back side to the peak of the prism.	shall be magnetic. B. Each starter for a three—phase motor shall be furnished with			
_	SECTION 262000	be degreased, cleaned, phosphatized, primed and finished with a gray, baked enamel.	B. All wraparound lenses shall be virgin acrylic, one—piece and injection molded.	three (3) overload relays sized for the full load running current of the motor actually provided. Provide an external "HAND-OFF-AUTO" selector switch with green "RUNNING" light.		D	
	SERVICE AND DISTRIBUTION 1.0 GENERAL	F. Transformers shall be Energy Efficient TP-1 compliant. G. Transformers that are of the floor-mounted type shall be	2.05 LIGHT FIXTURE TRIM A. Each recessed lighting fixture shall have a trim to match the	Provide a red pilot light to indicate motor "STOPPED". Each pilot light shall have a legend plate indicating reason for			OPS CENTER
	1.01 DESCRIPTIONA. All work specified in this Section shall comply with the provisions of Section 16010.	mounted on Korfund Vibration Eliminators of the pad type. H. Transformers shall be as manufactured by General Electric, Square D, or Cutler—Hammer.	type of ceiling (plaster, exposed grid, concealed spline, exposed panel, etc.) in which it is being installed, regardless of catalog	signal. C. Each overload relay shall have a normally open alarm contact			OUTBUILDINGS
	B. Provide a complete electrical distribution system. The system shall include the service entrance, main switchboard, feeders,	•	number given. Coordinate with the Architect's reflected ceiling plan to provide the right trim for the type of ceiling the fixture is to be installed in.	which will close only when actuated by an overload (not to be confused with N.O. or N.C. auxiliary contacts). These contacts shall be properly wired to their respective blue pilot light			
	transformers, distribution panels, panelboards, busway, remote control switches, contactors, etc., to provide a complete system.	A. Provide a typewritten directory under plastic for all panelboards with spares marked in pencil.	B. Each lighting fixture recessed in a plastered ceiling of any type shall have a plaster frame.	provided on the starter front cover and having a "TRIPPED" legend plate.			
	C. All distribution switchgear (branch circuit panelboards, switchboard, distribution panelboards, transformers, busway,	B. Provide all necessary hardware to level and secure the switchgear as required by the manufacturer's instructions. Make all electrical connections for supply and load circuits and	2.06 RECESSED INCANDESCENT FIXTURES A. All recessed incandescent fixtures shall comply with Article	D. Individually mounted motor starters shall be in a NEMA Type 1 general purpose enclosure in unfinished areas and shall be flush mounted in all finished areas. All starters mounted in			SUCTION TO THE PROPERTY OF THE
	etc.) shall be the unit responsibility of one manufacturer. All component parts of the above listed items shall be of the	leave in operating condition. C. Clean enclosure of all switchgear of all foreign matter,	410—110, C of the N.E.C. 2.07 FLUORESCENT FIXTURES	exterior areas shall have a NEMA 3R enclosure. Each starter shall have a laminated nameplate to indicate Division 22 or 23			Nolar
С	same manufacturer except where a written request for deviation from this requirement has been approved prior to bid date.	including dust. D. Remove all rust marks and repaint to leave switchgear in new	A. All indoor fluorescent fixtures utilizing double ended lamps or that are supplied from multi—wire branch circuits, shall have a	unit number, function and circuit number. E. A control power transformer shall be provided at each motor starter for connection to the controls provided under Division		С	FOR C
	D. Shop drawings for equipment specified in this Section shall show that all specified requirements have been incorporated.E. All floor mounted distribution equipment shall be mounted on a	condition. END OF SECTION	disconnecting means that complies with Article 410.130, G of the N.E.C. 2.08 LED LIGHTING FIXTURES	22 or 23. The control power transformer shall be mounted inside the motor starter enclosure. All control transformers at			
	4" high concrete pad. 2.0 PRODUCTS	SECTION 263000	A. LED lamps for interior use shall be 3500K, CRI 80 (min.), unless noted otherwise. Color temperature chromaticity over the	50 VA or greater shall have primary fusing. Coordinate all control equipments with Division 22 or 23 and equipment manufacturers.			
