WHATCOM COUNTY

Planning & Development Services 5280 Northwest Drive, Bellingham, WA 98226-9097 360-778-5900, TTY 800-833-6384 360-778-5901 Fax



Mark Personius, AICP Director

PRE2023-00097 ABC Recycling

Commercial Building Permit Application Building # 2

One Structure per Permit

Permit #						
Agent/Contact Nam	e:					
Mailing Address:				City		
StateZip Code	<u>;</u>	Phone # ()			
Email						
Property Owner Nar	ne					
Mailing Address:						
StateZip Code)	Phone # ()			
Email						
Contractor Name						
Business Name:						
Mailing Address:				City		
StateZip Code		Phone # ()			
Email						
Site Information						
Assessor's Parcel #			_ Div#_	Block	#	_Lot#
Subdivision Name:	_					
Site address	_					
Number of Buildings co	urrently on site:					
Valuation (cost of com	pleted project less	value of land	d) \$			
Project Description (e	example: New 2400 sq	. ft. Warehouse	e w/ offic	e space)		
☐ New ☐ Addition ☐	Remodel 🗌 Repair	☐ Change of	Occupan	cy 🗌 Tena	nt Impro	ovement
Building Height: (in feet)_			-			
# Company Vehicles:	Note: # of employee	es/parking space:	s & vehicle	es are for ent	ire comp	olex
Please Check Applicable	e Water & Sanitary S	Services: \	Water:	Well	☐ Wa	iter Assoc.
☐ Water District Nan	ne of Water Purveyo	or (if applicabl	le):			
Fees will be assessed in accordapplication submittal. Ple Click here to see the 2019/fee. The fee is calculated or	ase contact Planning an 2020 UFS. Per UFS 284	d Development 3 all permits ar	Services	to determin	e projec	t specific fees.

Septic: Yes No / Septic Installed: Yes No						
Sewer: Yes No	o Name o	f Sewer Purveyo	(if applicable	e):		
Proposed Square Fo	ootages fo	or this project (measured to	outside	wall):	
Ba	sement	sq.ft	. M	lain Floor	sq.ft.	
Basement Type: [Heated	Unheated	Seco	ond Floor	sq.ft.	
Other:		sq.ft	Total	I Square Feet	sq.ft.	
Heat Source (Check	the primar	y fuel source for	Heat / Hot W	/ater)		
Heating: Natu	ural Gas] Propane 🔲 Ele	ectric 🗌 Oil [Geother	mal 🗌 Other	
Hot Water: Natu	ural Gas [Propane Ele	ectric	Geother	mal \square Other	
Driveway Access ar		•				
Does your project inv	_	_		, ,	•	
	•	_		jiit or way	(example: a flew	
driveway or connection		-				
If yes, please describ						
Please note: If upon insper				onal Encroad	hment Permit is	
required; you will be notified						
List materials used in	the proces	ss of business ac	tivity (be spe	cific & list	quantities used	
or stored)						
Any proposed fill, e	xcavation	or clearing mu	ıst be noted	below *		
FILL	The deposit	of earth material by	artificial means.			
BY FEET	Length (ft)		pth Volun t) (ft³)		= Ecupic yard	
Septic	Х	^	=	/ 27	= CY	
Driveway/Road/Parking	х	X	=	/ 27	= CY	
Building site	Х	X	=	/ 27	= CY	
Other	x	X	=	/ 27		
MATERIAL SOURCE:				TOT VOLUN	(-V	
EXCAVATION		nical removal of earth n thereof. Earth mate n thereof.	erial is any rock,	natural soil,	9	
BY FEET	Length (ft)		pth Volur ft) (ft³		By = Cubic Yard	
Septic	X		=	/ 2		

EXCAVATION	The mechanical removal of earth materials. Grading is an excavation or filling or combination thereof. Earth material is any rock, natural soil, fill, or any combination thereof.					
BY FEET	Length (ft)	Width (ft)	Depth (ft)	Volume (ft³)	÷ By 27	= Cubic Yard
Septic	Х	x	=		/27 =	CY
Driveway/Road/Parking	Х	х	=		/ 27 =	CY
Building site	х	х	=		/ 27 =	CY
Ditching/Trenching	Х	х	=		/ 27 =	CY
Other	Х	х	=		/ 27 =	CY
MATERIAL DESTINATION:				TOTAL	. VOLUME:	СҮ

^{*} Cut/Fill for individual building permit only! All SITE cut/fill are included with permit for Building #1

CLEARING/CONVERSION

Defined as, "the destruction of vegetation by manual, mechanical, or chemical methods resulting in exposed soils. WCC20.97.053

Required TOTAL AREA TO BE CLEARED and/or GRUBBED, IN ACRES:

AREA OF TREE CLEARING, IN ACRES:

TIMBER USE Personal Use: % Sell: % Burn: % Give Away: %

FPA NUMBER (if applicable)

If your project includes any tree cutting, a Forest Practices Application / Notification may be required. For questions related to permit requirements, contact the Washington Department of Natural Resources (DNR) at 360-856-3500.

RECEIVED

Date: 10/24/2023 Staff: AHK

Please complete the following Agent Authorization only if an agent (someone other than the property owner) is applying for permit(s) on the property owner's behalf.

If you are authorizing an agent to apply for permits notarized, which will provide authorization for a design	uthorization s on your behalf you must complete this form and have it nated agent to apply for permits on your behalf.				
I/we, ABC RECYCL MG REALTY Coproperty, understand by completing this for	, the owner(s) of the subject				
my benair, and any rees associated with submitted a	tand said agent will be authorized to submit applications on pplications are due to me and not to the said agent. I/we				
also understand once an application has been submit	ted all future correspondence will be directed to the agent.				
ANDESON ANTHONY	1				
Property Owner Printed Name	Property Owner Printed Name				
Property Owner Signature	Property Owner Signature				
10/04/2023					
Date	Date				
I certify that I know or have satisfactory evidence that who appeared before me, and said person(s) acknow and purposes mentioned in this instrument.	t Andrew Anthony is/are the person(s) vieldged it to be his/her free and voluntary act for the uses				
Dated 004 7023					
	Notary Public Signature				
Notary Public					
State of Washington	Kendra I Howkins				
KENDRA I HAWKINS MY COMMISSION EXPIRES	Notary Public Printed Name Notary Public in and for the State of Washington				
AUGUST 18, 2025	Residing at What com Co.				
Commence of the second	My appointment expires: Aug/ 18/ 2025				
Disc	claimer				
The permitee verifies, acknowledges and agrees by th	neir signature that:				
 If this permit is for installation of a dwelling, the of 	welling is/will be served by potable water;				
2) The property owner is the owner of this Whatcom					
transaction;	The signatory is the property owner or someone who has permission to represent the property owner in this transaction;				
4) All construction is to be done in accordance with W	Whatcom County codes or ordinances- referenced codes and				
ordinances are available for review at Whatcom C 5) This Whatcom County Permit does not permit or	ounty Planning and Development Services; approve any violation of federal, state or local laws, codes				
or ordinances;	approve any violation of federal, state of local laws, codes				
6) Submission of plans or additional information and s	subsequent approval may be required before this application				

7) Notwithstanding that this application has been submitted in the name of a company, I personally guarantee payment (or guarantee payment on behalf of the client I am representing, noted on the Agent Authorization Form above) of the fees accrued according to the terms listed in the Whatcom County Unified Fee Schedule, including the Application of Fees from Different UFS Schedule Policy PL1-74-003Z, and agree to be bound personally as a principal and not as a surety. I recognize my personal guarantee is part of the consideration

Print Name

Owner or Agent Signature

for review of the application.

10/21/23

Date

can be processed;

ABC RECYCLING BUILDING 2 SEPARATION

741 MARINE DRIVE, Bellingham, WA

PROJECT CRITERIA

GENERAL SITE INFORMATION:

741 MARINE DRIVE, BELLINGHAM WA PARCEL #S: 3802231063740000

THAT PTN OF ENOCH COMPTON DON CLAIM DAF-BEG ON SLY LI OF MARIETTA RD 992.4 FT S-613.2 FT E OF NW COR SEC 23 BEING COR COMM TO SECS 14-15-22-23-TH S 25 DEG 50'00" W 1170 FT M/L TO GOVT

MEANDER LI OF BELLINGHAM BAY-TH SELY FOL SD MEANDER LI TO SE COR OF

NEIGHBORHOOD: SUB AREA:

HEAVY IMPACT INDUSTRIAL **ZONING:**

PROJECT DESCRIPTION/WORK TO BE PERFORMED:

NEW CONSTRUCTION OF A PRE ENGINEERED METAL BUILDING

GENERAL BUILDING INFORMATION:

TYPE OF CONSTRUCTION: 1 STORY NUMBER OF STORIES: OCCUPANCY CLASSIFICATION(S): MIXED OCCUPANCY

COMPLIANCE METHODS: SPRINKLER SYSTEM: ALLOWABLE BUILDING HEIGHT:

ACTUAL BUILDING HEIGHT: 37'-4.25" NON HEATED

FIRE PROTECTED SEPARATIONS

NOT PROVIDED

Site Coverage Information

SEE CIVIL PLANS

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HEAT TYPE:

PARKING REQUIREMENTS: (TOTAL PROJECT)

1 PER EMPLOYEE/SHIFT = 15 PER SHIFT =15 STALLS

PARKING PROVIDED =18 STALLS INCL. 2 H.C.

DEFERRED SUBMITTAL ITEMS:

1. PRE FAB STEEL BUILDING PLANS & ENGINEERING

APPLICABLE BUILDING CODES:

2018 INTERNATIONAL BUILDING CODE AND AMENDMENTS - CHAPTER 51-50 WAC 2018 INTERNATIONAL MECHANICAL CODE AND AMENDMENTS – CHAPTER 51-52 WAC 2018 INTERNATIONAL FUEL GAS CODE AND AMENDMENTS – CHAPTER 51-52 WAC 2018 INTERNATIONAL ENERGY CONSERVATION CODE (WECC) AND AMENDMENTS -CHAPTER 51-11C & 51-11R WAC

2017 NATIONAL FUEL GAS CODE (NFPA 54) – CHAPTER 51-52 WAC 2018 UNIFORM PLUMBING CODE (UPC) AND AMENDMENTS - CHAPTERS 51-56, 51-57 WAC 2020 NATIONAL ELECTRIC CODE (NFPA 70) -- CHAPTER 296-46B WAC 2018 INTERNATIONAL FIRE CODE (IFC) AND AMENDMENTS - CHAPTER 51-54 WAC

=13058 SF

ALLOWABLE AREA (PER IBC TABLE 506.2) (MOST RESTRICTIVE USE):

THE IFC IS ADOPTED AND AMENDED PER REGULATIONS SET FORTH IN BMC 17.20.

=23000 SF PER FLOOR BASIC AREA ALLOWANCE NS, IIB, (F2)

ACTUAL AREA

BASIC STORY ALLOWANCE NS. IIB. (F2) =2 STORIES **ACTUAL STORY**

BUILDING COMPLIES WITH AREA AND STORIES

OCCUPANT LOADS (IBC 1004.1.2):

-AREA OF WORK

OCCUPANT LOAD 200 SF (GROSS) = 13058/200 =65 OCC.

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Sheet Number

Cover Sheet A1.1 General Notes A1.3 Site Plan A2.0 Floor Plan A3.0 Elevations A3.2 Perspective Views

Building Section

Roof & RCP Plan

Sheet List

Sheet Name

AREA OF WORK-

2 Site -Cover Sheet 1" = 80'-0"

DRAWING SHEET LIST

STRUCTURAL SHEETS:

SEE STRUCTURAL COVER SHEET

CIVIL SHEETS:

A5.0

SEE CIVIL COVER SHEET

BUILDING MANUFACTURER:

SEE MANUFACTURER COVER SHEET

PROJECT TEAM

ARCHITECT: OWNER: TRC ARCHITECTURE, LLC A B C RECYCLING REALTY CORP ROBERT MATICHUK **2219 RIMLAND DR STE 301** PO BOX 1075

BELLINGHAM, WA 98227 p/f: 360.393.3131

BUILDING JURISDICTION: WHATCOM COUNTY **BUILDING SERVICES** 5280 NORTHWEST DR.

360.778.5900

Direct: (360) 474-7541 BELLINGHAM. WA 98226 203 W. Chestnut St. Bellingham WA 98225

GENERAL CONTRACTOR:

T.B.D.

BELLINGHAM, WA 98226-8759

STRUCTURAL ENGINEER: Brandon Hausmann. PE Office: (360) 200-8703 ex 1

Scott Goodall, MS, PE **Principal** Impact Design, LLC 5426 Barrett Road, Suite A103 Ferndale, WA 98248 (360) 389-8138 www.bold-impact.com

CIVIL ENGINEER:

REGISTERE: ARCHITECT STATE OF WASHINGTON

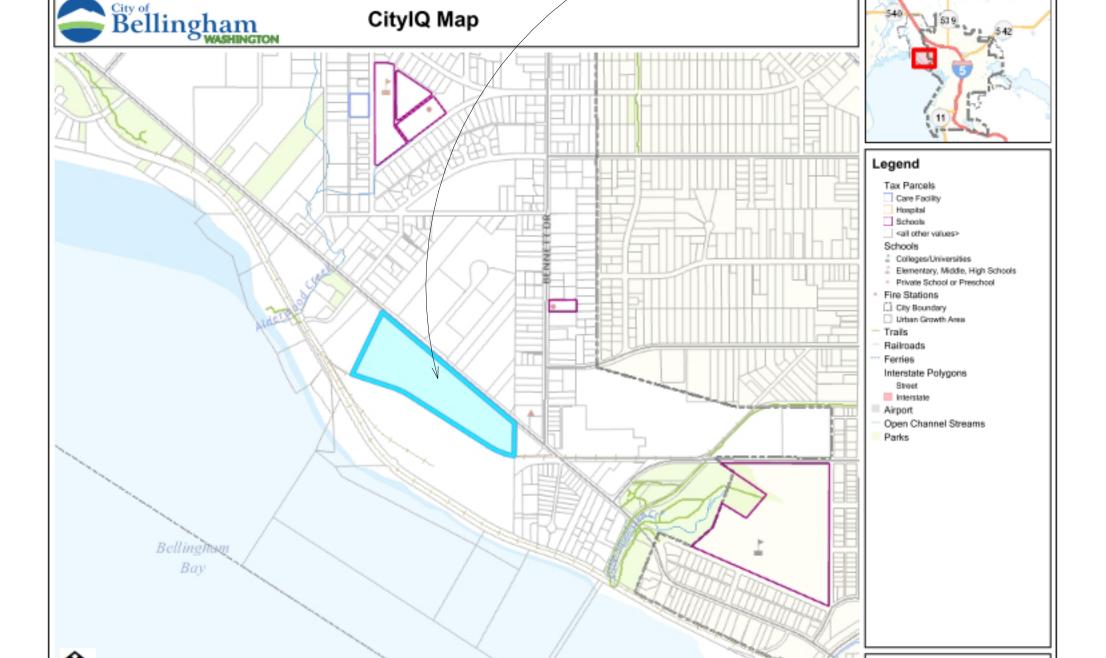
esign

Bellingham WA TRC 22-001 Project number Oct 20 2023 Date RKMDrawn by: Checked by:

Permit Set

Set Description:

Cover Sheet



he City of Bellingham has compiled this information for its own use and is not responsible for any use of this information by others. The information found herein is provided simply as a courtesy to the public and is no intended for any third party use in any official, professional or other authoritative capacity. Persons using this information do so at their own risk and by such use agree to defend, indemnify and hold harmless the City of Bellingham as to any claims, damages, liability, losses or suits arising out of such use. Contact the Whatcom County Assessors office (360-778-5050) for the most up to date parcel information.

CONTOURS SHOWING

VERIFY IN FIELD

CONSTRUCTION NOTES:

APPLICABLE BUILDING CODES VERIFY LOCAL ZONING AND BUILDING CODES PRIOR TO BEGINNING CONSTRUCTION.

ALL MECHANICAL (INCL. FIRE SPRINKLERS), ELECTRICAL AND PLUMBING BID-DESIGN UNDER SEPARATE PERMIT TO COMPLY WITH ALL APPLICABLE LOCAL CODES.

DO NOT SCALE DRAWINGS. CONSULT BUILDING DESIGNER AND OWNER FOR ANY DIMENSIONAL CLARIFICATIONS, ERRORS OR CONFLICTS. FLOOR PLANS TAKE PRECEDENCE OVER ELEVATIONS IF CONFLICTING. GENERAL

CONTRACTOR MUST VERIFY DIMENSIONS PRIOR TO PROCEEDING.

GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR ALL COORDINATION OF WORK BETWEEN SUB-CONTRACTOR TRADES, AND FOR PROVIDING WEATHER-TIGHT SEALS, FLASHING AND CAULKING AT ALL CONNECTIONS AND PENETRATIONS. REFER TO IBC CHAPTER 11 FOR MINIMUM WEATHER PROTECTION REQMTS. INCLUDING, BUT NOT LIMITED TO, HEAD FLASHING AT ALL OPENINGS.

PROVIDE ENGINEERED SHOP DRAWINGS FOR ALL TRUSSES, TRUSS TYPE JOISTS, STEEL BEAMS AND GLU-LAM BEAMS. SUBMIT TO ENGINEER FOR REVIEW.

THESE DRAWINGS ARE BID-DESIGN DOCUMENTS. THE OWNER/DEVELOPER AND CONTRACTOR SHALL ASSUME RESPONSIBILITY, LIABILITY AND INDEMNIFY THE BUILDING DESIGNER FOR COORDINATION OF BID-DESIGN WORK, INCLUDING BUT NOT LIMITED TO GENERAL CONSTRUCTION, ELECTRICAL, PLUMBING, HEATING AND VENTILATION THE BUILDING DESIGNER IS NOT LIABLE FOR CHANGES/CORRECTIONS MADE BY ON SITE INSPECTION DURING

THE COURSE OF CONSTRUCTION OR FOR DETAILS AND SPECIFICATIONS NOT INCLUDED. THE CONTRACTOR SHALL UTILIZE CONSTRUCTION TECHNIQUES AND PRACTICES STANDARD AND ACCEPTABLE TO THE CONSTRUCTION INDUSTRY. THE BUILDING DESIGNER DOES NOT ASSUME LIABILITY OR RESPONSIBILITY FOR METHODS OF CONSTRUCTION DETAILS & SPECIFICATIONS NOT INCLUDED IN THESE BUILDING PERMITS ONLY CONTRACT DOCUMENTS.

THE BUILDING DESIGNER HAS NOT BEEN RETAINED OR COMPENSATED TO PROVIDE DESIGN AND/OR CONSTRUCTION REVIEW SERVICES RELATING TO THE CONTRACTOR'S SAFETY PRECAUTIONS OR TO MEANS METHODS, TECHNIQUES OR PROCEDURES REQUIRED FOR THE CONTRACTOR TO PERFORM HIS WORK. THE UNDERTAKING OF PERIODIC SITE VISITS BY THE BUILDING DESIGNER SHALL NOT BE CONSTRUED AS SUPERVISION OF ACTUAL CONSTRUCTION NOR MAKE HIM RESPONSIBLE FOR THE PERFORMANCE OF WORK BY THE CONTRACTOR OR CONTRACTORS EMPLOYEES, OR EMPLOYEES OF SUPPLIERS OR SUBCONTRACTORS, OR FOR ACCESS, VISITS, USE, WORK, TRAVEL OR OCCUPANCY BY ANY PERSON.

THESE DOCUMENTS HAVE BEEN PREPARED FOR A NEGOTIATED CONSTRUCTION CONTRACT, AND MAY LACK SOME DETAIL AND SPECIFICATIONS REQUIRED FOR A COMPLETE COMPETITIVE BID SELECTION PROCESS. GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING BUILDING AND SITE SECURITY DURING

WHERE A CONSTRUCTION DETAIL IS NOT SHOWN OR NOTED, THE DETAIL SHALL BE THE SAME AS FOR OTHER

THE CONTRACTOR MUST VERIFY THE ROOF SYSTEM IS CONSTRUCTED PER MANUFACTURES REQUIREMENTS TO CREATE A WEATHERPROOF AND WATERPROOF ROOF. VERIFY INSTALLATION OF ALL ROOF PENETRATIONS, CURBS, CANTS & FLASHING TO PROPERLY SHED WATER AND STOP WIND DRIVEN RAIN & SNOW. VERIFY ENTIRE ROOF SYSTEM IS DESIGNED & CONSTRUCTED TO ALLOW FOR THE PROPER EXPANSION & CONTRACTION OF THE SUPPORTING STRUCTURE & THE ROOF SYSTEM. CONDENSATION WILL BE CREATED ON THE HEATED SIDE OF ALL ROOF SYSTEMS SURFACES AND PARTS; THEREFORE, CARE MUST BE TAKEN TO PROPERLY INSTALL THE

CORRECT INSULATION, VENTILATION AND VAPOR BARRIERS. CONTRACTOR IS TO VERIFY STRUCTURAL INFORMATION, SPECIFICATIONS AND DETAILS WITH THE STRUCTURAL ENGINEER AND/OR ATTACHED STRUCTURAL SHEET(S). FAILURE TO VERIFY MAY RESULT IN CONFLICTING INFORMATION CONTAINED ON THE ARCHITECTURAL SHEETS. THE DESIGNER DOES NOT TAKE RESPONSIBILITY FOR STRUCTURAL COMPONENTS OR CALCULATIONS.

HEIGHT UNLESS APPROVED BY ENGINEER.

THIS STRUCTURE TO COMPLY WITH MINIMUM NAILING SCHEDULE PER ENG. CALCS. OR IBC TABLE 2304.6.1.

SOLID BLOCKING REQUIRED AT ALL BEARING POINTS OF FLOOR, CEILING & ROOF SYSTEMS. PROVIDE APPROVED ANCHORAGE OF BEAMS OR GIRDERS TO POSTS.

T.J.I. OR EQUIVALENT FLOOR JOISTS. FLOOR JOIST DESIGN BY LICENSED WASH. STATE MANUFACTURER. FLOOR JOIST DESIGN AND SPECIFICATIONS INCLUDING ALL METAL CONNECTORS. HANGERS AND CLIPS TO BE ON-SITE DURING CONSTRUCTION AND INSTALLED AS PER MANF. INSTRUCTIONS. ALL WINDOW AND DOOR HEADERS TO BE 4x10 DF-2 IN A ONE-FLOOR OR THE TOP FLOOR OF A MULTI-FLOOR BLD.

