

ADDENDUM NO. 1

Springfield School District No. 19

Project: Structural Roof and Large-Span Truss Repair Services

Solicitation No: ITB 25-26/01

Date of Addendum No. 1: April 10, 2026

NOTICE TO BIDDERS

This Addendum No. 1 forms part of the Contract Documents and modifies the original Invitation to Bid and any previous documents as noted below.

SUMMARY OF CHANGES

Addendum No. 1 includes the following:

- **Revised Structural Drawings** for the project (pages 2 – 57)
- Drawings have been updated to clarify the scope and identify affected areas

The revised drawings issued with this Addendum **supersede all previously issued drawings.**

ACKNOWLEDGEMENT

All bidders shall acknowledge receipt of this Addendum No. 1 in their bid proposal. Bidders are responsible for reviewing all addenda and incorporating all requirements into their bid. Failure to acknowledge all addenda may result in the bid being deemed non-responsive.

This Addendum No. 1 shall take precedence over any conflicting information in the original bidding documents.

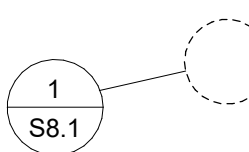
Bidder acknowledges receipt of Addendum No. 1:

_____ (Initial)

STRUCTURAL ABBREVIATIONS

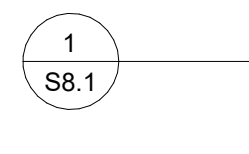
#	NUMBER OR POUNDS	IBC	INTERNATIONAL BUILDING CODE
AB	ANCHOR BOLT	ICF	INSULATED CONCRETE FORMS
ACI	AMERICAN CONCRETE INSTITUTE	ID	INSIDE DIAMETER
ADDL	ADDITIONAL	IN	INCH
ADJ	ADJACENT	INFO	INFORMATION
AESS	ARCHITECTURALLY EXPOSED STRUCTURAL	INT	INTERIOR
ST	STEEL	JST	JOIST
AFF	ABOVE FINISH FLOOR	JT	JOINT
AISC	AMERICAN INSTITUTE OF STEEL CONSTRUCTION		
ALT	ALTERNATE	K	KIP(S) (1,000 POUNDS)
ALUM	ALUMINUM	KSF	KIPS PER SQUARE FOOT
APA	AMERICAN PLYWOOD ASSOCIATION	KSI	KIPS PER SQUARE INCH
APPROX	APPROXIMATELY		
ARCH	ARCHITECTURAL	L, 2L	ANGLE OR DOUBLE ANGLE
ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS	LAT	LATERAL
ASD	ALLOWABLE STRESS DESIGN	LB	POUND
ASSY	ASSEMBLY	LF	LINEAR FOOT
ATR	ALL THREAD ROD	LG	LIGHT GAUGE
ATRA	ALL THREAD ROD WITH ADHESIVE	LL	LIVE LOAD
AWS	AMERICAN WELDING SOCIETY	LLBB	LONG LEGS BACK TO BACK
		LLH	LONG LEG HORIZONTAL
		LLV	LONG LEG VERTICAL
B/	BOTTOM OF	LONG	LONGITUDINAL
BF	BRACED FRAME	LRFD	LOAD AND RESISTANCE FACTOR DESIGN
BLDG	BUILDING	LSL	LAMINATED STRAND LUMBER
BLKG	BLOCKING	LSH	LONG SLOTTED HOLE
BM	BEAM	LVL	LAMINATED VENEER LUMBER
BN	BOUNDARY NAIL	LWC	LIGHT WEIGHT CONCRETE
BOT	BOTTOM		
BRBF	BUCKLING RESTRAINED BRACED FRAME	MANUF	MANUFACTURER
BRNG	BEARING	MAX	MAXIMUM
BSMT	BASEMENT	MC	MISCELLANEOUS CHANNEL
BTWN	BETWEEN	MECH	MECHANICAL
BU	BUILT-UP	MF	MOMENT FRAME
		MFR	MANUFACTURER
C	CAMBER OR CHANNEL (AMERICAN STANDARD)	MEP	MECHANICAL, ELECTRICAL, PLUMBING
CANT	CANTILEVER	MIN	MINIMUM
CFS	COLD-FORMED STEEL	MIR	MIRROR
CIP	CAST IN PLACE	MISC	MISCELLANEOUS
CG	CENTER OF GRAVITY	MSA	MASONRY SCREW ANCHOR
CGS	CENTER OF GRAVITY OF (PRESTRESSING) STEEL	MT	MAGNETIC PARTICLE TESTING
CJ	CONTROL OR CONSTRUCTION JOINT	MTL	METAL
CJP	COMPLETE JOINT PENETRATION		
CL	CENTERLINE	(N)	NEW
CLG	CEILING	NOT	NON-DESTRUCTIVE TESTING
CLR	CLEARANCE; CLEAR	NIC	NOT IN CONTRACT
CLSM	CONTROLLED LOW STRENGTH MATERIAL	NOM	NOMINAL
CMU	CONCRETE MASONRY UNIT	NS	NEAR SIDE
COL	COLUMN	NTE	NOT TO EXCEED
CONC	CONCRETE	NTS	NOT TO SCALE
CONN	CONNECTION	NWC	NORMAL WEIGHT CONCRETE
CONST	CONSTRUCTION		
CONT	CONTINUOUS	OC	ON CENTER
COORD	COORDINATE	OCBF	ORDINARY CONCENTRIC BRACED FRAME
CSA	CONCRETE SCREW ANCHOR	OD	OUTSIDE DIAMETER
		OMF	ORDINARY MOMENT FRAME
d	PENNY (NAIL)	OPP	OPPOSITE
db	NOMINAL BAR DIAMETER	OWJ	OPEN WEB JOIST
DBA	DEFORMED BAR ANCHOR		
DBL	DOUBLE	PAF	POWER ACTUATED FASTENER
DBO	DESIGNED BY OTHERS	PC	PRECAST
DEG	DEGREE	PCF	POUNDS PER CUBIC FOOT
DEMO	DEMOLISH; DEMOLITION	PERP	PERPENDICULAR
DF/L	DOUGLAS FIR-LARCH	PJP	PARTIAL JOINT PENETRATION
DIA	DIAMETER	PL	PLATE
DIAG	DIAGONAL	PLF	POUNDS PER LINEAL FOOT
DIM	DIMENSION	PLWD	PLYWOOD
DIST	DISTANCE	PSI	POUNDS PER SQUARE INCH
DL	DEAD LOAD	PSF	POUNDS PER SQUARE FOOT
DN	DOWN	PSL	PARALLEL STRAND LUMBER
DP	DEPTH OR DEEP	PT	PRESSURE TREATED
DTL	DETAIL	P/T	POST TENSIONED
DWG	DRAWING	PVC	POLYVINYL CHLORIDE
		QTY	QUANTITY
(E)	EXISTING		
E	MODULUS OF ELASTICITY	RAD	RADIUS
EA	EACH	RBS	REDUCED BEAM SECTION
EB	EXPANSION BOLT	REF	REFERENCE
EF	EACH FACE	REINF	REINFORCING
EJ	EXPANSION JOINT	REQD	REQUIRED
EL	ELEVATION	RET	RETAINING
ELEC	ELECTRICAL	REV	REVISED, REVISION
EN	EDGE NAIL	RO	ROUGH OPENING
EOR	ENGINEER OF RECORD		
EQ	EQUAL; EARTHQUAKE	SC	SLIP CRITICAL
EW	EACH WAY	SCBF	SPECIAL CONCENTRIC BRACE FRAME
EXT	EXTERIOR	SCH	SCHEDULE
EXTD	EXTEND, EXTENDED	SEOR	STRUCTURAL ENGINEER OF RECORD
		SFRS	SEISMIC FORCE RESISTING SYSTEM
fc	28 DAY CONC COMPRESSIVE STRENGTH	SHT	SHEET
fm	MASONRY NET AREA COMPRESSIVE STRENGTH	SHTG	SHEATHING
Fy	YIELD STRESS	SIM	SIMILAR
Fu	TENSILE STRESS	SLBB	SHORT LEGS BACK TO BACK
F/	FACE OF	SMF	SPECIAL MOMENT FRAME
FAB	FABRICATED / FABRICATOR	SMS	SHEET METAL SCREW
FF	FINISH FLOOR	SOG	SLAB ON GRADE
FN	FIELD NAIL	SOMD	SLAB ON METAL DECK
FLR	FLOOR	SQ	SQUARE
FDN	FOUNDATION	SS	STAINLESS STEEL
FRT	FIRE RETARDANT TREATED	SSH	SHORT SLOTTED HOLE
FS	FAR SIDE	STD	STANDARD
FT	FEET	STL	STEEL
FTG	FOOTING	SQ	SQUARE
		SYM	SYMMETRICAL
GA	GAUGE		
GAF	GAS ACTUATED FASTENER	T/	TOP OF
GALV	GALVANIZED	T&B	TOP AND BOTTOM
GLB	GLUE LAMINATED BEAM	T&G	TONGUE AND GROOVE
GR	GRADE	THRD	THREADED
GWB	GYP SUM WALL BOARD	TPL	TRIPLE
GYP	GYP SUM	TRANS	TRANSVERSE
		TYP	TYPICAL
HD	HOLDOWN		
HDG	HOT-DIP GALVANIZED	UNO	UNLESS NOTED OTHERWISE
HDR	HEADER	URM	UNREINFORCED MASONRY
HEX	HEXAGONAL	UT	ULTRASONIC TEST
HF	HEM-FIR		
HGR	HANGER	VERT	VERTICAL
HORIZ	HORIZONTAL	VIF	VERIFY IN FIELD
HSA	HEADED STUD ANCHOR		
HSS	HOLLOW STRUCTURAL SECTION	W/	WITH
HT	HEIGHT	W/O	WITHOUT
HVAC	HEATING VENTILATION AIR CONDITIONING	WD	WOOD
		WF	WIDE FLANGE
		WP	WORK POINT
		WT	WEIGHT
		WWR	WELDED WIRE REINFORCING

STRUCTURAL
DRAWING SYMBOLS



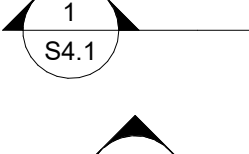
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S8.1

DETAIL REFERENCE



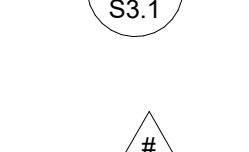
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S8.1

DETAIL SECTION CUT



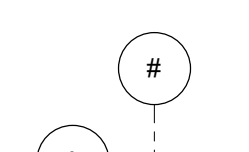
1
S4.1

BUILDING OR
WALL SECTION
CUT



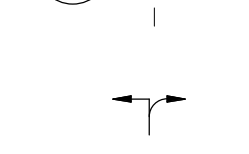
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S3.1

ELEVATION OF
WALL OR FRAME



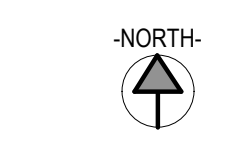
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REVISION SYMBOL

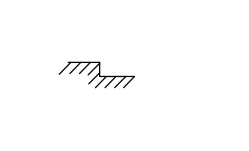


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GRID LINES

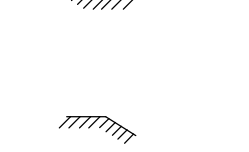


ROTATE VIEW SYMBOL



-NORTH-

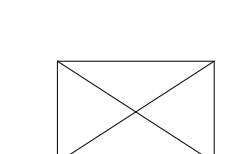
NORTH ARROW



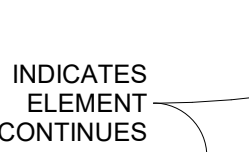
SURFACE - STEPPED



SURFACE - SLOPE UP



SURFACE - SLOPE DOWN



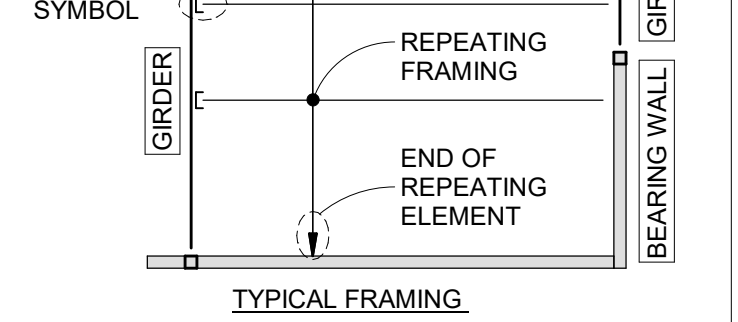
SURFACE - SLOPE
TWO DIRECTIONS



DECKING SPAN
DIRECTION



OPENING IN FLOOR / WALL



INDICATES
ELEMENT
CONTINUES

STRUCTURAL
ELEMENT

EXTENT OF
ELEMENT

SURFACE EXTENTS

REPEATING
FRAMING
CONTINUES

REPEATING
FRAMING

END OF
REPEATING
ELEMENT

FRAMING
CONNECTION
SYMBOL

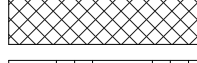
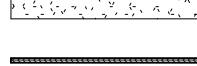
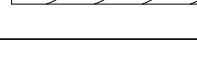
GIRDER

GIRDER

BEARING WALL

TYPICAL FRAMING

STRUCTURAL
MATERIAL PATTERNS

	CONCRETE
	MASONRY
	EARTH
	COMPACTED STRUCTURAL FILL
	STEEL
	SAND OR GROUT
	WOOD SHEATHING - SECTION
	WOOD - PLAN

STRUCTURAL DRAWING INDEX			
SHEET #	SHEET NAME	BID SET	PERMIT SET
S0.01	COVER SHEET	•	•
S0.02	STRUCTURAL NOTES & SPECIAL INSPECTION	•	•
S1.00	STRUCTURAL SITE PLAN	•	•
S1.01	ROOF PLAN	•	•
S1.02	PARTIAL ROOF FRAMING PLAN	•	•
S8.01	DETAILS	•	•

CODE SUMMARY:

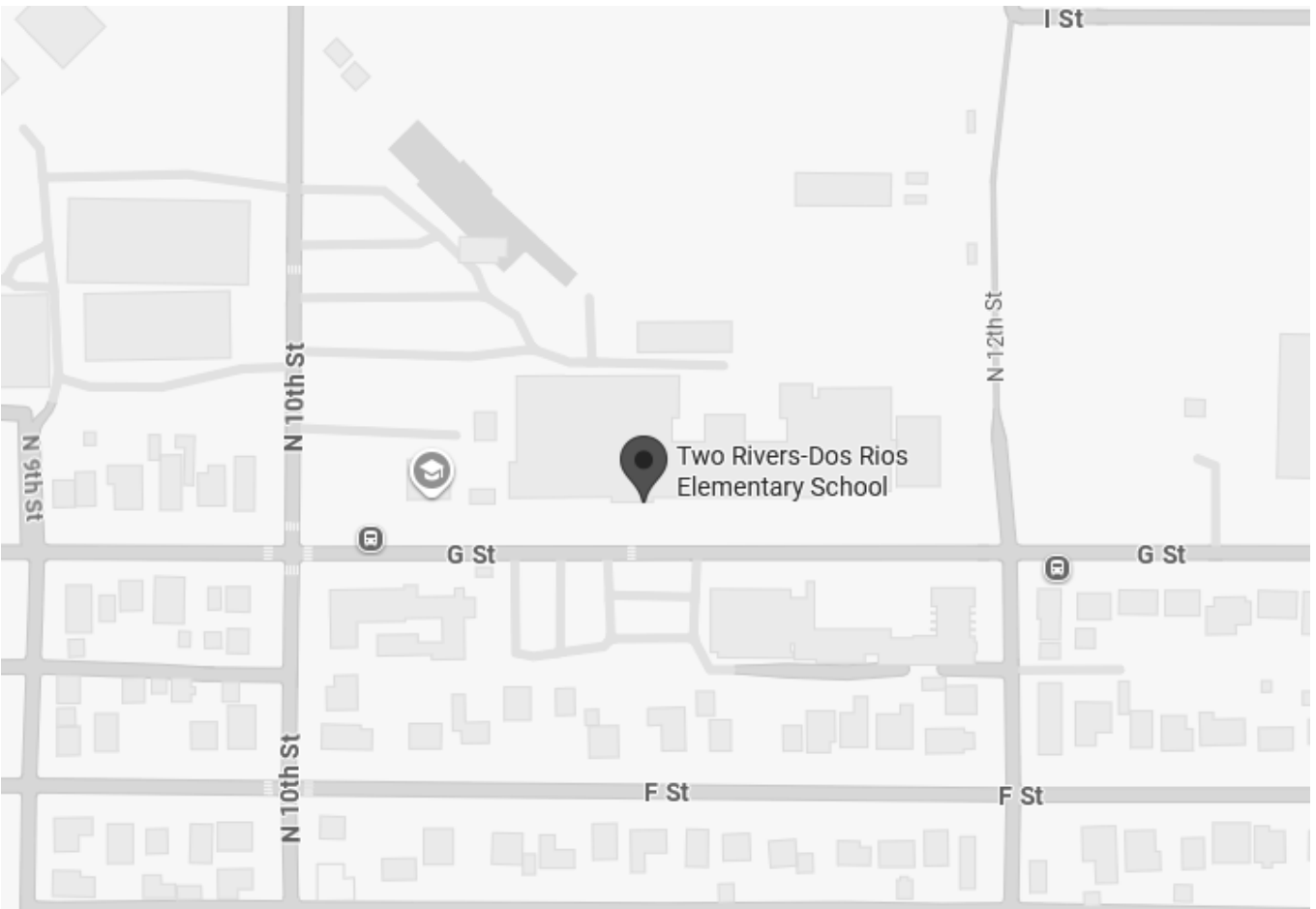
BUILDING CODE: 2022 OSSC
YEAR BUILT: 1951
AREA: 65000 SF (NO CHANGE)
BUILDING CONSTRUCTION TYPE: V-A (NO CHANGE)
OCCUPANCY CLASSIFICATION: E (NO CHANGE)

SCOPE OF WORK:
THE FOLLOWING PLANS ARE FOR THE MANDATORY
REINFORCEMENT OF (E) GLUE LAMINATED BEAMS AND A REPAIR AT
THE CAFETERIA TOP CHORD.

PROJECT DESIGN TEAM:

MILLER CONSULTING ENGINEERS, INC
STRUCTURAL ENGINEER OF RECORD

PRIMARY CONTACT: KEVIN MCCORMICK, kevin@miller-se.com
SECONDARY CONTACT: JENNYLIN LOPEZ, jennylin.lopez@miller-se.com



 **1** VICINITY MAP
S0.01 | NOT TO SCALE

THESE DRAWINGS HAVE BEEN DIGITALLY SIGNED IN ACCORDANCE WITH OREGON ADMINISTRATIVE RULE 820-025-0010.
A DIGITAL SIGNATURE WATERMARK ON THIS PAGE INDICATES THIS SHEET IS PART OF AN ELECTRONICALLY SIGNED DOCUMENT. REFER TO INDEX ON THIS PAGE FOR ALL SHEETS INCLUDED WITH THIS DIGITAL SIGNATURE.



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TWO RIVERS - DOS
RIOS
ELEMENTARY
SCHOOL REPAIR

1084 G STREET
SPRINGFIELD, OREGON

SPRINGFIELD PUBLIC
SCHOOLS

REV	DESCRIPTION	DATE

DESIGNED BY: JDL
CHECKED BY: KMM
MCE PROJ #: 251372
ISSUE DATE: 03.20.2026
ISSUANCE: PERMIT SET

SHEET CONTENT
COVER SHEET

SHEET

S0.01

STRUCTURAL NOTES

GENERAL NOTES

THESE CONTRACT DOCUMENTS COMPRISED OF PLANS, SPECIFICATIONS, ENGINEERING AND DESIGN WORK ARE INTENDED SOLELY FOR THE PROJECT SPECIFIED HEREIN. MILLER CONSULTING ENGINEERS (MCE) DISCLAIMS ALL LIABILITY IF THESE PLANS AND SPECIFICATIONS OR THE DESIGN, ADVICE AND INSTRUCTIONS ATTENDANT THERETO ARE USED ON ANY PROJECT OR AT ANY LOCATION OTHER THAN THE PROJECT AND LOCATION SPECIFIED HEREIN.

THE CONTRACT DOCUMENTS REPRESENT THE FINISHED STRUCTURE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONFORMANCE TO ALL SAFETY REGULATIONS DURING CONSTRUCTION. THE CONTRACTOR SHALL PROVIDE ALL METHODS, DIRECTION AND RELATED EQUIPMENT NECESSARY TO PERFORM THE WORK.

SHOULD ANY QUESTION ARISE REGARDING THE CONTRACT DOCUMENTS OR SITE CONDITIONS, THE CONTRACTOR SHALL REQUEST INTERPRETATION AND CLARIFICATION FROM THE ENGINEER BEFORE BEGINNING THE PROJECT. THE ABSENCE OF SUCH REQUEST SHALL SIGNIFY THAT THE CONTRACTOR HAS REVIEWED AND FAMILIARIZED THEMSELVES AND HAS COMPLETE COMPREHENSION OF ALL ASPECTS OF THE PROJECT.

THE CONTRACTOR IS RESPONSIBLE FOR VERIFICATION AND CORRELATION OF ALL ITEMS AND WORK NECESSARY FOR COMPLETION OF THE PROJECT AS INDICATED BY THE CONTRACT DOCUMENTS. THE CONTRACT DOCUMENTS ARE STRUCTURAL ONLY AND DO NOT NECESSARILY INDICATE ALL NON-STRUCTURAL PORTIONS OF THE PROJECT INCLUDING, BUT NOT LIMITED TO, PLUMBING, FIRE SUPPRESSION, ELECTRICAL, MECHANICAL, LAND USE, SITE PLANNING, EROSION CONTROL, FLASHING AND WATER-PROOFING. ALL NON-STRUCTURAL PORTIONS OF WORK, AND STRUCTURAL WORK NOTED AS DELEGATED DESIGN IN THE SUBMITTAL SCHEDULE, ARE BEYOND THE SCOPE OF THESE DOCUMENTS AND ARE PROVIDED BY OTHERS. THE CONTRACTOR IS RESPONSIBLE FOR VERIFICATION AND CORRELATION OF ALL NON-STRUCTURAL ITEMS IMPACTED BY THE STRUCTURAL WORK. THESE ITEMS SHALL BE RESTORED TO THEIR ORIGINAL CONDITION OR MODIFIED IN ACCORDANCE WITH THE RECOMMENDATIONS OF A QUALIFIED DESIGN PROFESSIONAL ENGAGED AT THE CONTRACTOR'S OWN EXPENSE.

ANY MATERIAL NOT AS SPECIFIED IN THE CONTRACT DOCUMENTS OR IMPROPER MATERIAL INSTALLATION OR WORKMANSHIP SHALL BE REMOVED AND REPLACED WITH SPECIFIED MATERIAL IN A WORKMANLIKE MANNER AT THE CONTRACTOR'S EXPENSE. IT IS THE CONTRACTOR'S RESPONSIBILITY TO PROTECT ALL MATERIALS FROM DAMAGE THROUGHOUT THE COURSE OF CONSTRUCTION. CHANGES TO THE CONTRACT DOCUMENTS REQUESTED BY THE CONTRACTOR TO ACCOMPLISH THEIR PREFERRED MEANS OR METHOD OF CONSTRUCTION MAY BE AT THE CONTRACTOR'S EXPENSE.

ALL MANUFACTURED PRODUCTS SPECIFIED SHALL BE USED UNLESS AN ALTERNATE IS SUBMITTED AND APPROVED BY THE SEOR. MANUFACTURED PRODUCTS REQUIRING A BUILDING CODE EVALUATION REPORT SHALL HAVE A CURRENT REPORT DEMONSTRATING CONFORMANCE WITH THE APPLICABLE BUILDING CODE, VALID AT THE TIME OF PRODUCT INSTALLATION.

TEMPORARY MEASURES/SHORING

THE CONTRACTOR IS RESPONSIBLE FOR IDENTIFYING ALL INSTANCES WHERE TEMPORARY MEASURES/SHORING ARE REQUIRED, AND SHALL AT THEIR OWN EXPENSE, ENGAGE PROPERLY QUALIFIED PERSONS TO DETERMINE WHERE AND HOW TEMPORARY MEASURES/SHORING ARE REQUIRED. TEMPORARY MEASURES/SHORING SHALL:

- PROTECT PERSONNEL AND THE PUBLIC.
- PREVENT SETTLEMENT AND/OR DAMAGE TO THE BUILDING AND/OR EXISTING FACILITIES
- PROTECT STREETS, WALKWAYS, UTILITIES, AND IMPROVEMENTS.
- PROTECT ALL EXCAVATIONS AGAINST LOSS OF GROUND OR CAVING OF EMBANKMENTS DURING CONSTRUCTION.

BUILDING CODE

ALL PHASES OF THE WORK SHALL CONFORM TO THE 2022 OREGON STRUCTURAL SPECIALTY CODE (OSSC), BASED ON THE 2021 INTERNATIONAL BUILDING CODE (IBC), INCLUDING ALL REFERENCE STANDARDS, UNLESS NOTED OTHERWISE.

SPECIAL INSPECTION/TESTING

SPECIAL INSPECTION AND/OR TESTING IS REQUIRED IN ACCORDANCE WITH BUILDING CODE SECTION 1704. IT IS THE OWNER'S RESPONSIBILITY TO PROVIDE SPECIAL INSPECTION AND TESTING BY A QUALIFIED THIRD PARTY, SUCH AS A TESTING AGENCY REVIEWED BY THE ENGINEER AND APPROVED BY THE BUILDING OFFICIAL. THE CONTRACTOR SHALL PROVIDE SUFFICIENT NOTICE TO ALLOW SCHEDULING OF SPECIAL INSPECTION.

SPECIAL INSPECTIONS SHALL CONFORM TO SECTION 1705 OF THE BUILDING CODE, CONTRACT DOCUMENTS AND SUBMITTALS. THE SPECIAL INSPECTOR SHALL OBSERVE THE INDICATED WORK FOR COMPLIANCE WITH THE CONSTRUCTION DOCUMENTS. ALL DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE CONTRACTOR FOR CORRECTION AND NOTED IN THE INSPECTION REPORTS. FOR PROJECT REQUIREMENTS REFER TO THE SPECIAL INSPECTION TABLES WITHIN THE CONTRACT DOCUMENTS.

STRUCTURAL OBSERVATION

STRUCTURAL OBSERVATION BY THE SEOR SHALL VERIFY BY PERIODIC VISUAL OBSERVATION THAT THE STRUCTURAL SYSTEM HAS GENERAL CONFORMANCE WITH THE CONSTRUCTION DOCUMENTS AT SIGNIFICANT STAGES OF CONSTRUCTION AND AT COMPLETION AS REQUIRED IN ACCORDANCE WITH BUILDING CODE SECTION 1704.6. THE CONTRACTOR SHALL PROVIDE SUFFICIENT NOTICE TO ALLOW SCHEDULING FOR A STRUCTURAL OBSERVATION. STRUCTURAL OBSERVATION SHALL BE PERFORMED DURING CONSTRUCTION AT THE FOLLOWING TIME:

- AFTER COMPLETION OF STRUCTURAL REINFORCING OF ALL BEAMS

STRUCTURAL DESIGN CRITERIA

LIVE LOAD REDUCTION FOR BEAMS AND COLUMNS WAS NOT USED. DESIGN FOR MECHANICAL LOADS INCLUDES ONLY THOSE INDICATED ON STRUCTURAL DRAWINGS. THE FOLLOWING ARE THE DESIGN REQUIREMENTS:

STRUCTURAL DESIGN CRITERIA	
RISK CATEGORY	III
SUPERIMPOSED DEAD LOAD (EXCLUDING STRUCTURAL FRAME SELF WEIGHT)	
ROOF (TOTAL INCLUDING ROOFING/CEILING)	15 PSF
WALLS	8 PSF
ROOF LIVE LOAD	
ROOF LIVE LOAD	20 PSF OR 300LB CONCENTRATED LOAD
ROOF SNOW LOAD	
DESIGN ROOF SNOW LOAD	27 PSF
SNOW DRIFTING	AS NOTED ON PLANS (IF OCCURS)
IMPORTANCE FACTOR	I _s = 1.1
GROUND SNOW LOAD	P _g = 11 PSF
EXPOSURE FACTOR	C _e = 0.9
THERMAL FACTOR	C _t = 1.1

WOOD FRAMING

WOOD FRAMING CONNECTIONS

PREDRILL ALL SCREWS INTO EXISTING LUMBER TO ¾ OF THE ROOT THREAD DIAMETER OF THE SCREW.

PREFABRICATED METAL TIMBER CONNECTORS SHALL BE MANUFACTURED BY SIMPSON STRONG-TIE, UNLESS NOTED OTHERWISE. ALL PREFABRICATED METAL TIMBER CONNECTORS AND HANGERS SHALL BE FULLY BOLTED, NAILED, AND/OR SCREWED AS INDICATED BY MANUFACTURER, UNLESS NOTED OTHERWISE. ALL CONNECTORS, HANGERS AND FASTENERS SHALL BE CORROSION PROTECTED PER MANUFACTURER'S RECOMMENDATIONS.

ALL BOLTS IN WOOD CONNECTIONS SHALL BE ASTM A307 GRADE A. ALL BOLT HEADS OR NUTS BEARING ON WOOD TO HAVE STANDARD WASHERS. BOLT HOLES IN WOOD SHALL BE A MINIMUM OF 1/32G TO A MAXIMUM OF 1/16G LARGER THAN THE BOLT. ALL LAG SCREWS SHALL HAVE PILOT HOLES PER THE LAG SCREW PILOT HOLE SCHEDULE. REFER TO SECTION 12.1 OF THE NDS FOR ADDITIONAL INSTALLATION INSTRUCTIONS OF DOWEL-TYPE FASTENERS.

ENGINEERED LUMBER

ENGINEERED LUMBER SHALL HAVE A BUILDING CODE EVALUATION REPORT.

ALL ENGINEERED LUMBER EXPOSED TO WEATHER AND SUBJECT TO DECAY, SHALL BE PRESERVATIVE TREATED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS FOR PRESERVATIVE MATERIALS, RETENTION RATES, AND END USE.

GLUE LAMINATED (GLULAM) WOOD MEMBERS

GLULAM MEMBERS SHALL BE MANUFACTURED AND CERTIFIED PER THE AMERICAN INSTITUTE OF TIMBER CONSTRUCTION (AITC), ANSI/AITC A190.1, ASTM D3737 AND CERTIFICATION STAMPED. GLULAM MEMBERS SHALL CONTAIN AN AVERAGE MOISTURE CONTENT OF 16% OR LESS AT TIME OF MANUFACTURE. EASE EDGES ON GLULAM MEMBERS AS REQUIRED TO BE COMPATIBLE WITH STEEL AT CONNECTIONS.

GLULAM APPEARANCE SHALL BE AS FOLLOWS UNLESS SPECIFIED OTHERWISE ON THE ARCHITECTURAL DRAWINGS:

- NOT EXPOSED TO VIEW IN COMPLETED CONSTRUCTION: INDUSTRIAL APPEARANCE
- EXPOSED TO VIEW: ARCHITECTURAL APPEARANCE

THE APPEARANCE CERTIFICATION STAMP ON ARCHITECTURAL APPEARANCE MEMBERS SHALL BE PLACED ON SURFACES NOT EXPOSED IN COMPLETED CONSTRUCTION.

GLULAM BEAMS WITH A SIMPLE SPAN BETWEEN SUPPORTS SHALL HAVE A CAMBER EQUAL TO A 2600' RADIUS BETWEEN SUPPORTS FOR SPANS OVER 24', OR AS NOTED ON DRAWINGS. MULTI-SPAN AND CANTILEVER BEAMS SHALL NOT HAVE A CAMBER UNLESS NOTED OTHERWISE.

GLULAM MEMBERS SPECIFIED AS PRESERVATIVE TREATED SHALL BE TREATED WITH PERMAPOST KLEAR-GARD 25 OR EQUAL.

GLULAM MEMBERS SHALL HAVE THE FOLLOWING MINIMUM ALLOWABLE DESIGN PROPERTIES:

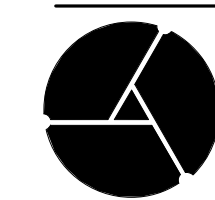
GLULAM BEAMS		
	SIMPLE SPAN	CONTINUOUS OVER MULTIPLE SUPPORTS OR CANTILEVER
COMBINATION SYMBOL (SPECIES)	24F-V4 (DF/DF)	24F-V8 (DF/DF)
MODULUS OF ELASTICITY, E (PSI)	1,800,000	1,800,000
FLEXURAL STRESS, F _b ** (PSI)	+2,400 / -1,850	+2,400 / -2,400
TENSION STRESS, F _t (PSI)	1,100	1,100
COMPRESSION PERPENDICULAR TO GRAIN, F _c PERP (PSI)	650	650
COMPRESSION PARALLEL TO GRAIN, F _{ci} (PSI)	1,650	1,650
HORIZONTAL SHEAR PARALLEL TO GRAIN, F _v (PSI)	265	265
SPECIFIC GRAVITY	0.50	0.50

LAMINATED VENEER LUMBER (LVL)

LVL FRAMING SHALL HAVE THE FOLLOWING MINIMUM PROPERTIES:

PROPERTY	MINIMUM VALUE
MODULUS OF ELASTICITY, E (PSI)	2,000,000
FLEXURAL STRESS, F _b (PSI)	2,600
TENSION STRESS, F _t (PSI)	1,895
COMPRESSION PERPENDICULAR TO GRAIN, F _c PERP (PSI)	750
COMPRESSION PARALLEL TO GRAIN, F _{ci} (PSI)	2,510
HORIZONTAL SHEAR PARALLEL TO GRAIN, F _v (PSI)	285
SPECIFIC GRAVITY	0.50





MILLER
CONSULTING
ENGINEERS

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TWO RIVERS - DOS
RIOS
ELEMENTARY
SCHOOL REPAIR

1084 G STREET
SPRINGFIELD, OREGON

SPRINGFIELD PUBLIC
SCHOOLS

REV	DESCRIPTION	DATE

DESIGNED BY: JDL
CHECKED BY: KMM
MCE PROJ #: 251372
ISSUE DATE: 03.20.2026
ISSUANCE: PERMIT SET

SHEET CONTENT
STRUCTURAL NOTES &
SPECIAL INSPECTION

SHEET

S0.02



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**TWO RIVERS - DOS
RIOS
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SCHOOL REPAIR**

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SHEET CONTENT
STRUCTURAL SITE PLAN

SHEET

S1.00



1 STRUCTURAL SITE PLAN

S1.00 | 1" = 30'-0"

A DIGITAL SIGNATURE WATERMARK ON SHEET
S0.01 INDICATES THIS SHEET IS PART OF AN
ELECTRONICALLY SIGNED DOCUMENT

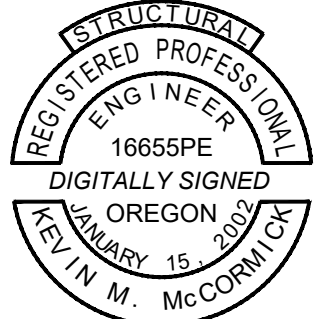
GENERAL SHEET NOTES:

- G1.

SEE S0.02 AND SUBSEQUENT SHEETS FOR STRUCTURAL NOTES AND SPECIAL INSPECTION REQUIREMENTS
- G2.

FIELD VERIFY EXISTING CONDITIONS PRIOR TO DEMOLITION OR PURCHASE OF MATERIALS
- G3.

THESE PLANS ARE STRUCTURAL ONLY - SIDING, FLASHING, MOISTURE PROTECTION, ETC ARE DESIGNED BY OTHERS



EXPIRES: 12 - 31 - 2026



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1084 G STREET
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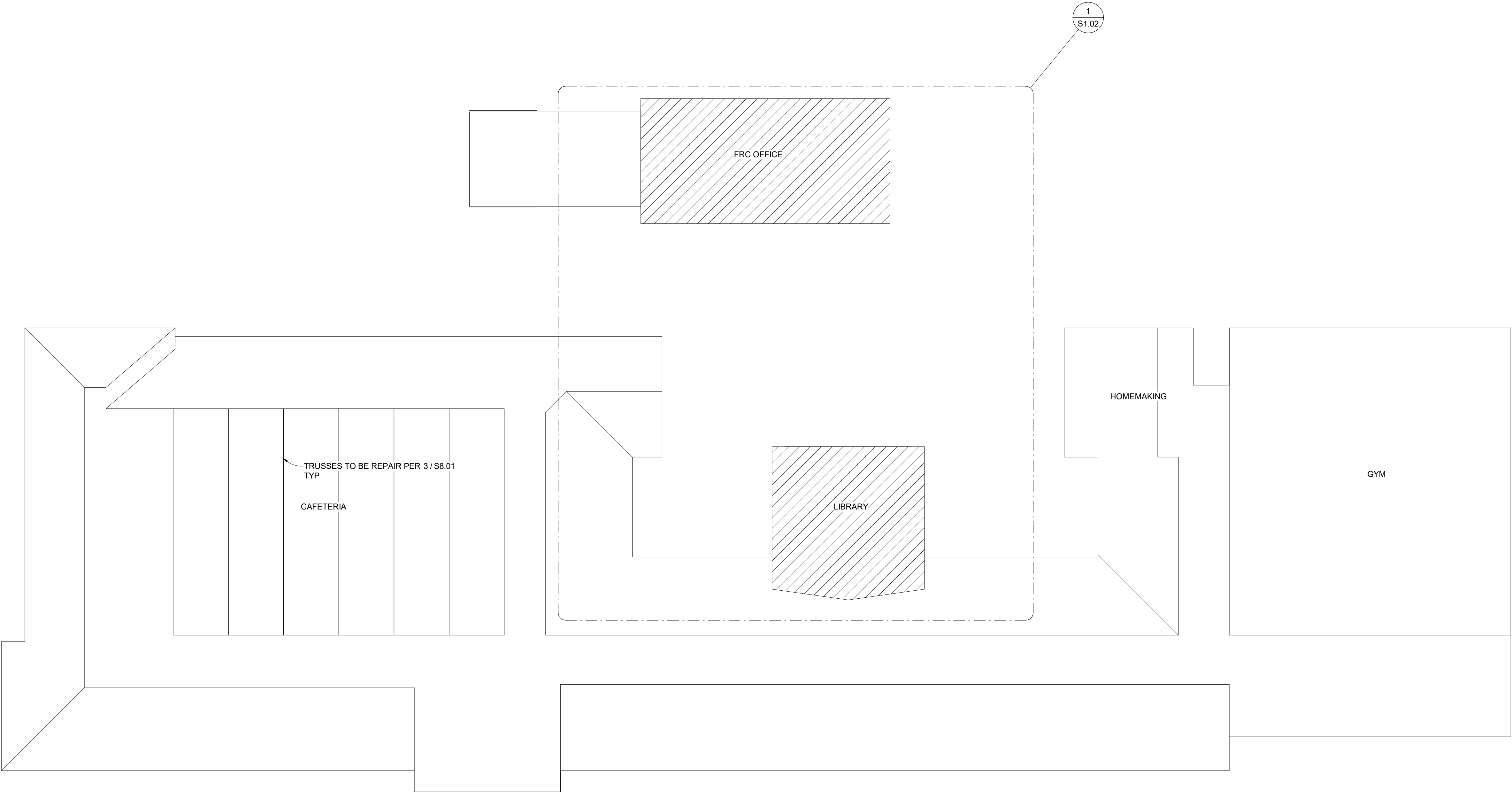
REV	DESCRIPTION	DATE

DESIGNED BY: JDL
CHECKED BY: KMM
MCE PROJ #: 251372
ISSUE DATE: 03.20.2026
ISSUANCE: PERMIT SET

SHEET CONTENT
ROOF PLAN

SHEET

S1.01



 NORTH
1 ROOF PLAN
S1.01 | 1" = 20'-0"

A DIGITAL SIGNATURE WATERMARK ON SHEET
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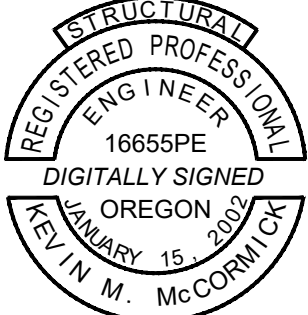
GENERAL SHEET NOTES:

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TWO RIVERS - DOS
RIOS
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SCHOOL REPAIR

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SPRINGFIELD PUBLIC
SCHOOLS

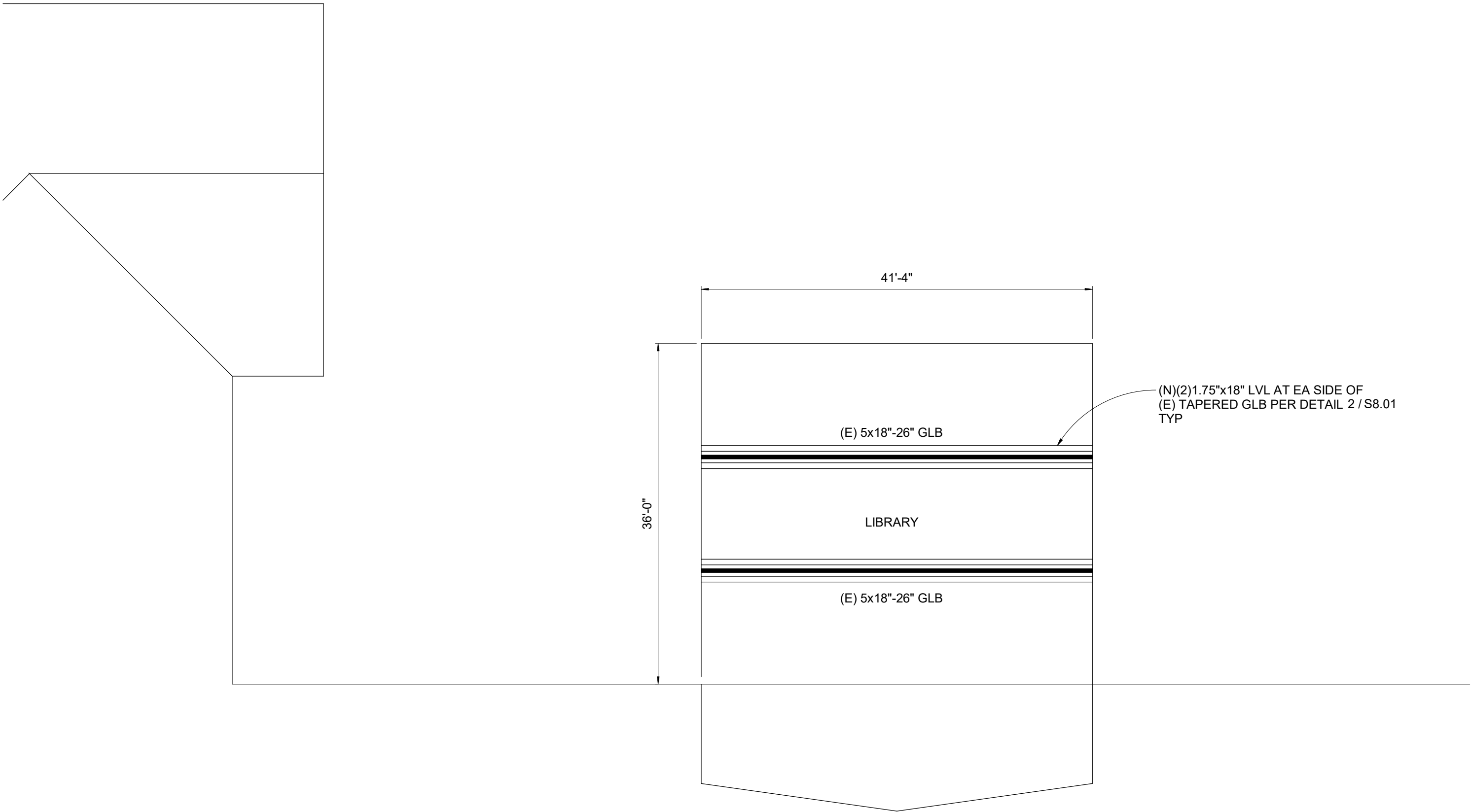
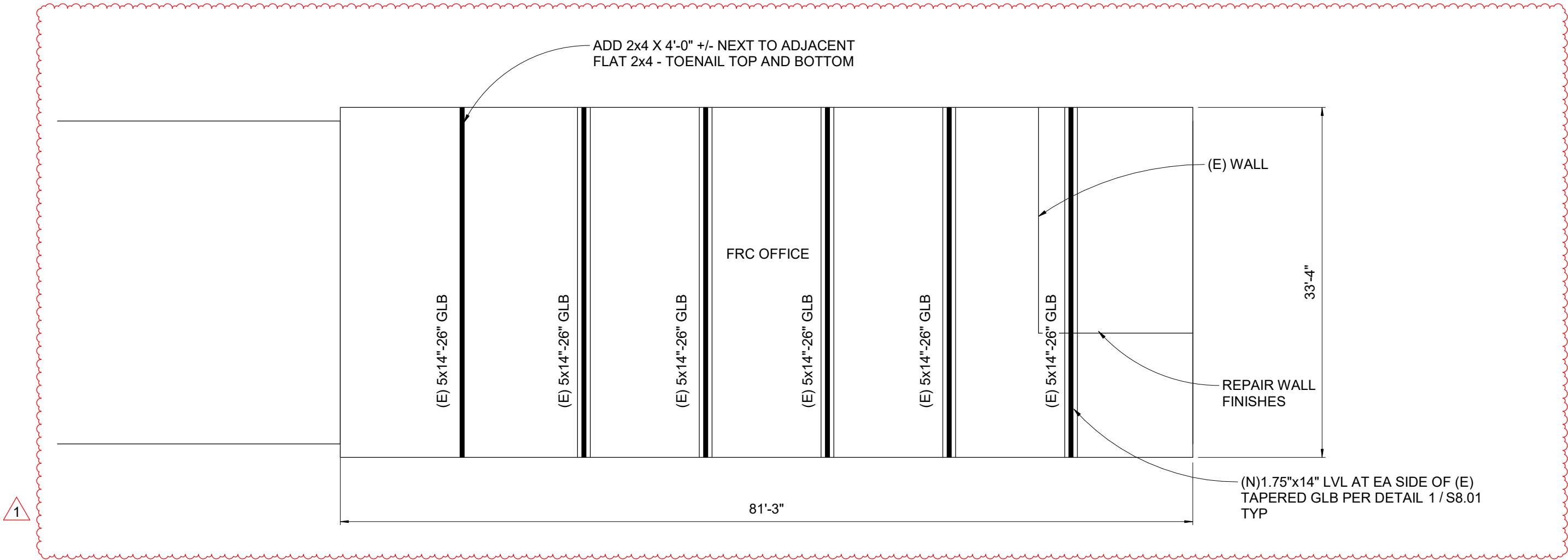
REV	DESCRIPTION	DATE
1	ADDENDUM #1	04.08.2026

DESIGNED BY: JDL
CHECKED BY: KMM
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ISSUE DATE: 03.20.2026
ISSUANCE: PERMIT SET

SHEET CONTENT
PARTIAL ROOF FRAMING
PLAN

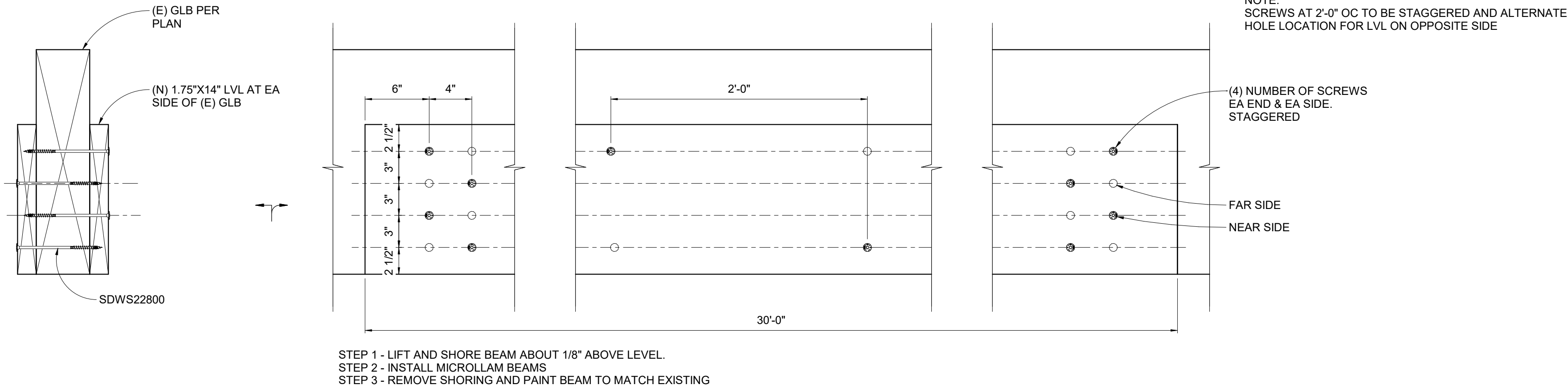
SHEET

S1.02



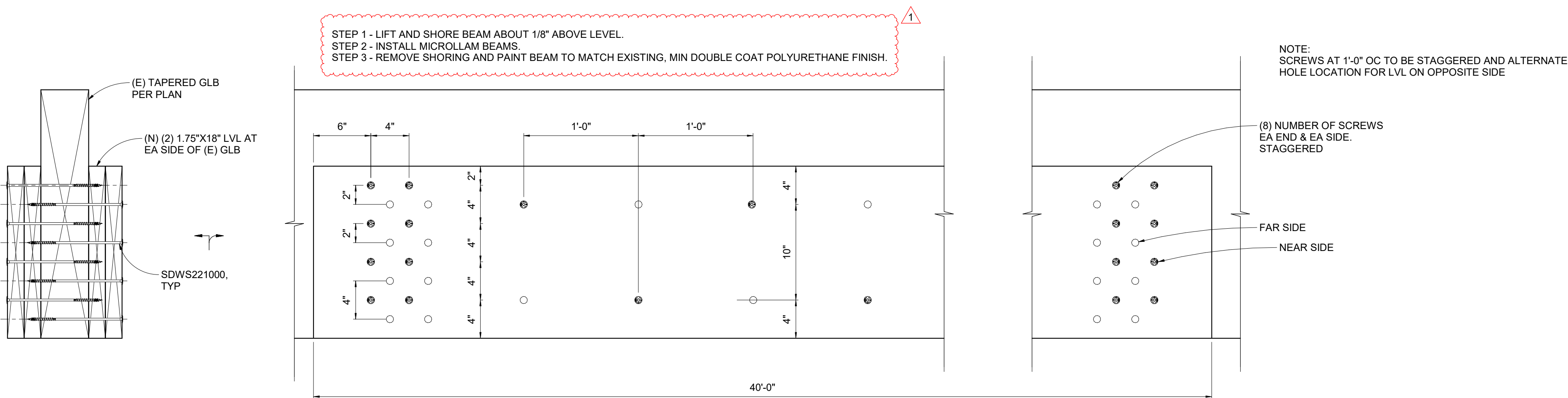
1 PARTIAL ROOF FRAMING PLAN

S1.02 | 1" = 10'-0"



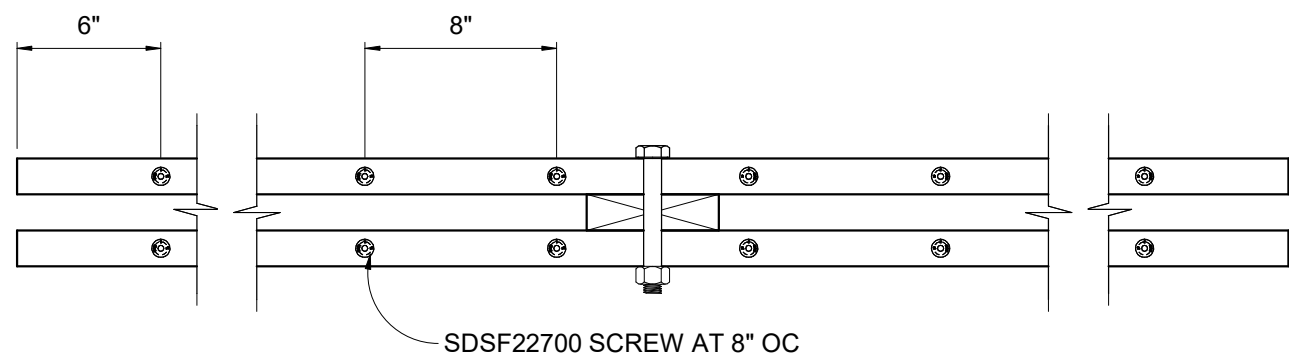
1 FRC REPAIR

S8.01 | 1 1/2" = 1'-0"



2 LIBRARY REPAIR

S8.01 | 1 1/2" = 1'-0"



STEP 1
VERIFY CRACK GOING THROUGH THE BOLT. SAND SURFACE AND CLEAN AREA AROUND CRACK TO ALLOW BONDING TO WOOD SURFACE. USE CLEAN COMPRESSED AIR TO BLOW OUT THE CRACK AND REMOVE ANY DUST OR DEBRIS.

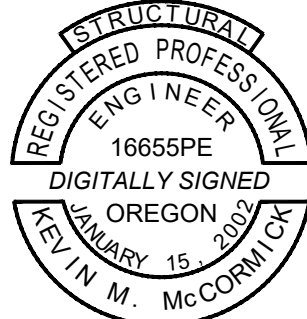
STEP 2
PREDRILL AND INSTALL SCREWS TO CLAMP TOP CHORD TOGETHER. SCREWS MUST BE INSTALLED WITHIN CURE TIME OF INJECTION EPOXY IN SAME AREA OF BEAM.

STEP 3:
FILL MARKED AND CLEANED CRACKS WITH EPOXY. PRIOR TO EPOXY INJECTION, PROTECT ALL ADJACENT SURFACES FROM UNINTENDED CONTACT.
1)APPLY A SMALL AMOUNT OF GELMAGIC PASTE AROUND THE PORT BASE. PLACE THE PORT ON ONE END OF THE CRACK AND REPEAT EVERY 8" ALONG CRACK UNTIL ENTIRE CRACK IS PORTED.
2) GENEROUSLY WORK GELMAGIC PASTE OVER THE ENTIRE LENGTH OF THE CRACK. IF CRACK IS PRESENT ON OPPOSITE SIDE OF BEAM BOTH SIDES MUST BE COVERED. MOUND THE PASTE AT LEAST 1/4" THICK AND 1" OUT FROM BASE OF PORT . MOUND 3/16" THICK AND 1" WIDE ALONG LENGTH OF CRACK.
3)ONCE OUTER PASTE HAS CURED START INJECTING T-88 EPOXY AT THE END OF THE CRACK OR LOWEST INJECTION PORT. MAKE SURE THE HEADS OF ALL PORTS ARE IN THE OPEN POSITION. CONTINUE UNTIL EPOXY EMERGES FROM THE ADJACENT PORT. AS SOON AS EPOXY EMERGES FROM THE ADJACENT PORT THE INJECTOR SHOULD BE TRANSFERRED TO THE NEXT PORT AND THE PREVIOUS PORT SEALED. CONTINUE UNTIL EVERY PORT HAS REFUSED EPOXY AND THE CRACK IS COMPLETELY FILLED.
4)GIVE THE T-88 INJECTION EPOXY SUFFICIENT TIME TO CURE. REMOVE THE INJECTION PORTS AND GELMAGIC PASTE. ENSURE NO RUN OUT OR SMEARING OF THE INJECTION EPOXY ONCE OUTER GEL IS REMOVED.

STEP 4:
SAND TO REMOVE SURFACE GEL/EPOXY.

3 CAFETERIA TOP CHORD REPAIR

S8.01 | 1 1/2" = 1'-0"



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1	ADDENDUM #1	04.08.2026

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SHEET CONTENT

DETAILS

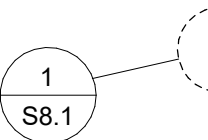
SHEET

S8.01

STRUCTURAL ABBREVIATIONS

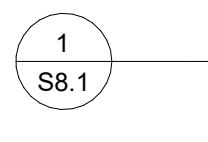
#	NUMBER OR POUNDS	IBC	INTERNATIONAL BUILDING CODE
AB	ANCHOR BOLT	ICF	INSULATED CONCRETE FORMS
ACI	AMERICAN CONCRETE INSTITUTE	ID	INSIDE DIAMETER
ADDL	ADDITIONAL	IN	INCH
ADJ	ADJACENT	INFO	INFORMATION
AESS	ARCHITECTURALLY EXPOSED STRUCTURAL	INT	INTERIOR
	STEEL	JST	JOIST
AFF	ABOVE FINISH FLOOR	JT	JOINT
AISC	AMERICAN INSTITUTE OF STEEL CONSTRUCTION		
ALT	ALTERNATE	K	KIP(S) (1,000 POUNDS)
ALUM	ALUMINUM	KSF	KIPS PER SQUARE FOOT
APA	AMERICAN PLYWOOD ASSOCIATION	KSI	KIPS PER SQUARE INCH
	APPROX APPROXIMATELY		
ARCH	ARCHITECTURAL	L, 2L	ANGLE OR DOUBLE ANGLE
ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS	LAT	LATERAL
ASD	ALLOWABLE STRESS DESIGN	LB	POUND
ASSY	ASSEMBLY	LF	LINEAR FOOT
ATR	ALL THREAD ROD	LG	LIGHT GAUGE
ATRA	ALL THREAD ROD WITH ADHESIVE	LL	LIVE LOAD
AWS	AMERICAN WELDING SOCIETY	LLBB	LONG LEGS BACK TO BACK
		LLH	LONG LEG HORIZONTAL
		LLV	LONG LEG VERTICAL
		LONG	LONGITUDINAL
B/	BOTTOM OF	LRFD	LOAD AND RESISTANCE FACTOR DESIGN
BF	BRACED FRAME	LSL	LAMINATED STRAND LUMBER
BLDG	BUILDING	LSH	LONG SLOTTED HOLE
BLKG	BLOCKING	LVL	LAMINATED VENEER LUMBER
BM	BEAM	LWC	LIGHT WEIGHT CONCRETE
BN	BOUNDARY NAIL		
BOT	BOTTOM	MANUF	MANUFACTURER
BRBF	BUCKLING RESTRAINED BRACED FRAME	MAX	MAXIMUM
BRNG	BEARING	MC	MISCELLANEOUS CHANNEL
BSMT	BASEMENT	MECH	MECHANICAL
BTWN	BETWEEN	MF	MOMENT FRAME
BU	BUILT-UP	MFR	MANUFACTURER
		MEP	MECHANICAL, ELECTRICAL, PLUMBING
C	CAMBER OR CHANNEL (AMERICAN STANDARD)	MIN	MINIMUM
CANT	CANTILEVER	MIR	MIRROR
CFS	COLD-FORMED STEEL	MISC	MISCELLANEOUS
CIP	CAST IN PLACE	MSA	MASONRY SCREW ANCHOR
CG	CENTER OF GRAVITY	MT	MAGNETIC PARTICLE TESTING
CGS	CENTER OF GRAVITY OF (PRESTRESSING) STEEL	MTL	METAL
CJ	CONTROL OR CONSTRUCTION JOINT		
CJP	COMPLETE JOINT PENETRATION	(N)	NEW
CL	CENTERLINE	NOT	NON-DESTRUCTIVE TESTING
CLG	CEILING	NIC	NOT IN CONTRACT
CLR	CLEARANCE; CLEAR	NOM	NOMINAL
CLSM	CONTROLLED LOW STRENGTH MATERIAL	NS	NEAR SIDE
CMU	CONCRETE MASONRY UNIT	NTE	NOT TO EXCEED
COL	COLUMN	NTS	NOT TO SCALE
CONC	CONCRETE	NWC	NORMAL WEIGHT CONCRETE
CONN	CONNECTION		
CONST	CONSTRUCTION	OC	ON CENTER
CONT	CONTINUOUS	OCBF	ORDINARY CONCENTRIC BRACED FRAME
COORD	COORDINATE	OD	OUTSIDE DIAMETER
CSA	CONCRETE SCREW ANCHOR	OMF	ORDINARY MOMENT FRAME
		OPP	OPPOSITE
		OWJ	OPEN WEB JOIST
d	PENNY (NAIL)	PAF	POWER ACTUATED FASTENER
db	NOMINAL BAR DIAMETER	PC	PRECAST
DBA	DEFORMED BAR ANCHOR	PCF	POUNDS PER CUBIC FOOT
DBL	DOUBLE	PERP	PERPENDICULAR
DBO	DESIGNED BY OTHERS	PJP	PARTIAL JOINT PENETRATION
DEG	DEGREE	PL	PLATE
DEMO	DEMOLISH; DEMOLITION	PLF	POUNDS PER LINEAL FOOT
DF/L	DOUGLAS FIR-LARCH	PLWD	PLYWOOD
DIA	DIAMETER	PSI	POUNDS PER SQUARE INCH
DIAG	DIAGONAL	PSF	POUNDS PER SQUARE FOOT
DIM	DIMENSION	PSL	PARALLEL STRAND LUMBER
DIST	DISTANCE	PT	PRESSURE TREATED
DL	DEAD LOAD	P/T	POST TENSIONED
DN	DOWN	PVC	POLYVINYL CHLORIDE
DP	DEPTH OR DEEP		
DTL	DETAIL	QTY	QUANTITY
DWG	DRAWING		
(E)	EXISTING	RAD	RADIUS
E	MODULUS OF ELASTICITY	RBS	REDUCED BEAM SECTION
EA	EACH	REF	REFERENCE
EB	EXPANSION BOLT	REINF	REINFORCING
EF	EACH FACE	REQD	REQUIRED
EJ	EXPANSION JOINT	RET	RETAINING
EL	ELEVATION	REV	REVISED, REVISION
ELEC	ELECTRICAL	RO	ROUGH OPENING
EN	EDGE NAIL		
EOR	ENGINEER OF RECORD	SC	SLIP CRITICAL
EQ	EQUAL; EARTHQUAKE	SCBF	SPECIAL CONCENTRIC BRACE FRAME
EW	EACH WAY	SCH	SCHEDULE
EXT	EXTERIOR	SEOR	STRUCTURAL ENGINEER OF RECORD
EXTD	EXTEND, EXTENDED	SFRS	SEISMIC FORCE RESISTING SYSTEM
		SHT	SHEET
		SHTG	SHEATHING
		SIM	SIMILAR
fc	28 DAY CONC COMPRESSIVE STRENGTH	SLBB	SHORT LEGS BACK TO BACK
fm	MASONRY NET AREA COMPRESSIVE STRENGTH	SMF	SPECIAL MOMENT FRAME
Fy	YIELD STRESS	SMS	SHEET METAL SCREW
Fu	TENSILE STRESS	SOG	SLAB ON GRADE
F/	FACE OF	SOMD	SLAB ON METAL DECK
FAB	FABRICATED / FABRICATOR	SQ	SQUARE
FF	FINISH FLOOR	SS	STAINLESS STEEL
FN	FIELD NAIL	SSH	SHORT SLOTTED HOLE
FLR	FLOOR	STD	STANDARD
FDN	FOUNDATION	STL	STEEL
FRT	FIRE RETARDANT TREATED	SQ	SQUARE
FS	FAR SIDE	SYM	SYMMETRICAL
FT	FEET		
FTG	FOOTING	T/	TOP OF
		T&B	TOP AND BOTTOM
GA	GAUGE	T&G	TONGUE AND GROOVE
GAF	GAS ACTUATED FASTENER	THRD	THREADED
GALV	GALVANIZED	TPL	TRIPLE
GLB	GLUE LAMINATED BEAM	TRANS	TRANSVERSE
GR	GRADE	TYP	TYPICAL
GWB	GYPSUM WALL BOARD		
GYP	GYPSUM	UNO	UNLESS NOTED OTHERWISE
		URM	UNREINFORCED MASONRY
		UT	ULTRASONIC TEST
HD	HOLDOWN	VERT	VERTICAL
HDG	HOT-DIP GALVANIZED	VIF	VERIFY IN FIELD
HDR	HEADER		
HEX	HEXAGONAL	W/	WITH
HF	HEM-FIR	W/O	WITHOUT
HGR	HANGER	WD	WOOD
HORIZ	HORIZONTAL	WF	WIDE FLANGE
HSA	HEADED STUD ANCHOR	WP	WORK POINT
HSS	HOLLOW STRUCTURAL SECTION	WT	WEIGHT
HT	HEIGHT	WWR	WELDED WIRE REINFORCING
HVAC	HEATING VENTILATION AIR CONDITIONING		

STRUCTURAL
DRAWING SYMBOLS



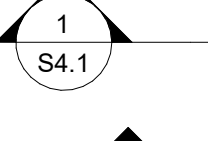
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S8.1

DETAIL REFERENCE



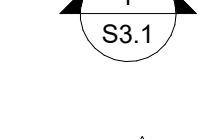
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S8.1

DETAIL SECTION CUT



1
S4.1

BUILDING OR
WALL SECTION
CUT



1
S3.1

ELEVATION OF
WALL OR FRAME



#

REVISION SYMBOL



#

GRID LINES



ROTATE VIEW SYMBOL



-NORTH-

NORTH ARROW



SURFACE - STEPPED



SURFACE - SLOPE UP



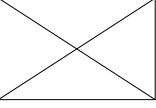
SURFACE - SLOPE DOWN



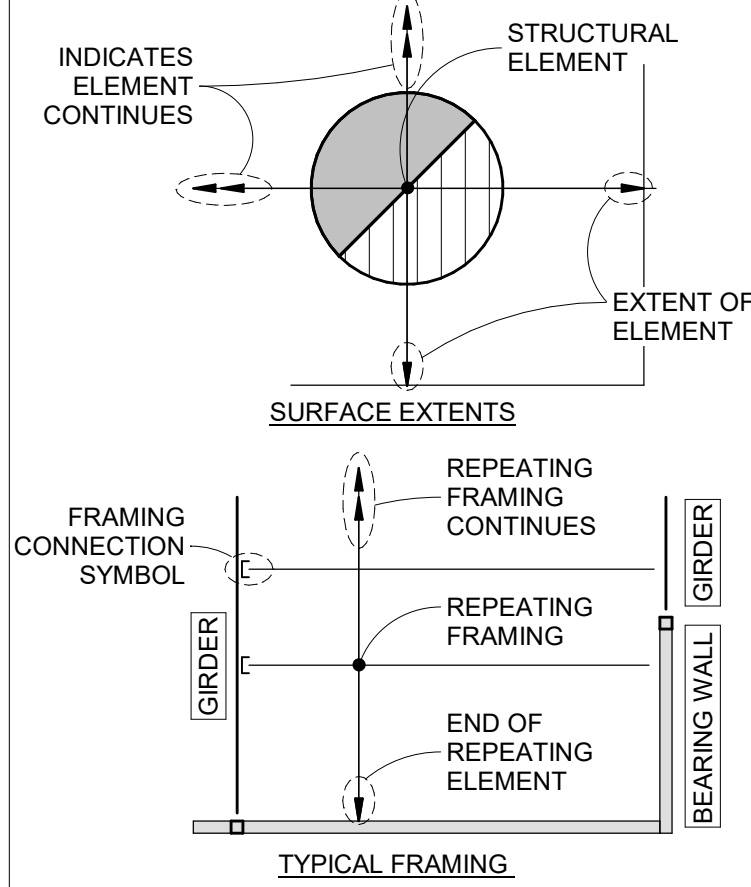
SURFACE - SLOPE
TWO DIRECTIONS



DECKING SPAN
DIRECTION



OPENING IN FLOOR / WALL



INDICATES
ELEMENT
CONTINUES

STRUCTURAL
ELEMENT

EXTENT OF
ELEMENT

SURFACE EXTENTS

REPEATING
FRAMING
CONTINUES

REPEATING
FRAMING

END OF
REPEATING
ELEMENT

FRAMING
CONNECTION
SYMBOL

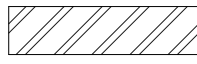
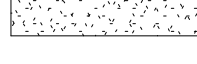
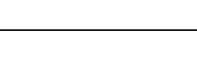
GIRDER

GIRDER

BEARING WALL

TYPICAL FRAMING

STRUCTURAL
MATERIAL PATTERNS

	CONCRETE
	MASONRY
	EARTH
	COMPACTED STRUCTURAL FILL
	STEEL
	SAND OR GROUT
	WOOD SHEATHING - SECTION
	WOOD - PLAN

STRUCTURAL DRAWING INDEX			
SHEET #	SHEET NAME	BID SET	PERMIT SET
S0.01	COVER SHEET	•	•
S0.02	STRUCTURAL NOTES & SPECIAL INSPECTION	•	•
S0.03	SPECIAL INSPECTION	•	•
S1.00	STRUCTURAL SITE PLAN	•	•
S1.01	PARTIAL ROOF FRAMING PLAN	•	•
S8.01	GYM 1 REPAIR DETAIL	•	•
S8.02	GYM 2 REPAIR DETAIL	•	•
S8.03	BEAM CABLE ASSEMBLY	•	•
S8.04	DETAILS	•	•

CODE SUMMARY:

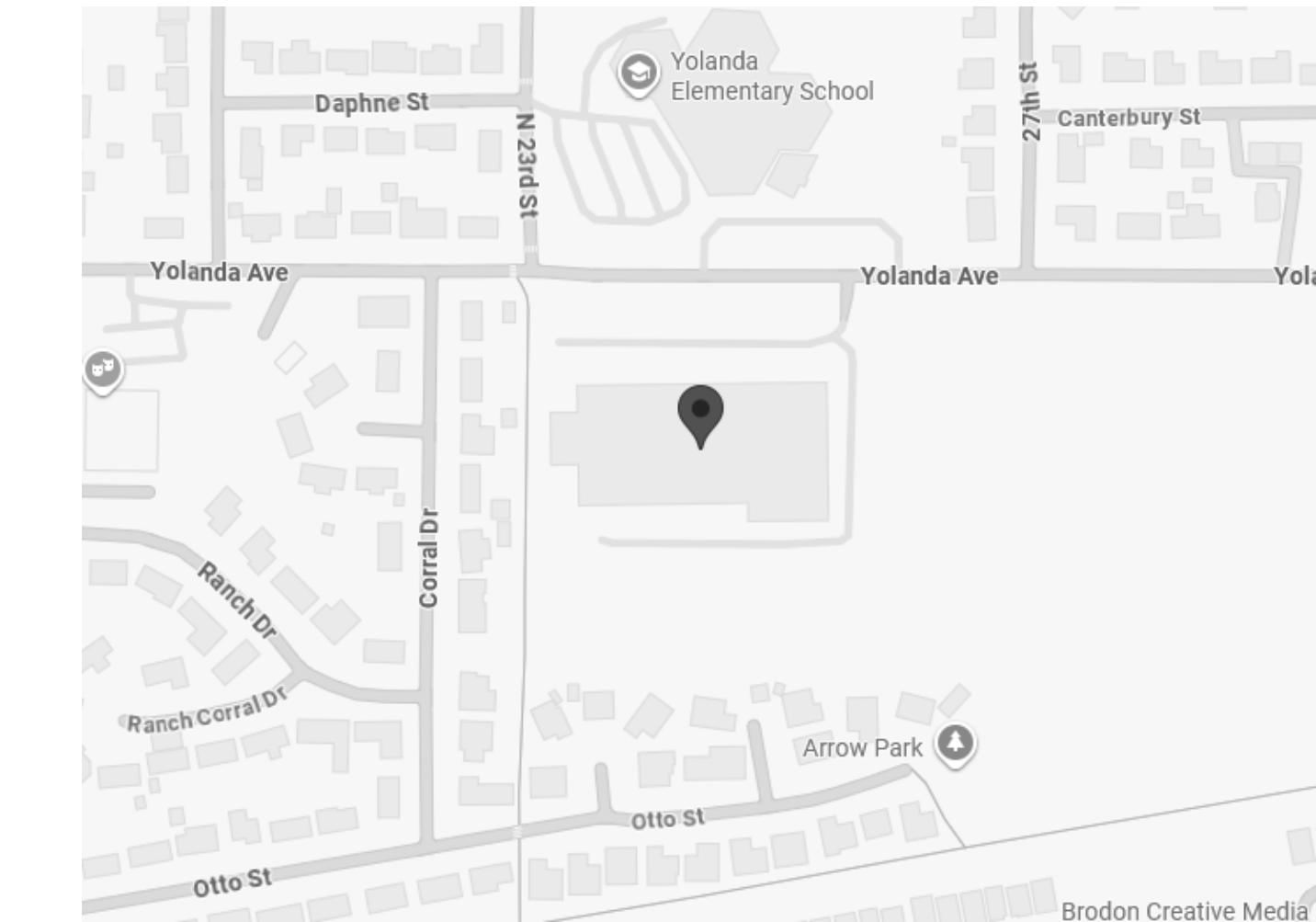
BUILDING CODE: 2022 OSSC
YEAR BUILT: 1968
AREA: 92,000 SF
BUILDING CONSTRUCTION TYPE: V-A
OCCUPANCY CLASSIFICATION: E (NO CHANGE)

SCOPE OF WORK:
THE FOLLOWING PLANS ARE FOR THE MANDATORY REINFORCEMENT OF (E) GLUE LAMINATED BEAMS

PROJECT DESIGN TEAM:

MILLER CONSULTING ENGINEERS, INC
STRUCTURAL ENGINEER OF RECORD

PRIMARY CONTACT: KEVIN MCCORMICK, kevin@miller-se.com
SECONDARY CONTACT: JENNYLIN LOPEZ, jennylin.lopez@miller-se.com



 **1** VICINITY MAP
S0.01 | NOT TO SCALE

THESE DRAWINGS HAVE BEEN DIGITALLY SIGNED IN ACCORDANCE WITH OREGON ADMINISTRATIVE RULE 820-025-0010. A DIGITAL SIGNATURE WATERMARK ON THIS PAGE INDICATES THIS SHEET IS PART OF AN ELECTRONICALLY SIGNED DOCUMENT. REFER TO INDEX ON THIS PAGE FOR ALL SHEETS INCLUDED WITH THIS DIGITAL SIGNATURE.



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BRIGGS MIDDLE
SCHOOL REPAIR

2355 YOLANDA AVE.
SPRINGFIELD, OREGON

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REV	DESCRIPTION	DATE

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SHEET CONTENT
COVER SHEET

SHEET

S0.01

STRUCTURAL NOTES

GENERAL NOTES

THESE CONTRACT DOCUMENTS COMPRISED OF PLANS, SPECIFICATIONS, ENGINEERING AND DESIGN WORK ARE INTENDED SOLELY FOR THE PROJECT SPECIFIED HEREIN. MILLER CONSULTING ENGINEERS (MCE) DISCLAIMS ALL LIABILITY IF THESE PLANS AND SPECIFICATIONS OR THE DESIGN, ADVICE AND INSTRUCTIONS ATTENDANT THERETO ARE USED ON ANY PROJECT OR AT ANY LOCATION OTHER THAN THE PROJECT AND LOCATION SPECIFIED HEREIN.

