### THE TERM 'ENGINEER', 'EOR', AND/OR 'SE' AS USED IN THESE STRUCTURAL DOCUMENTS SHALL MEAN BRIENEN STRUCTURAL ENGINEERS, P.S.

ALL WORK SHALL CONFORM TO ALL REQUIREMENTS OF THE REFERENCE STANDARDS AND CODES INDICATED IN THE DRAWINGS UNLESS NOTED OTHERWISE. REFERENCE TO ASTM AND OTHER STANDARDS SHALL MEAN THE LATEST EDITION AS OF THE BID DATE OR DATE OF OWNER-CONTRACTOR AGREEMENT, WHICHEVER IS LATER, UNLESS NOTED IN THESE DOCUMENTS OR DESIGNATED BY THE BUILDING CODE.

PRIME CONTRACT DRAWINGS THE ARCHITECTURAL DRAWINGS ARE THE PRIME CONTRACT DRAWINGS. STRUCTURAL MECHANICAL, ELECTRICAL, PLUMBING, CIVIL, AND LANDSCAPING, AMONG OTHERS, ARE SUPPLEMENTARY TO THE ARCHITECTURAL DRAWINGS. REFER TO THE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS TO THE PRIME CONTRACT DRAWINGS, STRUCTURAL DRAWINGS, AND OTHER SUPPLEMENTARY DRAWINGS.

CONTRACTOR SHALL VERIFY ALL DIMENSIONS, FLOOR ELEVATIONS. DEPRESSIONS. FINISHES, STAIR DETAILS, GUARDRAILS, AND ETC. WITH OTHER DISCIPLINES INCLUDING ARCHITECTURAL, MECHANICAL, ELECTRICAL, PLUMBING, AND CIVIL DRAWINGS. DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT AND ENGINEER BEFORE PROCEEDING WITH THE WORK. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CONDITIONS AT THE SITE.

TYPICAL DETAILS SHOWN ON THE DRAWINGS SHALL APPLY UNLESS NOTED OTHERWISE. SOME TYPICAL DETAILS ARE CUT OR OTHERWISE REFERENCED IN THE DRAWINGS HOWEVER MOST OR NOT. WHERE TYPICAL DETAILS ARE NOTED ON THE DRAWINGS THE SPECIFIC DETAIL SHALL BE USED. WHERE NO DETAIL IS NOTED IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO CHOOSE THE APPROPRIATE DETAIL FROM THOSE

CONSTRUCTION MEANS AND METHODS AND SAFETY CONTRACTOR SHALL BE RESPONSIBLE FOR CONSTRUCTION MEANS/METHODS AND FOR VERIFYING STRUCTURAL CAPACITY PRIOR TO APPLYING CONSTRUCTION LOADING. THE CONTRACTOR IS RESPONSIBLE FOR SAFETY AT THE SITE AND FOR PROVIDING THE STRENGTH AND STABILITY OF ALL PARTIALLY COMPLETED STRUCTURE CONFORMING TO ASCE 37 'DESIGN LOADS ON STRUCTURES DURING CONSTRUCTION'.

## **DESIGN CRITERIA**

**BUILDING CATEGORY** 

GRAVITY LOADS - BATTERY ROOM MAINTENANCE ACCESS CEILING 20 PSF UNIFORM TOTAL (INCLUDES 5PSF FOR MEP) 40 PSF UNIFORM (MAINTENANCE ACCESS) LIVE LOADS

SEISMIC LOADS SITE CLASS = D (ASSUMED) MAPPED SPECTRAL RESPONSE PARAMETERS

ANALYSIS TYPE = SEISMIC DESIGN REQUIREMENTS OF ARCHITECTURAL COMPONENTS (ASCE 7-16, SECTION 13.5)

 $R_p = 2.5$  $\Omega_0 = 2.0$ TOTAL SEISMIC WEIGHT TOTAL SEISMIC FORCE. LATERAL FORCE PER COLUMN, MAX

Ss = 1.257 g; S1 = 0.434 g

Sds = 1.006 g; Sd1 = N/A

W = 45.4 KIPSFp = 11.0 KIPS (LRFD) $F_{p,COL} = 1.3 \text{ KIPS (LRFD)}$ 

## REFERENCE STANDARDS

STEEL STANDARDS
AISC STEEL CONSTRUCTION MANUAL - 14TH EDITION - ANSI/AISC 360-16 AISC SEISMIC DESIGN MANUAL - 2ND EDITION - ANSI/AISC 341-16 AISC CODE OF STANDARD PRACTICE - AISC 303-16 RCSC SPECIFICATION FOR STRUCTURAL JOINTS USING HIGH-STRENGTH BOLTS - AISC

AWS D1.1 STRUCTURAL WELDING CODE AWS D1.4 REINFORCING STEEL AWS D1.8 SEISMIC SUPPLEMENTAISI S100-16 (2020) W/ S2-20 - NORTH AMERICAN

COLD-FORMED STEEL STANDARDS
SPECIFICATION FOR THE DESIGN OF COLD-FORMED STEEL STRUCTURAL MEMBERS AISI S202-20 - CODE OF STANDARD PRACTICE FOR COLD-FORMED STEEL STRUCTURAL AISI S220-20 - NORTH AMERICAN STANDARD FOR COLD-FORMED STEEL NONSTRUCTURAL AISI S230-19 - STANDARD FOR COLD-FORMED STEEL FRAMING - PRESCRIPTIVE METHOD FOR ONE- AND TWO-FAMILY DWELLINGS AISI S240-20 - NORTH AMERICAN STANDARD FOR COLD-FORMED STEEL STRUCTURAL

AISI S400-20 - NORTH AMERICAN STANDARD FOR SEISMIC DESIGN OF COLD-FORMED

# STRUCTURAL STEEL GENERAL REQUIREMENTS

STEEL STRUCTURAL SYSTEMS

STRUCTURAL STEEL THAT IS NOT EXPOSED TO EARTH OR WEATHER OR DESIGNATED AS (AESS) SHALL BE UNPAINTED. CLEAN OF LOOSE RUST, LOOSE MILL SCALE, GREASE, OIL, AND MEET THE REQUIREMENTS OF SSPC-SP1.

### **FAYING SURFACES AND WELDS NEAR CONNECTIONS**

ALL SURFACES WITHIN 2-INCHES OF FIELD WELD LOCATIONS SHALL BE FREE OF MATERIALS THAT WOULD PREVENT PROPER WELDING AND/OR OBJECTABLE FUMES.

REFER TO ARCHITECTURAL PLANS FOR MINIMUM HOURLY VALUES OF STEEL FIRE PROTECTION FOR DETERMINING THE THICKNESS OF SPRAY APPLIED FIREPROOFING. THE STRUCTURAL FRAME CONSISTS OF COLUMNS AND GIRDERS, BEAMS, TRUSSES, AND SPANDRELS HAVING DIRECT CONNECTIONS TO THE COLUMNS AND BRACING MEMBERS DESIGNED TO CARRY GRAVITY LOADS. FLOOR OR ROOF MEMBERS THAT HAVE NO CONNECTION TO COLUMNS SHALL BE CONSIDERED SECONDARY MEMBERS.

