



Land of Cheese, Trees and Ocean Breeze

NOTICE OF DECISION

***NOTICE TO MORTGAGEE, LIENHOLDER, VENDOR OR SELLER:
ORS 215 REQUIRES THAT IF YOU RECEIVE THIS NOTICE,
IT MUST PROMPTLY BE FORWARDED TO THE PURCHASER.***

July 10, 2026

RE: #851-25-000533-PLNG: Approval of a Variance request to exceed the 25-foot height maximum by 8-feet 10 ¼-inches for a maximum building height of 33-feet 10 ¼-inches as measured from existing, pre-construction grade for the proposed reconstruction of a single-family dwelling. The property is located in the Unincorporated Community of Neskowin, is accessed via Breakers Blvd, a County road, and designated as Tax Lot 92411 of Section 25CB, Township 5 South, Range 11 West of the Willamette Meridian, Tillamook County, Oregon. The Property Owner is Wells Fargo Bank, N.A. as Trustee of the Cael O'Donnell Forceskie Trust, and the applicant is Ready2Market LLC.

Dear Interested Parties:

A public hearing on the above-entitled matter was held before the Tillamook County Planning Commission on June 25, 2026, where a decision was made on that date.

The Tillamook County Planning Commission considered this Variance request on the basis of the Variance criteria listed in 8.030 of the Tillamook County Land Use Ordinance, findings of fact and conclusions contained within the staff report, staff memos, agency comments, evidence and information presented, written and oral testimony received at the hearing, and the applicant's presentation.

After consideration of all available evidence described above, the Planning Commission took the following action:

- Planning Commission voted 4 in favor and 1 opposed, to approve Variance request #851-25-000533-PLNG subject to the Conditions of Approval included as "Exhibit A" of the Board Order.

The Planning Commission Order and other documents associated with the request is available for review and inspection on the Tillamook County Land Use Application page here: <https://www.tillamookcounty.gov/commdev/landuseapps> and at the Tillamook County Department of Community Development office located at: 1510-B Third Street, Tillamook, Oregon 97141.

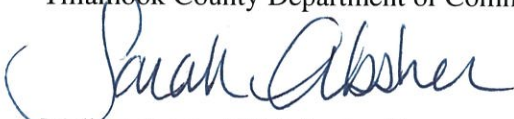
Please contact Sarah Thompson, Office Specialist II, for making arrangement to view documents at 503-842-2034 Ext. 3423 or email sarah.thompson@tillamookcounty.gov.

Any party with standing to appeal as described in TCLUO Section 10.110 may appeal the decision to the Board of County Commissioners, by filing an application for an appeal, submitting written justification supporting the appeal, and submitting the required filing fee of \$250 with the Tillamook

County Board of Commissioners within twelve (12) days of the date of this Notice. The deadline for filing an appeal with the Board of County Commissioners is July 22, 2026 at 4:00pm.

If you have any questions about this notice, you may contact this office at (503) 842-3408 x 3423.

Sincerely,
Tillamook County Department of Community Development

A handwritten signature in blue ink, appearing to read "Sarah Absher". The signature is fluid and cursive, with a large initial "S" and a long, sweeping underline.

Melissa Jenck, CFM, Senior Planner
Sarah Absher, CFM, Director

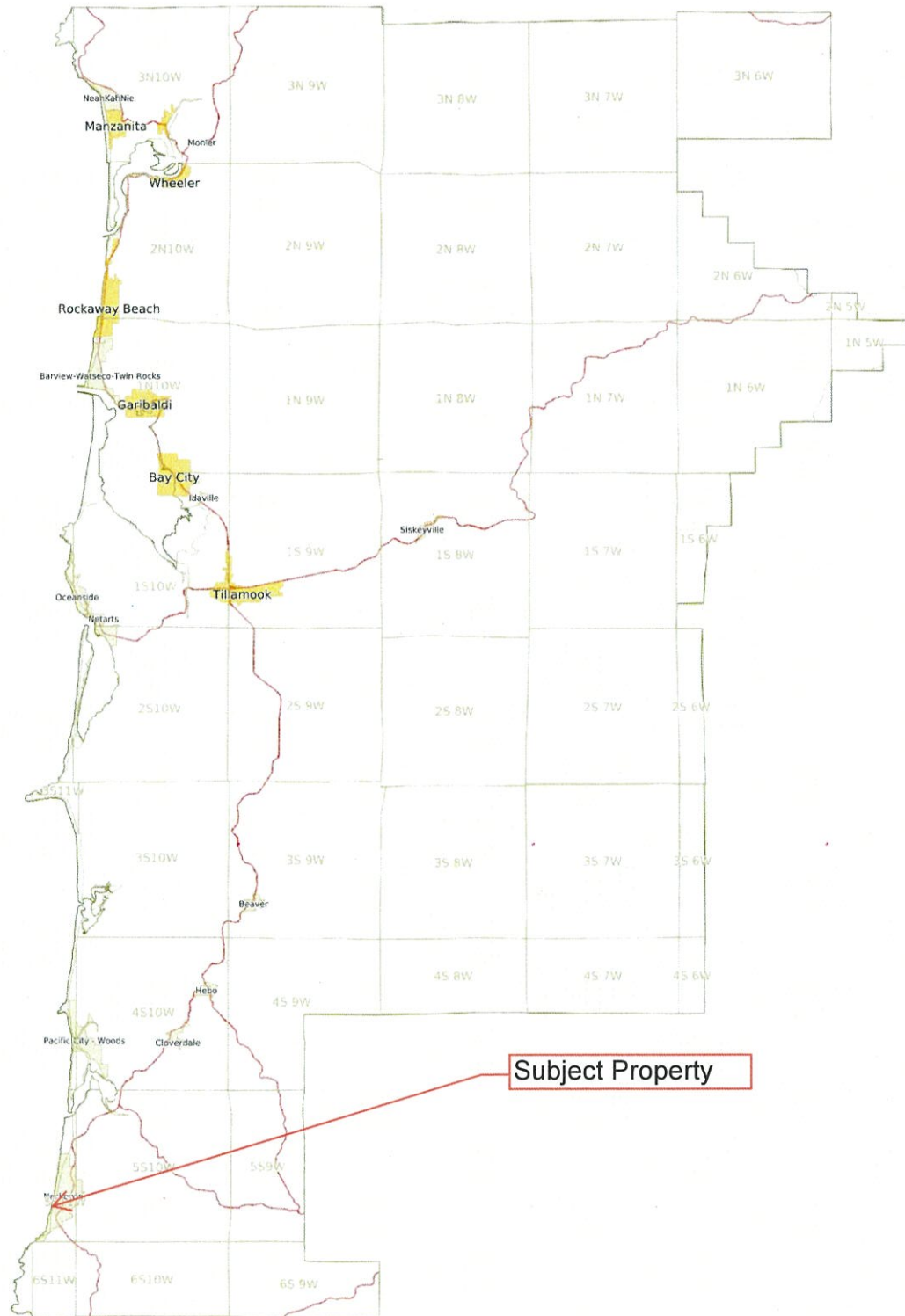
“EXHIBIT A”

CONDITIONS OF APPROVAL:

Section 8.060: COMPLIANCE WITH CONDITIONS, and 8.070: TIME LIMIT requires compliance with approved plans and Conditions of this decision, and all other ordinance provisions, and allows 24 months for compliance with Conditions and start of construction. Failure to comply with the Conditions of Approval and ordinance provisions could result in nullification of this approval.

1. The applicant/property owner shall obtain all Federal, State, and Local permits, as applicable.
2. The applicant/property owner shall obtain an approved Consolidated Zoning and Building Permit from the Tillamook County Department of Community Development.
3. The applicant/property owner shall submit a site plan, drawn to scale depicting all required setbacks are met at the time of Consolidated Zoning and Building Permit application submittal.
4. The applicant/property owner shall comply with the requirements of the approved Neskowin Coastal Hazards Area Permit, 851-24-000313-PLNG.
5. The applicant/property owner shall comply with the Flood Hazard (FH) Overlay, TCLUO Section 3.510, and shall obtain an approved Floodplain Development Permit prior to the start of construction/development.
6. The applicant/property owner shall submit a Fire Letter from the local fire department at the time of consolidated Zoning and Building Permit application submittal.
7. Height of the structure shall not exceed 33-feet 10 ¼-inches in height as measured in accordance with TCLUO Section 3.322(4)(I). Certification by a licensed professional surveyor confirming the height of the structure does not exceed the approved 33-foot 10 ¼-inches height maximum shall be provided to the Department prior issuance of the Certificate of Final Occupancy by the Department.
8. A building height affidavit as included in ‘Exhibit D’ shall be signed by the property owners and provided at time of applying for the Consolidated Zoning and Building Permit from the Tillamook County Department of Community Development.
9. This approval shall be void two years from the date of approval, unless construction of approved plans has begun, or an extension is requested from, and approved by this Department.
10. The maximum building height in Condition #7 shall be reduced by one (1) foot upon Department determination that the established base flood elevation contained in FEMA FIRM #41057C1005F, and the required freeboard per TCLUO Section 3.510, allows the lowest horizontal structural member to be reduced by one (1) foot.

Vicinity Map



Zoning Map

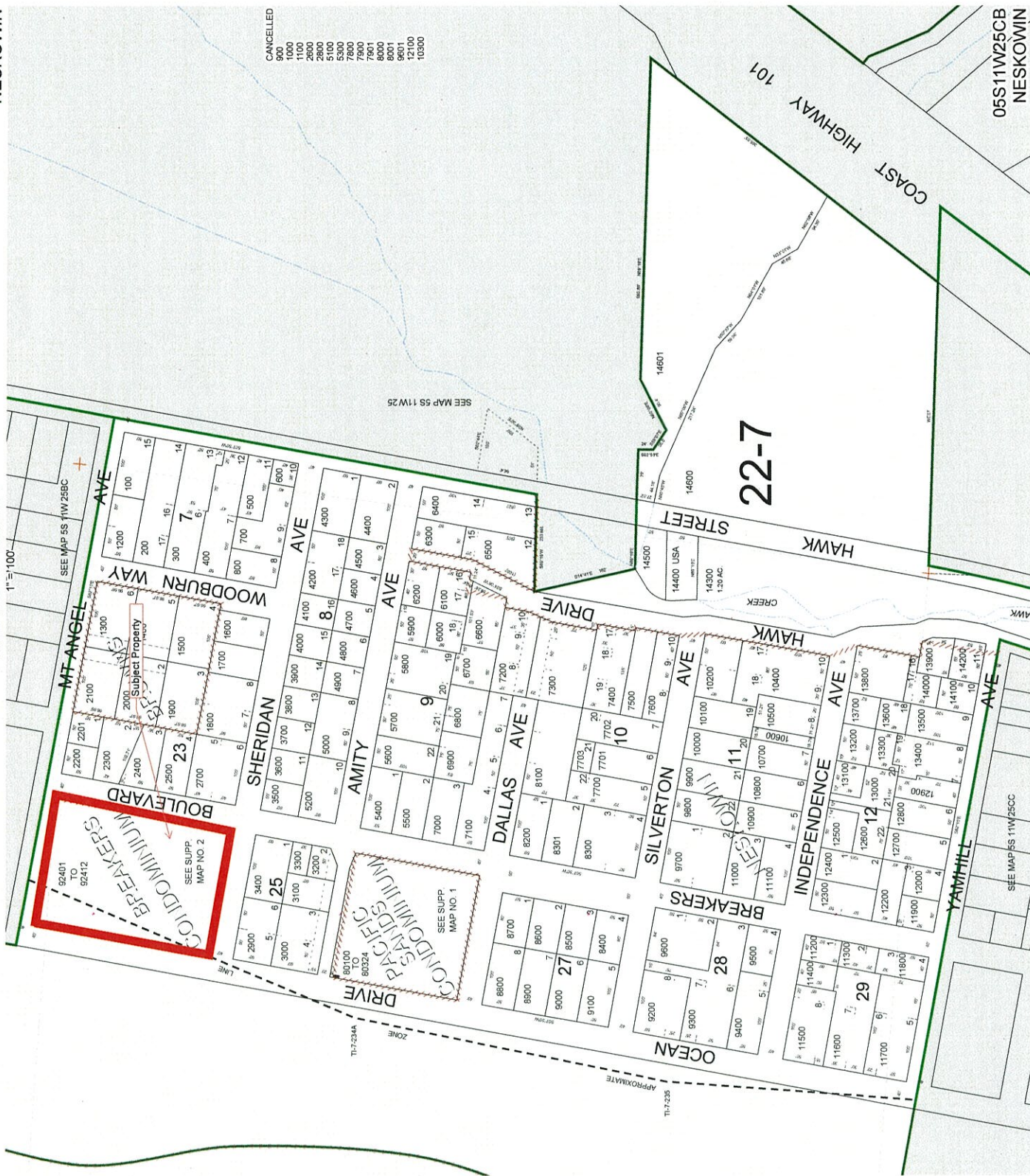


N.W.1/4 S.W.1/4 SEC.25 T.5S. R.11W. W.M.
TILLAMOOK COUNTY

05S11W25CB
NESKOWIN

05S11W25CB
NESKOWIN
Revised 8/12/22, WS

Revised 8/12/22, WS



BEFORE THE PLANNING COMMISSION
OF TILLAMOOK COUNTY, OREGON

IN THE MATTER OF #851-25-000533-PLNG A VARIANCE REQUEST TO EXCEED THE 25-FOOT HEIGHT MAXIMUM BY 8-FEET 10 ¼-INCHES FOR A MAXIMUM BUILDING HEIGHT OF 33-FEET 10 ¼-INCHES AS MEASURED FROM EXISTING, PRE-CONSTRUCTION GRADE FOR THE PROPOSED RECONSTRUCTION OF A SINGLE-FAMILY DWELLING IN THE NESKOWIN LOW DENSITY RESIDENTIAL ZONE (NESKR-1). THE SUBJECT PROPERTY IS DESIGNATED AS TAX LOT 92411 OF SECTION 25CB, TOWNSHIP 5 SOUTH, RANGE 11 WEST OF THE WILLAMETTE MERIDIAN, TILLAMOOK COUNTY, OREGON.	)))))))))	FINDINGS OF FACT, CONCLUSIONS AND ORDER #851-25-000533-PLNG
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APPLICANT: Ready2Market LLC, 4237 SW Hwy 101, Lincoln City, OR 97367

PROPERTY OWNER: Wells Fargo Bank, N.A. as Trustee of the Cael O'Donnell Forceskie Trust, 333 S. Grand Ave, 12th Floor, Los Angeles, CA 90071

The above-named applicant applied to Tillamook County requesting Variance approval to exceed the 25-foot height maximum by 8-feet 10 ¼-inches for a maximum building height of 33-feet 10 1/4-inches as measured from existing, pre-construction grade for the reconstruction of a single-family dwelling on the property as specified above.

A public hearing on the above-entitled matter was held before the Tillamook County Planning Commission for their consideration on June 25, 2026, where a decision was made on that date.

The Tillamook County Planning Commission considered this Variance request on the basis of the Variance criteria listed in 8.030 of the Tillamook County Land Use Ordinance, findings of fact and conclusions contained within the staff report, staff memos, agency comments, evidence and information presented, written and oral testimony received at the hearing, and the applicant's presentation.

Planning Commission voted, 4 in favor and 1 opposed, to approve Variance request #851-25-000533-PLNG subject to the amended Conditions of Approval included as "Exhibit A".

This decision may be appealed to the Board of County Commissioners by an affected party, by filing an application for an appeal, submitting written justification supporting the appeal, and submitting the required filing fees with the Tillamook County Board of Commissioners within twelve (12) days of the date that Notice of this decision is mailed.

DATED this 2ND day of July, 2026.

TILLAMOOK COUNTY PLANNING COMMISSION


Gale Ousele, Vice Chair

Gale Ousele, Vice Chair

EXHIBIT A

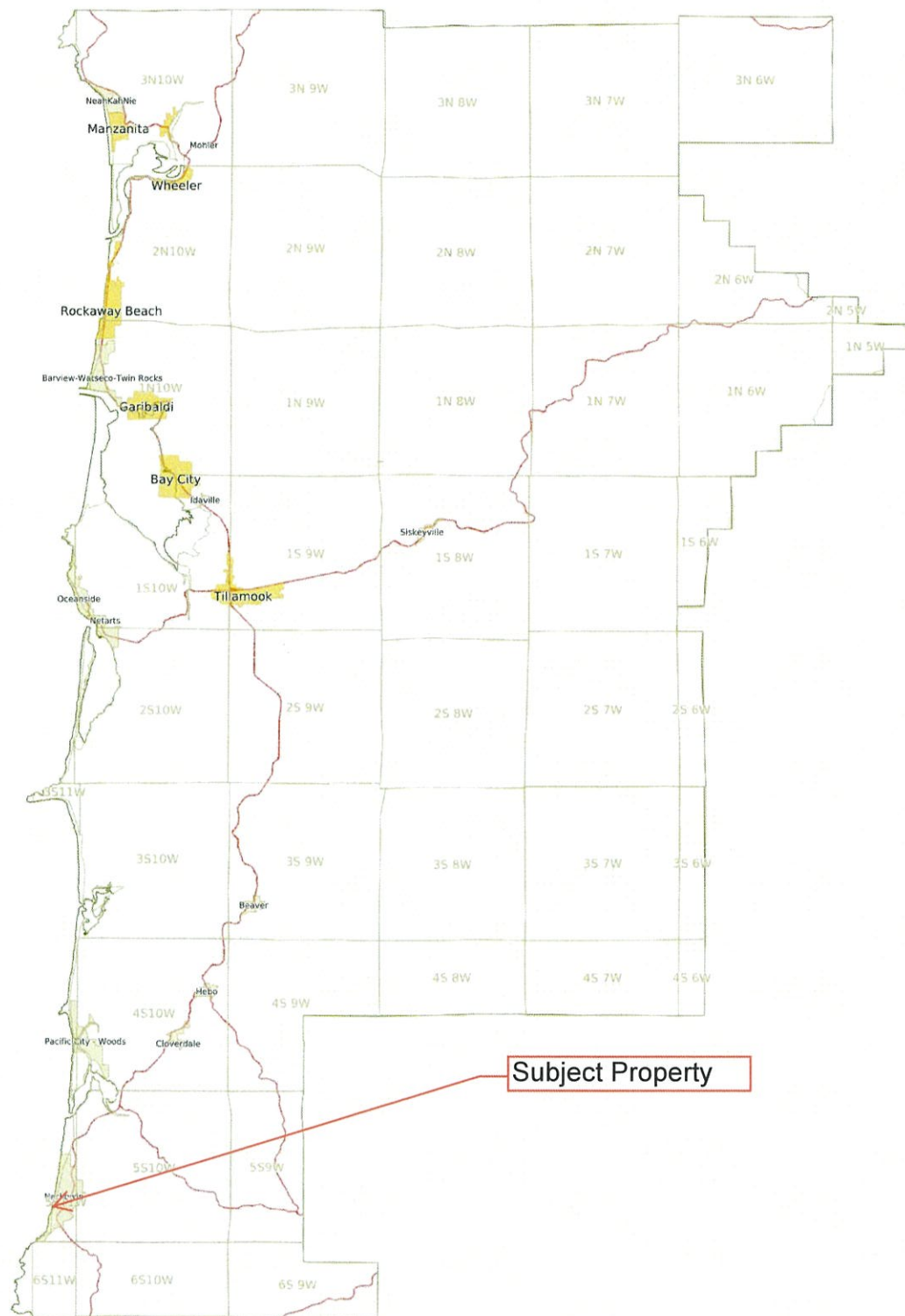
CONDITIONS OF APPROVAL:

Section 8.060: COMPLIANCE WITH CONDITIONS, and 8.070: TIME LIMIT requires compliance with approved plans and Conditions of this decision, and all other ordinance provisions, and allows 24 months for compliance with Conditions and start of construction. Failure to comply with the Conditions of Approval and ordinance provisions could result in nullification of this approval.

1. The applicant/property owner shall obtain all Federal, State, and Local permits, as applicable.
2. The applicant/property owner shall obtain an approved Consolidated Zoning and Building Permit from the Tillamook County Department of Community Development.
3. The applicant/property owner shall submit a site plan, drawn to scale depicting all required setbacks are met at the time of Consolidated Zoning and Building Permit application submittal.
4. The applicant/property owner shall comply with the requirements of the approved Neskowin Coastal Hazards Area Permit, 851-24-000313-PLNG.
5. The applicant/property owner shall comply with the Flood Hazard (FH) Overlay, TCLUO Section 3.510, and shall obtain an approved Floodplain Development Permit prior to the start of construction/development.
6. The applicant/property owner shall submit a Fire Letter from the local fire department at the time of consolidated Zoning and Building Permit application submittal.
7. Height of the structure shall not exceed 33-feet 10 ¼-inches in height as measured in accordance with TCLUO Section 3.322(4)(l). Certification by a licensed professional surveyor confirming the height of the structure does not exceed the approved 33-foot 10 ¼-inches height maximum shall be provided to the Department prior issuance of the Certificate of Final Occupancy by the Department.
8. A building height affidavit as included in 'Exhibit D' shall be signed by the property owners and provided at time of applying for the Consolidated Zoning and Building Permit from the Tillamook County Department of Community Development.
9. This approval shall be void two years from the date of approval, unless construction of approved plans has begun, or an extension is requested from, and approved by this Department.
10. The maximum building height in Condition #7 shall be reduced by one (1) foot upon Department determination that the established base flood elevation contained in FEMA FIRM #41057C1005F, and the required freeboard per TCLUO Section 3.510, allows the lowest horizontal structural member to be reduced by one (1) foot.

EXHIBIT A

Vicinity Map

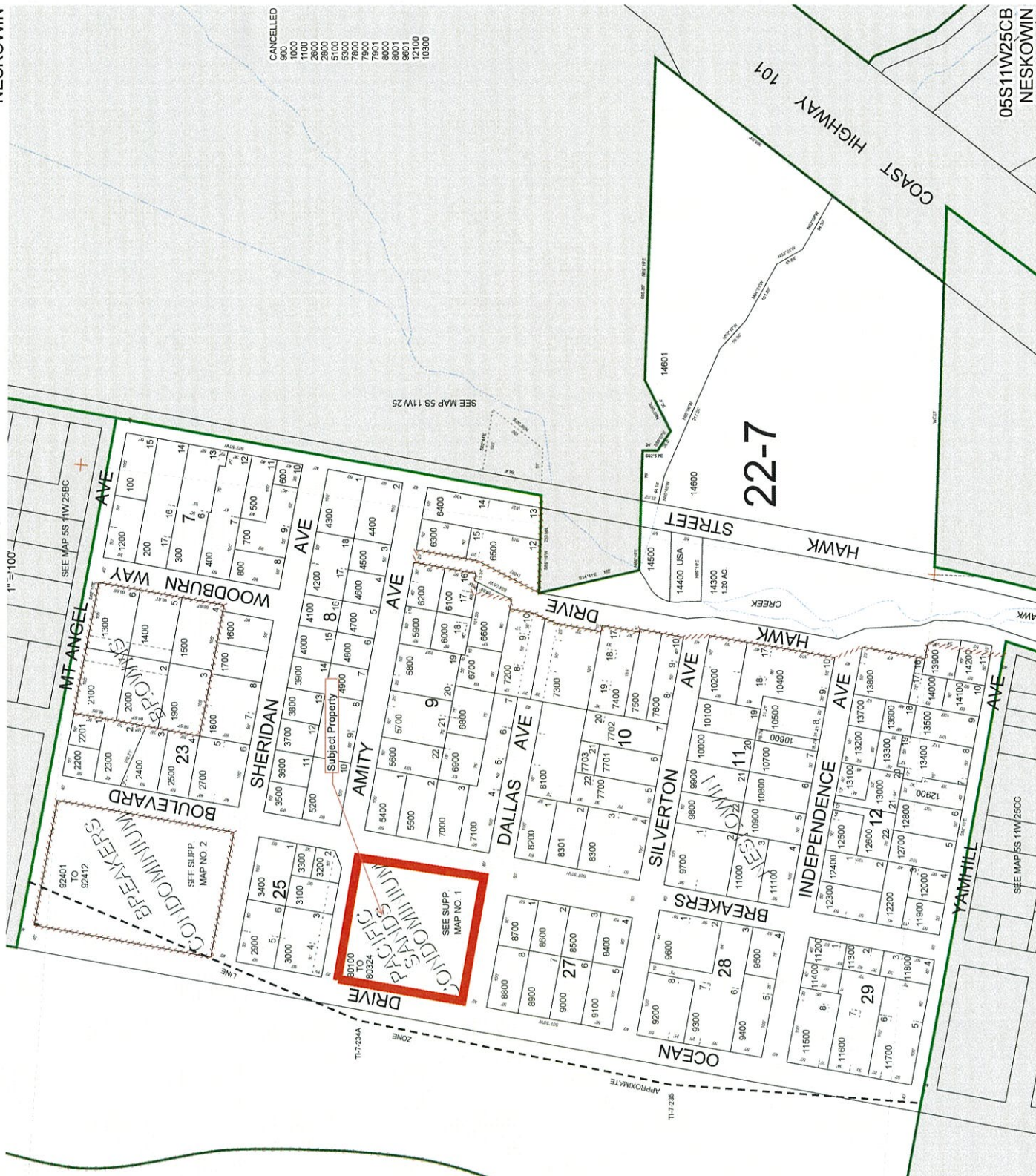


Zoning Map



05S11W25CB
NESKOWIN

Revised 8/12/22, WS

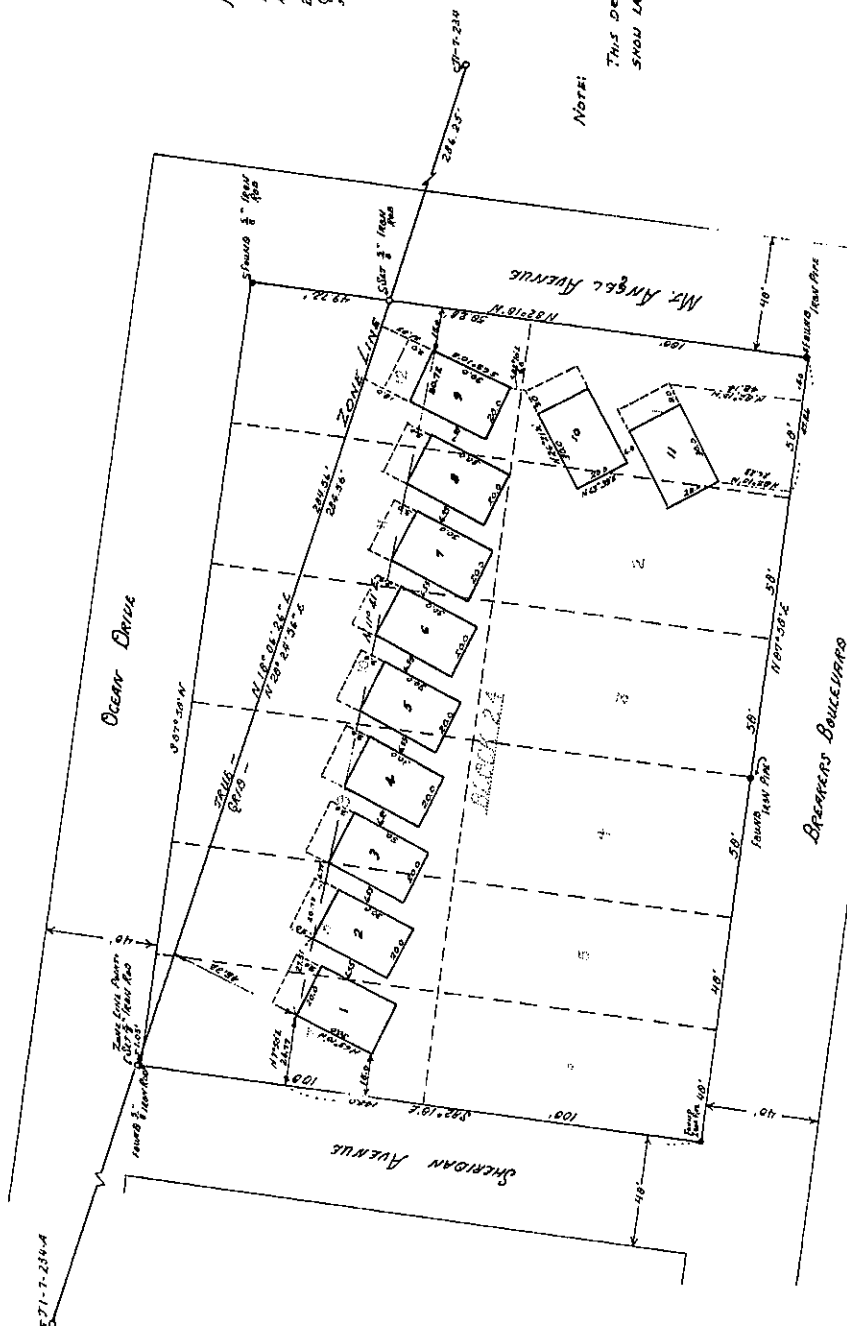


PLAN OF ZONE LINE SURVEY

FOR
Oscar Szabo
 OF
 BLOCK 24, NEARBY
 IN
 SECTION 25, TOWNSHIP 5 SOUTH, RANGE 11 WEST,
 WILLAMETTE MERIDIAN
 TILLAMOOK COUNTY, OREGON

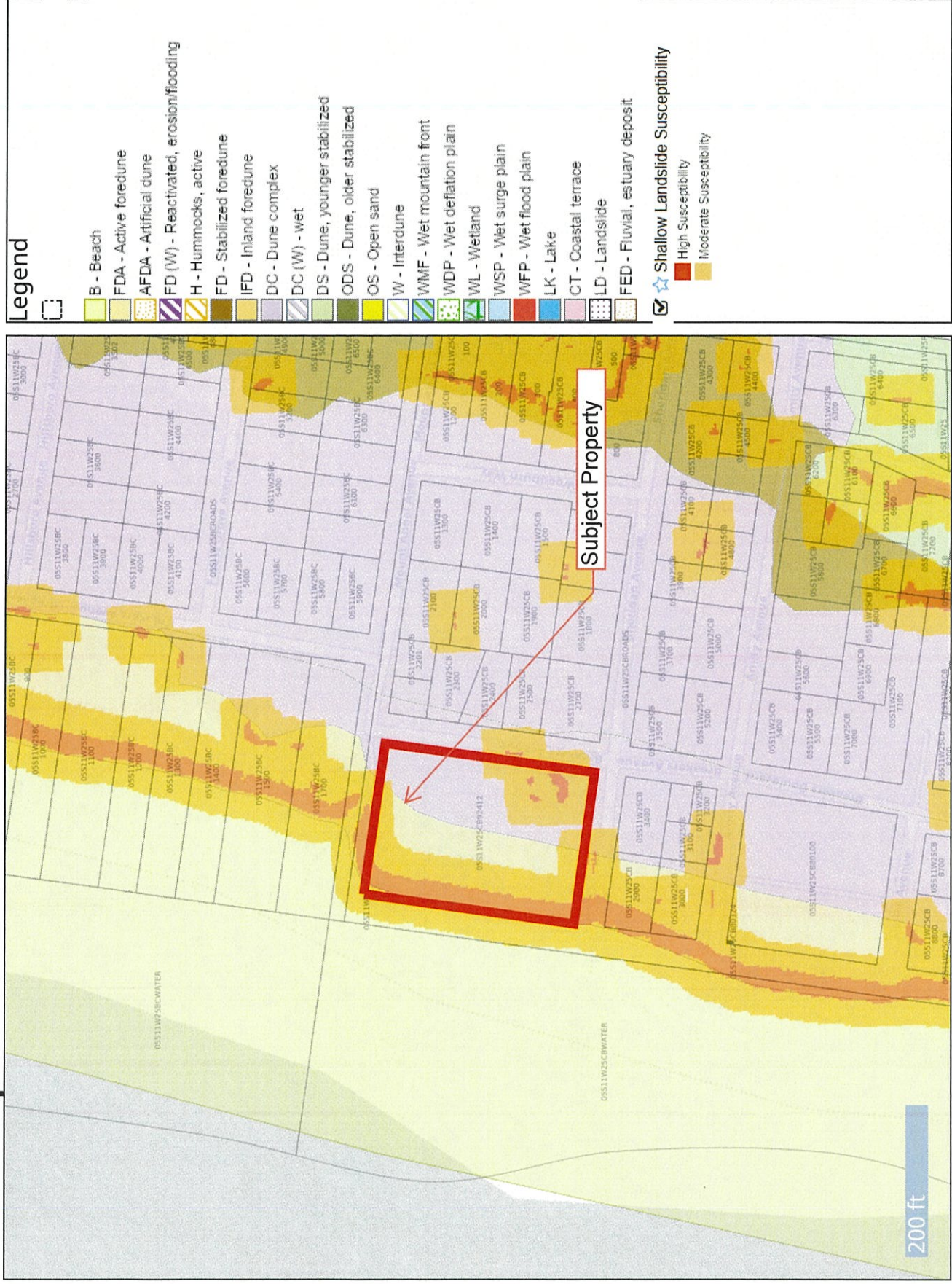
NOTES:
 1. Zone Line commencing from S.W. corner of Block 24, NEARBY, and running S. 89° 29' 30" E. 100.00' to the center of the Zone Line.
 2. All buildings from 100-29 and 100-30, including the existing 100-29 and 100-30, are to be removed.

NOTE:
 THIS DRAWING REVISED 11 MAY 1971 TO
 SHOW LAYOUT OF 11-UNIT CONDOMINIUM.



FIELD NO.	SCALE	DATE
100-29	1" = 30'	11 MAY 1971
OWNER	DATE	DATE
OSCAR SZABO	11 MAY 1971	11 MAY 1971
ENGINEERING ASSOCIATES, INC. 215 WEST 10TH AVE. LINCOLN CITY, OREGON 97131 503-384-3448		
PLAN OF ZONE LINE BLOCK 24, NEARBY SECTION 25, TWP. 5 SOUTH, R. 11 WEST, WILLAMETTE MERIDIAN		

Hazard Map



National Flood Hazard Layer FIRMette

123°59'20"W 45°06'42"N



Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS

- Without Base Flood Elevation (BFE)
Zone A, V, AE, AH, AO, AR
- With BFE or Depth
Zone AE, AO, AH, VE, AR
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD

- 0.2% Annual Chance Flood Hazard, Area of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile
- Future Conditions 1% Annual Chance Flood Hazard
- Area with Reduced Flood Risk due to Levee. See Notes, Zone X
- Area with Flood Risk due to Levee

OTHER AREAS

- NO SCREEN
- Area of Minimal Flood Hazard
- Effective LOMRs
- Area of Undetermined Flood Hazard

GENERAL STRUCTURES

- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES

- Cross Sections with 1% Annual Chance Water Surface Elevation
- Coastal Transect
- Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

MAP PANELS

- Digital Data Available
- No Digital Data Available
- Unmapped

The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards.

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 5/28/2026 at 3:20 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.



Statewide Wetlands Inventory



5/28/2026, 8:20:56 AM

- Oregon Address
- Sections
- Large Scale
- Perennial
- Coastline

- NHD Area
- NHD Waterbody
- USFWS National Wetlands Inventory NWI
- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland

- Freshwater Emergent Wetland
- Riverine
- SWI Predominantly Hydric Map Units

1:2,597

0 0.02 0.04 0.07 0.09 mi
0 0.04 0.07 0.14 km



Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community, USGS TNC - National Hydrography Dataset, Data Refreshed April, 2026, Source: Esri, Vantor, Earthstar Geographics, and the GIS User

EXHIBIT B



PLANNING APPLICATION

Applicant ☐ (Check Box if Same as Property Owner)

Name: Ready 2 Market LLC Phone: 541-669-0085
Address: 4237 SW HWY 101
City: Lincoln City State: OR Zip: 97367
Email: r2m.oregon@gmail.com

Property Owner

Name: Wells Fargo Bank N.A. as Trustee of the Carol O'Donnell Forrester Trust Phone: 818-299-2916
Address: 333 S. Grand Ave, 12th Floor
City: Los Angeles State: CA Zip: 90071
Email: jose.mota@wellsfargo.com

Request: Height Variance of 33' 10 1/4"

OFFICE USE ONLY	
Date Stamp	
RECEIVED	
NOV 03 2025	
BY: _____	
☐ Approved	☐ Denied
Received by: <u>MT</u>	
Receipt #: <u>146376</u>	
Fees: <u>2,862.50</u>	
Permit No: <u>85125 - 000533 - PLNG</u>	

Type II

- ☐ Farm/Forest Review
- ☐ Conditional Use Review
- ☒ Variance
- ☐ Exception to Resource or Riparian Setback
- ☐ Nonconforming Review (Major or Minor)
- ☐ Development Permit Review for Estuary Development
- ☐ Non-farm dwelling in Farm Zone
- ☐ Foredune Grading Permit Review
- ☐ Neskowin Coastal Hazards Area

Type III

- ☐ Detailed Hazard Report
- ☐ Conditional Use (As deemed by Director)
- ☐ Ordinance Amendment
- ☐ Map Amendment
- ☐ Goal Exception
- ☐ Nonconforming Review (As deemed by Director)
- ☐ Variance (As deemed by Director)

Type IV

- ☐ Ordinance Amendment
- ☐ Large-Scale Zoning Map Amendment
- ☐ Plan and/or Code Text Amendment

Location:

Site Address: 48060 Breakers Blvd Unit #11, Neskowin Oregon 97149
Map Number: 05 South 11 West Map #51125CB92411 4200
Township Range Section Tax Lot(s)

Clerk's Instrument #: _____

Authorization

This permit application does not assure permit approval. The applicant and/or property owner shall be responsible for obtaining any other necessary federal, state, and local permits. The applicant verifies that the information submitted is complete, accurate, and consistent with other information submitted with this application.

Wells Fargo Bank, N.A. as Trustee of the Carol O'Donnell Forrester Trust

11/03/2025

Property Owner Signature (Required)

Applicant Signature

Date

Date



To whom it may concern:

In order to satisfy all existing elevation, zone, and code requirements as well as the federal flood risk management standard when building back a structure where one previously existed, we are requesting a height variance of thirty three feet, ten and a quarter inches (33' 10 ¼").

In September 2022, our two story home experienced a catastrophic fire resulting in a total loss of the structure. While it was our desire to rebuild exactly the same as before, it is not possible with today's building requirements. We have worked diligently with our geologist, architect and engineering team to devise a plan that will meet each standard and code, beginning with a flow through foundation supported by micro pilings.

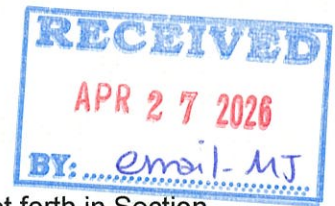
A quick history of our community. Built in 1972, The Breakers Condos were originally eleven identical free standing homes. Each one consisted of two stories approximately 600 sq ft per floor and totalling 1200 sq ft. With three bedrooms and 2 full bathrooms, they made the most of the modest space.

Because our property is located in a VE-32 zone, it's necessary that the first floor height starts at 34 feet above sea level. This essentially puts the first floor at the height of our neighbors' second floors. Given that, we won't be able to rebuild in an identical fashion. Staying in the original footprint and property boundary though means we have 600 sq ft to work with per floor. As it was before, we've designed a similar layout with a bathroom by the entryway, then a kitchen and living room leading to a back deck. A staircase ascends to the second floor where all three bedrooms and one full bathroom are located.

We were given feedback and instruction from The Breakers HOA, composed of the other 10 homeowners, that when and where possible, our design should remain true to the original look and exterior appearance. We have reduced the pitch of the roof in order to minimize the finish height. We also worked with our engineer to limit the interior ceiling heights and we eliminated an attic storage closet contained in our previous home. We have sought to minus every extra inch of height throughout the planning process. We humbly submit these renderings for your consideration and hope you'll approve our variance request to rebuild our home, not as it was, but as similar as is reasonable.