THE CONTRACT DOCUMENTS REPRESENT THE FINISHED STRUCTURE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONFORMANCE TO ALL SAFETY REGULATIONS DURING CONSTRUCTION. THE CONTRACTOR SHALL PROVIDE ALL METHODS, DIRECTION AND RELATED EQUIPMENT NECESSARY TO PERFORM THE WORK.

SHOULD ANY QUESTION ARISE REGARDING THE CONTRACT DOCUMENTS OR SITE CONDITIONS, THE CONTRACTOR SHALL REQUEST INTERPRETATION AND CLARIFICATION FROM THE ENGINEER BEFORE BEGINNING THE PROJECT. THE ABSENCE OF SUCH REQUEST SHALL SIGNIFY THAT THE CONTRACTOR HAS REVIEWED AND FAMILIARIZED THEMSELVES AND HAS COMPLETE COMPREHENSION OF ALL ASPECTS OF THE PROJECT.

THE CONTRACTOR IS RESPONSIBLE FOR VERIFICATION AND CORRELATION OF ALL ITEMS AND WORK NECESSARY FOR COMPLETION OF THE PROJECT AS INDICATED BY THE CONTRACT DOCUMENTS. THE CONTRACT DOCUMENTS ARE STRUCTURAL ONLY AND DO NOT NECESSARILY INDICATE ALL NON-STRUCTURAL PORTIONS OF THE PROJECT INCLUDING, BUT NOT LIMITED TO, PLUMBING, FIRE SUPPRESSION, ELECTRICAL, MECHANICAL, LAND USE, SITE PLANNING, EROSION CONTROL FLASHING AND WATER-PROOFING. ALL NON-STRUCTURAL PORTIONS OF WORK, AND STRUCTURAL WORK NOTED AS DELEGATED DESIGN IN THE SUBMITTAL SCHEDULE, ARE BEYOND THE SCOPE OF THESE DOCUMENTS AND ARE PROVIDED BY OTHERS. THE CONTRACTOR IS RESPONSIBLE FOR VERIFICATION AND CORRELATION OF ALL NON-STRUCTURAL ITEMS IMPACTED BY THE STRUCTURAL WORK. THESE ITEMS SHALL BE RESTORED TO THEIR ORIGINAL CONDITION OR MODIFIED IN ACCORDANCE WITH THE RECOMMENDATIONS OF A QUALIFIED DESIGN PROFESSIONAL ENGAGED AT THE CONTRACTOR'S OWN EXPENSE.

ANY MATERIAL NOT AS SPECIFIED IN THE CONTRACT DOCUMENTS OR IMPROPER MATERIAL INSTALLATION OR WORKMANSHIP SHALL BE REMOVED AND REPLACED WITH SPECIFIED MATERIAL IN A WORKMANLIKE MANNER AT THE CONTRACTOR'S EXPENSE. IT IS THE CONTRACTOR'S RESPONSIBILITY TO PROTECT ALL MATERIALS FROM DAMAGE THROUGHOUT THE COURSE OF CONSTRUCTION. CHANGES TO THE CONTRACT DOCUMENTS REQUESTED BY THE CONTRACTOR TO ACCOMPLISH THEIR PREFERRED MEANS OR METHOD OF CONSTRUCTION MAY BE AT THE CONTRACTOR'S EXPENSE.

ALL MANUFACTURED PRODUCTS SPECIFIED SHALL BE USED UNLESS AN ALTERNATE IS SUBMITTED AND APPROVED BY THE SEOR. MANUFACTURED PRODUCTS REQUIRING A BUILDING CODE EVALUATION REPORT SHALL HAVE A CURRENT REPORT DEMONSTRATING CONFORMANCE WITH THE APPLICABLE BUILDING CODE, VALID AT THE TIME OF PRODUCT INSTALLATION.

TEMPORARY MEASURES/SHORING

THE CONTRACTOR IS RESPONSIBLE FOR IDENTIFYING ALL INSTANCES WHERE TEMPORARY MEASURES/SHORING ARE REQUIRED, AND SHALL, AT THEIR OWN EXPENSE, ENGAGE PROPERLY QUALIFIED PERSONS TO DETERMINE WHERE AND HOW TEMPORARY MEASURES/SHORING ARE REQUIRED. TEMPORARY MEASURES/SHORING SHALL:

- o PROTECT PERSONNEL AND THE PUBLIC.
- o PREVENT SETTLEMENT AND/OR DAMAGE TO THE BUILDING AND/OR EXISTING FACILITIES
- o PROTECT STREETS, WALKWAYS, UTILITIES, AND IMPROVEMENTS.
- o PROTECT ALL EXCAVATIONS AGAINST LOSS OF GROUND OR CAVING OF EMBANKMENTS DURING CONSTRUCTION.

BUILDING CODE

ALL PHASES OF THE WORK SHALL CONFORM TO THE 2022 OREGON STRUCTURAL SPECIALTY CODE (OSSC), BASED ON THE 2021 INTERNATIONAL BUILDING CODE (IBC), INCLUDING ALL REFERENCE STANDARDS, UNLESS NOTED OTHERWISE.

SPECIAL INSPECTION/TESTING

SPECIAL INSPECTION AND/OR TESTING IS REQUIRED IN ACCORDANCE WITH BUILDING CODE SECTION 1704. IT IS THE OWNER'S RESPONSIBILITY TO PROVIDE SPECIAL INSPECTION AND TESTING BY A QUALIFIED THIRD PARTY, SUCH AS A TESTING AGENCY REVIEWED BY THE ENGINEER AND APPROVED BY THE BUILDING OFFICIAL. THE CONTRACTOR SHALL PROVIDE SUFFICIENT NOTICE TO ALLOW SCHEDULING OF SPECIAL INSPECTION.

SPECIAL INSPECTIONS SHALL CONFORM TO SECTION 1705 OF THE BUILDING CODE. CONTRACT DOCUMENTS AND SUBMITTALS, THE SPECIAL INSPECTOR SHALL OBSERVE THE INDICATED WORK FOR COMPLIANCE WITH THE CONSTRUCTION DOCUMENTS. ALL DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE CONTRACTOR FOR CORRECTION AND NOTED IN THE INSPECTION REPORTS. FOR PROJECT REQUIREMENTS REFER TO THE SPECIAL INSPECTION TABLES WITHIN THE CONTRACT DOCUMENTS.

STRUCTURAL OBSERVATION

STRUCTURAL OBSERVATION BY THE SEOR SHALL VERIFY BY PERIODIC VISUAL OBSERVATION THAT THE STRUCTURAL SYSTEM HAS GENERAL CONFORMANCE WITH THE CONSTRUCTION DOCUMENTS AT SIGNIFICANT STAGES OF CONSTRUCTION AND AT COMPLETION AS REQUIRED IN ACCORDANCE WITH BUILDING CODE SECTION 1704.6. THE CONTRACTOR SHALL PROVIDE SUFFICIENT NOTICE TO ALLOW SCHEDULING FOR A STRUCTURAL OBSERVATION. STRUCTURAL OBSERVATION SHALL BE PERFORMED DURING CONSTRUCTION AT THE FOLLOWING TIMES:

1. DURING PRESTRESSING OPERATIONS OF THE FIRST BEAM
2. AFTER COMPLETION OF STRUCTURAL REINFORCING OF ALL BEAMS

SHOP DRAWINGS/SUBMITTALS

SUBMITTALS AND SHOP DRAWINGS FOR SPECIFIC PRODUCTS GENERATED BY THE SUPPLIER SHALL BE SUBMITTED FOR THE ITEMS NOTED IN THE SUBMITTAL SCHEDULE. SHOP DRAWINGS SHALL BE TO SCALE AND SHOW COMPLETE DETAILS AND INSTRUCTIONS FOR FABRICATION AND ASSEMBLY. SHOP DRAWINGS SHALL INDICATE ERECTION AND TEMPORARY BRACING INFORMATION FOR CONTRACTOR'S USE.

THE DESIGN OF ITEMS NOTED IN THE SUBMITTAL SCHEDULE AS DELEGATED DESIGN SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. DOCUMENTS FOR THE DESIGN AND FABRICATION OF DELEGATED DESIGN ITEMS (INCLUDING STRUCTURAL CALCULATIONS AND DRAWINGS) SHALL BEAR THE SEAL AND SIGNATURE OF A LICENSED ENGINEER REGISTERED IN THE STATE THAT THE PROJECT IS BEING CONSTRUCTED.

DEFERRED SUBMITAL ITEMS NOTED IN THE SUBMITTAL SCHEDULE ARE PORTIONS OF THE DESIGN THAT ARE NOT SUBMITTED AT THE TIME OF PERMIT APPLICATION AND ARE REQUIRED TO BE SUBMITTED TO THE BUILDING OFFICIAL.

THE CONTRACTOR SHALL REVIEW AND MODIFY ALL SUBMITTALS AS REQUIRED FOR CONFORMANCE WITH THE CONTRACT DOCUMENTS AND SIGN AND DATE ALL SETS OF THE SUBMITTAL DOCUMENTS PRIOR TO SUBMITTAL TO THE ENGINEER. THE CONTRACTOR SHALL SCHEDULE SUBMITTALS TO ALLOW SUFFICIENT TIME FOR REVIEW AND POSSIBLE RE-SUBMITTAL. WHERE RE-SUBMITTALS ARE REQUIRED, CHANGES FROM THE PREVIOUS SUBMITTAL SHALL BE CLEARLY INDICATED WITH REVISION CLOUDS OR SIMILAR.

STRUCTURAL DESIGN CRITERIA

LIVE LOAD REDUCTION FOR BEAMS AND COLUMNS WAS NOT USED. DESIGN FOR MECHANICAL LOADS INCLUDES ONLY THOSE INDICATED ON STRUCTURAL DRAWINGS. THE FOLLOWING ARE THE DESIGN REQUIREMENTS:

STRUCTURAL DESIGN CRITERIA		
RISK CATEGORY		III

SUPERIMPOSED DEAD LOAD (EXCLUDING STRUCTURAL FRAME SELF WEIGHT)	
ROOF (TOTAL INCLUDING ROOFING/CEILING)	15 PSF
WALLS	8 PSF
ROOF LIVE LOAD	
ROOF LIVE LOAD	20 PSF OR 300LB CONCENTRATED LOAD
ROOF SNOW LOAD	
DESIGN ROOF SNOW LOAD	27 PSF
SNOW DRIFTING	AS NOTED ON PLANS (IF OCCURS)
IMPORTANCE FACTOR	I _e = 1.1
GROUND SNOW LOAD	P _g = 11 PSF
EXPOSURE FACTOR	C _e = 0.9
THERMAL FACTOR	C _t = 1.1

STRUCTURAL STEEL

DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL SHALL CONFORM TO THE SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS (AISC 360). QUALITY ASSURANCE (QA) IS REQUIRED FOR STRUCTURAL STEEL ITEMS PER AISC 360 AND 341 UNLESS SPECIFICALLY NOTED OTHERWISE. QUALITY CONTROL (QC) TO BE PROVIDED BY THE FABRICATOR, ERECTOR OR OTHER RESPONSIBLE CONTRACTOR AS APPLICABLE. CONTRACTOR AND SPECIAL INSPECTOR TO DOCUMENT QUALITY CONTROL AS REQUIRED IN AISC 360 SECTION N3 AND AISC 341 SECTION J2.

ALL STRUCTURAL AND MISCELLANEOUS STEEL SHALL CONFORM TO THE FOLLOWING MATERIAL STANDARDS:

STRUCTURAL STEEL MATERIAL STANDARDS		
SHAPE	ASTM SPECIFICATION	YIELD STRESS
W-SECTIONS	A992	50 KSI
RECTANGULAR HSS	A500, GRADE C	50 KSI
ROUND HSS	A500, GRADE C	46 KSI
PIPE	A53, GRADE B, TYPE E OR S	35 KSI
ALL OTHER SECTIONS AND PL	A36	36 KSI

ALL STRUCTURAL STEEL SHALL HAVE ONE SHOP COAT OF PRIMER. ALL EXPOSED STRUCTURAL STEEL AND FASTENINGS TO HAVE ONE FINISH COAT OF RUST INHIBITING PAINT, COLOR BY OWNER.

STRUCTURAL STEEL BOLTING

ALL BOLTS IN STEEL TO STEEL CONNECTIONS SHALL BE ASTM F3125 GRADE A325 WITH MATCHING NUTS, UNLESS NOTED OTHERWISE. NUTS SHALL BE TIGHTENED TO A SNUG TIGHT CONDITION, UNLESS CONNECTION IS NOTED AS SLIP-CRITICAL OR PRETENSIONED.

- o SNUG TIGHT CONDITION SHALL BE PER RESEARCH COUNCIL ON STRUCTURAL CONNECTIONS (RCSC) SPECIFICATION FOR STRUCTURAL JOINTS, SECTION 8.1.
- o SLIP-CRITICAL AND PRETENSIONED CONNECTIONS, INSTALLATION OF FASTENERS SHALL BE PER RCSC SECTION 8.2.

STRUCTURAL STEEL WELDING

ALL WELDING SHALL CONFORM TO AMERICAN WELDING SOCIETY (AWS) D1.1 USING E70XX ELECTRODES. WELDING SHALL BE PERFORMED BY WELDERS CERTIFIED BY AWS FOR THE WELD TYPES SPECIFIED. WELD LENGTHS SHOWN ARE EFFECTIVE AS SPECIFIED PER THE SPECIFICATIONS OF THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC), WHERE WELD LENGTHS ARE NOT SHOWN, THE WELD SHALL BE FULL LENGTH OF MEMBERS BEING JOINED. FIELD WELDING SYMBOLS HAVE NOT NECESSARILY BEEN INDICATED ON THE DRAWINGS. WHERE SHOWN, PROPER FIELD WELDING PER AWS D1.1 SHALL BE USED. WHERE NO FIELD WELDING SYMBOLS ARE SHOWN, IT IS THE CONTRACTOR'S RESPONSIBILITY TO COORDINATE THE USE OF SHOP AND FIELD WELDS.

ALL PARTIAL JOINT PENETRATION GROOVE WELD SIZES SHOWN ON THE DRAWINGS REFER TO THE EFFECTIVE THROAT THICKNESS. ALL BUTT WELDS SHALL BE FULL PENETRATION WELDS UNLESS NOTED OTHERWISE ON STRUCTURAL DRAWINGS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE JOINT PREPARATION AND WELDING PROCEDURES THAT INCLUDE, BUT ARE NOT LIMITED TO: REQUIRED ROOT OPENINGS, ROOT FACE DIMENSIONS, GROOVE ANGLES, BACKING BARS, COPES, SURFACE ROUGHNESS VALUES AND TAPERS AND TRANSITIONS OF UNEQUAL PARTS.

ALL WELDS SHALL RECEIVE THE SAME FINISH COATING AS THE MEMBER BEING WELDED. ANY COATINGS ON THE STRUCTURAL AFFECTED BY WELDING SHALL BE REPAIRED AS REQUIRED.

POST-TENSIONING CABLES FOR WOOD BEAM STRENGTHENING

POST-TENSIONING CABLES SHALL MEET THE REQUIREMENTS SET FORTH IN THE SPECIFICATIONS FOR UNBONDED SINGLE STRAND TENDONS (LATEST EDITION) AND THE SPECIFICATION FOR SEVEN-WIRE PRESTRESSING STEEL STRAND FOR BARRIER CABLE APPLICATIONS PUBLISHED BY THE POST-TENSIONING INSTITUTE (PTI).

POST-TENSIONING CABLES SHALL BE INSTALLED TO THE JACKING PRESTRESS FORCE AS SPECIFIED ON THE PLANS. ANCHORAGES, COUPLERS AND FITTINGS SHALL MEET THE FOLLOWING:

- HAVE A BUILDING CODE EVALUATION REPORT
- DEVELOP A MINIMUM OF 100% OF THE ULTIMATE STRENGTH OF THE CABLE
- HAVE A GALVANIZED COATING

CABLES SHALL BE 1/2" DIAMETER CONFORMING TO ASTM A416, GRADE 270 FOR SEVEN-WIRE LOW RELAXATION STRAND. CABLE SHALL HAVE A ZINC GALVANIZED COATING CONFORMING TO ASTM A475

EACH STRESSING JACK AND GAUGE COMBINATION SHALL BE CALIBRATED AS A UNIT TO KNOWN STANDARDS AT INTERVALS NOT EXCEEDING 6 MONTHS. COPIES OF THE CALIBRATION CERTIFICATES FOR EACH JACK AND GAUGE COMBINATION BEING USED SHALL BE SUBMITTED TO THE SEOR FOR REVIEW.

CABLE INSTALLATION AND STRESSING OPERATIONS SHALL BE PERFORMED UNDER THE IMMEDIATE CONTROL OF A PERSON WHO IS A PTI CERTIFIED INSTALLER EXPERIENCED IN THIS TYPE OF WORK.

WOOD FRAMING

ALL WOOD STRUCTURAL GRADES SHALL BE PER TYPICAL WOOD FRAMING SCHEDULE UNLESS NOTED OTHERWISE.

TYPICAL WOOD FRAMING SCHEDULE	
MEMBER	VISUALLY GRADED (MIN)
COLUMNS	DF/L #1
BEAMS	DF/L #1
SILL PL TO CONCRETE/MASONRY	PT HF #2
BOT PL/SOLE PL/TOP PL	DF/L #2
STUDS	DF/L #2
BUILT-UP STUD PACKS	DF/L #2
JOISTS/RAFTERS	DF/L #2
PURLINS	DF/L #2
GIRTS	DF/L #2
BLOCKING	DF/L CONSTRUCTION
NON-STRUCTURAL FRAMING	DF/L CONSTRUCTION

ALL WOOD PLATES IN CONTACT WITH CONCRETE OR MASONRY SHALL BE PRESSURE TREATED UNLESS NOTED OTHERWISE. ALL COLUMNS SHALL HAVE SOLID BLOCKING FOR THE FULL COLUMN AREA TO SUPPORTING MEMBERS BELOW. COLUMNS SHALL ALIGN THROUGH ALL FLOORS TO THE FOUNDATION. ALL SAWN LUMBER SHALL HAVE A MOISTURE CONTENT LESS THAN 19% (S-DRY) PRIOR TO INSTALLATION OF NON-STRUCTURAL COMPONENTS.

WOOD FRAMING CONNECTIONS

PREDRILL ALL SCREWS INTO EXISITING LUMBER TO ¾ OF THE ROOT THREAD DIAMETER OF THE SCREW.

PREFABRICATED METAL TIMBER CONNECTORS SHALL BE MANUFACTURED BY SIMPSON STRONG-TIE, UNLESS NOTED OTHERWISE. ALL PREFABRICATED METAL TIMBER CONNECTORS AND HANGERS SHALL BE FULLY BOLTED, NAILED, AND/OR SCREWED AS INDICATED BY MANUFACTURER, UNLESS NOTED OTHERWISE. ALL CONNECTORS, HANGERS AND FASTENERS SHALL BE CORROSION PROTECTED PER MANUFACTURER'S RECOMMENDATIONS.

ALL BOLTS IN WOOD CONNECTIONS SHALL BE ASTM A307 GRADE A. ALL BOLT HEADS OR NUTS BEARING ON WOOD TO HAVE STANDARD WASHERS. BOLT HOLES IN WOOD SHALL BE A MINIMUM OF 1/32" TO A MAXIMUM OF 1/16" LARGER THAN THE BOLT. ALL LAG SCREWS SHALL HAVE PILOT HOLES PER THE LAG SCREW PILOT HOLE SCHEDULE. REFER TO SECTION 12.1 OF THE NDS FOR ADDITIONAL INSTALLATION INSTRUCTIONS OF DOWEL-TYPE FASTENERS.

ENGINEERED LUMBER

ENGINEERED LUMBER SHALL HAVE A BUILDING CODE EVALUATION REPORT.

ALL ENGINEERED LUMBER EXPOSED TO WEATHER AND SUBJECT TO DECAY, SHALL BE PRESERVATIVE TREATED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS FOR PRESERVATIVE MATERIALS, RETENTION RATES, AND END USE.

GLUE LAMINATED (GLULAM) WOOD MEMBERS

GLULAM MEMBERS SHALL BE MANUFACTURED AND CERTIFIED PER THE AMERICAN INSTITUTE OF TIMBER CONSTRUCTION (AITC), ANSI/AITC A190.1, ASTM D3737 AND CERTIFICATION STAMPED. GLULAM MEMBERS SHALL CONTAIN AN AVERAGE MOISTURE CONTENT OF 16% OR LESS AT TIME OF MANUFACTURE. EASE EDGES ON GLULAM MEMBERS AS REQUIRED TO BE COMPATIBLE WITH STEEL AT CONNECTIONS.

GLULAM APPEARANCE SHALL BE AS FOLLOWS UNLESS SPECIFIED OTHERWISE ON THE ARCHITECTURAL DRAWINGS:

- o NOT EXPOSED TO VIEW IN COMPLETED CONSTRUCTION: INDUSTRIAL APPEARANCE
- o EXPOSED TO VIEW: ARCHITECTURAL APPEARANCE

THE APPEARANCE CERTIFICATION STAMP ON ARCHITECTURAL APPEARANCE MEMBERS SHALL BE PLACED ON SURFACES NOT EXPOSED IN COMPLETED CONSTRUCTION.

GLULAM BEAMS WITH A SIMPLE SPAN BETWEEN SUPPORTS SHALL HAVE A CAMBER EQUAL TO A 2600' RADIUS BETWEEN SUPPORTS FOR SPANS OVER 24', OR AS NOTED ON DRAWINGS. MULTI-SPAN AND CANTILEVER BEAMS SHALL NOT HAVE A CAMBER UNLESS NOTED OTHERWISE.

GLULAM MEMBERS SPECIFIED AS PRESERVATIVE TREATED SHALL BE TREATED WITH PERMAPOST KLEAR-GARD 25 OR EQUAL.

[FOR ALLOWABLE GLULAM BEAM PENETRATIONS SEE 10/S0.00.]

GLULAM MEMBERS SHALL HAVE THE FOLLOWING MINIMUM ALLOWABLE DESIGN PROPERTIES:

GLULAM BEAMS		
	SIMPLE SPAN	CONTINUOUS OVER MULTIPLE SUPPORTS OR CANTILEVER
COMBINATION SYMBOL (SPECIES)	24F-V4 (DF/DF)	24F-V8 (DF/DF)
MODULUS OF ELASTICITY, E (PSI)	1,800,000	1,800,000
FLEXURAL STRESS, F _b (PSI)	+2,400 / -1,850	+2,400 / -2,400
TENSION STRESS, F _t (PSI)	1,100	1,100
COMPRESSION PERPENDICULAR TO GRAIN, F _c PERP (PSI)	650	650
COMPRESSION PARALLEL TO GRAIN, F _{cu} (PSI)	1,650	1,650
HORIZONTAL SHEAR PARALLEL TO GRAIN, F _v (PSI)	265	265
SPECIFIC GRAVITY	0.50	0.50

LAMINATED VENEER LUMBER (LVL)

LVL FRAMING SHALL HAVE THE FOLLOWING MINIMUM PROPERTIES:

PROPERTY	MINIMUM VALUE
MODULUS OF ELASTICITY, E (PSI)	2,000,000
FLEXURAL STRESS, F _b (PSI)	2,600
TENSION STRESS, F _t (PSI)	1,895
COMPRESSION PERPENDICULAR TO GRAIN, F _c PERP (PSI)	750
COMPRESSION PARALLEL TO GRAIN, F _{cu} (PSI)	2,510
HORIZONTAL SHEAR PARALLEL TO GRAIN, F _v (PSI)	285
SPECIFIC GRAVITY	0.50

ADHESIVE

PORTABLE EQUIPMENT SHALL BE USED EMPLOYING POSITIVE DISPLACEMENT METERING PUMPS WHICH ARE INTERLOCKED TO PROVIDE RESIN DELIVERY IN PROPORTIONS REQUIRED BY THE COMPOSITION OF THE TWO COMPONENT INJECTION ADHESIVE. MIXING OF THE ADHESIVE SHALL BE ACCOMPLISHED IN LINE WITH A STATIC MIXER. THE EQUIPMENT SHALL BE DRIVEN BY AIR OR ELECTRIC POWER. THE INJECTION EQUIPMNT SHALL BE CAPABLE OF MAINTAINING THE VOLUME RATIO OF THE SPECIFIED ADHESIVE COMPONENTS DURING UNINTERRUPTED FLOW WITH A TOLERANCE OF +/- 5% PRESSURE CONTROL. THE INJECTION EQUIPMENT SHALL HAVE AN AUTOMATIC PRESSURE CONTROL DEVICE THAT ALLOWS OPERATION AT ANY PRESET PRESSURE WITHIN ITS OPERATING RANGE. THE INJECTION EQUIPMENT SHALL HAVE AN AUTOMATIC SHUT-OFF FEATURE TO PREVENT DELIVERY OF ONE ADHESIVE COMPONENT ONLY, WHEN THE OTHER COMPONENT SUPPLY IS EXHAUSTED.



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BRIGGS MIDDLE SCHOOL REPAIR

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SPRINGFIELD, OREGON

SPRINGFIELD PUBLIC SCHOOLS

REV	DESCRIPTION	DATE
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DESIGNED BY: JDL
CHECKED BY: KMM
MCE PROJ #: 251372
ISSUE DATE: 03.20.2026
ISSUANCE: PERMIT SET

SHEET CONTENT

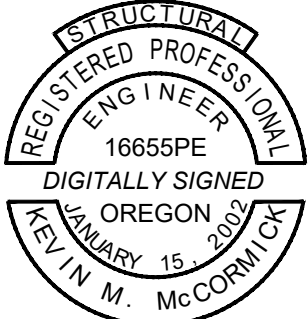
STRUCTURAL NOTES &
SPECIAL INSPECTION

SHEET

S0.02

WOOD BEAM REPAIRS - SPECIAL INSPECTIONS			
SYSTEM OR MATERIAL	FREQUENCY		REMARKS
	CONTINUOUS	PERIODIC	
POST-TENSIONED CABLE PLACEMENT		X	REINFORCING TO COMPLY WITH ALL CODE PROTECTION, SPACING AND TOLERANCE LIMITS.
POST-TENSIONED CABLE GRADE		X	
APPLICATION OF PRESTRESSING FORCES FOR POST-TENSIONED CABLES	X		DOCUMENT APPLIED FORCE AND ELONGATION.
EPOXY CRACK INJECTION AND INSTALLATION OF FASTENERS FOR REPAIR OF BEAM CRACKS	X		REFERENCE INSTALLATION SEQUENCE ON SHEET S1.02 AND DETAIL 3/S8.02

STEEL - SPECIAL INSPECTIONS				
SYSTEM OR MATERIAL	CODE OR STANDARD REFERENCE	FREQUENCY / INSPECTION		REMARKS
		CONTINUOUS/ PERFORM	PERIODIC/ OBSERVE	
STEEL FABRICATION				
MATERIAL VERIFICATION OF STRUCTURAL STEEL COMPONENTS	ASTM A6 ASTM STANDARDS SPECIFIED IN CONSTRUCTION DOCUMENTS AISC 360 A3.1 AISC 360 N3.2		X	CERTIFIED MILL TEST REPORTS
MATERIAL VERIFICATION OF WELD FILLER METALS	AISC 360 A3.5 AISC 360 N3.2 APPLICABLE AWS A5 DOCUMENTS		X	MANUFACTURER'S CERTIFIED TEST REPORTS
STRUCTURAL STEEL WELDING				
VERIFYING USE OF PROPER WPS'S	AISC 360 N3.2			RETAIN A RECORD OF WELDING PROCEDURE SPECIFICATIONS
VERIFYING WELDER QUALIFICATIONS	AWS D1.1		X	RETAIN A RECORD OF QUALIFICATION CARDS
COMPLETE AND PARTIAL JOINT PENETRATION GROOVE WELDS	AWS D1.1 CLAUSE 6	X		
SINGLE PASS FILLET WELDS LESS THAN OR EQUAL TO 5/16"			X	



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REV	DESCRIPTION	DATE

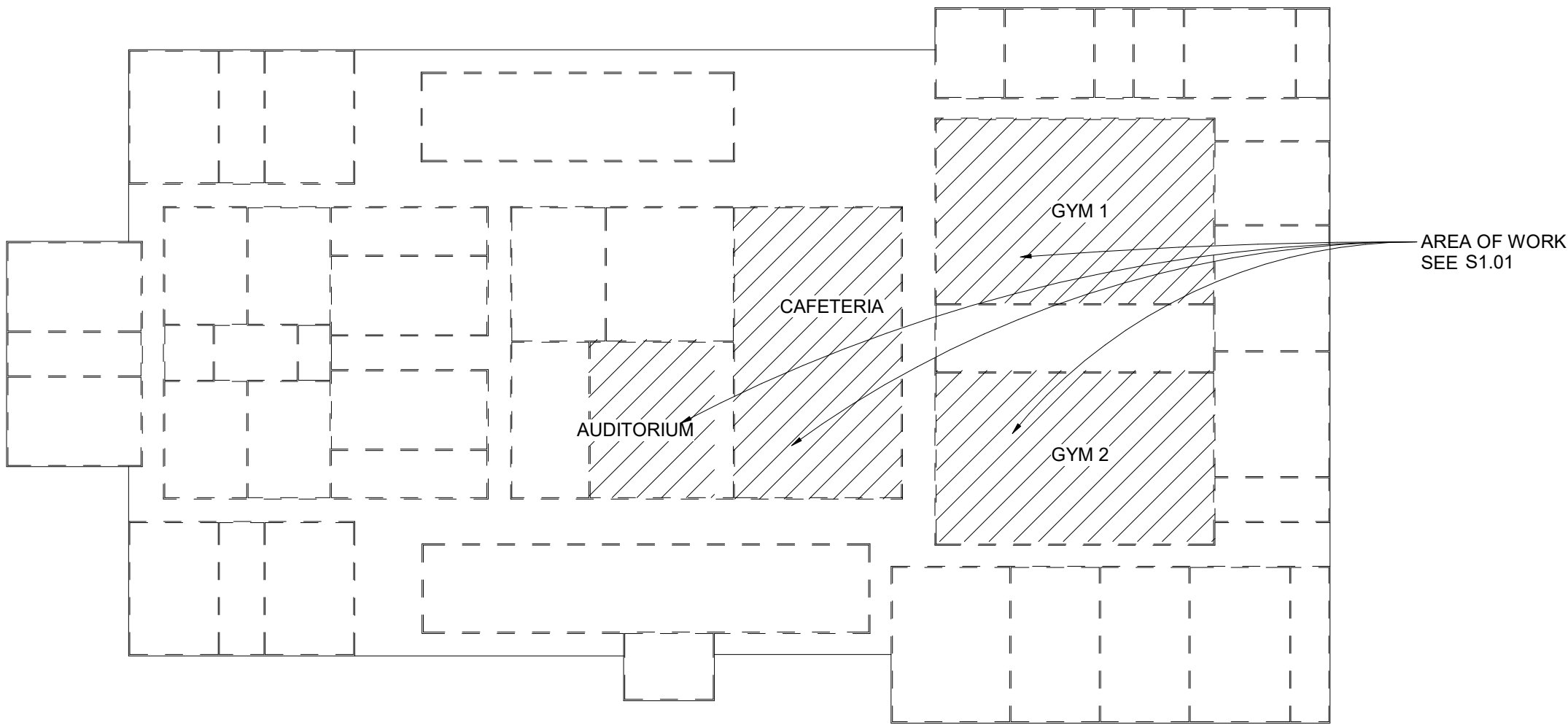
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SHEET CONTENT
SPECIAL INSPECTION

SHEET

S0.03

YOLANDA AVENUE



PL 1318'

PL 827'



1

STRUCTURAL SITE PLAN

S1.00 | 1" = 50'-0"



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SHEET CONTENT
STRUCTURAL SITE PLAN

SHEET

S1.00

- GENERAL SHEET NOTES:**
- G1. SEE S0.02 AND SUBSEQUENT SHEETS FOR STRUCTURAL NOTES AND SPECIAL INSPECTION REQUIREMENTS
- G2. FIELD VERIFY EXISTING CONDITIONS PRIOR TO DEMOLITION OR PURCHASE OF MATERIALS
- G3. THESE PLANS ARE STRUCTURAL ONLY - SIDING, FLASHING, MOISTURE PROTECTION, ETC ARE DESIGNED BY OTHERS

A DIGITAL SIGNATURE WATERMARK ON SHEET S0.01 INDICATES THIS SHEET IS PART OF AN ELECTRONICALLY SIGNED DOCUMENT



EXPIRES: 12 - 31 - 2026



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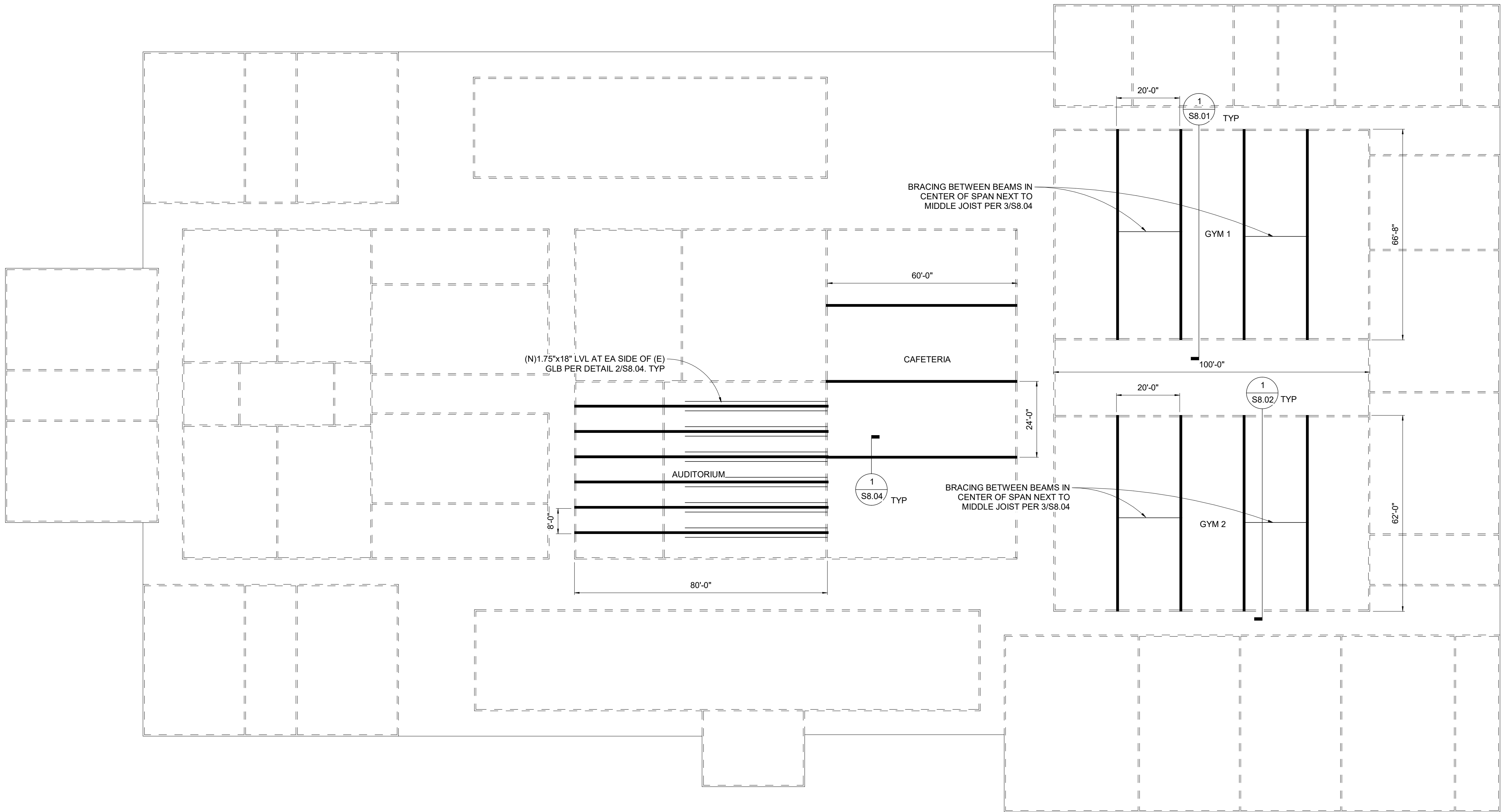
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SHEET CONTENT
PARTIAL ROOF FRAMING
PLAN

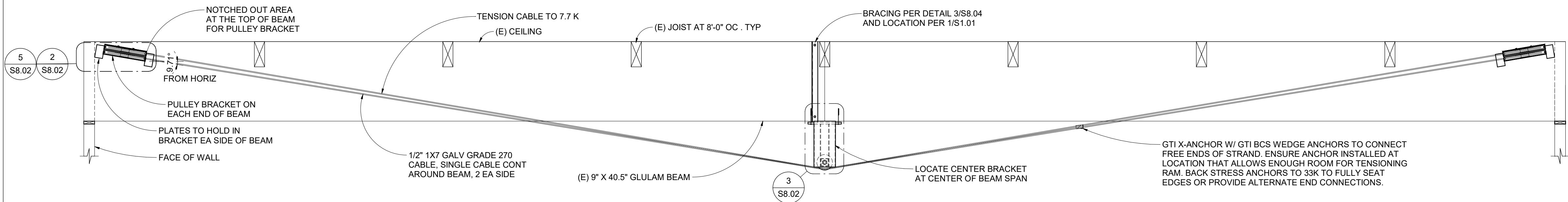
SHEET

S1.01

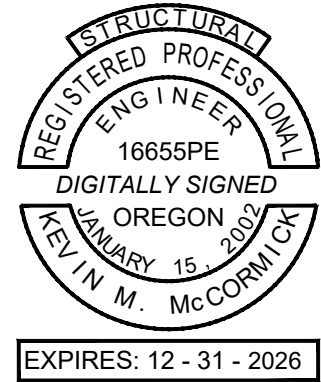


1 PARTIAL ROOF FRAMING REPAIR PLAN

S1.01 | 1" = 20'-0"



A DIGITAL SIGNATURE WATERMARK ON SHEET S0.01 INDICATES THIS SHEET IS PART OF AN ELECTRONICALLY SIGNED DOCUMENT



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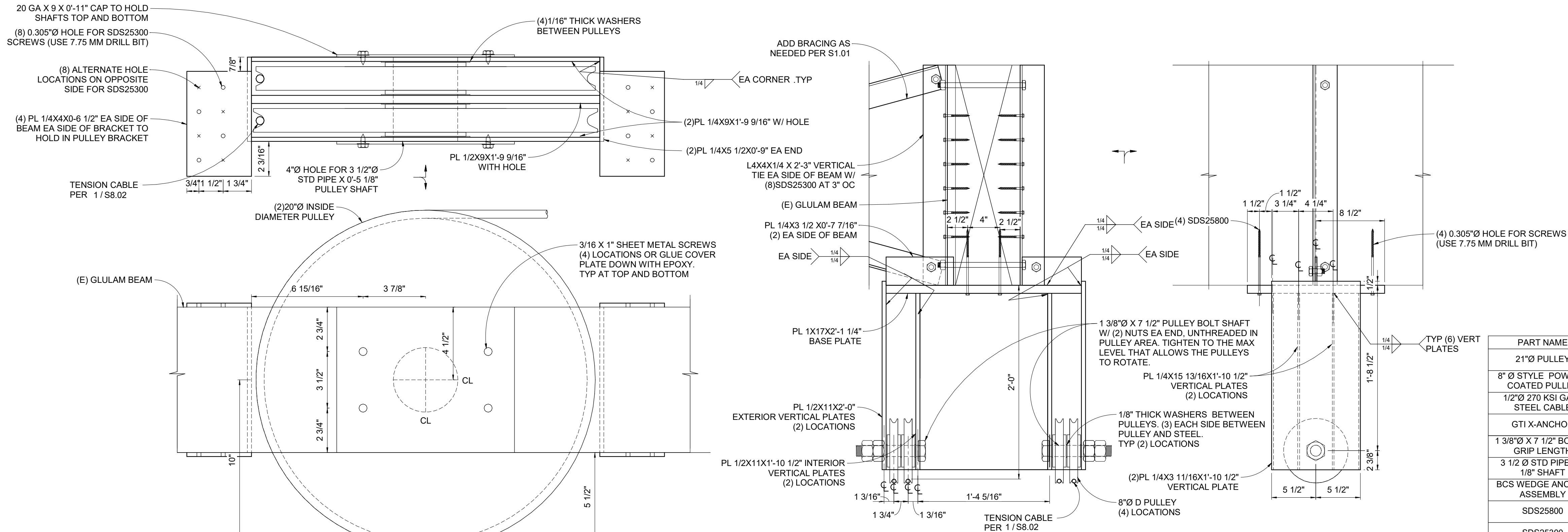
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1 GYM 2 BEAM TENSION CABLE REINFORCEMENT ELEVATION

S8.02 | 3/8" = 1'-0"



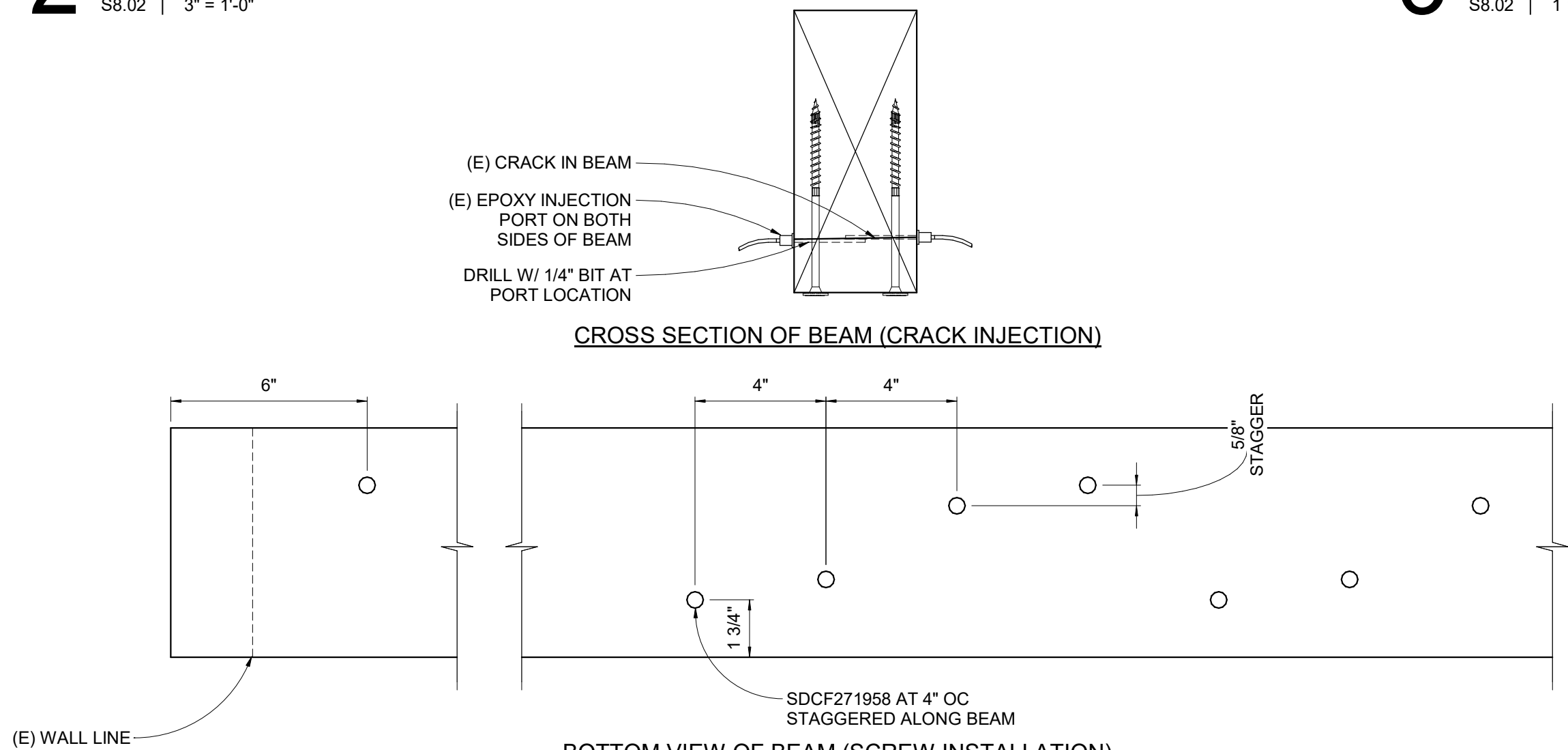
PARTS LIST (PER BEAM)

PART NAME	QTY	MANUF	CAPACITY
21"Ø PULLEY	(4)	JEAMAR USA	38 K
8" Ø STYLE POWDER COATED PULLEY	(4)	MCMMASTER-CARR	7 K
1/2"Ø 270 KSI GALV STEEL CABLE	~250 FT	GTI	270 KSI
GTI X-ANCHOR	(1)	GTI	270 KSI
1 3/8"Ø X 7 1/2" BOLT 4" GRIP LENGTH	(2)	N/A	55 KSI
3 1/2 Ø STD PIPE X 5 1/8" SHAFT	(2)	N/A	35 KSI
BCS WEDGE ANCHOR ASSEMBLY	(2)	GTI	270 KSI
SDS25800	(4)	SIMPSON	N/A
SDS25300	(32)	SIMPSON	N/A
SDCF271958	~(187)	SIMPSON	N/A

NOTE: SIMILAR MATERIALS TO BE USED WITH PRIOR APPROVAL BY THE ENGINEER OF RECORD

2 END BRACKET2

S8.02 | 3" = 1'-0"



CROSS SECTION OF BEAM (CRACK INJECTION)

BOTTOM VIEW OF BEAM (SCREW INSTALLATION)

3 CENTER BRACKET2

S8.02 | 1 1/2" = 1'-0"

STEP 1:
VERIFY ESTIMATED CRACK LOCATIONS SHOWN ON PLAN. MARK ANY CRACKING ON SIDE OR BOTTOM OF BEAM BEFORE JACKING UP BEAM. SAND SURFACE AROUND CRACK TO REMOVE PAINT OR OTHER COATING. CLEAN AREA AROUND CRACK TO ALLOW BONDING TO WOOD SURFACE. USE CLEAN COMPRESSED AIR TO BLOW OUT THE CRACK AND REMOVE ANY DUST OR DEBRIS.

STEP 2:
INSTALL HARDWARE SHOWN ON 2/S8.01 AND 3/S8.01

STEP 3:
INSTALL CABLE SHOW ON 1/S8.01 AND TENSION PER PLAN. WAIT ONE WEEK FOR BEAM TO LIFT.

STEP 4:
PRE-DRILL AND INSTALL SCREWS TO CLAMP BEAM TOGETHER. SCREWS MUST BE INSTALLED WITHIN CURE TIME OF INJECTION EPOXY IN SAME AREA OF BEAM.

STEP 5:
FILL MARKED AND CLEANED CRACKS WITH EPOXY. PRIOR TO EPOXY INJECTION, PROTECT ALL ADJACENT SURFACES FROM UNINTENDED CONTACT.

1) IDENTIFY PORT LOCATIONS ALONG CRACK. THERE SHOULD BE ONE PORT ON EACH END OF THE CRACK AND REPEATED EVERY 8" ALONG CRACK. DRILL WITH 1/4" BIT APPROXIMATELY HALF WAY INTO BEAM AT EACH IDENTIFIED LOCATION.

2) APPLY A SMALL AMOUNT OF GELMAGIC PASTE AROUND THE PORT BASE AND STICK AROUND EACH PREDRILLED LOCATION.

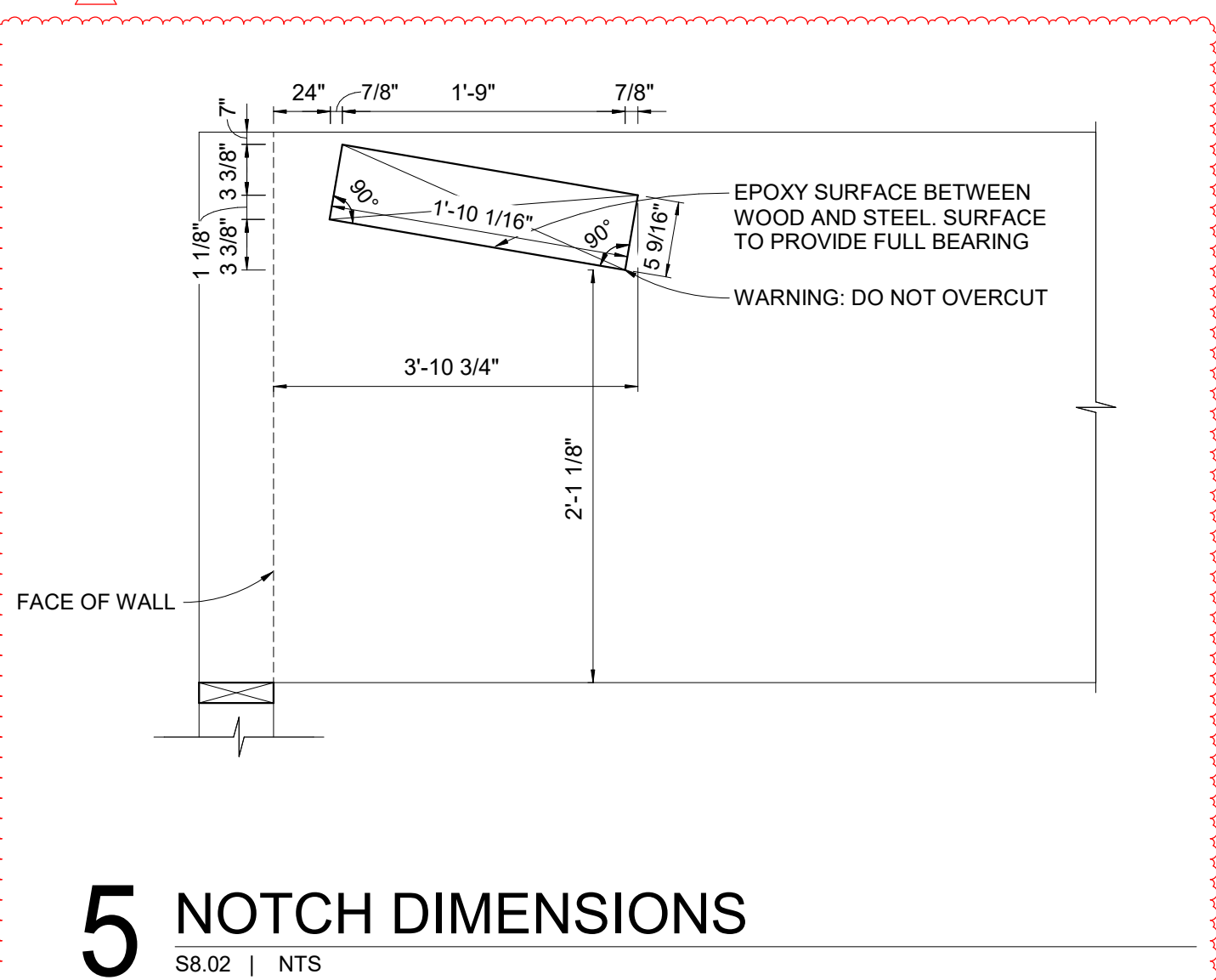
3) GENEROUSLY WORK GELMAGIC PASTE OVER THE ENTIRE LENGTH OF THE CRACK. IF CRACK IS PRESENT ON OPPOSITE SIDE OF BEAM BOTH SIDES MUST BE COVERED. MOUND THE PASTE AT LEAST 1/4" THICK AND 1" OUT FROM BASE OF PORT. MOUND 3/16" THICK AND 1" WIDE ALONG LENGTH OF CRACK.

4) ONCE OUTER PASTE HAS CURED START INJECTING T-88 EPOXY AT THE END OF THE CRACK OR LOWEST INJECTION PORT. MAKE SURE THE HEADS OF ALL PORTS ARE IN THE OPEN POSITION. CONTINUE UNTIL EPOXY EMERGES FROM THE ADJACENT PORT. AS SOON AS EPOXY EMERGES FROM THE ADJACENT PORT THE INJECTOR SHOULD BE TRANSFERRED TO THE NEXT PORT AND THE PREVIOUS PORT SEALED. CONTINUE UNTIL EVERY PORT HAS REFUSED EPOXY AND THE CRACK IS COMPLETELY FILLED.

5) GIVE THE T-88 INJECTION EPOXY SUFFICIENT TIME TO CURE. REMOVE THE INJECTION PORTS AND GELMAGIC PASTE. ENSURE NO RUN OUT OR SMEARING OF THE INJECTION EPOXY ONCE OUTER GEL IS REMOVED.

STEP 6:
SAND, RE-COAT OR REPAINT BEAMS TO MATCH (E) CONDITIONS

1



5 NOTCH DIMENSIONS

S8.02 | NTS

4 BEAM REPAIR PROCEDURE2

S8.02 | 3" = 1'-0"

REV	DESCRIPTION	DATE
1	ADDENDUM #1	04.08.2026

DESIGNED BY: SJD
CHECKED BY: RGV
MCE PROJ #: 251372
ISSUE DATE: 03.20.2026
ISSUANCE: PERMIT SET

SHEET CONTENT
GYM 2 REPAIR DETAIL

SHEET

S8.02



EXPIRES: 12 - 31 - 2026



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BRIGGS MIDDLE SCHOOL REPAIR

2355 YOLANDA AVE.
SPRINGFIELD, OREGON

SPRINGFIELD PUBLIC
SCHOOLS

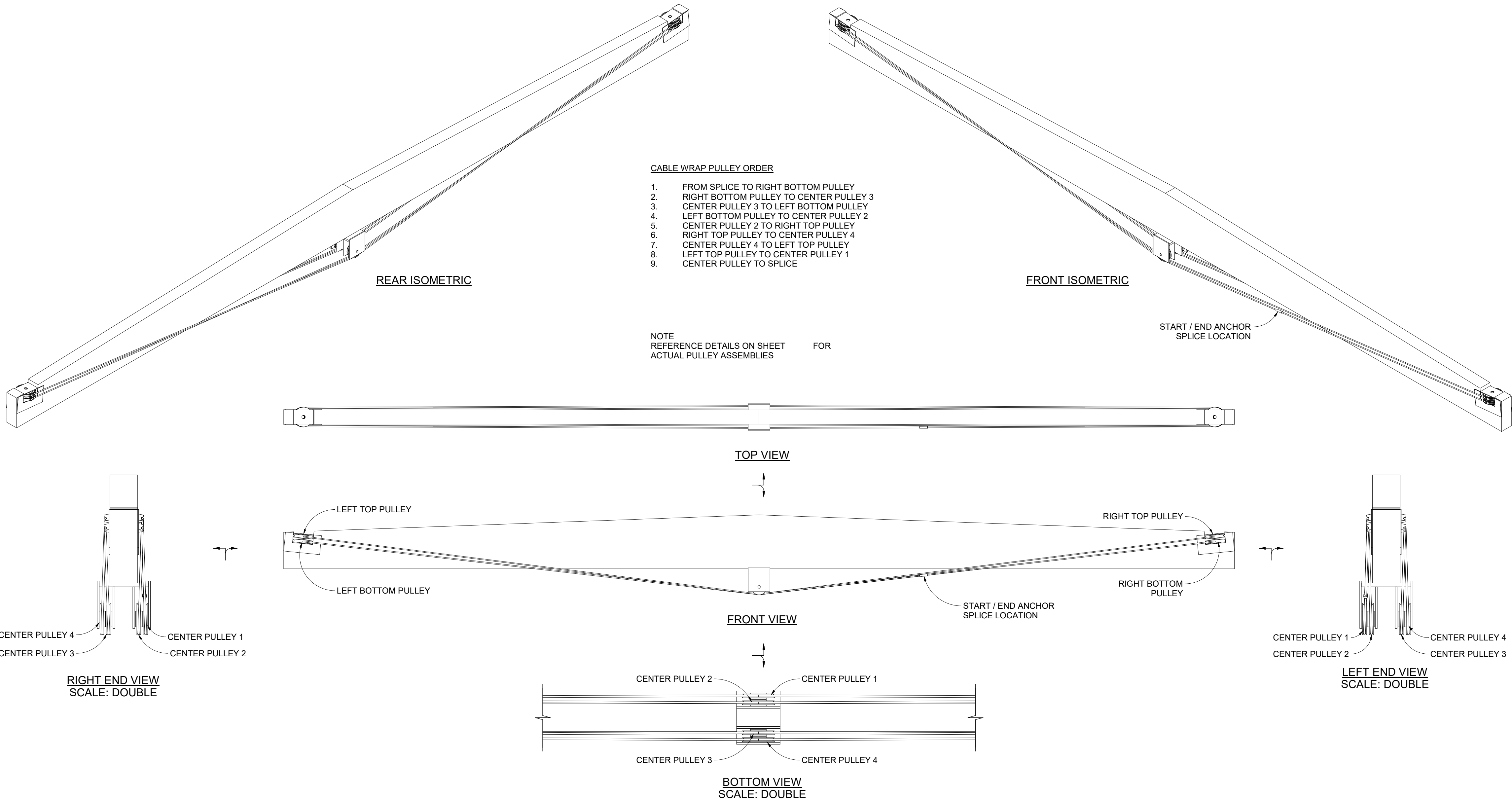
REV	DESCRIPTION	DATE
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DESIGNED BY: SJD
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ISSUANCE: PERMIT SET

SHEET CONTENT
BEAM CABLE ASSEMBLY

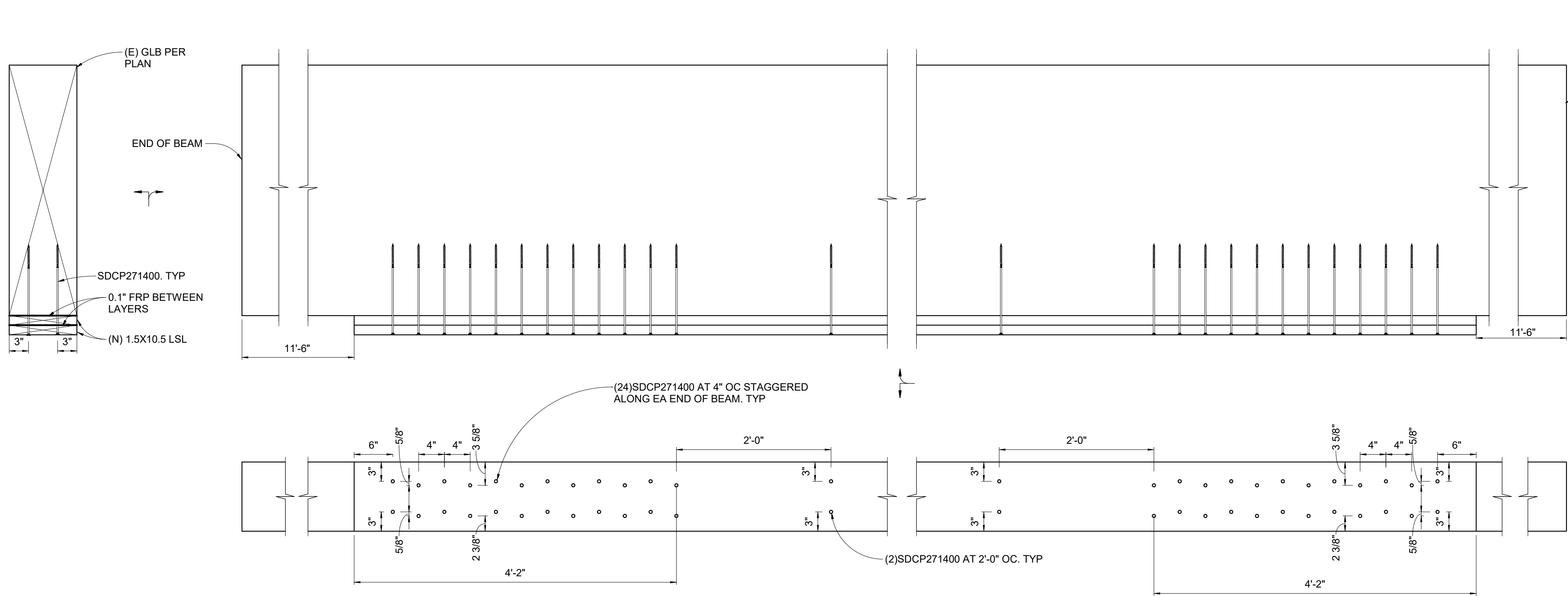
SHEET

S8.03



1 BEAM CABLE ASSEMBLY

S8.03 | 3/8" = 1'-0"



BOTTOM VIEW OF BEAM (SCREW INSTALLATION)

CROSS SECTION OF BEAM (CRACK INJECTION)

STEP 1:
INSPECT BEAM FOR CRACKS OR CHECKS. MARK ANY CRACKING ON SIDE OR BOTTOM OF BEAM BEFORE JACKING UP BEAM. SAND SURFACE AROUND CRACK TO REMOVE PAINT OR OTHER COATING. CLEAN AREA AROUND CRACK TO ALLOW BONDING TO WOOD SURFACE. USE CLEAN COMPRESSED AIR TO BLOW OUT THE CRACK AND REMOVE ANY DUST OR DEBRIS.

STEP 2:
LIFT BEAM 1/8" ABOVE LEVEL WITHOUT DAMAGE TO BUILDING, DBO.

STEP 3:
VERIFY FRP INSTALLATION LOCATIONS PER DRAWING AT LEFT. CLEAN BOTTOM OF BEAM AT LOCATION OF (N) FRP TO REMOVE ALL CONTAMINANTS AND PREPARE FOR EPOXY. SAND BOTTOM OF BEAM IN SAME LOCATIONS. WIPE WITH ACETONE AND ALLOW TO FULLY EVAPORATE. SAND BONDING FACE OF (N) PSL AND CLEAN OFF ANY DUST OR DEBRIS. ALSO SAND AND CLEAN BONDING SURFACE OF LSL BOARDS.

STEP 4:
CUT FRP TO CORRECT LENGTH FOR APPLICATION ON BOTTOM OF BEAM. USE SIKACARBODUR S914 OR 200 KSI EQUIVALENT. FRP TO FILL 0.1"x10.5" AREA, MEANING THERE SHOULD BE 3 PIECES OF S914 SIDE BY SIDE IN 2 LAYERS PER 0.1" SECTION. CLEAN FRP BONDING SURFACE WITH MANUFACTURER APPROVED SOLVENT. LIGHTLY ABRASDE SURFACE PER MANUFACTURER. REMOVE DUST AND ALLOW TO DRY.

STEP 5:
FRP REINFORCEMENT SHOULD BE PUT INTO PLACE BEFORE INSTALLATION OF ANY SCREWS. USE SIKADUR-330 EPOXY OR APPROVED EQUIVALENT. APPLY EPOXY EVENLY ON BASE OF BEAM AND BONDING FACE OF FRP USING A ROLLER. ENSURE COMPLETE COVERAGE WITH NO DRY SPOTS. APPLY EACH LAYER OF FRP ONE BY ONE RE-APPLYING EPOXY EACH TIME.

STEP 6:
REPEAT FOR LSL BOARD, NEXT LAYER OF FRP AND FINAL LSL BOARD PER DIAGRAM AT LEFT.

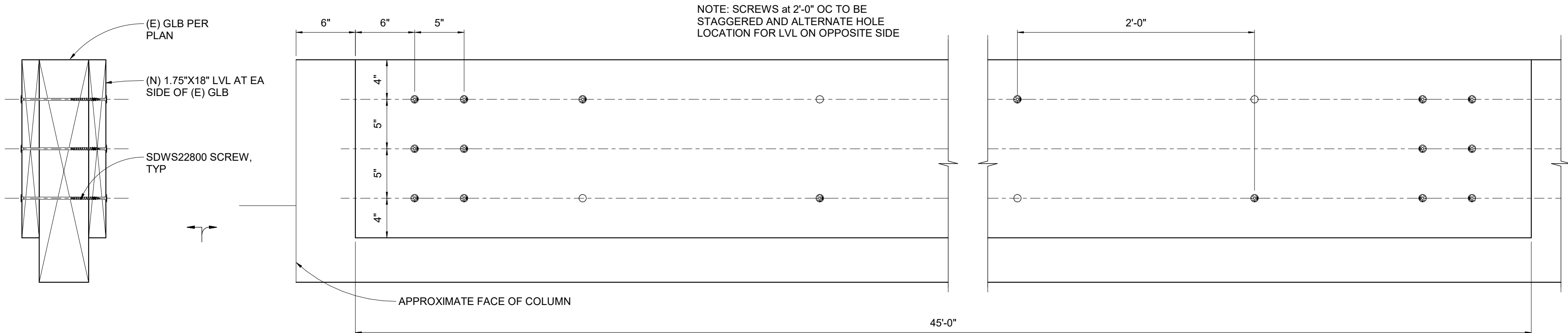
STEP 7:
PRE-DRILL AND INSTALL SCREWS TO CLAMP BEAM TOGETHER. SCREWS MUST BE INSTALLED WITHIN CURE TIME OF INJECTION EPOXY IN SAME AREA OF BEAM. SCREW INSTALLATION PER DRAWING AT LEFT. ENSURE ADHESIVE SQUEEZE OUT ALONG EDGES TO INDICATE FULL CONTACT. REMOVE EXCESS BEFORE CURE.

STEP 8:
FILL MARKED AND CLEANED CRACKS WITH EPOXY. PRIOR TO EPOXY INJECTION, PROTECT ALL ADJACENT SURFACES FROM UNINTENDED CONTACT.
A) IDENTIFY PORT LOCATIONS ALONG CRACK. THERE SHOULD BE ONE PORT ON EACH END OF THE CRACK AND REPEATED EVERY 8" ALONG CRACK. DRILL WITH 1/4" BIT APPROXIMATELY HALF WAY INTO BEAM AT EACH IDENTIFIED LOCATION.
B) APPLY A SMALL AMOUNT OF GELMAGIC PASTE AROUND THE PORT BASE AND STICK AROUND EACH PREDRILLED LOCATION.
C) GENEROUSLY WORK GELMAGIC PASTE OVER THE ENTIRE LENGTH OF THE CRACK. IF CRACK IS PRESENT ON OPPOSITE SIDE OF BEAM BOTH SIDES MUST BE COVERED. MOUND THE PASTE AT LEAST 1/4" THICK AND 1" OUT FROM BASE OF PORT. MOUND 3/16" THICK AND 1" WIDE ALONG LENGTH OF CRACK.
D) ONCE OUTER PASTE HAS CURED START INJECTING T-88 EPOXY AT THE END OF THE CRACK OR LOWEST INJECTION PORT. MAKE SURE THE HEADS OF ALL PORTS ARE IN THE OPEN POSITION. CONTINUE UNTIL EPOXY EMERGES FROM THE ADJACENT PORT. AS SOON AS EPOXY EMERGES FROM THE ADJACENT PORT THE INJECTOR SHOULD BE TRANSFERRED TO THE NEXT PORT AND THE PREVIOUS PORT SEALED. CONTINUE UNTIL EVERY PORT HAS REFUSED EPOXY AND THE CRACK IS COMPLETELY FILLED.
E) GIVE THE T-88 INJECTION EPOXY SUFFICIENT TIME TO CURE. REMOVE THE INJECTION PORTS AND GELMAGIC PASTE. ENSURE NO RUN OUT OR SMEARING OF THE INJECTION EPOXY ONCE OUTER GEL IS REMOVED.

STEP 9:
SAND, RE-COAT OR REPAINT BEAMS TO MATCH (E) CONDITIONS

1 CAFETERIA REPAIR

S8.04 | 1" = 1'-0"

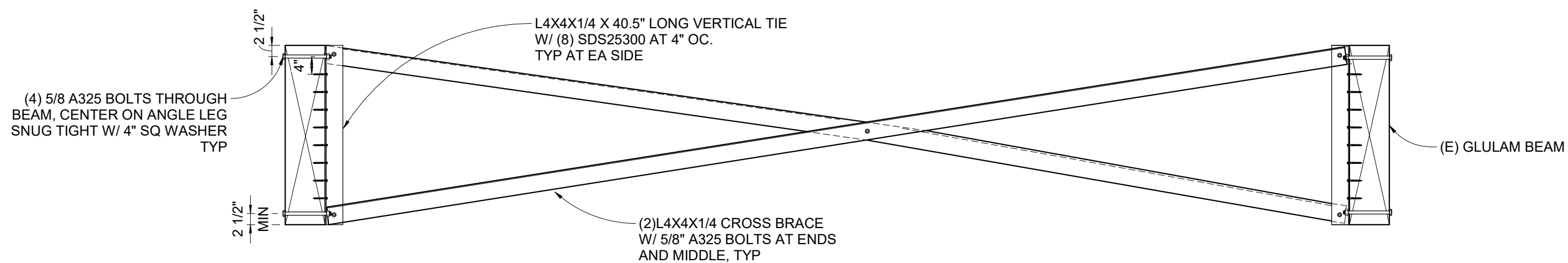


STEP 1 - LIFT AND SHORE BEAM ABOUT 1/8" ABOVE LEVEL AT MID-SPAN. DO NOT LIFT BEAM AT END. LIFT WITHOUT DAMAGE TO THE BUILDING.
STEP 2 - INSTALL MICROLLAM BEAMS
STEP 3 - REMOVE SHORING AND PAINT BEAM TO MATCH EXISTING

NOTE: REMOVE SIDE MOUNTED PROJECTOR SUPPORT. REINSTALL WITH SHORTENED UNI-STRUT. OKAY TO FASTEN INTO SIDE OF MICROLLAM.

