21FBS2500073

Applicant: Fill out completely

For Postal Delivery
Department of Labor and Industries
Factory Assembled Structures
PO Box 44430
Olympia WA 98504-4430

For Non-Postal Delivery (e.g., FedX, UPS)
Department of Labor and Industries
Factory Assembled Structures
7273 Linderson Way SW
Tumwater WA 98501
www.wa.gov/lni (case sensitive)

☒ WA Only
☐ WA Rev/____ Courtesy
☐ ____Rev/WA Courtesy
☐ _____ Other state
State ID

Manufacturer: Timberland Homes — Mfg No.: M-60
Plans to be returned to: Address: 913 Central Ave S.
City/State/ZIP: Kent WA 98032

FOR DEPARTMENT USE ONLY

Fee Ledg Sht #	Check #	$ Amount	Application ID

Ap No.	Date approved	Expiration date
21FBS2500073	06/05/2025	06/05/2026

PLAN APPROVAL REQUEST
FACTORY BUILT STRUCTURES

Contact person's printed name: Mike Langford — Date — Fee enclosed $
Signature — Phone No 253-736-3501 — FAX No Mike@timberland-Homes.com

New plan (Master design) _____ (1 Yr design) X — *See appropriate WAC for fees* — Initial MFG filing _____
Renewal _____ AP No. _____ — Resubmittal _____
Addendum _____ AP No _____ — Plans review by L&I listed professional _____

Note: Identify addendum items on plan!

Code cycles (month/year):
IBC, IRC, IMC 3 / 21 UPC: 3 / 21 NEC: 1 / 23 WSEC,VIAQ: 3 / 21 IFC: 3 / 21

Size of building:
Width: 28' Length: 40' Area (Sq Ft): 1120 No of modules: 2 Occupancy group: B

Type construction: VB Use: Food Processing SUB yr 2021 SEC yr 2023 Seismic D S_s=1.27 S_1=.457

Roof live load PSF 75 Wind load MPH - EXP: 110 / C Floor load PSF: 100

Plot plan submitted? ☐ Yes ☒ No If "No", provide distance from farthest projection to nearest building/property
Front: 30' Rear: 30' Left side: 30' Right side: 30'

Type heat: ☐ Central forced air ☐ Hydronics ☐ Baseboard ☐ Fan powered room heater ☒ Other MINI-SPLIT
Type of fuel: ☒ Electric ☐ Natural gas ☐ Propane ☐ Oil ☐ Other: _____

Insulation values: Floor R-38 Walls R-21 + R-5 Roof (Flat) R-49 Roof (Vault) N/A Heating zone: ☒ Zone 1 ☐ Zone 2

WSEC compliance chapter:
☒ Component Performance ☐ Systems Analysis ☐ Prescriptive ☐ N/A

Energy calculations:
☒ Attached ☐ On file - AP# _____
Heat Pump ☒ Yes ☐ No
Air conditioning ☒ Yes ☐ No

Electrical service
Amps 200 / 35.952
Phase ☒ 1 ☐ 3

	N/A	Attached L&I Review	Attached/Design Professional Review	On file	
Structural calculations or test proposals	☐	☒	☐	☐	AP#
Truss or rafter drawing(s)	☐	☒	☐	☐	AP#
Truss plan if over 3 different trusses	☐	☒	☐	☐	AP#
Girder truss or ridge beam drawing	☐	☒	☐	☐	AP#
HVAC drawing	☒	☐	☐	☐	AP#
Cross section and elevation	☐	☒	☐	☐	AP#
Foundation plan	☐	☒	☐	☐	AP#
Electrical load demand calculation	☐	☒	☐	☐	AP#
Panel box schedule/Electric load calc's	☐	☒	☐	☐	AP#
Chassis drawing (CC units only)	☒	☐	☐	☐	AP#
Plumbing systems:	☒	☐	☐	☐	AP#

Operating pressure 46 to 60 No of fixtures 4 Total developed length 100' MAX

RETURN PLANS VIA: ☒ Regular mail ☐ Overnight @ customer's expense ☐ Carrier _____
☐ Other: _____ Acct # _____

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Tumwater WA 98501

www.wa.gov/lni/FAS/
(case sensitive)

☒ Permanent
☐ Alteration
☐ Replacement

Multi-Tagged
☒ WA ☐ ID
☐ OR ☐ Other

Applicant: Fill out completely

MANUFACTURER	MFG NO.
Timberland Homes	M-60
PRODUCTION FACILITY ADDRESS	
913 Central Ave S	
CITY/STATE/ZIP	
Kent WA 98032	
TELEPHONE NO.	FAX NO.
253-736-3501	Mike@timberland-Homes.com

FOR DEPARTMENT USE ONLY

FEE LEDGER SHEET NO	CHECK NO	$ AMOUNT
110633000	FP4580537	$1,228.59

APPLICATION FOR INSIGNIA
FOR FACTORY BUILT STRUCTURES

SUBMIT ONE COPY - ***NOTE: A separate form is to be used for each building unless multiple buildings have the same plan approval number.***

Contact person's printed name: Mike Langford	Date	Fee enclosed $
Signature	Phone No (253) 736-3501	FAX No ( ) Mike@timberland-Homes.com

A FEE FOR EACH INSIGNIA IS DUE WITH APPLICATION -- NOT SUBJECT TO REFUND

PLEASE MAKE CHECKS PAYABLE TO DEPT. OF LABOR & INDUSTRIES

	Dept Insignia No.	Mfg Serial No.	Approved Plan No.	POD	OF	Fee
1.		0#7161-A	21FBS2500073	1	2	$378.30
2.		0#7161-B		2	2	$33.60
3.						$
4.						$
5.						$
6.						$
7.						$
8.						$
9.						$

OG	TC	IS	SUB YR	SEC YR	ESL	RF	W	SZONE	TD	HTG	AC	P
B	VB	Sauk	2021	2023	200	25	110/C	D	4C	Split	Y	4

Manufacturer to complete:
Number of tags: 2

Via ☒ Regular mail ☐ Overnight at customer expense— ☐ Other _____

Carrier _____
Acct # _____

continued on reverse

FOR DEPARTMENT USE ONLY

Date	Insignia Release by	To
05/08/2025	Michael Luke	John-Paul Noble-Gulliford/Chris Rarig, Tukwila

Expires 06/05/2026

21FBS2500073

Department of Labor and Industries
Factory Assembled Structures
PO Box 44430
Olympia WA 98504-4430

Paid date	Column	Check	Fee
			$

NOTIFICATION TO LOCAL ENFORCEMENT AGENCY

www.wa.gov/lni/FAS/
(case sensitive)

Date: M 60

Mfg: Timberland Homes

The Factory-Built unit identified below requires completion work at the site as specified.

Owner's name	Mfgr's serial no.		Dept insignia no.
Marcoe Candy	D#7161		
Installation address	**Type of construction**	**Occupancy**	**ETA at site**
110 9th Ave SW (Puyallup Fairgrounds)	VB	B	
City / **State** / **ZIP+4**	**County**		**Phone number**
Puyallup / WA / 98371	Pierce		253-735-3435

Installation site is in: [✔] **City** [ ] **County**

DESCRIBE ITEMS REQUIRING COMPLETION WORK AT THE SITE

BUILDING DEPARTMENT **www.wabo.org/** **INSERT NAME AND ADDRESS IN SHADED AREA**	**ELECTRICAL DEPARTMENT** **www.wa.gov/lni/electrical/** **INSERT NAME AND ADDRESS IN SHADED AREA**
To: City Of Puyallup	To: Dept of L&I
Attn: Building/Fire Code Official	Attn: Electrical Inspector
333 S. Meridian	950 Broadway Suite 200
Puyallup, WA 98371	Tacoma, WA 98402-4628
Email: rayc@puyallupwa.gov / (253)841-5585	

Hook up all waste plumbing on exterior of building	Hook up ufer ground Site portion of the grounding electrode system
Compartment/hand sink install & plumbing hook up	Elect building supply to interior 200A 120/240 1PH Panel
No waste plumbing tree will be factory installed or built	Install and hook up all appliances fridges, ice cream etc.etc.
Exterior landing, steps & railing	Hook up disconnect for mini split heat pump
Full skirtboard to ground installed for full enclosure	Re-connect electrical crossovers between modules
Install ridge cap roofing at ridge marriage line ridge	Building Department continued below: Review and approval of all DWV plumbing for site installed fixtures, including protection of exterior piping.
Install siding at marriage lines at ends of building	Verification of available plumbing facilities in accordance with IBC ch 29 - including 2902.3.3 ... travel to such facilities shall not exceed a distance of 500 feet.
Install lag bolts at marriage line girders per drawings	This building is approved only in a complete, detached, configuration. No fire rated assemblies are reviewed or approved in this structure. The structure must be located appropriately to achieve required fire separation from surrounding structures & property lines (actual or assumed) to meet all applicable codes
Install marriage line floor bolts per drawings	
Install mini split system on site	
Tie down attachment to foundation per engineered drawing →	Foundation plans and details are not reviewed by L&I, except for the reasonability of the design to connect to the modular building. Plan review, Approval and Inspection of the foundation system is the jurisdiction of the local building official. This is typical for all foundation related sheets, details and engineering contained within this plan set.

Local review and approval of height above grade based on foundation design. See sheets such as 6&7 for floor framing materials and details.

Inspector's name (print/type) Phone: (8 am to 5 pm) Manufacturer's name (print/type)

Office location	Date	Manufacturer's signature

RESET

City of Puyallup Building REVIEWED FOR COMPLIANCE
SKinnear
01/21/2026
11:04:04 AM

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

The approved construction plans, documents, and all engineering must be posted on the job at all inspections in a visible and readily accessible location.

Full sized legible color plans are required to be provided by the permitee on site for inspection.

Separate Electrical Permit is required with the Washington State Department of Labor & Industries.
https://lni.wa.gov/licensing-permits/electrical/electrical-permits-fees-and-inspections
or call for Licensing Information:
1-800-647-0982

DANIEL J. TYRRELL
STATE OF WASHINGTON
27259
REGISTERED
PROFESSIONAL ENGINEER

05-21-2025

STATE OF WASHINGTON
DEPT. OF LABOR AND INDUSTRIES
FACTORY ASSEMBLED STRUCTURES
ELECTRICAL PLAN REVIEW

PLAN APPROVAL #21FBS2500073

SUBJECT TO CODE AND FIELD INSPECTION

BY: JASON SUMMERS DATE: 06/04/2025
EXPIRATION DATE: **See main plans examiner stamp**

STATE OF WASHINGTON
DEPT. OF LABOR AND INDUSTRIES
SPECIALTY COMPLIANCE SERVICES DIVISION
FACTORY ASSEMBLED STRUCTURES
PLAN APPROVAL #21FBS2500073

SUBJECT TO FIELD INSPECTION.
OVERSIGHTS, OR VIOLATION OF RCW/WAC's
OR WA STATE CODES ARE NOT APPROVED
06/05/2025

Michael Luke DATE:
EXPIRATION DATE :06/05/2026

PRPF20251347

SHEET INDEX	
C-1	COVER SHEET
1	TLH'S SITE PREPARATION
2	FRONT & RIGHT ELEVATIONS
3	LEFT & REAR ELEVATIONS
4	FLOOR PLAN
5	JOIST LAYOUT PLAN
5A	SUPPORT PLAN
6	STRUCTURAL NOTES, ANCHOR BOLT & SHEARWALL SCHEDULES & DETAILS
7	TYPICAL CROSS SECTION
E1	ELECTRICAL PLAN
E2	ELECTRICAL PLAN - SCHEDULES / GEN. ELECTRICAL NOTES
P1	PLUMBING PLAN

PROJECT INFO	
TYPE OF CONSTRUCTION	V-B
BUILDING SQ. FT.	1,120 sq.ft.
OCCUPANCY	B
OCCUPANCY LOAD	1,120 SQ.FT. /200 = 6 OCCUPANTS
USES	FOOD PROCESSING
FLOOR LIVE LOAD	100 PSF
APPLICABLE CODES	IBC 2021, UPC 2021, NEC 2023, IECC 2021
ROOF SNOW LOAD	25 PSF
WIND SPEED	110 MPH
EXPOSURE	C
SITE CLASS 'D'	S_S = 1.27 S_1 = 0.437
STRUCTURAL ENGINEER	DAN TYRRELL P.E.

WINDOW AND DOOR SCHEDULE

#	TYPE	SIZE	REMARKS
1	DOOR	3-0 x 6-8	
2	DOOR	3-0 x 6-8	
3	SL (SG)	4-0 x 5-0	
4	SL (SG)	4-0 x 5-0	
5	FIXED (SG)	5-0 x 5-0	
6	FIXED (SG)	5-0 x 5-0	
7	FIXED (SG)	6-0 x 5-0	
8	FIXED (SG)	6-0 x 5-0	
9	FIXED (SG)	6-0 x 5-0	
10	FIXED (SG)	6-0 x 5-0	
11	FIXED (SG)	6-0 x 5-0	
12	FIXED (SG)	6-0 x 5-0	

GENERAL NOTES:

1. Exhaust openings shall terminate not less than 3 feet (914 mm) from property lines; 3 feet (914 mm) from operable and non-operable openings into the building and 10 feet (3048 mm) from mechanical air intakes except where the opening is located 3 feet (914 mm) above the air intake. Mechanical exhaust terminations must comply with 2021 IBC.

2. Flashing per 2021 IBC
The flashing shall extend to the surface of the exterior wall finish. Especially note section - 4. Continuously above all projecting wood trim. Approved corrosion-resistant flashing shall be applied shingle-fashion in a manner to prevent entry of water into the wall cavity or penetration of water to the building structural framing components.

4. See the NLEA (notice to local enforcement agency) form attached to this plan set. NLEA items may require review, approval and inspection by local authority having jurisdiction. TYPICAL ALL SITE INSTALLED ITEMS.

5. Foundation plans and details are not reviewed by L&I, except for the reasonability of the design to support the modular building. Approval and inspection of the foundation system is the jurisdiction of the local building official. This is typical for all foundation related sheets, details and engineering contained within this plan set.

6. Onsite use and location of the modular building is the jurisdiction of the local building official. Site, grade and plot drainage plans are not reviewed by L&I.

7. All appliances and equipment must be installed per manufacturer's specifics and in accordance with applicable listings. Manufacturer's installation instructions shall be available on the jobsite at the time of inspection.

8. Provide drip edge at eaves and gables of shingle roofs. Overlap to be a min. of 2". Eave drip edges shall extend 1/4" (6.4mm) below sheathing and extend back on the roof a min. of 2" (51mm). Drip edge shall be mechanically fastened a maximum of 12" (305mm) o.c.

Accessibility and signage shall comply with ANSI A117.1

NOTE:
ENGINEERS SEAL FOR STRUCTURAL ONLY

TIMBERLAND HOMES
913 - CENTRAL AVE. S.
KENT, WA 98032
PH: 253-735-3435
Custom@Timberland-Homes.com

DRAWN EXCLUSIVELY FOR:
MARCOE CANDY

LOCATION:
PUYALLUP, WA.

SALES: D. McKIM

10/02/24	PRELIMINARY	ST
11/01/24	1ST REV	ST
11/12/24	2ND REV	ST
01/07/25	PREP FOR ENG.	ST
02/03/25	ENGINEERING	ST
04/14/25	L&I	ST
05/20/25	PLAN REVIEW	ST
	PERMIT REVIEW	
	BLDG. PERMIT	

Style	CUSTOM
Sq. Feet	1,120
No. Bdrm.	N/A
Drawn By	ST
Date	09/30/24
Scale	AS NOTED

DESIGN NO.
7161

JOB NO.
-

SHEET NO.
C-1

SITE PREPARATION AGREEMENT

CUSTOMER IS RESPONSIBLE FOR:

1. FOUNDATION AND UTILITIES:

A. FOUNDATION DETAIL:
1. Provide and install foundation as specified in foundation plans and specifications provided by Timberland Homes. Plans will be stamped "Final Plans for Construction".
2. Provide and install 2 x 6 treated mud sill, secured to embedded anchor bolts, and topped by 1x 6 spacer boards between anchor bolt nuts (Detail "A").

B & C. HEIGHT OF FOUNDATION:
1. For crawl space-type foundations, maximum height INSIDE OR OUTSIDE of foundation is NOT TO EXCEED 48" from bottom of footing or grade to top of mud sill (Ref. "B-C"). ADDITIONAL COSTS WILL BE ASSESSED IF OVER 48".
2. All ground adjacent to the foundation is to be firm to allow for delivery and placement of the home.

D. WATER SUPPLY LINE/GAS PIPE & VENT:
1. Install 1" diameter supply line from 3 ft. outside the foundation (size of pipe may vary due to local requirements) to 3 ft. inside the foundation.
2. Provide and install 200 PSI poly line from the water meter. Line to be installed at depth of 26" from meter to house unless otherwise specified by code.
3. Provide and install piping for all gas appliances.

E. SEWER SLEEVE:
1. Provide and install 4" ABS sewer sleeve through foundation at a 2% slope to the outside (1/4" per foot). 3" ABS through foundation wall about 3' with clean out outside of foundation. (Detail "E").

F & G:
Install ALL POST MATERIAL (Ref. "F" and "G"). See foundation plan for specifications. Posts and beams must be installed prior to delivery on all homes.

2. ADEQUATE ACCESS TO THE SITE:
Timberland Homes will deliver your home modules on special pneumatic-lift trailers. Our truck and trailer is about 80' long, depending upon the size of the home. Consequently, it is very important to have adequate driveway clearance, as well as on-site clearance to get to your foundation. If the remote crawler is specified for your project we will verify that it is needed prior to the scheduled delivery date of your home. Either the delivery truck/trailer or the remote crawler/trailer will be used to place the modules next to the crane for placement on the foundation. A Timberland representative will certify highway accessibility, but it is the Customer's responsibility to provide adequate access onto the property and up to the foundation.

A. DRIVEWAY AND CULVERT:
1. Driveway must remain at least 16 ft. wide on straight-aways, and wider at corners.
2. PRIOR TO DELIVERY DATE: Ditches and holes must be filled, and stumps removed. All intruding trees must be removed or trimmed, and all overhead wires must be propped up, repositioned, or removed for clear access to the job site. (We need a minimum of 16 ft. clearance).

B. GRADING AND LEVELING:
1. Level site along length of foundation where placement will occur. (Side placement). Should not be more than 48" from ground to top of mud sill.
2. Provide adequate space for the crane set up, crane pad 30'x30' (minimum size) and the delivery of the modules next to the crane to attach rigging for placement of your home on the foundation. For more specific details for your site please refer to your site visit form that was filled out by a Timberland representative at the time of the site visit.

C. PERMITS AND UTILITIES:

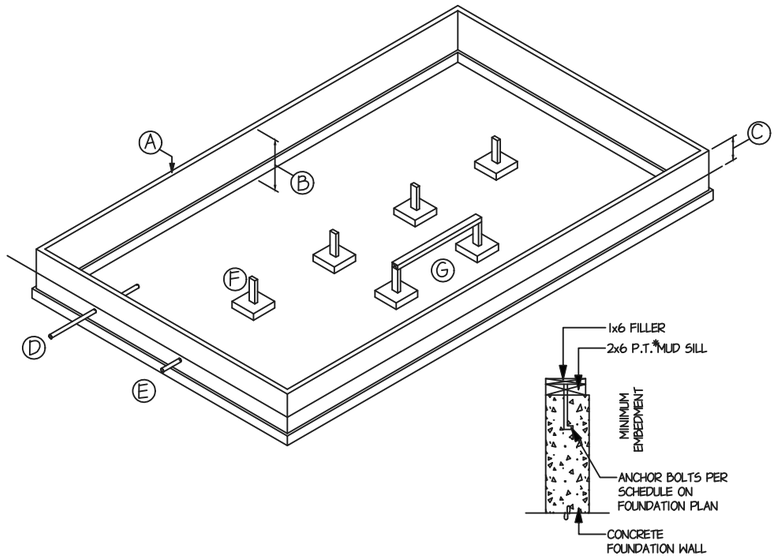
3. <u>PRIOR TO DELIVERY:</u>
a. Provide all necessary permits, and have <u>water & sewer</u> into the foundation.
b. If water activation is not complete when plumbing is ready to be connected to purchasers water line, purchaser accepts responsibility for activation of water and testing of plumbing fixtures.
c. Make arrangements with your local utility company to hook up power and gas immediately after State and local inspections have been completed on site. Delays in getting permanent power will impact your move-in date.

4. TYPICAL REASONS FOR ADDITIONAL SET CHARGE ASSESSMENT TO CUSTOMERS:

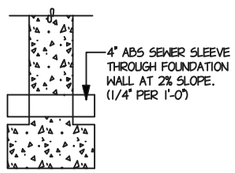
A. Foundation not fully prepared as specified.
B. Foundation changed without notification to Timberland Homes.
C. Relocation of foundation on the site, resulting in changed module placement.
D. Unreasonable delays resulting in billable time and equipment charges due to:
- Additional crew or equipment requirements
- Improper site preparation

Customer understands site requirements and agrees to the above, and will be responsible for same. Customer also agrees to pay additional charges if site is not properly prepared, if additional equipment is required, or if unwarranted stand-by time is incurred. Further related information and responsibilities are listed on SET UP AGREEMENT.

PRPF20251347



DETAIL "A"



DETAIL "E"

(*P.T. = Pressure Treated

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Custom@Timberland-Homes.com

DRAWN EXCLUSIVELY FOR: MARCOE CANDY

LOCATION: PUYALLUP, WA.

SALES: D. McKIM

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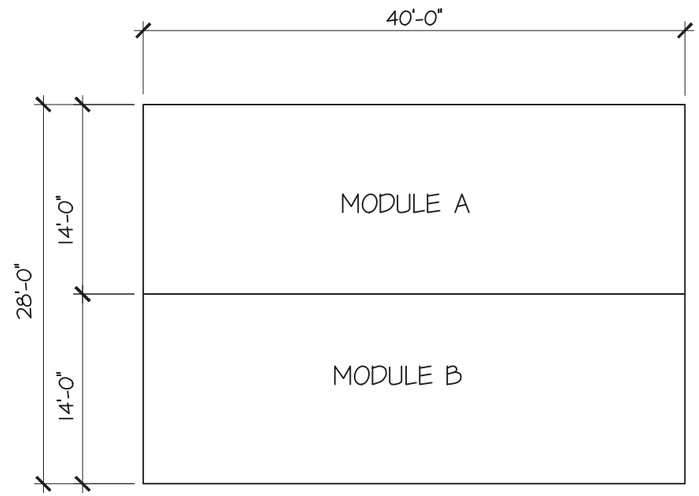
01/07/25	PREP FOR ENG.	ST
02/03/25	ENGINEERING	ST
04/07/25	L&I	ST
	PERMIT REVIEW	
	BLDG. PERMIT	

Style	CUSTOM
Sq. Feet	1,120
No. Bdrm.	N/A
Drawn By	ST
Date	09/30/24
Scale	AS NOTED

DESIGN NO. 7161

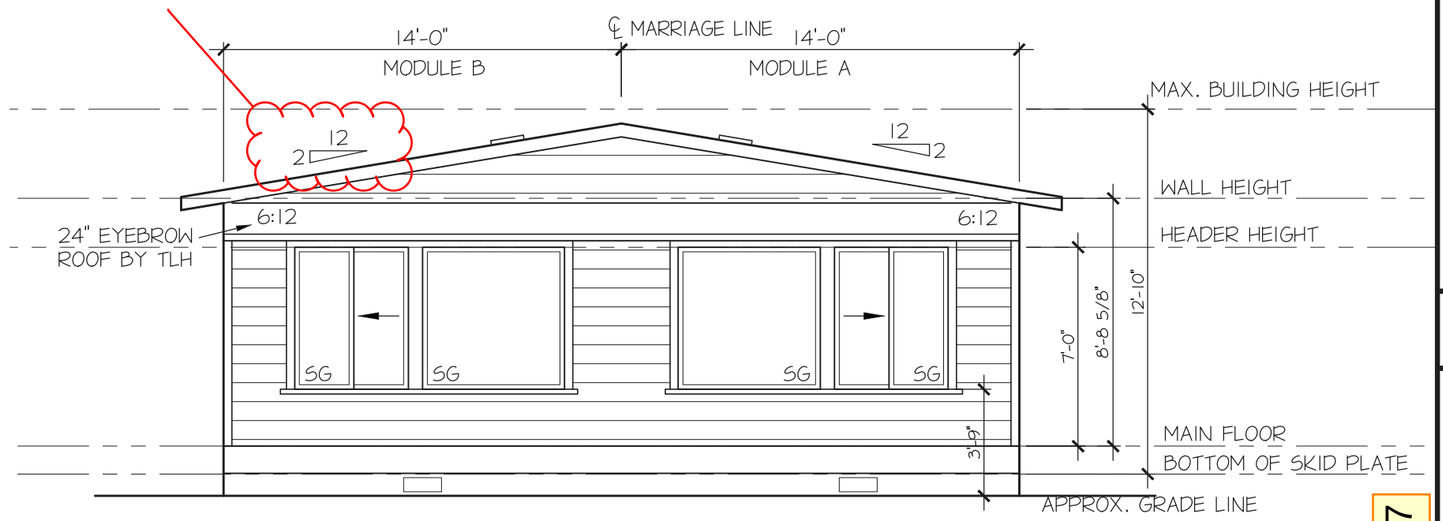
JOB NO. -

SHEET NO. 1



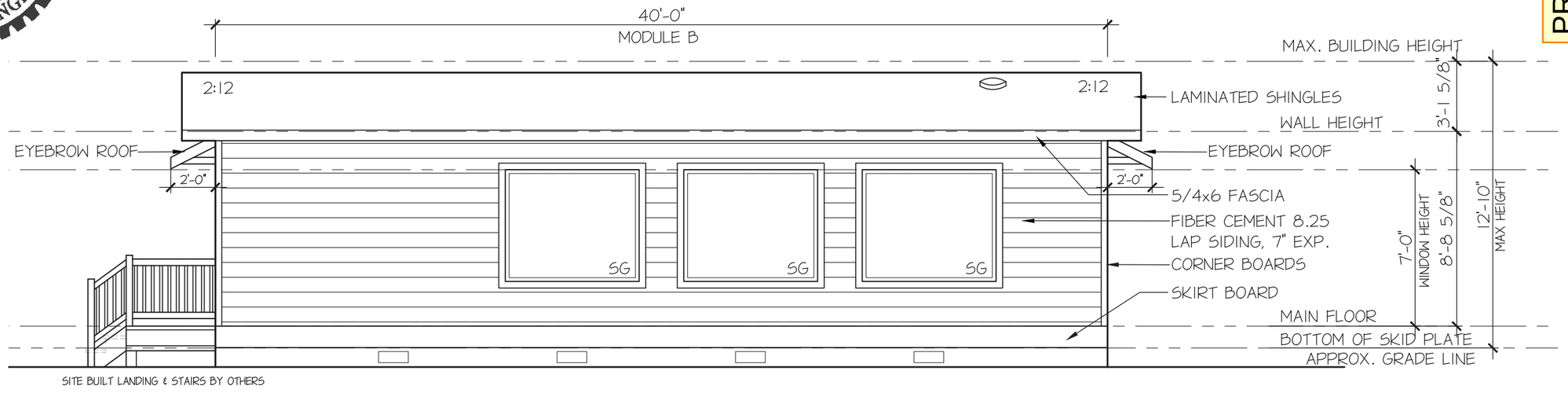
KEY PLAN

Verify manuf. specification for this slope - including underlayment req's



RIGHT ELEVATION

SCALE: 3/16" = 1'-0"



DANIEL J. TYRRELL
STATE OF WASHINGTON
27259
REGISTERED
PROFESSIONAL ENGINEER

04-08-2025

Porches, awnings, decks, stairs, landings and guards which are not factory installed in/on the modules are not reviewed or approved by L&I. Local jurisdiction having authority is responsible for all review, approval and inspection of these items. Typical of all sheets, details and engineering related to these items.

ROOFING:	PABCO 30 YEAR LAMINATED SHINGLES
SIDING:	FIBER CEMENT 8.25 LAP SIDING, 7" EXP.
WINDOWS:	VINYL
ENCLOSED SOFFITS:	NO

DESIGN REQUIREMENTS
ROOF SNOW LOAD - 25 lb./ SQUARE FOOT
FLOOR LIVE LOAD - 100 / SQUARE FOOT
110 mph WIND EXPOSURE "C"

FRONT ELEVATION

SCALE: 3/16" = 1'-0"

NOTE:
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LOCATION: PUYALLUP, WA.
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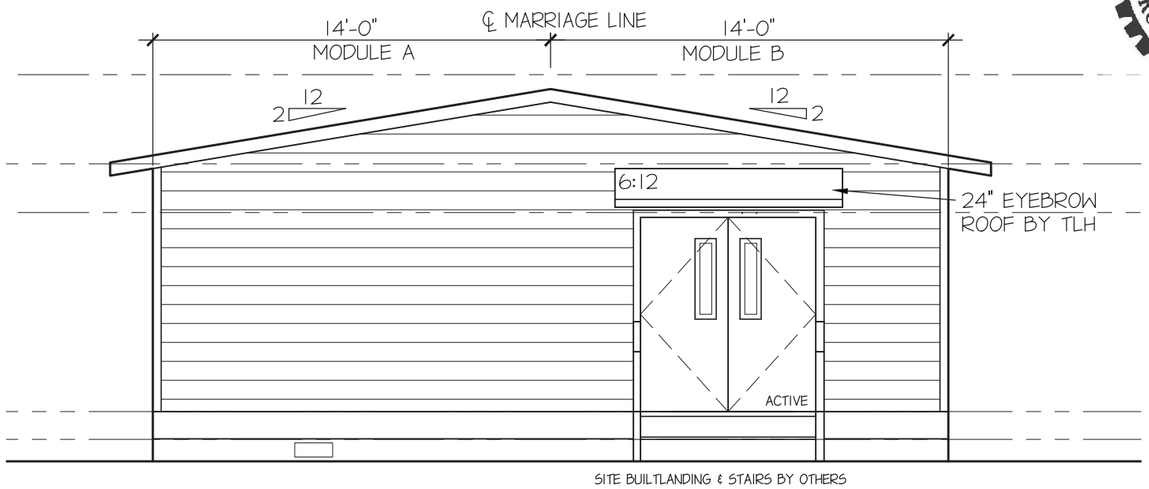
02/03/25	ENGINEERING	ST
04/07/25	L&I	ST
	PERMIT REVIEW	
	BLDG. PERMIT	

Style	CUSTOM
Sq. Feet	1,120
No. Bdrm.	N/A
Drawn By	ST
Date	09/30/24
Scale	AS NOTED

DESIGN NO.
7161

JOB NO.
-

SHEET NO.
2



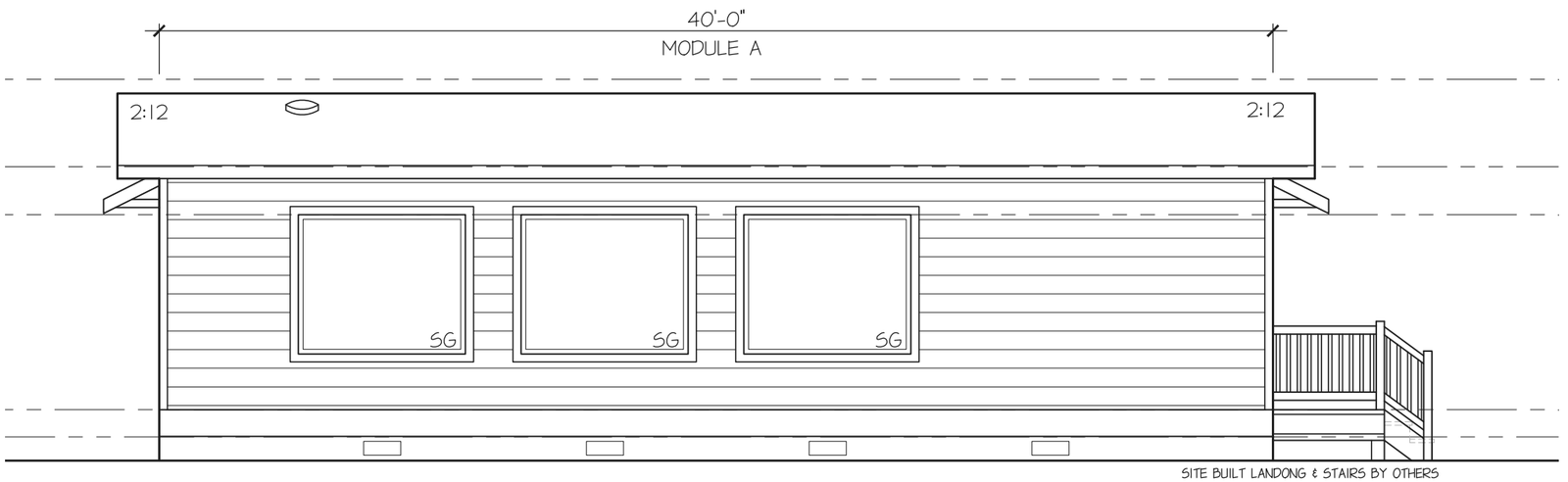
DANIEL J. TYRRELL
STATE OF WASHINGTON
27259
REGISTERED
PROFESSIONAL ENGINEER

04-08-2025

PRPF20251347

LEFT ELEVATION

SCALE: 3/16" = 1'-0"



REAR ELEVATION

SCALE: 3/16" = 1'-0"

NOTE:
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DRAWN EXCLUSIVELY FOR: MARCOE CANDY

LOCATION: PUYALLUP, WA.

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Style	CUSTOM
Sq. Feet	1,120
No. Bdrm.	N/A
Drawn By	ST
Date	09/30/24
Scale	AS NOTED

DESIGN NO.
7161

JOB NO.
-

SHEET NO.
3

NOTE:

1. ALL DMV WASTE LINES TO BE BUILT ON EXTERIOR OF THE BUILDING AND PROTECTED FROM DAMAGE ON-SITE PER UPC CODE.

NO PUBLIC ACCESS TO THIS BUILDING. EMPLOYEES ONLY

Porches, awnings, decks, stairs, landings and guards which are not factory installed in/on the modules are not reviewed or approved by L&I. Local jurisdiction having authority is responsible for all review, approval and inspection of these items. Typical of all sheets, details and engineering related to these items.

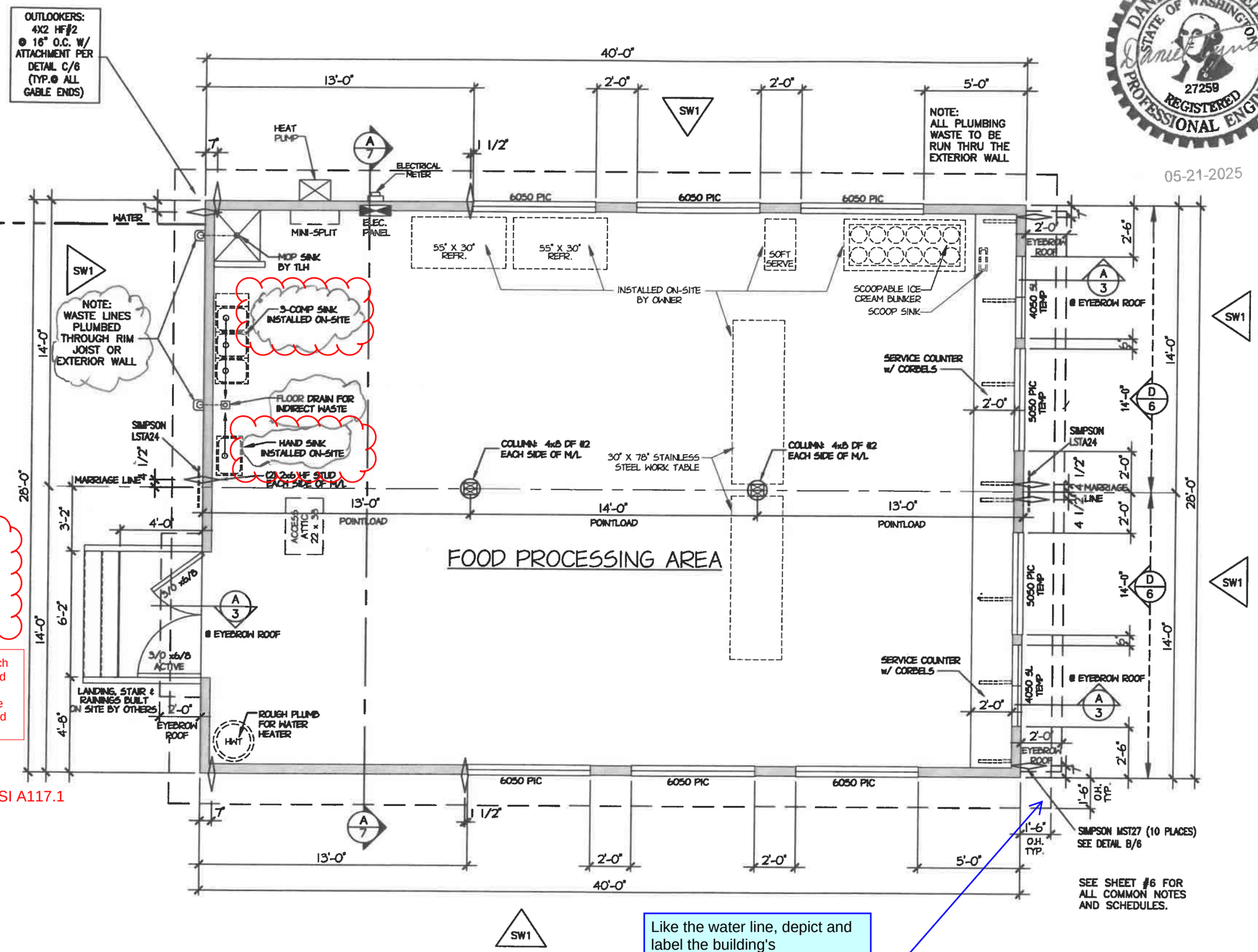
Accessibility and signage shall comply with ANSI A117.1

FLOOR PLAN NOTES:

1.) DESIGN LOAD CRITERIA: IBC 2021.
100 psf FLOOR LIVE LOAD
25 psf ROOF SNOW LOAD
WIND SPEED= 110 M.P.H. "EXPOSURE C"
SITE CLASS 'D' S_s = 1.27 S_1 = 0.437

2.) TIMBERLAND HOMES CERTIFIES TO BUILD TO THE DEPARTMENT OF LABOR AND INDUSTRIES GOLD SEAL STANDARDS.