Sincerely,

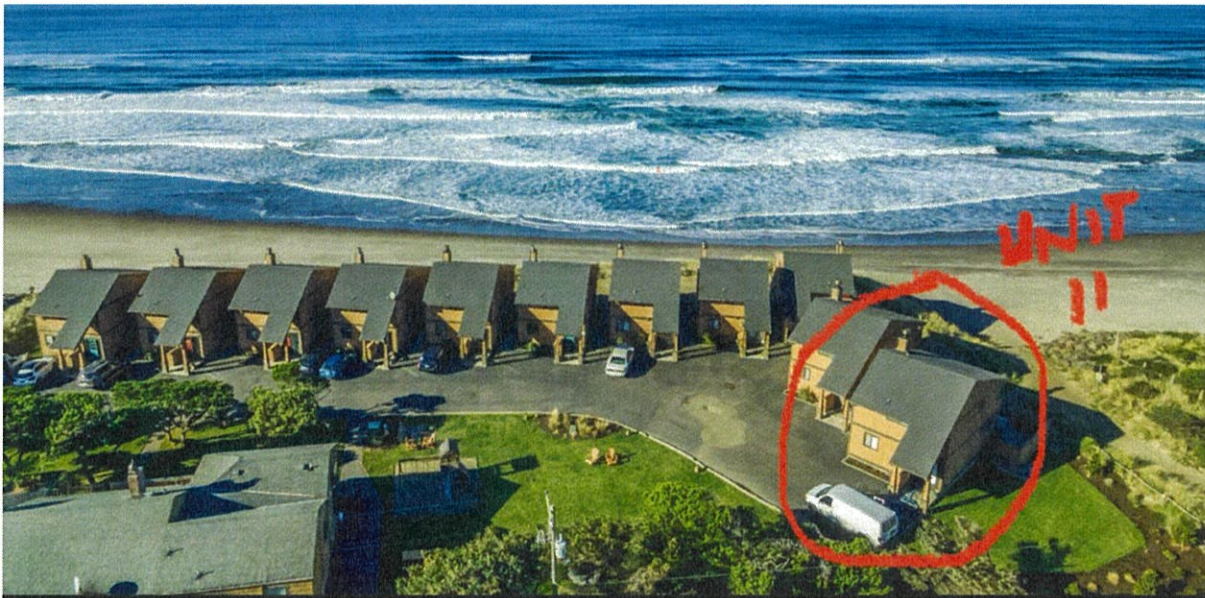
Maureen O'Donnell (Breakers 11 homeowner)



Where-in a VARIANCE shall be granted, according to the procedures set forth in Section 8.020, if the applicant adequately demonstrates that the proposed VARIANCE satisfies all of the following criteria:

- (1) Circumstances attributable either to the dimensional. Topographic, or hazardous characteristics of a legally existing lot, or to the placement of structures thereupon, would effectively preclude the enjoyment of a substantial property right enjoyed by the majority of landowners in the vicinity, if all applicable standards were to be met. Such circumstances may not be self created.
- (2) A VARIANCE is necessary to accommodate a use or accessory use on the parcel which can be reasonably expected to occur within the zone or vicinity.
- (3) The proposed VARIANCE will comply with the purposes of relevant development standards as enumerated in Section 4.005 and will preserve the right of adjoining property owners to use and enjoy their land for legal purposes.
- (4) There are no reasonable alternatives requiring either a lesser or no VARIANCE.

We are requesting a height VARIANCE in order to rebuild a previously existing 3 bedroom, 2 bathroom residential home destroyed by fire. As it pertains to the above 4 criteria, we have secured a geological report and elevation certificate detailing the required use of micropilings and raising the structure floor height due to being located in the Neskowin Coastal Hazard Area (VE-32). This home can be reasonably expected to occur within the zone or vicinity.



These circumstances are NOT self created. Due to lot size restrictions and Federal Flood Risk Management Standards, we can only build taller, not wider, to achieve a like for like 1200 square foot 3 bedroom, 2 bathroom living space. The proposed VARIANCE will comply with the purpose of relevant development standards and there are no reasonable alternatives requiring either a lesser or no VARIANCE.



Here is an aerial photograph showing the home (bottom center) prior to the fire.



The lot has been cleared and cleaned up post fire. It is ready for us to rebuild on it.

SECTION 4.005: RESIDENTIAL AND COMMERCIAL ZONE STANDARDS

Because there was previously a home in the same footprint at this location and with regard to Section 4.005: Residential and Commercial Zone Standards we believe the increased height of the new home will not unnecessarily obstruct or inhibit the following:

(1) the availability of private open space

Set in a community of eleven matching free standing townhomes complete with a shared courtyard and greenspace this structure will restore the property back to its original building count without restricting or altering the availability of private open space.



This is a planned community with shared greenspaces and a playground structure.

(2) adequate light and air available to residential and commercial structures

Restoring this structure in the same foundational footprint will retain adequate light and air available to residential and commercial structures.

(3) adequately separate structures for emergency access

All eleven homes are evenly spaced with an asphalt driveway leading from the main road (Breakers Blvd) carrying the length of the community and leading to the front entrance of the proposed structure. There is a secondary access road leading to the beach and the rear entrance of the proposed structure. This will adequately allow for emergency access.



Ample parking and emergency vehicle access leading to the building site.

(4) privacy for occupants of residences

The proposed structure does not add windows or outdoor space, such as decks, either in quantity or size, from what the previous structure contained. Therefore, the privacy for occupants of residences shall remain unchanged and shall not be infringed upon.

(5) to ensure that all private land uses that can be reasonably expected to occur on private land can be entirely accommodate on private land, including but not limited to dwellings, shops, garages, driveways, parking, areas for maneuvering vehicles for safe access to common roads, alternative energy facilities, and private open spaces

The proposed structure shall be built entirely on private land in the same location as before. All uses remain unchanged.

(6) to ensure that driver visibility on adjacent roads will not be obstructed

The proposed structure will be setback as it previously was approximately 60 feet from the main roadway (Breakers Blvd) which runs North and South with an S curve leading further East away from the building site. The proposed structure will NOT inhibit driver visibility and roads will NOT be obstructed.



Street view from Breakers Blvd

(7) to ensure safe access to and from common roads

The proposed structure has an existing private driveway ensuring safe access to and from common roads.

(8) to ensure that pleasing views are neither unreasonably obstructed nor obtained

The proposed structure will restore a building in the same foundational footprint as previously existed. As such, no view shall be unreasonably obstructed. Due to Federal Flood Risk Management Standards we are required to elevate the first floor height. In turn, the second floor height must be elevated as well. Therefore, no pleasing views shall be unreasonably obtained.

(9) to separate potentially incompatible land uses

The proposed structure will restore a single family dwelling allowing for habitation consistent with current land uses.

(10) to ensure access to solar radiation for the purpose of alternate energy production

The proposed structure will NOT inhibit access to solar radiation for the purpose of alternate energy production.

We further submit that there's an existing home of a similar height to that which we are requesting located 1 block due North in the same VE 32 zone at the following address: 48110 Breakers Blvd (pictured below):



The neighboring 3 story structure at 48110 Breakers Blvd measures approximately 33ft from driveway to peak.



The red pin shows proximity of neighboring 33ft home in relation to our building site.



Photo taken while standing on the third floor balcony of home at 48110 Breakers Blvd shows the roof line and view of our build site.

CONCLUSION

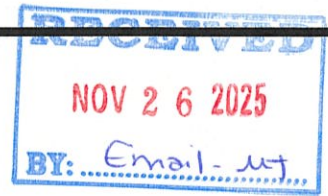
Denying the requested variance would prevent the property owners from fully enjoying the Oregon coastal lifestyle that their neighbors embrace. It would also have a significant impact to the landowners as they have made a considerable financial investment in this legally platted property, which is valued as real estate where previously a single family home existed that was destroyed by fire.

Various alternatives were explored in consultation with engineers and architects as part of a comprehensive design process. These included different home arrangements, floor plan configurations, and entry options, none of which significantly reduced the required variance below 33' 10 1/4". The proposed design, with approval of the requested height variance, is an optimal solution grounded in the Tillamook County Development Standards and environmental considerations.

Having met criteria requirements along with the fact that a neighboring structure of a similar height matching our variance request already exists, we feel strongly that our variance should be granted.

Melissa Jenck

From: Ready2Market <r2moregon@gmail.com>
Sent: Wednesday, November 26, 2025 4:08 PM
To: Melissa Jenck; jose.mota@wellsfargo.com
Cc: Glenn Garrett
Subject: EXTERNAL: Re: 851-25-000533-PLNG: Incomplete
Attachments: 2025-11-25 - 48060 BREAKERS BLVD SITE PLAN.pdf; Date November 17, 2025.pdf



[NOTICE: This message originated outside of Tillamook County -- DO NOT CLICK on links or open attachments unless you are sure the content is safe.]

Hello Melissa

We're officially back from our trip and ready to dive back into this variance request. Thank you for sending this information over and spelling out what is still required to move the process forward.

Wanted to get the following over to you before we head into the holiday weekend:

- Corrected site plan
- From our architect regarding the pre-existing grade: "I do have an elevation marker on my elevations that specifies "native soil" ; this is the existing grade"
- Signed acknowledgment letter

We will be working on the variance criteria this week and understand we would need to submit a complete application by December 1 in order to have it go before the Planning Commission hearing on January 8th

Thank you,

Ashley

On Mon, Nov 17, 2025 at 12:35 PM Melissa Jenck <Melissa.Jenck@tillamookcounty.gov> wrote:

Good morning Ashely and Noah,

I've attached a copy of the Incomplete notice for 851-25-000533-PLNG. Hard copies have been placed in the mail.

As discussed at the counter at time of submittal, Variance criteria are required as part of submission. The request also includes a site plan that Ashley and I believed was created as part of the original design for the dwelling, before the elevation of the house was proposed. Finally, to ensure the request for the height exception is made accordingly to the plan design, identification of the of pre-existing grade is

necessarily on the elevation profiles of the dwelling. It doesn't appear that the grade is delineated as "pre-construction grade" or "pre-existing grade". Please verify.

As detailed previously with Variance requests, you can view other land use applications that have been submitted to the Department on our [Land Use Application](#) page. I've linked a Height Variance request previously approved in Neskowin as an example.

<https://www.tillamookcounty.gov/commdev/project/851-24-000527-plng>

Finally, if the Department was able to receive a complete application swiftly, we could take the request before the Planning Commission hearing on January 8th at the earliest. However, I will need all necessary information and deem a complete application by December 1st in order to establish the notification requirements necessary prior to the first hearing.

Please let me know if you have any questions. Sincerely,

*** Please note that the Tillamook County domain has changed, and my email address is now Melissa.Jenck@tillamookcounty.gov Please update your contact information as needed. Thank you. ***



Melissa Jenck (she/her) | Senior Planner

TILLAMOOK COUNTY | Community Development

1510-B Third Street

Tillamook, OR 97141

Phone (503) 842-3408 x 3301

Melissa.Jenck@tillamookcounty.gov

My working hours are 8:00am to 5:30pm, Monday thru Thursday, and 8:00am-12:00pm on Friday.

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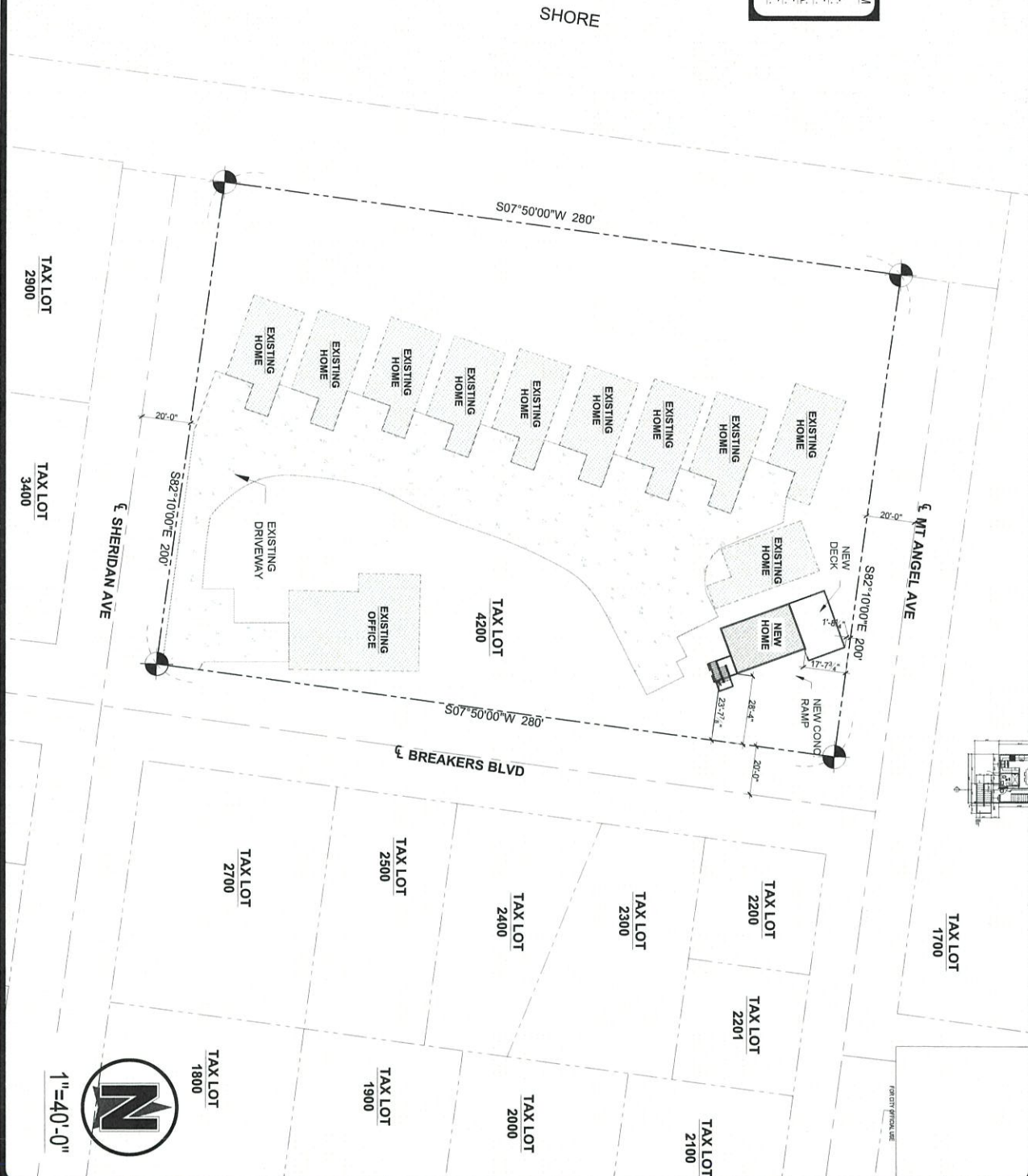
This is not a land use decision as defined by Oregon Revised Statutes 197.015(10).

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NOTE
 ALL PROPERTY DATA TAKEN FROM
 TILLAMOOK COUNTY SURVEY RECORDS, AND
 IS SUBJECT TO CLIENT VERIFICATION FOR
 ACCURACY.

ZONE: NES/RM
 EXISTING BUILDING FOOTPRINT:
 10,830 SQ. FT.
 PROPOSED COVERED AREA:
 889.47 SQ. FT.
 TOTAL LOT AREA: 56,000 SQ. FT.



SITE
 SHEET
 JOB# 23-134
 DATE 04/18/2023
 DRAWN K.H.

**MEREDITH LODGING
 NEW CONSTRUCTION**
 48060 BREAKERS BLVD, NESKOWIN, OR 97149

REVISIONS

NO.	DATE	DESCRIPTION
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		

TOPLINE
 DRAFTING & DESIGN LLC
 290 Young St., Woodburn, OR 97071
 evgeni@toplinednd.com
 (503) 504-8318

NOTE

ALL PROPERTY DATA TAKEN FROM
TILLAMOOK COUNTY SURVEY RECORDS, AND
IS SUBJECT TO CLIENT VERIFICATION FOR
ACCURACY.

ZONE: NESKRM

EXISTING BUILDING FOOTPRINT:
10,630.92 SQ. FT.
PROPOSED COVERED AREA:
869.47 SQ. FT.
TOTAL LOT AREA: 56,000 SQ. FT.

PACIFIC OCEAN

SHORE

S07°50'00"W 280'

S07°50'00"W 280'

MT ANGEL AVE

S82°10'00"E 200'

NEW DECK

EXISTING HOME

NEW HOME

NEW CONC. RAMP

EXISTING HOME

EXISTING HOME

EXISTING HOME

EXISTING HOME

EXISTING HOME

EXISTING HOME

EXISTING HOME

EXISTING HOME

EXISTING HOME

EXISTING HOME

TAX LOT 4200

EXISTING OFFICE

EXISTING DRIVEWAY

S82°10'00"E 200'

SHERIDAN AVE

TAX LOT 2900

TAX LOT 3400

TAX LOT 2200

TAX LOT 2201

TAX LOT 2100

TAX LOT 2300

TAX LOT 2400

TAX LOT 2000

TAX LOT 2500

TAX LOT 1900

TAX LOT 2700

TAX LOT 1800



1"=40'-0"

RECEIVED
NOV 03 2025
TAX LOT 1700

FOR CITY OFFICIAL USE

TOPLINE
DRAFTING & DESIGN LLC
290 Young St., Woodburn, OR 97071
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REVISIONS

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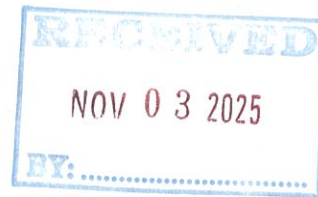
MEREDITH LODGING
NEW CONSTRUCTION

48060 BREAKERS BLVD, NESKOWIN, OR 97149

DRAWN K.H.
DATE 04/18/2025
JOB# 23-134

SHEET

SITE



**Geologic Hazards Investigation
Tax Lot 92411, Map 5S-11W-25CB Supp. Map No. 2
Lot-Unit 11, 48060 Breakers Boulevard
Neskowin, Tillamook County, Oregon**

**Prepared for:
Breakers Condominium
Attn: Glenn Garrett, HOA President
16476 NW Racely Court
Portland, Oregon 97229**

Project #Y234676

May 23, 2023

Project #Y234676

May 23, 2023

**To: Breakers Condominium
Attn: Glenn Garrett, HOA President
16476 NW Racely Court
Portland, Oregon 97229**

**Subject: Geologic Hazards Investigation
Tax Lot 92411, Map 5S-11W-25CB Supp. Map No. 2
Lot-Unit 11, 48060 Breakers Boulevard
Neskowin, Tillamook County, Oregon**

Dear Mr. Garrett:

The accompanying report presents the results of our geologic hazards investigation for the above subject site.

After you have reviewed our report, we would be pleased to discuss it and to answer any questions you might have.

This opportunity to be of service is sincerely appreciated. If we can be of any further assistance, please contact us.

H.G. SCHLICKER & ASSOCIATES, INC.



Adam M. Large, MSc, RG, CEG
President/Principal Engineering Geologist

AML:mgb

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Figure 1 – Location Map
Figure 2 – Plat Map
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APPENDICES

Appendix A – Site Photographs

Project #Y234676

May 23, 2023

**To: Breakers Condominium
Attn: Glenn Garrett, HOA President
16476 NW Racely Court
Portland, Oregon 97229**

**Subject: Geologic Hazards Investigation
Tax Lot 92411, Map 5S-11W-25CB Supp. Map No. 2
Lot-Unit 11, 48060 Breakers Boulevard
Neskowin, Tillamook County, Oregon**

Dear Mr. Garrett:

1.0 Introduction

At your request and authorization, a representative of H.G. Schlicker and Associates, Inc. (HGSA) visited the subject site on March 31, 2023, to complete a geologic hazards investigation of Tax Lot 92411, Map 5S-11W-25CB Supp. Map No. 2, Lot-Unit 11, 48060 Breakers Boulevard, Neskowin, Tillamook County, Oregon (Figures 1 and 2; Appendix A). Reportedly, the existing residential building was severely damaged by a structural fire. It is our understanding that you are working with a contractor and the owner's representative and plan to demolish the existing damaged structure and build a new residential building in its place. Reportedly, the proposed development will be considered a new development, new construction or a substantial improvement; however, we defer to the county and city of Neskowin to make this determination.

This report addresses the geologic hazards at the site with respect to the proposed development. The scope of our work consisted of a site visit, site observations and measurements, a slope profile, a limited review of the geologic literature, interpretation of topographic maps, lidar and stereo aerial photographs, and preparation of this report of our findings, conclusions and preliminary recommendations for further work.

2.0 Site Description

The subject site consists of Tax Lot 92411, Map 5S-11W-25CB Supp. Map No. 2, which is approximately 20 feet wide and 30 feet deep. The rectangular-shaped lot is located on a

younger stabilized dune at the Breakers Condominiums in the community of Neskowin, Oregon (Figure 1). The site is one of eleven condominium tax lots located within Tax Lot 92412, Map 5S-11W-25CB, which encompasses the greater area of the Breakers Condominiums (Figure 2).

The subject site is occupied by a fire-damaged residential structure and attached deck. An oceanfront protective structure (riprap revetment) is located on the dune slope approximately 105 feet west of the site; this revetment is contiguous with other revetments to the north and south (Appendix A). The condominium property surrounding the site is bounded to the west by the beach and the Pacific Ocean, to the north by Mt. Angel Avenue, to its east by Breakers Boulevard, and to its south by Sheridan Avenue.

2.1 The history of the site and surrounding areas, such as previous riprap or dune grading permits, erosion events, exposed trees on the beach, or other relevant local knowledge of the site

According to Tillamook County records, the existing one and ½ story building was built in 1971 as part of the Breaker Condominium development. The condominium property is occupied by 11 detached residential units on individual lots within a larger parcel with a detached building in the southeast corner. The units, including the subject site, share an asphalt parking area accessed off Breakers Blvd. The subject building and attached deck appear to completely occupy the tax lot of the subject site. Reportedly, a fire recently severely damaged the building (Appendix A). According to a review of a 1967 aerial photograph, the area of the site was previously occupied by an undeveloped dune. Based on this photo, a detached building appears to occupy the southeast of the site at that time.

The site lies along an area that has been hardened with riprap revetment for hundreds of feet to the north and south. Most of this hardening has been constructed during and following the severe El Niño and La Niña events of the mid-to-late 1990s. Much of this riprap has needed repair of varying degree throughout the years.

2.2 Topography, including elevations and slopes on the property itself

The site is located on the western portion of a younger stabilized dune. Elevation at the site is approximately 26 feet (NAVD 88). The area of the site is generally flat but appears to have been subject to prior grading activities (Figures 3 and 4; Appendix A).

2.3 Vegetation cover

The subject site appears to be completely occupied by the existing building. The vegetation in the area of the site consists of lawn grass, beach grass and a few shore pine along the road.

2.4 Subsurface materials – the nature of the rocks and soils

Subsurface materials are discussed in detail in Section 4.1.

2.5 Conditions of the seaward front of the property

The property's western boundary (seaward front) is located approximately 105 feet east of the revetment in the western portion of a younger-developed dune. The general area of the site is densely developed, with existing homes with varying amounts of vegetation.

At The Breakers Condominiums, the revetment is approximately 20 feet high and generally slopes at 29 to 31 degrees. The armor stone generally varies from 4 to 7 feet in diameter along the mid and lower slope and 3 to 6 feet in diameter along the upper slope. The revetment is composed of angular basalt quarry stone from various sources. Some of the rock consists of volcanic breccias and agglomerates, including pillow basalts. Much of the volcanic breccia and agglomerate is fractured and can break into smaller pieces. Some of the revetment is composed of better quality, harder, fine-grained basalt of more durable character. We believe the better quality rock was primarily placed during repairs.

Reportedly, the revetment lacks a geotextile filter fabric beneath it to prevent the piping of sand from behind the revetment out through it (sand bleed through). Unfortunately, sand piping can occur anytime water levels are above the toe of the revetment, not just during storm conditions.

2.6 Presence of drift logs or other flotsam on or within the property

During our site visit, we did not observe drift logs or flotsam on the beach to the west of the property. However, a small log was wedged in the riprap boulders in the lower portion of the revetment west of the site.

2.7 Description of streams or other drainage that might influence erosion or locally reduce the level of the beach

Neskowin Creek discharges onto the beach approximately 0.5 mile south of the site (Figure 1). Historical satellite imagery from Google Earth indicates that although Neskowin Creek's stream channel meanders approximately 500 feet north and south on the beach, the stream generally enters the ocean near the east side of proposal rock and does not appear to influence the level of the beach west of the subject site.

2.8 Proximity of nearby headlands that might block the long shore movement of beach sediments, thereby affecting the level of the beach in front of the property

The site is located approximately 1 mile north of the Cascade Head headlands and approximately 7.5 miles south of Cape Kiwanda. Proposal Rock, located approximately 0.5 miles south of the site, can be considered the nearest headland and does not appear to affect the subject site substantially.

2.9 Description of any shore protection structures that may exist on the property or on nearby properties

An existing riprap revetment is present approximately 105 feet west of the subject site and is connected to other oceanfront revetments, which extend for hundreds of feet to the south along Neskowin Beach. The unimproved beach access ramp at the western end of Mt. Angel Avenue is not occupied by an oceanfront protection structure; however, an oceanfront revetment is present fronting the adjoining property to the north.

2.10 Presence of pathways or stairs from the property to the beach

The nearest public beach access occupies the western end of Mt. Angel Avenue, approximately 15 feet north of the site.

2.11 Existing human impacts on the site, particularly any that might alter the resistance to wave attack

Human impacts are not contributing to the alteration of the resistance of the riprap revetment to wave attack west of the site.

3.0 Description of the Fronting Beach

Neskowin Beach fronts the condominium property west of the site. Detailed descriptions of the characteristics of the beach are provided below.

3.1 Average widths of the beach during the summer and winter

The beach near the site has a highly variable width, which is primarily dependent upon tide levels, and it tends to be narrower in the winter than in the summer. Although the beach can be more than 300 feet wide, at high tide, there is often no walkable beach. The beach here is very dynamic and changes morphology frequently, primarily due to rip current formation.

3.2 Median grain size of beach sediment

During our site visit, we observed fine-grained to medium-grained beach sand.

3.3 Average beach slopes during the summer and winter

Beach slopes vary from approximately 2 to 5 degrees depending upon recent accretion or erosion. The beaches tend to be flatter in the summer.

3.4 Elevations above mean sea level of the beach at the seaward edge of the property during summer and winter

The property's western edge lies approximately 105 feet east of the upper edge of the riprap revetment west of the site. Lidar data from 2016 shows the junction between the beach and the revetment was at approximately 8 feet (NAVD 88). Allan and Hart (2005) surveyed the elevation of the beach/dune junction in 1997, 1998, and 2002 at approximately 23.9 feet, 19.2 feet, and 16 feet, respectively. Winter elevations primarily depend on beach profiles formed by storm conditions.

3.5 Presence of rip currents and rip embayments that can locally reduce the elevation of the fronting beach

Rip currents and rip current embayments commonly contribute to erosion along the oceanfront in Neskowin. Narrow beaches and near-shore relatively deep water conditions contribute to rip current and rip current embayment formation.

It appears that rip currents have set-up in this general area consistently throughout the years, particularly north of Proposal Rock. As a result, future problems with rip current embayments and erosion should be expected in this area. When rip currents form, they create a channel of deeper water oriented perpendicular to the coastline. This commonly allows larger waves to travel further shoreward before breaking, adding to the erosive potential. When these channels terminate at the base of a riprap revetment, they have the potential to undermine the revetment, causing its failure. This appears to be partly responsible for the revetment failures seen in Neskowin. The potential for revetment failure by undermining is also increased at Neskowin because Neskowin is an old dune sheet, lacking rock at shallow depth on which to found the revetment.

3.6 Presence of rock outcrops and sea stacks, both offshore and within the beach zone

Proposal Rock is located approximately 0.5 miles south of the site.

3.7 Information regarding the depth of beach sand down to bedrock at the seaward edge of the property

Based on our experience with Neskowin sites in the vicinity, we estimate that bedrock lies more than 20 feet below beach level.

4.0 Geologic Hazards Analysis

Our geologic hazards analysis is presented below.

4.1 Subsurface Materials

The site lies in an area that has been mapped as Pleistocene beach sand (Schlicker et al., 1972). Neskowin lies on a large dune complex which is approximately 4 miles long, north to south and extends from the coastline east to the base of the hills. This dune complex consists of numerous individual dunes which vary in age and stability. The area of the site has been mapped as a younger stabilized dune (open dune sand conditionally stable), which is a dune that has become conditionally stable regarding wind erosion (USDA et al., 1975). More recent mapping also identifies the area of the site as recently stabilized dunes (Allan, 2020). The dune consists of tan, loose, fine-grained sand with a thin, moderately developed topsoil. Under the Land Conservation and Development Commission (LCDC) classification system, the site is a Dune, Younger Stabilized.

Existing development, assumed buried utilities and installation, pavement, and hardscaping prevented subsurface investigation of the site with hand-augered equipment. Loose, unconsolidated dune sand was exposed on the ground surface around the site. Probing around the existing foundation indicated shallow spread footings.

4.2 Geologic Structures

Structural deformation and faulting along the Oregon Coast is dominated by the Cascadia Subduction Zone (CSZ) which is a convergent plate boundary extending for approximately 680 miles from northern Vancouver Island to northern California. This convergent plate boundary is defined by the subduction of the Juan de Fuca plate beneath the North America Plate and forms an offshore north-south trench approximately 60 miles west of the Oregon coast shoreline. A resulting deformation front consisting of north-south oriented reverse faults is present along the western edge of an accretionary wedge east of the trench, and a zone of margin-oblique folding and faulting extends from the trench to the Oregon Coast (Geomatrix, 1995).

A northwest-trending strike-slip fault is mapped near the site, extending from Proposal Rock to the southeast, approximately 4 miles (Snively et al., 1996). Based on mapping, the fault appears to offset middle Tertiary geologic units.

An unnamed offshore fault is mapped approximately 9 miles west of the site (Personius et al., 2003). The faults are part of a mapped group of left- and right-lateral strike-slip, normal, and reverse faults which offset accretionary wedge sediments underlying the continental shelf and slope in the forearc of the Cascadia Subduction Zone; some of the faults in this group also offset the overlying sedimentary section and underlying oceanic basalts of the subducting Juan de Fuca Plate (Personius et al., 2003). Most of the offshore faults in this group have strikes oblique to the Cascadia deformation front, suggesting a strong lateral component of slip. No detailed information on the ages of faulted deposits has been published, but similar offshore structures offset late Pleistocene

and Holocene sediments (Personius et al., 2003). An offshore thrust fault is also mapped approximately 2 miles west of the site (Personius et al., 2003).

The nearest potentially active fault is the Happy Camp Fault (formerly the Netarts Bay fault), which lies at the north end of Netarts Bay, approximately 23 miles north of the site (Geomatrix, 1995). This fault is a west-northwest trending, high angle reverse fault which cuts Miocene basaltic and Pleistocene channel deposits. This fault is believed to have been active approximately 125,000 years ago; however, it does not appear to cut 80,000-year-old marine terrace deposits, which suggests that the fault has not been active for at least 80,000 years (Geomatrix, 1995).

Other mapped potentially active faults are located in the Tillamook Bay fault zone approximately 31 miles north of the site, which are northwest-striking faults that offset the Eocene Tillamook Volcanics on the west flank of the Coast Range. No displacements in Quaternary deposits have been documented, but the fault zone parallels the mountain front that controls the northeastern margin of Tillamook Bay and thus has geomorphic expression consistent with Quaternary displacement (Personius et al., 2003).

4.3 Slopes

Slopes are discussed in detail in Section 2.2 above.

4.4 Orientation of Bedding Planes in Relation to the Dip of the Surface Slope

The site lies in an area mapped as dune sands which have beds of varying dip related to the surface slope. The underlying Basalt of Cascade Head has been mapped as dipping down to the north-northwest from 30 to 45 degrees (Snively et al., 1996). Grades at the subject site are primarily related to past grading and fill activities rather than the orientation of underlying units.

4.5 Site Surface Water Drainage Patterns

The ground surface surrounding the site gently slopes to the southeast. However, we anticipate most stormwater would easily infiltrate through the areas of exposed loose sand. At the time of our site visit, we observed no streams at the site. The nearest stream is Kiwanda Creek, located approximately 960 feet east of the site. Kiwanda Creek joins Neskowin Creek and discharges onto the beach approximately 0.5 miles south of the site.

4.6 Dune Stability and Erosion

The site is located on loose dune sand, which is easily eroded by ocean wave activity, and wind when devoid of vegetation. During the winters of 1998, 1999, 2000 and 2001, severe storms resulted in substantial ocean wave erosion, which removed active dunes in the area of the site. As reported by local residents, up to 10 feet of erosion has been observed during a single storm event. Ocean wave erosion has also resulted in lowering

of the beach elevation by several feet, allowing higher energy waves to impact the bluff. The increase in ocean wave erosion observed along much of the Oregon Coast in the recent past is a consequence of the mid-to-late 1990s El Niño/La Niña events, which altered ocean currents and transported much of the beach sand offshore. There has been some rebuilding of the beach in the last few years, but this has been a slow process. As a result, nearly all of Neskowin's oceanfront residences have had oceanfront protection installed.

The site lies along an area that has been hardened for hundreds of feet to the north and south. Most of this hardening has been constructed during and following the severe El Niño and La Niña events of the mid-to-late 1990s. All of the hardening in this area has been done with riprap revetments. Much of this riprap has needed repair of varying degree throughout the years. The southern part of The Breakers Condominiums, the two homes south of The Breakers Condominiums, and The Pacific Sands Condominiums to the south were particularly affected by early December 2007 and early January 2008 storms, and at least one of the homes required underpinning. These severe storms were accompanied by only moderately high tides. Had the storms been accompanied by higher tide levels, the damage could have been substantially worse. The riprap revetment greatly reduces the potential for erosion when maintained and repaired as necessary.

Mapping by Allan and Priest (2001) identifies the site within the High Hazard Zone. The dune slope and revetment areas west of the site are mapped in the active coastal erosion hazard zones. The active coastal erosion hazard zone is defined as an area that is being actively eroded by ocean waves and the mass movements directly caused by wave action, and the high coastal erosion hazard zone is defined as an area having a high probability that it could be affected by active erosion in the next ~ 60 to 100 years (Allan and Priest, 2001). It should be noted that the mapping done for the 2001 study was intended for regional planning use, not for site-specific hazard identification.

4.7 Regional Seismic Hazards

Abundant evidence indicates that a series of geologically recent large earthquakes related to the Cascadia Subduction Zone have occurred along the coastline of the Pacific Northwest. Evidence suggests that more than 40 great earthquakes of magnitude 8 and larger have struck western Oregon during the last 10,000 years. The calculated odds that a Cascadia earthquake will occur in the next 50 years range from 7–15 percent for a great earthquake affecting the entire Pacific Northwest, to about a 37 percent chance that the southern end of the Cascadia Subduction Zone will produce a major earthquake in the next 50 years (OSSPAC, 2013; OSU News and Research Communications, 2010; Goldfinger et al., 2012). Evidence suggests the last major earthquake occurred on January 26, 1700, and may have been of magnitude 8.9 to 9.0 (Clague et al., 2000).

There is now increasing recognition that great earthquakes do not necessarily result in a complete rupture along the full 1,200 km fault length of the Cascadia subduction zone. Evidence in the paleorecords indicates that partial ruptures of the plate boundary have occurred due to smaller earthquakes with moment magnitudes (M_w) < 9 (Witter et al., 2003; Kelsey et al., 2005). These partial segment ruptures appear to occur more frequently on the southern Oregon coast, as determined from paleotsunami studies. Furthermore, the records have documented that local tsunamis from Cascadia earthquakes recur in clusters (~250–400 years) followed by gaps of 700–1,300 years, with the higher tsunamis associated with earthquakes occurring at the beginning and end of a cluster (Allan et al., 2015).

These major earthquake events were accompanied by widespread subsidence of a few centimeters to 1–2 meters (Leonard et al., 2004). Tsunamis appear to have been associated with many of these earthquakes. In addition, settlement, liquefaction, and landsliding of some earth materials are believed to have been commonly associated with these seismic events.

Other earthquakes related to shallow crustal movements or earthquakes related to the Juan de Fuca plate have the potential to generate magnitude 6.0 to 7.5 earthquakes. The recurrence interval for these types of earthquakes is difficult to determine from present data, but estimates of 100 to 200 years have been given in the literature (Rogers et al., 1996).

The expected strength of shaking to occur at the site during an earthquake in a 500-year period has been mapped as severe (DOGAMI Oregon HazVu website, accessed May 2023). “Severe” is the second-highest level of a six-level gradation from “Light” to “Violent” in this mapping system.

Liquefaction and Settlement

DOGAMI’s HazVu website (<https://gis.dogami.oregon.gov/maps/hazvu/>) has mapped the area of the site as having a high susceptibility to liquefaction. DOGAMI states: “Buildings and infrastructure sitting on these soils are likely to be severely damaged in an earthquake.”

Liquefaction occurs when saturated, cohesionless soils are subjected to ground vibrations, resulting in a decrease in the volume of the soil. If drainage is unable to occur, the tendency to decrease in volume results in an increase in pore water pressure. If the pore water pressure builds up to the point at which it is equal to the overburden pressure, the effective stress becomes zero, and the soil loses its strength and develops a liquefied state. Liquefaction is most common in saturated, loose, granular soils, sand or silty sand materials. Cohesive soils, such as clayey silt and clay, will generally not liquefy during

earthquakes. Older sediments are also more resistant to liquefaction than recently deposited sediments (Idris and Boulanger, 2008).

Settlement can be the result of liquefaction of saturated soils or simply a result of dry soil densifying under vibration (volumetric compression). Volumetric compression during an earthquake is the result of vibrations of the soil, which cause soil particles to settle into a denser state, decreasing the volume of the soil. The degree of settlement is primarily dependent upon the initial density of the soil and the magnitude and duration of ground vibration (shaking). Settlement caused by liquefaction is commonly differential, and the magnitude of settlement typically varies throughout a site, whereas settlement caused by volumetric compression tends to be more uniform.

4.8 Flooding Hazards

Based on the 2018 Flood Insurance Rate Map (FIRM, Panel #41057C1005F), the area of the site lies in an area rated as Zone VE (EL 32), defined as a special flood hazard area with base flood elevations determined, and subject to inundation by the 1-percent-annual-chance flood event with additional hazards due to storm-induced velocity wave action.

The beach and revetment area west of the site lies in an area rated as Zone VE (EL 41.3 feet) (NAVD 88), which is defined as a special flood hazard area with base flood elevations determined, and subject to inundation by the 1-percent-annual-chance flood event with additional hazards due to storm-induced velocity wave action. The area east of the revetment and west of the site lies in an area rated as Zone VE (EL 33), defined as a special flood hazard area with base flood elevations determined and subject to inundation by the 1-percent-annual-chance flood event with additional hazards due to storm-induced velocity wave action; the area east of the site is mapped as an area rated as Zone AE (EL 25) which is defined as an area of 1-percent-annual-chance of being flooded and wave heights are less than 3 feet.

Based on the Oregon Department of Geology and Mineral Industries mapping (DOGAMI, 2012), the subject site lies within the tsunami inundation zone resulting from an approximately 8.7 and greater magnitude Cascadia Subduction Zone (CSZ) earthquake. The 2012 DOGAMI mapping is based upon 5 computer-modeled scenarios for shoreline tsunami inundation caused by potential CSZ earthquake events ranging in magnitude from approximately 8.7 to 9.1. The January 1700 earthquake event (discussed in Section 4.7 above) has been rated as an approximate 8.9 magnitude in DOGAMI's methodology. More distant earthquake source zones can also generate tsunamis.

4.9 Climate Change

According to most of the recent scientific studies, the Earth's climate is changing as the result of human activities which are altering the chemical composition of the atmosphere through the buildup of greenhouse gases, primarily carbon dioxide, methane, nitrous

oxide, and chlorofluorocarbons (EPA, 1998). Although there are uncertainties about exactly how and when the Earth's climate will respond to enhanced concentrations of greenhouse gases, scientific observations indicate that detectable changes are underway (EPA, 1998; Church and White, 2006). Global sea level rise, caused by melting polar ice caps and ocean thermal expansion, could lead to flooding of low-lying coastal property, loss of coastal wetlands, erosion of beaches and bluffs, and saltwater contamination of drinking water. Global climate change and the resultant sea level rise will likely impact the subject site through accelerated coastal erosion and more frequent and severe flooding.