	2.01 BRANCH CIRCUIT PANELBOARDS A. Panelboards (panels) shall be general purpose enclosures and	LIGHTING 1.0 GENERAL	lifetime of the product shall be within 0.007 on the CIE 1976 (u',v') diagram.	F. All motor starters, push buttons and pilot lights shall be of the same manufacturer as the switchboard and shall be General			DRN BY
	shall be surface or flush mounted as indicated. Panels shall be of the automatic circuit breaker type, factory assembled by the manufacturer of the circuit breakers. Panels shall be for	1.01 DESCRIPTION A. All work in this Section shall comply with the provisions of	B. System shall be rated at a minimum for 50,000 hours (min.) at 70% lumen maintenance (L80).	Electric, Square D, Siemens I.T.E, Joslyn Clark Controls or Westinghouse. 2.02 COMBINATION STARTERS			DATE 12.2025
	the voltage indicated with the quantity of poles and ampacity of circuit breakers shown.	Section 260010. B. Provide all lighting fixtures and lamps as specified herein and	C. System shall comply with the following: 1. ENERGY STAR® SSL Requirements for Luminaires	 2.02 COMBINATION STARTERS A. Combination starters shall consist of a circuit breaker and a motor starter mounted in a common NEMA Type 1 general 			MARK
	B. Boxes and trim shall be made from code gauge steel. Boxes shall be sufficient size to provide a minimum gutter space of 4" on all sides. Boxes shall be minimum 20" width and 5	as shown. C. All lamps shall be operating at the time of the final inspection	2. IESNA LM-16 3. IESNA LM-58-94 4. IESNA LM-79	purpose enclosure. B. The motor starter components shall be as specified in			PROJECT NO:
В	3/4" depth. C. Hinged door covering all device handles shall be included in all	and for a period of six (6) months after the final acceptance of the project by the Owner.	5. IESNA LM-80 6. ANSI C82.2-2002	paragraph 2.01 for motor starters. C. The circuit breaker component shall be a minimum 22,000 RMS		В	DRAWING NUMBER CFD-XXXXX-E-0003-41CC2B
	panel trim. Doors shall have flush—type cylinder lock and catch, except that doors over 48" in height shall have auxiliary	D. Confirm exact locations of all lighting fixtures by coordination with the Architects Reflected Ceiling Plans and mechanical equipment above or on the ceiling.	7. ANSI C82.77-2002 8. ANSI C78.377-2008 9. CIE 13.3-1995	interrupting capacity and shall be as required in Section 262000.			ELECTRONIC FILE NAME:
	fasteners at top and bottom of door in addition to flush—type cylinder lock and catch. Door hinges shall be concealed. All locks shall be keyed alike. Directory frame and card having a	E. Confirm all ceiling types before ordering lighting fixtures. F. Each lighting fixture shall have been tested and certified for	10. CIE 15-2002 11. ANSI/UL 153 12. UL 1598	3.0 EXECUTION 3.01 INSTALLATION			DRAWN BY: SEB 2/12/25
	transparent cover shall be furnished each panel door. D. Trims for flush panels shall overlap the box by at least 3/4"	proper operation by the fixture manufacturer for the type mounting and ceiling on/in, which it is installed.	13. NEMA 410-2011	A. Provide power wiring to and install all motor starters, unless integrally factory mounted on a piece of equipment. B. Provide power wiring to all motors except packaged units that			CHK'D BY: XXX XXX
	all around. Surface trims shall have the same width and height as the box. Trims shall be mountable by a screwdriver without the need for special tools. After installation, trim	2.0 PRODUCTS 2.01 LIGHTING FIXTURES	D. LED drivers shall be electronic, thermally protected and have an input voltage at 120/277VAC, 60Hz with a power factor of	B. Provide power wiring to all motors except packaged units that are prewired between the starter and motor.C. Where line voltage control devices are mounted at, on or inside			E-MAIL: jhall@barrettwoodyard.com This design drawing is the exclusive property of duke energy
	mounting mechanism or hardware shall not be accessible when panel door is closed and locked.	A. Each lighting fixture shall be as specified in the Lighting Fixture Schedule corresponding with its fixture type indication	>0.90. E. LED boards and drivers shall be provided with plug—in connections for tool—less replacement of components.	a unit, such as aquastats, firestat for single phase devices, etc., the power wiring to the unit shall be connected through			THIS DESIGN DRAWING IS THE EXCLUSIVE PROPERTY OF DUKE ENERGY CORPORATION AND IS CONSIDERED CONFIDENTIAL. IT SHALL NOT BE MODIFIED, COPIED, OR DISTRIBUTED WITHOUT PRIOR APPROVAL. THIS INFORMATION SHOULD ONLY BE USED FOR THE SPECIFIC PROJECT INTENDED.
	E. All exterior and interior steel surfaces of the trim shall be cleaned and finished with gray paint over a rust—inhibiting phosphatized coating.	(letter). B. Most lighting outlets are lettered or groups of outlets are	F. Compatibility of dimming switches for control of dimmable LED drivers shall be confirmed with LED fixture manufacturer.	such a control device. D. On final inspection, it shall be demonstrated to the Architect or his representative, that each overload relay control circuit is			SHEET TITLE: SPECIFICATIONS
А	F. All interiors shall be completely factory assembled with protective devices, wire connectors, etc. All wire connectors,	indicated by a letter. C. Each lighting fixture shall have a manufacturer's label affixed and shall comply with the requirements of all authorities having	3.0 EXECUTION 3.01 SUPPORT OF LIGHTING FIXTURES	properly wired and functioning correctly by manually tripping each overload relay individually, one at a time. This inspection		A	-ELECTRICAL
	except screw terminals, shall be of the anti—turn solderless type and all shall be suitable for copper or aluminum wire.	and shall comply with the requirements of all authorities having jurisdiction. D. The lighting fixtures that are indicated by the letters shall be	A. All lighting shall be supported from the building structure. The fixtures shall be supported in a manner that will insure the	procedure shall not involve removing any wiring or disconnecting any current carrying parts. END OF SECTION			SHEET NO.
	G. Interiors shall be so designed that devices can be replaced without disturbing adjacent units and without removing the main bus connectors, and shall be so designed that devices may be	as indicated on the Lighting Fixture Schedule. 2.02 LAMPS	fixture weight being equally distributed from each support and the fixture remaining in a level position.	END OF SECTION			E-003
	i in the second and shan be so designed that devices inlay be		1	'	ı		
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