CONTRACTOR NOTE
See Sheet 4A for updated plans and on-site installations.



Like the water line, depict and label the building's connection(s) to the sanitary sewer line noting the continuation with the civil plans.

FLOOR PLAN
SCALE: 3/16" = 1'-0"

NOTE:
ENGINEERS SEAL FOR STRUCTURAL ONLY

DANIEL J. TYRRELL STATE OF WASHINGTON 27259 REGISTERED PROFESSIONAL ENGINEER

05-21-2025

PRPF20251347

TIMBERLAND HOMES
913 - CENTRAL AVE. S.
KENT, WA 98032
PH 253-735-3435

DRAWN EXCLUSIVELY FOR: MARCOE CANDY
LOCATION: PUYALLUP, WA.
SALES: D. McKIM

THIS DRAWING IS THE PROPERTY OF TIMBERLAND HOMES AND SHALL NOT BE COPIED OR DUPLICATED WITHOUT PRIOR PERMISSION.

10/02/24	PRELIMINARY	ST
11/01/24	1ST REV	ST
11/12/24	2ND REV	ST
01/07/25	PREP FOR ENG	ST
02/03/25	ENGINEERING	ST
04/14/25	L&I	ST
05/20/25	PLAN REVIEW	ST
05/29/25	PRODUCTION	ST
06/02/25	CONSTRUCTION	ST
06/04/25	L&I PLUMBING	ST
	PERMIT REVIEW	
	BLDG. PERMIT	

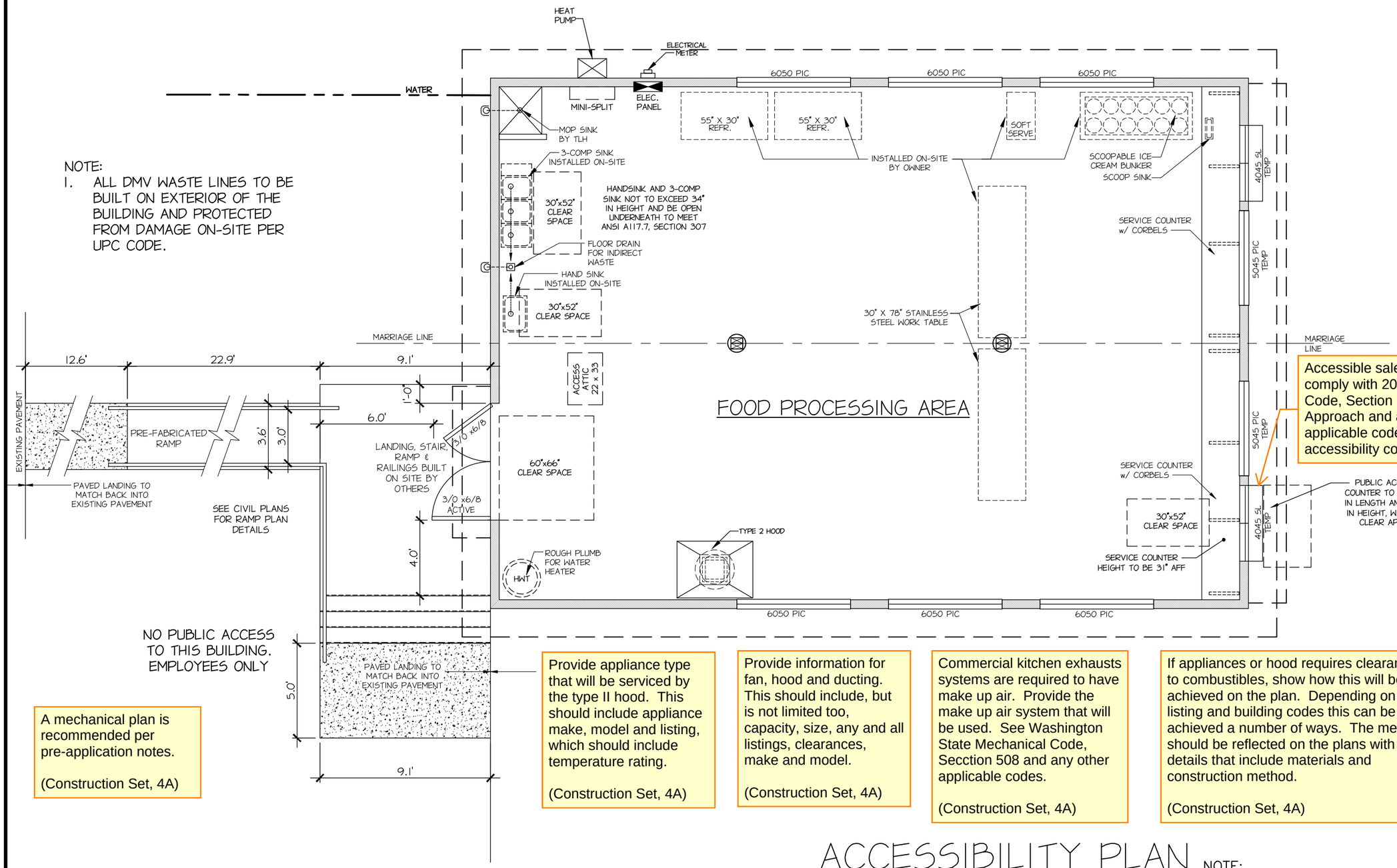
Style	CUSTOM
Sq. Feet	1,120
No. Bdrm.	N/A
Drawn By	ST
Date	09/30/24
Scale	AS NOTED

DESIGN NO. 7161

JOB NO. 2773

SHEET NO. 4

NOTE:
1. ALL DMV WASTE LINES TO BE BUILT ON EXTERIOR OF THE BUILDING AND PROTECTED FROM DAMAGE ON-SITE PER UPC CODE.



Accessible sales counter shall comply with 2017 Accessibility Code, Section 904.3.2 Parallel Approach and all other applicable code sections of accessibility code.

A mechanical plan is recommended per pre-application notes.

(Construction Set, 4A)

Provide appliance type that will be serviced by the type II hood. This should include appliance make, model and listing, which should include temperature rating.

(Construction Set, 4A)

Provide information for fan, hood and ducting. This should include, but is not limited too, capacity, size, any and all listings, clearances, make and model.

(Construction Set, 4A)

Commercial kitchen exhausts systems are required to have make up air. Provide the make up air system that will be used. See Washington State Mechanical Code, Secction 508 and any other applicable codes.

(Construction Set, 4A)

If appliances or hood requires clearances to combustibles, show how this will be achieved on the plan. Depending on listing and building codes this can be achieved a number of ways. The method should be reflected on the plans with details that include materials and construction method.

(Construction Set, 4A)

ACCESSIBILITY PLAN

SCALE: 3/16" = 1'-0"

NOTE:
ENGINEERS SEAL FOR STRUCTURAL ONLY

PRPF20251347

TIMBERLAND HOMES
1201 37th STREET NW
AUBURN, WA 98001
PH: 253-735-3435
Custom@Timberland-Homes.com

DRAWN EXCLUSIVELY FOR: MARCOE CANDY

LOCATION: PUYALLUP, WA.

SALES: D. McKIM

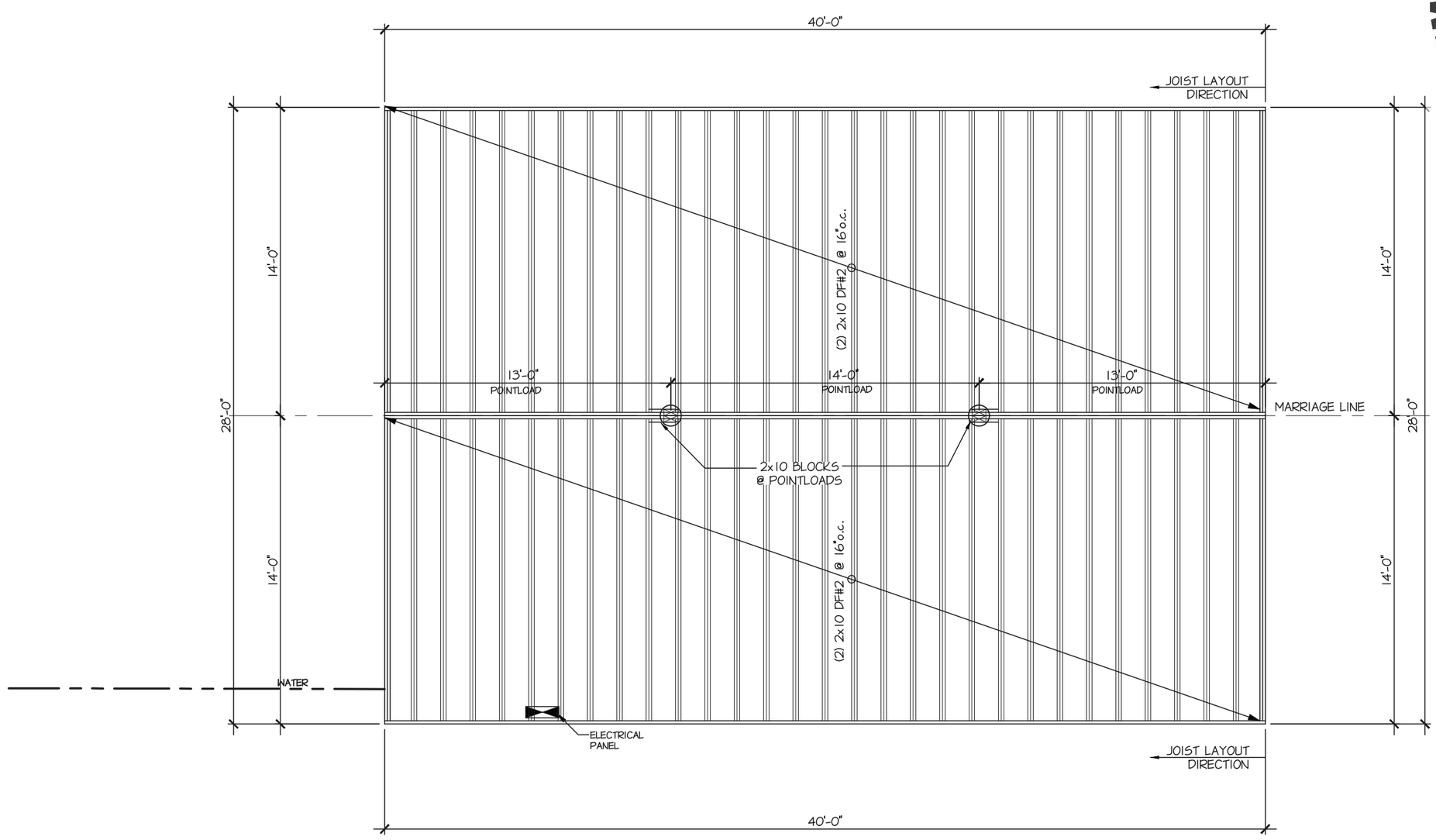
10/02/24	PRELIMINARY	ST
11/01/24	1ST REV	ST
11/12/24	2ND REV	ST
01/07/25	PREP FOR ENG.	ST
02/03/25	ENGINEERING	ST
04/14/25	L&I	ST
05/20/25	PLAN REVIEW	ST
05/29/25	PRODUCTION	ST
06/02/25	CONSTRUCTION	ST
06/04/25	L&I PLUMBING	ST
06/05/25	WINDOWS	ST
06/30/25	FOUNDATION	ST
01/06/26	PERMIT	ST
	PERMIT REVIEW	
	BLDG. PERMIT	

Style	CUSTOM
Sq. Feet	1,120
No. Bdrm.	N/A
Drawn By	ST
Date	09/30/24
Scale	AS NOTED

DESIGN NO.
7161

JOB NO.
2773

SHEET NO.
4A



Provide update truss calculations and truss layout that was provided via email as part of the re-submittal that reflects the weight of the hood and fan.

(Construction Set, 5)

CONTRACTOR NOTE

See Sheet 4A for updated plans and on-site installations of foundation strapping.

JOIST LAYOUT

SCALE: 3/16" = 1'-0"

NOTE:
ENGINEERS SEAL FOR STRUCTURAL ONLY

DANIEL J. TYRRELL
STATE OF WASHINGTON
27259
REGISTERED
PROFESSIONAL ENGINEER

04-08-2025

PRPF20251347

TIMBERLAND HOMES

913 - CENTRAL AVE. S.
KENT, WA 98032
PH: 253-735-3435
Custom@Timberland-Homes.com

DRAWN EXCLUSIVELY FOR:
MARCOE CANDY

LOCATION: PUYALLUP, WA.

SALES: D. McKIM

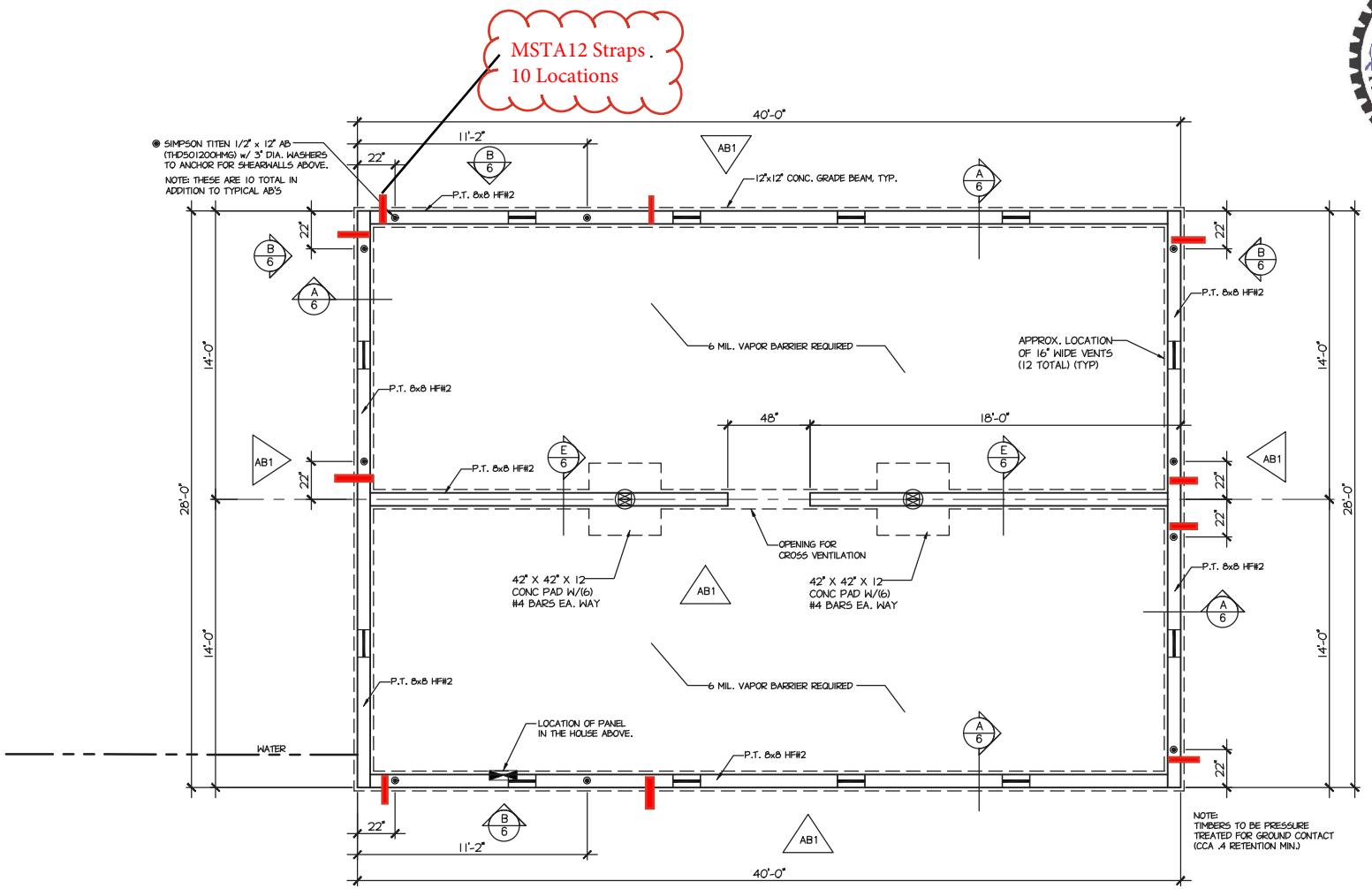
10/02/24	PRELIMINARY	ST
11/01/24	1ST REV	ST
11/12/24	2ND REV	ST
01/07/25	PREP FOR ENG.	ST
02/03/25	ENGINEERING	ST
04/07/25	L&I	ST
	PERMIT REVIEW	
	BLDG. PERMIT	

Style	CUSTOM
Sq. Feet	1,120
No. Bdrm.	N/A
Drawn By	ST
Date	09/30/24
Scale	AS NOTED

DESIGN NO. 7161

JOB NO. -

SHEET NO. 5



Foundation plans and details are not reviewed by L&I, except for the reasonability of the design to connect to the modular building. Plan review, Approval and Inspection of the foundation system is the jurisdiction of the local building official. This is typical for all foundation related sheets, details and engineering contained within this plan set.

FOUNDATION PLAN

SCALE: 3/16" = 1'-0"

NOTE:
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DANIEL J. TYRRELL
STATE OF WASHINGTON
27259
REGISTERED
PROFESSIONAL ENGINEER

04-08-2025

PRPF20251347

TIMBER LAND HOMES

913 - CENTRAL AVE. S.
KENT, WA 98032
PH: 253-735-3455
Custom@Timberland-Homes.com

DRAWN EXCLUSIVELY FOR: MARCOE CANDY

LOCATION: PUYALLUP, WA.

SALES: D. McKIM

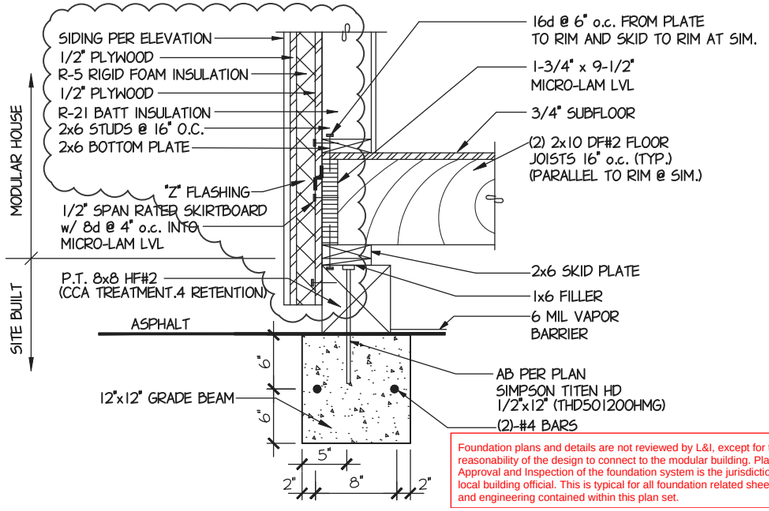
10/02/24	PRELIMINARY	ST
11/01/24	1ST REV	ST
11/12/24	2ND REV	ST
01/07/25	PREP FOR ENG.	ST
02/03/25	ENGINEERING	ST
04/07/25	L&I	ST
	PERMIT REVIEW	
	BLDG. PERMIT	

Style	CUSTOM
Sq. Feet	1,120
No. Bdrm.	N/A
Drawn By	ST
Date	09/30/24
Scale	AS NOTED

DESIGN NO. 7161

JOB NO. -

SHEET NO. 5A



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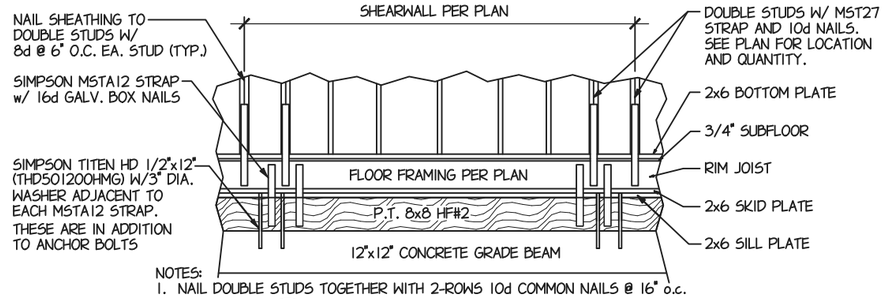
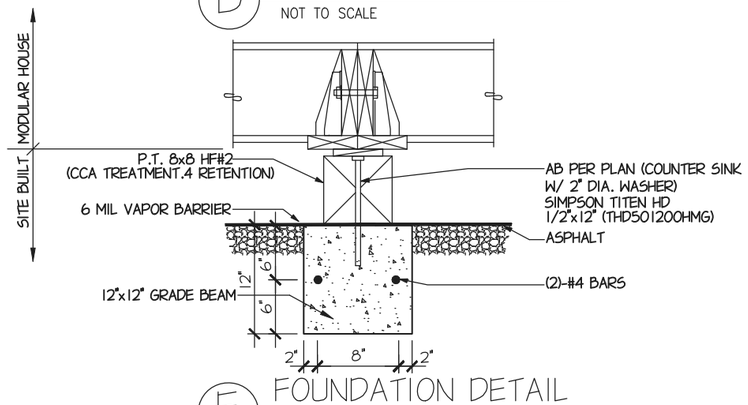
A FOUNDATION DETAIL
NOT TO SCALE

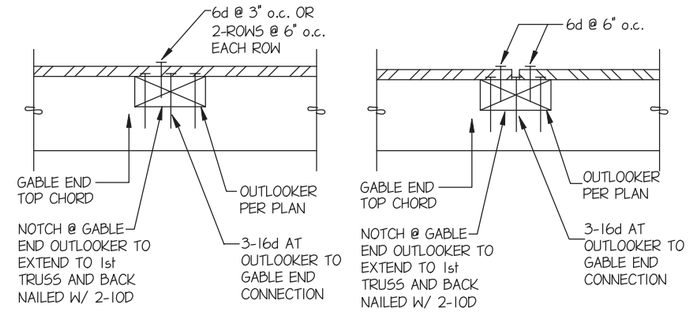


NOTES:
1. NAIL DOUBLE STUDS TOGETHER WITH 2-ROWS 10d COMMON NAILS @ 16" o.c.

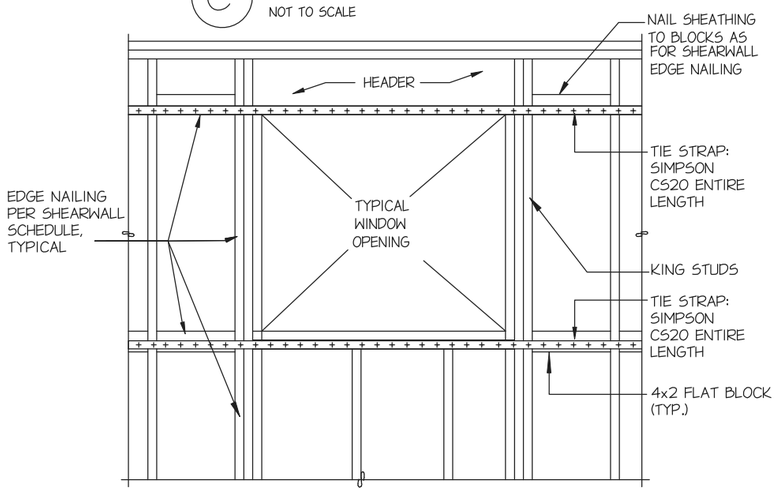
B HOLDOWN DETAIL
NOT TO SCALE



E FOUNDATION DETAIL
NOT TO SCALE



C OUTLOOKER NAILING
NOT TO SCALE



WALL OPENING REINFORCEMENT AT SHEARWALL
D NOT TO SCALE

DANIEL J. TYRRELL
STATE OF WASHINGTON
27259
REGISTERED PROFESSIONAL ENGINEER

05-21-2025

SHEARWALL SCHEDULE 1,2,3,4,6,7,8

MARK	SHEATHING	SHEATHING EDGE NAILING	REMARKS	
SW1	15/32" PLYW'D ONE SIDE	8d @ 6" o.c.		
SW2	15/32" PLYW'D ONE SIDE	8d @ 4" o.c.		NOT USED
SW3	15/32" PLYW'D ONE SIDE	8d @ 3" o.c.	SEE NOTE 5.	NOT USED
SW4	15/32" PLYW'D ONE SIDE	8d @ 2" o.c.	SEE NOTE 5	NOT USED
SW5	15/32" PLYW'D EACH SIDE	8d @ 4" o.c.	SEE NOTE 5	NOT USED
SW6	15/32" PLYW'D EACH SIDE	8d @ 3" o.c.	SEE NOTE 5.	NOT USED
SW7	15/32" PLYW'D EACH SIDE	8d @ 2" o.c.	SEE NOTE 5.	NOT USED

NOTES:
1. SCHEDULE IS BASED ON 2021 IBC AND ON WOOD FRAMED WALLS WITH 2x4 (MINIMUM) HEM-FIR STUDS @ 24" o.c..
2. SHEATHING IS TO BE SPAN RATED 24/0 MINIMUM AND MAY BE PLYWOOD OR OSB.
3. SHEATHING THICKNESS MAY BE REDUCED TO 3/8" OR 7/16" PROVIDED STUDS ARE @ 16" o.c. MAXIMUM.
4. SHEATHING IS TO BE DIRECTLY APPLIED TO STUDS AND ALL EDGES BLOCKED.
5. STUDS ARE TO BE SINGLE 3" NOMINAL OR THICKER AT ADJOINING PANEL EDGES AND SHEATHING NAILING STAGGERED FOR SW3, SW4, SW5, SW6, & SW7.
6. ALL NAILS ARE TO BE COMMON WIRE.
7. SHEATHING NAILING AT INTERMEDIATE SUPPORTS IS TO BE 8d @ 12" o.c.
8. SHEATHING NAILS ARE TO BE DRIVEN SO THAT THEIR HEADS ARE FLUSH WITH THE SURFACE OF THE SHEATHING.
9. ALL FASTENERS AND CONNECTORS IN CONTACT WITH PRESERVATIVE TREATED WOOD MUST MEET IBC 2304.10.5

FOUNDATION NOTES:
1.) FOR POSITIVE CONNECTION BETWEEN POST AND PAD
USE SIMPSON "PB-44" FOR 4x8's AND 4x4's
USE SIMPSON "PB-66" FOR 6x6's & 6x8's (OR EQUAL)
USE SIMPSON "ABU-88" FOR 8x8's (OR EQUAL)

2.) FOOTING AND POST LOCATIONS MAY BE WITHIN 2" OF ROOF POINT LOAD LOCATIONS.

3.) SITE CONTRACTOR TO VERIFY ALL DIMENSIONS ON FOUNDATION PLAN.

4.) FOUNDATION CONTRACTOR RESPONSIBLE FOR SEWER, WATER, POWER AND GAS LINE KNOCK-OUTS IN FOUNDATION. SEWER CLEAN OUT IS REQ'D TO BE PLACED OUTSIDE AND WITHIN OF 5 ft. OF THE FOUNDATION WALL BY THE SITE CONTRACTOR.

5.) FOUNDATION VENTING PER 2021 IRC
CRAWL SPACE = 1319 sq. ft.
1319 ÷ 150 = 8.8 sq. ft.
9 sq. ft. OF SCREENED VENT. REQ'D.
(VENTS TO BE SIZED AND LOCATED IN FIELD BY FOUNDATION CONTRACTOR)

6.) CRAWL SPACE ACCESS:
SITE CONTRACTOR TO LOCATE AND PROVIDE CRAWL SPACE ACCESS PANEL TO MEET LOCAL CODE AND SITE REQUIREMENTS. LOCATION TO BE DETERMINED SO AS NOT TO ALIGN w/ HOLDOWNS, DOORWAYS, DECKS, AND ETC...

7.) FOUNDATION TO BE AS PER THE REQUIREMENTS OF THE LOCAL JURISDICTION.

ANCHOR BOLT SCHEDULE

MARK	SILL PLATE ANCHOR	REMARKS
AB1	1/2"x12" SIMPSON TITEN HD (THD501200 HMG) @ 72" O.C.	SEE PLAN
AB2	1/2" DIA. x 18" o.c. A.B w/3"x3"x3/16" PLATE WASHER	NOT USED
AB3	1/2" DIA. x 36" o.c. A.B w/3"x3"x3/16" PLATE WASHER	NOT USED

NOTE: AB REQUIRED 8" FROM CUT END OF 8x8

STRUCTURAL NOTES:

FOUNDATION
EXTEND FOUNDATION TO SOLID BEARING 1,500 psf
BEARING CAPACITY, 1'-6" MINIMUM BELOW FINISH GRADE.

CONCRETE
CONCRETE TO HAVE A 28 DAY MINIMUM COMPRESSIVE STRENGTH OF 3000 psi.

REINFORCING STEEL
ALL REINFORCEMENT SHALL CONFORM TO ASTM A615 GRADE 40.

WOOD FRAMING
SCHEDULE OF LUMBER GRADING (W.C.L.I.B. BOOK NO. 16)
KILN DRY (U.N.O.)
A.) HEM-FIR NO. 2 FOR HEADERS EXCEPT AS SHOWN.
B.) DOUGLAS FIR NO. 2 POSTS AND JOISTS.
C.) HEM-FIR STUD GRADE FOR STUDS, WALL PLATES, SILL PLATES AND BRIDGING.
D.) PRESSURE TREAT ALL WOOD IN CONTACT WITH CONCRETE.
E.) ALL STRUCTURAL CONNECTORS TO BE MANUFACTURED BY SIMPSON STRONG-TIE.
F.) WHERE CONNECTORS ARE SECURED TO PRESSURE TREATED WOOD (ACQ-C, ACQ-D, CBA-A, CA-B AND NON-DOT BORATES; SIMPSON Z-MAX (G185) COATED OR STAINLESS STEEL CONNECTORS ARE REQUIRED.

NOTE:
ENGINEERS SEAL FOR STRUCTURAL ONLY

PRPF20251347

TIMBERLAND HOMES
913 - CENTRAL AVE. S.
KENT, WA 98032
PH: 253-735-3435
Custom@Timberland-Homes.com

DRAWN EXCLUSIVELY FOR:
MARCOE CANDY
LOCATION: PUYALLUP, WA.
SALES: D. McKIM

10/02/24	PRELIMINARY	ST
11/01/24	1ST REV	ST
11/12/24	2ND REV	ST
01/07/25	PREP FOR ENG.	ST
02/03/25	ENGINEERING	ST
04/14/25	L&I	ST
05/20/25	PLAN REVIEW	ST
	PERMIT REVIEW	
	BLDG. PERMIT	

Style	CUSTOM
Sq. Feet	1,120
No. Bdrm.	N/A
Drawn By	ST
Date	09/30/24
Scale	AS NOTED

DESIGN NO. 7161
JOB NO. -
SHEET NO. 6

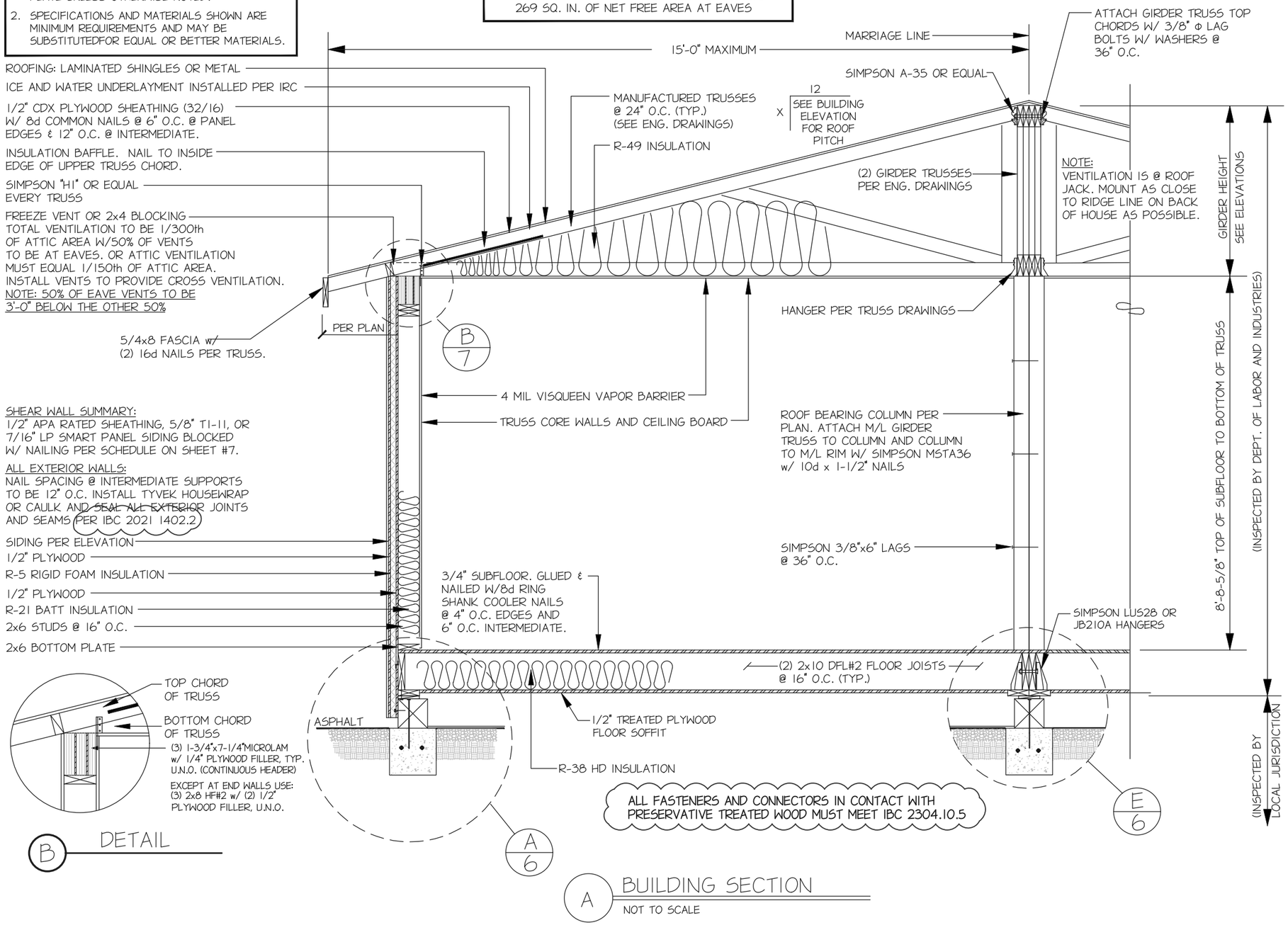
DANIEL J. TYRRELL
STATE OF WASHINGTON
27259
REGISTERED
PROFESSIONAL ENGINEER

05-21-2025

NOTES:

1. TIMBERLAND HOMES IS NOT RESPONSIBLE FOR ANY MATERIALS BELOW SKID PLATE UNLESS OTHERWISE NOTED.
2. SPECIFICATIONS AND MATERIALS SHOWN ARE MINIMUM REQUIREMENTS AND MAY BE SUBSTITUTEDFOR EQUAL OR BETTER MATERIALS.

ROOF VENTILATION CALCULATIONS:
TOTAL ATTIC FLOOR SQ. FT. = 1,120 SQ.FT.
1,120/300 = 3.73 x 144 = 538 SQ. IN REQUIRED
269 SQ. IN. OF NET FREE AREA NEAR RIDGE
269 SQ. IN. OF NET FREE AREA AT EAVES



B DETAIL

A BUILDING SECTION
NOT TO SCALE

NOTE: ENGINEERS SEAL FOR STRUCTURAL ONLY

PRPF20251347

TIMBERLAND HOMES

913 - CENTRAL AVE. S.
KENT, WA 98032
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DRAWN EXCLUSIVELY FOR:
MARCOE CANDY

LOCATION: PUYALLUP, WA.