4.10 Analyses of Erosion and Flooding Potential

4.10.1 Analysis of DOGAMI beach monitoring data available for the site (if available).

DOGAMI beach monitoring data has been collected for Neskowin Beach, approximately 1,300 feet south of the site, regularly since 1997. Following the winter storms of 2006-2008 and the construction of the revetments along the beach south of the site, beach elevations there have varied by several feet from minimum to maximum over the monitored period of 1999 to 2023 (Allan and Hart, 2005; Allan and Hart, 2007; Allan and Hart, 2008; Allan et al., 2015; NANOOS, accessed May 2023).

4.10.2 Analysis of human activities affecting shoreline erosion.

Armoring of the shoreline with riprap has reduced erosion along the beach.

4.10.3 Analysis of possible mass wasting, including weathering processes, landsliding, or slumping.

The erosive processes affecting the site are discussed in detail in Section 4.6 (above).

4.10.4 Calculation of wave run-up beyond mean water elevation that might result in erosion of the sea cliff or foredune.

Coastal erosion rates and hazard zones (as referenced in Allan and Priest, 2001) were presented in Section 4.6 Dune Stability and Erosion (above). In the dune-backed shoreline recession methodology applicable to the subject site, the total water level produced by the combined effect of wave runup plus the tidal elevation must exceed some critical elevation of the fronting beach, typically the elevation of the beach-dune junction. Wave runup elevation can change with many variables, such as changing beach elevations, the presence of transient dunes, etc. The dune is

protected by the riprap revetment west of the subject site, and this shoreline recession methodology is not appropriate for the site.

4.10.5 Evaluation of frequency that erosion-inducing processes could occur, considering the most extreme potential conditions of unusually high water levels together with severe storm wave energy.

On this stretch of dune-backed shoreline, erosion-inducing processes are daily in the form of constant wave attack at the base of the revetment at high tide. High water levels, flooding, and severe storms can cause rip currents, which have the potential to undermine the revetment west of the site.

4.10.6 For dune-backed shoreline, use an established geometric model to assess the potential distance of property erosion, and compare the results with direct evidence obtained during site visits, aerial photo analysis, or analysis of DOGAMI beach monitoring data.

Not applicable to the subject site or nearby area, which is a dune-backed shoreline that has been extensively riprapped; see Section 4.10.4 (above).

4.10.7 For bluff-backed shorelines, use a combination of published reports, such as DOGAMI bluff and dune hazard risk zone studies, aerial photo analysis, and fieldwork, to assess the potential distance of property erosion.

Not applicable to the subject site, which lies in a dune-backed shoreline area.

4.10.8 Description of potential for sea level rise, estimated for local area by combining local tectonic subsidence or uplift with global rates of predicted sea level rise.

Based on data from NOAA monitoring stations at South Beach and Garibaldi, this general area of Oregon's coastline has a mean sea level rise of approximately 2.08 mm/year, which includes the combined effects of global rates of sea level rise and landmass elevation changes (NOAA Tides & Currents Sea Level Trends <http://tidesandcurrents.noaa.gov/sltrends/sltrends.html>). Additional observations are addressed in Section 4.9 of this report.

4.11 Assessment of Potential Reactions to Erosion Episodes

4.11.1 Determination of legal restrictions of shoreline protective structures (Goal 18 prohibition, local conditional use requirements, priority for non-structural erosion control methods).

As previously noted, riprap revetments are present west of the subject site and for hundreds of feet to the north and south in this oceanfront area of Neskowin. Lots in the area of the site were generally ‘developed’ on January 1, 1977; however, this is a legal issue that can have varying interpretations. Most lots in this area, including the subject site, generally meet Oregon’s Goal 18 exception requirements to obtain protection when a structure is threatened by erosion.

According to the Ocean Shores Viewer (<http://www.coastalatlus.net/oceanshores/>, accessed May 2023), the oceanfront condominium property that the site occupies, the area around the subject site, appears eligible due to exception under the GOAL 18 Eligibility Inventory with a mapped beachfront protective structure.

4.11.2 Assessment of potential reactions to erosion events, addressing the need for future erosion control measures, building relocation, or building foundation and utility repairs.

Residential development recommendations, including erosion control and foundation design recommendations, will be provided in the geotechnical investigation recommended and discussed below.

5.0 Conclusions and Preliminary Recommendations for Further Work

The main engineering geologic concerns at the site are:

1. The site lies on dune sands that are poorly consolidated and subject to settlement and liquefaction, as well as ongoing coastal erosion if the revetment is damaged. Inherent risks of seismic hazards, flooding, coastal erosion, and future sand movement, including accretion at this site, must be accepted by the owner, future owners, developers, and residents.
2. The subject site and surrounding properties are mapped within a FEMA special flood hazard area and are subject to coastal flooding.
3. Based on our site observations, the existing fire-damaged building at the site appears to be supported on conventional shallow foundations. Based on the mapped hazards

at the site, this foundation does not appear suitable for reuse with the proposed development.

4. There is an inherent regional risk of earthquakes along the Oregon Coast, which could cause harm and damage structures. Ground shaking during an earthquake can cause soil consolidation resulting in settlement of the structures and can cause soils to liquefy, resulting in the loss of bearing capacity and structural damage. The site also lies in a mapped tsunami hazard zone. A tsunami impacting the Neskowin area could cause harm, loss of life, and damage to structures. Hazards associated with tsunami flooding resulting from a large seismic event cannot be economically mitigated for. These risks must be accepted by the owner, future owners, developers, and residents of the site.

Recommendations for further work

All future development recommendations for the site assume the revetment west of the site will be maintained and repaired as necessary.

New construction or a substantial improvement of a residential building at the site is feasible, pending the results of the recommended geotechnical investigation discussed below. Based on the geologic hazards related to the development of the site, we have provided the following preliminary design considerations with respect to new construction or a substantial improvement:

Based on FEMA FIRM mapping, new or substantially improved buildings should be supported on a deep foundation system. Foundations will need to support vertical loads and provide support in the event of wave overtopping or ocean undercutting of the dune encroaching to the proposed foundation area. Foundations will also need to resist uplift forces. An open foundation or breakaway wall design may be necessary for the area below the lowest floor. V Zone standards will apply to the site, and we recommend that you design to these standards. Foundations in V Zones are required to be on piers or piling capable of resisting simultaneous wind and flood loads (with wave action).

Typically, the lowest horizontal structural members of the new building should be a minimum of 1 foot or more above base flood elevations. Additional freeboard may be necessary. We recommend that a benchmark be set prior to construction and that a certificate of elevation be obtained for the completed construction. In addition, a V Zone Design Certificate is recommended.

HGSA will need to complete a geotechnical investigation to provide recommendations for this type of site development and deep foundations. Locating services of private and public buried utilities and installations in the area of the site will be necessary.

Equipment access and associated logistics will need to be determined before the geotechnical site investigation can commence. Preparation of the site may be necessary prior to completing the geotechnical investigation. This investigation will likely include subsurface exploration with geotechnical drilling, laboratory testing, and geotechnical analysis. Following the geotechnical investigation, HGSA will likely need to consult with the designer, structural engineer, general contractor, and foundation contractor.

6.0 Limitations

The Oregon Coast is a dynamic environment with inherent unavoidable risks to development. Landsliding, erosion, tsunamis, storms, earthquakes and other natural events can cause severe impacts to structures built within this environment and can be detrimental to the health and welfare of those who choose to place themselves within this environment. The client is warned that, although this report is intended to identify the geologic hazards causing these risks, the scientific and engineering communities' knowledge and understanding of geologic hazards processes is not complete.

Our investigation was based on engineering geological reconnaissance, limited review of published information, and our subsurface exploration and analyses. The data presented in this report are believed to be representative of the site. The conclusions herein are professional opinions derived in accordance with current standards of professional practice and budget constraints. No warranty is expressed or implied. The performance of the site during a seismic event has not been evaluated. If you would like us to do so, please contact us.

The soil and related information depict generalized subsurface conditions only at these specific locations and at the particular time the subsurface exploration was completed. Soil, rock, and groundwater conditions at other locations may differ from the conditions at these boring locations. Also, the passage of time may result in a change in the soil and groundwater conditions at the site.

This report pertains to the subject site only, and is not applicable to adjacent sites nor is it valid for types of development other than that to which it refers. Geologic conditions including materials, processes, and rates can change with time and therefore, a review of the site and/or this report may be necessary as time passes to assure its accuracy and adequacy. This report may only be copied in its entirety.

7.0 Disclosure

H.G. Schlicker & Associates, Inc. and the undersigned Certified Engineering Geologist have no financial interest in the subject site, the project or the Client's organization.

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It has been our pleasure to serve you. If you have any questions concerning this report, or the site, please contact us.

Respectfully submitted,

H.G. SCHLICKER AND ASSOCIATES, INC.



EXPIRES: 12/31/2023

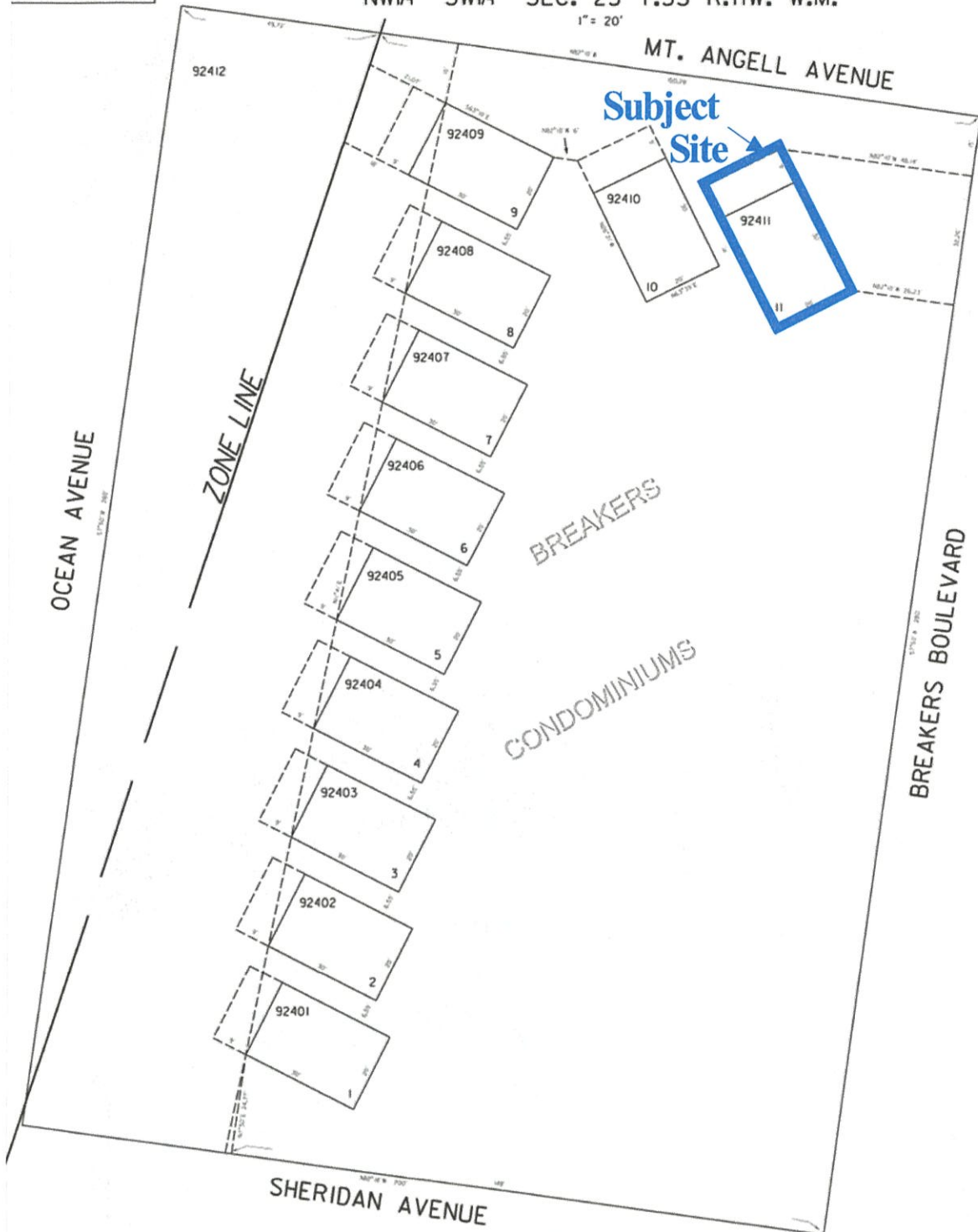
Adam M. Large, MSc, RG, CEG
President/Principal Engineering Geologist

AML:mgb

WAS PREPARED FOR
MENT PURPOSE ONLY

SUPPLEMENTAL MAP NO. 2
NW1/4 SW1/4 SEC. 25 T.5S R.11W. W.M.

1" = 20'



Date: 05/23/2023

Scale: 1" = 40'

Project #Y234676

Prepared by: MGB

Approved by: AML

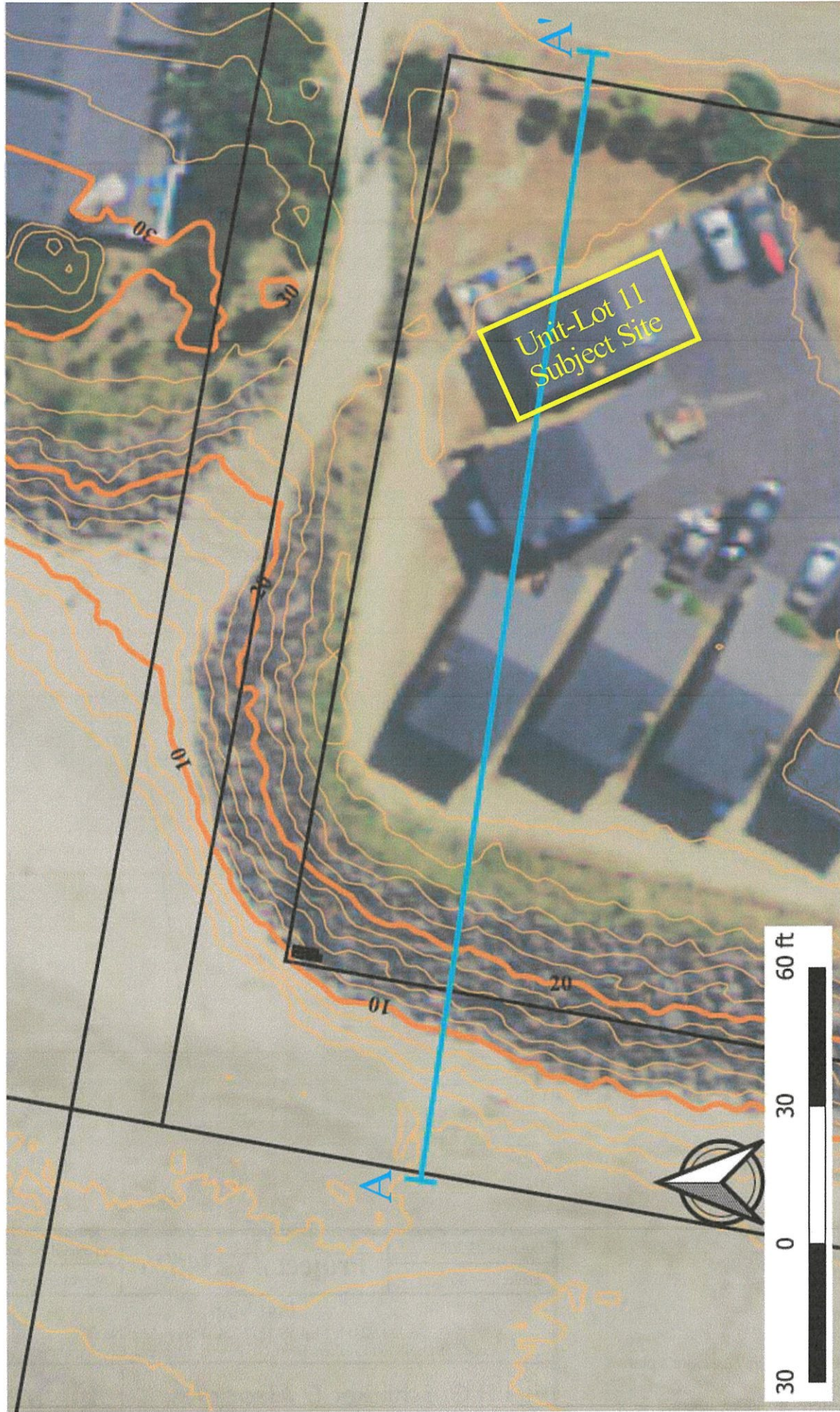
Plat Map

Tax Lot 92411, Map 5S-11W-25CB Supp. Map No. 2
Lot-Unit 11, 48060 Breakers Blvd, Neskowin, Tillamook County, Oregon

 **H.G. Schlicker & Associates, Inc.**

Figure 2

Modified from the Tillamook County assessor's plat
5S-11W-25CB Supp. No. 2
All locations and dimensions are approximate.



Imagery provided by 2018 Oregon Explorer
 Topographic data derived from West Coast 2016_EI_Nino Lidar data from NOAA
 All locations and dimensions are approximate.

A — A' = Approximate trend of profile line

Date: 05/23/2023
 Scale: 1" = 30'

Project #Y234676

Prepared by: MGB
 Approved by: AML

Site Topographic Map
 Tax Lot 92411, Map 5S-11W-25CB Supp. No. 2; Lot-Unit 11
 48060 Breakers Blvd, Neskowin, Tillamook County, Oregon

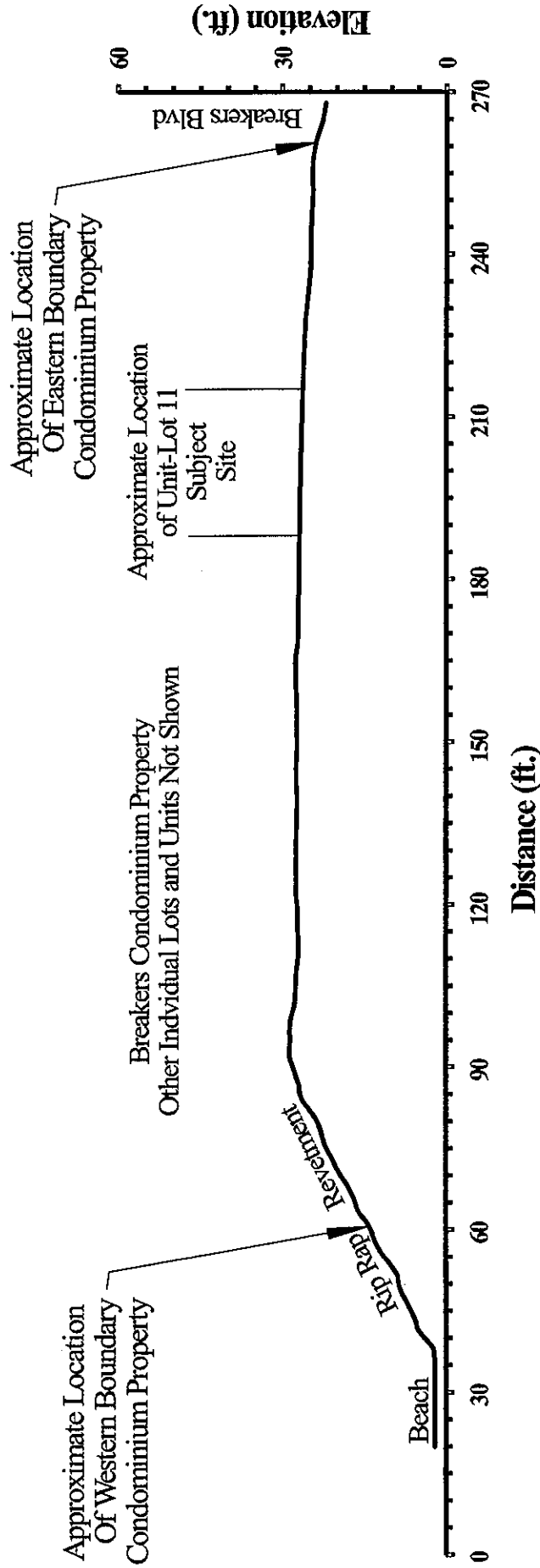
 **H.G. Schlicker & Associates, Inc.**

Figure 3

A

North 83° West

A'



Date: 05/23/2023

Scale: 1" = 30'

Project #Y234676

Prepared by: MGB

Approved by: AML

Slope Profile, A-A'

Tax Lot 92411, Map 5S-11W-25CB Supp. No. 2

Lot-Unit 11, 48060 Breakers Blvd., Neskowin, Tillamook County, Oregon



H.G. Schlicker & Associates, Inc.

Figure 4

All dimensions, elevations and locations are approximate.
Slope profile derived from West_Coast_2016_EI_Nino Lidar data from NOAA.

Project #Y234676

Appendix A
- Site Photographs -



Photo 1 – Northeasterly view of the subject site from the parking lot of Breakers Condominium.



Photo 2 – Southeasterly view of the subject site occupied by the existing fire-damaged residential building.



Photo 3 – Southwesterly view of the subject site from near the intersection of Breakers Blvd and Mt. Angel Ave.



Photo 4 – Easterly view of the site from the beach access ramp at the western end of Mt. Angel Ave.



Photo 5 – Easterly view of the oceanfront area west of the site from the beach.



Photo 6 – Southerly view of the beach and rip rap revetment west of the site.



Photo 7 – Westerly view from the top of the revetment, west of the site.



Photo 8 – Close-up view of a manhole near the site indicating the potential presence of buried private utilities and installations.

Geotechnical Investigation (Phase 2)
Tax Lot 92411, Map 5S-11W-25CB Supp. Map No. 2
Lot-Unit 11, 48060 Breakers Boulevard
Neskowin, Tillamook County, Oregon

Prepared for:
Breakers Condominium
Attn: Glenn Garrett, HOA President
16476 NW Racely Court
Portland, Oregon 97229

Project #Y234676B

April 23, 2024

Project #Y234676B

April 23, 2024

**To: Breakers Condominium
Attn: Glenn Garrett, HOA President
16476 NW Racely Court
Portland, Oregon 97229**

**Subject: Geotechnical Investigation (Phase 2)
Tax Lot 92411, Map 5S-11W-25CB Supp. Map No. 2
Lot-Unit 11, 48060 Breakers Boulevard
Neskowin, Tillamook County, Oregon**

Dear Mr. Garrett:

The accompanying report presents the results of our geotechnical investigation (phase 2) for the above subject site.

After you have reviewed our report, we would be pleased to discuss it and to answer any questions you might have.

This opportunity to be of service is sincerely appreciated. If we can be of any further assistance, please contact us.

H.G. SCHLICKER & ASSOCIATES, INC.



Adam M. Large, MSc, RG, CEG
President/Principal Engineering Geologist

AML:mgb

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FIGURES**Figure 1 – Site Topographic Map****Figure 2 – Slope Profile A-A'****APPENDICES****Appendix A – Site Photographs****Appendix B – Boring Logs****Appendix C – Liquefaction Analysis****Appendix D – Pile Analysis****Appendix E – Checklist of Recommended Plan Reviews and Site Observations**



Project #Y234676B

April 23, 2024

To: Breakers Condominium
Attn: Glenn Garrett, HOA President
16476 NW Racely Court
Portland, Oregon 97229

Subject: Geotechnical Investigation (Phase 2)
Tax Lot 92411, Map 5S-11W-25CB Supp. Map No. 2
Lot-Unit 11, 48060 Breakers Boulevard
Neskowin, Tillamook County, Oregon

Dear Mr. Garrett:

1.0 Introduction and Project Description

At your request and authorization, we visited the subject site on November 2, December 13, 2023, and February 15, 2024, to complete a geotechnical investigation. Previously, we completed a Geologic Hazards Investigation (Phase 1) (dated May 23, 2023) at Tax Lot 92411, Map 5S-11W-25CB Supp. Map No. 2, Lot-Unit 11, 48060 Breakers Boulevard, Neskowin, Tillamook County, Oregon. In our earlier report, we recommended that a second-phase investigation be completed to explore and characterize subsurface materials at the site and provide geotechnical recommendations for deep foundations. It is our understanding that you are planning to construct a new house at the site.

This report addresses the subsurface conditions at the site and provides geotechnical recommendations for construction. The scope of our work consisted of a review of our previous geologic hazards report, site observations and measurements, subsurface exploration using a mud rotary drill rig, in-situ soil testing, and soil sampling, geotechnical analysis, and a report of our findings, conclusions and geotechnical recommendations for design and construction. This report also includes some, but not all, of the information from our earlier report for ease of use by the reader. For permitting purposes, both our previous report (Phase 1) and this report (Phase 2) should be submitted to the county.

2.0 Site Description

The subject site consists of Tax Lot 92411, Map 5S-11W-25CB Supp. Map No. 2, which is approximately 20 feet wide and 30 feet deep. The rectangular-shaped lot is located on a younger stabilized dune at the Breakers Condominiums in the community of Neskowin, Oregon (Figure 1). The site is one of eleven condominium tax lots located within Tax Lot 92412, Map 5S-11W-25CB, which encompasses the greater area of the Breakers Condominiums.

An oceanfront protective structure (riprap revetment) is located on the dune slope approximately 105 feet west of the site; this revetment is contiguous with other revetments to the north and south (Appendix A). However, a gap in the riprap is present at the nearby beach access northwest of the site. The condominium property surrounding the site is bounded to the west by the beach and the Pacific Ocean, to the north by Mt. Angel Avenue, to its east by Breakers Boulevard, and to its south by Sheridan Avenue.

During our previous Geologic Hazards Investigation the site was occupied by a fire-damaged residential structure and attached deck. Since the time of our previous work, the damaged house was demolished, the foundation was removed for equipment access, and a drilling pad was graded using sand (Appendix A). Based on our review of the document provided to us, a surveyor completed an elevation certificate before the demolition of the previous structure.

3.0 Geologic Mapping, Investigation and Descriptions

The site lies in an area that has been mapped as Pleistocene beach sand (Schlicker et al., 1972). Neskowin lies on a large dune complex, which is approximately 4 miles long, north to south and extends from the coastline east to the base of the hills. This dune complex consists of numerous individual dunes which vary in age and stability. The area of the site has been mapped as a younger stabilized dune (open dune sand conditionally stable), which is a dune that has become conditionally stable regarding wind erosion (USDA et al., 1975). More recent mapping also identifies the area of the site as recently stabilized dunes (Allan, 2020). The dune consists of tan, loose, fine-grained sand with a thin, moderately developed topsoil. Under the Land Conservation and Development Commission (LCDC) classification system, the site is a Dune, Younger Stabilized.

3.1 Subsurface Exploration and Observations

At the time of our February 15, 2024, site visit, we completed one mud rotary boring with a CME-75 drill rig operated by Western States Soil Conservation to a depth of approximately 60 feet below the ground surface (bgs). Sampling was completed by obtaining and observing select cuttings brought up by the auger, and observing materials

recovered in split spoon samples from Standard Penetration Tests (SPTs) conducted at selected depth intervals to obtain in situ soil strength data based on penetration resistance (blow counts or “N” values). A geologist from our office visually classified and logged the soils encountered in the borehole according to the Unified Soil Classification System (USCS). A detailed description of subsurface conditions encountered during boring is provided in Appendix B, and the approximate location of the borehole is shown on Figures 1 and 2.

The boring generally encountered approximately 15 feet of loose to medium dense sand overlying approximately 20 feet of wet to saturated, dense sand from approximately 15 to 35 feet, underlain by organic-rich soft silty sand and peat from approximately 35 to 45 feet. From approximately 45 to 60 feet, dense to very dense, wet to saturated sand was encountered. Groundwater was encountered at approximately 12.5 feet.

3.2 Liquefaction Hazards

Liquefaction

Liquefaction occurs when saturated, cohesionless soils are subjected to ground vibrations, resulting in a decrease in volume of the soil. If drainage is unable to occur, the tendency to decrease in volume results in an increase in pore water pressure, and if the pore water pressure builds up to the point at which it is equal to the overburden pressure, the effective stress becomes zero, and the soil loses its strength and develops a liquefied state. Liquefaction is most common in saturated, loose, granular soils, sand or silty sand materials. Cohesive soils, such as clayey silt and clay, will generally not liquefy during earthquakes. Older sediments are also more resistant to liquefaction than recently deposited sediments (Idris and Boulanger, 2008).

To determine the liquefaction potential of the site, we used the computer program LiquefyPro by CivilTech Software, which utilizes methods recommended by the 1996 NCEER Workshop to calculate liquefaction and seismic-induced settlement potential (Martin et al., 1999) (Appendix C).

For our analysis, we used an 8.8 magnitude Cascadia Subduction Zone earthquake, site-modified peak ground acceleration for Site Class D (default soil) of 0.77g, and the depth to water was set at 12.5 feet below the ground surface.

Based on our analysis, two zones of the soil column at the site are prone to liquefaction during the design earthquake due to the low strength, non-cohesive nature of sands near the groundwater table and the soft, organic-rich silty sands and peat. The liquefiable zones are estimated between approximately 12.5 to 16 feet and 34 to 43 feet.

DOGAMI’s HazVu website (<https://gis.dogami.oregon.gov/maps/hazvu/>) has mapped the area of the site as having a high susceptibility to liquefaction. DOGAMI states:

“Buildings and infrastructure sitting on these soils are likely to be severely damaged in an earthquake.”

Settlement

Settlement can be the result of liquefaction of saturated soils or simply a result of dry soil densifying under vibration (volumetric compression). Volumetric compression during an earthquake is the result of vibrations of the soil, which causes soil particles to settle into a denser state, decreasing the volume of the soil. The degree of settlement is primarily dependent upon the initial density of the soil and the magnitude and duration of ground vibration (shaking). Settlement caused by liquefaction is commonly differential, and the magnitude of settlement typically varies throughout a site, whereas settlement caused by volumetric compression tends to be more uniform.

Based on our analysis, the total amount of earthquake-induced liquefaction and volumetric compression is estimated at approximately 6.99 inches, and differential settlements can be expected to be as much as $\frac{1}{2}$ to $\frac{2}{3}$ of the total or approximately 3.5 to 4.7 inches (Appendix C). Because this settlement occurs above the recommended pile tip embedment depth, we would expect little to no settlement of a house founded on the recommended pile below.

4.0 Flooding Hazards

Based on the 2018 Flood Insurance Rate Map (FIRM, Panel #41057C1005F), the area of the site lies in an area rated as Zone VE (EL 32), defined as a special flood hazard area with base flood elevations determined, and subject to inundation by the 1-percent-annual-chance flood event with additional hazards due to storm-induced velocity wave action.

The beach and revetment area west of the site lies in an area rated as Zone VE (EL 41.3 feet) (NAVD 88), which is defined as a special flood hazard area with base flood elevations determined, and subject to inundation by the 1-percent-annual-chance flood event with additional hazards due to storm-induced velocity wave action. The area east of the revetment and west of the site lies in an area rated as Zone VE (EL 33), defined as a special flood hazard area with base flood elevations determined and subject to inundation by the 1-percent-annual-chance flood event with additional hazards due to storm-induced velocity wave action; the area east of the site is mapped as an area rated as Zone AE (EL 25) which is defined as an area of 1-percent-annual-chance of being flooded and wave heights are less than 3 feet.

Based on the Oregon Department of Geology and Mineral Industries mapping (DOGAMI, 2012), the subject site lies within the tsunami inundation zone resulting from an approximately 8.7 and greater magnitude Cascadia Subduction Zone (CSZ) earthquake. The 2012 DOGAMI mapping is based upon 5 computer-modeled scenarios for shoreline tsunami

inundation caused by potential CSZ earthquake events ranging in magnitude from approximately 8.7 to 9.1. The January 1700 earthquake event (discussed in Section 4.7 above) has been rated as an approximate 8.9 magnitude in DOGAMI's methodology. More distant earthquake source zones can also generate tsunamis.

5.0 Conclusions and Recommendations

The main engineering geologic concerns at the site are:

1. The site lies on dune sands, which are poorly consolidated and subject to accretion and erosion from wind and wave attack. Inherent risks of coastal erosion and future dune sand movement and accretion activity at this site must be accepted by the owner, future owners, developers, and residents.
2. The site has shallow groundwater depths that are sensitive to tidal influences. Seasonal variation of groundwater depth and tidal influences can contribute to flooding at the site, particularly during storm events.
3. The site is mapped in a FEMA VE (EL 32) and is subject to a one percent or greater chance of flooding in any given year. The site lies in a coastal high hazard area, defined as an area of special flood hazard subject to high-velocity wave action from storms and seismic sources. These risks must be accepted by the owner, future owners, developers and residents of the site.
4. There is an inherent regional risk of earthquakes along the Oregon Coast which could cause harm and damage structures. Ground shaking during an earthquake can cause soils to liquefy, resulting in loss of bearing capacity and structural damage. The site also lies in a mapped tsunami inundation hazard zone. A tsunami impacting the Neskowin area could cause harm, loss of life, and damage to structures. These risks must be accepted by the owner, future owners, developers and residents of the site.

Recommendations

Based on FEMA FIRM mapping and liquefaction potential, we recommend that new or substantially improved buildings at the site be supported on a deep foundation system. Foundations in V Zones should be on piers or piling capable of resisting simultaneous wind and flood loads (with wave action). Foundations will need to support vertical loads and provide support in the event of coastal erosion encroaching in the new foundation area. Foundations will also need to resist uplift forces, particularly for any cantilever-type house design. An open foundation or breakaway wall design may be necessary for the area below the lowest floor. V Zone standards should apply to the site, and we recommend that you design to these standards.

Typically, the lowest horizontal structural members of the new building should be a minimum of 1 foot or more above base flood elevations. Additional freeboard may be necessary.

During construction, disturbed, dry sands may be blown by winds, which can result in transport and deposition of sands off-site. Therefore, periodic watering or covering of exposed areas may be required to control blowing sands during windy conditions.

The following recommendations should be adhered to.

5.1 Development Density

It is our understanding that only one single-family residence will be located at the site.

5.2 Locations for Structures and Roads – Safest Site

Due to the lot's small size, we anticipate that the new house will occupy the entire site. No new roads or driveways are anticipated; existing access to the site is provided by the common parking lot.

Please note, that the Oregon Coast is a dynamic and energetic environment. Most of the coastline along this stretch of beach is slowly receding and will continue to recede in the future. Geologic conditions and the rates of geologic processes can change in the future.

5.3 Grading Practices

We recommend the following grading practices:

Any organic soils, disturbed soils, and any existing fills should be stripped from grade beams, driveway, and slab areas prior to construction.

Based on the existing topography and the lot size at the site we do not anticipate significant temporary or permanent cuts and fills or grading to occur during construction.

Based on the FEMA Flood mapping, the use of permanent fill for structural support is not recommended. Any temporary grading and fill work necessary for equipment and construction access should be limited and indicated on the plan set.

5.4 Vegetation Removal and Re-Vegetation Practices

Vegetation should be removed only as necessary, and exposed areas should be replanted following construction. Disturbed ground surfaces exposed during the wet season (November 1 through April 30) should be temporarily planted with grasses or protected with erosion control blankets or hydromulch.

5.5 Deep Foundations

We recommend that the new house be placed on elevated beams supported on pile or columns with the lowest horizontal structural member no lower than 1 foot above the base flood elevation. We recommend that the foundation system consist of drilled and gravity grouted micropile.

5.5.1 Gravity Grouted Micropile

We provide the following allowable micropile loads for 8 and 10-inch (drilled hole) diameter, 48 feet embedment length, gravity grouted pile based on grout-to-ground bond strengths from Table 5-21 in the Federal Highway Administration National Highway Institutes Micropile Design and Construction Reference Manual. The allowable loads were calculated with conservative bond ultimate strength values of 11 psi (1,584 psf) for the loose to medium sands between 12.5 and 35 feet and 14 psi (2,016 psf) for the dense sand between 43 and 48 feet. Bond ultimate strength for the upper 12.5 feet of fill and loose sands and the organic-rich silty sand and peat between approximately 35 and 43 feet were assumed to be negligible.

The use of permanent steel casing in the upper 12.5 feet of each pile is acceptable. All other temporary casing used during pile construction should be removed to achieve the assumed grout-to-ground strength used in our analysis.

The micropile capacities were determined using Allpile, version 7.8c, by Civiltech Software. Allowable bearing capacities and pullout resistance are provided below, and additional results from our analyses are provided in Appendix D.

GRAVITY GROUTED PILE ALLOWABLE LOADS		
Pile (Drilled Hole) Diameter	8 inches	10 inches
Allowable Pile Loads (Compression) (FOS = 2.5) ^a	38 kips	47 kips
Allowable Pile Loads (Tension) (FOS = 2.5) ^a	39 kips	50 kips
^a A representative of HGSA should observe pile installation operations and verify achieved embedment depths on-site. Please provide us with at least five (5) days' notice prior to any needed site observations.		

The house can be placed on individual piles that extend up to the lowest horizontal framing member. Pile spacing and design can vary with the size and type of pile utilized, and the project's structural engineer should determine the above-ground elements of the foundation system. HGSA should work with the structural engineer and architect during the foundation design process.

Grade beams at the existing ground level can be used for lateral bracing based on structural considerations. Any new slab or flatwork at existing grade under the new house should be structurally independent of and detached from the pile foundation system and/or any grade beams.

Guidance and standards for breakaway walls and alternatives for breakaway walls below the BFE are provided in TCLUO 3.510 (10) (e) and FEMA-NFIP Technical Bulletin 9/September 2021.

Prior to construction, the foundation contractor should provide a work plan for HGSA's review (also refer to Appendix E).

A representative of HGSA should observe all pile construction and installation operations to ensure that suitable materials have been encountered and address any issues that may arise during construction (Appendix E).

Any structures and all structural elements should be designed to meet the current Oregon Residential Specialty Code (ORSC) and Oregon Structural Specialty Code (OSSC) seismic requirements.

5.6 Drainage and Stormwater Management

Surface water shall be diverted from building foundations and walls to approved disposal points by grading the ground surface to slope away a minimum of 2 percent for 6 feet towards a suitable gravity outlet to prevent ponding near the structures.

All roof and footing drains shall be discharged to an approved disposal point. If water will be discharged to the ground surface, we recommend that energy dissipaters, such as splash blocks or a rock apron, be utilized at all pipe outfall locations. Water collected on the site shall not be concentrated and discharged to adjacent properties.

5.7 Erosion Control

As detailed above, vegetation should be removed only as necessary, and exposed areas should be replanted following construction. Disturbed ground surfaces exposed during the wet season (November 1 through April 30) should be temporarily planted with grasses or protected with erosion control blankets.

A temporary sediment fence should be installed around and downslope disturbed areas of the site until permanent vegetation cover can be established.

5.8 Flooding Considerations

The recommendations provided herein are based on guidelines by FEMA and Tillamook County for construction within a coastal special flood hazard area. Adverse effects of coastal flooding will be minimized when all recommendations detailed in this report are adhered to. However, the site lies in an area subject to potential ocean flooding and erosion. These risks must be accepted by the owner, future owners, developers and residents of the site.

5.9 Seismic Considerations

The structure and all structural elements should be designed to meet current Oregon Residential Specialty Code (ORSC) and Oregon Structural Specialty Code (OSSC) seismic requirements as applicable. Based on the guidelines recommended in the ORSC and OSSC, the structure should be designed to meet the following seismic parameters:

SEISMIC DESIGN PARAMETERS	
Site Class	D
Seismic Design Category	D ₂
Mapped Spectral Response Acceleration for Short Periods	$S_s = 1.295g$
Site Coefficient	$F_a = 1.200$
Design Spectral Response Acceleration at Short Periods	$S_{DS} = 1.036g$
Site-modified peak ground acceleration	$PGA_m = 0.77$

5.10 Plan Review and Site Observations

Design Review

This report pertains to a specific site and development. It is not applicable to adjacent sites, nor is it valid for types of development other than that to which it refers. Any variation from the site or development plans necessitates a geotechnical review in order to determine the validity of the design concepts evolved herein.

HGSA's review of final plans and specifications is necessary to determine whether the recommendations detailed in this report have been properly interpreted and incorporated into the design and construction documents. At the completion of our review, we will issue a letter of conformance to the client for the plans and specifications.

Construction Monitoring

Because of the judgmental character of geotechnics, as well as the potential for adverse circumstances arising from construction activity, observations during site preparation, excavation, and construction will need to be carried out by a representative of HGSA or our designate. These observations may then serve as a basis for confirmation and/or alteration of geotechnical recommendations or design guidelines presented herein to the benefit of the project.

