CODE: INTERNATIONAL BUILDING CODE (IBC)	2018
LOADINGS FLOOR LIVE LOADDECK LIVE LOADROOF SNOW LOAD	40 PSF 60 PSF 25 PSF
WIND CRITERIA BUILDING CLASSIFICATION ULTIMATE WIND SPEED WIND EXPOSURE TOPOGRAPHIC FACTOR, Kzt	II 97 MPH B 1.0
SEISMIC CRITERIA SEISMIC RISK CATEGORY SPECTRAL RESPONSE COEFFICIENT, Ss SPECTRAL RESPONSE COEFFICIENT, S1 SEISMIC SITE CLASS	II 1.405 0.489 D D

STRUCTURAL DESCRIPTIONS

GENERAL CONDITIONS

THE CONTRACTOR SHALL EXAMINE THE STRUCTURAL DRAWINGS AND SHALL NOTIFY THI STRUCTURAL ENGINEER IN WRITING OF ANY DISCREPANCIES HE MAY FIND BEFORE PROCEEDING WITH THE WORK. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS, ELEVATIONS AND SITE CONDITIONS BEFORE STARTING WORK.

ALL OMISSIONS OR CONFLICTS BETWEEN THE VARIOUS ELEMENTS OF THE WORKING DRAWINGS SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT AND THE STRUCTURAL ENGINEER BEFORE PROCEEDING WITH ANY WORK SO INVOLVED.

SPECIFIC NOTES AND DETAILS SHALL TAKE PRECEDENCE OVER GENERAL NOTES AND TYPICAL DETAILS. WHERE THE NOTES, DRAWINGS, AND/OR SPECIFICATIONS DIFFER, THE MORE STRINGENT REQUIREMENT SHALL APPLY.

IF A SPECIFIC DETAIL IS NOT SHOWN FOR ANY PART OF THE WORK, THE CONSTRUCTION SHALL BE THE SAME AS FOR SIMILAR WORK.

WORKING DIMENSIONS SHALL NOT BE SCALED FROM PLANS, SECTIONS, OR DETAILS ON THESE DRAWINGS.

THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ARCHITECT AND THE STRUCTURAL ENGINEER OF ANY CONDITION THAT, IN HIS OPINION, MIGHT ENDANGER THE STABILITY OF THE STRUCTURE OR CAUSE DISTRESS TO THE STRUCTURE.

THE CONTRACTOR SHALL SUPERVISE AND DIRECT HIS WORK AND HE SHALL BE SOLELY RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES AND PROCEDURES. PROVIDE ADEQUATE SHORING AND BRACING OF ALL STRUCTURAL MEMBERS DURING CONSTRUCTION. NOTIFY ENGINEER OF ALL FIELD CHANGES PRIOR TO INSTALLATION.

REFER TO THE ARCHITECTURAL DRAWINGS FOR INFORMATION NOT COVERED BY THESE GENERAL NOTES OR THE STRUCTURAL DRAWINGS.

ALL CONSTRUCTION SHALL BE DONE WITH MATERIALS. METHODS, AND WORKMANSHIP ACCEPTED AS GOOD PRACTICE BY THE CONSTRUCTION INDUSTRY AND IN CONFORMANCE WITH THE PROVISIONS OF PREVAILING CODE EDITION OF THE "INTERNATIONAL BUILDING CODE" (IBC) AND STANDARDS REFERENCED THEREIN.

10. PIPES, DUCTS, SLEEVES, OPENINGS, POCKETS, CHASES, BLOCK-OUTS, ETC., SHALL NOT BE PLACED IN SLABS, FOUNDATIONS, ETC., NOR SHALL ANY STRUCTURAL MEMBER BE CUT FOR SUCH ITEMS, UNLESS SPECIFICALLY DETAILED ON THESE STRUCTURAL DRAWINGS.

11. ALTERNATE ASSEMBLIES AND MATERIALS WILL BE CONSIDERED FOR REVIEW. ENGINEE MAY REQUEST PAYMENT FOR REVIEW.

FOUNDATION

1. STRUCTURAL DESIGN COMPLIES WITH SOILS REPORT PRODUCED BY: N.A.

LATERAL EARTH PRESSURE ON RETAINING WALLS N.A.

1500 PSF (ASSUMED) FOOTING BEARING PRESSURE:

SUBGRADE PREPARATION, DRAINAGE PROVISIONS, AND OTHER RELEVANT SOIL CONSIDERATIONS ARE TO BE IN ACCORDANCE WITH SAID SOILS REPORT.

DIMENSIONAL LUMBER, ANCHOR BOLT AND NAILING SPECIFICATIONS

1. MEET REQUIREMENTS OF PS 20-70 AND NATIONAL GRADING RULES FOR SOFTWOOD DIMENSIONAL LUMBER. BEAR STAMP OF WWPA.

2. MINIMUM DIMENSIONAL LUMBER GRADES TO BE:

WALL STUDS, 2X, 3 X...... HF STUD GRADE WALL PLATES, 2X, 3X...... HF STANDARD GRADE U.N.O HF #2 JOISTS, 2 X 6:..... JOISTS, 2 X 8 AND UP...... DF #2 BEAMS, HEADERS, 6X DF #2 BEAMS, HEADERS, 4X...... DF #2, WWPA GRADING DF #2 U.N.O POSTS, 4X, 6X..... LUMBER NOT NOTED HERE... DF #2 U.N.O

3. PROVIDE STANDARD CUT WASHERS FOR BOLT HEADS AND NUTS BEARING AGAINST

4. ALL SILLS OR PLATES RESTING ON CONCRETE OR MASONRY THAT IS IN CONTACT WITH OR RESTING ON FOUNDATIONS SHALL BE PRESSURE-TREATED DOUGLAS FIR/ HEMFIR IN ACCORDANCE TO WITH AWPA U1 (PLANT/SHOP TREATMENT) AND M4 (FIELD TREATMENT) STANDARDS. ALL BEARING WALL PLATES SHALL HAVE 5/8" Ø x10" J-BOLTS PLACED AT MAXIMUM OF 9" FROM THE END OF A PLATE AND SPACED AT INTERVALS SHOWN ON THE SHEARWALL SCHEDULE (MAXIMUM 4'-0" OC SPACING). PROVIDE BP PLATE WASHER AT ALL FOUNDATION SILL PLATE ANCHOR BOLTS. PROVIDE TWO ANCHOR BOLTS MINIMUM PER SECTION OF SILL. FOR NON-SHEARWALL, PLACE ANCHORS AT 48".