SALES: D. McKIM

10/02/24	PRELIMINARY	ST
11/01/24	1ST REV	ST
11/12/24	2ND REV	ST
01/07/25	PREP FOR ENG.	ST
02/03/25	ENGINEERING	ST
04/14/25	L&I	ST
05/20/25	PLAN REVIEW	ST

PERMIT REVIEW
BLDG. PERMIT

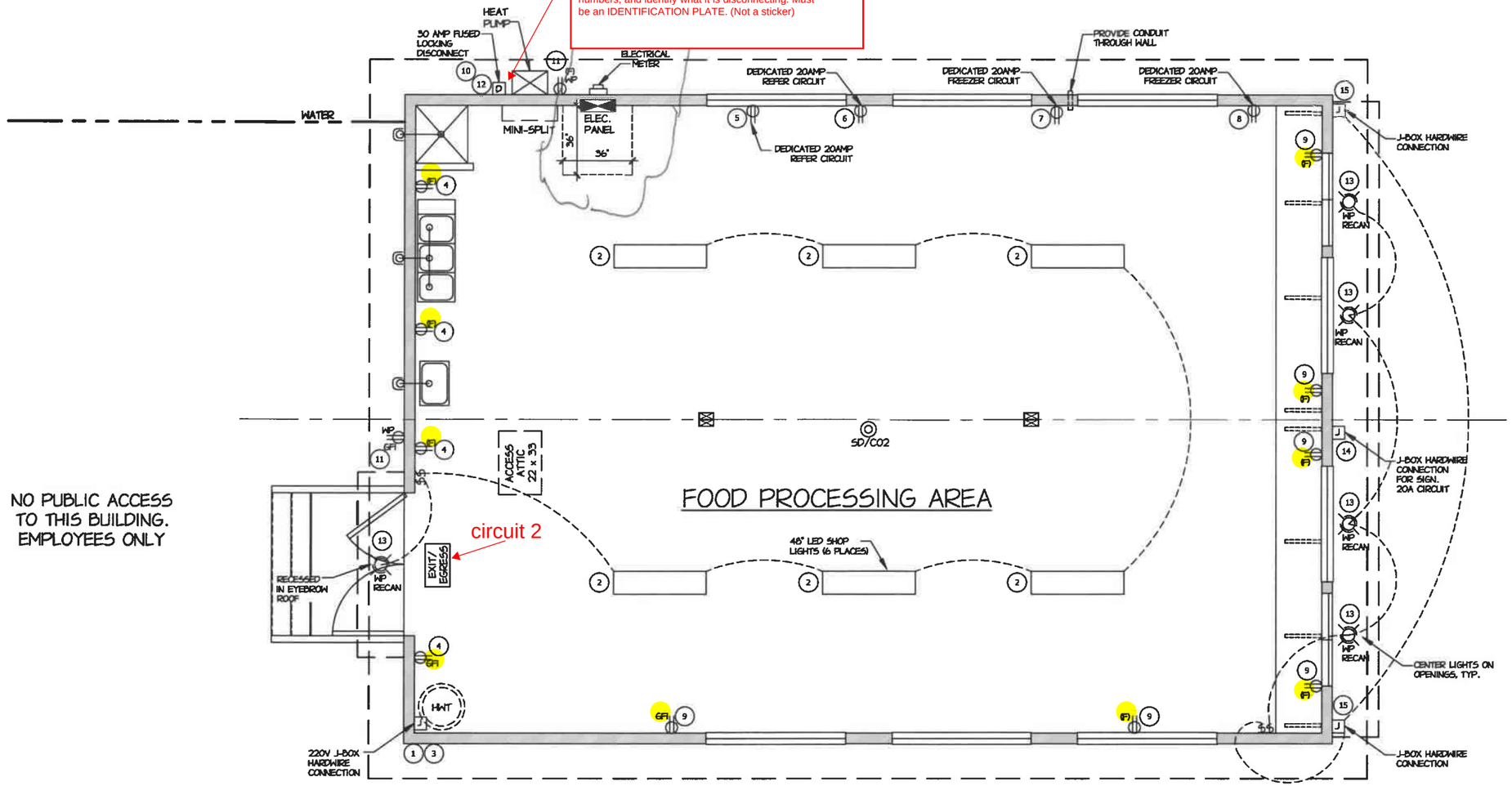
Style	CUSTOM
Sq. Feet	1,120
No. Bdrm.	N/A
Drawn By	ST
Date	09/30/24
Scale	AS NOTED

DESIGN NO.
7161

JOB NO.
-

SHEET NO.
7

WAC 296.46B 110.022
Identification plates on disconnecting means are to show designation of circuit source panel board that supplies disconnect, circuit numbers, and identify what it is disconnecting. Must be an IDENTIFICATION PLATE. (Not a sticker)



NOTES:

1. ELECTRICAL PLAN SHOWS APPROXIMATE LOCATIONS OF SWITCHES, OUTLETS, LIGHTS ETC. PER NEC CODE. THESE LOCATIONS MAY BE SUBJECT TO REQUIRED FIELD ADJUSTMENTS. ANY ALTERATION FOR SPECIFIC LOCATIONS OR ADDITIONS ARE CHARGED AT OPTION PRICE.
2. ALL EXHAUST FANS TO TERMINATE THROUGH THE ROOF

ELECTRICAL LEGEND

- 110V OUTLET
- 110V HALF HOT SWITCHED OUTLET
- C — 110V OUTLET COUNTERTOP (POP-UP)
- GFCI — 110V OUTLET (FIRST GFCI ON CIRCUIT)
- (F) — 110V OUTLET PROTECTED FROM A LINE SIDE RECEPTACLE
- WP — 110V OUTLET DAMP/WET/OUTDOOR LOCATIONS
- 220 — 220 OUTLET
- $ — SWITCH
- $D — SWITCH w/ DIMMER
- $3 — SWITCH (3 WAY, 4 WAY, ETC.)
- CEILING LIGHT
- WALL LIGHT
- RECAN — RECESSED CAN LIGHT (TOTALLY ENCLOSED FIXTURE)
- DIR — RECESSED EYEBALL LIGHT (TOTALLY ENCLOSED FIXTURE)
- (X) WP — EXTERIOR LIGHT FIXTURE DAMP/WET/OUTDOOR LOCATIONS (X) INDICATES WATTS / FIXTURE
- WP(X) — EXTERIOR FLOOD LIGHT (X) INDICATES WATTS / FIXTURE
- CHANDELIER
- TRACK LIGHT
- REC. FLOUR. LIGHT — RECESSED FLOURESCENT LIGHT
- VTOS — VENT FAN
- ELECTRICAL PANEL
- M — METER
- J — J-BOX
- TV — TV JACK
- PHONE JACK
- C — DOOR CHIME
- T — THERMOSTAT CONTROL
- SD — SMOKE DECTECTOR
- H — CEILING HEATER
- WALL HEATER
- PADDLE FAN

LIGHT FIXTURE SCHEDULE:

LED SHOP LIGHTS = 37 WATTS PER FIXTURE
EXTERIOR RECESSED CAN LIGHTS = 11 WATTS PER FIXTURE

NOTE:

BATTERY BACKUP ON ALL EGRESS LIGHTING

NOTES:

1. LIGHT FIXTURES CONTROLLED w/ MANUAL SWITCHES
2. EXTERIOR LIGHTS CONTROLLED W/ PHOTO EYE DAYLIGHT CONTROL
3. ALL INTERIOR/EXTERIOR LIGHTS TO BE LED HIGH EFFICACY

ELECTRICAL PLAN

SCALE: 3/16" = 1'-0"

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TIMBERLAND HOMES

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LOCATION: PUYALLUP, WA.
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02/05/25	ENGINEERING	ST
04/14/25	LI	ST
05/20/25	PLAN REVIEW	ST
05/29/25	PRODUCTION	ST
06/02/25	CONSTRUCTION	ST
	PERMIT REVIEW	
	BLDG. PERMIT	

Style	CUSTOM
Sq. Feet	1,120
No. Bdrm.	N/A
Drawn By	ST
Date	09/30/24
Scale	AS NOTED

DESIGN NO. 7161

JOB NO. 2773

SHEET NO. E1

PANEL SCHEDULE "A"

WIRE SIZE	LOAD #	C/B	DESCRIPTION	WIRE SIZE	LOAD #	C/B	DESCRIPTION
#10	CIRC. #1	30A/2P	WATER HEATER (LO)	#12	CIRC. #2	20A/1P	INTERIOR LIGHTS / EXIT SIGN
#10	CIRC. #3	30A/2P	" " (LO)	#12	CIRC. #4	20A/1P	INTERIOR PLUGS
#12	CIRC. #5	20A/1P	REFER	#12	CIRC. #6	20A/1P	REFER
#12	CIRC. #7	20A/1P	FREEZER	#12	CIRC. #8	20A/1P	FREEZER
#12	CIRC. #9	20A/1P	INTRIOR PLUGS	#10	CIRC. #10	30A/2P	MINI SPLIT FUSED DISCONNECT
#12	CIRC. #11	20A/1P	EXTERIOR PLUGS	#10	CIRC. #12	30A/2P	" "
#12	CIRC. #13	20A/1P	EXTERIOR CAN LIGHTS GFCI	#12	CIRC. #14	20A/1P	EXTERIOR SIGN GFCI
#12	CIRC. #15	20A/1P	EXTERIOR OUTLETS GFCI	#12	CIRC. #16	20A/2P	SURGE PROTECTOR
#12	CIRC. #17	20A/2P		#12	CIRC. #18	20A/2P	SURGE PROTECTOR
#12	CIRC. #19	20A/2P			CIRC. #20		
#12	CIRC. #21	20A/2P			CIRC. #22		
#12	CIRC. #23	20A/2P			CIRC. #24		
						200A	MAIN DISCONNECT
						200A	" "
						200A	" "
						200A	" "

PANEL SCHEDULE NOTES:

1. WIRE SIZE LISTED IS THE MINIMUM REQUIREMENT.
2. ALL WIRE TYPE TO BE COPPER.
3. GFCI = GFCI CIRCUIT BREAKER
   AFCI = AFCI CIRCUIT BREAKER
   GFCI/AFCI = GFCI/AFCI CIRCUIT BREAKER
4. (LO) = INDICATES LOCKOUT DEVICE ON CIRCUIT

NEC 110.14(D) Tightening torque values for terminal connections shall be indicated on equipment or in installation instructions provided by the manufacturer.
An approved means, such as a calibrated torque tool, shall be used to achieve the indicated torque value.
USE TORQUE SEAL OR SIMILAR TO IDENTIFY ALL TERMINATIONS THAT HAVE
BEEN TORQUED TO COMPLY WITH THIS REQUIREMENT FOR L&I INSPECTOR
TO VARIFY. Please document values used for inspector to verify.

GENERAL ELECTRICAL NOTES:

1.) ALL RECEPTS, SWITCHES, LIGHTS, FANS & HEATER LOCATIONS SHOWN ARE FOR REFERENCE ONLY. ACTUAL LOCATIONS MAY VARY SOME DUE TO CONSTRUCTION OBSTACLES, EASE OF INSTALLATION, ETC., SO LONG AS CODE COMPLIANCE IS MAINTAINED PER 2023 NEC SECTION 210.

2.) ALL PERMANENTLY CONNECTED APPLIANCES TO BE CONNECTED TO A BREAKER LOCK-OUT IN THE ELECTRICAL PANEL.

3.) ALL G.F.I. KITCHEN COUNTER RECEPTICLES SHALL CONFORM TO 2023 NEC.

4.) ADD LIGHT TO ILLUMINATE CROSSOVER J-BOXES WITH A SWITCH AT POINT OF ATTIC ACCESS PANEL SHALL BE PROVIDED PER 2023 NEC 210-70(C).

5.) ALL BATHROOM FANS, SWITCHES, THERMOSTATS AND RECEP'S. TO BE INSTALLED PER 2023 NEC.

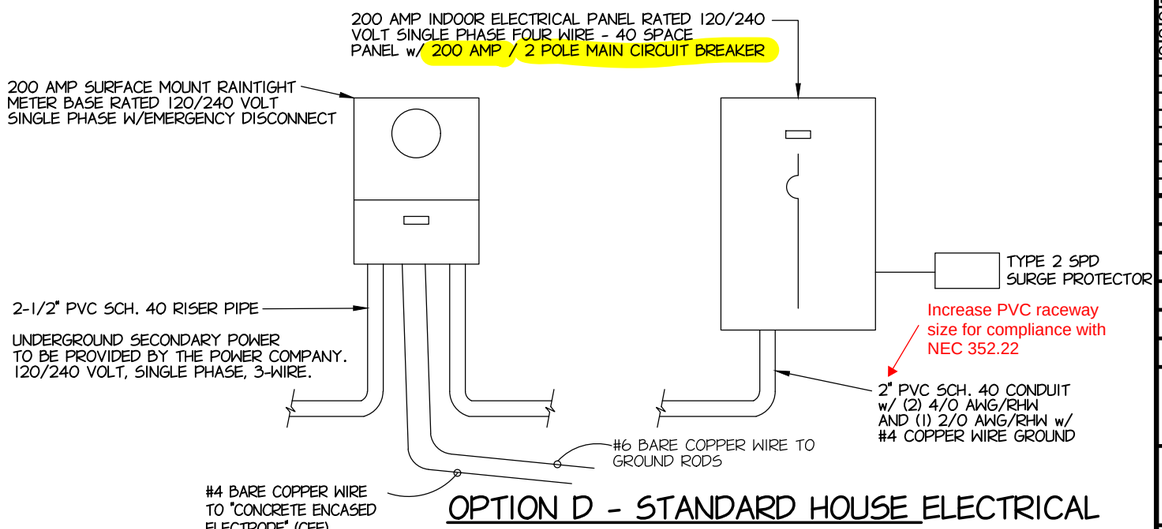
6.) ALL WIRE SIZES PER 2023 NEC TABLE 310.16

7.) BOXES FOR CEILING MOUNTED & WALL MOUNTED LUMINAIRES MUST BE DESIGNED FOR THE PURPOSE AND BE CAPABLE OF SUPPORTING LUMINAIRE WEIGHING A MINIMUM OF 50 LB. PER 2023 NEC 314.27 (C)

10.) RECESSED LUMINAIRES INSTALLED IN THE BUILDING THERMAL ENVELOPE SHALL BE TYPE IC-RATED AND CERTIFIED UNDER ASTM E283 ALL RECESSED LUMINAIRES SHALL BE SEALED WITH A GASKET OR CAULK BETWEENT OR CAULK BETWEEN THE HOUSING AND THE INTERIOR WALL OR CEILING COVERING.

11.) 15 AND 20 AMP RECEPTACLES INSTALLED IN WET LOCATION SHALL HAVE AN ENCLOSURE THAT WEATHERPROOF WHETHER OR NOT THE ATTACHMENT PLUG CAP IS INSERTED. AN OUTLET BOX HOOD INSTALLED FOR THIS PURPOSE SHALL BE LISTED AND SHALL BE IDENTIFIED AS "EXTRA DUTY" PER 2023 NEC 406.9(B)(1).

12.) ALL NON-LOCKING TYPE 125 & 250 VOLT, 15 AND 20 AMP RECEPTACLES SPECIFIED IN 210.53 SHALL BE TAMPER RESISTANT RECEPTACLES. THIS REQUIREMENT INCLUDES INTERIOR AND EXTERIOR RECEPTACLES.



OPTION D - STANDARD HOUSE ELECTRICAL RISER DIAGRAM w/ METER DISCONNECT

PRPF20251347

TIMBERLAND HOMES

913 - CENTRAL AVE. S.
KENT, WA 98032
PH: 253-735-3435
Custom@Timberland-Homes.com

DRAWN EXCLUSIVELY FOR:
MARCOE CANDY

LOCATION: PUYALLUP, WA.

SALES: D. McKIM

10/02/24	PRELIMINARY	ST
11/01/24	1ST REV	ST
11/12/24	2ND REV	ST
01/07/25	PREP FOR ENG.	ST
02/03/25	ENGINEERING	ST
04/14/25	L&I	ST
	PERMIT REVIEW	
	BLDG. PERMIT	

Style	CUSTOM
Sq. Feet	1,120
No. Bdrm.	N/A
Drawn By	ST
Date	09/30/24
Scale	AS NOTED

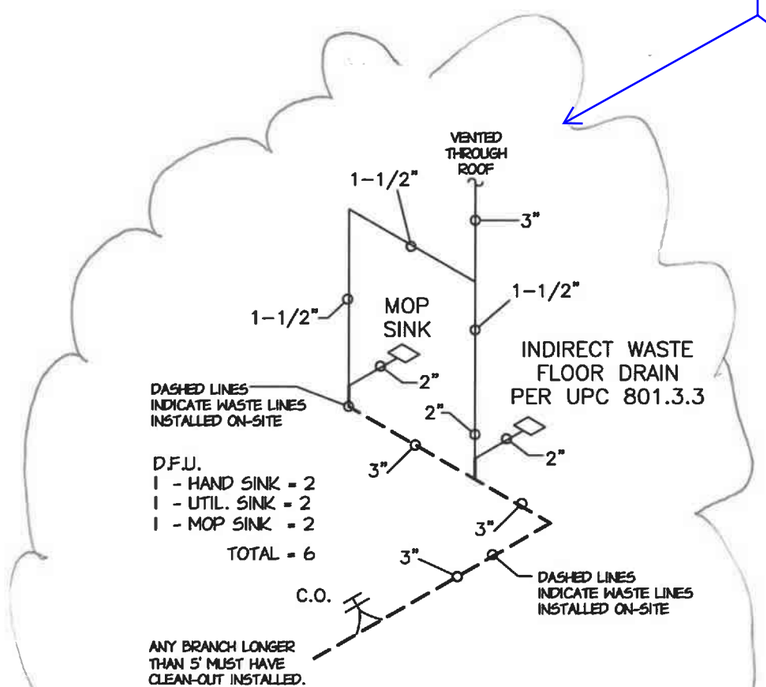
DESIGN NO. 7161

JOB NO. -

SHEET NO. E2

PRPF20251347

Depict and label the scoop sink in the waste and supply plumbing plans.



Depict and label the grease trap in the plumbing waste plan.

NOTE:

1. ALL DMV WASTE LINES TO BE BUILT ON EXTERIOR OF THE BUILDING AND PROTECTED FROM DAMAGE ON-SITE PER UPC CODE.

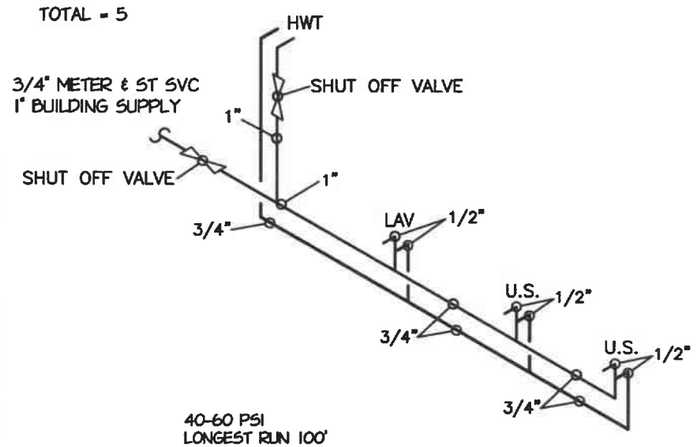
DRAIN/ VENT PIPES:
CHARLOTTE PIPE SCHEDULE 40 DWV ABS PLUS

PLUMBING WASTE & VENT

WATER HEATER:
50 GALLON HEAT PUMP HYBRID WATER HEATER.

WATER HEATER PRESSURE RELIEF VALVE PIPING MUST TERMINATE TO THE EXTERIOR OF THE BUILDING PER UPC 608.5 SEISMIC STRAPS REQUIRED PER UPC 507.2

W.F.U.
1 - LAV. = 1
2 - U.S. = 4
TOTAL = 5



40-60 PSI
LONGEST RUN 100'

NOTE:
1. HAMMER ARRESTORS INSTALLED @ ALL FAST CLOSED VALVES.
2. TEE @ HWT FOR FUTURE EXP. TANK
3. WATER HEATER PRESSURE RELIEF VALVE PIPING MUST TERMINATE TO THE EXTERIOR OF THE BUILDING PER UPC 608.5 SEISMIC STRAPS REQUIRED PER UPC 507.2

WATER PIPES:
UPONOR AQUAPEX WATER PIPING

PLUMBING SUPPLY

TIMBERLAND HOMES

915 - CENTRAL AVE. S.
KENT, WA 98032
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DRAWN EXCLUSIVELY FOR: MARCOE CANDY

LOCATION: PUYALLUP, WA.

SALES: D. McKIM

10/02/24	PRELIMINARY	ST
11/01/24	1ST REV	ST
11/12/24	2ND REV	ST
01/07/25	PREP FOR ENG.	ST
02/05/25	ENGINEERING	ST
04/14/25	LI	ST
05/20/25	PLAN REVIEW	ST
05/29/25	PRODUCTION	ST
06/02/25	CONSTRUCTION	ST
06/04/25	LI PLUMBING	ST
	PERMIT REVIEW	
	BLDG. PERMIT	

Style	CUSTOM
Sq. Feet	1,120
No. Bdrm.	N/A
Drawn By	ST
Date	09/30/24
Scale	AS NOTED

DESIGN NO. 7161

JOB NO. 2773

SHEET NO. P1

PRPF20251347

JOB #25-5238--STRUCTURAL CALCULATIONS
TIMBERLAND CUSTOM HOMES
DESIGN #7161

MARCOE CANDY

FEBRUARY 4, 2025

Calculations required to be provided by the Permittee on site for all Inspections

DANIEL TYRRELL, P.E.
PO BOX 537
MILTON, WA 98354

INDEX

City of Puyallup
Building
REVIEWED
FOR
COMPLIANCE
SKinnear
01/21/2026
11:08:55 AM

CITY OF PUYALLUP STATE OF WASHINGTON

CONSTRUCTION NOTES:

GENERAL:

Scope:

Engineering calculations are based on code required design loads imposed on the structure once it has been completely installed on site. Design for resistance to forces imposed during transportation and placement are beyond the scope of these calculations and are the sole responsibility of the manufacturer.

CODE:

IBC CODE REQUIREMENTS ARE TO BE FOLLOWED. 2021 EDITION AND ALL APPLICABLE CODES AND AUTHORITIES HAVING JURISDICTION.

CONTRACTOR SHALL VERIFY ALL NOTES, DIMENSIONS & CONDITIONS PRIOR TO CONSTRUCTION & PROVIDE TEMP. BRACING AS REQUIRED UNTIL ALL PERMANENT CONNECTIONS HAVE BEEN INSTALLED. IT IS THE CONTRACTOR'S RESPONSIBILITY TO IDENTIFY AND REPORT ALL DISCREPANCIES TO THE DESIGNER AT THE TIME THEY ARE NOTED. DIMENSIONS TAKE PRECEDENCE OVER SCALED DRAWINGS.

LOADING:

WIND = 110 MPH, EXPOSURE C
SEISMIC = SITE CLASS D, SEISMIC DESIGN CATEGORY D (Ss=1.270.958, S1=.437)

ROOF	20 PSF DEAD LOAD		25 PSF SNOW LOAD	= 45 PSF
FLOOR	10 PSF DEAD LOAD	+	40 PSF LIVE LOAD	= 50 PSF
DECK	10 PSF DEAD LOAD	+	60 PSF LIVE LOAD	= 70 PSF
INTERIOR PARTITION				= 7 PSF
EXTERIOR WALL				= 9 PSF

SITE WORK:

GENERAL:

UNLESS A SOILS INVESTIGATION BY A QUALIFIED SOILS ENGINEER IS PROVIDED, FOUNDATION DESIGN IS BASED ON AN ASSUMED AVERAGE SOIL BEARING OF 1000 PSF. EXTERIOR FOOTINGS SHALL BEAR 1'-0" (MINIMUM) BELOW FINISHED GRADE. ALL FOOTINGS TO BEAR ON FIRM UNDISTURBED EARTH BELOW ORGANIC SURFACE SOILS. BACK FILL TO BE THOROUGHLY COMPACTED. FOUNDATION VENTS SHALL NOT INTERFERE WITH DIRECT LOAD PATH OF COLUMNS.

FOUNDATION:

GENERAL:

CLASS AND USE	F'C	SLUMP	MINIMUM SACKS/C.Y.
A: FOOTINGS AND FOUNDATIONS	2500	3 - 4	5-1/2
B: SLABS ON GRADE	2500	3 - 4	5-1/2

1. AIR ENTRAINING AGENT (5% TO 7%) TO BE USED IN ALL CONCRETE FLAT WORK EXPOSED TO WEATHER.
2. MIX MAY BE DESIGNED IN ACCORDANCE WITH THE PROVISIONS OF SECTIONS 1904 OF THE IBC.
3. WATER – CEMENT RATIO PER IBC.

REINFORCING STEEL:

ASTM A615 GRADE 40 (#4 BARS & SMALLER) AND GRADE 60 (#5 BARS & GREATER) REINFORCING STEEL DETAILS SHALL BE PREPARED BY AN EXPERIENCED APPROVED DETAILER AND CONFORM TO STANDARD PRACTICE OUTLINED IN ACI REPORT 315.

CONCRETE COVER OF REINFORCING:

3"	CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH.
1-1/2"	CONCRETE EXPOSED TO EARTH OR WEATHER.
1-1/2"	BEAMS AND COLUMNS NOT EXPOSED TO EARTH OR WEATHER.
3/4"	SLABS AND WALLS NOT EXPOSED TO EARTH OR WEATHER.

LAP COLUMN VERTICALS. CLASS "A" CONCRETE AND MASONRY COLUMN AND WALL VERTICALS 32 DIAMETERS. LAP ALL OTHER REINFORCING 24 DIAMETERS. SPLICES AT TENSION REGIONS SHALL NOT BE PERMITTED.

ANCHOR BOLTS:

ANCHOR BOLTS ARE TO BE 1/2" MINIMUM DIA. X 12" ASTM-A307 AT 4'-0" O.C. UNLESS NOTED OTHERWISE BY ENGINEER W/ 7" MIN. EMBEDMENT. SILL PLATE WASHERS TO BE 3" X 3" X .229". THERE SHALL BE A MIN. OF TWO ANCHOR BOLTS PER FOUNDATION SILL PLATE WITH ONE BOLT LOCATED WITHIN 12" OF EACH END OF EACH SILL PLATE. SIMPSON MASA MAY ALSO BE WHERE NOTED.

CARPENTRY:

GENERAL:

ALL FRAMING TO COMPLY WITH IBC CHAPTER 23. NAIL SIZES AND SPACING TO CONFORM TO IBC TABLE 2304.10.2.

ALL WOOD IN CONTACT WITH CONCRETE TO BE PRESSURED TREATED.

6" MIN. CLEARANCE BETWEEN WOOD AND EARTH.
18" MIN. CLEARANCE BETWEEN FLOOR JOIST AND EARTH.
12" MIN. CLEARANCE BETWEEN FLOOR BEAMS AND EARTH.

LUMBER STRENGTH (UNITS IN psi):

	F_V	F_B	E
PARALLAM PSL	290	2900	2,000,000
GLUED LAMINATED TIMBERS			
DOUG-FIR LARCH (24F-V4)	165	2400	1,800,000
MICRO-LAM LVL			
DOUG-FIR LARCH	285	2600	1,900,000

WOOD BEARING ON OR INSTALLED WITHIN 1" OF MASONRY OR CONCRETE SHALL BE TREATED WITH AN APPROVED PRESERVATIVE, SOLID BLOCKING OF NOT LESS THAN 2X THICKNESS SHALL BE PROVIDED AT ENDS AND AT ALL SUPPORT OF JOISTS AND RAFTERS.

Construction Hardware

All structural connectors to be manufactured by Simpson Strong –Tie. Where connectors are in contact with pressure treated wood (ACQ-C, ACQ-D, CBA-A, CA-B and non-DOT Borates), Simpson Z-max (G185) coated or Stainless Steel connectors are required.

PLYWOOD:

WALL AND ROOF SHEATHING SHALL BE 7/16" CDX PLYWOOD, UNLESS OTHERWISE SPECIFIED. MINIMUM NAILING SHALL BE 8d @ 6" O.C. @ PANEL EDGES AND 12" O.C. IN FIELD. SPAN INDEX SHALL BE 32/16. FLOOR SHEATHING SHALL BE 23/32" CDX T&G PLYWOOD, UNLESS OTHERWISE SPECIFIED. FLOOR SHEATHING SHALL BE GLUED AND NAILED W/ 8d RING SHANK @ 4" O.C. AT PANEL EDGES AND 6" O.C. IN FIELD. SPAN INDEX SHALL BE 40/20. STAGGER END LAPS AT ROOF AND FLOOR SHEATHING. OSB SHEATHING PRODUCTS OF EQUIVALENT SPAN RATINGS SHALL BE ALLOWED.

STRUCTURAL GLUED – LAMINATED LUMBER:

SHALL BE DOUGLAS FIR FABRICATED TO THE REQUIREMENTS OF U.S. PRODUCT STANDARD PS 56. LUMBER SHALL BE OF SUCH GRADE TO PROVIDE NORMAL WORKING STRESS VALUES OF 2400 PSI IN BENDING: 1100 PSI IN TENSION: 1600 PSI IN COMPRESSION PARALLEL TO GRAIN: 560 PSI IN COMPRESSION PERPENDICULAR TO GRAIN AND 165 PSI HORIZONTAL SHEAR (COMBINATION 24F-V4). LAMINATED MEMBERS TO BE AITC CERTIFIED. USE WATERPROOF GLUE.

WOOD TRUSSES:

TRUSSES SHALL BE DESIGNED BY A REGISTERED WASHINGTON STATE ENGINEER AND FABRICATED FROM ONLY THOSE DESIGNS. TRUSSES TO BE STAMPED BY THE MANUFACTURER OR BY A QUALITY CONTROL AGENCY SUCH AS THE TRUSS PLATE INSTITUTE. ROOF TRUSS DESIGN SHALL BE SUBMITTED FOR APPROVAL PRIOR TO FABRICATION. AS PER WASHINGTON STATE LABOR & INDUSTRIES, MAXIMUM LOAD DURATION FACTOR FOR LUMBER AND CONNECTOR PLATES IS 1.00.

NONBEARING WALLS SHALL BE HELD AWAY FROM THE TRUSS BOTTOM CHORD WITH AN APPROVED FASTENER (SUCH AS SIMPSON STC) TO ENSURE THAT THE TRUSS BOTTOM CHORD WILL NOT BEAR ON THE WALL.

APPROVED HANGERS SHALL BE USED AT ALL CONNECTIONS OF RAFTERS, JACK OR HIP TRUSSES TO MAIN GIRDER TRUSS.

ALL ROOF TRUSSES SHALL BE FRAMED AND TIED INTO THE FRAME WORK AND SUPPORTING WALLS SO AS TO FORM AN INTEGRAL PART OF THE WHOLE BUILDING. ROOF TRUSSES SHALL HAVE JOINTS WELL FITTED AND SHALL HAVE ALL TENSION MEMBERS WELL TIGHTENED BEFORE ANY LOAD IS PLACED UPON THE TRUSS. DIAGONAL AND SWAY BRACING SHALL BE USED TO BRACE ALL TRUSSES.

ASCE
AMERICAN SOCIETY OF CIVIL ENGINEERS

Seismic

Site Soil Class: D - Default (see Section 11.4.3)

Results:

S_S :	1.27	S_{D1} :	N/A
S_1 :	0.437	T_L :	6
F_a :	1.2	PGA :	0.5
F_v :	N/A	PGA_M :	0.6
S_{MS} :	1.524	F_{PGA} :	1.2
S_{M1} :	N/A	I_e :	1
S_{DS} :	1.016	C_v :	1.354

Ground motion hazard analysis may be required. See ASCE/SEI 7-16 Section 11.4.8.

Data Accessed: Sat Jan 25 2025

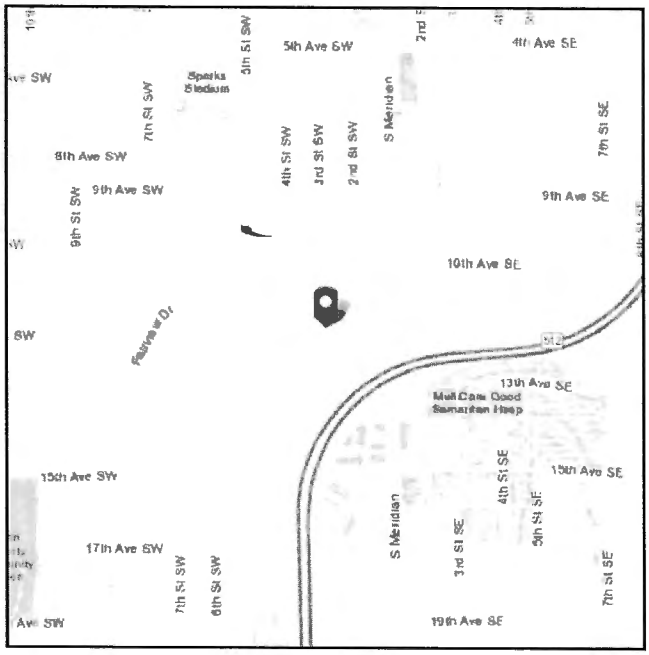
Date Source: USGS Seismic Design Maps

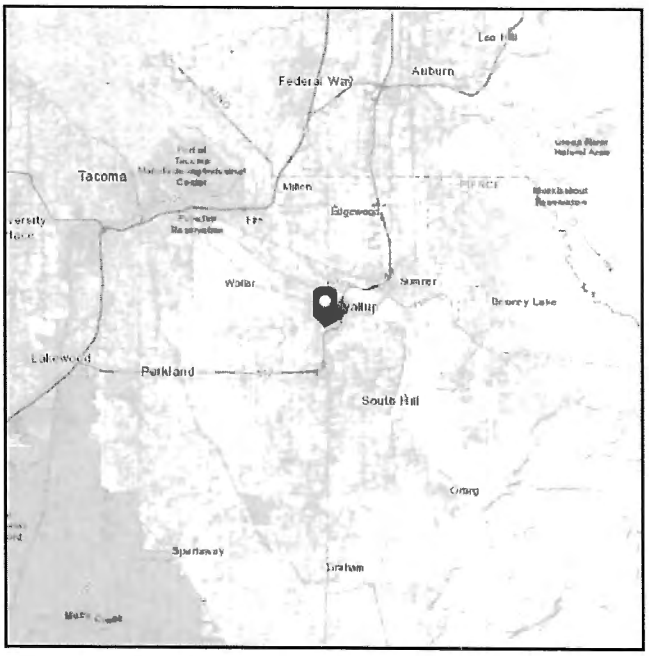
4/16

ASCE Hazards Report

Address:
No Address at This Location

Standard:	ASCE/SEI 7-16	**Latitude:**	47.181015
Risk Category:	II	**Longitude:**	-122.296052
Soil Class:	D - Default (see Section 11.4.3)	**Elevation:**	42.22146304400016 ft (NAVD 88)





Daniel J. Tyrrell, P.E.
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BY: DT DATE: 2/4/2025

$Cs = S_{DS}I/R$ (equ. 12.8-2 ASCE 7-16) h = 13 ft
Cs(max) = N/A per 11.4.8 ASCE 7-16 (equ. 12.8-3 ASCE 7-16) R = 6.50
Cs(min)= $0.044(S_{DS})(I)$ (equ. 12.8-5 ASCE 7-16) I = 1.00

Cs(min) = 0.045
Cs = 0.156 ← governs
Cs(max) = N/A

$V = CsW = Q_E =$ (equ. 12.8-1 ASCE 7-16)

SINGLE STORY:

Roof Area = 1333.0 ft^2 Wall Length = 40.0 ft
Roof Dead Weight = 20.0 psf Wall Dead Weight = 9.0 psf
Snow Load = 25 psf Tributary Wall Height = 4.5 ft
# of Walls = 2

W = Roof + Wall = 29,900 #
V = 0.156 * 29900 = 4664 #

ρ calc: Wall Height = 9.0

Wall Line	Trib. Shear	Wall Segments					Panel Ratio	
LA	0.50	14.00	0.00	0.00	0.00	0.00	0.00	<=.33 OK
LB	0.50	2.50	2.00	2.00	2.50	0.00	0.14	<=.33 OK
N/A	0.00	0.00	0.00	0.00	0.00	0.00	0.00	N/A
N/A	0.00	0.00	0.00	0.00	0.00	0.00	0.00	N/A
N/A	0.00	0.00	0.00	0.00	0.00	0.00	0.00	N/A
N/A	0.00	0.00	0.00	0.00	0.00	0.00	0.00	N/A
TA	0.50	13.00	0.00	0.00	0.00	0.00	0.00	<=.33 OK
TB	0.50	13.00	0.00	0.00	0.00	0.00	0.00	<=.33 OK
N/A	0.00	0.00	0.00	0.00	0.00	0.00	0.00	N/A
N/A	0.00	0.00	0.00	0.00	0.00	0.00	0.00	N/A
N/A	0.00	0.00	0.00	0.00	0.00	0.00	0.00	N/A
N/A	0.00	0.00	0.00	0.00	0.00	0.00	0.00	N/A

ρ = 1.0 per ASCE 7-16, 12.3.4.2
$0.7\rho Q_E$ = .7(1)(4664) = 3265 #

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JOB #: 25-5238 PAGE 6 OF 16
BY: DT DATE: 2/4/2025

WIND

Code IBC 2021, ASCE 7-16
Wind Ult. = 110 mph
Exposure = C

Enclosed Simple Diaphragm Method
(Part 2, Chapter 28, ASCE 7-16)

$P_s = \lambda K_{zt} P_{s30}$ (Section 28.5.3 ASCE 7-16)

by figure 28.5-1 ASCE 7-16

A =	(1.21)	(1.00)	(21.60)	=	26.1 psf
B =	(1.21)	(1.00)	(.00)	=	.0 psf
C =	(1.21)	(1.00)	(14.40)	=	17.4 psf
D =	(1.21)	(1.00)	(.00)	=	.0 psf

where:
λ = 1.21
Kzt = 1.00
h = 13 ft
2a = (0.2) (28.0)
= 5.6 ≈ 6
pitch = 2.0 / 12
==> θ = $\tan^{-1}$ (2/12)
= 9.46

ASD Pressure

$P = (.6)[Area_A{*}A + Area_B{*}B + Area_C{*}C + Area_D{*}D]$ = Pressure Calculated

check 10psf minimum per ASCE 7-16 =

$Pmin = (.6)[16psf(AREA_A + AREA_C) + 8psf(AREA_B + AREA_D)]$

Front -Rear (number of wall lines = 2)

P(LA) =	(.6) [	(27) (26.10)	+	(50) (.00)	+	
		(63) (17.40)		(0) (.00)	] =	1080.5
$P(LA)_{min}$ =	1104.0		Pmin. Governs			
P(LB) =	(.6) [	(27) (26.10)	+	(50) (.00)	+	
		(63) (17.40)		(0) (.00)	] =	1080.5
$P(LB)_{min}$ =	1104.0		Pmin. Governs			
P(N/A) =	(.6) [	(0) (.00)	+	(0) (.00)	+	
		(0) (.00)		(0) (.00)	] =	0.0
$P(N/A)_{min}$ =	0.0					
P(N/A) =	(.6) [	(0) (.00)	+	(0) (.00)	+	
		(0) (.00)		(0) (.00)	] =	0.0
$P(N/A)_{min}$ =	0.0					
P(N/A) =	(.6) [	(0) (.00)	+	(0) (.00)	+	
		(0) (.00)		(0) (.00)	] =	0.0
$P(N/A)_{min}$ =	0.0					
P(N/A) =	(.6) [	(0) (.00)	+	(0) (.00)	+	
		(0) (.00)		(0) (.00)	] =	0.0
$P(N/A)_{min}$ =	0.0					

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PROJECT: Timberland #7161 Marcoe
JOB #: 25- 5238 PAGE 7 OF 16
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by figure 28.5-1 ASCE 7-16

A =	(1.21)	(1.00)	(19.20)	=	23.2 psf
B =	(1.21)	(1.00)	(.00)	=	.0 psf
C =	(1.21)	(1.00)	(12.70)	=	15.4 psf
D =	(1.21)	(1.00)	(.00)	=	.0 psf

pitch = 0.0 / 12
==> θ = $\tan^{-1}$ (/12)
= 0.00

Side - Side (number of wall lines = 2)

P(TA) =	(.6) [	(30) (23.20)	+	(0) (.00)	+		
		(48) (15.40)		(0) (.00)	] =	861.1	
$P(TA)_{min}$ =	748.8		Pcalced Governs				
P(TB) =	(.6) [	(30) (23.20)	+	(0) (.00)	+		
		(48) (15.40)		(0) (.00)	] =	861.1	
$P(TB)_{min}$ =	748.8		Pcalced Governs				
P(N/A) =	(.6) [	(0) (.00)	+	(0) (.00)	+		
		(0) (.00)		(0) (.00)	] =	0.0	
$P(N/A)_{min}$ =	0.0						
P(N/A) =	(.6) [	(0) (.00)	+	(0) (.00)	+		
		(0) (.00)		(0) (.00)	] =	0.0	
$P(N/A)_{min}$ =	0.0						
P(N/A) =	(.6) [	(0) (.00)	+	(0) (.00)	+		
		(0) (.00)		(0) (.00)	] =	0.0	
$P(N/A)_{min}$ =	0.0						
P(N/A) =	(.6) [	(0) (.00)	+	(0) (.00)	+		
		(0) (.00)		(0) (.00)	] =	0.0	
$P(N/A)_{min}$ =	0.0						

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PROJECT: Timberland #7161 Marcoe

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BY: DT DATE: 2/4/2025

SHEAR TABLE

Wall Line	Wind Shear	Seismic Shear	Wall Length	Vw	Vs	SW Type
LA	1104	1632	14.00	78.9	116.6	1
LB	1104	1632	9.00	122.7	181.4	1
N/A	0	0	0.00	0.0	0.0	0
N/A	0	0	0.00	0.0	0.0	0
N/A	0	0	0.00	0.0	0.0	0
N/A	0	0	0.00	0.0	0.0	0
TA	861	1632	13.00	66.2	125.6	1
TB	861	1632	13.00	66.2	125.6	1
N/A	0	0	0.00	0.0	0.0	0
N/A	0	0	0.00	0.0	0.0	0
N/A	0	0	0.00	0.0	0.0	0
N/A	0	0	0.00	0.0	0.0	0

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PROJECT Timberland - #7161

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BY DT DATE 2-4-25

Overturning

Wall Line ⊥A (14' wall)

$V = 1632^{\#}$, $M_o = 1632(9) = 14{,}688$ Ft.#

$w_d = 2.5(20) + 81 = 131\ ^{\#}/Ft$

$M_r = 131(14)^2/2(.6 - .14(1.02)) = 5905$ Ft.#

$R_u = (14{,}688 - 5905)/12.5 = 703^{\#}$

⇒ Simp MST27 SW to rim + Simp MSTA12 rim to BxB + Simp Titen HD 1/2"x12" (THD501200 HMG)

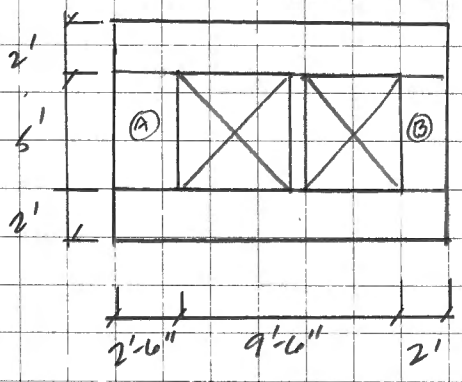
Wall Line ⊥B (14' wall w/ 4°50 & 5°50 strapped per D/6)

$V = 1632/2 = 816^{\#}$ $M_o = 816(9) = 7344$ Ft.#

$M_r = 5905$ Ft.# (prev calc'd)

$R_u = (7344 - 5905)/13.5 = 107^{\#}$ neg!