Field observations become increasingly important should earthwork proceed during adverse weather conditions. Oregon Structural Specialty Code requires full-time inspection of deep foundation construction by a qualified professional.

Also, it is our understanding that Tillamook County now requires us to complete an additional site visit and summary letter at the end of construction to obtain an occupancy permit. Please provide us with 5 days' notice prior to the needed observations.

5.11 Worker Safety

All construction activities should be completed in accordance with OSHA standards and all State and local laws, rules, regulations, and codes.

6.0 Summary Findings and Conclusions

Our summary findings and conclusions are presented below:

6.1 Proposed Use

The proposed project consists of constructing a residential structure on the site. No new roads are anticipated. No adverse impacts are anticipated to occur on adjacent lots as a result of the development of this site, provided that the recommendations detailed in this report are adhered to.

6.2 Hazards to Life, Property, and the Environment

Hazards to life, property and the environment associated with this proposed use include flooding, ocean wave erosion, and seismic hazards. Recommendations for mitigation of liquefaction, settlement, and oceanfront flooding and erosion have been incorporated into this report. Please note that the risk of these hazards is inherent with development and construction in this part of Tillamook County and must be assumed by the owner, future owners, developers, and residents.

6.3 Off-Site Protection

Protection of the surrounding areas from any adverse effects of this development will be minimized when all the stormwater, vegetation, and erosion control recommendations detailed in this report are adhered to.

6.4 Stabilization Programs

Stabilization programs for this site include vegetation and erosion stabilization, as addressed in Sections 5.4 and 5.7 of this report, and surface water collection, as addressed in Section 5.6 of this report.

6.5 Conclusions Regarding Hazards and Adverse Environmental Effects

Adverse environmental effects will be minimized by following the recommendations detailed in this report during the design and construction of the proposed project.

6.6 Recommendations for Further Work

Assuming the recommendations provided herein are adhered to, no additional investigation or analysis is required by our firm other than review of site development plans and observation of pile installation as detailed in Section 5.10 and Appendix E of this report.

7.0 Limitations

The Oregon Coast is a dynamic environment with inherent, unavoidable risks to development. Landsliding, erosion, tsunamis, storms, earthquakes and other natural events can cause severe impacts to structures built within this environment and can be detrimental to the health and welfare of those who choose to place themselves within this environment. The client is warned that, although this report is intended to identify the geologic hazards causing these risks, the scientific and engineering communities' knowledge and understanding of geologic hazard processes is not complete. This report pertains to the subject site only and is not applicable to adjacent sites nor is it valid for types of development other than that to which it refers. Geologic conditions including materials, processes and rates can change with time and therefore a review of the site and/or this report may be necessary as time passes to assure its accuracy and adequacy.

The boring logs and related information depict generalized subsurface conditions only at these specific locations and at the particular time the subsurface exploration was completed. Soil and groundwater conditions at other locations may differ from the conditions at these boring locations. Also, the passage of time may result in a change in the soil and groundwater conditions at the site.

Our investigation was based on engineering geological reconnaissance and a limited review of published information. The data presented in this report are believed to be representative of the site. The conclusions herein are professional opinions derived in accordance with current standards of professional practice and no warranty is expressed or implied. The performance of this site during a seismic event has not been fully evaluated. If you would like us to do so, please contact us. This report may only be copied in its entirety.

8.0 Disclosure

H.G. Schlicker & Associates, Inc. and the undersigned Certified Engineering Geologist have no financial interest in the subject site, the project or the Client's organization.

9.0 References

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USDA Soil Conservation Service, and Oregon Coastal Conservation and Development Commission, 1975, Beaches and dunes of the Oregon Coast: 161 p.

It has been our pleasure to serve you. If you have any questions concerning this report, or the site, please contact us.

Respectfully submitted,

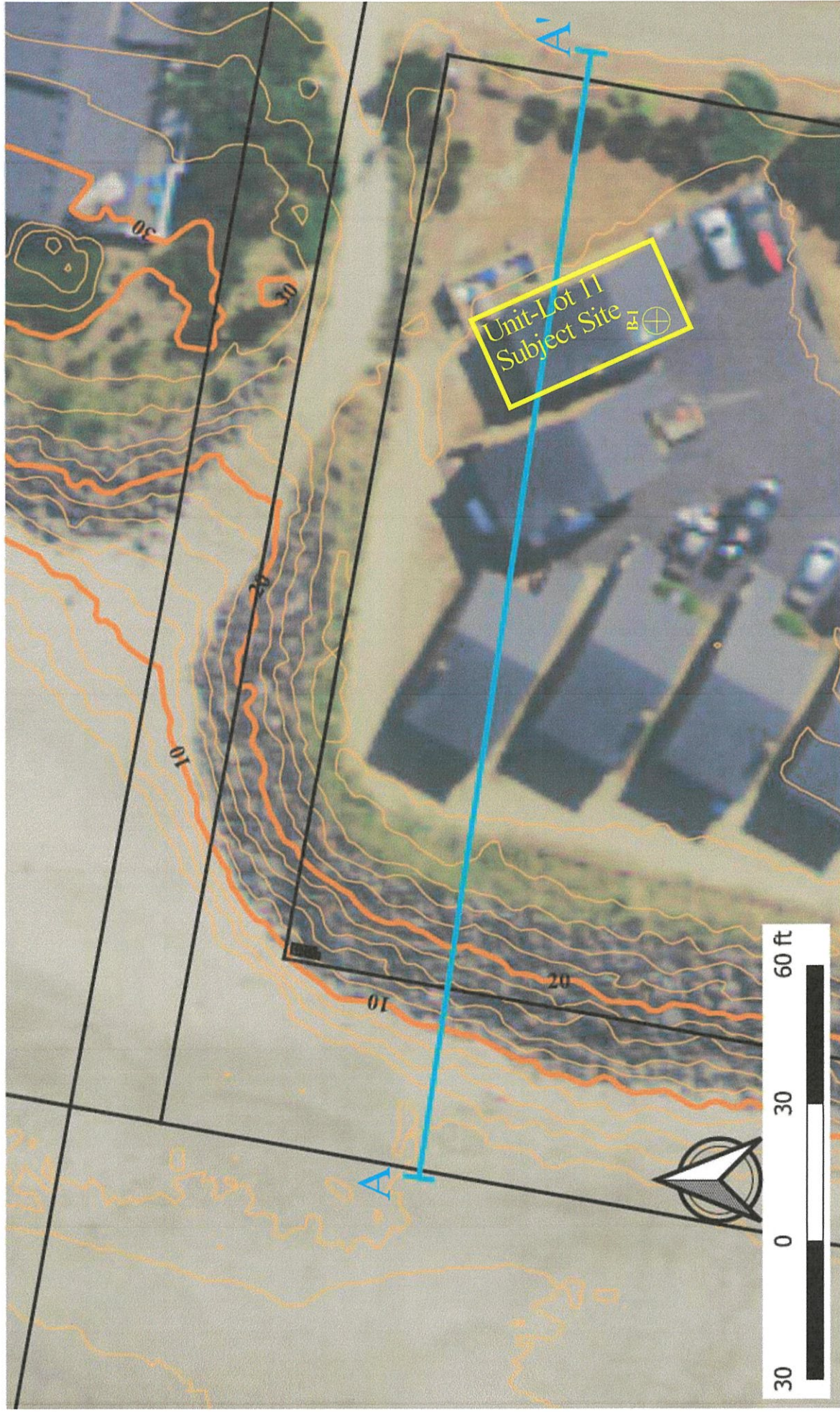
H.G. SCHLICKE AND ASSOCIATES, INC.



EXPIRES: 12/31/2024

Adam M. Large, MSc, RG, CEG
President/Principal Engineering Geologist

AML:mgb



Imagery provided by 2018 Oregon Explorer
 Topographic data derived from West Coast 2016 El Nino Lidar data from NOAA
 All locations and dimensions are approximate.

B-1 = Approximate location of drilled boring

A A' = Approximate trend of profile line

Date: 04/23/2024
 Scale: 1" = 30'

Project #Y234676B

Prepared by: MGB
 Approved by: AML

Site Topographic Map
 Tax Lot 92411, Map SS-11W-25CB Supp. No. 2, Lot-Unit 11
 48060 Breakers Blvd, Neskowin, Tillamook County, Oregon

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Figure 1

A

North 83° West

A'

Approximate Location
Of Western Boundary
Condominium Property

Approximate Location
Of Eastern Boundary
Condominium Property

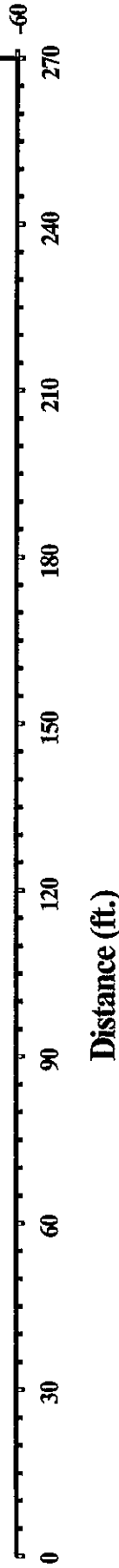
Approximate Location
of Unit-Lot 11
Subject
Site

Beach

Breakers Condominium Property
Other Individual Lots and Units Not Shown

Breakers Blvd

SPT	Depth	
N = 11	7.5'	Loose to Medium Dense Sands
N = 18	12.5'	Approximate Groundwater Level
N = 31	25'	Medium Dense to Dense Sands
N = 7	37.5'	Soft, Organic Rich, Silty Sands and Peat
N = 22	40'	
N = 39	45'	
N = 48	50'	Very Dense Sands
50 Blows for 6"		
60'		



Distance (ft.)

Date: 04/23/2024

Scale: 1" = 30'

Prepared by: MGB

Approved by: AML

Project #Y234676B

Slope Profile, A-A'

Tax Lot 92411, Map 5S-11W-25CB Supp. No. 2

Lot-Unit 11, 48060 Breakers Blvd., Neskowin, Tillamook County, Oregon

= Geologic contact, queried where inferred.
All dimensions, elevations and locations are approximate.
Slope profile derived from West_Coast_2016_EI_Nino Lidar data from NOAA.

H.G. Schlicker & Associates, Inc.

Figure 2

Project #Y234676B

Appendix A
- Site Photographs -



Photo 1 – View of the foundation of the previous house at the site after demolition.



Photo 2 – View of the drill rig set up at the location of Boring B-1.



Photo 3 – View of the loose to medium dense, fine-grained sand recovered between 10 to 11.5 feet depth in Boring B-1.



Photo 4 – View of the dense, silty sand recovered between 25 to 26.5 feet depth in Boring B-1.



Photo 5 – View of the dense, medium to coarse-grained sand with shell fragments recovered between 30 to 31.5 feet depth in Boring B-1.



Photo 6 – View of the soft/loose, clayey, silty sand with decaying wood fragments recovered between 37 to 38.5 feet depth in Boring B-1.



Photo 7 – View of the very dense silty sand with decaying wood fragments recovered between 50 to 51.5 feet depth in Boring B-1.



Photo 8 – Close-up view of the very dense, fine-grained, clean sand recovered between 60 to 61.5 feet depth in Boring B-1.

Project #Y234676B

Appendix B
- Boring Logs -

BORING LOG EXPLANATION

UNIFIED SOIL CLASSIFICATION SYSTEM (USCS), ASTM D2487			
MAJOR DIVISIONS		GROUP SYMBOL*	GROUP NAME
COARSE-GRAINED SOILS	GRAVELS	GW	Well-graded gravel
		GP	Poorly-graded gravel
		GM	Silty gravel
		GC	Clayey gravel
	SANDS	SW	Well-graded sand
		SP	Poorly-graded sand
		SM	Silty sand
		SC	Clayey sand
FINE-GRAINED SOILS	SILTS AND CLAYS Liquid Limit Less than 50	ML	Silt with low plasticity
		CL	Clay with low plasticity
		OL	Organic silt or organic clay with low plasticity
	SILTS AND CLAYS Liquid Limit 50 or more	MH	Silt with high plasticity
		CH	Clay with high plasticity
		OH	Organic silt or organic clay with high plasticity
HIGHLY ORGANIC SOILS		PT	Peat, Muck, and other highly organic soils.

* NOTE: the symbol RK (not within the USCS system) is used in our logs to denote rock materials.

SAMPLE TYPE

SPT = Standard Penetration Test and Split-Barrel Sampler (ASTM D1586); 1 3/8-inch I.D.

2.5" = Modified 2.5-inch I.D. Split-Barrel Sampler.

Shelby = Thin-Walled Tube Sampler (ASTM D1587); 3-inch O.D.

Sampling Interval



= No sample attempted



= Location of retrieved sample.



= Location where sample was attempted with no recovery.

Standard Penetration Test (SPT)

Blows per 6" = Number of blows required to drive SPT sampler 6 inches using a 140 Lb. hammer dropped from a height of 30 inches (recorded in three 6" intervals).

N = Standard Penetration Resistance: Number of blows (N) required to drive SPT sampler 12 inches using a 140 Lb. hammer dropped from a height of 30 inches (ASTM D1586).

P = Indicates that SPT sampler was pushed 6 inches with only the weight of the hammer or drill stem (N = 0)

Location: Neskowin, Oregon					Job Name: Breakers Condo					Project #: Y234676B					
Drilling Company: Western States					Driller: Shane					Boring #: B1					
Drill Rig: CME-75			Solid Auger 4"			Hollow Auger			Rotary Wash			Sheet 1 of 4			
Sampler Type:			2.5" Split Barrel			2.8" Shelby Tube			SPT			Drilling Time			
Drive Wt.			140 Lbs			Fall:			30 In.			Start		Finish	
Water Level			Depth (ft.)			Time			Date			Time: ~10am		Time: ~1pm	
			~12.5 to ~15												
												Date: 2/15/2024		Date: 2/15/2024	
Field Personnel: M. Bordial					Casing Depth: (Ft.)					Ground Elevation: ~26 (Ft.)					
Blows per 6"			N	Sample Type	Depth (Ft.)		USCS	Description							
					0		FILL	Loose fill sand in area of previous foundation.							
3	3	4	7	SPT	2.5		SP	Sand; medium brown with dark grains, moist, loose, medium grained. ~8" recovered in split spoon.							
4	4	6	10	SPT	5		SP	Sand; medium brown, moist, loose to medium dense, medium grained. ~8" recovered in split spoon.							
4	5	6	11	SPT	7.5		SP	Sand; medium brown, moist, loose to medium dense, medium grained. ~8" recovered in split spoon.							
5	5	5	10	SPT	10		SP	Sand; gray-brown, moist, loose to medium dense, fine grained. ~6.5" recovered in split spoon.							
6	8	10	18	SPT	12.5		SP	Sand; medium brown with dark grains, wet, medium dense, fine to medium grained. ~9" recovered in split spoon.							
								Groundwater							
10	11	12	23	SPT	15		SM	Silty Sand; brown with dark grains, wet to saturated, medium dense, silt to fine grained sand.							
9	14	18	32	SPT	17.5		SP	Sand; medium brown, wet to saturated, dense, medium grained. ~10" recovered in split spoon.							

Location: Neskowin, Oregon				Job Name: Breakers Condo				Project #: Y234676B			
Drilling Company: Western States				Driller: Shane				Boring #: B1			
Drill Rig: CME-75		Solid Auger 4"		Hollow Auger		Rotary Wash		Sheet 2 of 4			
Sampler Type:		2.5" Split Barrel		2.8" Shelby Tube		SPT		Drilling Time			
Drive Wt.		140 Lbs		Fall:		30 In.		Start		Finish	
Water Level		Depth (ft.)		Time		Date		Time: ~10am		Time: ~1pm	
		~12.5 to ~15									
Field Personnel: M. Bordal				Casing Depth: (Ft.)				Ground Elevation: ~26 (Ft.)			
Blows per 6"			N	Sample Type	Depth (Ft.)		USCS	Description			
10	14	18	32	SPT	20		SP	Sand; brown with dark minerals, wet to saturated, dense. ~9" recovered in split spoon.			
					22.5						
10	15	16	31	SPT	25		SM	Silty Sand; brown, wet to saturated, dense. Silt to medium grained with a few ~1/4" pebbles and very coarse grains. ~10" recovered in split spoon.			
					27.5						
				GRAB			GW-Shells	Pebbles and Shell fragments coming up in drilling fluid screen			
15	17	20	37	SPT	30		SW	Sand; dark gray, wet to saturated, dense. Medium to coarse grained. With shell fragments and rock fragments. ~10" recovered in split spoon.			
					32.5						
				GRAB	35		PT	Peat, fine organics, and shell fragments. Sulfur Smell			
2	3	4	7	SPT	37.5		PT/SM	Organic Rich Clayey Silt and Silty Sand; dark gray, moist, soft/loose. Decaying wood debris and organics. ~15" recovered in split spoon.			

Location: Neskowin, Oregon				Job Name: Breakers Condo				Project #: Y234676B			
Drilling Company: Western States				Driller: Shane				Boring #: B1			
Drill Rig: CME-75		Solid Auger 4"		Hollow Auger		Rotary Wash		Sheet 3 of 4			
Sampler Type:		2.5" Split Barrel		2.8" Shelby Tube		SPT		Drilling Time			
Drive Wt.		140 Lbs		Fall:		30 In.		Start		Finish	
Water Level		Depth (ft.)		Time		Date		Time: ~10am		Time: ~1pm	
		~12.5 to ~15									
								Date: 2/15/2024		Date: 2/15/2024	
Field Personnel: M. Bordal				Casing Depth: (Ft.)				Ground Elevation: ~26 (Ft.)			
Blows per 6"			N	Sample Type	Depth (Ft.)		USCS	Description			
5	10	12	22	SPT	40		SM	Silty Sand; dark gray, wet to saturated, loose/soft. Silt to fine sand. No sulfur smell, fine organics, and ~1" wood fragment. ~15" recovered in split spoon.			
					42.5			Wood debris, organics, clayey peat coming up on drilling fluid			
15	21	18	39	SPT	45		SM	Silty Sand; dark gray, wet to saturated, dense. Silt to fine sand. No organics. ~13" recovered in split spoon.			
					47.5						
12	20	28	48	SPT	50		SM	Silty Sand; dark gray, wet to saturated, dense. Silt to fine sand. Wood fragment near bottom of sampler. ~11" recovered in split			
					52.5						
35	50		50+	SPT	55		SP	Sand; medium gray, wet to saturated, very dense. Fine grained, no silt or organics. ~10" recovered in split spoon.			



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Project #Y234676B

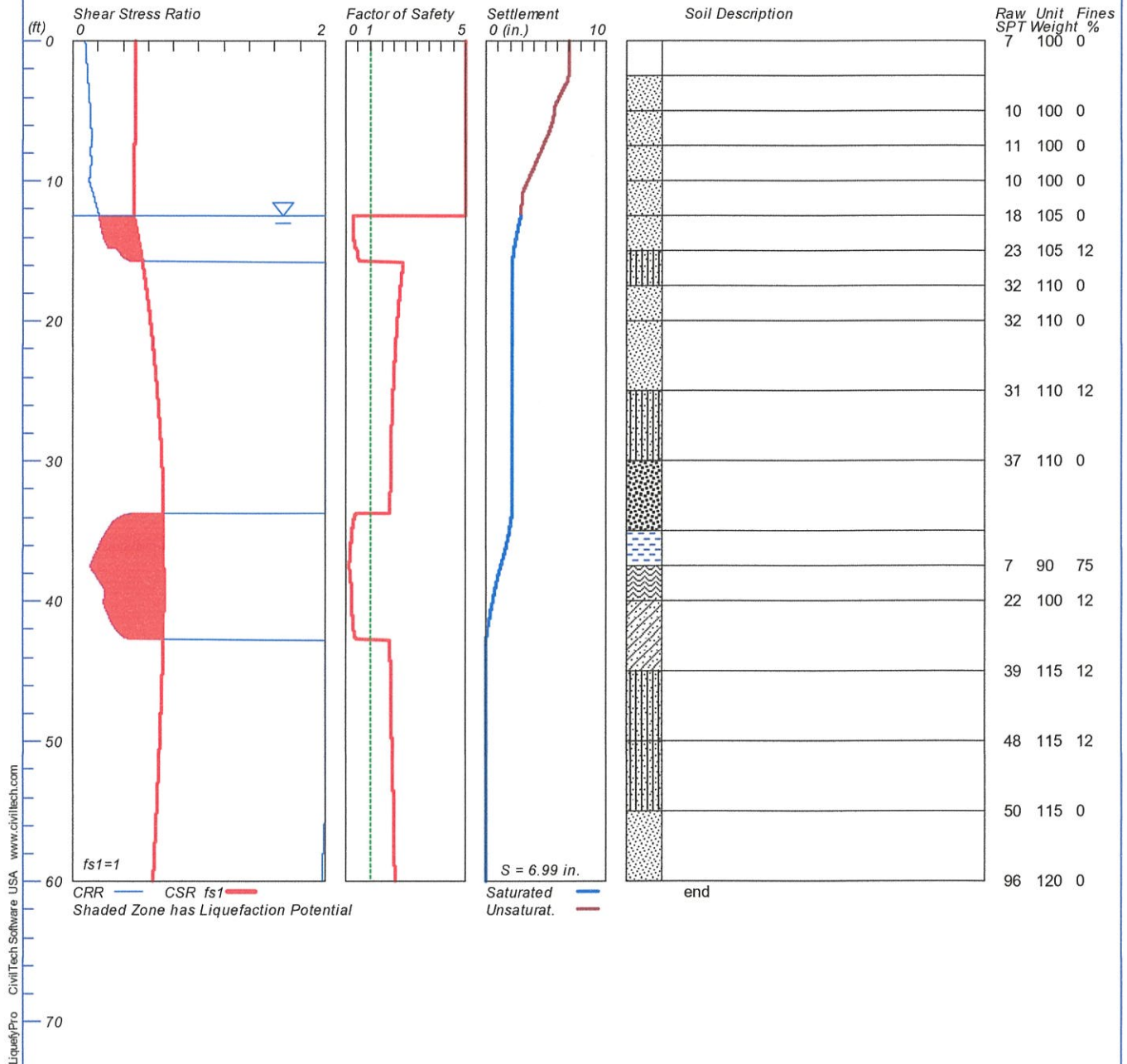
Appendix C
- Liquefaction Analysis-

LIQUEFACTION ANALYSIS

Y234676B

Hole No.=B-1 Water Depth=12.5 ft Surface Elev.=26

Magnitude=8.8
Acceleration=.77g



Project #Y234676B

Appendix D
- Pile Analysis -

Project #Y234676B

- 8-inch Micropile -

FOUNDATION PROFILE & SOIL CONDITIONS

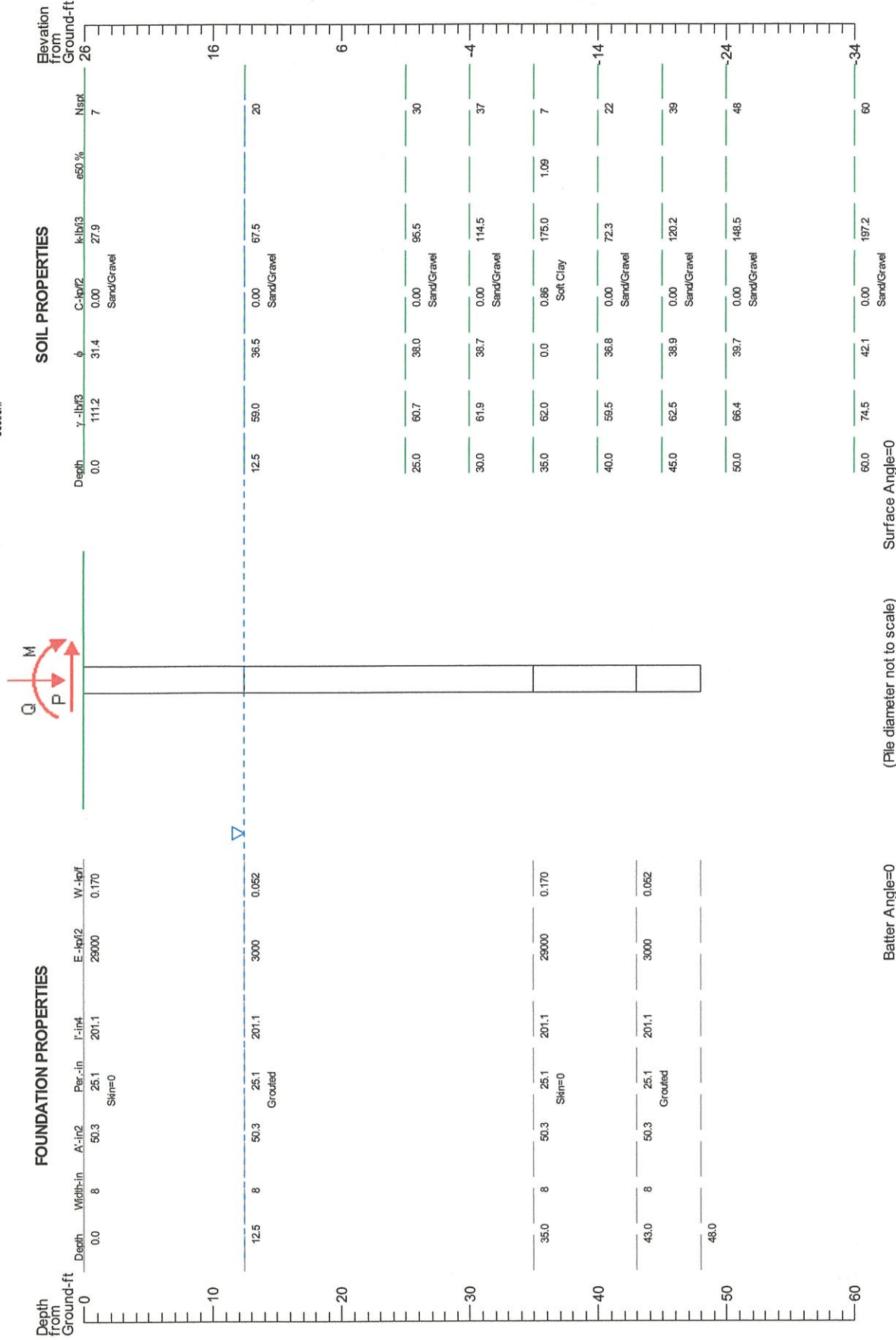
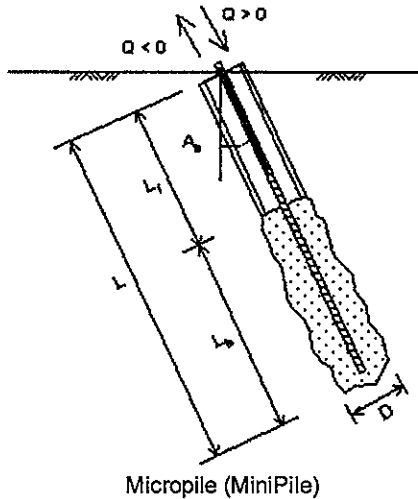


Figure 1

VERTICAL ANALYSIS

Figure 1



Loads:

Load Factor for Vertical Loads= 1.0
Load Factor for Lateral Loads= 1.0
Loads Supported by Pile Cap= 0 %
Shear Condition: Static

Vertical Load, $Q = 25.0$ -kp
Shear Load, $P = 0.0$ -kp
Moment, $M = 0.0$ -kp-f

Profile:

Pile Length, $L = 48.0$ -ft
Top Height, $H = 0$ -ft
Slope Angle, $As = 0$
Batter Angle, $Ab = 0$

Soil Data:

Depth -ft	Gamma -lb/f3	Phi	C -kp/f2	K -lb/f3	e50 or Dr %	Nspt
0	111.2	31.4	0.00	27.9	27.34	7
12.5	59.0	36.5	0.00	67.5	54.06	20
25	60.7	38.0	0.00	95.5	65.80	30
30	61.9	38.7	0.00	114.5	72.63	37
35	62.0	0.0	0.86	175.0	1.09	7
40	59.5	36.8	0.00	72.3	56.25	22
45	62.5	38.9	0.00	120.2	74.55	39
50	66.4	39.7	0.00	148.5	83.29	48
60	74.5	42.1	0.00	197.2	95.94	60

Pile Data:

Depth -ft	Width -in	Area -in2	Per. -in	I -in4	E -kp/f2	Weight -kp/f
0.0	8	50.3	25.1	201.1	29000	0.170
12.5	8	50.3	25.1	201.1	3000	0.052
35.0	8	50.3	25.1	201.1	29000	0.170
43.0	8	50.3	25.1	201.1	3000	0.052
48.0						

Vertical capacity:

Weight above Ground= 0.00 Total Weight= 4.15-kp *Soil Weight is not included
Side Resistance (Down)= 95.263-kp Side Resistance (Up)= 95.263-kp
Tip Resistance (Down)= 0.000-kp Tip Resistance (Up)= 0.000-kp
Total Ultimate Capacity (Down)= 95.263-kp Total Ultimate Capacity (Up)= 99.415-kp
Total Allowable Capacity (Down)= 38.105-kp Total Allowable Capacity (Up)= 39.766-kp
OK! Qallow > Q

Settlement Calculation:

At $Q = 25.00$ -kp Settlement= 0.02702-in
At Xallow= 1.00-in Qallow= 99999.00000-kp

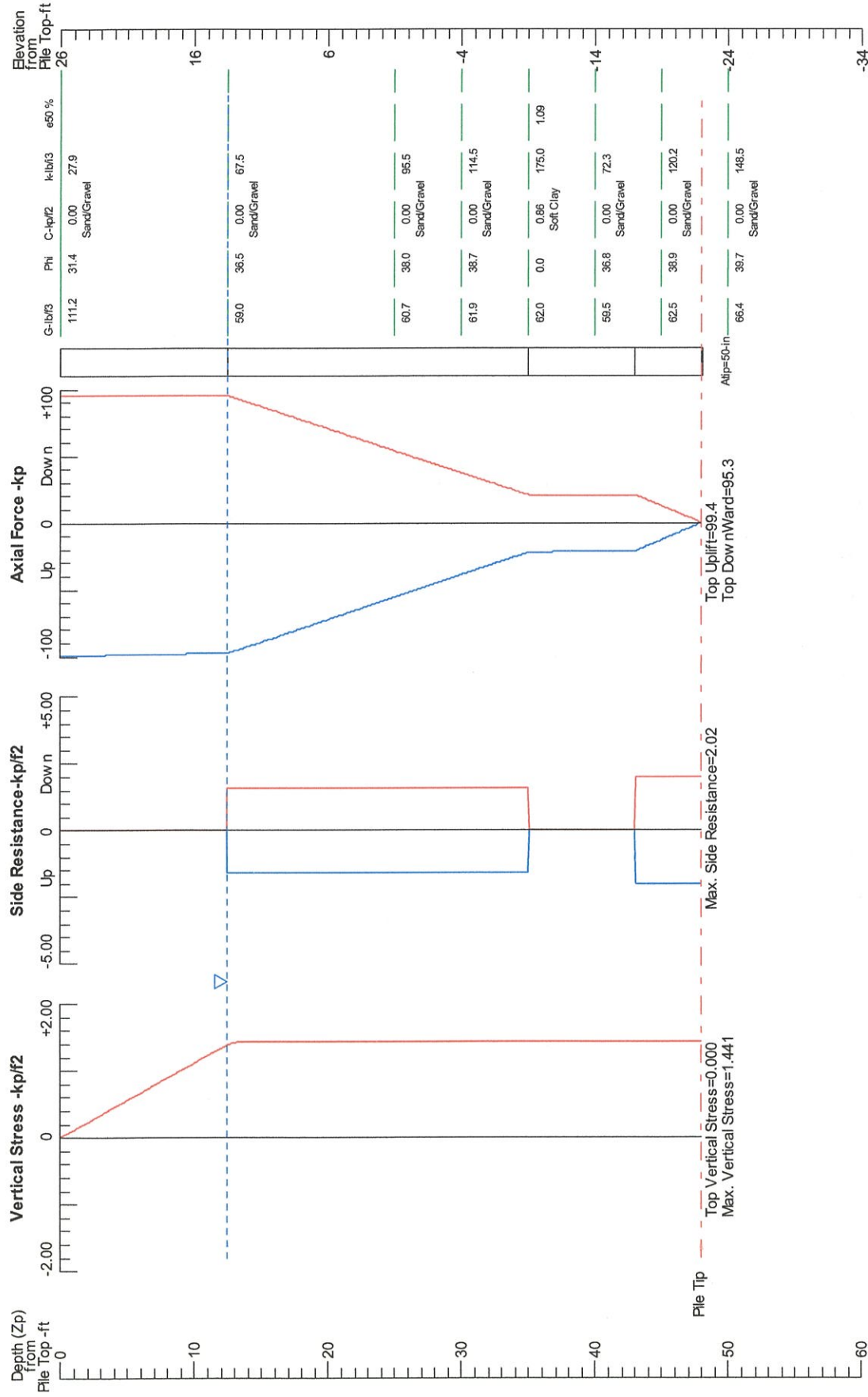
Note: If the program cannot find a result or the result exceeds the upper limit. The result will be displayed as 99999.



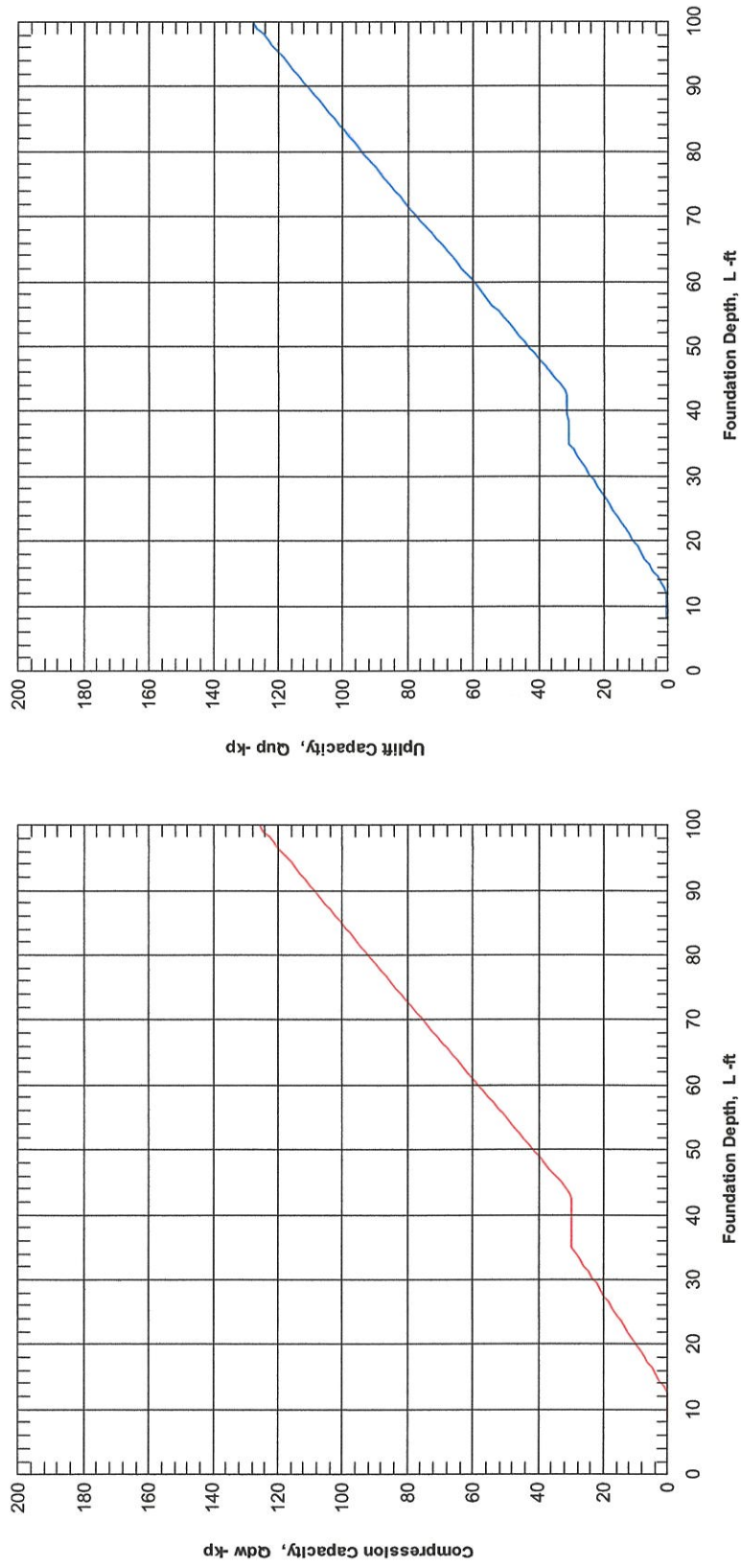
**CivilTech
Software**

Y234676B
Breakers 8inch

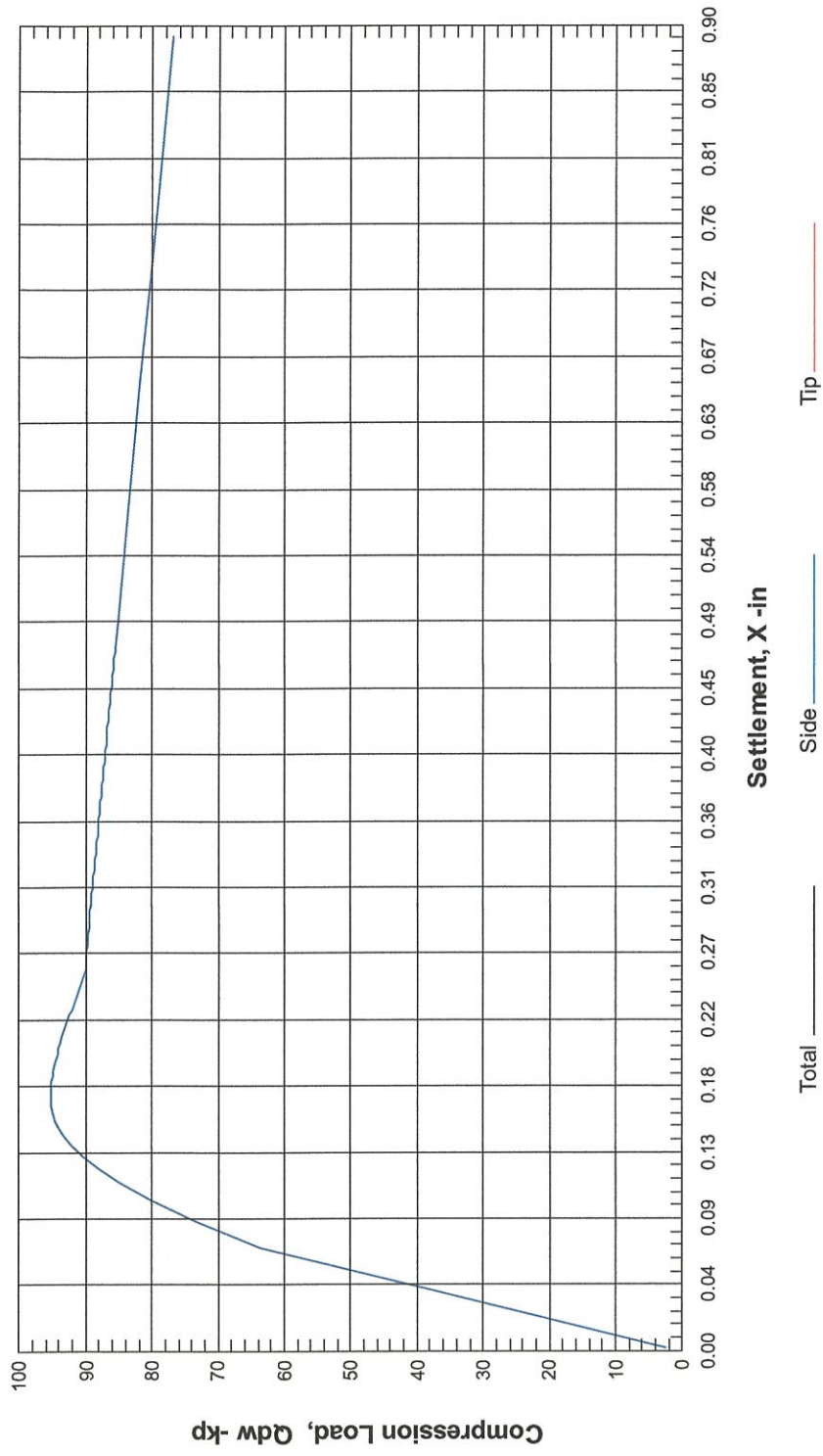
SOIL STRESS, SIDE RESISTANCE, & AXIAL FORCE vs DEPTH Based on Ultimate Load Condition