# STRUCTURAL STEEL MATERIAL CRITERIA

STRUCTURAL STEEL SHALL CONFORM TO THE FOLLOWING SPECIFICATIONS UNLESS NOTED OTHERWISE ON PLANS:

STRUCTURAL STEEL MEMBERS				
PLATES, ANGLES AND CHANNELS UNO	ASTM A36, Fy = 36 KSI			
TUBE STEEL (HSS)	ASTM A500, GRADE C, Fy = 50 KSI			
MATERIAL NOTED AS "Fy = 36 KSI"	ASTM A36, Fy = 36 KSI			
w	ELDING			
WELDING ELECTRODES	AWS D1.1 E70XX Fy = 70 KSI, AWS D1.1 E71TXX Fy = 70 KSI (AS REQUIRED BY WELDING PROCESS)			

### STRUCTURAL STEEL WELDING

ALL STRUCTURAL STEEL WELDING SHALL CONFORM TO AWS D1.1. ALL REINFORCING STEEL WELDING SHALL CONFORM TO AWS D1.4. ALL WELDING OF THE (SLRS) SYSTEM SHALL ALSO CONFORM TO AISC 341 AND AWS D1.8.

NOT ALL FIELD WELDS ARE INDICATED WITH A FIELD WELD SYMBOL. THE CONTRACTOR SHALL COORDINATE ALL FIELD WELDS BETWEEN THE FABRICATOR AND ERECTOR AND PROPERLY IDENTIFY SUCH WELDS AS SUCH ON THE SHOP DRAWINGS.

ALL WELD FILLER METAL SHALL BE LOW-HYDROGEN AND COMPATIBLE WITH BASE MATERIALS. ALL WELD FILLER METAL AND PROCESS SHALL PROVIDE TENSILE STRENGTH CHARPY V-NOTCH RATING AS FOLLOWS:

ALL STEEL MEMBERS				
WELD TYPE	FILLER MATERIAL	CVN RATING		
ILLET	70 KSI	NONE		

<del>o o o o ö ¨ö ¨ö ¨ö ¨o o o o</del>

OVERALL LEVEL 1 PLAN

SCALE: 1/16" = 1'-0"

### COLD-FORMED STEEL MATERIAL CRITERIA

COLD-FORMED STEEL MATERIAL SHALL BE MANUFACTURED AND FORMED, PER ASTM A1003/A1003M, FROM GALVANIZED ASTM A653 SS GRADE 50 STEEL FOR 54, 68 AND 97 MIL BASE THICKNESS MATERIAL AND FROM GALVANIZED ASTM A653 SS GRADE 33 MATERIAL FOR 43 AND 33 MIL BASE THICKNESS MATERIAL, UNO. WHERE NOTED, PAINTED COLD-FORMED STEEL MATERIAL SHALL CONFORM TO ASTM A570 SS GRADE 80. MINIMUM COLD-FORMED STEEL ACCEPTANCE CRITERIA SHALL BE PER ICC-ES AC46.

CONFORM WITH ICC REPORT ER-4943P.

ALL COLD-FORMED STEEL FRAMING SHALL BE IN ACCORDANCE WITH AISI "NORTH AMERICAN SPECIFICATION FOR THE DESIGN OF COLD-FORMED STEEL STRUCTURAL MEMBERS", AS AMENDED BY THE INTERNATIONAL BUILDING CODE AND SHALL STRICTLY

ALL COLD-FORMED STEEL PRODUCTS SHALL BE MANUFACTURED BY CURRENT MEMBERS OF THE STEEL STUD MANUFACTURERS ASSOCIATION (SSMA). MATERIAL DESIGNATIONS NOTED ON THE DRAWINGS. RELATING TO MEMBER TYPES AND SIZES OR MISCELLANEOUS FRAMING ITEMS, REFER TO PRODUCT IDENTIFICATION STANDARDS ADOPTED BY THE

EACH JOIST, RAFTER, TRUSS AND STRUCTURAL WALL STUDS SHALL BE ALIGNED WITHIN 3/4 FROM CENTERLINE OF HORIZONTAL FRAMING MEMBER TO CENTERLINE OF VERTICAL FRAMING MEMBER, UNO, OR AS SPECIFIED IN FIGURE C1-1 OF THE AISI STANDARD "NORTH AMERICAN STANDARD FOR COLD-FORMED STEEL FRAMING - GENERAL PROVISIONS". STRUCTURAL FRAMING MEMBERS SHALL BE INSTALLED PER ASTM C1007 AND NON-STRUCTURAL FRAMING MEMBERS PER ASTM C754.

CONCRETE BEARING SURFACES AT STRUCTURAL FRAMING SHALL PROVIDE A UNIFORM BEARING SURFACE WITH A MAXIMUM 1/4" GAP BETWEEN THE TRACK AND THE CONCRETE STEEL BEARING SHIMS OR NON-SHRINK GROUT CAN BE USED TO ACHIEVE THIS REQUIREMENT. THE BOTTOM TRACK OF LOAD BEARING WALLS SHALL NOT EXTEND OVER THE EDGE OF FORMED CONCRETE BEARING SURFACES BELOW.

COLD-FORMED STEEL SHALL NOT BE IN DIRECT CONTACT WITH THE GROUND UNLESS NOTED OTHERWISE.

FOR STEEL-TO-STEEL CONNECTIONS AND FOR STRUCTURAL SHEATHING-TO-STEEL CONNECTIONS SHALL BE SELF TAPPING. SELF DRILLING FASTENERS IN COMPLIANCE WITH ASTM C1513 AND SHALL HAVE A TYPE II COATING IN ACCORDANCE WITH ASTM B633 "ELECTRO-DEPOSITED COATING OF ZINC ON IRON AND STEEL". SELF-PIERCING SCREWS PER ASTM C1002 ARE PERMITTED FOR CONNECTION OF 33 MILS STEEL OR THINNER. THE SCREW MANUFACTURER SHALL PROVIDE VERIFICATION OF THE FASTENERS' RESISTANCE TO HYDROGEN EMBRITTLEMENT. SCREWS SHALL CONFORM TO SAEJ78 "STANDARD SPECIFICATION FOR SELF-DRILL TAPPING SCREWS". SCREW ACCEPTANCE SHALL BE BASED ON ICC-ES AC118 "ACCEPTANCE CRITERIA FOR TAPPING SCREW FASTENERS".