5. BOLTS IN WOOD SHALL NOT BE LESS THAN 7 DIAMETERS FROM THE END AND 4 DIAMETERS FROM THE EDGE OF THE MEMBER.

6. NAILS: COMMON WIRE NAILS. NAILING IN ACCORDANCE WITH IBC TABLE 2304.9.1.

7. PRESSURE TREATED WOOD: ALL NAILS INTO PT WOOD SHALL BE HOT DIPPED GALVANIZED PER ASTM A153 OR STAINLESS STEEL. ALL METAL CONNECTORS IN CONTACT WITH PT WOOD SHALL BE HOT DIPPED GALVANIZED AND MEET ASTM A653 CLASS G185 (1.85 OZ OF ZINC PER SQ FT MINIMUM) OR TYPE 304 / 316 STAINLESS STEEL SIMPSON Z-MAX CONNECTORS MEET THIS REQUIREMENT. FASTENERS AND CONNECTORS USED TOGETHER SHALL BE OF THE SAME TYPE (E.G. HOT DIPPED NAILS WITH HOT DIPPED HANGERS)

8. ALL LUMBER WITH A LEAST DIMENSION OF 2" (NOMINAL) SHALL BE STAMPED "SURFACE-DRY" AND SHALL HAVE A MOISTURE CONTENT WHEN SURFACED AND WHEN INSTALLED OF NO MORE THAN 19 PERCENT. LUMBER WITH A LEAST DIMENSION OF 4" (NOMINAL) OR GREATER SHALL BE STAMPED "SURFACE-GREEN" AND AIR-DRIED TO A MOISTURE CONTENT OF NOT MORE THAN 19 PERCENT PRIOR TO ITS USE IN FRAMING THE STRUCTURE.

9. NOTCHING AND BORING OF BEAMS AND JOISTS IS NOT ALLOWED WITHOUT PRIOR APPROVAL OF THE STRUCTURAL ENGINEER OF RECORD.

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REQUIRED? (Y/N) MATERIAL / ACTIVITY

3. Inspection of anchors cast in concrete where allowable loads have been increased per section 1908.5 or where strength design is used 4. Inspection of anchors and reinforcing steel post-installed in hardened concrete: Per research reports including verification of anchor type, anchor dimensions, hole dimensions, hole cleaning procedures, anchor spacing, edge distances, concrete minimum thickness, anchor embedment and 5. Verify use of approved design mix 6. Fresh concrete sampling, perform slump and air content tests and determine temperature of 7. Inspection of concrete and shotcrete placement for proper application techniques 8. Inspection for maintenance of specified curing temperature and techniques 9. Inspection of prestressed concrete: a. Application of prestressing force b. Grouting of bonded prestressing tendons in the seismic-force-resisting system 10. Erection of precast concrete members a. Inspect in accordance with construction documents

13. Concrete strength testing and verification of compliance with construction documents

CONCRETE AND REINFORCING

CONCRETE SHALL CONFORM TO THE INDICATED REFERENCE CODES AND STANDARDS **EXCEPT AS MODIFIED BELOW:**

ACI-301 - "STANDARD SPECIFICATIONS FOR STRUCTURAL CONCRETE" ACI-318 - "BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE" ACI-305R - "HOT WEATHER CONCRETING" ACI-306R - "COLD WEATHER CONCRETING"

ACI-304 - "GUIDE FOR MEASURING, MIXING, TRANSPORTING AND PLACING CONCRETE"

CONCRETE MIX SPECIFICATIONS

COMP. SRENGTH W/C RATIO AIR CONTENT REMARK **LOCATION** FOOTING 3000 PSI (MIN. OF 5.5 SACKS OF CEMENT PER CUBIC YARD OF CONCRETE) SLAB ON GRADE 3000 PSI (MIN. OF 5.5 SACKS OF CEMENT PER CUBIC YARD OF CONCRETE) FOUNDATION WALL 3000 PSI (MIN. OF 5.5 SACKS OF CEMENT PER CUBIC YARD OF CONCRETE) TOPPING

TOTAL AIR CONTENT IS SPECIFIED IN THE TABLE ABOVE. AIR CONTENT TOLERANCE SHALL BE ± 1% AND SHALL BE MEASURED AT THE POINT OF PLACEMENT. (AFTER PUMPING IF APPLICABLE). ALL CONCRETE EXPOSED TO THE WEATHER SHALL HAVE AN APPROVED ADMIXTURE TO ENTRAIN AIR - 5% TOTAL AIR REQUIRED. CONCRETE THAT CAN BE SUBJECTED TO FREEZING AND THAWING DURING CONSTRUCTION SHALL BE AIR ENTRAINED.