ALLOWABLE CAPACITY vs FOUNDATION DEPTH



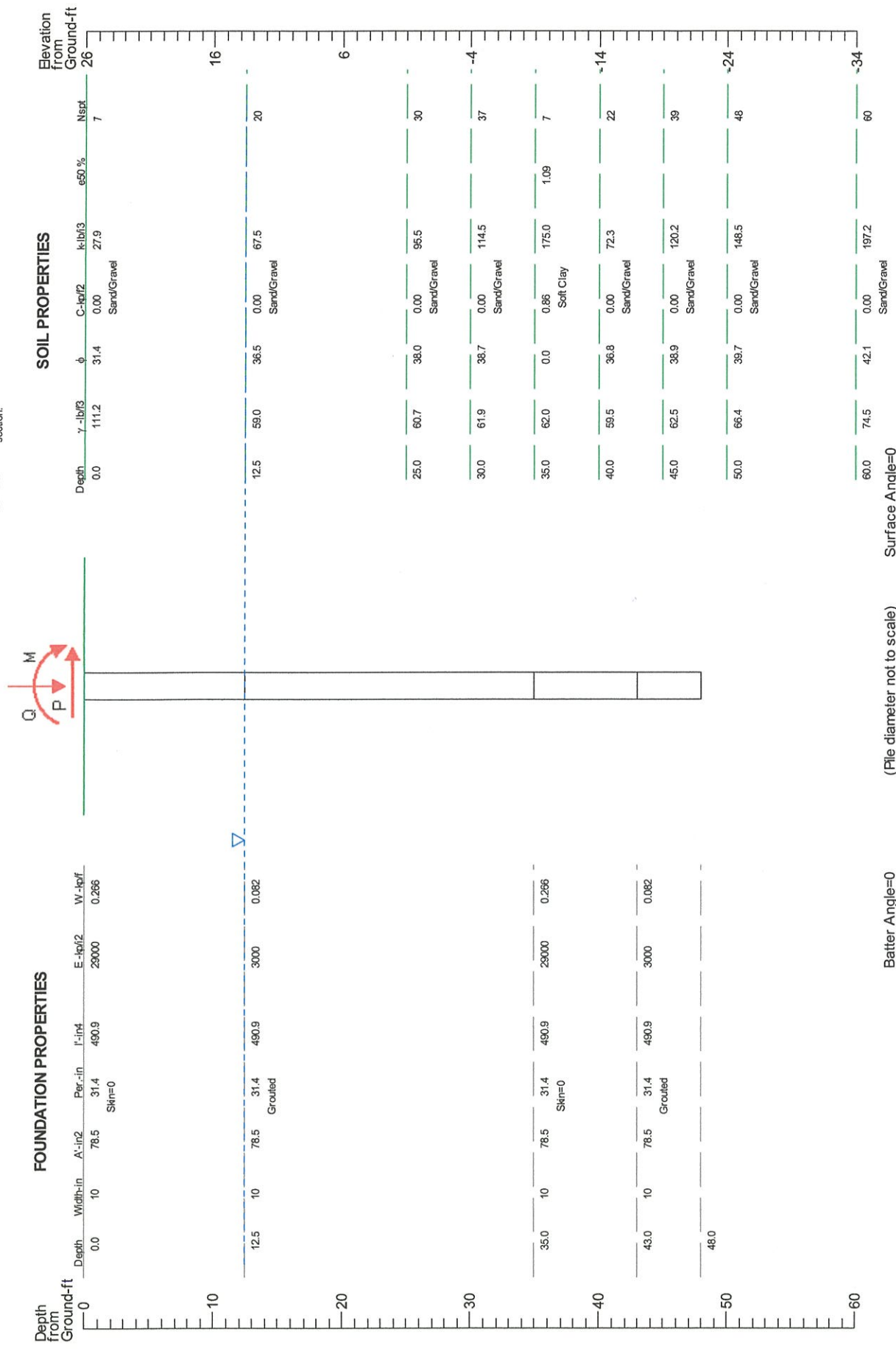
Vertical Load vs. Settlement



Project #Y234676B

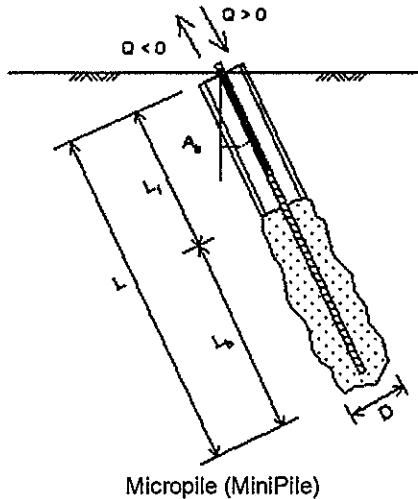
- 10-inch Micropile -

FOUNDATION PROFILE & SOIL CONDITIONS



VERTICAL ANALYSIS

Figure 1



Loads:

Load Factor for Vertical Loads= 1.0
Load Factor for Lateral Loads= 1.0
Loads Supported by Pile Cap= 0 %
Shear Condition: Static

Vertical Load, $Q = 25.0$ -kp
Shear Load, $P = 0.0$ -kp
Moment, $M = 0.0$ -kp-f

Profile:

Pile Length, $L = 48.0$ -ft
Top Height, $H = 0$ -ft
Slope Angle, $As = 0$
Batter Angle, $Ab = 0$

Soil Data:

Depth -ft	Gamma -lb/f3	Phi	C -kp/f2	K -lb/f3	e50 or Dr %	Nspt
0	111.2	31.4	0.00	27.9	27.34	7
12.5	59.0	36.5	0.00	67.5	54.06	20
25	60.7	38.0	0.00	95.5	65.80	30
30	61.9	38.7	0.00	114.5	72.63	37
35	62.0	0.0	0.86	175.0	1.09	7
40	59.5	36.8	0.00	72.3	56.25	22
45	62.5	38.9	0.00	120.2	74.55	39
50	66.4	39.7	0.00	148.5	83.29	48
60	74.5	42.1	0.00	197.2	95.94	60

Pile Data:

Depth -ft	Width -in	Area -in2	Per. -in	I -in4	E -kp/f2	Weight -kp/f
0.0	10	78.5	31.4	490.9	29000	0.266
12.5	10	78.5	31.4	490.9	3000	0.082
35.0	10	78.5	31.4	490.9	29000	0.266
43.0	10	78.5	31.4	490.9	3000	0.082
48.0						

Vertical capacity:

Weight above Ground= 0.00 Total Weight= 6.52-kp *Soil Weight is not included
Side Resistance (Down)= 119.174-kp Side Resistance (Up)= 119.175-kp
Tip Resistance (Down)= 0.000-kp Tip Resistance (Up)= 0.000-kp
Total Ultimate Capacity (Down)= 119.174-kp Total Ultimate Capacity (Up)= 125.691-kp
Total Allowable Capacity (Down)= 47.670-kp Total Allowable Capacity (Up)= 50.276-kp
OK! Qallow > Q

Settlement Calculation:

At $Q = 25.00$ -kp Settlement= 0.01932-in
At $X_{allow} = 1.00$ -in Qallow= 97.14198-kp

Note: If the program cannot find a result or the result exceeds the upper limit. The result will be displayed as 99999.

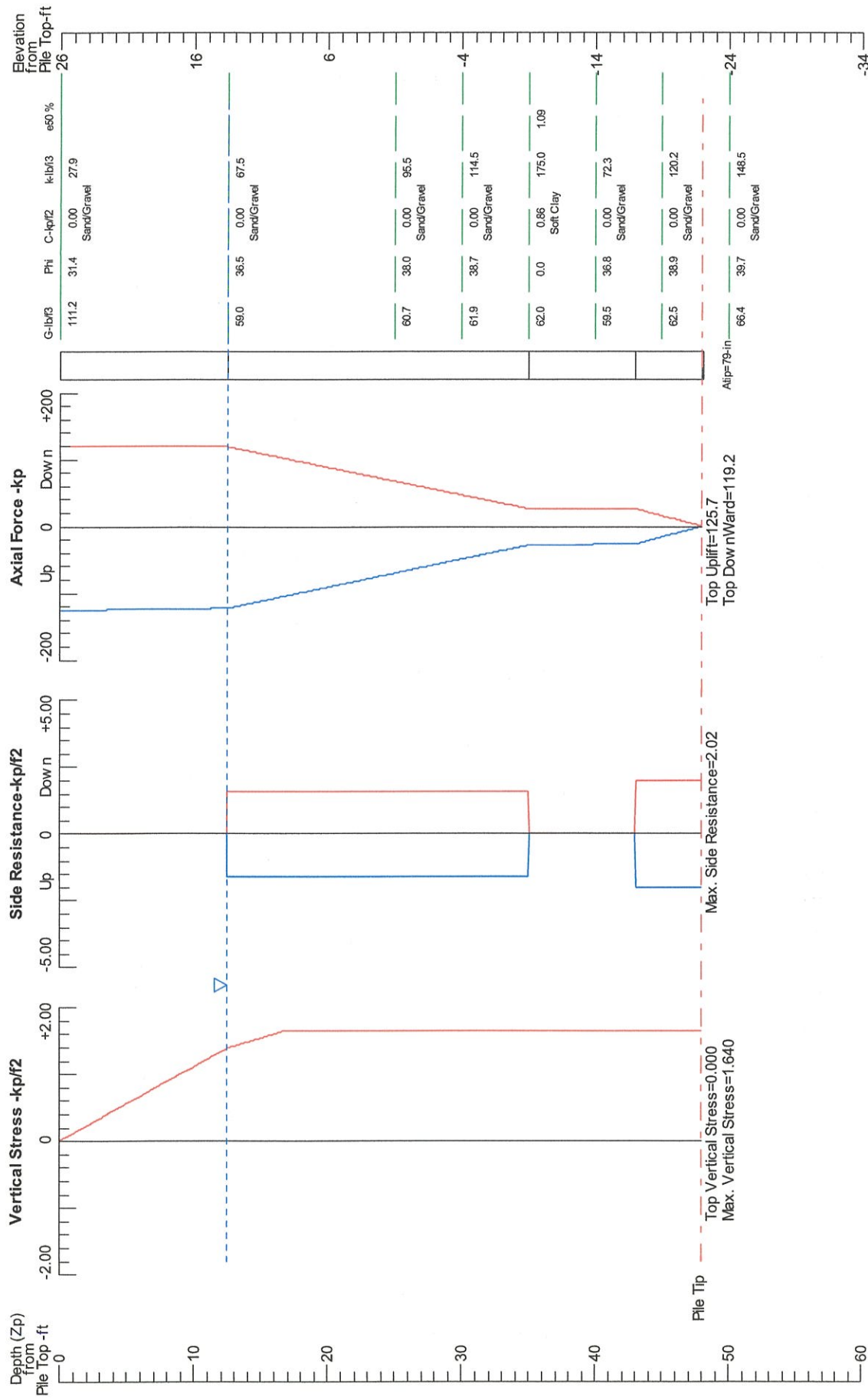


**CivilTech
Software**

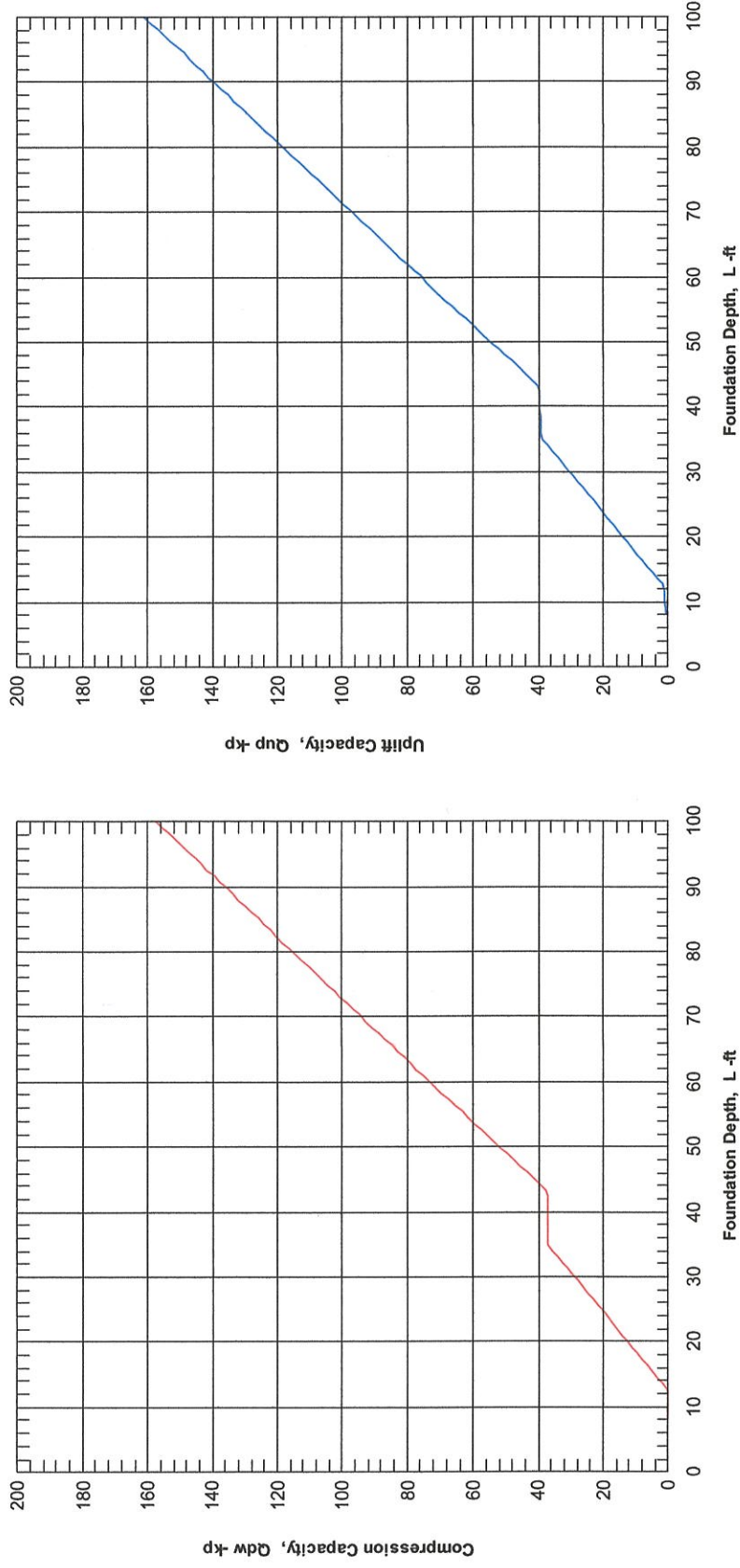
Y234676B
Breakers 10inch

SOIL STRESS, SIDE RESISTANCE, & AXIAL FORCE vs DEPTH

Based on Ultimate Load Condition



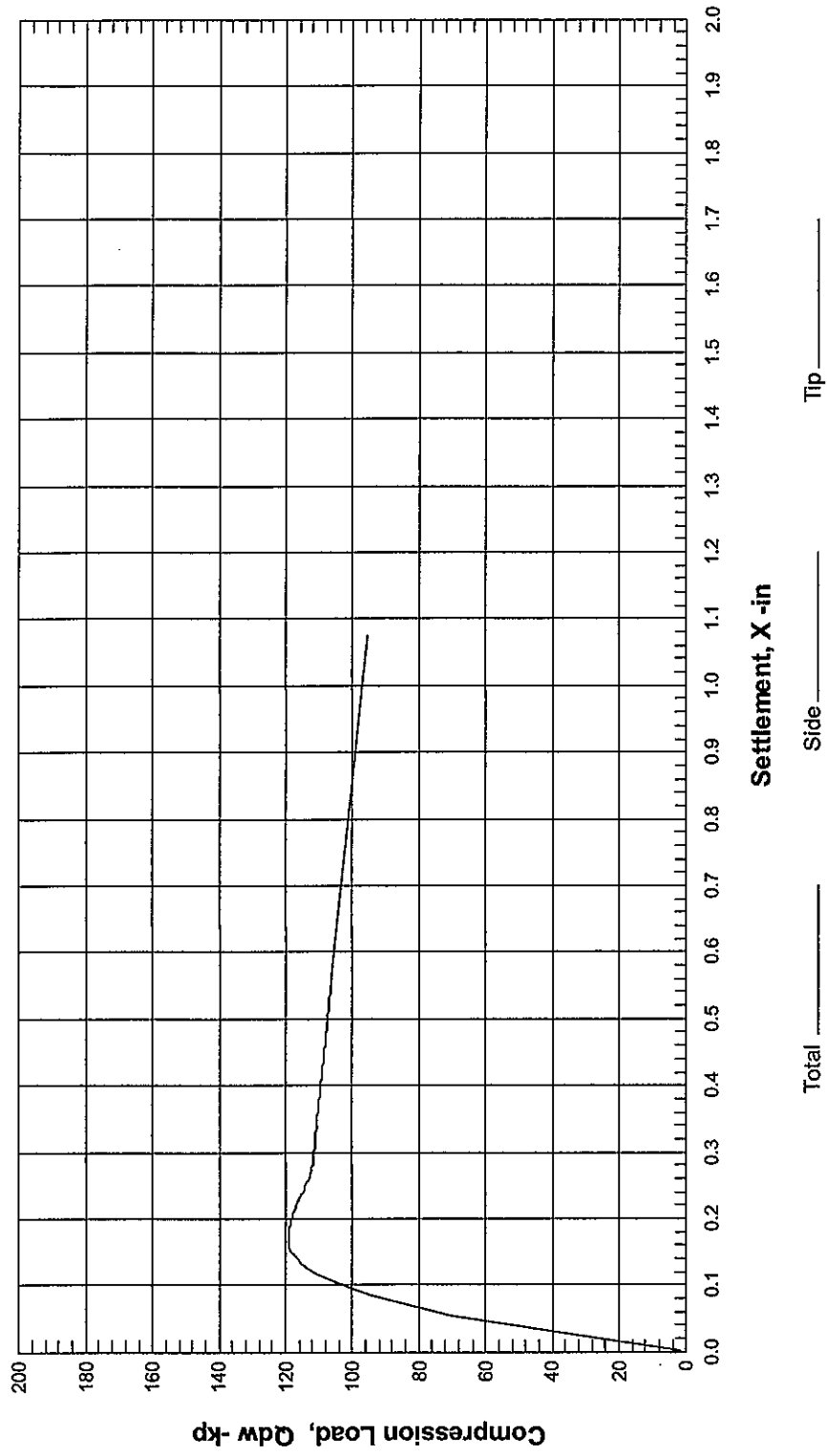
ALLOWABLE CAPACITY vs FOUNDATION DEPTH



Y234676B
Breakers 10inch

Figure 1

Vertical Load vs. Settlement



Project #Y234676B

Appendix E
- Checklist of Recommended Plan Reviews and Site Observations -

Project #Y234676B

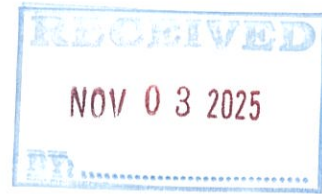
APPENDIX E
Checklist of Recommended Plan Reviews and Site Observations
To Be Completed by a Representative of H.G. Schlicker & Associates, Inc.

Item No.	Date Done	Procedure	Timing
1*		Review site development, foundation, drainage, grading and erosion control plans.	Prior to permitting and construction.
2*		Observe Pile installation and testing operations.	During installation. **
3*		Summary Site Observation Visit	After construction before occupancy**

* There will be additional charges for these services.

** Please provide us with at least 5 days' notice prior to all site observations.

**STRUCTURAL ANALYSIS
FOR**



Ready to Market

**Lodging Residence
48060 Breakers Blvd
Neskowin, OR 97149**

March 2, 2025



Expires: December 31, 2026



9376 W. Wildbranch Dr.
Boise, ID. 83669

PHONE: (208) 999-2553
EMAIL: Jockmacgregor220@Gmail.com

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Appendix A	Force Transfer Around Openings Worksheet
Appendix B	Simpson Wood Strong Wall Catalog Pages

Design Information

Code: 2021 International Building Code
2022 Oregon Structural Specialty Code (OSSC)
ASCE 7-16 Minimum Design Loads for Buildings and Other Structures

Gravity Loads:

Roof Dead Load	15 psf	Floor Dead Load	12 psf
Roof Live Load	20 psf	Floor Live Load	40 psf
Snow	25 psf		

Wind Load Calculations:

Wind Speed

$$V = 135 \text{ mph}$$

$$V_{asd} = 105 \text{ mph}$$

$$K_d = 0.85$$

Table 26.6-1

MWFRS

Importance Factor

$$I = 1.0$$

Risk Category

II

Exposure Category and Velocity Pressure Exposure Coefficient

Exposure Category = D

$$K_z = 1.12$$

Table 27.3-1

25 ft

Topographic Effect

Does Site meet requirements of Section 26.8.1 of ASCE 7-10?

- 1) Yes
- 2) No
- 3) Yes

$$K_{zt} = 1.00$$

Velocity Pressure

$$q_s = 0.00256 K_z K_{zt} k_d k_e V^2$$

$$q_s = 26.86925$$

Net Pressure Coefficient

	+	-
$C_{net} =$	0.43	0.73
$C_{net} =$	-0.51	-0.21

	+	-
$C_{net} =$	-0.05	0.25
$C_{net} =$	-0.66	-0.35

Windward

Table 1609.6.2

Leeward

Table 1609.6.2

Design Equation

$$P_{net} = q_s G C_{net}$$

Equation 16-35

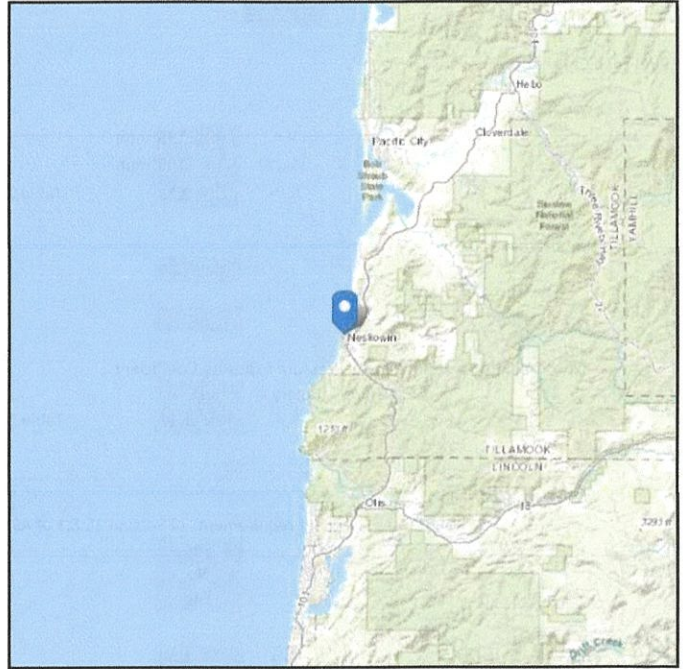
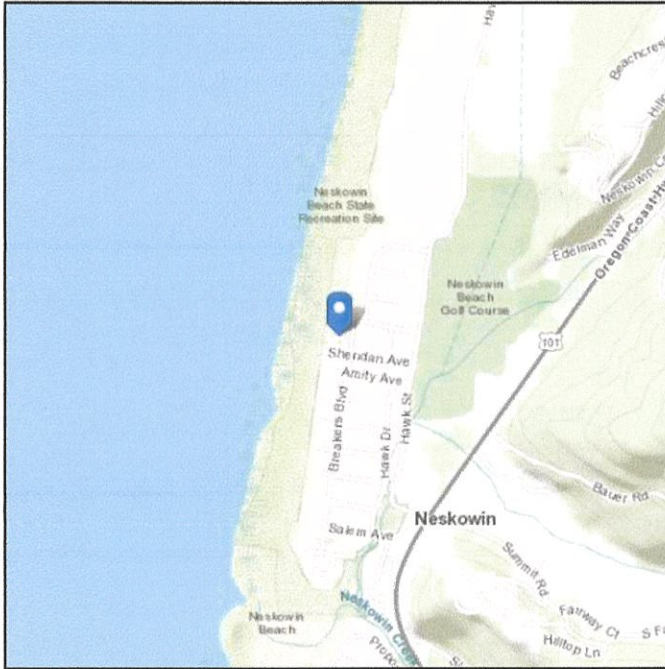
Walls			Roof		
	+	-		+	-
$P_{net} =$	11.55 psf	19.61 psf	$P_{net} =$	-1.34 psf	6.72 psf
$P_{net} =$	-13.70 psf	-5.64 psf	$P_{net} =$	-17.73 psf	-9.40 psf
Minimum 16 psf-ASCE7-16			Minimum 8 psf-ASCE7-16		
Total $P_{net} =$	25.26 psf	25.26 psf	Total $P_{net} =$	16.39 psf	16.12 psf

ASCE Hazards Report

Address:
48060 Breakers Blvd
Neskowin, Oregon
97149

Standard: ASCE/SEI 7-16
Risk Category: II
Soil Class: D - Stiff Soil

Latitude: 45.107918
Longitude: -123.984017
Elevation: 26.482203721446236 ft
(NAVD 88)



Site Soil Class: D - Stiff Soil

Results:

S_S :	1.295	S_{D1} :	N/A 0.769
S_1 :	0.675	T_L :	16
F_a :	1	PGA :	0.642
F_v :	N/A 1.7	PGA_M :	0.706
S_{MS} :	1.295	F_{PGA} :	1.1
S_{M1} :	N/A 1.148	I_e :	1
S_{DS} :	0.864	C_v :	1.359

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

Data Accessed: Sun Mar 02 2025

Date Source: [USGS Seismic Design Maps](#)

The ASCE Hazard Tool is provided for your convenience, for informational purposes only, and is provided “as is” and without warranties of any kind. The location data included herein has been obtained from information developed, produced, and maintained by third party providers; or has been extrapolated from maps incorporated in the ASCE standard. While ASCE has made every effort to use data obtained from reliable sources or methodologies, ASCE does not make any representations or warranties as to the accuracy, completeness, reliability, currency, or quality of any data provided herein. Any third-party links provided by this Tool should not be construed as an endorsement, affiliation, relationship, or sponsorship of such third-party content by or from ASCE.

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Seismic Load:

Site Class

D

$S_s = 1.2950$

$S_1 = 0.6750$

$S_{DS} = 0.864$

$S_{D1} = 0.769$

Seismic Design Category

D2

II

Seismic Use Group

Per Geotech Report (Project #Y234676B)

Equivalent Lateral Force Procedure

Bearing Wall System

w/ structural wd panels

$R = 6.5$

Seismic Importance Factor

$I_E = 1.00$

$T = 0.1N = 0.2$

$N = \# \text{ of stories}$

Seismic Redistribution

Consider a 1 foot width section front to back of the structure as representative seismic

Building depth = 30 ft

$V = C_s W$

$C_s = S_{DS} / (R/I_E) = 0.133$

$C_{s \text{ max}} = S_{D1} / T (R/I_E) = 0.592$

$C_{s \text{ min}} = 0.044 S_{DS} I_E = 0.038$

$C_{s \text{ Design}} = 0.133$

$R = 6.5$

perpendicular

Level	Element	Load (psf)	Weight Depth (ft)	#	(lbs)	Height (ft)	$W_i h_i$ (ft lb)	$W_i h_i / \sum W_i h_i$
roof	roof	15	32	1	480	20	13200	0.6634
	walls	10	4.5	4	180			
second	floor	12	32	1	384	9	6696	0.3366
	walls	10	9	4	360			
					744			

$V = C_s W = 0.132923 \times 1404 = 186.624$

V		$\sum W_i h_i$		C_{s3}		C_{s2}		$E' \text{ perp}$	
$V_2 =$	0.6634	186.6	=	124	lbs	$C_{s3}' =$	124	ASD	1
$V_1 =$	0.3366	186.6	=	63	lbs	$C_{s2}' =$	63	W	660
									744
									1
									1
									0.188
									0.084

Lateral Loads

Roof
2nd

Seismic 2 Story
0.188 E
0.084 E

Wind Perp
25 psf
25 psf

Gridline 1													
Wind Load				Seismic Load									
Level	Unit Load	Trib Width (ft)	Wind Loads (lbs)	Roof/Floor DL (psf)	Wall DL (psf)	Trib Length (ft)	Trib Width (ft)	Wall Ht (ft)	# of Walls	Wt rf/floor (lbs)	Wt Wall (lbs)	Wt total (lbs)	Seismic E (lbs)
Roof	25	2.00	101	15	10	34.00	2.00	8.00	0	1020	0	1020	0.188
Roof	25	20.00	1515	15	10	34.00	20.00	8.00	4	5100	1600	6700	0.188
2nd	25	0.00	0	12	10	30.00	0.00	8.00	0	0	0	0	0.084
2nd	25	20.00	2021	12	10	30.00	20.00	8.00	3	3600	2400	6000	0.084
CHECKED													
Level	Wind (lbs)	Wind Total (lbs)	Seismic (lbs)	Seismic Total (lbs)	Control	Wall 1	Wall 2	Wall 3	Wall 4	Wall 5	Wall 6	Total Wall (ft)	Shear (plf)
Roof	1616	1616	1014	1014	1616	30.00	0.00	0.00	0.00	0.00	0.00	30.00	53.9
2nd	2021	3637	355	1368	3637	30.00	0.00	0.00	0.00	0.00	0.00	30.00	121.2
CHECKED													
Gridline 2													
Wind Load				Seismic Load									
Level	Unit Load	Trib Width (ft)	Wind Loads (lbs)	Roof/Floor DL (psf)	Wall DL (psf)	Trib Length (ft)	Trib Width (ft)	Wall Ht (ft)	# of Walls	Wt rf/floor (lbs)	Wt Wall (lbs)	Wt total (lbs)	Seismic E (lbs)
Roof	25	2.00	101	15	10	34.00	2.00	8.00	0	1020	0	1020	0.188
Roof	25	20.00	1515	15	10	34.00	20.00	8.00	4	5100	1600	6700	0.188
2nd	25	0.00	0	12	10	30.00	0.00	8.00	0	0	0	0	0.084
2nd	25	20.00	2021	12	10	30.00	20.00	8.00	3	3600	2400	6000	0.084
CHECKED													
Level	Wind (lbs)	Wind Total (lbs)	Seismic (lbs)	Seismic Total (lbs)	Control	Wall 1	Wall 2	Wall 3	Wall 4	Wall 5	Wall 6	Total Wall (ft)	Shear (plf)
Roof	1616	1616	1014	1014	1616	30.00	0.00	0.00	0.00	0.00	0.00	30.00	53.9
2nd	2021	3637	355	1368	3637	30.00	0.00	0.00	0.00	0.00	0.00	30.00	121.2

Gridline 2													
Wind Load				Seismic Load									
Level	Unit Load	Trib Width (ft)	Wind Loads (lbs)	Roof/Floor DL (psf)	Wall DL (psf)	Trib Length (ft)	Trib Width (ft)	Wall Ht (ft)	# of Walls	Wt rf/floor (lbs)	Wt Wall (lbs)	Wt total (lbs)	Seismic E (lbs)
Roof	25	2.00	101	15	10	34.00	2.00	8.00	0	1020	0	1020	0.188
Roof	25	20.00	1515	15	10	34.00	20.00	8.00	4	5100	1600	6700	0.188
2nd	25	0.00	0	12	10	30.00	0.00	8.00	0	0	0	0	0.084
2nd	25	20.00	2021	12	10	30.00	20.00	8.00	3	3600	2400	6000	0.084
CHECKED													
Level	Wind (lbs)	Wind Total (lbs)	Seismic (lbs)	Seismic Total (lbs)	Control	Wall 1	Wall 2	Wall 3	Wall 4	Wall 5	Wall 6	Total Wall (ft)	Shear (plf)
Roof	1616	1616	1014	1014	1616	30.00	0.00	0.00	0.00	0.00	0.00	30.00	53.9
2nd	2021	3637	355	1368	3637	30.00	0.00	0.00	0.00	0.00	0.00	30.00	121.2

Gridline 2													
Wind Load				Seismic Load									
Level	Unit Load	Trib Width (ft)	Wind Loads (lbs)	Roof/Floor DL (psf)	Wall DL (psf)	Trib Length (ft)	Trib Width (ft)	Wall Ht (ft)	# of Walls	Wt rf/floor (lbs)	Wt Wall (lbs)	Wt total (lbs)	Seismic E (lbs)
Roof	25	2.00	101	15	10	34.00	2.00	8.00	0	1020	0	1020	0.188
Roof	25	20.00	1515	15	10	34.00	20.00	8.00	4	5100	1600	6700	0.188
2nd	25	0.00	0	12	10	30.00	0.00	8.00	0	0	0	0	0.084
2nd	25	20.00	2021	12	10	30.00	20.00	8.00	3	3600	2400	6000	0.084
CHECKED													
Level	Wind (lbs)	Wind Total (lbs)	Seismic (lbs)	Seismic Total (lbs)	Control	Wall 1	Wall 2	Wall 3	Wall 4	Wall 5	Wall 6	Total Wall (ft)	Shear (plf)
Roof	1616	1616	1014	1014	1616	30.00	0.00	0.00	0.00	0.00	0.00	30.00	53.9
2nd	2021	3637	355	1368	3637	30.00	0.00	0.00	0.00	0.00	0.00	30.00	121.2

Gridline 2													
Wind Load				Seismic Load									
Level	Unit Load	Trib Width (ft)	Wind Loads (lbs)	Roof/Floor DL (psf)	Wall DL (psf)	Trib Length (ft)	Trib Width (ft)	Wall Ht (ft)	# of Walls	Wt rf/floor (lbs)	Wt Wall (lbs)	Wt total (lbs)	Seismic E (lbs)
Roof	25	2.00	101	15	10	34.00	2.00	8.00	0	1020	0	1020	0.188
Roof	25	20.00	1515	15	10	34.00	20.00	8.00	4	5100	1600	6700	0.188
2nd	25	0.00	0	12	10	30.00	0.00	8.00	0	0	0	0	0.084
2nd	25	20.00	2021	12	10	30.00	20.00	8.00	3	3600	2400	6000	0.084
CHECKED													
Level	Wind (lbs)	Wind Total (lbs)	Seismic (lbs)	Seismic Total (lbs)	Control	Wall 1	Wall 2	Wall 3	Wall 4	Wall 5	Wall 6	Total Wall (ft)	Shear (plf)
Roof	1616	1616	1014	1014	1616	30.00	0.00	0.00	0.00	0.00	0.00	30.00	53.9
2nd	2021	3637	355	1368	3637	30.00	0.00	0.00	0.00	0.00	0.00	30.00	121.2

Wind Load				Seismic Load										
Level	Unit-Load	Trib	Wind	Roof/Floor DL (psf)	Wall DL	Trib	Trib	Wall Ht	# of Walls	Wt	Wt-Wall	Wt total	Seismic	E (lbs)
Roof	25	4.00	455	15	10	34.00	4.00	8.00	3	2040	480	2520	0.188	473
Roof	25	30.00	3220	15	10	34.00	30.00	8.00	3	7650	1800	9450	0.188	1773
2nd	25	0.00	0	12	10	30.00	0.00	8.00	0	0	0	0	0.084	0
2nd	25	30.00	3031	12	10	30.00	30.00	8.00	2	5400	2400	7800	0.084	658

CHECKED

CHECKED

Level	Wind (lbs)	Wind Total (lbs)	Seismic (lbs)	Seismic Total (lbs)	Control	Wall 1	Wall 2	Wall 3	Wall 4	Wall 5	Wall 6	Total Wall (ft)	Shear (plf)
Roof	3675	3675	1572	1572	3675	20.00	0.00	0.00	0.00	0.00	0.00	20.00	430.0
2nd	3031	6706	461	2033	6706	26.00	0.00	0.00	0.00	0.00	0.00	26.00	257.9
													B
													A

Wall 1			
Level	M _{OT}	M _R trib	M _R
Roof	68800	17.00	10050
2nd	53646	10.00	10140
			HD
			OT
			HD Total
			1464
			9

*Wall element 1 at the upper floor was analyzed using Force Transfer Around Openings (FTAO). See spreadsheet in Appendix A.

*Install (2) Simpson High-Strength Wood Strong Walls (WSWH18x8) on main floor to resist shear load. Install per Simpson C-L SW21 & ESR-2652 Report.

Wind Load				Seismic Load										
Level	Unit Load	Trib Width (ft)	Wind Loads (lbs)	Roof/Floor DL (psf)	Wall DL (psf)	Trib Length (ft)	Trib Width (ft)	Wall Ht (ft)	# of Walls	Wt rf/floor (lbs)	Wt Wall (lbs)	Wt total (lbs)	Seismic	E (lbs)
Roof	25	2.00	227	15	10	24.00	2.00	8.00	0	720	0	720	0.188	135
Roof	25	30.00	3220	15	10	24.00	30.00	8.00	3	5400	1800	7200	0.188	1351
2nd	25	0.00	0	12	10	20.00	0.00	8.00	0	0	0	0	0.084	0
2nd	25	30.00	3031	12	10	20.00	30.00	8.00	3	3600	3600	7200	0.084	608

CHECKED

CHECKED

Level	Wind Load (lbs)	Wind Total (lbs)	Seismic (lbs)	Seismic Total (lbs)	Control
Roof	3448	3448	1040	1040	3448
2nd	3031	6478	425	1466	6478

Perforated Shearwall Method

Level	Applied Shear (lbs)	Wall Element	Sum of Opening Lengths (ft)	Ratio full Height Sheeting	Wall Height (ft)	Maximum Opening Height (ft)	Opening Height Ratio	Shear Capacity Adjustment Factor	Factored Length (ft)	Required Shear Panel Strength (plf)	M _R	Required Holdowns per Level (lbs)	Summation Holdowns (lbs)
Roof	3448	1	20.00	0.750	8.00	4.00	0.500	0.890	13.35	258.2	4477.84	1730.6	1730.6
			20.00						13.35	A			9
2nd	6478	1	13.50	0.778	8.00	4.00	0.500	0.901	9.46	684.6	859.5917	5386.3	7116.8
			13.50						9.46	C			4

SHEAR WALL SCHEDULE

WALL TYPE	STRUCTURAL PANEL SHEATHING	PANEL EDGE NAILING	FIELD NAILING	A 35 CLIP DOUBLE TOP PLATE CONN. ⁵	SILL PLATE CONNECTION CABO ¹⁶		SOLE PLATE ⁵ CONNECTION	SHEAR VALUE (PLF) DOUGLAS FIR	
					1/2" DIA. x 10" LONG	5/8" DIA. x 10" LONG		WIND	SEISMIC
<u>A</u>	7/16" OSB or 15/32" Plywood	0.131" Dia. x 2.5" Nails at 6" o.c.	0.131" Dia. x 2.5" Nails at 12" o.c.	20" O.C.	3'-8" O.C. ¹⁰	4'-0" O.C. ¹⁰	16d Nails at 6" o.c.	365	260
<u>B</u>	7/16" OSB or 15/32" Plywood	0.131" Dia. x 2.5" Nails at 4" o.c.	0.131" Dia. x 2.5" Nails at 12" o.c.	15" O.C.	2'-9" O.C. ¹⁰	4'-0" O.C. ¹⁰	16d Nails at 4-1/2" o.c.	530	380
<u>C</u>	7/16" OSB or 15/32" Plywood	0.131" Dia. x 2.5" Nails at 3" o.c.	0.131" Dia. x 2.5" Nails at 12" o.c.	11" O.C.	N/A	2'-9" O.C. ¹⁰	16d Nails at 3-1/2" o.c.	685	490
<u>D</u>	15/32" Plywood ¹¹	0.148" Dia. x 3" Nails at 3" o.c.	0.148" Dia. x 3" Nails at 12" o.c.	9" O.C.	N/A	2'-4" O.C. ¹⁰	(2) Rows 16d Nails at 6" o.c.	840	600
<u>E</u>	15/32" Plywood ¹¹	0.148" Dia. x 3" Nails at 2" o.c.	0.148" Dia. x 3" Nails at 12" o.c.	7" O.C.	N/A	1'-9" O.C. ¹²	N/A	1,075	770
<u>F</u>	1/2" GWB MIN.	5d cooler nails at 4" o.c.	5d cooler nails at 12" o.c.	24" O.C.	4'-0" O.C.	4'-0" O.C.	16d Nails at 6" o.c.	125	125
<u>G</u>	1/2" GWB MIN.	#6x1-1/4" screws 4" o.c. (blocked)	#6x1-1/4" screws 12" o.c.	24" O.C.	4'-0" O.C.	4'-0" O.C.	16d Nails at 6" o.c.	160	160

Notes:

1. Block all edges of sheathing.
2. Do not break sheathing skin by over driving nails.
3. Pre-drill as required to avoid splitting sills, etc.
4. Nails should be located 3/8" clear of panel edges.
5. Use Simpson A35 clips to attach blocking to top plate at floor line. At roof line use Simpson H-1 clips at each truss (U.O.N.).
6. Values of other standard construction fasteners will require spacing adjustments and must be approved by the engineer-of-record.
7. Use hot dipped galvanized nails at all exterior applications.
8. C-D, C-C sheathing, plywood panels siding, and other grades covered in APA Plywood Design Specification.