SCREW CONNECTIONS SHALL BE IN COMPLIANCE WITH THE AISI STANDARD "NORTH AMERICAN STANDARD FOR COLD-FORMED STEEL FRAMING - GENERAL PROVISIONS, 2007 EDITION". SCREW CONNECTIONS SHALL BE MADE FROM THE LIGHTER MATERIAL INTO THE THICKER MATERIAL, UNO. SCREWS SHALL EXTEND THROUGH THE STEEL CONNECTION A MINIMUM OF THREE EXPOSED THREADS AND SHALL HAVE MINIMUM CENTER-TO-CENTER SPACING AND EDGE DISTANCES OF THREE TIMES THE NOMINAL SCREW DIAMETER. SCREWS SHALL BE INSTALLED AND TIGHTENED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS AND SHALL NOT CAUSE PERMANENT SEPARATION BETWEEN COMPONENTS. SHEATHING FASTENERS SHALL MAINTAIN A MINIMUM 3/8" EDGE DISTANCE IN SHEATHING AND SHALL HAVE THEIR HEADS FLUSH WITH THE SHEATHING (BUT NO MORE THAN 1/16" BELOW THE SURFACE OF THE SHEATHING).

STRIPPED SCREWS IN DIRECT TENSION SHALL BE CONSIDERED INEFFECTIVE AND SHALL BE REPLACED. STRIPPED SCREWS IN SHEAR THAT CONSTITUTE MORE THAN 25% OF THE TOTAL SCREWS IN THE CONNECTION SHALL BE CONSIDERED INEFFECTIVE AND SHALL BE REPLACED STRIPPED SCREWS ARE PERMITTED TO BE REMOVED AND REPLACED WITH SCREWS OF THE NEXT LARGER DIAMETER.

MINIMUM SCREW SIZES IN COLD-FORMED STEEL TABLE				
CONNECTION	MINIMUM SCREW SIZE			
METAL TO METAL (68 MILS)	#10-16 (#3 POINT)			
METAL TO METAL (33 MILS - 54 MILS)	#8-18 (#2 POINT)			
APA SHEATHING (PLYWOOD)	#8-18 (#2 POINT FLAT HEAD w/ 0.292"Ø HEAD MIN			
GWB OR GYPSUM SHEATHING	#6 x 1" (#2 POINT) DRYWALL			
SIMPSON HARDWARE	PER SIMPSON CATALOG			

COLD FORMED STEEL CONNECTORS
COLD-FORMED STEEL CONNECTORS CALLED OUT BY LETTERS AND NUMBERS SHALL BE "STRONG-TIE" BY THE SIMPSON STRONG-TIE COMPANY. EQUIVALENT DEVICES BY OTHER MANUFACTURERS MAY BE SUBSTITUTED, PROVIDED THEY HAVE ICC APPROVAL FOR EQUAL OR GREATER LOAD CAPACITIES. PROVIDE NUMBER, LENGTH, TYPE, AND SIZE OF FASTENERS AS SPECIFIED BY THE MANUFACTURER. FILL ALL HOLES WITH FASTENERS AS SPECIFIED BY THE MANUFACTURER. CONNECTORS SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.

AREA OF INTERIOR BUILD-OUT

SEE FLOOR PLAN AND CEILING FRAMING PLAN ON MS0.2

REW-TYPE ANCHORS INTO CONCRETE SHALL BE "HILTI KH-EZ". INSTALLED PER ICC REPORT NUMBER ESR-3027 OR "SIMPSON TITEN HD" INSTALLED PER ICC REPORT NUMBER ESR-2713.

### COLD-FORMED STEEL FRAMING NOTES

FULLY-SHEATH EACH FACE OF STUDS FULL-HEIGHT OR PROVIDE BRIDGING/BRACING AT 48" OC MAX UNLESS NOTED OTHERWISE. STUD TYPES DENOTED AS "COMPOSITE" IN WALL SCHEDULES SHALL BE FULLY-SHEATHED ON EACH FACE OF STUDS FULL-HEIGHT PER RECOMMENDATIONS AND REQUIREMENTS BY THE STUD MANUFACTURER. WHERE WALLS ARE NOT FULLY-SHEATHED FULL-HEIGHT, STUD TYPES DENOTED AS "COMPOSITE" SHALL NOT BE

INTERIOR PARTITION FRAMING SCHEDULE NOTES

- ALL STUDS SHALL FULLY BEAR ON BOTTOM TRACK -- SHIM WHERE NECESSARY. WEB STIFFENERS ARE NOT REQUIRED UNLESS OTHERWISE SPECIFIED. TOP/BOTTOM TRACK PENETRATIONS OR CLIPPED FLANGES UP TO 2/3(TRACK WIDTH) ARE STRUCTURALLY ACCEPTABLE WHEN 16" CLEAR FROM ANY JAMB
- STUDS ADD ANCHOR ON EITHER SIDE OF OPENING IF PAF IS INTERRUPTED. WALL STUDS, CRIPPLE STUDS, JAMBS, HEADERS AND SILLS SHALL NOT BE ALL COLD-FORMED STEEL STUDS, TRACKS AND LIGHT GAGE ANGLES SHALL
- CONFORM TO ASTM A653 SS GRADE 50 (Fy=50KSI) FOR 118, 97, 68 AND 54 MILS MEMBERS AND ASTM 653 SS GRADE 33 (Ev=33KSI) FOR 43 MILS AND LIGHTER MEMBERS. EXCEPTION: MEMBERS WITH "SFS", AND "SFT" DESIGNATIONS SHALL BE "SUPREME" MEMBERS AS MANUFACTURERED BY SCAFCO AND CONFORM TO ASTM A653 SS GRADE 50 MOD 57 (Fy=57KSI). "VXS" AND "VXT" MEMBERS SHALL "VIPER-X" MEMBERS AS MANUFACTURERED BY CEMCO AND CONFORM TO ASTM A653 SS (Fy=
- SHOTPINS SHALL BE ONE OF THE FOLLOWING UNLESS NOTED OTHERWISE: HILTI X-U POWDER-ACTUATED FASTENERS (PAF), EMBEDDED 3/4" INTO CONCRETE. INSTALL FASTENERS PER REQUIREMENTS FROM ICC-ES
- REPORT ESR-2269 AND ALL MANUFACTURER RECOMMENDATIONS. HILTI X-GHP GAS-ACTUATED FASTENERS, EMBEDDED 5/8" INTO CONCRETE. INSTALL FASTENERS PER REQUIREMENTS FROM ICC-ES REPORT ESR-1752 AND ALL MANUFACTURER RECOMMENDATIONS.
- HILTI X-P B3 ELECTROMECHANICAL-DRIVEN FASTENERS. EMBEDDED 5/8" INTO CONCRETE. INSTALL FASTENERS PER REQUIREMENTS FROM ICC-ES REPORT ESR-1752 AND ALL MANUFACTURER RECOMMENDATIONS. SHOTPINS INSTALLED IN STRUCTURAL STEEL SHALL BE DRIVEN TO WHERE
- THE POINT OF THE FASTENER PENETRATES THE STEEL BASE MATERIAL. FOR ALL SHOTPINS UNLESS NOTED OTHERWISE: MINIMUM SPACING IN CONCRETE SHALL BE 4" OC.
- MINIMUM EDGE DISTANCE IN CONCRETE SHALL BE 3". MINIMUM SPACING IN STEEL SHALL BE 1 1/2" OC.
- MINIMUM EDGE DISTANCE IN STEEL SHALL BE 1/2". CONCRETE SCREWS SHALL BE HILTI KWIK-CON II+ HEX WASHER HEAD. SEE DETAILS FOR REQUIRED EMBEDMENTS. ALL DRILLING IN CONCRETE SHALL CONFORM TO REQUIREMENTS BY BUILDING ENGINEERING OF RECORD. DO NOT DAMAGE REINFORCING.
- SHEET-METAL SCREWS (SMS) SHALL BE SELF-TAPPING, SELF-DRILLING FASTENERS IN COMPLIANCE WITH ASTM C1513 AND SHALL HAVE A TYPE II COATING IN ACCORDANCE WITH ASTM B633.
- ANCHOR TOP TRACKS AND BOTTOM TRACKS TO SUPPORTING STRUCTURE PER SCHEDULE. ALL SUPPORTING STRUCTURES SHALL BE REVIEWED BY OTHERS FOR LOADS IMPOSED BY NEW METAL STUD FRAMING.
- AT FIREPROOFING IT IS ACCEPTABLE TO INSTALL TOP TRACK DIRECTLY TO FIREPROOFING AS LONG AS NO MORE THAN 1/4" GAP PERSISTS BETWEEN TRACK AND STRUCTURAL SUPPORT. IT IS STRUCTURALLY ACCEPTABLE TO USE A THICKER FRAMING MEMBER
- PROVIDED THE WEB SIZE REMAINS UNCHANGED AND FLANGE SIZE REMAINS UNCHANGED OR IS INCREASED.