6x10 FOR BASEMENTS AND OTHER FLOORS OTHER THAN THE TOP FLOOR. UNLESS NOTED OTHERWISE BY FRAMING LUMBER: KD, 19 % MAX MOISTURE CONTENT, S4S GRADE TO WWPA. AND IRC SPECIFICATIONS. DOUGLAS FIR-LARCH IS PREFERRED. MINIMUM GRADED STRESS VALUES: 2x STUDS @ 1200 PSI; JOISTS AND

RAFTERS @ 1250 PSI; POSTS A 700 PSI, SAWN BEAMS @ 1300 PSI. NOMINAL SIZES, MAXIMUM SPANS, SPACING, BLOCKING AND OTHER DETAILING IN COMPLIANCE WITH INTERNATIONAL BUILDING CODE. PRESSURE TREATED LUMBER: WOLMANIZED, CCA PRESSURE TREATED LUMBER AT MUD SILLS, EXPOSED DECK

FRAMING, EXTERIOR STRUCTURAL POSTS, POSTS SUPPORTING MAIN FLOOR STRUCTURE, AND OTHER WOOD / CONCRETE CONTACT LOCATIONS ROOF TRUSSES: FACTORY FABRICATED GANG-NAILED WOOD TRUSSES, ENGINEERED BY MFR. FOR SITE WIND

LOADING AND COMBINED NORMAL LOADS SPANS AND CONFIGURATIONS AS SHOWN ON DRAWINGS AND AS GLUE LAMINATED BEAMS (GLB):DOUGLAS FIR, 24F-V4, BUILDING DESIGN RURAL APPEARANCE (ONLY IF EXPOSED)

GRADE LEAVE PROTECTIVE WRAP IN PLACE UNTIL FINISH PROCESSES ARE UNDERWAY. ANCHORS: SIMPSON PLY CLIPS AT EDGES OF ROOF SHEATHING PANELS, MID-SPAN BETWEEN RAFTERS OR

TRUSSES; TRUSS/PLATE HOLD DOWNS AT EACH BEARING AND OTHER INTERSECTION AS REQUIRED. STUDS: EXTERIOR WALL STUDS ARE TO BE 2"x6"s OF B FIR KILN DRIED SPACED AT 16" O.C. INTERIOR STUDS ARE TO BE 2"x4"s OF B FIR KILN DRIED SPACED AT 16" O.C. STUDS IN BEARING WALLS ARE LIMITED TO 10 FEET IN

IBC 1011.2 STAIRWAY WIDTH. THE WIDTH OF THE STAIRWAYS SHALL BE DETERMINED AS SPECIFIED IN SECTION 1005.1, BUT SUCH WIDTH SHALL NOT BE LESS THAN 44 INCHES. EXCEPTION: STAIRWAYS SERVING AN OCCUPAN

LOAD OF LESS THAN 50 SHALL HAVE A WIDTH OF NOT LESS THAN 36 INCHES. IBC 1011.3 HEADROOM. STAIRWAYS SHALL HAVE A MINIMUM HEADROOM CLEARANCE OF 80 INCHES MEASURED VERTICALLY FROM A LINE CONNECTING THE EDGE OF THE NOSINGS. SUCH HEADROOM SHALL BE CONTINUOUS ABOVE THE STAIRWAY TO THE POINT WHERE THE LINE INTERSECTS THE LANDING BELOW. ONE TREAD DEPTH BEYOND THE BOTTOM RISER. THE MINIMUM CLEARANCE SHALL BE MAINTAINED THE FULL WIDTH OF THE

STAIRWAY AND LANDING. IBC 1011.5.2 RISER HEIGHT AND TREAD DEPTH. STAIR RISER HEIGHTS SHALL BE 7 INCHES MAXIMUM AND 4 INCHES MINIMUM. THE RISER HEIGHT SHALL BE MEASURED VERTICALLY BETWEEN THE LEADING EDGES OF ADJACENT TREADS. RECTANGULAR TREAD DEPTHS SHALL BE 11 INCHES MINIMUM MEASURED HORIZONTALLY BETWEEN THE VERTICAL PLANES OF THE FOREMOST PROJECTION OF ADJACENT TREADS AND AT A RIGHT ANGLE TO THE TREAD'S LEADING EDGE. WINDER TREADS SHALL HAVE A MINIMUM TREAD DEPTH OF 11 INCHES MEASURED BETWEEN THE VERTICAL PLANES OF THE FOREMOST PROJECTION OF ADJACENT TREADS AT THE INTERSECTIONS WITH THE WALKLINE AND A MINIMUM TREAD DEPTH OF 10 INCHES WITHIN THE CLEAR WIDTH OF THE STAIR.

WOOD DECK CONSTRUCTION SHALL BE OF WOLMANIZED / PRESSURE TREATED WOOD. DECKING (SEE PLANS) DECK RAILINGS (REQUIRED IF DECK IS 30" ABOVE GRADE) SHALL BE A MINIMUM OF 42" IN HEIGHT WITH A

MAXIMUM OF 4" SPACING BETWEEN PICKETS. PER IBC 1015. METAL OR BOLT ON DECK CONSTRUCTION SHALL BE A DEFERRED SUBMITTAL IN ALL CASES.

THE PLAN REVIEW GUIDE INCLUDED WITH YOUR PERMIT DOCUMENTS CONTAINS A LISTING OF COMMON CODE ERRORS AND OMISSIONS. APPROVAL OF THE PLANS DOES NOT PERMIT THE VIOLATION OF ANY BUILDING. MECHANICAL, PLUMBING, ELECTRICAL, FIRE, OR ZONING CODE OR ANY OTHER FEDERAL, STATE, OR CITY

CONTRACTOR TO VERIFY LOCATIONS OF EXISTING SMOKE DETECTORS. ENSURE FULL COMPLIANCE WITH

CURRENT FIRE CODE. CONTRACTOR IS TO SECURE BUILDING SITE/LOCATION. VERIFY STRUCTURAL AND NON-STRUCTURAL

COMPONENTS PRIOR TO COMMENCING CONSTRUCTION. DO NOT SCALE THESE DRAWINGS. DISCREPANCIES WITH PROVIDED DIMENSIONS MUST BE COMMUNICATED TO

THE DESIGN FIRM AT THE EARLIEST CONVENIENCE TRC ARCHITECTURE (DESIGN FIRM) IS NOT RESPONSIBLE FOR EXISTING SITE CONDITIONS, DIMENSIONS, COMPLIANT OR NON-COMPLIANT CODE ISSUES, ETC.

ALL MARKUPS BY THE BUILDING / PLANNING DEPARTMENTS MUST BE FORWARD TO THE DESIGN FIRM PRIOR TO CONSTRUCTION COMMENCING.

VENTILATION NOTES

BUILDINGS SHALL BE PROVIDED WITH NATURAL VENTILATION IN ACCORDANCE WITH SECTION 1203.4, OR MECHANICAL VENTILATION IN ACCORDANCE WITH THE INTERNATIONAL MECHANICAL CODE.

MECHANICAL VENTILATION IS REQUIRED IN GROUP R OCCUPANCIES

ENCLOSED ATTICS AND ENCLOSED RAFTER SPACES FORMED WHERE CEILINGS ARE APPLIED DIRECTLY TO THE UNDERSIDE OF ROOF FRAMING MEMBERS SHALL HAVE CROSS VENTILATION FOR EACH SEPARATE SPACE BY VENTILATING OPENINGS PROTECTED AGAINST THE ENTRANCE OF RAIN AND SNOW. BLOCKING AND BRIDGING SHALL BE ARRANGED SO AS NOT TO INTERFERE WITH THE MOVEMENT OF AIR. A MINIMUM OF 1 INCH OF AIRSPACE SHALL BE PROVIDED BETWEEN THE INSULATION AND THE ROOF SHEATHING. THE NET FREE VENTILATING AREA SHALL NOT BE LESS THAN 1/300 OF THE AREA OF THE SPACE VENTILATED. WITH 50 PERCENT OF THE REQUIRED VENTILATING AREA PROVIDED BY VENTILATORS LOCATED IN THE UPPER PORTION OF THE SPACE TO BE VENTILATED AT LEAST 3 FEET ABOVE EAVE OR CORNICE VENTS WITH THE BALANCE OF THE REQUIRED VENTILATION PROVIDED BY EAVE OR CORNICE VENTS.

EARTHWORK NOTES

BUILDING BACKFILL: CLEAN GRANULAR SOIL MATERIAL, FREE OF STICKS, DEBRIS, TURF AND ROCKS OVER 6" DIAMETER. GARAGE SLAB BALLAST: PIT RUN GRAVEL

BASEMENT SLAB BALLAST: CLEAN SAND, OR PEA GRAVEL (8' BED).

FOOTING DRAINS: WASHED (3/4" MIN.) DRAIN ROCK, 12" MIN. COVER OVER PERIMETER DRAIN. CRAWL SPACE BED: PEA GRAVEL OR CLEAN SAND, 2" MIN. BED OVER VAPOR

6 MIL BLACK VISQUEEN BARRIER (FOR CRAWL SURFACE).

BACKFILL. SLOPE ALL FINISH GRADES AWAY FROM BUILDING WALLS AT A 2 % (MIN. REFER TO SOILS REPORT FOR RECOMMENDED BACK FILL AND SOIL COMPACTION.

SEWERAGE + DRAINAGE:

FOUNDATION DRAIN PER IBC 1805.4.2.

DRAINAGE DISCHARGE TO AN APPROVED DRAINAGE SYSTEM PER IBC 1805.4.3.

ROOF CONSTRUCTION NOTES

APPROVED ROOFING MATERIA

30# FELT PAPER, COUNTER FLASHED 1/2" CDX PLYWOOD SHEATHING OR PER ENGINEER'S SCHEDULE, USE SIMPSON PSCL (PANEL SHEATHING CLIPS) 1 PER BAY.

PRE-ENGINEERED TRUSSES R-49 INSULATION, MINIMUM.

2 LAYERS OF 5/8" TYPE X G.W.B. LID. ONE COAT VAPOR BARRIER PRIMER.

FINISH PAINT - OWNER TO SPECIFY COLOR ROOF PITCH, AS SHOWN ON PLAN.

SIMPSON CLIPS AT EACH TRUSS/RAFTER TO PLATE CONNECTION.

TYPICAL SOFFIT OVERHANGS, AS SHOWN ON PLAN, USE VENTED BLOCKING PER TRUSS/RAFTER BAY.

ADEQUATE CONNECTION AND TRANSFER OF LOAD FROM ROOF SYSTEM TO BEARING WALLS REQUIRED. DRAFT STOPS WHERE NECESSARY PER CODE.

ALL PERIMETER AND BEARING WALL HEADERS TO BE 4x10 DF#2, U.N.O.

TRUSSES TO BE ENGINEERED BY LICENSED TRUSS MANUFACTURER. HANG TRUSSES AND RAFTERS WITH APPROVED SIMPSON HANGERS AS PER ENGINEERS SPECIFICATIONS.

FOR ADDITIONAL INFORMATION REFER TO 2015 IBC, SECTION 15, ROOF ASSEMBLIES & ROOFTOP STRUCTURES.

TYPICAL SHEET DISCLAIMER

REFER TO STRUCTURAL SHEETS (S) FOR SPECIFICATIONS & CALCULATIONS. USE ARCHITECTURAL SHEET FOR DIMENSIONAL INFORMATION ONLY.

STRUCTURAL FILL NOTES

STRUCTURAL FILL ADDED TO THIS SITE WHICH WILL SUPPORT BUILDING STRUCTURES SHALL BE APPROVED BY A GEO-TECHNICAL ENGINEER LICENSED TO WORK IN THE STATE OF WASHINGTON. A REPORT FROM SAID ENGINEER REGARDING THE SUITABILITY OF THE PREPARED SITE TO SUPPORT THE PROPOSED STRUCTURE SHALL BE SUBMITTED TO BUILDING SERVICES PRIOR TO ANY

REQUESTS FOR FOUNDATION INSPECTION(S).

CONTRACTOR IS TO VERIFY STRUCTURAL INFORMATION, SPECIFICATIONS AND DETAILS WITH THE STRUCTURAL ENGINEER AND/OR ATTACHED STRUCTURAL SHEET(S). FAILURE TO VERIFY MAY RESULT IN CONFLICTING INFORMATION CONTAINED ON THE ARCHITECTURAL SHEETS. THE DESIGNER DOES NOT TAKE RESPONSIBILITY FOR STRUCTURAL COMPONENTS OR

REFER TO STRUCTURAL SHEETS (S) FOR SPECIFICATIONS & CALCULATIONS.

A GEO ENGINEER IS REQUIRED TO BE ONSITE FOR PLACEMENT OF ALL STRUCTURAL FILL MATERIALS.

GENERAL NOTES:

ALL CONSTRUCTION SHALL COMPLY WITH THE 2018 INTERNATIONAL BUILDING CODE, WASHINGTON STATE REGULATIONS FOR BARRIER FREE DESIGN, WASHINGTON STATE ENERGY CODE, AND ALL APPLICABLE LOCAL

CONTRACTOR IS TO VERIFY ALL EXISTING CONDITIONS, DIMENSIONAL DETAILS, ETC, AND NOTIFY THE ARCHITECT

OF ANY AND ALL DISCREPANCIES PRIOR TO PROCEEDING WITH THE WORK. ALL ITEMS MARKED "N.I.C.' ARE NOT PART OF THIS CONTACT

ALL WORK SHALL BE APPLIED IN ACCORDANCE WITH THE MANUFACTURE'S LATEST RECOMMENDED OR WRITTEN

DO NOT-SCALE DRAWINGS, DIMENSIONS GOVERN. THE CONTRACTOR SHALL NOTIFY ARCHITECT IMMEDIATELY

OF ANY AND ALL DISCREPANCIES.

ALL DIMENSIONS ARE TO FACE OF STUD OR CENTER LINE OF STUD, OR FACE OF FOUNDATION WALL UNLESS

WHERE CONSTRUCTION DETAILS ARE NOT SHOWN OR NOTED FOR ANY PART OF THE WORK, THE DETAILS SHALL BE THE SAME AS' FOR OTHER SIMILAR WORK.

WHERE DEVICES, OR ITEMS OR PARTS THEREOF ARE REFERRED TO IN SINGULAR, IT IS INTENDED THAT SUCH SHALL APPLY TO AS MANY SUCH DEVICES, ITEMS OR PARTS AS ARE REQUIRED TO PROPERLY COMPLETE THE

IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO LOCATE ALL EXISTING UTILITIES WHETHER SHOWN HEREON OR NOT AND TO PROTECT THEM FROM DAMAGE.

THE CONTRACTOR WILL VERIFY AND CONFORM TO ALL REQUIREMENTS OF ALL UTILITY COMPANIES UNLESS OTHERWISE NOTED IN THE PLANS AND SPECIFICATIONS.

EXISTING ELEVATIONS AND LOCATIONS TO BE JOINED SHALL BE VERIFIED BY THE CONTRACTOR BEFORE THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO ENSURE THE SAFETY OF THE OCCUPANTS

AND WORKERS AT ALL TIMES. CONTRACTOR SHALL SECURE RELEVANT CITY AND STATE APPROVALS RELATING TO FIRE CONSTRUCTION, LABOR, HEALTH AND LICENSING.

CONTRACTOR SHALL SECURE AND PROVIDE ALL PERMITS FOR OCCUPANCY, UTILITIES AND ANY OTHERS

REQUIRED BY GOVERNING AUTHORITIES BEYOND THE BASIC BUILDING PEN-NIT, MAKING TIMELY APPLICATIONS AND INQUIRES, PAYING ALL FEES AND POSTING ALL BONDS TO BE RELEASED AT FT COMPLETION OF CONTRACTOR SHALL PROVIDE DRAWINGS, SHOP DRAWINGS AND CALCULATIONS AS REQUIRED FOR OWNER

APPROVAL AND PERMITTING OF THE FIRE ALARM / MONITORING SYSTEM, AND ALL OTHER SYSTEMS REQUIRING BIDDER DESIGN. SUCH REVIEW AND APPROVAL SHALL BE BY THE OWNER. ALLOW A MINIMUM OF TWO WEEKS

THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE COMPLETE SECURITY OF THE BUILDING AND SITE WHILE JOB IS IN PROGRESS AND UNTIL THE JOB IS COMPLETED. LATHING, PLASTER, AND GYPSUM WALL BOARD SYSTEMS SHALL CONFORM TO THE 2015 INTERNATIONAL

ALL EXPOSED GYPSUM BOARD TO HAVE METAL EDGES AT ALL CORNERS AND WALL INTERSECTIONS,

ALL GLASS AND GLAZING SHALL COMPLY WITH SECTION 24 OF THE 2015 IBC. AND THE U.S. PRODUCT SAFETY COMMISSION, SAFETY STANDARD FOR ARCHITECTURAL GLAZING MATERIALS (42 FR 1426; 16 CFR PART 1202)

THE CONTRACTOR SHALL VERIFY ALL DOOR AND WINDOW ROUGH OPENING DIMENSIONS WITH DOOR AND ALL REQUIRED FIRE DOORS SHALL BEAR A LABEL FROM A RECOGNIZED AGENCY SHOWING THE SPECIFIC

RATING. ELECTRICAL ROUGH-IN, AND REFLECTED CEILING PLAN ARE FOR THE GENERAL INFORMATION OF THE CONTRACTOR. EXACT LOCATIONS SHALL BE VERIFIED.

EXIT DOORS SHALL BE OPERABLE FROM THE INSIDE WITHOUT THE USE OF A KEY OR ANY SPECIAL KNOWLEDGE PROVIDE PORTABLE FIRE EXTINGUISHER, EACH HAVING A MINIMUM UL CLASSIFICATION OF 2A:10B:C

EXTINGUISHER SHALL BE DISTRIBUTED THROUGHOUT PREMISES ON THE BASIS OF ONE EXTINGUISHER PER EACH 3,000 FEET OF FLOOR AREA. ALL EXTINGUISHERS SHALL BE HUNG IN CONSPICUOUS LOCATIONS SO THAT THEIR TOPS ARE NOT MORE THAN FIVE FEET A.F.F. WHERE EXTINGUISHERS ARE NOT VISIBLE IN ALL DIRECTIONS PROVIDE APPROVED INDICATING SIGNS. SOUND INSULATE ALL PLUMBING WALLS AND LINES. PROVIDE BLOCKING IN ALL WALLS TO SUPPORT CABINETRY, SHELVING, BATHROOM FIXTURES, DISPLAY RAILS

AND ALL OTHER EQUIPMENT OR IMPROVEMENTS AS REQUIRED. THE PREMISES ADDRESS SHALL BE PROMINENTLY DISPLAYED ON OR ADJACENT TO THE MAIN ENTRANCE NUMBERS SHALL BE A MINIMUM 8 INCHES IN HEIGHT WITH A PRINCIPAL STROKE WIDTH OF 3/4" AND SHALL

PROVIDE A POSITIVE CONTRAST WITH THEIR BACKGROUND. APPROVED PLANS AND CALCULATIONS, SIGNED, SEALED AND DATED SHALL BE ON SITE AT ALL TIMES OF INSPECTION AND CONSTRUCTION. AT ALL TUB/SHOWER LOCATIONS, WALL COVERINGS SHALL BE PLASTIC OR LAMINATE TO A MINIMUM 70 INCHES

ALL SMOKE DETECTORS TO BE HARD WIRED WITH APPROVED BATTERY BACK-UP'S.ALL GAS APPLIANCES SHALL HAVE AN INTERMITTENT IGNITION DEVICE.

FLASH AND COUNTER FLASH ALL ROOF TO WALL CONNECTIONS. U.N.O. WATERPROOF MATERIAL SHALL BE INSTALLED AROUND TUBS AND SHOWERS TO A MIN. HEIGHT OF SIX FEET

ABOVE FINISH FLOOR DRYERS SHALL BE VENTED TO OUTSIDE. PER LOCAL CODE.

CONTRACTOR IS TO VERIFY STRUCTURAL INFORMATION, SPECIFICATIONS AND DETAILS WITH THE STRUCTURAL ENGINEER AND/OR ATTACHED STRUCTURAL SHEET(S). FAILURE TO VERIFY MAY RESULT IN CONFLICTING INFORMATION CONTAINED ON THE ARCHITECTURAL SHEETS. THE DESIGNER DOES NOT TAKE RESPONSIBILITY FOR STRUCTURAL COMPONENTS OR CALCULATIONS.

CONCRETE NOTES

REFER TO STRUCTURAL ENGINEERS NOTES

FIRE CODE NOTES

VERIFY LOCATION OF 110v SMOKE ALARMS & CARBON MONOXIDE ALARMS WITH LOCAL FIRE DEPT. AND/OR

LOCAL BUILDING DEPT. ALL SMOKE ALARMS WITHIN INDIVIDUAL UNITS WILL BE INTERCONNECTED. BEFORE ANY COMBUSTIBLE CONSTRUCTION BEGINS AN APPROVED WATER SUPPLY SHALL BE AVAILABLE. STAIRWELL STANDPIPES SHALL BE INSTALLED WHEN THE PROGRESS OF CONSTRUCTION IS NOT MORE THAN 40 FEET IN HEIGHT ABOVE THE LOWEST LEVEL OF FIRE DEPARTMENT ACCESS.

FIRE SAFETY DURING CONSTRUCTION SHALL BE PER IFC 2015, CHAPTER 33, ENTITLED "FIRE SAFETY DURING CONSTRUCTION AND DEMOLITION."

FIRE RATED PENETRATIONS

AS PER UL LISTED SYSTEM NO. F-C-2134, USE APPROVED 3M FIRE BARRIER CP 25WB+ CAULK OR FD 150+ CAULK FOR ALL THROUGH FLOOR-WALL-CEILING PENETRATIONS. NOT TO EXCEED 1/2" DIAMETER BEAD CONTINUOUSLY AROUND PIPE

FIRE BLOCKING NOTES

718.1 General. Fireblocking and draftstopping shall be installed in combustible concealed locations in accordance with this section. Fireblocking shall comply with Section 718.2. Draftstopping in floor/ceiling spaces and attic spaces shall comply with Sections 718.3 and 718.4, respectively. 718.2 Fireblocking. In combustible construction, Fireblocking shall be installed to cut off concealed draft openings (both vertical and horizontal) and shall form an effective barrier between floors, between a top story and a roof or attic space. Fireblocking shall be installed in the locations specified in Sections 718.2.2 through 718.2.7. 718.2.2 Concealed wall spaces. Fireblocking shall be provided in concealed spaces of stud walls and partitions, including furred spaces, and

parallel rows of studs or staggered studs, as follows: 1. Vertically at the ceiling and floor levels. 2. Horizontally at intervals not exceeding 10 feet (3048 mm).

718.2.5 Ceiling and floor openings. Where required by Section 712.1.7, Exception 1 of Section 714.4.1.2 or Section 714.4.2, fireblocking of the annular space around vents, pipes, ducts, chimneys and fireplaces at ceilings and floor levels shall be installed with a material specifically tested in the form and manner intended for use to demonstrate its ability to remain in place and resist the free passage of flame and the products of

* REFER TO IBC CODE TEXT FOR MORE DETAILED INFORMATION REGARDING FIREBLOCKING DRAFTSTOP NOTES

718.3 Draftstopping in floors. In combustible construction, draftstopping shall be installed to subdivide floor/ceiling assemblies in the locations prescribed in Sections 718.3.2 through 718.3.3. 718.3.2 Groups R-1, R-2, R-3 and R-4. Draftstopping shall be provided in floor/ceiling spaces in Group R-1 buildings, in Group R-2 buildings with three or more dwelling units, in Group R-3 buildings with two dwelling units and in Group R-4 buildings. Draftstopping shall be located above and in line with the dwelling unit and sleeping unit separations.