9. Sheathing face grain can be applied perpendicular or parallel to wall studs, provided studs are spaced a maximum of 16" o.c.
10. 3"x3"x1/4" washer required on A.B. with 2x sill plates.
11. Framing at adjoining panel edges shall be (3) 2x studs laminated (see detail this sheet).
12. Min. 3" nominal sill plate w/ 3"x3"x1/4" washers.
13. Sheath entire wall (above + below) windows and doors) according to shearwall schedule. Use of 3"x3"x1/4" washers are required on all anchor bolts for these walls.
14. Install LTP5 when required at 32" o.c. per detail.
15. All wood members must be "Douglas Fir".
16. All walls not designated as shearwalls to have 1/2"x10" anchor bolts at 4'-0" o.c. maximum.
17. Interior shearwall to extend to roof sheathing via truss or blocking panels.

Shearwall Type



Holdown Type

12.3.4

HOLDOWN SCHEDULE

HOLDOWN TYPE	HOLDOWN	ANCHOR BOLT	ANCHOR DIAMETER	EMBED LENGTH	MIN. STEM-WALL WIDTH	WOOD MEMBER	CONNECTION TO WOOD MEMBER	REMARKS	ALLOWABLE LOAD
	No Holdown								
	HDU2	S5TB24	5/8"	20 5/8"	6"	(2) 2x6 ⁶	(6) 1/4"x2-1/2" ⁷	—	3.075#
	HDU4	S5B5/8x24	5/8"	18"	6"	(2) 2x6 ⁶	(10) 1/4"x2-1/2" ⁷	—	4.565#
	HDU5	S5B5/8x24	5/8"	18"	6"	4x6	(14) 1/4"x2-1/2" ⁷	—	5.645#
	HDU8	S5B7/8x24	7/8"	18"	8"	6x6	(20) 1/4"x2-1/2" ⁷	—	7.870#
	HDQ8	PAB7-30	7/8"	26 3/4"	8"	6x6	(20) 1/4" x 3" ⁷	—	9.230#
	HD12	PAB8-30	1"	26 3/4"	8"	6x6	(4) 1" DIA. M.B.	—	14.220#
	HDU14	PAB8-30	1"	26 3/4"	8"	(1) 6x6	(36) 1/4"x2-1/2" ⁷	—	14.445#
	MSTC28	N/A	N/A	N/A	N/A	(2) 2x6 ⁶	(16) - 16d Sinker	—	1.540#
	MSTC40	N/A	N/A	N/A	N/A	(2) 2x6 ⁶	(32) - 16d Sinker	—	3.080#
	MSTC52	N/A	N/A	N/A	N/A	(2) 2x6 ⁶	(48) - 16d Sinker	—	4.620#
	MSTC66	N/A	N/A	N/A	N/A	(2) 2x6 ⁶	(64) - 16d Sinker	—	5.860#

Notes:

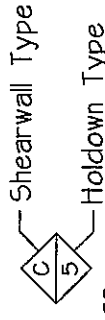
- Holdowns by Simpson strong-Tie Company, Inc. See Simpson catalog for proper installation.
- Hardmount all holdown anchors prior to concrete pour.
- Edge nail sheathing to all posts or boundary members at holdowns.
- Locate Holdown within 6" of end of Shear Panel.
- All wood members must be "Douglas fir".

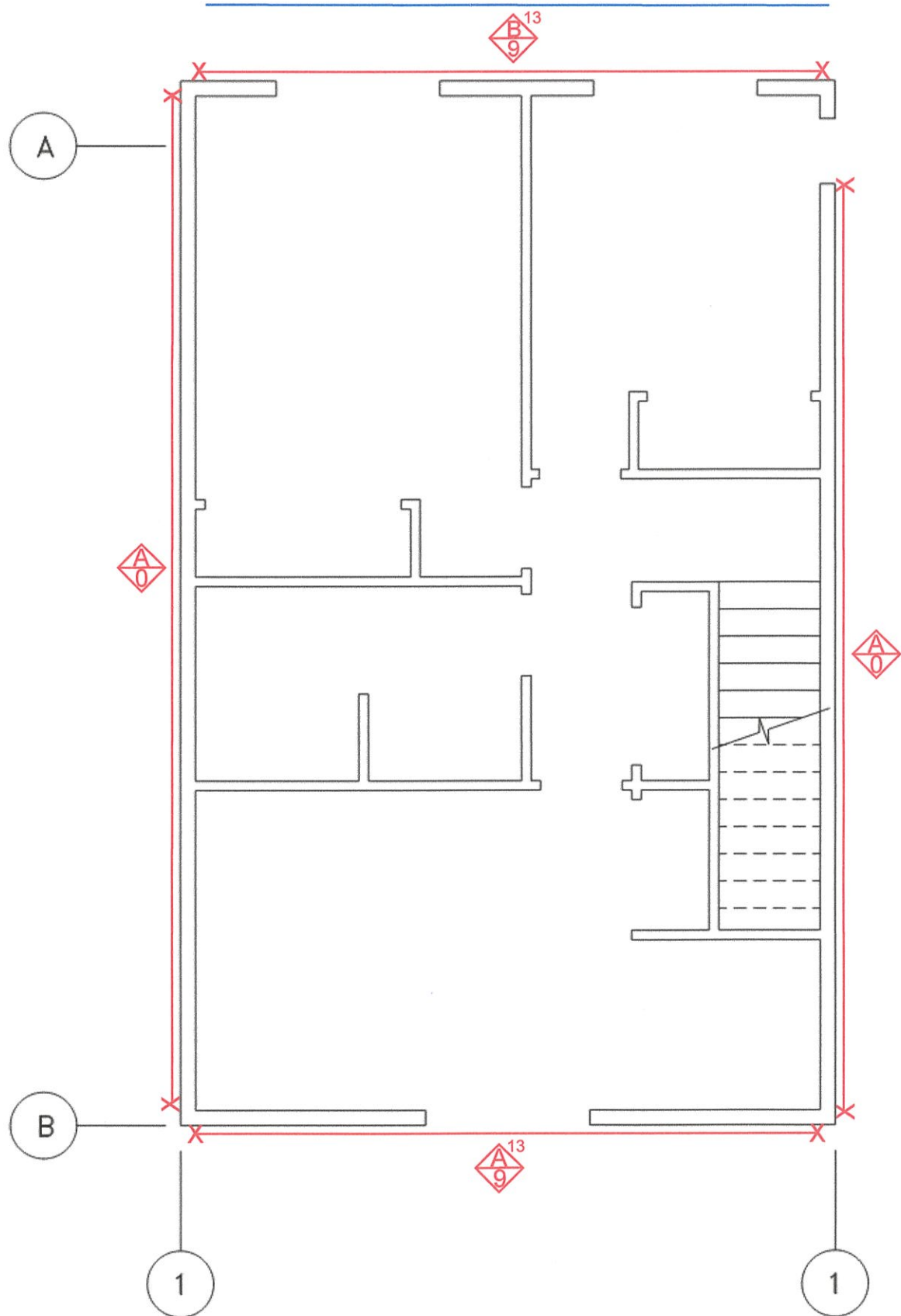
6. Laminate studs with 16d Nails at 12" on center staggered. Clinch tips of nails.

7. Use Simpson SD5 1/4" dia. wood screws.

8. 2 Holdowns required (see 'Holdowns between floors' detail this sheet).

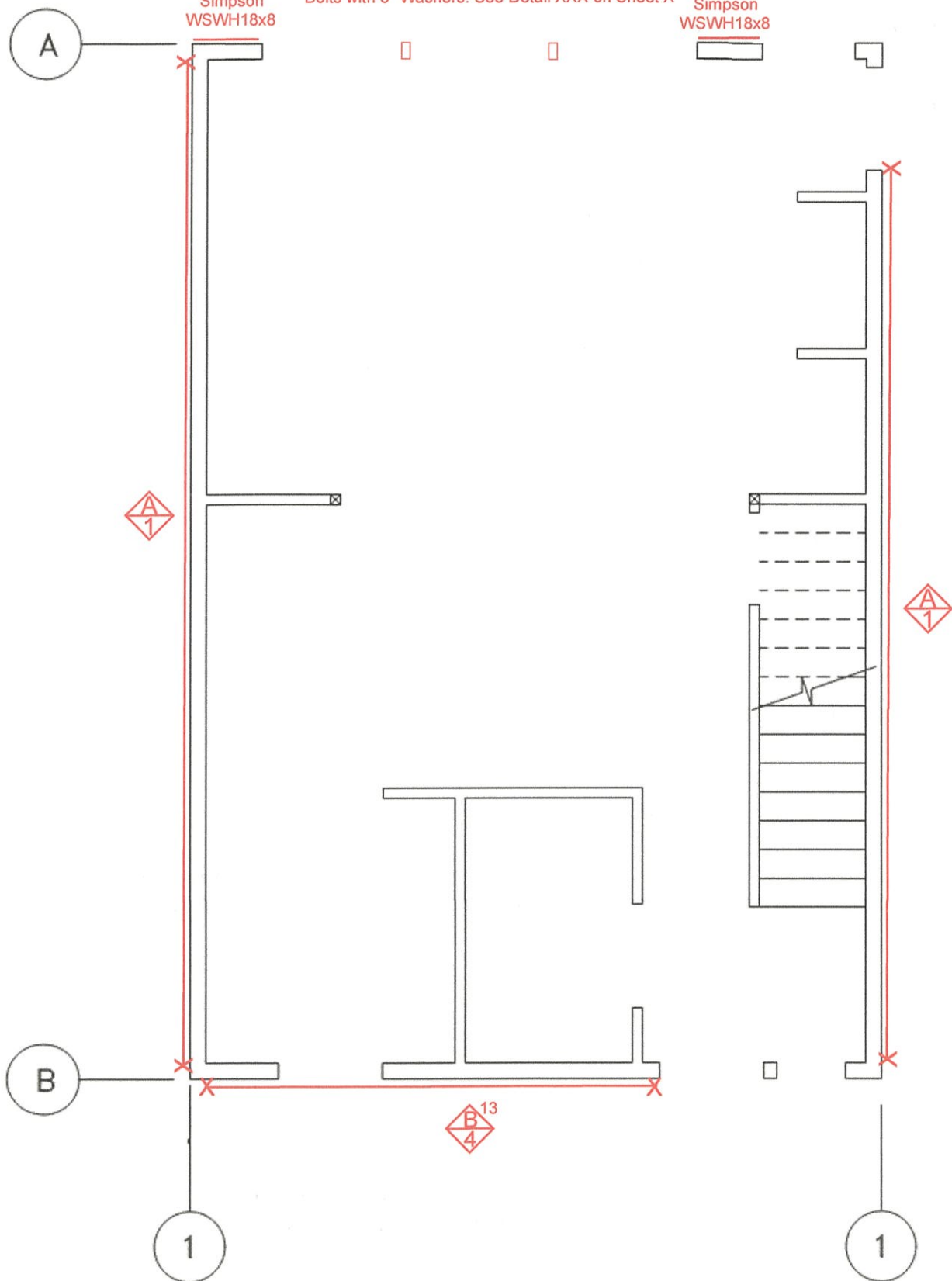
9. Use threaded rod + CNW coupler to attach to anchor bolt at foundation. Run threaded rod up to Holdown at lower floor and connect.





UPPER FLOOR SHEARWALL PLAN

1/4"=1'-0"



MAIN FLOOR SHEARWALL PLAN

$$1/4'' = 1' - 0''$$

The following assumptions are used in the design of all structural elements.

Design Loads

Roof	DL= 15 psf LL= 20 psf S= 25 psf	
Floor	DL= 12 psf LL= 40 psf	
Deck	DL= 15 psf LL= 40 psf	60 psf for 2nd Story Decks

Steel Strength

HSS	$F_y = 50$ ksi
Rebar	$F_y = 60$ ksi
Stirrups	$F_y = 40$ ksi

Concrete

Footings/Stem Walls	$F_c = 2500$ psi
Grade Beam	$F_c = 3000$ psi
Slabs	$F_c = 4000$ psi

Wood Strength

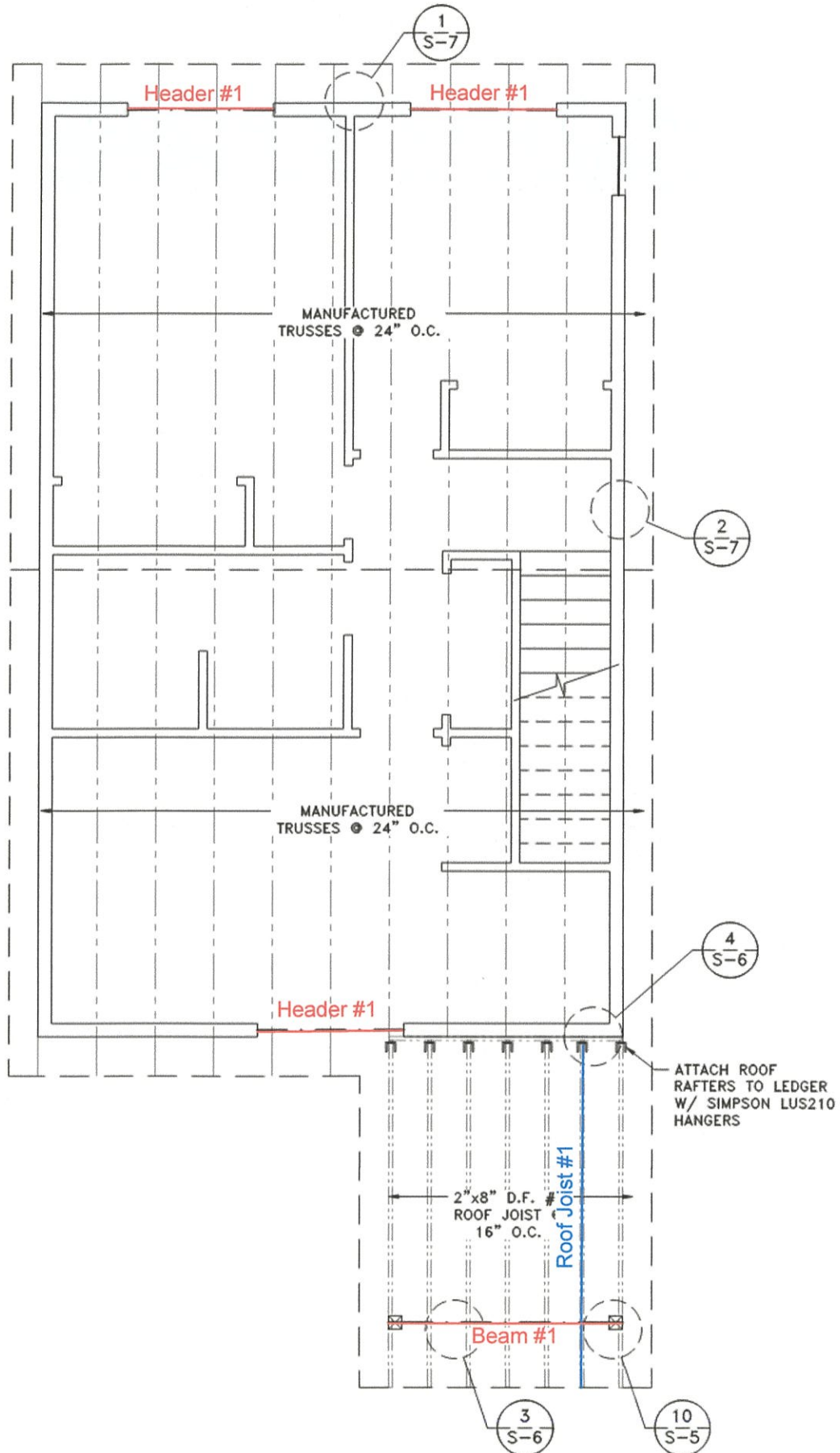
All Beams and Posts are No. 2 or Better

2" - 4"	Beams	$F_b = 850$ lb/in ²	(No. 2)	Douglas Fir-Larch (North)
		$E = 1,600,000$ lb/in ²	(No. 2)	Douglas Fir-Larch (North)
5" x 5" & Larger	Beams	$F_b = 1,300$ lb/in ²	(No. 1)	Douglas Fir-Larch (North)
		$E = 1,600,000$ lb/in ²	(No. 1)	Douglas Fir-Larch (North)
	Posts	$F_c = 700$ lb/in ²	(No. 2)	Douglas Fir-Larch (North)
		$E = 1,600,000$ lb/in ²	(No. 1)	Douglas Fir-Larch (North)
		$E = 1,300,000$ lb/in ³	(No. 2)	Douglas Fir-Larch (North)

Soil Strength

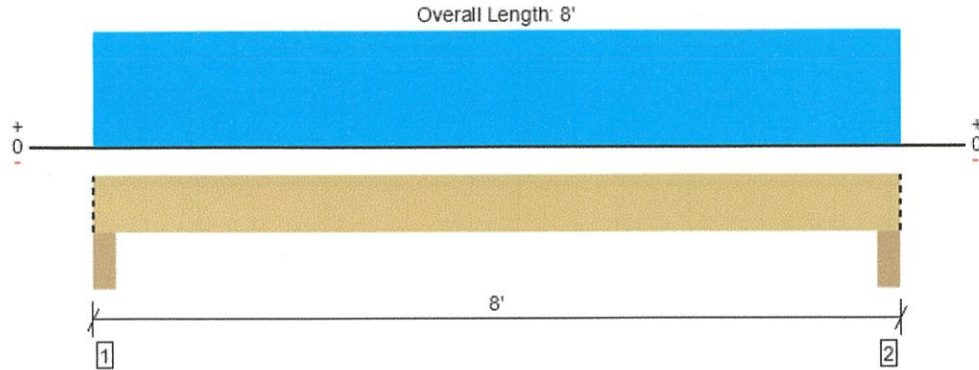
Allowable Soil Bearing Capacity =

See Geotechnical Report (Project #Y234676B)
Micropiles to be Installed per Goetech Recommendations.



UPPER FLOOR BEAM & ROOF FRAMING PLAN

Breakers, Beam #1
1 piece(s) 6 x 8 DF No.1



Drawing is Conceptual. All locations are measured from the outside face of left support (or left cantilever end). All dimensions are horizontal (typ.).

Design Results	Actual @ Location	Allowed	Result	LDF	Load: Combination (Pattern)
Member Reaction (lbs)	1086 @ 4"	18906 (5.50")	Passed (6%)	--	1.0 D + 1.0 S (All Spans)
Shear (lbs)	792 @ 1' 1"	5376	Passed (15%)	1.15	1.0 D + 1.0 S (All Spans)
Moment (Ft-lbs)	1825 @ 4'	5930	Passed (31%)	1.15	1.0 D + 1.0 S (All Spans)
Live Load Defl. (in)	0.034 @ 4'	0.244	Passed (L/999+)	--	1.0 D + 1.0 S (All Spans)
Total Load Defl. (in)	0.057 @ 4'	0.367	Passed (L/999+)	--	1.0 D + 1.0 S (All Spans)

Member Length : 8'
System : Floor
Member Type : Drop Beam
Building Use : Residential
Building Code : IBC 2021
Design Methodology : ASD

- Deflection criteria: LL (L/360) and TL (L/240).
- Allowed moment does not reflect the adjustment for the beam stability factor.
- Applicable calculations are based on NDS.

Supports	Bearing Length			Loads to Supports (lbs)				Accessories
	Total	Available	Required	Dead	Roof Live	Snow	Factored	
1 - Column - DF	5.50"	5.50"	1.50"	434	520	652	1086	Blocking
2 - Column - DF	5.50"	5.50"	1.50"	434	520	652	1086	Blocking

- Blocking Panels are assumed to carry no loads applied directly above them and the full load is applied to the member being designed.

Lateral Bracing	Bracing Intervals	Comments
Top Edge (Lu)	8' o/c	
Bottom Edge (Lu)	8' o/c	

- Maximum allowable bracing intervals based on applied load.

Vertical Loads	Location (Side)	Tributary Width	Dead (0.90)	Roof Live (1.25)	Snow (1.15)	Comments
0 - Self Weight (PLF)	0 to 8'	N/A	10.4	--	--	
1 - Uniform (PLF)	0 to 8' (Front)	N/A	98.0	130.0	163.0	Default Load

- Side loads are assumed to not induce cross-grain tension.

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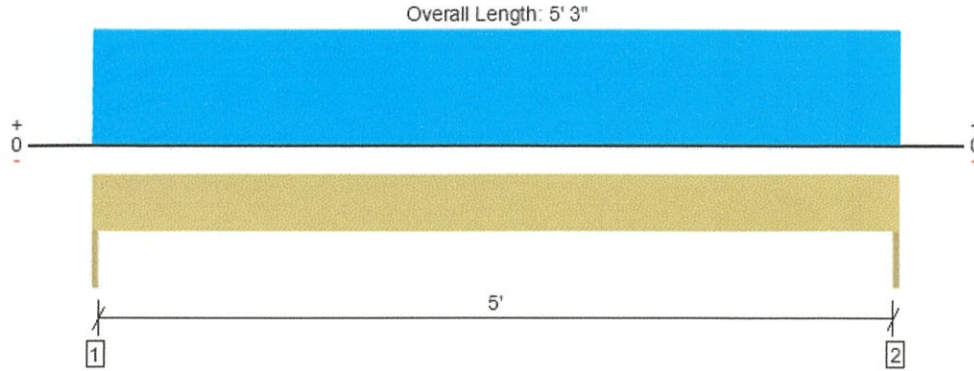
The product application, input design loads, dimensions and support information have been provided by ForteWEB Software Operator

ForteWEB Software Operator	Job Notes



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Breakers, Header #1
2 piece(s) 2 x 8 DF No.2



Drawing is Conceptual. All locations are measured from the outside face of left support (or left cantilever end). All dimensions are horizontal (typ.).

Design Results	Actual @ Location	Allowed	Result	LDF	Load: Combination (Pattern)
Member Reaction (lbs)	2190 @ 0	2813 (1.50")	Passed (78%)	--	1.0 D + 0.75 L + 0.75 Lr (All Spans)
Shear (lbs)	1582 @ 8 3/4"	3263	Passed (48%)	1.25	1.0 D + 0.75 L + 0.75 Lr (All Spans)
Moment (Ft-lbs)	2874 @ 2' 7 1/2"	2831	Passed (102%)	1.25	1.0 D + 0.75 L + 0.75 Lr (All Spans)
Live Load Defl. (in)	0.064 @ 2' 7 1/2"	0.175	Passed (L/979)	--	1.0 D + 0.75 L + 0.75 Lr (All Spans)
Total Load Defl. (in)	0.094 @ 2' 7 1/2"	0.262	Passed (L/673)	--	1.0 D + 0.75 L + 0.75 Lr (All Spans)

- Deflection criteria: LL (L/360) and TL (L/240).
- A 4.2% decrease in the moment capacity has been added to account for lateral stability.
- Applicable calculations are based on NDS.

Member Length : 5' 3"
System : Wall
Member Type : Header
Building Use : Residential
Building Code : IBC 2021
Design Methodology : ASD

Supports	Bearing Length			Loads to Supports (lbs)				Accessories
	Total	Available	Required	Dead	Floor Live	Roof Live	Factored	
1 - Trimmer - DF	1.50"	1.50"	1.50"	684	893	1116	2190	None
2 - Trimmer - DF	1.50"	1.50"	1.50"	684	893	1116	2190	None

Lateral Bracing	Bracing Intervals	Comments
Top Edge (Lu)	End Bearing Points	
Bottom Edge (Lu)	End Bearing Points	

Vertical Loads	Location	Tributary Width	Dead (0.90)	Floor Live (1.00)	Roof Live (1.25)	Comments
0 - Self Weight (PLF)	0 to 5' 3"	N/A	5.5	--	--	
1 - Uniform (PLF)	0 to 5' 3"	N/A	255.0	340.0	425.0	Default Load

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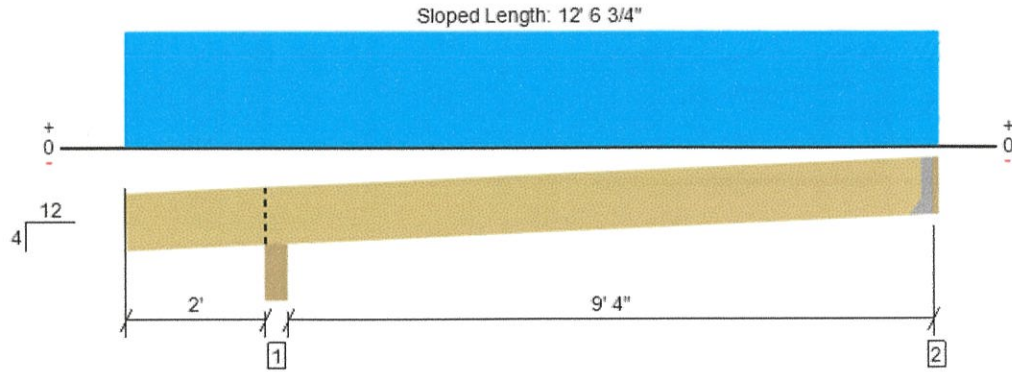
The product application, input design loads, dimensions and support information have been provided by ForteWEB Software Operator

ForteWEB Software Operator	Job Notes



Breakers, Roof Joist #1

1 piece(s) 2 x 8 DF No.2 @ 16" OC



Drawing is Conceptual. All locations are measured from the outside face of left support (or left cantilever end). All dimensions are horizontal (typ.).

Design Results	Actual @ Location	Allowed	Result	LDF	Load: Combination (Pattern)
Member Reaction (lbs)	250 @ 11' 9 1/2"	1406 (1.50")	Passed (18%)	--	1.0 D + 1.0 S (Alt Spans)
Shear (lbs)	231 @ 3' 3/8"	1501	Passed (15%)	1.15	1.0 D + 1.0 S (All Spans)
Moment (Ft-lbs)	576 @ 7' 2 5/16"	1564	Passed (37%)	1.15	1.0 D + 1.0 S (Alt Spans)
Live Load Defl. (in)	0.085 @ 7' 11/16"	0.504	Passed (L/999+)	--	1.0 D + 1.0 S (Alt Spans)
Total Load Defl. (in)	0.136 @ 7' 15/16"	0.672	Passed (L/891)	--	1.0 D + 1.0 S (Alt Spans)

Member Length : 12' 7 9/16"
 System : Roof
 Member Type : Joist
 Building Use : Residential
 Building Code : IBC 2021
 Design Methodology : ASD
 Member Pitch : 4/12

- Deflection criteria: LL (L/240) and TL (L/180).
- Overhang deflection criteria: LL (2L/240) and TL (2L/180).
- Allowed moment does not reflect the adjustment for the beam stability factor.
- A 15% increase in the moment capacity has been added to account for repetitive member usage.
- Applicable calculations are based on NDS.

Supports	Bearing Length			Loads to Supports (lbs)				Accessories
	Total	Available	Required	Dead	Roof Live	Snow	Factored	
1 - Beveled Plate - DF	5.50"	5.50"	1.50"	153	194	242	396	Blocking
2 - Hanger on 7 1/4" DF Ledger	1.50"	Hanger ¹	1.50"	98	127	159	257	See note ¹

- Blocking Panels are assumed to carry no loads applied directly above them and the full load is applied to the member being designed.
- At hanger supports, the Total Bearing dimension is equal to the width of the material that is supporting the hanger
- ¹ See Connector grid below for additional information and/or requirements.

Lateral Bracing	Bracing Intervals	Comments
Top Edge (Lu)	12' 5" o/c	
Bottom Edge (Lu)	12' 5" o/c	

- Maximum allowable bracing intervals based on applied load.
- Dimensions for lateral bracing intervals are measured along the length of the member for sloped conditions.

Connector: Simpson Strong-Tie						
Support	Model	Seat Length	Top Fasteners	Face Fasteners	Member Fasteners	Accessories
2 - Face Mount Hanger	LRU26Z	1.94"	N/A	4-10dx1.5	5-10d	

- Refer to manufacturer notes and instructions for proper installation and use of all connectors.

Vertical Load	Location (Side)	Spacing	Dead (0.90)	Roof Live (1.25)	Snow (1.15)	Comments
1 - Uniform (PSF)	0 to 11' 11"	16"	15.0	20.0	25.0	Default Load

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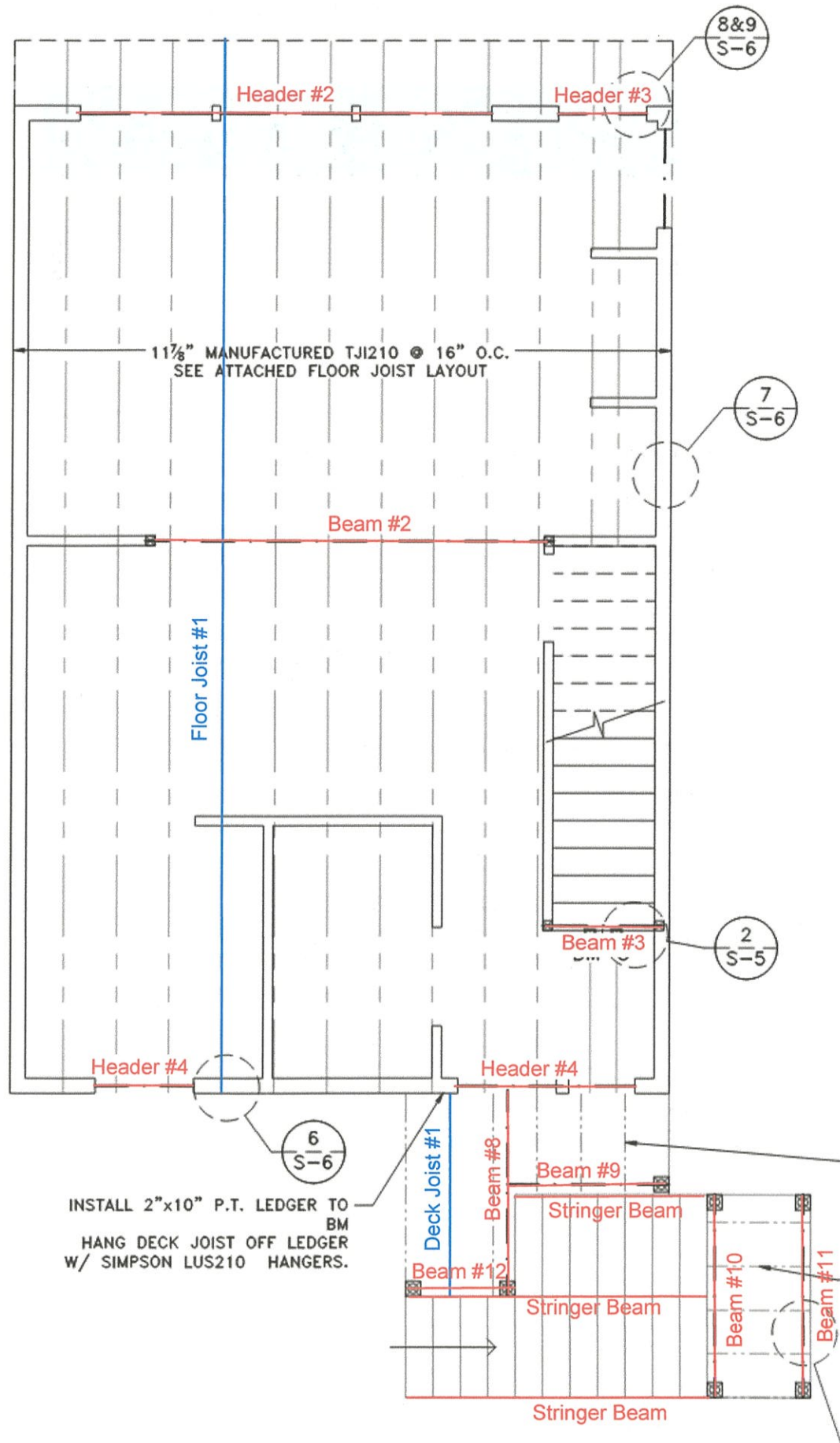
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The product application, input design loads, dimensions and support information have been provided by ForteWEB Software Operator

ForteWEB Software Operator	Job Notes



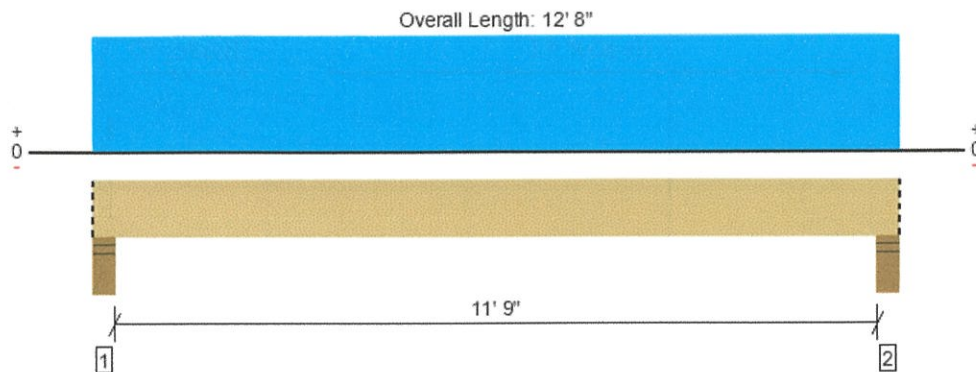
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MAIN FLOOR BEAM & JOIST PLAN

Breakers, Beam #2

2 piece(s) 1 3/4" x 11 7/8" 2.0E Microllam® LVL



Drawing is Conceptual. All locations are measured from the outside face of left support (or left cantilever end). All dimensions are horizontal (typ.).

Design Results	Actual @ Location	Allowed	Result	LDF	Load: Combination (Pattern)
Member Reaction (lbs)	4852 @ 4"	12031 (5.50")	Passed (40%)	--	1.0 D + 1.0 L (All Spans)
Shear (lbs)	3743 @ 1' 5 3/8"	7897	Passed (47%)	1.00	1.0 D + 1.0 L (All Spans)
Moment (Ft-lbs)	13790 @ 6' 4"	17848	Passed (77%)	1.00	1.0 D + 1.0 L (All Spans)
Live Load Defl. (in)	0.306 @ 6' 4"	0.300	Passed (L/471)	--	1.0 D + 1.0 L (All Spans)
Total Load Defl. (in)	0.404 @ 6' 4"	0.600	Passed (L/356)	--	1.0 D + 1.0 L (All Spans)

Member Length : 12' 8"

System : Floor

Member Type : Flush Beam

Building Use : Residential

Building Code : IBC 2021

Design Methodology : ASD

• Deflection criteria: LL (L/480) and TL (L/240).

• Allowed moment does not reflect the adjustment for the beam stability factor.

Supports	Bearing Length			Loads to Supports (lbs)			Accessories
	Total	Available	Required	Dead	Floor Live	Factored	
1 - Stud wall - DF	5.50"	5.50"	2.22"	1179	3673	4852	Blocking
2 - Stud wall - DF	5.50"	5.50"	2.22"	1179	3673	4852	Blocking

• Blocking Panels are assumed to carry no loads applied directly above them and the full load is applied to the member being designed.

Lateral Bracing	Bracing Intervals	Comments
Top Edge (Lu)	9' o/c	
Bottom Edge (Lu)	12' 8" o/c	

•Maximum allowable bracing intervals based on applied load.

Vertical Loads	Location (Side)	Tributary Width	Dead (0.90)	Floor Live (1.00)	Comments
0 - Self Weight (PLF)	0 to 12' 8"	N/A	12.1	--	
1 - Uniform (PLF)	0 to 12' 8" (Front)	N/A	174.0	580.0	Default Load

• Side loads are assumed to not induce cross-grain tension.

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The product application, input design loads, dimensions and support information have been provided by ForteWEB Software Operator

ForteWEB Software Operator	Job Notes

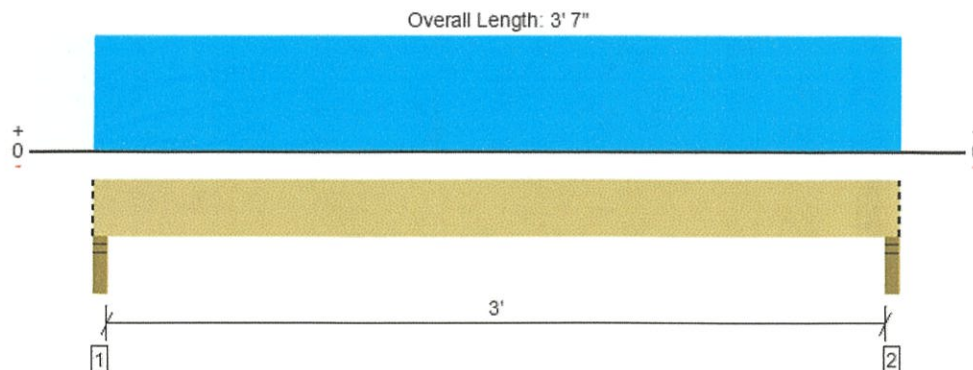


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ForteWEB v3.8, Engine: V8.4.1.24, Data: V8.1.6.3

Breakers, Beam #3

2 piece(s) 1 3/4" x 11 7/8" 2.0E Microllam® LVL



Drawing is Conceptual. All locations are measured from the outside face of left support (or left cantilever end). All dimensions are horizontal (typ.).

Design Results	Actual @ Location	Allowed	Result	LDF	Load: Combination (Pattern)
Member Reaction (lbs)	301 @ 2"	7656 (3.50")	Passed (4%)	--	1.0 D + 1.0 L (All Spans)
Shear (lbs)	86 @ 1' 3 3/8"	7897	Passed (1%)	1.00	1.0 D + 1.0 L (All Spans)
Moment (Ft-lbs)	222 @ 1' 9 1/2"	17848	Passed (1%)	1.00	1.0 D + 1.0 L (All Spans)
Live Load Defl. (in)	0.001 @ 1' 9 1/2"	0.081	Passed (L/999+)	--	1.0 D + 1.0 L (All Spans)
Total Load Defl. (in)	0.001 @ 1' 9 1/2"	0.162	Passed (L/999+)	--	1.0 D + 1.0 L (All Spans)

• Deflection criteria: LL (L/480) and TL (L/240).

• Allowed moment does not reflect the adjustment for the beam stability factor.

Member Length : 3' 7"
System : Floor
Member Type : Flush Beam
Building Use : Residential
Building Code : IBC 2021
Design Methodology : ASD

Supports	Bearing Length			Loads to Supports (lbs)			Accessories
	Total	Available	Required	Dead	Floor Live	Factored	
1 - Stud wall - DF	3.50"	3.50"	1.50"	86	215	301	Blocking
2 - Stud wall - DF	3.50"	3.50"	1.50"	86	215	301	Blocking

• Blocking Panels are assumed to carry no loads applied directly above them and the full load is applied to the member being designed.