### **CEILING JOIST FRAMING NOTES:**

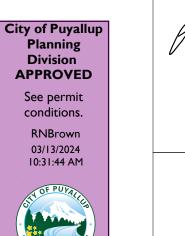
- THE PLYWOOD WEAR SURFACE IS PROVIDED TO BE THE BRACING ELEMENT OF THE COLD FORMED STEEL CEILING JOIST MEMBERS. FASTENERS SHALL BE PER THESE GENERAL NOTES, AND SHALL BE SPACED EQUAL OR LESS THAN 12" OC.
- THE GYP SHEATHING ON THE BOTTOM OF THE JOIST IS NOT A BRACING ELEMENT OF THE COLD FORMED STEEL CEILING JOIST MEMBERS AND REQUIRES BRIDGING PER THE TYPICAL DETAILS PROVIDED.
- THE FULL CAPACITY OF THE FRAMING JOISTS WILL NOT BE SUPPORTED BY THE SYSTEM UNTIL ALL FLEXURAL BRACING PROVIDED IN ITEMS 1 AND 2 ABOVE ARE INSTALLED PER THE DETAILS PROVIDED, AND CONSTRUCTION LIVE LOADS TO INSTALL THESE ELEMENTS SHOULD BE LIMITED.

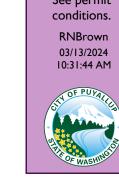
# STATEMENT OF SPECIAL INSPECTIONS

SPECIAL INSPECTION: SPECIAL INSPECTION SHALL BE PROVIDED PER THE REQUIREMENTS OF IBC SECTION 1704 AND AS

STEEL CONSTRUCTION **VERIFICATION AND INSPECTION** C P REFERENCED STANDARD NOTES MATERIAL VERIFICATION OF STRUCTURAL STEE AISC 360 N5 MATERIAL VERIFICATION OF WELD FILLER MATERIALS AISC 360 N5 MANUFACTURER TO PROVIDE A. IDENTIFICATION MARKINGS TO CONFORM TO AWS CERTIFICATE OF COMPLIANCE SPECIFICATIONS LISTED IN GENERAL NOTES B. MANUFACTURER'S CERTIFICATE OF COMPLIANCE NSPECTION OF WELDING AISC 360 N5.4, N5.5 A. SINGLE-PASS FILLET WELDS ≤ 5/16" AISC 341 CHP J6 **COLD-FORMED STEEL FRAMING** C P REFERENCED STANDARD **VERIFICATION AND INSPECTION** NOTES CREW ATTACHMENT, AND FASTENING OF DIAPHRAGMS. AWS D1.3 EXCEPTIONS PER IBC AND DRAG STRUTS, ANTHAT ARE PART OF SEISMIC IBC 1705.12.2, 1705.13.3 1705.12.2 RESISTING SYSTEM

NON LOAD BEARING WALLS





EXCEPTIONS PER IBC.

# APPROVED UNDER 2018 I-CODES

Planning Note: Interior

All exterior work under

separate permits.

tenant improvement only

IBC 1705.13.5

City of Puyallup
Building **ACCEPTED** 

> Montgomery 03/20/2024 1:55:43 PM



FULL SIZED LEDGIBLE COLOR PLANS ARE REQUIRED TO BE PROVIDED BY THE PERMITTEE ON SITE FOR ALL INSPECTIONS (MIN. PLAN SIZE 24" X 36")

Approval of submitted plans is not an approval of omissions or oversights by this office or noncompliance with any applicable regulations of local government. The contractor is responsible for making sure that the building complies with all applicable codes and regulations of the local government.







1. DRAWING PROVIDED IS "OVERALL LEVEL 1 LC, AS PART OF THE PRELIMINARY REVIEW SET, DATED 01/02/2024.

City of Puyallup **Development & Permitting Services ISSUED PERMIT** Planning **Public Works** Engineering