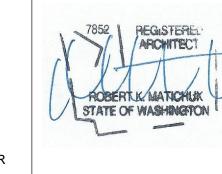
Exceptions: 1. Draftstopping is not required in buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1. 2. Draftstopping is not required in buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.2, provided that automatic sprinklers are also installed in the combustible concealed spaces where the draftstopping is being omitted. 718.4 Draftstopping in attics. In combustible construction, draftstopping shall be installed to subdivide attic spaces and concealed roof spaces in

the locations prescribed in Sections 718.4.2 and 718.4.2 Groups R-1 and R-2. Draftstopping shall be provided in attics, mansards, overhangs or other concealed roof spaces of Group R-2 buildings with three or more dwelling units and in all Group R-1 buildings. Draftstopping shall be installed above, and in line with, sleeping unit and dwelling unit separation walls that do not extend to the underside of the roof sheathing above. Exceptions:

1. Where corridor walls provide a sleeping unit or dwelling unit separation, draftstopping shall only be required above one of the corridor walls. 2. Draftstopping is not required in buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1. 3. In occupancies in Group R-2 that do not exceed four stories above grade plane, the attic space shall be subdivided by draftstops into areas not exceeding 3,000 square feet (279 m2) or above every two dwelling units, whichever is smaller. 4. Draftstopping is not required in buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.2, provided that automatic sprinklers are also installed in the combustible concealed space where the draftstopping is being omitted.

* REFER TO IBC CODE TEXT FOR MORE DETAILED INFORMATION REGARDING FIREBLOCKING





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Bellingham ding \mathbf{m} TRC 22-001 Project number

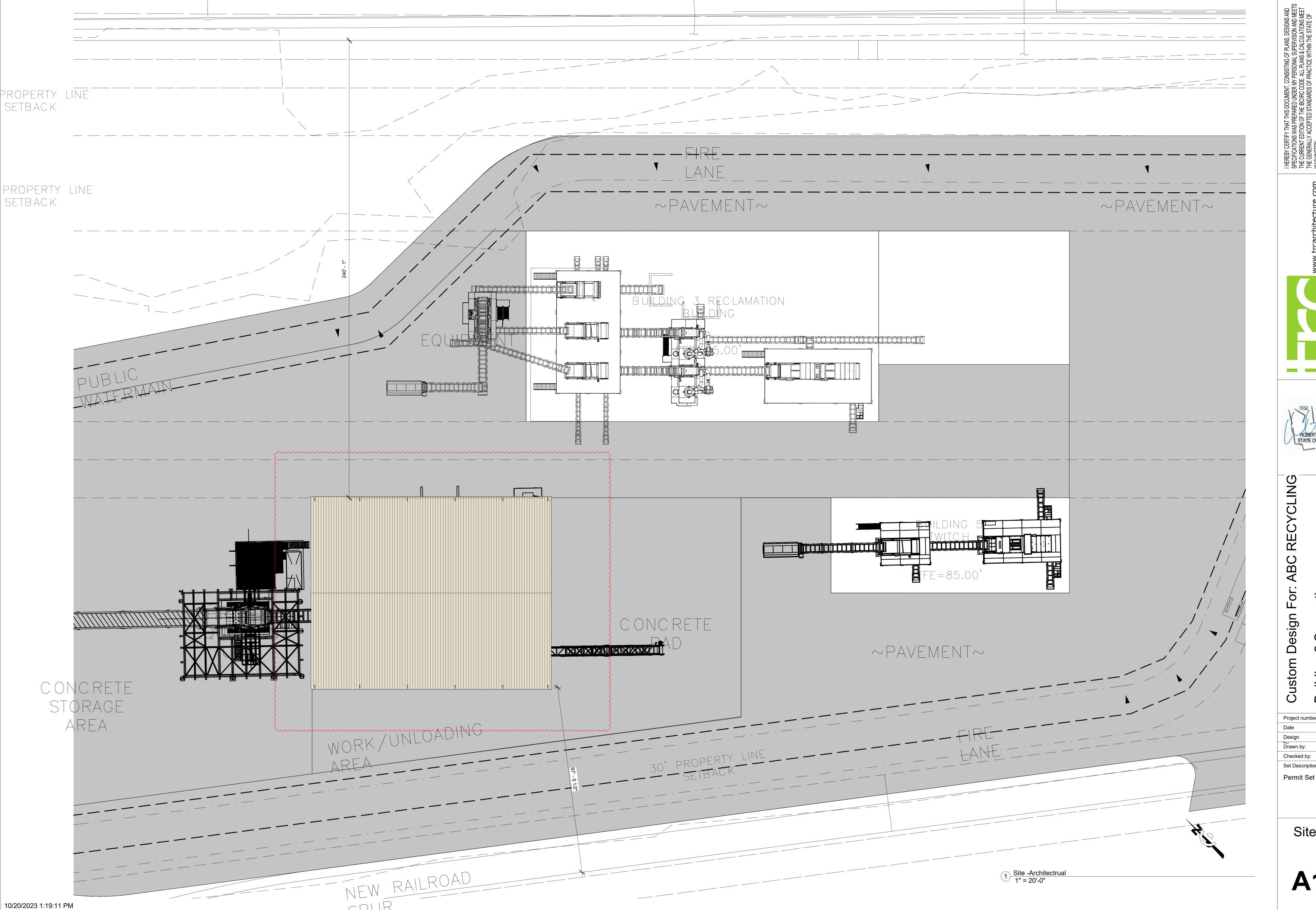
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Date Oct 20 2023 RKM Design RKM Drawn by: RKM Checked by: Set Description: Permit Set

General Notes

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Site Plan

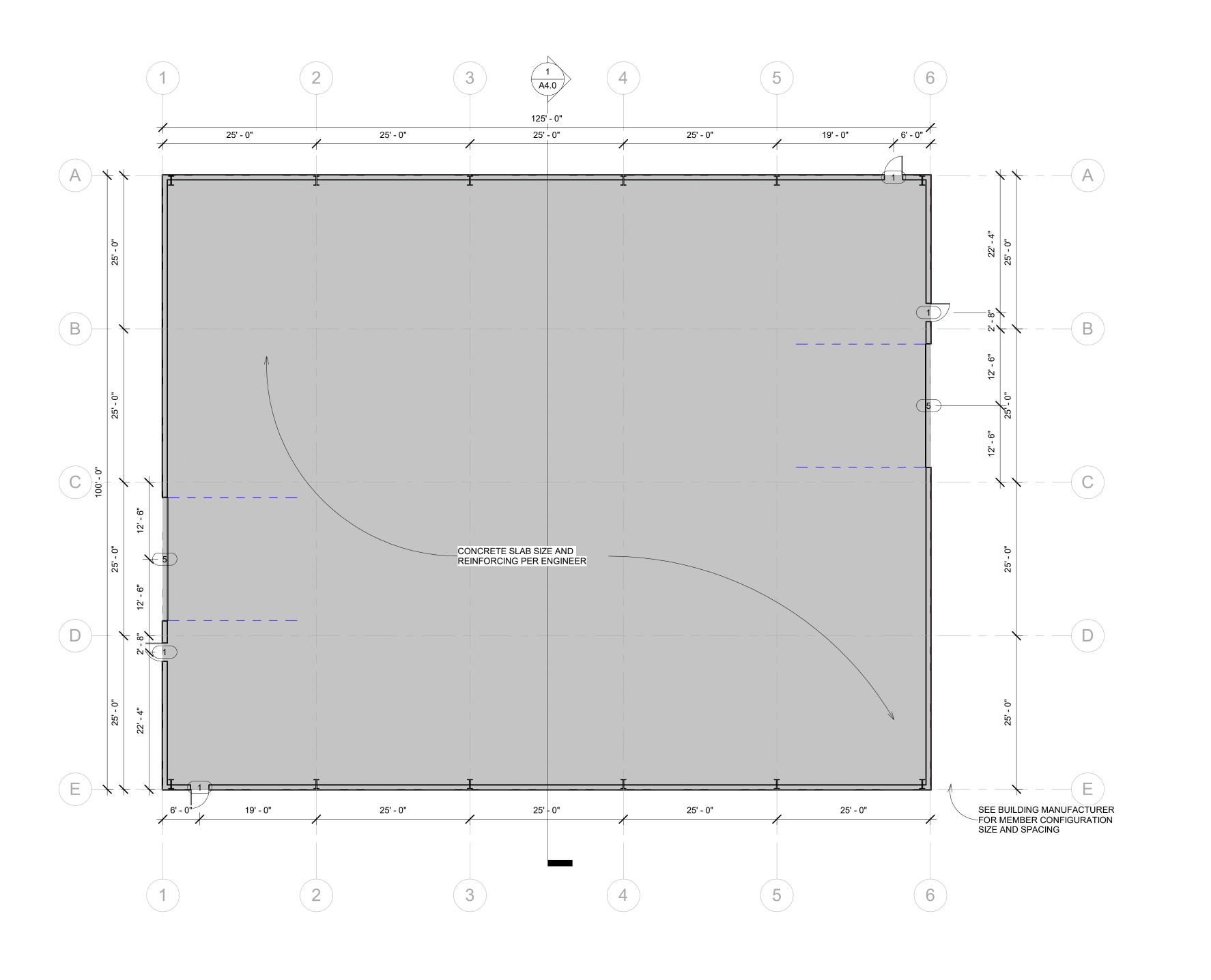
RECYCLING For: ABC **Custom Design**

Building 2 Separation 741 Marine Dr Bellingham WA 98226 TRC 22-001 Oct 20 2023 RKM RKM

Project number Date Design —_{hv}. Drawn by: RKM

Checked by: Set Description: Permit Set

Floor Plan



Door Type Count Function

Grand total: 6

Exterior

Exterior

Main Floor Plan
3/32" = 1'-0"

Door Size

3/0 7/0 Flush Steel

20' x 20' Overhead

Door Schedule

W/Locking Pull Chain

Type Comments

Insulated metal door and frame, key pad exterior lock, ADA lever latchas required



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specifications was Prepared under MY Personal Supervision and Meets
THE CURRENT EDITION OF THE IBC/IRC CODE. ALL PLANS & CALCULATIONS MEET
THE CURRENT EDITION OF THE IBC/IRC CODE. ALL PLANS & CALCULATIONS MEET
THE GENERALLY ACCEPTED STANDARDS OF PRACTICE WITHIN THE STATE OF
WASHINGTON.

ALL IDEAS, DESIGN AND PLANS INDICATED IN THESE DRAWINGS ARE OWNED AND
THE PROPERTY OF TRC ARCHITECTURE. ANY REPRODUCTION OF THESE PLANS
MUST HAVE WRITTEN PERMISSION FROM TRC ARCHITECTURE. WRITTEN
DIMENSIONS SHALL HAVE PRECEDENT OVER SCALED DIMENSIONS. CONTRACTOR
SHALL VERIFY DIMENSIONS IN THE FIELD AND NOTIFY TRC ARCHITECTURE OF ANY
VARIATIONS. CONSTRUCTION SHALL CONFORM TO THE CURRENT EDITION OF THE
IBC/IRC CODE.

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Separation e Dr

Building 2 Separation 741 Marine Dr Bellingham WA 98226

Project number TRC 22-001

Date Oct 20 2023

Design RKM

hvDrawn by: RKM

Checked by: RKM

Set Description:

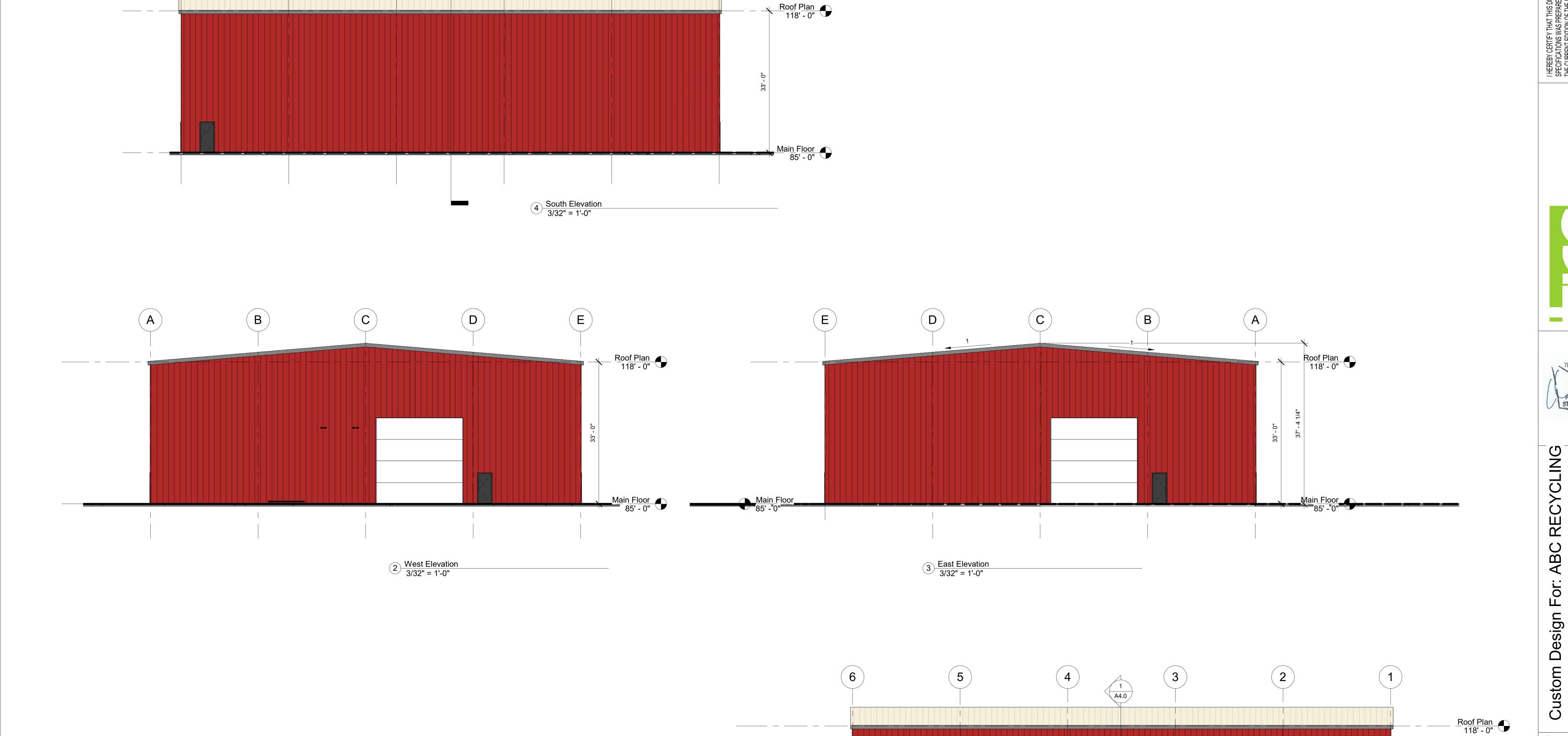
Elevations

A3.0

Permit Set

Main Floor 85' - 0"

North Elevation 3/32" = 1'-0"



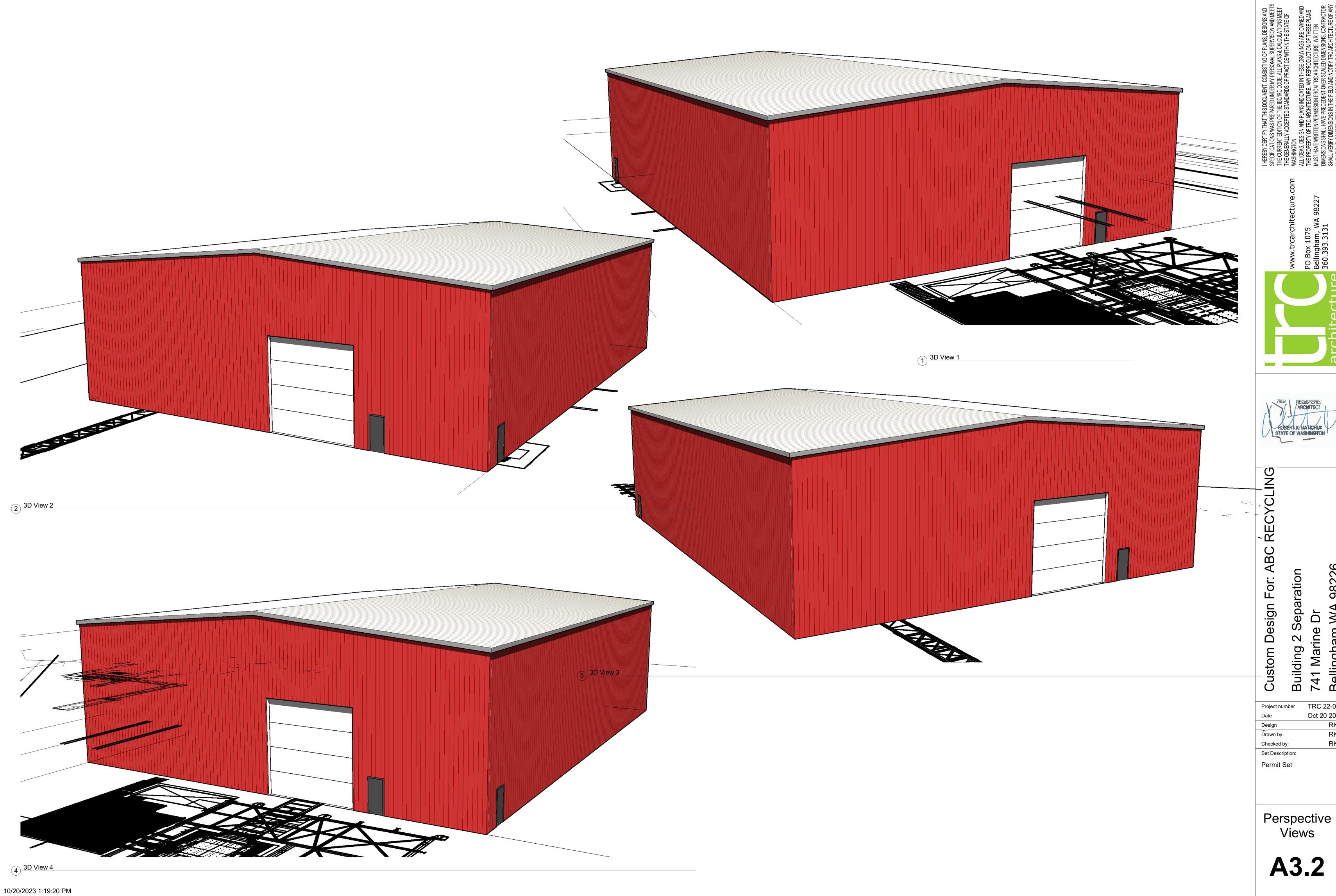
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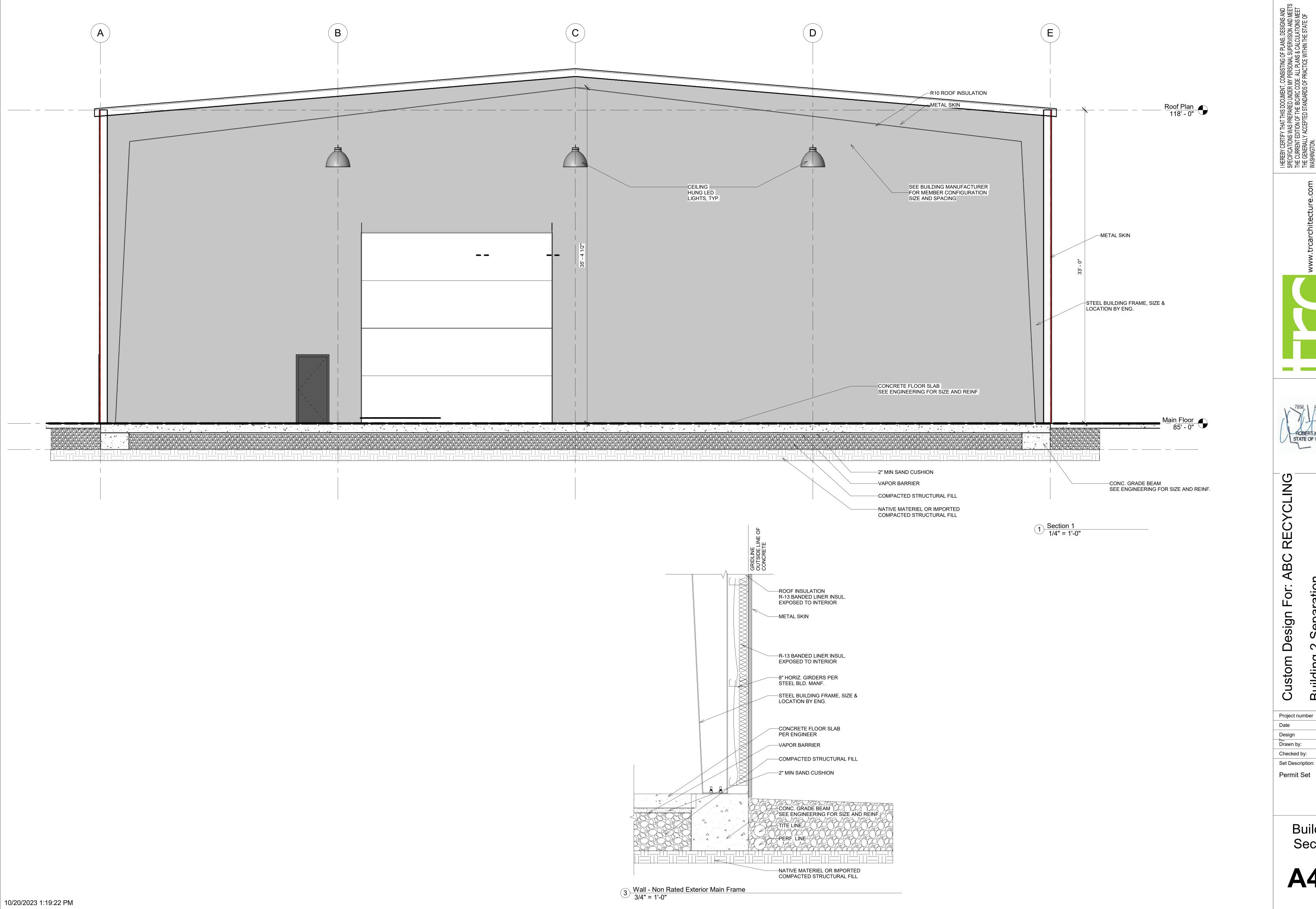
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Building 2 Separation 741 Marine Dr Bellingham WA 98226