2 AUDITORIUM REPAIR EAST END OF BEAM

S8.04 | 1 1/2" = 1'-0"



3 GYM 1 BRACING

S8.04 | 1/2" = 1'-0"



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REV	DESCRIPTION	DATE
1	ADDENDUM #1	04.08.2026

DESIGNED BY: JDL
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SHEET CONTENT
DETAILS

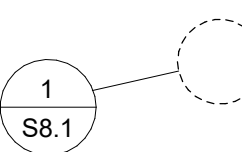
SHEET

S8.04

STRUCTURAL ABBREVIATIONS

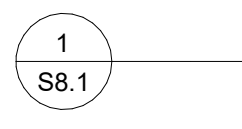
#	NUMBER OR POUNDS	IBC	INTERNATIONAL BUILDING CODE
AB	ANCHOR BOLT	ICF	INSULATED CONCRETE FORMS
ACI	AMERICAN CONCRETE INSTITUTE	ID	INSIDE DIAMETER
ADDL	ADDITIONAL	IN	INCH
ADJ	ADJACENT	INFO	INFORMATION
AESS	ARCHITECTURALLY EXPOSED STRUCTURAL	INT	INTERIOR
	STEEL	JST	JOIST
AFF	ABOVE FINISH FLOOR	JT	JOINT
AISC	AMERICAN INSTITUTE OF STEEL CONSTRUCTION		
ALT	ALTERNATE	K	KIP(S) (1,000 POUNDS)
ALUM	ALUMINUM	KSF	KIPS PER SQUARE FOOT
APA	AMERICAN PLYWOOD ASSOCIATION	KSI	KIPS PER SQUARE INCH
	APPROX APPROXIMATELY		
ARCH	ARCHITECTURAL	L, 2L	ANGLE OR DOUBLE ANGLE
ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS	LAT	LATERAL
ASD	ALLOWABLE STRESS DESIGN	LB	POUND
ASSY	ASSEMBLY	LF	LINEAR FOOT
ATR	ALL THREAD ROD	LG	LIGHT GAUGE
ATRA	ALL THREAD ROD WITH ADHESIVE	LL	LIVE LOAD
AWS	AMERICAN WELDING SOCIETY	LLBB	LONG LEGS BACK TO BACK
		LLH	LONG LEG HORIZONTAL
		LLV	LONG LEG VERTICAL
B/	BOTTOM OF	LONG	LONGITUDINAL
BF	BRACED FRAME	LRFD	LOAD AND RESISTANCE FACTOR DESIGN
BLDG	BUILDING	LSL	LAMINATED STRAND LUMBER
BLKG	BLOCKING	LSH	LONG SLOTTED HOLE
BM	BEAM	LVL	LAMINATED VENEER LUMBER
BN	BOUNDARY NAIL	LWC	LIGHT WEIGHT CONCRETE
BOT	BOTTOM		
BRBF	BUCKLING RESTRAINED BRACED FRAME	MANUF	MANUFACTURER
BRNG	BEARING	MAX	MAXIMUM
BSMT	BASEMENT	MC	MISCELLANEOUS CHANNEL
BTWN	BETWEEN	MECH	MECHANICAL
BU	BUILT-UP	MF	MOMENT FRAME
		MFR	MANUFACTURER
C	CAMBER OR CHANNEL (AMERICAN STANDARD)	MEP	MECHANICAL, ELECTRICAL, PLUMBING
CANT	CANTILEVER	MIN	MINIMUM
CFS	COLD-FORMED STEEL	MIR	MIRROR
CIP	CAST IN PLACE	MISC	MISCELLANEOUS
CG	CENTER OF GRAVITY	MSA	MASONRY SCREW ANCHOR
CGS	CENTER OF GRAVITY OF (PRESTRESSING) STEEL	MT	MAGNETIC PARTICLE TESTING
CJ	CONTROL OR CONSTRUCTION JOINT	MTL	METAL
CJP	COMPLETE JOINT PENETRATION		
CL	CENTERLINE	(N)	NEW
CLG	CEILING	NOT	NON-DESTRUCTIVE TESTING
CLR	CLEARANCE; CLEAR	NIC	NOT IN CONTRACT
CLSM	CONTROLLED LOW STRENGTH MATERIAL	NOM	NOMINAL
CMU	CONCRETE MASONRY UNIT	NS	NEAR SIDE
COL	COLUMN	NTE	NOT TO EXCEED
CONC	CONCRETE	NTS	NOT TO SCALE
CONN	CONNECTION	NWC	NORMAL WEIGHT CONCRETE
CONST	CONSTRUCTION		
CONT	CONTINUOUS	OC	ON CENTER
COORD	COORDINATE	OCBF	ORDINARY CONCENTRIC BRACED FRAME
CSA	CONCRETE SCREW ANCHOR	OD	OUTSIDE DIAMETER
		OMF	ORDINARY MOMENT FRAME
d	PENNY (NAIL)	OPP	OPPOSITE
db	NOMINAL BAR DIAMETER	OWJ	OPEN WEB JOIST
DBA	DEFORMED BAR ANCHOR		
DBL	DOUBLE	PAF	POWER ACTUATED FASTENER
DBO	DESIGNED BY OTHERS	PC	PRECAST
DEG	DEGREE	PCF	POUNDS PER CUBIC FOOT
DEMO	DEMOLISH; DEMOLITION	PERP	PERPENDICULAR
DF/L	DOUGLAS FIR-LARCH	PJP	PARTIAL JOINT PENETRATION
DIA	DIAMETER	PL	PLATE
DIAG	DIAGONAL	PLF	POUNDS PER LINEAL FOOT
DIM	DIMENSION	PLWD	PLYWOOD
DIST	DISTANCE	PSI	POUNDS PER SQUARE INCH
DL	DEAD LOAD	PSF	POUNDS PER SQUARE FOOT
DN	DOWN	PSL	PARALLEL STRAND LUMBER
DP	DEPTH OR DEEP	PT	PRESSURE TREATED
DTL	DETAIL	P/T	POST TENSIONED
DWG	DRAWING	PVC	POLYVINYL CHLORIDE
		QTY	QUANTITY
(E)	EXISTING		
E	MODULUS OF ELASTICITY	RAD	RADIUS
EA	EACH	RBS	REDUCED BEAM SECTION
EB	EXPANSION BOLT	REF	REFERENCE
EF	EACH FACE	REINF	REINFORCING
EJ	EXPANSION JOINT	REQD	REQUIRED
EL	ELEVATION	RET	RETAINING
ELEC	ELECTRICAL	REV	REVISED, REVISION
EN	EDGE NAIL	RO	ROUGH OPENING
EOR	ENGINEER OF RECORD		
EQ	EQUAL; EARTHQUAKE	SC	SLIP CRITICAL
EW	EACH WAY	SCBF	SPECIAL CONCENTRIC BRACE FRAME
EXT	EXTERIOR	SCH	SCHEDULE
EXTD	EXTEND, EXTENDED	SEOR	STRUCTURAL ENGINEER OF RECORD
		SFRS	SEISMIC FORCE RESISTING SYSTEM
fc	28 DAY CONC COMPRESSIVE STRENGTH	SHT	SHEET
fm	MASONRY NET AREA COMPRESSIVE STRENGTH	SHTG	SHEATHING
Fy	YIELD STRESS	SIM	SIMILAR
Fu	TENSILE STRESS	SLBB	SHORT LEGS BACK TO BACK
F/	FACE OF	SMF	SPECIAL MOMENT FRAME
FAB	FABRICATED / FABRICATOR	SMS	SHEET METAL SCREW
FF	FINISH FLOOR	SOG	SLAB ON GRADE
FN	FIELD NAIL	SOMD	SLAB ON METAL DECK
FLR	FLOOR	SQ	SQUARE
FDN	FOUNDATION	SS	STAINLESS STEEL
FRT	FIRE RETARDANT TREATED	SSH	SHORT SLOTTED HOLE
FS	FAR SIDE	STD	STANDARD
FT	FEET	STL	STEEL
FTG	FOOTING	SQ	SQUARE
		SYM	SYMMETRICAL
GA	GAUGE		
GAF	GAS ACTUATED FASTENER	T/	TOP OF
GALV	GALVANIZED	T&B	TOP AND BOTTOM
GLB	GLUE LAMINATED BEAM	T&G	TONGUE AND GROOVE
GR	GRADE	THRD	THREADED
GWB	GYP SUM WALL BOARD	TPL	TRIPLE
GYP	GYP SUM	TRANS	TRANSVERSE
		TYP	TYPICAL
HD	HOLDOWN		
HDG	HOT-DIP GALVANIZED	UNO	UNLESS NOTED OTHERWISE
HDR	HEADER	URM	UNREINFORCED MASONRY
HEX	HEXAGONAL	UT	ULTRASONIC TEST
HF	HEM-FIR		
HGR	HANGER	VERT	VERTICAL
HORIZ	HORIZONTAL	VIF	VERIFY IN FIELD
HSA	HEADED STUD ANCHOR		
HSS	HOLLOW STRUCTURAL SECTION	W/	WITH
HT	HEIGHT	W/O	WITHOUT
HVAC	HEATING VENTILATION AIR CONDITIONING	WD	WOOD
		WF	WIDE FLANGE
		WP	WORK POINT
		WT	WEIGHT
		WWR	WELDED WIRE REINFORCING

STRUCTURAL DRAWING SYMBOLS



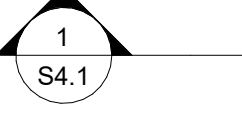
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S8.1

DETAIL REFERENCE



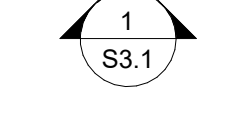
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S8.1

DETAIL SECTION CUT



1
S4.1

BUILDING OR WALL SECTION CUT



1
S3.1

ELEVATION OF WALL OR FRAME



#

REVISION SYMBOL

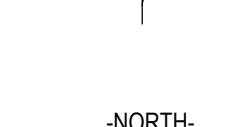


#

GRID LINES



ROTATE VIEW SYMBOL



-NORTH-

NORTH ARROW



SURFACE - STEPPED



SURFACE - SLOPE UP



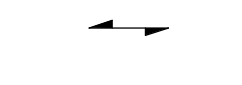
SURFACE - SLOPE DOWN



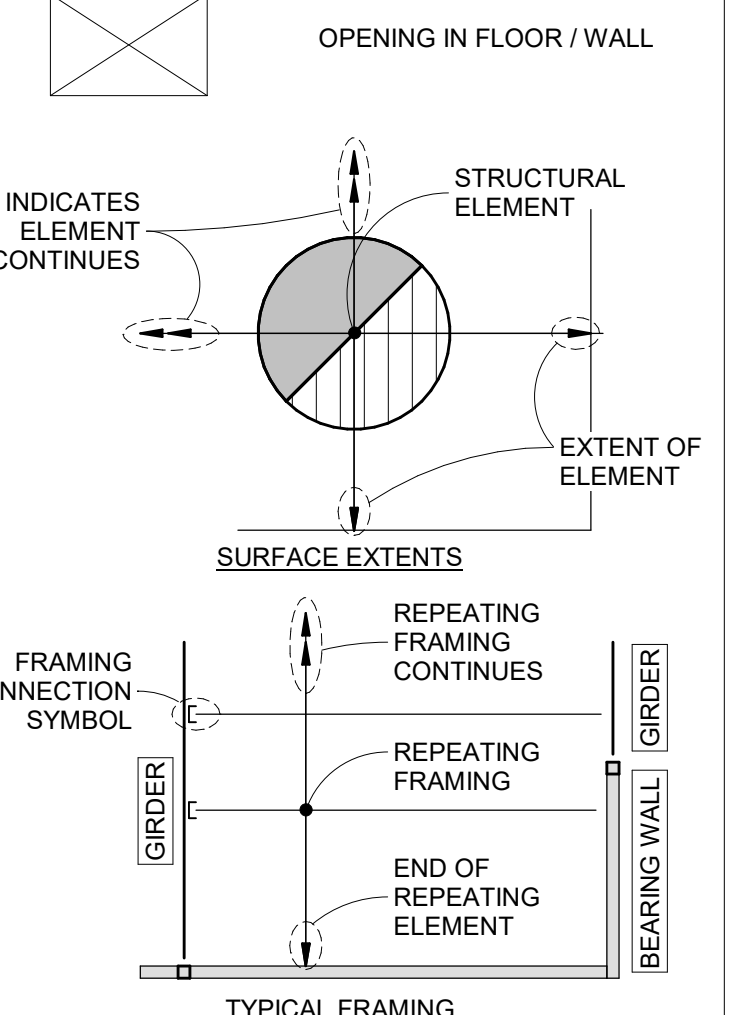
SURFACE - SLOPE TWO DIRECTIONS



DECKING SPAN DIRECTION



OPENING IN FLOOR / WALL



INDICATES ELEMENT CONTINUES

STRUCTURAL ELEMENT

EXTENT OF ELEMENT

SURFACE EXTENTS

REPEATING FRAMING CONTINUES

REPEATING FRAMING

END OF REPEATING ELEMENT

FRAMING CONNECTION SYMBOL

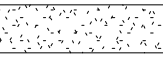
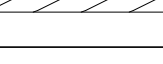
GIRDER

GIRDER

BEARING WALL

TYPICAL FRAMING

STRUCTURAL MATERIAL PATTERNS

	CONCRETE
	MASONRY
	EARTH
	COMPACTED STRUCTURAL FILL
	STEEL
	SAND OR GROUT
	WOOD SHEATHING - SECTION
	WOOD - PLAN

STRUCTURAL DRAWING INDEX			
SHEET #	SHEET NAME	BID SET	PERMIT SET
S0.01	COVER SHEET	•	•
S0.02	STRUCTURAL NOTES & SPECIAL INSPECTION	•	•
S1.00	STRUCTURAL SITE PLAN	•	•
S1.01	ROOF FRAMING PLAN	•	•
S8.01	REPAIR DETAIL	•	•
S8.02	DETAILS	•	•
S8.03	DETAILS	•	•

CODE SUMMARY:

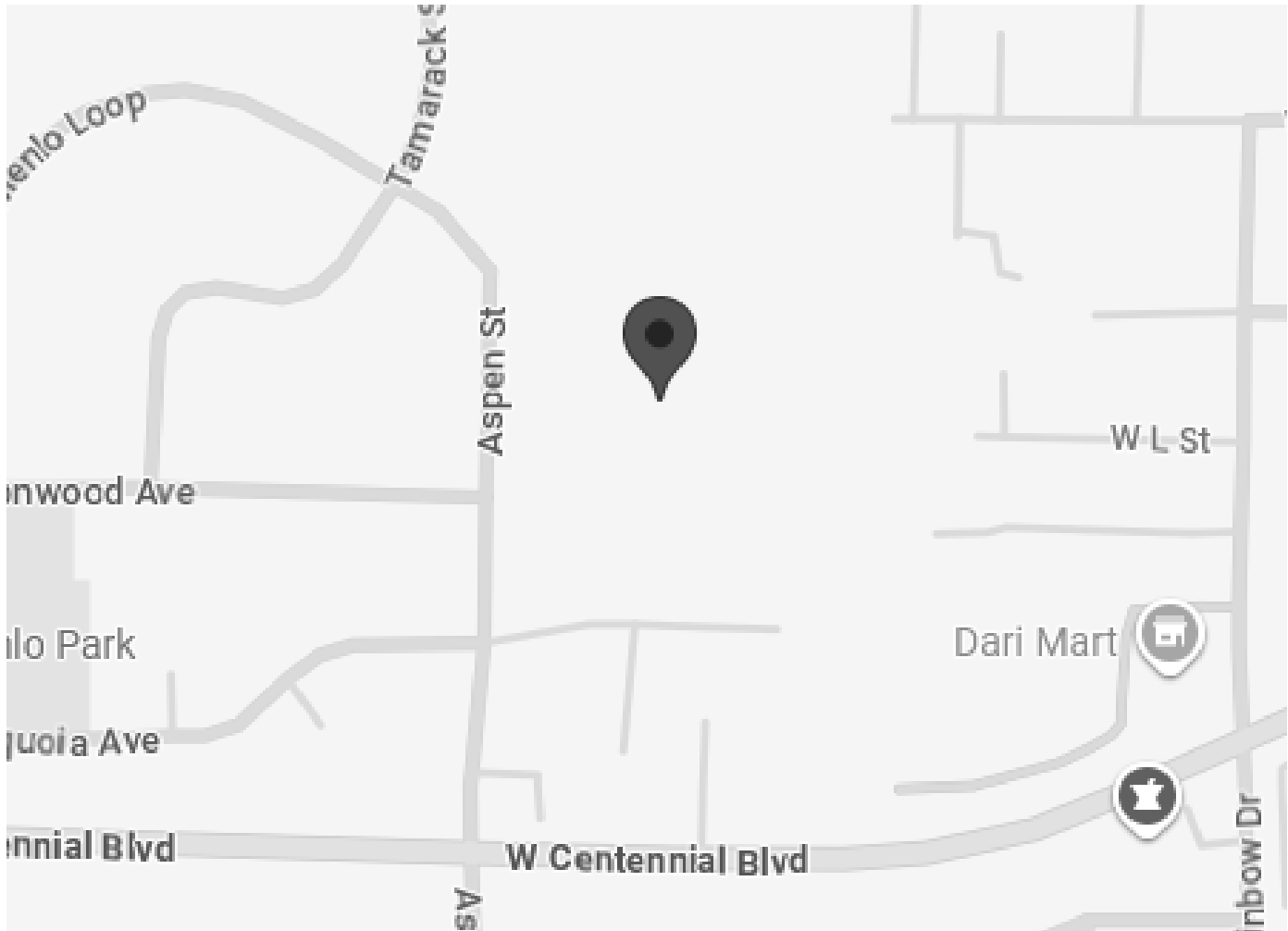
BUILDING CODE: 2022 OSSC
YEAR BUILT: 1964
AREA: 72000 SF (NO CHANGE)
BUILDING CONSTRUCTION TYPE: V-A (NO CHANGE)
OCCUPANCY CLASSIFICATION: E (NO CHANGE)

SCOPE OF WORK:
THE FOLLOWING PLANS ARE FOR THE MANDATORY REINFORCEMENT OF (E) GLUE LAMINATED BEAMS

PROJECT DESIGN TEAM:

MILLER CONSULTING ENGINEERS, INC
STRUCTURAL ENGINEER OF RECORD

PRIMARY CONTACT: KEVIN MCCORMICK, kevin@miller-se.com
SECONDARY CONTACT: JENNYLIN LOPEZ, jennylin.lopez@miller-se.com



 **1** VICINITY MAP
S0.01 | NOT TO SCALE

THESE DRAWINGS HAVE BEEN DIGITALLY SIGNED IN ACCORDANCE WITH OREGON ADMINISTRATIVE RULE 820-025-0010. A DIGITAL SIGNATURE WATERMARK ON THIS PAGE INDICATES THIS SHEET IS PART OF AN ELECTRONICALLY SIGNED DOCUMENT. REFER TO INDEX ON THIS PAGE FOR ALL SHEETS INCLUDED WITH THIS DIGITAL SIGNATURE.



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CENTENNIAL ELEMENTARY SCHOOL

1315 ASPEN STREET
SPRINGFIELD, OREGON

SPRINGFIELD PUBLIC SCHOOLS

REV	DESCRIPTION	DATE

DESIGNED BY: JDL
CHECKED BY: KMM
MCE PROJ #: 251372
ISSUE DATE: 03.20.2026
ISSUANCE: PERMIT SET

SHEET CONTENT
COVER SHEET

SHEET

S0.01

STRUCTURAL NOTES

GENERAL NOTES

THESE CONTRACT DOCUMENTS COMPRISED OF PLANS, SPECIFICATIONS, ENGINEERING AND DESIGN WORK ARE INTENDED SOLELY FOR THE PROJECT SPECIFIED HEREIN. MILLER CONSULTING ENGINEERS (MCE) DISCLAIMS ALL LIABILITY IF THESE PLANS AND SPECIFICATIONS OR THE DESIGN, ADVICE AND INSTRUCTIONS ATTENDANT THEREON ARE USED ON ANY PROJECT OR AT ANY LOCATION OTHER THAN THE PROJECT AND LOCATION SPECIFIED HEREIN.

THE CONTRACT DOCUMENTS REPRESENT THE FINISHED STRUCTURE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONFORMANCE TO ALL SAFETY REGULATIONS DURING CONSTRUCTION. THE CONTRACTOR SHALL PROVIDE ALL METHODS, DIRECTION AND RELATED EQUIPMENT NECESSARY TO PERFORM THE WORK.

SHOULD ANY QUESTION ARISE REGARDING THE CONTRACT DOCUMENTS OR SITE CONDITIONS, THE CONTRACTOR SHALL REQUEST INTERPRETATION AND CLARIFICATION FROM THE ENGINEER BEFORE BEGINNING THE PROJECT. THE ABSENCE OF SUCH REQUEST SHALL SIGNIFY THAT THE CONTRACTOR HAS REVIEWED AND FAMILIARIZED THEMSELVES AND HAS COMPLETE COMPREHENSION OF ALL ASPECTS OF THE PROJECT.

THE CONTRACTOR IS RESPONSIBLE FOR VERIFICATION AND CORRELATION OF ALL ITEMS AND WORK NECESSARY FOR COMPLETION OF THE PROJECT AS INDICATED BY THE CONTRACT DOCUMENTS. THE CONTRACT DOCUMENTS ARE STRUCTURAL ONLY AND DO NOT NECESSARILY INDICATE ALL NON-STRUCTURAL PORTIONS OF THE PROJECT INCLUDING, BUT NOT LIMITED TO, PLUMBING, FIRE SUPPRESSION, ELECTRICAL, MECHANICAL, LAND USE, SITE PLANNING, EROSION CONTROL FLASHING AND WATER-PROOFING. ALL NON-STRUCTURAL PORTIONS OF WORK, AND STRUCTURAL WORK NOTED AS DELEGATED DESIGN IN THE SUBMITTAL SCHEDULE, ARE BEYOND THE SCOPE OF THESE DOCUMENTS AND ARE PROVIDED BY OTHERS. THE CONTRACTOR IS RESPONSIBLE FOR VERIFICATION AND CORRELATION OF ALL NON-STRUCTURAL ITEMS IMPACTED BY THE STRUCTURAL WORK. THESE ITEMS SHALL BE RESTORED TO THEIR ORIGINAL CONDITION OR MODIFIED IN ACCORDANCE WITH THE RECOMMENDATIONS OF A QUALIFIED DESIGN PROFESSIONAL ENGAGED AT THE CONTRACTOR'S OWN EXPENSE.

ANY MATERIAL NOT AS SPECIFIED IN THE CONTRACT DOCUMENTS OR IMPROPER MATERIAL INSTALLATION OR WORKMANSHIP SHALL BE REMOVED AND REPLACED WITH SPECIFIED MATERIAL IN A WORKMANLIKE MANNER AT THE CONTRACTOR'S EXPENSE. IT IS THE CONTRACTOR'S RESPONSIBILITY TO PROTECT ALL MATERIALS FROM DAMAGE THROUGHOUT THE COURSE OF CONSTRUCTION. CHANGES TO THE CONTRACT DOCUMENTS REQUESTED BY THE CONTRACTOR TO ACCOMPLISH THEIR PREFERRED MEANS OR METHOD OF CONSTRUCTION MAY BE AT THE CONTRACTOR'S EXPENSE.

ALL MANUFACTURED PRODUCTS SPECIFIED SHALL BE USED UNLESS AN ALTERNATE IS SUBMITTED AND APPROVED BY THE SEOR. MANUFACTURED PRODUCTS REQUIRING A BUILDING CODE EVALUATION REPORT SHALL HAVE A CURRENT REPORT DEMONSTRATING CONFORMANCE WITH THE APPLICABLE BUILDING CODE, VALID AT THE TIME OF PRODUCT INSTALLATION.

TEMPORARY MEASURES/SHORING

THE CONTRACTOR IS RESPONSIBLE FOR IDENTIFYING ALL INSTANCES WHERE TEMPORARY MEASURES/SHORING ARE REQUIRED, AND SHALL AT THEIR OWN EXPENSE, ENGAGE PROPERLY QUALIFIED PERSONS TO DETERMINE WHERE AND HOW TEMPORARY MEASURES/SHORING ARE REQUIRED. TEMPORARY MEASURES/SHORING SHALL:

- PROTECT PERSONNEL AND THE PUBLIC.
- PREVENT SETTLEMENT AND/OR DAMAGE TO THE BUILDING AND/OR EXISTING FACILITIES
- PROTECT STREETS, WALKWAYS, UTILITIES, AND IMPROVEMENTS.
- PROTECT ALL EXCAVATIONS AGAINST LOSS OF GROUND OR CAVING OF EMBANKMENTS DURING CONSTRUCTION.

BUILDING CODE

ALL PHASES OF THE WORK SHALL CONFORM TO THE 2022 OREGON STRUCTURAL SPECIALTY CODE (OSSC), BASED ON THE 2021 INTERNATIONAL BUILDING CODE (IBC), INCLUDING ALL REFERENCE STANDARDS, UNLESS NOTED OTHERWISE.

SPECIAL INSPECTION/TESTING

SPECIAL INSPECTION AND/OR TESTING IS REQUIRED IN ACCORDANCE WITH BUILDING CODE SECTION 1704. IT IS THE OWNER'S RESPONSIBILITY TO PROVIDE SPECIAL INSPECTION AND TESTING BY A QUALIFIED THIRD PARTY, SUCH AS A TESTING AGENCY REVIEWED BY THE ENGINEER AND APPROVED BY THE BUILDING OFFICIAL. THE CONTRACTOR SHALL PROVIDE SUFFICIENT NOTICE TO ALLOW SCHEDULING OF SPECIAL INSPECTION.

SPECIAL INSPECTIONS SHALL CONFORM TO SECTION 1705 OF THE BUILDING CODE, CONTRACT DOCUMENTS AND SUBMITTALS. THE SPECIAL INSPECTOR SHALL OBSERVE THE INDICATED WORK FOR COMPLIANCE WITH THE CONSTRUCTION DOCUMENTS. ALL DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE CONTRACTOR FOR CORRECTION AND NOTED IN THE INSPECTION REPORTS. FOR PROJECT REQUIREMENTS REFER TO THE SPECIAL INSPECTION TABLES WITHIN THE CONTRACT DOCUMENTS.

STRUCTURAL OBSERVATION

STRUCTURAL OBSERVATION BY THE SEOR SHALL VERIFY BY PERIODIC VISUAL OBSERVATION THAT THE STRUCTURAL SYSTEM HAS GENERAL CONFORMANCE WITH THE CONSTRUCTION DOCUMENTS AT SIGNIFICANT STAGES OF CONSTRUCTION AND AT COMPLETION AS REQUIRED IN ACCORDANCE WITH BUILDING CODE SECTION 1704.6. THE CONTRACTOR SHALL PROVIDE SUFFICIENT NOTICE TO ALLOW SCHEDULING FOR A STRUCTURAL OBSERVATION. STRUCTURAL OBSERVATION SHALL BE PERFORMED DURING CONSTRUCTION AT THE FOLLOWING TIMES:

- DURING PRESTRESSING OPERATIONS OF THE FIRST BEAM
- AFTER COMPLETION OF STRUCTURAL REINFORCING OF ALL BEAMS

SHOP DRAWINGS/SUBMITTALS

SUBMITTALS AND SHOP DRAWINGS FOR SPECIFIC PRODUCTS GENERATED BY THE SUPPLIER SHALL BE SUBMITTED FOR THE ITEMS NOTED IN THE SUBMITTAL SCHEDULE. SHOP DRAWINGS SHALL BE TO SCALE AND SHOW COMPLETE DETAILS AND INSTRUCTIONS FOR FABRICATION AND ASSEMBLY. SHOP DRAWINGS SHALL INDICATE ERECTION AND TEMPORARY BRACING INFORMATION FOR CONTRACTOR'S USE.

THE DESIGN OF ITEMS NOTED IN THE SUBMITTAL SCHEDULE AS DELEGATED DESIGN SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. DOCUMENTS FOR THE DESIGN AND FABRICATION OF DELEGATED DESIGN ITEMS (INCLUDING STRUCTURAL CALCULATIONS AND DRAWINGS) SHALL BEAR THE SEAL AND SIGNATURE OF A LICENSED ENGINEER REGISTERED IN THE STATE THAT THE PROJECT IS BEING CONSTRUCTED.

DEFERRED SUBMITAL ITEMS NOTED IN THE SUBMITTAL SCHEDULE ARE PORTIONS OF THE DESIGN THAT ARE NOT SUBMITTED AT THE TIME OF PERMIT APPLICATION AND ARE REQUIRED TO BE SUBMITTED TO THE BUILDING OFFICIAL.

THE CONTRACTOR SHALL REVIEW AND MODIFY ALL SUBMITTALS AS REQUIRED FOR CONFORMANCE WITH THE CONTRACT DOCUMENTS AND SIGN AND DATE ALL SETS OF THE SUBMITTAL DOCUMENTS PRIOR TO SUBMITTAL TO THE ENGINEER. THE CONTRACTOR SHALL SCHEDULE SUBMITTALS TO ALLOW SUFFICIENT TIME FOR REVIEW AND POSSIBLE RE-SUBMITTAL. WHERE RE-SUBMITTALS ARE REQUIRED, CHANGES FROM THE PREVIOUS SUBMITTAL SHALL BE CLEARLY INDICATED WITH REVISION CLOUDS OR SIMILAR.

SUBMITTAL SCHEDULE				
ITEM	SUBMITTAL	SHOP DRAWINGS	DELEGATED DESIGN	DEFERRED SUBMITTAL
PRESTRESSING CABLE	X			
PRESTRESSING CABLE ACCESSORIES	X			
FABRICATED STRUCTURAL STEEL ELEMENTS	X	X		
STEEL WELDING PROCEDURES	X			
STRUCTURAL ADHESIVES FOR TIMBER CRACK REPAIR	X			
BEAM LIFTING PLAN			X	X
BONDING EPOXY	X			

STRUCTURAL DESIGN CRITERIA

LIVE LOAD REDUCTION FOR BEAMS AND COLUMNS WAS NOT USED. DESIGN FOR MECHANICAL LOADS INCLUDES ONLY THOSE INDICATED ON STRUCTURAL DRAWINGS. THE FOLLOWING ARE THE DESIGN REQUIREMENTS:

STRUCTURAL DESIGN CRITERIA	
RISK CATEGORY	III
SUPERIMPOSED DEAD LOAD (EXCLUDING STRUCTURAL FRAME SELF WEIGHT)	
ROOF (TOTAL INCLUDING ROOFING/CEILING)	15 PSF

ROOF LIVE LOAD	
ROOF LIVE LOAD	20 PSF OR 300LB CONCENTRATED LOAD
ROOF SNOW LOAD	
DESIGN ROOF SNOW LOAD	27 PSF
SNOW DRIFTING	AS NOTED ON PLANS (IF OCCURS)
IMPORTANCE FACTOR	I _s = 1.1
GROUND SNOW LOAD	P _g = 11 PSF

STRUCTURAL STEEL

DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL SHALL CONFORM TO THE SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS (AISC 360). QUALITY ASSURANCE (QA) IS REQUIRED FOR STRUCTURAL STEEL ITEMS PER AISC 360 AND 341 UNLESS SPECIFICALLY NOTED OTHERWISE. QUALITY CONTROL (QC) TO BE PROVIDED BY THE FABRICATOR, ERECTOR OR OTHER RESPONSIBLE CONTRACTOR AS APPLICABLE. CONTRACTOR AND SPECIAL INSPECTOR TO DOCUMENT QUALITY CONTROL AS REQUIRED IN AISC 360 SECTION N3 AND AISC 341 SECTION J2.

ALL STRUCTURAL AND MISCELLANEOUS STEEL SHALL CONFORM TO THE FOLLOWING MATERIAL STANDARDS:

STRUCTURAL STEEL MATERIAL STANDARDS		
SHAPE	ASTM SPECIFICATION	YIELD STRESS
W-SECTIONS	A992	50 KSI
RECTANGULAR HSS	A500, GRADE C	50 KSI
ROUND HSS	A500, GRADE C	46 KSI
PIPE	A53, GRADE B, TYPE E OR S	35 KSI
ALL OTHER SECTIONS AND PL	A36	36 KSI

ALL STRUCTURAL STEEL SHALL HAVE ONE SHOP COAT OF PRIMER. ALL EXPOSED STRUCTURAL STEEL AND FASTENINGS TO HAVE ONE FINISH COAT OF RUST INHIBITING PAINT, COLOR BY OWNER.

STRUCTURAL STEEL BOLTING

ALL BOLTS SHALL BE ASTM A307 GRADE A WITH MATCHING NUTS TIGHTENED TO A SNUG TIGHT CONDITION.

STRUCTURAL STEEL WELDING

ALL WELDING SHALL CONFORM TO AMERICAN WELDING SOCIETY (AWS) D1.1 USING E70XX ELECTRODES. WELDING SHALL BE PERFORMED BY WELDERS CERTIFIED BY AWS FOR THE WELD TYPES SPECIFIED. WELD LENGTHS SHOWN ARE EFFECTIVE AS SPECIFIED PER THE SPECIFICATIONS OF THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC), WHERE WELD LENGTHS ARE NOT SHOWN, THE WELD SHALL BE FULL LENGTH OF MEMBERS BEING JOINED. FIELD WELDING SYMBOLS HAVE NOT NECESSARILY BEEN INDICATED ON THE DRAWINGS. WHERE SHOWN, PROPER FIELD WELDING PER AWS D1.1 SHALL BE USED. WHERE NO FIELD WELDING SYMBOLS ARE SHOWN, IT IS THE CONTRACTOR'S RESPONSIBILITY TO COORDINATE THE USE OF SHOP AND FIELD WELDS.

ALL PARTIAL JOINT PENETRATION GROOVE WELD SIZES SHOWN ON THE DRAWINGS REFER TO THE EFFECTIVE THROAT THICKNESS. ALL BUTT WELDS SHALL BE FULL PENETRATION WELDS UNLESS NOTED OTHERWISE ON STRUCTURAL DRAWINGS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE JOINT PREPARATION AND WELDING PROCEDURES THAT INCLUDE, BUT ARE NOT LIMITED TO: REQUIRED ROOT OPENINGS, ROOT FACE DIMENSIONS, GROOVE ANGLES, BACKING BARS, COPEs, SURFACE ROUGHNESS VALUES AND TAPERS AND TRANSITIONS OF UNEQUAL PARTS.

ALL WELDS SHALL RECEIVE THE SAME FINISH COATING AS THE MEMBER BEING WELDED. ANY COATINGS ON THE STRUCTURAL AFFECTED BY WELDING SHALL BE REPAIRED AS REQUIRED.

POST-TENSIONING CABLES FOR WOOD BEAM STRENGTHENING

POST-TENSIONING CABLES SHALL MEET THE REQUIREMENTS SET FORTH IN THE SPECIFICATIONS FOR UNBONDED SINGLE STRAND TENDONS (LATEST EDITION) AND THE SPECIFICATION FOR SEVEN-WIRE PRESTRESSING STEEL STRAND FOR BARRIER CABLE APPLICATIONS PUBLISHED BY THE POST-TENSIONING INSTITUTE (PTI).

POST-TENSIONING CABLES SHALL BE INSTALLED TO THE JACKING PRESTRESS FORCE AS SPECIFIED ON THE PLANS. ANCHORAGES, COUPLERS AND FITTINGS SHALL MEET THE FOLLOWING:

- HAVE A BUILDING CODE EVALUATION REPORT
- DEVELOP A MINIMUM OF 100% OF THE ULTIMATE STRENGTH OF THE CABLE
- HAVE A GALVANIZED COATING

CABLES SHALL BE 1/2" DIAMETER CONFORMING TO ASTM A416, GRADE 270 FOR SEVEN-WIRE LOW RELAXATION STRAND. CABLE SHALL HAVE A ZINC GALVANIZED COATING CONFORMING TO ASTM A475

EACH STRESSING JACK AND GAUGE COMBINATION SHALL BE CALIBRATED AS A UNIT TO KNOWN STANDARDS AT INTERVALS NOT EXCEEDING 6 MONTHS. COPIES OF THE CALIBRATION CERTIFICATES FOR EACH JACK AND GAUGE COMBINATION BEING USED SHALL BE SUBMITTED TO THE SEOR FOR REVIEW.

CABLE INSTALLATION AND STRESSING OPERATIONS SHALL BE PERFORMED UNDER THE IMMEDIATE CONTROL OF A PERSON WHO IS A PTI CERTIFIED INSTALLER EXPERIENCED IN THIS TYPE OF WORK.

WOOD FRAMING

ALL WOOD STRUCTURAL GRADES SHALL BE PER TYPICAL WOOD FRAMING SCHEDULE UNLESS NOTED OTHERWISE.

TYPICAL WOOD FRAMING SCHEDULE	
MEMBER	VISUALLY GRADED (MIN)
COLUMNS	DF/L #1
BEAMS	DF/L #1
SILL PL TO CONCRETE/MASONRY	PT HF #2
BOT PL/SOLE PL/TOP PL	DF/L #2
STUDS	DF/L #2
BUILT-UP STUD PACKS	DF/L #2
JOISTS/RAFTERS	DF/L #2
PURLINS	DF/L #2
GIRTS	DF/L #2
BLOCKING	DF/L CONSTRUCTION
NON-STRUCTURAL FRAMING	DF/L CONSTRUCTION

ALL WOOD PLATES IN CONTACT WITH CONCRETE OR MASONRY SHALL BE PRESSURE TREATED UNLESS NOTED OTHERWISE. ALL COLUMNS SHALL HAVE SOLID BLOCKING FOR THE FULL COLUMN AREA TO SUPPORTING MEMBERS BELOW. COLUMNS SHALL ALIGN THROUGH ALL FLOORS TO THE FOUNDATION. ALL SAWN LUMBER SHALL HAVE A MOISTURE CONTENT LESS THAN 19% (S-DRY) PRIOR TO INSTALLATION OF NON-STRUCTURAL COMPONENTS.

WOOD FRAMING CONNECTIONS

PREDRILL ALL SCREWS INTO EXISITING LUMBER TO ¾ OF THE ROOT THREAD DIAMETER OF THE SCREW.

PREFABRICATED METAL TIMBER CONNECTORS SHALL BE MANUFACTURED BY SIMPSON STRONG-TIE, UNLESS NOTED OTHERWISE. ALL PREFABRICATED METAL TIMBER CONNECTORS AND HANGERS SHALL BE FULLY BOLTED, NAILED, AND/OR SCREWED AS INDICATED BY MANUFACTURER, UNLESS NOTED OTHERWISE. ALL CONNECTORS, HANGERS AND FASTENERS SHALL BE CORROSION PROTECTED PER MANUFACTURER'S RECOMMENDATIONS.

ALL BOLTS IN WOOD CONNECTIONS SHALL BE ASTM A307 GRADE A. ALL BOLT HEADS OR NUTS BEARING ON WOOD TO HAVE STANDARD WASHERS. BOLT HOLES IN WOOD SHALL BE A MINIMUM OF 1/32" TO A MAXIMUM OF 1/16" LARGER THAN THE BOLT. ALL LAG SCREWS SHALL HAVE PILOT HOLES PER THE LAG SCREW PILOT HOLE SCHEDULE. REFER TO SECTION 12.1 OF THE NDS FOR ADDITIONAL INSTALLATION INSTRUCTIONS OF DOWEL-TYPE FASTENERS.

ENGINEERED LUMBER

ENGINEERED LUMBER SHALL HAVE A BUILDING CODE EVALUATION REPORT.

ALL ENGINEERED LUMBER EXPOSED TO WEATHER AND SUBJECT TO DECAY, SHALL BE PRESERVATIVE TREATED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS FOR PRESERVATIVE MATERIALS, RETENTION RATES, AND END USE.

GLUE LAMINATED (GLULAM) WOOD MEMBERS

GLULAM MEMBERS SHALL BE MANUFACTURED AND CERTIFIED PER THE AMERICAN INSTITUTE OF TIMBER CONSTRUCTION (AITC), ANSI/AITC A190.1, ASTM D3737 AND CERTIFICATION STAMPED. GLULAM MEMBERS SHALL CONTAIN AN AVERAGE MOISTURE CONTENT OF 16% OR LESS AT TIME OF MANUFACTURE. EASE EDGES ON GLULAM MEMBERS AS REQUIRED TO BE COMPATIBLE WITH STEEL AT CONNECTIONS.

GLULAM APPEARANCE SHALL BE AS FOLLOWS UNLESS SPECIFIED OTHERWISE ON THE ARCHITECTURAL DRAWINGS:

- NOT EXPOSED TO VIEW IN COMPLETED CONSTRUCTION: INDUSTRIAL APPEARANCE
- EXPOSED TO VIEW: ARCHITECTURAL APPEARANCE

THE APPEARANCE CERTIFICATION STAMP ON ARCHITECTURAL APPEARANCE MEMBERS SHALL BE PLACED ON SURFACES NOT EXPOSED IN COMPLETED CONSTRUCTION.

GLULAM BEAMS WITH A SIMPLE SPAN BETWEEN SUPPORTS SHALL HAVE A CAMBER EQUAL TO A 2600' RADIUS BETWEEN SUPPORTS FOR SPANS OVER 24', OR AS NOTED ON DRAWINGS. MULTI-SPAN AND CANTILEVER BEAMS SHALL NOT HAVE A CAMBER UNLESS NOTED OTHERWISE.

GLULAM MEMBERS SPECIFIED AS PRESERVATIVE TREATED SHALL BE TREATED WITH PERMAPOST KLEAR-GARD 25 OR EQUAL.

[FOR ALLOWABLE GLULAM BEAM PENETRATIONS SEE 10/S8.00.]

GLULAM MEMBERS SHALL HAVE THE FOLLOWING MINIMUM ALLOWABLE DESIGN PROPERTIES:

GLULAM BEAMS		
	SIMPLE SPAN	CONTINUOUS OVER MULTIPLE SUPPORTS OR CANTILEVER
COMBINATION SYMBOL (SPECIES)	24F-V4 (DF/DF)	24F-V8 (DF/DF)
MODULUS OF ELASTICITY, E (PSI)	1,800,000	1,800,000
FLEXURAL STRESS, F _b (PSI)	+2,400 / -1,850	+2,400 / -2,400
TENSION STRESS, F _t (PSI)	1,100	1,100
COMPRESSION PERPENDICULAR TO GRAIN, F _c PERP (PSI)	650	650
COMPRESSION PARALLEL TO GRAIN, F _c (PSI)	1,650	1,650
HORIZONTAL SHEAR PARALLEL TO GRAIN, F _v (PSI)	265	265
SPECIFIC GRAVITY	0.50	0.50

LAMINATED VENEER LUMBER (LVL)

LVL FRAMING SHALL HAVE THE FOLLOWING MINIMUM PROPERTIES:

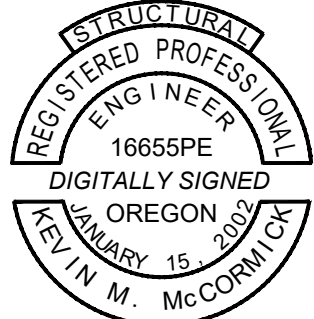
PROPERTY	MINIMUM VALUE
MODULUS OF ELASTICITY, E (PSI)	2,000,000
FLEXURAL STRESS, F _b (PSI)	2,600
TENSION STRESS, F _t (PSI)	1,395
COMPRESSION PERPENDICULAR TO GRAIN, F _c PERP (PSI)	750
COMPRESSION PARALLEL TO GRAIN, F _c (PSI)	2,510
HORIZONTAL SHEAR PARALLEL TO GRAIN, F _v (PSI)	285
SPECIFIC GRAVITY	0.50

ADHESIVE

PORTABLE EQUIPMENT SHALL BE USED EMPLOYING POSITIVE DISPLACEMENT METERING PUMPS WHICH ARE INTERLOCKED TO PROVIDE RESIN DELIVERY IN PROPORTIONS REQUIRED BY THE COMPOSITION OF THE TWO COMPONENT INJECTION ADHESIVE. MIXING OF THE ADHESIVE SHALL BE ACCOMPLISHED IN LINE WITH A STATIC MIXER. THE EQUIPMENT SHALL BE DRIVEN BY AIR OR ELECTRIC POWER. THE INJECTION EQUIPEMNT SHALL BE CAPABLE OF MAINTAINING THE VOLUME RATIO OF THE SPECIFIED ADHESIVE COMPONENTS DURING UNINTERRUPTED FLOW WITH A TOLERANCE OF +/- 5% PRESSURE CONTROL. THE INJECTION EQUIPMENT SHALL HAVE AN AUTOMATIC PRESSURE CONTROL DEVICE THAT ALLOWS OPERATION AT ANY PRESET PRESSURE WITHIN ITS OPERATING RANGE. THE INJECTION EQUIPMENT SHALL HAVE AN AUTOMATIC SHUT-OFF FEATURE TO PREVENT DELIVERY OF ONE ADHESIVE COMPONENT ONLY, WHEN THE OTHER COMPONENT SUPPLY IS EXHAUSTED.

WOOD BEAM REPAIRS - SPECIAL INSPECTIONS			
SYSTEM OR MATERIAL	FREQUENCY		REMARKS
	CONTINUOUS	PERIODIC	
POST-TENSIONED CABLE PLACEMENT		X	REINFORCING TO COMPLY WITH ALL CODE PROTECTION, SPACING AND TOLERANCE LIMITS.
POST-TENSIONED CABLE GRADE		X	
APPLICATION OF PRESTRESSING FORCES FOR POST-TENSIONED CABLES	X		DOCUMENT APPLIED FORCE AND ELONGATION.
EPOXY CRACK INJECTION AND INSTALLATION OF FASTENERS FOR REPAIR OF BEAM CRACKS	X		REFERENCE INSTALLATION SEQUENCE ON SHEET S1.02 AND DETAIL 3/S8.02

STEEL - SPECIAL INSPECTIONS				
SYSTEM OR MATERIAL	CODE OR STANDARD REFERENCE	FREQUENCY / INSPECTION		REMARKS
		CONTINUOUS/ PERFORM	PERIODIC/ OBSERVE	
STEEL FABRICATION				
MATERIAL VERIFICATION OF STRUCTURAL STEEL COMPONENTS	ASTM A6 ASTM STANDARDS SPECIFIED IN CONSTRUCTION DOCUMENTS AISC 360 A3.1 AISC 360 N3.2		X	CERTIFIED MILL TEST REPORTS
MATERIAL VERIFICATION OF WELD FILLER METALS	AISC 360 A3.5 AISC 360 N3.2 APPLICABLE AWS A5 DOCUMENTS		X	MANUFACTURER'S CERTIFIED TEST REPORTS
STRUCTURAL STEEL WELDING				
VERIFYING USE OF PROPER WPS'S	AISC 360 N3.2			RETAIN A RECORD OF WELDING PROCEDURE SPECIFICATIONS
VERIFYING WELDER QUALIFICATIONS	AWS D1.1		X	RETAIN A RECORD OF QUALIFICATION CARDS
COMPLETE AND PARTIAL JOINT PENETRATION GROOVE WELDS	AWS D1.1 CLAUSE 6	X		
SINGLE PASS FILLET WELDS LESS THAN OR EQUAL TO 5/16"			X	



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CENTENNIAL ELEMENTARY SCHOOL

1315 ASPEN STREET
SPRINGFIELD, OREGON

SPRINGFIELD PUBLIC SCHOOLS

REV	DESCRIPTION	DATE
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DESIGNED BY: JDL
CHECKED BY: KMM
MCE PROJ #: 251372
ISSUE DATE: 03.20.2026
ISSUANCE: PERMIT SET

SHEET CONTENT

STRUCTURAL NOTES &
SPECIAL INSPECTION

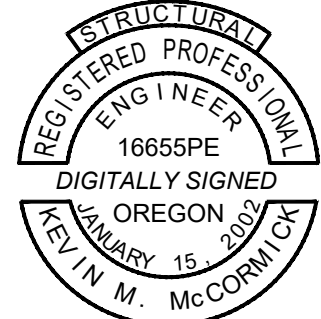
SHEET

S0.02



1 STRUCTURAL SITE PLAN

S1.00 | NOT TO SCALE



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SHEET CONTENT
STRUCTURAL SITE PLAN

SHEET

S1.00

GENERAL SHEET NOTES:

- G1.

SEE S0.02 AND SUBSEQUENT SHEETS FOR STRUCTURAL NOTES AND SPECIAL INSPECTION REQUIREMENTS
- G2.

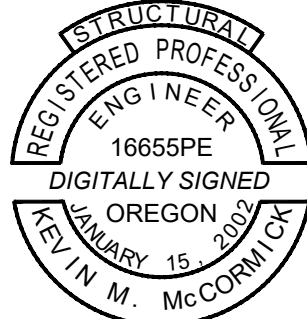
FIELD VERIFY EXISTING CONDITIONS PRIOR TO DEMOLITION OR PURCHASE OF MATERIALS
- G3.

THESE PLANS ARE STRUCTURAL ONLY - SIDING, FLASHING, MOISTURE PROTECTION, ETC ARE DESIGNED BY OTHERS
- G4.

ALL GLULAM BEAMS WITH CRACKS OR BEAMS SHOWING DELAMINATION SHALL PER REPAIR PER DETAIL 2/S8.02. VERIFY IN FIELD ALL BEAMS BEFORE PURCHASE OF MATERIAL. NOTIFY EOR
- G5.

ALL GLULAM BEAMS THAT WILL BE REPAIR NEED SHORING TO LIFT BEAM UP BEFORE INSTALLING LVL'S AT EA SIDE.

A DIGITAL SIGNATURE WATERMARK ON SHEET S0.01 INDICATES THIS SHEET IS PART OF AN ELECTRONICALLY SIGNED DOCUMENT



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1	ADDENDUM #1	04.08.2026

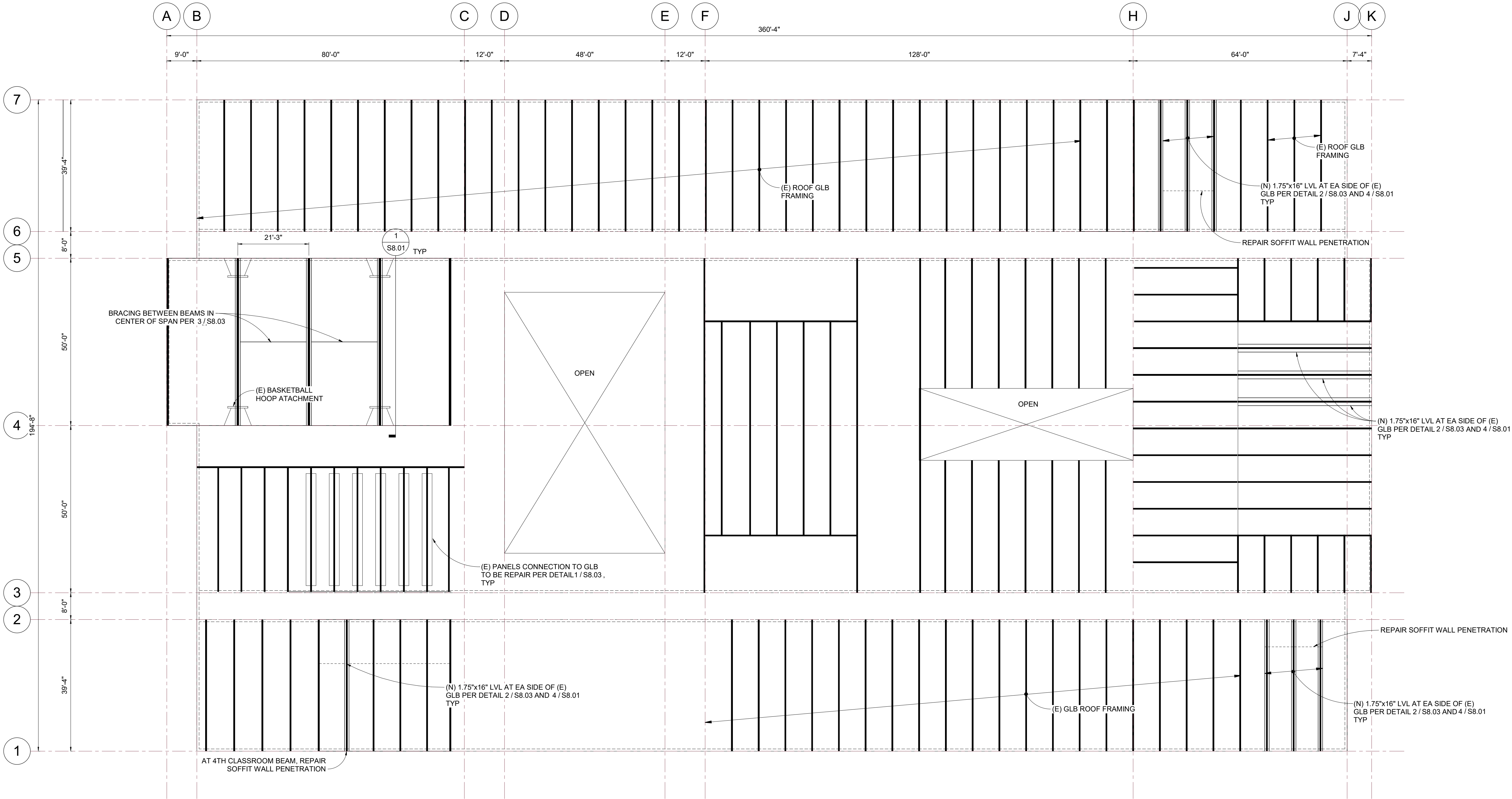
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SHEET CONTENT
ROOF FRAMING PLAN

SHEET

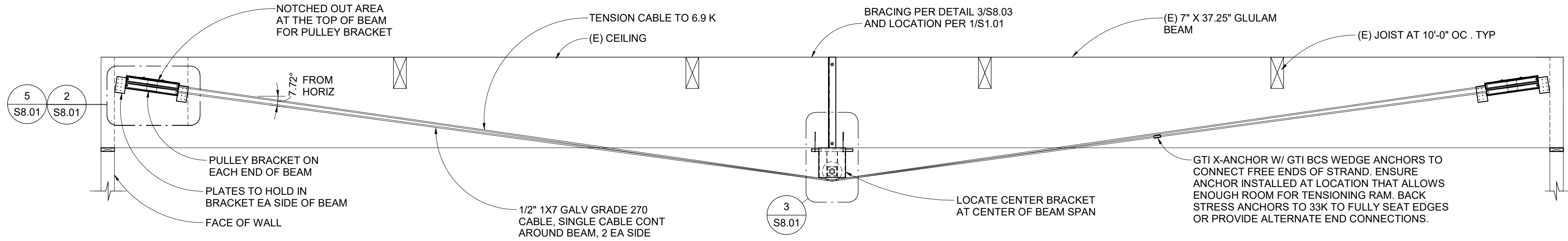
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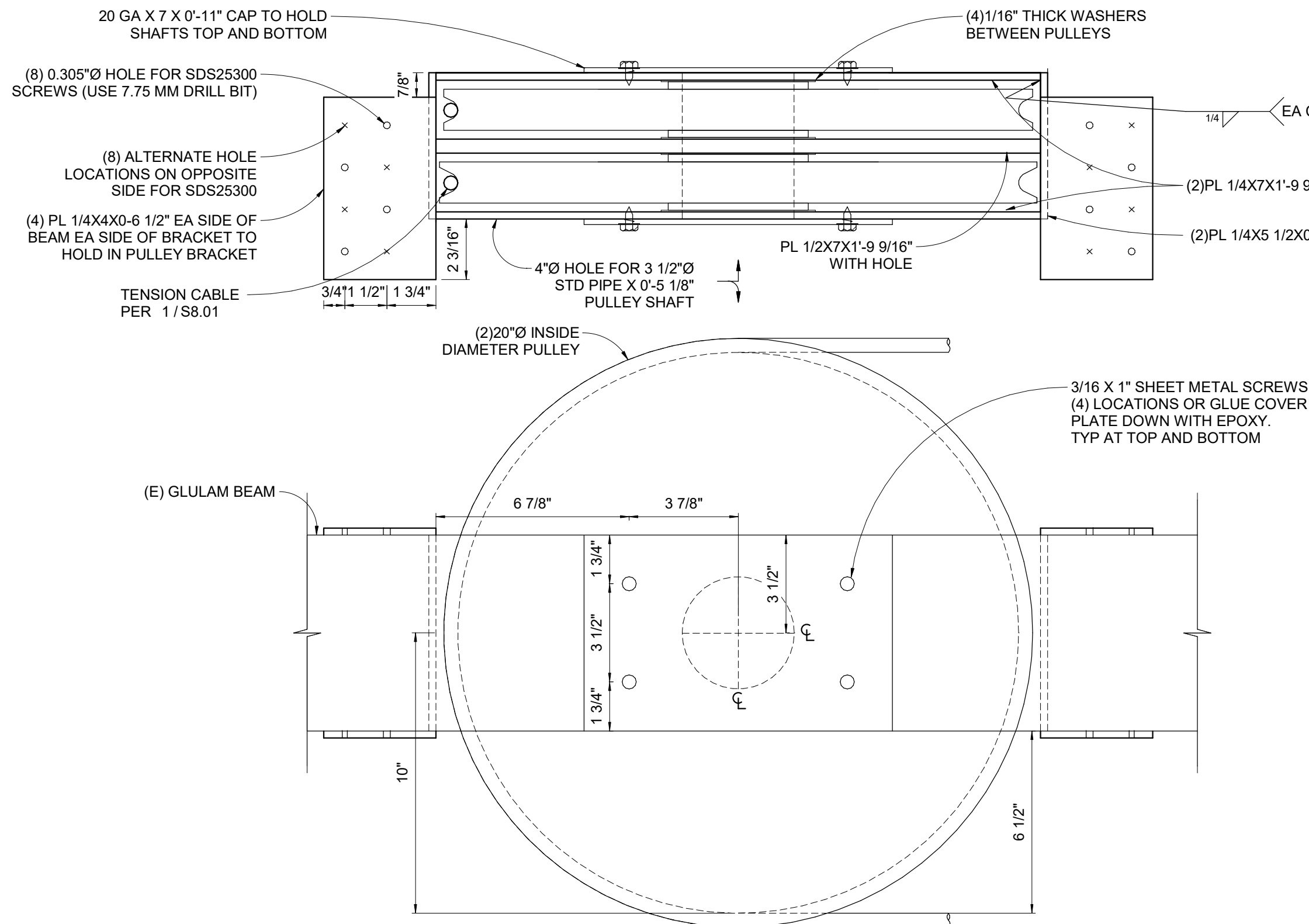
1 ROOF FRAMING PLAN

S1.01 | 1/16" = 1'-0"



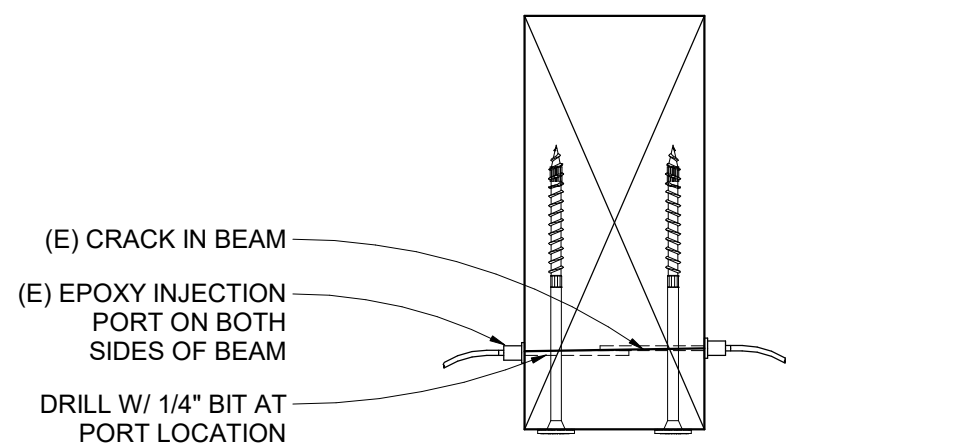
1 GYM BEAM TENSION CABLE REINFORCEMENT ELEVATION

S8.01 | 3/8" = 1'-0"

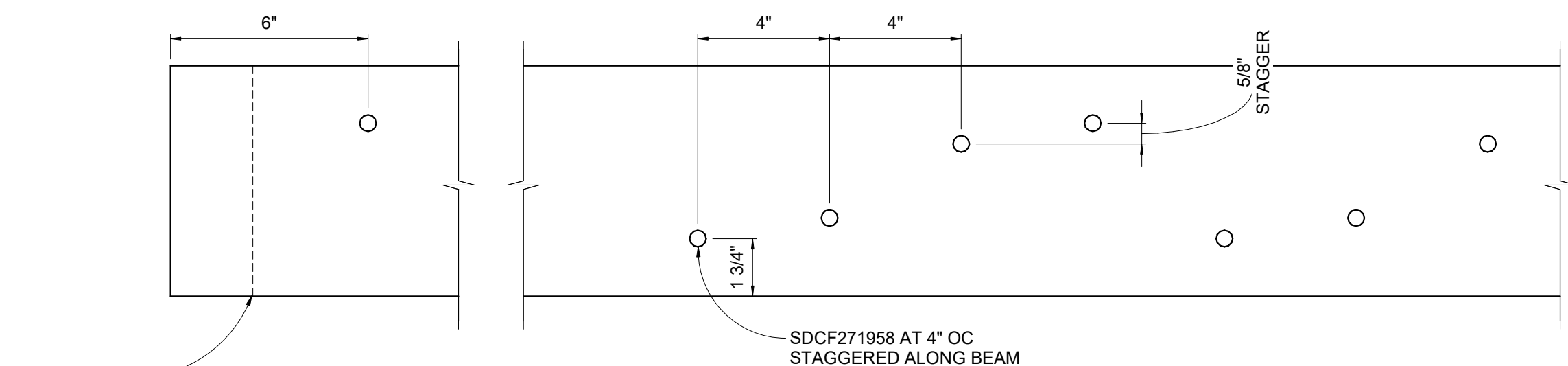


2 END BRACKET

S8.01 | 3" = 1'-0"



CROSS SECTION OF BEAM (CRACK INJECTION)



BOTTOM VIEW OF BEAM (SCREW INSTALLATION)

4 BEAM REPAIR PROCEDURE

S8.01 | 3" = 1'-0"

3 CENTER BRACKET

S8.01 | 1 1/2" = 1'-0"

STEP 1:
VERIFY ESTIMATED CRACK LOCATIONS SHOWN ON PLAN. MARK ANY CRACKING ON SIDE OR BOTTOM OF BEAM BEFORE JACKING UP BEAM. SAND SURFACE AROUND CRACK TO REMOVE PAINT OR OTHER COATING. CLEAN AREA AROUND CRACK TO ALLOW BONDING TO WOOD SURFACE. USE CLEAN COMPRESSED AIR TO BLOW OUT THE CRACK AND REMOVE ANY DUST OR DEBRIS.

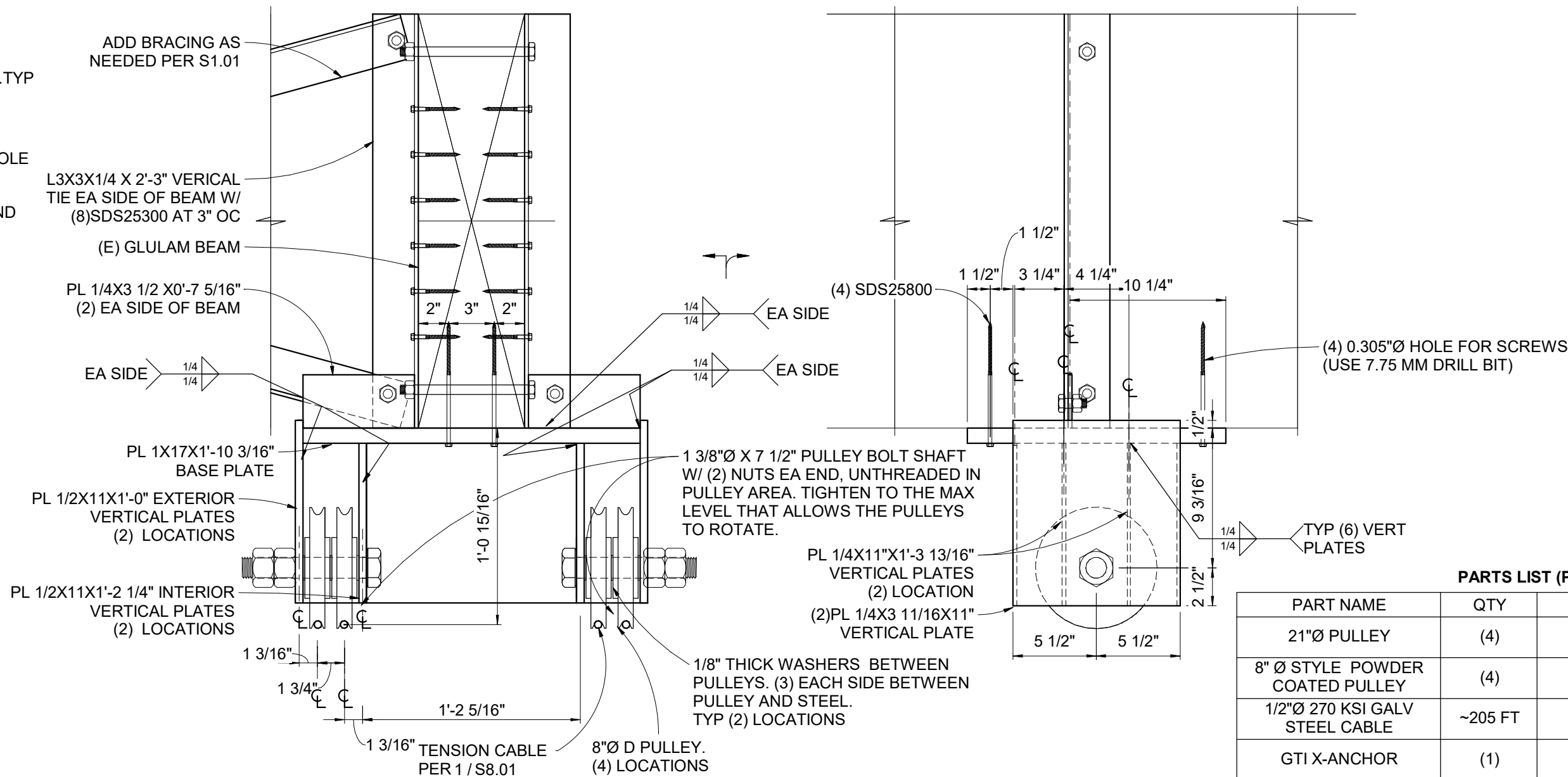
STEP 2:
INSTALL HARDWARE SHOWN ON 2/S8.01 AND 3/S8.01

STEP 3:
INSTALL CABLE SHOW ON 1/S8.01 AND TENSION PER PLAN. WAIT ONE WEEK FOR BEAM TO LIFT.

STEP 4:
PRE-DRILL AND INSTALL SCREWS TO CLAMP BEAM TOGETHER. SCREWS MUST BE INSTALLED WITHIN CURE TIME OF INJECTION EPOXY IN SAME AREA OF BEAM.

STEP 5:
FILL MARKED AND CLEANED CRACKS WITH EPOXY. PRIOR TO EPOXY INJECTION, PROTECT ALL ADJACENT SURFACES FROM UNINTENDED CONTACT.
1) IDENTIFY PORT LOCATIONS ALONG CRACK. THERE SHOULD BE ONE PORT ON EACH END OF THE CRACK AND REPEATED EVERY 8" ALONG CRACK. DRILL WITH 1/4" BIT APPROXIMATELY HALF WAY INTO BEAM AT EACH IDENTIFIED LOCATION.
2) APPLY A SMALL AMOUNT OF GELMAGIC PASTE AROUND THE PORT BASE AND STICK AROUND EACH PREDRILLED LOCATION.
3) GENEROUSLY WORK GELMAGIC PASTE OVER THE ENTIRE LENGTH OF THE CRACK. IF CRACK IS PRESENT ON OPPOSITE SIDE OF BEAM BOTH SIDES MUST BE COVERED. MOUND THE PASTE AT LEAST 1/4" THICK AND 1" OUT FROM BASE OF PORT. MOUND 3/16" THICK AND 1" WIDE ALONG LENGTH OF CRACK.
4) ONCE OUTER PASTE HAS CURED START INJECTING T-88 EPOXY AT THE END OF THE CRACK OR LOWEST INJECTION PORT. MAKE SURE THE HEADS OF ALL PORTS ARE IN THE OPEN POSITION. CONTINUE UNTIL EPOXY EMERGES FROM THE ADJACENT PORT. AS SOON AS EPOXY EMERGES FROM THE ADJACENT PORT THE INJECTOR SHOULD BE TRANSFERRED TO THE NEXT PORT AND THE PREVIOUS PORT SEALED. CONTINUE UNTIL EVERY PORT HAS REFUSED EPOXY AND THE CRACK IS COMPLETELY FILLED.
5) GIVE THE T-88 INJECTION EPOXY SUFFICIENT TIME TO CURE. REMOVE THE INJECTION PORTS AND GELMAGIC PASTE. ENSURE NO RUN OUT OR SMEARING OF THE INJECTION EPOXY ONCE OUTER GEL IS REMOVED.