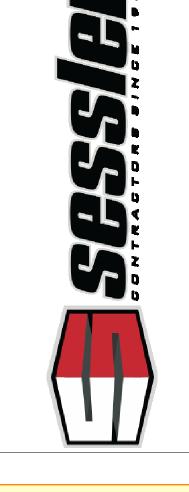
Traffic

Fire

**S**tructural

**E**ngineers 1316 Central Ave. S., Suite 200 Kent, WA 98032 (206) 397-0000 ~ www.bse-ps.com



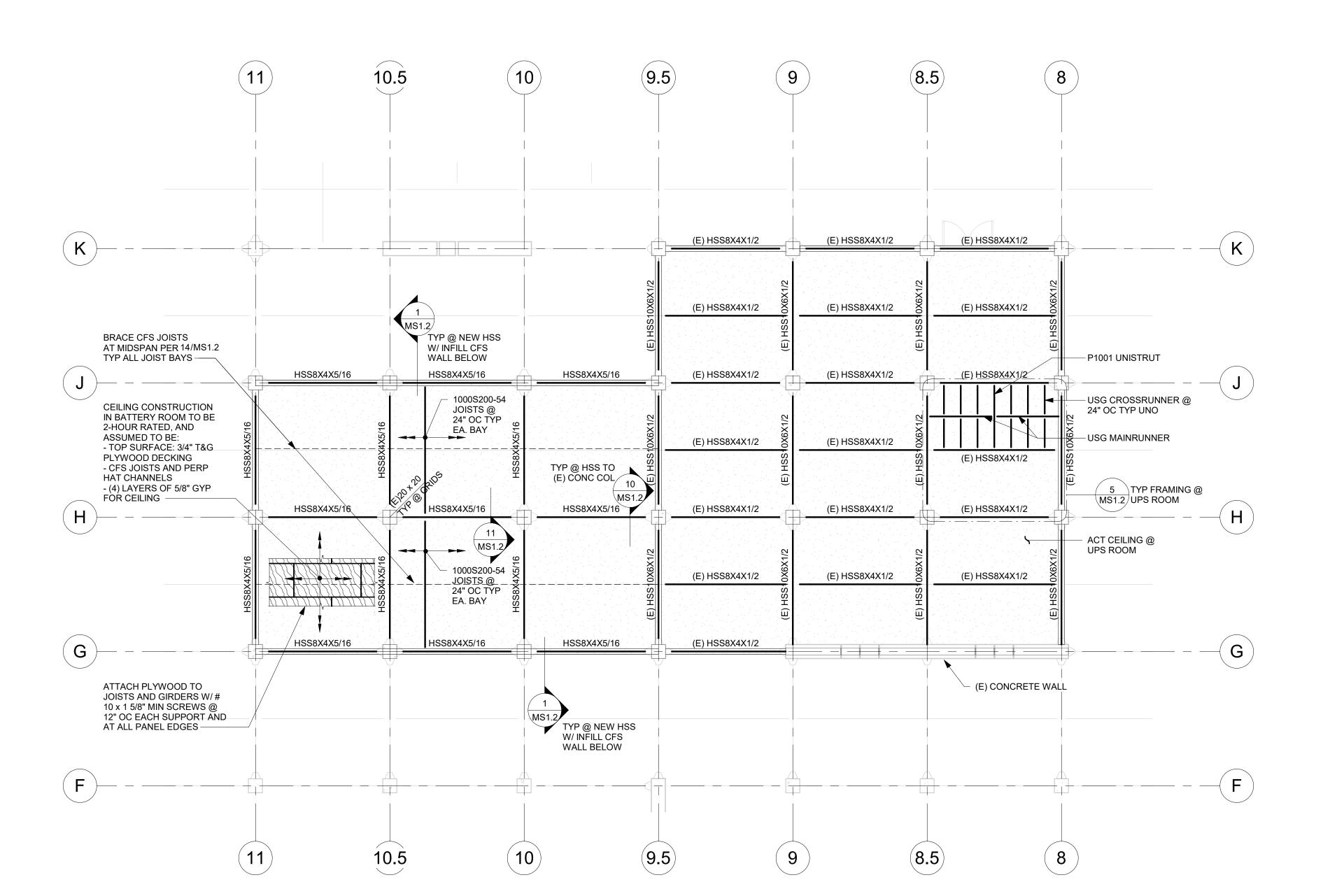


PRCTI20240333

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For Approval PJB Checked

> COVER SHEET



**PLAN SHEET NOTES:** 

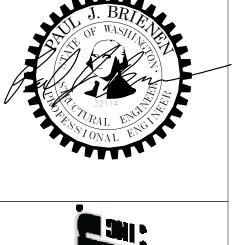
- FOR TYPICAL DETAILS FOR CFS INFILL WALL CONSTRUCTION, SEE SHEETS MS1.1 & MS1.2.
- FOR INTERIOR CFS STUD WALL SCHEDULES, SEE SHEET MS2.1.
   EXISTING SLAB ON GRADE IS ASSUMED TO BE A MINIMUM OF 4" THICK CONCRETE WITH F'c ≥ 4000 PSI.
- 4. EXISTING COLUMNS SHOWN ARE ASSUMED TO BE 20"x20" SQUARE CONCRETE
- COLUMNS WITH ≥ 1% REINFORCING STEEL AND #4 TIES AT 4 1/2" OC VERTICALLY.
- 5. WALL DESIGN INCLUDES UP TO (4) LAYERS OF GYP FOR FIRE RATINGS. IF ADD'L LAYERS OF GYP ARE REQUIRED FOR FIRE ASSEMBLY, NOTIFY THE ENGINEER.
- 6. LATERAL SEISMIC LOADS FROM NEW CEILING ARE RESISTED BY PLYWOOD DIAPHRAGM ACTION OF THE PLYWOOD SHEATHING TO THE STRUCTURAL STEEL TUBE GIRDERS AND TO THE (E) CONCRETE COLUMNS. BUILDING EOR TO VERIFY THAT A LATERAL LOAD OF 1.3 KIPS AT THE BATTERY ROOM CEILING FRAMING HEIGHT IS STRUCTURALLY ACCEPTABLE.
- 7. CONTRACTOR COORDINATE FINAL LOCATIONS OF ALL WALLS AND DOORS (WALL OPENINGS) - IF CHANGES OCCUR, NOTIFY THE ENGINEER.
- 8. SEE GENERAL NOTES ON MS0.1 FOR INFORMATION ON COLD-FORMED STEEL

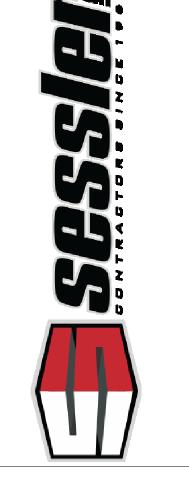
AND STRUCTURAL STEEL CONSTRUCTION.