TRC 22-001
Oct 20 2023
RKM
RKM
RKM





Separation

98226

Building 2 Separ 741 Marine Dr Bellingham WA (TRC 22-001 Oct 20 2023 RKMRKM RKM

Set Description: Permit Set

Building Section



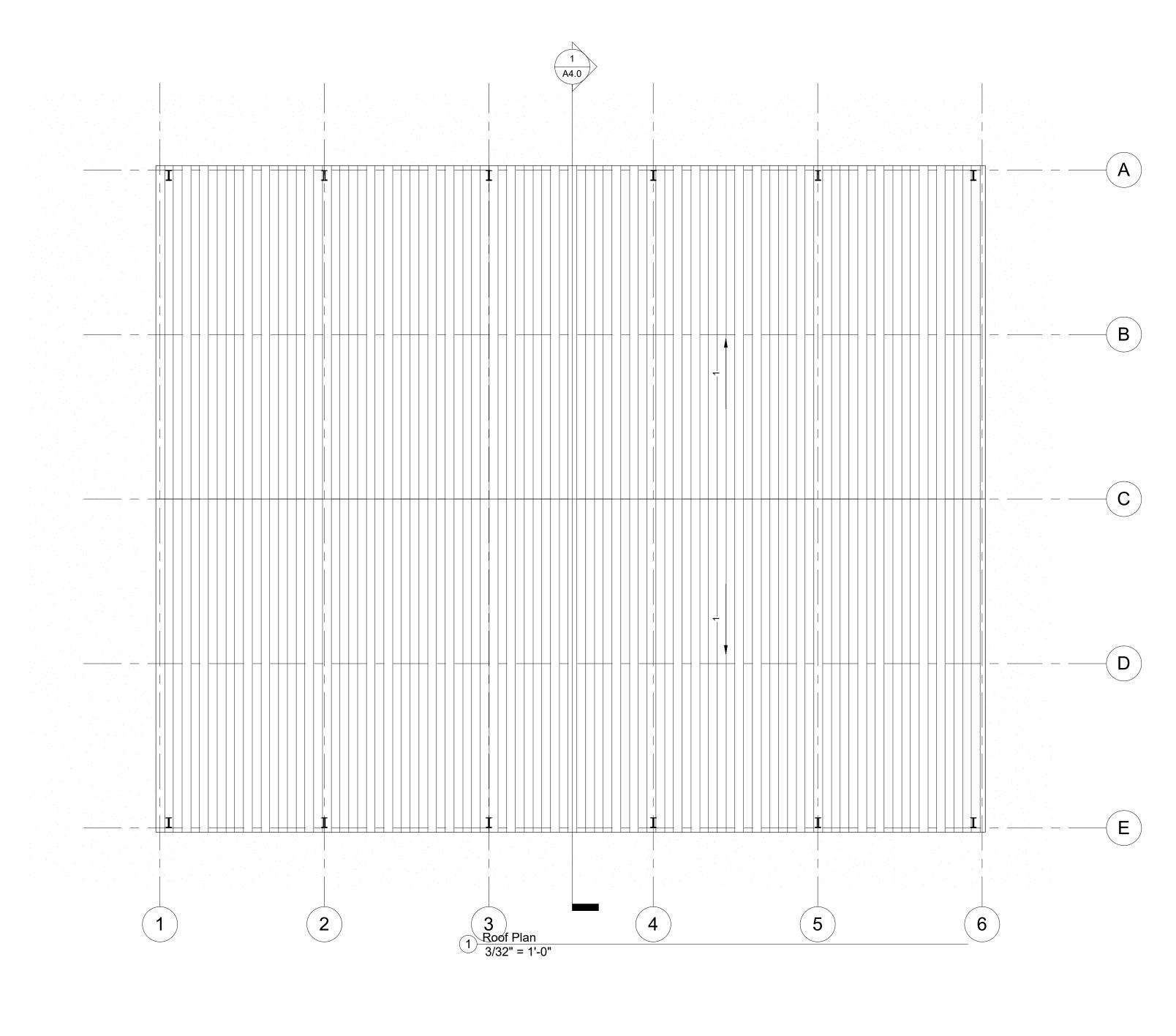
Custom Design For: ABC RECYCLING

Building 2 Separation 741 Marine Dr Bellingham WA 98226 TRC 22-001 Oct 20 2023 RKM Design —_{hv}.— Drawn by: RKM RKM

Checked by: Set Description: Permit Set

Roof & RCP Plan

A5.0



E-HTH Series



3 Lighting - High Bay LED 12" = 1'-0"

Reflected Ceiling Plan
1/16" = 1'-0"

(2)

CEILING HUNG LED LIGHTS, TYP.

A

В

· (C)

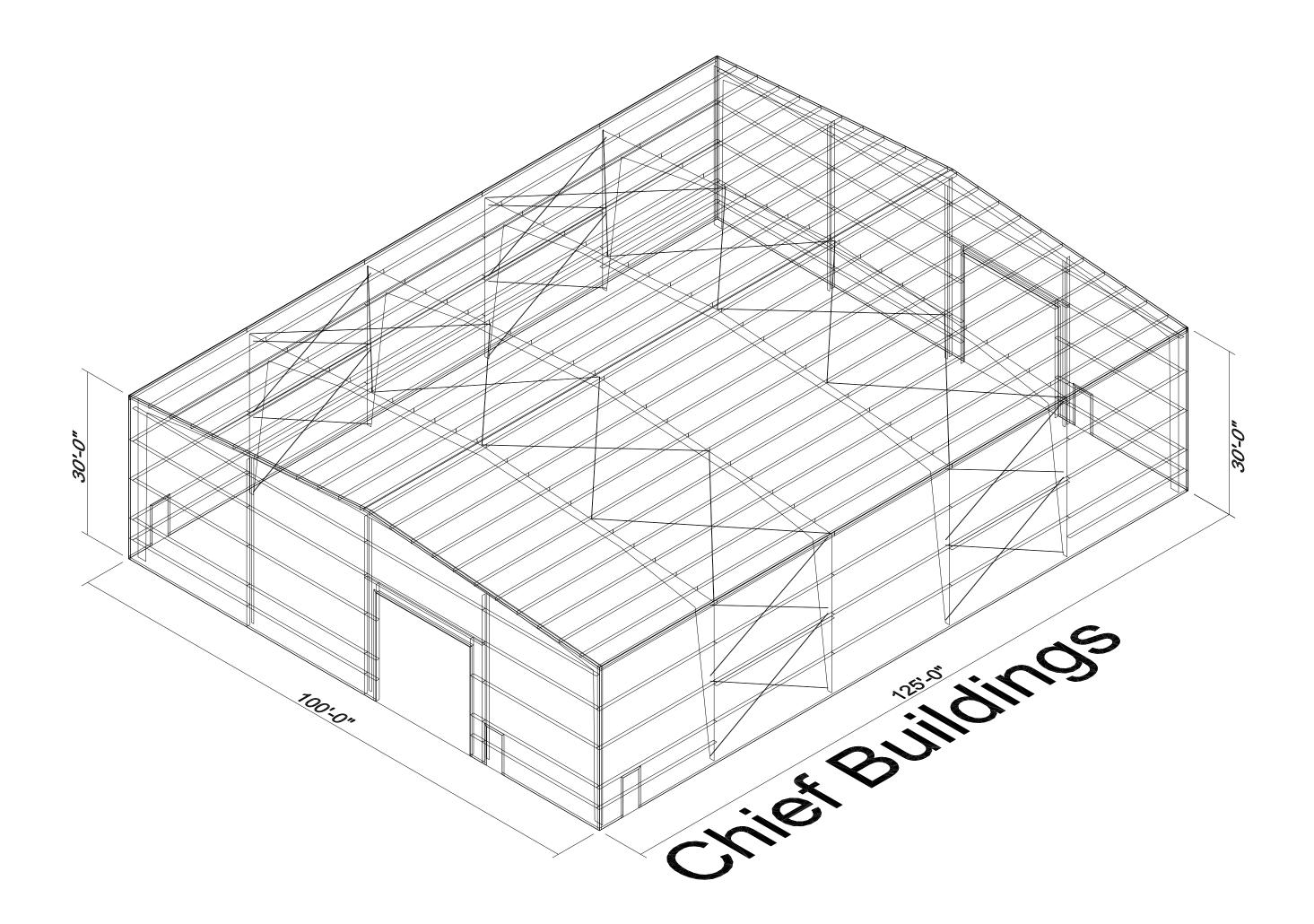
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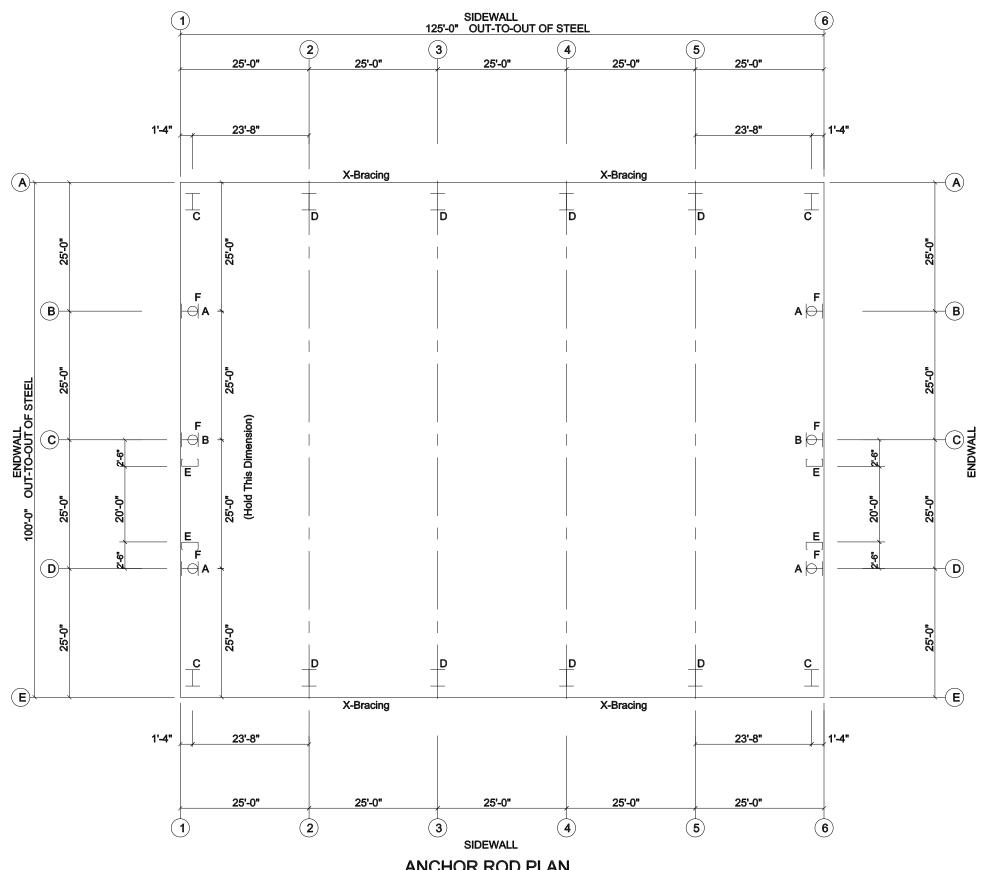
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(5)

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- by CHIEF BUILDINGS.
- 2. Anchor Rod material shall conform to ASTM F1554 having a yield of 36
- Rod projections are recommended minimums based on the base plate bearing directly on the concrete pier. If the base plate is to bear on grout, the rod projection must be increased accordingly.

ANCHOR ROD SUMMARY

Locate

Jamb Endwall Frame

Dia (in)

1/2" 3/4" 3/4"

Type

F1554 F1554 F1554

Proj (in)

1.50 2.00 2.00

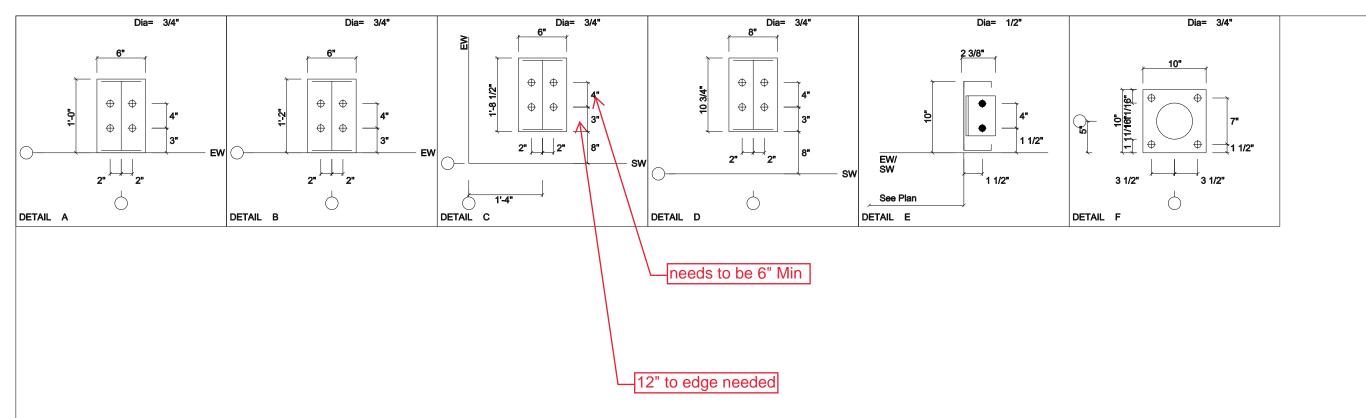
- 4. Concrete shall have a minimum strength of 3000 PSI.
- 5. ALL DRAWINGS ARE NOT TO SCALE.
- 6. Anchor Rod Summary Table
- O Quantity includes all buildings, all phases.
 However anchor rods for Partitions and Smart Canopies are found on separate pages (when applicable).

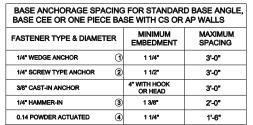
ANCHOR ROD PLAN NOTE: All Base Plates @ 100'-0" (U.N.)

PRELIMINARY Preliminary drawings for sales and estimating purposes only.

 Subject to change during order process. NOT FOR CONSTRUCTION

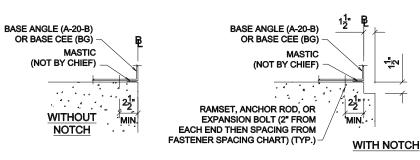
Drawing	ANCHO	ROD			
Buyer	Steel Bu	Steel Buildings Northwest, Inc			
Customer	ABC Recycling				
Customer	Bellingham, WA 98225				
Project Name	ABC Red	cycling - bldg 1			
		DATE DRAWN	QUOTE NO.		
CHIE		8/25/23	FQ74501A		

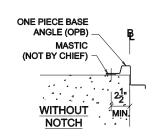




- (1) HILTI KWIK BOLT®, RAMSET TRUBOLT®, POWERS
 POWERSTUD®, OR EQUAL
 (2) CFS TAPCON®, HILTI KWIK-CON II®, POWERS WEDGE-BOLT®,

- POWERS BALLISTIC POINT PIN, RAMSET 1500/1600 SERIES
 HILTI UNIVERSAL NAIL OR EQUAL





BASE MEMBER DETAILS

CONTRACTOR IS RESPONSIBLE FOR ANCHORING BASE MEMBER TO CONCRETE.

FASTENER SPACING CHART

REFERENCE NOTES

1. ACTUAL BASE PLATE DIMENSIONS MAY BE SMALLER THAN BASE

PRELIMINARY

- Preliminary drawings for sales and estimating purposes only.
- Subject to change during order process. NOT FOR CONSTRUCTION

	CHIE	F	8/25/23	FQ74501A		
) .			DATE DRAWN	QUOTE NO.		
•	Project Name	ABC Recycling - bldg 1				
	Customer	Bellingham, WA 98225				
	Customer ABC F		ABC Recycling			
	Buyer	Steel Bu	Steel Buildings Northwest, Inc			
	Drawing	ANCHOR ROD				

FRAME LINES: 16 E COLUMN LINE F1PAT_LL_2-Horiz Vert -0.1 -0.2 0.1 -0.2 0.0 1.8 0.0 4.7 0.0 1.8 F1PAT_LL_3-Horiz Vert 0.1 0.2 -0.1 1.9 0.0 -0.5 0.0 2.1 0.0 4.2 F1PAT_LL_4-Horiz Vert 0.1 2.1 -0.1 -0.1 0.0 1.7 0.0 2.1 0.0 2.0 FRAME LINES: 2345 © COLUMN LINE -MIN_SNOW--Horiz Vert 14.1 25.0 -14.1 25.0 F2UNB_SL_L-Horiz Vert 10.6 22.0 -10.6 12.8 F2UNB_SL_R-Horiz Vert 10.6 12.8 -10.6 22.0 BASIC COLUMN REACTIONS (k) RIGID FRAME: Dead Vert 0.5 0.5 0.5 0.5 0.5 0.5 0.5 **ENDWALL COLUMN:** MAXIMUM REACTIONS 0.0 0.0 RIGID FRAME: 13 -6.1 Frame lines: 2 3 4 5 **BUILDING BRACING REACTIONS** CONTROLLING LOAD CASES Dead+0.6Wind_Left1
Dead+0.6Wind_Right1
0.6Dead+0.6Wind_Left1
0.6Dead+0.6Wind_Right1
0.6Dead+0.6Wind_Left2
0.6Dead+0.6Wind_Left2
0.6Dead+0.6Wind_Left2
0.6Dead+0.6Wind_Left2
0.6Dead+0.6Wind_Leng11
0.6Dead+0.6Wind_Leng21
1.07Dead+1.07Collateral+0.7Seismic_Right
Dead+Collateral+MiN_SNOW
Dead+Collateral+MiN_SNOW 9.5 9.5 5.3 5.3 8.5 8.5 9.5 9.5 Dead+Collateral

0.6Dead+0.6Wind_Right2+0.6Wind_Suction

0.6Dead+0.6Wind_Pressure+0.6Wind_Long2l

1. COLUMN FOOTINGS AND PIERS MUST BE DESIGNED TO WITHSTAND HORIZONTAL AND VERTICAL REACTIONS AS SHOWN ON THE ANCHOR ROD PLAN. CHIEF BUILDINGS IS NOT RESPONSIBLE FOR DESIGN OF CONCRETE FOUNDATION. CHIEF BUILDINGS RECOMMENDS THAT THE SERVICES OF A DESIGN THE FOUNDATIONS FOR THE INDICATED REACTIONS.

2. REACTIONS ARE GIVEN IN KIPS. (1 KIP = 1000 LBs.) MOMENTS, IF ANY, ARE GIVEN IN KIP-FT.

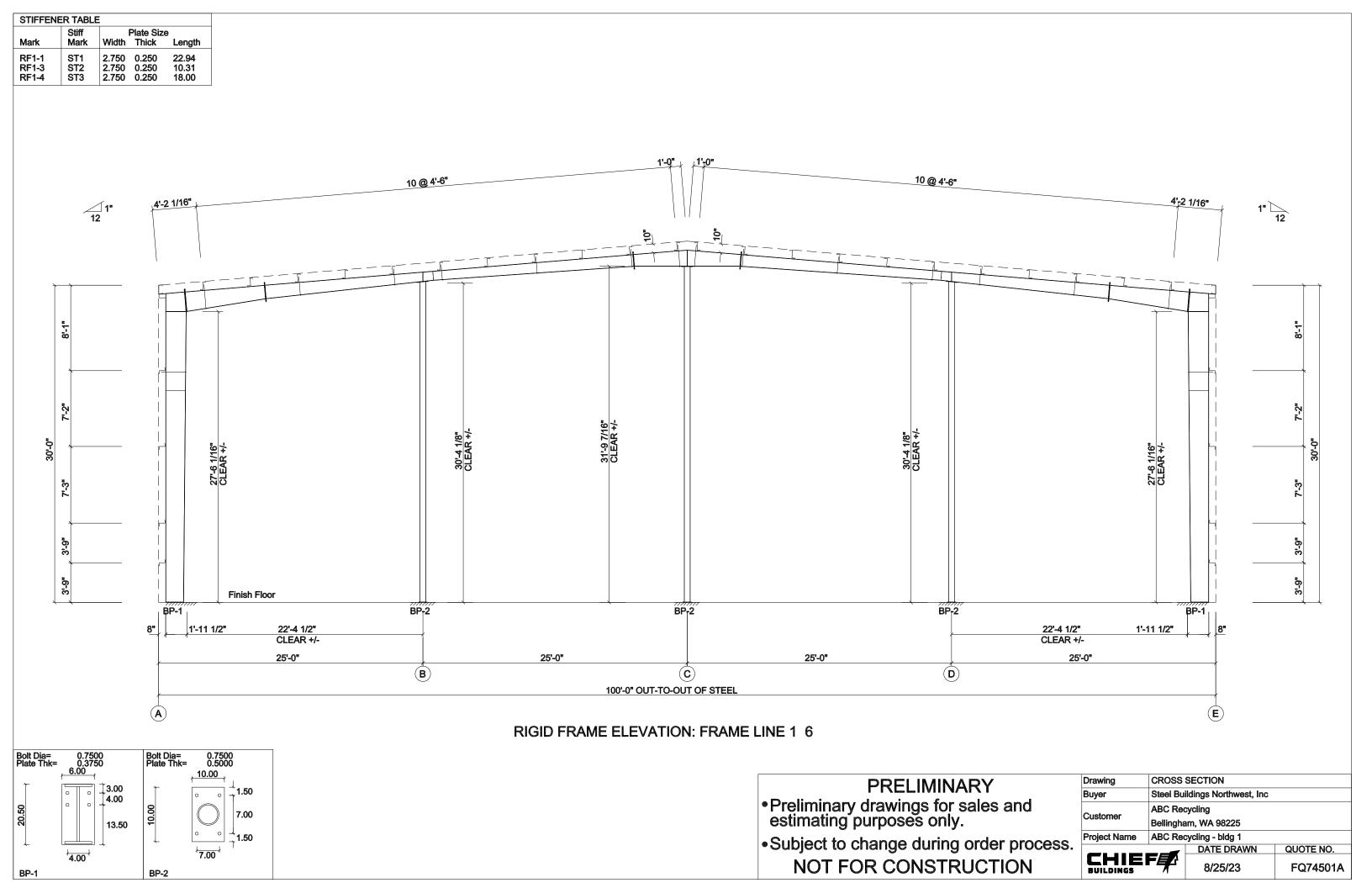
3. ANCHOR ROD DESIGN IS BASED ON SHEAR, TENSION, AND COMBINED TENSION AND SHEAR. CHIEF BUILDINGS IS NOT RESPONSIBLE FOR ANCHOR ROD SIZE RECOMMENDATIONS WHEN ANCHOR ROD CONFIGURATION PLACES THE RODS IN A BENDING MODE. WHEN THE COLUMN BASE PLATE BEARS ON GROUT, THE CONTRACTOR / BUILDER OR FOUNDATION ENGINEER SHALL INVESTIGATE BENDING IN THE ANCHOR RODS AND PROVIDE A SHEAR KEY FOR THE COLUMN BASE TO THE PIER WHEN THE ANCHOR RODS ARE NOT ADEQUATE IN BENDING ABOUT THE PIER.