3. PROVIDE GRADE 60 KSI (A615) FOR CONCRETE STEEL REINFORCING

MATERIAL / ACTIVITY	EXIENI	REQUIREL)? (Y/N)	MATERIAL / ACTIVITY	EXIENI
1704.2.5 Inspection of Fabricators Verify fabrication/quality control procedures	Periodic			1705.4 Masonry Construction (A) Level A, B and C Quality Assurance:	
1705.1.1 Special Cases (work unusual in nature, including but not limited to alternative materials		Υ	N	1. Verify compliance with approved submittals (B) Level B Quality Assurance:	Periodic
and systems, unusual design applications, materials and systems with special manufacturer's requirements)		Υ	N	1. Verification of f'm and f'AAC prior to construction (C) Level C Quality Assurance:	Periodic
roquironionio)		Y Y	N N	1. Verification of f'm and f'AAC prior to construction and for every 5,000 SF during construction 2. Verification of proportions of materials in premixed or preblended mortar, prestressing grout, and	Periodic Continuous
1705.2 Steel Construction 1. Fabricator and erector documents (Verify reports and certificates as listed in AISC 360, chapter	Each submittal	Υ	N	grout other than self-consolidating grout, as delivered to the project site 3. Verify placement of masonry units	Periodic
N, paragraph 3.2 for compliance with construction documents) 2. Material verification of structural steel	Periodic	Υ	N	(D) Levels B and C Quality Assurance: 1. Verification of Slump Flow and Visual Stability Index (VSI) of self-consolidating grout as delivered	Continuous
3. Embedments (Verify diameter, grade, type, length, embedment. See 1705.3 for anchors)4. Verify member locations, braces, stiffeners, and application of joint details at each connection	Continuous Periodic	Υ	N	to the project 2. Verify compliance with approved submittals	Periodic
comply with construction documents 5. Structural steel welding:		Y Y	N N	3. Verify proportions of site-mixed mortar, grout and prestressing grout for bonded tendons4. Verify grade, type, and size of reinforcement and anchor bolts, and prestressing tendons and	Periodic Periodic
a. Inspection tasks Prior to Welding (Observe, or perform for each welded joint or member, the QA tasks listed in AISC 360, Table N5.4-1)	Observe or Perform as noted (4)	Υ	N	anchorages 5. Verify construction of mortar joints	Periodic
b. Inspection tasks During Welding (Observe, or perform for each welded joint or member, the QA tasks listed in AISC 360, Table N5.4-1)	Observe (4)	Υ	N	6. Verify placement of reinforcement, connectors, and prestressing tendons and anchorages	Level B - Periodic Level C - Continuous
c. Inspection tasks After Welding (Observe, or perform for each welded joint or member, the QA tasks listed in AISC 360, Table N5.4-3)	Observe or Perform as noted (4)	Υ	N	7. Verify grout space prior to grouting	Level B - Periodic Level C - Continuous
d. Nondestructive testing (NDT) of welded joints: see Commentary1) Complete penetration groove welds 5/16" or greater in risk category III or IV	Periodic	Y Y	N N	8. Verify placement of grout and prestressing grout for bonded tendons9. Verify size and location of structural masonry elements	Continuous Periodic
2) Complete penetration groove welds 5/16" or greater in risk category II3) Thermally cut surfaces of access holes when material t > 2"	Periodic Periodic	Y	N	10. Verify type, size, and location of anchors, including details of anchorage of masonry to structural members, frames, or other construction.	Level B - Periodic Level C - Continuous
4) Welded joints subject to fatigue when required by AISC 360, Appendix 3, Table A-3.15) Fabricator's NDT reports when fabricator performs NDT	Periodic Each submittal (5)	Y	N N	11. Verify welding of reinforcement (see 1705.2.2)12. Verify preparation, construction, and protestion of masonry during cold weather (temperature	Continuous Periodic
Structural steel bolting:a. Inspection tasks Prior to Bolting (Observe, or perform tasks for each bolted connection, in	Observe or Perform as noted (4)	Y	N	below 40oF) or hot weather (temperature above 90oF) 13. Verify application and measurement of prestressing force	Continuous
accordance with QA tasks listed in AISC 360, Table N5.6-1) b.Inspection tasks During Bolting (Observe the QA tasks listed in AISC 360, Table N5.6-2)	Observe (4)	Y	N	14. Verify placement of AAC masonry units and construction of thin-bed mortar joints (first 5000 SF of AAC masonry)	Continuous
Pre-tensioned and slip-critical joints a) Turn-of-nut with matching markings	Periodic	Y	N	15. Verify placement of AAC masonry units and construction of thin-bed mortar joints (after the first 5000 SF of AAC masonry)	Level B - Periodic Level C - Continuous
b) Direct tension indicatorc) Twist-off type tension control bolt	Periodic Periodic	Y	N N	16. Verify properties of thin-bed mortar for AAC masonry (first 5000 SF of AAC masonry)17. Verify properties of thin-bed mortar for AAC masonry (after the first 5000 SF of AAC masonry)	Continuous Level B - Periodic
d) Turn-of-nut without matching markings e) Calibrated wrench	Continuous Continuous	Υ	N	18. Prepare grout and mortar specimens	Level C - Continuous Level B - Periodic
2) Snug-tight joints c. Inspection tasks After Bolting (Perform tasks for each bolted connection in accordance with QA	Periodic Perform (4)	Υ	N	19. Observe preparation of prisms	Level C - Continuous Level B - Periodic
tasks listed in AISC 360, Table N5.6-3) 7. Inspection of steel elements of composite construction prior to concrete placement in accordance	Observe or Perform as noted (4)			1705.5 Wood Construction	Level C - Continuous
with QA tasks listed in AISC 360, Table N6.1	()	Υ	N	Inspection of the fabrication process of wood structural elements and assemblies in accordance with Section 1704.2.5	Periodic
1705.2.2 Steel Construction Other Than Structural Steel 1. Material verification of cold-formed steel deck:		Υ	N	2. For high-load diaphragms, verify grade and thickness of structural panel sheathing agree with approved building plans	Periodic
a. Identification markings b. Manufacturer's certified test reports	Periodic Each submittal	Υ	N	3. For high-load diaphragms, verify nominal size of framing members at adjoining panel edges, nail or staple diameter and length, number of fastener lines, and that spacing between fasteners in each	Periodic
2. Connection of cold-formed steel deck to supporting structure:	Periodic	٧	N	line and at edge margins agree with approved building plans 4. Metal-plate-connected wood trusses spanning 60 feet or greater: verify temporary and permanent	Periodic
a. Welding b. Other fasteners (in accordance with AISC 360, Section N6)	Periodic	1	IN	restraint/bracing are installed in accordance with the approved truss submittal package	1 Griodic
Verify fasteners are in conformance with approved submittal Verify fastener installation is in conformance with approved submittal and manufacturer's	Periodic			1705.6 Soils	
recommendations 3. Reinforcing steel	Devicedia	Y	N	 Verify materials below shallow foundations are adequate to achieve the design bearing capacity. Verify excavations are extended to proper depth and have reached proper material. 	Periodic
 a. Verification of weldability of steel other than ASTM A706 b. Reinforcing steel resisting flexural and axial forces in intermediate and special moment frames, 	Periodic Continuous	Y	N N	3. Perform classification and testing of controlled fill materials.4. Verify use of proper materials, densities, and lift thicknesses during placement and compaction of	Periodic Periodic