**B**rienen

**S**tructural





PRCTI20240333

CENTERIS VOLTAGE PARK AND BATTERY ROOM BUILD

For Approval 24201 AJS PJB Checked

**PLANS** 

City of Puyallup **Development & Permitting Services ISSUED PERMIT** 

Planning

Public Works

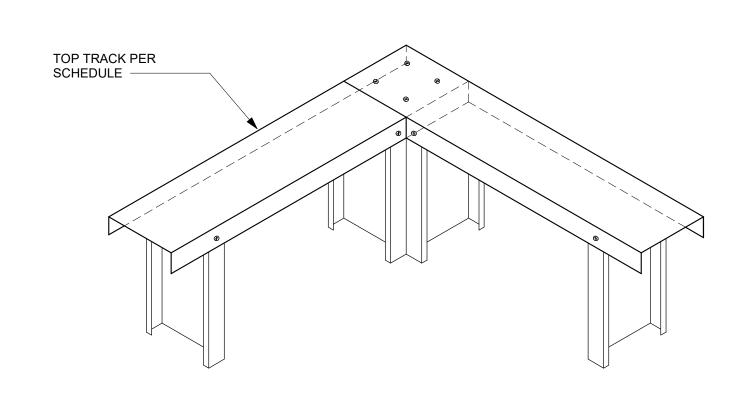
Traffic

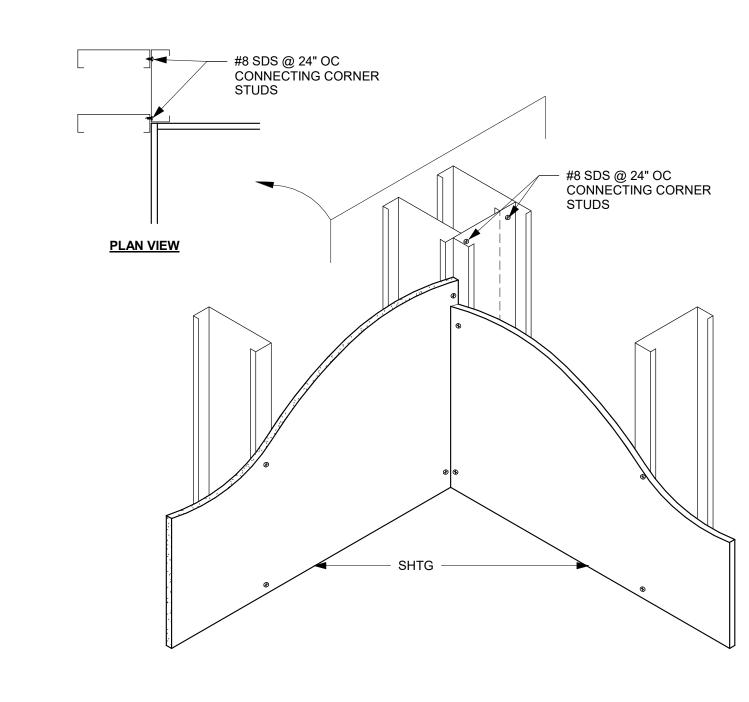
Building

Engineering

Fire

2 TOP OF WALL PLAN





CONNECTING MATERIALS

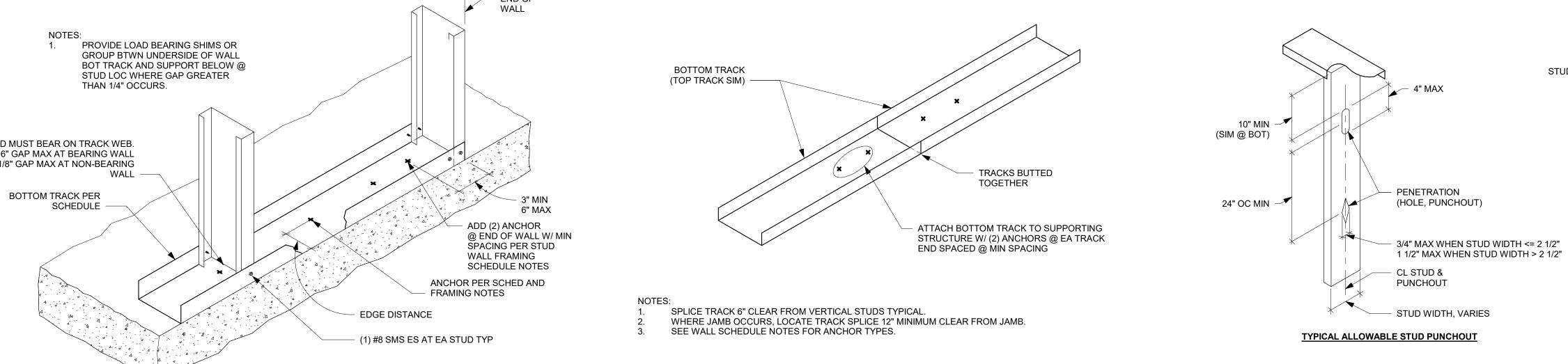
SOLID PL MATCH

TYPICAL INFILL OF FACTORY STUD PUNCHOUT

11 TYPICAL INT METAL STUD PUNCHOUT NTS

THICKNESS OF STUD

8 TYPICAL STUD WALL AT CORNER NTS

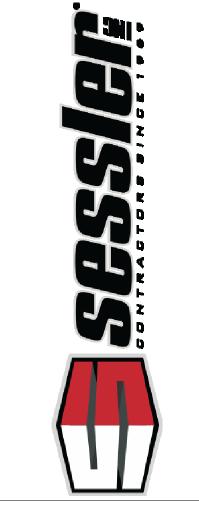


10 TYPICAL TRACK SPLICE

City of Puyallup **Development & Permitting Services ISSUED PERMIT** Building Public Works Engineering Fire Traffic

**S**tructural **E**ngineers 1316 Central Ave. S., Suite 200 Kent, WA 98032 (206) 397-0000 ~ www.bse-ps.com





PRCTI20240333

LTAGE PARK ROOM BUILD-OUTH 98374 1023

\alpha Issue	Date
For Approval	03/01/2024
Job #	24201
Drawn	AJS
Checked	PJB

**TYPICAL DETAILS** 

MS1.1

9 TYPICAL BOTTOM TRACK DETAIL UNO
NTS

1 TOP TRACK @ PERIMETER HSS GIRDER
1 1/2" = 1'-0"

(E) HSS8X4X1/2

P1001 UNISTRUT

USG MAINRUNNER

USG CROSSRUNNERS @ 24" OC

(2) 1000S200-54 BACK-TO-BACK ATTACH TO HSS
TUBE EA SIDE PER 11/MS1.2

(E) HSS8X4X1/2

- EXISTING HSS8X4X1/2 OR HSS10X6X1/2 @ 8'-0" OC — P1001 UNISTRUT @ 8'-0" OC MAX, SPANNING 8' - 0" MAX — MAX COMBINED LOAD FROM CABLE TRAY IS 400LBS SIMPSON RCA225/54 EA SIDE EA END W/ USG DONN BRAND DXAS (2) #10 SMS TO UNISTRUT & (2) HILTI X-U MAINRUNNER @ 4' - 0" OC MAX PÁF EMBEDED THRU HSS SIDÉ — AT CONC WALL USE (2) HILTI X-U PAF EMBEDED 1" MIN, SPACE 4" OC MIN SECTION 1 - EXISTING HSS10X6X1/2 @ 16' - 0" OC HILTI X-U PAF THRU HSS SIDE @ 36" OC MAX — AT CONC USG DONN BRAND US44HRC MOULDING TYP @ USG DONN BRAND DXAS — P1001 UNISTRUT SUPPORT WALL USE HILTI X-U PAF HSS & UNISTRUT — ATTACH TO MAIN RUNNER MAINRUNNER @ 4' - 0" OC MAX @ MID-SPAN (8'-0" OC MAX) EMBEDED 3/4" MIN @ 18" OC — & CROSS RUNNER W/ US44CC CLIP TYP USG DONN BRAND DXL424 OR DX422 CROSSRUNNER @ 2' - 0" OC MAX — USG 88189CR ACOUSTICAL PANELS TYP — NOT SHOWN EVERYWHERE FOR CLARITY — (2) #10 SMS @ 24" OC MAX TO UNISTRUT — UNISTRUT ATTACHED TO BOTTOM OF EXISTING HSS BEAMS WHERE REQ'D FOR CABLE TRAY SUPPORT. ATTACH TO BEAM W/ HILTI X-U PAF @ 24" OC — MAX SECTION 2 COMBINED LOAD FROM CABLE TRAY IS 400LBS. -