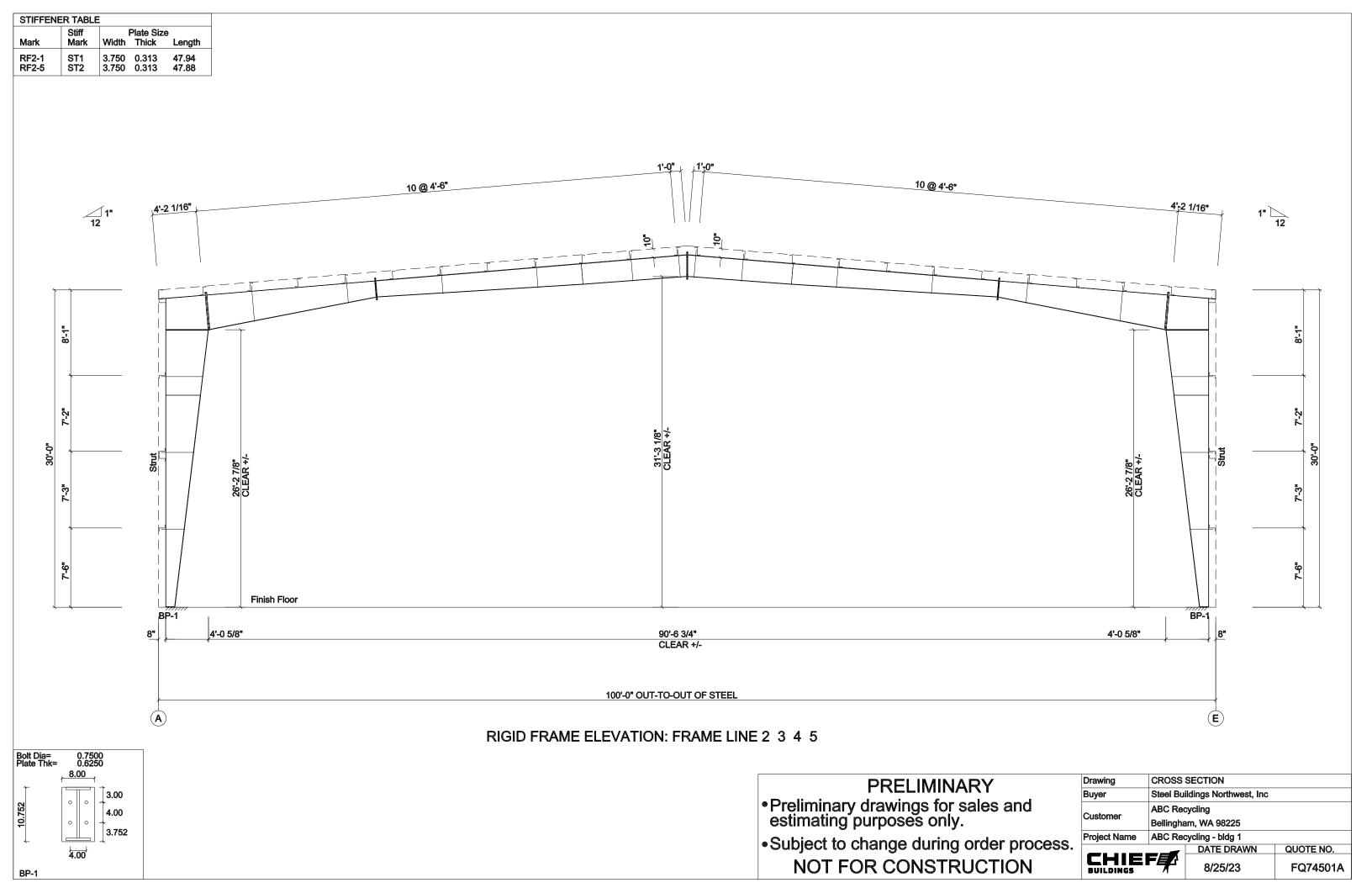


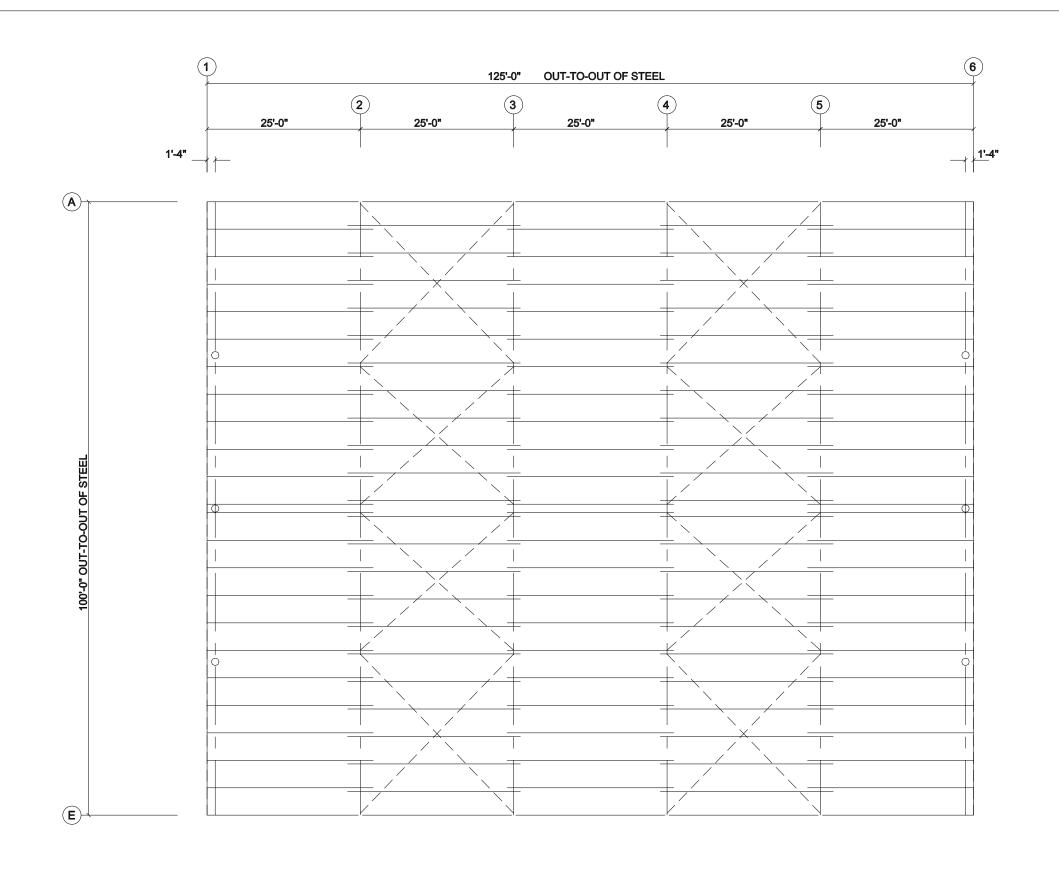
PRELIMINARY

- Preliminary drawings for sales and estimating purposes only.
- Subject to change during order process. NOT FOR CONSTRUCTION

Drawing	ANCHO	ANCHOR ROD			
Buyer	Steel Bu	Steel Buildings Northwest, Inc			
Customer	ABC Red	ABC Recycling			
Customer	Bellingha	am, WA 98225			
Project Name	ABC Red	ABC Recycling - bldg 1			
		DATE DRAWN	QUOTE NO.		
CHIE	F	8/25/23	FQ74501A		





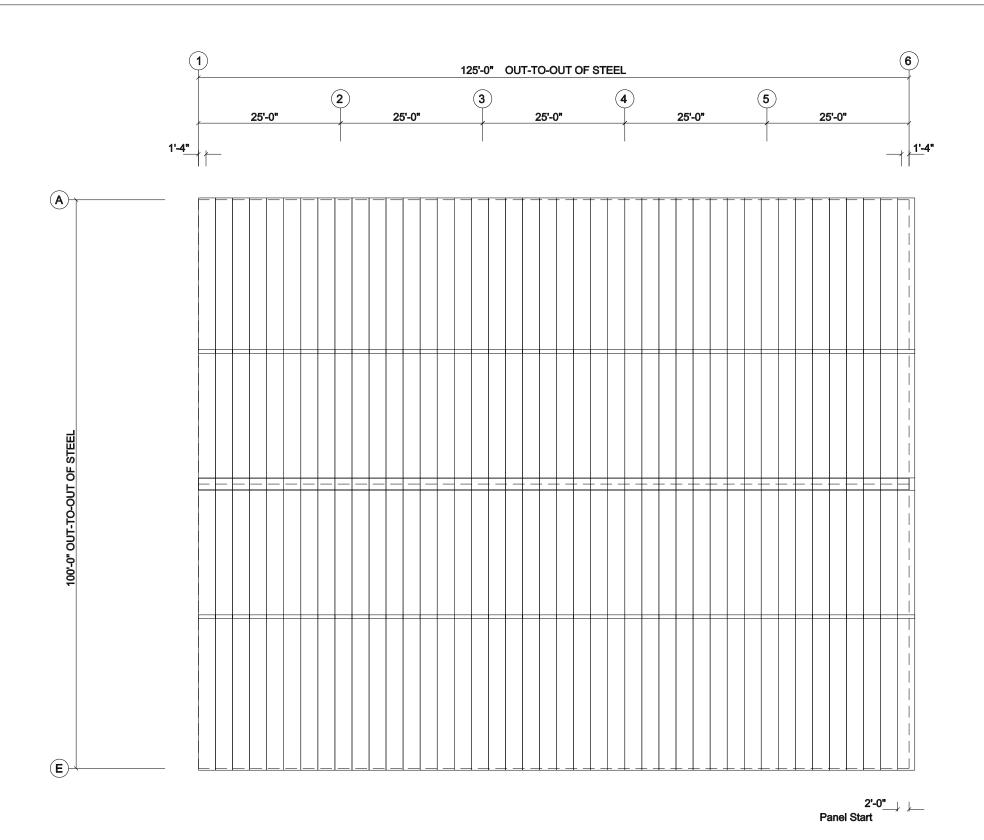


ROOF FRAMING PLAN

PRELIMINARY

- Preliminary drawings for sales and estimating purposes only.
- •Subject to change during order process. NOT FOR CONSTRUCTION

Drawing	ROOF F	RAMING			
Buyer	Steel Bu	Steel Buildings Northwest, Inc			
Customer	ABC Recycling				
Customer	Bellingham, WA 98225				
Project Name	ABC Recycling - bldg 1				
		DATE DRAWN	QUOTE NO.		
CHIE		8/25/23	FQ74501A		



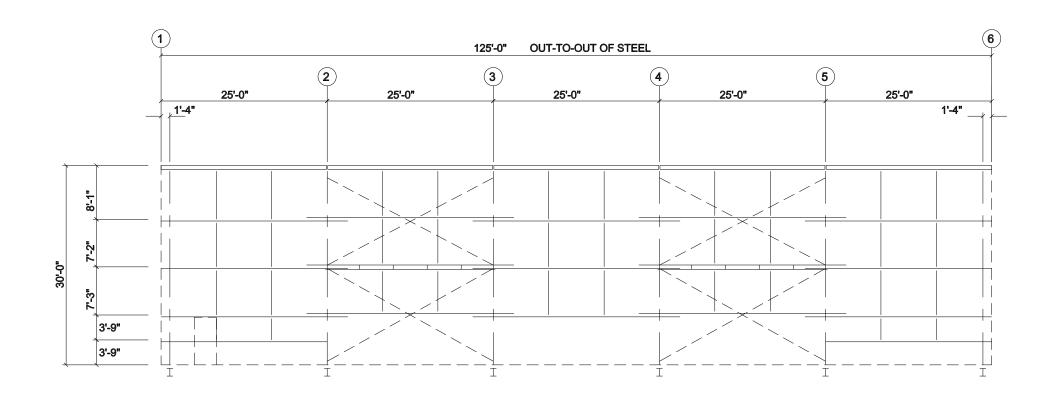
ROOF SHEETING PLAN

PANELS: 26 Ga. CS - Std.PVDF-FEVE Finish

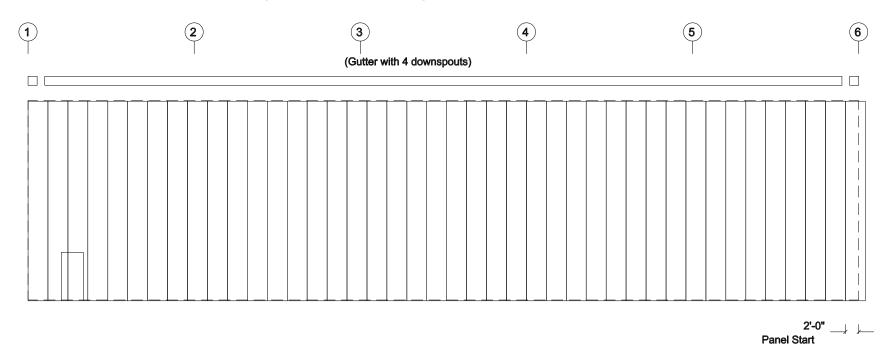
PRELIMINARY

- Preliminary drawings for sales and estimating purposes only.
- Subject to change during order process. NOT FOR CONSTRUCTION

Drawing	ROOF S	ROOF SHEETING			
Buyer	Steel Buildings Northwest, Inc				
Customer	ABC Recycling				
Customer	Bellingham, WA 98225				
Project Name	ABC Recycling - bldg 1				
		DATE DRAWN	QUOTE NO.		
CHIE		8/25/23	FQ74501A		



SIDEWALL FRAMING: FRAME LINE E



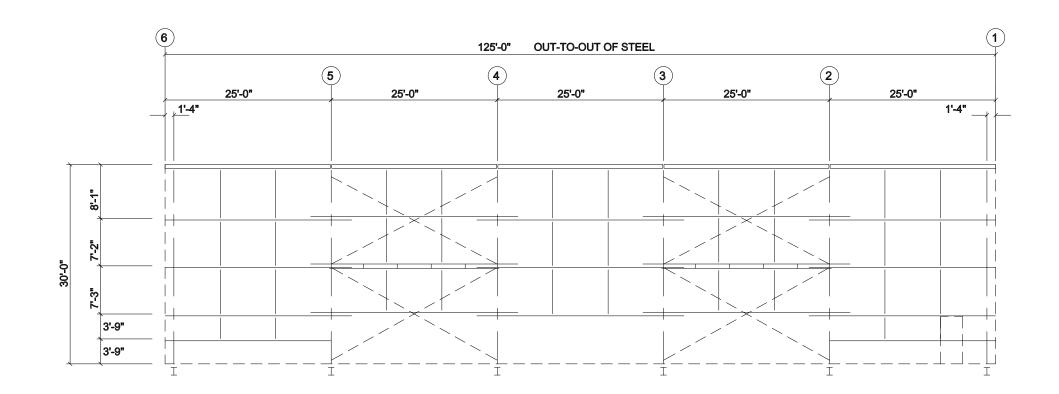
SIDEWALL SHEETING & TRIM: FRAME LINE E

PANELS: 26 Ga. TBD - Std. SMP Finish

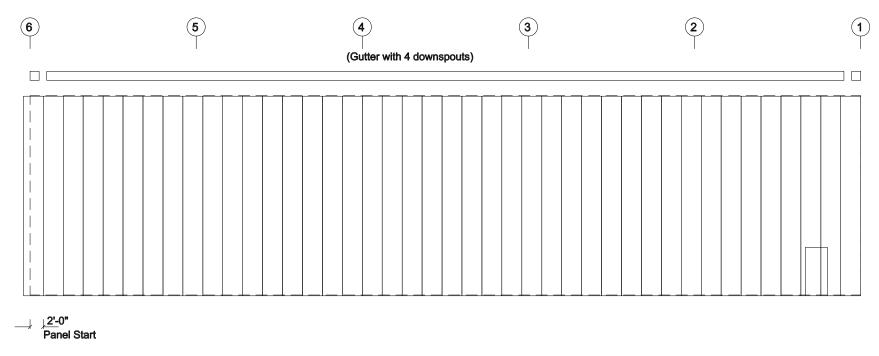
PRELIMINARY

- Preliminary drawings for sales and estimating purposes only.
- Subject to change during order process.
 NOT FOR CONSTRUCTION

			G	IRI DEPIH: 8.00			
	Drawing	SIDEWA	SIDEWALL DRAWING				
	Buyer	Steel Bui	Steel Buildings Northwest, Inc				
	Customer	ABC Recycling					
		Bellingham, WA 98225					
	Project Name	ABC Recycling - bldg 1					
			DATE DRAWN	QUOTE NO.			
	CHIE	F	8/25/23	FQ74501A			



SIDEWALL FRAMING: FRAME LINE A



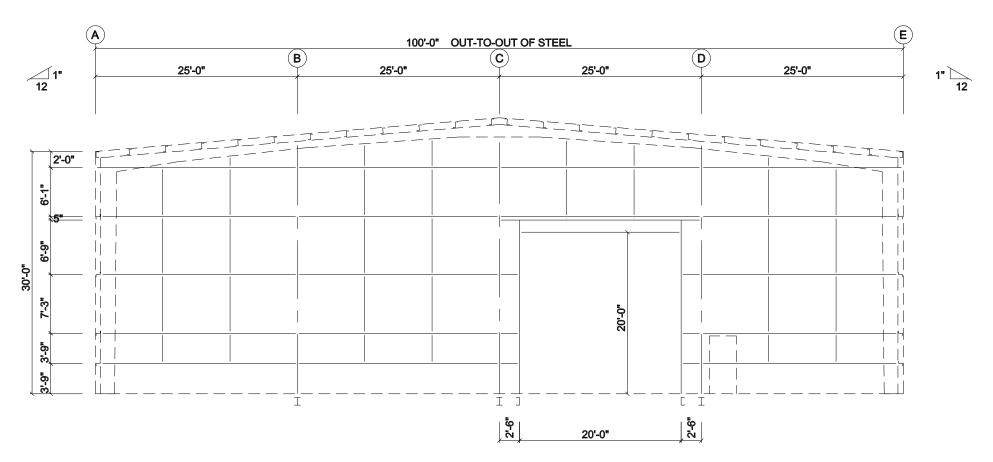
SIDEWALL SHEETING & TRIM: FRAME LINE A

PANELS: 26 Ga. TBD - Std. SMP Finish

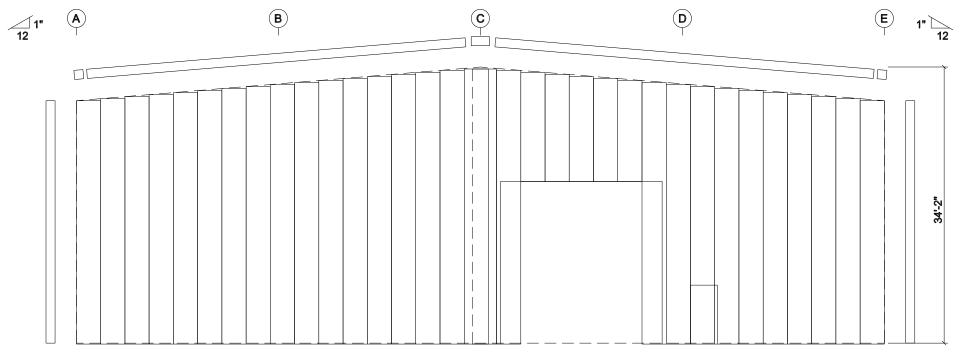
PRELIMINARY

- Preliminary drawings for sales and estimating purposes only.
- Subject to change during order process.
 NOT FOR CONSTRUCTION

			C	SIRT DEPTH: 8.00		
	Drawing	SIDEWA	SIDEWALL DRAWING			
	Buyer	Steel Bui	Steel Buildings Northwest, Inc			
	Customer	ABC Recycling				
		Bellingham, WA 98225				
	Project Name	ABC Recycling - bldg 1				
			DATE DRAWN	QUOTE NO.		
	CHIE	F	8/25/23	FQ74501A		



ENDWALL FRAMING: FRAME LINE 1



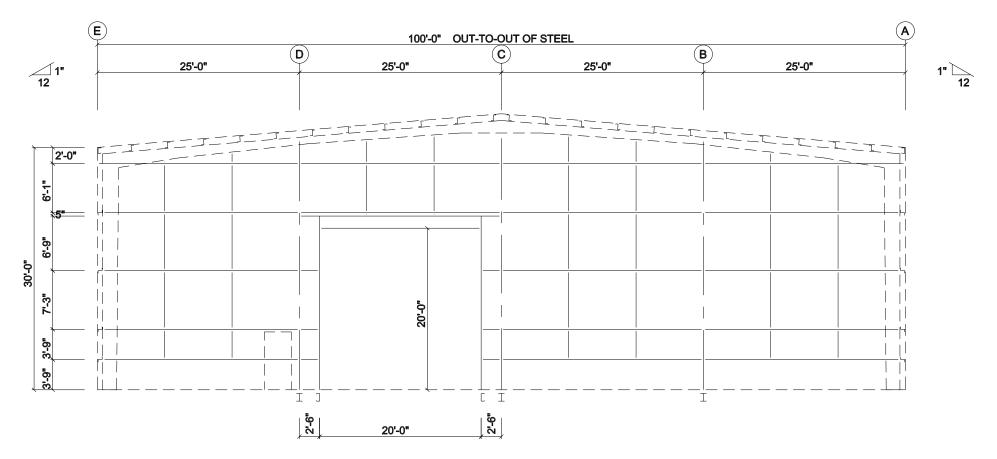
ENDWALL SHEETING & TRIM: FRAME LINE 1

PANELS: 26 Ga. TBD - Std. SMP Finish

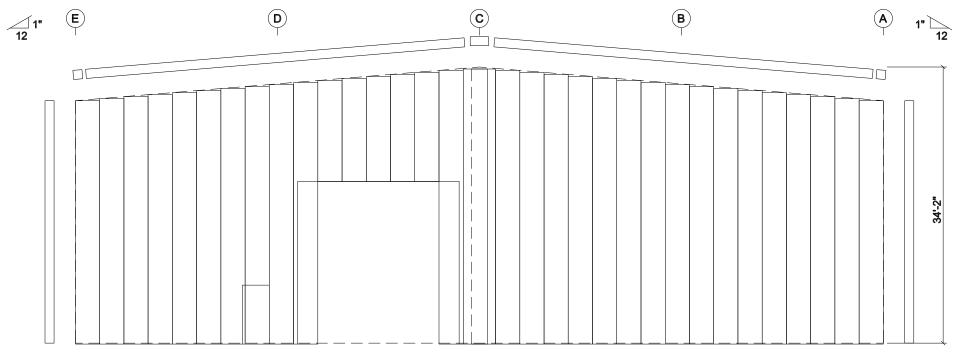
PRELIMINARY

- Preliminary drawings for sales and estimating purposes only.
- Subject to change during order process. NOT FOR CONSTRUCTION