⇒ no holdown req'd



OTM @:

$M_o = (2 \times 181)(5) = 1810$ Ft.#

$M_r = 131(2)^2/2(.46) = 121$ Ft.#

$R_u = (1810 - 121)/2 = 844^{\#}$

$v = 844/(9-5) = 211\ ^{\#}/Ft$ ⇒ < 1 ok

Verify CS20 strap:

$P = 181(2.5) - 58(2.5) = 309^{\#} < 1030^{\#}$ ok ✓

Verify seismic H/W ratio: $181(5)/2(2) = 226$ plf ⇒ < 1 ok

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PROJECT Timberland #7161

JOB # 25-5238 PAGE 10 OF 16

BY DT DATE 2-4-25

Wall Line TA & TB (13' wall)

$w = 1632^{\#}$ $M_o = 1632(9) = 14,688$ ft.#

$w_p = (14/2 + 1.5)(20) + 81 = 251$ #/ft

$M_r = 251(13)^2/(.46) = 9756$ ft.#

$R_w = (14,688 - 9756)/11.5 = 429$ #

⇒ Simp MST27 strap sw to rim
+ Simp MSTA12 rim to 8x8
+ Simp Titan HD 1/2"x12"
(THD50.1200 HMG)

Project: 7161

Location: PIER PAD @ GIRDER POINTLOADS
Footing
[2021 International Building Code(2018 NDS)]
Footing Size: 3.51 FT x 3.51 FT x 12.00 IN
Reinforcement: #4 Bars @ 7.00 IN. O.C. E/W / (6) min.
Section Footing Design Adequate

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FOOTING PROPERTIES

Allowable Soil Bearing Pressure:	Qs =	1000	psf
Concrete Compressive Strength:	F'c =	2500	psi
Reinforcing Steel Yield Strength:	Fy =	40000	psi
Concrete Reinforcement Cover:	c =	3	in

FOOTING SIZE

Width:	W =	3.51	ft
Length:	L =	3.51	ft
Depth:	Depth =	12	in
Effective Depth to Top Layer of Steel:	d =	8.25	in

COLUMN AND BASEPLATE SIZE

Column Type:	Wood		
Column Width:	m =	4	in
Column Depth:	n =	8	in

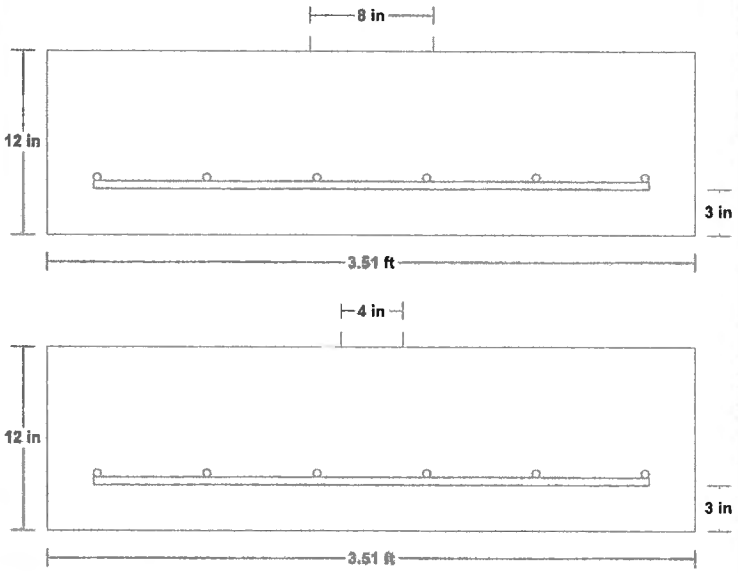
FOOTING CALCULATIONS

Bearing Calculations:

Ultimate Bearing Pressure:	Qu =	845	psf
Effective Allowable Soil Bearing Pressure:	Qe =	850	psf
Required Footing Area:	Areq =	12.25	sf
Area Provided:	A =	12.32	sf
Baseplate Bearing:			
Bearing Required:	Bear =	14739	lb
Allowable Bearing:	Bear-A =	88400	lb
Beam Shear Calculations (One Way Shear):			
Beam Shear:	Vu1 =	4483	lb
Allowable Beam Shear:	Vc1 =	26062	lb
Punching Shear Calculations (Two Way Shear):			
Critical Perimeter:	Bo =	57	in
Punching Shear:	Vu2 =	13085	lb
Allowable Punching Shear (ACI 11-35):	vc2-a =	70538	lb
Allowable Punching Shear (ACI 11-36):	vc2-b =	137363	lb
Allowable Punching Shear (ACI 11-37):	vc2-c =	70538	lb
Controlling Allowable Punching Shear:	vc2 =	70538	lb
Bending Calculations:			
Factored Moment:	Mu =	77602	in-lb
Nominal Moment Strength:	Mn =	338564	in-lb
Reinforcement Calculations:			
Concrete Compressive Block Depth:	a =	0.53	in
Steel Required Based on Moment:	As(1) =	0.26	in2
Min. Code Req'd Reinf. Shrink./Temp. (ACI-10.5.4):	As(2) =	1.01	in2
Controlling Reinforcing Steel:	As-reqd =	1.01	in2
Selected Reinforcement:	#4's @ 7.0 in. o.c. e/w (6) Min.		
Reinforcement Area Provided:	As =	1.18	in2
Development Length Calculations:			
Development Length Required:	Ld =	15	in
Development Length Supplied:	Ld-sup =	18.06	in

Note: Plain concrete adequate for bending, therefore adequate development length not required.

LOADING DIAGRAM



FOOTING LOADING

Live Load:	PL =	5600	lb *
Dead Load:	PD =	4816	lb *
Total Load:	PT =	10416	lb *
Ultimate Factored Load:	Pu =	14739	lb
Footing plus soil above footing weight:	Wt =	1191	lb

* Load obtained from Load Tracker. See Summary Report for details.

NOTES

Project: 7161

Location: 1) WINDOW / DOOR HDRS
Roof Beam
[2021 International Building Code(2018 NDS)]
(3) 1.75 IN x 7.25 IN x 6.5 FT
1.9E Microllam - iLevel Trus Joist
Section Adequate By: 453.1%
Controlling Factor: Moment

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CAUTIONS
* Laminations are to be fully connected to provide uniform transfer of loads to all members

DEFLECTIONS Center

Live Load	0.03	IN L/2735
Dead Load	0.02	in
Total Load	0.05	IN L/1467

Live Load Deflection Criteria: L/240 Total Load Deflection Criteria: L/180

REACTIONS

	A	B
Live Load	731 lb	731 lb
Dead Load	632 lb	632 lb
Total Load	1363 lb	1363 lb
Bearing Length	0.35 in	0.35 in

BEAM DATA

Span Length	6.5 ft
Unbraced Length-Top	2 ft
Unbraced Length-Bottom	0 ft
Roof Pitch	2 :12
Roof Duration Factor	1.15

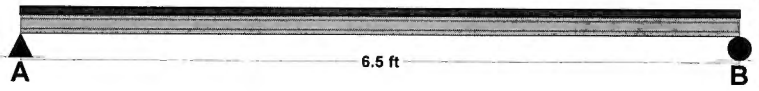
MATERIAL PROPERTIES
1.9E Microllam - iLevel Trus Joist

	Base Values	Adjusted
Bending Stress:	Fb = 2600 psi	Fb' = 3196 psi
	Cd=1.15 Cl=1.00 CF=1.07	
Shear Stress:	Fv = 285 psi	Fv' = 328 psi
	Cd=1.15	
Modulus of Elasticity:	E = 1900 ksi	E' = 1900 ksi
Comp. ⊥ to Grain:	Fc - ⊥ = 750 psi	Fc - ⊥' = 750 psi

Controlling Moment: 2215 ft-lb
3.25 ft from left support
Created by combining all dead and live loads.
Controlling Shear: 1118 lb
At a distance d from support.
Created by combining all dead and live loads.

Comparisons with required sections:	Req'd	Provided
Section Modulus:	8.32 in3	45.99 in3
Area (Shear):	5.12 in2	38.06 in2
Moment of Inertia (deflection):	20.45 in4	166.72 in4
Moment:	2215 ft-lb	12250 ft-lb
Shear:	1118 lb	8317 lb

LOADING DIAGRAM



ROOF LOADING
Side One:

Roof Live Load:	LL =	25	psf
Roof Dead Load:	DL =	20	psf
Tributary Width:	TW =	7	ft

Side Two:

Roof Live Load:	LL =	25	psf
Roof Dead Load:	DL =	20	psf
Tributary Width:	TW =	2	ft

Wall Load: WALL = 0 plf

SLOPE/PITCH ADJUSTED LENGTHS AND LOADS

Adjusted Beam Length:	Ladj =	6.5	ft
Beam Self Weight:	BSW =	12	plf
Beam Uniform Live Load:	wL =	225	plf
Beam Uniform Dead Load:	wD_adj =	194	plf
Total Uniform Load:	wT =	419	plf

NOTES

Project: 7161

Location: 2) MAIN FLOOR BEAM @ MODULE
Uniformly Loaded Floor Beam
[2021 International Building Code(2018 NDS)]
1.75 IN x 9.5 IN x 4.0 FT
1.9E Microllam - iLevel Trus Joist
Section Adequate By: 201.4%
Controlling Factor: Shear

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DEFLECTIONS

	Center	
Live Load	0.02	IN L/2571
Dead Load	0.00	in
Total Load	0.02	IN L/2343

Live Load Deflection Criteria: L/360 Total Load Deflection Criteria: L/240

REACTIONS

	A	B
Live Load	1540 lb	1540 lb
Dead Load	150 lb	150 lb
Total Load	1690 lb	1690 lb
Bearing Length	1.29 in	1.29 in

BEAM DATA

	Center
Span Length	4 ft
Unbraced Length-Top	1.33 ft
Floor Duration Factor	1.00
Notch Depth	0.00

LOADING DIAGRAM

MATERIAL PROPERTIES

1.9E Microllam - iLevel Trus Joist

	Base Values	Adjusted
Bending Stress:	Fb = 2600 psi	Fb' = 2644 psi
	Cd=1.00 Cl=0.99 CF=1.03	
Shear Stress:	Fv = 285 psi	Fv' = 285 psi
	Cd=1.00	
Modulus of Elasticity:	E = 1900 ksi	E' = 1900 ksi
Comp. ⊥ to Grain:	Fc - ⊥ = 750 psi	Fc - ⊥' = 750 psi

Controlling Moment: 1690 ft-lb
2.0 ft from left support
Created by combining all dead and live loads.

Controlling Shear: -1048 lb
At a distance d from support.
Created by combining all dead and live loads.

FLOOR LOADING

		Side 1	Side 2
Floor Live Load	FLL =	110 psf	0 psf
Floor Dead Load	FDL =	10 psf	0 psf
Floor Tributary Width	FTW =	7 ft	0 ft
Wall Load	WALL =	0 plf	

BEAM LOADING

Beam Total Live Load:	wL =	770 plf
Beam Total Dead Load:	wD =	70 plf
Beam Self Weight:	BSW =	5 plf
Total Maximum Load:	wT =	845 plf

Comparisons with required sections:

	Req'd	Provided
Section Modulus:	7.67 in3	26.32 in3
Area (Shear):	5.52 in2	16.63 in2
Moment of Inertia (deflection):	17.5 in4	125.03 in4
Moment:	1690 ft-lb	5800 ft-lb
Shear:	-1048 lb	3159 lb

NOTES

Project: 7161

Location: FLOOR JOISTS
Floor Joist
[2021 International Building Code(2018 NDS)]
(2) 1.5 IN x 9.25 IN x 13.75 FT @ 16 O.C.
#2 - Douglas-Fir-Larch - Dry Use
Section Adequate By: 1.5%
Controlling Factor: Deflection

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CAUTIONS
* Properly connect sheathing to double joists/rafters or fully laminate to transfer diaphragm forces.

DEFLECTIONS

	Center
Live Load	0.34 IN L/487
Dead Load	0.03 in
Total Load	0.37 IN L/443

Live Load Deflection Criteria: L/480 Total Load Deflection Criteria: L/360

REACTIONS

	A	B
Live Load	917 lb	917 lb
Dead Load	92 lb	92 lb
Total Load	1009 lb	1009 lb
Bearing Length	0.54 in	0.54 in

SUPPORT LOADS

	A	B
Live Load	688 plf	688 plf
Dead Load	69 plf	69 plf
Total Load	757 plf	757 plf

LOADING DIAGRAM

MATERIAL PROPERTIES
#2 - Douglas-Fir-Larch

	Base Values	Adjusted
Bending Stress:	Fb = 900 psi	Fb' = 1139 psi
	Cd=1.00 CF=1.10 Cr=1.15	
Shear Stress:	Fv = 180 psi	Fv' = 180 psi
	Cd=1.00	
Modulus of Elasticity:	E = 1600 ksi	E' = 1600 ksi
Comp. ⊥ to Grain:	Fc - ⊥ = 625 psi	Fc - ⊥' = 625 psi

Controlling Moment: 3466 ft-lb
6.88 Ft from left support of span 2 (Center Span)
Created by combining all dead loads and live loads on span(s) 2
Controlling Shear: -908 lb
At a distance d from right support of span 2 (Center Span)
Created by combining all dead loads and live loads on span(s) 2

Comparisons with required sections:	Req'd	Provided
Section Modulus:	36.53 in3	42.78 in3
Area (Shear):	7.56 in2	27.75 in2
Moment of Inertia (deflection):	194.94 in4	197.86 in4
Moment:	3466 ft-lb	4059 ft-lb
Shear:	-908 lb	3330 lb

JOIST DATA

	Center
Span Length	13.75 ft
Unbraced Length-Top	0 ft
Unbraced Length-Bottom	0 ft

Floor sheathing applied to top of joists-top of joists fully braced.
Floor Duration Factor 1.00

JOIST LOADING

Uniform Floor Loading		Center
Live Load	LL =	100 psf
Dead Load	DL =	10 psf
Total Load	TL =	110 psf
TL Adj. For Joist Spacing	wT =	146.7 plf

NOTES

Project: 7161

Location: FLOOR JOISTS W/ MIXER
Floor Joist
[2021 International Building Code(2018 NDS)]
(2) 1.5 IN x 9.25 IN x 13.75 FT @ 16 O.C.
#2 - Douglas-Fir-Larch - Dry Use
Section Adequate By: 12.0%
Controlling Factor: Moment

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CAUTIONS

* Properly connect sheathing to double joists/rafters or fully laminate to transfer diaphragm forces.

DEFLECTIONS

	Center	
Live Load	0.35	IN L/466
Dead Load	0.03	in
Total Load	0.39	IN L/426

Live Load Deflection Criteria: L/360 Total Load Deflection Criteria: L/240

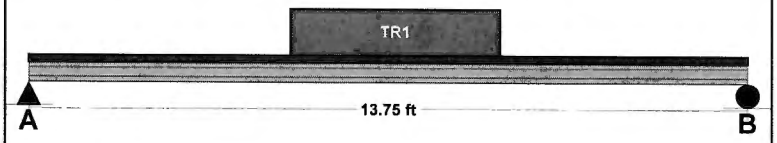
REACTIONS

	A	B
Live Load	943 lb	944 lb
Dead Load	92 lb	92 lb
Total Load	1035 lb	1036 lb
Bearing Length	0.55 in	0.55 in

SUPPORT LOADS

	A	B
Live Load	707 plf	708 plf
Dead Load	69 plf	69 plf
Total Load	776 plf	777 plf

LOADING DIAGRAM



MATERIAL PROPERTIES

#2 - Douglas-Fir-Larch

	Base Values	Adjusted
Bending Stress:	Fb = 900 psi	Fb' = 1139 psi
	Cd=1.00 CF=1.10 Cr=1.15	
Shear Stress:	Fv = 180 psi	Fv' = 180 psi
	Cd=1.00	
Modulus of Elasticity:	E = 1600 ksi	E' = 1600 ksi
Comp. ⊥ to Grain:	Fc - ⊥ = 625 psi	Fc - ⊥' = 625 psi

Controlling Moment: 3623 ft-lb
6.88 Ft from left support of span 2 (Center Span)
Created by combining all dead loads and live loads on span(s) 2

Controlling Shear: -935 lb
At a distance d from right support of span 2 (Center Span)
Created by combining all dead loads and live loads on span(s) 2

Comparisons with required sections:	Req'd	Provided
Section Modulus:	38.18 in3	42.78 in3
Area (Shear):	7.79 in2	27.75 in2
Moment of Inertia (deflection):	152.74 in4	197.86 in4
Moment:	3623 ft-lb	4059 ft-lb
Shear:	-935 lb	3330 lb

JOIST DATA

	Center	
Span Length	13.75	ft
Unbraced Length-Top	0	ft
Unbraced Length-Bottom	0	ft

Floor sheathing applied to top of joists-top of joists fully braced.
Floor Duration Factor 1.00

JOIST LOADING

Uniform Floor Loading		Center	
Live Load	LL =	100	psf
Dead Load	DL =	10	psf
Total Load	TL =	110	psf
TL Adj. For Joist Spacing	wT =	146.7	plf
Partially Distributed Loading			
Live Load	LL =	10	psf
Dead Load	DL =	0	psf
Load Start	A =	5	ft
Load End	B =	9	ft
Load Length	C =	4	ft

NOTES

Project: 7161

Location: TYPICAL COLUMN
Column
[2021 International Building Code(2018 NDS)]
3.5 IN x 7.25 IN x 9.0 FT
#2 - Douglas-Fir-Larch - Dry Use
Section Adequate By: 54.7%

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VERTICAL REACTIONS

Live Load:	Vert-LL-Rxn =	2900	lb
Dead Load:	Vert-DL-Rxn =	2350	lb
Total Load:	Vert-TL-Rxn =	5250	lb

COLUMN DATA

Total Column Length:	9	ft
Unbraced Length (X-Axis) Lx:	9	ft
Unbraced Length (Y-Axis) Ly:	9	ft
Column End Condition-K (e):	1	
Axial Load Duration Factor	1.00	

COLUMN PROPERTIES

#2 - Douglas-Fir-Larch

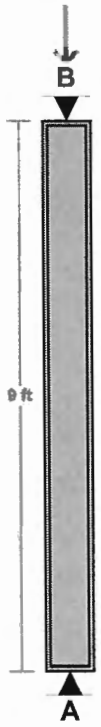
	Base Values	Adjusted
Compressive Stress:	Fc = 1350 psi	Fc' = 457 psi
	Cd=1.00 Cf=1.05 Cp=0.32	
Bending Stress (X-X Axis):	Fbx = 900 psi	Fbx' = 1170 psi
	Cd=1.00 CF=1.30	
Bending Stress (Y-Y Axis):	Fby = 900 psi	Fby' = 1170 psi
	Cd=1.00 CF=1.30	
Modulus of Elasticity:	E = 1600 ksi	E' = 1600 ksi

Column Section (X-X Axis):	dx =	7.25	in
Column Section (Y-Y Axis):	dy =	3.5	in
Area:	A =	25.38	in2
Section Modulus (X-X Axis):	Sx =	30.66	in3
Section Modulus (Y-Y Axis):	Sy =	14.8	in3
Slenderness Ratio:	Lex/dx =	14.9	
	Ley/dy =	30.86	

Column Calculations (Controlling Case Only):
Controlling Load Case: Axial Total Load Only (L + D)

Actual Compressive Stress:	Fc =	207	psi
Allowable Compressive Stress:	Fc' =	457	psi
Eccentricity Moment (X-X Axis):	Mx-ex =	0	ft-lb
Eccentricity Moment (Y-Y Axis):	My-ey =	0	ft-lb
Moment Due to Lateral Loads (X-X Axis):	Mx =	0	ft-lb
Moment Due to Lateral Loads (Y-Y Axis):	My =	0	ft-lb
Bending Stress Lateral Loads Only (X-X Axis):	Fbx =	0	psi
Allowable Bending Stress (X-X Axis):	Fbx' =	1170	psi
Bending Stress Lateral Loads Only (Y-Y Axis):	Fby =	0	psi
Allowable Bending Stress (Y-Y Axis):	Fby' =	1170	psi
Combined Stress Factor:	**CSF =**	**0.45**	

LOADING DIAGRAM



AXIAL LOADING

Live Load:	PL =	2900 lb
Dead Load:	PD =	2300 lb
Column Self Weight:	CSW =	50 lb
Total Axial Load:	PT =	5250 lb

NOTES

Timberland Homes

Electrical Calculations

Project:	Marcoe Candy	Job #:	D#7161
Address:	110 9th Ave SW	County:	Pierce
	Puyallup, WA	Zone:	4C
	98371		

Electrical Load Calculations:

Standard Calculation-Commercial/Industrial

Item Description: General Loads	Quantity	Value	Connected Load
Refers	2	2400	4800
Ice Cream Bunker	1	2400	2400
Hot Water Heater	1	7200	7200
Soft Serve Ice Cream	1	2400	2400
Receptacle Load Non-continous duty	11	180	1980
Heat Pump (Ductless)	1	7200	7200
Total Connected Load			25980

Demand Load Calculation:				
1st 10KW and Appliances at 100%				24000
General Lighting Load 1120sf x 3.5va x	3920 x	125%		4900
Outside Light Load 11va x 5 units	55 x	125%		69
Sign Lighting Load 1200va x 1 unit	1200 x	125%		1500
Balance of 1980	VA @	50%		990
Total Calculated Load				31459

Equals:	131.1 AMPS at 240 Volts

Load Center Size:
200 AMP

Feeder Sizes
2 - (4/0) 1 - (2/0) @ XHHW

FRANKLIN ENGINEERING
MECHANICAL CONSULTING

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natalie@franklineng.com

March 10, 2025

ENVELOPE SUMMARY

RE: Marcoe Candy
110 9th Ave SW
Puyallup, WA 98371

New construction of conditioned building. Project complies with 2021 WSEC, Commercial Provisions, using the Component Performance approach.

Roof: R-49 insulation in attic. U=0.021, default Table A102.1

Wall (Wood, Opaque, Exterior, Floor to Roof): 2x6 wood studs, Intermediate framing, with R-21 batt insulation, plus R-5 rigid, U=0.041, default Table A103.3.1(5)

Floor Over: Wood joist with R-38 batt insulation, U=0.025, default Table A105.1(3)

Doors (Swinging, Opaque): Insulated metal, U=0.37, default Table A107.1(1)

Vertical Glazing (Non-Metal): Wood/vinyl frame, NFRC certified assembly, U=0.25, SHGC=0.38

Skylights: NFRC certified assembly, U-0.51, SHGC-0.35, VT=0.50

Please note that these values are minimum insulation requirements for code compliance. Higher insulation values may be installed. SHGC = Solar Heat Gain Coefficient. VT = Visible Transmittance.

21FBS2500073

ENVELOPE COMPLIANCE SUMMARY

2021 WSEC Compliance Forms for Commercial Buildings including Group R2, R3 & R4 over 3 stories and all R1

Project & Applicant Information	**Project Title**	Marcoe Candy - 2021 WSEC	For Building Department Use:	**Date: Mar 10, 2025**
	Project Address	110 9th Ave SW Puyallup, WA 98371		
	Applicant Name	Mike Langford		
	Applicant Phone	253-736-3501		
	Applicant Email	mike@timberline-homes.com		

For questions about this report, contact WSEC Commercial Technical Support at 360-539-5300 or via email at com.techsupport@waenergycodes.com

General Occupancy	All Commercial	**General Building Use Type(s)**	Dining, Fast Food	**Building Cond. Floor Area**	1,058
Project Scope	New Building	**Space Conditioning Categories**	Fully Conditioned	**Project Cond. Floor Area**	1,058
				Floors Above Grade	1
				Compliance Method	General Prescriptive
Envelope Project Description	New construction of fully conditioned walk up food service.				

Envelope Compliance Scope and Method	**Scope**	**Space Conditioning Category**	**Compliance Method**	**WWR/SRR per Category**	**UA Calculation Adjustment**	**Fenestration Alternates**	**Compliance Verification**
	New Building	Fully Conditioned	Component performance	22.73% / 0.19%	None selected	No alternates selected	**COMPLIES**

Additional Energy Efficiency (AEC) Measures Included	No envelope or miscellaneous additional energy efficiency measures included in project	**Load Management (LDM) Measures Included**	No envelope or miscellaneous load management measures included in project
Air Barrier Testing	Standard building thermal envelope test	**Air Barrier Comments**	

Project Title	**Marcoe Candy - 2021 WSEC**	**Date**	**Mar 10, 2025**

Scope & Space Conditioning	**NEW BUILDING - FULLY CONDITIONED**			**Compliance Verification**	**COMPLIES**
Window-to-wall Ratio	22.73%	**Skylight-to-roof-ratio**	0.19%	**Vertical Fenestration Alternate**	No alternates selected

Opaque Envelope Assemblies

				Insulation R-Values				
Roof/Ceiling	**Location in Documents**	**Assembly ID**	**Assembly Location**	**Cavity**	**Continuous (% penetration)**	**2nd Layer (MB Roof)**	**U-Factor**	**Net Area (SF)**
Attic and other	-	Attic, R-49	Exterior	R-49	R-0 (< 0.04%)		U-0.021	1,058
	U-Factor Source: WSEC Appendix A Default			U-Factor Source Description: Table A102.1				
	Roof Framing Type: Advanced			Roof Framing Depth (Inches): -				
	Roof Framing Spacing (OC): -			Roof Framing Material: Wood-framed				
	Ceiling/Attic Venting: Vented							
Walls	**Location in Documents**	**Assembly ID**	**Assembly Location**	**Cavity**	**Continuous (% penetration)**	**Insulated Wall Furring**	**U-Factor**	**Net Area (SF)**
Wood-framed and other - Commercial	-	Wood Furr	Exterior	R-21	R-5 (< 0.04%)		U-0.041	876
	Which code target does wall comply with?: R-20 Cavity + R-3.8 CI			U-Factor Source: WSEC Appendix A Default				
	U-Factor Source Description: Table A103.3.1(5)			Wall Framing Type: Intermediate				
	Framing Depth: 2x6			Other Framing Depth:				
	Framing Spacing (OC): 16" oc							
Floors and Edges	**Location in Documents**	**Assembly ID**	**Assembly Location**	**Cavity**	**Continuous (% penetration)**		**U-Factor**	**Net Area (SF)**
Wood-framing/joist	-	Floor over Crawl	Exterior	R-38	R-0 (< 0.04%)		U-0.025	1,058
	U-Factor Source: WSEC Appendix A Default			U-Factor Source Description: Table A105.1(1)				
	Floor Framing Type (Joist, Post & Beam): Wood Joist			Framing Depth: 2x10				

	Other Framing Depth:			Framing Spacing (OC): -				
Fenestration & Opaque Door Assemblies								
				Insulation R-Values				
Opaque Doors	**Location in Documents**	**Assembly ID**	**Assembly Location**	**Door Insulation**			**U-Factor**	**Rough Opening (SF)**
Swinging	-	Man Doors	Exterior				U-0.37	42
	What percentage of this opaque door is glazing?: 50% or less			U-Factor Source: WSEC Appendix A Default				
	U-Factor Source Description: Table A107.1(1)			Is this a public entrance door?: No				
Vertical Fenestration	**Location in Documents**	**Assembly ID**	**Assembly Location**		**Shading (PF)**	**Fenestration SHGC**	**Fenestration U-Factor**	**Rough Opening (SF)**
Fixed - All other types	-	NFRC Windows	Exterior		PF < 0.2	SHGC-0.38	U-0.25	270
	U-Factor & SHGC Source: NFRC Rating			U-Factor Source Description:				
Skylights	**Location in Documents**	**Assembly ID**	**Assembly Location**			**Fenestration SHGC**	**Fenestration U-Factor**	**Rough Opening (SF)**
All types	-	NFRC Skylights	Exterior			SHGC-0.35	U-0.51	2
	U-Factor & SHGC Source: NFRC Rating			U-Factor Source Description:				

Project Title	Marcoe Candy - 2021 WSEC	Date	Mar 10, 2025

U x A Calculation	NEW BUILDING - FULLY CONDITIONED				COMPLIES		
Opaque Envelope Assemblies		**PROPOSED**			**TARGET**		
Roof/Ceiling	**Assembly ID**	**Roof/Ceiling Assembly U-Factor**	**Net Area (SF)**	**U x A**	**Roof/Ceiling Assembly U-Factor**	**Net Area (SF)**	**U x A**
Attic and other	Attic, R-49	0.021	1,058.0	22.2	0.021	1,058.0 (1)	22.2
Walls	**Assembly ID**	**Wall Assembly U-factor**	**Net Area (SF)**	**U x A**	**Wall Assembly U-factor**	**Net Area (SF)**	**U x A**
Wood-framed and other - Commercial	Wood Furr	0.041	876.0	35.9	0.051	876.0 (1)	44.7
Floors and Edges	**Assembly ID**	**Floor Assembly U-Factor**	**Net Area (SF)**	**U x A**	**Floor Assembly U-Factor**	**Net Area (SF)**	**U x A**
Wood-framing/joist	Floor over Crawl	0.025	1,058.0	26.5	0.029	1,058.0 (1)	30.7
Fenestration Assemblies		**PROPOSED**			**TARGET**		
Opaque Doors	**Assembly ID**	**Door Assembly U-Factor**	**Assembly Rough Opening (SF)**	**U x A**	**Door Assembly U-Factor**	**Assembly Rough Opening (SF)**	**U x A**
Swinging	Man Doors	0.37	42.0	15.5	0.37	42.0 (1)	15.5
Vertical Fenestration	**Assembly ID**	**Fenestration U-Factor**	**Assembly Rough Opening (SF)**	**U x A**	**Fenestration U-Factor**	**Assembly Rough Opening (SF)**	**U x A**
Fixed - All other types	NFRC Windows	0.25	270.0	67.5	0.26	270.0 (1)	70.2
Skylights	**Assembly ID**	**Skylight U-Factor**	**Assembly Rough Opening (SF)**	**U x A**	**Skylight U-Factor**	**Assembly Rough Opening (SF)**	**U x A**
All types	NFRC Skylights	0.51	2.0	1.0	0.50	2.0 (1)	1.0

	Proposed Area	Proposed UxA	Target Area	Target UxA
Project Totals	**3,306**	**169**	**3,306**	**184**

21FBS2500073

Project Title	Marcoe Candy - 2021 WSEC	Date	Mar 10, 2025

SHGC x A Calculation	NEW BUILDING - FULLY CONDITIONED	COMPLIES

Fenestration Assemblies			PROPOSED			TARGET		
Horizontal	Assembly ID	PF	Skylight SHGC	Assembly Rough Opening (SF)	SHGC x A	Skylight SHGC	Assembly Rough Opening (SF)	SHGC x A
Skylights	NFRC Skylights		0.35	2.0	0.7	0.35	2.0 (1)	0.7
Vertical Fenestration	Assembly ID	PF	Fenestration SHGC	Assembly Rough Opening (SF)	SHGC x A	Fenestration SHGC	Assembly Rough Opening (SF)	SHGC x A
Fixed - All other types	NFRC Windows	PF < 0.2	0.38	270.0	102.6	0.38	270.0 (1)	102.6

	Proposed Area	Proposed SHGC x A	Target Area	Target SHGC x A
Project Totals	272	103	272	103

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Expires 06/05/2026

21FBS2500073

MECHANICAL COMPLIANCE SUMMARY

2021 WSEC Compliance Forms for Commercial Buildings including Group R2, R3 & R4 over 3 stories and all R1

Project & Applicant Information	**Project Title**	Marcoe Candy - 2021 WSEC	For Building Department Use:	**Date: Mar 10, 2025**
	Project Address	110 9th Ave SW Puyallup, WA 98371		
	Applicant Name	Mike Langford		
	Applicant Phone	253-736-3501		
	Applicant Email	mike@timberland-homes.com		

For questions about this report, contact WSEC Commercial Technical Support at 360-539-5300 or via email at com.techsupport@waenergycodes.com

General Occupancy	All Commercial		**General Building Use Type**	Dining, Fast Food		**Building Cond. Floor Area**	1,058
General Project Types	New Building	**New Building or Addition Mechanical Scope**	Single Zone Systems & Equipment	**Alteration Mechanical Scope**		**Project Cond. Floor Area**	1,058
						Floors Above Grade	1
						Compliance Method	General Prescriptive
Mechanical Project Description	New mini split						

Mechanical Compliance Scope and Method	**Project Type**	**Mechanical Scope**	**Economizer Exception(s) Applied?**	**DOAS Ventilation Provided?**	**Higher Equipment Efficiency Option Applied?**	**Equipment Efficiency Compliance Verification**
	New Building	Single Zone Systems & Equipment	Yes	No	NA	**COMPLIES**
Additional Energy Efficiency (AEC) Measures Included	HVAC cooling equipment - 5% better than code efficiency & improved fan efficiency		**Load Management (LDM) Measures Included**		No mechanical load management measures included in project	
Additional Efficiency Credits Included (AEC)						
Does building include occupancy classifications requiring DOAS?	No		**Does project include DOAS equipment?**			No
Based on project scope do TSPR requirements apply?	No		**Do all systems comply with Appendix D standard reference design or qualify for an exception to TSPR?**			No

Scope & Space Conditioning	**NEW BUILDING - SINGLE ZONE SYSTEMS & EQUIPMENT**	**Compliance Verification**	**COMPLIES**

Single Zone Air Systems Category - Heat pump, split & single package, SC, SDHV

Air Systems Summary Information

System/Equip ID	Quantity of Items	Supply Airflow Control	Ventilation Standard	Ventilation CFM (Total if Multiple Items)	Ventilation Air Source	Paired with DOAS	Ventilation energy recovery	Energy Recovery Efficiency (%)
HP-1		Variable air volume	IMC Natural Ventilation					

Air Systems & Equipment - Cooling

System/ Equip ID	Cooling System/Equip Type	Specific Type	Cooling Capacity per item (Btu/h)	Econo Full Load Multiplier (Full/IPLV)	Required Cooling Efficiency (Code Min & Econo)	Proposed Cooling Efficiency	CE Units	Efficiency Compliance Verification
HP-1	Heat pump, air cooled	Split system	24,000	0	13.4	15.7	SEER2	COMPLIES

Air Systems & Equipment - Heating

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System /Equip ID	Heating System/Equip Type	Specific Type	Heat Pump Heating Capacity (Btu/h)	Cooling Capacity (Btu/h)	AEC Efficiency Multiplier	Proposed Heat Pump Heating Efficiency	HPH Units	Proposed Low OSA Temp Efficiency	LTH Units	Efficiency Compliance Verification
HP-1	Heat pump, air cooled, heating	Split system	24,000	36,000	1	7.5	HSPF2		COP	COMPLIES

Air Systems & Equipment Details			
System/Equip ID	**Discrete Area(s) Served**	**Location In Project Documents - Plan/Detail #**	**System/Equip Compliance Path**
HP-1	Whole building	-	General Prescriptive
	System/Equip ID for a single or multiple items?: Single item		
	Heating Section/Auxiliary Heating Type: Other source		Economizer Compliance Method: Economizer not required
	WSEC Equip Efficiency Reference Table - Cooling: Table C403.3.2(2) Unitary Heat Pumps		
	Proposed Low OSA Temp Efficiency:		LTH Units: COP
	WSEC Equip Efficiency Reference Table - Heating: Table C403.3.2(2) - Unitary Heat Pumps		

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Expires 06/05/2026

C406, C411 Summary — C406-C411-SUM

2021 Washington State Energy Code Compliance Forms for Commercial Buildings as defined in Chapter 2 — Revised June 2024

Project Info

Project Title:	**Marcoe Candy**
Date	3/10/2025
Applicant Information. Provide contact information for individual who can respond to inquiries about compliance form information provided.	For Building Dept. Use
Company Name:	**Timberland Homes**
Company Address:	
Applicant Name:	**Mike Langford**
Applicant Phone:	**253-736-3501**
Applicant Email:	**mike@timberland-homes.com**

Project Type & Area

Select one construction type per form. For projects that include multiple construction types, separate forms must be completed.