Lateral Bracing	Bracing Intervals	Comments
Top Edge (Lu)	3' 7" o/c	
Bottom Edge (Lu)	3' 7" o/c	

•Maximum allowable bracing intervals based on applied load.

Vertical Loads	Location (Side)	Tributary Width	Dead (0.90)	Floor Live (1.00)	Comments
0 - Self Weight (PLF)	0 to 3' 7"	N/A	12.1	--	
1 - Uniform (PLF)	0 to 3' 7" (Front)	N/A	36.0	120.0	Default Load

• Side loads are assumed to not induce cross-grain tension.

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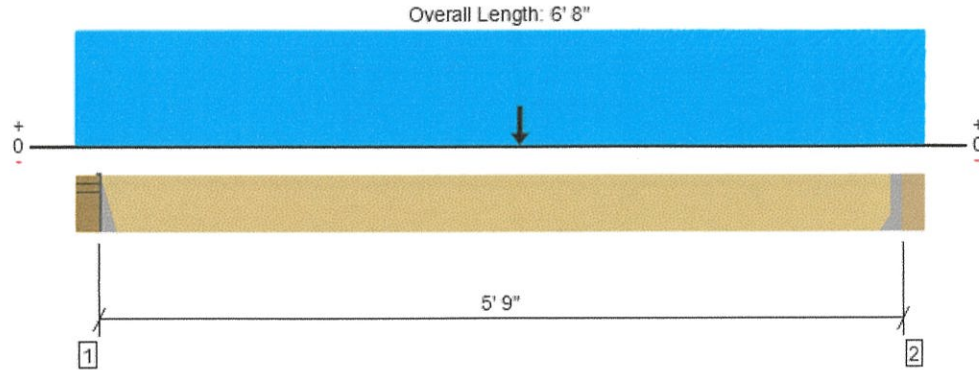
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Breakers, Beam #8
1 piece(s) 4 x 12 DF No.2



Drawing is Conceptual. All locations are measured from the outside face of left support (or left cantilever end). All dimensions are horizontal (typ.).

Design Results	Actual @ Location	Allowed	Result	LDF	Load: Combination (Pattern)
Member Reaction (lbs)	454 @ 6' 2 1/2"	3281 (1.50")	Passed (14%)	--	1.0 D + 1.0 L (All Spans)
Shear (lbs)	374 @ 5' 3 1/4"	4725	Passed (8%)	1.00	1.0 D + 1.0 L (All Spans)
Moment (Ft-lbs)	917 @ 3' 6"	6091	Passed (15%)	1.00	1.0 D + 1.0 L (All Spans)
Live Load Defl. (in)	0.005 @ 3' 4 1/4"	0.144	Passed (L/999+)	--	1.0 D + 1.0 L (All Spans)
Total Load Defl. (in)	0.007 @ 3' 4 3/16"	0.287	Passed (L/999+)	--	1.0 D + 1.0 L (All Spans)

Member Length : 5' 9"
System : Floor
Member Type : Flush Beam
Building Use : Residential
Building Code : IBC 2021
Design Methodology : ASD

- Deflection criteria: LL (L/480) and TL (L/240).
- Allowed moment does not reflect the adjustment for the beam stability factor.
- Applicable calculations are based on NDS.

Supports	Bearing Length			Loads to Supports (lbs)			Accessories
	Total	Available	Required	Dead	Floor Live	Factored	
1 - Hanger on DF studWall	5.50"	Hanger ¹	1.50"	122	343	465	See note ¹
2 - Hanger on 11 1/4" DF beam	5.50"	Hanger ¹	1.50"	128	360	488	See note ¹

- At hanger supports, the Total Bearing dimension is equal to the width of the material that is supporting the hanger
- ¹ See Connector grid below for additional information and/or requirements.

Lateral Bracing	Bracing Intervals	Comments
Top Edge (Lu)	5' 9" o/c	
Bottom Edge (Lu)	5' 9" o/c	

- Maximum allowable bracing intervals based on applied load.

Connector: Simpson Strong-Tie

Support	Model	Seat Length	Top Fasteners	Face Fasteners	Member Fasteners	Accessories
1 - Top Mount Hanger	BA412	3.00"	6-10d	8-10d	2-10dx1.5	
2 - Face Mount Hanger	LUS48	2.00"	N/A	6-10dx1.5	4-10d	

- Refer to manufacturer notes and instructions for proper installation and use of all connectors.

Vertical Loads	Location (Side)	Tributary Width	Dead (0.90)	Floor Live (1.00)	Comments
0 - Self Weight (PLF)	5 1/2" to 6' 2 1/2"	N/A	10.0	--	
1 - Point (lb)	3' 6" (Front)	N/A	93	303	Default Load
2 - Uniform (PLF)	0 to 6' 8" (Front)	N/A	15.0	60.0	

- Side loads are assumed to not induce cross-grain tension.

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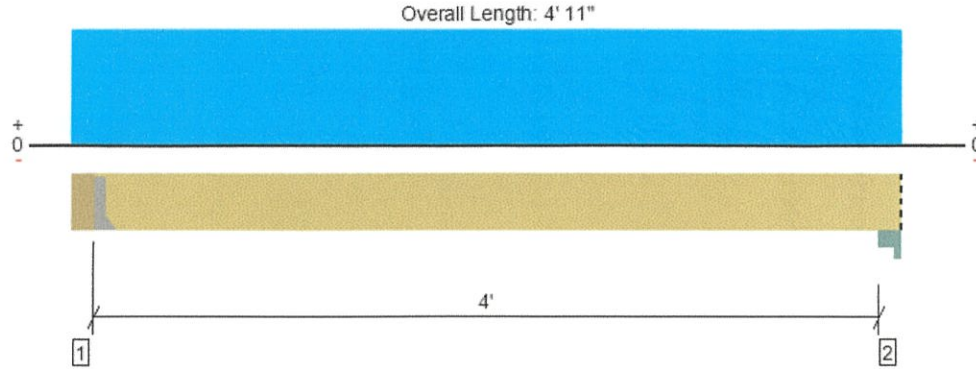
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ForteWEB Software Operator	Job Notes



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Breakers, Beam #9
1 piece(s) 4 x 12 DF No.2



Drawing is Conceptual. All locations are measured from the outside face of left support (or left cantilever end). All dimensions are horizontal (typ.).

Design Results	Actual @ Location	Allowed	Result	LDF	Load: Combination (Pattern)
Member Reaction (lbs)	330 @ 5 1/2"	3281 (1.50")	Passed (10%)	--	1.0 D + 1.0 L (All Spans)
Shear (lbs)	180 @ 1' 4 3/4"	4725	Passed (4%)	1.00	1.0 D + 1.0 L (All Spans)
Moment (Ft-lbs)	340 @ 2' 6 1/4"	6091	Passed (6%)	1.00	1.0 D + 1.0 L (All Spans)
Live Load Defl. (in)	0.001 @ 2' 6 1/4"	0.103	Passed (L/999+)	--	1.0 D + 1.0 L (All Spans)
Total Load Defl. (in)	0.002 @ 2' 6 1/4"	0.206	Passed (L/999+)	--	1.0 D + 1.0 L (All Spans)

- Deflection criteria: LL (L/480) and TL (L/240).
- Allowed moment does not reflect the adjustment for the beam stability factor.
- Applicable calculations are based on NDS.

Member Length : 4' 5 1/2"
System : Floor
Member Type : Flush Beam
Building Use : Residential
Building Code : IBC 2021
Design Methodology : ASD

Supports	Bearing Length			Loads to Supports (lbs)			Accessories
	Total	Available	Required	Dead	Floor Live	Factored	
1 - Hanger on 11 1/4" DF beam	5.50"	Hanger ¹	1.50"	96	303	399	See note ¹
2 - Column Cap - steel	5.50"	5.50"	1.50"	96	288	383	Blocking

- Blocking Panels are assumed to carry no loads applied directly above them and the full load is applied to the member being designed.
- At hanger supports, the Total Bearing dimension is equal to the width of the material that is supporting the hanger
- ¹ See Connector grid below for additional information and/or requirements.

Lateral Bracing	Bracing Intervals	Comments
Top Edge (Lu)	4' 6" o/c	
Bottom Edge (Lu)	4' 6" o/c	

- Maximum allowable bracing intervals based on applied load.

Connector: Simpson Strong-Tie							
Support	Model	Seat Length	Top Fasteners	Face Fasteners	Member Fasteners	Accessories	
1 - Face Mount Hanger	LUS48	2.00"	N/A	6-10dx1.5	4-10d		

- Refer to manufacturer notes and instructions for proper installation and use of all connectors.

Vertical Loads	Location (Side)	Tributary Width	Dead (0.90)	Floor Live (1.00)	Comments
0 - Self Weight (PLF)	5 1/2" to 4' 11"	N/A	10.0	--	
1 - Uniform (PLF)	0 to 4' 11" (Front)	N/A	30.0	120.0	Default Load

- Side loads are assumed to not induce cross-grain tension.

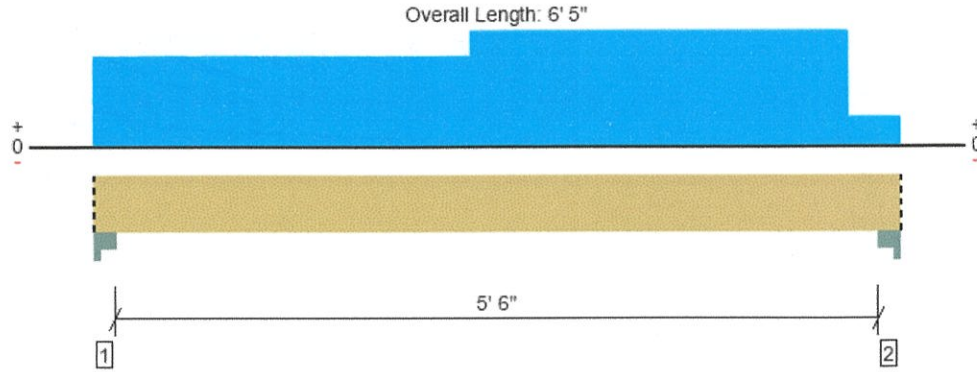
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Breakers, Beam #10

1 piece(s) 4 x 12 DF No.2



Drawing is Conceptual. All locations are measured from the outside face of left support (or left cantilever end). All dimensions are horizontal (typ.).

Design Results	Actual @ Location	Allowed	Result	LDF	Load: Combination (Pattern)
Member Reaction (lbs)	1278 @ 6' 1"	12031 (5.50")	Passed (11%)	--	1.0 D + 1.0 L (All Spans)
Shear (lbs)	775 @ 5' 1/4"	4725	Passed (16%)	1.00	1.0 D + 1.0 L (All Spans)
Moment (Ft-lbs)	1734 @ 3' 4 1/16"	6091	Passed (28%)	1.00	1.0 D + 1.0 L (All Spans)
Live Load Defl. (in)	0.013 @ 3' 2 3/4"	0.144	Passed (L/999+)	--	1.0 D + 1.0 L (All Spans)
Total Load Defl. (in)	0.015 @ 3' 2 15/16"	0.287	Passed (L/999+)	--	1.0 D + 1.0 L (All Spans)

Member Length : 6' 5"
 System : Floor
 Member Type : Flush Beam
 Building Use : Residential
 Building Code : IBC 2021
 Design Methodology : ASD

- Deflection criteria: LL (L/480) and TL (L/240).
- Allowed moment does not reflect the adjustment for the beam stability factor.
- Applicable calculations are based on NDS.

Supports	Bearing Length			Loads to Supports (lbs)			Accessories
	Total	Available	Required	Dead	Floor Live	Factored	
1 - Column Cap - steel	5.50"	5.50"	1.50"	162	1083	1245	Blocking
2 - Column Cap - steel	5.50"	5.50"	1.50"	254	1024	1278	Blocking

• Blocking Panels are assumed to carry no loads applied directly above them and the full load is applied to the member being designed.

Lateral Bracing	Bracing Intervals	Comments
Top Edge (Lu)	6' 5" o/c	
Bottom Edge (Lu)	6' 5" o/c	

• Maximum allowable bracing intervals based on applied load.

Vertical Loads	Location (Side)	Tributary Width	Dead (0.90)	Floor Live (1.00)	Comments
0 - Self Weight (PLF)	0 to 6' 5"	N/A	10.0	--	
1 - Uniform (PLF)	0 to 6' 5" (Front)	N/A	23.0	90.0	Default Load
2 - Uniform (PLF)	0 to 3' (Front)	N/A	--	240.0	
3 - Uniform (PLF)	3' to 6' (Front)	N/A	68.0	270.0	

• Side loads are assumed to not induce cross-grain tension.

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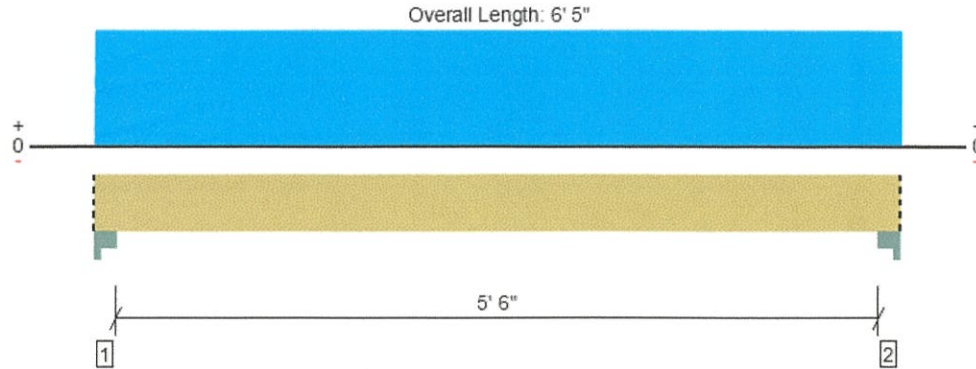
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ForteWEB Software Operator	Job Notes



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Breakers, Beam #11
1 piece(s) 4 x 12 DF No.2



Drawing is Conceptual. All locations are measured from the outside face of left support (or left cantilever end). All dimensions are horizontal (typ.).

Design Results	Actual @ Location	Allowed	Result	LDF	Load: Combination (Pattern)
Member Reaction (lbs)	513 @ 4"	12031 (5.50")	Passed (4%)	--	1.0 D + 0.75 L + 0.75 Lr (All Spans)
Shear (lbs)	290 @ 1' 4 3/4"	5906	Passed (5%)	1.25	1.0 D + 0.75 L + 0.75 Lr (All Spans)
Moment (Ft-lbs)	661 @ 3' 2 1/2"	7614	Passed (9%)	1.25	1.0 D + 0.75 L + 0.75 Lr (All Spans)
Live Load Defl. (in)	0.004 @ 3' 2 1/2"	0.144	Passed (L/999+)	--	1.0 D + 0.75 L + 0.75 Lr (All Spans)
Total Load Defl. (in)	0.006 @ 3' 2 1/2"	0.287	Passed (L/999+)	--	1.0 D + 0.75 L + 0.75 Lr (All Spans)

- Deflection criteria: LL (L/480) and TL (L/240).
- Allowed moment does not reflect the adjustment for the beam stability factor.
- Applicable calculations are based on NDS.

Member Length : 6' 5"
System : Floor
Member Type : Flush Beam
Building Use : Residential
Building Code : IBC 2021
Design Methodology : ASD

Supports	Bearing Length			Loads to Supports (lbs)				Accessories
	Total	Available	Required	Dead	Floor Live	Roof Live	Factored	
1 - Column Cap - steel	5.50"	5.50"	1.50"	128	128	385	513	Blocking
2 - Column Cap - steel	5.50"	5.50"	1.50"	128	128	385	513	Blocking

- Blocking Panels are assumed to carry no loads applied directly above them and the full load is applied to the member being designed.

Lateral Bracing	Bracing Intervals	Comments
Top Edge (Lu)	6' 5" o/c	
Bottom Edge (Lu)	6' 5" o/c	

- Maximum allowable bracing intervals based on applied load.

Vertical Loads	Location (Side)	Tributary Width	Dead (0.90)	Floor Live (1.00)	Roof Live (1.25)	Comments
0 - Self Weight (PLF)	0 to 6' 5"	N/A	10.0	--	--	
1 - Uniform (PLF)	0 to 6' 5" (Front)	N/A	30.0	40.0	120.0	Default Load

- Side loads are assumed to not induce cross-grain tension.

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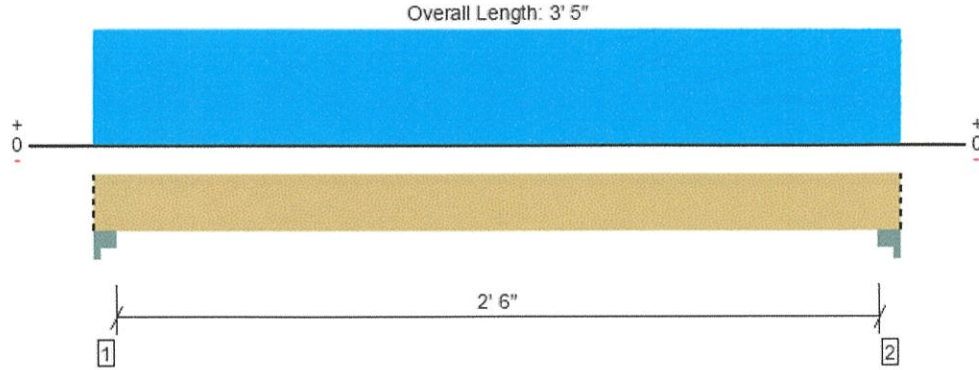
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Breakers, Beam #12

1 piece(s) 4 x 12 DF No.2



Drawing is Conceptual. All locations are measured from the outside face of left support (or left cantilever end). All dimensions are horizontal (typ.).

Design Results	Actual @ Location	Allowed	Result	LDF	Load: Combination (Pattern)
Member Reaction (lbs)	401 @ 4"	12031 (5.50")	Passed (3%)	--	1.0 D + 1.0 L (All Spans)
Shear (lbs)	73 @ 1' 4 3/4"	4725	Passed (2%)	1.00	1.0 D + 1.0 L (All Spans)
Moment (Ft-lbs)	222 @ 1' 8 1/2"	6091	Passed (4%)	1.00	1.0 D + 1.0 L (All Spans)
Live Load Defl. (in)	0.000 @ 1' 8 1/2"	0.069	Passed (L/999+)	--	1.0 D + 1.0 L (All Spans)
Total Load Defl. (in)	0.000 @ 1' 8 1/2"	0.138	Passed (L/999+)	--	1.0 D + 1.0 L (All Spans)

Member Length : 3' 5"
System : Floor
Member Type : Flush Beam
Building Use : Residential
Building Code : IBC 2021
Design Methodology : ASD

- Deflection criteria: LL (L/480) and TL (L/240).
- Allowed moment does not reflect the adjustment for the beam stability factor.
- Applicable calculations are based on NDS.

Supports	Bearing Length			Loads to Supports (lbs)			Accessories
	Total	Available	Required	Dead	Floor Live	Factored	
1 - Column Cap - steel	5.50"	5.50"	1.50"	94	308	401	Blocking
2 - Column Cap - steel	5.50"	5.50"	1.50"	94	308	401	Blocking

- Blocking Panels are assumed to carry no loads applied directly above them and the full load is applied to the member being designed.

Lateral Bracing	Bracing Intervals	Comments
Top Edge (Lu)	3' 5" o/c	
Bottom Edge (Lu)	3' 5" o/c	

- Maximum allowable bracing intervals based on applied load.

Vertical Loads	Location (Side)	Tributary Width	Dead (0.90)	Floor Live (1.00)	Comments
0 - Self Weight (PLF)	0 to 3' 5"	N/A	10.0	--	
1 - Uniform (PLF)	0 to 3' 5" (Front)	N/A	45.0	180.0	Default Load

- Side loads are assumed to not induce cross-grain tension.

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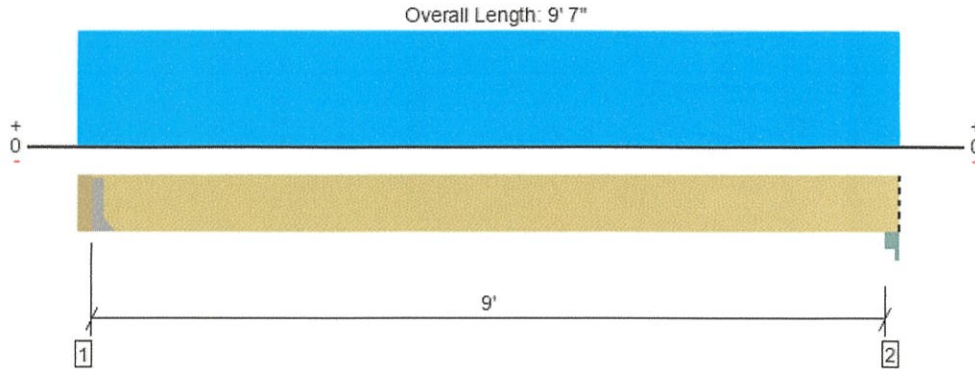
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Breakers, Stringer Beam
1 piece(s) 4 x 12 DF No.2



Drawing is Conceptual. All locations are measured from the outside face of left support (or left cantilever end). All dimensions are horizontal (typ.).

Design Results	Actual @ Location	Allowed	Result	LDF	Load: Combination (Pattern)
Member Reaction (lbs)	730 @ 3 1/2"	3281 (1.50")	Passed (22%)	--	1.0 D + 1.0 L (All Spans)
Shear (lbs)	580 @ 1' 2 3/4"	4725	Passed (12%)	1.00	1.0 D + 1.0 L (All Spans)
Moment (Ft-lbs)	1665 @ 4' 10 1/4"	6091	Passed (27%)	1.00	1.0 D + 1.0 L (All Spans)
Live Load Defl. (in)	0.028 @ 4' 10 1/4"	0.304	Passed (L/999+)	--	1.0 D + 1.0 L (All Spans)
Total Load Defl. (in)	0.038 @ 4' 10 1/4"	0.456	Passed (L/999+)	--	1.0 D + 1.0 L (All Spans)

Member Length : 9' 3 1/2"
System : Floor
Member Type : Drop Beam
Building Use : Residential
Building Code : IBC 2021
Design Methodology : ASD

- Deflection criteria: LL (L/360) and TL (L/240).
- Allowed moment does not reflect the adjustment for the beam stability factor.
- Applicable calculations are based on NDS.

Supports	Bearing Length			Loads to Supports (lbs)			Accessories
	Total	Available	Required	Dead	Floor Live	Factored	
1 - Hanger on 11 1/4" DF beam	3.50"	Hanger ¹	1.50"	191	583	774	See note ¹
2 - Column Cap - steel	3.50"	3.50"	1.50"	189	568	757	Blocking

- Blocking Panels are assumed to carry no loads applied directly above them and the full load is applied to the member being designed.
- At hanger supports, the Total Bearing dimension is equal to the width of the material that is supporting the hanger
- ¹ See Connector grid below for additional information and/or requirements.

Lateral Bracing	Bracing Intervals	Comments
Top Edge (Lu)	9' 4" o/c	
Bottom Edge (Lu)	9' 4" o/c	

- Maximum allowable bracing intervals based on applied load.

Connector: Simpson Strong-Tie

Support	Model	Seat Length	Top Fasteners	Face Fasteners	Member Fasteners	Accessories
1 - Face Mount Hanger	LUS48	2.00"	N/A	6-10dx1.5	4-10d	

- Refer to manufacturer notes and instructions for proper installation and use of all connectors.

Vertical Loads	Location (Side)	Tributary Width	Dead (0.90)	Floor Live (1.00)	Comments
0 - Self Weight (PLF)	3 1/2" to 9' 7"	N/A	10.0	--	
1 - Uniform (PLF)	0 to 9' 7" (Front)	N/A	30.0	120.0	Default Load

- Side loads are assumed to not induce cross-grain tension.

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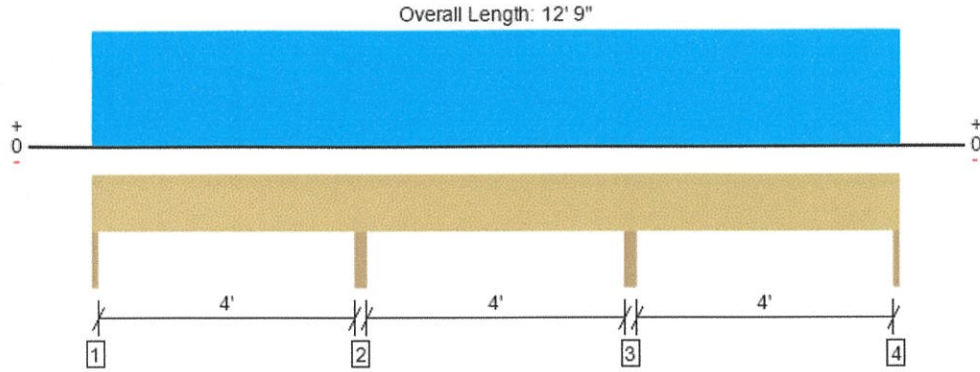


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ForteWEB v3.9, Engine: V8.4.3.94, Data: V8.1.7.3

Breakers, Header #2

2 piece(s) 1 3/4" x 11 7/8" 2.0E Microllam® LVL



Drawing is Conceptual. All locations are measured from the outside face of left support (or left cantilever end). All dimensions are horizontal (typ.).

Design Results	Actual @ Location	Allowed	Result	LDF	Load: Combination (Pattern)
Member Reaction (lbs)	4958 @ 4' 3"	7875 (3.00")	Passed (63%)	--	1.0 D + 0.75 L + 0.75 S (Adj Spans)
Shear (lbs)	1498 @ 3' 1 5/8"	9081	Passed (16%)	1.15	1.0 D + 0.75 L + 0.75 S (Adj Spans)
Moment (Ft-lbs)	-1972 @ 4' 3"	20525	Passed (10%)	1.15	1.0 D + 0.75 L + 0.75 S (Adj Spans)
Live Load Defl. (in)	0.007 @ 2' 1/2"	0.142	Passed (L/999+)	--	1.0 D + 0.75 L + 0.75 S (Alt Spans)
Total Load Defl. (in)	0.011 @ 2' 1/8"	0.213	Passed (L/999+)	--	1.0 D + 0.75 L + 0.75 S (Alt Spans)

Member Length : 12' 9"
System : Wall
Member Type : Header
Building Use : Residential
Building Code : IBC 2021
Design Methodology : ASD

- Deflection criteria: LL (L/360) and TL (L/240).
- Allowed moment does not reflect the adjustment for the beam stability factor.

Supports	Bearing Length			Loads to Supports (lbs)					Accessories
	Total	Available	Required	Dead	Floor Live	Roof Live	Snow	Factored	
1 - Trimmer - DF	1.50"	1.50"	1.50"	764	650/-72	614	768	1827	None
2 - Trimmer - DF	3.00"	3.00"	1.89"	2100	1734	1662	2077	4958	None
3 - Trimmer - DF	3.00"	3.00"	1.89"	2100	1734	1662	2077	4958	None
4 - Trimmer - DF	1.50"	1.50"	1.50"	764	650/-72	614	768	1827	None

Lateral Bracing	Bracing Intervals	Comments
Top Edge (Lu)	12' 9" o/c	
Bottom Edge (Lu)	12' 9" o/c	

•Maximum allowable bracing intervals based on applied load.

Vertical Loads	Location	Tributary Width	Dead (0.90)	Floor Live (1.00)	Roof Live (1.25)	Snow (1.15)	Comments
0 - Self Weight (PLF)	0 to 12' 9"	N/A	12.1	--	--	--	
1 - Uniform (PLF)	0 to 12' 9"	N/A	335.0	-	340.0	425.0	Default Load
2 - Uniform (PLF)	0 to 12' 9"	N/A	102.0	340.0	-	-	

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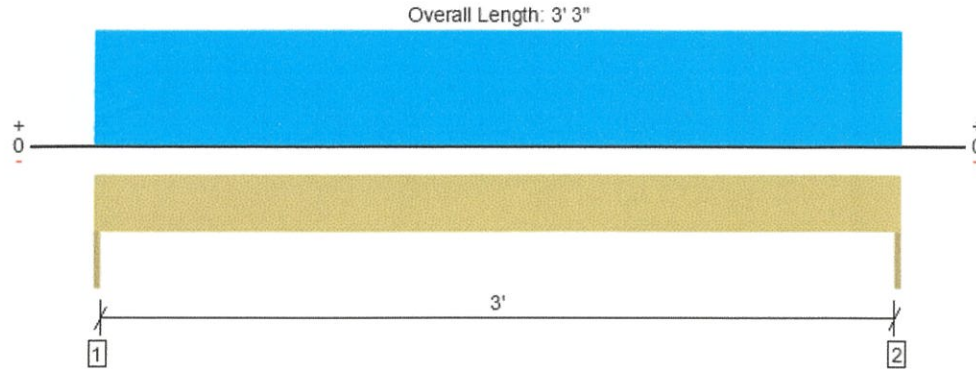
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ForteWEB Software Operator	Job Notes



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Breakers, Header #3
2 piece(s) 2 x 6 DF No.2



Drawing is Conceptual. All locations are measured from the outside face of left support (or left cantilever end). All dimensions are horizontal (typ.).

Design Results	Actual @ Location	Allowed	Result	LDF	Load: Combination (Pattern)
Member Reaction (lbs)	1649 @ 0	2813 (1.50")	Passed (59%)	--	1.0 D + 0.75 L + 0.75 S (All Spans)
Shear (lbs)	1057 @ 7"	2277	Passed (46%)	1.15	1.0 D + 0.75 L + 0.75 S (All Spans)
Moment (Ft-lbs)	1340 @ 1' 7 1/2"	1670	Passed (80%)	1.15	1.0 D + 0.75 L + 0.75 S (All Spans)
Live Load Defl. (in)	0.022 @ 1' 7 1/2"	0.108	Passed (L/999+)	--	1.0 D + 0.75 L + 0.75 S (All Spans)
Total Load Defl. (in)	0.038 @ 1' 7 1/2"	0.162	Passed (L/999+)	--	1.0 D + 0.75 L + 0.75 S (All Spans)

Member Length : 3' 3"
System : Wall
Member Type : Header
Building Use : Residential
Building Code : IBC 2021
Design Methodology : ASD

- Deflection criteria: LL (L/360) and TL (L/240).
- A 1.5% decrease in the moment capacity has been added to account for lateral stability.
- Applicable calculations are based on NDS.

Supports	Bearing Length			Loads to Supports (lbs)					Accessories
	Total	Available	Required	Dead	Floor Live	Roof Live	Snow	Factored	
1 - Trimmer - DF	1.50"	1.50"	1.50"	717	553	553	691	1649	None
2 - Trimmer - DF	1.50"	1.50"	1.50"	717	553	553	691	1649	None

Lateral Bracing	Bracing Intervals	Comments
Top Edge (Lu)	End Bearing Points	
Bottom Edge (Lu)	End Bearing Points	

Vertical Loads	Location	Tributary Width	Dead (0.90)	Floor Live (1.00)	Roof Live (1.25)	Snow (1.15)	Comments
0 - Self Weight (PLF)	0 to 3' 3"	N/A	4.2	--	--	--	
1 - Uniform (PLF)	0 to 3' 3"	N/A	335.0	-	340.0	425.0	Default Load
2 - Uniform (PLF)	0 to 3' 3"	N/A	102.0	340.0	-	-	

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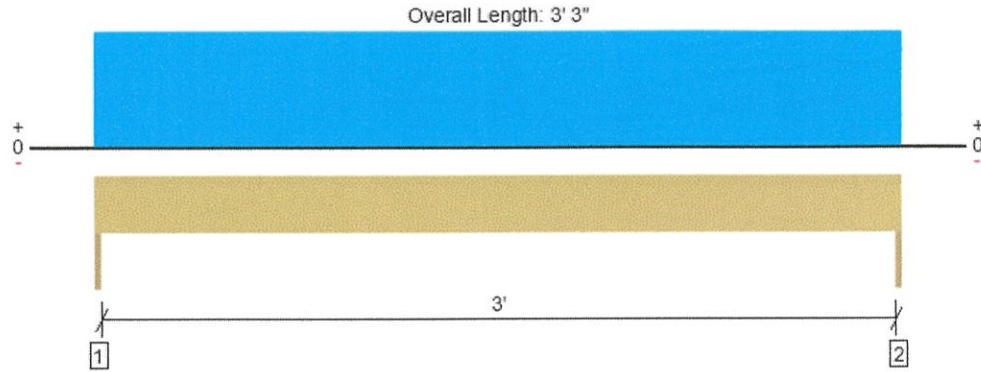
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ForteWEB Software Operator	Job Notes



Breakers, Header #4
2 piece(s) 2 x 6 DF No.2



Drawing is Conceptual. All locations are measured from the outside face of left support (or left cantilever end). All dimensions are horizontal (typ.).

Design Results	Actual @ Location	Allowed	Result	LDF	Load: Combination (Pattern)
Member Reaction (lbs)	1654 @ 0	2813 (1.50")	Passed (59%)	--	1.0 D + 0.75 L + 0.75 S (All Spans)
Shear (lbs)	1060 @ 7"	2277	Passed (47%)	1.15	1.0 D + 0.75 L + 0.75 S (All Spans)
Moment (Ft-lbs)	1344 @ 1' 7 1/2"	1670	Passed (80%)	1.15	1.0 D + 0.75 L + 0.75 S (All Spans)
Live Load Defl. (in)	0.021 @ 1' 7 1/2"	0.108	Passed (L/999+)	--	1.0 D + 0.75 L + 0.75 S (All Spans)
Total Load Defl. (in)	0.038 @ 1' 7 1/2"	0.162	Passed (L/999+)	--	1.0 D + 0.75 L + 0.75 S (All Spans)

Member Length : 3' 3"
System : Wall
Member Type : Header
Building Use : Residential
Building Code : IBC 2021
Design Methodology : ASD

- Deflection criteria: LL (L/360) and TL (L/240).
- A 1.5% decrease in the moment capacity has been added to account for lateral stability.
- Applicable calculations are based on NDS.

Supports	Bearing Length			Loads to Supports (lbs)					Accessories
	Total	Available	Required	Dead	Floor Live	Roof Live	Snow	Factored	
1 - Trimmer - DF	1.50"	1.50"	1.50"	746	520	553	691	1654	None
2 - Trimmer - DF	1.50"	1.50"	1.50"	746	520	553	691	1654	None

Lateral Bracing	Bracing Intervals	Comments
Top Edge (Lu)	End Bearing Points	
Bottom Edge (Lu)	End Bearing Points	

Vertical Loads	Location	Tributary Width	Dead (0.90)	Floor Live (1.00)	Roof Live (1.25)	Snow (1.15)	Comments
0 - Self Weight (PLF)	0 to 3' 3"	N/A	4.2	--	--	--	
1 - Uniform (PLF)	0 to 3' 3"	N/A	335.0	-	340.0	425.0	Default Load
2 - Uniform (PLF)	0 to 3' 3"	N/A	120.0	320.0	-	-	

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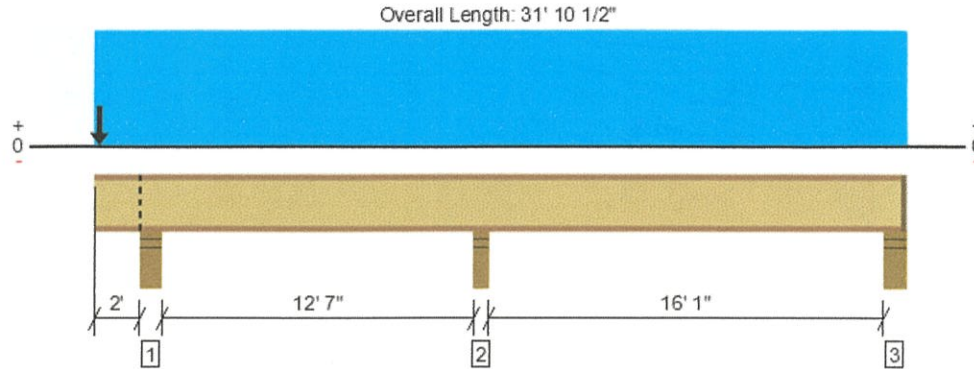
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ForteWEB Software Operator	Job Notes



Breakers, Floor Joist #1
1 piece(s) 11 7/8" TJI® 210 @ 16" OC



Drawing is Conceptual. All locations are measured from the outside face of left support (or left cantilever end). All dimensions are horizontal (typ.).

Design Results	Actual @ Location	Allowed	Result	LDF	Load: Combination (Pattern)
Member Reaction (lbs)	1181 @ 15' 2 1/4"	2145 (3.50")	Passed (55%)	1.00	1.0 D + 1.0 L (Adj Spans)
Shear (lbs)	1043 @ 2'	1903	Passed (55%)	1.15	1.0 D + 1.0 S (All Spans)
Moment (Ft-lbs)	-2062 @ 2' 2 3/4"	4364	Passed (47%)	1.15	1.0 D + 1.0 S (All Spans)
Live Load Defl. (in)	0.175 @ 23' 10"	0.408	Passed (L/999+)	--	1.0 D + 1.0 L (Alt Spans)
Total Load Defl. (in)	0.126 @ 0	0.223	Passed (2L/426)	--	1.0 D + 0.75 L + 0.75 S (Alt Spans)
TJ-Pro™ Rating	60	40	Passed	--	--

Member Length : 31' 9 1/4"
System : Floor
Member Type : Joist
Building Use : Residential
Building Code : IBC 2021
Design Methodology : ASD

- Deflection criteria: LL (L/480) and TL (L/240).
- Overhang deflection criteria: LL (2L/480) and TL (2L/240).
- Allowed moment does not reflect the adjustment for the beam stability factor.
- A structural analysis of the deck has not been performed.
- Deflection analysis is based on composite action with a single layer of 7/8", 1" Panel (32" Span Rating) that is glued and nailed down.
- Additional considerations for the TJ-Pro™ Rating include: 1/2" Gypsum ceiling, bridging or blocking at max. 8' o.c., Perpendicular Partitions.

Supports	Bearing Length			Loads to Supports (lbs)					Accessories
	Total	Available	Required	Dead	Floor Live	Roof Live	Snow	Factored	
1 - Stud wall - DF	5.50"	5.50"	3.50"	639	439	537	672	1471	Blocking
2 - Stud wall - DF	3.50"	3.50"	3.50"	195	986	-97	-122	1181	None
3 - Stud wall - DF	5.50"	4.25"	1.75"	122	396/-25	12	15	518	1 1/4" Rim Board

- Rim Board is assumed to carry all loads applied directly above it, bypassing the member being designed.
- Blocking Panels are assumed to carry no loads applied directly above them and the full load is applied to the member being designed.

Lateral Bracing	Bracing Intervals	Comments
Top Edge (Lu)	5' 7" o/c	
Bottom Edge (Lu)	5' 2" o/c	

- TJI joists are only analyzed using Maximum Allowable bracing solutions.
- Maximum allowable bracing intervals based on applied load.

Vertical Loads	Location	Spacing	Dead (0.90)	Floor Live (1.00)	Roof Live (1.25)	Snow (1.15)	Comments
1 - Uniform (PSF)	0 to 31' 10 1/2"	16"	12.0	40.0	-	-	Default Load
2 - Point (lb)	2 3/4"	N/A	446	-	452	565	

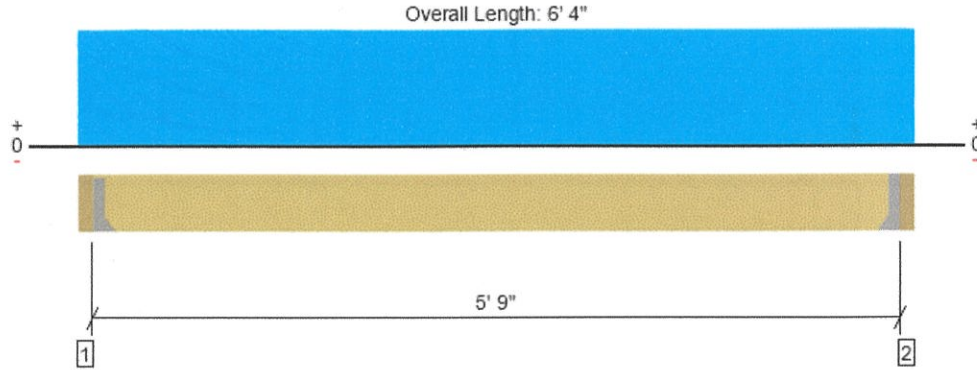
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FortewEB Software Operator	Job Notes



Breakers, Deck Joist #1

1 piece(s) 2 x 10 DF No.2 @ 16" OC



Drawing is Conceptual. All locations are measured from the outside face of left support (or left cantilever end). All dimensions are horizontal (typ.).