			GI	RT DEPTH: 10.00								
	Drawing	ENDWA	LL DRAWING									
	Buyer	Steel Bu	Steel Buildings Northwest, Inc									
	Customor	ABC Recycling										
	Customer	Bellingham, WA 98225										
	Project Name	ABC Red	cycling - bldg 1									
1			DATE DRAWN	QUOTE NO.								
	CHIE		8/25/23	FQ74501A								



ENDWALL FRAMING: FRAME LINE 6



ENDWALL SHEETING & TRIM: FRAME LINE 6

PANELS: 26 Ga. TBD - Std. SMP Finish

PRELIMINARY

- Preliminary drawings for sales and estimating purposes only.
- Subject to change during order process. NOT FOR CONSTRUCTION

		Gi	RT DEPTH: 10.00								
Drawing	ENDWA	LL DRAWING									
Buyer	Steel Bu	Steel Buildings Northwest, Inc									
Customer	ABC Recycling										
Customer	Bellingham, WA 98225										
Project Name	ABC Red	cycling - bldg 1									
		DATE DRAWN	QUOTE NO.								
CHIE	F	8/25/23	FQ74501A								

SPECIFICATIONS

- **GENERAL NOTES**
- 1. The following notes, details, schedules & specifications shall apply to all phases of this project unless specifically noted otherwise. Notes and details on the structural plans shall take precedence over general notes and typical details. Where no details are given, construction shall be as shown for similar work.
- 2. All drawings are considered to be part of the contract documents. The Contractor shall be responsible for the review and coordination of all drawings and specifications prior to the start of construction. Any discrepancies shall be brought to the attention of the Engineer prior to the start of construction so that a clarification can be issued. Any work performed in conflict with the contract documents or any applicable code requirements shall be corrected by the Contractor at no expense to the Owner or Engineer.
- 3. All information on existing conditions shown on the structural plans are based on best present knowledge available, but without quarantee of accuracy. The Contractor shall be responsible for the verifications of all dimension and conditions at the site. Any discrepancies between actual site conditions and information shown on the drawings or in the specifications shall be brought to the attention of the EOR prior to the start of construction.
- 4. Refer to the Architectural plans for the following:
 - (a) Dimensions
 - (b) Size and location of all interior and exterior wall locations. (c) Size and location of all floor, roof and wall openings
 - (d) Size and location of all drains, slopes, depressions, steps, etc. (e) Specification of all finishes & waterproofing
- (f) All other non-structural elements
- 5. Refer to the mechanical, electrical and plumbing plans for the following:
- (a) Size and location of all equipment (b) Pipe runs, sleeves, hangers and trenches
- (c) All other mechanical, electrical or plumbing related elements 6. DO NOT scale structural plans. Contractor shall use all written dimensions on Architectural
- 7. Construction materials shall be uniformly spread out if placed on floor or roof so as to not overload the framing. Load shall not exceed the design live load per square foot. It is the Contractor's responsibility to provide adequate shoring and/or bracing as required.
- 8. Specifications and detailing of all waterproofing and drainage items, while sometimes shown on the structural plans for general information purposes only, are solely the design responsibility of others.
- 9. The Engineer will not be responsible for and will not have control or charge of construction means, methods, techniques, sequences or procedures, or for safety precautions and programs in connection with the construction delineated by these plans. It should be understood that the Contractor or his/her agent(s) shall supervise and direct all work and shall be solely and completely responsible for all construction means, methods, techniques, sequences, procedures and conditions on the job site, including safety of all persons and property during the entire period of construction. Periodic observations by the Engineer, his staff or representatives are not intended to include verification of dimensions or review the adequacy of the Contractor's safety measures on or near the construction site.
- 10. Modifications of the plans, notes, details and specifications shall not be permitted without prior approval from the Engineer
- 11. All workmanship shall conform to the best practice prevailing in the various trades performing the work. The Contractor shall be responsible for coordinating the work of all trades.
- 12. It is the Contractor's responsibility to ensure that only approved structural plans are used during the course of construction. The use of unapproved documents shall be at the contractor's own risk. Corrections of all work based on such documents shall be performed at the Contractor's expense.
- 13. These plans and specifications represent the structural design only. No information nor warranty is provided for the work of any other Consultant (Architect, Mechanical, Electrical, etc.). This includes, but is not limited to, waterproofing, drainage, ventilation, accessibility, or

FOUNDATIONS

- 1. Refer to Structural Design Parameters section on sheet S-1.1 for all soil design values used
- Soils values per to be confirmed by Geotechnical during construction.
- 3. It is the Contractor's responsibility to obtain a copy of the soils report from the Owner. A copy
- of the soils report shall be on the job site during the course of construction. 4. Unexpected Soil Conditions: Allowable values and subsequent foundation designs are based on soil conditions which are shown by test borings. Actual soil conditions which deviate appreciably from that shown in the test borings shall be reported to the Engineer
- 5. All compaction, fill, backfilling and site preparation shall be performed in accordance with project soils report or the Governing Building Code Chapter 18 & Appendix J. All such work shall be performed per the recommendations of the project soils engineer.
- Excavate to required depths and dimensions (as indicated in the drawings), cut square and smooth with firm level bottoms. Care shall be taken not to over-excavate foundation at lower elevation and prevent disturbance of soils around high elevation. Foundations shall be poured in neat excavations.
- 8. Excayate all foundations to required depths into compacted fill or natural soil (as per plans and details) and as verified by the building official and/or soils engineer
- 9. All foundations shall be inspected and approved by the appropriate building official and/or a representative of the soils engineer prior to forming and placement of reinforcing or concrete.
- 10. Foundations shall not be poured until all required reinforcing steel, framing hardware, sleeves, inserts, conduits, pipes, etc. and formwork is properly placed and inspected by the appropriate building official/inspector(s).
- 11. It is the responsibility of the contractor in charge of framing to properly position all holdown bolts, anchor bolts, column bases, and all other cast-in-place hardware. Refer to typical details. All hardware to be secured prior to foundation inspections.
- 12. The sides and bottoms of dry excavations must be moistened just prior to placing concrete. Conversely, de-water footings as required to remove standing water and to maintain optimum
- 13. The Contractor shall be solely responsible for all excavation procedures including lagging, shoring, and the protection of adjacent property, structures, streets, and utilities in accordance with all federal, state and local safety ordinances. The Contractor shall provide for the design and installation of all cribbing, bracing and shoring required.

- All concrete shall have: (a) an ultimate compressive strength (f'c) of 3,000 psi at 28 days (UNO).
- (b) a maximum slump of 5" at point of placement. (c) a W/C ratio of 0.55 or less for all slabs, walls, and columns, and 0.60 or less for all
- foundations. (d) a normal dry-weight density (UNO).
- Testing of materials used in concrete construction must be performed as noted on structural plans or at the request of the Building Department to determine if materials are quality specified. Tests of materials and of concrete shall be made by an approved agency and at the expense of the contractor; such tests shall be made in accordance with the standards listed in the Governing Building Code, Table 1704.4. When testing of concrete is required, four (4) test cylinders shall be taken from each 150 yards, or fraction thereof, poured in any one day. One (1) cylinder shall be tested at seven (7) days; two (2) at 28 days; one (1) shall be held in reserve. If Contractor elects to have additional tests performed for "early-break" results, additional test cylinders must be taken. At no time shall the Contractor instruct the testing agency to perform tests on a schedule different than above without the prior authorization of the Engineer. Contractor is responsible for complying with applicable testing requirements of theBuilding Department. Copies of all test reports shall be provided to Engineer and Building Department for review in a timely manner
- The Contractor shall remove and replace any concrete which fails to attain specified 28 day compressive strength if so directed by the Engineer. Any defects in the hardened concrete shall be repaired to the satisfaction of the Engineer and/or Architect or the hardened concrete shall be replaced at the Contractor's expense.
- 4. All concrete work shall conform with the Governing Building Code, Chapter 19. 5. All cement shall be Portland Cement Type I or II and shall conform to ASTM C 150.
- 6. All aggregates shall conform to ASTM C33. Maximum aggregate sizes: (a) Footings:
- (b) All other work: 3/4" Where not specifically detailed, the minimum concrete cover on reinforcing steel shall be: (a) Permanently exposed to earth or weather
 - Cast against forms:
 - (b) Not exposed to earth or weather Slabs, walls, joists:
 - ii. Beams, girders, columns: 1-1/2"
- 8. The minimum lap splice length for all reinforcing steel shall be as noted in the typical details on sheet S-1.1. All lap splices to be staggered.
- 9. All reinforcing steel, anchor bolts, dowels, inserts, and any other hardware to be cast in concrete shall be well secured in position prior to foundation inspection. All hardware to be installed in accordance with respective manufacturer's specifications. Refer to architectural
- and structural plans for locations of embedded items 10. Locations of all construction joints, other than specified on the structural plans, shall be approved by the Architect and Engineer prior to forming. Construction joints shall be thoroughly air and water cleaned and heavily roughened so as to expose coarse aggregates All surfaces to receive fresh concrete shall be maintained continuously wet at least three (3) hours in advance of concrete placement. Unless specifically detailed or otherwise noted,
- be located such that the area does not exceed 400 sq. feet. 11. The Architect, Engineer and appropriate inspectors shall be notified in a timely manner for a reinforcement inspection prior to the placement of any concrete.
- 12. The Contractor shall obtain approval from the Architect and the Engineer prior to placing sleeves, pipes, ducts, chases, coring and opening on or through structural concrete beams, walls, floors, and roof slabs unless specifically detailed or noted on the plans. All piles or conduits passing through concrete members shall be sleeved with standard steel pipe

construction and control joints shall be provided in all concrete slabs-on-grade. Joints shall

- 13. The Contractor is responsible for design, installation, maintenance and removal of all formwork. Forms shall be properly constructed, sufficiently tight to prevent leakage, sufficiently strong, and braced to maintain their shape and alignment until no longer needed for concrete support. Joints in formwork shall be tightly fitted and blocked, and shall produce a finished concrete surface that is true and free from blemishes. Forms for exposed concrete shall be pre-approved by the Architect to ensure conformance with design intent.
- 14. Remove form work in accordance with the following schedule:
 - (a) Forms at slab edge: (b) Side forms at footings:
 - (c) All other vertical surfaces: 7 days
 - (d) Beams, columns, girders: 15 days
- (e) Elevated slabs: 28 days Engineer reserves the right to modify removal schedule above based on field observations,
- concrete conditions, and/or concrete test results. 15. All concrete (except slabs-on-grade 6" or less) shall be mechanically vibrated as it is placed. Vibrator to be operated by experienced personnel. The vibrator shall be used to consolidate
- the concrete. The vibrator shall not be used to convey concrete, nor shall it be placed on reinforcing and/or forms. 16. Concrete shall be maintained in a moist condition for a min. of five (5) days after placement.
- 17. Concrete shall not be permitted to free fall more than six (6) feet. For heights greater than six (6) feet, use tremie, pump or other method consistent with applicable standards.
- 18. When specified ultimate compressive strength is greater than 2500 psi, Contractor shall submit mix designs to Architect and Engineer for approval seven (7) days prior toplacement. Mix designs shall be prepared by an approved testing laboratory. Sufficient data must be provided for all admixtures.
- 19. Refer to Architectural plans for locations of all dimensions, slab depressions, slopes, drains, curbs, and control joints.

REINFORCEMENT

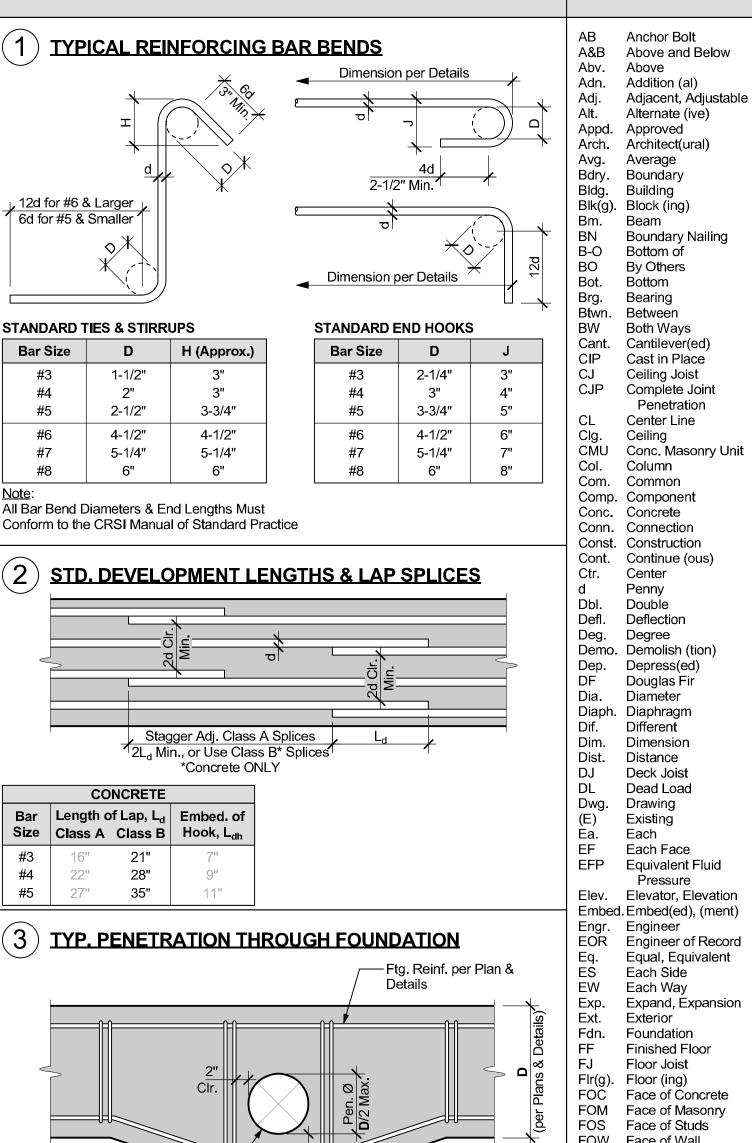
- Reinforcing steel shall be to deformed, clean, free of rust, grease or any other material likely to impair concrete bond.
- 2. All bars shall conform to ASTM A615, Grade 60 minimum (UNO on structural plans). All weld wire fabric (WWF) shall conform to ASTM A185.
- Reinforcing steel that is to be welded shall conform to ASTM A706. All welding of
- reinforcement shall be subject to special inspection. 4. Contractor shall take necessary steps (standard ties, anchorage devices, etc.) to secure all
- reinforcing steel in their true position and prevent displacement during concrete placement. 5. Fabrication, placement and installation of reinforcing steel shall conform to:
- (a) Concrete Reinforcing Steel Institute (CRSI) Manual of Standard Practice (b) the Governing Building Code, Section 1907.
- 6. Shop drawings for fabrication of reinforcing steel shall be approved by the Contractor and submitted to the Architect and Engineer for review and approval prior to fabrication. Shop drawings are not required for slabs-on-grade or foundations unless specifically noted on the structural plans.
- Heating of reinforcing steel to aid in bending and shaping of bars is not permitted. All bends in reinforcing steel are to be made cold. All bend radii shall conform to CRSI Manual of
- Refer to Concrete and Masonry notes for specific minimum splice length and splice staggering requirements. Lap welded wire fabric (WWF) reinforcement two (2) modules minimum (UNO). All splices are to be staggered.

ABC Recycling

Building 2 Shredder

741 Marine Drive Bellingham, Washington

ABBREVIATIONS



Provide Dbl. Ties @ ea.

Bot. Reinf. Bend Loc.

↑ Ftg. Reinf. = (1) Bar T&B, Use

#3 Vert. w/ 180° Hook ea. End

ዮ၅ Ftg. Reinf. > (1) Bar T&B, Use

#3 Stirrup w/ 135º Hooks @ Top

. Pour Slab in Alt. Bays, 12'-0" Sq. Max.

Slab May be Poured Monolithically if

Sawcut @ 12'-0" Max. Ea. Way

Exp. Joints per Plan.

Galv.

GB

GC

Gyp.

Hdr.

Jst.

KP

KSF

Galvanized

Grade Beam

Gypsum

Hldn. Holdown

Hdw. Hardware

Hor(iz). Horizontal

Inch(es)

Interior

King Stud

King Post

Live Load

Light Weight

Location

Lb(s). Pound(s)

Invert, Inverted

Kips per Linear Ft.

Kips per Square Ft. Kips per Square In.

Insp. Inspect(ion)

Joist

Hgr. Hanger

6 Min.

(4) TYPICAL CONCRETE SLAB JOINTS

COLD JOINT

SAWCUT JOINT

Duct or Pipe Penetration -

per Mech. or Plumb. Plans

DO NOT Locate Pen. w/n

24" of Any Holdowns

Fill w/ Joint Sealant —

STANDARD DETAILS

Mod. Approved Modif(y), (ication) Mtl. Architect(ural) Metal Average New Bdry. Boundary Not Applicable Bldg. Building Natural NTS Blk(g). Block (ing) Not to Scale Over On Center **Boundary Nailing** Bottom of OD Outside Diameter By Others Opng. Opening Opp. Opposite Bearing Opt. Optional Para. Parallel Between Both Ways PCF Lbs per Cubic Ft. Cantilever(ed) Pen. Penetrate, (tion) Cast in Place Perf. Perforated Ceiling Joist Perim. Perimeter Complete Joint Perp. Perpendicular Panel Index Penetration PJP Center Line Partial Joint Pen. Plate Conc. Masonry Unit PLF Lbs per Linear Ft. PI. Plate Com. Common Ply. Plywood Comp. Component Prepare, (tion) Conc. Concrete Press. Pressure Conn. Connection Proj. Project Const. Construction Prop. Property Cont. Continue (ous) PSF Lbs per Square Ft. Lbs per Square In. Pressure-Treated Radius Deflection Rec(s). Recommendation(s) Degree Rect. Rectangular Demo. Demolish (tion) Reference Dep. Depress(ed) Douglas Fir Diameter Req(d). Require(d) Diaph. Diaphragm Regs. Requirements Different Retain(ing) Roof Joist Dimension Roof Rafter Distance RW Deck Joist Redwood SAD See Arch Dwg's Dead Load Sched. Schedule Drawing Existing Sgl. Single Shtg. Sheathing Each Face Sim. Similar SIP EFP Equivalent Fluid Str. Insulated Panel Sheet Metal Pressure Elev. Elevator, Elevation SMS Sheet Metal Screw Embed. Embed(ed), (ment) SOG Slab on Grade Engr. Engineer Spec. Specifi(ed), (cations) EOR Engineer of Record Std. Standard Stl. Equal, Equivalent Each Side Struc. Structure, (al) Each Way SW Shear Wall Sym. Symmet(ry), (rical) Expand, Expansion Top and Bottom Exterior T&G Foundation Tongue and Groove Finished Floor Temp. Temporary Floor Joist Thk. Thick(ness) Thru Through Flr(g). Floor (ing) FOC Face of Concrete Toe-Nail FOM Face of Masonry Top Plate T-O FOS Face of Studs Top of FOW Face of Wall TOB Top of Beam TOC Top of Concrete Frmg. Framing TOG Foot, Feet Top of Grade Footing TOM Top of Masonry Gage, Gauge

Masonry Max. Maximum Machine Bolt Steven Shinn Moment Frame 661 Cornwall Ave. Mfr. Manufacture(r) Bellingham, WA 98225 Min. Minimum, Minute (360) 472-2880 (530) 624-7185 TOS Top of Steel TOW Top of Wall TRU To Remain Unchanged Trmr. Trimmer Stud Typical UNO Unless Noted Otherwise Vertical

General Contractor VIF Verify in Field VWA Verify with Arch Inside Diameter

Greater Than

Percent(age)

Plus or Minus

Number, Pound(s)

Less Than

w/ With w/n Within Without Wood Screw Wndw, Window Wt. Weight Kips (1,000 pounds) WWF Welded Wire Fabric Yd. Yard

PROJECT INFORMATION ABC Recycling

ARCHITECT / DESIGNER: Steel Buildings Northwest, Inc. North Plains, Oregon

SOILS/GEO. ENGINEER:

DESIGN PARAMETERS

GENERAL PARAMETERS 2018 IBC **Building Code**

Foundation details are subject to change based on the Mfr.'s supplied reactions (Pacific Building Systems., Job # 22-8800, Dated 10/12/2022). Use of supplied loads & reactions may not

be construed as approval of their accuracy or applicability. No analyses of the pre-engineered metal

building (PEMB) members or systems have been performed. **SOILS VALUES**

Bearing Pressure (Total Load) * 2000 psf Reinf. Reinforce(d), (ment), * To Be Field Verified By Geotechnical

WIND DESIGN BASIS

Wind force analysis has not been Structural Calculations are based on the

Mfr.'s supplied reactions. SEISMIC DESIGN BASIS Seismic force analysis of the PEMB has not

been performed. Structural Calculations are based on the Mfr.'s supplied reactions.

The 2018 International Building Code (IBC) is the governing code in the State of Washington

S-1.1 Structural Title Sheet

SHEET INDEX

S-2.1 Foundation Plan

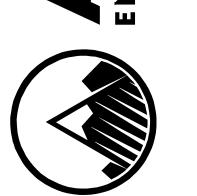
Proj. Engr.: S. Williamson Proj. Mngr.: B. Hausmann Date: 05 Oct. 2023 | Scale: NTS

> **STRUCTURAL** TITLE SHEET

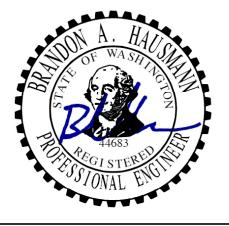
No. 20004

Alpine Eng. Job No.:

OT SCALE THESE DRAWINGS. Refer to Architectural plans for all dimensions.