PW SHEATHING ABOVE

HSS GIRDER PER PLANS -

HSS GIRDER W/ SIMPSON

S/JCT CONNECTOR - USE

(2) SIMPSON PDPAT-62KP

GIRDER AND (4) #10 SMS

CFS JOISTS PER PLAN

ARCH - SEE DETAILS -

CEILING CONSTRUCTION FOR FIRE RATING AS REQ'D PER

ELEVATION THRU JOISTS

11 CFS JOIST TO HSS GIRDER CONN
1" = 1'-0"

ATTACH CFS JOISTS TO

PÁF TO TOP FACE OF

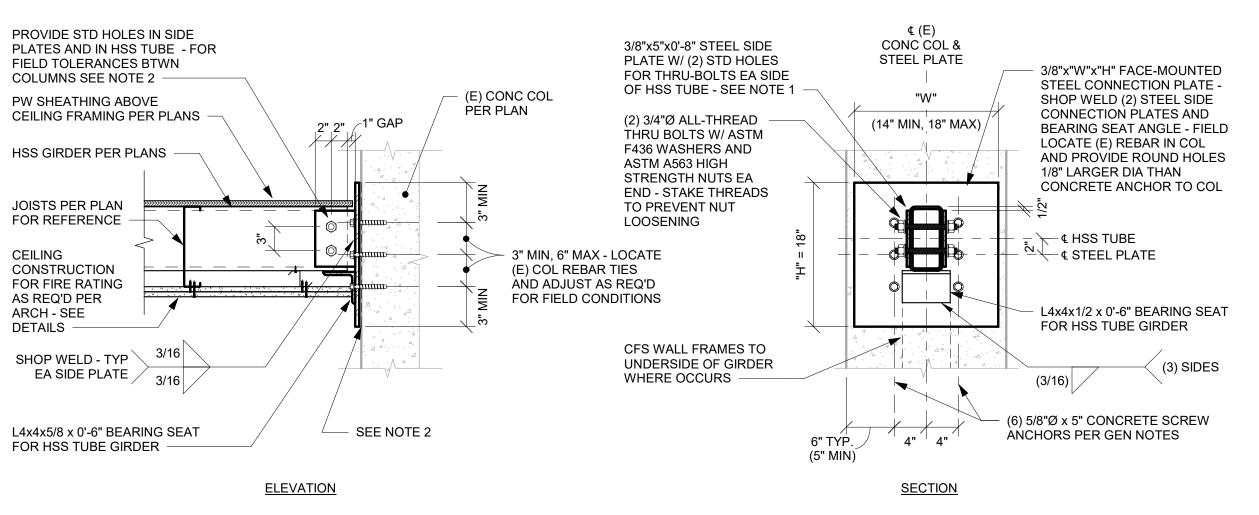
GIRDER AND (2) TO

VERTICAL FACE OF

TO JOIST -

CEILING FRAMING PER PLANS

5 UNISTRUT & DROP-IN FRAMING @ UPS ROOM CEILING
1 1/2" = 1'-0"

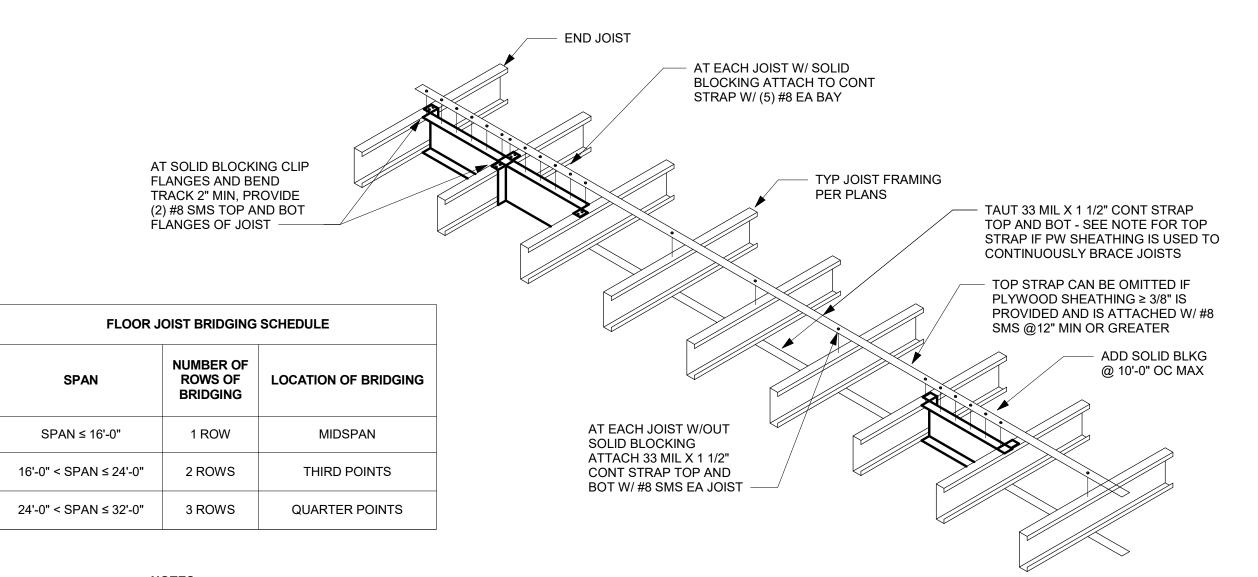


NOTES:

1. PROVIDE 1/16" FIELD TOLERANCE BTWN SIDE PLATES AND TUBE FOR INSTALLATION. IF LARGER TOLERANCES ARE REQUIRED, SHIMS (1/4" MAX) MAY BE PROVIDED W/ STD HOLES ON ONE OR BOTH SIDES OF HSS FOR SNUG FIT.

2. ALLOWANCE FOR FIELD CONSTRUCTION TOLERANCE IS 1/4" MAX FOR GAP BETWEEN BACK OF PLATE AND FACE OF COLUMN EA END OF TUBE - FILL ANY TOLERANCE GAP W/ STEEL SHIMS - AN ALTERNATIVE OPTION IS TO FIELD-DRILL HOLES IN TUBE FOR TIGHT FIELD FIT.





NOTES:

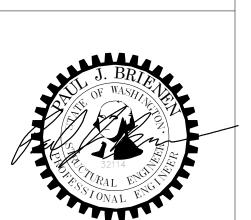
1. ADD SOLID BLOCKING FOR (2) BAYS ADJACENT TO ALL OPENINGS AND AT ENDS OF JOIST SYSTEM.