Project Type	New Construction
Project Floor Area	1,056
Project Conditioned Floor Area	1,056

Space and Water Heating Fu

Space heating must be provided by equipment complying with C403.1.4 or C401.3.3. Service hot water must be provided by equipment complying with C404.2.1 or C401.3. Complinace with C401.3 requires that additional C406.2 energy efficiency credits be achieved.

Is any space heat in the project area provided by equipment that does not comply with C403.1.4?	No
Is any service hot water used in the project provided by equipment that do not comply with C404.2.1?	No

Grocery Details

It is permitted to apply grocery heat recovery for C406.2.6.2 credit when the grocery area is over 10,000sf and it is not required to comply with C403.9.2.3.

Remotely located refrigeration condenser heat rejection capacity (kBtu/h)	
Does the facility have food service, meat or deli departments?	
Is refrigeration condenser heat recovery required?	
Is condenser heat recovery to Service Water heat required or used to comply with C403.9.2.3?	

C411 Summary

Values in this section are auto-filled from the RE-CALC worksheet and are write-protected. RE-CALC is required for all new construction, addition, change of conditioning, and change of use projects with conditioned floor area larger than 10000sf .

C411.1 Compliance	**NO REQUIREMENT - COMPLIES**
On-site Renewable Capacity (kW)	
On-site Renewable Capacity (W/CFA)	

C406 Summary

Compliance results indicate whether the proposed number of credits complies with C406 required number of credits including additional credits required by C401.3.3 and C411.

C406.2 Additional Energy Efficiency Measure Credit Compliance	**DOES NOT COMPLY**
C406.3 Load Management Measure Credit Compliance	**NOT REQUIRED**

Notes

C406 Additional Energy Efficiency & Load Management Credit Calculation

C406-CALC

2021 Washington State Energy Code Compliance Forms for Commercial Buildings as defined in Chapter 2

Revised June 2024

Project Title: **Marcoe Candy**

Date 3/10/2025

Additional Energy Efficiency & Load Management Measures - Required Credits

Occupancy/Discrete Area List								Additional Energy Efficiency Measure Credits					Load Management Measure Credits	
Area ID	Occupancy Group	Special Occ Case (Only for Occ. Group M and All Other)[NOTE 1]	Special Conditioning Case[NOTE 2]	Description	Floor Area	Capacity Fraction Requiring C401.3.3 Compliance[NOTE 3]		Base Credits Req'd	Fossil Fuel Path Credits Req'd	C411 Exception Credits Req'd	Total Req'd	Proposed	Total Req'd	Proposed
						Space Heating	Water heating							
All	Group B	None	None	Marcoe Candy	1,056			42	0	0	42.0	0.0	0.0	0.0
Credits Entered by Whole Project Measures[NOTE 4]												42.00		0.00
Project Total					1056	0.00	0.00				42.00	42.00	0.00	0.00

Note 1 - For Group M and All Other occupancy selections, enter appropriate special occupancy case or space type. This is used for measure credit assignment.
Note 2 - Enter Special Conditioning case info. Refer to C402.1.1 for details of the space types. This is used to determine the required credits and also for measure credit assignment. Generally the lower conditioning level the less required credits.
Note 3 - Enter the fraction of heating capacity serving the space that does not comply with C403.1.4 or C404.2.1 without utilizing the C401.3.3 fossil fuel compliance path. Provide a list of all equipment and systems serving the area , the compliance path utilized, the capacity weighted fossil fuel path fraction, and any applicable exceptions.
Note 4 - Credits here are for measures selecting the Whole Project Area ID below. Credits are calculated based upon the defined occupancy areas and area-weighted for the whole project.
Note 5 - Select an Area ID defined in the required credits section to which the measure will be applied, or select Whole Project to apply to the whole project.
Note 6 - Only measures earning variable credits based upon the implementation require this. Enter the proposed value for the input and provide documentation support ing the input value.

AEEM Compliance **COMPLIES**
LM Compliance **COMPLIES**

C406 Additional Energy Efficiency & Load Management Credit Calculation

C406-CALC

2021 Washington State Energy Code Compliance Forms for Commercial Buildings as defined in Chapter 2

Revised June 2024

Project Title: **Marcoe Candy**

Date 3/10/2025

Proposed Additional Energy Efficiency Measures

Area ID NOTE 5	Floor Area	Measure	Input for Calculated Credits (if applicable) NOTE 6		Base Credits	Earned Credits
			Input Description	User Input		
Whole Project	1056	10. 20% reduced lighting power			36	36
Whole Project	1056	3. Improve cooling and fan efficiency	% better than code (0-100)	10	3	6

Proposed Load Management Measures

Area ID NOTE 5	Floor Area	Measure	Input for Calculated Credits (if applicable) NOTE 6		Base Credits	Earned Credits
			Input Description	User Input		

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Certificate of Product Ratings

AHRI Certified Reference Number : 215413176 Date : 03-31-2025 Model Status : Active

AHRI Type : HRCU-A-CB-O (Mini-Split Heat Pump, with Remote Outdoor Unit Air-Source, Free Delivery)

Outdoor Unit Brand Name : CARRIER

Outdoor Unit Model Number : 37MHRAQ24AA3

Indoor Type : Mini-Splits (Non-Ducted)

Indoor Model Number(s) : 45MHHAQ24XC3

Rated as follows in accordance with the latest edition of AHRI 210/240 – 2024, Performance Rating of Unitary Air-Conditioning & Air-Source Heat Pump Equipment and subject to rating accuracy by AHRI-sponsored, independent, third party testing:

Cooling Capacity (A_{Full}) – Single or High Stage (95F), btuh : 24000

SEER2 : 18.50

EER2 (A_{Full}) – Single or High Stage (95F) : 9.50

Heating Capacity ($H1_{Full}$) – Single or High Stage (47F), btuh : 24000

HSPF2 (Region IV) : 9.00

Sold in? : USA, Canada

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†"Active" Model Status are those that an AHRI Certification Program Participant is currently producing AND selling or offering for sale; OR new models that are being marketed but are not yet being produced."Production Stopped" Model Status are those that an AHRI Certification Program Participant is no longer producing BUT is still selling or offering for sale.

Ratings that are accompanied by WAS indicate an involuntary re-rate. The new published rating is shown along with the previous (i.e. WAS) rating.

The Department of Energy has published updated energy efficiency metrics for central air conditioners and heat pumps. This publication reflects both the 1987 metric (SEER) and the 2023 metric (SEER2). Efficiency requirements are published at 10 C.F.R. 430.32(c). Please refer to www.AHRInet.org for more information about updated energy efficiency metrics.

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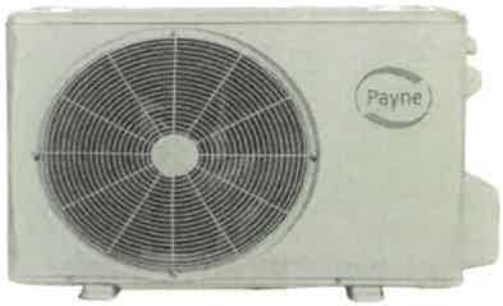
CERTIFICATE NO.: 133879165662401603

Single Zone Heat Pump Ductless System

Outdoor Model: 37MHRAQ24AA3
Indoor Model: 45MHHAQ24XC3

Payne

Job Data: _____ Location: _____
Tag #: _____ Carrier: _____
Date: _____



OUTDOOR STANDARD FEATURES
- Variable Speed (inverter)
- Factory Installed Base Pan Heater
- Factory Installed Crankcase Heater
- Low Voltage Controls
- Auto-Restart function
- Condenser High Temp Protection
- Quiet operation
- Anti-corrosive fin coating

INDOOR STANDARD FEATURES
- Modes: Cool, Heat, Dry, Fan, Auto
- Four fan speeds
- Sleep Mode
- Turbo Mode
- Louver Angle Memory
- Follow Me (senses temperature at handheld remote)
- Auto-Restart function
- Condenser High Temp Protection
- Quiet indoor operation
- Anti-corrosive fin coating

RESIDENTIAL APPLICATION LIMITED WARRANTY*
- Ten (10) years if properly registered within ninety (90) days after original installation, parts are warranted to the original purchaser for a period of ten (10) years. Otherwise, parts warranty is five (5) years.

NOTE: Images for illustration purposes only. Actual models may be slightly different.

Outdoor - Heat Pump			
System	Outdoor Model #		37MHRAQ24AA3
	Outdoor Size		24000
Electrical	Voltage, Phase, Cycle	V/Ph/Hz	208-230/1/60
	MCA	A.	19
	MOPA	A.	20
	SCCR	kA	5
Operating Range	Cooling Outdoor DB Min - Max	°F(°C)	5~122(-15~50)
	Heating Outdoor DB Min - Max	°F(°C)	5~75(-15~24)
Piping	Min. Piping Length	ft (m)	9.8 (3)
	Standard Piping Length	ft. (m)	24.6 (7.5)
	Total Piping Length	ft (m)	164.04(50)
	Piping Lift	ft (m)	82.02(25)
	Pipe Connection Size - Liquid	in (mm)	3/8in(9.52mm)
	Pipe Connection Size - Suction	in (mm)	5/8in(15.9mm)
Refrigerant	Refrigerant Type		R454B
	Charge	lbs (kg)	3.35(1.52)
	Add'l Refrigerant (between Std & Max Piping Lengths)	Oz/ft (g/m)	0.32(30)
Outdoor Coil	Face Area	Sq. Ft.	5.9
	No. Rows		1.6
	Fins per inch		20
	Circuits		5
Compressor	Type		ROTARY
	Model		KTM240D46UKT2
	Oil Type		ESTER OIL
	Oil Charge	FL Oz.	20.97
	Rated Current	RLA	0.9
Airflow & Sound	Airflow	CFM	1765.7
	Sound Pressure	dB(A)	62
Dimensions	Height	inch	26.5(673)
	Width	inch	35.04(890)
	Depth	inch	13.46(342)
	Net Weight	lbs.	94.58(42.9)
	Shipping Height	inch	29.13(740)
	Shipping Width	inch	39.17(995)
	Shipping Depth	inch	15.67(398)
	Shipping Net Weight	lbs.	102.29(46.4)

* Condensing unit above or below indoor unit

37MHRAQ24AA3 / 45MHHAQ24XC3 System Accessories		
Standard	Wireless Remote Controller (°F/°C Convertible)	
Optional	Wired Remote Control 7 Day Programmable	KSACN1401AAA
	Wired Remote Control with Timer Function	KSACN1201AAA
	WI-FI™ Kit High Wall	KSAIF0701AAA
	24V Mini Interface	KSAICD601230

Indoor - Heat Pump			
System	Indoor Model #		45MHHAQ24XC3
	Indoor Size		24000
Electrical	Voltage, Phase, Cycle	V/Ph/Hz	208-230/1/60
	Power Supply		Indoor unit powered by outdoor unit
	MCA	A.	3
Operating Range	Cooling Indoor DB Min - Max	°F(°C)	60~90(16~32)
	Heating Indoor DB Min - Max	°F(°C)	32~86(0~30)
Indoor Coil	Face Area	Sq. Ft.	2.97
	No. Rows		2
	Fins per inch		20
	Circuits		4
Indoor Unit	Number of Fan Speeds		1100/940/780
	Airflow (highest to lowest)	CFM	547.4/400.2/329.6
	Sound Pressure (highest to lowest)	dB(A)	46/41.0/28/22
	Moisture Removal	L/h	3
	Air Throw Data	ft(m)	30.41(9.27)
Dimensions	Height	in (mm)	26.5(673)
	Width	in (mm)	35.04(890)
	Depth	in (mm)	13.46(342)
	Net Weight	lbs (kg)	94.58(42.9)
	Shipping Height	inch	29.13(740)
	Shipping Width	inch	39.17(995)
	Shipping Depth	inch	15.67(398)
	Shipping Net Weight	lbs.	102.29(46.4)

37MHRAQ24AA3 / 45MHHAQ24XC3 System Performance		
Cooling Rated Capacity (DOE A2 - 95°F)		24000
Cooling Capacity Range		6200~24700
SEER2	Btu/h	18.5
EER2 (DOE A2 - 95°F)	Btu/h	9.7
Heating Rated Capacity (DOE H12 - 47°F)		24000
Heating Capacity Range		11900~27200
COP (DOE H12 - 47°F)	Btu/h	3.22
HSPF2 IV	Btu/h	9
HSPF2 V	Btu/h	7.1
Cooling Rated Capacity (DOE B2 - 82°F)	Btu/h	27000
EER2 (DOE B2 - 82°F)	Btu/h	12.5
Heating Rated Capacity (DOE H32 - 17°F)		17200
COP (DOE H32 - 17°F)	W/W	2.46
Heating Maximum Capacity (17°F)	W/W	20200
Heating Rated Capacity (DOE H42 - 5°F)	W/W	17000
COP (DOE H42 - 5°F)		2.11
Heating Maximum Capacity (5°F)		17000

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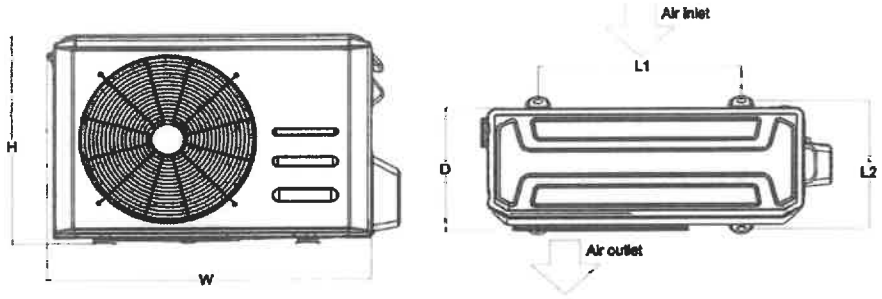
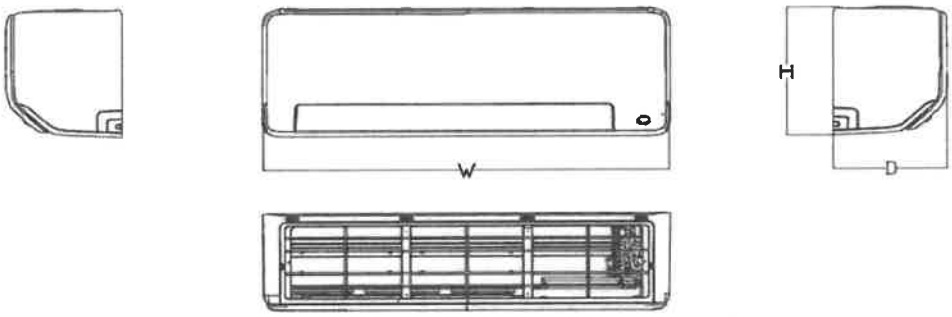


OUTDOOR UNIT DIMENSIONS						
Capacity	Unit	W	D	H	L1	L2
9K/12K - 115V/9K-12K	mm	765	303	555	452.4	285.76
	inch	30.12	11.93	21.85	17.81	11.25
18K	mm	805	330	554	511.00	317.2
	inch	31.69	12.99	21.81	20.1	12.5
24K	mm	890	342	673	663	346.67
	inch	35.04	13.46	26.5	26.1	13.65
30K/36K	mm	946	410	810	672.96	402.6
	inch	37.24	16.14	31.89	26.49	15.85



INDOOR UNIT DIMENSIONS				
Capacity	Unit	W	D	H
9K - 115V/9K	mm	729	200	292
	inch	28.7	7.87	11.5
12K - 115V/12k	mm	802	200	295
	inch	31.57	7.87	11.61
18K	mm	971	228	321
	inch	38.23	8.98	12.64
24K	mm	1082	234	337
	inch	42.6	9.21	13.27
30K/36K	mm	1259	283	362
	inch	49.57	11.14	14.25

R-454B

Rinnai

REHP Series

ELECTRIC HEAT PUMP WATER HEATER

c UL us ECOPORT ENERGY STAR

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CERTIFIED TO NEEA TIER 4

RESIDENTIAL HYBRID ELECTRIC HEAT PUMP WATER HEATER	
Efficiency & Performance	• Exceptional efficiency up to 4.0 UEF (Uniform Energy Factor) reduces operating cost • Up to 91 Gallons FHR (First Hour Rating) • Heat pump operating range down to 37°F ambient for extra days of efficient operation • ENERGY STAR ® rated for state and local rebates • Modulating fan allows noise free tranquility
Easy Installation	• Easy access to water supply and condensate connection on side. • Zero clearance required on back, top and side is optimal for confined spaces • Horizontal air filter placement for quick maintenance
Operation Modes	• Economy (Default) • Heat Pump • Hybrid • E-Heater • Vacation
Certifications	• Energy Star • AHRI • NEEA Tier 4 • CTA-2045-B Level 1 (AC form factor)
Warranty	• 10-Year limited warranty for tank and parts. Refer to warranty section in manual for more details.
Additional	• Intuitive LED Screen for easy installation and troubleshooting • Premium anode rod extends the life of the water heater • Dry-fire protection • Factory installed temperature and pressure relief valve • 3/4" NPT for water inlet and outlet; condensate drain with burb fitting for 3/4" hose • Integrated ducting adapters for tighter spaces (sold separately) • Easy to install with built-in handles • Plastic feet to prevent direct ground contact

RINNAI.US | RINNAI.CA | 1-800-621-9419

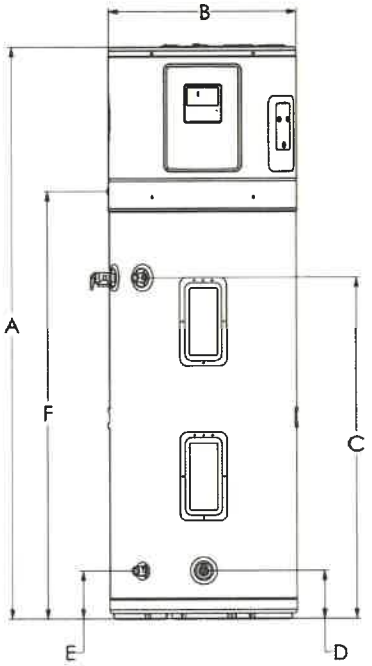
TECHNICAL SPECIFICATIONS

Model		50 Gal Models	65 Gal Models	80 Gal Models
Nominal Gallon Capacity		50 gal (189 lt)	65 gal (246 lt)	80 gal (303 lt)
Rated Gallon Capacity		46 gal (174 lt)	61 gal (231 lt)	74 gal (280 lt)
Voltage		208V/240V, 60Hz, 1PH		
Maximum Current		21.5 Amps		
Electrical Breaker Size		30 Amps		
Heat Pump Operating Ambient Temperature Range		37~107°F (3~42°C)		
Outlet Water Temperature Range		110°F~150°F (43°C~66°C)		
Refrigerant Type		R134a		
Uniform Energy Factor (UEF)		3.75	3.90	4.00
First Hour Rating (FHR)		73 gal (276 lt)	80 gal (303 lt)	91 gal (344 lt)
Recovery in G.P.H 90°F Rise		27.5	27.5	27.5
Estimated Yearly Energy Cost[1]		$121	$178	$174
Element Wattage	Upper / Lower	4500 W		
Compressor Wattage		500 W		
Total Unit Wattage (Input)		5000 W		
Hot and Cold Water Connection		3/4 in MNPT		
Condensate Drain Hose		3/4 in		
Unit Weight (Approximate)		218 lb (99 kg)	271 lb (123 kg)	290 (132 kg)
Shipping Weight (Approximate)		265 lb (120 kg)	334 lb (152 kg)	358 lb (162 kg)
Shipping Dimensions	Height	74.8 in (1900 mm)	75.6 in (1920 mm)	83.1 in (2111 mm)
	Length	28.3 in (719 mm)	30.1 in (765 mm)	30.3 in (770 mm)
	Width	27.2 in (691 mm)	28.9 in (734 mm)	29.1 in (739 mm)
Warranty		Tank & Other Parts: 10 Years. Reasonable Labor: 1 Year. See the "Rinnai Electric Heat Pump Water Heater Manual" (100000867) for complete details.		

[1] The estimated yearly energy cost is calculated based on energy costs published by the U.S. Department of Energy in 2022.

UNIT DIMENSIONS

Dimensions	F	49.5 in (1257 mm)	49.1 in (1246 mm)	57.8 in (1468 mm)
	E	5.6 in (141 mm)		
	D	5.2 in (131 mm)	5.6 in (141 mm)	
	C	39.7 in (1008 mm)	37.9 in (962 mm)	46.6 in (1184 mm)
	B	21.7 in (551 mm)	25.6 in (650 mm)	
	A	66.4 in (1687 mm)	65.5 in (1663 mm)	74.2 in (1885 mm)
Description	Model Number	50 Gal Models	65 Gal Models	80 Gal Models
	Rated Gallon Capacity	46	61	74



Rinnai America Corporation • 103 International Drive, Peachtree City, GA 30269
1-800-621-9419 • rinnai.us • rinnai.ca

800000224(02)
9/2024

PABCO PREMIER®
Technical Data Sheet

PABCO® Roofing Products

PABCO Premier® laminated fiberglass shingles are the leading choice of homeowners and builders who trust the PABCO name and desire a wide selection of color options.

TECHNICAL DETAIL	DATA
Category	Traditional Laminated Fiberglass
Weight per Square (nominal)	255 lbs
Weather Exposure	5 5/8"
Offset	5 5/8"
Shingles per Square (approx.)	64
Bundles per Square (approx.)	4
Bundles per Pallet	68

WARRANTY*	
Original Homeowner	Limited Lifetime
Subsequent Homeowners	30 Years Fully Transferable
Non-Prorated Coverage	15 Years
Wind Resistance (Standard Application 110 mph)	15 Years
Wind Resistance (High Wind Application – 130 mph)	15 Years
Algae Resistance (Featuring Algae Defender®)	20 Years

DESIGNATION NUMBER	APPLICABLE STANDARD
ASTM D3462	Standard Specification for Asphalt Shingles Made from Glass Felt and Surfaced with Mineral Granules
ASTM D3018	Type I Standard Specification for Class A Asphalt Shingles Surfaced with Mineral Granules
CSA Standard A123.5	Asphalt Shingles Made from Glass Felt and Surfaced with Mineral Granules
UL 790	Class A Fire Resistance
ASTM E108	Class A Fire Resistance
ASTM D3161	Class F Wind Resistance
ASTM D7158	Class H Wind Resistance
UL 2218	Class 3 Impact Resistance
ESR-1717	ICC-ES Evaluation Report


color shown: Weatherwood

Detailed Installation instructions at www.pabcoroofing.com/literature.

*Single Family Residences only. See PABCO®'s Limited Shingle Warranty for details and other structures.

21FBS2500073

LIGHTING COMPLIANCE SUMMARY

2021 WSEC Compliance Forms for Commercial Buildings including Group R2, R3 & R4 over 3 stories and all R1

Project & Applicant Information	**Project Title**	Marcoe Candy - 2021 WSEC	For Building Department Use:	**Date: Mar 31, 2025**
	Project Address	110 9th Ave SW Puyallup, WA 98371		
	Applicant Name	Mike Langford		
	Applicant Phone	253-736-3501		
	Applicant Email	mike@timberland-homes.com		

For questions about this report, contact WSEC Commercial Technical Support at 360-539-5300 or via email at com.techsupport@waenergycodes.com

General Occupancy	All Commercial		**General Building Use Type**		Dining, Fast Food	**Building Cond. Floor Area**	1,058
General Project Types	New Building	**New Building or Addition Lighting Scope**	Interior Lighting Exterior Lighting	**Alteration Lighting Scope**		**Project Cond. Floor Area**	1,058
						Floors Above Grade	1
						Compliance Method	General Prescriptive
Lighting Project Description	Kitchen for making/selling caramel apples. No public used spaced, Employee use only						

Lighting Compliance Scope and Method	**Project Type**	**Interior / Exterior** (Interior includes both interior & parking)	**Luminaire Replacement Scope**	**Compliance Method**	**LPA Calculation Adjustment**	**Compliance Verification**
	New Building	Interior Lighting		Building area	No Calculation Adjustments selected	**COMPLIES**
	New Building	Exterior Lighting			Not applicable to exterior	**COMPLIES**
Additional Energy Efficiency (AEC) Measures Included	Reduced lighting power density - 20% lower than LPA		**Load Management (LDM) Measures Included**		No lighting or electrical load management measures included in project	

Project Title	**Marcoe Candy - 2021 WSEC**	**Date**	**Mar 31, 2025**
Lighting Power Calculation	**NEW BUILDING - INTERIOR LIGHTING**	**Compliance Verification**	**COMPLIES**

Compliance Method	**Building area**	**LPA Calculation Adjustment**	**LPA x 0.8**

Interior Lighting Power Allowance - Building Area

Building Areas	Gross Interior Area (SF)	LPA (Watts/SF)	Total Watts Allowed (SF x LPA x 0.8)	Total Proposed Watts By Building Area	Compliance Status by Building Area
Dining - Cafeteria/fast food	1,058	0.72	610	222	COMPLIES

Proposed Lighting Power Density

Fixture Type/Application	Fixture ID	Building Area	New or Existing-to-Remain	Quantity of Fixtures, CLDs or Luminaires (#F)	Watts per Fixture, CLD or Luminaire (WpF)	Total Linear Feet (LF)	Watts per Linear Foot (WpLF)	Total Watts Proposed (#F x WpF) or (LF x WpLF)
Individual Fixtures								
Horizontal surface-mount	Surface Mount LED Panel	Dining - Cafeteria/fast food	New	6	37			222

Project Title	**Marcoe Candy - 2021 WSEC**	**Date**	**Mar 31, 2025**
Proposed Fixtures Details	**NEW BUILDING - INTERIOR LIGHTING**		

Fixture Type/Application	Fixture ID	Location in Documents	Lamp Type	Building Area	New or Existing-to-Remain
Individual Fixtures					
Horizontal surface-mount	Surface Mount LED Panel	Page E1	LED	Dining - Cafeteria/fast food	New
	Fixture Description:			Are these fixtures located within a daylight zone?: No	
	Do these fixtures require specific application lighting controls?: None required				

Page 50 of 85

Expires 06/05/2026

21FBS2500073

Project Title	Marcoe Candy - 2021 WSEC	Date	Mar 31, 2025
Lighting Power Calculation	NEW BUILDING - EXTERIOR LIGHTING	Compliance Verification	COMPLIES
Exterior Lighting Zone	ZONE 2	Base Site Allowance	280

Exterior Lighting Power Allowance

Exterior Surface	Surface Sub-Type	Surface Area (SF)	LPA (Watts/SF)	Linear Feet (LF)	LPA (Watts/LF)	Total Watts Allowed (LPA x SF) or (LPA x LF)	Total Proposed Watts	Compliance Status
Building entrances and exits	Entry canopies	70	0.126			9		
					Base Site Allowance	280		
					Totals	289	55	COMPLIES

Proposed Exterior Lighting Power Density

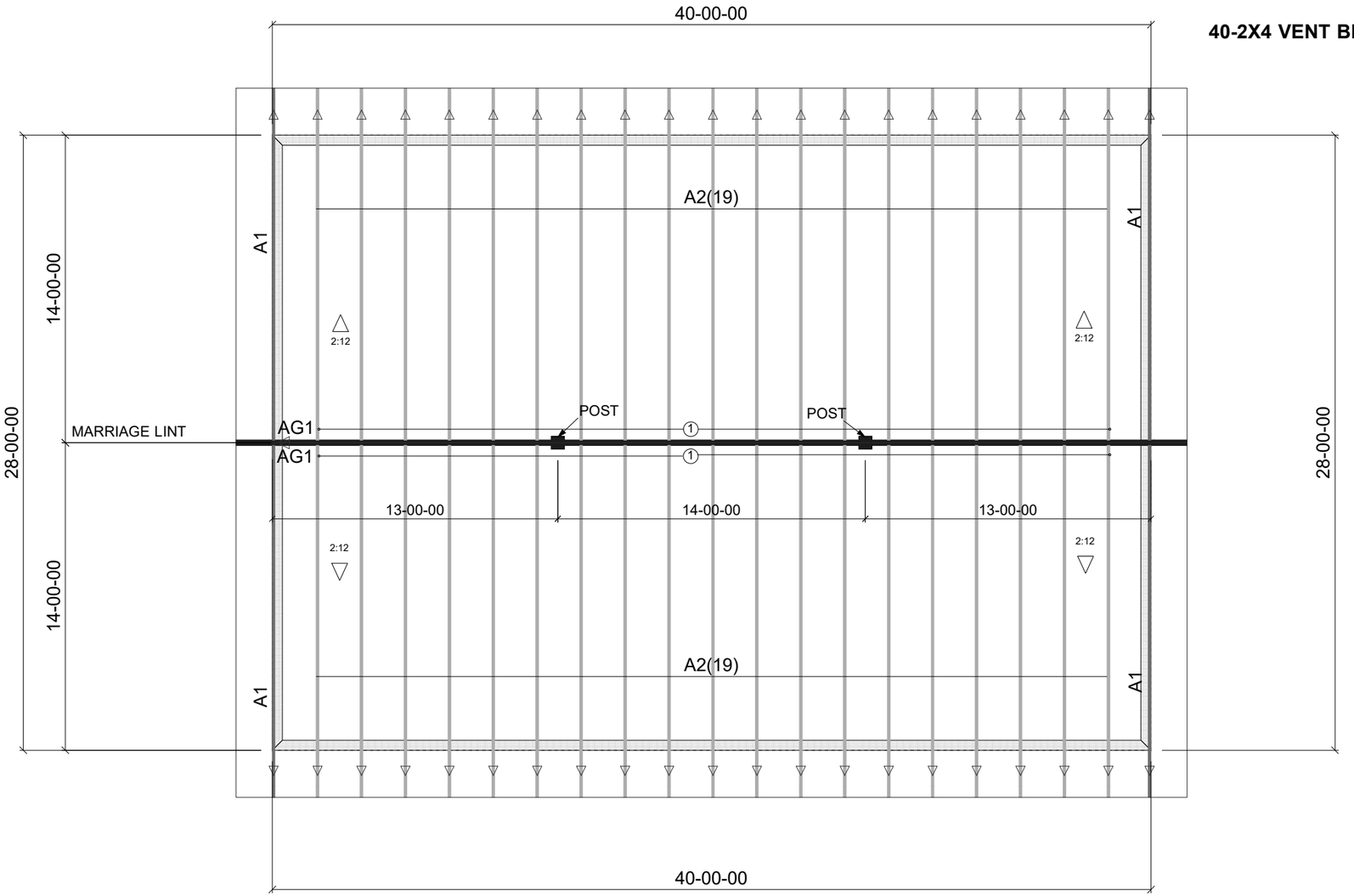
Fixture Type	Fixture ID	Exterior Surface Type	Quantity of Fixtures (#F)	Watts or Wattage Limit per Fixture (WpF)	Total Linear Feet (LF)	Watts per Linear Foot (WpLF)	Total Watts Proposed (#F x WpF) or (LF x WpLF)
Individual Fixtures							
Other fixture type	Recessed Can Lights	Building entrances and exits - Entry canopies	5	11			55
						Proposed Total LPD	**55**

Page 51 of 85

Expires 06/05/2026

LAY-OUT DIMENSIONS:
FEET - INCHES - SIXTEENTHS
(6'-7 3/4" = 6-7-12)
DRAWING IS NOT TO SCALE

40-2X4 VENT BLOCKS



ROOF PITCH: 2/12

OVERHANGS: 24"

HEEL HEIGHTS: STD.

LOADING: 25 TC LL
10 TC DL
10 BC DL
45 TL PSF

2021 IRC CODE
WIND EXPOSURE: C
WIND VELOCITY = 110 mph
KzT = 1.00

NOTE: ALL HANGER NAILS MUST BE 16d SINKER (3-1/4" LONG)....TYP. UNLESS NOTED OTHERWISE

QTY	TYPE	SYMBOL
38	HUS26	①

CAUTION: DO NOT CUT, DRILL OR ALTER ANY TRUSSES WITHOUT PRIOR APPROVAL FROM PARR TRUSS.

PRECAUCION: NO CORTAR, PERFORAR O ALTERAR NINGUNA TRAZA SIN APROBACION DE PARR TRUSS

ROOF NOTES:

1.) ALL TRUSSES TO BE SPACED AT 24" O.C. (UNLESS NOTED OTHERWISE)

2.) PROVIDE FULL BEARING UNDER GIRDER TRUSSES.

3.) SEE ATTACHED FRAMING DETAILS FOR HIP, VALLEY, GABLE, AND OVERFRAMING.

4.) ALL BEAMS ARE DESIGNED BY OTHERS, UNLESS NOTED OTHERWISE - (SEE STRUCTURAL FRAMING PLANS.)

PARR Truss Woodinville WA 425-481-0900

Above plan provided for truss placement only. Refer to truss calculations and engineering structural drawings for all futher information. Building designer/engineer of record are responsible for all non truss to truss connections. Building designer / engineer of record to review and approve all designs prior to construction.

Quote Date: 01/28/2025
Revision:
Sales: Castor McCoy
Designer: Anna Roats
Delivery:
Job Number: **B25001347-A**
Customer: TIMBERLAND HOMS
Project: D# 7161 MARCOE CANDY
Plan:

MiTek®

MiTek, Inc.
400 Sunrise Ave., Suite 270
Roseville, CA 95661
916.755.3571

Re: B25001347-A
7161 MARCOE CANDY

The truss drawing(s) referenced below have been prepared by MiTek USA, Inc. under my direct supervision based on the parameters provided by Roof Truss Supply.

Pages or sheets covered by this seal: R87421177 thru R87421180

My license renewal date for the state of Washington is September 28, 2025.

April 1,2025

Zhao, Xiaoming

IMPORTANT NOTE: The seal on these truss component designs is a certification that the engineer named is licensed in the jurisdiction(s) identified and that the designs comply with ANSI/TPI 1. These designs are based upon parameters shown (e.g., loads, supports, dimensions, shapes and design codes), which were given to MiTek or TRENCO. Any project specific information included is for MiTek's or TRENCO's customers file reference purpose only, and was not taken into account in the preparation of these designs. MiTek or TRENCO has not independently verified the applicability of the design parameters or the designs for any particular building. Before use, the building designer should verify applicability of design parameters and properly incorporate these designs into the overall building design per ANSI/TPI 1, Chapter 2.