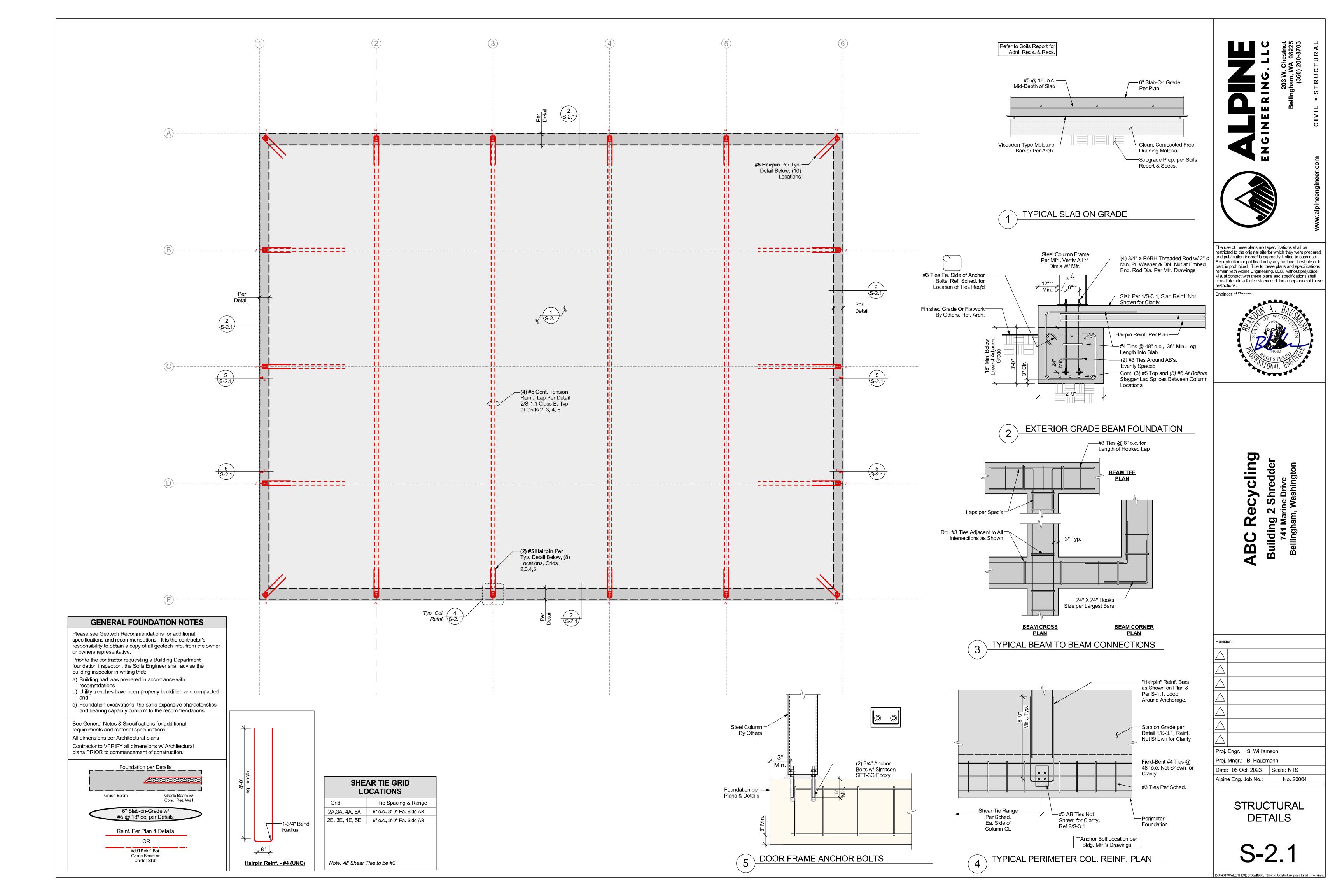


he use of these plans and specifications shall be restricted to the original site for which they were prepared and publication thereof is expressly limited to such use. Reproduction or publication by any method, in whole or in part, is prohibited. Title to these plans and specifications remain with Alpine Engineering, LLC, without prejudice Visual contact with these plans and specifications shall constitute prima facie evidence of the acceptance of these Engineer of Docord



clir edd 7

Building ABC





203 W. Chestnut Bellingham, WA 98225

(360) 200-8703 alpineengineer.com

STRUCTURAL CALCULATIONS PREPARED FOR:

DATE:

October 18, 2023

PROJECT NO.:

20004

PROJECT NAME:

ABC Recycling; Building 2 Shredder

PROJECT TYPE:

PEMB Foundation Design

PROJECT ADDRESS:

741 Marine Drive Bellingham, WA

ARCHITECT:

TRC Architecture PO Box 1075 Bellingham, WA 98227 (360) 393-3131

PROJECT ENGINEER:

Brandon Hausmann, PE





203 W. Chestnut Bellingham, WA 98225

(360) 200-8703 alpineengineer.com

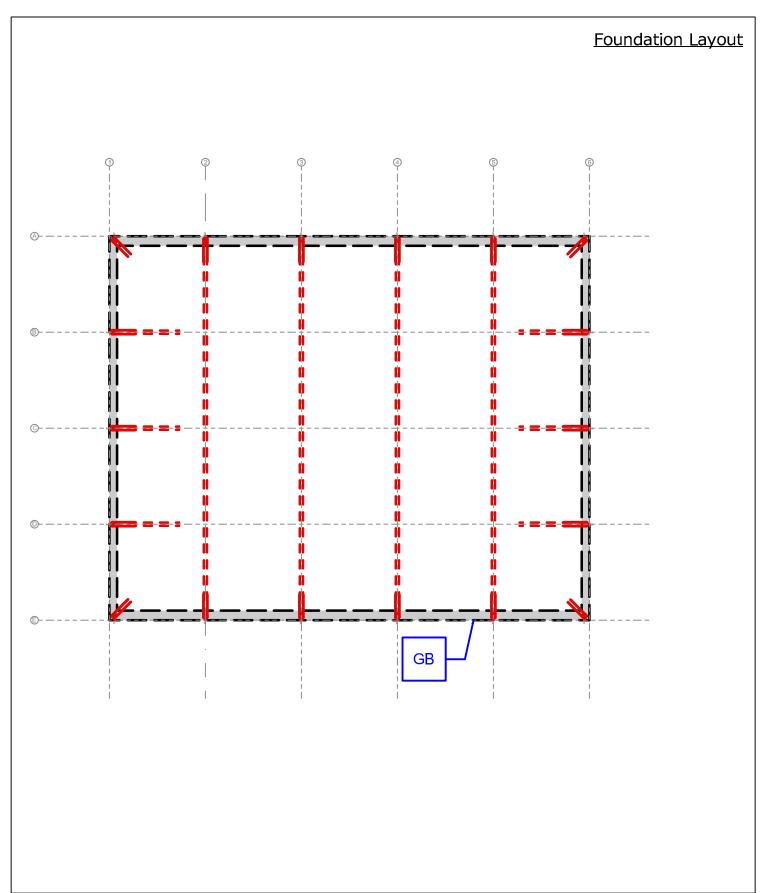
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ABC Recycling

Building 2 Shredder 741 Marine Drive Bellingham, Washington Job No.: No. 20004



PROJECT:	BLDG. 2 SHREDDER
LOCATION:	BELLINGHA, WA
CLIENT:	TRC
ENGR:	ВАН
JOB #:	20004
DATE:	10/3/2023



STRUCTURAL DESIGN CRITERIA

STRUCTURA
L ABSTRACT
/ SCOPE OF
WORK:

STRUCTURAL ENGINEERING IS PROVIDED FOR THE ABC RECYCLING BUILDING NO. 2 SHREDDER LOCATED IN WHATCOM COUNTY WA. THE STRUCTURE IS A 1-STORY PRE-ENGINEERED METAL BUILDING (PEMB). FOUNDATION IS A CONTINUOUS PERIMETER CONCRETE GRADE BEAM, PAD AND INTERIOR SLAB-ON-GRADE. FOUNDATION DESIGN IS BASED ON ARCHITECTURAL PLANS PROVIDED BY TRC ARCHITECTS (PROJECT #22-001, DATED SEPT. 29 2023) AND STEEL BUILDINGS NORTHWEST INC. (QUOTE # FQ74801A, DATED 8/25/23.). THE STRUCTURAL SCOPE OF WORK IS FOR THE FOUNDATION ONLY, NO ANALYSIS OF THE SUPERSTRUCTURE OR FUTURE TENANT IMPROVEMENT HAS BEEN PERFORMED; ALL COLUMN REACTIONS ARE PROVIDED BY THE PEMB MANUFACTURER.

GRADE BEAM CALCULATIONS AT GRID L ARE SHOWN AS 3 SEPARATE CALCULATIONS: COMPOSITE SECTION, POSITIVE BENDING AND NEGATIVE BENDING. THE POSITIVE AND NEGATIVE BENDING CALCULATIONS ARE SHOWN FOR REFERENCNE AND ARE NOT FAILING AS INDICATED IN THE CALCULATIONS. THE MODELING LIMITATIONS CANNOT SHOW THE COMPLETE PICTURE, AND ARE USED TO GRAPH THE BENDING MOMENTS AT THE WORST CASE POSITIVE (AT THE COLUMN POINT LOADS) AND NEGATIVE (MID WAY BETWEEN COLUMNS) MOMENTS TO DESIGN FOR THE MINIMUM AMOUNT OF REINFORCEMENT REQUIRED AT THOSE POINTS.

GENERAL: BUILDING DEPARTMENT:

APPLICABLE BUILDING CODE: IMPORTANCE CATEGORY:

WHATCOM CO. 2018 IBC

GRAVITY LOADING: PER MFR. REACTIONS

SOILS DATA: GEOTECHNICAL ENGINEER:

ALLOWABLE BEARING PRESSURE: MIN. FROST EMBEDMENT:

NΑ

2000 PSF **FIELD VERIFIED

18 (PER WHATCOM Co.)

PROJECT:	BLDG. 2 SHREDDER
LOCATION:	BELLINGHA, WA
CLIENT:	TRC
ENGR:	ВАН
JOB #:	20004
DATE:	10/3/2023



Design Parameters

Code: 2018 IBC

* Please Refer to Structural Specification on S-1.1 for more detailed information

Foundations: Contrete 3000 psi

Rebar (#5 & larger) 60 ksi Rebar (#3 & #4) 40 ksi

Note:

The intent of lateral design is to prevent structural failures in the event of seismic activities or high winds, but not to prevent the damage of architectural finishes or systems. The lateral calculations herein conform to the specifications of the current International Building Code (IBC).

These calculations, specifications, details and drawings are instruments of service and are the property of Alpine Engineering, LLC. The information contained herein is for use on the specific project referenced above and shall not be used otherwise without the written authorization of Alpine Engineering, LLC.

Project Title: Engineer: Project ID:

Project Descr: ABC - Building 2 Shredder

Beam on Elastic Foundation

LIC#: KW-06012917, Build:20.23.08.30 Alpine Engineering, LLC (c) ENERCALC INC 1983-2023

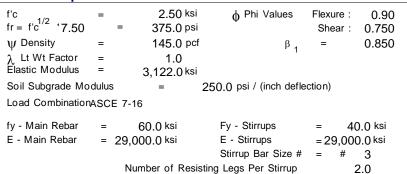
DESCRIPTION: Grid A - Composite Section

CODE REFERENCES

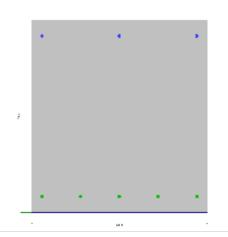
Calculations per ACI 318-14, IBC 2018, CBC 2019, ASCE 7-16

Load Combinations Used: ASCE 7-16

Material Properties



Beam is supported on an elastic foundation,



Project File: ABC Bldg 2 Shredder - [130x100].ec6

D(9.7) Lr(15) S(25) W政第次年(北)(15) S(25) W政第次年(北)(15) S(25) W(37) E(1)(15) S(25) W(37) E(15) S

S\$38m #2560H

Cross Section & Reinforcing Details

Rectangular Section, Width = 33.0 in, Height = 36.0 in Span #1 Reinforcing....

3-#5 at 3.0 in from Top, from 0.0 to 125.0 ft in this span

5-#5 at 3.0 in from Bottom, from 0.0 to 125.0 ft in this s Service loads entered. Load Factors will be applied for calculations.

Design OK

Applied Loads

Beam self weight calculated and added to loadsPoint Load: D = 9.70, Lr = 15.0, S = 25.0, W = 37.0, E = 1.0 k @ 25.0 ft
Point Load: D = 9.70, Lr = 15.0, S = 25.0, W = 37.0, E = 1.0 k @ 50.0 ft
Point Load: D = 9.70, Lr = 15.0, S = 25.0, W = 37.0, E = 1.0 k @ 75.0 ft
Point Load: D = 9.70, Lr = 15.0, S = 25.0, W = 37.0, E = 1.0 k @ 100.0 ft
Uniform Load: D = 0.07250, E = 0.250 ksf, Tributary Width E = 0.050 ft

DESIGN SUMMARY

DESIGN SUMMAN			Design Oil
Maximum Bending Stress Ratio Section used for this span Mu: Applied Mn* Phi: Allowable Load Combination Location of maximum on span Span # where maximum occurs	= 0.675: 1 Typical Section 154.588 k-ft 229.153 k-ft +1.20D+1.60S+0.50W ##.### ft Span # 1	Maximum Deflection Max Downward L+Lr+S Deflection Max Upward L+Lr+S Deflection Max Downward Total Deflection Max Upward Total Deflection	0.000 in 0.000 in 0.048 in 0.007 in
Maximum Soil Pressure = Allowable Soil Pressure =	1.722 ksf 2.0 ksf	at 26.39 ft LdComb: +D+0.750L oK	_+0.750S+0.4

Shear Stirrup Requirements

Between 0.00 to 98.53 ft, Vu < PhiVc/2, Req'd Vs = Not Reqd, use stirrups spaced at 0.000 in Between 100.00 to 100.00 ft, PhiVc/2 < Vu <= PhiVc, Req'd Vs = Min 11.5.6.3, use stirrups spaced at 5.333 in Between 101.47 to 122.06 ft, Vu < PhiVc/2, Req'd Vs = Not Reqd, use stirrups spaced at 0.000 in

Maximum Forces & Stresses for Load Combinatio

Project Title: Engineer: Project ID:

Project Descr: ABC - Building 2 Shredder

Project File: ABC Bldg 2 Shredder - [130x100].ec6 **Beam on Elastic Foundation** LIC#: KW-06012917, Build:20.23.08.30 (c) ENERCALC INC 1983-2023 Alpine Engineering, LLC **DESCRIPTION:** Grid A - Composite Section Load Combination Bending Stress Results (k-ft) Location (ft) Segment Length Span # Mu: Max Stress Ratio Phi*Mnx in Span MAXimum Bending Envelope ##.### 154.59 229.15 Span # 1 0.67 +1.40D Span # 1 ##.### 29.67 229.15 0.13 +1.20D+0.50Lr+1.60L Span # 1 ##.### 41.60 229.15 0.18 +1.20D+1.60L+0.50S Span # 1 ##.### 52.64 229.15 0.23 +1.20D+1.60Lr+L 78.17 229.15 Span # 1 ##.### 0.34 +1.20D+1.60Lr+0.50W Span # 1 ##.### 119.26 229.15 0.52 +1.20D+1.60Lr-0.50W Span # 1 ##.### 37.55 229.15 0.16 +1.20D+L+1.60S Span # 1 ##.### 113.50 229.15 0.50 +1.20D+1.60S+0.50W 229.15 0.67 Span # 1 ##.## 154.59 +1.20D+1.60S-0.50W 72.88 229.15 0.32 Span # 1 ##.### +1.20D+0.50Lr+L+W Span # 1 ##.### 123.44 229.15 0.54 +1.20D+0.50Lr+L-W ##.### 5.05 229.15 Span # 1 0.02 +1.20D+L+0.50S+W Span # 1 ##.## 134.48 229.15 0.59 +1.20D+L+0.50S-W Span # 1 ##.### 3.55 229.15 0.02 +0.90D+W Span # 1 100.70 229.15 ##.### 0.44 +0.90D-W Span # 1 ##.### 8.33 229.15 0.04 +1.20D+L+0.20S+E Span # 1 ##.## 38.42 229.15 0.17 +1.20D+L+0.20S-E Span # 1 ##.### 34.01 229.15 0.15 +0.90D+E Span # 1 ##.### 21.21 229.15 0.09 +0.90D-E ##.## Span # 1 16.79 229.15 0.07 Overall Maximum Deflections - Unfactored Lo Max. "+" Defl Location in Span Load Combination Span Max. "-" Defl Location in Span Load Combination Span 1 0.0478 26.389 0.0000 0.000 **Detailed Shear Information** d*\/u/Mu Phi*\/c Phi*\/e (k) Specina (in)

	Span	Distance	'd'	Vu	(k)	Mu	d*Vu/Mu Phi*Vc		Comment	Phi*Vs	Spaci	ng (in)
Load Combination	Number	(ft)	(in)	Actual	Design	(k-ft)		(k)	Comment	(k)	Req'd	Suggest
+1.20D+0.50Lr+1.60L	1	0.00	33.00	2.48	2.48	0.00	1.00	82.24	Vu < PhiVc/2	Not Reqd	0.00	0.00
+1.20D+0.50Lr+L-W	1	1.47	33.00	2.52	2.52	0.23	1.00	82.24	Vu < PhiVc/2	Not Reqd	0.00	0.00
+1.20D+0.50Lr+L-W	1	2.94	33.00	2.68	2.68	0.82	1.00	82.24	Vu < PhiVc/2	Not Reqd	0.00	0.00
+1.20D+0.50Lr+L-W	1	4.41	33.00	2.76	2.76	1.64	1.00	82.24	Vu < PhiVc/2	Not Reqd	0.00	0.00
+1.20D+0.50Lr+L-W	1	5.88	33.00	2.76	2.76	2.58	1.00	82.24	Vu < PhiVc/2	Not Reqd	0.00	0.00
+1.20D+0.50Lr+L-W	1	7.35	33.00	2.68	2.68	3.53	1.00	82.24	Vu < PhiVc/2	Not Reqd	0.00	0.00
+1.20D+0.50Lr+L-W	1	8.82	33.00	2.50	2.50	4.35	1.00	82.24	Vu < PhiVc/2	Not Reqd	0.00	0.00
+1.20D+0.50Lr+1.60L	1	10.29	33.00	2.49	2.49	5.89	1.00	82.24	Vu < PhiVc/2	Not Reqd	0.00	0.00
+1.20D+1.60L+0.50S	1	11.76	33.00	2.98	2.98	7.66	1.00	82.24	Vu < PhiVc/2	Not Reqd	0.00	0.00
+1.20D+L+0.50S+W	1	13.24	33.00	4.66	4.66	17.48	1.00	82.24	Vu < PhiVc/2	Not Reqd	0.00	0.00
+1.20D+L+0.50S+W	1	14.71	33.00	6.78	6.78	13.73	1.00	82.24	Vu < PhiVc/2	Not Reqd	0.00	0.00
+1.20D+1.60S+0.50W	1	16.18	33.00	9.49	9.49	7.63	1.00	82.24	Vu < PhiVc/2	Not Reqd	0.00	0.00
+1.20D+1.60S+0.50W	1	17.65	33.00	12.91	12.91	4.56	1.00	82.24	Vu < PhiVc/2	Not Reqd	0.00	0.00
+1.20D+1.60S+0.50W	1	19.12	33.00	16.83	16.83	21.78	1.00	82.24	Vu < PhiVc/2	Not Reqd	0.00	0.00
+1.20D+1.60S+0.50W	1	20.59	33.00	21.21	21.21	44.77	1.00	82.24	Vu < PhiVc/2	Not Reqd	0.00	0.00
+1.20D+1.60S+0.50W	1	22.06	33.00	25.99	25.99	74.20	1.00	82.24	Vu < PhiVc/2	Not Reqd	0.00	0.00
+1.20D+1.60S+0.50W	1	23.53	33.00	31.07	31.07	110.66	1.00	82.24	Vu < PhiVc/2	Not Reqd	0.00	0.00
+1.20D+1.60S+0.50W	1	25.00	33.00	36.29	36.29	154.59	1.00	82.24	Vu < PhiVc/2	Not Reqd	0.00	0.00
+1.20D+1.60S+0.50W	1	26.47	33.00	-28.67	28.67	103.04	1.00	82.24	Vu < PhiVc/2	Not Reqd	0.00	0.00
+1.20D+1.60S+0.50W	1	27.94	33.00	-23.69	23.69	59.11	1.00	82.24	Vu < PhiVc/2	Not Reqd	0.00	0.00
±1 20D±1 60Q±0 50W	1	20 /1	33 ሀሀ	-12 06	12 06	22 52	1 00	82 2 <i>1</i>	\/11 < Phi\/c/2	Not Read	0.00	\cap \cap

Project Title: Engineer: Project ID: Project Descr: ABC - Building 2 Shredder

Beam on Elastic Foundation

LIC#: KW-06012917, Build:20.23.08.30 Alpine Engineering, LLC (c) ENERCALC INC 1983-2023