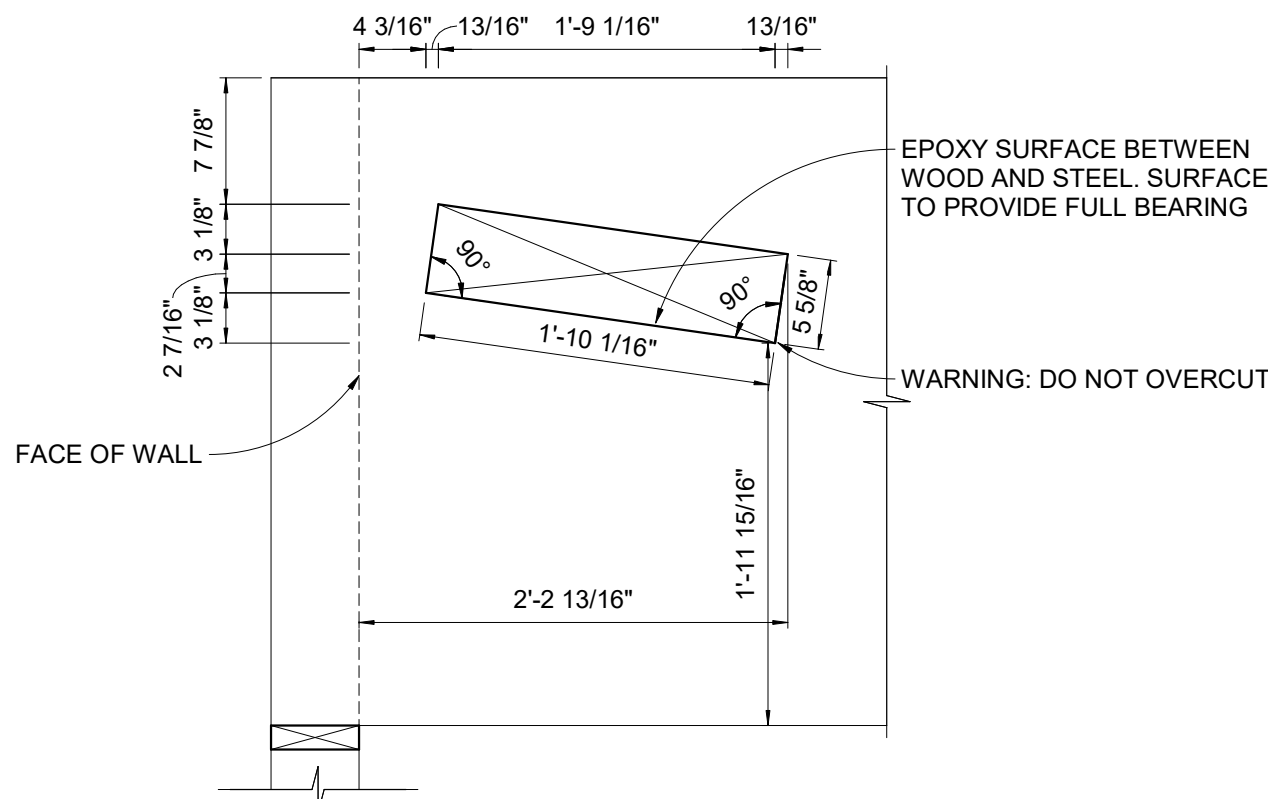
STEP 6:
SAND, RE-COAT OR REPAINT BEAMS TO MATCH (E) CONDITIONS



PARTS LIST (PER BEAM)

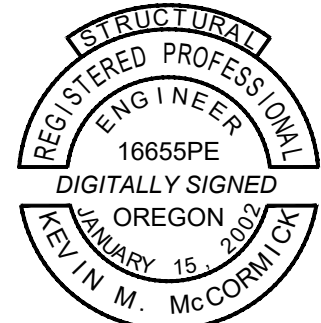
PART NAME	QTY	MANUF	CAPACITY
21"Ø PULLEY	(4)	JEAMAR USA	38 K
8" Ø STYLE POWDER COATED PULLEY	(4)	MCMMASTER-CARR	7 K
1/2"Ø 270 KSI GALV STEEL CABLE	~205 FT	GTI	270 KSI
GTI X-ANCHOR	(1)	GTI	270 KSI
1 3/8"Ø X 7 1/2" BOLT 4" GRIP LENGTH	(2)	N/A	55 KSI
3 1/2 Ø STD PIPE X 5 1/8" SHAFT	(2)	N/A	35 KSI
BCS WEDGE ANCHOR ASSEMBLY	(2)	GTI	270 KSI
SDS25800	(4)	SIMPSON	N/A
SDS25300	(32)	SIMPSON	N/A

NOTE: SIMILAR MATERIALS TO BE USED WITH PRIOR APPROVAL BY THE ENGINEER OF RECORD



5 NOTCH DIMENSIONS

S8.01 | 1" = 1'-0"



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SHEET CONTENT
REPAIR DETAIL

SHEET

S8.01



EXPIRES: 12 - 31 - 2026



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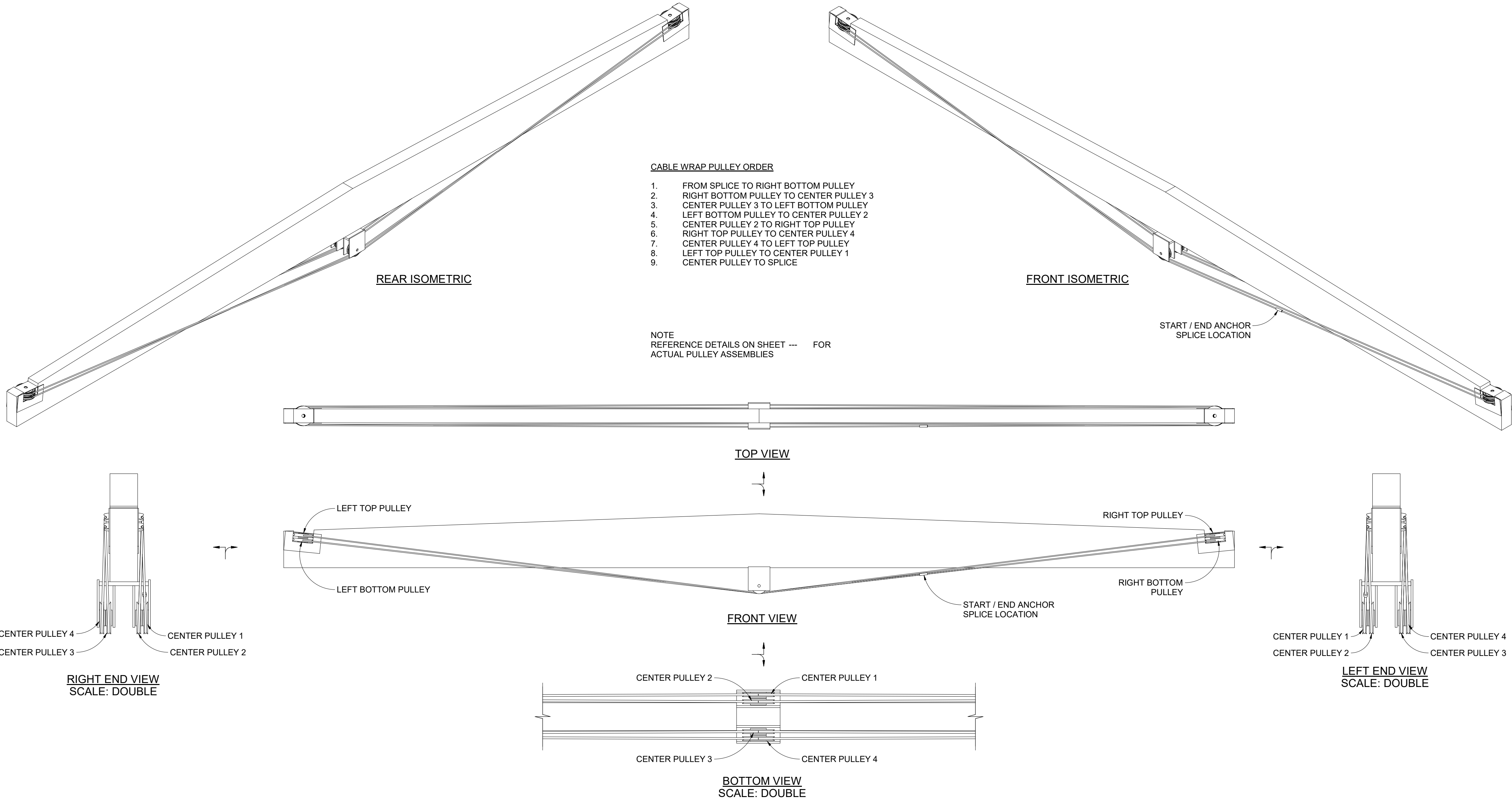
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SHEET CONTENT
DETAILS

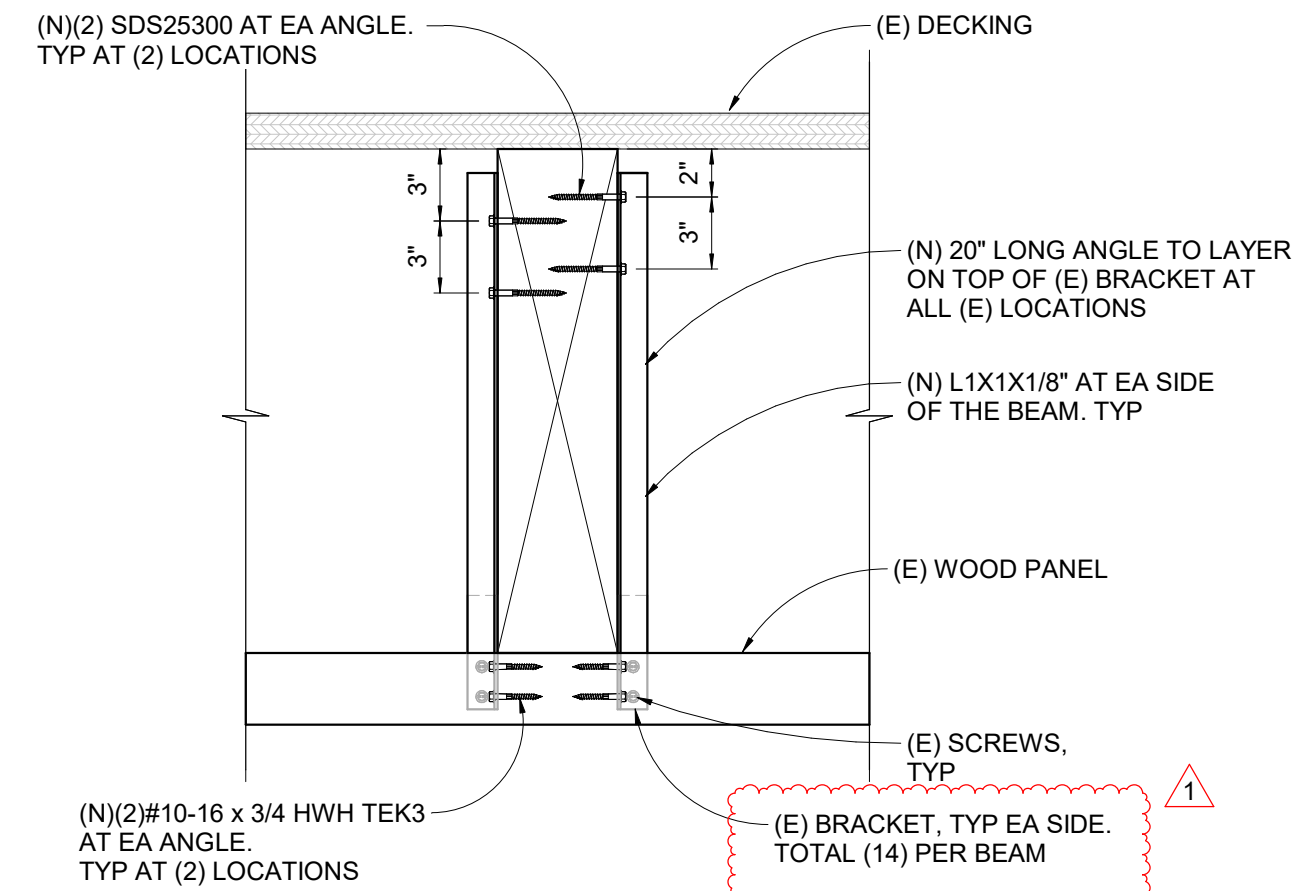
SHEET

S8.02



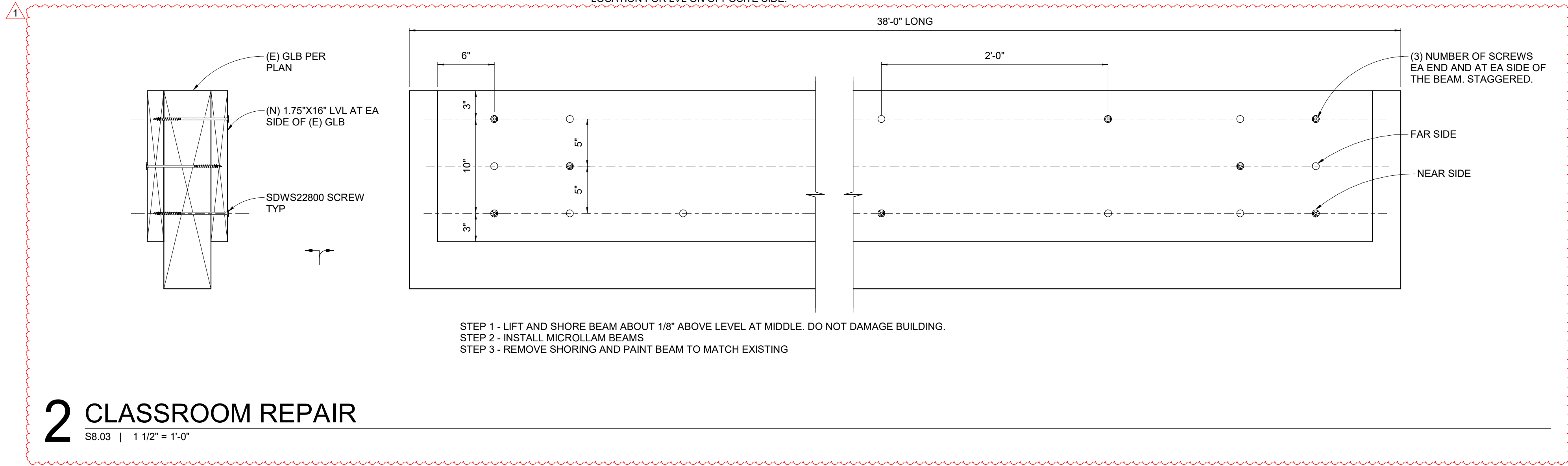
1 BEAM CABLE ASSEMBLY

S8.02 | 3/8" = 1'-0"



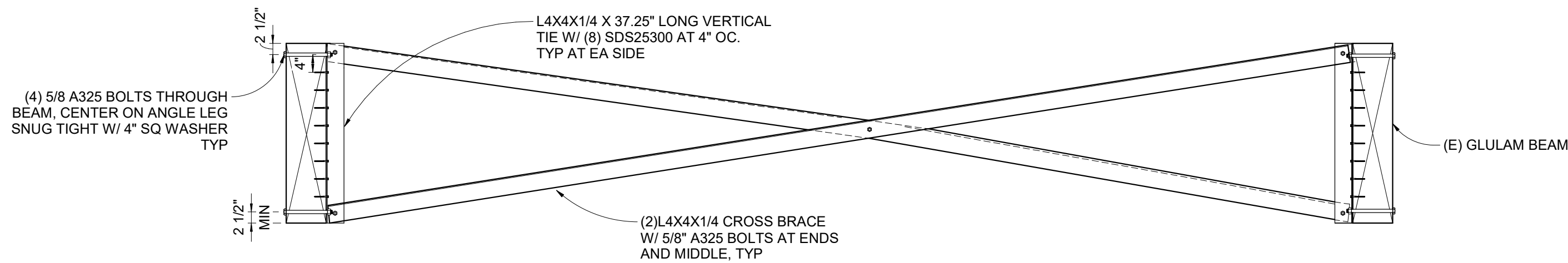
1 CAFETERIA PANEL CONNECTION

S8.03 | 1 1/2" = 1'-0"



2 CLASSROOM REPAIR

S8.03 | 1 1/2" = 1'-0"



3 GYM 1 BRACING

S8.03 | 1/2" = 1'-0"

A DIGITAL SIGNATURE WATERMARK ON SHEET
S8.01 INDICATES THIS SHEET IS PART OF AN
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CENTENNIAL ELEMENTARY SCHOOL

1315 ASPEN STREET
SPRINGFIELD, OREGON

SPRINGFIELD PUBLIC
SCHOOLS

REV	DESCRIPTION	DATE
1	ADDENDUM #1	04.08.2026

DESIGNED BY: JDL
CHECKED BY: KMM
MCE PROJ #: 251372
ISSUE DATE: 03.20.2026
ISSUANCE: PERMIT SET

SHEET CONTENT
DETAILS

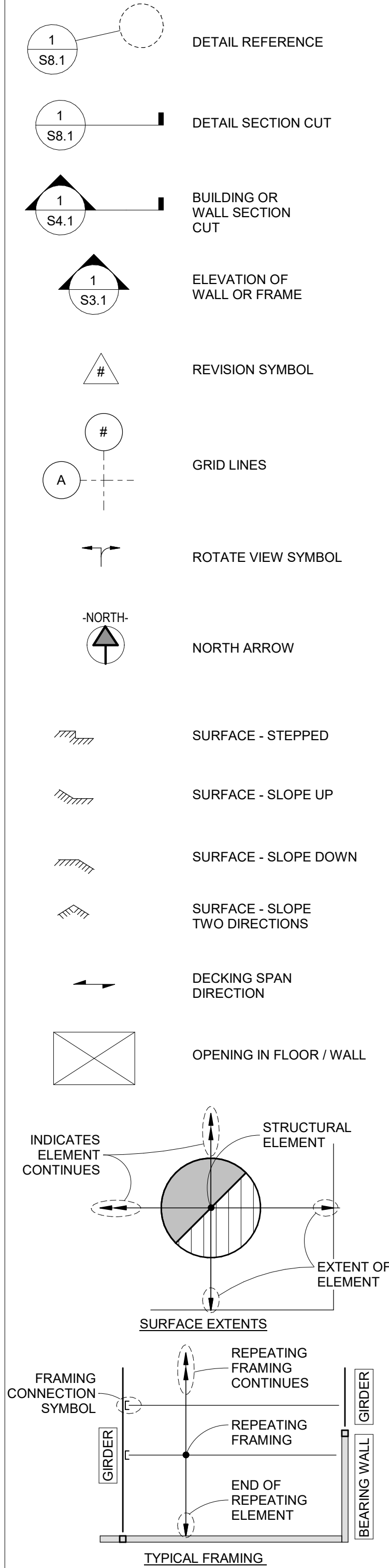
SHEET

S8.03

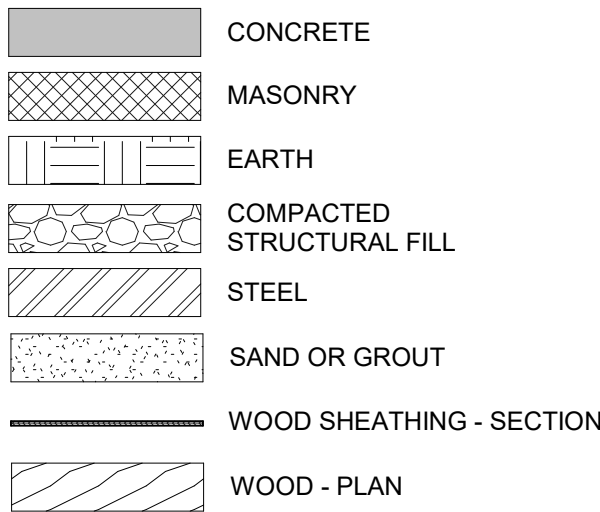
STRUCTURAL ABBREVIATIONS

#	NUMBER OR POUNDS	IBC	INTERNATIONAL BUILDING CODE
AB	ANCHOR BOLT	ICF	INSULATED CONCRETE FORMS
ACI	AMERICAN CONCRETE INSTITUTE	ID	INSIDE DIAMETER
ADDL	ADDITIONAL	IN	INCH
ADJ	ADJACENT	INFO	INFORMATION
AESS	ARCHITECTURALLY EXPOSED STRUCTURAL STEEL	INT	INTERIOR
AFF	ABOVE FINISH FLOOR	JST	JOIST
AISC	AMERICAN INSTITUTE OF STEEL CONSTRUCTION	JT	JOINT
ALT	ALTERNATE	K	KIP(S) (1,000 POUNDS)
ALUM	ALUMINUM	KSF	KIPS PER SQUARE FOOT
APA	AMERICAN PLYWOOD ASSOCIATION	KSI	KIPS PER SQUARE INCH
APPROX	APPROXIMATELY	L, 2L	ANGLE OR DOUBLE ANGLE
ARCH	ARCHITECTURAL	LAT	LATERAL
ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS	LB	POUND
ASD	ALLOWABLE STRESS DESIGN	LF	LINEAR FOOT
ASSY	ASSEMBLY	LG	LIGHT GAUGE
ATR	ALL THREAD ROD	LL	LIVE LOAD
ATRA	ALL THREAD ROD WITH ADHESIVE	LLBB	LONG LEGS BACK TO BACK
AWS	AMERICAN WELDING SOCIETY	LLH	LONG LEG HORIZONTAL
		LLV	LONG LEG VERTICAL
B/	BOTTOM OF	LONG	LONGITUDINAL
BF	BRACED FRAME	LRFD	LOAD AND RESISTANCE FACTOR DESIGN
BLDG	BUILDING	LSL	LAMINATED STRAND LUMBER
BLKG	BLOCKING	LSH	LONG SLOTTED HOLE
BM	BEAM	LVL	LAMINATED VENEER LUMBER
BN	BOUNDARY NAIL	LWC	LIGHT WEIGHT CONCRETE
BOT	BOTTOM		
BRBF	BUCKLING RESTRAINED BRACED FRAME	MANUF	MANUFACTURER
BRNG	BEARING	MAX	MAXIMUM
BSMT	BASEMENT	MC	MISCELLANEOUS CHANNEL
BTWN	BETWEEN	MECH	MECHANICAL
BU	BUILT-UP	MF	MOMENT FRAME
		MFR	MANUFACTURER
C	CAMBER OR CHANNEL (AMERICAN STANDARD)	MEP	MECHANICAL, ELECTRICAL, PLUMBING
CANT	CANTILEVER	MIN	MINIMUM
CFS	COLD-FORMED STEEL	MIR	MIRROR
CIP	CAST IN PLACE	MISC	MISCELLANEOUS
CG	CENTER OF GRAVITY	MSA	MASONRY SCREW ANCHOR
CGS	CENTER OF GRAVITY OF (PRESTRESSING) STEEL	MT	MAGNETIC PARTICLE TESTING
CJ	CONTROL OR CONSTRUCTION JOINT	MTL	METAL
CJP	COMPLETE JOINT PENETRATION		
CL	CENTERLINE	(N)	NEW
CLG	CEILING	NOT	NON-DESTRUCTIVE TESTING
CLR	CLEARANCE; CLEAR	NIC	NOT IN CONTRACT
CLSM	CONTROLLED LOW STRENGTH MATERIAL	NOM	NOMINAL
CMU	CONCRETE MASONRY UNIT	NS	NEAR SIDE
COL	COLUMN	NTE	NOT TO EXCEED
CONC	CONCRETE	NTS	NOT TO SCALE
CONN	CONNECTION	NWC	NORMAL WEIGHT CONCRETE
CONST	CONSTRUCTION		
CONT	CONTINUOUS	OC	ON CENTER
COORD	COORDINATE	OCBF	ORDINARY CONCENTRIC BRACED FRAME
CSA	CONCRETE SCREW ANCHOR	OD	OUTSIDE DIAMETER
		OMF	ORDINARY MOMENT FRAME
d	PENNY (NAIL)	OPP	OPPOSITE
db	NOMINAL BAR DIAMETER	OWJ	OPEN WEB JOIST
DBA	DEFORMED BAR ANCHOR		
DBL	DOUBLE	PAF	POWER ACTUATED FASTENER
DBO	DESIGNED BY OTHERS	PC	PRECAST
DEG	DEGREE	PCF	POUNDS PER CUBIC FOOT
DEMO	DEMOLISH; DEMOLITION	PERP	PERPENDICULAR
DF/L	DOUGLAS FIR-LARCH	PJP	PARTIAL JOINT PENETRATION
DIA	DIAMETER	PL	PLATE
DIAG	DIAGONAL	PLF	POUNDS PER LINEAL FOOT
DIM	DIMENSION	PLWD	PLYWOOD
DIST	DISTANCE	PSI	POUNDS PER SQUARE INCH
DL	DEAD LOAD	PSF	POUNDS PER SQUARE FOOT
DN	DOWN	PSL	PARALLEL STRAND LUMBER
DP	DEPTH OR DEEP	PT	PRESSURE TREATED
DTL	DETAIL	P/T	POST TENSIONED
DWG	DRAWING	PVC	POLYVINYL CHLORIDE
		QTY	QUANTITY
(E)	EXISTING	RAD	RADIUS
E	MODULUS OF ELASTICITY	RBS	REDUCED BEAM SECTION
EA	EACH	REF	REFERENCE
EB	EXPANSION BOLT	REINF	REINFORCING
EF	EACH FACE	REQD	REQUIRED
EJ	EXPANSION JOINT	RET	RETAINING
EL	ELEVATION	REV	REVISED, REVISION
ELEC	ELECTRICAL	RO	ROUGH OPENING
EN	EDGE NAIL		
EOR	ENGINEER OF RECORD	SC	SLIP CRITICAL
EQ	EQUAL; EARTHQUAKE	SCBF	SPECIAL CONCENTRIC BRACE FRAME
EW	EACH WAY	SCH	SCHEDULE
EXT	EXTERIOR	SEOR	STRUCTURAL ENGINEER OF RECORD
EXTD	EXTEND, EXTENDED	SFRS	SEISMIC FORCE RESISTING SYSTEM
		SHT	SHEET
fc	28 DAY CONC COMPRESSIVE STRENGTH	SHTG	SHEATHING
fm	MASONRY NET AREA COMPRESSIVE STRENGTH	SIM	SIMILAR
Fy	YIELD STRESS	SLBB	SHORT LEGS BACK TO BACK
Fu	TENSILE STRESS	SMF	SPECIAL MOMENT FRAME
F/	FACE OF	SMS	SHEET METAL SCREW
FAB	FABRICATED / FABRICATOR	SOG	SLAB ON GRADE
FF	FINISH FLOOR	SOMD	SLAB ON METAL DECK
FN	FIELD NAIL	SQ	SQUARE
FLR	FLOOR	SS	STAINLESS STEEL
FDN	FOUNDATION	SSH	SHORT SLOTTED HOLE
FRT	FIRE RETARDANT TREATED	STD	STANDARD
FS	FAR SIDE	STL	STEEL
FT	FEET	SQ	SQUARE
FTG	FOOTING	SYM	SYMMETRICAL
GA	GAUGE	T/	TOP OF
GAF	GAS ACTUATED FASTENER	T&B	TOP AND BOTTOM
GALV	GALVANIZED	T&G	TONGUE AND GROOVE
GLB	GLUE LAMINATED BEAM	THRD	THREADED
GR	GRADE	TPL	TRIPLE
GWB	GYP SUM WALL BOARD	TRANS	TRANSVERSE
GYP	GYP SUM	TYP	TYPICAL
HD	HOLDOWN	UNO	UNLESS NOTED OTHERWISE
HDG	HOT-DIP GALVANIZED	URM	UNREINFORCED MASONRY
HDR	HEADER	UT	ULTRASONIC TEST
HEX	HEXAGONAL		
HF	HEM-FIR	VERT	VERTICAL
HGR	HANGER	VIF	VERIFY IN FIELD
HORIZ	HORIZONTAL		
HSA	HEADED STUD ANCHOR	W/	WITH
HSS	HOLLOW STRUCTURAL SECTION	W/O	WITHOUT
HT	HEIGHT	WD	WOOD
HVAC	HEATING VENTILATION AIR CONDITIONING	WF	WIDE FLANGE
		WP	WORK POINT
		WT	WEIGHT
		WWR	WELDED WIRE REINFORCING

STRUCTURAL DRAWING SYMBOLS



STRUCTURAL MATERIAL PATTERNS



STRUCTURAL DRAWING INDEX				
SHEET #	SHEET NAME	BID SET	PERMIT SET	ADDENDUM 1
S0.01	COVER SHEET	•	•	•
S0.02	STRUCTURAL NOTES & SPECIAL INSPECTION	•	•	•
S1.00	STRUCTURAL SITE PLAN	•	•	•
S1.01	ROOF FRAMING PLAN	•	•	•
S1.02	GYM ROOF REPAIR PLAN	•	•	•
S3.01	SECTIONS	•	•	•
S4.01	ELEVATIONS	•	•	•
S8.01	REPAIR DETAILS	•	•	•
S8.02	REPAIR DETAILS	•	•	•
S8.03	TYPICAL DETAILS	•	•	•

CODE SUMMARY:

BUILDING CODE: 2022 OSSC
YEAR BUILT: 1961-1964
AREA: 51400 SF
BUILDING CONSTRUCTION TYPE: V-B (ASSUMED, NO CHANGE)
OCCUPANCY CLASSIFICATION: E (NO CHANGE)

SCOPE OF WORK:

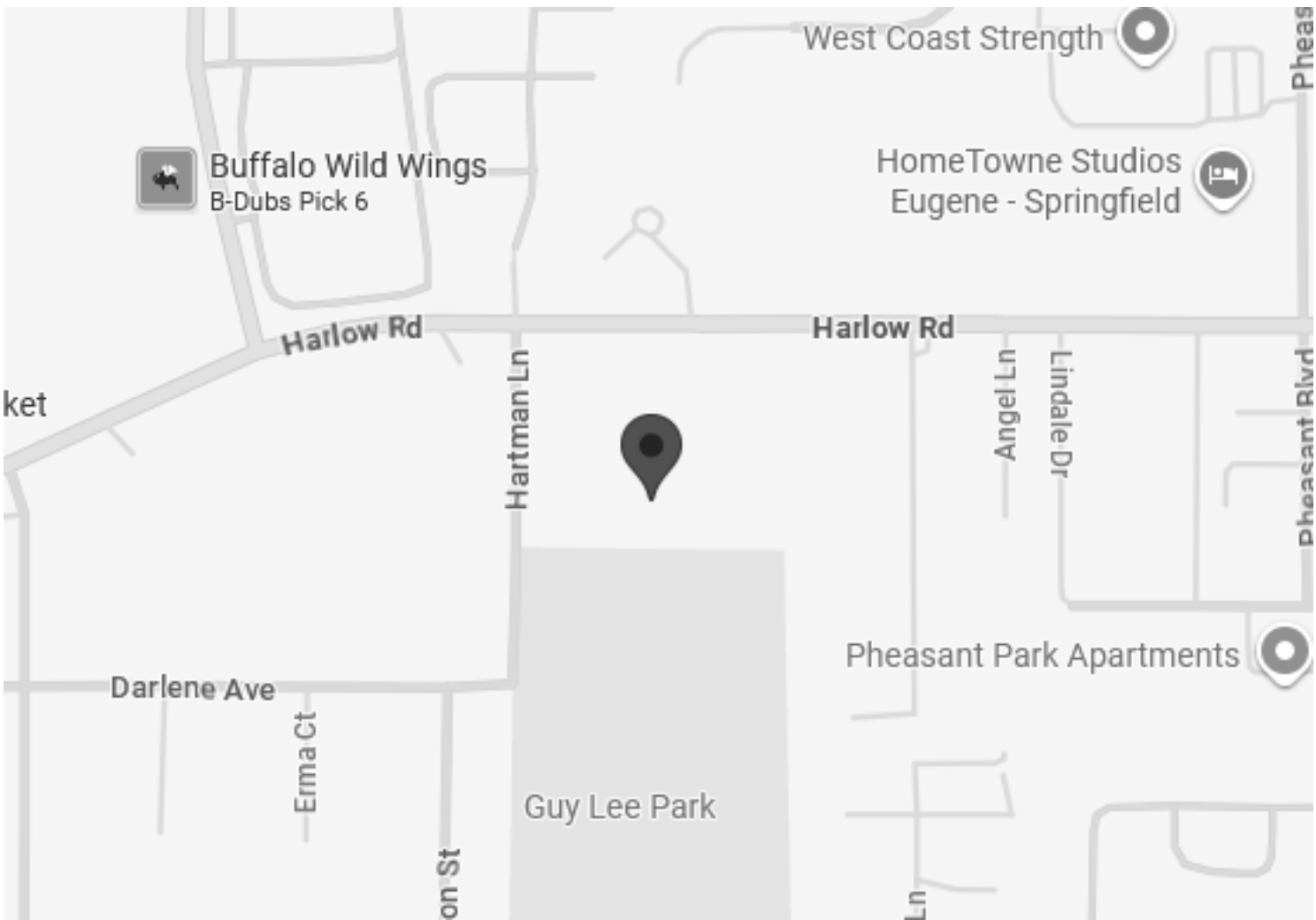
THE SCOPE OF THESE CONSTRUCTION DOCUMENTS INCLUDES STRENGTHENING OF GLULAM BEAMS AT THE GYMNASIUM USING POST TENSION CABLES ALONG THE BOTTOM TO PROVIDE ADDITIONAL FLEXURAL CAPACITY. AT THE STAGE AREA IN LIEU OF POST TENSIONING, ADDITIONAL COLUMNS AND FOOTINGS ARE ADDED FOR STRENGTHENING.

THE PROPOSED POST-TENSIONING SYSTEM IS DESIGNED TO AUGMENT THE STRUCTURAL CAPACITY UNDER SERVICE LOAD CONDITIONS. THE EXISTING GLULAM BEAMS RETAIN THEIR ORIGINAL INHERENT FIRE RESISTANCE RATING AND ARE CAPABLE OF MAINTAINING STRUCTURAL STABILITY UNDER DEAD LOAD CONDITIONS WITHOUT STRENGTHENING MEASURES.

PROJECT DESIGN TEAM:

MILLER CONSULTING ENGINEERS, INC
STRUCTURAL ENGINEER OF RECORD

PRIMARY CONTACT: PAUL ALBERTINE, paul@miller-se.com
SECONDARY CONTACT: ERIC OSTAPENKO, eric.ostapenko@miller-se.com



NORTH
1
VICINITY MAP
S0.01 | NOT TO SCALE



RENEWS: 12 -31 -2027

A DIGITAL SIGNATURE WATERMARK ON THIS PAGE INDICATES THIS SHEET IS PART OF AN ELECTRONICALLY SIGNED DOCUMENT. REFER TO INDEX ON THIS PAGE FOR ALL SHEETS INCLUDED WITH THIS DIGITAL SIGNATURE.



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GUY LEE ELEMENTARY SCHOOL

755 HARLOW ROAD
SPRINGFIELD, OREGON

SPRINGFIELD SCHOOL DISTRICT

REV	DESCRIPTION	DATE
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DESIGNED BY: EO
CHECKED BY: PRA
MCE PROJ #: 251372
ISSUE DATE: 3/20/2026
ISSUANCE: PERMIT SET

SHEET CONTENT

COVER SHEET

SHEET

S0.01

STRUCTURAL NOTES

GENERAL NOTES

THESE CONTRACT DOCUMENTS COMPRISED OF PLANS, SPECIFICATIONS, ENGINEERING AND DESIGN WORK ARE INTENDED SOLELY FOR THE PROJECT SPECIFIED HEREIN. MILLER CONSULTING ENGINEERS (MCE) DISCLAIMS ALL LIABILITY IF THESE PLANS AND SPECIFICATIONS OR THE DESIGN, ADVICE AND INSTRUCTIONS ATTENDANT THERETO ARE USED ON ANY PROJECT OR AT ANY LOCATION OTHER THAN THE PROJECT AND LOCATION SPECIFIED HEREIN.

THE CONTRACT DOCUMENTS REPRESENT THE FINISHED STRUCTURE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONFORMANCE TO ALL SAFETY REGULATIONS DURING CONSTRUCTION. THE CONTRACTOR SHALL PROVIDE ALL METHODS, DIRECTION AND RELATED EQUIPMENT NECESSARY TO PERFORM THE WORK.

SHOULD ANY QUESTION ARISE REGARDING THE CONTRACT DOCUMENTS OR SITE CONDITIONS, THE CONTRACTOR SHALL REQUEST INTERPRETATION AND CLARIFICATION FROM THE ENGINEER BEFORE BEGINNING THE PROJECT. THE ABSENCE OF SUCH REQUEST SHALL SIGNIFY THAT THE CONTRACTOR HAS REVIEWED AND FAMILIARIZED THEMSELVES AND HAS COMPLETE COMPREHENSION OF ALL ASPECTS OF THE PROJECT.

THE CONTRACTOR IS RESPONSIBLE FOR VERIFICATION AND CORRELATION OF ALL ITEMS AND WORK NECESSARY FOR COMPLETION OF THE PROJECT AS INDICATED BY THE CONTRACT DOCUMENTS. THE CONTRACT DOCUMENTS ARE STRUCTURAL ONLY AND DO NOT NECESSARILY INDICATE ALL NON-STRUCTURAL PORTIONS OF THE PROJECT INCLUDING, BUT NOT LIMITED TO, PLUMBING, FIRE SUPPRESSION, ELECTRICAL, MECHANICAL, LAND USE, SITE PLANNING, EROSION CONTROL FLASHING AND WATER-PROOFING. ALL NON-STRUCTURAL PORTIONS OF WORK, AND STRUCTURAL WORK NOTED AS DELEGATED DESIGN IN THE SUBMITTAL SCHEDULE, ARE BEYOND THE SCOPE OF THESE DOCUMENTS AND ARE PROVIDED BY OTHERS. THE CONTRACTOR IS RESPONSIBLE FOR VERIFICATION AND CORRELATION OF ALL NON-STRUCTURAL ITEMS IMPACTED BY THE STRUCTURAL WORK. THESE ITEMS SHALL BE RESTORED TO THEIR ORIGINAL CONDITION OR MODIFIED IN ACCORDANCE WITH THE RECOMMENDATIONS OF A QUALIFIED DESIGN PROFESSIONAL ENGAGED AT THE CONTRACTOR'S OWN EXPENSE.

ANY MATERIAL NOT AS SPECIFIED IN THE CONTRACT DOCUMENTS OR IMPROPER MATERIAL INSTALLATION OR WORKMANSHIP SHALL BE REMOVED AND REPLACED WITH SPECIFIED MATERIAL IN A WORKMANLIKE MANNER AT THE CONTRACTOR'S EXPENSE. IT IS THE CONTRACTOR'S RESPONSIBILITY TO PROTECT ALL MATERIALS FROM DAMAGE THROUGHOUT THE COURSE OF CONSTRUCTION.

ALL MANUFACTURED PRODUCTS SPECIFIED SHALL BE USED UNLESS AN ALTERNATE IS SUBMITTED AND APPROVED BY THE SEOR. MANUFACTURED PRODUCTS REQUIRING A BUILDING CODE EVALUATION REPORT SHALL HAVE A CURRENT REPORT DEMONSTRATING CONFORMANCE WITH THE APPLICABLE BUILDING CODE, VALID AT THE TIME OF PRODUCT INSTALLATION.

TEMPORARY MEASURES/SHORING

THE CONTRACTOR IS RESPONSIBLE FOR IDENTIFYING ALL INSTANCES WHERE TEMPORARY MEASURES/SHORING ARE REQUIRED, AND SHALL AT THEIR OWN EXPENSE, ENGAGE PROPERLY QUALIFIED PERSONS TO DETERMINE WHERE AND HOW TEMPORARY MEASURES/SHORING ARE REQUIRED. TEMPORARY MEASURES/SHORING SHALL:

- PROTECT PERSONNEL AND THE PUBLIC.
- PREVENT SETTLEMENT AND/OR DAMAGE TO THE BUILDING AND/OR EXISTING FACILITIES
- PROTECT STREETS, WALKWAYS, UTILITIES, AND IMPROVEMENTS.
- PROTECT ALL EXCAVATIONS AGAINST LOSS OF GROUND OR CAVING OF EMBANKMENTS DURING CONSTRUCTION.

BUILDING CODE

ALL PHASES OF THE WORK SHALL CONFORM TO THE 2022 OREGON STRUCTURAL SPECIALTY CODE (OSSC), BASED ON THE 2021 INTERNATIONAL BUILDING CODE (IBC), INCLUDING ALL REFERENCE STANDARDS, UNLESS NOTED OTHERWISE.

SPECIAL INSPECTION/TESTING

SPECIAL INSPECTION AND/OR TESTING IS REQUIRED IN ACCORDANCE WITH BUILDING CODE SECTION 1704. IT IS THE OWNER'S RESPONSIBILITY TO PROVIDE SPECIAL INSPECTION AND TESTING BY A QUALIFIED THIRD PARTY, SUCH AS A TESTING AGENCY REVIEWED BY THE ENGINEER AND APPROVED BY THE BUILDING OFFICIAL. THE CONTRACTOR SHALL PROVIDE SUFFICIENT NOTICE TO ALLOW SCHEDULING OF SPECIAL INSPECTION.

SPECIAL INSPECTIONS SHALL CONFORM TO SECTION 1705 OF THE BUILDING CODE, CONTRACT DOCUMENTS AND SUBMITTALS. THE SPECIAL INSPECTOR SHALL OBSERVE THE INDICATED WORK FOR COMPLIANCE WITH THE CONSTRUCTION DOCUMENTS. ALL DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE CONTRACTOR FOR CORRECTION AND NOTED IN THE INSPECTION REPORTS. FOR PROJECT REQUIREMENTS REFER TO THE SPECIAL INSPECTION TABLES WITHIN THE CONTRACT DOCUMENTS.

STRUCTURAL OBSERVATION

STRUCTURAL OBSERVATION BY THE SEOR SHALL VERIFY BY PERIODIC VISUAL OBSERVATION THAT THE STRUCTURAL SYSTEM HAS GENERAL CONFORMANCE WITH THE CONSTRUCTION DOCUMENTS AT SIGNIFICANT STAGES OF CONSTRUCTION AND AT COMPLETION AS REQUIRED IN ACCORDANCE WITH BUILDING CODE SECTION 1704.6. THE CONTRACTOR SHALL PROVIDE SUFFICIENT NOTICE TO ALLOW SCHEDULING FOR A STRUCTURAL OBSERVATION. STRUCTURAL OBSERVATION SHALL BE PERFORMED DURING CONSTRUCTION AT THE FOLLOWING TIMES:

1. DURING PRESTRESSING OPERATIONS OF THE FIRST BEAM
2. AFTER COMPLETION OF STRUCTURAL REINFORCING OF ALL BEAMS

SHOP DRAWINGS/SUBMITTALS

SUBMITTALS AND SHOP DRAWINGS FOR SPECIFIC PRODUCTS GENERATED BY THE SUPPLIER SHALL BE SUBMITTED FOR THE ITEMS NOTED IN THE SUBMITTAL SCHEDULE. SHOP DRAWINGS SHALL BE TO SCALE AND SHOW COMPLETE DETAILS AND INSTRUCTIONS FOR FABRICATION AND ASSEMBLY. SHOP DRAWINGS SHALL INDICATE ERECTION AND TEMPORARY BRACING INFORMATION FOR CONTRACTOR'S USE.

THE DESIGN OF ITEMS NOTED IN THE SUBMITTAL SCHEDULE AS DELEGATED DESIGN SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. DOCUMENTS FOR THE DESIGN AND FABRICATION OF DELEGATED DESIGN ITEMS (INCLUDING STRUCTURAL CALCULATIONS AND DRAWINGS) SHALL BEAR THE SEAL AND SIGNATURE OF A LICENSED ENGINEER REGISTERED IN THE STATE THAT THE PROJECT IS BEING CONSTRUCTED.

DEFERRED SUBMITAL ITEMS NOTED IN THE SUBMITTAL SCHEDULE ARE PORTIONS OF THE DESIGN THAT ARE NOT SUBMITTED AT THE TIME OF PERMIT APPLICATION AND ARE REQUIRED TO BE SUBMITTED TO THE BUILDING OFFICIAL.

THE CONTRACTOR SHALL REVIEW AND MODIFY ALL SUBMITTALS AS REQUIRED FOR CONFORMANCE WITH THE CONTRACT DOCUMENTS AND SIGN AND DATE ALL SETS OF THE SUBMITTAL DOCUMENTS PRIOR TO SUBMITTAL TO THE ENGINEER. THE CONTRACTOR SHALL SCHEDULE SUBMITTALS TO ALLOW SUFFICIENT TIME FOR REVIEW AND POSSIBLE RE-SUBMITTAL. WHERE RE-SUBMITTALS ARE REQUIRED, CHANGES FROM THE PREVIOUS SUBMITTAL SHALL BE CLEARLY INDICATED WITH REVISION CLOUDS OR SIMILAR.

SUBMITTAL SCHEDULE				
ITEM	SUBMITTAL	SHOP	DELEGATE	DEFERRE
	L	DRAWING	D DESIGN	D SUBMITTAL
		S		L
PRESTRESSING CABLE	X			
PRESTRESSING CABLE ACCESSORIES	X			
FABRICATED STRUCTURAL STEEL ELEMENTS	X	X		
STEEL WELDING PROCEDURES	X			

STRUCTURAL DESIGN CRITERIA

LIVE LOAD REDUCTION FOR BEAMS AND COLUMNS WAS NOT USED. DESIGN FOR MECHANICAL LOADS INCLUDES ONLY THOSE INDICATED ON STRUCTURAL DRAWINGS. THE FOLLOWING ARE THE DESIGN REQUIREMENTS:

STRUCTURAL DESIGN CRITERIA		
RISK CATEGORY		III
DEAD LOAD		
ROOF		18 PSF
ROOF SNOW LOAD		
DESIGN ROOF SNOW LOAD		27 PSF
IMPORTANCE FACTOR		I _s = 1.1
GROUND SNOW LOAD		P _g = 11 PSF
EXPOSURE FACTOR		C _e = 1.0
THERMAL FACTOR		C _t = 1.0
SLOPE FACTOR		C _s = 1.0
FLAT ROOF SNOW LOAD		P _f = 9.4 PSF
WIND DESIGN DATA		
BASIC DESIGN WIND SPEED (3 SEC GUST)		V = 102 MPH
EXPOSURE		B

FOUNDATION CRITERIA

CONTRACTOR SHALL VERIFY SOIL CONDITIONS AT THE FOOTINGS AND MAKE ANY NECESSARY CORRECTIONS TO PLACE THEM ON FIRM NATIVE SOIL OR STRUCTURAL FILL COMPACTED TO 95% OF MAXIMUM DENSITY AT OPTIMUM MOISTURE CONTENT PER ASTM D698 (STANDARD PROCTOR) OR ASTM D1557 (MODIFIED PROCTOR). THE COMPACTION SHALL BE VERIFIED BY A QUALIFIED INSPECTOR APPROVED BY THE BUILDING OFFICIAL. COMPACTED STRUCTURAL FILL FOR DEPTHS GREATER THAN 12 INCHES SHALL COMPLY WITH PROVISIONS OF A GEOTECHNICAL REPORT STAMPED BY A LICENSED GEOTECHNICAL ENGINEER REGISTERED IN THE STATE THAT THE PROJECT IS BEING CONSTRUCTED.

CONCRETE

MIXING, BATCHING, TRANSPORTING, PLACING AND CURING OF CONCRETE SHALL BE IN ACCORDANCE WITH THE AMERICAN CONCRETE INSTITUTE, ACI 318, ACI 301 AND BUILDING CODE CHAPTER 19.

ALL CONCRETE WITH REINFORCEMENT SHALL HAVE NO CHLORINE OR CHLORIDES. NO WATER MAY BE ADDED TO THE CONCRETE IN THE FIELD UNLESS SPECIFICALLY APPROVED IN WRITING BY THE CONCRETE SUPPLIER IN CONJUNCTION WITH THE REVIEWED CONCRETE MIX DESIGN.

SLEEVES, OPENINGS, CONDUIT AND OTHER EMBEDDED ITEMS NOT SHOWN ON THE STRUCTURAL DRAWINGS SHALL BE REVIEWED BY THE SEOR BEFORE PLACING CONCRETE.

WHERE NEW CONCRETE IS PLACED AGAINST EXISTING CONCRETE, THE EXISTING CONCRETE SURFACE SHALL BE CLEANED AND ROUGHENED TO A MINIMUM 1/4" AMPLITUDE.

DESIGN OF FORMWORK, SHORING AND RE-SHORING DESIGN IS THE RESPONSIBILITY OF THE CONTRACTOR AND SHALL CONFORM TO THE MOST RECENT EDITION OF ACI 347R.

CONCRETE MIX DESIGN REQUIREMENTS:

CONCRETE MIX DESIGN REQUIREMENTS				
MEMBER TYPE/LOCATION	COMPRESSIVE STRENGTH AT 28 DAYS, F _c (PSI)	MAXIMUM AGGREGATE SIZE	MAXIMUM W/C M RATIO	EXPOSURE CLASS
FOOTINGS AND MAT FOUNDATIONS	4000	1"	0.50	F0, S0, W1, C0
INTERIOR SLAB ON GRADE	3000	1"	0.45	F0, S0, W0, C0

CONCRETE MIX AIR CONTENT REQUIREMENTS:

AIR ENTRAINMENT SHALL BE PROVIDED IN ACCORDANCE WITH THE MAXIMUM AGGREGATE SIZE AND EXPOSURE CLASS OF THE MIX DESIGN SPECIFIED. THE AIR-ENTRAINING ADMIXTURE SHALL CONFORM TO ASTM C260. MIX DESIGNS SPECIFIED AS EXPOSURE CLASS F0 DO NOT REQUIRE AIR ENTRAINMENT.

CONCRETE MIX AIR CONTENT REQUIREMENTS		
MAXIMUM AGGREGATE SIZE	CONCRETE SUBJECT TO FREEZE/THAW CYCLES (EXPOSURE CLASS F1)	CONCRETE SUBJECT TO CONTINUOUS MOISTURE AND/OR DEICING CHEMICALS (EXPOSURE CLASS F2, F3)
3/8"	6%	7.5%
1/2"	5.5%	7%
3/4"	5%	6%
1"	4.5%	6%
1-1/2"	4.5%	5.5%

CONCRETE REINFORCING STEEL

ALL REINFORCING STEEL SHALL BE DEFORMED BARS PER ASTM A615 OR A706, GRADE 60 UNLESS NOTED OTHERWISE.

ALL REINFORCING STEEL SHALL BE SUPPORTED ON WELL-CURED CONCRETE BLOCKS, PLASTIC CHAIRS OR METAL CHAIRS, AS SPECIFIED BY THE CRSI MANUAL OF STANDARD PRACTICE, MSP-1. REINFORCING SHALL BE SECURELY TIED IN PLACE WITH #16 ANNEALED IRON WIRE PRIOR TO PLACING CONCRETE. REINFORCING STEEL SHALL BE DETAILED IN ACCORDANCE WITH THE *GUIDE TO PRESENTING REINFORCING STEEL DESIGN DETAILS*, ACI 315R-18. BAR LENGTHS DETAILED ARE OUT TO OUT AND DO NOT INCLUDE ALLOWANCE FOR HOOKS OR BENDS.

WELDING OR TACK WELDING OF REINFORCING BARS TO OTHER BARS OR EMBEDDED STEEL ITEMS IS PROHIBITED EXCEPT WHERE SPECIFICALLY NOTED ON THE DRAWINGS. ANY WELDING OF REINFORCEMENT NOT SHOWN ON THE DRAWINGS SHALL BE SUBMITTED FOR REVIEW AND APPROVAL BY THE SEOR. WELDING SHALL BE PERFORMED BY AWS CERTIFIED WELDERS WITH PROCEDURES CONFORMING TO AWS D1.4

- WELDABLE REINFORCING STEEL: ASTM A706
- WELDING ELECTRODES: E9018, UNLESS NOTED OTHERWISE.

SPECIFIED CONCRETE COVER SHALL BE MAINTAINED TO ALL REINFORCEMENT AT CONCRETE REVEALS AND INSETS.

AT THE CONTRACTOR'S OPTION, MECHANICAL COUPLINGS MAY BE USED IN LIEU OF LAP SPLICES FOR ANY BAR SIZE AND AT ANY LOCATION, PROVIDED A BUILDING CODE EVALUATION REPORT DEMONSTRATES THE COUPLING CAN ACHIEVE A MINIMUM TENSILE STRENGTH OF 125% OF THE SPECIFIED YIELD STRENGTH OF THE BAR AND 100% OF THE SPECIFIED TENSILE STRENGTH OF THE SPLICED BAR.

TYPICAL REINFORCING DETAILING SHALL BE AS FOLLOWS:

- FOR STANDARD REBAR DIMENSIONS - SEE 1/58.03
- FOR CONCRETE COVER TO REINFORCING STEEL - SEE 2/58.03
- FOR STIRRUP AND TIE GEOMETRY - SEE 3/58.03
- FOR REINFORCING STANDARD HOOKS AND HOOK DEVELOPMENT LENGTHS - SEE 4/58.03
- FOR LAP SPLICES AND STRAIGHT BAR DEVELOPMENT LENGTHS - SEE 5/58.03

STRUCTURAL STEEL

DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL SHALL CONFORM TO THE SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS (AISC 360). QUALITY ASSURANCE (QA) IS REQUIRED FOR STRUCTURAL STEEL ITEMS PER AISC 360 AND 341 UNLESS SPECIFICALLY NOTED OTHERWISE. QUALITY CONTROL (QC) TO BE PROVIDED BY THE FABRICATOR, ERECTOR OR OTHER RESPONSIBLE CONTRACTOR AS APPLICABLE. CONTRACTOR AND SPECIAL INSPECTOR TO DOCUMENT QUALITY CONTROL AS REQUIRED IN AISC 360 SECTION N3 AND AISC 341 SECTION J2.

ALL STRUCTURAL AND MISCELLANEOUS STEEL SHALL CONFORM TO THE FOLLOWING MATERIAL STANDARDS:

STRUCTURAL STEEL MATERIAL STANDARDS		
SHAPE	ASTM SPECIFICATION	YIELD STRESS
RECTANGULAR HSS	A500, GRADE C	50 KSI
ALL OTHER SECTIONS AND PL	A572, GRADE 50	50 KSI

ALL STRUCTURAL STEEL SHALL HAVE ONE SHOP COAT OF PRIMER, EXCEPT SURFACES TO BE EMBEDDED IN CONCRETE OR MASONRY OR STEEL TO BE GALVANIZED. EMBEDDED SURFACES SHALL BE FREE OF CONTAMINANTS. ALL EXPOSED STRUCTURAL STEEL AND FASTENINGS TO HAVE ONE FINISH COAT OF RUST INHIBITING PAINT, COLOR BY OWNER.

STRUCTURAL STEEL BOLTING

ALL BOLTS IN STEEL TO STEEL CONNECTIONS SHALL BE ASTM F3125 GRADE A325 WITH MATCHING NUTS, UNLESS NOTED OTHERWISE. NUTS SHALL BE TIGHTENED TO A SNUG TIGHT CONDITION, UNLESS CONNECTION IS NOTED AS SLIP-CRITICAL OR PRETENSIONED.

- SNUG TIGHT CONDITION SHALL BE PER RESEARCH COUNCIL ON STRUCTURAL CONNECTIONS (RCSC) SPECIFICATION FOR STRUCTURAL JOINTS USING HIGH-STRENGTH BOLTS, SECTION 8.1.
- SLIP-CRITICAL AND PRETENSIONED CONNECTIONS, INSTALLATION OF FASTENERS SHALL BE PER RCSC SECTION 8.2.

STRUCTURAL STEEL WELDING

ALL WELDING SHALL CONFORM TO AMERICAN WELDING SOCIETY (AWS) D1.1 USING E70XX ELECTRODES. WELDING SHALL BE PERFORMED BY WELDERS CERTIFIED BY AWS FOR THE WELD TYPES SPECIFIED. WELD LENGTHS SHOWN ARE EFFECTIVE AS SPECIFIED PER THE SPECIFICATIONS OF THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC). WHERE WELD LENGTHS ARE NOT SHOWN, THE WELD SHALL BE FULL LENGTH OF MEMBERS BEING JOINED. FIELD WELDING SYMBOLS HAVE NOT NECESSARILY BEEN INDICATED ON THE DRAWINGS. WHERE SHOWN, PROPER FIELD WELDING PER AWS D1.1 SHALL BE USED. WHERE NO FIELD WELDING SYMBOLS ARE SHOWN, IT IS THE CONTRACTOR'S RESPONSIBILITY TO COORDINATE THE USE OF SHOP AND FIELD WELDS.

ALL PARTIAL JOINT PENETRATION GROOVE WELD SIZES SHOWN ON THE DRAWINGS REFER TO THE EFFECTIVE THROAT THICKNESS. ALL BUTT WELDS SHALL BE FULL PENETRATION WELDS UNLESS NOTED OTHERWISE ON STRUCTURAL DRAWINGS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE JOINT PREPARATION AND WELDING PROCEDURES THAT INCLUDE, BUT ARE NOT LIMITED TO: REQUIRED ROOT OPENINGS, ROOT FACE DIMENSIONS, GROOVE ANGLES, BACKING BARS, COPES, SURFACE ROUGHNESS VALUES AND TAPERS AND TRANSITIONS OF UNEQUAL PARTS.

ALL WELDS SHALL RECEIVE THE SAME FINISH COATING AS THE MEMBER BEING WELDED. ANY COATINGS ON THE STRUCTURAL AFFECTED BY WELDING SHALL BE REPAIRED AS REQUIRED.

WOOD FRAMING

ALL WOOD STRUCTURAL GRADES SHALL BE PER TYPICAL WOOD FRAMING SCHEDULE UNLESS NOTED OTHERWISE.

TYPICAL WOOD FRAMING SCHEDULE	
MEMBER	VISUALLY GRADED (MIN)
COLUMNS	DF/L #1
BEAMS	DF/L #1
STUDS	DF/L #2
BUILT-UP STUD PACKS	DF/L #2
BLOCKING	DF/L CONSTRUCTION
NON-STRUCTURAL FRAMING	DF/L CONSTRUCTION

ALL WOOD PLATES IN CONTACT WITH CONCRETE OR MASONRY SHALL BE PRESSURE TREATED UNLESS NOTED OTHERWISE. ALL COLUMNS SHALL HAVE SOLID BLOCKING FOR THE FULL COLUMN AREA TO SUPPORTING MEMBERS BELOW. COLUMNS SHALL ALIGN THROUGH ALL FLOORS TO THE FOUNDATION. ALL SAWN LUMBER SHALL HAVE A MOISTURE CONTENT LESS THAN 19% (S-DRY) PRIOR TO INSTALLATION OF NON-STRUCTURAL COMPONENTS.

WOOD BEAM REPAIRS - SPECIAL INSPECTIONS			
SYSTEM OR MATERIAL	FREQUENCY		REMARKS
	CONTINUOUS	PERIODIC	
POST-TENSIONED CABLE PLACEMENT		X	REINFORCING TO COMPLY WITH ALL CODE PROTECTION, SPACING AND TOLERANCE LIMITS.
POST-TENSIONED CABLE GRADE		X	
APPLICATION OF PRESTRESSING FORCES FOR POST-TENSIONED CABLES	X		DOCUMENT APPLIED FORCE AND ELONGATION.

STEEL - SPECIAL INSPECTIONS					
SYSTEM OR MATERIAL	OSSC CODE REFERENCE	CODE OR STANDARD REFERENCE	FREQUENCY / INSPECTION		REMARKS
			CONTINUOUS/ PERFORM	PERIODIC/ OBSERVE	
STEEL FABRICATION					
MATERIAL VERIFICATION OF STRUCTURAL STEEL COMPONENTS	1507.4 2205.1 TABLE 1705.2	ASTM A6 ASTM STANDARDS SPECIFIED IN CONSTRUCTION DOCUMENTS AISC 360 A3.1 AISC 360 N3.2		X	CERTIFIED MILL TEST REPORTS
MATERIAL VERIFICATION OF WELD FILLER METALS	1705.2.1.1 TABLE 1705.2-5	AISC 360 A3.5 AISC 360 N3.2 APPLICABLE AWS AS DOCUMENTS		X	MANUFACTURER'S CERTIFIED TEST REPORTS
STRUCTURAL STEEL WELDING					
VERIFYING WELDER QUALIFICATIONS		AWS D1.1		X	RETAIN A RECORD OF QUALIFICATION CARDS
SINGLE PASS FILLET WELDS LESS THAN OR EQUAL TO 5/16"				X	

WOOD FRAMING CONNECTIONS

ALL NAILS SHALL BE COMMON. FASTENERS SHALL NOT BE OVERDRIVEN. PREDRILL ALL SCREWS INTO EXISTING LUMBER TO ¾ OF THE ROOT THREAD DIAMETER OF THE SCREW.

PREFABRICATED METAL TIMBER CONNECTORS SHALL BE MANUFACTURED BY SIMPSON STRONG-TIE, UNLESS NOTED OTHERWISE. ALL PREFABRICATED METAL TIMBER CONNECTORS AND HANGERS SHALL BE FULLY BOLTED, NAILED, AND/OR SCREWED AS INDICATED BY MANUFACTURER, UNLESS NOTED OTHERWISE. ALL CONNECTORS, HANGERS AND FASTENERS SHALL BE CORROSION PROTECTED PER MANUFACTURER'S RECOMMENDATIONS.

ALL BOLTS IN WOOD CONNECTIONS SHALL BE ASTM A307 GRADE A. ALL BOLT HEADS OR NUTS BEARING ON WOOD TO HAVE STANDARD WASHERS. BOLT HOLES IN WOOD SHALL BE A MINIMUM OF 1/32" TO A MAXIMUM OF 1/16" LARGER THAN THE BOLT. ALL LAG SCREWS SHALL HAVE PILOT HOLES PER THE LAG SCREW PILOT HOLE SCHEDULE. REFER TO SECTION 12.1 OF THE NDS FOR ADDITIONAL INSTALLATION INSTRUCTIONS OF DOVEL-TYPE FASTENERS.

TYPICAL WOOD FRAMING CONNECTIONS SHALL BE AS FOLLOWS UNLESS NOTED OTHERWISE:

- BUILT-UP STUD PACK FASTENING — SEE 6/58.03

ENGINEERED LUMBER

ENGINEERED LUMBER SHALL HAVE A BUILDING CODE EVALUATION REPORT.

ALL ENGINEERED LUMBER EXPOSED TO WEATHER AND SUBJECT TO DECAY, SHALL BE PRESERVATIVE TREATED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS FOR PRESERVATIVE MATERIALS, RETENTION RATES, AND END USE.

LAMINATED VENEER LUMBER (LVL)

LVL FRAMING SHALL HAVE THE FOLLOWING MINIMUM PROPERTIES:

PROPERTY	MINIMUM VALUE
MODULUS OF ELASTICITY, E (PSI)	2,000,000
FLEXURAL STRESS, F _b (PSI)	2,600
TENSION STRESS, F _t (PSI)	1,895
COMPRESSION PERPENDICULAR TO GRAIN, F _{c, PERP} (PSI)	750
COMPRESSION PARALLEL TO GRAIN, F _c (PSI)	2,510
HORIZONTAL SHEAR PARALLEL TO GRAIN, F _v (PSI)	285
SPECIFIC GRAVITY	0.50

POST-TENSIONING CABLES FOR WOOD TRUSS STRENGTHENING

POST-TENSIONING CABLES SHALL MEET THE REQUIREMENTS SET FORTH IN THE *SPECIFICATIONS FOR UNBONDED SINGLE STRAND TENDONS* (LATEST EDITION) AND THE *SPECIFICATION FOR SEVEN-WIRE PRESTRESSING STEEL STRAND FOR BARRIER CABLE APPLICATIONS* PUBLISHED BY THE POST-TENSIONING INSTITUTE (PTI).

POST-TENSIONING CABLES SHALL BE INSTALLED TO THE JACKING PRESTRESS FORCE AS SPECIFIED ON THE PLANS. ANCHORAGES, COUPLERS AND FITTINGS SHALL MEET THE FOLLOWING:

- HAVE A BUILDING CODE EVALUATION REPORT
- DEVELOP A MINIMUM OF 100% OF THE ULTIMATE STRENGTH OF THE CABLE
- HAVE A GALVANIZED COATING

CABLES SHALL BE 1/2" DIAMETER CONFORMING TO ASTM A416, GRADE 270 FOR SEVEN-WIRE LOW RELAXATION STRAND. CABLE SHALL HAVE A ZINC GALVANIZED COATING CONFORMING TO ASTM A475

EACH STRESSING JACK AND GAUGE COMBINATION SHALL BE CALIBRATED AS A UNIT TO KNOWN STANDARDS AT INTERVALS NOT EXCEEDING 6 MONTHS. COPIES OF THE CALIBRATION CERTIFICATES FOR EACH JACK AND GAUGE COMBINATION BEING USED SHALL BE SUBMITTED TO THE SEOR FOR REVIEW.

CABLE INSTALLATION AND STRESSING OPERATIONS SHALL BE PERFORMED UNDER THE IMMEDIATE CONTROL OF A PERSON WHO IS A PTI CERTIFIED INSTALLER EXPERIENCED IN THIS TYPE OF WORK.



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SPRINGFIELD, OREGON

SPRINGFIELD SCHOOL
DISTRICT

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SHEET CONTENT
STRUCTURAL NOTES &
SPECIAL INSPECTION

SHEET

S0.02

AREA OF WORK
SEE
S1.01



1

STRUCTURAL SITE PLAN

S1.00 | NOT TO SCALE



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STRUCTURAL SITE PLAN

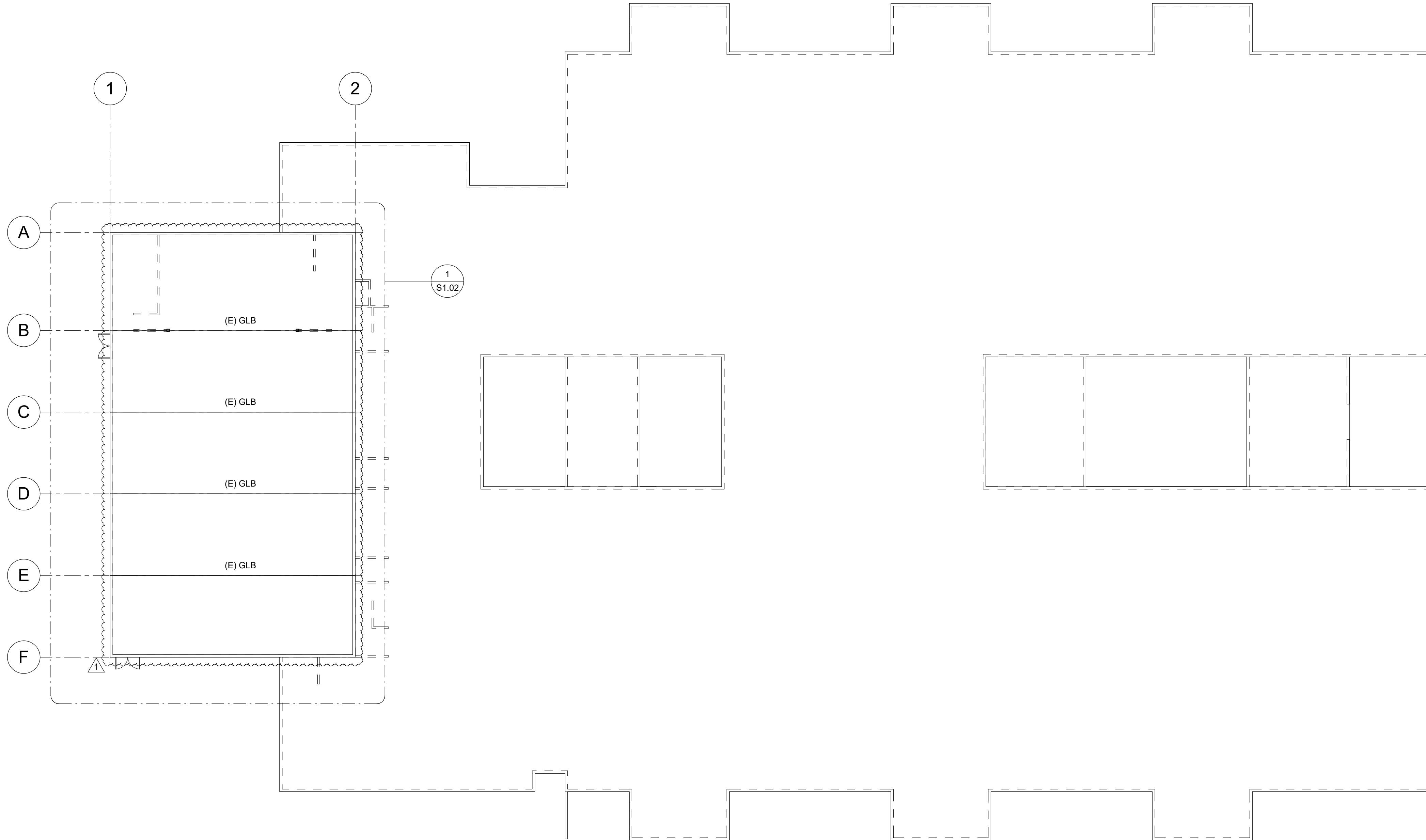
SHEET

S1.00

GENERAL SHEET NOTES:

- G1. SEE S0.02 AND SUBSEQUENT SHEETS FOR STRUCTURAL NOTES AND SPECIAL INSPECTION REQUIREMENTS
- G2. FIELD VERIFY EXISTING CONDITIONS AND ALL DIMENSIONS PRIOR TO DEMOLITION OR PURCHASE OF MATERIALS
- G3. THESE PLANS ARE STRUCTURAL ONLY - SIDING, FLASHING, MOISTURE PROTECTION, ETC ARE DESIGNED BY OTHERS

- G4. (N) CABLE ANCHOR ASSEMBLY
- G5. PREDRILL PILOT HOLES FOR ALL FASTENERS INTO EXISTING WOOD MEMBERS. HOLE SIZE TO BE 7/8 OF FASTENER ROOT DIAMETER.
- G6. CONTRACTOR TO REMOVE AND REPLACE ARCHITECTURAL FINISHES AS NEEDED TO COMPLETE THE STRUCTURAL REPAIRS. MATCH EXISTING FINISHES.



1 ROOF FRAMING PLAN
S1.01 | 1/16" = 1'-0"



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SHEET CONTENT
ROOF FRAMING PLAN

SHEET
S1.01

KEYNOTES

1 (N) (2) 2x8 LEDGER, CUT AWAY (E) FRAMING AND REATTACH TO LEDGER W/ SIMPSON LUS26 HANGER W/ (4) SIMPSON SD8112 AND (4) SIMPSON SD9212 SCREWS AT (E) 2x8 FRAMING AND SIMPSON LUS24 HANGERS W/ (4) SIMPSON SD9112 AND (2) SIMPSON SD9212 SCREWS AT (E) 2x4 FRAMING. SEE 1 / S8.02 FOR MORE INFORMATION

- GENERAL SHEET NOTES:**
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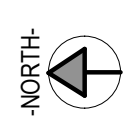
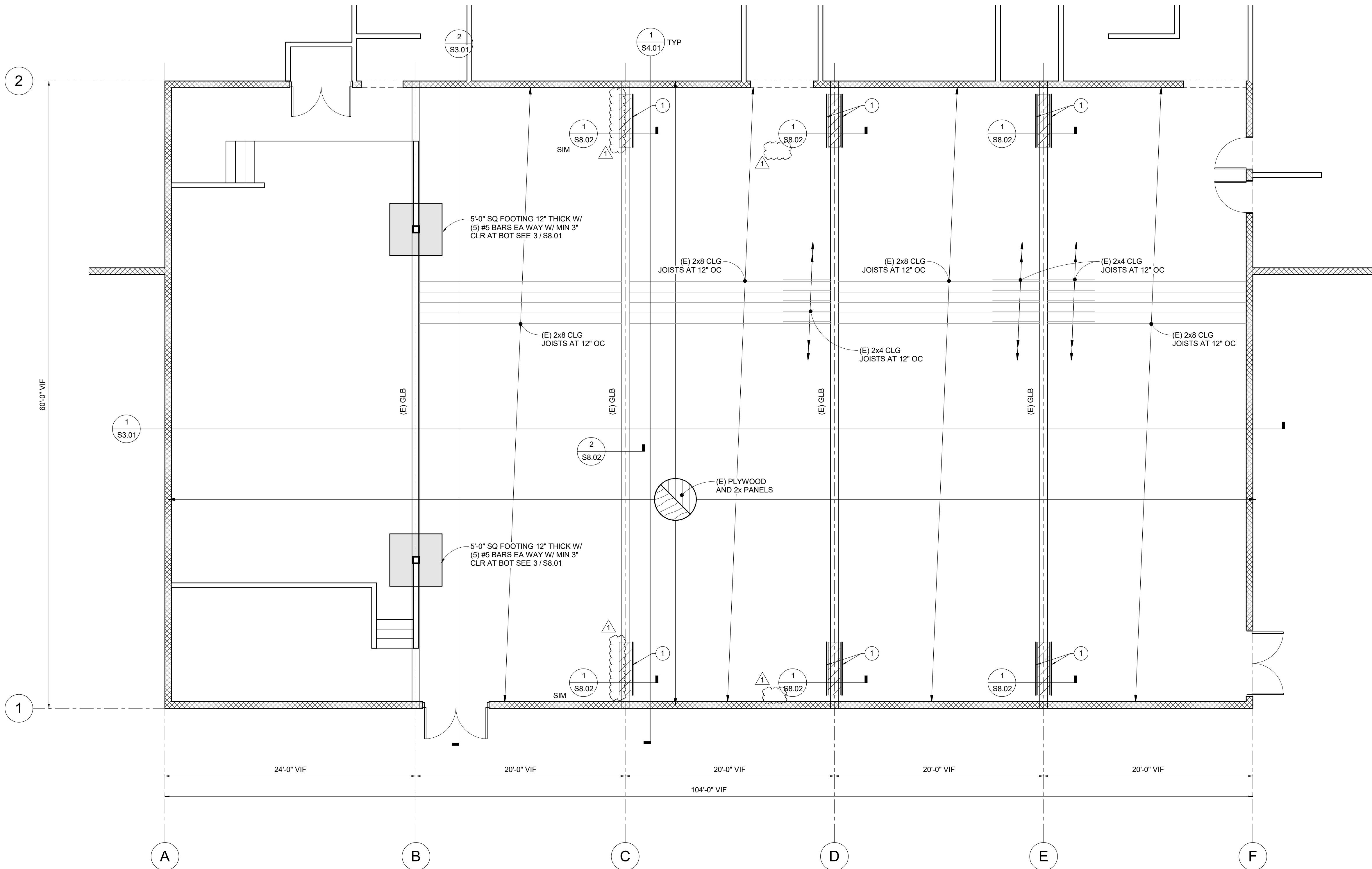
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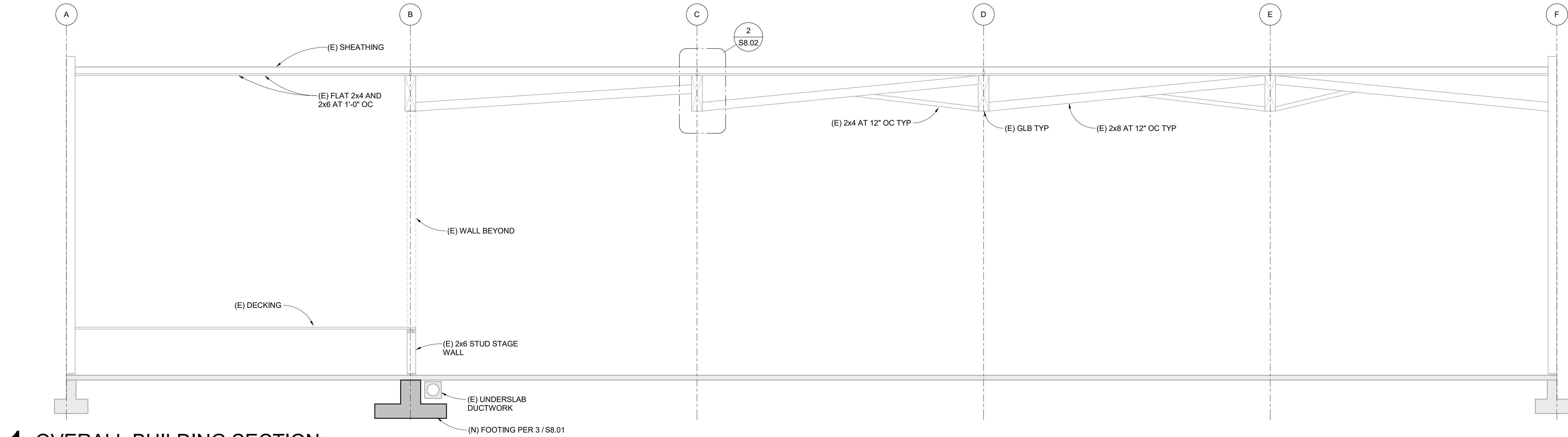
SHEET CONTENT
GYM ROOF REPAIR PLAN

SHEET

S1.02

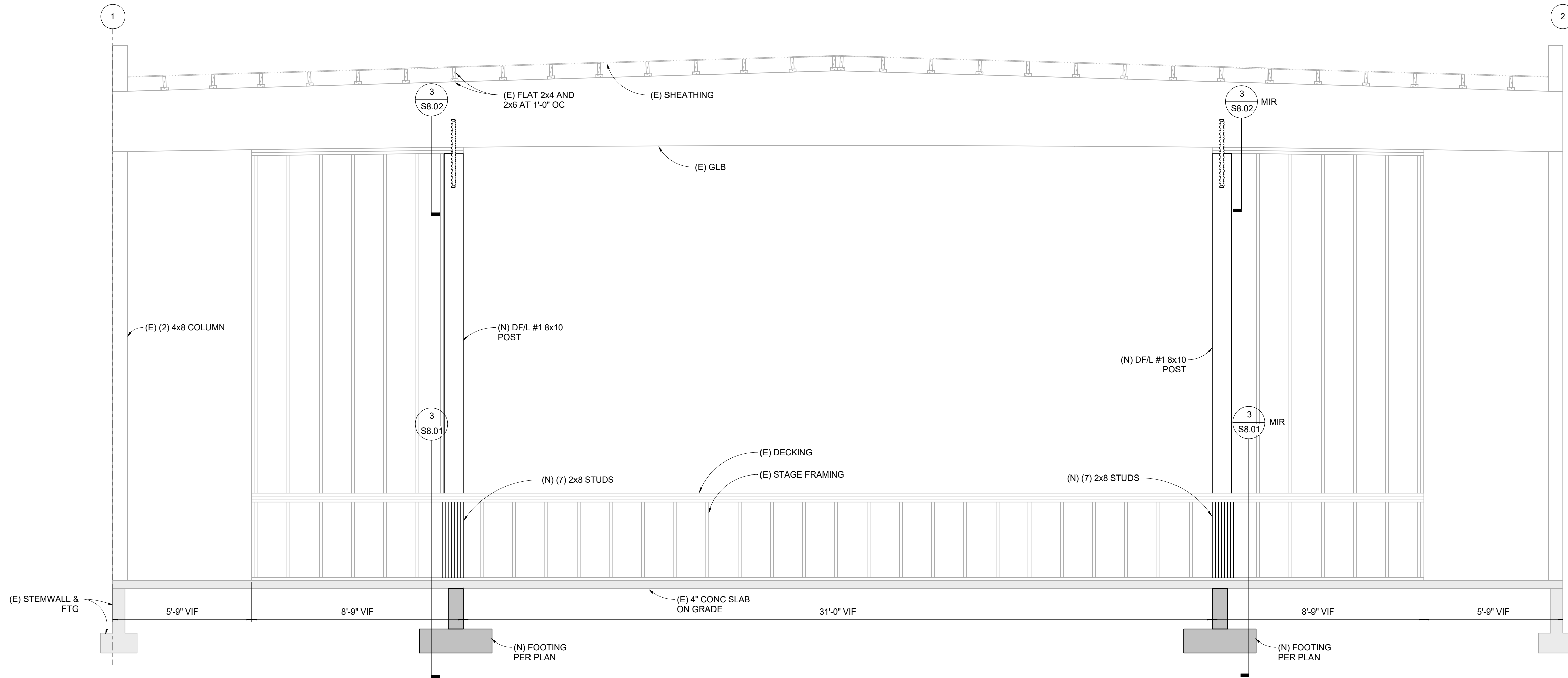


1 GYM ROOF REPAIR PLAN
S1.02 | 3/16" = 1'-0"



1 OVERALL BUILDING SECTION

S3.01 | 1/4" = 1'-0"



2 STAGE REPAIR SECTION

S3.01 | 3/8" = 1'-0"



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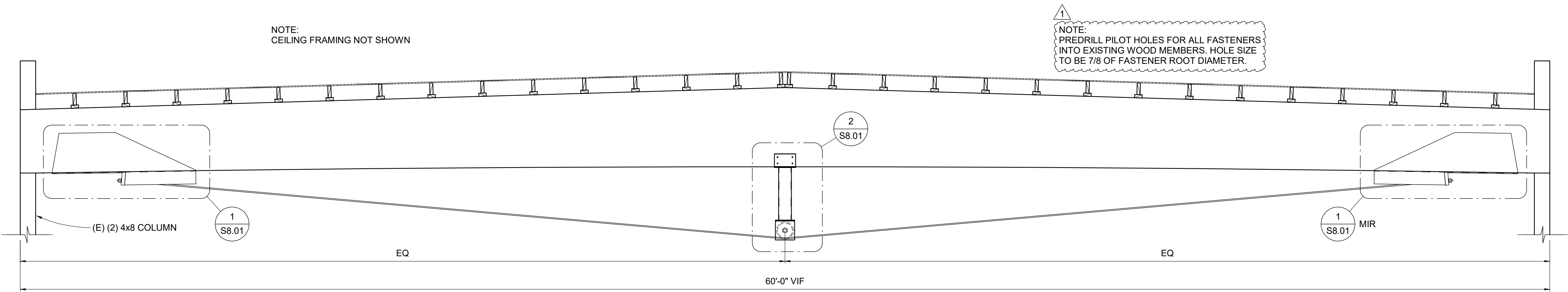
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SHEET CONTENT
SECTIONS

SHEET
S3.01



CABLE STRESSING NOTES

- JACKING FORCE TO BE 25.75 KIPS PER CABLE. JACKING FORCE TO BE APPLIED TO BOTH CABLES AT THE SAME TIME. LOADING IN EACH CABLE SHOULD BE WITHIN 10% OF EACH OTHER DURING THE JACKING PROCEDURE
- BACKSTRESS THE CABLES AT EACH END TO A FORCE OF 33 KIPS TO FULLY SEAT ANCHORAGE WEDGES. BACKSTRESSING OPERATIONS MAY BE DONE AT STEEL BEARING PLATE CONNECTIONS. DO NOT LOAD WOOD MEMBERS WITH BACKSTRESSING FORCES.