boundary elements of special concrete structural walls and shear reinforcement c. Shear reinforcement	Continuous	Y	N	controlled fill 5. Prior to placement of controlled fill, observe subgrade and verify that site has been prepared	Continuous
d. Other reinforcing steel 4. Cold-formed steel trusses spanning 60 feet or greater	Periodic	Y	N	properly	Periodic
 a. Verify temporary and permanent restraint/bracing are installed in accordance with the approved truss submittal package 	Periodic	Υ	N	1705.7 Driven Deep Foundations1. Verify element materials, sizes and lengths comply with requirements	Continuous
1705.3 Concrete Construction		Y Y	N N	 Determine capacities of test elements and conduct additional load tests, as required Observe driving operations and maintain complete and accurate records for each element 	Continuous Continuous
 Inspection of reinforcing steel installation (see 1705.2.2 for welding) Inspection of prestressing steel installation 	Periodic. Periodic	Υ	N	4. Verify placement locations and plumbness, confirm type and size of hammer, record number of blows per foot of penetration, determine required penetrations to achieve design capacity, record tip	Continuous
3. Inspection of anchors cast in concrete where allowable loads have been increased per section 1908.5 or where strength design is used	Continuous	Υ	N	and butt elevations and document any damage to foundation element 5. For steel elements, perform additional inspections per Section 1705.2	See Section 1705.2
4. Inspection of anchors and reinforcing steel post-installed in hardened concrete: Per research reports including verification of anchor type, anchor dimensions, hole dimensions, hole cleaning	Periodic or as required by the research report issued by an approved source	Υ	N	6. For concrete elements and concrete-filled elements, perform additional inspections per Section 1705.3	See Section 1705.3
procedures, anchor spacing, edge distances, concrete minimum thickness, anchor embedment and tightening torque		Υ	N	7. For specialty elements, perform additional inspections as determined by the registered design professional in responsible charge	In accordance with construction documents
5. Verify use of approved design mix6. Fresh concrete sampling, perform slump and air content tests and determine temperature of	Periodic Continuous	Υ	N	8. Perform additional inspections and tests in accordance with the construction documents	In accordance with construction documents
concrete 7. Inspection of concrete and shotcrete placement for proper application techniques	Continuous	Υ	N	1705.8 Cast-in-Place Deep Foundations 1.Observe drilling operations and maintain complete and accurate records for each element	Continuous
8. Inspection of concrete and shotclete placement for proper application techniques 9. Inspection of prestressed concrete:	Periodic	Ϋ́	N	2. Verify placement locations and plumbness, confirm element diameters, bell diameters (if applicable), lengths, embedment into bedrock (if applicable) and adequate end-bearing strata	Continuous
a. Application of prestressing force b. Grouting of bonded prestressing tendons in the seismic-force-resisting system	Continuous Continuous	٧	N	capacity. Record concrete or grout volumes 3. For concrete elements, perform additional inspections in accordance with Section 1705.3	See Section 1705.3
Crouting of borided prestressing tendors in the seismic-lorce-resisting system Section of precast concrete members a. Inspect in accordance with construction documents	In accordance with construction documents	Ý	N	4. Perform additional inspections and tests in accordance with the construction documents	In accordance with construction documents
b. Perform inspections of welding and bolting in accordance with Section 1705.2 11. Verification of in-situ concrete strength, prior to stressing of tendons in post tensioned concrete	In accordance with Section 1705.2 Periodic	v	N	1705.9 Helical Pile Foundations 1. Verify installation equipment, pile dimensions, tip elevations, final depth, final installation torque	Continuous
and prior to removal of shores and forms from beams and structural slabs 12. Inspection of formwork for shape, lines, location and dimensions	Periodic	· •	N	and other data as required. 2. Perform additional inspections and tests in accordance with the construction documents	In accordance with construction documents
13. Concrete strength testing and verification of compliance with construction documents	Periodic	•	14	·	in accordance with construction accuments
Notes		Y	N N	1705.10.1 Structural Wood Special Inspections For Wind Resistance 1. Inspection of field gluing operations of elements of the main windforce-resisting system	Continuous Periodic
Notes: 1. The inspection and testing agent(s) shall be engaged by the Owner or the Owner's Agent, and		ĭ	IN	Inspection of nailing, bolting, anchoring and other fastening of components within the main windforce-resisting system	renoulc
not by the Contractor or Subcontractor whose work is to be inspected or tested. Any conflict of interest must be disclosed to the Building Official prior to commencing work. The qualifications of		V	N	1705.10.2 Cold-formed Steel Special Inspections For Wind Resistance	Periodic
the Special Inspector(s) and/or testing agencies may be subject to the approval of the Building Official and/or the Design Professional.		Ϋ́	N N	 Inspection during welding operations of elements of the main windforce-resisting system Inspections for screw attachment, bolting, anchoring and other fastening of components within the 	Periodic
2. The list of Special Inspectors may be submitted as a separate document, if noted so above.				main windforce-resisting system	
3. Special Insepctions as required by Section 1704.2.5 are not required where the fabricator is		Y	N	1705.10.3 Wind-resisting Components 1. Roof cladding	Periodic
approved in accordance with IBC Section 1704.2.5.2		Y	N	2. Wall cladding	Periodic
Observe on a random basis, operations need not be delayed pending these inspections. Perform these tasks for each welded joint, bolted connection, or steel element.		Y	N	1705.11.1 Structural Steel Special Inspections for Seismic Resistance Inspection of structural steel in accordance with AISC 341	In accordance with AISC 341
5. NDT of welds completed in an approved fabricator's shop may be performed by that fabricator			N 1	1705.11.2 Structural Wood Special Inspections for Seismic Resistance	Continues
when approved by the AHJ. Refer to AISC 360, N7.		Y Y	N N	Inspection of field gluing operations of elements of the seismic-force resisting system Inspection of nailing, bolting, anchoring and other fastening of components within the seismic-	Continuous Periodic
DEINEODOINO				force-resisting system	
REINFORCING TE SHALL CONFORM TO THE INDICATED REFERENCE CODES AND STANDARDS				1705.11.3 Cold-formed Steel Light-Frame Construction Special Inspections for Seismic Resistance	D
AS MODIFIED BELOW:		Y Y	N N	Inspection during welding operations of elements of the seismic-force-resisting system Inspections for screw attachment, bolting, anchoring and other fastening of components within the	Periodic Periodic