Job	Truss	Truss Type	Qty	Ply	7161 MARCOE CANDY
B25001347-A	A1	Monopitch Supported Gable	4	1	R87421177
					Job Reference (optional)

Roof Truss Supply, Woodinville, WA - 98072,

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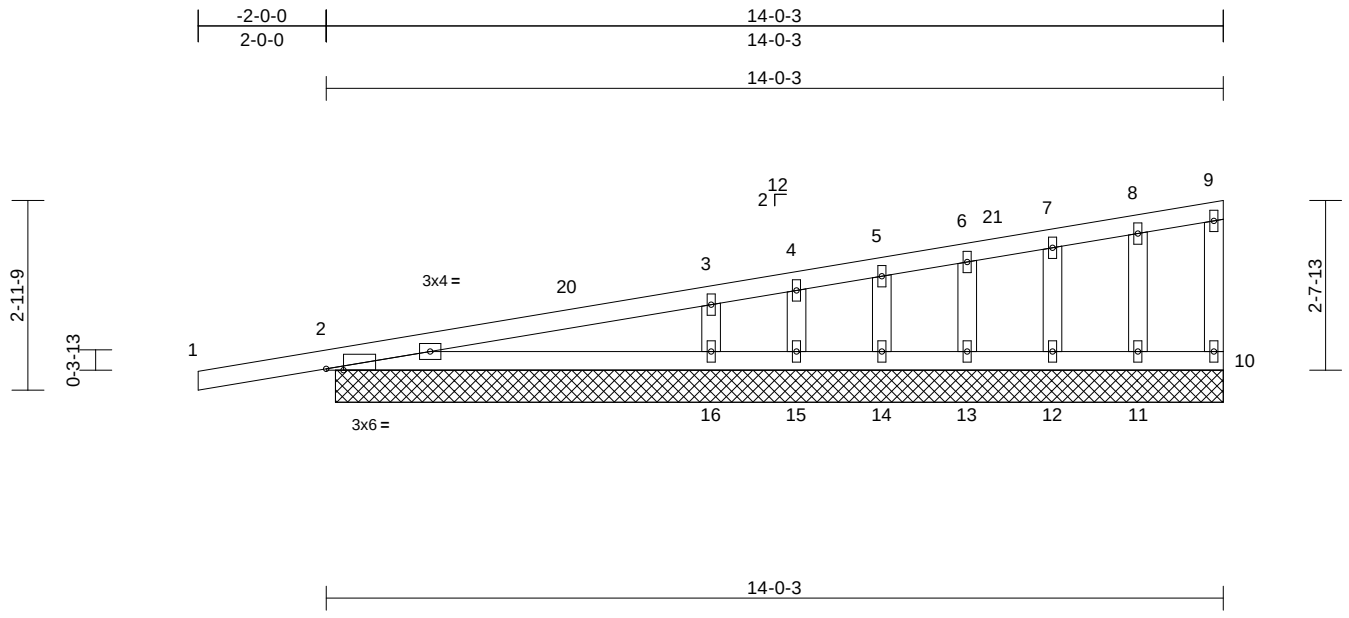

Scale = 1:36

Plate Offsets (X, Y): [2:0-3-4,Edge]

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	25.0	Plate Grip DOL	1.00	TC	0.54	Vert(LL)	n/a	-	n/a	999	MT20	185/148
(Roof Snow = 25.0)		Lumber DOL	1.00	BC	0.33	Vert(CT)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.06	Horz(CT)	0.00	10	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-MS								
BCDL	10.0										Weight: 47 lb	FT = 20%

LUMBER
TOP CHORD 2x4 HF No.2
BOT CHORD 2x4 HF No.2
WEBS 2x4 HF No.2
OTHERS 2x4 HF No.2

BRACING
TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 2=13-10-7, 10=13-10-7, 11=13-10-7, 12=13-10-7, 13=13-10-7, 14=13-10-7, 15=13-10-7, 16=13-10-7
Max Horiz 2=125 (LC 11)
Max Uplift 2=-144 (LC 10), 10=-15 (LC 11), 11=-24 (LC 11), 12=-29 (LC 11), 13=-24 (LC 11), 14=-43 (LC 11), 15=-188 (LC 19), 16=-135 (LC 11)
Max Grav 2=392 (LC 19), 10=57 (LC 19), 11=151 (LC 19), 12=156 (LC 19), 13=132 (LC 19), 14=233 (LC 19), 15=41 (LC 11), 16=689 (LC 19)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/39, 2-3=-136/151, 3-4=-87/48, 4-5=-90/64, 5-6=-73/56, 6-7=-61/53, 7-8=-47/50, 8-9=-42/52, 9-10=-47/28
BOT CHORD 2-16=-156/142, 15-16=-40/53, 14-15=-40/53, 13-14=-40/53, 12-13=-40/53, 11-12=-40/53, 10-11=-40/53
WEBS 8-11=-125/73, 7-12=-127/71, 6-13=-115/63, 5-14=-170/90, 4-15=-35/86, 3-16=-471/247

NOTES
1) Wind: ASCE 7-16; Vult=110mph (3-second gust) Vasd=87mph; TCDL=5.5psf; BCDL=4.0psf; h=25ft; B=45ft; L=24ft; eave=2ft; Cat. II; Exp C; Enclosed; MWFRS (directional) and C-C Corner(3E) -2-0-0 to 1-0-0, Exterior(2N) 1-0-0 to 13-10-7 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
2) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
3) TCLL: ASCE 7-16; Pf=25.0 psf (Lum DOL = 1.00 Plate DOL = 1.00); Is=1.0; Rough Cat C; Partially Exp.; Ce=1.0; Cs=1.00; Ct=1.00
4) Unbalanced snow loads have been considered for this design.
5) This truss has been designed for greater of min roof live load of 20.0 psf or 2.00 times flat roof load of 25.0 psf on overhangs non-concurrent with other live loads.
6) As requested, plates have not been designed to provide for placement tolerances or rough handling and erection conditions. It is the responsibility of the fabricator to increase plate sizes to account for these factors.
7) All plates are 1.5x4 (||) MT20 unless otherwise indicated.
8) Plates checked for a plus or minus 20 degree rotation about its center.
9) Gable studs spaced at 1-4-0 oc.
10) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
11) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
12) All bearings are assumed to be HF No.2 .
13) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 15 lb uplift at joint 10, 144 lb uplift at joint 2, 24 lb uplift at joint 11, 29 lb uplift at joint 12, 24 lb uplift at joint 13, 43 lb uplift at joint 14, 188 lb uplift at joint 15, 135 lb uplift at joint 16 and 144 lb uplift at joint 2.

LOAD CASE(S) Standard

April 1,2025

MiTek®
400 Sunrise Ave., Suite 270
Roseville, CA 95661
916.755.3571 / MiTek-US.com

Job	Truss	Truss Type	Qty	Ply	7161 MARCOE CANDY
B25001347-A	A2	Monopitch	38	1	R87421178
					Job Reference (optional)

Roof Truss Supply, Woodinville, WA - 98072,

Run: 8.83 S Mar 20 2025 Print: 8.830 S Mar 20 2025 MiTek Industries, Inc. Mon Mar 31 14:34:45 Page: 1
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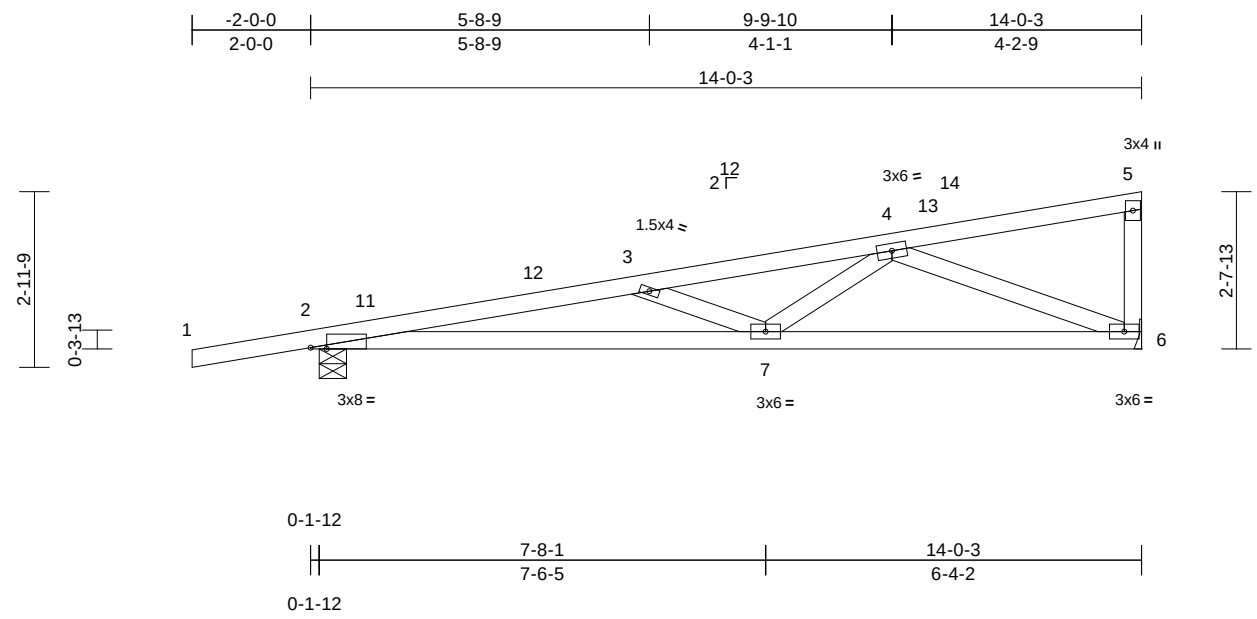

Scale = 1:38.9

Plate Offsets (X, Y): [2:0-3-4,Edge]

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	25.0	Plate Grip DOL	1.00	TC	0.54	Vert(LL)	-0.15	7-10	>999	360	MT20	185/148
(Roof Snow = 25.0)		Lumber DOL	1.00	BC	0.87	Vert(CT)	-0.27	7-10	>614	240		
TCDL	10.0	Rep Stress Incr	YES	WB	0.55	Horz(CT)	0.05	6	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-MS		Wind(LL)	0.09	7-10	>999	240		
BCDL	10.0										Weight: 48 lb	FT = 20%

LUMBER
TOP CHORD 2x4 HF No.2
BOT CHORD 2x4 HF No.2
WEBS 2x4 HF No.2

BRACING
TOP CHORD Structural wood sheathing directly applied or 2-11-4 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 7-7-9 oc bracing.

REACTIONS (size) 2=0-5-8, 6= Mechanical
Max Horiz 2=125 (LC 11)
Max Uplift 2=-216 (LC 10), 6=-142 (LC 11)
Max Grav 2=859 (LC 19), 6=764 (LC 19)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/39, 2-3=-2672/446, 3-4=-1988/291, 4-5=-72/40, 5-6=-162/72
BOT CHORD 2-7=-552/2625, 6-7=-326/1371
WEBS 3-7=-753/219, 4-7=-49/707, 4-6=-1441/316

NOTES
1) Wind: ASCE 7-16; Vult=110mph (3-second gust) Vasd=87mph; TCDL=5.5psf; BCDL=4.0psf; h=25ft; B=45ft; L=24ft; eave=4ft; Cat. II; Exp C; Enclosed; MWFRS (directional) and C-C Exterior(2E) -2-0-0 to 1-0-0, Interior (1) 1-0-0 to 13-10-7 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
2) TCLL: ASCE 7-16; Pf=25.0 psf (Lum DOL = 1.00 Plate DOL = 1.00); Is=1.0; Rough Cat C; Partially Exp.; Ce=1.0; Cs=1.00; Ct=1.00
3) Unbalanced snow loads have been considered for this design.
4) This truss has been designed for greater of min roof live load of 20.0 psf or 2.00 times flat roof load of 25.0 psf on overhangs non-concurrent with other live loads.
5) As requested, plates have not been designed to provide for placement tolerances or rough handling and erection conditions. It is the responsibility of the fabricator to increase plate sizes to account for these factors.
6) Plates checked for a plus or minus 20 degree rotation about its center.
7) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
8) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
9) All bearings are assumed to be HF No.2 .
10) Refer to girder(s) for truss to truss connections.
11) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 142 lb uplift at joint 6 and 216 lb uplift at joint 2.

LOAD CASE(S) Standard

April 1,2025

MiTek®
400 Sunrise Ave., Suite 270
Roseville, CA 95661
916.755.3571 / MiTek-US.com

Job	Truss	Truss Type	Qty	Ply	7161 MARCOE CANDY R87421179
B25001347-A	AG1	Flat Girder	2	1	Job Reference (optional)

Roof Truss Supply, Woodinville, WA - 98072,

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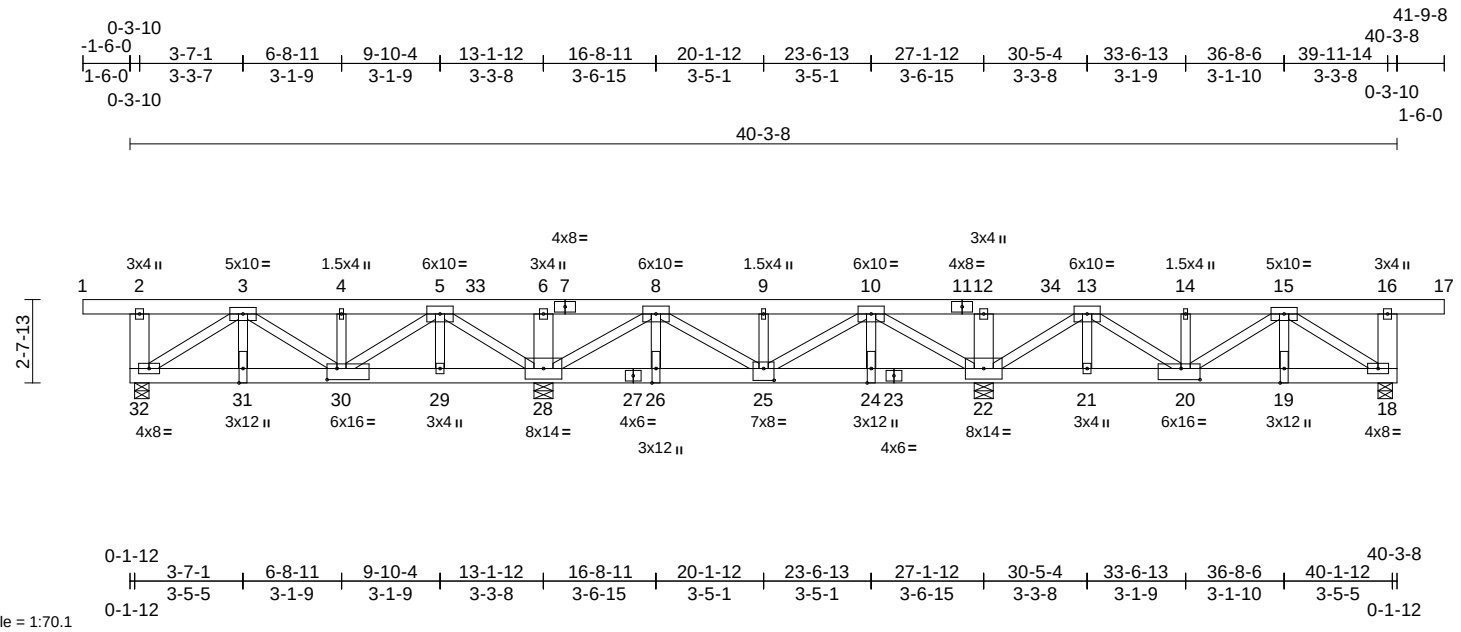


Scale = 1:70.1

Plate Offsets (X, Y): [20:0-7-4,0-4-4], [25:0-4-0,0-4-8], [30:0-3-12,0-4-4]

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	25.0	Plate Grip DOL	1.00	TC	0.77	Vert(LL)	-0.05	25-26	>999	360	MT20	185/148
(Roof Snow = 25.0)		Lumber DOL	1.00	BC	0.75	Vert(CT)	-0.09	25-26	>999	240		
TCDL	10.0	Rep Stress Incr	NO	WB	0.91	Horz(CT)	0.04	18	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-MS		Wind(LL)	0.03	25-26	>999	240		
BCDL	10.0										Weight: 239 lb	FT = 20%

LUMBER
TOP CHORD 2x6 HF No.2
BOT CHORD 2x6 HF No.2
WEBS 2x4 HF No.2 *Except*
32-2,16-18,6-28,12-22:2x8 DF SS

BRACING
TOP CHORD Structural wood sheathing directly applied or 4-9-14 oc purlins.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS All bearings 0-5-8. except 28=0-8-7(input: 0-7-4), 22=0-8-7(input: 0-7-4)
(lb) - Max Uplift All uplift 100 (lb) or less at joint(s) except 18=-348 (LC 5), 22=-770 (LC 8), 28=-770 (LC 8), 32=-348 (LC 4)
Max Grav All reactions 250 (lb) or less at joint (s) except 18=1935 (LC 1), 22=5131 (LC 1), 28=5131 (LC 1), 32=1935 (LC 1)

FORCES (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 3-4=-2037/314, 4-5=-2037/314, 5-33=-327/2186, 6-33=-327/2186, 6-7=-327/2186, 7-8=-327/2186, 8-9=-1418/216, 9-10=-1418/216, 10-11=-327/2186, 11-12=-327/2186, 12-34=-327/2186, 13-34=-327/2186, 13-14=-2037/314, 14-15=-2037/314
BOT CHORD 31-32=-277/1871, 30-31=-277/1871, 29-30=-95/570, 28-29=-95/570, 27-28=-66/409, 26-27=-66/409, 25-26=-66/409, 24-25=-66/409, 23-24=-66/409, 22-23=-66/409, 21-22=-95/570, 20-21=-95/570, 19-20=-277/1871, 18-19=-277/1871
WEBS 2-32=-328/113, 16-18=-328/113, 5-29=-89/747, 3-31=-119/989, 3-32=-2249/333, 5-30=-266/1790, 6-28=-469/97, 10-24=-102/852, 8-26=-102/852, 8-28=-3044/460, 9-25=-277/67, 8-25=-179/1200, 10-25=-179/1200, 12-22=-469/97, 13-21=-89/747, 13-22=-3314/502, 13-20=-266/1790, 15-19=-119/989, 15-18=-2249/333, 5-28=-3314/502, 10-22=-3044/460

NOTES
1) Wind: ASCE 7-16; Vult=110mph (3-second gust) Vasd=87mph; TCDL=5.5psf; BCDL=4.0psf; h=25ft; B=45ft; L=40ft; eave=5ft; Cat. II; Exp C; Enclosed; MWFRS (directional); cantilever left and right exposed ; end vertical left and right exposed; Lumber DOL=1.60 plate grip DOL=1.60
2) TCLL: ASCE 7-16; Pf=25.0 psf (Lum DOL = 1.00 Plate DOL = 1.00); Is=1.0; Rough Cat C; Partially Exp.; Ce=1.0; Cs=1.00; Ct=1.00
3) This truss has been designed for greater of min roof live load of 20.0 psf or 2.00 times flat roof load of 25.0 psf on overhangs non-concurrent with other live loads.
4) Provide adequate drainage to prevent water ponding.
5) As requested, plates have not been designed to provide for placement tolerances or rough handling and erection conditions. It is the responsibility of the fabricator to increase plate sizes to account for these factors.
6) Plates checked for a plus or minus 20 degree rotation about its center.
7) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
8) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
9) WARNING: Required bearing size at joint(s) 28, 22 greater than input bearing size.
10) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 347 lb uplift at joint 32, 770 lb uplift at joint 28, 770 lb uplift at joint 22 and 347 lb uplift at joint 18.
11) In the LOAD CASE(S) section, loads applied to the face of the truss are noted as front (F) or back (B).

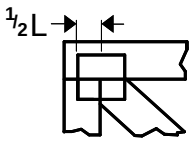
LOAD CASE(S) Standard
1) Dead + Snow (balanced): Lumber Increase=1.00, Plate Increase=1.00
Uniform Loads (lb/ft)
Vert: 1-17=-70, 18-32=-280 (F=-260)

April 1,2025

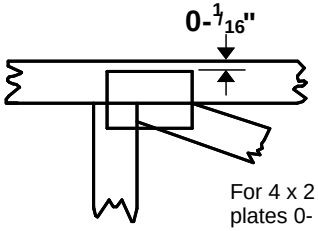
MiTek®
400 Sunrise Ave., Suite 270
Roseville, CA 95661
916.755.3571 / MiTek-US.com

Symbols

PLATE LOCATION AND ORIENTATION



Center plate on joint unless x, y offsets are indicated. Dimensions are in ft-in-sixteenths. Apply plates to both sides of truss and fully embed teeth.



For 4 x 2 orientation, locate plates 0- 1/16" from outside edge of truss.

This symbol indicates the required direction of slots in connector plates.

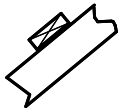
* Plate location details available in MiTek software or upon request.

PLATE SIZE

4 x 4

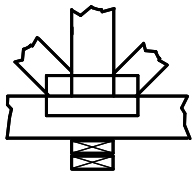
The first dimension is the plate width measured perpendicular to slots. Second dimension is the length parallel to slots.

LATERAL BRACING LOCATION



Indicated by symbol shown and/or by text in the bracing section of the output. Use T or I bracing if indicated.

BEARING

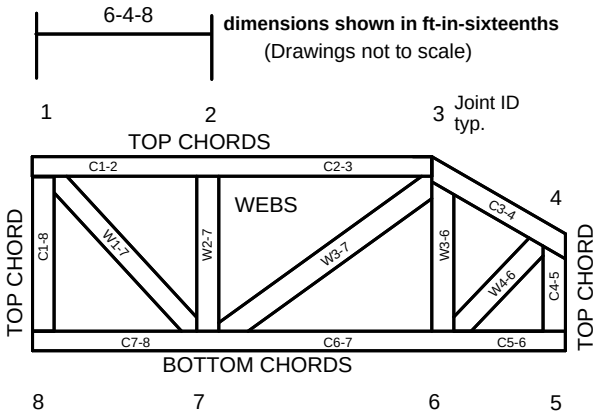


Indicates location where bearings (supports) occur. Icons vary but reaction section indicates joint number/letter where bearings occur. Min size shown is for crushing only.

Industry Standards:

ANSI/TPI1: National Design Specification for Metal Plate Connected Wood Truss Construction.
DSB-22: Design Standard for Bracing.
BCSI: Building Component Safety Information, Guide to Good Practice for Handling, Installing, Restraining & Bracing of Metal Plate Connected Wood Trusses.

Numbering System



JOINTS ARE GENERALLY NUMBERED/LETTERED CLOCKWISE AROUND THE TRUSS STARTING AT THE JOINT FARTHEST TO THE LEFT.

CHORDS AND WEBS ARE IDENTIFIED BY END JOINT NUMBERS/LETTERS.

Product Code Approvals

ICC-ES Reports:

ESR-1988, ESR-2362, ESR-2685, ESR-3282
ESR-4722, ESL-1388

Design General Notes

Trusses are designed for wind loads in the plane of the truss unless otherwise shown.

Lumber design values are in accordance with ANSI/TPI 1 section 6.3 These truss designs rely on lumber values established by others.

MiTek®

MiTek Engineering Reference Sheet: MII-7473 rev. 1/2/2023

General Safety Notes

Failure to Follow Could Cause Property Damage or Personal Injury

1. Additional stability bracing for truss system, e.g. diagonal or X-bracing, is always required. See BCSI.
2. Truss bracing must be designed by an engineer. For wide truss spacing, individual lateral braces themselves may require bracing, or alternative Tor I bracing should be considered.
3. Never exceed the design loading shown and never stack materials on inadequately braced trusses.
4. Provide copies of this truss design to the building designer, erection supervisor, property owner and all other interested parties.
5. Cut members to bear tightly against each other.
6. Place plates on each face of truss at each joint and embed fully. Knots and wane at joint locations are regulated by ANSI/TPI 1.
7. Design assumes trusses will be suitably protected from the environment in accord with ANSI/TPI 1.
8. Unless otherwise noted, moisture content of lumber shall not exceed 19% at time of fabrication.
9. Unless expressly noted, this design is not applicable for use with fire retardant, preservative treated, or green lumber.
10. Camber is a non-structural consideration and is the responsibility of truss fabricator. General practice is to camber for dead load deflection.
11. Plate type, size, orientation and location dimensions indicated are minimum plating requirements.
12. Lumber used shall be of the species and size, and in all respects, equal to or better than that specified.
13. Top chords must be sheathed or purlins provided at spacing indicated on design.
14. Bottom chords require lateral bracing at 10 ft. spacing, or less, if no ceiling is installed, unless otherwise noted.
15. Connections not shown are the responsibility of others.
16. Do not cut or alter truss member or plate without prior approval of an engineer.
17. Install and load vertically unless indicated otherwise.
18. Use of green or treated lumber may pose unacceptable environmental, health or performance risks. Consult with project engineer before use.
19. Review all portions of this design (front, back, words and pictures) before use. Reviewing pictures alone is not sufficient.
20. Design assumes manufacture in accordance with ANSI/TPI 1 Quality Criteria.
21. The design does not take into account any dynamic or other loads other than those expressly stated.

PABCO PREMIER®
Technical Data Sheet

PABCO® Roofing Products

PABCO Premier® laminated fiberglass shingles are the leading choice of homeowners and builders who trust the PABCO name and desire a wide selection of color options.

TECHNICAL DETAIL	DATA
Category	Traditional Laminated Fiberglass
Weight per Square (nominal)	255 lbs
Weather Exposure	5 5/8"
Offset	5 5/8"
Shingles per Square (approx.)	64
Bundles per Square (approx.)	4
Bundles per Pallet	68

WARRANTY*	
Original Homeowner	Limited Lifetime
Subsequent Homeowners	30 Years Fully Transferable
Non-Prorated Coverage	15 Years
Wind Resistance (Standard Application 110 mph)	15 Years
Wind Resistance (High Wind Application – 130 mph)	15 Years
Algae Resistance (Featuring Algae Defender®)	20 Years

DESIGNATION NUMBER	APPLICABLE STANDARD
ASTM D3462	Standard Specification for Asphalt Shingles Made from Glass Felt and Surfaced with Mineral Granules
ASTM D3018	Type I Standard Specification for Class A Asphalt Shingles Surfaced with Mineral Granules
CSA Standard A123.5	Asphalt Shingles Made from Glass Felt and Surfaced with Mineral Granules
UL 790	Class A Fire Resistance
ASTM E108	Class A Fire Resistance
ASTM D3161	Class F Wind Resistance
ASTM D7158	Class H Wind Resistance
UL 2218	Class 3 Impact Resistance
ESR-1717	ICC-ES Evaluation Report


color shown: Weatherwood

Detailed Installation instructions at www.pabcoroofing.com/literature.

*Single Family Residences only. See PABCO®'s Limited Shingle Warranty for details and other structures.

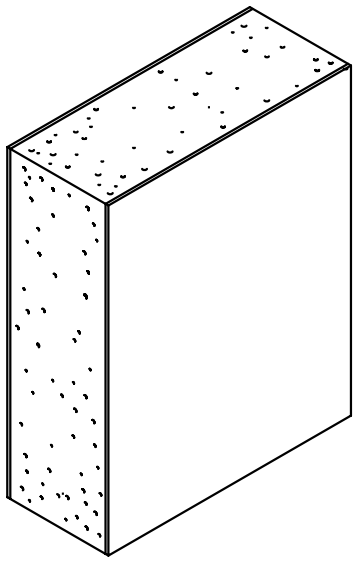
1-3/4" ENVOY DOOR

FLUSH STEEL DOORS
UNIVERSAL, NON-HANDED

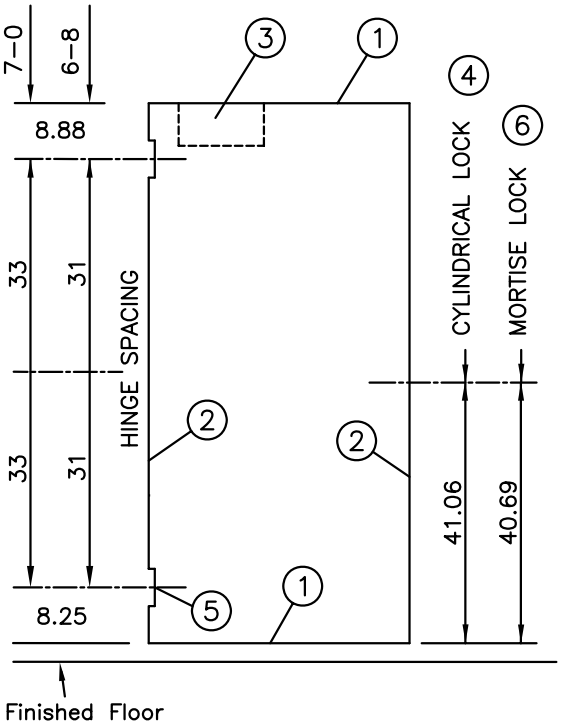
FACE SHEETS: 18 GA. C.R.S.
(GALVANNEALED OPTIONAL)
CORE: POLYSTYRENE
DESIGN: FLUSH
FIRE LABEL: 1-1/2 HOUR W.H.

SIZES AVAILABLE

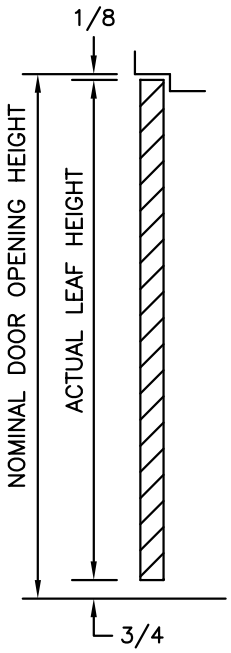
2668	*2670*
2868	*2870*
3068	*3070*
3468	*3470*
3668	*3670*



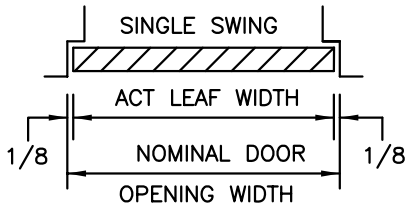
Hardware locations shown match Ceco standard frames.



DOOR ELEVATION



VERTICAL SECTION



HORIZONTAL SECTION

SDI/NAAMM hinge and lock locations available

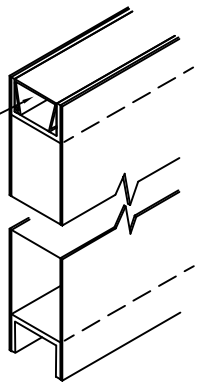
3-27-08

1

16 GAGE STEEL
END CHANNELS

INVERTED TOP
AND BOTTOM

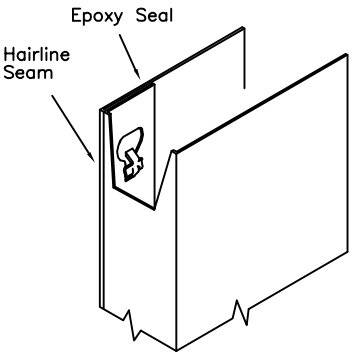
SNAP–IN FLUSH
TOP CAP
ON POLYSTYRENE
CORE



2

VERTICAL EDGES

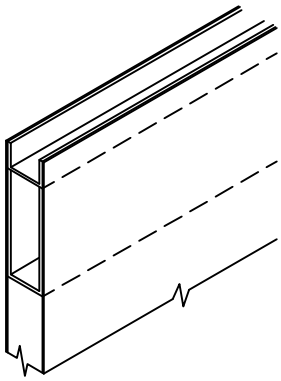
MECHANICALLY
INTERLOCKED
HEMMED EDGES



3

CLOSER
REINFORCEMENT
STANDARD

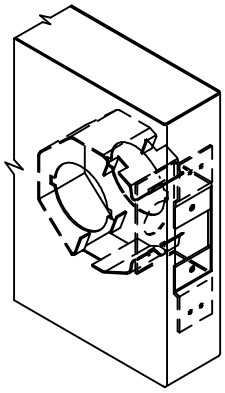
16 GAGE STEEL
CHANNEL 20" LONG



4

LOCK PREPARATION
CYLINDRICAL TYPE
& LL3 LEVER
LOCK DESIGN

(ANSI A115.2)
2–3/4"
BACKSET



OPTIONAL

DEADLOCK PREPARATION @ 48" AFF ONLY (DB)

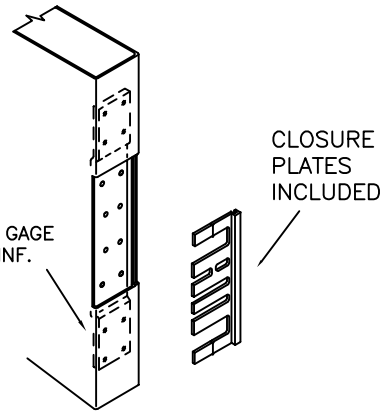
5

HINGE
PREPARATION

4–1/2" X .134"
HIGH, STANDARD
OR HEAVY WT.
FULL MORTISE
HINGE
PREPS

ANSI A156.7
TEMPLATE

NON–HANDED



6

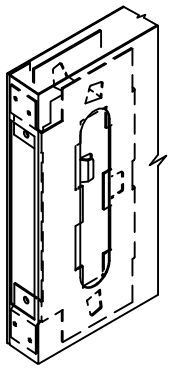
LOCK
PREPARATION
GOV. 86–4
MORTISE TYPE

(LM1) (ANSI A115.1)
2–3/4" BACKSET

(LM0) SIMILAR TO DETAIL
LESS FACE CUTOUT

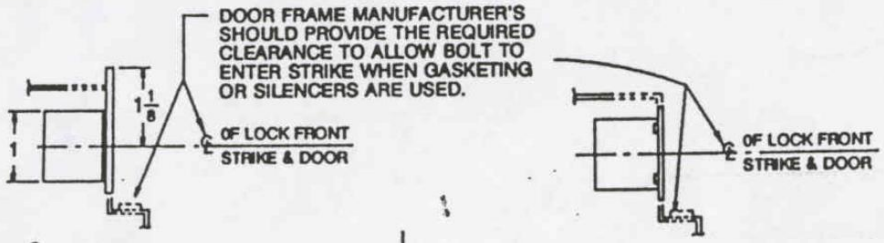
(LP0) SIMILAR TO DETAIL
LESS ALL CUTOUTS
AND REINFORCEMENT

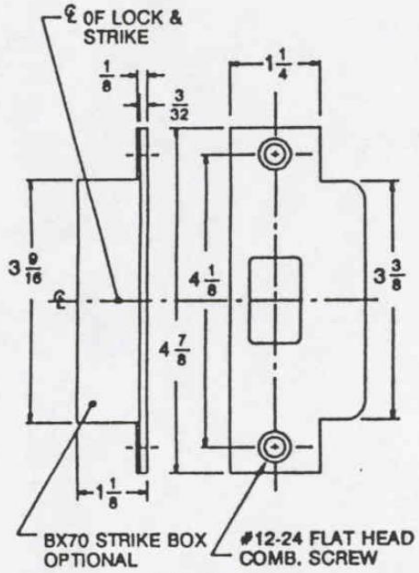
(PR1) SIMILAR TO DETAIL
LESS ALL CUTOUTS
REINFORCEMENT ON HINGE
AND LOCK SIDE (RIM EXIT)



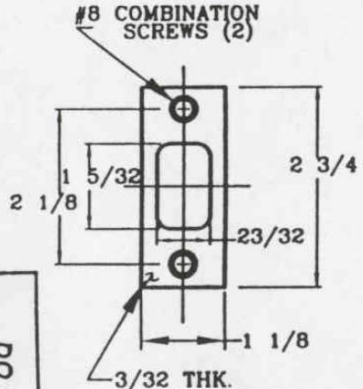
2/18/08

DESCRIPTION	DIM'S	D & E SERIES
BACKSET	A	2⅜" OR 2¾"
WIDTH OF THE LATCH FRONT	B	1" OR 1⅛"

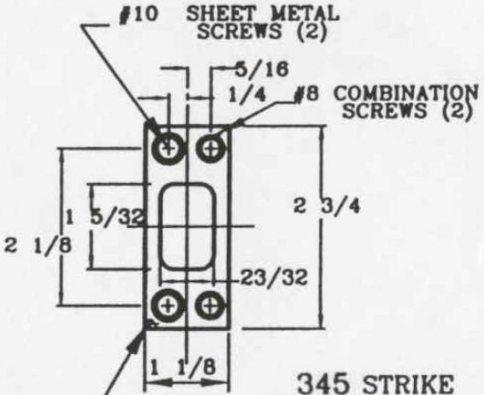




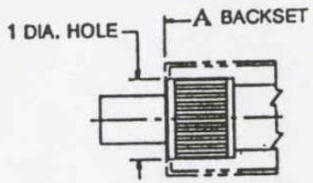
347 STRIKE



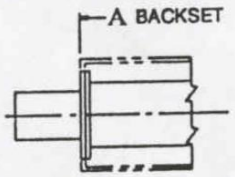
346 STRIKE (FOR METAL JAMB) APPLICATION



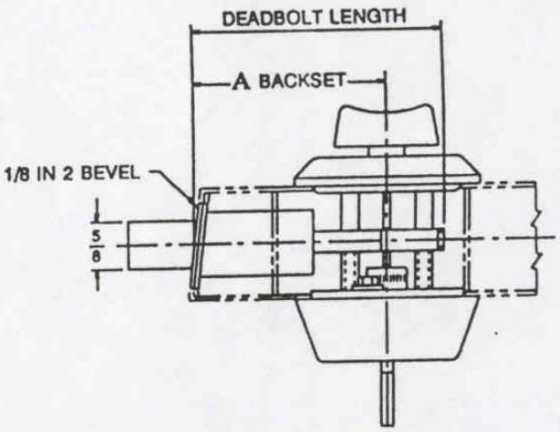
345 STRIKE (FOR WOOD JAMB) APPLICATION

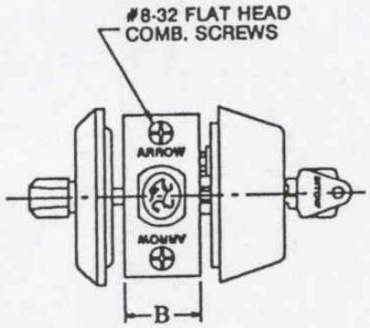


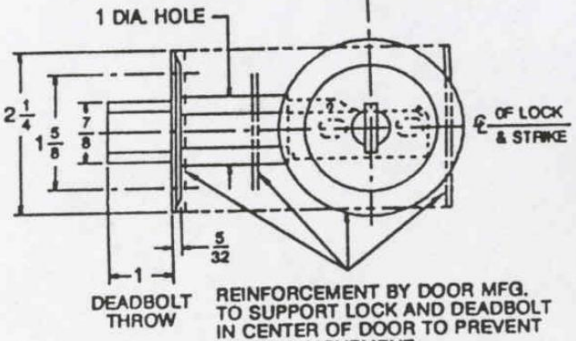
DRIVE-IN DEADBOLT SHOWN



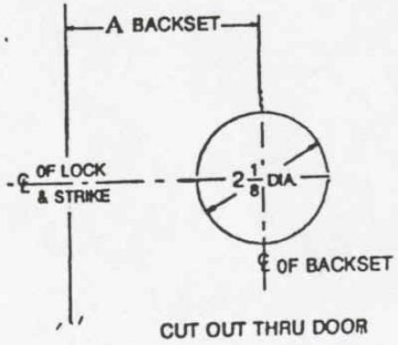
STRAIGHT FRONT SHOWN







REINFORCEMENT BY DOOR MFG. TO SUPPORT LOCK AND DEADBOLT IN CENTER OF DOOR TO PREVENT LATERAL MOVEMENT.