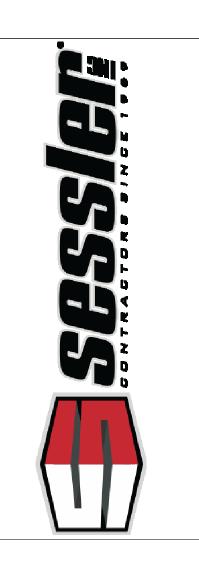
14 TYPICAL JOIST BRIDGING DETAIL
3/4" = 1'-0"

**B**rienen

Structural
Engineers

1316 Central Ave. S., Suite 200
Kent, WA 98032
(206) 397-0000 ~ www.bse-ps.com





PRCTI20240333

CENTERIS VOLTAGE PARK
AND BATTERY ROOM BUILD-OUT
1023 39TH AVENUE SOUTH EAST
PUYALLUP, WA 98374

Δ	Issue	Date
	For Approval	03/01/2024
 Job #		24201
С	)rawn	AJS
C	hecked	PJB

INTERIOR TYPICAL DETAILS

M\$1.2

City of Puyallup
Development & Permitting Services
ISSUED PERMIT
Building Planning
Engineering Public Works
Fire Traffic

HSS GIRDER PER PLANS

JOIST CONNECTION EA

SIDE OF HSS GIRDER -

CFS JOISTS PER PLAN -

JOISTS EA SIDE OF GIRDER SHOWN - SIM WHERE JOISTS

CEILING CONSTRUCTION FOR

FIRE RATING AS REQ'D PER

ARCH - SEE DETAILS

SECTION THRU GIRDER OCCUR ON ONLY (1) SIDE

SEE ELEVATION

C:\Users\brandonb\Documents\24201\_R2024\_Centeris Battery & UPS Buildout\_bbeaudette@bse-ps.com.rv 3/1/2024 10:35:29 AM

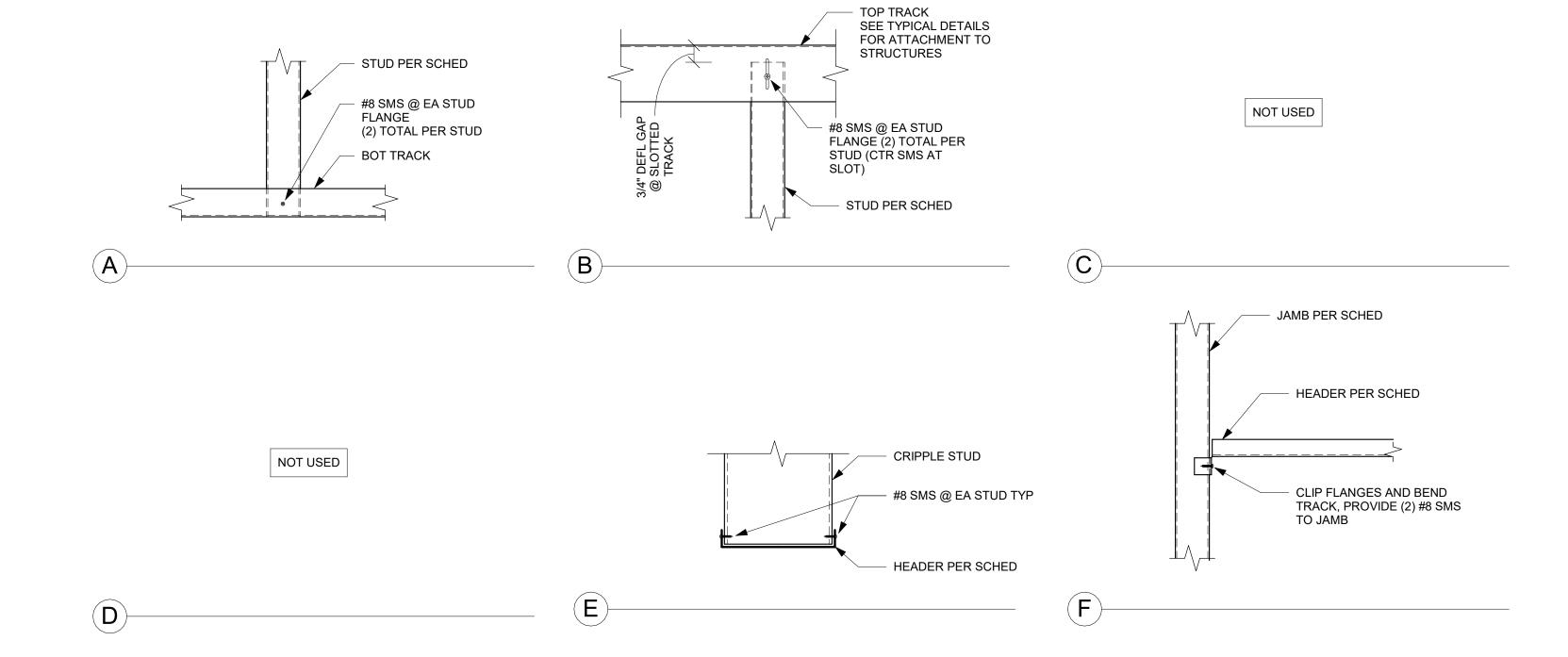
INTERIOR PARTITION TOP & BOTTOM TRACK ANCHOR SCHEDULE					
WALL		ANCHOR SPACING (2) ANCHORS MINIMUM AT EACH END OF TRACK			
TYPE	WALL HEIGHT	ATTACHED TO CONCRETE	ATTACHED TO STRUCTURAL STEEL		
ALL TYPICAL WALLS	UP TO 13'-6"	SHOTPIN @ 18" OC	SHOTPIN @ 30" OC		

COLD-FORMED STEEL EQUIVALENT MEMBERS						
SCHEDULED MEMBER	DESIGN THICKNESS [Fy]	SCAFCO EQUIVALENT	CEMCO EQUIVALENT			
###\$144-22 [57]	0.0235" [57ksi]	###SFS-33EQD	###VXS144-22			
###T###-22 [57]	0.0235" [57ksi]	###SFT###-33EQD	###VXT###-22			
###T250-## SLOTTED	VARIES [STD SSMA GRADES]	###\$LT250-##	###CST250-##			

FOR INTERIOR PARTITION FRAMING SCHEDULE NOTES, SEE GENERAL NOTES ON MS0.01

WALL ,	MALL LIFTOLIT	ORENING WIRTH OTHER TYPE	CTUD TVDE	DDOE!! E	ASSEMBLY DETAILS	CONNECTION DETAILS	
WIDTH	WALL HEIGHT	OPENING WIDTH	STUD TYPE	PROFILE		BOTTOM	ТОР
6"	UP TO 13'-6"	UP TO 3'-6"	600\$125-33		-	A	B
		UP TO 6'-6"	600S137-33		-	A	B

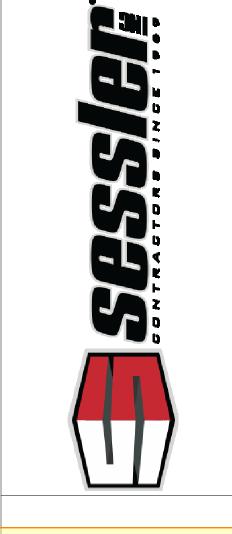
	INTERIOR NON-BEARING PARTITION HEADER SCHEDULE UNLESS NOTED OTHERWISE						
WALL WIDTH	WALL HEIGHT	OPENING WIDTH	STUD TYPE	PROFILE	ASSEMBLY DETAILS	CONNECTION DETAILS TO JAMB	
6"	UP TO 13'-6"	UP TO 6'-6"	600T125-33		E	F	



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Drawn AJS

Checked PJB

INTERIOR
PARTITION
SCHEDULES
& DETAILS

M\$2.1

City of Puyallup
Development & Permitting Services
ISSUED PERMIT

Building Planning

Engineering Public Works

Fire Traffic