1 GLULAM BEAM REPAIR ELEVATION

S4.01 | 3/8" = 1'-0"



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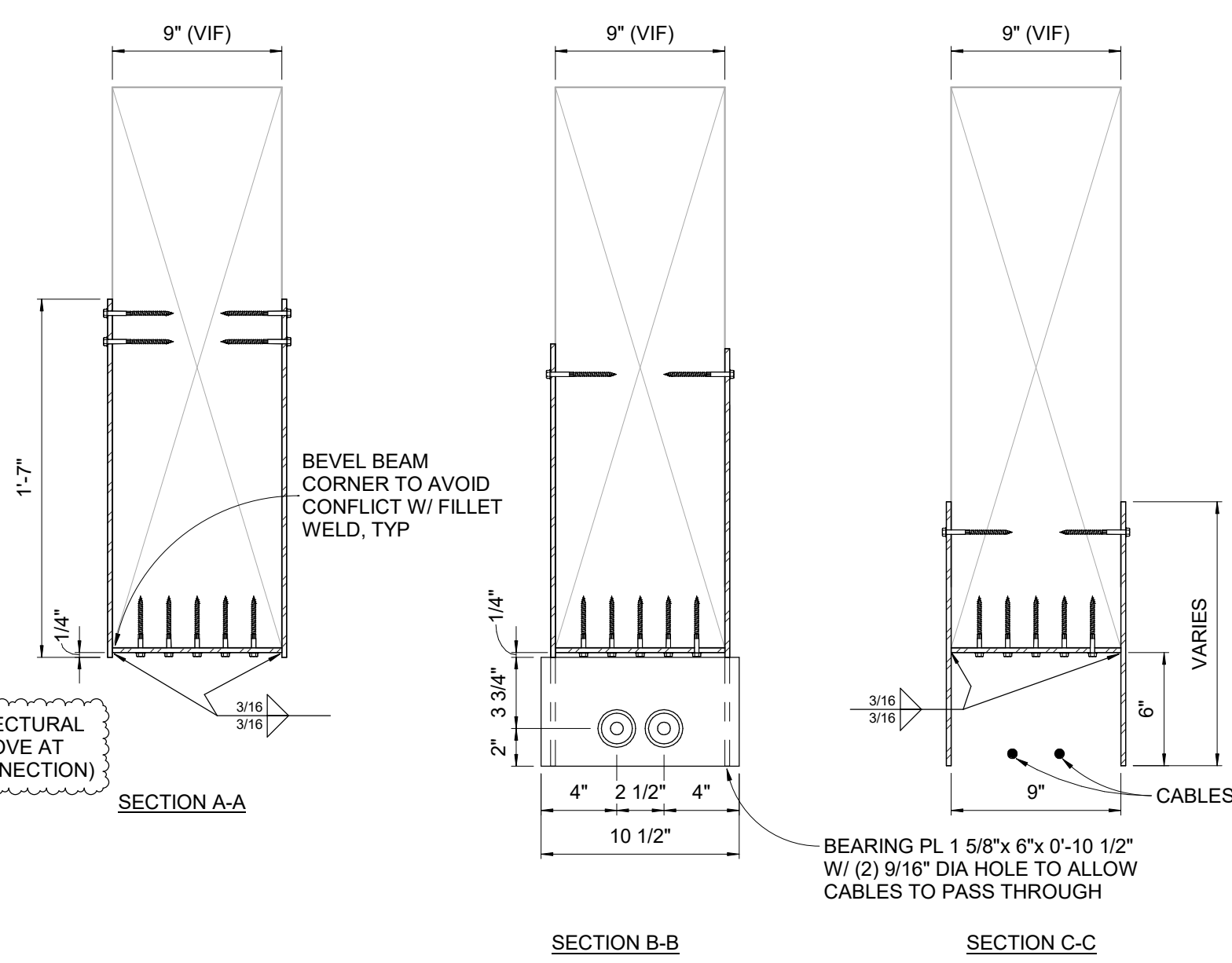
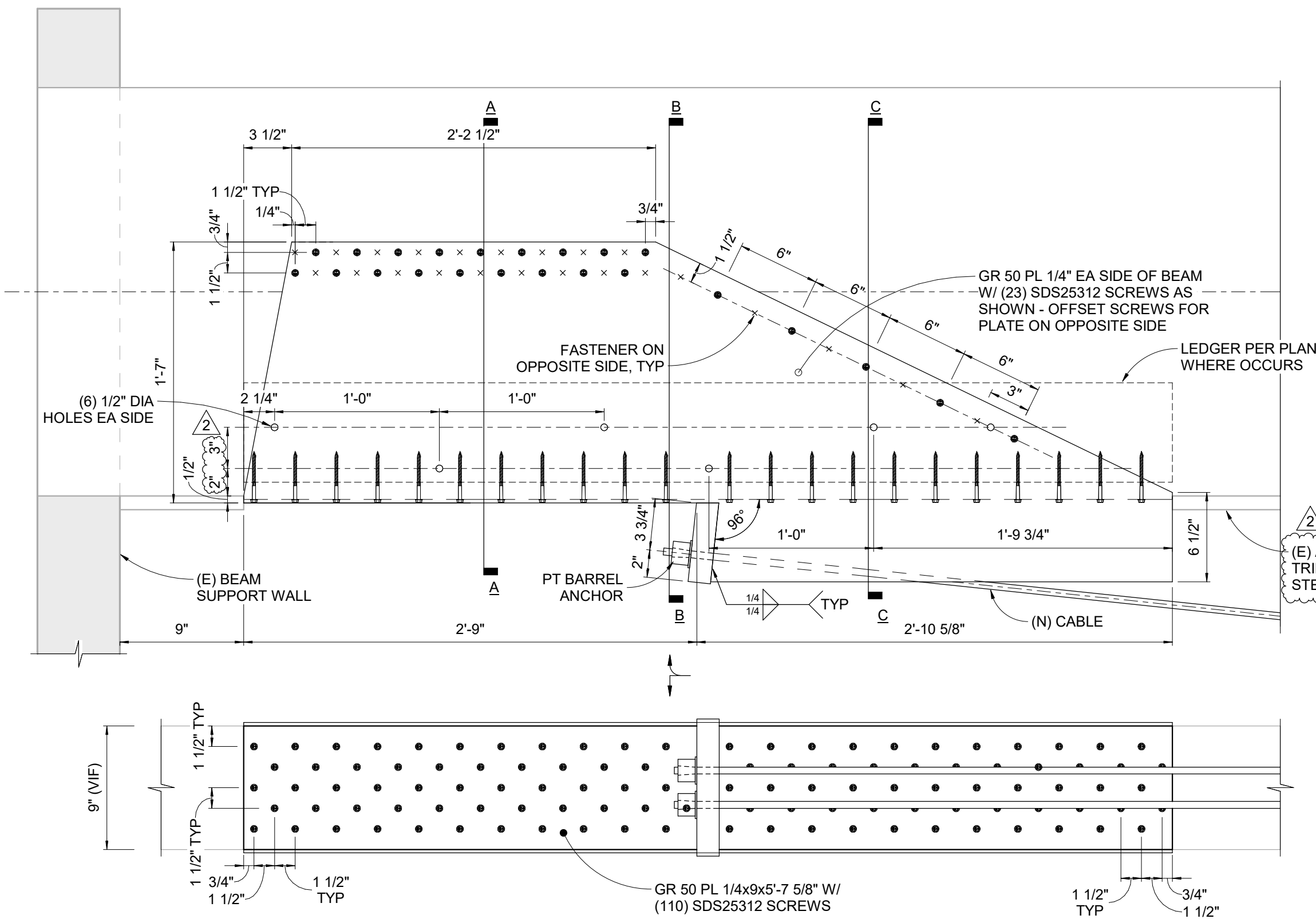
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SHEET CONTENT
ELEVATIONS

SHEET

S4.01

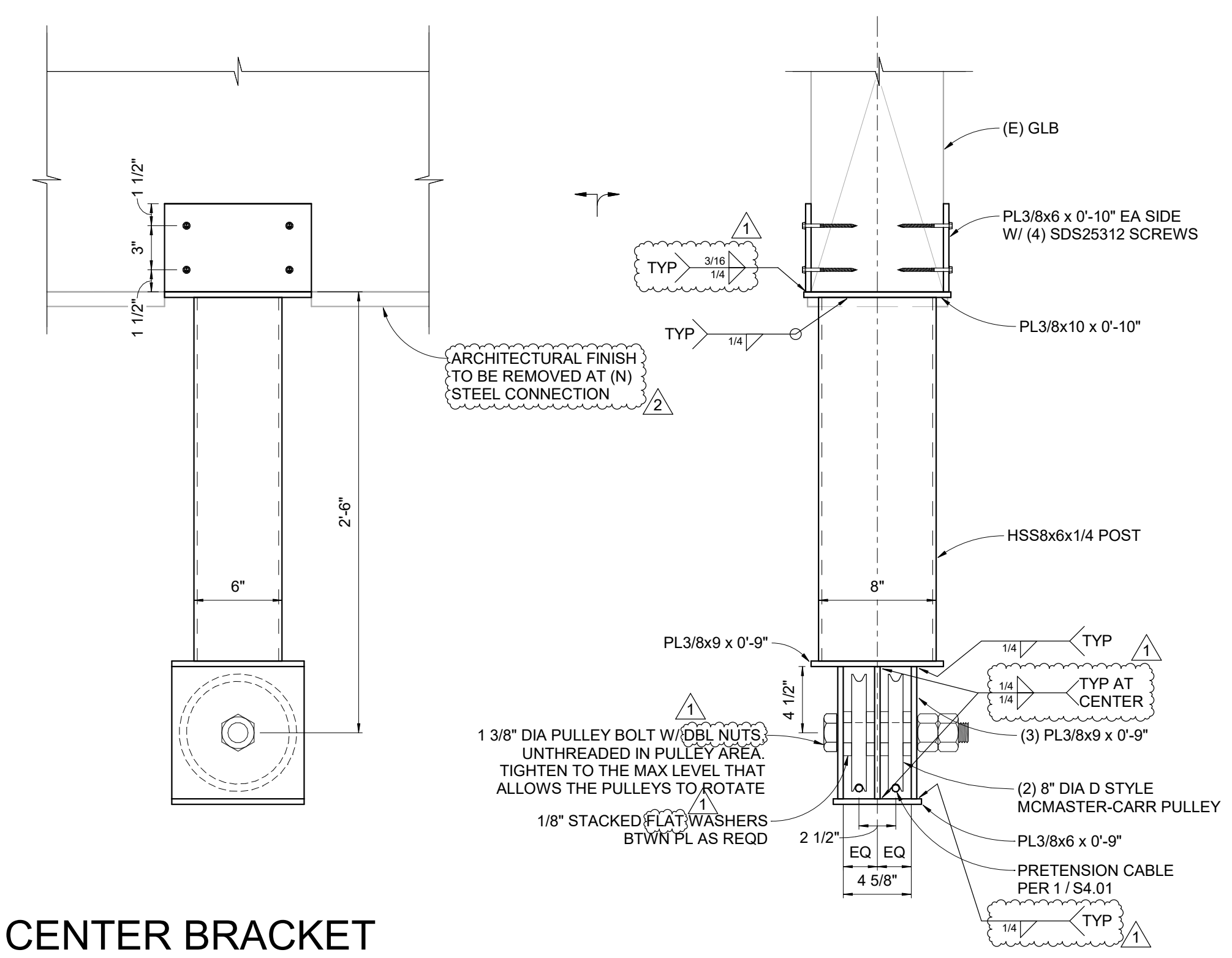


- GENERAL SHEET NOTES:**
- G1. PREDRILL PILOT HOLES FOR ALL FASTENERS INTO EXISTING WOOD MEMBERS. HOLE SIZE TO BE 7/8 OF FASTENER ROOT DIAMETER.
 - G2. CONTRACTOR TO REMOVE AND REPLACE ARCHITECTURAL FINISHES AS NEEDED TO COMPLETE THE STRUCTURAL REPAIRS. MATCH EXISTING FINISHES.

NOTE: ALL SCREWS INSTALLED IN EXISTING WOOD MEMBERS TO BE PRE-DRILLED WITH A HOLE THAT IS 7/8 OF THE SCREW ROOT DIAMETER. AT STEEL PROVIDE 9/32\" DIA HOLE FOR SDS SCREWS UNO

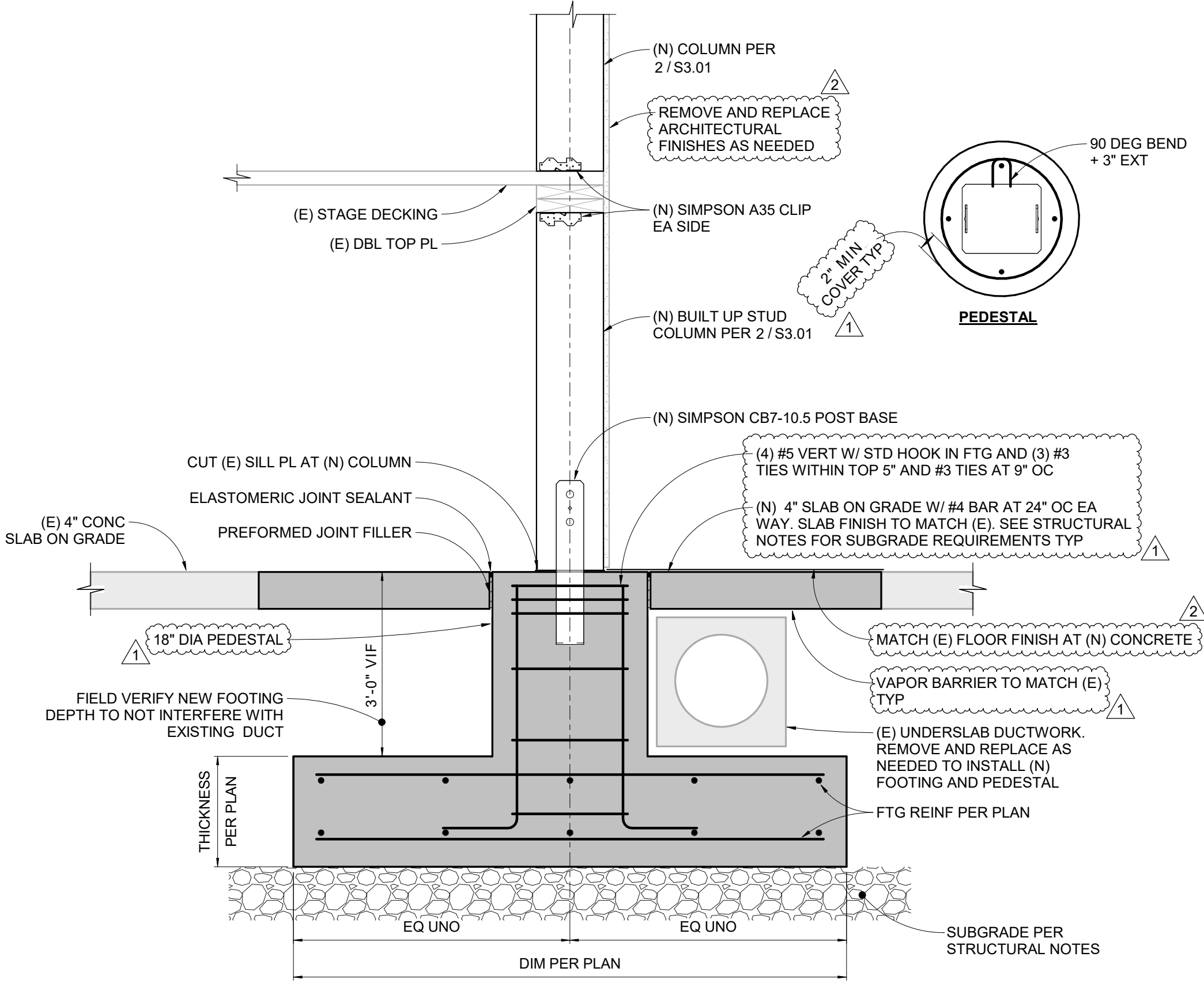
1 CABLE END ANCHORAGE

S8.01 | 1 1/2\" = 1'-0\"



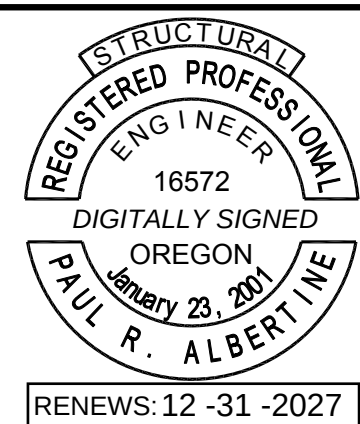
2 CENTER BRACKET

S8.01 | 1 1/2\" = 1'-0\"



3 (N) COLUMN TO (N) FOOTING CONN

S8.01 | 1\" = 1'-0\"



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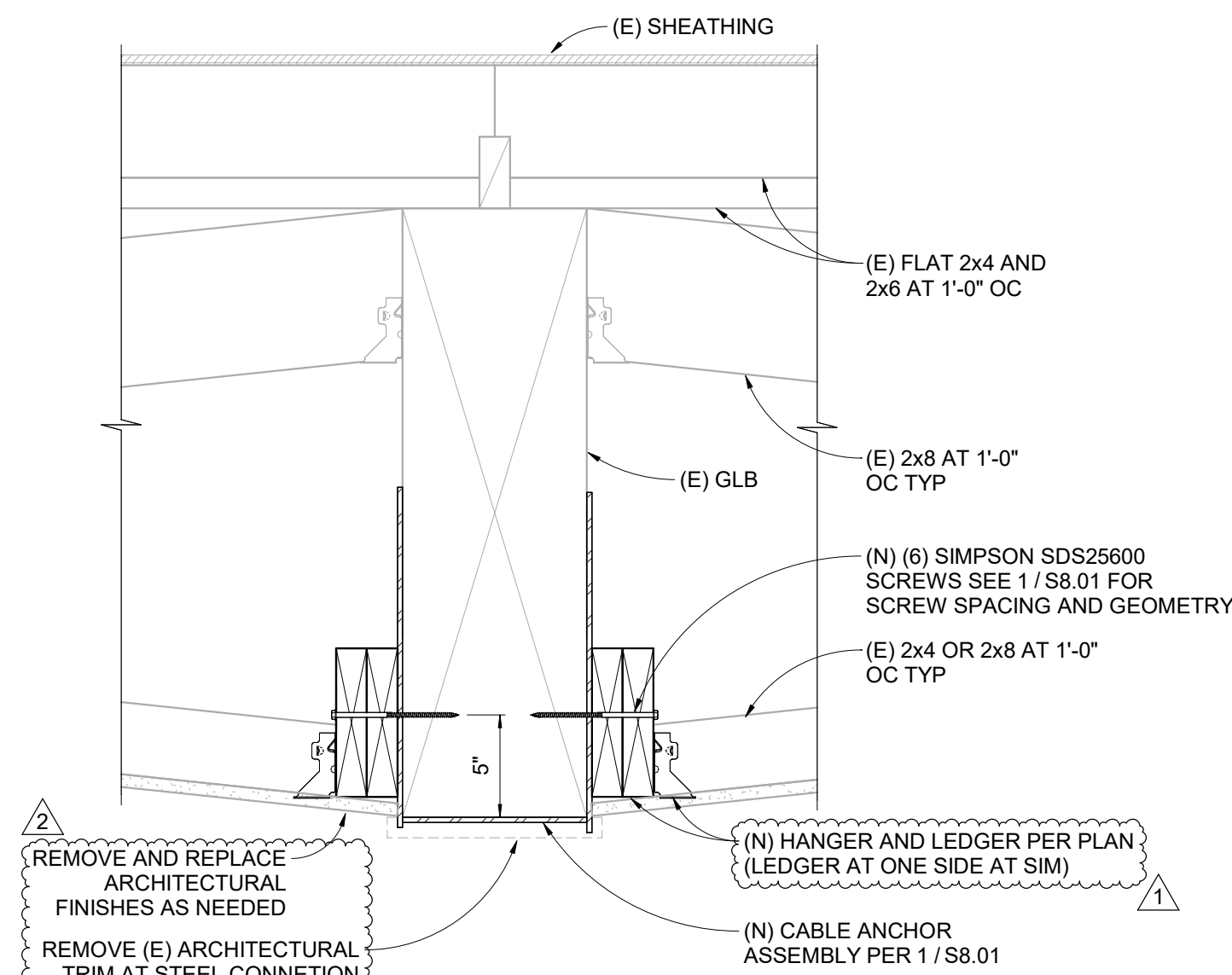
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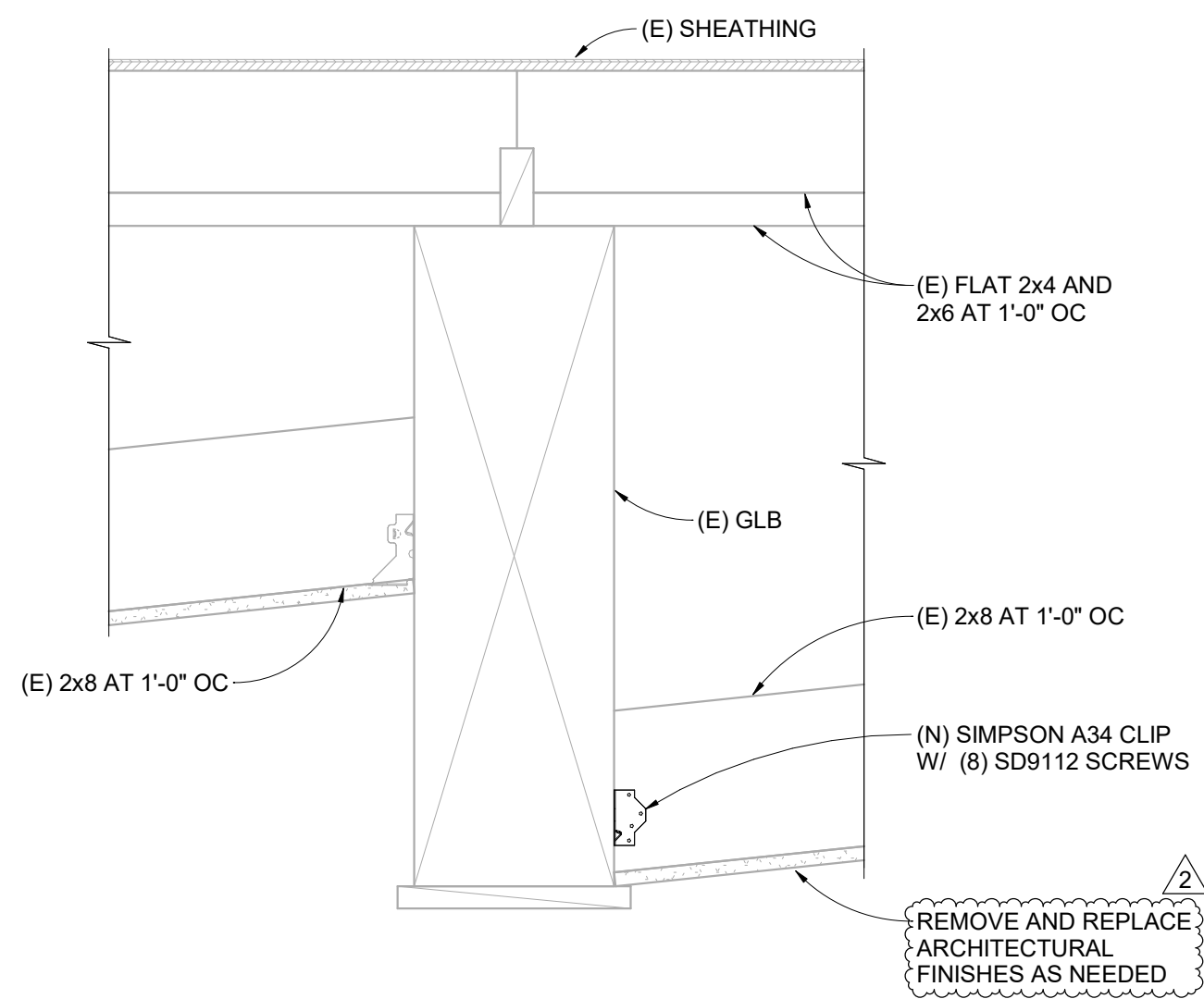
SHEET CONTENT
REPAIR DETAILS

SHEET
S8.01



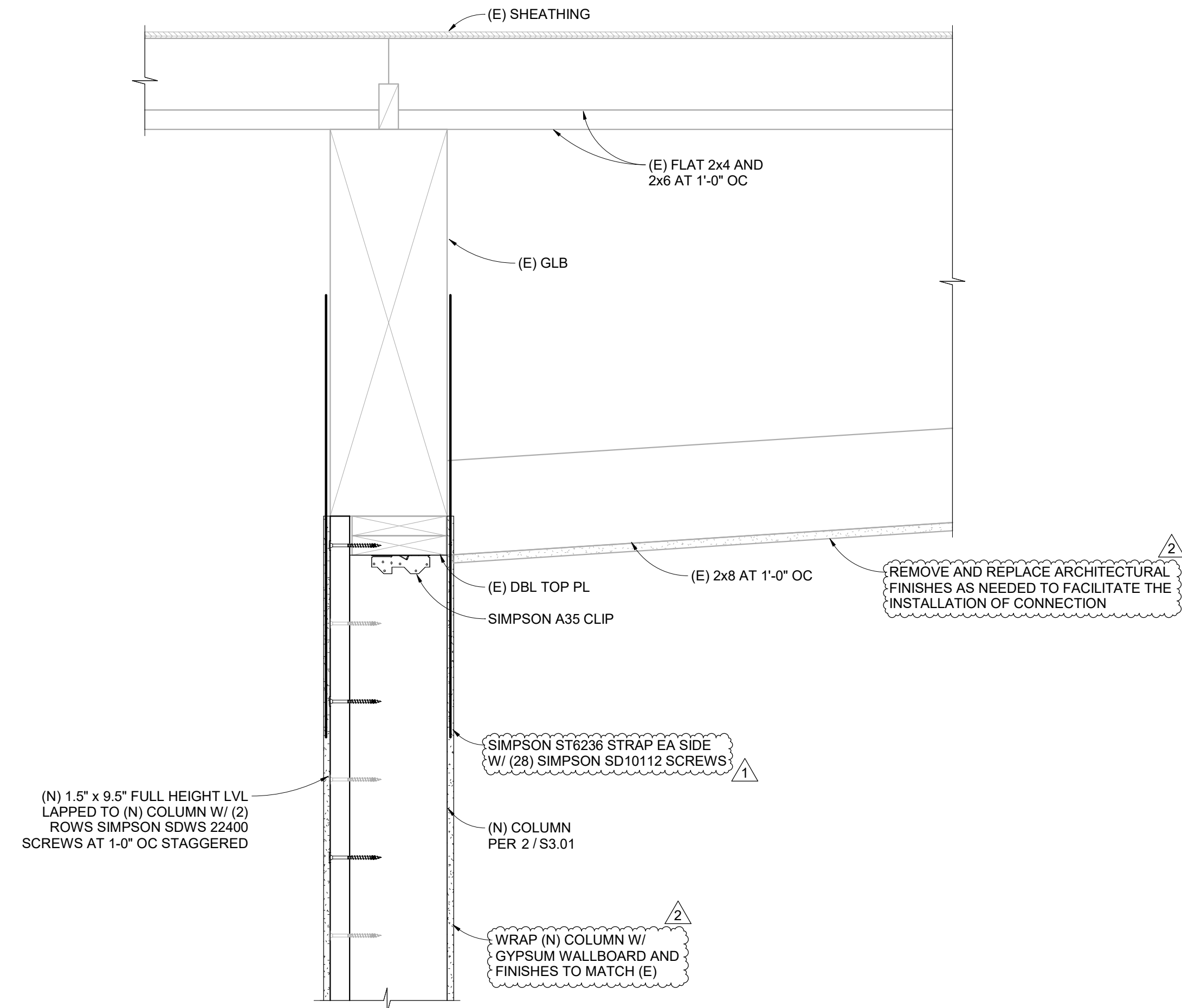
1 LEDGER AT CABLE ANCHOR ASSEMBLY

S8.02 | 1 1/2" = 1'-0"



2 GLULAM BEAM BRACE

S8.02 | 1 1/2" = 1'-0"



3 TOP OF (N) COLUMN TO BEAM CONN

S8.02 | 1 1/2" = 1'-0"

- GENERAL SHEET NOTES:**
- G1. PREDRILL PILOT HOLES FOR ALL FASTENERS INTO EXISTING WOOD MEMBERS. HOLE SIZE TO BE 7/8 OF FASTENER ROOT DIAMETER.
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SHEET CONTENT
REPAIR DETAILS

SHEET

S8.02

1 STD REBAR DIMENSIONS

S8.03 | 1 1/2" = 1'-0"

ASTM STANDARD REINFORCING BARS		
BAR SIZE DESIGNATION	NOMINAL DIMENSIONS	
	DIAMETER, db (IN)	AREA (IN²)
#3	0.375	0.11
#4	0.500	0.20
#5	0.625	0.31
#6	0.750	0.44
#7	0.875	0.60
#8	1.000	0.79
#9	1.128	1.00
#10	1.270	1.27
#11	1.410	1.56
#14	1.693	2.25
#18	2.257	4.00

2 CAST-IN-PLACE NONPRESTRESSED CONCRETE REINF COVER

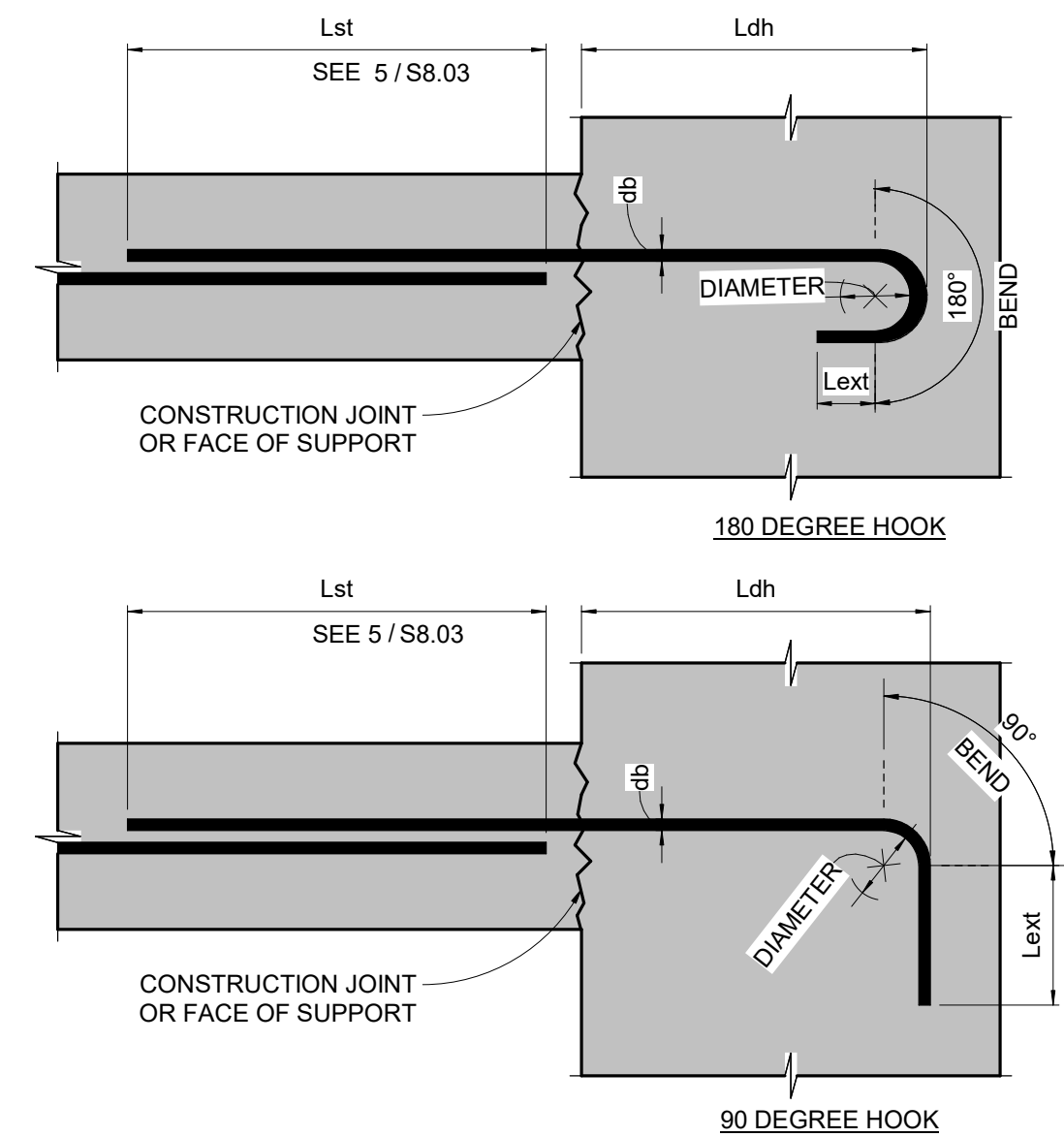
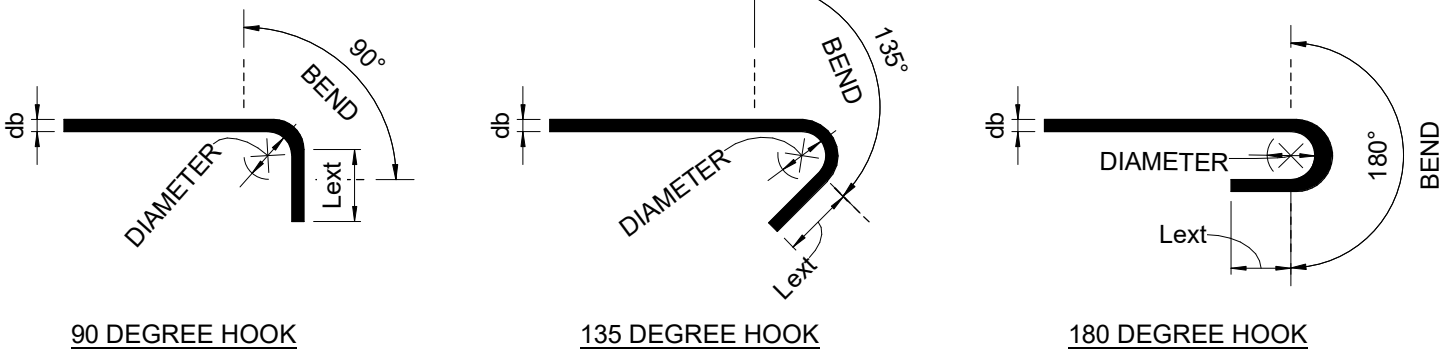
S8.03 | 1 1/2" = 1'-0"

CONCRETE EXPOSURE	MEMBER TYPE	REINFORCEMENT APPLICATION	REINFORCEMENT BAR SIZE	SPECIFIED COVER (INCHES)
CAST AGAINST AND PERMANENTLY IN CONTACT WITH GROUND	ALL	ALL	ALL	3
EXPOSED TO WEATHER OR IN CONTACT WITH GROUND	ALL	ALL	#6 THROUGH #18	2
			#5 AND SMALLER / W31 OR D31 WIRE	1 1/2
NOT EXPOSED TO WEATHER / NOT IN CONTACT WITH GROUND	SLABS, JOISTS, AND WALLS	ALL	#14 AND #18	1 1/2
			#11 AND SMALLER	3/4
	BEAMS, COLS, PEDESTALS, AND TENSION TIES	PRIMARY REINFORCEMENT, STIRRUPS, TIES, SPIRALS AND HOOPS	ALL	1 1/2

3 STIRRUP HOOKS AND TIE BENDS

S8.03 | 1 1/2" = 1'-0"

STANDARD HOOK GEOMETRY FOR STIRRUPS, TIES, AND HOOPS			
TYPE OF STANDARD HOOK	BAR DIA, db	MIN INSIDE BEND DIAMETER	STRAIGHT EXTENSION, Lext
90 DEGREE	#3 THROUGH #5	4"db	GREATER OF 6"db AND 3"
	#6 THROUGH #8	6"db	
135 DEGREE	#3 THROUGH #5	4"db	GREATER OF 6"db AND 3"
	#6 THROUGH #8	6"db	
180 DEGREE	#3 THROUGH #5	4"db	GREATER OF 4"db AND 2 1/2"
	#6 THROUGH #8	6"db	



STANDARD HOOK GEOMETRY FOR DEVELOPMENT OF BARS IN TENSION			
TYPE OF STANDARD HOOK	BAR DIA, db	MIN INSIDE BEND DIAMETER	STRAIGHT EXTENSION, Lext ⁴
90 DEGREE	#3 THROUGH #8	6"db	12"db
	#9 THROUGH #11	8"db	
	#14 THROUGH #18	10"db	
180 DEGREE	#3 THROUGH #8	6"db	GREATER OF 4"db AND 2 1/2"
	#9 THROUGH #11	8"db	
	#14 THROUGH #18	10"db	

HOOK DEVELOPMENT LENGTHS (L _{dh} ^{1,2,3}) FOR GRADE 60 REBAR												
f _c (PSI)	BAR DIA, db											
	#3	#4	#5	#6	#7	#8	#9	#10	#11	#14	#18	
2500	6"	6"	9"	11"	14"	17"	21"	24"	29"	74"	114"	
3000	6"	6"	8"	11"	14"	16"	20"	23"	27"	71"	109"	
4000	6"	6"	8"	10"	13"	15"	18"	22"	26"	66"	102"	
4500	6"	6"	8"	10"	13"	15"	18"	22"	26"	65"	100"	
5000	6"	6"	8"	10"	12"	15"	18"	21"	25"	64"	98"	
6000	6"	6"	7"	10"	12"	15"	17"	21"	24"	63"	96"	

NOTES:

- FOR HOOKS WITH SIDE COVER < 6db, MULTIPLY TABLE VALUES BY 1.25 (EXCEPT FOR #14 & #18 REINFORCING)
- FOR HOOKS WITH OC SPACING < 6db, MULTIPLY TABLE VALUES BY 1.6 (EXCEPT FOR #14 & #18 REINFORCING)
- FOR EPOXY-COATED HOOKS, MULTIPLY THE TABULATED VALUES BY 1.2
- BAR DIMENSION REQUIRED TO MANUFACTURE HOOK

4 STANDARD HOOKS AND HOOK DEVELOPMENT LENGTH

S8.03 | 1 1/2" = 1'-0"

5 REBAR STRAIGHT BAR DEVELOPMENT / LAP SPICE LENGTH SCHEDULE

S8.03 | 1 1/2" = 1'-0"

DEVELOPMENT LENGTH OF STRAIGHT BARS IN TENSION, Ld											
fc (PSI)	BAR LOCATION	BAR DIA, db									
		#3	#4	#5	#6	#7	#8	#9	#10	#11	
2500	TOP	18"	24"	35"	47"	76"	94"	114"	137"	160"	
	OTHER	14"	18"	27"	36"	59"	72"	88"	105"	123"	
3000	TOP	17"	22"	32"	43"	69"	86"	104"	125"	146"	
	OTHER	13"	17"	25"	33"	53"	66"	80"	96"	113"	
4000	TOP	14"	19"	28"	37"	60"	74"	90"	108"	127"	
	OTHER	12"	15"	21"	29"	46"	57"	69"	83"	98"	
4500	TOP	14"	18"	26"	35"	57"	70"	85"	102"	120"	
	OTHER	12"	14"	20"	27"	44"	54"	65"	79"	92"	
5000	TOP	13"	17"	25"	34"	54"	67"	81"	97"	114"	
	OTHER	12"	13"	19"	26"	42"	51"	62"	75"	87"	
6000	TOP	12"	16"	23"	31"	49"	61"	74"	88"	104"	
	OTHER	12"	12"	18"	24"	38"	47"	57"	68"	80"	

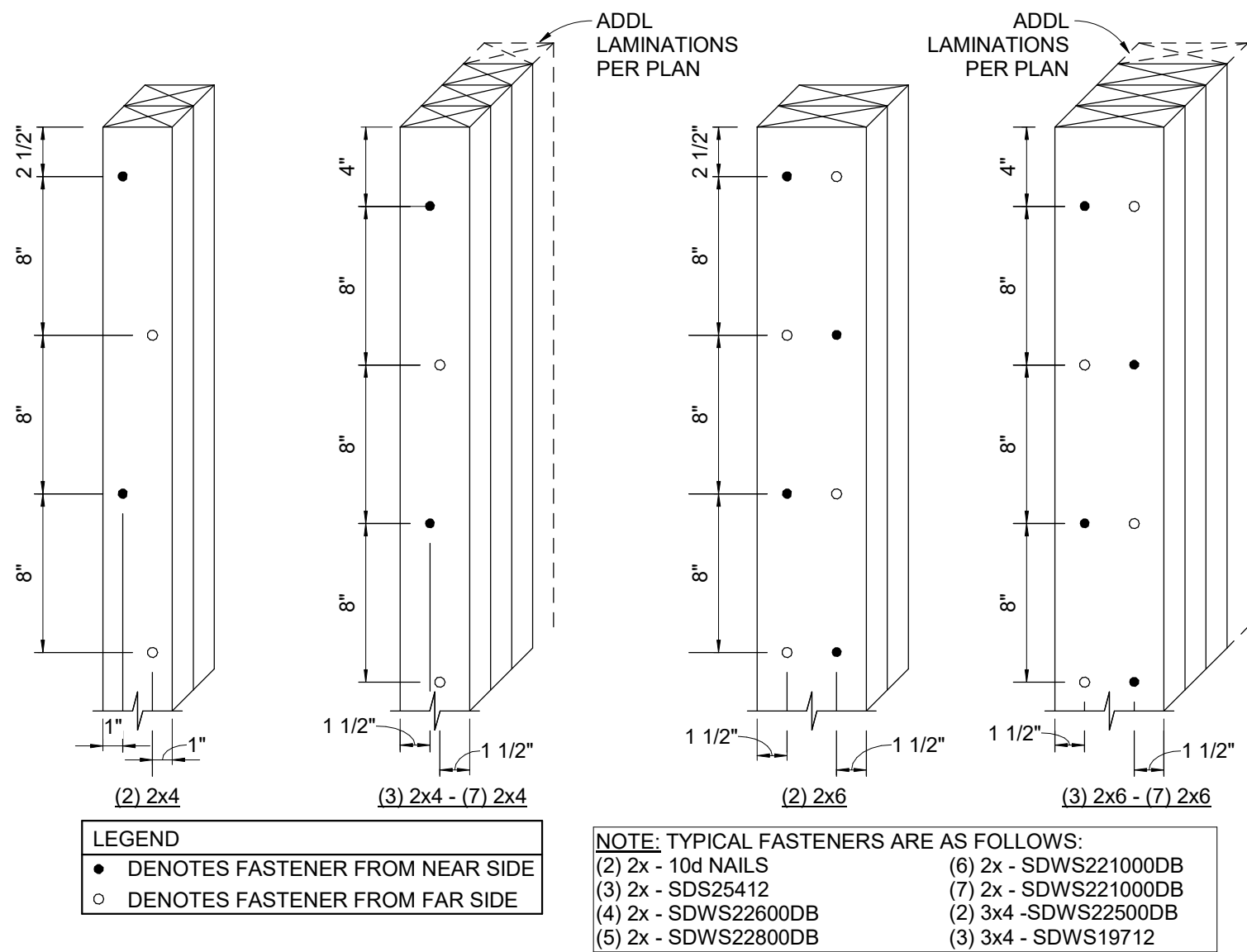
LAP SPICE LENGTH OF STRAIGHT BARS IN TENSION, Lst ³											
fc (PSI)	BAR LOCATION	BAR DIA, db									
		#3	#4	#5	#6	#7	#8	#9	#10	#11	
2500	TOP	23"	31"	45"	61"	99"	123"	149"	179"	208"	
	OTHER	18"	24"	35"	47"	77"	94"	115"	137"	160"	
3000	TOP	21"	28"	41"	56"	90"	112"	136"	163"	190"	
	OTHER	17"	22"	32"	43"	69"	86"	104"	125"	147"	
4000	TOP	19"	25"	36"	49"	78"	97"	117"	141"	166"	
	OTHER	16"	19"	28"	38"	60"	75"	90"	108"	128"	
4500	TOP	18"	23"	34"	46"	75"	91"	111"	133"	156"	
	OTHER	16"	18"	26"	36"	58"	71"	85"	108"	120"	
5000	TOP	17"	22"	32"	44"	71"	88"	106"	127"	149"	
	OTHER	16"	17"	25"	34"	55"	67"	81"	98"	114"	
6000	TOP	16"	20"	29"	40"	64"	80"	97"	115"	136"	
	OTHER	16"	16"	23"	32"	50"	62"	75"	89"	104"	

NOTES:

- TOP BARS ARE HORIZONTAL BARS WITH MORE THAN 12" OF FRESH CONCRETE CAST BELOW THE BARS
- OTHER BARS ARE HORIZONTAL BARS WITH LESS THAN 12" OF FRESH CONCRETE CAST BELOW THE BARS AND VERTICAL BARS
- NONCONTACT LAP SPICES ARE PERMITTED, PROVIDED THE TRANSVERSE CENTER-TO-CENTER SPACING OF SPICED BARS DOES NOT EXCEED THE LESSER OF ONE-FIFTH THE REQUIRED LAP SPICE LENGTH AND 6 INCHES
- CLEAR COVER TO BARS SHALL BE IN ACCORDANCE WITH 2 / S8.03
- MINIMUM SPACING BETWEEN LONGITUDINAL BARS SHALL BE 2"db
- FOR EPOXY-COATED BARS, MULTIPLY THE TABULATED VALUES BY 1.5

6 BUILT-UP STUD PACK FASTENING

S8.03 | 1 1/2" = 1'-0"



A DIGITAL SIGNATURE WATERMARK ON PAGE S8.01 INDICATES THIS SHEET IS PART OF AN ELECTRONICALLY SIGNED DOCUMENT.



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GUY LEE ELEMENTARY SCHOOL

755 HARLOW ROAD
SPRINGFIELD, OREGON

SPRINGFIELD SCHOOL DISTRICT

REV	DESCRIPTION	DATE
-----	-------------	------

DESIGNED BY: EO
CHECKED BY: PRA
MCE PROJ #: 251372
ISSUE DATE: 3/20/2026
ISSUANCE: PERMIT SET

SHEET CONTENT
TYPICAL DETAILS

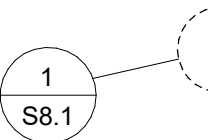
SHEET

S8.03

STRUCTURAL ABBREVIATIONS

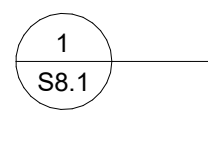
#	NUMBER OR POUNDS	IBC	INTERNATIONAL BUILDING CODE
AB	ANCHOR BOLT	ICF	INSULATED CONCRETE FORMS
ACI	AMERICAN CONCRETE INSTITUTE	ID	INSIDE DIAMETER
ADDL	ADDITIONAL	IN	INCH
ADJ	ADJACENT	INFO	INFORMATION
AESS	ARCHITECTURALLY EXPOSED STRUCTURAL	INT	INTERIOR
	STEEL		
AFF	ABOVE FINISH FLOOR	JST	JOIST
AISC	AMERICAN INSTITUTE OF STEEL CONSTRUCTION	JT	JOINT
ALT	ALTERNATE		
ALUM	ALUMINUM	K	KIP(S) (1,000 POUNDS)
APA	AMERICAN PLYWOOD ASSOCIATION	KSF	KIPS PER SQUARE FOOT
	APPROX APPROXIMATELY	KSI	KIPS PER SQUARE INCH
ARCH	ARCHITECTURAL		
ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS	L, 2L	ANGLE OR DOUBLE ANGLE
ASD	ALLOWABLE STRESS DESIGN	LAT	LATERAL
ASSY	ASSEMBLY	LB	POUND
ATR	ALL THREAD ROD	LF	LINEAR FOOT
ATRA	ALL THREAD ROD WITH ADHESIVE	LG	LIGHT GAUGE
AWS	AMERICAN WELDING SOCIETY	LL	LIVE LOAD
		LLBB	LONG LEGS BACK TO BACK
		LLH	LONG LEG HORIZONTAL
		LLV	LONG LEG VERTICAL
B/	BOTTOM OF	LONG	LONGITUDINAL
BF	BRACED FRAME	LRFD	LOAD AND RESISTANCE FACTOR DESIGN
BLDG	BUILDING	LSL	LAMINATED STRAND LUMBER
BLKG	BLOCKING	LSH	LONG SLOTTED HOLE
BM	BEAM	LVL	LAMINATED VENEER LUMBER
BN	BOUNDARY NAIL	LWC	LIGHT WEIGHT CONCRETE
BOT	BOTTOM		
BRBF	BUCKLING RESTRAINED BRACED FRAME	MANUF	MANUFACTURER
BRNG	BEARING	MAX	MAXIMUM
BSMT	BASEMENT	MC	MISCELLANEOUS CHANNEL
BTWN	BETWEEN	MECH	MECHANICAL
BU	BUILT-UP	MF	MOMENT FRAME
		MFR	MANUFACTURER
C	CAMBER OR CHANNEL (AMERICAN STANDARD)	MEP	MECHANICAL, ELECTRICAL, PLUMBING
CANT	CANTILEVER	MIN	MINIMUM
CFS	COLD-FORMED STEEL	MIR	MIRROR
CIP	CAST IN PLACE	MISC	MISCELLANEOUS
CG	CENTER OF GRAVITY	MSA	MASONRY SCREW ANCHOR
CGS	CENTER OF GRAVITY OF (PRESTRESSING) STEEL	MT	MAGNETIC PARTICLE TESTING
CJ	CONTROL OR CONSTRUCTION JOINT	MTL	METAL
CJP	COMPLETE JOINT PENETRATION		
CL	CENTERLINE	(N)	NEW
CLG	CEILING	NOT	NON-DESTRUCTIVE TESTING
CLR	CLEARANCE; CLEAR	NIC	NOT IN CONTRACT
CLSM	CONTROLLED LOW STRENGTH MATERIAL	NOM	NOMINAL
CMU	CONCRETE MASONRY UNIT	NS	NEAR SIDE
COL	COLUMN	NTE	NOT TO EXCEED
CONC	CONCRETE	NTS	NOT TO SCALE
CONN	CONNECTION	NWC	NORMAL WEIGHT CONCRETE
CONST	CONSTRUCTION		
CONT	CONTINUOUS	OC	ON CENTER
COORD	COORDINATE	OCBF	ORDINARY CONCENTRIC BRACED FRAME
CSA	CONCRETE SCREW ANCHOR	OD	OUTSIDE DIAMETER
		OMF	ORDINARY MOMENT FRAME
d	PENNY (NAIL)	OPP	OPPOSITE
db	NOMINAL BAR DIAMETER	OWJ	OPEN WEB JOIST
DBA	DEFORMED BAR ANCHOR		
DBL	DOUBLE	PAF	POWER ACTUATED FASTENER
DBO	DESIGNED BY OTHERS	PC	PRECAST
DEG	DEGREE	PCF	POUNDS PER CUBIC FOOT
DEMO	DEMOLISH; DEMOLITION	PERP	PERPENDICULAR
DF/L	DOUGLAS FIR-LARCH	PJP	PARTIAL JOINT PENETRATION
DIA	DIAMETER	PL	PLATE
DIAG	DIAGONAL	PLF	POUNDS PER LINEAL FOOT
DIM	DIMENSION	PLWD	PLYWOOD
DIST	DISTANCE	PSI	POUNDS PER SQUARE INCH
DL	DEAD LOAD	PSF	POUNDS PER SQUARE FOOT
DN	DOWN	PSL	PARALLEL STRAND LUMBER
DP	DEPTH OR DEEP	PT	PRESSURE TREATED
DTL	DETAIL	P/T	POST TENSIONED
DWG	DRAWING	PVC	POLYVINYL CHLORIDE
(E)	EXISTING	QTY	QUANTITY
E	MODULUS OF ELASTICITY		
EA	EACH	RAD	RADIUS
EB	EXPANSION BOLT	RBS	REDUCED BEAM SECTION
EF	EACH FACE	REF	REFERENCE
EJ	EXPANSION JOINT	REINF	REINFORCING
EL	ELEVATION	REQD	REQUIRED
ELEC	ELECTRICAL	RET	RETAINING
EN	EDGE NAIL	REV	REVISED, REVISION
EOR	ENGINEER OF RECORD	RO	ROUGH OPENING
EQ	EQUAL; EARTHQUAKE		
EW	EACH WAY	SC	SLIP CRITICAL
EXT	EXTERIOR	SCBF	SPECIAL CONCENTRIC BRACE FRAME
EXTD	EXTEND, EXTENDED	SCH	SCHEDULE
		SEOR	STRUCTURAL ENGINEER OF RECORD
fc	28 DAY CONC COMPRESSIVE STRENGTH	SFRS	SEISMIC FORCE RESISTING SYSTEM
fm	MASONRY NET AREA COMPRESSIVE STRENGTH	SHT	SHEET
Fy	YIELD STRESS	SHTG	SHEATHING
Fu	TENSILE STRESS	SIM	SIMILAR
F/	FACE OF	SLBB	SHORT LEGS BACK TO BACK
FAB	FABRICATED / FABRICATOR	SMF	SPECIAL MOMENT FRAME
FF	FINISH FLOOR	SMS	SHEET METAL SCREW
FN	FIELD NAIL	SOG	SLAB ON GRADE
FLR	FLOOR	SOMD	SLAB ON METAL DECK
FDN	FOUNDATION	SQ	SQUARE
FRT	FIRE RETARDANT TREATED	SS	STAINLESS STEEL
FS	FAR SIDE	SSH	SHORT SLOTTED HOLE
FT	FEET	STD	STANDARD
FTG	FOOTING	STL	STEEL
		SQ	SQUARE
		SYM	SYMMETRICAL
GA	GAUGE		
GAF	GAS ACTUATED FASTENER	T/	TOP OF
GALV	GALVANIZED	T&B	TOP AND BOTTOM
GLB	GLUE LAMINATED BEAM	T&G	TONGUE AND GROOVE
GR	GRADE	THRD	THREADED
GWB	GYP SUM WALL BOARD	TPL	TRIPLE
GYP	GYP SUM	TRANS	TRANSVERSE
		TYP	TYPICAL
HD	HOLDOWN		
HDG	HOT-DIP GALVANIZED	UNO	UNLESS NOTED OTHERWISE
HDR	HEADER	URM	UNREINFORCED MASONRY
HEX	HEXAGONAL	UT	ULTRASONIC TEST
HF	HEM-FIR		
HGR	HANGER	VERT	VERTICAL
HORIZ	HORIZONTAL	VIF	VERIFY IN FIELD
HSA	HEADED STUD ANCHOR		
HSS	HOLLOW STRUCTURAL SECTION	W/	WITH
HT	HEIGHT	W/O	WITHOUT
HVAC	HEATING VENTILATION AIR CONDITIONING	WD	WOOD
		WF	WIDE FLANGE
		WP	WORK POINT
		WT	WEIGHT
		WWR	WELDED WIRE REINFORCING

STRUCTURAL
DRAWING SYMBOLS



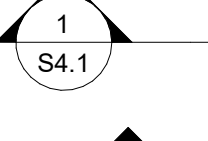
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S8.1

DETAIL REFERENCE



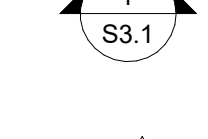
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S8.1

DETAIL SECTION CUT



1
S4.1

BUILDING OR
WALL SECTION
CUT



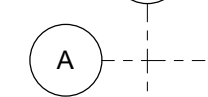
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S3.1

ELEVATION OF
WALL OR FRAME



#

REVISION SYMBOL

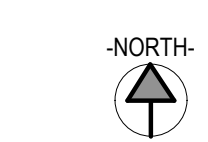


#

GRID LINES



ROTATE VIEW SYMBOL



-NORTH-

NORTH ARROW



SURFACE - STEPPED



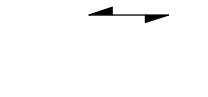
SURFACE - SLOPE UP



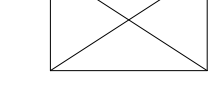
SURFACE - SLOPE DOWN



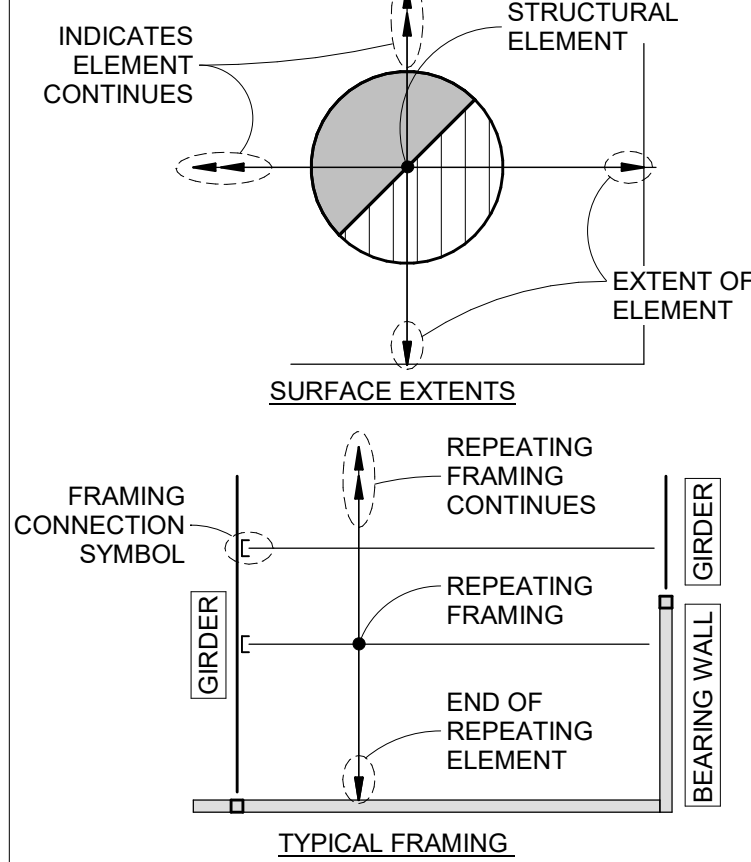
SURFACE - SLOPE
TWO DIRECTIONS



DECKING SPAN
DIRECTION



OPENING IN FLOOR / WALL



INDICATES
ELEMENT
CONTINUES

STRUCTURAL
ELEMENT

EXTENT OF
ELEMENT

SURFACE EXTENTS

REPEATING
FRAMING
CONTINUES

REPEATING
FRAMING

END OF
REPEATING
ELEMENT

FRAMING
CONNECTION
SYMBOL

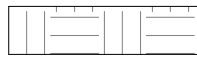
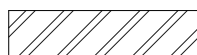
GIRDER

GIRDER

BEARING WALL

TYPICAL FRAMING

STRUCTURAL
MATERIAL PATTERNS

	CONCRETE
	MASONRY
	EARTH
	COMPACTED STRUCTURAL FILL
	STEEL
	SAND OR GROUT
	WOOD SHEATHING - SECTION
	WOOD - PLAN

STRUCTURAL DRAWING INDEX				
SHEET #	SHEET NAME	BID SET	PERMIT SET	ADDENDUM 1
S0.01	COVER SHEET	•	•	•
S0.02	STRUCTURAL NOTES & SPECIAL INSPECTION	•	•	•
S1.00	STRUCTURAL SITE PLAN	•	•	•
S1.01	ROOF FRAMING PLAN	•	•	•
S1.02	PARTIAL ROOF REPAIR PLAN	•	•	•
S8.01	DETAILS	•	•	•
S8.02	DETAILS	•	•	•

CODE SUMMARY:

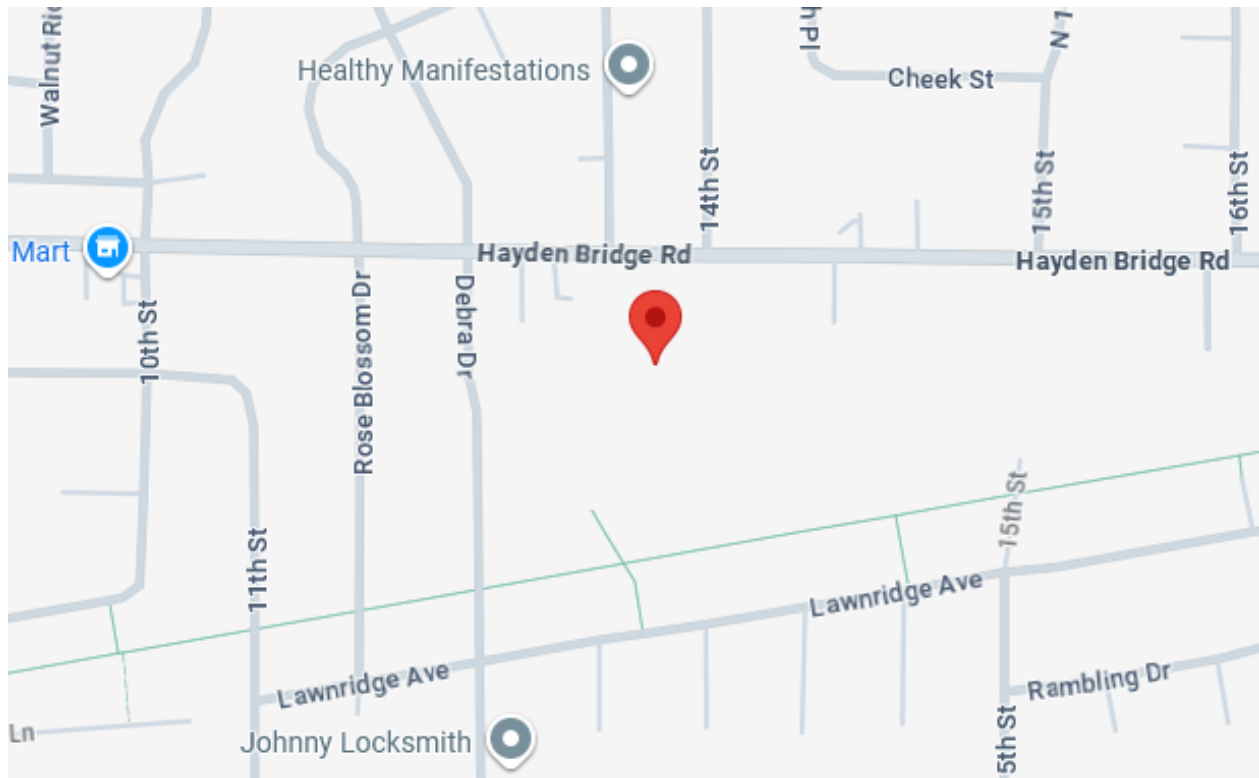
BUILDING CODE: 2022 OSSC
YEAR BUILT: 1955
AREA: 40705 SF
BUILDING CONSTRUCTION TYPE: V-A
OCCUPANCY CLASSIFICATION: E (NO CHANGE)

SCOPE OF WORK:
THE FOLLOWING PLANS ARE FOR THE MANDATORY
REINFORCEMENT OF (E) GLUE LAMINATED BEAMS

PROJECT DESIGN TEAM:

MILLER CONSULTING ENGINEERS, INC
STRUCTURAL ENGINEER OF RECORD

PRIMARY CONTACT: STEVEN DOMITER, STEVEN@MILLER-SE.COM
SECONDARY CONTACT: RON VANDEHEY, RON@MILLER-SE.COM



 **1** VICINITY MAP
S0.01 | NOT TO SCALE



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ELIZABETH PAGE
ELEMENTARY
SCHOOL REPAIR

1300 HAYDEN BRIDGE
ROAD
SPRINGFIELD, OREGON

SPRINGFIELD PUBLIC
SCHOOLS

REV	DESCRIPTION	DATE

DESIGNED BY: SJD
CHECKED BY: RGV
MCE PROJ #: 251372
ISSUE DATE: 03.20.2026
ISSUANCE: PERMIT SET

SHEET CONTENT
COVER SHEET

SHEET

S0.01

STRUCTURAL NOTES

GENERAL NOTES

THESE CONTRACT DOCUMENTS COMPRISED OF PLANS, SPECIFICATIONS, ENGINEERING AND DESIGN WORK ARE INTENDED SOLELY FOR THE PROJECT SPECIFIED HEREIN. MILLER CONSULTING ENGINEERS (MCE) DISCLAIMS ALL LIABILITY IF THESE PLANS AND SPECIFICATIONS OR THE DESIGN, ADVICE AND INSTRUCTIONS ATTENDANT THERETO ARE USED ON ANY PROJECT OR AT ANY LOCATION OTHER THAN THE PROJECT AND LOCATION SPECIFIED HEREIN.

THE CONTRACT DOCUMENTS REPRESENT THE FINISHED STRUCTURE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONFORMANCE TO ALL SAFETY REGULATIONS DURING CONSTRUCTION. THE CONTRACTOR SHALL PROVIDE ALL METHODS, DIRECTION AND RELATED EQUIPMENT NECESSARY TO PERFORM THE WORK.

SHOULD ANY QUESTION ARISE REGARDING THE CONTRACT DOCUMENTS OR SITE CONDITIONS, THE CONTRACTOR SHALL REQUEST INTERPRETATION AND CLARIFICATION FROM THE ENGINEER BEFORE BEGINNING THE PROJECT. THE ABSENCE OF SUCH REQUEST SHALL SIGNIFY THAT THE CONTRACTOR HAS REVIEWED AND FAMILIARIZED THEMSELVES AND HAS COMPLETE COMPREHENSION OF ALL ASPECTS OF THE PROJECT.

THE CONTRACTOR IS RESPONSIBLE FOR VERIFICATION AND CORRELATION OF ALL ITEMS AND WORK NECESSARY FOR COMPLETION OF THE PROJECT AS INDICATED BY THE CONTRACT DOCUMENTS. THE CONTRACT DOCUMENTS ARE STRUCTURAL ONLY AND DO NOT NECESSARILY INDICATE ALL NON-STRUCTURAL PORTIONS OF THE PROJECT INCLUDING, BUT NOT LIMITED TO, PLUMBING, FIRE SUPPRESSION, ELECTRICAL, MECHANICAL, LAND USE, SITE PLANNING, EROSION CONTROL, FLASHING AND WATER-PROOFING. ALL NON-STRUCTURAL PORTIONS OF WORK, AND STRUCTURAL WORK NOTED AS DELEGATED DESIGN IN THE SUBMITTAL SCHEDULE, ARE BEYOND THE SCOPE OF THESE DOCUMENTS AND ARE PROVIDED BY OTHERS. THE CONTRACTOR IS RESPONSIBLE FOR VERIFICATION AND CORRELATION OF ALL NON-STRUCTURAL ITEMS IMPACTED BY THE STRUCTURAL WORK. THESE ITEMS SHALL BE RESTORED TO THEIR ORIGINAL CONDITION OR MODIFIED IN ACCORDANCE WITH THE RECOMMENDATIONS OF A QUALIFIED DESIGN PROFESSIONAL ENGAGED AT THE CONTRACTOR'S OWN EXPENSE.

ANY MATERIAL NOT AS SPECIFIED IN THE CONTRACT DOCUMENTS OR IMPROPER MATERIAL INSTALLATION OR WORKMANSHIP SHALL BE REMOVED AND REPLACED WITH SPECIFIED MATERIAL IN A WORKMANLIKE MANNER AT THE CONTRACTOR'S EXPENSE. IT IS THE CONTRACTOR'S RESPONSIBILITY TO PROTECT ALL MATERIALS FROM DAMAGE THROUGHOUT THE COURSE OF CONSTRUCTION. CHANGES TO THE CONTRACT DOCUMENTS REQUESTED BY THE CONTRACTOR TO ACCOMPLISH THEIR PREFERRED MEANS OR METHOD OF CONSTRUCTION MAY BE AT THE CONTRACTOR'S EXPENSE.

ALL MANUFACTURED PRODUCTS SPECIFIED SHALL BE USED UNLESS AN ALTERNATE IS SUBMITTED AND APPROVED BY THE SEOR. MANUFACTURED PRODUCTS REQUIRING A BUILDING CODE EVALUATION REPORT SHALL HAVE A CURRENT REPORT DEMONSTRATING CONFORMANCE WITH THE APPLICABLE BUILDING CODE, VALID AT THE TIME OF PRODUCT INSTALLATION.

TEMPORARY MEASURES/SHORING

THE CONTRACTOR IS RESPONSIBLE FOR IDENTIFYING ALL INSTANCES WHERE TEMPORARY MEASURES/SHORING ARE REQUIRED, AND SHALL AT THEIR EXPENSE, ENGAGE PROPERLY QUALIFIED PERSONS TO DETERMINE WHERE AND HOW TEMPORARY MEASURES/SHORING ARE REQUIRED. TEMPORARY MEASURES/SHORING SHALL:

- o PROTECT PERSONNEL AND THE PUBLIC.
- o PREVENT SETTLEMENT AND/OR DAMAGE TO THE BUILDING AND/OR EXISTING FACILITIES
- o PROTECT STREETS, WALKWAYS, UTILITIES, AND IMPROVEMENTS.
- o PROTECT ALL EXCAVATIONS AGAINST LOSS OF GROUND OR CAVING OF EMBANKMENTS DURING CONSTRUCTION.

BUILDING CODE

ALL PHASES OF THE WORK SHALL CONFORM TO THE 2022 OREGON STRUCTURAL SPECIALTY CODE (OSSC), BASED ON THE 2021 INTERNATIONAL BUILDING CODE (IBC), INCLUDING ALL REFERENCE STANDARDS, UNLESS NOTED OTHERWISE.

SPECIAL INSPECTION/TESTING

SPECIAL INSPECTION AND/OR TESTING IS REQUIRED IN ACCORDANCE WITH BUILDING CODE SECTION 1704. IT IS THE OWNER'S RESPONSIBILITY TO PROVIDE SPECIAL INSPECTION AND TESTING BY A QUALIFIED THIRD PARTY, SUCH AS A TESTING AGENCY REVIEWED BY THE ENGINEER AND APPROVED BY THE BUILDING OFFICIAL. THE CONTRACTOR SHALL PROVIDE SUFFICIENT NOTICE TO ALLOW SCHEDULING OF SPECIAL INSPECTION.

SPECIAL INSPECTIONS SHALL CONFORM TO SECTION 1705 OF THE BUILDING CODE, CONTRACT DOCUMENTS AND SUBMITTALS. THE SPECIAL INSPECTOR SHALL OBSERVE THE INDICATED WORK FOR COMPLIANCE WITH THE CONSTRUCTION DOCUMENTS. ALL DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE CONTRACTOR FOR CORRECTION AND NOTED IN THE INSPECTION REPORTS. FOR PROJECT REQUIREMENTS REFER TO THE SPECIAL INSPECTION TABLES WITHIN THE CONTRACT DOCUMENTS.

STRUCTURAL OBSERVATION

STRUCTURAL OBSERVATION BY THE SEOR SHALL VERIFY BY PERIODIC VISUAL OBSERVATION THAT THE STRUCTURAL SYSTEM HAS GENERAL CONFORMANCE WITH THE CONSTRUCTION DOCUMENTS AT SIGNIFICANT STAGES OF CONSTRUCTION AND AT COMPLETION AS REQUIRED IN ACCORDANCE WITH BUILDING CODE SECTION 1704.6. THE CONTRACTOR SHALL PROVIDE SUFFICIENT NOTICE TO ALLOW SCHEDULING FOR A STRUCTURAL OBSERVATION. STRUCTURAL OBSERVATION SHALL BE PERFORMED DURING CONSTRUCTION AT THE FOLLOWING TIMES:

1. DURING PRESTRESSING OPERATIONS OF THE FIRST BEAM
2. AFTER COMPLETION OF STRUCTURAL REINFORCING OF ALL BEAMS

SHOP DRAWINGS/SUBMITTALS

SUBMITTALS AND SHOP DRAWINGS FOR SPECIFIC PRODUCTS GENERATED BY THE SUPPLIER SHALL BE SUBMITTED FOR THE ITEMS NOTED IN THE SUBMITTAL SCHEDULE. SHOP DRAWINGS SHALL BE TO SCALE AND SHOW COMPLETE DETAILS AND INSTRUCTIONS FOR FABRICATION AND ASSEMBLY. SHOP DRAWINGS SHALL INDICATE ERECTION AND TEMPORARY BRACING INFORMATION FOR CONTRACTOR'S USE.

THE DESIGN OF ITEMS NOTED IN THE SUBMITTAL SCHEDULE AS DELEGATED DESIGN SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. DOCUMENTS FOR THE DESIGN AND FABRICATION OF DELEGATED DESIGN ITEMS (INCLUDING STRUCTURAL CALCULATIONS AND DRAWINGS) SHALL BEAR THE SEAL AND SIGNATURE OF A LICENSED ENGINEER REGISTERED IN THE STATE THAT THE PROJECT IS BEING CONSTRUCTED.

DEFERRED SUBMITAL ITEMS NOTED IN THE SUBMITTAL SCHEDULE ARE PORTIONS OF THE DESIGN THAT ARE NOT SUBMITTED AT THE TIME OF PERMIT APPLICATION AND ARE REQUIRED TO BE SUBMITTED TO THE BUILDING OFFICIAL.

THE CONTRACTOR SHALL REVIEW AND MODIFY ALL SUBMITTALS AS REQUIRED FOR CONFORMANCE WITH THE CONTRACT DOCUMENTS AND SIGN AND DATE ALL SETS OF THE SUBMITTAL DOCUMENTS PRIOR TO SUBMITTAL TO THE ENGINEER. THE CONTRACTOR SHALL SCHEDULE SUBMITTALS TO ALLOW SUFFICIENT TIME FOR REVIEW AND POSSIBLE RE-SUBMITTAL. WHERE RE-SUBMITTALS ARE REQUIRED, CHANGES FROM THE PREVIOUS SUBMITTAL SHALL BE CLEARLY INDICATED WITH REVISION CLOUDS OR SIMILAR.

SUBMITTAL SCHEDULE				
ITEM	SUBMITTAL	SHOP DRAWINGS	DELEGATE D DESIGN	DEFERRED SUBMITTAL
PRESTRESSING CABLE	X			
PRESTRESSING CABLE ACCESSORIES	X			
FABRICATED STRUCTURAL STEEL ELEMENTS	X	X		
STEEL WELDING PROCEDURES	X			
STRUCTURAL ADHESIVES FOR TIMBER CRACK REPAIR	X			
PULLEY/SHEAVE	X			

STRUCTURAL DESIGN CRITERIA

LIVE LOAD REDUCTION FOR BEAMS AND COLUMNS WAS NOT USED. DESIGN FOR MECHANICAL LOADS INCLUDES ONLY THOSE INDICATED ON STRUCTURAL DRAWINGS. THE FOLLOWING ARE THE DESIGN REQUIREMENTS:

STRUCTURAL DESIGN CRITERIA	
RISK CATEGORY	III
SUPERIMPOSED DEAD LOAD (EXCLUDING STRUCTURAL FRAME SELF WEIGHT)	
ROOF (TOTAL INCLUDING ROOFING/CEILING)	20 PSF
WALLS	8 PSF
ROOF LIVE LOAD	
ROOF LIVE LOAD	20 PSF OR 300LB CONCENTRATED LOAD
ROOF SNOW LOAD	
DESIGN ROOF SNOW LOAD	27 PSF
SNOW DRIFTING	AS NOTED ON PLANS (IF OCCURS)
IMPORTANCE FACTOR	I _s = 1.1
GROUND SNOW LOAD	P _g = 12 PSF
EXPOSURE FACTOR	C _e = 0.9
THERMAL FACTOR	C _t = 1.1

FOUNDATION CRITERIA

CONTRACTOR SHALL VERIFY SOIL CONDITIONS AT THE FOOTINGS AND MAKE ANY NECESSARY CORRECTIONS TO PLACE THEM ON FIRM NATIVE SOIL OR STRUCTURAL FILL COMPACTED TO 95% OF MAXIMUM DENSITY AT OPTIMUM MOISTURE CONTENT PER ASTM D698 (STANDARD PROCTOR) OR ASTM D1557 (MODIFIED PROCTOR). THE COMPACTION SHALL BE VERIFIED BY A QUALIFIED INSPECTOR APPROVED BY THE BUILDING OFFICIAL. COMPACTED STRUCTURAL FILL FOR DEPTHS GREATER THAN 12 INCHES SHALL COMPLY WITH PROVISIONS OF A GEOTECHNICAL REPORT STAMPED BY A LICENSED GEOTECHNICAL ENGINEER REGISTERED IN THE STATE THAT THE PROJECT IS BEING CONSTRUCTED.