REQUIRED? (Y/N) MATERIAL / ACTIVITY

STRUCTURAL AND MISCELLANEOUS STEEL

EXTENT

STEEL MEMBERS. HARDWARE. FASTENERS SHALL BE HOT DIPPED GALVANIZED OR EPOXY PAINTED PER ARCHITECT REQUIREMENTS. ALL CUT, REPAIRED AND EXPOSED SURFACE SHALL BE PAINTED WITH (2) COAT OF 95% ZINC RICH PAINT PER ASTM A780. COLOR TO MATCH EXISTING.

STEEL SHALL CONFORM TO THE FOLLOWING STANDARDS:

TUBE COLUMNS: ASTM A500, GRADE B (Fy = 46 KSI) WIDE FLANGE COLUMNS / BEAMS: ASTM 572 GR50 SCHEDULE 40, CONFORMING TO ASTM A53, TYPE E OR S, GRADE B (Fy = 35 KSI.) STEEL PIPE: ALL OTHER STEEL: ASTM A36 (Fy = 36 KSI) OR ASTM A992 ASTM A307 (WOOD/STEEL CONN) BOLTS:

seismic-force-resisting system

BOLTS: ASTM A325/A490 WITH LOCK WASHERS (STEEL/STEEL AND STEEL/CONC CONN) ANCHOR BOLTS: ASTM A307 (WOOD FRAMING) ASTM A325 (STEEL FRAMING) ANCHOR BOLTS:

ALL SLIP CRITICAL CONNECTIONS SHALL BE ASTM A325 BOLTS AND SHALL BE ENGINEER-APPROVED, SELF-LOAD INDICATING TYPES, AND SHALL BE INSTALLED IN STRICT ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.

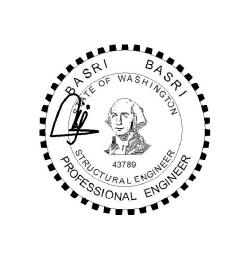
STRUCTURAL STEEL WELDING

CONFORM TO THE AWS CODES D1.1 AND D1.3, AND USE ONLY CERTIFIED WELDERS. WELDS NOT SPECIFIED ARE TO BE 1/4" CONTINUOUS FILLET MINIMUM. INCREASE WELD SIZE TO AWS MINIMUM SIZES. BASED ON PLATE THICKNESS. USE DRY E70 ELECTRODES. ALL WELDING SHALL CONFORM TO THE AWS CODES, AND SHALL BE BY CERTIFIED WELDERS. WELDS NOT SPECIFIED SHALL BE 1/4" CONTINUOUS FILLET MINIMUM. USE DRY E70 ELECTRODES.

DRAWING LIST SHEET NUMBER SHEET NAME **ISSUE DATE** 07-21-23 GENERAL NOTES AND SPECIFICATIONS 07-21-23 FRAMING PLANS S-2 FRAMING DETAILS 07-21-23 S-3 WSW DETAILS 07-21-23 Grand total: 4

EXTENT

info@b2engineers.com 425-318-7047 (O) 425-318-0031 (C)