CUT OUT THRU DOOR

DO NOT SCALE

REV & DATE C 04-14

TEMPLATE NO. 1125 B

ARROW™ TEMPLATE

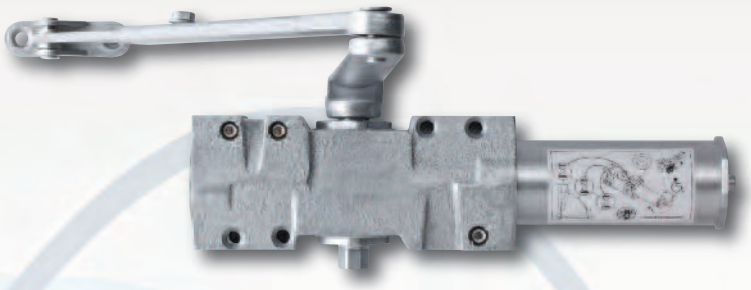
PRODUCT

D & E SERIES LOCK

DC500 Series Door Closers

Classic Product

The Arrow DC500 Series Heavy Duty Surface Applied Door Closers are ideal for Institutions or other high traffic applications. The DC500 is designed for end users looking for value and versatility in a rugged design making this series suitable for a wide variety of applications.



Compliance:

- UL/cUL listed.
- UL10C listed for positive pressure to comply with UBC-72 (1997).
- Meets the requirements of ANSI A156.4 and ANSI ICC A117.1. Grade 1
- Meets ADA requirements (Americans with Disabilities Act).

BHMA CERTIFIED
Be Safe. Be Secure. Be Certified.

Look for the universal symbol next to Arrow products that comply with ADA accessibility requirements.

Sizes (Adjustable):

- DC516 closers are adjustable for spring sizes 1 through 6 .

Interior Door Width	24" (610mm)	30" (762mm)	34" (865mm)	38" (965mm)	48" (1219mm)	54" (1372mm)	60" (1524mm)
Regular Arm & Top Jamb	Size 1	Size 2	Size 3	Size 4	Size 5	Size 6	
Parallel Arm	Size 2	Size 3	Size 4	Size 5	Size 6		

Exterior (& Vestibule) Door Width	24" (610mm)	30" (762mm)	36" (914mm)	42" (1067mm)	48" (1219mm)
Regular Arm & Top Jamb	Size 3	Size 4	Size 5	Size 6	
Parallel Arm	Size 4	Size 5	Size 6		

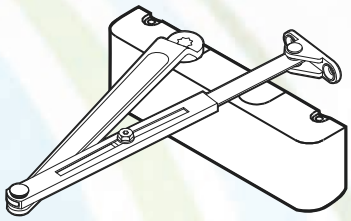
Features:

- Heavy duty cast iron body.
- Hardened steel rack and pinion.
- High tensile steel springs.
- Staked valves
- Two non-critical adjusting valves (sweep and latch) control closing speed.
- Backcheck intensity valve.
- All temperature fluid.
- Full plastic cover standard.
- Non-handed for regular, top jamb and parallel arm mount applications.
- Supplied with fully threaded self-reaming/tapping screws, sleeve nuts and thru-bolts for 1-3/4" thick doors.
- DC516-1 Series door closers are supplied with a hold open arm.
- DC516-2 has a heavy duty parallel arm with a stop feature for door openings between 90° and 110°.
- DC516-3 has a heavy duty parallel arm with a stop and thumb turn hold open feature for door openings between 90° and 110°.
- Packaging: one per box and four boxes per carton.
- 10 year limited warranty.

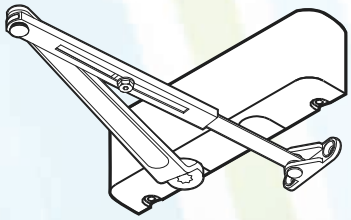
Finishes:

- Aluminum (689), Specify **AL**
- Dark Bronze (690), Specify **DBZ**

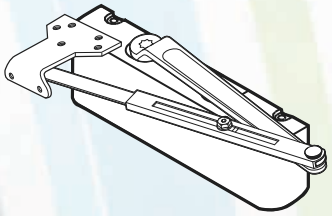
Regular Arm Installation



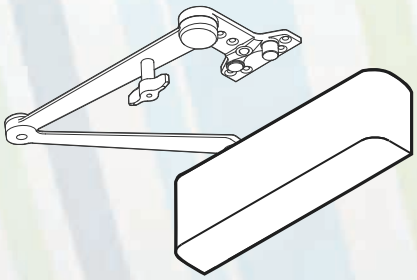
Top Jamb Installation



Parallel Arm Installation



Heavy Duty Parallel Arm Installation



ARROW LOCK & DOOR HARDWARE

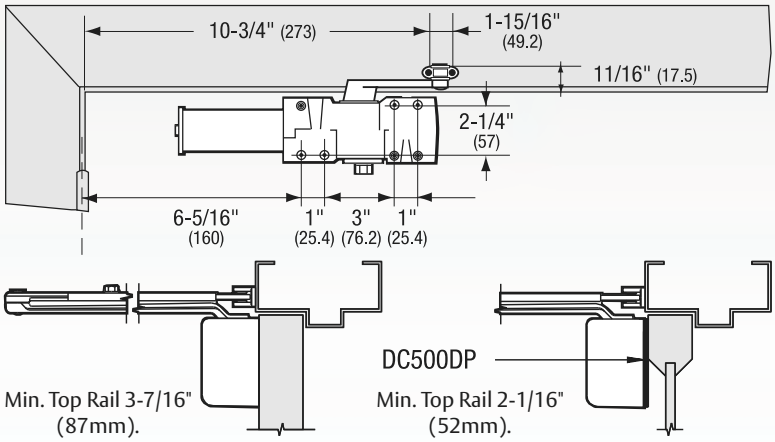
ASSA ABLOY

ASSA ABLOY, the global leader in door opening solutions

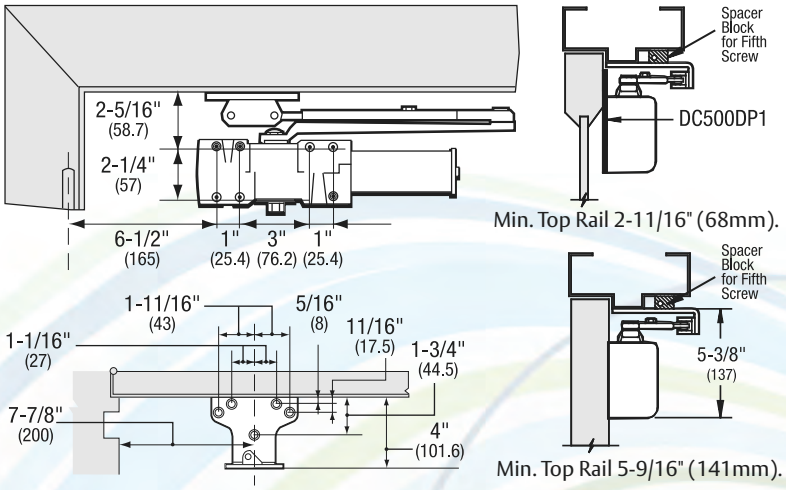
DC500 Series Door Closers

Classic Product

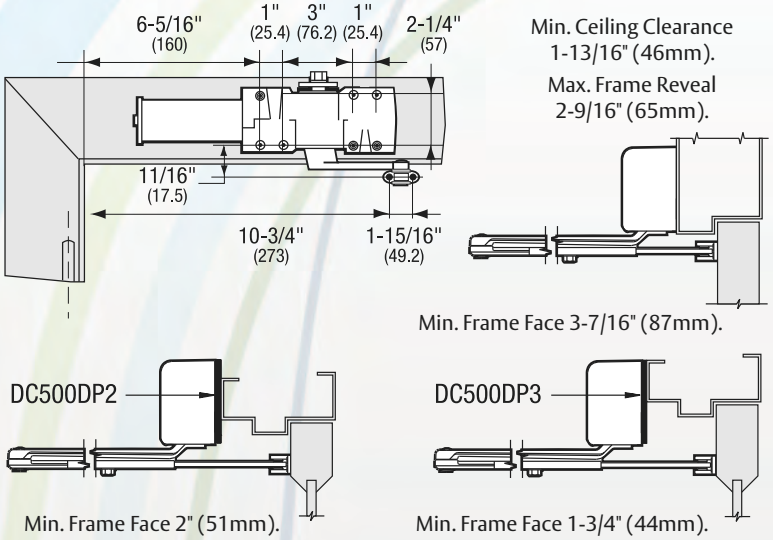
Regular Arm Installation



Parallel Arm Installation (180° maximum door swing template illustrated).

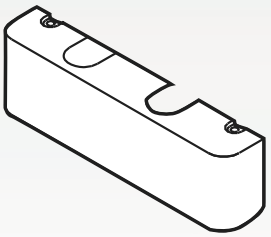


Top Jamb Installation



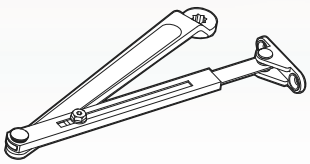
Parts:

Cover with Screw Pack
- **DC500COV**



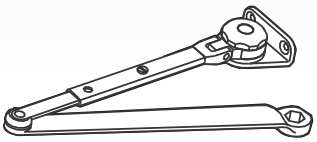
Non-Hold Open Arm (Standard with)
- **DC516**

(To order separately)
- **DC500A**



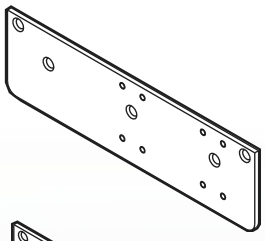
Hold Open Arm (Standard with)
- **DC516-1**

(To order separately)
- **DC500A1**

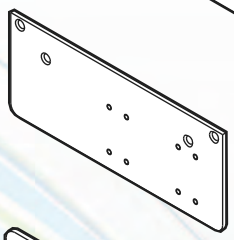


Drop Plates

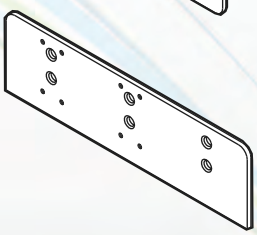
Regular Arm Application
- **DC500DP**



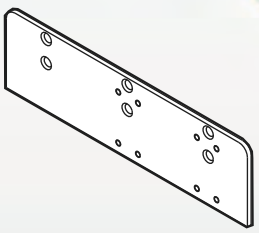
Parallel Arm Application
- **DC500DP1**



Top Jamb Application
- **DC500DP2**



Top Jamb Low Ceiling Application
- **DC500DP3**



ARROW LOCK & DOOR HARDWARE

ASSA ABLOY

ASSA ABLOY, the global leader in door opening solutions

QL Series Cylindrical Lever Locks

Professional Replacement Products

The QL Series is a robust Grade 1 lockset featuring a Freewheeling Lever for abuse resistance, two screw lockset install for quick installation and a 10 Year Mechanical Warranty. The perfect solution for replacing or upgrading lockets in commercial applications.

Features:

Door Preparation – Requires standard 2-1/8" (53.97mm) bore through door.

Backset – 2-3/4" (69.85mm)

Door Thickness – Fits 1-3/8" (34.93mm) to 1-3/4" (44.45mm) doors standard.

Latch – Stainless Steel 1/2" (12.7mm) throw, UL Listed, guarded latchbolt on all locking functions

Latch Front – 1-1/8" x 2-1/4" for 2-3/4" (69.85mm) backset.

Exposed Trim – QL Levers are pressure cast zinc measuring 4-3/4" (120.65mm) in length. QL Roses are wrought brass 3-11/32" (84.8mm) diameter. Total projection from face of door is 2-17/32" (64.5mm).

Freewheeling Lever

Warranty – Ten Year Warranty

Handing – Non-handed

Packaging – 6 per case

Strike – 4-7/8" ANSI (123.83mm)

Cylinder – Solid brass 6 pin, Arrow AR and Schlage CS Keyway, keyed different

Keys – 2 brass keys

Finishes:

	BHMA	U.S. Equiv.	Arrow Equiv.	Finish
1	605	US3	03	Bright Brass
3	613	US10B	10B	Dark Oxide Bronze, Oil Rubbed
5	626	US26D	26D	Satin Chromium Plated

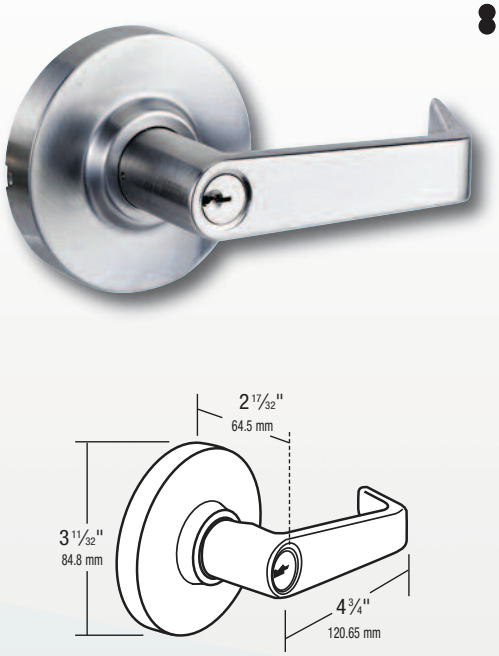
Certification & Compliance:

BHMA CERTIFIED Be Safe. Be Secure. Be Certified.

- Arrow QL Series Cylindrical Lever Locks are BHMA Grade 1 Certified, ANSI/BHMA A156.2, Series 4000
- All Arrow QL Series Locks are U.L. and c.U.L. list for use on 3 hour, A label or lesser doors
- Meets American with Disabilities Act Requirements

Design:

Sierra – SB



ASSA ABLOY, the global leader in door opening solutions

ARROW LOCK & DOOR HARDWARE
ASSA ABLOY

8400 Commercial protection plates
8402 UL Commercial protection plates

- Door protection plates are available in .050" thick brass, stainless steel or aluminum; and 1/8" thick high impact polyethylene in clear or black.
- All plates, metal and plastic, come standard with four beveled edges and countersunk mounting holes (B-CS).
- Protection plates must be ordered in 1/2" increments. Available in other sizes, consult customer service
- *For 8402 UL Plates, UL mark appears in upper right corner. Not available on plastic protection plates.*

Certifications
- Meets ANSI A156.6 for J301
- UL protection plates certified to UL10C

Mounting
- Standard mounting package, 16 per pack
  - #6 X 5/8 oval head screws
- Optional TEK/TORX package, specify TK-TX
  - #6 X 5/8 Self-drilling, Self-tapping screws
  - #6 X 5/8 Torx screws

Finishes
- Aluminum 5005 Series, Brass C26800 Series, Stainless Steel 300 Series, Plastic

BHMA	Description	Substrate	Finish	Max sizes
605	Bright Brass	Brass	US3	24"X48"
606	Satin Brass	Brass	US4	24"X48"
612	Satin Bronze	Brass	US10	24"X48"
613	Oil rubbed Bronze	Brass	US10B	36"X48"
619	Satin Nickel	Brass	US15	24"X48"
625	Bright Chrome	Brass	US26	36"X48"
626	Satin Chrome	Brass	US26D	24"X48"
628	Satin Aluminium	Aluminium	US28	48"X48"
629	Bright Stainless Steel	Stainless Steel	US32	48"X48"
630	Satin Stainless Steel	Stainless Steel	US32D	48"X48"
654	Satin Stainless Steel	Stainless Steel	US32D	48"X48"
BLK	Matte black	Stainless Steel	BLK	24"X48"
P-BLK	Black	Plastic	P-BLK	48"X48"
CLR	Clear	Plastic	CLR	48"X48"

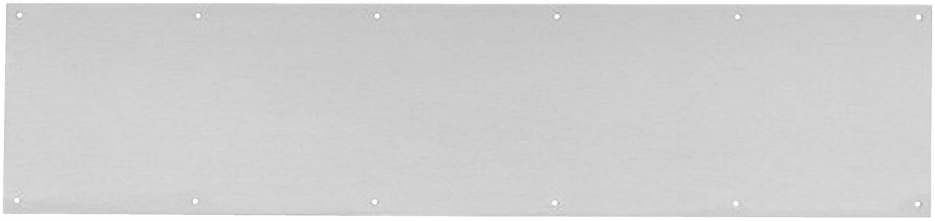
Number of screw packs required by plate size (specify TEK Screws or TORK screws)

	22"-25"	26"-33"	34"-41"	42"-48"
4"-8"	1	1	1	1
9"-16"	1	1	1	1
17"-24"	1	1	1	2
25"-32"	1	1	2	2
33"-40"	1	2	2	2
41"-48"	2	2	2	2

- Custom finishes are available as engineering special, consult customer service.

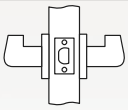
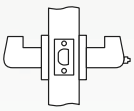
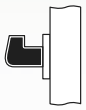
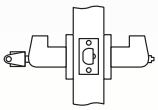
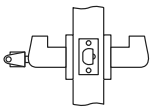
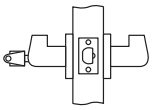
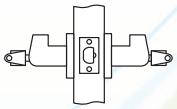
Available options
- Specify B-NH for no mounting holes. (Not available on 8402. Available only with US32D, US32, US3, US4, US28, Clear, Black only)
- Specify B-NHA for no mounting holes with adhesive.
- Specify ERS prepped with extra row of screws.
- Special Cut-outs are available as engineering special, consult customer service.

Available accessory
- Gasket tape kit tape is recommended when using a brass plate on a metal door to reduce tarnishing from electrolytic oxidation. One tape pack will cover an the perimeters of a 8" x 34" kickplate. Order 8401 gasket tape.



QL Series Cylindrical Lever Locks

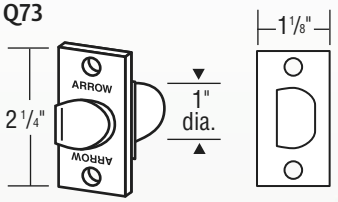
Functions:

ARROW STANDARD	FUNCTION		DESCRIPTION
QL01	Passage		Latchbolt operated by lever either side.
QL72	Privacy		Latchbolt operated by lever either side except when inside turnbutton locks outside. Unlocked by rotating button or by using tool outside.
QL08	1/2 Dummy Trim		Rigid trim for one side of door only. Used as pull or to match active trim.
QL81	Entrance		Latchbolt operated by lever either side except when outside lever is locked by turn-button inside. When outside lever is locked, latchbolt operated by key outside or turning inside lever. Inside button must be manually released.
QL82	Storeroom		Outside lever always locked. Latchbolt operated by key in outside lever, or by turning inside lever.
QL87	Classroom		Latchbolt operated by lever either side except when key outside locks outside lever. Inside lever always free. Key outside locks/unlocks outside lever only.
QL97	Intruder Classroom		Deadlocking latch bolt operated by lever from either side. Key either inside or outside locks or unlocks outside lever. Inside lever always operates latchbolt.

Latches & Strikes:

Spring Latches 2-3/4" Backset

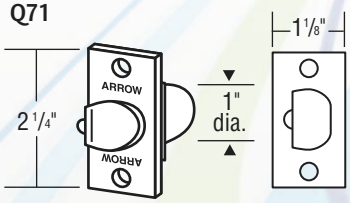
Q73



1/2" throw

Dead Latches 2-3/4" Backset

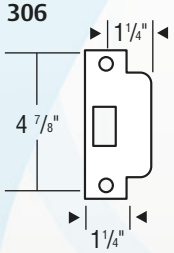
Q71



1/2" throw

Strikes Standard with QL Series

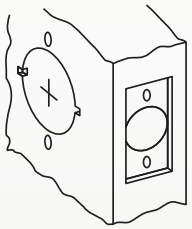
306



ANSI 115.2

Installation:

161 prep for retrofit and secure installation.



Order Example:

Example: To order a QL Series entry function lockset with a Sierra design lever, satin stainless steel finish, with an Q71 strike, and 2-3/4" deadlocking latch, keyed different:

Specify:

Standard:	QL	81	SB	26D	306	Q71	KD	XXX
	Series	Function	Design	Finish	Strike	Latch	Keying	Options (if required)

ASSA ABLOY, the global leader in door opening solutions

ARROW LOCK & DOOR HARDWARE

ASSA ABLOY

QL Series Cylindrical Lever Locks

Professional Replacement Products

Features	
Certification	BHMA 156.2, Series 4000, Grade 1, UL Listed
Freewheeling Lever Action	Standard
Door Thickness	Fits 1-3/8" to 1-3/4", factory set for 1-3/4"
Strike	ANSI 1-1/4" x 4-7/8"
Latch	2-3/4" backset, 1-1/8" front
Cylinder	Standard: 6-pin, solid brass, 2 brass keys; IC prep available
Handing	Non-handed
Case Quantity	6 per case
Average Case Weight	27 lbs.
Warranty	10 years

Available Finishes	Arrow Code	BHMA Code	U.S. Code
Bright Brass	03	605	US3
Dark Oxide Satin Bronze, Oil Rubbed	10BP	614	US10BL
Satin Chromium Plated	26D	626	US26D

How to Order	
Function & Trim	**QL81-SB**
Finish	QL81-SB-**26D**
Strike	QL81-SB-26D-**306**
Latch	QL81-SB-26D-306-**Q71**
Keying	QL81-SB-26D-306-Q71-**KD-AR**

Function	Description	03, 10B, 26D
QL01-SB	Passage	$185.00
QL72-SB	Privacy	$215.00
QL81-SB	Entrance/Office	$240.00
QL82-SB	Storeroom	$240.00
QL87-SB	Classroom	$240.00
QL97-SB	Classroom Intruder	$300.00

Latch Options	Spring Latch	Dead Latch	Price Add
2-3/4" backset x 1-1/8" front	R23	R21	Standard

Keying & Cylinder Options	Specify	Price Add
Keyed different, AR keyway	KD-AR	Standard
Keyed different, CS keyway	KD-CS	No add
Lock prepared to accept a 6- or 7-pin SFIC cylinder (not included)	IC	No add

Parts	Part No.	Price
Cylinder with tailpiece	700HD	$23.34
Strike	306	$23.98
Latch - 2-3/4" backset	Q73[1] or Q71[2]	$19.12
Screw pack	QL-201	$1.70
Alternate latch – 2-3/8" backset x 1" front (sold only as a separate part)	Q72[1] or Q70[2]	$19.12
Alternate latch – 3-3/8" backset (sold only as a separate part)	Q83[1] or Q81[2]	$24.38
Alternate latch – 5" backset (sold only as a separate part)	Q93[1] or Q91[2]	$28.42

[1]Used only with non-keyed functions
[2]Used only with keyed functions

21FBS2500073

ARROW LOCK & DOOR HARDWARE
ASSA ABLOY

ARROW EXPRESS

Telephone: 800.839.3157 • Facsimile: 800.421.6615 • Web: www.arrowlock.com

Arrow Order#
(Acknowledgement#):

(Office use only)

Arrow Acct#:
P.O.#:
Date:
Customer:
Address:
City/State/Zip:

Ship To:
Address:
City/State:
Zip:

- For immediate order processing, use the Arrow Online Order Entry Site at:

https://extranet.assaabloydss.com/extranet/logindss.htm

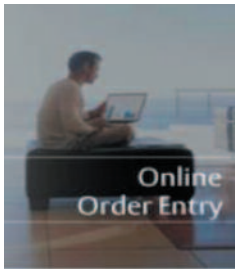
- Please provide complete order information to prevent processing delays
- For e-mail orders, please send to orders@medeco.com
- For fax orders, please send to 1-800-421-6615

Stock Number	QTY
XMLX01-SB-03-306-R23	
XMLX01-SB-10BP-306-R23	
XMLX01-SB-26D-306-R23	
XMLX08-SB-03	
XMLX08-SB-10BP	
XMLX08-SB-26D	
XMLX72-SB-03-306-R23	
XMLX72-SB-10BP-306-R23	
XMLX72-SB-26D-306-R23	
XMLX81-SB-03-306-R21-IC	
XMLX81-SB-03-306-R21-ARKD	
XMLX81-SB-03-306-R21-CSKD	
XMLX81-SB-10BP-306-R21-IC	
XMLX81SB10BP-306-R21-ARKD	
XMLX81SB10BP-306-R21-CSKD	
XMLX81-SB-26D-306-R21-IC	
XMLX81-SB26D-306-R21-ARKD	
XMLX81-SB26D-306-R21-CSKD	
XMLX82-SB-03-306-R21-IC	
XMLX82-SB-03-306-R21-ARKD	
XMLX82-SB-03-306-R21-CSKD	
XMLX82-SB-10BP-306-R21-IC	
XMLX82SB10BP-306-R21-ARKD	
XMLX82SB10BP-306-R21-CSKD	
XMLX82-SB-26D-306-R21-IC	
XMLX82-SB26D-306-R21-ARKD	
XMLX82-SB26D-306-R21-CSKD	
XMLX87-SB-03-306-R21-IC	
XMLX87-SB-03-306-R21-ARKD	
XMLX87-SB-03-306-R21-CSKD	
XMLX87-SB-10BP-306-R21-IC	
XMLX87SB10BP-306-R21-ARKD	
XMLX87SB10BP-306-R21-CSKD	
XMLX87-SB-26D-306-R21-IC	
XMLX87-SB26D-306-R21-ARKD	
XMLX87-SB26D-306-R21-CSKD	
ARX-R20.03 RLX GUARDED 2-3/8" BS	
ARX-R20.10BP RLX GUARDED 2-3/8" BS	
ARX-R20.32D RLX GUARDED 2-3/8" BS	
ARX-R21.03 RLX GUARDED 2-3/4" BS	
ARX-R21.10BP RLX GUARDED 2-3/4" BS	
ARX-R21.32D RLX GUARDED 2-3/4" BS	
ARX-R22.03 RLX UNGUARDED 2-3/8" BS	
ARX-R22.10BP RLX UNGUARDED 2-3/8" BS	
ARX-R22.32D RLX UNGUARDED 2-3/8" BS	
ARX-R23.03 RLX UNGUARDED 2-3/4" BS	
ARX-R23.10BP RLX UNGUARDED 2-3/4" BS	
ARX-R23.32D RLX UNGUARDED 2-3/4" BS	

Stock Number	QTY
XQL01-SB-10BP-306-Q73	
XQL01-SB-26D-306-Q73	
XQL01-SB-10BP-306-Q73	
XQL72-SB-26D-306-Q73	
XQL81-SB10BP-306-Q71-ARKD	
XQL81-SB10BP-306-Q71-CSKD	
XQL81-SB-10BP-306-Q71-IC	
XQL81-SB-26D-306-Q71-ARKD	
XQL81-SB-26D-306-Q71-CSKD	
XQL81-SB-26D-306-Q71-IC	
XQL82-SB10BP-306-Q71-ARKD	
XQL82-SB10BP-306-Q71-CSKD	
XQL82-SB-10BP-306-Q71-IC	
XQL82-SB-26D-306-Q71-ARKD	
XQL82-SB-26D-306-Q71-CSKD	
XQL82-SB-26D-306-Q71-IC	
XQL87-SB10BP-306-Q71-ARKD	
XQL87-SB10BP-306-Q71-CSKD	
XQL87-SB-10BP-306-Q71-IC	
XQL87-SB-26D-306-Q71-ARKD	
XQL87-SB-26D-306-Q71-CSKD	
XQL87-SB-26D-306-Q71-IC	
XQL97-SB10BP-306-Q71-ARKD	
XQL97-SB10BP-306-Q71-CSKD	
XQL97-SB-10BP-306-Q71-IC	
XQL97-SB-26D-306-Q71-ARKD	
XQL97-SB-26D-306-Q71-CSKD	
XQL97-SB-26D-306-Q71-IC	
X-Q71.10BP QL GUARDED 2-3/4" BS	
X-Q71.32D QL GUARDED 2-3/4" BS	
X-Q73.10BP QL UNGUARDED 2-3/4" BS	
X-Q73.32D QL UNGUARDED 2-3/4" BS	
X-QL-201.03 QL / ML SCREW PACK	
X-QL-201.10BP QL / ML SCREW PACK	
X-QL-201.26D QL / ML SCREW PACK	
X-RLX-44-201.FIN IC TAILPIECE PK RLX/MLX/QL/HK	

Why Use Online Order Entry?

- 24/7 Availability
- Eliminates Question Orders
- Instant Processing of Your Order
- Importable CSV File for Your System



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- UL protection plates certified to UL10C

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- Optional TEK/TORX package, specify TK-TX
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  - #6 X 5/8 Torx screws

Finishes
- Aluminum 5005 Series, Brass C26800 Series, Stainless Steel 300 Series, Plastic

BHMA	Description	Substrate	Finish	Max sizes
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606	Satin Brass	Brass	US4	24"X48"
612	Satin Bronze	Brass	US10	24"X48"
613	Oil rubbed Bronze	Brass	US10B	36"X48"
619	Satin Nickel	Brass	US15	24"X48"
625	Bright Chrome	Brass	US26	36"X48"
626	Satin Chrome	Brass	US26D	24"X48"
628	Satin Aluminium	Aluminium	US28	48"X48"
629	Bright Stainless Steel	Stainless Steel	US32	48"X48"
630	Satin Stainless Steel	Stainless Steel	US32D	48"X48"
654	Satin Stainless Steel	Stainless Steel	US32D	48"X48"
BLK	Matte black	Stainless Steel	BLK	24"X48"
P-BLK	Black	Plastic	P-BLK	48"X48"
CLR	Clear	Plastic	CLR	48"X48"

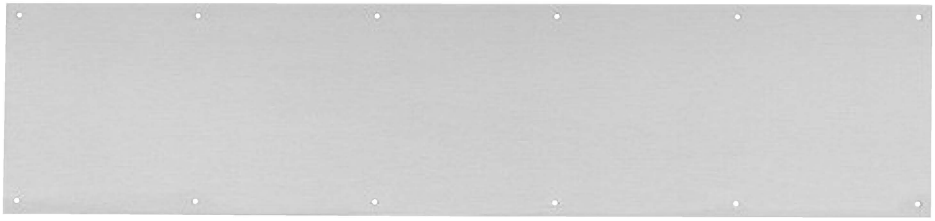
Number of screw packs required by plate size (specify TEK Screws or TORK screws)

	22"-25"	26"-33"	34"-41"	42"-48"
4"-8"	1	1	1	1
9"-16"	1	1	1	1
17"-24"	1	1	1	2
25"-32"	1	1	2	2
33"-40"	1	2	2	2
41"-48"	2	2	2	2

- Custom finishes are available as engineering special, consult customer service.

Available options
- Specify B-NH for no mounting holes. (Not available on 8402. Available only with US32D, US32, US3, US4, US28, Clear, Black only)
- Specify B-NHA for no mounting holes with adhesive.
- Specify ERS prepped with extra row of screws.
- Special Cut-outs are available as engineering special, consult customer service.

Available accessory
- Gasket tape kit tape is recommended when using a brass plate on a metal door to reduce tarnishing from electrolytic oxidation. One tape pack will cover an the perimeters of a 8" x 34" kickplate. Order 8401 gasket tape.



PEMKO

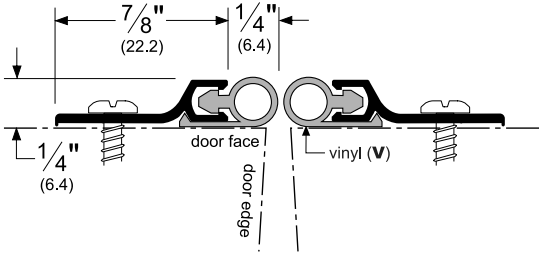
ASSA ABLOY

ASTRAGALS & MEETING STILES:
ASTRAGALS AND MEETING STILE GASKETING-
SPLIT ASTRAGALS

303_V (MS)

ORDER TWO (AS A PAIR)

AVAILABLE FINISHES: **A, BDG, D, G, PW, SN**
PROFILE WIDTH: **7/8" (22.2 mm) (x2)**
TOTAL WIDTH WITH INSERT: **1-1/8" (28.6 mm) (x2)**
HEIGHT: **1/4" (6.4 mm)**



A (Mill Finish Aluminum)
BDG (Bright Dip Gold Anodized Aluminum)
D (Dark Bronze Anodized Aluminum)
G (Gold Anodized Aluminum)
PW (Painted White Aluminum)
SN (Satin Nickel Anodized Aluminum)

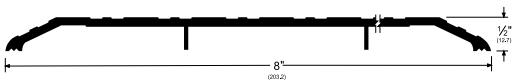
TITLE:
PREPARED FOR:
PREPARED BY:
DATE:
COMMENTS:

TECH-SPEC:

Product Reference Sheet

2548_

PROFILE DRAWING



Example: **2548 | A | 36**
Profile# Finish Length

CATEGORY: Commercial Thresholds

TYPE: Saddle Thresholds

FINISHES: A (Mill Finish), D (Dark Anodized), G (Gold Anodized)

LENGTHS: Up to 185"

WIDTH: 8" (203.2 mm)

HEIGHT: 1/2" (12.7 mm)

WEIGHT: Estimated per foot: 1.3 lbs

RATINGS:

PRODUCT APPROVALS:

- Tested and approved under UL10C for Fire
- ADAAG-1998 (Amended); ICC/ANSI A117.1 and California Building Code, Title 24 for Barrier-Free Entry
- Category J gaskets for use with listed steel frames and/or classified steel covered composite, hollow metal doors rated up to and including 3 hours; wood and plastic covered composite doors rated up to and including 1-1/2 hours; and wood core doors rated for 20 minutes.

ANSI NUMBER: Aluminim: J32100, J32130

LEAD TIME: 4 working days (or less)

AVAILABLE: Shipped from PEMKO's Memphis, Ventura, Vancouver and Toronto locations

CROSS REFERENCE: Draftseal: DS800; Hager 426S; NGP: 428; K N Crowder: CT-32

INSTRUCTIONS: Available upon request and on website

CAD DRAWINGS: Available upon request and on website

PROFILE DRAWINGS: Available upon request and on website

CUT SHEET: Available upon request and on website

www.pemko.com

Memphis, TN USA
P.O. Box 18966
Memphis, TN 3818
P: 800.824.3018
F: 800.243.3656

Ventura, CA USA
P.O. Box 3780
Ventura, CA 93006
P: 800.283.9988
F: 800.283.4050

Vancouver, BC Canada
103-2480 Mt. Lehman Rd.
Abbotsford, BC V2T 6W3
P: 877.535.7888
F: 877.535.7444

Toronto, ON Canada
160 Four Valley Dr.
Vaughan, ON L4K 4T9
P: 877.535.7888
F: 877.535.7444

Revised 10/12/2012

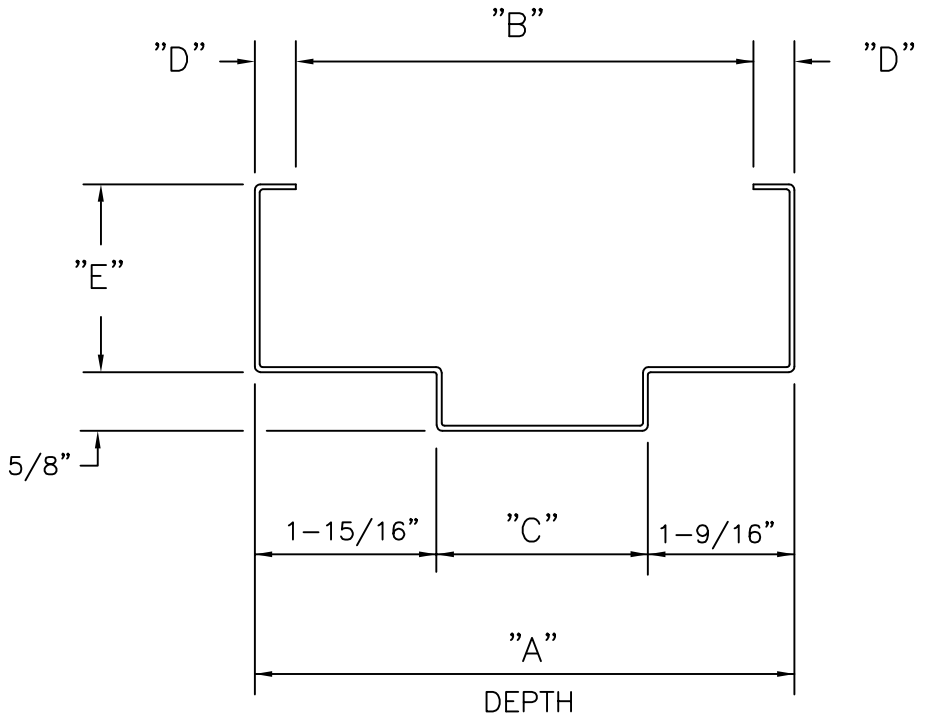
ASSA ABLOY, the global leader in door opening solutions

CecoDoor
ASSA ABLOY

Return to Index

SERIES SU STEEL FRAMES (UNEQUAL RABBET)

FOR 1-3/4" THICK DOORS
STANDARD WALL APPLICATION, HANDED

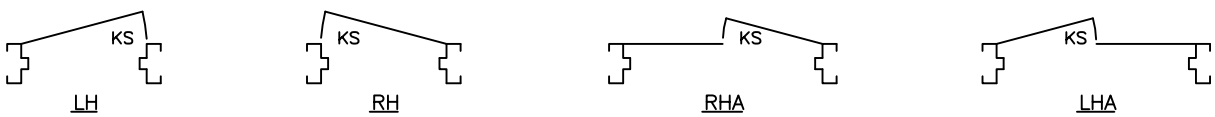


(Conversion: 1" = 25.4 mm, e.g., 1–3/4" = 44.45 mm)

DEPTH	A	B	C	D	E	
					HEAD & JAMBS	HEAD & JAMBS
434	4–3/4"	3–3/4"	1–1/4"	1/2"	2"	1"
534	5–3/4"	4–7/8"	2–1/4"	7/16"	2"	1"
634	6–3/4"	5–3/4"	3–1/4"	1/2"	2"	1"
734	7–3/4"	6–3/4"	4–1/4"	1/2"	2"	1"
834	8–3/4"	7–3/4"	5–1/4"	1/2"	2"	1"

Series SU, double rabbet frames (with unequal rabbets) are also available in a range of depths from: 4–5/8" thru 14" in 1/8" increments.
4" face heads with 2" face jambs are also available in selected sizes.