CONCRETE

MIXING, BATCHING, TRANSPORTING, PLACING AND CURING OF CONCRETE SHALL BE IN ACCORDANCE WITH THE AMERICAN CONCRETE INSTITUTE, ACI 318, ACI 301 AND BUILDING CODE CHAPTER 19.

ALL CONCRETE WITH REINFORCEMENT SHALL HAVE NO CHLORINE OR CHLORIDES. NO WATER MAY BE ADDED TO THE CONCRETE IN THE FIELD UNLESS SPECIFICALLY APPROVED IN WRITING BY THE CONCRETE SUPPLIER IN CONJUNCTION WITH THE REVIEWED CONCRETE MIX DESIGN.

SLEEVES, OPENINGS, CONDUIT AND OTHER EMBEDDED ITEMS NOT SHOWN ON THE STRUCTURAL DRAWINGS SHALL BE REVIEWED BY THE SEOR BEFORE PLACING CONCRETE.

WHERE NEW CONCRETE IS PLACED AGAINST EXISTING CONCRETE, THE EXISTING CONCRETE SURFACE SHALL BE CLEANED AND ROUGHENED TO A MINIMUM 1/4" AMPLITUDE.

DESIGN OF FORMWORK, SHORING AND RE-SHORING DESIGN IS THE RESPONSIBILITY OF THE CONTRACTOR AND SHALL CONFORM TO THE MOST RECENT EDITION OF ACI 347R.

CONCRETE MIX DESIGN REQUIREMENTS:

CONCRETE MIX DESIGN REQUIREMENTS				
MEMBER TYPE/LOCATION	COMPRESSIVE STRENGTH AT 28 DAYS, f _c (PSI)	MAXIMUM AGGREGAT E SIZE	MAXIMU M W/C/M RATIO	EXPOSURE CLASS
FOOTINGS AND MAT FOUNDATIONS	4000	1"	0.50	F0, S0, W1, C0
INTERIOR SLAB ON GRADE	3000	1"	0.45	F0, S0, W0, C0

CONCRETE MIX AIR CONTENT REQUIREMENTS:

AIR ENTRAINMENT SHALL BE PROVIDED IN ACCORDANCE WITH THE MAXIMUM AGGREGATE SIZE AND EXPOSURE CLASS OF THE MIX DESIGN SPECIFIED. THE AIR-ENTRAINING ADMIXTURE SHALL CONFORM TO ASTM C260. MIX DESIGNS SPECIFIED AS EXPOSURE CLASS F0 DO NOT REQUIRE AIR ENTRAINMENT.

CONCRETE MIX AIR CONTENT REQUIREMENTS		
MAXIMUM AGGREGATE SIZE	CONCRETE SUBJECT TO FREEZE/THAW CYCLES (EXPOSURE CLASS F1)	CONCRETE SUBJECT TO CONTINUOUS MOISTURE AND/OR DEICING CHEMICALS (EXPOSURE CLASS F2, F3)
3/8"	6%	7.5%
1/2"	5.5%	7%
3/4"	5%	6%
1"	4.5%	6%
1-1/2"	4.5%	5.5%

CONCRETE REINFORCING STEEL

ALL REINFORCING STEEL SHALL BE DEFORMED BARS PER ASTM A615 OR A706, GRADE 60 UNLESS NOTED OTHERWISE.

ALL REINFORCING STEEL SHALL BE SUPPORTED ON WELL-CURED CONCRETE BLOCKS, PLASTIC CHAIRS OR METAL CHAIRS, AS SPECIFIED BY THE CRSI MANUAL OF STANDARD PRACTICE, MSP-1. REINFORCING SHALL BE SECURELY TIED IN PLACE WITH #16 ANNEALED IRON WIRE PRIOR TO PLACING CONCRETE. REINFORCING STEEL SHALL BE DETAILED IN ACCORDANCE WITH THE *GUIDE TO PRESENTING REINFORCING STEEL DESIGN DETAILS*, ACI 315R-18. BAR LENGTHS DETAILED ARE OUT TO OUT AND DO NOT INCLUDE ALLOWANCE FOR HOOKS OR BENDS.

WELDING OR TACK WELDING OF REINFORCING BARS TO OTHER BARS OR EMBEDDED STEEL ITEMS IS PROHIBITED EXCEPT WHERE SPECIFICALLY NOTED ON THE DRAWINGS. ANY WELDING OF REINFORCEMENT NOT SHOWN ON THE DRAWINGS SHALL BE SUBMITTED FOR REVIEW AND APPROVAL BY THE SEOR. WELDING SHALL BE PERFORMED BY AWS CERTIFIED WELDERS WITH PROCEDURES CONFORMING TO AWS D1.4.

- o WELDABLE REINFORCING STEEL: ASTM A706
- o WELDING ELECTRODES: E9018, UNLESS NOTED OTHERWISE.

SPECIFIED CONCRETE COVER SHALL BE MAINTAINED TO ALL REINFORCEMENT AT CONCRETE REVEALS AND INSETS.

POST INSTALLED CONCRETE ANCHORS:

POST INSTALLED CONCRETE ANCHORS SHALL CONSIST OF THE FOLLOWING UNLESS NOTED OTHERWISE:

TYPICAL POST INSTALLED CONCRETE ANCHOR SCHEDULE	
ANCHOR TYPE	SPECIFIED ANCHOR
ADHESIVE REBAR DOWELS	A615 OR A706 GR 60 W/ SIMPSON SET-3G

ALL POST INSTALLED CONCRETE ANCHORS SHALL BE INSTALLED IN CONFORMANCE WITH THE MANUFACTURER'S INSTALLATION CRITERIA AND PER THE BUILDING CODE EVALUATION REPORT. ANCHOR INSTALLERS SHALL BE QUALIFIED AS REQUIRED BY JURISDICTION REQUIREMENTS.

ADHESIVE ANCHORS SHALL BE INSTALLED IN CONCRETE HAVING A MINIMUM AGE OF 21 DAYS.

STRUCTURAL STEEL

DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL SHALL CONFORM TO THE SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS (AISC 360), QUALITY ASSURANCE (QA) IS REQUIRED FOR STRUCTURAL STEEL ITEMS PER AISC 360 AND 341 UNLESS SPECIFICALLY NOTED OTHERWISE. QUALITY CONTROL (QC) TO BE PROVIDED BY THE FABRICATOR, ERECTOR OR OTHER RESPONSIBLE CONTRACTOR AS APPLICABLE. CONTRACTOR AND SPECIAL INSPECTOR TO DOCUMENT QUALITY CONTROL AS REQUIRED IN AISC 360 SECTION N3 AND AISC 341 SECTION J2.

ALL STRUCTURAL AND MISCELLANEOUS STEEL SHALL CONFORM TO THE FOLLOWING MATERIAL STANDARDS:

STRUCTURAL STEEL MATERIAL STANDARDS		
SHAPE	ASTM SPECIFICATION	YIELD STRESS
ALL OTHER SECTIONS AND PL	A36	36 KSI

ALL STRUCTURAL STEEL SHALL HAVE ONE SHOP COAT OF PRIMER. ALL EXPOSED STRUCTURAL STEEL AND FASTENINGS TO HAVE ONE FINISH COAT OF RUST INHIBITING PAINT, COLOR BY OWNER.

STRUCTURAL STEEL BOLTING

ALL BOLTS SHALL BE ASTM A325 WITH MATCHING NUTS TIGHTENED TO A SNUG TIGHT CONDITION.

STRUCTURAL STEEL WELDING

ALL WELDING SHALL CONFORM TO AMERICAN WELDING SOCIETY (AWS) D1.1 USING E70XX ELECTRODES. WELDING SHALL BE PERFORMED BY WELDERS CERTIFIED BY AWS FOR THE WELD TYPES SPECIFIED. WELD LENGTHS SHOWN ARE EFFECTIVE AS SPECIFIED PER THE SPECIFICATIONS OF THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC), WHERE WELD LENGTHS ARE NOT SHOWN, THE WELD SHALL BE FULL LENGTH OF MEMBERS BEING JOINED. FIELD WELDING SYMBOLS HAVE NOT NECESSARILY BEEN INDICATED ON THE DRAWINGS. WHERE SHOWN, PROPER FIELD WELDING PER AWS D1.1 SHALL BE USED. WHERE NO FIELD WELDING SYMBOLS ARE SHOWN, IT IS THE CONTRACTOR'S RESPONSIBILITY TO COORDINATE THE USE OF SHOP AND FIELD WELDS.

ALL PARTIAL JOINT PENETRATION GROOVE WELD SIZES SHOWN ON THE DRAWINGS REFER TO THE EFFECTIVE THROAT THICKNESS. ALL BUTT WELDS SHALL BE FULL PENETRATION WELDS UNLESS NOTED OTHERWISE ON STRUCTURAL DRAWINGS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE JOINT PREPARATION AND WELDING PROCEDURES THAT INCLUDE, BUT ARE NOT LIMITED TO: REQUIRED ROOT OPENINGS, ROOT FACE DIMENSIONS, GROOVE ANGLES, BACKING BARS, COPEs, SURFACE ROUGHNESS VALUES AND TAPERS AND TRANSITIONS OF UNEQUAL PARTS.

ALL WELDS SHALL RECEIVE THE SAME FINISH COATING AS THE MEMBER BEING WELDED, ANY COATINGS ON THE STRUCTURAL AFFECTED BY WELDING SHALL BE REPAIRED AS REQUIRED.

POST-TENSIONING CABLES FOR WOOD BEAM STRENGTHENING

POST-TENSIONING CABLES SHALL MEET THE REQUIREMENTS SET FORTH IN THE *SPECIFICATIONS FOR UNBONDED SINGLE STRAND TENDONS* (LATEST EDITION) AND THE *SPECIFICATION FOR SEVEN-WIRE PRESTRESSING STEEL STRAND FOR BARRIER CABLE APPLICATIONS* PUBLISHED BY THE POST-TENSIONING INSTITUTE (PTI).

POST-TENSIONING CABLES SHALL BE INSTALLED TO THE JACKING PRESTRESS FORCE AS SPECIFIED ON THE PLANS. ANCHORAGES, COUPLERS AND FITTINGS SHALL MEET THE FOLLOWING:

- HAVE A BUILDING CODE EVALUATION REPORT
- DEVELOP A MINIMUM OF 100% OF THE ULTIMATE STRENGTH OF THE CABLE
- HAVE A GALVANIZED COATING

CABLES SHALL BE 1/2" DIAMETER CONFORMING TO ASTM A416, GRADE 270 FOR SEVEN-WIRE LOW RELAXATION STRAND. CABLE SHALL HAVE A ZINC GALVANIZED COATING CONFORMING TO ASTM A475

EACH STRESSING JACK AND GAUGE COMBINATION SHALL BE CALIBRATED AS A UNIT TO KNOWN STANDARDS AT INTERVALS NOT EXCEEDING 6 MONTHS. COPIES OF THE CALIBRATION CERTIFICATES FOR EACH JACK AND GAUGE COMBINATION BEING USED SHALL BE SUBMITTED TO THE SEOR FOR REVIEW.

CABLE INSTALLATION AND STRESSING OPERATIONS SHALL BE PERFORMED UNDER THE IMMEDIATE CONTROL OF A PERSON WHO IS A PTI CERTIFIED INSTALLER EXPERIENCED IN THIS TYPE OF WORK.

WOOD BEAM REPAIRS - SPECIAL INSPECTIONS			
SYSTEM OR MATERIAL	FREQUENCY		REMARKS
	CONTINUOUS	PERIODIC	
POST-TENSIONED CABLE PLACEMENT		X	REINFORCING TO COMPLY WITH ALL CODE PROTECTION, SPACING AND TOLERANCE LIMITS.
POST-TENSIONED CABLE GRADE		X	
APPLICATION OF PRESTRESSING FORCES FOR POST-TENSIONED CABLES	X		DOCUMENT APPLIED FORCE AND ELONGATION.
EPOXY CRACK INJECTION AND INSTALLATION OF FASTENERS FOR REPAIR OF BEAM CRACKS	X		REFERENCE INSTALLATION SEQUENCE DETAIL 4/S8.01

STEEL - SPECIAL INSPECTIONS				
SYSTEM OR MATERIAL	CODE OR STANDARD REFERENCE	FREQUENCY / INSPECTION		REMARKS
		CONTINUOUS/ PERFORM	PERIODIC/ OBSERVE	
STEEL FABRICATION				
MATERIAL VERIFICATION OF STRUCTURAL STEEL COMPONENTS	ASTM A6 ASTM STANDARDS SPECIFIED IN CONSTRUCTION DOCUMENTS AISC 360 A3.1 AISC 360 N3.2		X	CERTIFIED MILL TEST REPORTS
MATERIAL VERIFICATION OF WELD FILLER METALS	AISC 360 A3.5 AISC 360 N3.2 APPLICABLE AWS A5 DOCUMENTS		X	MANUFACTURER'S CERTIFIED TEST REPORTS
STRUCTURAL STEEL WELDING				
VERIFYING USE OF PROPER WPS'S	AISC 360 N3.2			RETAIN A RECORD OF WELDING PROCEDURE SPECIFICATIONS
VERIFYING WELDER QUALIFICATIONS	AWS D1.1		X	RETAIN A RECORD OF QUALIFICATION CARDS
COMPLETE AND PARTIAL JOINT PENETRATION GROOVE WELDS	AWS D1.1 CLAUSE 6	X		
SINGLE PASS FILLET WELDS LESS THAN OR EQUAL TO 5/16"			X	

WOOD FRAMING

ALL WOOD STRUCTURAL GRADES SHALL BE PER TYPICAL WOOD FRAMING SCHEDULE UNLESS NOTED OTHERWISE.

TYPICAL WOOD FRAMING SCHEDULE	
MEMBER	VISUALLY GRADED (MIN)
COLUMNS	DFL #1
BLOCKING	DFL CONSTRUCTION
NON-STRUCTURAL FRAMING	DFL CONSTRUCTION

ALL WOOD PLATES IN CONTACT WITH CONCRETE OR MASONRY SHALL BE PRESSURE TREATED UNLESS NOTED OTHERWISE. ALL COLUMNS SHALL HAVE SOLID BLOCKING FOR THE FULL COLUMN AREA TO SUPPORTING MEMBERS BELOW. COLUMNS SHALL ALIGN THROUGH ALL FLOORS TO THE FOUNDATION. ALL SAWN LUMBER SHALL HAVE A MOISTURE CONTENT LESS THAN 19% (S-DRY) PRIOR TO INSTALLATION OF NON-STRUCTURAL COMPONENTS.

TYPICAL WOOD FRAMING CONNECTIONS SHALL BE AS FOLLOWS UNLESS NOTED OTHERWISE:

- o BUILT-UP STUD PACK FASTENING — SEE 3/S8.02

WOOD FRAMING CONNECTIONS

PREDRILL FOR ALL SCREWS INTO EXISTING LUMBER TO ¾ OF THE ROOT THREAD DIAMETER OF THE SCREW. ALL WOOD SCREWS TO BE MANUFACTURED BY SIMPSON STRONG-TIE. ALTERNATE CONNECTORS MAY ONLY BE USED WITH PRIOR APPROVAL BY ENGINEER OF RECORD.

ALL BOLTS IN WOOD CONNECTIONS SHALL BE ASTM A325. BOLT HOLES IN WOOD SHALL BE 1/32" LARGER THAN THE BOLT. REFER TO SECTION 12.1 OF THE NDS FOR ADDITIONAL INSTALLATION INSTRUCTIONS OF DOWEL-TYPE FASTENERS.

PREFABRICATED METAL TIMBER CONNECTORS SHALL BE MANUFACTURED BY SIMPSON STRONG-TIE, UNLESS NOTED OTHERWISE. ALL PREFABRICATED METAL TIMBER CONNECTORS AND HANGERS SHALL BE FULLY BOLTED, NAILED, AND/OR SCREWED AS INDICATED BY MANUFACTURER, UNLESS NOTED OTHERWISE. ALL CONNECTORS, HANGERS AND FASTENERS SHALL BE CORROSION PROTECTED PER MANUFACTURER'S RECOMMENDATIONS.

ADHESIVE

PORTABLE EQUIPMENT SHALL BE USED EMPLOYING POSITIVE DISPLACEMENT METERING PUMPS WHICH ARE INTERLOCKED TO PROVIDE RESIN DELIVERY IN PROPORTIONS REQUIRED BY THE COMPOSITION OF THE TWO COMPONENT INJECTION ADHESIVE. MIXING OF THE ADHESIVE SHALL BE ACCOMPLISHED IN LINE WITH A STATIC MIXER. THE EQUIPMENT SHALL BE DRIVEN BY AIR OR ELECTRIC POWER. THE INJECTION EQUIPMENT SHALL BE CAPABLE OF MAINTAINING THE VOLUME RATIO OF THE SPECIFIED ADHESIVE COMPONENTS DURING UNINTERRUPTED FLOW WITH A TOLERANCE OF +/- 5% PRESSURE CONTROL. THE INJECTION EQUIPMENT SHALL HAVE AN AUTOMATIC PRESSURE CONTROL DEVICE THAT ALLOWS OPERATION AT ANY PRESET PRESSURE WITHIN ITS OPERATING RANGE. THE INJECTION EQUIPMENT SHALL HAVE AN AUTOMATIC SHUT-OFF FEATURE TO PREVENT DELIVERY OF ONE ADHESIVE COMPONENT ONLY, WHEN THE OTHER COMPONENT SUPPLY IS EXHAUSTED.



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ELIZABETH PAGE
ELEMENTARY
SCHOOL REPAIR

1300 HAYDEN BRIDGE
ROAD
SPRINGFIELD, OREGON

SPRINGFIELD PUBLIC
SCHOOLS

REV	DESCRIPTION	DATE
-----	-------------	------

DESIGNED BY: SJD
CHECKED BY: RGV
MCE PROJ #: 251372
ISSUE DATE: 03.20.2026
ISSUANCE: PERMIT SET

SHEET CONTENT

STRUCTURAL NOTES &
SPECIAL INSPECTION

SHEET

S0.02

HAYDEN BRIDGE ROAD

PL 601' +/-

AREA OF WORK

PL 675' +/-

PL 787' +/-

PL 605' +/-



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SHEET CONTENT
STRUCTURAL SITE PLAN

SHEET

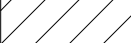
S1.00



1

STRUCTURAL SITE PLAN

S1.00 | 1" = 50'-0"

- GENERAL SHEET NOTES:**
- G1. SEE S0.02 AND SUBSEQUENT SHEETS FOR STRUCTURAL NOTES AND SPECIAL INSPECTION REQUIREMENTS
 - G2. FIELD VERIFY EXISTING CONDITIONS PRIOR TO DEMOLITION OR PURCHASE OF MATERIALS
 - G3. THESE PLANS ARE STRUCTURAL ONLY - SIDING, FLASHING, MOISTURE PROTECTION, ETC ARE DESIGNED BY OTHERS
 - G4. PREDRILL ALL HOLES IN EXISTING LUMBER
 - G5.  ESTIMATED LOCATION OF EXISTING CRACK/CHECK IN BEAM. TO BE REPAIRED PER 4/S8.01 VIF LOCATIONS



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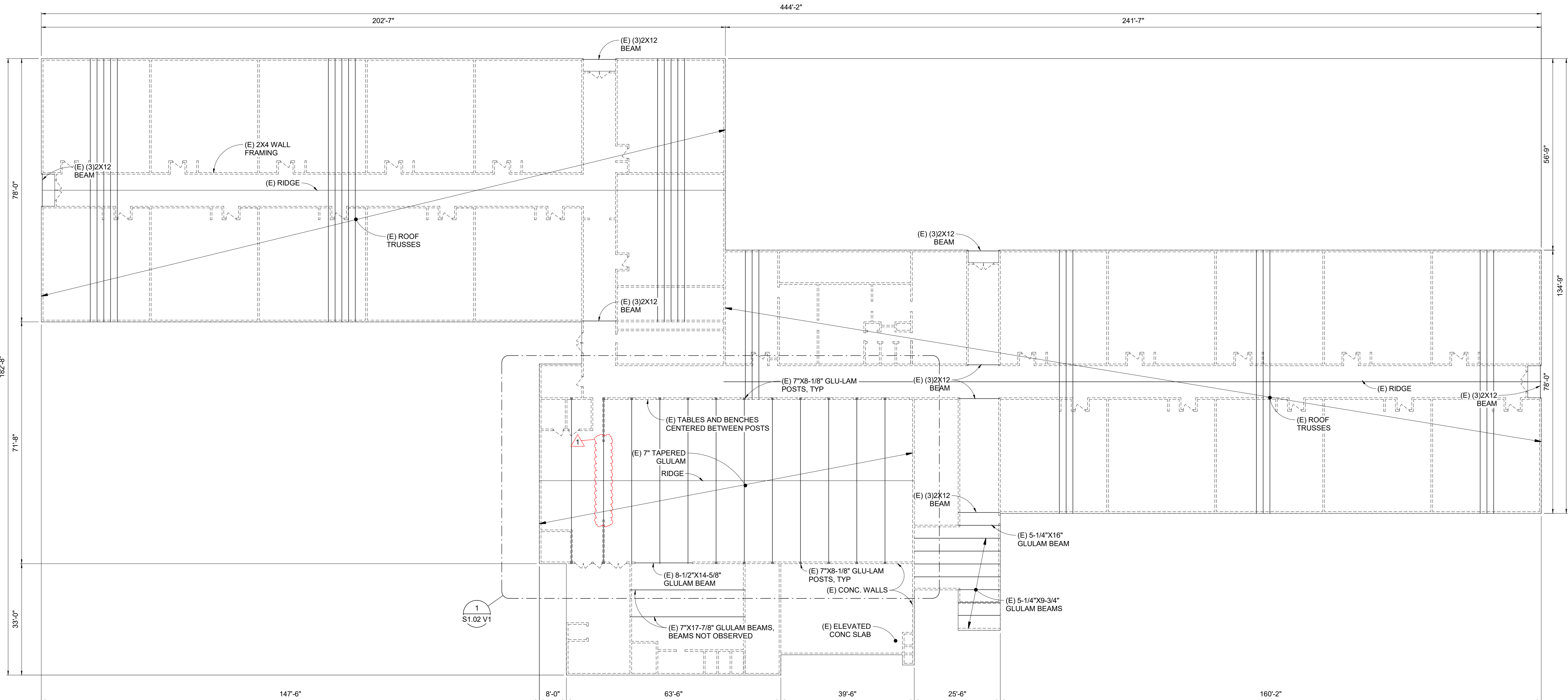
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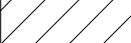
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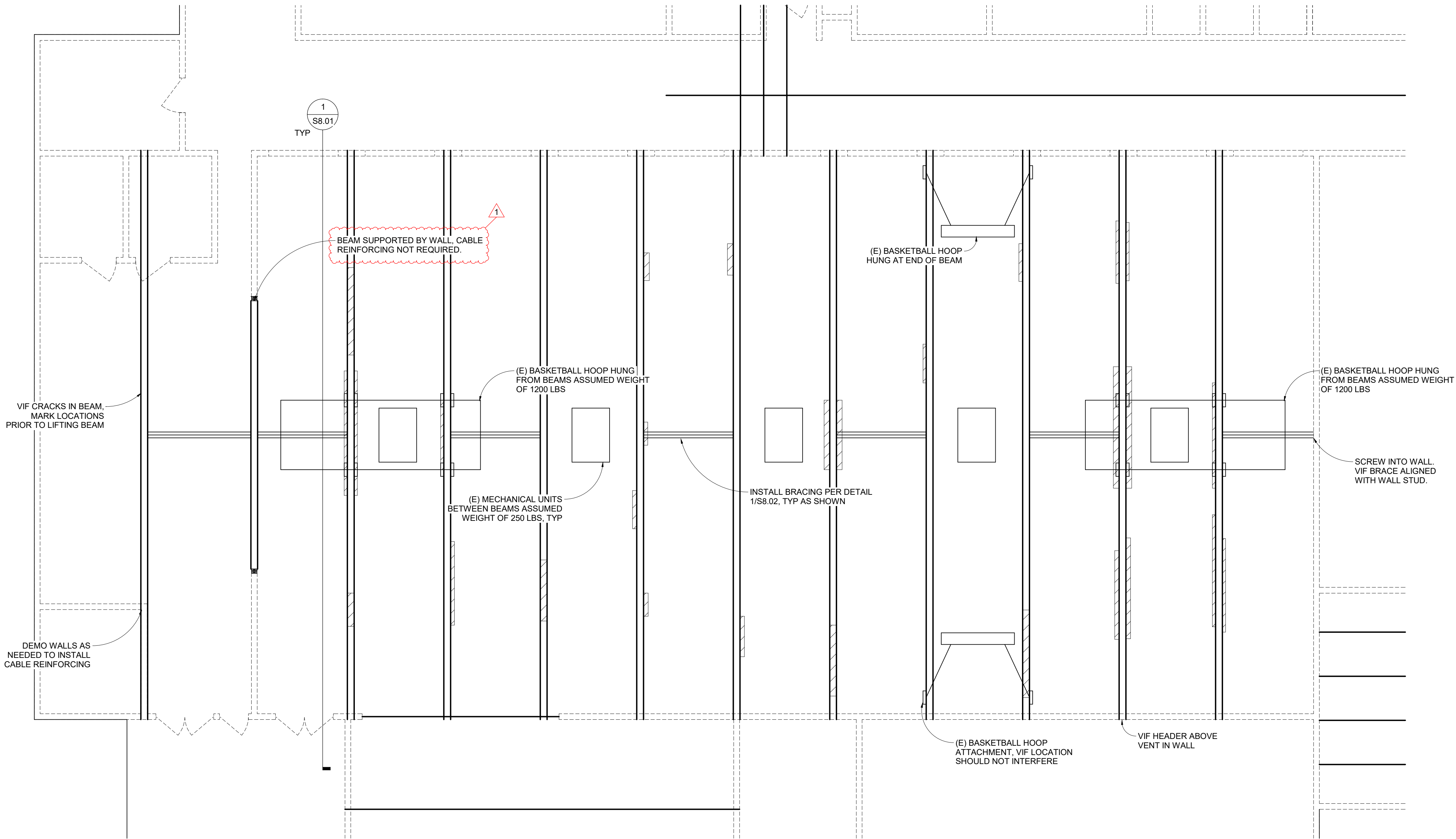
SHEET CONTENT
ROOF FRAMING PLAN

SHEET

S1.01



- GENERAL SHEET NOTES:**
- G1. SEE S0.02 AND SUBSEQUENT SHEETS FOR STRUCTURAL NOTES AND SPECIAL INSPECTION REQUIREMENTS
 - G2. FIELD VERIFY EXISTING CONDITIONS PRIOR TO DEMOLITION OR PURCHASE OF MATERIALS
 - G3. THESE PLANS ARE STRUCTURAL ONLY - SIDING, FLASHING, MOISTURE PROTECTION, ETC ARE DESIGNED BY OTHERS
 - G4. PREDRILL ALL HOLES IN EXISTING LUMBER
 - G5.  ESTIMATED LOCATION OF EXISTING CRACK/CHECK IN BEAM. TO BE REPAIRED PER 4/S8.01 VIF LOCATIONS



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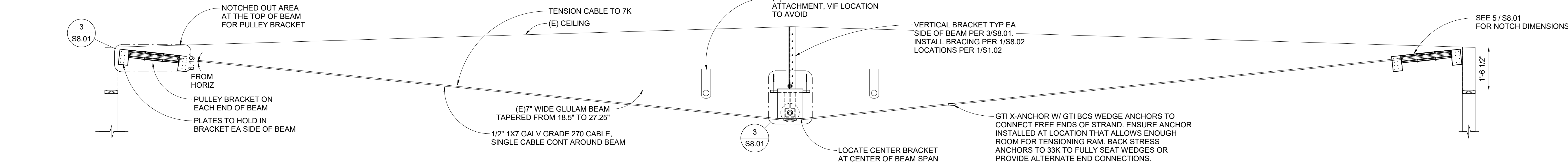
REV	DESCRIPTION	DATE
1	Removed FTG	04-07-2026

DESIGNED BY: SJD
CHECKED BY: RGV
MCE PROJ #: 251372
ISSUE DATE: 03.20.2026
ISSUANCE: PERMIT SET

SHEET CONTENT
PARTIAL ROOF REPAIR
PLAN

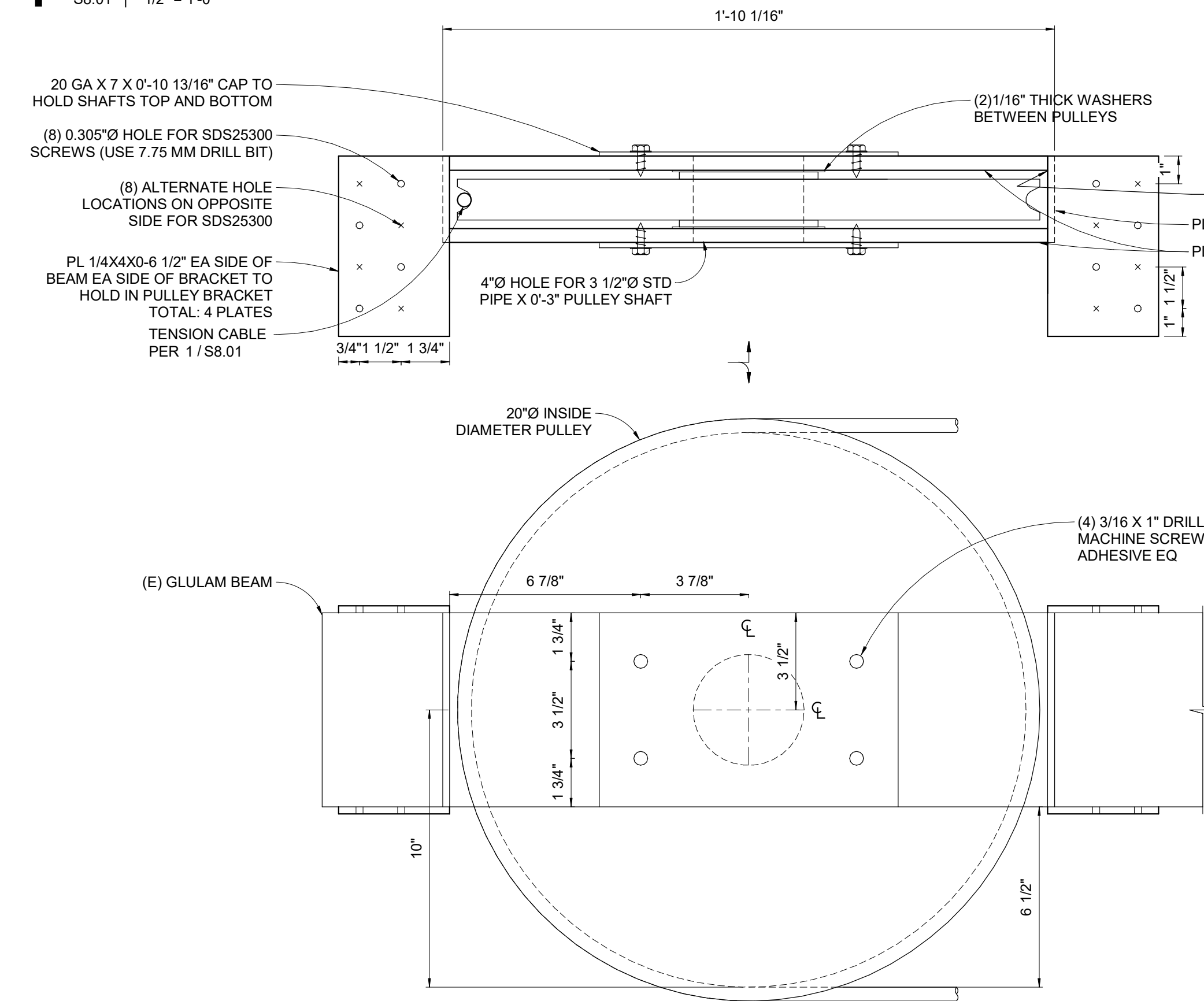
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S1.02



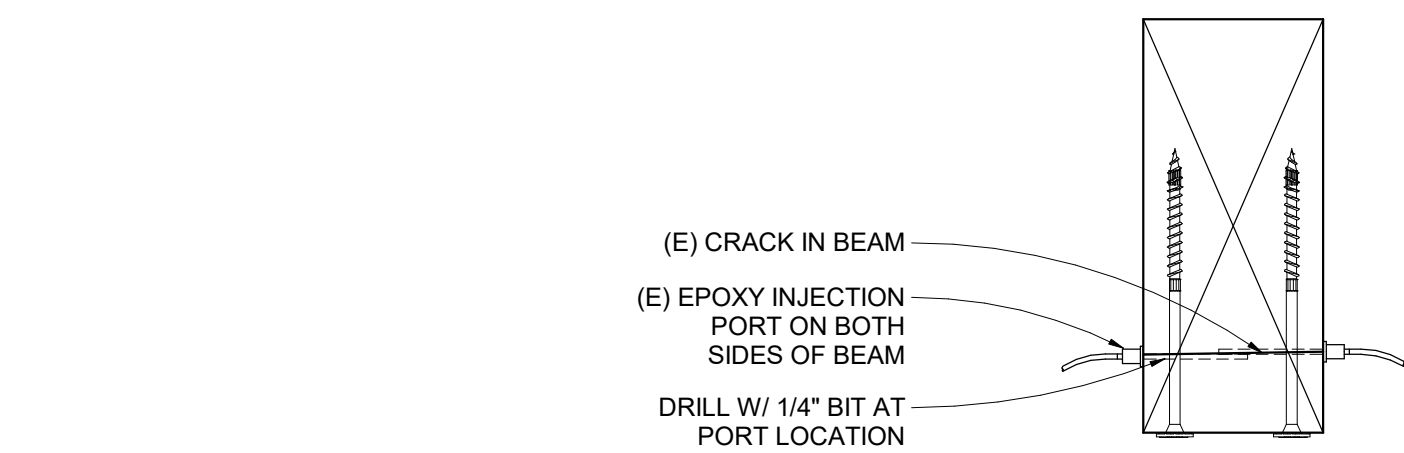
1 BEAM TENSION CABLE REINFORCEMENT ELEVATION

S8.01 | 1/2" = 1'-0"

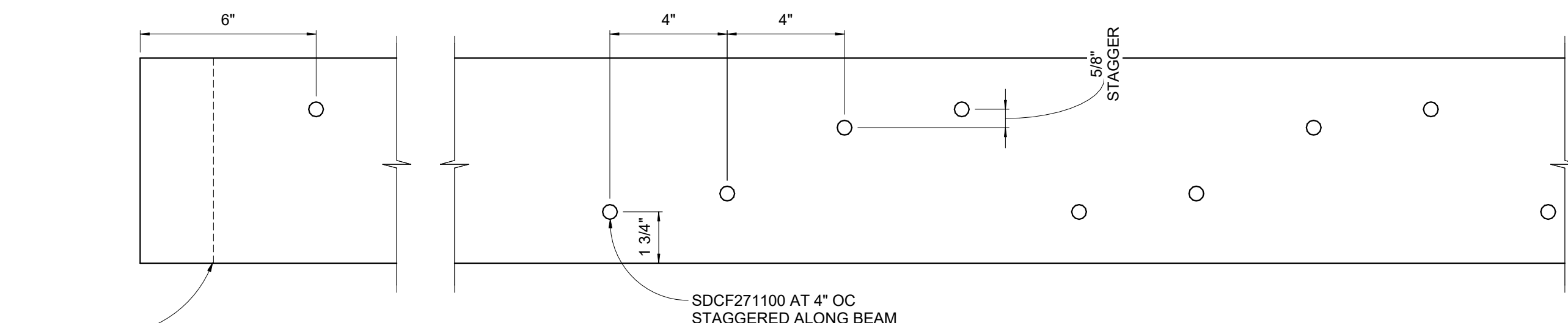


2 END BRACKET

S8.01 | 3" = 1'-0"



CROSS SECTION OF BEAM (CRACK INJECTION)



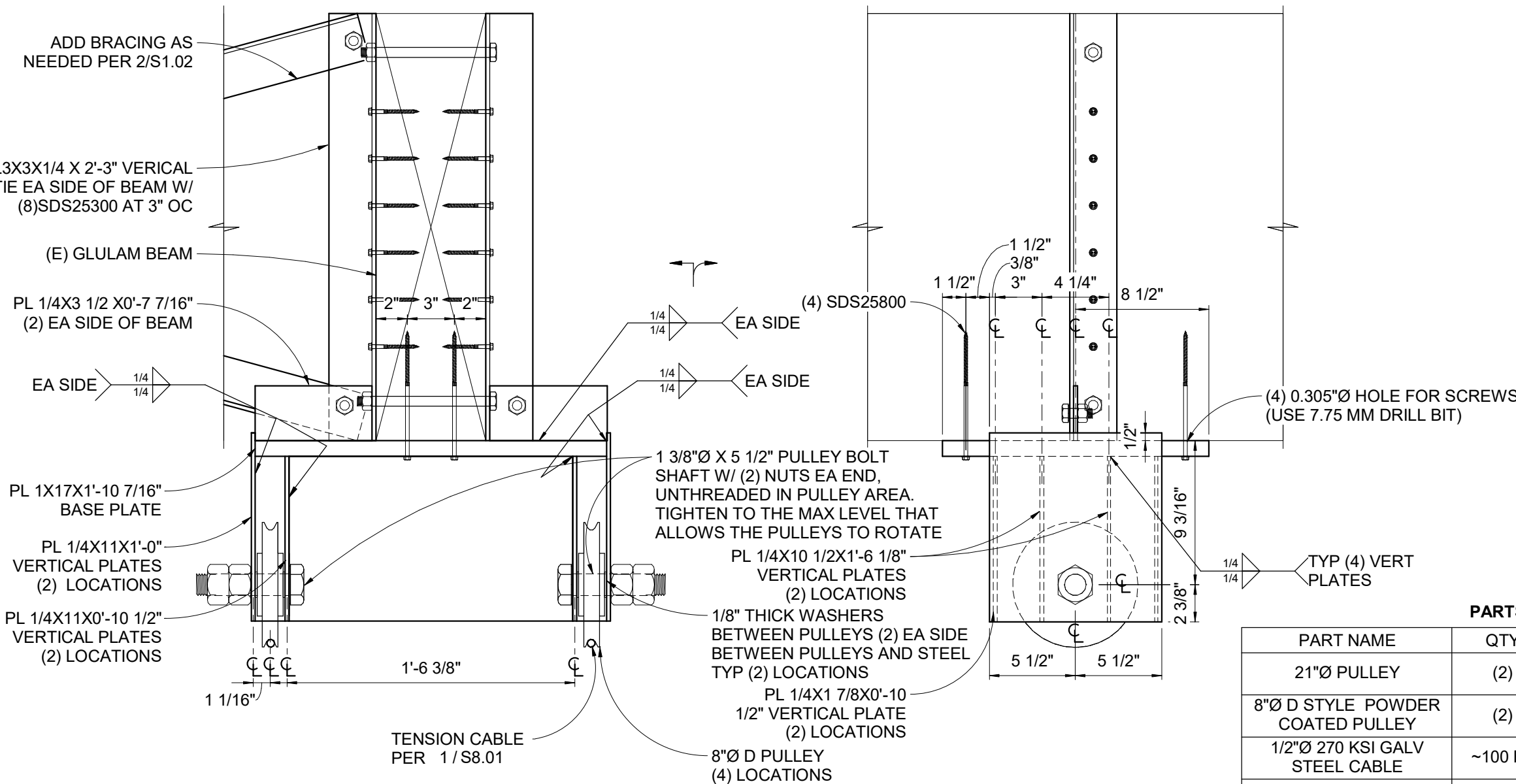
BOTTOM VIEW OF BEAM (SCREW INSTALLATION)

4 BEAM REPAIR PROCEDURE

S8.01 | 3" = 1'-0"

3 CENTER BRACKET

S8.01 | 1 1/2" = 1'-0"



PARTS LIST (PER BEAM)

PART NAME	QTY	MANUF	CAPACITY
21"Ø PULLEY	(2)	JEAMAR USA	38 K
8"Ø D STYLE POWDER COATED PULLEY	(2)	MCMaster-CARR	7 K
1/2"Ø 270 KSI GALV STEEL CABLE	~100 FT	GTI	270 KSI
GTI X-ANCHOR	(1)	GTI	270 KSI
1 3/8"Ø X 5 1/2" BOLT 4" GRIP LENGTH	(2)	N/A	55 KSI
3 1/2 Ø STD PIPE X 5 1/8" SHAFT	(2)	N/A	35 KSI
BCS WEDGE ANCHOR ASSEMBLY	(2)	GTI	270 KSI
SDS25800	(4)	SIMPSON	N/A
SDS25300	(32)	SIMPSON	N/A
SDCF271100	~(143)	SIMPSON	N/A

NOTE: SIMILAR MATERIALS TO BE USED WITH PRIOR APPROVAL BY THE ENGINEER OF RECORD

STEP 1:
VERIFY ESTIMATED CRACK LOCATIONS SHOWN ON PLAN. MARK ANY CRACKING ON SIDE OR BOTTOM OF BEAM BEFORE JACKING UP BEAM. SAND SURFACE AROUND CRACK TO REMOVE PAINT OR OTHER COATING. CLEAN AREA AROUND CRACK TO ALLOW BONDING TO WOOD SURFACE. USE CLEAN COMPRESSED AIR TO BLOW OUT THE CRACK AND REMOVE ANY DUST OR DEBRIS.

STEP 2:
INSTALL HARDWARE SHOWN ON 2/S8.01 AND 3/S8.01

STEP 3:
INSTALL CABLE SHOWN ON 1/S8.01 AND TENSION PER PLAN. WAIT ONE WEEK FOR BEAM TO LIFT.

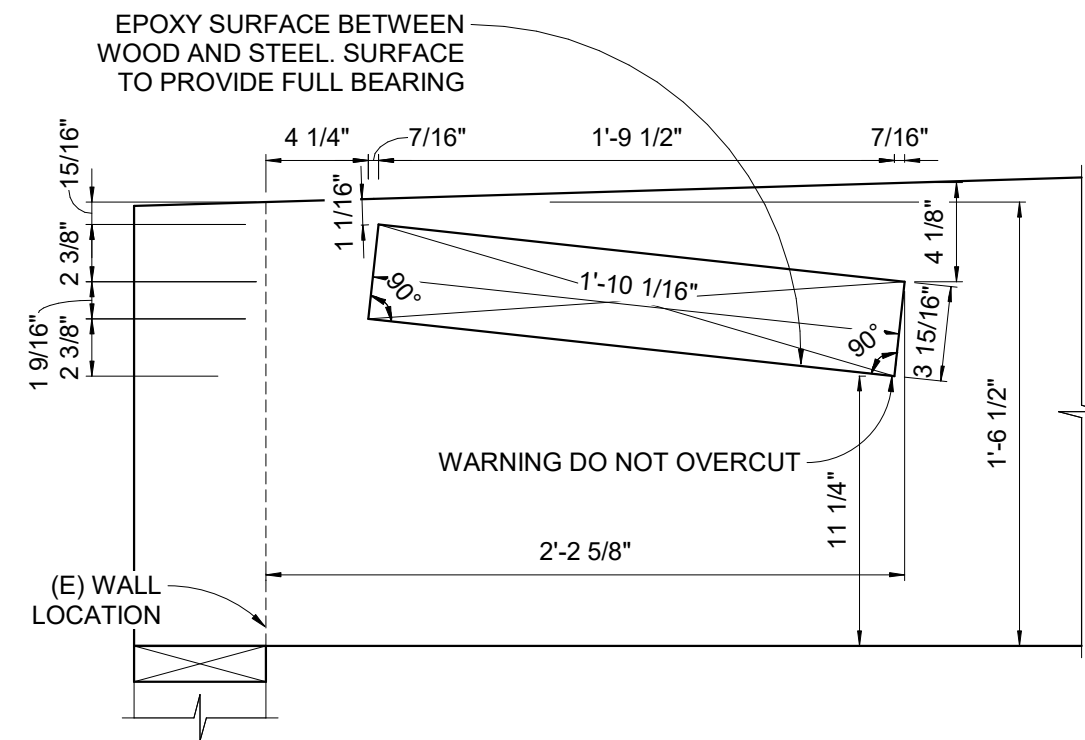
STEP 4:
PRE-DRILL AND INSTALL SCREWS TO CLAMP BEAM TOGETHER. SCREWS MUST BE INSTALLED WITHIN CURE TIME OF INJECTION EPOXY IN SAME AREA OF BEAM.

STEP 5:
FILL MARKED AND CLEANED CRACKS WITH EPOXY. PRIOR TO EPOXY INJECTION, PROTECT ALL ADJACENT SURFACES FROM UNINTENDED CONTACT.
1) IDENTIFY PORT LOCATIONS ALONG CRACK. THERE SHOULD BE ONE PORT ON EACH END OF THE CRACK AND REPEATED EVERY 8" ALONG CRACK. DRILL WITH 1/4" BIT APPROXIMATELY HALF WAY INTO BEAM AT EACH IDENTIFIED LOCATION.
2) APPLY A SMALL AMOUNT OF GELMAGIC PASTE AROUND THE PORT BASE AND STICK AROUND EACH PREDRILLED LOCATION.
3) GENEROUSLY WORK GELMAGIC PASTE OVER THE ENTIRE LENGTH OF THE CRACK. IF CRACK IS PRESENT ON OPPOSITE SIDE OF BEAM BOTH SIDES MUST BE COVERED. MOUND THE PASTE AT LEAST 1/4" THICK AND 1" OUT FROM BASE OF PORT. MOUND 3/16" THICK AND 1" WIDE ALONG LENGTH OF CRACK.
4) ONCE OUTER PASTE HAS CURED START INJECTING T-88 EPOXY AT THE END OF THE CRACK OR LOWEST INJECTION PORT. MAKE SURE THE HEADS OF ALL PORTS ARE IN THE OPEN POSITION. CONTINUE UNTIL EPOXY EMERGES FROM THE ADJACENT PORT. AS SOON AS EPOXY EMERGES FROM THE ADJACENT PORT THE INJECTOR SHOULD BE TRANSFERRED TO THE NEXT PORT AND THE PREVIOUS PORT SEALED. CONTINUE UNTIL EVERY PORT HAS REFUSED EPOXY AND THE CRACK IS COMPLETELY FILLED.
5) GIVE THE T-88 INJECTION EPOXY SUFFICIENT TIME TO CURE. REMOVE THE INJECTION PORTS AND GELMAGIC PASTE. ENSURE NO RUN OUT OR SMEARING OF THE INJECTION EPOXY ONCE OUTER GEL IS REMOVED.

STEP 6:
SAND, RE-COAT OR REPAINT BEAMS TO MATCH (E) CONDITIONS

5 NOTCH DIMENSIONS

S8.01 | 1 1/2" = 1'-0"



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ELIZABETH PAGE ELEMENTARY SCHOOL REPAIR

1300 HAYDEN BRIDGE
ROAD
SPRINGFIELD, OREGON

SPRINGFIELD PUBLIC
SCHOOLS

REV	DESCRIPTION	DATE
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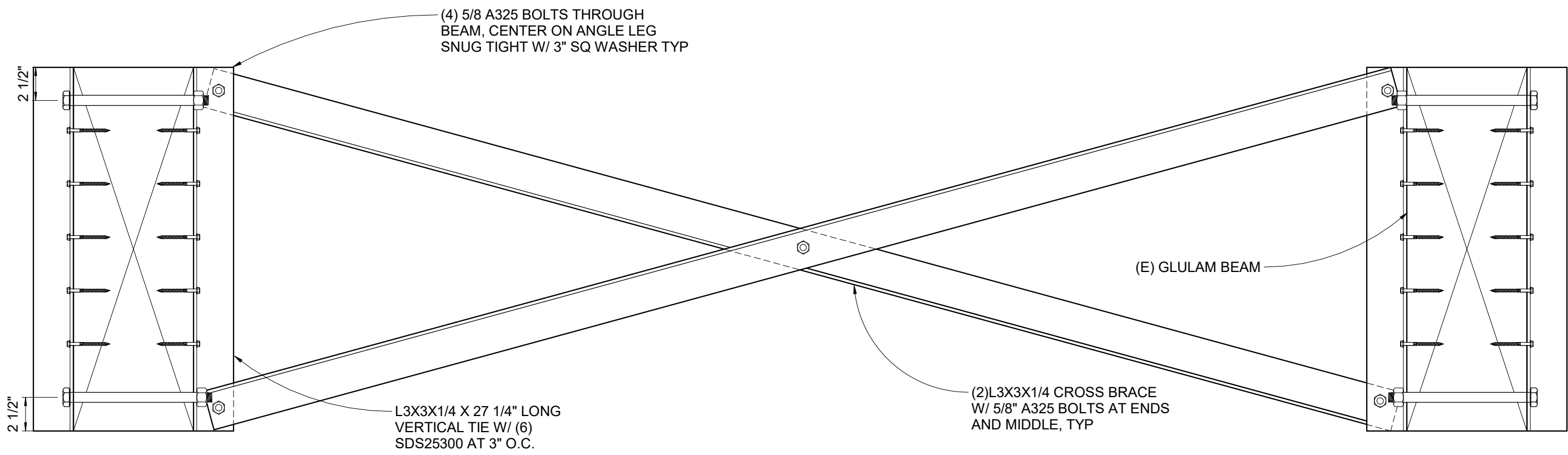
DESIGNED BY: SJD
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ISSUE DATE: 03.20.2026
ISSUANCE: PERMIT SET

SHEET CONTENT

DETAILS

SHEET

S8.01



1 BEAM BRACING

S8.02 | 1 1/2" = 1'-0"

3 NOT USED

S8.02 | 3/4" = 1'-0"

2 NOT USED

S8.02 | 3/4" = 1'-0"

4 NOT USED

S8.02 | 3/4" = 1'-0"

5 NOT USED

S8.02 | 3/4" = 1'-0"



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S8.02

STRUCTURAL ABBREVIATIONS

#	NUMBER OR POUNDS	IBC	INTERNATIONAL BUILDING CODE
AB	ANCHOR BOLT	ICF	INSULATED CONCRETE FORMS
ACI	AMERICAN CONCRETE INSTITUTE	ID	INSIDE DIAMETER
ADDL	ADDITIONAL	IN	INCH
ADJ	ADJACENT	INFO	INFORMATION
AESS	ARCHITECTURALLY EXPOSED STRUCTURAL STEEL	INT	INTERIOR
AFF	ABOVE FINISH FLOOR	JST	JOIST
AISC	AMERICAN INSTITUTE OF STEEL CONSTRUCTION	JT	JOINT
ALT	ALTERNATE	K	KIP(S) (1,000 POUNDS)
ALUM	ALUMINUM	KSF	KIPS PER SQUARE FOOT
APA	AMERICAN PLYWOOD ASSOCIATION	KSI	KIPS PER SQUARE INCH
APPROX	APPROXIMATELY	L, 2L	ANGLE OR DOUBLE ANGLE
ARCH	ARCHITECTURAL	LAT	LATERAL
ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS	LB	POUND
ASD	ALLOWABLE STRESS DESIGN	LF	LINEAR FOOT
ASSY	ASSEMBLY	LG	LIGHT GAUGE
ATR	ALL THREAD ROD	LL	LIVE LOAD
ATRA	ALL THREAD ROD WITH ADHESIVE	LLBB	LONG LEGS BACK TO BACK
AWS	AMERICAN WELDING SOCIETY	LLH	LONG LEG HORIZONTAL
		LLV	LONG LEG VERTICAL
B/	BOTTOM OF	LONG	LONGITUDINAL
BF	BRACED FRAME	LRFD	LOAD AND RESISTANCE FACTOR DESIGN
BLDG	BUILDING	LSL	LAMINATED STRAND LUMBER
BLKG	BLOCKING	LSH	LONG SLOTTED HOLE
BM	BEAM	LVL	LAMINATED VENEER LUMBER
BN	BOUNDARY NAIL	LWC	LIGHT WEIGHT CONCRETE
BOT	BOTTOM		
BRBF	BUCKLING RESTRAINED BRACED FRAME	MANUF	MANUFACTURER
BRNG	BEARING	MAX	MAXIMUM
BSMT	BASEMENT	MC	MISCELLANEOUS CHANNEL
BTWN	BETWEEN	MECH	MECHANICAL
BU	BUILT-UP	MF	MOMENT FRAME
		MFR	MANUFACTURER
C	CAMBER OR CHANNEL (AMERICAN STANDARD)	MEP	MECHANICAL, ELECTRICAL, PLUMBING
CANT	CANTILEVER	MIN	MINIMUM
CFS	COLD-FORMED STEEL	MIR	MIRROR
CIP	CAST IN PLACE	MISC	MISCELLANEOUS
CG	CENTER OF GRAVITY	MSA	MASONRY SCREW ANCHOR
CGS	CENTER OF GRAVITY OF (PRESTRESSING) STEEL	MT	MAGNETIC PARTICLE TESTING
CJ	CONTROL OR CONSTRUCTION JOINT	MTL	METAL
CJP	COMPLETE JOINT PENETRATION		
CL	CENTERLINE	(N)	NEW
CLG	CEILING	NOT	NON-DESTRUCTIVE TESTING
CLR	CLEARANCE; CLEAR	NIC	NOT IN CONTRACT
CLSM	CONTROLLED LOW STRENGTH MATERIAL	NOM	NOMINAL
CMU	CONCRETE MASONRY UNIT	NS	NEAR SIDE
COL	COLUMN	NTE	NOT TO EXCEED
CONC	CONCRETE	NTS	NOT TO SCALE
CONN	CONNECTION	NWC	NORMAL WEIGHT CONCRETE
CONST	CONSTRUCTION		
CONT	CONTINUOUS	OC	ON CENTER
COORD	COORDINATE	OCBF	ORDINARY CONCENTRIC BRACED FRAME
CSA	CONCRETE SCREW ANCHOR	OD	OUTSIDE DIAMETER
		OMF	ORDINARY MOMENT FRAME
d	PENNY (NAIL)	OPP	OPPOSITE
db	NOMINAL BAR DIAMETER	OWJ	OPEN WEB JOIST
DBA	DEFORMED BAR ANCHOR		
DBL	DOUBLE	PAF	POWER ACTUATED FASTENER
DBO	DESIGNED BY OTHERS	PC	PRECAST
DEG	DEGREE	PCF	POUNDS PER CUBIC FOOT
DEMO	DEMOLISH; DEMOLITION	PERP	PERPENDICULAR
DF/L	DOUGLAS FIR-LARCH	PJP	PARTIAL JOINT PENETRATION
DIA	DIAMETER	PL	PLATE
DIAG	DIAGONAL	PLF	POUNDS PER LINEAL FOOT
DIM	DIMENSION	PLWD	PLYWOOD
DIST	DISTANCE	PSI	POUNDS PER SQUARE INCH
DL	DEAD LOAD	PSF	POUNDS PER SQUARE FOOT
DN	DOWN	PSL	PARALLEL STRAND LUMBER
DP	DEPTH OR DEEP	PT	PRESSURE TREATED
DTL	DETAIL	P/T	POST TENSIONED
DWG	DRAWING	PVC	POLYVINYL CHLORIDE
		QTY	QUANTITY
(E)	EXISTING	RAD	RADIUS
E	MODULUS OF ELASTICITY	RBS	REDUCED BEAM SECTION
EA	EACH	REF	REFERENCE
EB	EXPANSION BOLT	REINF	REINFORCING
EF	EACH FACE	REQD	REQUIRED
EJ	EXPANSION JOINT	RET	RETAINING
EL	ELEVATION	REV	REVISED, REVISION
ELEC	ELECTRICAL	RO	ROUGH OPENING
EN	EDGE NAIL		
EOR	ENGINEER OF RECORD	SC	SLIP CRITICAL
EQ	EQUAL; EARTHQUAKE	SCBF	SPECIAL CONCENTRIC BRACE FRAME
EW	EACH WAY	SCH	SCHEDULE
EXT	EXTERIOR	SEOR	STRUCTURAL ENGINEER OF RECORD
EXTD	EXTEND, EXTENDED	SFRS	SEISMIC FORCE RESISTING SYSTEM
		SHT	SHEET
fc	28 DAY CONC COMPRESSIVE STRENGTH	SHTG	SHEATHING
fm	MASONRY NET AREA COMPRESSIVE STRENGTH	SIM	SIMILAR
Fy	YIELD STRESS	SLBB	SHORT LEGS BACK TO BACK
Fu	TENSILE STRESS	SMF	SPECIAL MOMENT FRAME
F/	FACE OF	SMS	SHEET METAL SCREW
FAB	FABRICATED / FABRICATOR	SOG	SLAB ON GRADE
FF	FINISH FLOOR	SOMD	SLAB ON METAL DECK
FN	FIELD NAIL	SQ	SQUARE
FLR	FLOOR	SS	STAINLESS STEEL
FDN	FOUNDATION	SSH	SHORT SLOTTED HOLE
FRT	FIRE RETARDANT TREATED	STD	STANDARD
FS	FAR SIDE	STL	STEEL
FT	FEET	SQ	SQUARE
FTG	FOOTING	SYM	SYMMETRICAL
		T/	TOP OF
GA	GAUGE	T&B	TOP AND BOTTOM
GAF	GAS ACTUATED FASTENER	T&G	TONGUE AND GROOVE
GALV	GALVANIZED	THRD	THREADED
GLB	GLUE LAMINATED BEAM	TPL	TRIPLE
GR	GRADE	TRANS	TRANSVERSE
GWB	GYP SUM WALL BOARD	TYP	TYPICAL
GYP	GYP SUM		
HD	HOLDOWN	UNO	UNLESS NOTED OTHERWISE
HDG	HOT-DIP GALVANIZED	URM	UNREINFORCED MASONRY
HDR	HEADER	UT	ULTRASONIC TEST
HEX	HEXAGONAL		
HF	HEM-FIR	VERT	VERTICAL
HGR	HANGER	VIF	VERIFY IN FIELD
HORIZ	HORIZONTAL		
HSA	HEADED STUD ANCHOR	W/	WITH
HSS	HOLLOW STRUCTURAL SECTION	W/O	WITHOUT
HT	HEIGHT	WD	WOOD
HVAC	HEATING VENTILATION AIR CONDITIONING	WF	WIDE FLANGE
		WP	WORK POINT
		WT	WEIGHT
		WWR	WELDED WIRE REINFORCING

STRUCTURAL DRAWING SYMBOLS

1

S8.1

DETAIL REFERENCE

1

S8.1

DETAIL SECTION CUT

1

S4.1

BUILDING OR WALL SECTION CUT

1

S3.1

ELEVATION OF WALL OR FRAME

#

REVISION SYMBOL

#

GRID LINES

ROTATE VIEW SYMBOL

ROTATE VIEW SYMBOL

-NORTH-

↑

NORTH ARROW

///

SURFACE - STEPPED

///

SURFACE - SLOPE UP

///

SURFACE - SLOPE DOWN

///

SURFACE - SLOPE TWO DIRECTIONS

↔

DECKING SPAN DIRECTION

⊠

OPENING IN FLOOR / WALL

INDICATES ELEMENT CONTINUES

STRUCTURAL ELEMENT

EXTENT OF ELEMENT

SURFACE EXTENTS

FRAMING CONNECTION SYMBOL

REPEATING FRAMING CONTINUES

REPEATING FRAMING

END OF REPEATING ELEMENT

TYPICAL FRAMING

STRUCTURAL MATERIAL PATTERNS

CONCRETE

MASONRY

EARTH

COMPACTED STRUCTURAL FILL

STEEL

SAND OR GROUT

WOOD SHEATHING - SECTION

WOOD - PLAN

STRUCTURAL DRAWING INDEX

SHEET #	SHEET NAME	BID SET	PERMIT SET	ADDENDUM 1
S0.01	COVER SHEET	•	•	•
S0.02	STRUCTURAL NOTES & SPECIAL INSPECTION	•	•	•
S1.00	STRUCTURAL SITE PLAN	•	•	•
S1.01	ROOF PLAN	•	•	•
S1.02	BOWSTRING TRUSS ELEV AND REPAIR DETAILS	•	•	•

CODE SUMMARY:

BUILDING CODE: 2022 OSSC
BUILDING CONSTRUCTION TYPE: V-A
OCCUPANCY CLASSIFICATION: E (NO CHANGE)

SCOPE OF WORK:
FOR THE REPAIR OF DAMAGED BOWSTRING TRUSSES AND FOR THE STRENGTHENING OF OTHER BOWSTRING TRUSSES IN THIS SPACE.

PROJECT DESIGN TEAM:

MILLER CONSULTING ENGINEERS, INC
STRUCTURAL ENGINEER OF RECORD

PRIMARY CONTACT: CJ MARQUARDT, cj@miller-se.com
SECONDARY CONTACT: RON VANDEHEY, ron@miller-se.com

THURSTON MIDDLE SCHOOL
BOWSTRING TRUSS REPAIR

6300 THURSTON ROAD
SPRINGFIELD, OREGON

SPRINGFIELD SCHOOL DISTRICT

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SHEET CONTENT
COVER SHEET

SHEET

S0.01

STRUCTURAL
DRAWING SYMBOLS

1

S8.1

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S8.1

DETAIL SECTION CUT

1

S4.1

BUILDING OR WALL SECTION CUT

1

S3.1

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REVISION SYMBOL

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DECKING SPAN DIRECTION

⊠

OPENING IN FLOOR / WALL

INDICATES ELEMENT CONTINUES

STRUCTURAL ELEMENT

EXTENT OF ELEMENT

SURFACE EXTENTS

FRAMING CONNECTION SYMBOL

REPEATING FRAMING CONTINUES

REPEATING FRAMING

END OF REPEATING ELEMENT

TYPICAL FRAMING

STRUCTURAL MATERIAL PATTERNS

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MASONRY

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STRUCTURAL NOTES

GENERAL NOTES

THESE CONTRACT DOCUMENTS COMPRISED OF PLANS, SPECIFICATIONS, ENGINEERING AND DESIGN WORK ARE INTENDED SOLELY FOR THE PROJECT SPECIFIED HEREIN. MILLER CONSULTING ENGINEERS (MCE) DISCLAIMS ALL LIABILITY IF THESE PLANS AND SPECIFICATIONS OR THE DESIGN, ADVICE AND INSTRUCTIONS ATTENDANT THERETO ARE USED ON ANY PROJECT OR AT ANY LOCATION OTHER THAN THE PROJECT AND LOCATION SPECIFIED HEREIN.

THE CONTRACT DOCUMENTS REPRESENT THE FINISHED STRUCTURE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONFORMANCE TO ALL SAFETY REGULATIONS DURING CONSTRUCTION. THE CONTRACTOR SHALL PROVIDE ALL METHODS, DIRECTION AND RELATED EQUIPMENT NECESSARY TO PERFORM THE WORK.

SHOULD ANY QUESTION ARISE REGARDING THE CONTRACT DOCUMENTS OR SITE CONDITIONS, THE CONTRACTOR SHALL REQUEST INTERPRETATION AND CLARIFICATION FROM THE ENGINEER BEFORE BEGINNING THE PROJECT. THE ABSENCE OF SUCH REQUEST SHALL SIGNIFY THAT THE CONTRACTOR HAS REVIEWED AND FAMILIARIZED THEMSELVES AND HAS COMPLETE COMPREHENSION OF ALL ASPECTS OF THE PROJECT.

THE CONTRACTOR IS RESPONSIBLE FOR VERIFICATION AND CORRELATION OF ALL ITEMS AND WORK NECESSARY FOR COMPLETION OF THE PROJECT AS INDICATED BY THE CONTRACT DOCUMENTS. THE CONTRACT DOCUMENTS ARE STRUCTURAL ONLY AND DO NOT NECESSARILY INDICATE ALL NON-STRUCTURAL PORTIONS OF THE PROJECT INCLUDING, BUT NOT LIMITED TO, PLUMBING, FIRE SUPPRESSION, ELECTRICAL, MECHANICAL, LAND USE, SITE PLANNING, EROSION CONTROL FLASHING AND WATER-PROOFING. ALL NON-STRUCTURAL PORTIONS OF WORK, AND STRUCTURAL WORK NOTED AS DELEGATED DESIGN IN THE SUBMITTAL SCHEDULE, ARE BEYOND THE SCOPE OF THESE DOCUMENTS AND ARE PROVIDED BY OTHERS. THE CONTRACTOR IS RESPONSIBLE FOR VERIFICATION AND CORRELATION OF ALL NON-STRUCTURAL ITEMS IMPACTED BY THE STRUCTURAL WORK. THESE ITEMS SHALL BE RESTORED TO THEIR ORIGINAL CONDITION OR MODIFIED IN ACCORDANCE WITH THE RECOMMENDATIONS OF A QUALIFIED DESIGN PROFESSIONAL ENGAGED AT THE CONTRACTOR'S OWN EXPENSE.

ANY MATERIAL NOT AS SPECIFIED IN THE CONTRACT DOCUMENTS OR IMPROPER MATERIAL INSTALLATION OR WORKMANSHIP SHALL BE REMOVED AND REPLACED WITH SPECIFIED MATERIAL IN A WORKMANLIKE MANNER AT THE CONTRACTOR'S EXPENSE. IT IS THE CONTRACTOR'S RESPONSIBILITY TO PROTECT ALL MATERIALS FROM DAMAGE THROUGHOUT THE COURSE OF CONSTRUCTION. CHANGES TO THE CONTRACT DOCUMENTS REQUESTED BY THE CONTRACTOR TO ACCOMPLISH THEIR PREFERRED MEANS OR METHOD OF CONSTRUCTION MAY BE AT THE CONTRACTOR'S EXPENSE.

ALL MANUFACTURED PRODUCTS SPECIFIED SHALL BE USED UNLESS AN ALTERNATE IS SUBMITTED AND APPROVED BY THE SEOR. MANUFACTURED PRODUCTS REQUIRING A BUILDING CODE EVALUATION REPORT SHALL HAVE A CURRENT REPORT DEMONSTRATING CONFORMANCE WITH THE APPLICABLE BUILDING CODE, VALID AT THE TIME OF PRODUCT INSTALLATION.

TEMPORARY MEASURES/SHORING

THE CONTRACTOR IS RESPONSIBLE FOR IDENTIFYING ALL INSTANCES WHERE TEMPORARY MEASURES/SHORING ARE REQUIRED, AND SHALL AT THEIR OWN EXPENSE, ENGAGE PROPERLY QUALIFIED PERSONS TO DETERMINE WHERE AND HOW TEMPORARY MEASURES/SHORING ARE REQUIRED. TEMPORARY MEASURES/SHORING SHALL:

- PROTECT PERSONNEL AND THE PUBLIC.
- PREVENT SETTLEMENT AND/OR DAMAGE TO THE BUILDING AND/OR EXISTING FACILITIES

BUILDING CODE

ALL PHASES OF THE WORK SHALL CONFORM TO THE 2022 OREGON STRUCTURAL SPECIALTY CODE (OSSC), BASED ON THE 2021 INTERNATIONAL BUILDING CODE (IBC), INCLUDING ALL REFERENCE STANDARDS, UNLESS NOTED OTHERWISE.

SPECIAL INSPECTION/TESTING

SPECIAL INSPECTION AND/OR TESTING IS REQUIRED IN ACCORDANCE WITH BUILDING CODE SECTION 1704. IT IS THE OWNER'S RESPONSIBILITY TO PROVIDE SPECIAL INSPECTION AND TESTING BY A QUALIFIED THIRD PARTY, SUCH AS A TESTING AGENCY REVIEWED BY THE ENGINEER AND APPROVED BY THE BUILDING OFFICIAL. THE CONTRACTOR SHALL PROVIDE SUFFICIENT NOTICE TO ALLOW SCHEDULING OF SPECIAL INSPECTION.

SPECIAL INSPECTIONS SHALL CONFORM TO SECTION 1705 OF THE BUILDING CODE. CONTRACT DOCUMENTS AND SUBMITTALS, THE SPECIAL INSPECTOR SHALL OBSERVE THE INDICATED WORK FOR COMPLIANCE WITH THE CONSTRUCTION DOCUMENTS. ALL DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE CONTRACTOR FOR CORRECTION AND NOTED IN THE INSPECTION REPORTS. FOR PROJECT REQUIREMENTS REFER TO THE SPECIAL INSPECTION TABLES WITHIN THE CONTRACT DOCUMENTS.

STRUCTURAL DESIGN CRITERIA	
RISK CATEGORY	II
SUPERIMPOSED DEAD LOAD (EXCLUDING STRUCTURAL FRAME SELF WEIGHT)	
ROOF (TOTAL INCLUDING ROOFING/CEILING)	20 PSF
ROOF SNOW LOAD	
DESIGN ROOF SNOW LOAD	25 PSF (PER ORIGINAL DRAWINGS)

STRUCTURAL STEEL

DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL SHALL CONFORM TO THE SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS (AISC 360). QUALITY ASSURANCE (QA) IS REQUIRED FOR STRUCTURAL STEEL ITEMS PER AISC 360 AND 341 UNLESS SPECIFICALLY NOTED OTHERWISE. QUALITY CONTROL (QC) TO BE PROVIDED BY THE FABRICATOR, ERECTOR OR OTHER RESPONSIBLE CONTRACTOR AS APPLICABLE. CONTRACTOR AND SPECIAL INSPECTOR TO DOCUMENT QUALITY CONTROL AS REQUIRED IN AISC 360 SECTION N3 AND AISC 341 SECTION J2.

ALL STRUCTURAL AND MISCELLANEOUS STEEL SHALL CONFORM TO THE FOLLOWING MATERIAL STANDARDS:

STRUCTURAL STEEL MATERIAL STANDARDS		
SHAPE	ASTM SPECIFICATION	YIELD STRESS
W-SECTIONS	A992	50 KSI
RECTANGULAR HSS	A500, GRADE C	50 KSI
ROUND HSS	A500, GRADE C	46 KSI
PIPE	A53, GRADE B, TYPE E OR S	35 KSI
ALL OTHER SECTIONS AND PL	A36	36 KSI

ALL STRUCTURAL STEEL SHALL HAVE ONE SHOP COAT OF PRIMER, EXCEPT SURFACES TO BE EMBEDDED IN CONCRETE OR MASONRY OR STEEL TO BE GALVANIZED. EMBEDDED SURFACES SHALL BE FREE OF CONTAMINANTS. ALL EXPOSED STRUCTURAL STEEL AND FASTENINGS TO HAVE ONE FINISH COAT OF RUST INHIBITING PAINT, COLOR BY OWNER.

STRUCTURAL STEEL BOLTING

ALL BOLTS IN STEEL TO STEEL CONNECTIONS SHALL BE ASTM F3125 GRADE A325 WITH MATCHING NUTS, UNLESS NOTED OTHERWISE. ALL ANCHOR RODS TO BE ASTM F1554 GRADE 36 WITH MATCHING NUTS. NUTS SHALL BE TIGHTENED TO A SNUG TIGHT CONDITION, UNLESS CONNECTION IS NOTED AS SLIP-CRITICAL OR PRETENSIONED.

- SNUG TIGHT CONDITION SHALL BE PER RESEARCH COUNCIL ON STRUCTURAL CONNECTIONS (RCSC) SPECIFICATION FOR STRUCTURAL JOINTS USING HIGH-STRENGTH BOLTS, SECTION 8.1.
- SLIP-CRITICAL AND PRETENSIONED CONNECTIONS, INSTALLATION OF FASTENERS SHALL BE PER RCSC SECTION 8.2.

STRUCTURAL STEEL WELDING

ALL WELDING SHALL CONFORM TO AMERICAN WELDING SOCIETY (AWS) D1.1 USING E70XX ELECTRODES. WELDING SHALL BE PERFORMED BY WELDERS CERTIFIED BY AWS FOR THE WELD TYPES SPECIFIED. WELD LENGTHS SHOWN ARE EFFECTIVE AS SPECIFIED PER THE SPECIFICATIONS OF THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC), WHERE WELD LENGTHS ARE NOT SHOWN, THE WELD SHALL BE FULL LENGTH OF MEMBERS BEING JOINED. FIELD WELDING SYMBOLS HAVE NOT NECESSARILY BEEN INDICATED ON THE DRAWINGS. WHERE SHOWN, PROPER FIELD WELDING PER AWS D1.1 SHALL BE USED. WHERE NO FIELD WELDING SYMBOLS ARE SHOWN, IT IS THE CONTRACTOR'S RESPONSIBILITY TO COORDINATE THE USE OF SHOP AND FIELD WELDS.

ALL PARTIAL JOINT PENETRATION GROOVE WELD SIZES SHOWN ON THE DRAWINGS REFER TO THE EFFECTIVE THROAT THICKNESS. ALL BUTT WELDS SHALL BE FULL PENETRATION WELDS UNLESS NOTED OTHERWISE ON STRUCTURAL DRAWINGS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE JOINT PREPARATION AND WELDING PROCEDURES THAT INCLUDE, BUT ARE NOT LIMITED TO, REQUIRED ROOT OPENINGS, ROOT FACE DIMENSIONS, GROOVE ANGLES, BACKING BARS, COPEs, SURFACE ROUGHNESS VALUES AND TAPERS AND TRANSITIONS OF UNEQUAL PARTS.

ALL WELDS SHALL RECEIVE THE SAME FINISH COATING AS THE MEMBER BEING WELDED. ANY COATINGS ON THE STRUCTURAL AFFECTED BY WELDING SHALL BE REPAIRED AS REQUIRED.

WOOD FRAMING

WOOD FRAMING CONNECTIONS

PREDRILL FOR ALL SCREWS INTO EXISTING LUMBER TO ¾ OF THE ROOT THREAD DIAMETER OF THE SCREW.. FASTENERS SHALL NOT BE OVERDRIVEN.