TSO ADDITION

8802 SE 37TH ST

DRAWING INFO

ISSUE DATE 07-21-23

ISSUED FOR PERMIT

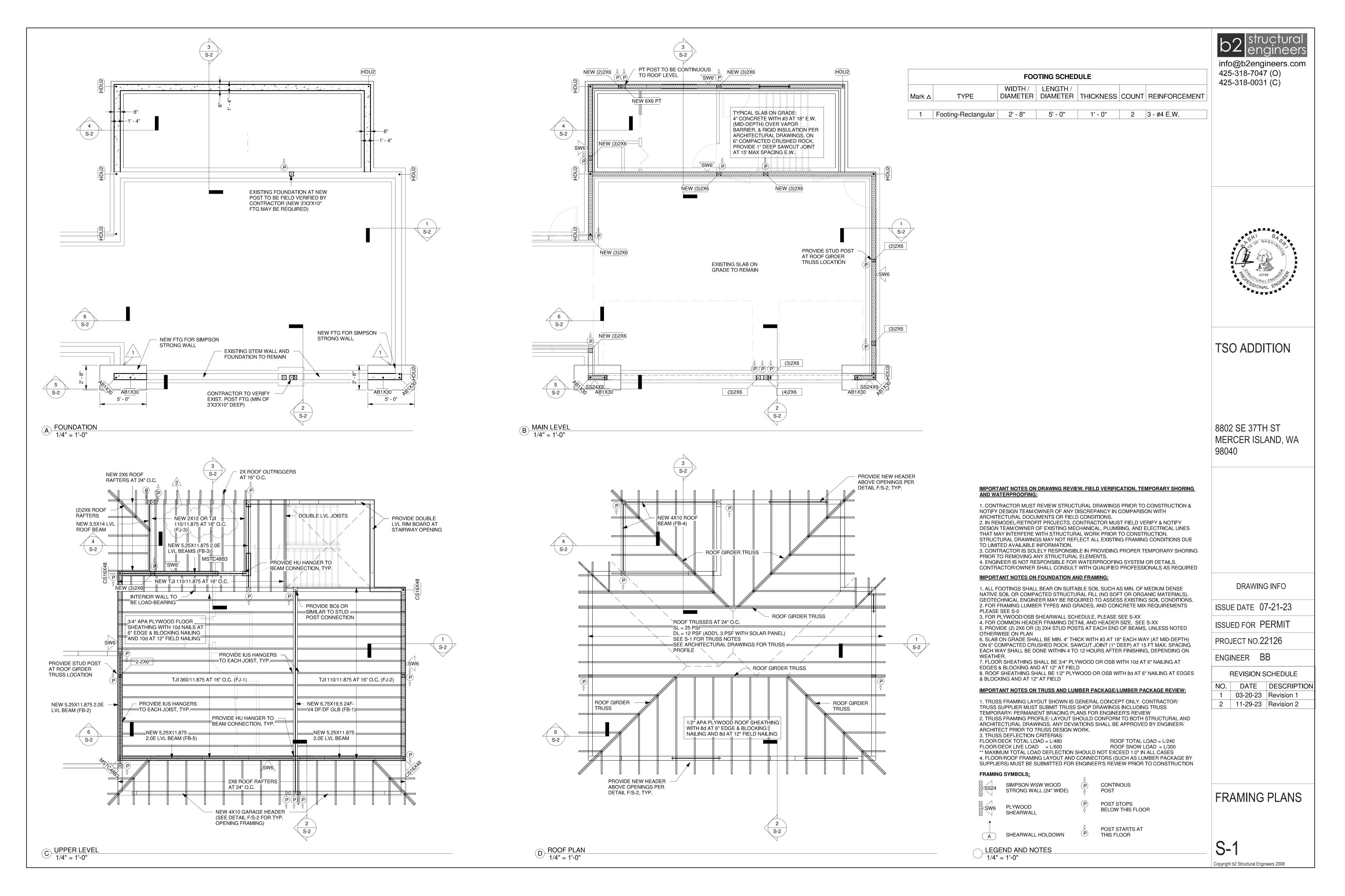
PROJECT NO.22126

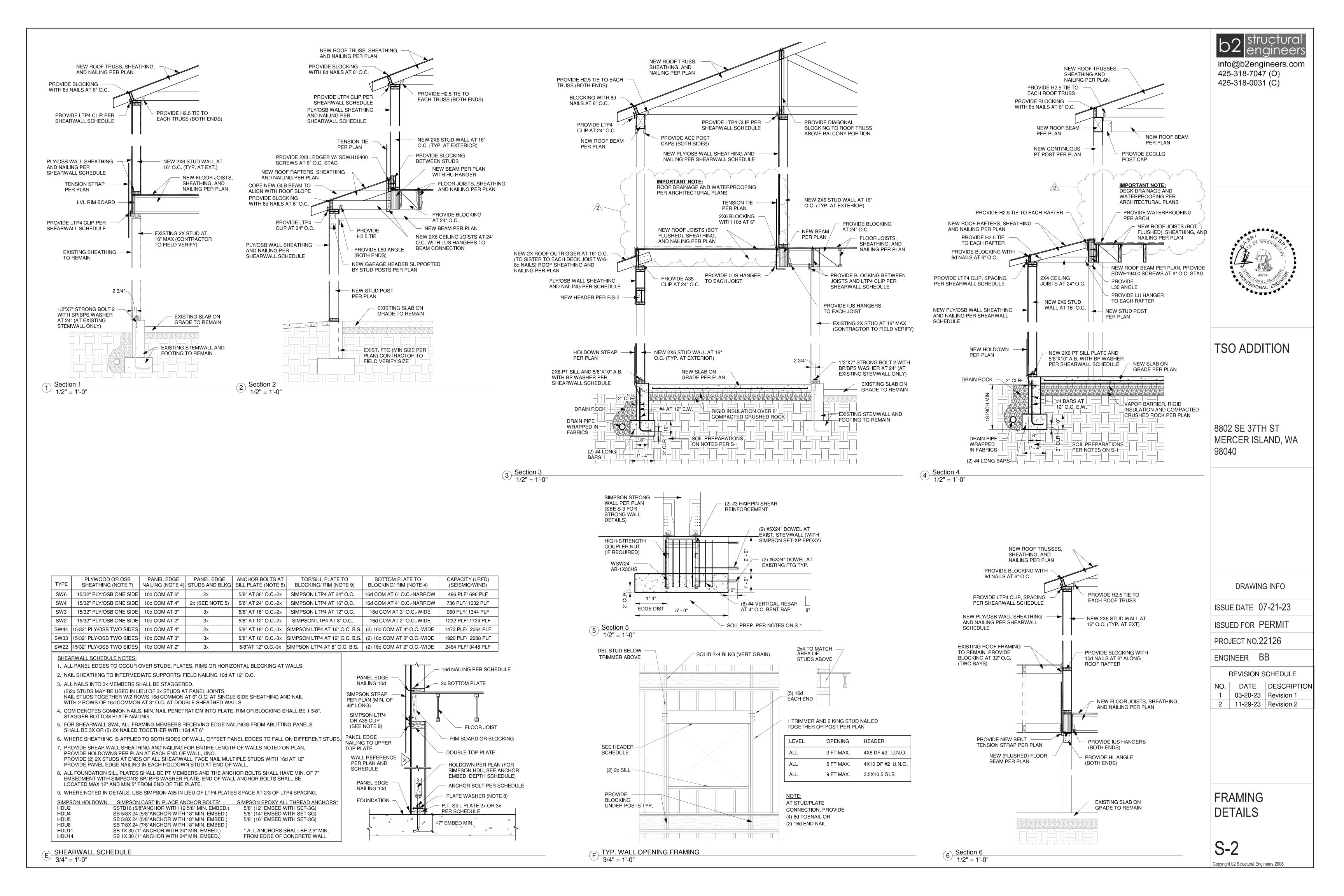
ENGINEER BB

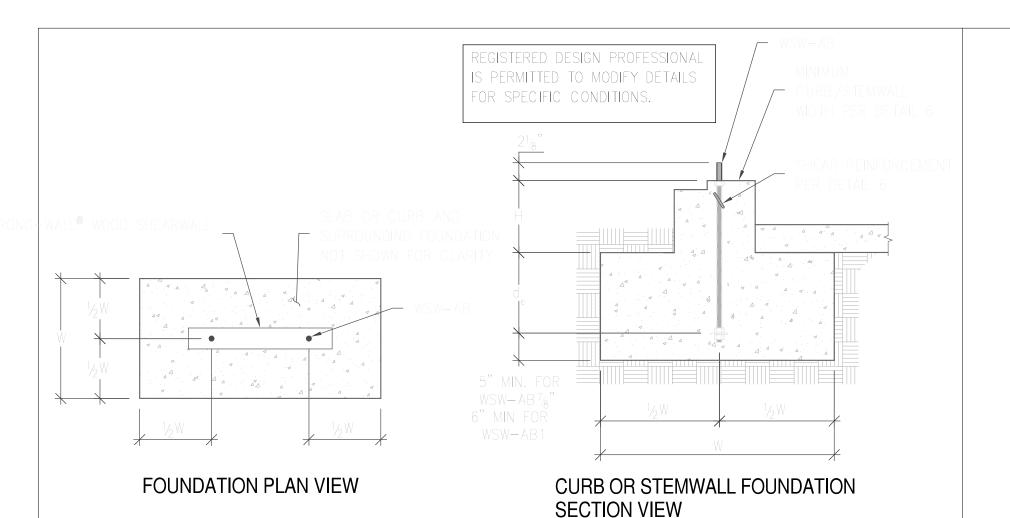
REVISION SCHEDULE NO. DATE DESCRIPTION

GENERAL NOTES SPECIFICATIONS

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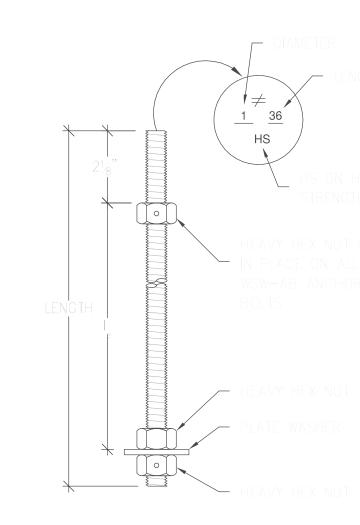




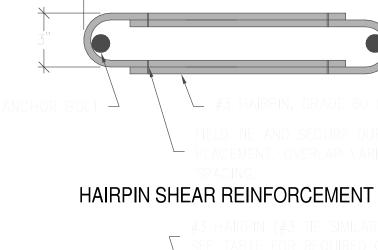
WSW ANCHORAGE SOLUTIONS FOR 2500 PSI CONCRETE