Project File: ABC Bldg 2 Shredder - [130x100].ec6

DESCRIPTION: Grid A - Composite Section

Detailed Shear Information

Detailed Shear Information												
	Span	Distance	e 'd'	Vu	(k)	Mu	d*Vu/Mu	Phi*Vc	Commont	Phi*Vs	Spacin	g (in)
Load Combination	Number	(ft)	(in)	Actual	Design	(k-ft)		(k)	Comment	(k)	Req'd S	Suggest
+1.20D+1.60S+0.50W	1	30.88	33.00	-14.55	14.55	7.14	1.00	82.24	Vu < PhiVc/2	Not Reqd	0.00	0.00
+1.20D+1.60S+0.50W	1	32.35	33.00	-10.42	10.42	30.29	1.00	82.24	Vu < PhiVc/2	Not Reqd	0.00	0.00
+1.20D+1.60S+0.50W	1	33.82	33.00	-6.55	6.55	47.38	1.00	82.24	Vu < PhiVc/2	Not Reqd	0.00	0.00
+1.20D+0.50Lr+L-W	1	35.29	33.00	3.16	3.16	14.35	1.00	82.24	Vu < PhiVc/2	Not Reqd	0.00	0.00
+1.20D+0.50Lr+1.60L	1	36.76	33.00	2.53	2.53	18.26	1.00	82.24	Vu < PhiVc/2	Not Reqd	0.00	0.00
+1.20D+L+0.50S+W	1	38.24	33.00	4.77	4.77	57.36	1.00	82.24	Vu < PhiVc/2	Not Reqd	0.00	0.00
+1.20D+L+0.50S+W	1	39.71	33.00	7.90	7.90	53.47	1.00	82.24	Vu < PhiVc/2	Not Reqd	0.00	0.00
+1.20D+1.60S+0.50W	1	41.18	33.00	11.58	11.58	51.28	1.00	82.24	Vu < PhiVc/2	Not Reqd	0.00	0.00
+1.20D+1.60S+0.50W	1	42.65	33.00	15.53	15.53	36.02	1.00	82.24	Vu < PhiVc/2	Not Reqd	0.00	0.00
+1.20D+1.60S+0.50W	1	44.12	33.00	19.73	19.73	14.95	1.00	82.24	Vu < PhiVc/2	Not Reqd	0.00	0.00
+1.20D+1.60S+0.50W	1	45.59	33.00	24.22	24.22	12.30	1.00	82.24	Vu < PhiVc/2	Not Reqd	0.00	0.00
+1.20D+1.60S+0.50W	1	47.06	33.00	28.96	28.96	46.15	1.00	82.24	Vu < PhiVc/2	Not Reqd	0.00	0.00
+1.20D+1.60S+0.50W	1	48.53	33.00	33.89	33.89	86.97	1.00	82.24	Vu < PhiVc/2	Not Reqd	0.00	0.00
+1.20D+1.60S+0.50W	1	50.00	33.00	38.89	38.89	135.04	1.00	82.24	Vu < PhiVc/2	Not Reqd	0.00	0.00
+1.20D+1.60S+0.50W	1	51.47	33.00	-26.34	26.34	87.32	1.00	82.24	Vu < PhiVc/2	Not Reqd	0.00	0.00
+1.20D+1.60S+0.50W	1	52.94	33.00	-21.63	21.63	46.82	1.00	82.24	Vu < PhiVc/2	Not Reqd	0.00	0.00
+1.20D+1.60S+0.50W	1	54.41	33.00	-17.21	17.21	13.24	1.00	82.24	Vu < PhiVc/2	Not Reqd	0.00	0.00
+1.20D+1.60S+0.50W	1	55.88	33.00	-13.08	13.08	13.83		82.24	Vu < PhiVc/2	Not Reqd	0.00	0.00
+1.20D+1.60S+0.50W	1	57.35	33.00	-9.23	9.23	34.83	1.00	82.24	Vu < PhiVc/2	Not Reqd	0.00	0.00
+1.20D+1.60S+0.50W	1	58.82	33.00	-5.61	5.61	50.16		82.24	Vu < PhiVc/2	Not Reqd	0.00	0.00
+1.20D+0.50Lr+L-W	1	60.29	33.00	2.97	2.97	14.73		82.24	Vu < PhiVc/2	Not Reqd	0.00	0.00
+1.20D+0.50Lr+1.60L	1	61.76	33.00	2.67	2.67	18.34		82.24	Vu < PhiVc/2	Not Reqd	0.00	0.00
+1.20D+L+0.50S+W	1	63.24	33.00	5.05	5.05	57.03		82.24	Vu < PhiVc/2	Not Reqd	0.00	0.00
+1.20D+L+0.50S+W	1	64.71	33.00	8.06	8.06	52.72		82.24	Vu < PhiVc/2	Not Reqd	0.00	0.00
+1.20D+1.60S+0.50W	1	66.18	33.00	11.63	11.63	50.16		82.24	Vu < PhiVc/2	Not Reqd	0.00	0.00
+1.20D+1.60S+0.50W	1	67.65	33.00	15.48	15.48	34.83		82.24	Vu < PhiVc/2	Not Reqd	0.00	0.00
+1.20D+1.60S+0.50W	1	69.12	33.00	19.61	19.61	13.83		82.24	Vu < PhiVc/2	Not Reqd	0.00	0.00
+1.20D+1.60S+0.50W	1	70.59	33.00	24.03	24.03	13.24		82.24	Vu < PhiVc/2	Not Reqd	0.00	0.00
+1.20D+1.60S+0.50W	1	72.06	33.00	28.74	28.74	46.82		82.24	Vu < PhiVc/2	Not Reqd	0.00	0.00
+1.20D+1.60S+0.50W	1	73.53	33.00	33.65	33.65	87.32		82.24	Vu < PhiVc/2	Not Reqd	0.00	0.00
+1.20D+1.60S+0.50W	1	75.00	33.00	-31.49	31.49	135.04		82.24	Vu < PhiVc/2	Not Reqd	0.00	0.00
+1.20D+1.60S+0.50W	1	76.47	33.00	-26.56	26.56	86.97		82.24	Vu < PhiVc/2	Not Reqd	0.00	0.00
+1.20D+1.60S+0.50W	1	77.94	33.00	-21.82	21.82	46.15		82.24	Vu < PhiVc/2	Not Reqd	0.00	0.00
+1.20D+1.60S+0.50W	1	79.41	33.00	-17.33	17.33	12.30		82.24	Vu < PhiVc/2	Not Reqd	0.00	0.00
+1.20D+1.60S+0.50W	1	80.88	33.00	-13.13	13.13	14.95		82.24	Vu < PhiVc/2	Not Reqd	0.00	0.00
+1.20D+1.60S+0.50W	1	82.35	33.00	-9.18	9.18	36.02		82.24	Vu < PhiVc/2	Not Reqd	0.00	0.00
+1.20D+1.60S+0.50W	1	83.82	33.00	-5.44	5.44	51.28		82.24	Vu < PhiVc/2	Not Reqd	0.00	0.00
+1.20D+0.50Lr+L-W	1	85.29	33.00	2.89	2.89	14.93		82.24	Vu < PhiVc/2	Not Reqd	0.00	0.00
+1.20D+1.60L+0.50S	1	86.76	33.00	2.84	2.84	23.11		82.24	Vu < PhiVc/2	Not Reqd	0.00	0.00
+1.20D+L+0.50S+W	1	88.24	33.00	5.66	5.66	56.72		82.24	Vu < PhiVc/2	Not Reqd	0.00	0.00
+1.20D+1.60S+0.50W	1	89.71	33.00	8.95	8.95	58.77		82.24	Vu < PhiVc/2	Not Reqd	0.00	0.00
+1.20D+1.60S+0.50W	1	91.18	33.00	12.82	12.82	47.38		82.24	Vu < PhiVc/2	Not Reqd	0.00	0.00
+1.20D+1.60S+0.50W	1	92.65	33.00	16.94	16.94	30.29		82.24	Vu < PhiVc/2	Not Regd	0.00	0.00
+1.20D+1.60S+0.50W	1	94.12	33.00	21.36	21.36	7.14		82.24	Vu < PhiVc/2	Not Regd	0.00	0.00
+1.20D+1.60S+0.50W	1	95.59	33.00	26.08	26.08	22.52		82.24	Vu < PhiVc/2	Not Regd	0.00	0.00
+1.20D+1.60S+0.50W	1	97.06	33.00	31.07	31.07	59.11		82.24	Vu < PhiVc/2 Vu < PhiVc/2	Not Regd	0.00	0.00
+1.20D+1.60S+0.50W	1	98.53	33.00	36.25		103.04		82.24		Not Reqd	0.00	0.00
+1.20D+1.60S+0.50W		100.00	33.00	41.47		154.59			PhiVc/2 < Vu <= PhiVc	Min 11.5.6.3	0.00	5.33
+1.20D+1.60S+0.50W		101.47	33.00	-23.59	23.59	110.66		82.24	Vu < PhiVc/2	Not Regd	0.00	0.00
+1.20D+1.60S+0.50W		102.94	33.00	-18.81	18.81	74.20		82.24	Vu < PhiVc/2	Not Regd	0.00	0.00
+1.20D+1.60S+0.50W		104.41	33.00	-14.43	14.43	44.77		82.24	Vu < PhiVc/2	Not Regd	0.00	0.00
+1.20D+1.60S+0.50W		105.88 107.35	33.00	-10.51	10.51	21.78		82.24	Vu < PhiVc/2 Vu < PhiVc/2	Not Reqd Not Reqd	0.00	0.00
+1.20D+1.60S+0.50W +1.20D+1.60S+0.50W			33.00	-7.09	7.09	4.56		82.24 82.24	Vu < PhiVc/2	Not Regd	0.00	0.00
		108.82 110.29	33.00 33.00	-4.17	4.17	7.63		82.24	Vu < PhiVc/2	Not Regd	0.00	0.00
+1.20D+0.50Lr+L-W +1.20D+0.50Lr+1.60L				2.89	2.89	3.50			Vu < PhiVc/2	Not Regd	0.00	0.00
+1.20D+1.60L+0.50S		111.76 113.24	33.00 33.00	2.44 2.89	2.44 2.89	5.81 7.66		82.24 82.24	Vu < PhiVc/2	Not Regd	0.00	0.00 0.00
+1.20D+1.60L+0.50S +1.20D+L+0.50S+W		113.24	33.00	3.56				82.24	Vu < PhiVc/2 Vu < PhiVc/2	Not Requ	0.00	0.00
+1.20D+L+0.50S+W		114.71	33.00	4.17	3.56 4.17	17.99 15.87		82.24	Vu < PhiVc/2	Not Regd	0.00 0.00	0.00
+1.20D+L+0.50S+W		117.65	33.00	4.17				82.24	Vu < PhiVc/2	Not Regd		0.00
+1.20D+L+0.50S+W		117.65	33.00	4.47	4.47 4.45	12.85 9.40		82.24	Vu < PhiVc/2	Not Regd	0.00	0.00
+1.20D+L+0.50S+W		120.59	33.00	4.45	4.45			82.24	Vu < PhiVc/2	Not Regd	0.00 0.00	0.00
+1.20D+L+0.50S+W		120.59	33.00	3.56	3.56	5.96 2.97		82.24	Vu < PhiVc/2	Not Regd	0.00	0.00
+1.20D+1.60L+0.50S		123.53	33.00	2.90	2.90	0.34		82.24	Vu < PhiVc/2	Not Regd	0.00	0.00
. 1.200+1.000+0.303	'	.20.00	55.00	2.30	2.30	0.54	1.00	JZ.Z4	I III V O/ Z	or rroqu	0.00	0.00

PROJECT:	ABC BUILDING 2 SHREDDER
LOCATION:	WHATCOM COUNTY, WA
CLIENT:	TRC
ENGR:	ВАН
JoB #:	20004
DATE:	10/4/2023



PEMB Column Reactions & Load Combinations

Load Combinations per ASCE 7-10

	ASD Load Combinations	LRFD Load Combinatio	ns	PEMB Reaction definitions
1	D	1 1.4D	D + Coll	Total Dead Load
2	D+L	2 1.2D+1.6L+0.5(Lr or S or R)	W+	Wind acting inward
3	D+(Lr or S or R)	3 1.2D+1.6(Lr or S or R)+(L or	0.5W) W-	Wind acting outward (suction)
4	D+0.75L+0.75(Lr or \$ or R)	4 1.2D+1.0W+L+0.5(Lr or \$ or	R) E+	Seismic acting inward
5	D+(0.6W or 0.7E)	5 1.2D+1.0E+L+0.2\$	E-	Seismic acting outward
6a	D+0.75L+0.75(0.6W)+0.75(Lr or S or R)	6 0.9D+1.0W	W (max)	Total concurrent Wind Loading, worst case
6b	D+0.75L+0.75(0.6E)+0.75\$	7 0.9D+1.0E		-
7	0.6D+0.6W			

	8	0.6D+	0.7E																		A	SD load comb	os
						Horiz	Z								Vert				Out-of	i-plane	Max	Max	Max
(Grid	D	Coll	Snow		L	E	W (max)	RS	LS	D	Coll	Snow	L	E	W (max)	RS	LS	E \	N (max)	Horiz	Vert	OOP
1	A	0.1	0	.1	0.3	0.2	0.9	-6.8	0.2	0.2	1.	2 0	.5	3 2.	1 1.3	-9.4	1.1	2.6	0	0	4.3	8.2	0.0
1	В	0		0	0	0	0	0	0	0	1.	5 0	.9 5.	4 3.	7 6.7	-7.1	1.2	4.7	5.3	8.5	0.0	9.6	5.1
1	C	0		0	0	0	0	0	0	0	1.	7 1	.1 6.	.2 7.	2 -1.4	-6.6	6.3	6.3	5.3	8.5	0.0	11.2	5.1
1	D	0		0	0	0	0	0	0	0	1.	5 0	.9 5.	4 4.	2 0.5	-9.3	7.5	0.8	5.3	8.5	0.0	12.2	5.1
1	E	-0.1	1	.2	-0.3	-0.2	0	-5.2	0	0	1.	2 0	.5	3 2.	1 0	-5.2	7.5	0.8	5.3	8.5	4.2	9.7	5.1
2*	A	2.7	2	.1	14.1	8.4	-1.8	-19.4	10.6	11	5.	9 3	.8 2	5 1	5 -1	-37	12.8	22	5.3	8.5	<u>24.1</u>	45.1	<u>5.1</u>
2*	E	-2.7	-2	.1	-14.1	7.8	1.8	19.4	10.6	11	5.	9 3	.8 2	5 1	5 -1	-37	12.8	22	5.3	8.5	11.9	<u>45.1</u>	5.1

^{2*} Corresponds to Frames at Grids 2,3,4,5

^{1*} Corresponds to Frames at Grids 1,6

PROJECT:	ABC BUILDING 2 SHREDDER	
LOCATION:	WHATCOM COUNTY, WA	
CLIENT:	TRC	
ENGR:	ВАН	
JOB #:	20004	
DATE:	10/4/2023	



2* Corresponds to Frames at Grids 2,3,4,5

1* Corresponds to Frames at Grids 1,6

Wind & Seismic Uplift Calculations:

		PEMB	UPLIFT	ASI	D UPLIFT	LRI	FD UPLIFT				
Grid		D+Coll E	W	SEI	s w	IND SEI	IS W	IND		Down + lat	teral
1	A	1.7	1.3	-9.4	39.3	31.2	59.6	-7.9	OK	31.2	7.39
2*	A	9.7	1	-37	44.4	8.4	67.1	-28.3	OK	8.4	40.61

 Conc. Unit Weight
 145 lb/cf

 Fdn. Trib Length
 40 ft

 Fdn. Depth
 36 in

 Fdn. Width
 33 in

 Slab Trib. Area
 250 sf

 Slab Thickness
 6 in

 Total Trib. Fdn. Weight =
 66.0 kips

Hairpin Tension Calculations:

fy hairpin = 60 ksi Area Req'd = 0.752 in²

Max Horiz. Force 40.61 kip USE: (2)#5 Hairpins



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Phone:			
E-mail:			

1.Project information

Customer company: Customer contact name: Customer e-mail: Comment: Project description: Location: Fastening description:

2. Input Data & Anchor Parameters

General

Design method:ACI 318-14 Units: Imperial units

Anchor Information:

Anchor type: Cast-in-place

Material: AB_H Diameter (inch): 0.750

Effective Embedment depth, hef (inch): 24.000

Anchor category: - Anchor ductility: Yes h_{min} (inch): 26.25 C_{min} (inch): 1.63 S_{min} (inch): 3.00

Base Material

Concrete: Normal-weight

Concrete thickness, h (inch): 36.00

State: Cracked

Compressive strength, f'c (psi): 3000

 $\Psi_{c,V}$: 1.0

Reinforcement condition: B tension, B shear Supplemental edge reinforcement: Not applicable

Reinforcement provided at corners: No Ignore concrete breakout in tension: No Ignore concrete breakout in shear: No

Ignore 6do requirement: Yes Build-up grout pad: No

Base Plate

Length x Width x Thickness (inch): 10.50 x 6.00 x 0.38

Recommended Anchor

Anchor Name: PAB Pre-Assembled Anchor Bolt - PAB6H (3/4"Ø)





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Load and Geometry

Load factor source: ACI 318 Section 5.3

Load combination: not set Seismic design: No

Anchors subjected to sustained tension: Not applicable

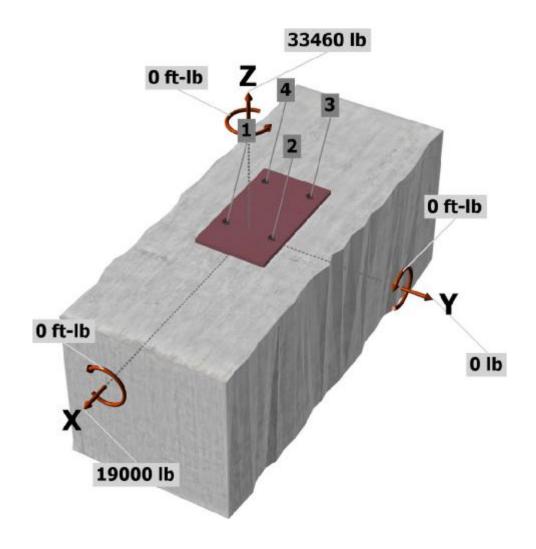
Apply entire shear load at front row: No

Anchors only resisting wind and/or seismic loads: No

Strength level loads:

Nua [lb]: 33460 Vuax [lb]: 19000 Vuay [lb]: 0 Mux [ft-lb]: 0 Muy [ft-lb]: 0 Muz [ft-lb]: 0

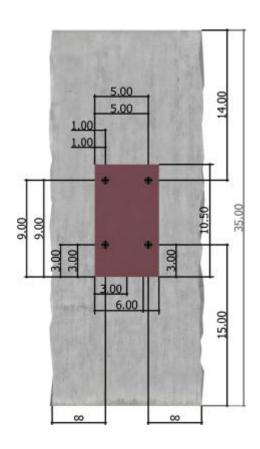
<Figure 1>





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<Figure 2>





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3. Resulting Anchor Forces

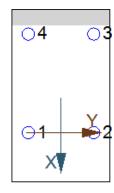
Anchor	Tension load, N _{ua} (lb)	Shear load x , V_{uax} (lb)	Shear load y, V _{uay} (lb)	Shear load combined, $\sqrt{(V_{uax})^2+(V_{uay})^2}$ (lb)
1	16507.3	4750.0	0.0	4750.0
2	16507.3	4750.0	0.0	4750.0
3	1355.5	4750.0	0.0	4750.0
4	1355.5	4750.0	0.0	4750.0
Sum	35725.7	19000.0	0.0	19000.0

Maximum concrete compression strain (%): 0.18 Maximum concrete compression stress (psi): 784

Resultant tension force (lb): 35726 Resultant compression force (lb): 2266

Eccentricity of resultant tension forces in x-axis, e'_{Nx} (inch): 0.00 Eccentricity of resultant tension forces in y-axis, e'_{Ny} (inch): 2.54 Eccentricity of resultant shear forces in x-axis, e'_{Vx} (inch): 0.00 Eccentricity of resultant shear forces in y-axis, e'_{Vy} (inch): 0.00

<Figure 3>



4. Steel Strength of Anchor in Tension (Sec. 17.4.1)

N _{sa} (lb)	φ	ϕN_{sa} (lb)	
40080	0.75	30060	

5. Concrete Breakout Strength of Anchor in Tension (Sec. 17.4.2)

 $N_b = 16 \lambda_a \sqrt{f'_c h_{ef}^{5/3}}$ (Eq. 17.4.2.2b)

λ_a	f'_c (psi)	h _{ef} (in)	N_b (lb)					
1.00	3000	24.000	1749	98					
$\phi N_{cbg} = \phi (A$	Nc / Anco) $\Psi_{ec,N}$	$V_{ed,N} \varPsi_{c,N} \varPsi_{cp,N} \wedge$	l _b (Sec. 17.3.	1 & Eq. 17.4.2	.1b)				
A_{Nc} (in ²)	A_{Nco} (in ²)	c _{a,min} (in)	$\Psi_{ec,N}$	$\Psi_{ed,N}$	$\Psi_{c,N}$	$\varPsi_{cp,N}$	N_b (lb)	φ	ϕN_{cbg} (lb)
2738.75	5184.00	14.00	0.934	0.817	1.00	1.000	174998	0.70	49363

6. Pullout Strength of Anchor in Tension (Sec. 17.4.3)

 $\phi N_{P^{n}} = \phi \Psi_{c,P} N_{P} = \phi \Psi_{c,P} 8 A_{brg} f'_{c}$ (Sec. 17.3.1, Eq. 17.4.3.1 & 17.4.3.4)

$\Psi_{c,P}$	A_{brg} (in ²)	f'c (psi)	φ	ϕN_{pn} (lb)
1.0	3.53	3000	0.70	59371



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8. Steel Strength of Anchor in Shear (Sec. 17.5.1)

V _{sa} (lb)	ϕ_{grout}	φ	φ _{grout} φV _{sa} (lb)
24050	1.0	0.65	15633

9. Concrete Breakout Strength of Anchor in Shear (Sec. 17.5.2)

Shear perpendicular to edge in x-direction:

 $V_{bx} = \min |7(I_e/d_a)^{0.2} \sqrt{d_a \lambda_a} \sqrt{f_c c_{a1}^{1.5}}; \ 9 \lambda_a \sqrt{f_c c_{a1}^{1.5}}| \ (\text{Eq. 17.5.2.2a \& Eq. 17.5.2.2b})$

l _e (in)	da (in)	λ_a	f'c (psi)	<i>c</i> _{a1} (in)	V_{bx} (lb)			
6.00	0.750	1.00	3000	21.00	47439			
$\phi V_{cbgx} = \phi (A$	$_{Vc}$ / A_{Vco}) $\Psi_{ec,V}\Psi_{ec,V}$	$Y_{ed,V} \varPsi_{c,V} \varPsi_{h,V} V_{bx}$	(Sec. 17.3.1 & E	q. 17.5.2.1b)				
A_{Vc} (in ²)	A_{Vco} (in ²)	$\Psi_{ec,V}$	$\Psi_{ed,V}$	$\Psi_{c,V}$	$arPsi_{h,V}$	V_{bx} (lb)	φ	ϕV_{cbgx} (lb)
2110.50	1984.50	1.000	1.000	1.000	1.000	47439	0.70	35315

10. Concrete Pryout Strength of Anchor in Shear (Sec. 17.5.3)

 $\phi V_{cpg} = \phi k_{cp} N_{cbg} = \phi k_{cp} (A_{Nc}/A_{Nco}) \, \Psi_{ec,N} \Psi_{ed,N} \Psi_{c,N} \Psi_{cp,N} N_b \, (\text{Sec. 17.3.1 \& Eq. 17.5.3.1b})$

k_{cp}	A_{Nc} (in ²)	A_{Nco} (in ²)	$\Psi_{ec,N}$	$\Psi_{ed,N}$	$\Psi_{c,N}$	$\Psi_{cp,N}$	N_b (lb)	ϕ	ϕV_{cpg} (lb)
2.0	2738.75	5184.00	1.000	0.817	1.000	1.000	174998	0.70	105704

11. Results

Interaction of Tensile and Shear Forces (Sec. R17.6)

Tension	Factored Lo	Factored Load, Nua (lb)		ı, øNn (lb)	Ratio	Status	
Steel	16507		30060		0.55	Pass	
Concrete breakout	t 35726		49363		0.72	Pass (Governs)	
Pullout	16507		59371		0.28	Pass	
Shear	Factored Lo	ad, V _{ua} (lb)	Design Strength	ı, øVn (lb)	Ratio	Status	
Steel	4750		15633		0.30	Pass	
T Concrete break	out x+ 19000	19000			0.54	Pass (Governs)	
Pryout	19000		105704		0.18	Pass	
Interaction check	(Nua/ φ Nua) ^{5/3}	(Vua/ φ Vua)	^{5/3} Coı	mbined Ratio	Permissible	Status	
Sec. R17.6	0.58	0.36	93.9	9%	1.0	Pass	

PAB6H (3/4"Ø) with hef = 24.000 inch meets the selected design criteria.

12. Warnings

- Minimum spacing and edge distance requirement of 6da per ACI 318 Sections 17.7.1 and 17.7.2 for torqued cast-in-place anchor is waived per designer option.
- Designer must exercise own judgement to determine if this design is suitable.