PREFABRICATED METAL TIMBER CONNECTORS SHALL BE MANUFACTURED BY SIMPSON STRONG-TIE, UNLESS NOTED OTHERWISE. ALL PREFABRICATED METAL TIMBER CONNECTORS AND HANGERS SHALL BE FULLY BOLTED, NAILED, AND/OR SCREWED AS INDICATED BY MANUFACTURER, UNLESS NOTED OTHERWISE. ALL CONNECTORS, HANGERS AND FASTENERS SHALL BE CORROSION PROTECTED PER MANUFACTURER'S RECOMMENDATIONS.

ALL BOLTS IN WOOD CONNECTIONS SHALL BE ASTM A307 GRADE A. ALL BOLT HEADS OR NUTS BEARING ON WOOD TO HAVE STANDARD WASHERS. BOLT HOLES IN WOOD SHALL BE A MINIMUM OF 1/32" TO A MAXIMUM OF 1/16" LARGER THAN THE BOLT. ALL LAG SCREWS SHALL HAVE PILOT HOLES PER THE LAG SCREW PILOT HOLE SCHEDULE. REFER TO SECTION 12.1 OF THE NDS FOR ADDITIONAL INSTALLATION INSTRUCTIONS OF DOWEL-TYPE FASTENERS.

ENGINEERED LUMBER

ENGINEERED LUMBER SHALL HAVE A BUILDING CODE EVALUATION REPORT.

ALL ENGINEERED LUMBER EXPOSED TO WEATHER AND SUBJECT TO DECAY, SHALL BE PRESERVATIVE TREATED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS FOR PRESERVATIVE MATERIALS, RETENTION RATES, AND END USE.

LAMINATED VENEER LUMBER (LVL)

LVL FRAMING SHALL HAVE THE FOLLOWING MINIMUM PROPERTIES:

PROPERTY	MINIMUM VALUE
MODULUS OF ELASTICITY, E (PSI)	2,000,000
FLEXURAL STRESS, F _b (PSI)	2,600
TENSION STRESS, F _t (PSI)	1,895
COMPRESSION PERPENDICULAR TO GRAIN, F _c PERP (PSI)	750
COMPRESSION PARALLEL TO GRAIN, F _{3a} (PSI)	2,510
HORIZONTAL SHEAR PARALLEL TO GRAIN, F _v (PSI)	285
SPECIFIC GRAVITY	0.50

PARALLEL STRAND LUMBER (PSL)

PSL FRAMING SHALL HAVE THE FOLLOWING MINIMUM PROPERTIES:

PROPERTY	MINIMUM VALUE
MODULUS OF ELASTICITY, E (PSI)	2,200,000
FLEXURAL STRESS, F _b (PSI)	2,900
TENSION STRESS, F _t (PSI)	2,300
COMPRESSION PERPENDICULAR TO GRAIN, F _c PERP (PSI)	735
COMPRESSION PARALLEL TO GRAIN, F _{3a} (PSI)	2,900
HORIZONTAL SHEAR PARALLEL TO GRAIN, F _v (PSI)	290
SPECIFIC GRAVITY	0.50

SHOP DRAWINGS/SUBMITTALS

SUBMITTALS AND SHOP DRAWINGS FOR SPECIFIC PRODUCTS GENERATED BY THE SUPPLIER SHALL BE SUBMITTED FOR THE ITEMS NOTED IN THE SUBMITTAL SCHEDULE. SHOP DRAWINGS SHALL BE TO SCALE AND SHOW COMPLETE DETAILS AND INSTRUCTIONS FOR FABRICATION AND ASSEMBLY. SHOP DRAWINGS SHALL INDICATE ERECTION AND TEMPORARY BRACING INFORMATION FOR CONTRACTOR'S USE.

THE DESIGN OF ITEMS NOTED IN THE SUBMITTAL SCHEDULE AS DELEGATED DESIGN SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. DOCUMENTS FOR THE DESIGN AND FABRICATION OF DELEGATED DESIGN ITEMS (INCLUDING STRUCTURAL CALCULATIONS AND DRAWINGS) SHALL BEAR THE SEAL AND SIGNATURE OF A LICENSED ENGINEER REGISTERED IN THE STATE THAT THE PROJECT IS BEING CONSTRUCTED.

DEFERRED SUBMITAL ITEMS NOTED IN THE SUBMITTAL SCHEDULE ARE PORTIONS OF THE DESIGN THAT ARE NOT SUBMITTED AT THE TIME OF PERMIT APPLICATION AND ARE REQUIRED TO BE SUBMITTED TO THE BUILDING OFFICIAL.

THE CONTRACTOR SHALL REVIEW AND MODIFY ALL SUBMITTALS AS REQUIRED FOR CONFORMANCE WITH THE CONTRACT DOCUMENTS AND SIGN AND DATE ALL SETS OF THE SUBMITTAL DOCUMENTS PRIOR TO SUBMITTAL TO THE ENGINEER. THE CONTRACTOR SHALL SCHEDULE SUBMITTALS TO ALLOW SUFFICIENT TIME FOR REVIEW AND POSSIBLE RE-SUBMITTAL WHERE RE-SUBMITTALS ARE REQUIRED, CHANGES FROM THE PREVIOUS SUBMITTAL SHALL BE CLEARLY INDICATED WITH REVISION CLOUDS OR SIMILAR.

SUBMITTAL SCHEDULE				
ITEM	SUBMITTAL	SHOP DRAWINGS	DELEGATED DESIGN	DEFERRED SUBMITTAL
HOLDOWNS AND RODS	X	X		
TRUSS LIFTING PLAN			X	X

STEEL - SPECIAL INSPECTIONS				
SYSTEM OR MATERIAL	CODE OR STANDARD REFERENCE	FREQUENCY / INSPECTION		REMARKS
		CONTINUOUS/ PERFORM	PERIODIC/ OBSERVE	
STEEL FABRICATION				
MATERIAL VERIFICATION OF STRUCTURAL STEEL COMPONENTS	ASTM A6 ASTM STANDARDS SPECIFIED IN CONSTRUCTION DOCUMENTS AISC 360 A3.1 AISC 360 N3.2		X	CERTIFIED MILL TEST REPORTS
MATERIAL VERIFICATION OF WELD FILLER METALS	AISC 360 A3.5 AISC 360 N3.2 APPLICABLE AWS A5 DOCUMENTS		X	MANUFACTURER'S CERTIFIED TEST REPORTS
STRUCTURAL STEEL WELDING				
VERIFYING USE OF PROPER WPS'S	AISC 360 N3.2			RETAIN A RECORD OF WELDING PROCEDURE SPECIFICATIONS
VERIFYING WELDER QUALIFICATIONS	AWS D1.1		X	RETAIN A RECORD OF QUALIFICATION CARDS
COMPLETE AND PARTIAL JOINT PENETRATION GROOVE WELDS	AWS D1.1 CLAUSE 6	X		
SINGLE PASS FILLET WELDS LESS THAN OR EQUAL TO 5/16"			X	



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THURSTON MIDDLE SCHOOL
BOWSTRING TRUSS REPAIR

6300 THURSTON ROAD
SPRINGFIELD, OREGON

SPRINGFIELD SCHOOL DISTRICT

REV	DESCRIPTION	DATE

DESIGNED BY:
CHECKED BY:
MCE PROJ #: 251372
ISSUE DATE: 03.20.2026
ISSUANCE: PERMIT SET

SHEET CONTENT

STRUCTURAL NOTES &
SPECIAL INSPECTION

SHEET

S0.02



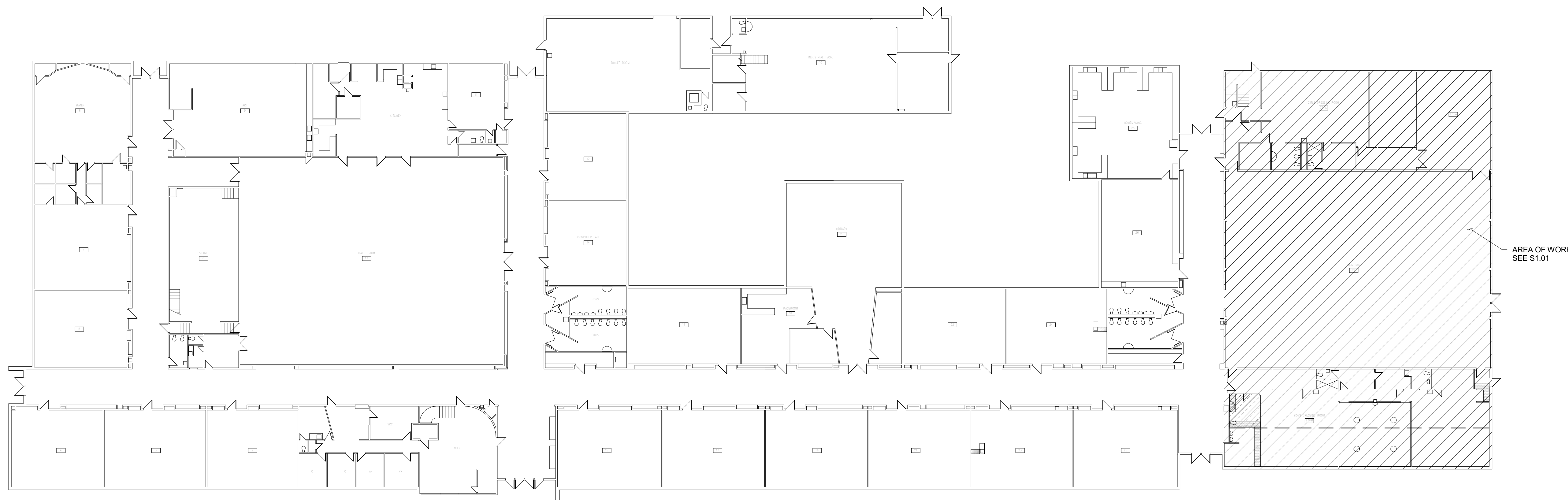
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**THURSTON MIDDLE
SCHOOL
BOWSTRING
TRUSS REPAIR**

6300 THURSTON ROAD
SPRINGFIELD, OREGON

SPRINGFIELD SCHOOL
DISTRICT



AREA OF WORK
SEE S1.01

REV	DESCRIPTION	DATE

DESIGNED BY:
CHECKED BY:
MCE PROJ #: 251372
ISSUE DATE: 03.20.2026
ISSUANCE: PERMIT SET

SHEET CONTENT
STRUCTURAL SITE PLAN

SHEET

S1.00

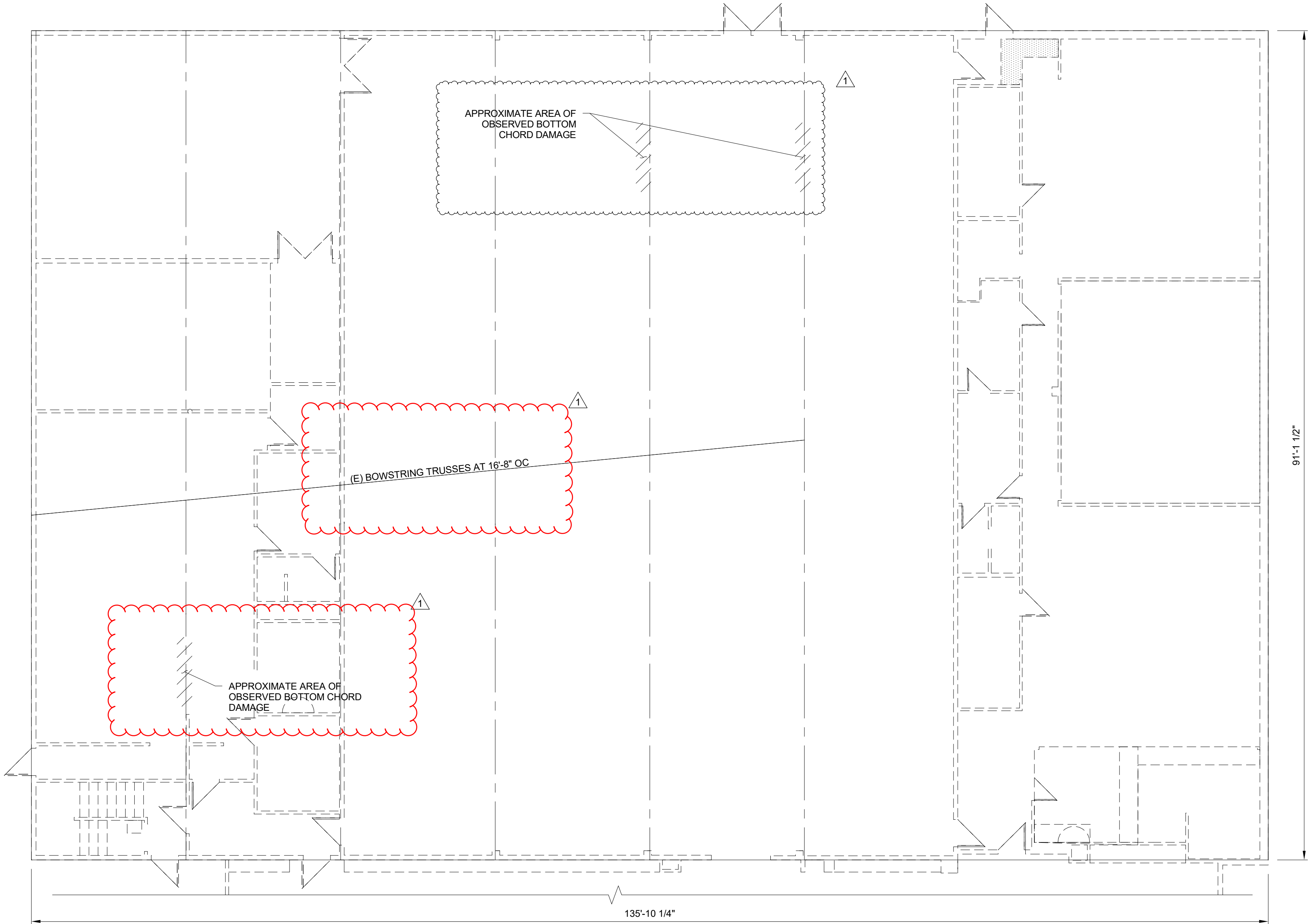


1 STRUCTURAL SITE PLAN

S1.00 | 1" = 20'-0"

- NOTES:
1. SEE SHEET S1.02 FOR TYPICAL TRUSS ELEVATION AND STRENGTHENING/REPAIR REQUIREMENTS.
 2. APPROXIMATE AREAS OF INITIAL OBSERVED DAMAGE NOTED ON S1.01. VERIFY IN FIELD EXTENT OF ALL DAMAGE ONCE COMPLETE BOTTOM CHORDS ARE UNCOVERED.
 3. ALL TRUSSES TO BE STRENGTHENED PER HOLDOWNS AND TIE-RODS SHOWN ON 1/S1.02.
 4. ANY BOTTOM CHORD CRACK REPAIRS TO BE REPAIRED PER 4/S1.02. VERIFY EXTENT OF ALL DAMAGE.

- GENERAL SHEET NOTES:
- G1. SEE S0.02 AND SUBSEQUENT SHEETS FOR STRUCTURAL NOTES AND SPECIAL INSPECTION REQUIREMENTS
- G2. FIELD VERIFY EXISTING CONDITIONS PRIOR TO DEMOLITION OR PURCHASE OF MATERIALS
- G3. THESE PLANS ARE STRUCTURAL ONLY - SIDING, FLASHING, MOISTURE PROTECTION, ETC ARE DESIGNED BY OTHERS



1 EXISTING GYM ROOF FRAMING PLAN

S1.01 | 1/8" = 1'-0"



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THURSTON MIDDLE SCHOOL BOWSTRING TRUSS REPAIR

6300 THURSTON ROAD
SPRINGFIELD, OREGON

SPRINGFIELD SCHOOL DISTRICT

REV	DESCRIPTION	DATE
1	SITE REVISIONS	04.06.2026

DESIGNED BY: CJM
CHECKED BY: RGV
MCE PROJ #: 251372
ISSUE DATE: 03.20.2026
ISSUANCE: PERMIT SET

SHEET CONTENT
ROOF PLAN

SHEET

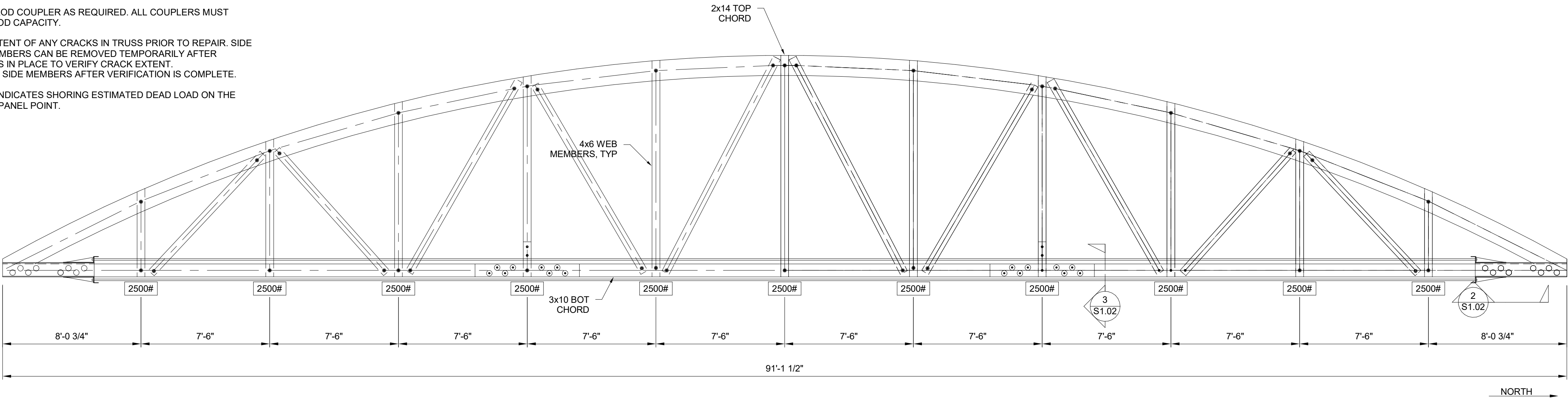
S1.01

TRUSS REPAIR NOTES:

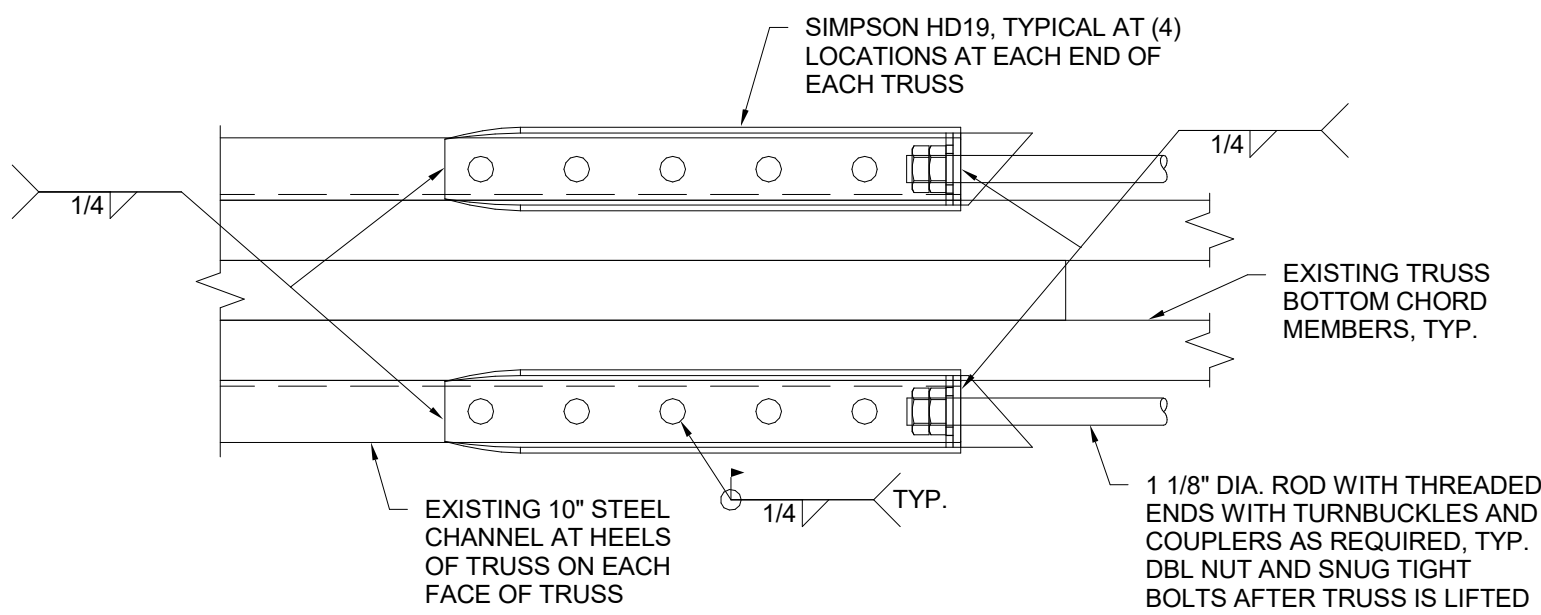
- G1. SHORE AND CAREFULLY LIFT TRUSS WITH FORCE NOT EXCEEDING 1.25 TIMES THE DEAD LOAD AT EACH PANEL POINT UNTIL BOTTOM CHORD IS LEVEL. DO NOT LIFT END OF TRUSS OFF SUPPORTS. AND THEN TIGHTEN HOLDOWN RODS TO A SNUG CONDITION. TIGHTEN ALL HOLDOWNS EQUALLY. SHORING IS NOT REQUIRED ON TRUSSES THAT ARE NOT DAMAGED.
- G2. HOLDOWN SETS TO BE INSTALLED ON BOTH SIDES OF EXISTING BOWSTRING TRUSS.
- G3. IF THERE ARE ANY INTERFERENCES WITH SPLIT RINGS, SHIFT SCREWS TO AVOID. FIELD VERIFY SPLIT RING LOCATIONS PRIOR TO INSTALLATION.
- G4. PROVIDE ROD COUPLER AS REQUIRED. ALL COUPLERS MUST EXCEED ROD CAPACITY.
- G5. VERIFY EXTENT OF ANY CRACKS IN TRUSS PRIOR TO REPAIR. SIDE SPLICE MEMBERS CAN BE REMOVED TEMPORARILY AFTER SHORING IS IN PLACE TO VERIFY CRACK EXTENT. REINSTALL SIDE MEMBERS AFTER VERIFICATION IS COMPLETE.
- G6. [XXXX#] INDICATES SHORING ESTIMATED DEAD LOAD ON THE TRUSS AT PANEL POINT.

GENERAL SHEET NOTES:

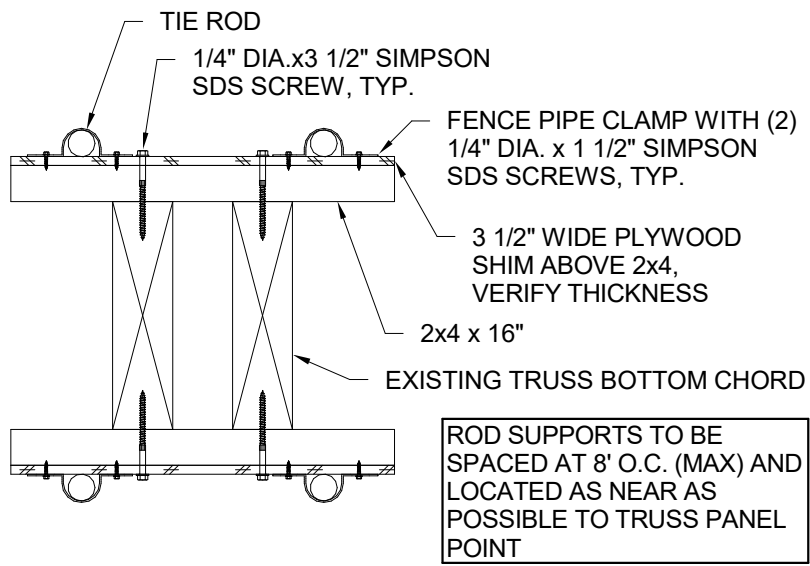
- G1. SEE S0.02 AND SUBSEQUENT SHEETS FOR STRUCTURAL NOTES AND SPECIAL INSPECTION REQUIREMENTS
- G2. FIELD VERIFY EXISTING CONDITIONS PRIOR TO DEMOLITION OR PURCHASE OF MATERIALS
- G3. THESE PLANS ARE STRUCTURAL ONLY - SIDING, FLASHING, MOISTURE PROTECTION, ETC ARE DESIGNED BY OTHERS



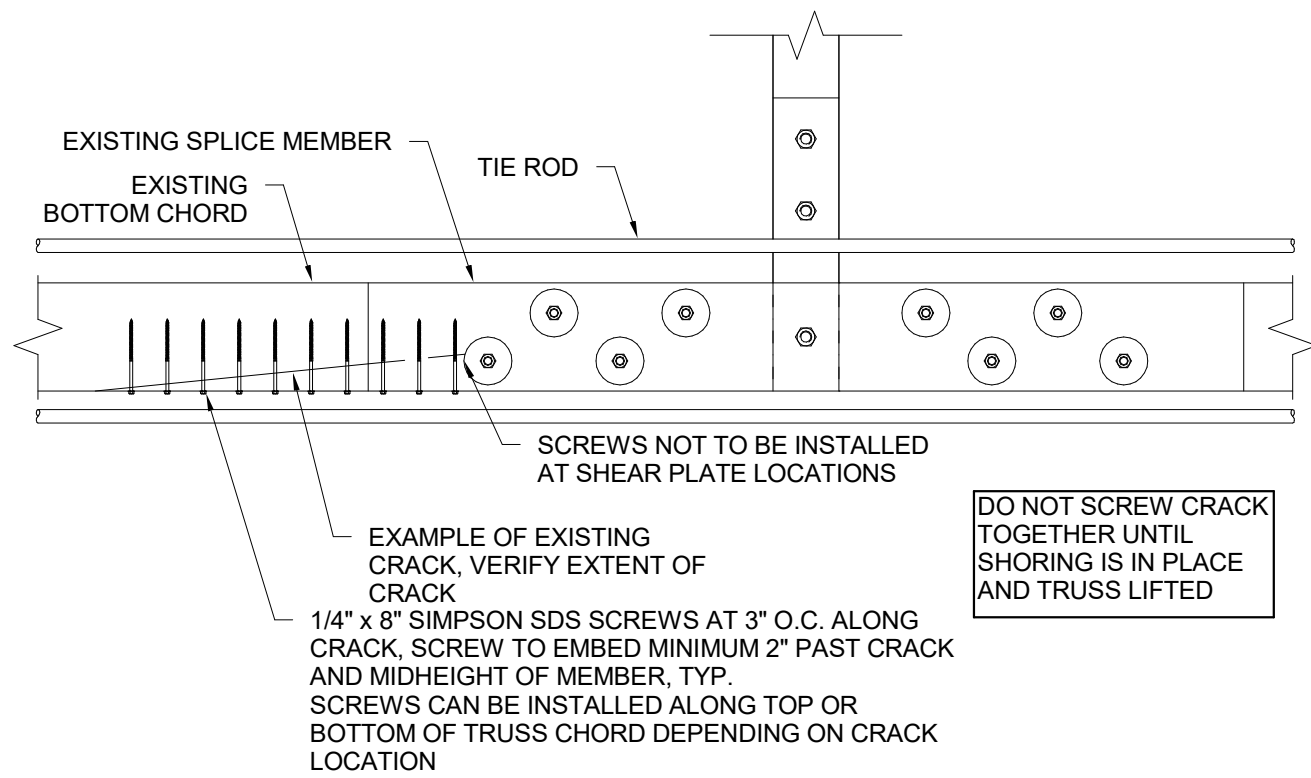
1 TYPICAL BOWSTRING TRUSS ELEVATION AT GYM
S1.02 | 1/4\" = 1'-0\"



2 HOLDOWN CONN PLAN
S1.02 | 1 1/2\" = 1'-0\"



3 ROD SUPPORT
S1.02 | 1 1/2\" = 1'-0\"



4 CRACK REPAIR EXAMPLE - ELEV VIEW
S1.02 | 3/4\" = 1'-0\"



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REV	DESCRIPTION	DATE

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ISSUE DATE: 03.20.2026
ISSUANCE: PERMIT SET

SHEET CONTENT
BOWSTRING TRUSS ELEV
AND REPAIR DETAILS

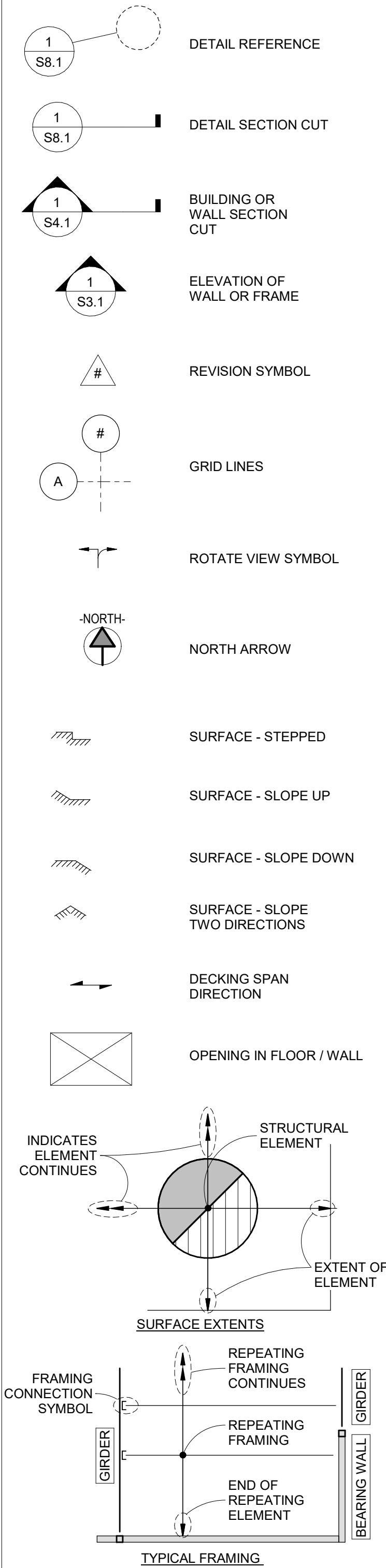
SHEET

S1.02

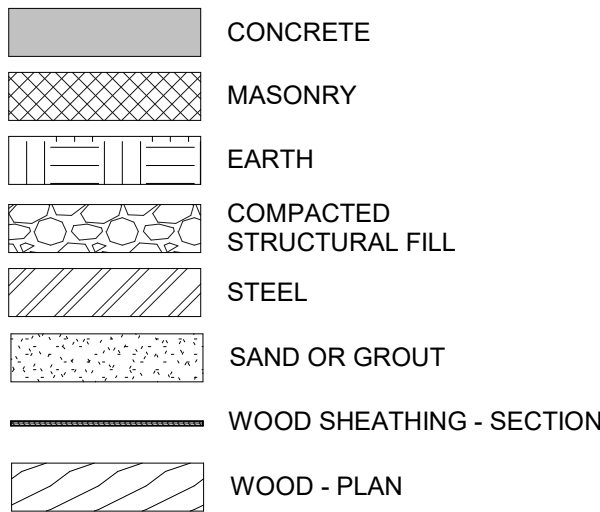
STRUCTURAL ABBREVIATIONS

#	NUMBER OR POUNDS	IBC	INTERNATIONAL BUILDING CODE
AB	ANCHOR BOLT	ICF	INSULATED CONCRETE FORMS
ACI	AMERICAN CONCRETE INSTITUTE	ID	INSIDE DIAMETER
ADDL	ADDITIONAL	IN	INCH
ADJ	ADJACENT	INFO	INFORMATION
AESS	ARCHITECTURALLY EXPOSED STRUCTURAL	INT	INTERIOR
	STEEL		
AFF	ABOVE FINISH FLOOR	JST	JOIST
AISC	AMERICAN INSTITUTE OF STEEL CONSTRUCTION	JT	JOINT
ALT	ALTERNATE	K	KIP(S) (1,000 POUNDS)
ALUM	ALUMINUM	KSF	KIPS PER SQUARE FOOT
APA	AMERICAN PLYWOOD ASSOCIATION	KSI	KIPS PER SQUARE INCH
	APPROX APPROXIMATELY		
ARCH	ARCHITECTURAL	L, 2L	ANGLE OR DOUBLE ANGLE
ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS	LAT	LATERAL
		LB	POUND
ASD	ALLOWABLE STRESS DESIGN	LF	LINEAR FOOT
ASSY	ASSEMBLY	LG	LIGHT GAUGE
ATR	ALL THREAD ROD	LL	LIVE LOAD
ATRA	ALL THREAD ROD WITH ADHESIVE	LLBB	LONG LEGS BACK TO BACK
AWS	AMERICAN WELDING SOCIETY	LLH	LONG LEG HORIZONTAL
		LLV	LONG LEG VERTICAL
		LONG	LONGITUDINAL
B/	BOTTOM OF	LRFD	LOAD AND RESISTANCE FACTOR DESIGN
BF	BRACED FRAME	LSL	LAMINATED STRAND LUMBER
BLDG	BUILDING	LSH	LONG SLOTTED HOLE
BLKG	BLOCKING	LVL	LAMINATED VENEER LUMBER
BM	BEAM	LWC	LIGHT WEIGHT CONCRETE
BN	BOUNDARY NAIL		
BOT	BOTTOM		
BRBF	BUCKLING RESTRAINED BRACED FRAME	MANUF	MANUFACTURER
BRNG	BEARING	MAX	MAXIMUM
BSMT	BASEMENT	MC	MISCELLANEOUS CHANNEL
BTWN	BETWEEN	MECH	MECHANICAL
BU	BUILT-UP	MF	MOMENT FRAME
		MFR	MANUFACTURER
C	CAMBER OR CHANNEL (AMERICAN STANDARD)	MEP	MECHANICAL, ELECTRICAL, PLUMBING
CANT	CANTILEVER	MIN	MINIMUM
CFS	COLD-FORMED STEEL	MIR	MIRROR
CIP	CAST IN PLACE	MISC	MISCELLANEOUS
CG	CENTER OF GRAVITY	MSA	MASONRY SCREW ANCHOR
CGS	CENTER OF GRAVITY OF (PRESTRESSING) STEEL	MT	MAGNETIC PARTICLE TESTING
CJ	CONTROL OR CONSTRUCTION JOINT	MTL	METAL
CJP	COMPLETE JOINT PENETRATION		
CL	CENTERLINE	(N)	NEW
CLG	CEILING	NOT	NON-DESTRUCTIVE TESTING
CLR	CLEARANCE; CLEAR	NIC	NOT IN CONTRACT
CLSM	CONTROLLED LOW STRENGTH MATERIAL	NOM	NOMINAL
CMU	CONCRETE MASONRY UNIT	NS	NEAR SIDE
COL	COLUMN	NTE	NOT TO EXCEED
CONC	CONCRETE	NTS	NOT TO SCALE
CONN	CONNECTION	NWC	NORMAL WEIGHT CONCRETE
CONST	CONSTRUCTION		
CONT	CONTINUOUS	OC	ON CENTER
COORD	COORDINATE	OCBF	ORDINARY CONCENTRIC BRACED FRAME
CSA	CONCRETE SCREW ANCHOR	OD	OUTSIDE DIAMETER
		OMF	ORDINARY MOMENT FRAME
d	PENNY (NAIL)	OPP	OPPOSITE
db	NOMINAL BAR DIAMETER	OWJ	OPEN WEB JOIST
DBA	DEFORMED BAR ANCHOR		
DBL	DOUBLE	PAF	POWER ACTUATED FASTENER
DBO	DESIGNED BY OTHERS	PC	PRECAST
DEG	DEGREE	PCF	POUNDS PER CUBIC FOOT
DEMO	DEMOLISH; DEMOLITION	PERP	PERPENDICULAR
DF/L	DOUGLAS FIR-LARCH	PJP	PARTIAL JOINT PENETRATION
DIA	DIAMETER	PL	PLATE
DIAG	DIAGONAL	PLF	POUNDS PER LINEAL FOOT
DIM	DIMENSION	PLWD	PLYWOOD
DIST	DISTANCE	PSI	POUNDS PER SQUARE INCH
DL	DEAD LOAD	PSF	POUNDS PER SQUARE FOOT
DN	DOWN	PSL	PARALLEL STRAND LUMBER
DP	DEPTH OR DEEP	PT	PRESSURE TREATED
DTL	DETAIL	P/T	POST TENSIONED
DWG	DRAWING	PVC	POLYVINYL CHLORIDE
		QTY	QUANTITY
(E)	EXISTING		
E	MODULUS OF ELASTICITY	RAD	RADIUS
EA	EACH	RBS	REDUCED BEAM SECTION
EB	EXPANSION BOLT	REF	REFERENCE
EF	EACH FACE	REINF	REINFORCING
EJ	EXPANSION JOINT	REQD	REQUIRED
EL	ELEVATION	RET	RETAINING
ELEC	ELECTRICAL	REV	REVISED, REVISION
EN	EDGE NAIL	RO	ROUGH OPENING
EOR	ENGINEER OF RECORD		
EQ	EQUAL; EARTHQUAKE	SC	SLIP CRITICAL
EW	EACH WAY	SCBF	SPECIAL CONCENTRIC BRACE FRAME
EXT	EXTERIOR	SCH	SCHEDULE
EXTD	EXTEND, EXTENDED	SEOR	STRUCTURAL ENGINEER OF RECORD
		SFRS	SEISMIC FORCE RESISTING SYSTEM
fc	28 DAY CONC COMPRESSIVE STRENGTH	SHT	SHEET
fm	MASONRY NET AREA COMPRESSIVE STRENGTH	SHTG	SHEATHING
Fy	YIELD STRESS	SIM	SIMILAR
Fu	TENSILE STRESS	SLBB	SHORT LEGS BACK TO BACK
F/	FACE OF	SMF	SPECIAL MOMENT FRAME
FAB	FABRICATED / FABRICATOR	SMS	SHEET METAL SCREW
FF	FINISH FLOOR	SOG	SLAB ON GRADE
FN	FIELD NAIL	SOMD	SLAB ON METAL DECK
FLR	FLOOR	SQ	SQUARE
FDN	FOUNDATION	SS	STAINLESS STEEL
FRT	FIRE RETARDANT TREATED	SSH	SHORT SLOTTED HOLE
FS	FAR SIDE	STD	STANDARD
FT	FEET	STL	STEEL
FTG	FOOTING	SQ	SQUARE
		SYM	SYMMETRICAL
GA	GAUGE		
GAF	GAS ACTUATED FASTENER	T/	TOP OF
GALV	GALVANIZED	T&B	TOP AND BOTTOM
GLB	GLUE LAMINATED BEAM	T&G	TONGUE AND GROOVE
GR	GRADE	THRD	THREADED
GWB	GYP SUM WALL BOARD	TPL	TRIPLE
GYP	GYP SUM	TRANS	TRANSVERSE
		TYP	TYPICAL
HD	HOLDOWN		
HDG	HOT-DIP GALVANIZED	UNO	UNLESS NOTED OTHERWISE
HDR	HEADER	URM	UNREINFORCED MASONRY
HEX	HEXAGONAL	UT	ULTRASONIC TEST
HF	HEM-FIR		
HGR	HANGER	VERT	VERTICAL
HORIZ	HORIZONTAL	VIF	VERIFY IN FIELD
HSA	HEADED STUD ANCHOR		
HSS	HOLLOW STRUCTURAL SECTION	W/	WITH
HT	HEIGHT	W/O	WITHOUT
HVAC	HEATING VENTILATION AIR CONDITIONING	WD	WOOD
		WF	WIDE FLANGE
		WP	WORK POINT
		WT	WEIGHT
		WWR	WELDED WIRE REINFORCING

STRUCTURAL
DRAWING SYMBOLS



STRUCTURAL
MATERIAL PATTERNS



STRUCTURAL DRAWING INDEX			
SHEET #	SHEET NAME	BID SET	PERMIT SET
S0.01	COVER SHEET	•	•
S0.02	STRUCTURAL NOTES & SPECIAL INSPECTION	•	•
S1.01	OVERALL ROOF FRAMING PLAN	•	•
S2.01	WING A, B, AND C ROOF FRAMING PLANS	•	•
S2.02	GYM ROOF FRAMING PLAN	•	•
S4.01	WING A TRUSS REPAIR ELEVATIONS	•	•
S4.02	WING B AND C TRUSS REPAIR ELEVATIONS	•	•
S4.03	GYM TRUSS ELEVATIONS	•	•
S8.01	WING A, B, AND C TRUSS REPAIR DETAILS	•	•
S8.02	WING A, B, AND C TRUSS REPAIR DETAILS	•	•
S8.03	GYM TRUSS REPAIR DETAILS	•	•
S8.04	GYM TRUSS REPAIR DETAILS		•

CODE SUMMARY:

BUILDING CODE: 2022 OSSC
YEAR BUILT: 1962 - 1972
AREA: 22,500 SF
BUILDING CONSTRUCTION TYPE: V-B (ASSUMED, NO CHANGE)
OCCUPANCY CLASSIFICATION: E (NO CHANGE)
RISK CATEGORY: III

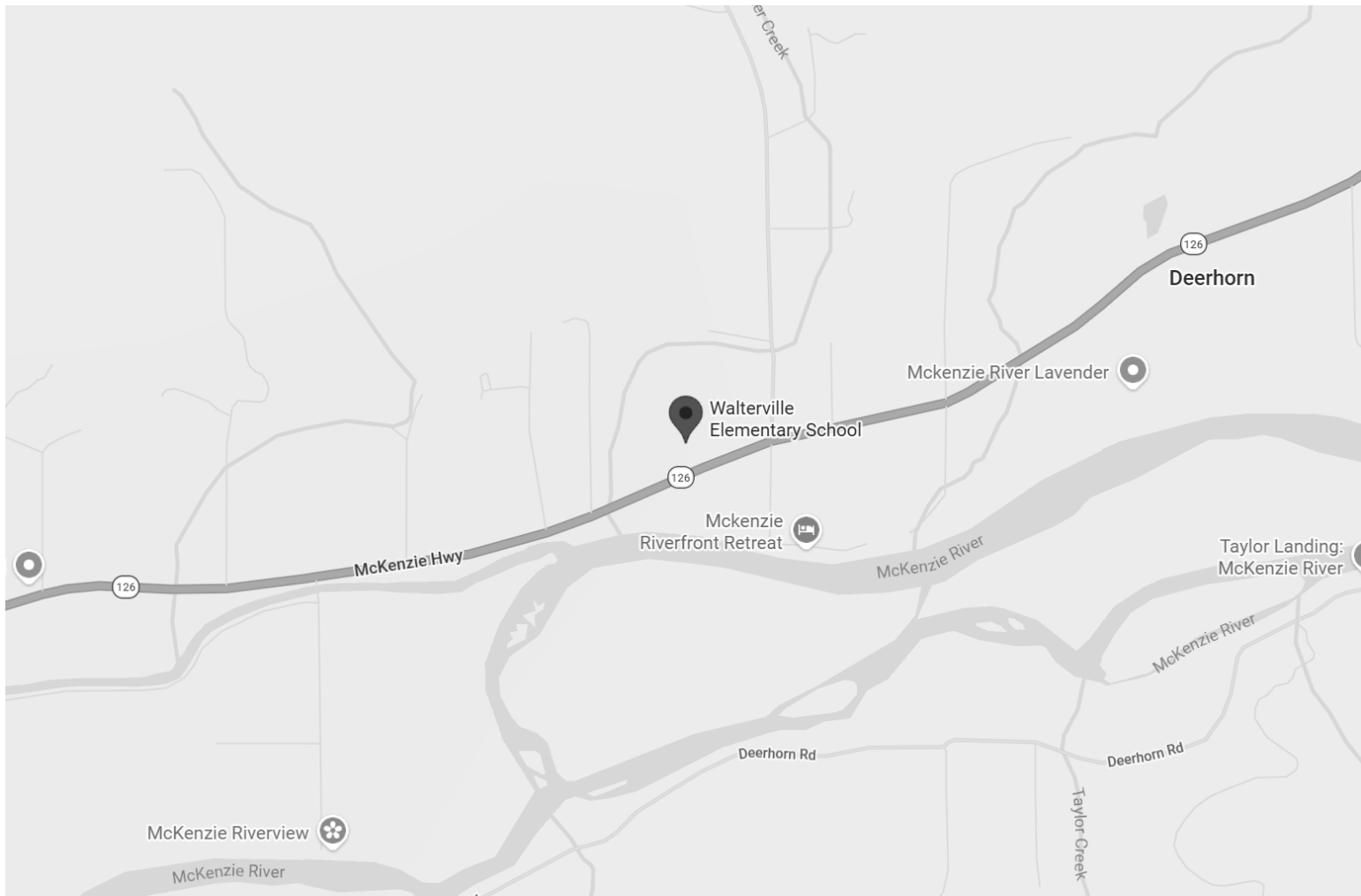
SCOPE OF WORK:

THE SCOPE OF THESE CONSTRUCTION DOCUMENTS INCLUDES REPAIRS TO EXISTING HEAVY TIMBER TRUSSES AS A RESULT OF DEFICIENCIES FOUND IN THE MATERIALS AT THE TIME OF CONSTRUCTION. TRUSSES ARE BEING STRENGTHENED AT THE CLASSROOM WINGS AND THE GYMNASIUM. THE SNOW LOADS USED ARE BASED ON THE SNOW LOAD IN EFFECT AT THE TIME OF OCCUPANCY.

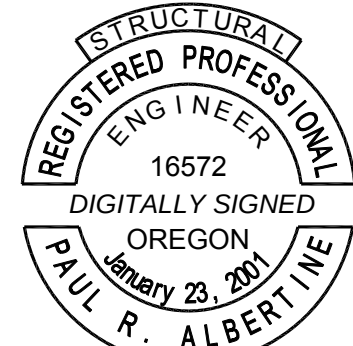
PROJECT DESIGN TEAM:

MILLER CONSULTING ENGINEERS, INC
STRUCTURAL ENGINEER OF RECORD

PRIMARY CONTACT: PAUL ALBERTINE, paul@miller-se.com
SECONDARY CONTACT: ERIC OSTAPENKO, eric.ostapenko@miller-se.com



NORTH
1
VICINITY MAP
S0.01 | NOT TO SCALE



RENEWALS: 12 -31 -2027

A DIGITAL SIGNATURE WATERMARK ON THIS PAGE INDICATES THIS SHEET IS PART OF AN ELECTRONICALLY SIGNED DOCUMENT. REFER TO INDEX ON THIS PAGE FOR ALL SHEETS INCLUDED WITH THIS DIGITAL SIGNATURE.



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WALTERVILLE
ELEMENTARY
SCHOOL ROOF
REPAIR

40589 MCKENZIE HWY
SPRINGFILED, OR 97478

SPRINGFIELD PUBLIC
SCHOOLS

REV	DESCRIPTION	DATE

DESIGNED BY: EO
CHECKED BY: PRA
MCE PROJ #: 251372
ISSUE DATE: 03/20/2026
ISSUANCE: PERMIT SET

SHEET CONTENT

COVER SHEET

SHEET

S0.01

STRUCTURAL NOTES

GENERAL NOTES

THESE CONTRACT DOCUMENTS COMPRISED OF PLANS, SPECIFICATIONS, ENGINEERING AND DESIGN WORK ARE INTENDED SOLELY FOR THE PROJECT SPECIFIED HEREIN. MILLER CONSULTING ENGINEERS (MCE) DISCLAIMS ALL LIABILITY IF THESE PLANS AND SPECIFICATIONS OR THE DESIGN, ADVICE AND INSTRUCTIONS ATTENDANT THERETO ARE USED ON ANY PROJECT OR AT ANY LOCATION OTHER THAN THE PROJECT AND LOCATION SPECIFIED HEREIN.

THE CONTRACT DOCUMENTS REPRESENT THE FINISHED STRUCTURE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONFORMANCE TO ALL SAFETY REGULATIONS DURING CONSTRUCTION. THE CONTRACTOR SHALL PROVIDE ALL METHODS, DIRECTION AND RELATED EQUIPMENT NECESSARY TO PERFORM THE WORK.

SHOULD ANY QUESTION ARISE REGARDING THE CONTRACT DOCUMENTS OR SITE CONDITIONS, THE CONTRACTOR SHALL REQUEST INTERPRETATION AND CLARIFICATION FROM THE ENGINEER BEFORE BEGINNING THE PROJECT. THE ABSENCE OF SUCH REQUEST SHALL SIGNIFY THAT THE CONTRACTOR HAS REVIEWED AND FAMILIARIZED THEMSELVES AND HAS COMPLETE COMPREHENSION OF ALL ASPECTS OF THE PROJECT.

THE CONTRACTOR IS RESPONSIBLE FOR VERIFICATION AND CORRELATION OF ALL ITEMS AND WORK NECESSARY FOR COMPLETION OF THE PROJECT AS INDICATED BY THE CONTRACT DOCUMENTS. THE CONTRACT DOCUMENTS ARE STRUCTURAL ONLY AND DO NOT NECESSARILY INDICATE ALL NON-STRUCTURAL PORTIONS OF THE PROJECT INCLUDING, BUT NOT LIMITED TO, PLUMBING, FIRE SUPPRESSION, ELECTRICAL, MECHANICAL, LAND USE, SITE PLANNING, EROSION CONTROL FLASHING AND WATER-PROOFING. ALL NON-STRUCTURAL PORTIONS OF WORK, AND STRUCTURAL WORK NOTED AS DELEGATED DESIGN IN THE SUBMITTAL SCHEDULE, ARE BEYOND THE SCOPE OF THESE DOCUMENTS AND ARE PROVIDED BY OTHERS. THE CONTRACTOR IS RESPONSIBLE FOR VERIFICATION AND CORRELATION OF ALL NON-STRUCTURAL ITEMS IMPACTED BY THE STRUCTURAL WORK. THESE ITEMS SHALL BE RESTORED TO THEIR ORIGINAL CONDITION OR MODIFIED IN ACCORDANCE WITH THE RECOMMENDATIONS OF A QUALIFIED DESIGN PROFESSIONAL ENGAGED AT THE CONTRACTOR'S OWN EXPENSE.

ANY MATERIAL NOT AS SPECIFIED IN THE CONTRACT DOCUMENTS OR IMPROPER MATERIAL INSTALLATION OR WORKMANSHIP SHALL BE REMOVED AND REPLACED WITH SPECIFIED MATERIAL IN A WORKMANLIKE MANNER AT THE CONTRACTOR'S EXPENSE. IT IS THE CONTRACTOR'S RESPONSIBILITY TO PROTECT ALL MATERIALS FROM DAMAGE THROUGHOUT THE COURSE OF CONSTRUCTION.

ALL MANUFACTURED PRODUCTS SPECIFIED SHALL BE USED UNLESS AN ALTERNATE IS SUBMITTED AND APPROVED BY THE SEOR. MANUFACTURED PRODUCTS REQUIRING A BUILDING CODE EVALUATION REPORT SHALL HAVE A CURRENT REPORT DEMONSTRATING CONFORMANCE WITH THE APPLICABLE BUILDING CODE, VALID AT THE TIME OF PRODUCT INSTALLATION.

TEMPORARY MEASURES/SHORING

THE CONTRACTOR IS RESPONSIBLE FOR IDENTIFYING ALL INSTANCES WHERE TEMPORARY MEASURES/SHORING ARE REQUIRED, AND SHALL AT THEIR OWN EXPENSE, ENGAGE PROPERLY QUALIFIED PERSONS TO DETERMINE WHERE AND HOW TEMPORARY MEASURES/SHORING ARE REQUIRED. TEMPORARY MEASURES/SHORING SHALL:

- PROTECT PERSONNEL AND THE PUBLIC.
- PREVENT SETTLEMENT AND/OR DAMAGE TO THE BUILDING AND/OR EXISTING FACILITIES
- PROTECT STREETS, WALKWAYS, UTILITIES, AND IMPROVEMENTS.
- PROTECT ALL EXCAVATIONS AGAINST LOSS OF GROUND OR CAVING OF EMBANKMENTS DURING CONSTRUCTION.

BUILDING CODE

ALL PHASES OF THE WORK SHALL CONFORM TO THE 2022 OREGON STRUCTURAL SPECIALTY CODE (OSSC), BASED ON THE 2021 INTERNATIONAL BUILDING CODE (IBC), INCLUDING ALL REFERENCE STANDARDS, UNLESS NOTED OTHERWISE.

SPECIAL INSPECTION/TESTING

SPECIAL INSPECTION AND/OR TESTING IS REQUIRED IN ACCORDANCE WITH BUILDING CODE SECTION 1704. IT IS THE OWNER'S RESPONSIBILITY TO PROVIDE SPECIAL INSPECTION AND TESTING BY A QUALIFIED THIRD PARTY, SUCH AS A TESTING AGENCY REVIEWED BY THE ENGINEER AND APPROVED BY THE BUILDING OFFICIAL. THE CONTRACTOR SHALL PROVIDE SUFFICIENT NOTICE TO ALLOW SCHEDULING OF SPECIAL INSPECTION.

STRUCTURAL OBSERVATION

SPECIAL INSPECTIONS SHALL CONFORM TO SECTION 1705 OF THE BUILDING CODE, CONTRACT DOCUMENTS AND SUBMITTALS. THE SPECIAL INSPECTOR SHALL OBSERVE THE INDICATED WORK FOR COMPLIANCE WITH THE CONSTRUCTION DOCUMENTS. ALL DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE CONTRACTOR FOR CORRECTION AND NOTED IN THE INSPECTION REPORTS. FOR PROJECT REQUIREMENTS REFER TO THE SPECIAL INSPECTION TABLES WITHIN THE CONTRACT DOCUMENTS.

SHOP DRAWINGS/SUBMITTALS

SUBMITTALS AND SHOP DRAWINGS FOR SPECIFIC PRODUCTS GENERATED BY THE SUPPLIER SHALL BE SUBMITTED FOR THE ITEMS NOTED IN THE SUBMITTAL SCHEDULE. SHOP DRAWINGS SHALL BE TO SCALE AND SHOW COMPLETE DETAILS AND INSTRUCTIONS FOR FABRICATION AND ASSEMBLY. SHOP DRAWINGS SHALL INDICATE ERECTION AND TEMPORARY BRACING INFORMATION FOR CONTRACTOR'S USE.

THE DESIGN OF ITEMS NOTED IN THE SUBMITTAL SCHEDULE AS DELEGATED DESIGN SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. DOCUMENTS FOR THE DESIGN AND FABRICATION OF DELEGATED DESIGN ITEMS (INCLUDING STRUCTURAL CALCULATIONS AND DRAWINGS) SHALL BEAR THE SEAL AND SIGNATURE OF A LICENSED ENGINEER REGISTERED IN THE STATE THAT THE PROJECT IS BEING CONSTRUCTED.

DEFERRED SUBMITTAL ITEMS NOTED IN THE SUBMITTAL SCHEDULE ARE PORTIONS OF THE DESIGN THAT ARE NOT SUBMITTED AT THE TIME OF PERMIT APPLICATION AND ARE REQUIRED TO BE SUBMITTED TO THE BUILDING OFFICIAL.

THE CONTRACTOR SHALL REVIEW AND MODIFY ALL SUBMITTALS AS REQUIRED FOR CONFORMANCE WITH THE CONTRACT DOCUMENTS AND SIGN AND DATE ALL SETS OF THE SUBMITTAL DOCUMENTS PRIOR TO SUBMITTAL TO THE ENGINEER. THE CONTRACTOR SHALL SCHEDULE SUBMITTALS TO ALLOW SUFFICIENT TIME FOR REVIEW AND POSSIBLE RE-SUBMITTAL. WHERE RE-SUBMITTALS ARE REQUIRED, CHANGES FROM THE PREVIOUS SUBMITTAL SHALL BE CLEARLY INDICATED WITH REVISION CLOUDS OR SIMILAR.

SUBMITTAL SCHEDULE

ITEM	SUBMITTAL	SHOP DRAWING	DELEGATED DESIGN	DEFERRED SUBMITTAL
PRESTRESSING CABLE	X			
PRESTRESSING CABLE ACCESSORIES	X			
FABRICATED STRUCTURAL STEEL ELEMENTS	X	X		
STEEL WELDING PROCEDURES	X			

STRUCTURAL DESIGN CRITERIA

LIVE LOAD REDUCTION FOR BEAMS AND COLUMNS WAS NOT USED. DESIGN FOR MECHANICAL LOADS INCLUDES ONLY THOSE INDICATED ON STRUCTURAL DRAWINGS. THE FOLLOWING ARE THE DESIGN REQUIREMENTS:

STRUCTURAL DESIGN CRITERIA	
RISK CATEGORY	III
DEAD LOAD	
WING A TRUSS TOP CHORD	10 PSF
WING A TRUSS BOT CHORD	8 PSF
WING B AND C TRUSS TOP CHORD	10.5 PSF
WING B AND C TRUSS BOT CHORD	9 PSF
GYM TRUSS TOP CHORD	15.3 PSF
GYM TRUSS BOT CHORD	7.2 PSF
ROOF SNOW LOAD	
DESIGN ROOF SNOW LOAD	30 PSF
WIND DESIGN DATA	
WING A, B, AND C ROOF WIND UPLIFT	10.6 PSF
GYM ROOF WIND UPLIFT	10.9 PSF

DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL SHALL CONFORM TO THE SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS (AISC 360). QUALITY ASSURANCE (QA) IS REQUIRED FOR STRUCTURAL STEEL ITEMS PER AISC 360 AND 341 UNLESS SPECIFICALLY NOTED OTHERWISE. QUALITY CONTROL (QC) TO BE PROVIDED BY THE FABRICATOR, ERECTOR OR OTHER RESPONSIBLE CONTRACTOR AS APPLICABLE. CONTRACTOR AND SPECIAL INSPECTOR TO DOCUMENT QUALITY CONTROL AS REQUIRED IN AISC 360 SECTION N3 AND AISC 341 SECTION J2.

ALL STRUCTURAL AND MISCELLANEOUS STEEL SHALL CONFORM TO THE FOLLOWING MATERIAL STANDARDS:

STRUCTURAL STEEL MATERIAL STANDARDS		
SHAPE	ASTM SPECIFICATION	YIELD STRESS
W-SECTIONS	A992	50 KSI
ALL OTHER SECTIONS AND PL	A36	36 KSI

ALL STRUCTURAL STEEL SHALL HAVE ONE SHOP COAT OF PRIMER, EXCEPT SURFACES TO BE EMBEDDED IN CONCRETE OR MASONRY OR STEEL TO BE GALVANIZED. EMBEDDED SURFACES SHALL BE FREE OF CONTAMINANTS. ALL EXPOSED STRUCTURAL STEEL AND FASTENINGS TO HAVE ONE FINISH COAT OF RUST INHIBITING PAINT, COLOR BY OWNER. FAYING SURFACES OF STEEL BOLTED CONNECTIONS IDENTIFIED AS SLIP CRITICAL SHALL BE PREPARED IN ACCORDANCE WITH RCSC SPECIFICATION FOR JOINTS USING HIGH-STRENGTH BOLTS SECTION 3.2.2

STRUCTURAL STEEL BOLTING
ALL BOLTS IN STEEL TO STEEL CONNECTIONS SHALL BE ASTM F3125 GRADE A325 WITH MATCHING NUTS, UNLESS NOTED OTHERWISE. NUTS SHALL BE TIGHTENED TO A SNUG TIGHT CONDITION, UNLESS CONNECTION IS NOTED AS SLIP-CRITICAL OR PRETENSIONED.

- SNUG TIGHT CONDITION SHALL BE PER RESEARCH COUNCIL ON STRUCTURAL CONNECTIONS (RCSC) SPECIFICATION FOR STRUCTURAL JOINTS, USING HIGH STRENGTH FASTENERS, SECTION 8.1
- SLIP-CRITICAL AND PRETENSIONED CONNECTIONS, INSTALLATION OF FASTENERS SHALL BE PER RCSC SECTION 8.2.

STRUCTURAL STEEL WELDING
ALL WELDING SHALL CONFORM TO AMERICAN WELDING SOCIETY (AWS) D1.1 USING E70XX ELECTRODES. WELDING SHALL BE PERFORMED BY WELDERS CERTIFIED BY AWS FOR THE WELD TYPES SPECIFIED. WELD LENGTHS SHOWN ARE EFFECTIVE AS SPECIFIED PER THE SPECIFICATIONS OF THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC). WHERE WELD LENGTHS ARE NOT SHOWN, THE WELD SHALL BE FULL LENGTH OF MEMBERS BEING JOINED. FIELD WELDING SYMBOLS HAVE NOT NECESSARILY BEEN INDICATED ON THE DRAWINGS. WHERE SHOWN, PROPER FIELD WELDING PER AWS D1.1 SHALL BE USED. WHERE NO FIELD WELDING SYMBOLS ARE SHOWN, IT IS THE CONTRACTOR'S RESPONSIBILITY TO COORDINATE THE USE OF SHOP AND FIELD WELDS.

ALL PARTIAL JOINT PENETRATION GROOVE WELD SIZES SHOWN ON THE DRAWINGS REFER TO THE EFFECTIVE THROAT THICKNESS. ALL BUTT WELDS SHALL BE FULL PENETRATION WELDS UNLESS NOTED OTHERWISE ON STRUCTURAL DRAWINGS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE JOINT PREPARATION AND WELDING PROCEDURES THAT INCLUDE, BUT ARE NOT LIMITED TO: REQUIRED ROOT OPENINGS, ROOT FACE DIMENSIONS, GROOVE ANGLES, BACKING BARS, COPES, SURFACE ROUGHNESS VALUES AND TAPERS AND TRANSITIONS OF UNEQUAL PARTS.

ALL WELDS SHALL RECEIVE THE SAME FINISH COATING AS THE MEMBER BEING WELDED. ANY COATINGS ON THE STRUCTURAL AFFECTED BY WELDING SHALL BE REPAIRED AS REQUIRED.

WOOD FRAMING	
ALL WOOD STRUCTURAL GRADES SHALL BE PER TYPICAL WOOD FRAMING SCHEDULE UNLESS NOTED OTHERWISE.	
TYPICAL WOOD FRAMING SCHEDULE	
MEMBER	VISUALLY GRADED (MIN)
COLUMNS	DF/L #1
BEAMS	DF/L #1
SILL PL TO CONCRETE/MASONRY	PT HF #2
BOT PLUSOLE PL TOP PL	DF/L #2
STUDS	DF/L #2
BUILT-UP STUD PACKS	DF/L #2
BLOCKING	DF/L CONSTRUCTION
NON-STRUCTURAL FRAMING	DF/L CONSTRUCTION

ALL WOOD PLATES IN CONTACT WITH CONCRETE OR MASONRY SHALL BE PRESSURE TREATED UNLESS NOTED OTHERWISE. ALL COLUMNS SHALL HAVE SOLID BLOCKING FOR THE FULL COLUMN AREA TO SUPPORTING MEMBERS BELOW. COLUMNS SHALL ALIGN THROUGH ALL FLOORS TO THE FOUNDATION. ALL SAWN LUMBER SHALL HAVE A MOISTURE CONTENT LESS THAN 19% (S-DRY) PRIOR TO INSTALLATION OF NON-STRUCTURAL COMPONENTS.

WOOD FRAMING CONNECTIONS
ALL NAILS SHALL BE COMMON. FASTENERS SHALL NOT BE OVERDRIVEN. PREDRILL ALL SCREWS INTO EXISTING LUMBER TO ¾ OF THE ROOT THREAD DIAMETER OF THE SCREW. ALL NAILS IN HANGERS SHALL BE SUBSTITUTED WITH EQUIVALENT SIZE AND LENGTH SCREWS UNO

PREFABRICATED METAL TIMBER CONNECTORS SHALL BE MANUFACTURED BY SIMPSON STRONG-TIE, UNLESS NOTED OTHERWISE. ALL PREFABRICATED METAL TIMBER CONNECTORS AND HANGERS SHALL BE FULLY BOLTED, NAILED, AND/OR SCREWED AS INDICATED BY MANUFACTURER, UNLESS NOTED OTHERWISE. ALL CONNECTORS, HANGERS AND FASTENERS SHALL BE CORROSION PROTECTED PER MANUFACTURER'S RECOMMENDATIONS.

ALL BOLTS IN WOOD CONNECTIONS SHALL BE ASTM A307 GRADE A. ALL BOLT HEADS OR NUTS BEARING ON WOOD TO HAVE STANDARD WASHERS. BOLT HOLES IN WOOD SHALL BE A MINIMUM OF 1/32" TO A MAXIMUM OF 1/16" LARGER THAN THE BOLT.

ENGINEERED LUMBER
ENGINEERED LUMBER SHALL HAVE A BUILDING CODE EVALUATION REPORT.

ALL ENGINEERED LUMBER EXPOSED TO WEATHER AND SUBJECT TO DECAY, SHALL BE PRESERVATIVE TREATED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS FOR PRESERVATIVE MATERIALS, RETENTION RATES, AND END USE.

LAMINATED VENEER LUMBER (LVL)
LVL FRAMING SHALL HAVE THE FOLLOWING MINIMUM PROPERTIES:

PROPERTY	MINIMUM VALUE
MODULUS OF ELASTICITY, E (PSI)	2,000,000
FLEXURAL STRESS, F _b (PSI)	2,600
TENSION STRESS, F _t (PSI)	1,895
COMPRESSION PERPENDICULAR TO GRAIN, F _{c, PERP} (PSI)	750
COMPRESSION PARALLEL TO GRAIN, F _c (PSI)	2,510
HORIZONTAL SHEAR PARALLEL TO GRAIN, F _v (PSI)	285
SPECIFIC GRAVITY	0.50

LAMINATED STRAND LUMBER (LSL) — GENERAL FRAMING
LSL FRAMING FOR BEAMS, STUDS AND COLUMNS SHALL HAVE THE FOLLOWING MINIMUM PROPERTIES:

PROPERTY	MINIMUM VALUE
MODULUS OF ELASTICITY, E (PSI)	1,300,000
FLEXURAL STRESS, F _b (PSI)	2,250
TENSION STRESS, F _t (PSI)	1,815
COMPRESSION PERPENDICULAR TO GRAIN, F _{c, PERP} (PSI)	750
COMPRESSION PARALLEL TO GRAIN, F _c (PSI)	2,105
HORIZONTAL SHEAR PARALLEL TO GRAIN, F _v (PSI)	505
SPECIFIC GRAVITY	0.50

POST-TENSIONING CABLES FOR WOOD TRUSS STRENGTHENING

POST-TENSIONING CABLES SHALL MEET THE REQUIREMENTS SET FORTH IN THE SPECIFICATIONS FOR UNBONDED SINGLE STRAND TENDONS (LATEST EDITION) AND THE SPECIFICATION FOR SEVEN-WIRE PRESTRESSING STEEL STRAND FOR BARRIER CABLE APPLICATIONS PUBLISHED BY THE POST-TENSIONING INSTITUTE (PTI).

POST-TENSIONING CABLES SHALL BE INSTALLED TO THE JACKING PRESTRESS FORCE AS SPECIFIED ON THE PLANS. ANCHORAGES, COUPLERS AND FITTINGS SHALL MEET THE FOLLOWING:

- HAVE A BUILDING CODE EVALUATION REPORT
- DEVELOP A MINIMUM OF 100% OF THE ULTIMATE STRENGTH OF THE CABLE
- HAVE A GALVANIZED COATING

CABLES SHALL BE 1/2" DIAMETER CONFORMING TO ASTM A416, GRADE 270 FOR SEVEN-WIRE LOW RELAXATION STRAND. CABLE SHALL HAVE A ZINC GALVANIZED COATING CONFORMING TO ASTM A475

EACH STRESSING JACK AND GAUGE COMBINATION SHALL BE CALIBRATED AS A UNIT TO KNOWN STANDARDS AT INTERVALS NOT EXCEEDING 6 MONTHS. COPIES OF THE CALIBRATION CERTIFICATES FOR EACH JACK AND GAUGE COMBINATION BEING USED SHALL BE SUBMITTED TO THE SEOR FOR REVIEW.

CABLE INSTALLATION AND STRESSING OPERATIONS SHALL BE PERFORMED UNDER THE IMMEDIATE CONTROL OF A PERSON WHO IS A PTI CERTIFIED INSTALLER EXPERIENCED IN THIS TYPE OF WORK.

STEEL - SPECIAL INSPECTIONS					
SYSTEM OR MATERIAL	OSSC CODE REFERENCE	CODE OR STANDARD REFERENCE	FREQUENCY / INSPECTION		REMARKS
			CONTINUOUS/ PERFORM	PERIODIC/ OBSERVE	
STRUCTURAL STEEL WELDING					
VERIFYING WELDER QUALIFICATIONS		AWS D1.1		X	RETAIN A RECORD OF QUALIFICATION CARDS
COMPLETE AND PARTIAL JOINT PENETRATION GROOVE WELDS	TABLE 1705.2-6	AWS D1.1 CLAUSE 6	X		
SINGLE PASS FILLET WELDS LESS THAN OR EQUAL TO 5/16"				X	
HIGH-STRENGTH BOLTING					
SNUG-TIGHT BOLT INSTALLATION	1705.2.1 TABLE 1705.2-2 AISC 360 M2-5 AISC 360 N5-6	RCSC SPECIFICATION FOR STRUCTURAL JOINTS USING ASTM A325 OR A490 BOLTS SECTION 9 AISC 360 SECTION M2.5		X	ALL CONNECTIONS VISUALLY INSPECTED AND VERIFIED SNUG
PRETENSIONED BOLT INSTALLATION USING TURN-OF-THE-NUT METHOD WITH MATCH MARKING, DIRECT TENSION INDICATOR METHOD, OR TWIST-OFF TYPE TENSION CONTROL BOLT METHOD				X	ALL CONNECTIONS VISUALLY INSPECTED. INCLUDING FAYING SURFACES TO BE JOINED. BOLT TIGHTNESS TO BE VERIFIED BY INSPECTOR PER RCSC SPEC. SECTION 9.
INSPECTION TASKS PRIOR TO BOLTING					
MANUFACTURER'S CERTIFICATIONS AVAILABLE FOR FASTENER MATERIALS			X		
FASTENERS MARKED IN ACCORDANCE WITH ASTM REQUIREMENTS				X	
PROPER FASTENERS SELECTED FOR THE JOINT DETAIL (GRADE, TYPE, BOLT LENGTH, IF THREADS ARE TO BE EXCLUDED FROM THE SHEAR PLANE)				X	
PROPER BOLTING PROCEDURE SELECTED FOR JOINT DETAIL				X	
CONNECTING ELEMENTS+ INCLUDING THE APPROPRIATE FAYING SURFACE CONDITION AND HOLE PREPARATION, IF SPECIFIED, MEET APPLICABLE REQUIREMENTS	1705.2.1.2 TABLE 1705.2-2	AISC 360 TABLE N5.6-1 AISC 360 M2.5		X	
PRE-INSTALLATION VERIFICATION TESTING BY INSTALLATION PERSONNEL OBSERVED AND DOCUMENTED FOR FASTENER ASSEMBLIES AND METHODS USED				X	
PROPER STORAGE PROVIDED FOR BOLTS, NUTS, WASHERS AND OTHER FASTENER COMPONENTS				X	
INSPECTION TASKS DURING BOLTING					
FASTENER ASSEMBLIES, OF SUITABLE CONDITION, PLACED IN ALL HOLES AND WASHERS (IF REQUIRED) ARE POSITIONED AS REQUIRED				X	
JOINT BROUGHT TO THE SNUG-TIGHT CONDITION PRIOR TO THE PRETENSIONING OPERATION				X	
FASTENER COMPONENT NOT TURNED BY THE WRENCH PREVENTED FROM ROTATING	1705.2.1.2 TABLE 1705.2-2	AISC 360 TABLE N5.6-2 AISC M2.5 RCSC SPECIFICATION FOR STRUCTURAL JOINTS USING ASTM A325 OR A490 BOLTS SECTION 9		X	
FASTENERS ARE PRETENSIONED IN ACCORDANCE WITH THE RCSC SPECIFICATION, PROGRESSING SYSTEMATICALLY FROM THE MOST RIGID POINT TOWARD THE FREE EDGES				X	
INSPECTION TASKS AFTER BOLTING					
DOCUMENT ACCEPTANCE OR REJECTION OF BOLTED CONNECTIONS	1705.2.1.2 TABLE 1705.2-2	AISC 360 TABLE N5.6-3	X		

WOOD BEAM REPAIRS - SPECIAL INSPECTIONS			
SYSTEM OR MATERIAL	FREQUENCY		REMARKS
	CONTINUOUS	PERIODIC	
POST-TENSIONED CABLE PLACEMENT		X	REINFORCING TO COMPLY WITH ALL CODE PROTECTION, SPACING AND TOLERANCE LIMITS.
POST-TENSIONED CABLE GRADE		X	
APPLICATION OF PRESTRESSING FORCES FOR POST-TENSIONED CABLES	X		DOCUMENT APPLIED FORCE AND ELONGATION.
EPOXY CRACK INJECTION AND INSTALLATION OF FASTENERS FOR REPAIR OF BEAM CRACKS	X		REFERENCE INSTALLATION SEQUENCE ON DETAIL 4/S8.01

A DIGITAL SIGNATURE WATERMARK ON PAGE S0.01 INDICATES THIS SHEET IS PART OF AN ELECTRONICALLY SIGNED DOCUMENT.

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WALTERVILLE
ELEMENTARY
SCHOOL ROOF
REPAIR

40589 MCKENZIE HWY
SPRINGFILED, OR 97478

SPRINGFIELD PUBLIC
SCHOOLS

REV	DESCRIPTION	DATE

DESIGNED BY: EO
CHECKED BY: PRA
MCE PROJ #: 251372
ISSUE DATE: 03/20/2026
ISSUANCE: PERMIT SET

SHEET CONTENT
STRUCTURAL NOTES &
SPECIAL INSPECTION

SHEET

S0.02

GENERAL SHEET NOTES:

- G1. SEE S0.01 AND SUBSEQUENT SHEETS FOR STRUCTURAL NOTES AND SPECIAL INSPECTION REQUIREMENTS
- G2. FIELD VERIFY EXISTING CONDITIONS PRIOR TO DEMOLITION OR PURCHASE OF MATERIALS
- G3. THESE PLANS ARE STRUCTURAL ONLY - SIDING, FLASHING, MOISTURE PROTECTION, ETC ARE DESIGNED BY OTHERS
- G4. PREDRILL PILOT HOLES FOR ALL FASTENERS INTO EXISTING WOOD MEMBERS. HOLE SIZE TO BE 7/8 OF FASTENER ROOT DIAMETER.
- G5. CONTRACTOR TO VERIFY NO SPLITS OCCUR AT ANY TRUSS MEMBER. WHERE SPLITS OCCUR NOTIFY SEOR. A SPLIT IS DEFINED AS A CRACK THAT EXTENDS THRU THE MEMBER AND IS PRESENT ON OPPOSITE FACES. CONTRACTOR TO DOCUMENT ALL SPLITS.
- G6. CONTRACTOR TO REMOVE AND REPLACE ARCHITECTURAL FINISHES AS NEEDED TO COMPLETE THE STRUCTURAL REPAIRS. MATCH EXISTING FINISHES.