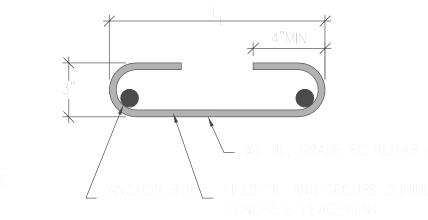
DESIGN CRITERIA	CONCRETE CONDITION		WSW-A	B % ANCHOR B	OLT	WSW-AB1 ANCHOR BOLT		
		ANCHOR STRENGTH ASD ALLOV	/ABLE UPLIFT	(lbs)W	de (in)	ASD ALLOWABLE UPLIFT (lbs)	W (in)	de (in)
		STANDARD	11,900	27	9	16,100	33	11
	CRACKED	STANDAND	13,100	29	10	17,100	35	12
	CNACNED	HIGH STRENGTH	24,900	43	15	33,000	51	17
		THOIT STILLING ITT	27,100	46	16	35,300	54	18
		STANDARD	12,500	24	8	15,700	28	10
	UNCRACKED	STANDARD	13,100	25	9	17,100	30	10
	UNCKACKED	HIGH STRENGTH	25,300	38	13	32,300	44	15
		NIGH SIKENGIH	27,100	40	14	35,300	47	16
			5,100	14	6	6,200	16	6
		STANDARD	8,700	20	7	11,400	24	8
			13,100	27	9	17,100	32	11
	CRACKED		15,900	30	10	21,100	36	12
		HIGH STRENGTH	18,400	33	11	27,300	42	14
		HIGH SIKENGIH	23,100	38	13	31,800	46	16
MINID			27,100	42	14	35,300	50	17
MIND		STANDARD	5,000	12	6	6,400	14	6
			9,300	18	6	12,500	22	8
			13,100	23	8	17,100	28	10
	UNCRACKED		15,200	25	9	21,900	32	11
		HIGH STRENGTH	19,900	30	10	26,400	36	12
			24,000	34	12	31,500	40	14
			27,100	37	13	35,300	43	15

- 1. ANCHORAGE DESIGNS CONFORM TO ACI 318-11 APPENDIX D AND ACI 318-14 WITH NO SUPPLEMENTARY REINFORCEMENT FOR CRACKED OR UNCRACKED CONCRETE AS NOTED.
- ANCHOR STRENGTH INDICATES REQUIRED GRADE OF WSW-AB ANCHOR BOLT. STANDARD (ASTM F1554 GRADE 36) OR
- 3. SEISMIC INDICATES SÉISMIC DESIGN CATEGORY C-F. DETACHED 1 AND 2 FAMILY DWELLINGS IN SDC C MAY USE WIND
- 5. FOUNDATION DIMENSIONS ARE FOR ANCHORAGE ONLY. FOUNDATION DESIGN (SIZE AND REINFORCEMENT) BY OTHERS. THE REGISTERED DESIGN PROFESSIONAL MAY SPECIFY ALTERNATE EMBEDMENT, FOOTING SIZE OR ANCHOR BOLT.

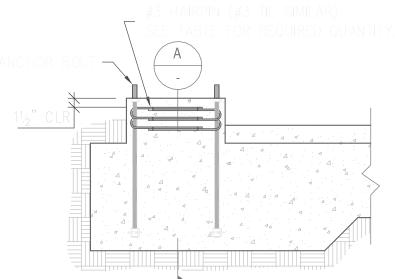


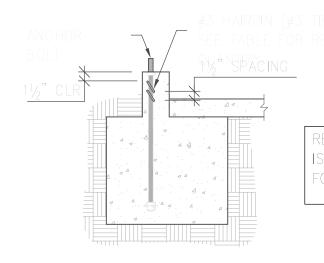
WSW PANEL MODEL	MODEL NO.	DIAMETER	LENGTH	l _e
	WSW-AB7∕ ₈ ×24	7/8"	24"	20"
WSW12	WSW-AB7/8x24HS	7/8"	24"	20"
AND WSW18	WSW-AB 7/8×30	7/8"	30"	26"
AND WOWIG	WSW-AB7/8×30HS	7/8"	30"	26"
	WSW-AB7/8×36HS	7/8"	36"	32"
	WSW-AB1x24	1"	24"	20"
	WSW-AB1x24HS	1"	24"	20"
WSW24	WSW-AB1x30	1"	30"	26"
	WSW-AB1x30HS	1"	30"	26"
	WSW-AB1x36HS	1"	36"	32"





TIE SHEAR REINFORCEMENT





REGISTERED DESIGN PROFESSIONAL IS PERMITTED TO MODIFY DETAILS FOR SPECIFIC CONDITIONS.

3

SECTION A

HAIRPIN INSTALLATION (GARAGE CURB SHOWN. OTHER FOOTING TYPES SIMILAR.)

STRONG-WALL® WOOD SHEARWALL SHEAR ANCHORAGE							
SEISMIC ³				WIND ⁴			
MODEL		SHEAR REINFORCEMENT	MIN. CURB/	SHEAR REINFORCEMENT	MIN. CURB/	ASD ALLOWABLE SH	EAR LOAD V (lbs.) 6
WODEL	L _t OR L _h (in.)		STEMWALL WIDTH (in.)		STEMWALL WIDTH (in.)	6" MIN CURB/STEMWALL	
			, ,			UNCRACKED	CRACKED
WSW12	101/4"	(1) #3 TIE	8 ⁵	SEE NOTE 6	6	1,035	740
WSW18	15	(1) #3 HAIRPIN	8 ⁵	(1) #3 HAIRPIN	6	HAIRPIN REINFORCEMENT ACHIEVES MAXIMUM ALLOWABLE SHEAR LOAD OF THE WSW	
WSW24	19	(2) #3 HAIRPIN	8 ⁵	(1) #3 HAIRPIN	6		