INSIDE

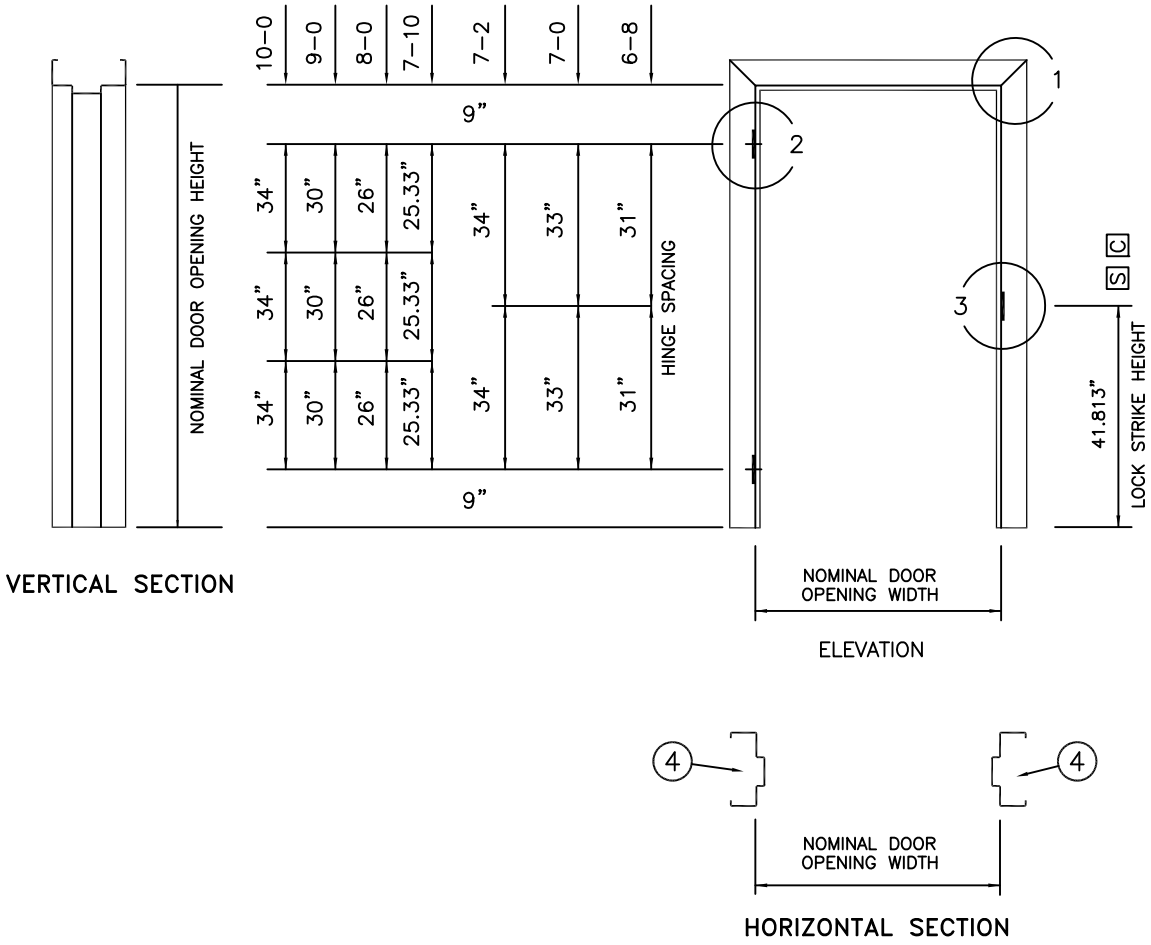


OUTSIDE

"KS" = KEY SIDE

F1-2

Hardware locations shown match Ceco standard doors.



VERTICAL SECTION

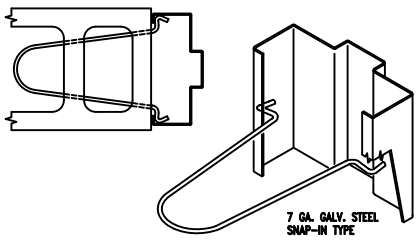
ELEVATION

HORIZONTAL SECTION

(Conversion: 1" = 25.4 mm, e.g., 1-3/4" = 44.45 mm)

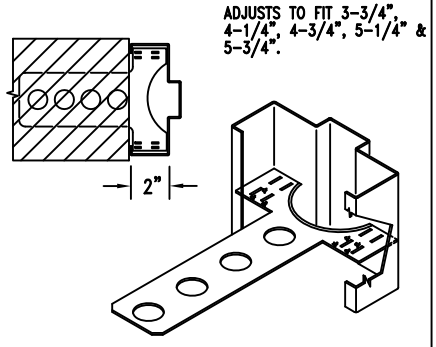
JAMB ANCHOR QUANTITIES	2 PER JAMB FOR HEIGHTS 3/6 THRU 5/0 AND ONE FLOOR ANCHOR 3 PER JAMB FOR HEIGHTS >5/0 thru 7/2 AND ONE FLOOR ANCHOR 4 PER JAMB FOR HEIGHTS >7/2 thru 9/0 AND ONE FLOOR ANCHOR 5 PER JAMB FOR HEIGHTS >9/0 THRU 10/0 AND ONE FLOOR ANCHOR ONE ADDITIONAL JAMB ANCHOR FOR EACH ADDITIONAL TWO FEET IN HEIGHT OR FRACTION THEREOF ONE ADDITIONAL JAMB ANCHOR IN LIEU OF FLOOR ANCHOR FOR EXISTING STUDS AND/OR WALL CONDITIONS.

WIRE MASONRY ANCHOR (4)
WMA



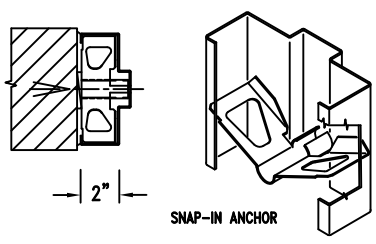
(For 3" THRU 8-3/4" DEPTHS)

MASONRY "T" ANCHOR (ADJUSTABLE) (4)
MT



ALTERNATE MT ANCHOR DESIGN IS AVAILABLE FOR SPECIAL DEPTH & FACE FRAMES. SEE SECTION F13 FOR DETAILS.

EXISTING OPENING ANCHOR (4)
EO



EO/S6: 4-1/2" THRU 6-3/4" DEPTH
EO/S8: 6-7/8" THRU 8-3/4" DEPTH

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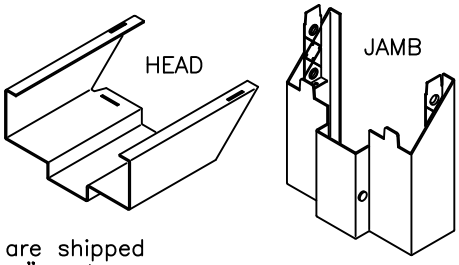
05/06/13

F1-3

KNOCKED DOWN (KD) CORNER CONSTRUCTION

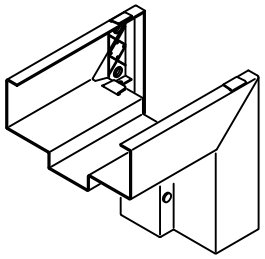
1



Components are shipped "knocked down" and assembled at the job site

WELDED CORNERS

1



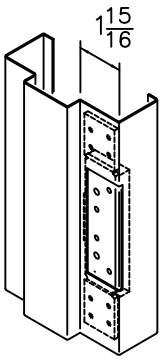
Die-cut corner with corner tab and face weld shown. Also available without tab and welded or mitre sawed and welded. Alternative weld options are also available.

HINGE PREPARATION

2

4-1/2" x .134" OR
4-1/2" x .180"
ANSI A156.7 TEMPLATE
7 GAGE STEEL
REINFORCING

BACKSET: 5/16"

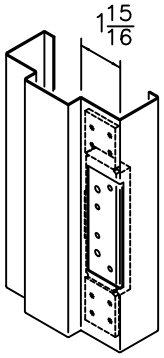


HINGE PREPARATION

2

5" x .146" OR
5" x .190"
ANSI A156.7 TEMPLATE
7 GAGE STEEL
REINFORCING

BACKSET: 5/16"

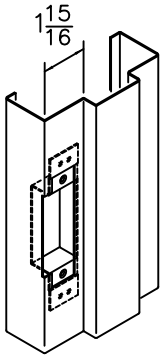


LOCK STRIKE PREPARATION

3

S

UNIVERSAL (4-7/8")
ANSI A115.1 & 2 TEMPLATE
16 GAGE STEEL REINFORCING
WITH EXTRUDED SCREW HOLES
PROVIDES EQUIVALENT THREAD
ENGAGEMENT EQUAL TO 14 GAGE.
STANDARD FOR 1-3/4" DOORS

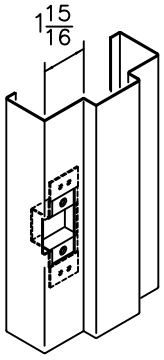


LOCK STRIKE PREPARATION

3

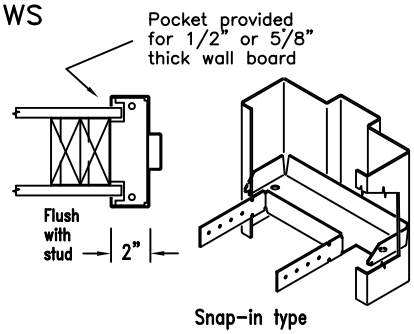
C

CYLINDRICAL (2-3/4")
ANSI A115.2 TEMPLATE
16 GAGE STEEL REINFORCING
WITH EXTRUDED SCREW HOLES
PROVIDES EQUIVALENT THREAD
ENGAGEMENT EQUAL TO 14 GAGE.
OPTIONAL FOR 1-3/4" DOORS



WOOD STUD ANCHOR
WS

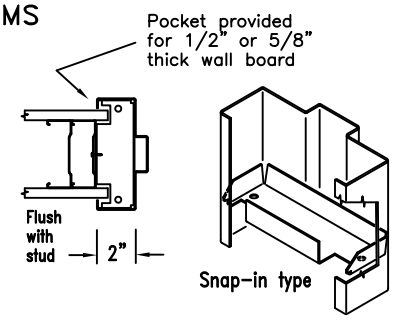
4



(Used also for METAL STUD Walls)

METAL STUD ANCHOR
MS

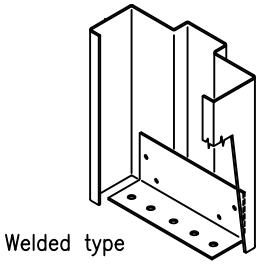
4



4-3/4 and 5-3/4" Depth Only
For other depths use WS type.

FIXED FLOOR ANCHOR
SA

4



ONE PIECE

06/24/11

CecoDoor
ASSA ABLOY

PRODUCT SPECIFICATIONS:

Steel door frames shall be as manufactured by Ceco Door Products, Milan, TN or Mason City, IA USA. They shall conform to the Steel Door Institute guide specification, ANSI A250.8. See chart below for performance classifications.

Series SU frames for 1-3/4" doors are formed from commercial quality cold rolled steel conforming to ASTM A1008 ...or (optional) hot-dipped galvanized steel conforming to ASTM A924 and A653 - see chart below.

Frames are knocked down (K.D.) field assembled type or welded unit type. Head and jamb members of K.D. frames have diecut mitered corners that interlock rigidly when field assembled. Integral door stops are 5/8" high. Jambs are sized to suit wall applications. Twist-in anchors are available for new masonry, wood stud, metal stud, or existing opening wall conditions (indicate which). Floor anchors or extra jamb anchors are provided to anchor sill. Welded-in jamb anchors are also available.

Hardware Provisions: Frames are handed. Hinge jambs are mortised for 4-1/2" or 5" high, standard and heavy weight hinges (specify which). 7 gage steel reinforcements are welded in place and are drilled and tapped for fasteners in accordance with ANSI A156.7. The strike jamb is prepared for 4-7/8" universal or 2-3/4" cylindrical strike in accordance with ANSI A 115.1 &2 (specify which). Plaster guards are provided. Optional closer reinforcement is a 14 gage steel formed steel sleeve (12 gage upon request). 3 door mutes are provide per strike jamb and 2 for double swing heads.

Paint: Steel door frames are provided with one coat of oven-cured neutral color primer paint. Primer coat shall conform with ANSI A250.10 . The primer coat is a preparatory base for necessary finish painting. "Colorstyle" finish coat is also available on K.D. frames from a selection of standard colors (optional). Colorstyle finish is electrostatically applied, oven-cured urethane enamel, and shall conform to ANSI A250.3. For accurate color selectors ask for a Ceco Colorstyle chart.

STANDARD SIZES NOMINAL DOOR OPENING

WIDTH		HEIGHT
SINGLE	DOUBLE	
2'-0"	4'-0"	
2'-4"	4'-8"	
2'-6"	5'-0"	6'-8"
2'-8"	5'-4"	7'-0"
2'-10"	5'-8"	7'-2"
3'-0"	6'-0"	7'-10"
3'-4"	6'-8"	8'-0"
3'-6"	7'-0"	9'-0"
3'-8"	7'-4"	10'-0"
3'-10"	7'-8"	
4'-0"	8'-0"	
5'-0"	10'-0"	

FIRE DOORS

LABELING AGENCIES:

- UNDERWRITERS LABORATORY
- WARNOCK HERSEY
- FACTORY MUTUAL

TEST: UL10B, UL10C, UI1784 & NFPA 252

- RATING: 20 MIN, 3/4 HR, 1 HR, 1-1/2 HR, OR 3 HR
- MAX. SIZE: 40 x 100 SINGLE 80 x 100 PAIR

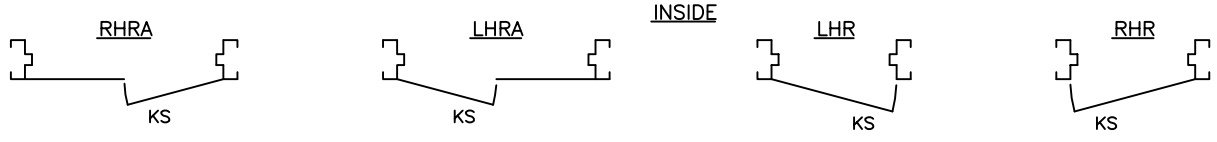
Not all ratings are available in all sizes, designs and materials.
Hourly classifications are not shown on label unless class is less than 3 hours.

MATERIAL

DOOR FRAME MATERIAL	LEVEL	C.R.	GALV	
			A60	G90
16 Gage Steel	Heavy or Extra Heavy Duty	STD	OPT	OPT
14 Gage Steel	Maximun Duty	STD	OPT	OPT

PERFORMANCE

Physical Endurance Level:	Meets ANSI A250.4 Performance Test, Level A (1,000,000 Cycles)



"SUFFIX"A" = ACTIVE LEAF OF PAIRS

Ceco Door
ASSA ABLOY

ASSA ABLOY, the global leader in door opening solutions.

TRUDOOR™

FLUSH HOLLOW METAL DOOR

Heavy-duty steel door for commercial, industrial and institutional applications

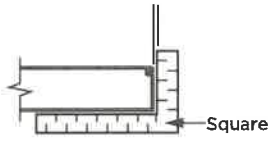
Our stock hollow metal door is an affordable non-handed, square-edge door solution designed to meet your requirements for quality full flush steel doors - for commercial, institutional and industrial applications. Stocked with Steelcraft locations, these doors are designed to satisfy your requirements for durability, security, aesthetics or fire protection. Trudoor is authorized by Warnock Hersey / Intertek to modify, re-certify and label fire-rated metal doors.

Features:

- Heavy-duty, SDI Level 2 - 18 gauge steel faces
- 1-3/4" Thick, non-handed design with reversible hinge plates
- Polystyrene or rigid honeycomb core
- Inverted top and bottom channels for additional stability and protection
- Interlocking seam enhances structural rigidity and durability
- Heavy gauge hinge reinforcements and door closer reinforcement
- Available with a wide range of glass lites, louvers and hardware preps
- Factory applied rust inhibiting primer (no special color options)
- Fire-rated up to 3 hours with WHI / ITS mylar label applied
- Preps include 161 (cylindrical lock), 86ED (mortise lock), RPD (Rim Panic Reinforced)

Code Compliance:

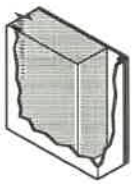
- Meets or exceeds ANSI A250.6 and A250.6
- Construction meets the requirements of ANSI A250.8
- Listed for installations requiring compliance to negative pressure testing (UL-10B) and positive pressure (UL-10C)
- Florida Product Approved

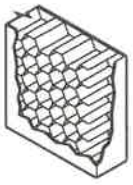


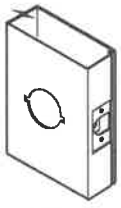
Non-Handed Edge

Intertek

BAA Compliant

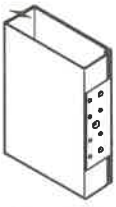

Polystyrene Core


Honeycomb Core


161 Lock


86ED Lock


RPD


Non-Handed Mortise Hinge Prep

Grade and Model:

ANSI A250.8 - SDI 100			Edge Construction	Maximum Sizes		Recommended Gauge of Frame
Level	Model	Description		Single	Pair	
Level 2: Heavy Duty Commercial			18 gauge (1.0 mm) - heavy commercial and institutional applications with high use			
2	1	Full Flush	Visible	4'0" x 8'0"	8'0" x 8'0"	16 gauge (1.3 mm)

Grades and models defined by Steel Door Institute (SDI)

Manufacturers include Steelcraft and ASSA Abloy

MILGARD®
WINDOWS and DOORS

Installation Recommendations for Mounting Fin Windows

These installation recommendations are made available by Milgard Manufacturing LLC (Milgard) to assist with the integration of products with a mounting fin into a typical wood-framed building less than three stories in height. Installation into other structures and frame types are not addressed here.

Please contact Milgard or visit www.Milgard.com for additional information.

IMPORTANT DESIGN CONSIDERATIONS

Read this entire document before proceeding with installation of Milgard's products. Responsibility for product selection and installation rests with the owner, architect, and installer. Do not proceed with installation unless all factors necessary to properly integrate Milgard's products into a building's water management system have been addressed.

Milgard makes no representation or warranty that these recommendations include all information necessary to ensure proper integration into every building. State and local code requirements may impose different or additional demands which will supersede these recommendations. For additional guidance regarding installation of window products, refer to applicable industry standards (e.g., AAMA 2400, AAMA InstallationMasters™, ASTM E 2112).

Failure to follow these recommendations, local requirements, or good building practices may affect the availability of remedies under Milgard's warranty. Provide a copy of these recommendations and the applicable Milgard warranty to the owner before installing. Milgard does not permit adoption of its installation recommendations into the contracts of others without its prior, written consent.

IMPORTANT PRE-INSTALLATION CONSIDERATIONS

- Window installation may disturb finish surfaces and paint in existing structures. Specific notice and work site precautions may be required. Additional information is available at www.epa.gov/lead. Comply with all applicable federal, state, and local requirements.
- Special disposal considerations may be necessary for materials used during installation. Materials removed from an existing structure may also have their own disposal or recycling requirements. Comply with all applicable federal, state, and local requirements.
- Job site and worker protections are recommended and may be required. Follow all manufacturers' instructions for appropriate and safe use of protective equipment, tools, materials, hardware and site protections necessary for installation.
- Product specification sheets include important information regarding your product and may include additional installation recommendations.

Contact Milgard for product specifications and additional product information for your Milgard product.

MATERIALS REQUIRED

- Non-compressible shims.
- Fasteners. The applicable building code should be consulted, to ensure compliance with all state and local requirements. At a minimum, fastener type should be sufficient to properly affix the frame and penetrate rough framing by 1-1/2" or more.
- High-quality compatible exterior grade sealant.
- Seal tape for the weather-resistant barrier. *
- Self-adhering flashing, in a width required by code but no less than 4". AAMA 711 compliant flexible butyl tape flashing or equivalent is recommended. *
- Backer rod. *
- Low-expansive, low-pressure foam or batt type insulation. *

* Use and placement of these materials may be required by code, plan, or good building practices.

TOOLS REQUIRED

INSPECT AND PREPARE THE PRODUCT FOR INSTALLATION

1. Inspect the window product thoroughly before beginning installation.

   - Confirm the window matches the size needed for the opening; measuring ½" smaller than the rough opening dimensions in width and height.
   - Confirm the window's features match the requirements of the project, order, and opening; e.g., Low-E, color, code, rating, operating direction, egress.
   - Confirm there is no damage to the product and that all necessary pieces are in place for a complete installation; e.g., locks, labels, weather stripping.

     Do not proceed with installation if there are any concerns about the condition or suitability of the product for installation or compliance with project, order, code, or opening requirements.

2. Keep the jambs plumb and square with the head and sill on the window throughout installation. Keep sashes closed and locked throughout installation. Avoid "crown up" or "bow down" conditions at both sill and head. Avoid "bowed out" installations by confirming equal jamb widths throughout installation, especially at meeting rails.

INSPECT AND PREPARE THE ROUGH OPENING

1. Make sure the rough opening is in good condition and plumb, level, and square to within 1/8" nominal tolerance. Framing conditions at the rough opening must be sufficient to support the window unit, framing header above, and permit appropriate integration of the window into the building's water management system. Rough openings shall be ½" larger than window frame in width and height.
2. If the building already has a weather-resistant barrier (WRB) installed, it is necessary to prepare an opening in the WRB to accept the window. Milgard recommends that the installer follow the WRB manufacturer's recommendation to prepare the opening. The steps that follow are Milgard's general guidelines for preparing a WRB opening and, where used, the installer must confirm these steps will not impact the WRB manufacturer's warranty or otherwise inhibit drainage before proceeding.

   Use a modified "I-cut" at the WRB. **See Figure B.**

   - Begin with a horizontal cut across the entire width of the head and sill of the rough opening.
   - Next, in the middle of the opening, make a vertical cut from head to the sill.
   - Fold the WRB into the opening and secure, trimming excess as necessary. **See Figure C.**
   - Finally, cut two slits in the WRB at the head corners that angle 45° away from the center of the opening. Each cut should be long enough to ensure that the WRB will fold over the entirety of the later-applied head flashing. Fold the WRB upward as shown and temporarily fasten with tape. **See Figure D.**

FIGURE A

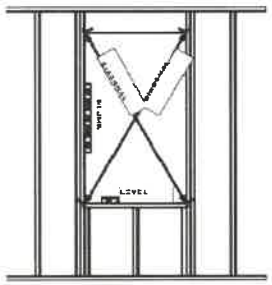


FIGURE B

FIGURE C

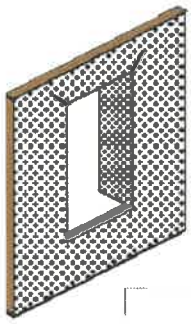


FIGURE D

FLASH AND SHIM THE SILL

Many options exist to flash a window opening. Method and material selection involve pre-installation consideration of factors such as the required building performance and specific water management system used. At a minimum, Milgard suggests installers use a pan at the sill combined with a complete interior air dam around the product. Installers should consult with the architect, owner, or other responsible site personnel for instructions regarding appropriate flashing of a window opening before installing Milgard's products.

1. Start by cutting flexible self-adhering flashing no less than 12" longer than the width of the opening.
   - Center the cut flashing piece and lay it across the rough opening, allowing equal overlaps up the jambs, but no less than 6" on each side. Position the flashing so that when pressed down onto the exterior sheathing or WRB, the flashing will extend beyond the window fin by at least 2".
   - Remove backing from flashing and apply across sill and up jambs. Do not round the corners. Flashing must be secured squarely into the jamb-sill corners to avoid the risk of puncturing the flashing. Use a J-roller to remove bubbles or creases.

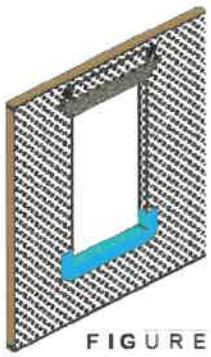


FIGURE E
By MITER Brands™

- Fold flexible flashing down onto the WRB and secure. Use a J-roller to remove bubbles or creases.
- Where necessary, and using the steps above, apply an additional length of flexible flashing across the sill and up the jambs to ensure that the width of the window frame in the rough opening rests on applied and secured flashing material. A completed installation should reflect **Figure E.**

2. Install with FULL support under the entire width of the window sill. Note: For windows with intermediate meeting rails (IMR), and all slider windows, additional shims are recommended under each IMR and meeting rail/stile to ensure a level sill and proper operation. Sill shims should remain after installation is complete. Apply additional shims as necessary to maintain a level sill throughout installation. If necessary, secure shims with tape to prevent movement during setting of the window. **See Figure F.**

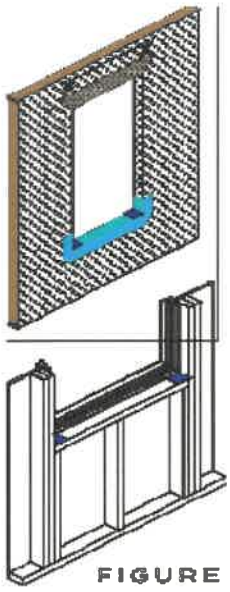


FIGURE F

APPLY SEALANT, SET, AND SECURE THE WINDOW

1. Milgard recommends corrosion-resistant fasteners be located 3" to 6" from each corner, and then every 8" to 12" on center. Do not distort the mounting fin during this process. Inspect sealant at all frame joints. Apply sealant at mechanically fastened corners as well as the full length of the joints where mounting fins/flanges meet.
2. Apply a continuous 3⁄8" bead of premium grade, compatible exterior sealant to the backside of the mounting fins (interior facing) at the head and jambs of the window near the outside edge of the mounting fin. **See Figure G.** Apply a 3⁄8" bead of premium grade, compatible exterior sealant on the backside of the sill mounting fin (interior facing).

FIGURE G

3. Set window into center of opening at sill first. Push up into place. Place a temporary fastener near each corner at the head of the window no closer than 3" to either corner. Measure the window to ensure it has remained level and square, and the frame is not bowed. Unlock and open operable sashes. Adjust as required to ensure smooth operation. Close and relock sash. Adjust and place additional shims, as necessary, to secure the unit and ensure proper operation. Place additional fasteners in the bottom corners. Confirm again unit is level, plumb, and square.
4. Keeping the sash closed and locked, secure the window with fasteners of a type appropriate for the frame and that penetrate the rough framing by a minimum of 1-1/2" or as required by code. **See Figure I.** Take care to install fasteners straight, not angled. **See Figure J.** No fasteners should be located closer than 3" to any corner. Do not distort the mounting fin with the fasteners. Milgard recommends its vinyl products have fasteners applied securely into every other pre-punched slot on all sides of the window. Fastening in locations other than the mounting fin may damage the unit. **Do not fasten the window using staples.**

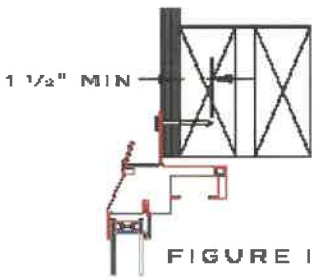


FIGURE I

INTEGRATE THE WINDOW

1. Cut two pieces of self-adhered flashing for the jambs that extend a minimum of 1" above the head mounting fin and a minimum of 1" below the sill flashing previously installed in **Figure E**. Apply flashing over jamb mounting fins. Use a J-roller to remove bubbles or creases. **See Figure K.**

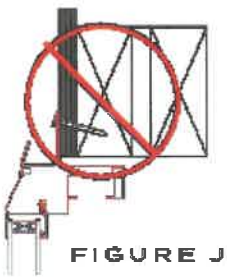


FIGURE J

2. Cut a piece of self-adhered flashing for application at the head of the window. Flashing must extend a minimum of 1" beyond the jamb flashing applied in **Figure E**. Apply flashing over the head mounting fin. Use a J-roller to remove bubbles or creases. **See Figure L.**

3. Remove tape holding WRB flap and fold WRB downward covering the head mounting fin. Be sure the WRB does not affix to the head flashing or create a pocket at the head of the window. Seal the WRB to the head flashing using WRB sealant tape to cover the entirety of the top cuts previously made. **See Figure M.**

NOTE: **Ensure that the flashing tape is installed flush to the window main frame completely covering the mounting flanges.**

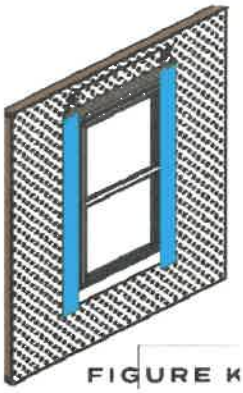


FIGURE K

INSULATE THE OPENING

4. From the interior, insulate between the window frame and rough opening with fiberglass insulation or a measured use of low pressure, low expansion foam. Only use foam after determining that it will not distort the window frame when fully expanded. Check operation of the window after insulating to ensure proper operation.
5. A complete interior perimeter seal around the window product is essential to ensure proper functioning of the sill flashing method. Apply a properly backed continuous bead of sealant around the entire interior perimeter of the window. **See Figure N.** The seal must connect the flashing applied at the sill plate to the window unit for proper functioning of the sill pan.

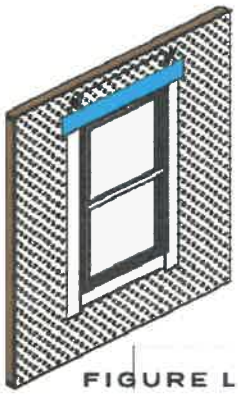


FIGURE L

CONSIDERATIONS AND CAUTIONS

Considerations and Cautions

- Care should be taken to ensure proper integration of the window into the building's water management system and with the selected cladding. A properly designed ¼" sealant joint between all sides of the window frame and exterior cladding may be advisable. Consult the responsible architect, owner, or builder, as well as the cladding manufacturer's instructions.
- It is the sole responsibility of the owner, architect, and/or builder to select correct products to be in compliance with applicable laws, site requirements and building codes and to ensure that installation is in compliance with applicable laws, site requirements and building codes.

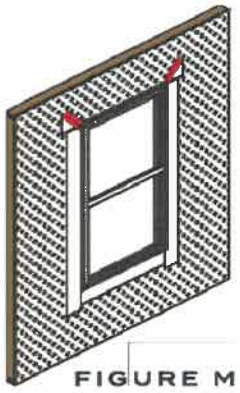


FIGURE M

Important Cautions

⚠ Use of solvents or acids may damage components of this product and will limit rights under the warranty.

⚠ Stage and store window products with caution. Do not store in the sun or lay flat before or during installation.

⚠ Care must be taken to ensure material compatibility of the window unit and surrounding building conditions. Where necessary, steps should be taken to isolate the window from reactionary building elements.

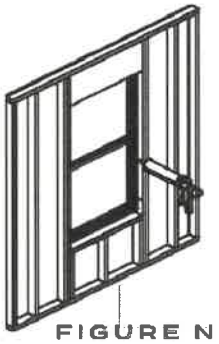


FIGURE N

Post Installation Reminders

- With the exception of logo and NFRC labels, all Milgard applied labels should remain in place and not be removed after installation is complete (e.g., AAMA labels, warranty labels, warning labels).
- Milgard recommends a yearly inspection of its products and the surrounding materials, inside and outside the home. Upkeep of sealant joints, hardware and weather stripping can ensure longevity and proper functioning of the window products.

Please contact Milgard or visit www.Milgard.com for additional information.

PS SERIES

WALL VENT

PS 100

PS 101

PS 102

DESCRIPTION

Through the wall ventilation is intake ventilation unit for constant ventilation and designed for supplying fresh air to residential or nonresidential premises. Technically advanced, cost effective, and high efficiency ventilation kits are economical ventilation solution for wide range of applications where centralized ventilation is not applied. Through the wall ventilation kits are installed in the outer wall of various premises such as apartments, cottages, or office buildings. Designed for continuous or intermittent operation. Wall vent can fill the room with fresh air without the need of opening a window while preventing the entry of dust and fumes from outside. Eliminates heat loss.

The unique design of the internal grille and air flow regulator prevent backdraft.

MERV 5 cleaning level filter ensures filtration of exhaust and incoming air keeping the air always fresh.

The internal grille is made of high quality ABS plastic. The airflow and its intensity are adjustable with the airflow regulator.

Tel: 888-640-0925
Fax: 513-268-4597

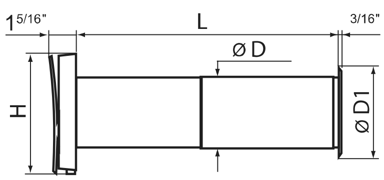
Sales@ventsus.com
VentsUS.com
400 Murray Rd,
Cincinnati, OH 45217

VENTS-US

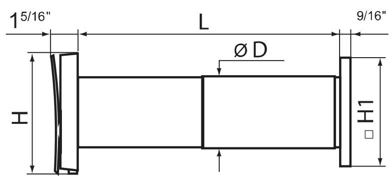
DIMENSIONS

Model	Measurements [in.]				
	L	H	H1	ØD	ØD1
100 PS	8 1/16" - 5 1/8"	6 7/16" - 1 5/16"	-	4 1/16"	5 1/16"
101 PS	8 1/16" - 5 1/8"	6 7/16" - 1 5/16"	6 1/16"	4 1/16"	-
102 PS	8 1/16" - 5 1/8"	6 7/16" - 1 5/16"	6 1/16"	4 1/16"	-

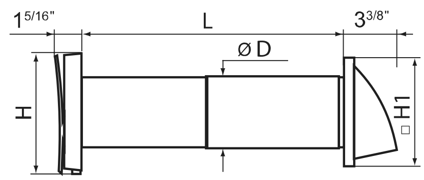
PS 100



PS 101



PS 102



Window Vent include

PS 100

Internal grill

+

Telescope

+

PS 101

PS 102

External grill

SERVER
• ESSENTIALS •

Specialty Warmer
ConserveWell® Utensil Holder

SPECIFICATION SHEET

FAST FACTS

ConserveWell® Wall-Mount Utensil Holders are an environmentally friendly method of rinsing and protecting utensils against bacteria growth versus traditional dipper wells; one unit can save over 250,000 gallons of water per year.

APPLICATIONS

- Replace a traditional dipper well perpetual-flow sink to save water, energy and money
- Mount next to a serving station to keep short-handled utensils clean and handy

DETAILS

- Holds serving utensils above 140° F, keeping them safe against bacteria growth; includes (2) 1/9-size, 4 in deep pans
- Programmable countdown timer helps ensure timely water changeouts; also available without timer
- Ideal for utensils with a handle that will not intensify heat - DO NOT use utensils with liquid or gel-filled handles
- Convenient key slot mounting brackets make mounting to a wall or sturdy vertical surface quick and easy
- Great for blended ice cream treats (non-gel-filled dishers)
- Replacing a dipper well? See our drop-in models

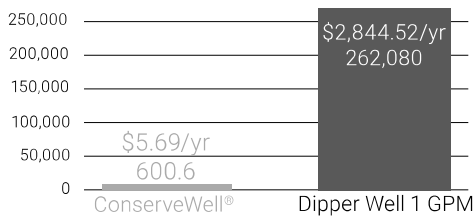
CW 87750 (w/timer)

CW 87740

"Frisch's Big Boy Restaurants in OH, KY and IN will now save 7.8 million gallons of water per year thanks to the installation of two ConserveWell® units per store."

Jason Vaughn, Frisch's Big Boy Restaurants

GALLONS PER YEAR*



*52 weeks at 7 days per week at 12 hours per day.
Average water and sewer rate of $9.48 per 1,000 gal.

Check the facts with our ROI Calculator.

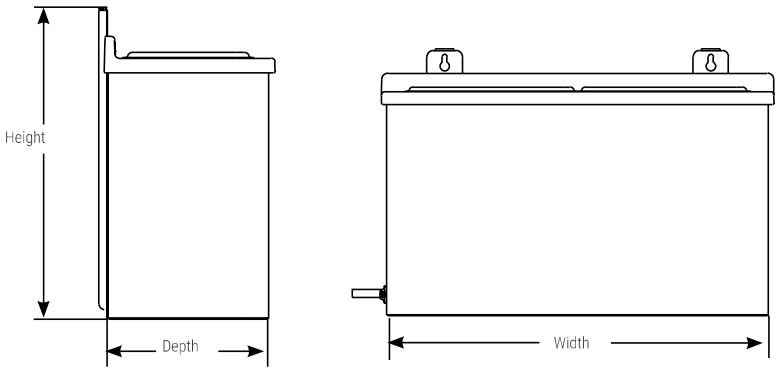
SERVER • ESSENTIALS •

Save water, energy and money.

CONSERVEWELL® UTENSIL HOLDER WALL-MOUNT MODELS: CW

Server ConserveWell® Utensil Holder is designed to hold utensils above 140° F as an alternative to a perpetual-flow dipper well. Unit comes with (2) stainless steel 1/9-size pans 4 in deep (90106) and is mountable to a wall or sturdy vertical surface using key slot holes on back plate. Models available with and without adjustable countdown timer. Timer model has an LED display and a volume adjustable alarm for water changeout notifications. When changing out water, be sure to fill each plan with 3/4 qt (3 cups) warm tap water. For use with plastic handled utensils and non-gel-filled dishes. NEMA 5-15P plug with 72 or 108 in power cord. 2-year warranty.

NSF c UL US LISTED 2 YEAR WARRANTY



UTENSIL HOLDER

order amt	model/item	description	capacity	dims (H x W x D)	plug	electrical	watts	weight
☐	CW 87750	wall-mount with timer	(2) 1/9-size pans 4" deep (90106) included	10 5/8 x 15 1/4" x 5 1/4"	5-15P	120 V AC 3.3 A	400 W	19 lb
☐	CW 87740	wall-mount without timer		7 5/16 x 15 1/4" x 5 1/4"				15 lb

CLEAN HAS NEVER BEEN MORE GREEN WITH CONSERVEWELL® UTENSIL HOLDERS

SERVER-PRODUCTS.COM | 800.558.8722 | 262.628.5600