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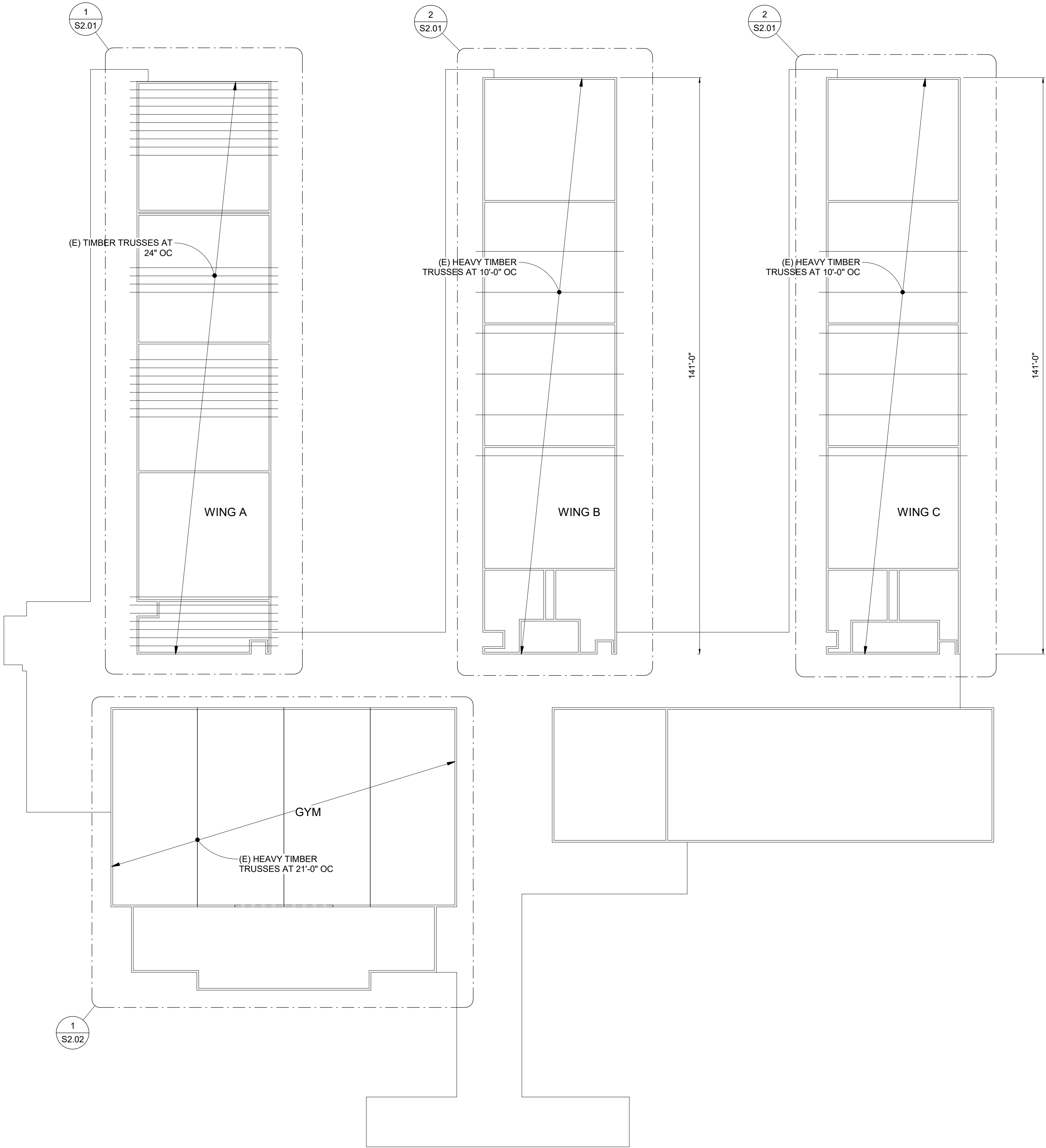
REV	DESCRIPTION	DATE
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SHEET CONTENT
OVERALL ROOF FRAMING
PLAN

SHEET

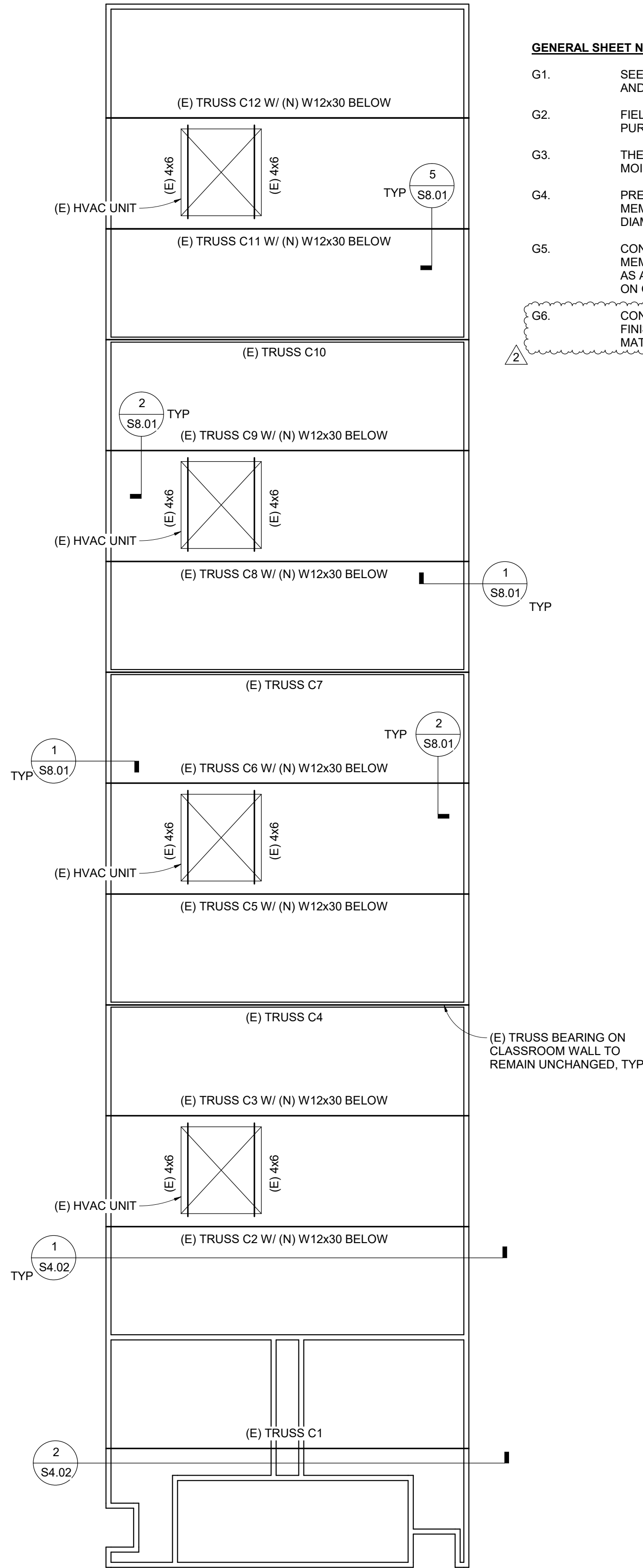
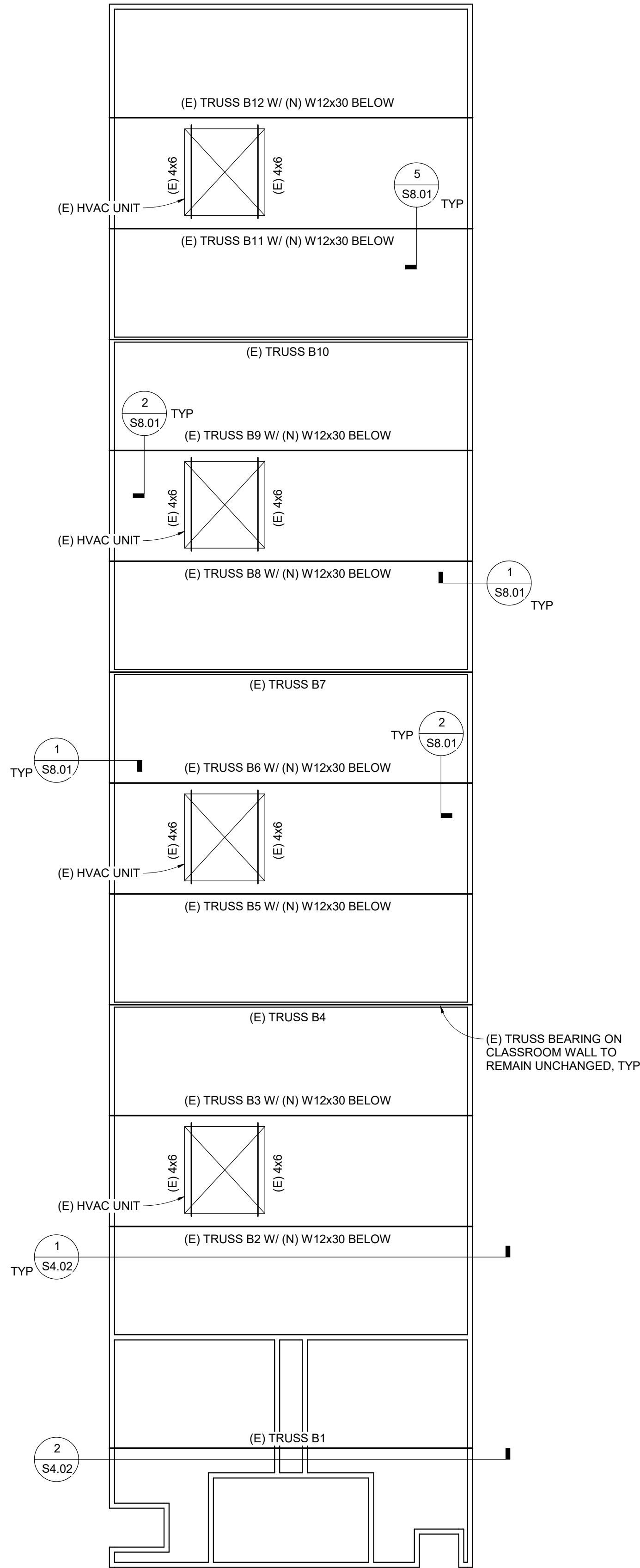
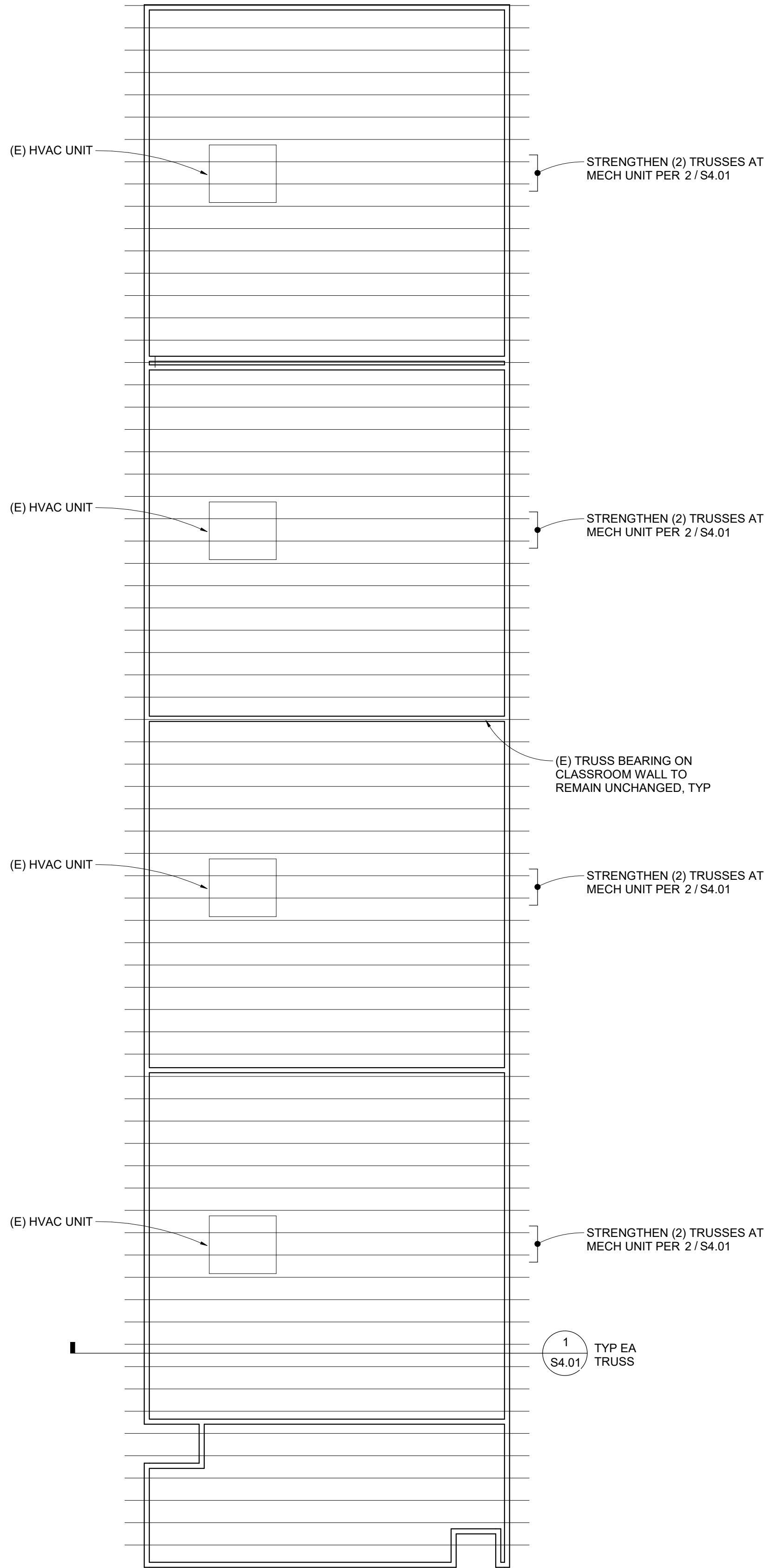
S1.01



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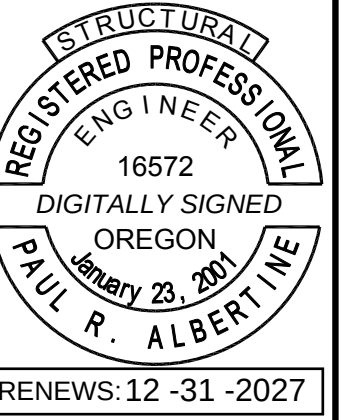
OVERALL ROOF FRAMING PLAN

S1.01 | 1/16" = 1'-0"



GENERAL SHEET NOTES:

- G1. SEE S0.01 AND SUBSEQUENT SHEETS FOR STRUCTURAL NOTES AND SPECIAL INSPECTION REQUIREMENTS
- G2. FIELD VERIFY EXISTING CONDITIONS PRIOR TO DEMOLITION OR PURCHASE OF MATERIALS
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- G5. CONTRACTOR TO VERIFY NO SPLITS OCCUR AT ANY TRUSS MEMBER. WHERE SPLITS OCCUR NOTIFY SEOR. A SPLIT IS DEFINED AS A CRACK THAT EXTENDS THRU THE MEMBER AND IS PRESENT ON OPPOSITE FACES. CONTRACTOR TO DOCUMENT ALL SPLITS.
- G6. CONTRACTOR TO REMOVE AND REPLACE ARCHITECTURAL FINISHES AS NEEDED TO COMPLETE THE STRUCTURAL REPAIRS. MATCH EXISTING FINISHES.



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SHEET CONTENT

WING A, B, AND C ROOF
FRAMING PLANS

SHEET

S2.01

1 WING A ROOF FRAMING PLAN
S2.01 | 1/8" = 1'-0"

2 WING B ROOF FRAMING PLAN
S2.01 | 1/8" = 1'-0"

3 WING C ROOF FRAMING PLAN
S2.01 | 1/8" = 1'-0"



GENERAL SHEET NOTES:

- G1. SEE S0.01 AND SUBSEQUENT SHEETS FOR STRUCTURAL NOTES AND SPECIAL INSPECTION REQUIREMENTS
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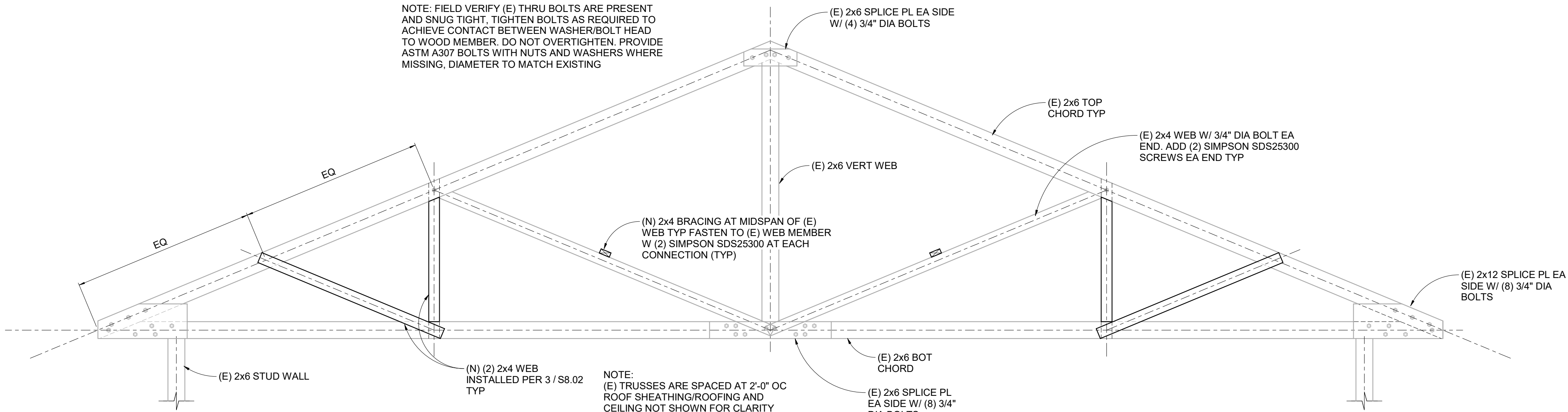
SHEET CONTENT
GYM ROOF FRAMING PLAN

SHEET
S2.02



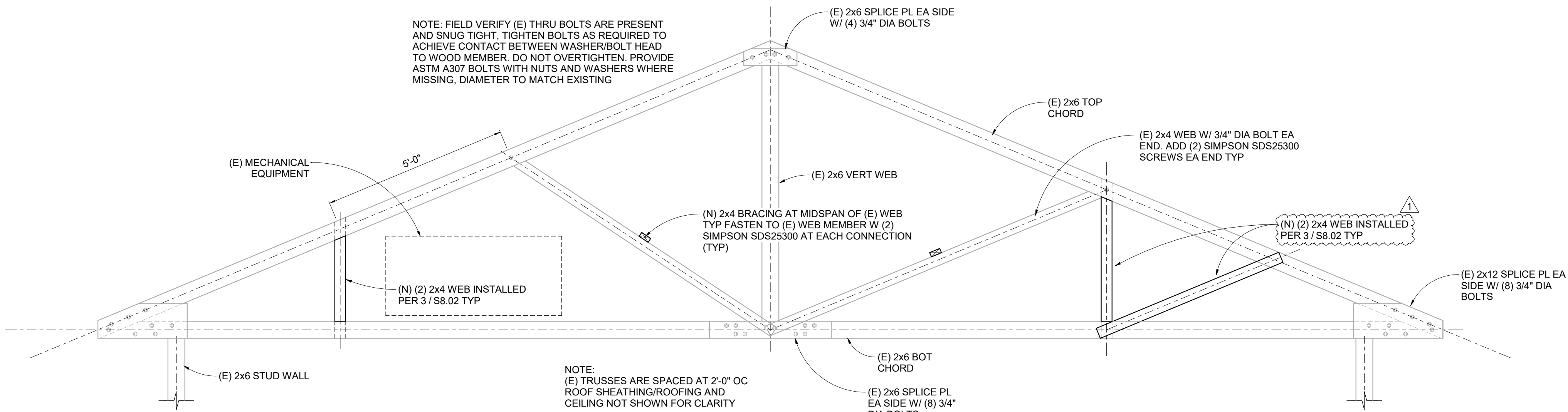
1 GYM ROOF FRAMING PLAN

S2.02 | 1/4" = 1'-0"



1 WING A TYP TRUSS REPAIR

S4.01 | 1/2" = 1'-0"



2 WING A TRUSS REPAIR AT MECH UNITS

S4.01 | 1/2" = 1'-0"

GENERAL SHEET NOTES:

- G1. SEE S0.01 AND SUBSEQUENT SHEETS FOR STRUCTURAL NOTES AND SPECIAL INSPECTION REQUIREMENTS
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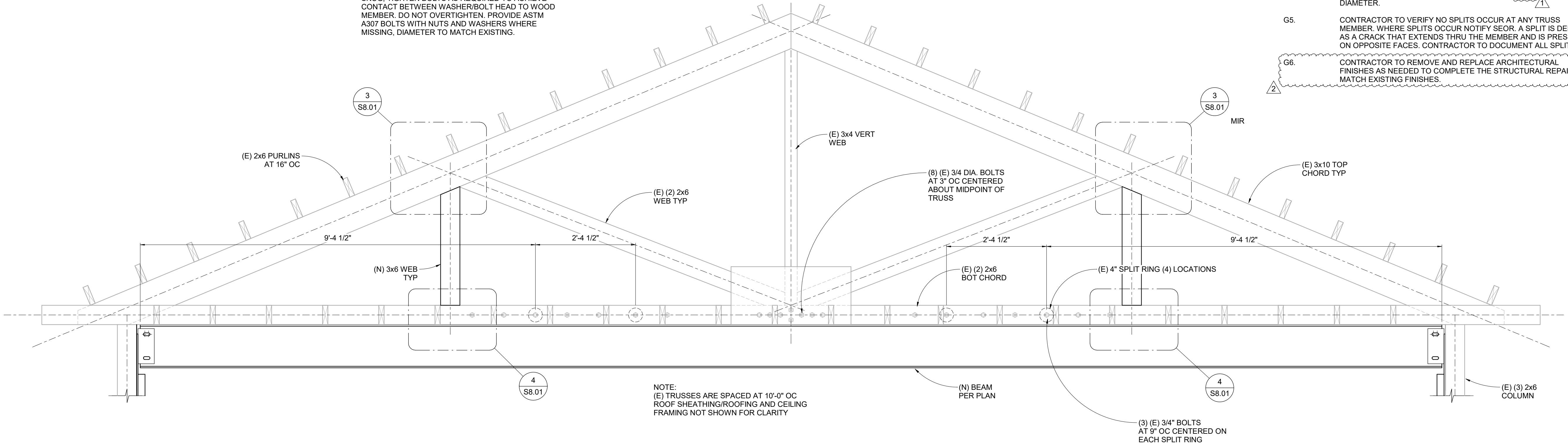
SHEET CONTENT

WING A TRUSS REPAIR
ELEVATIONS

SHEET

S4.01

TRUSS BOLTS:
FIELD VERIFY (E) THRU BOLTS ARE PRESENT AND
SNUG, TIGHTEN BOLTS AS REQUIRED TO ACHIEVE
CONTACT BETWEEN WASHER/BOLT HEAD TO WOOD
MEMBER. DO NOT OVERTIGHTEN. PROVIDE ASTM
A307 BOLTS WITH NUTS AND WASHERS WHERE
MISSING. DIAMETER TO MATCH EXISTING.



GENERAL SHEET NOTES:

- G1. SEE S0.01 AND SUBSEQUENT SHEETS FOR STRUCTURAL NOTES AND SPECIAL INSPECTION REQUIREMENTS
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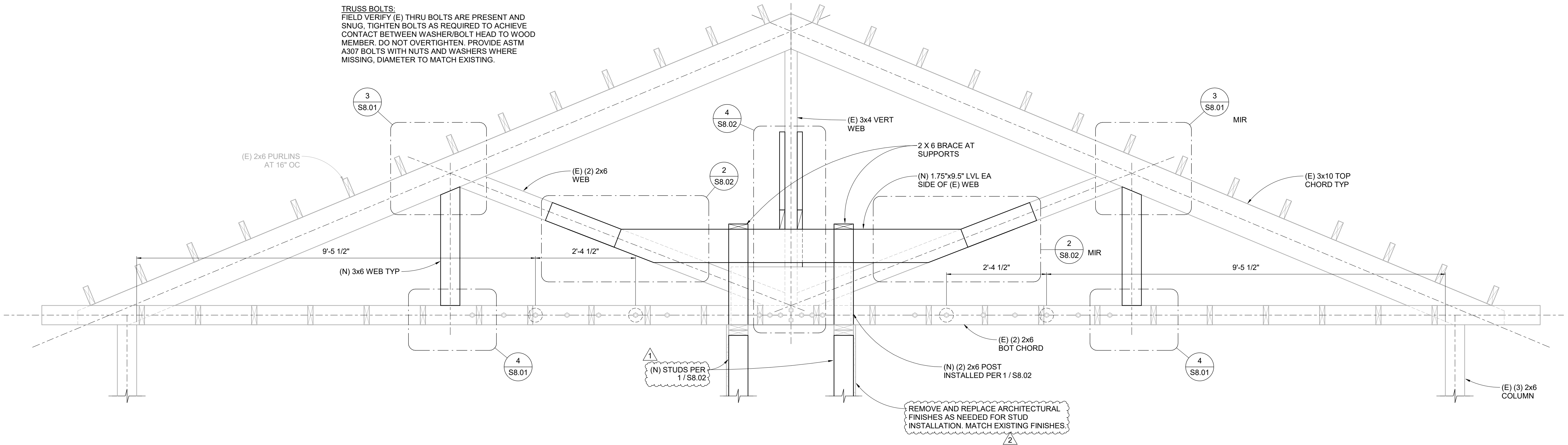
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1 WING B AND C TYP TRUSS REPAIR

S4.02 | 3/4" = 1'-0"

TRUSS BOLTS:
FIELD VERIFY (E) THRU BOLTS ARE PRESENT AND
SNUG, TIGHTEN BOLTS AS REQUIRED TO ACHIEVE
CONTACT BETWEEN WASHER/BOLT HEAD TO WOOD
MEMBER. DO NOT OVERTIGHTEN. PROVIDE ASTM
A307 BOLTS WITH NUTS AND WASHERS WHERE
MISSING. DIAMETER TO MATCH EXISTING.



2 WING B AND C TRUSS REPAIR AT CENTER BEARING

S4.02 | 3/4" = 1'-0"

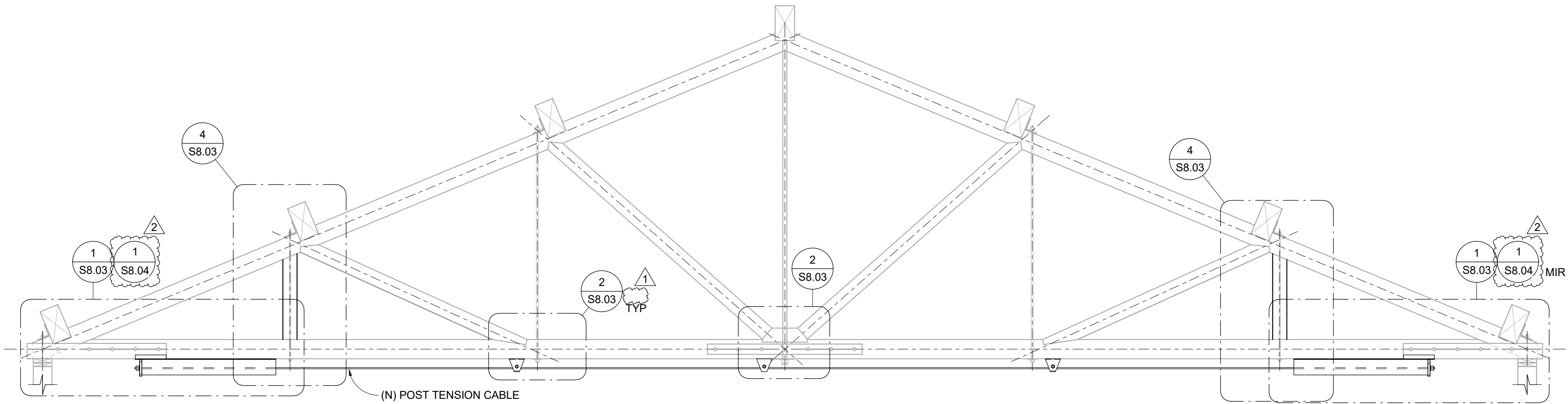
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SHEET CONTENT
WING B AND C TRUSS
REPAIR ELEVATIONS

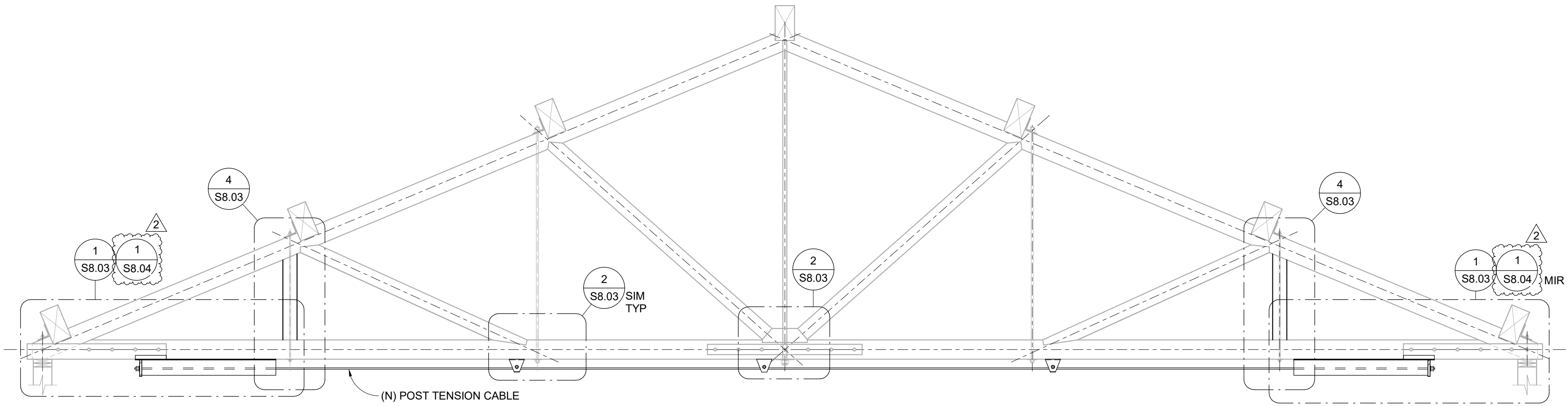
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S4.02



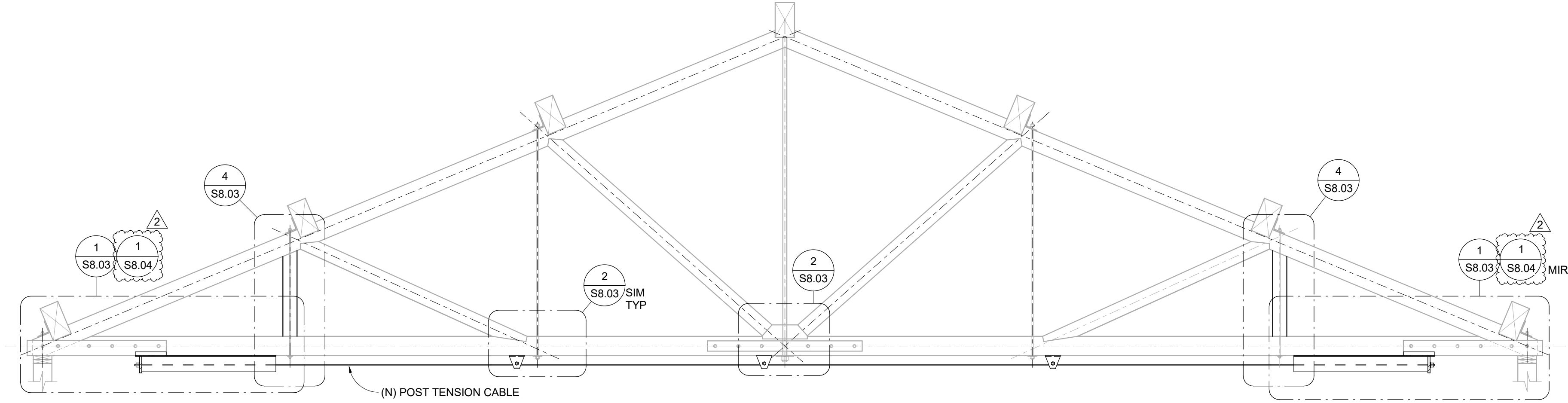
1 GYM TRUSS 1 ELEVATION

S4.03 | 3/8" = 1'-0"



2 GYM TRUSS 2 ELEVATION

S4.03 | 3/8" = 1'-0"



3 GYM TRUSS 3 ELEVATION

S4.03 | 3/8" = 1'-0"

CABLE STRESSING NOTES:

- JACKING FORCE TO BE 16 KIPS
- BACKSTRESS THE CABLE AT EACH END TO A FORCE OF 33 KIPS TO FULLY SEAT ANCHORAGE WEDGES. BACKSTRESSING OPERATIONS MAY BE DONE AT STEEL BEARING PLATE CONNECTIONS. DO NOT LOAD WOOD MEMBERS WITH BACKSTRESSING FORCES.

GENERAL SHEET NOTES:

- SEE S0.01 AND SUBSEQUENT SHEETS FOR STRUCTURAL NOTES AND SPECIAL INSPECTION REQUIREMENTS
- FIELD VERIFY EXISTING CONDITIONS PRIOR TO DEMOLITION OR PURCHASE OF MATERIALS
- THESE PLANS ARE STRUCTURAL ONLY - SIDING, FLASHING, MOISTURE PROTECTION, ETC ARE DESIGNED BY OTHERS
- PREDRILL PILOT HOLES FOR ALL FASTENERS INTO EXISTING WOOD MEMBERS. HOLE SIZE TO BE 7/8 OF FASTENER ROOT DIAMETER.
- CONTRACTOR TO VERIFY NO SPLITS OCCUR AT ANY TRUSS MEMBER. WHERE SPLITS OCCUR, FOLLOW THE REPAIR PROCEDURE SPECIFIED ON THIS SHEET. A SPLIT IS DEFINED AS A CRACK THAT EXTENDS THRU THE MEMBER AND IS PRESENT ON OPPOSITE FACES. CONTRACTOR TO DOCUMENT ALL SPLITS AND CHECKS PRIOR TO AND AFTER CABLE JACKING. NOTIFY ENGINEER OF ANY SPLITS THAT PENETRATE THROUGH THE TRUSS MEMBERS PRIOR TO CABLE JACKING. REFER TO 3 / S8.03 FOR CRACK REPAIRS
- CONTRACTOR TO MATCH THE EXISTING ARCHITECTURAL FINISHES TO THE EXTENT POSSIBLE. IN THE EVENT FINISHES ARE NO LONGER AVAILABLE, PROVIDE AN ACCEPTABLE ALTERNATIVE.

TYPICAL GYM TRUSS REPAIR PROCEDURE:

STEP 1:
VERIFY CRACK LOCATIONS SHOWN ON PLAN AND CAREFULLY EXAMINE ALL BEAMS FOR ANY ADDITIONAL CRACKS THAT MAY NOT BE DEPICTED ON PLAN. SAND SURFACE AROUND CRACK TO REMOVE PAINT OR OTHER COATINGS. CLEAN AREA AROUND CRACK TO ALLOW BONDING TO WOOD SURFACE. USE CLEAN COMPRESSED AIR TO BLOW OUT THE CRACK AND REMOVE ANY DUST OR DEBRIS. MARK CRACKS ON THE BEAM TO ALLOW FOR EASY IDENTIFICATION.

STEP 2:
INSTALL STEEL CONNECTION HARDWARE SHOWN ON THE FOLLOWING DETAILS:
1 / S8.03
2 / S8.03

STEP 3:
INSTALL CABLE SHOWN ON S3.01 AND PRETENSION AS NOTED.

STEP 4:
INSTALL CRACK INJECTION PORTS AT THE BEAM CRACKS. APPLY A SMALL AMOUNT OF GELMAGIC PASTE AROUND THE PORT BASE. PLACE THE PORT ON ONE END OF THE CRACK AND REPEAT EVERY 8" ALONG CRACK UNTIL ENTIRE CRACK IS PORTED.

STEP 5:
GENEROUSLY WORK GELMAGIC PASTE OVER THE ENTIRE LENGTH OF THE CRACK. IF CRACK IS PRESENT ON OPPOSITE SIDE OF BEAM BOTH SIDES MUST BE COVERED. MOUND THE PASTE AT LEAST 1/4" THICK AND 1" OUT FROM BASE OF PORT. MOUND 3/16" THICK AND 1" WIDE ALONG LENGTH OF CRACK.

STEP 6:
ONCE OUTER PASTE HAS CURED START INJECTING T-88 EPOXY AT THE END OF THE CRACK OR LOWEST INJECTION PORT. MAKE SURE THE HEADS OF ALL PORTS ARE IN THE OPEN POSITION. CONTINUE UNTIL EPOXY EMERGES FROM THE ADJACENT PORT. AS SOON AS EPOXY EMERGES FROM THE ADJACENT PORT THE INJECTOR SHOULD BE TRANSFERRED TO THE NEXT PORT AND THE PREVIOUS PORT SEALED. CONTINUE UNTIL EVERY PORT HAS REFUSED EPOXY AND THE CRACK IS COMPLETELY FILLED.

STEP 7:
AT CRACK LOCATIONS, INSTALL SCREWS TO CLAMP BEAM TOGETHER AS NOTED IN DETAIL 3 / S8.03. SCREWS MUST BE INSTALLED WITHIN CURE TIME OF INJECTION EPOXY IN SAME AREA OF BEAM.

STEP 8:
AFTER THE T-88 INJECTION EPOXY HAS CURED, REMOVE THE INJECTION PORTS AND GELMAGIC PASTE. ENSURE THERE IS NO RUN OUT OR SMEARING OF THE INJECTION EPOXY ONCE OUTER GEL IS REMOVED.

STEP 9:
SAND, RE-COAT OR REPAINT BEAMS PER CLIENT REQUIREMENTS TO MATCH (E) CONDITIONS



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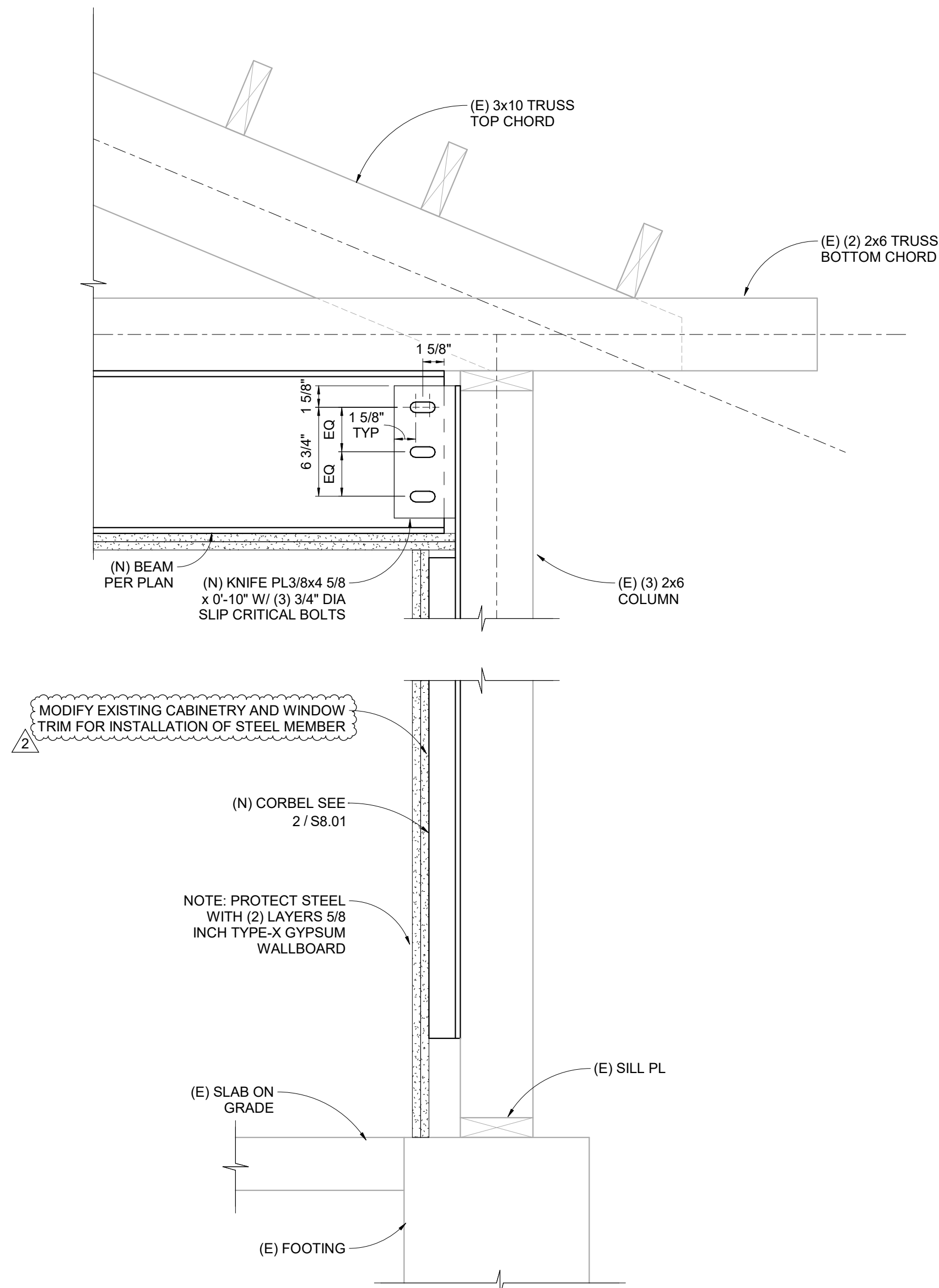
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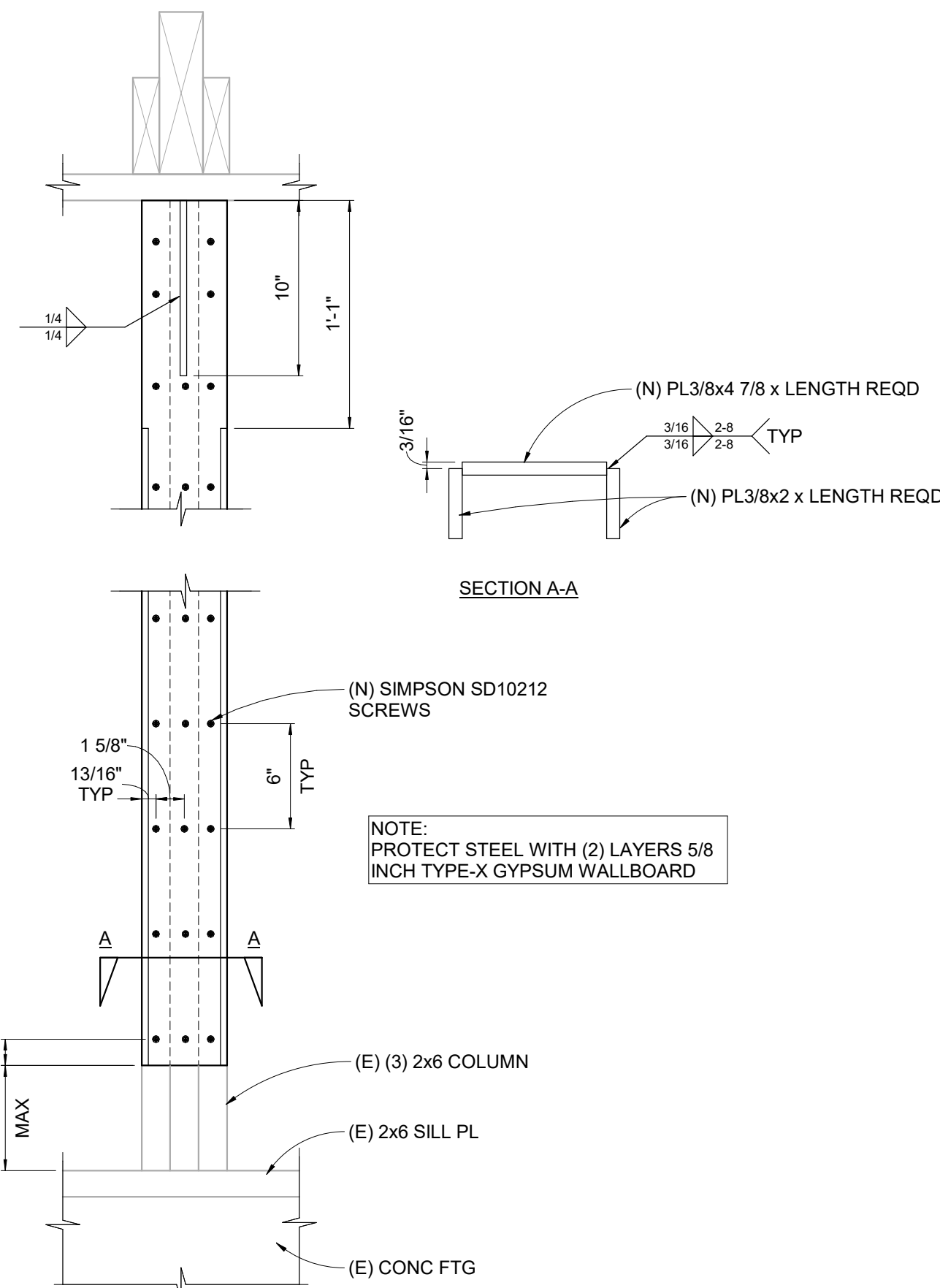
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SHEET CONTENT
GYM TRUSS ELEVATIONS

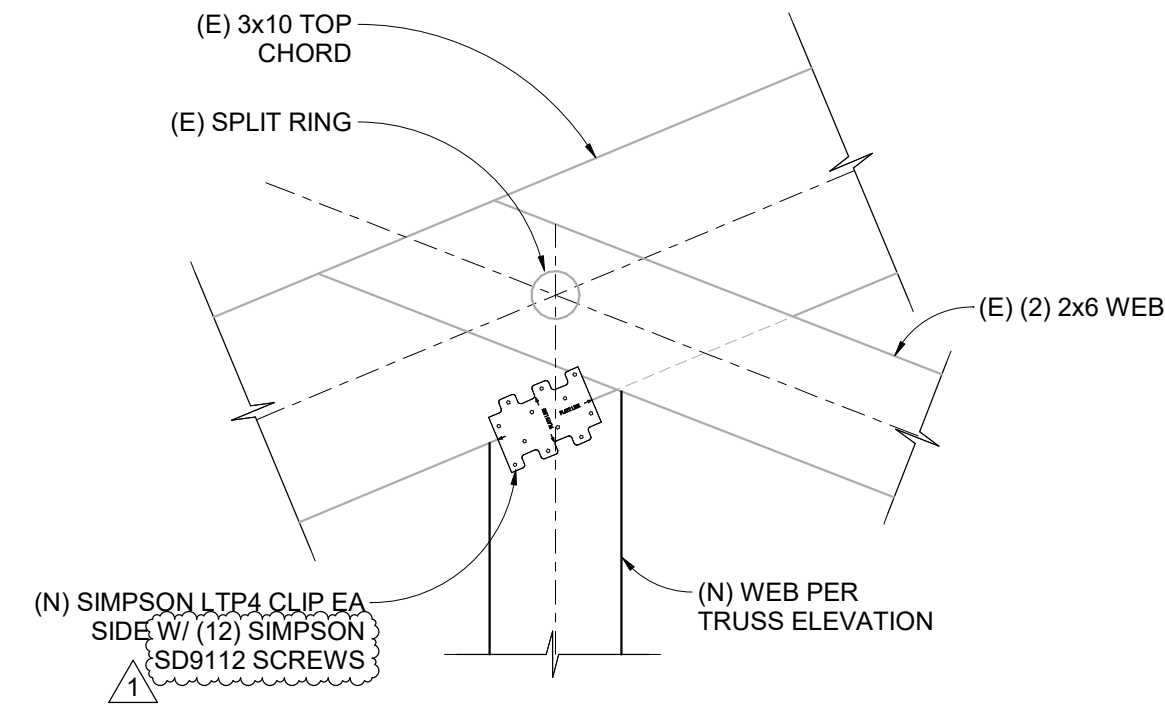
SHEET
S4.03



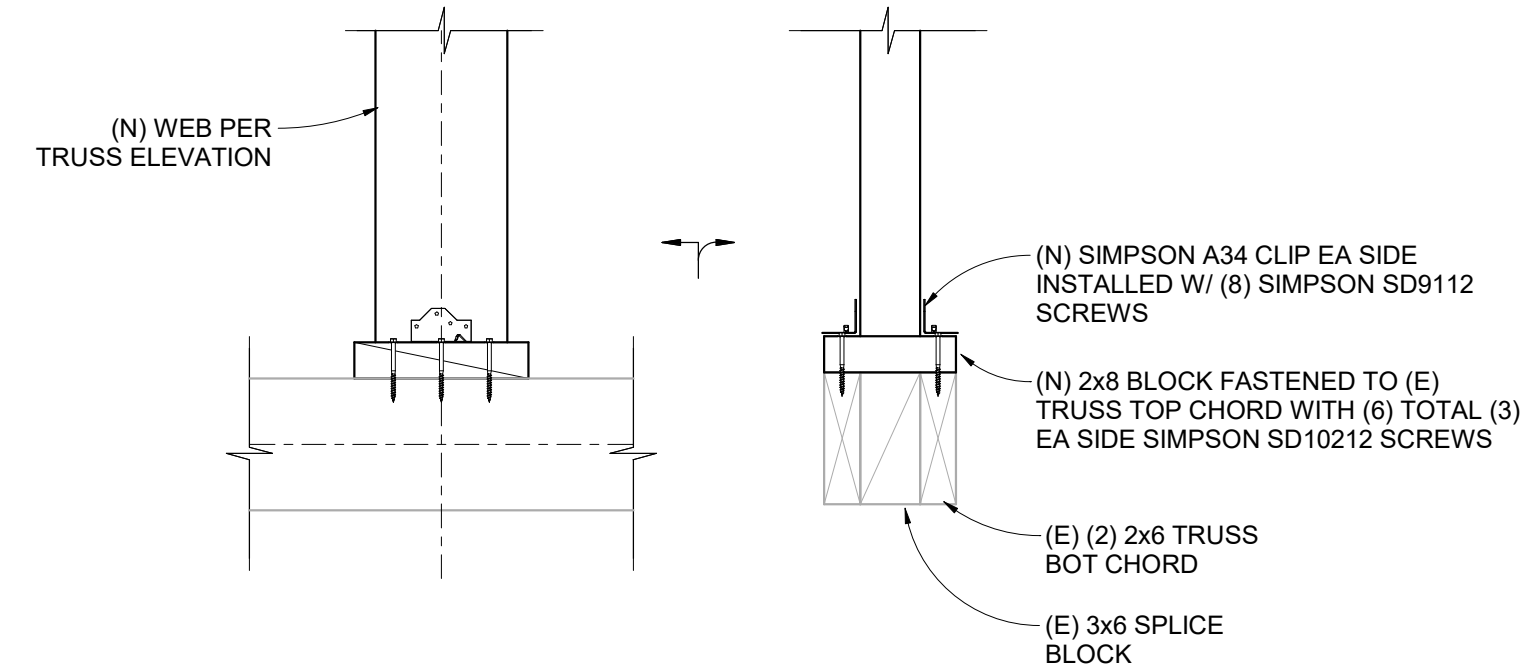
1 BEAM TO (E) COLUMN CONN
S8.01 | 1 1/2" = 1'-0"



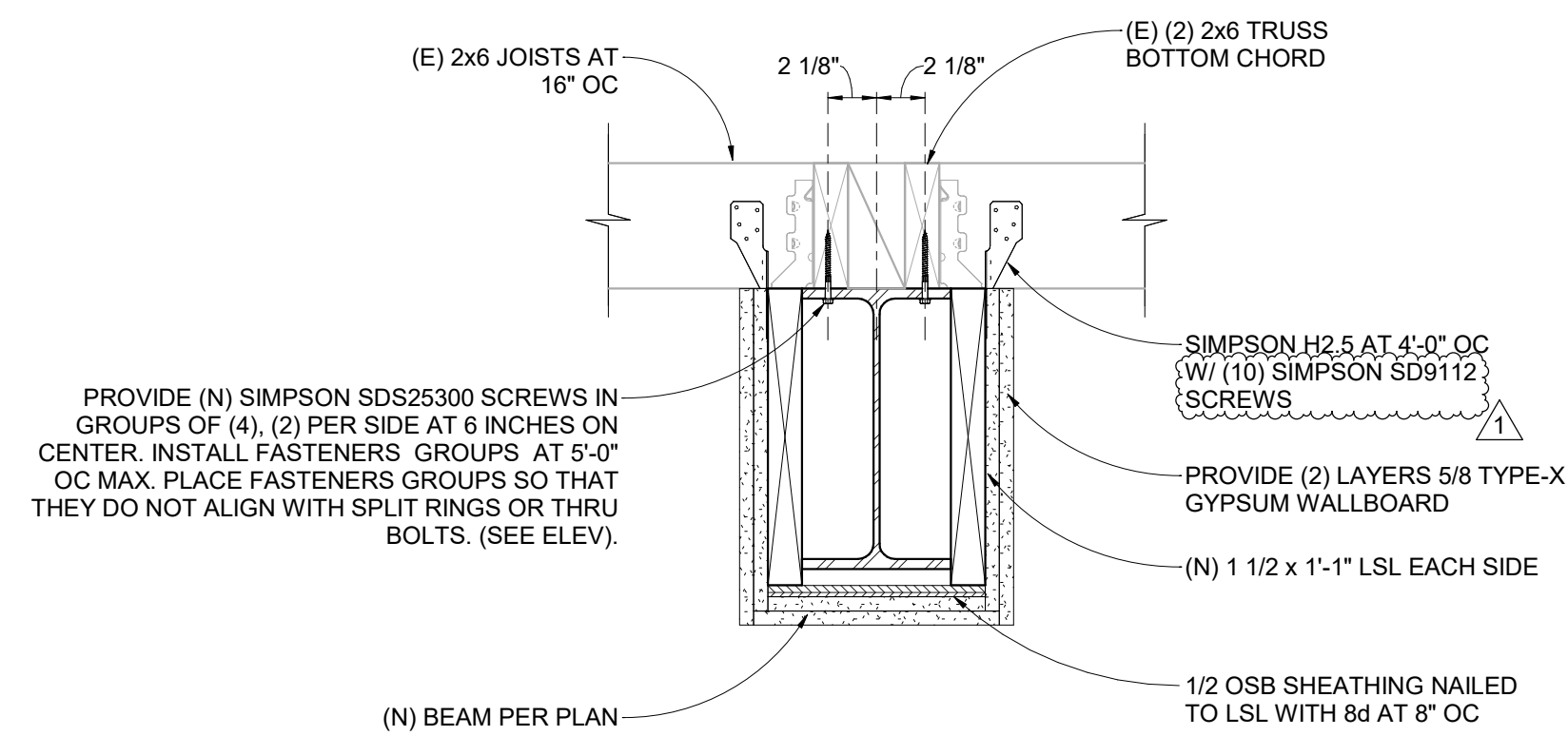
2 CORBEL AT (E) COLUMN
S8.01 | 1 1/2" = 1'-0"



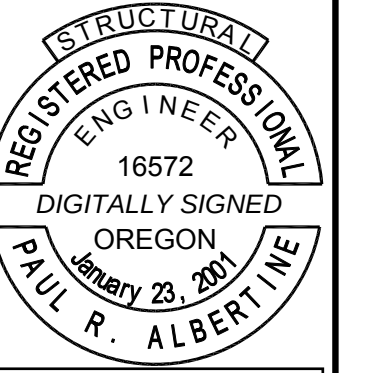
3 (N) WEB TO (E) TOP CHORD
S8.01 | 1 1/2" = 1'-0"



4 (N) WEB TO (E) BOT CHORD CONN
S8.01 | 1 1/2" = 1'-0"



5 BEAM BRACING
S8.01 | 1 1/2" = 1'-0"



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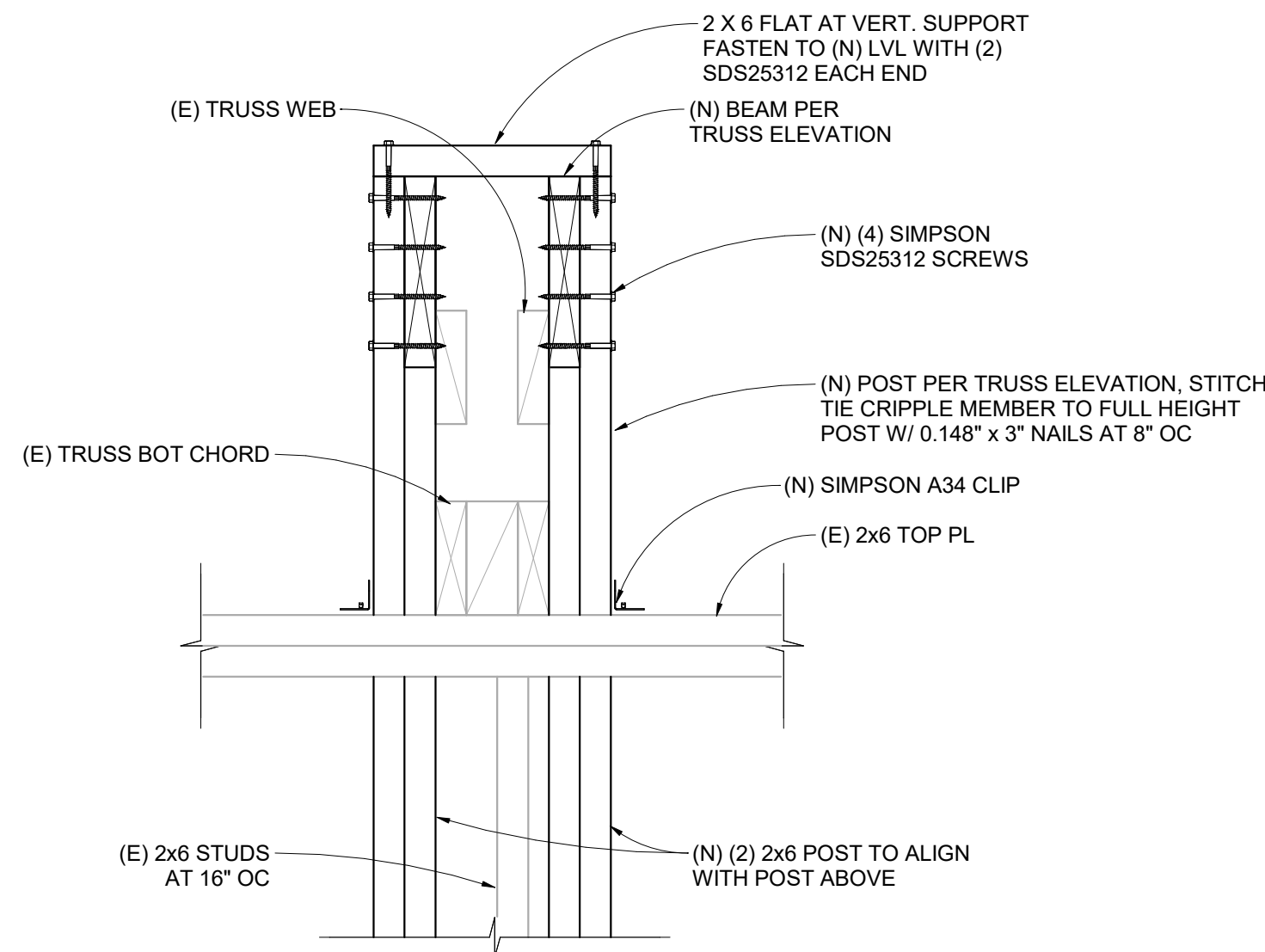
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SHEET CONTENT
WING A, B, AND C TRUSS
REPAIR DETAILS

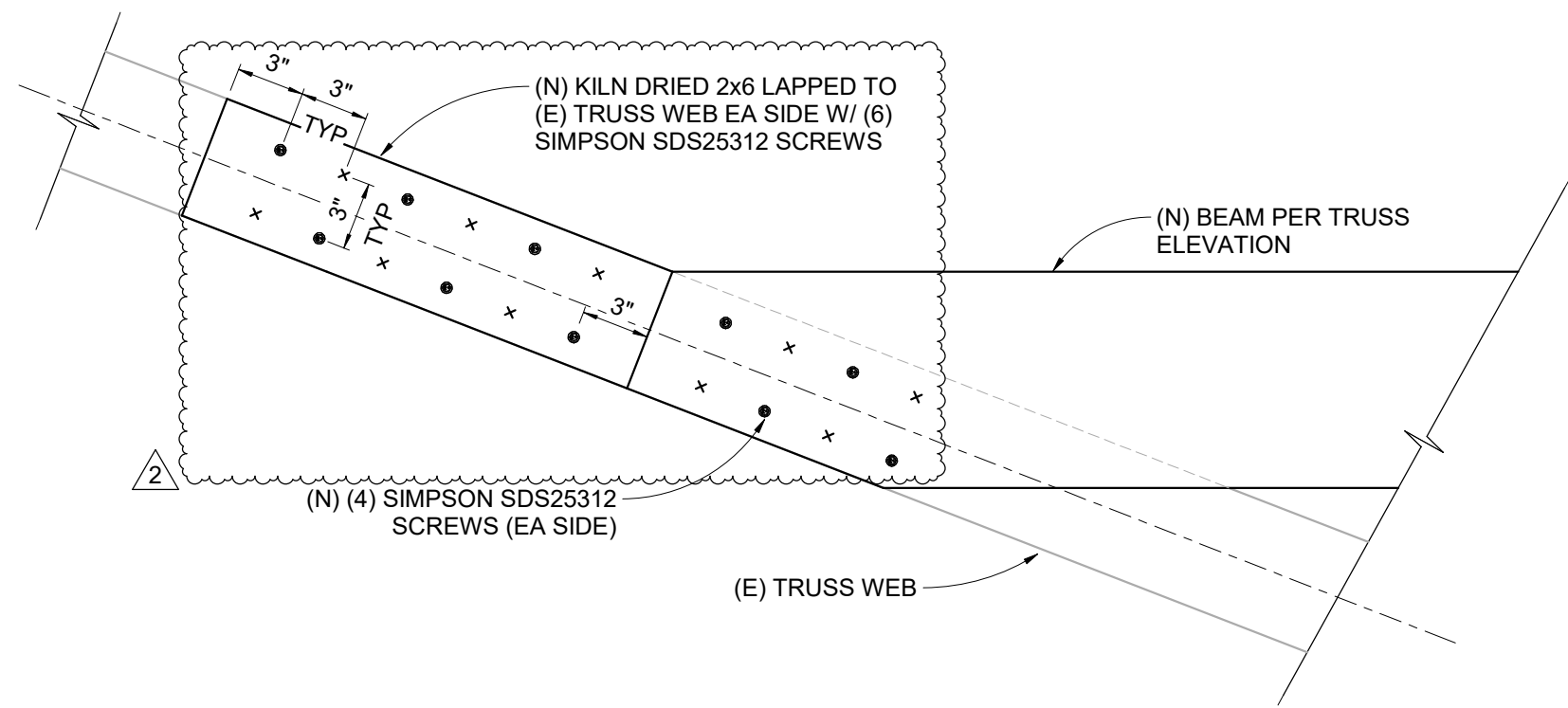
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S8.01



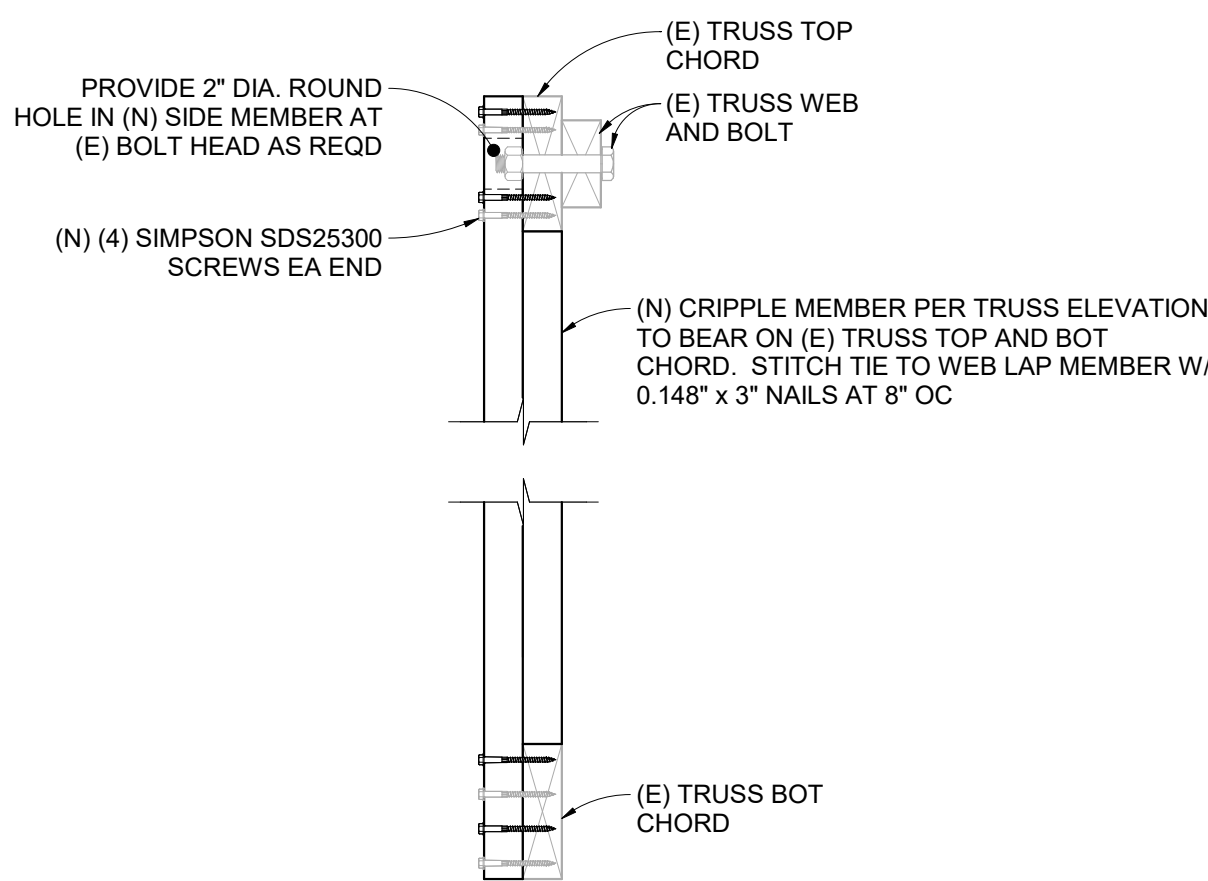
1 BEAM TO (E) WALL CONN

S8.02 | 1 1/2" = 1'-0"



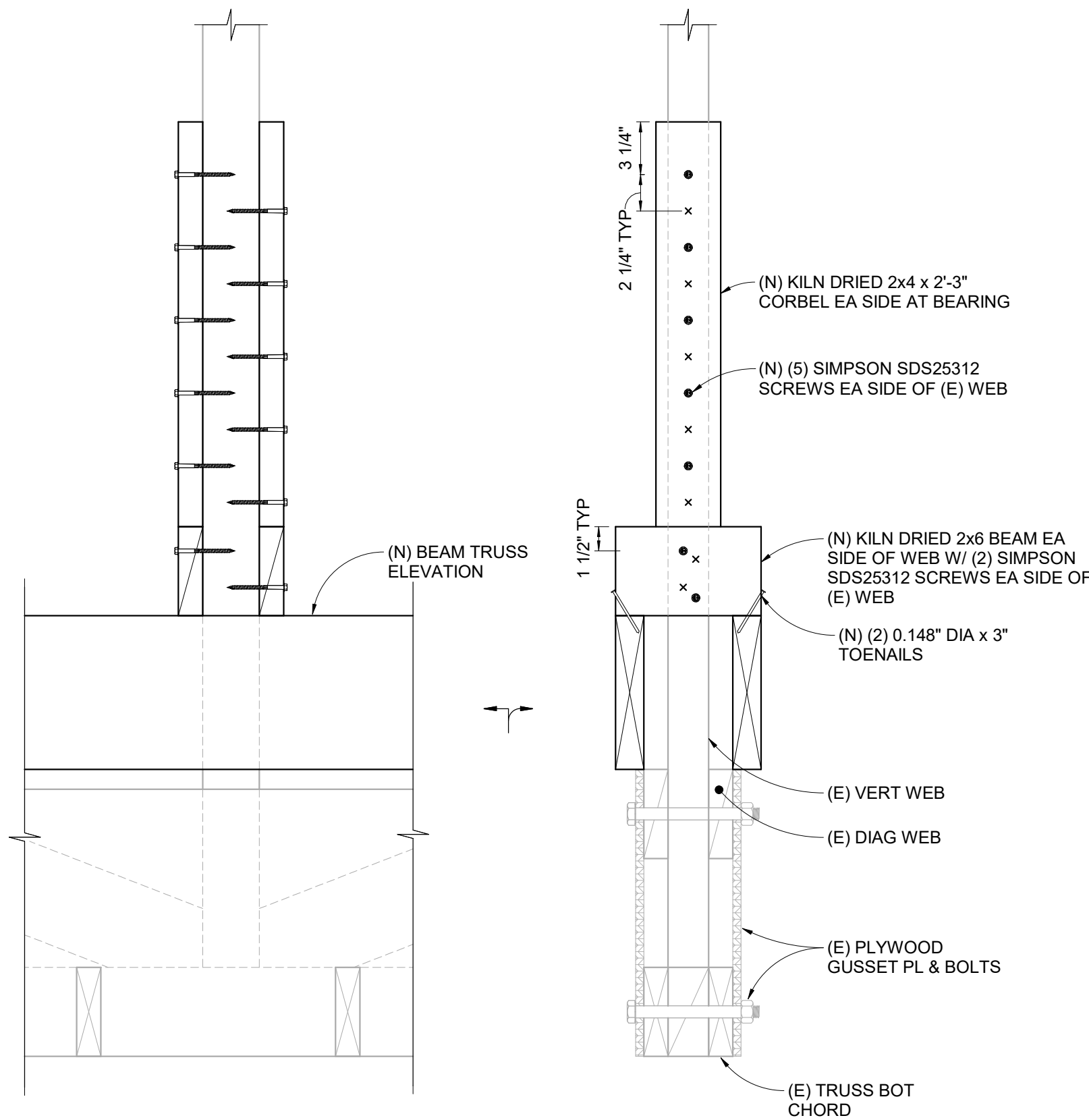
2 (E) WEB TRUSS TO BEAM CONN

S8.02 | 1 1/2" = 1'-0"



3 TRUSS WEB TO TOP & BOT CHORD CONN

S8.02 | 1 1/2" = 1'-0"



4 (E) WEB TO BEAM CONN

S8.02 | 1 1/2" = 1'-0"



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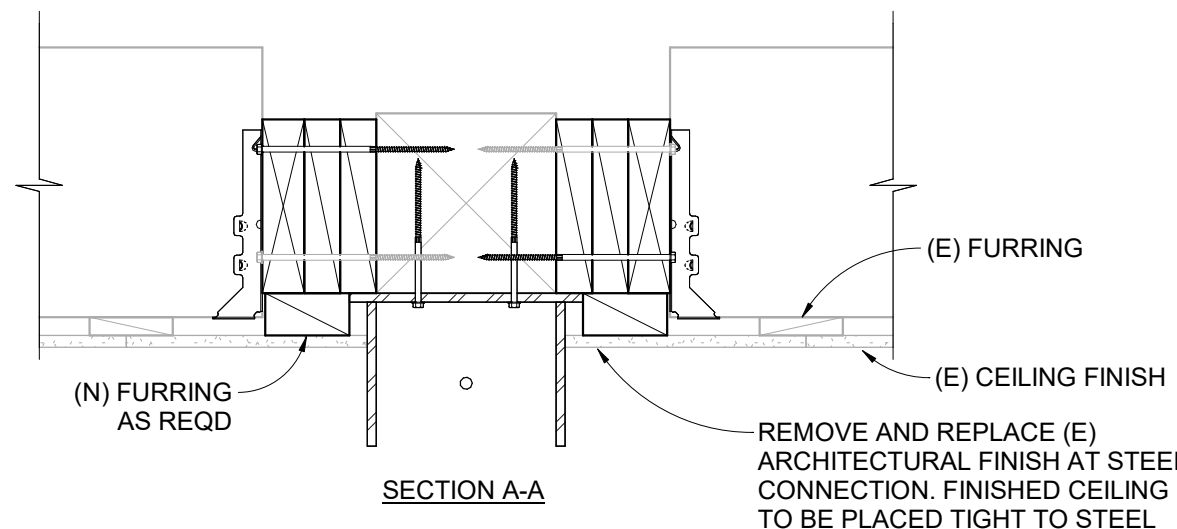
WING A, B, AND C TRUSS
REPAIR DETAILS

SHEET

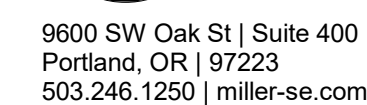
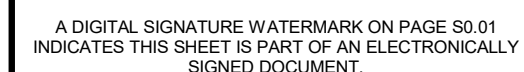
S8.02



S8.03



2



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SHEET CONTENT

GYM TRUSS REPAIR
DETAILS

SHEET

S8.04