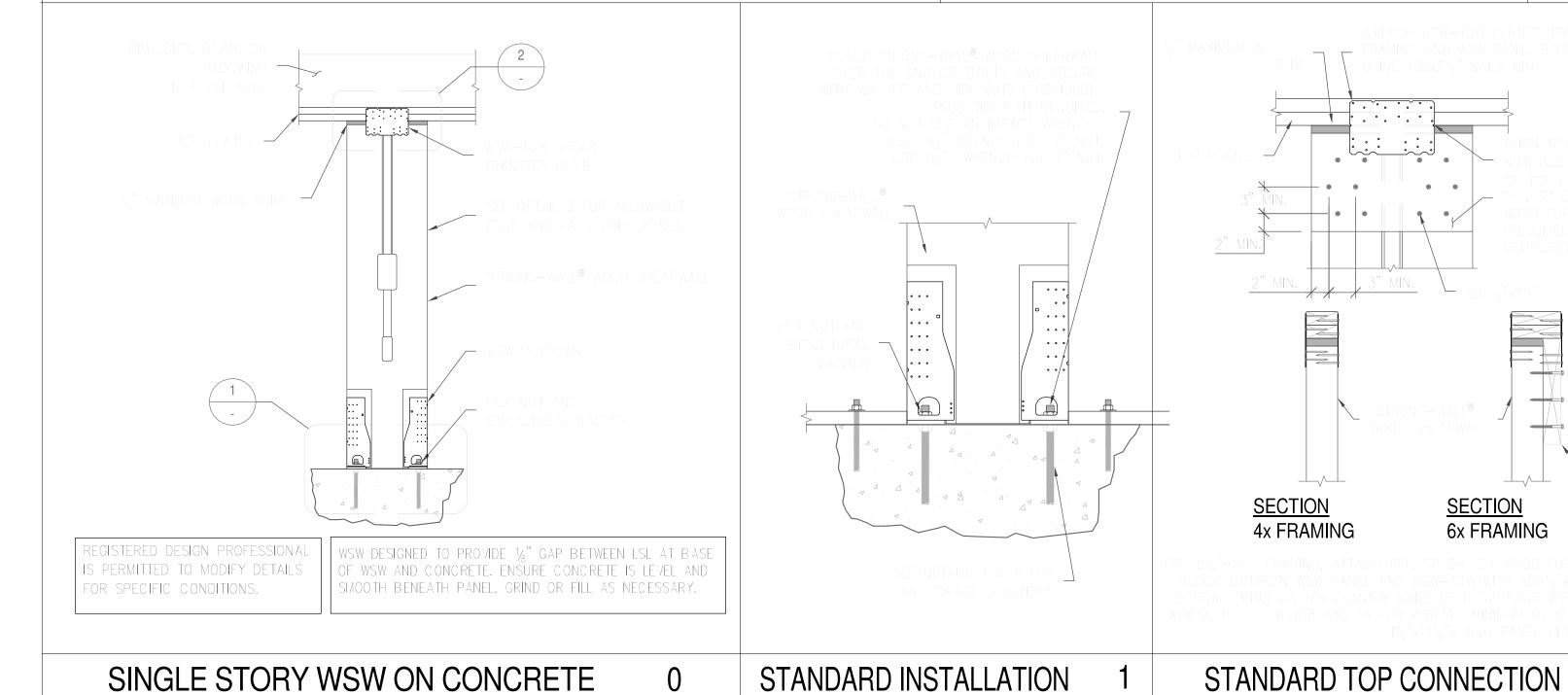
- SHEAR ANCHORAGE DESIGNS CONFORM TO ACI 318—11 AND ACI 318—14 AND ASSUME MINIMUM 2,500 PSI CONCRETE. SHEAR REINFORCEMENT IS NOT REQUIRED FOR INTERIOR FOUNDATION APPLICATIONS (PANEL INSTALLED AWAY FROM EDGE OF CONCRETE), OR

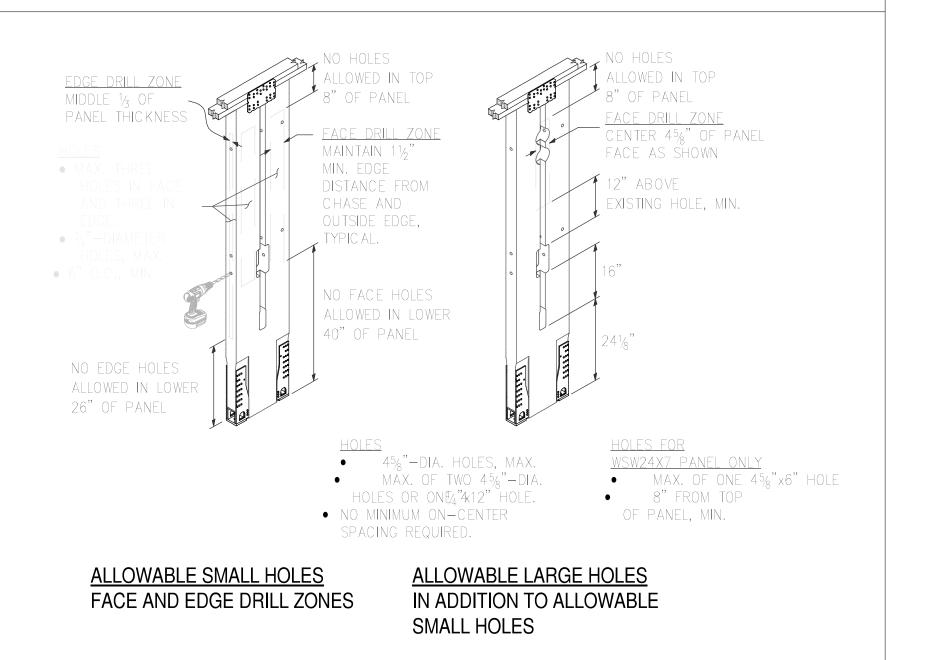
- 4. WIND INCLUDES SEISMIC DESIGN CATEGORY A AND B AND DETACHED 1 AND 2 FAMILY DWELLINGS IN SDC C. . WHERE NOTED, MINIMUM CURB/STEMWALL WIDTH IS 6 INCHES WHEN STANDARD STRENGTH ANCHOR BOLT IS USED.
- . USE (1) #3 TIE FOR WSW12 WHEN PANEL DESIGN SHEAR FORCE EXCEEDS TABULATED ANCHORAGE ALLOWABLE SHEAR LOAD.
- #4 GRADE 40 SHEAR REINFORCEMENT MAY BE SUBSTITUTED FOR WSW SHEAR ANCHORAGE SOLUTIONS.

2500 PSI CONCRETE ANCHORAGE SOLUTIONS 4

WSW ANCHOR BOLTS

STRONG-WALL® WSW SHEAR ANCHORAGE SCHEDULE AND DETAILS 6





TRIM ZONE AND ALLOWABLE HOLES

WSW DETAILS

info@b2engineers.com

425-318-7047 (O) 425-318-0031 (C)

TSO ADDITION

8802 SE 37TH ST

98040

MERCER ISLAND, WA

DRAWING INFO

REVISION SCHEDULE

NO. DATE DESCRIPTION

ISSUE DATE 07-21-23

ISSUED FOR PERMIT

PROJECT NO.22126

ENGINEER BB

S-3

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