Design Results	Actual @ Location	Allowed	Result	LDF	Load: Combination (Pattern)
Member Reaction (lbs)	288 @ 3' 1/2"	1406 (1.50")	Passed (20%)	--	1.0 D + 1.0 L (All Spans)
Shear (lbs)	210 @ 1' 3/4"	1665	Passed (13%)	1.00	1.0 D + 1.0 L (All Spans)
Moment (Ft-lbs)	413 @ 3' 2"	2029	Passed (20%)	1.00	1.0 D + 1.0 L (All Spans)
Live Load Defl. (in)	0.012 @ 3' 2"	0.144	Passed (L/999+)	--	1.0 D + 1.0 L (All Spans)
Total Load Defl. (in)	0.016 @ 3' 2"	0.287	Passed (L/999+)	--	1.0 D + 1.0 L (All Spans)
TJ-Pro™ Rating	N/A	N/A	N/A	--	N/A

Member Length : 5' 9"
System : Floor
Member Type : Joist
Building Use : Residential
Building Code : IBC 2021
Design Methodology : ASD

- Deflection criteria: LL (L/480) and TL (L/240).
- Allowed moment does not reflect the adjustment for the beam stability factor.
- A 15% increase in the moment capacity has been added to account for repetitive member usage.
- Applicable calculations are based on NDS.
- No composite action between deck and joist was considered in analysis.

Supports	Bearing Length			Loads to Supports (lbs)			Accessories
	Total	Available	Required	Dead	Floor Live	Factored	
1 - Hanger on 9 1/4" DF beam	3.50"	Hanger ¹	1.50"	63	253	317	See note ¹
2 - Hanger on 9 1/4" DF beam	3.50"	Hanger ¹	1.50"	63	253	317	See note ¹

- At hanger supports, the Total Bearing dimension is equal to the width of the material that is supporting the hanger
- ¹ See Connector grid below for additional information and/or requirements.

Lateral Bracing	Bracing Intervals	Comments
Top Edge (Lu)	5' 9" o/c	
Bottom Edge (Lu)	5' 9" o/c	

Maximum allowable bracing intervals based on applied load.

Connector: Simpson Strong-Tie

Support	Model	Seat Length	Top Fasteners	Face Fasteners	Member Fasteners	Accessories
1 - Face Mount Hanger	LU28	1.50"	N/A	8-10dx1.5	6-10dx1.5	
2 - Face Mount Hanger	LU28	1.50"	N/A	8-10dx1.5	6-10dx1.5	

- Refer to manufacturer notes and instructions for proper installation and use of all connectors.

Vertical Load	Location (Side)	Spacing	Dead (0.90)	Floor Live (1.00)	Comments
1 - Uniform (PSF)	0 to 6' 4"	16"	15.0	60.0	Default Load

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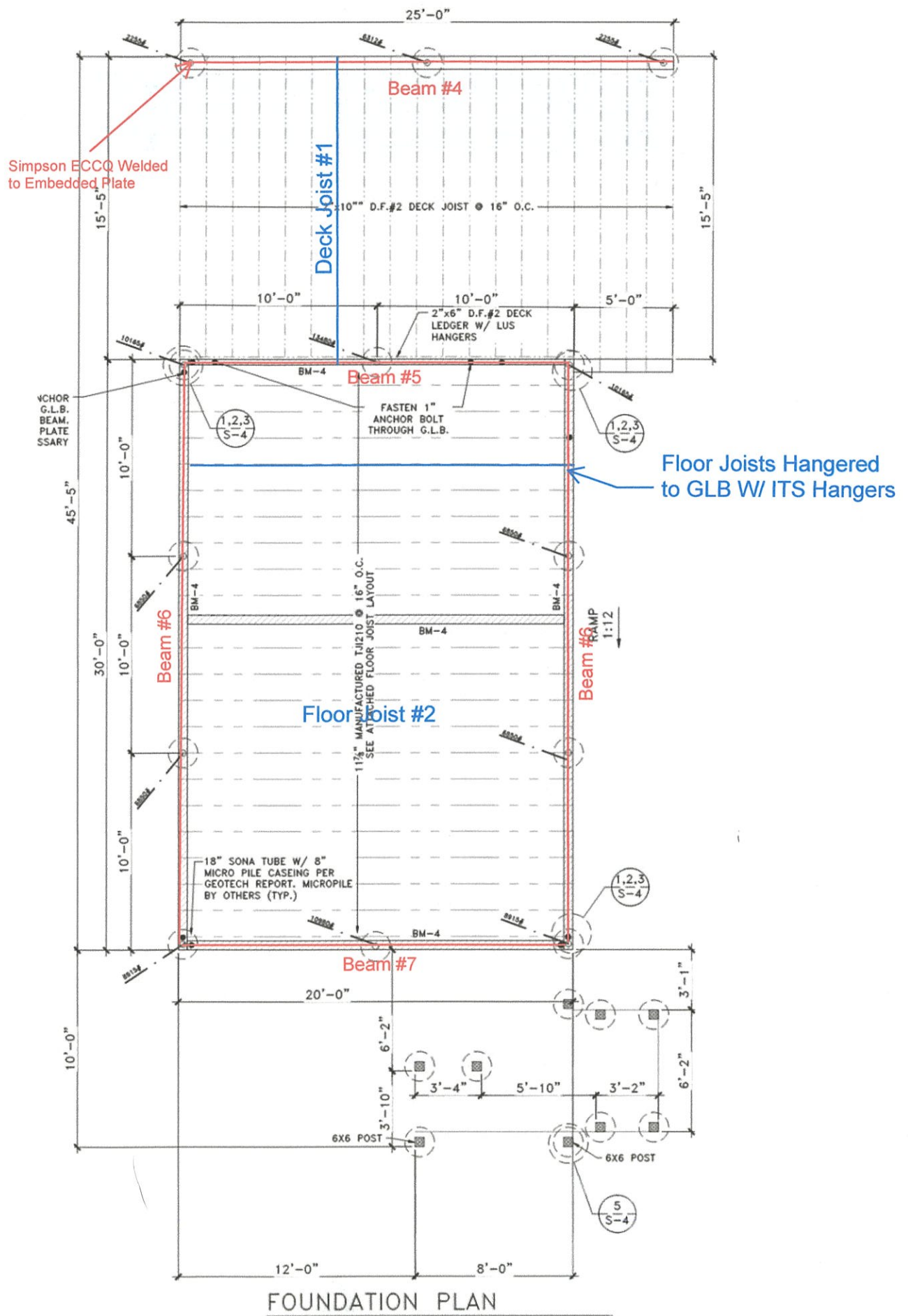
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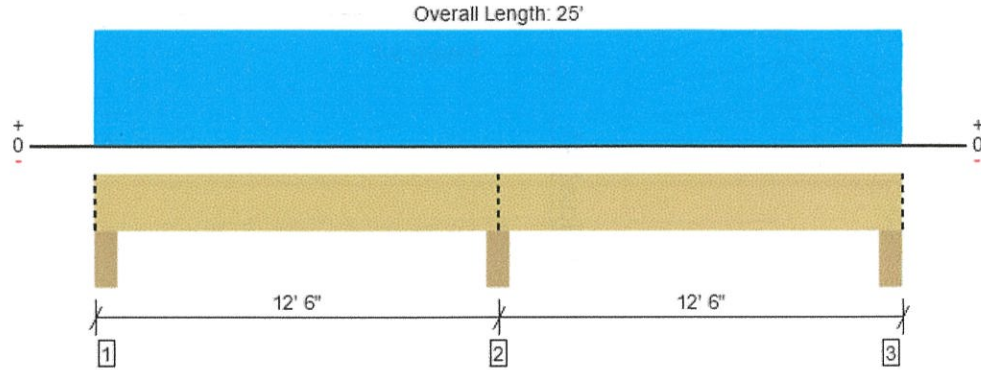
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Breakers, Beam #4
1 piece(s) 6 x 12 DF No.1



Drawing is Conceptual. All locations are measured from the outside face of left support (or left cantilever end). All dimensions are horizontal (typ.).

Design Results	Actual @ Location	Allowed	Result	LDF	Load: Combination (Pattern)
Member Reaction (lbs)	6312 @ 12' 6"	18906 (5.50")	Passed (33%)	--	1.0 D + 1.0 L (All Spans)
Shear (lbs)	2663 @ 13' 8 1/4"	7168	Passed (37%)	1.00	1.0 D + 1.0 L (All Spans)
Moment (Ft-lbs)	-7679 @ 12' 6"	13638	Passed (56%)	1.00	1.0 D + 1.0 L (All Spans)
Live Load Defl. (in)	0.090 @ 6' 1 3/16"	0.406	Passed (L/999+)	--	1.0 D + 1.0 L (Alt Spans)
Total Load Defl. (in)	0.113 @ 5' 11 7/16"	0.608	Passed (L/999+)	--	1.0 D + 1.0 L (Alt Spans)

Member Length : 25'
System : Floor
Member Type : Drop Beam
Building Use : Residential
Building Code : IBC 2021
Design Methodology : ASD

- Deflection criteria: LL (L/360) and TL (L/240).
- Allowed moment does not reflect the adjustment for the beam stability factor.
- Lumber grading provisions must be extended over the length of the member per NDS 4.2.5.5.
- Applicable calculations are based on NDS.

Supports	Bearing Length			Loads to Supports (lbs)			Accessories
	Total	Available	Required	Dead	Floor Live	Factored	
1 - Column - DF	5.50"	5.50"	1.50"	612	1640/-221	2252	Blocking
2 - Column - DF	5.50"	5.50"	1.84"	1901	4410	6312	Blocking
3 - Column - DF	5.50"	5.50"	1.50"	612	1640/-221	2252	Blocking

• Blocking Panels are assumed to carry no loads applied directly above them and the full load is applied to the member being designed.

Lateral Bracing	Bracing Intervals	Comments
Top Edge (Lu)	25' o/c	
Bottom Edge (Lu)	25' o/c	

• Maximum allowable bracing intervals based on applied load.

Vertical Loads	Location (Side)	Tributary Width	Dead (0.90)	Floor Live (1.00)	Comments
0 - Self Weight (PLF)	0 to 25'	N/A	16.0	--	
1 - Uniform (PLF)	0 to 25' (Front)	N/A	109.0	290.0	Default Load

• Side loads are assumed to not induce cross-grain tension.

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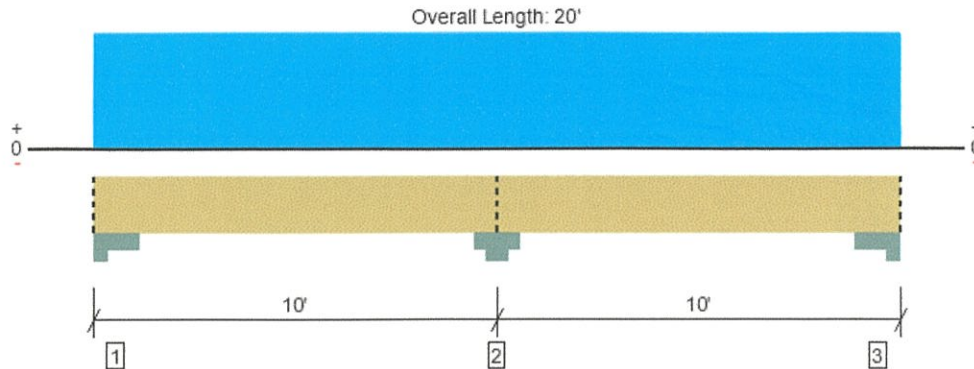
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Breakers, Beam #5

1 piece(s) 3 1/2" x 15" 24F-V8 DF Glulam



Drawing is Conceptual. All locations are measured from the outside face of left support (or left cantilever end). All dimensions are horizontal (typ.).

Design Results	Actual @ Location	Allowed	Result	LDF	Load: Combination (Pattern)
Member Reaction (lbs)	16938 @ 10'	25025 (11.00")	Passed (68%)	--	1.0 D + 0.75 L + 0.75 S (All Spans)
Shear (lbs)	5353 @ 8' 3 1/2"	9275	Passed (58%)	1.00	1.0 D + 1.0 L (All Spans)
Pos Moment (Ft-lbs)	9296 @ 4' 6 1/2"	26250	Passed (35%)	1.00	1.0 D + 1.0 L (Alt Spans)
Neg Moment (Ft-lbs)	-14020 @ 10'	26250	Passed (53%)	1.00	1.0 D + 1.0 L (All Spans)
Live Load Defl. (in)	0.049 @ 5' 15/16"	0.307	Passed (L/999+)	--	1.0 D + 0.75 L + 0.75 S (Alt Spans)
Total Load Defl. (in)	0.073 @ 15' 13/16"	0.460	Passed (L/999+)	--	1.0 D + 0.75 L + 0.75 S (Alt Spans)

Member Length : 20'
System : Floor
Member Type : Flush Beam
Building Use : Residential
Building Code : IBC 2021
Design Methodology : ASD

- Deflection criteria: LL (L/360) and TL (L/240).
- Allowed moment does not reflect the adjustment for the beam stability factor.
- Critical positive moment adjusted by a volume/size factor of 1.00 that was calculated using length L = 7' 6".
- Critical negative moment adjusted by a volume/size factor of 1.00 that was calculated using length L = 4' 7 1/4".
- The effects of positive or negative camber have not been accounted for when calculating deflection.
- Applicable calculations are based on NDS.

Supports	Bearing Length			Loads to Supports (lbs)					Accessories
	Total	Available	Required	Dead	Floor Live	Roof Live	Snow	Factored	
1 - Column Cap - steel	11.00"	11.00"	2.91"	2728	3278/-391	1541	1926	6631	Blocking
2 - Column Cap - steel	11.00"	11.00"	7.45"	7398	7827	3914	4892	16938	Blocking
3 - Column Cap - steel	11.00"	11.00"	2.91"	2728	3278/-391	1541	1926	6631	Blocking

• Blocking Panels are assumed to carry no loads applied directly above them and the full load is applied to the member being designed.

Lateral Bracing	Bracing Intervals	Comments
Top Edge (Lu)	20' o/c	
Bottom Edge (Lu)	20' o/c	

•Maximum allowable bracing intervals based on applied load.

Vertical Loads	Location (Side)	Tributary Width	Dead (0.90)	Floor Live (1.00)	Roof Live (1.25)	Snow (1.15)	Comments
0 - Self Weight (PLF)	0 to 20'	N/A	12.8	--	--	--	
1 - Uniform (PLF)	0 to 20' (Front)	N/A	335.0	-	340.0	425.0	Default Load
2 - Uniform (PLF)	0 to 20' (Front)	N/A	182.0	380.0	-	-	
3 - Uniform (PLF)	0 to 20' (Front)	N/A	113.0	300.0	-	-	

• Side loads are assumed to not induce cross-grain tension.

Member Notes
(converted from: Floor Drop Beam)

FortewEB Software Operator	Job Notes



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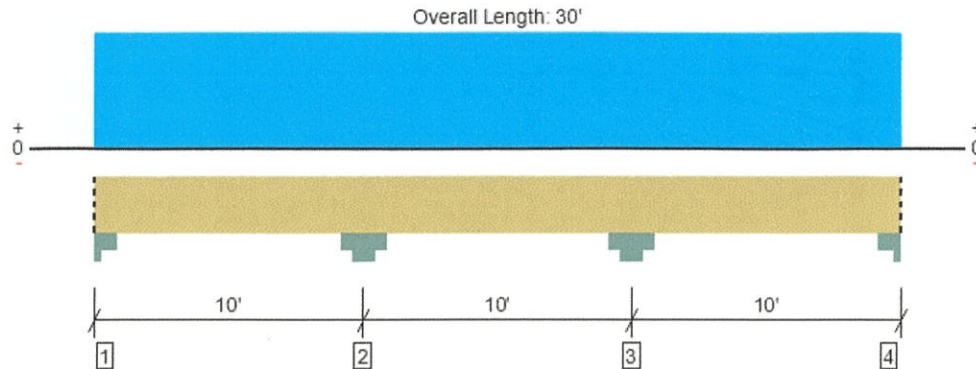
The product application, input design loads, dimensions and support information have been provided by ForteWEB Software Operator

ForteWEB Software Operator	Job Notes



Breakers, Beam #6

1 piece(s) 3 1/2" x 15" 24F-V4 DF Glulam



Drawing is Conceptual. All locations are measured from the outside face of left support (or left cantilever end). All dimensions are horizontal (typ.).

Design Results	Actual @ Location	Allowed	Result	LDF	Load: Combination (Pattern)
Member Reaction (lbs)	8801 @ 10'	25025 (11.00")	Passed (35%)	--	1.0 D + 1.0 L (Adj Spans)
Shear (lbs)	3265 @ 8' 3 1/2"	9275	Passed (35%)	1.00	1.0 D + 1.0 L (Adj Spans)
Pos Moment (Ft-lbs)	6618 @ 25' 6 3/8"	26250	Passed (25%)	1.00	1.0 D + 1.0 L (Alt Spans)
Neg Moment (Ft-lbs)	-8159 @ 10'	20234	Passed (40%)	1.00	1.0 D + 1.0 L (Adj Spans)
Live Load Defl. (in)	0.037 @ 4' 11 5/8"	0.242	Passed (L/999+)	--	1.0 D + 1.0 L (Alt Spans)
Total Load Defl. (in)	0.056 @ 4' 10 1/8"	0.483	Passed (L/999+)	--	1.0 D + 1.0 L (Alt Spans)

Member Length : 30'
System : Floor
Member Type : Flush Beam
Building Use : Residential
Building Code : IBC 2021
Design Methodology : ASD

- Deflection criteria: LL (L/480) and TL (L/240).
- Allowed moment does not reflect the adjustment for the beam stability factor.
- Critical positive moment adjusted by a volume/size factor of 1.00 that was calculated using length L = 8' 3 3/16".
- Critical negative moment adjusted by a volume/size factor of 1.00 that was calculated using length L = 4' 8 7/16".
- The effects of positive or negative camber have not been accounted for when calculating deflection.
- The specified glulam is assumed to have its strong laminations at the bottom of the beam. Install with proper side up as indicated by the manufacturer.
- Applicable calculations are based on NDS.

Supports	Bearing Length			Loads to Supports (lbs)				Accessories
	Total	Available	Required	Dead	Floor Live	Snow	Factored	
1 - Column Cap - steel	5.50"	5.50"	1.52"	1396	2065/-231	222	3461	Blocking
2 - Column Cap - steel	11.00"	11.00"	3.87"	3626	5175	565	8801	None
3 - Column Cap - steel	11.00"	11.00"	3.87"	3626	5175	565	8801	None
4 - Column Cap - steel	5.50"	5.50"	1.52"	1396	2065/-231	222	3461	Blocking

- Blocking Panels are assumed to carry no loads applied directly above them and the full load is applied to the member being designed.

Lateral Bracing	Bracing Intervals	Comments
Top Edge (Lu)	30' o/c	
Bottom Edge (Lu)	30' o/c	

- Maximum allowable bracing intervals based on applied load.

Vertical Loads	Location (Side)	Tributary Width	Dead (0.90)	Floor Live (1.00)	Snow (1.15)	Comments
0 - Self Weight (PLF)	0 to 30'	N/A	12.8	--	--	
1 - Uniform (PLF)	0 to 30' (Front)	N/A	322.0	440.0	50.0	Default Load

- Side loads are assumed to not induce cross-grain tension.

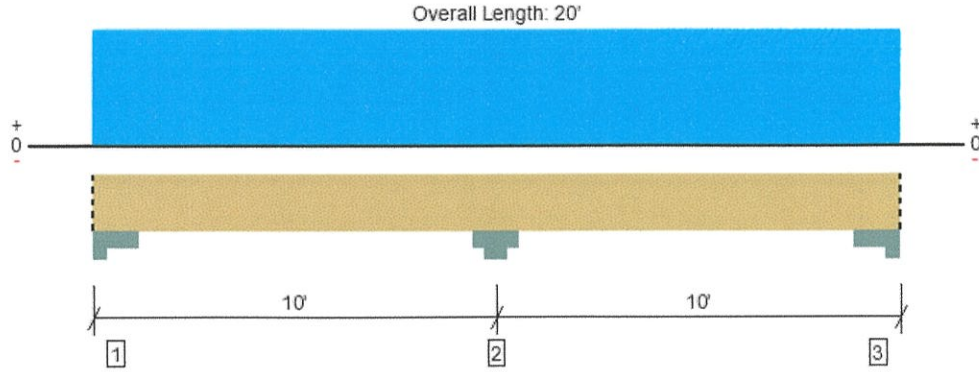
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ForteWEB Software Operator	Job Notes



Breakers, BEam #7

1 piece(s) 3 1/2" x 15" 24F-V4 DF Glulam



Drawing is Conceptual. All locations are measured from the outside face of left support (or left cantilever end). All dimensions are horizontal (typ.).

Design Results	Actual @ Location	Allowed	Result	LDF	Load: Combination (Pattern)
Member Reaction (lbs)	13047 @ 10'	25025 (11.00")	Passed (52%)	--	1.0 D + 0.75 L + 0.75 S (All Spans)
Shear (lbs)	4587 @ 8' 3 1/2"	10666	Passed (43%)	1.15	1.0 D + 0.75 L + 0.75 S (All Spans)
Pos Moment (Ft-lbs)	7670 @ 4' 5 5/8"	30188	Passed (25%)	1.15	1.0 D + 0.75 L + 0.75 S (All Spans)
Neg Moment (Ft-lbs)	-12014 @ 10'	23270	Passed (52%)	1.15	1.0 D + 0.75 L + 0.75 S (All Spans)
Live Load Defl. (in)	0.034 @ 14' 11 7/16"	0.230	Passed (L/999+)	--	1.0 D + 0.75 L + 0.75 S (All Spans)
Total Load Defl. (in)	0.054 @ 15' 1 1/8"	0.460	Passed (L/999+)	--	1.0 D + 0.75 L + 0.75 S (All Spans)

Member Length : 20'
System : Floor
Member Type : Flush Beam
Building Use : Residential
Building Code : IBC 2021
Design Methodology : ASD

- Deflection criteria: LL (L/480) and TL (L/240).
- Allowed moment does not reflect the adjustment for the beam stability factor.
- Critical positive moment adjusted by a volume/size factor of 1.00 that was calculated using length L = 7' 4 5/16".
- Critical negative moment adjusted by a volume/size factor of 1.00 that was calculated using length L = 4' 7 1/4".
- The effects of positive or negative camber have not been accounted for when calculating deflection.
- The specified glulam is assumed to have its strong laminations at the bottom of the beam. Install with proper side up as indicated by the manufacturer.
- Applicable calculations are based on NDS.

Supports	Bearing Length			Loads to Supports (lbs)					Accessories
	Total	Available	Required	Dead	Floor Live	Roof Live	Snow	Factored	
1 - Column Cap - steel	11.00"	11.00"	2.23"	2249	1832/-219	1541	1926	5067	Blocking
2 - Column Cap - steel	11.00"	11.00"	5.74"	6098	4374	3914	4892	13047	None
3 - Column Cap - steel	11.00"	11.00"	2.23"	2249	1832/-219	1541	1926	5067	Blocking

- Blocking Panels are assumed to carry no loads applied directly above them and the full load is applied to the member being designed.

Lateral Bracing	Bracing Intervals	Comments
Top Edge (Lu)	20' o/c	
Bottom Edge (Lu)	20' o/c	

- Maximum allowable bracing intervals based on applied load.

Vertical Loads	Location (Side)	Tributary Width	Dead (0.90)	Floor Live (1.00)	Roof Live (1.25)	Snow (1.15)	Comments
0 - Self Weight (PLF)	0 to 20'	N/A	12.8	--	--	--	
1 - Uniform (PLF)	0 to 20' (Front)	N/A	335.0	-	340.0	425.0	Default Load
2 - Uniform (PLF)	0 to 20' (Front)	N/A	182.0	380.0	-	-	

- Side loads are assumed to not induce cross-grain tension.

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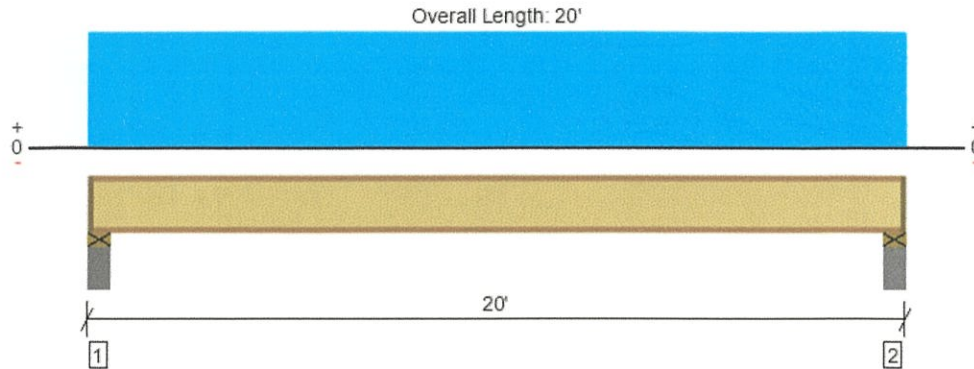
The product application, input design loads, dimensions and support information have been provided by ForteWEB Software Operator

ForteWEB Software Operator	Job Notes



3/7/2025 10:29:16 PM UTC
ForteWEB v3.8, Engine: V8.4.1.24, Data: V8.1.6.3

Breakers, Floor Joist #2
1 piece(s) 11 7/8" TJI® 210 @ 16" OC



Drawing is Conceptual. All locations are measured from the outside face of left support (or left cantilever end). All dimensions are horizontal (typ.).

Design Results	Actual @ Location	Allowed	Result	LDF	Load: Combination (Pattern)
Member Reaction (lbs)	686 @ 4 1/2"	1460 (3.50")	Passed (47%)	1.00	1.0 D + 1.0 L (All Spans)
Shear (lbs)	662 @ 5 1/2"	1655	Passed (40%)	1.00	1.0 D + 1.0 L (All Spans)
Moment (Ft-lbs)	3212 @ 10'	3795	Passed (85%)	1.00	1.0 D + 1.0 L (All Spans)
Live Load Defl. (in)	0.454 @ 10'	0.481	Passed (L/509)	--	1.0 D + 1.0 L (All Spans)
Total Load Defl. (in)	0.590 @ 10'	0.962	Passed (L/392)	--	1.0 D + 1.0 L (All Spans)
TJ-Pro™ Rating	46	40	Passed	--	--

Member Length : 19' 9 1/2"
System : Floor
Member Type : Joist
Building Use : Residential
Building Code : IBC 2021
Design Methodology : ASD

- Deflection criteria: LL (L/480) and TL (L/240).
- Allowed moment does not reflect the adjustment for the beam stability factor.
- A structural analysis of the deck has not been performed.
- Deflection analysis is based on composite action with a single layer of 7/8", 1" Panel (32" Span Rating) that is glued and nailed down.
- Additional considerations for the TJ-Pro™ Rating include: bridging or blocking at max. 8' o.c., Perpendicular Partitions.

Supports	Bearing Length			Loads to Supports (lbs)			Accessories
	Total	Available	Required	Dead	Floor Live	Factored	
1 - Plate on concrete - DF	5.50"	4.25"	1.75"	160	533	693	1 1/4" Rim Board
2 - Plate on concrete - DF	5.50"	4.25"	1.75"	160	533	693	1 1/4" Rim Board

• Rim Board is assumed to carry all loads applied directly above it, bypassing the member being designed.

Lateral Bracing	Bracing Intervals	Comments
Top Edge (Lu)	4' o/c	
Bottom Edge (Lu)	19' 10" o/c	

- TJI joists are only analyzed using Maximum Allowable bracing solutions.
- Maximum allowable bracing intervals based on applied load.

Vertical Load	Location	Spacing	Dead (0.90)	Floor Live (1.00)	Comments
1 - Uniform (PSF)	0 to 20'	16"	12.0	40.0	Default Load

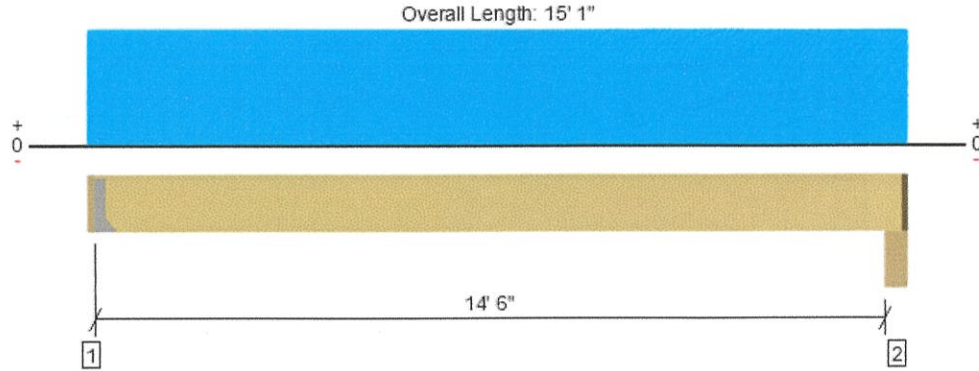
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ForteWEB Software Operator	Job Notes



Breakers, Deck Joist

1 piece(s) 2 x 10 DF No.2 @ 16" OC



Drawing is Conceptual. All locations are measured from the outside face of left support (or left cantilever end). All dimensions are horizontal (typ.).

Design Results	Actual @ Location	Allowed	Result	LDF	Load: Combination (Pattern)
Member Reaction (lbs)	535 @ 1 1/2"	1406 (1.50")	Passed (38%)	--	1.0 D + 1.0 L (All Spans)
Shear (lbs)	478 @ 10 3/4"	1665	Passed (29%)	1.00	1.0 D + 1.0 L (All Spans)
Moment (Ft-lbs)	1950 @ 7' 5"	2029	Passed (96%)	1.00	1.0 D + 1.0 L (All Spans)
Live Load Defl. (in)	0.343 @ 7' 5"	0.365	Passed (L/510)	--	1.0 D + 1.0 L (All Spans)
Total Load Defl. (in)	0.471 @ 7' 5"	0.729	Passed (L/371)	--	1.0 D + 1.0 L (All Spans)
TJ-Pro™ Rating	N/A	N/A	N/A	--	N/A

Member Length : 14' 10"
System : Floor
Member Type : Joist
Building Use : Residential
Building Code : IBC 2021
Design Methodology : ASD

- Deflection criteria: LL (L/480) and TL (L/240).
- Allowed moment does not reflect the adjustment for the beam stability factor.
- A 15% increase in the moment capacity has been added to account for repetitive member usage.
- Applicable calculations are based on NDS.
- No composite action between deck and joist was considered in analysis.

Supports	Bearing Length			Loads to Supports (lbs)			Accessories
	Total	Available	Required	Dead	Floor Live	Factored	
1 - Hanger on 9 1/4" DF Ledger	1.50"	Hanger ¹	1.50"	148	396	544	See note ¹
2 - Beam - DF	5.50"	4.00"	1.50"	153	409	562	1 1/2" Rim Board

- Rim Board is assumed to carry all loads applied directly above it, bypassing the member being designed.
- At hanger supports, the Total Bearing dimension is equal to the width of the material that is supporting the hanger
- ¹ See Connector grid below for additional information and/or requirements.

Lateral Bracing	Bracing Intervals	Comments
Top Edge (Lu)	2' 10" o/c	
Bottom Edge (Lu)	14' 10" o/c	

- Maximum allowable bracing intervals based on applied load.

Connector: Simpson Strong-Tie							
Support	Model	Seat Length	Top Fasteners	Face Fasteners	Member Fasteners	Accessories	
1 - Face Mount Hanger	LU28	1.50"	N/A	8-10dx1.5	6-10dx1.5		

- Refer to manufacturer notes and instructions for proper installation and use of all connectors.

Vertical Load	Location (Side)	Spacing	Dead (0.90)	Floor Live (1.00)	Comments
1 - Uniform (PSF)	0 to 15' 1"	16"	15.0	40.0	Default Load

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ForteWEB Software Operator	Job Notes



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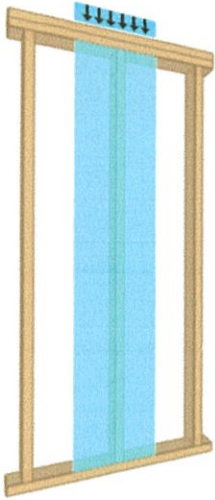
Wall/Column Design

Breakers, Typical Wall Stud
1 piece(s) 2 x 6 DF No.2 @ 16" OC

Wall Height: 8'

Member Height: 7' 7 1/2"

O. C. Spacing: 16.00"



Drawing is Conceptual

Design Results	Actual	Allowed	Result	LDF	Load: Combination
Slenderness	17	50	Passed (33%)	--	--
Compression (lbs)	1328	9777	Passed (14%)	1.15	1.0 D + 0.75 L + 0.75 S
Plate Bearing (lbs)	1328	6445	Passed (21%)	--	1.0 D + 0.75 L + 0.75 S
Lateral Reaction (lbs)	61	--	--	1.60	1.0 D + 0.6 W
Lateral Shear (lbs)	54	1584	Passed (3%)	1.60	1.0 D + 0.6 W
Lateral Moment (ft-lbs)	116 @ mid-span	1342	Passed (9%)	1.60	1.0 D + 0.6 W
Total Deflection (in)	0.04 @ mid-span	0.76	Passed (L/2356)	--	1.0 D + 0.45 W + 0.75 L + 0.75 S
Bending/Compression	0.17	1	Passed (17%)	1.60	1.0 D + 0.45 W + 0.75 L + 0.75 S

- Lateral deflection criteria: Wind (L/120)
- Input axial load eccentricity for this design is 16.67% of applicable member side dimension.
- Applicable calculations are based on NDS.
- A bearing area factor of 1.25 has been applied to base plate bearing capacity.
- A 15% increase in the moment capacity has been added to account for repetitive member usage.

Supports	Type	Material
Top	Dbl 2X	Douglas Fir-Larch
Base	2X	Douglas Fir-Larch

System : Wall
Member Type : Stud
Building Code : IBC 2021
Design Methodology : ASD

Max Unbraced Length	Comments
1'	

Lateral Connections				
Supports	Connector	Type/Model	Quantity	Connector Nailing
Top	Nails	8d (0.113" x 2 1/2") (Toe)	2	N/A
Base	Nails	8d (0.113" x 2 1/2") (Toe)	2	N/A

- Nailed connection at the top of the member is assumed to be nailed through the bottom 2x plate prior to placement of the top 2x of the double top plate assembly.

Vertical Load	Spacing	Dead (0.90)	Floor Live (1.00)	Roof Live (1.25)	Snow (1.15)	Comments
1 - Point (PLF)	16.00"	437.0	320.0	320.0	425.0	Default Load

Lateral Load	Location	Spacing	Wind (1.60)	Comments
1 - Uniform (PSF)	Full Length	16.00"	20.0	

- IBC Table 1604.3, footnote f: Deflection checks are performed using 42% of this lateral wind load.

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ForteWEB Software Operator	Job Notes



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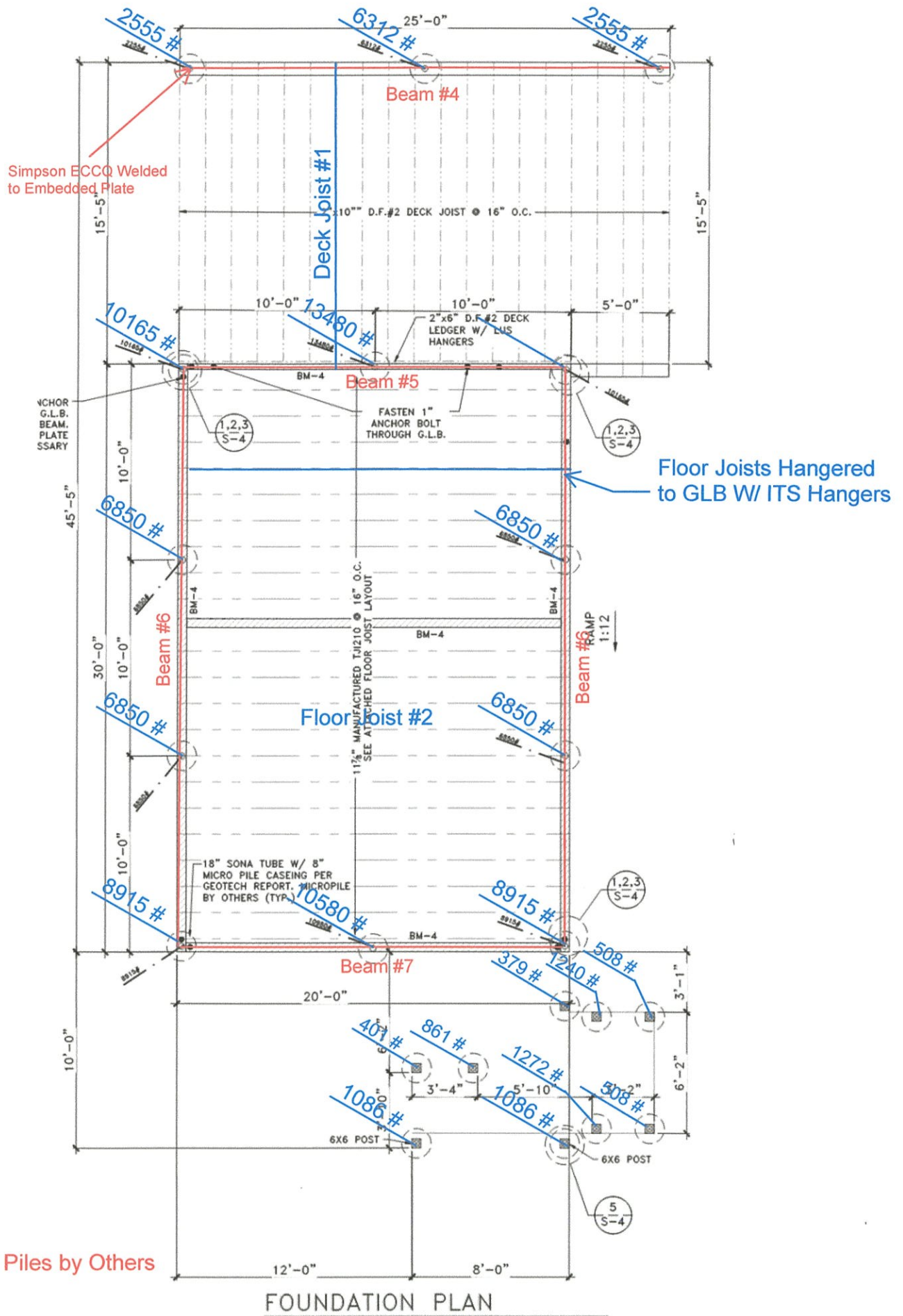
Post Allowable Loads

Post Allowable Compression Loads for Douglas Fir-Larch

Framing	Lumber		Perp. to Grain, P _C ⊥	Compression Parallel to Grain, P _C (100)					Compression Parallel to Grain, P _C (160)				
	Size	Grade		Nominal Top-Plate Height (ft.)					Nominal Top-Plate Height (ft.)				
				8	9	10	11	12	8	9	10	11	12
4-Inch Wall	2x4	#2	3,280	3,170	2,565	2,105	1,755	1,485	3,345	2,665	2,170	1,795	1,510
	3x4	#2	5,470	5,285	4,275	3,510	2,930	2,475	5,570	4,440	3,615	2,995	2,520
	(2) 2x4	#2	6,565	6,340	5,130	4,215	3,515	2,970	6,685	5,330	4,335	3,590	3,020
	4x4	#2	7,655	7,395	5,985	4,915	4,100	3,465	7,800	6,215	5,060	4,190	3,525
	(3) 2x4	#2	9,845	9,510	7,695	6,320	5,270	4,455	10,030	7,995	6,505	5,390	4,535
	4x6	#2	12,030	11,540	9,360	7,700	6,425	5,430	12,215	9,745	7,935	6,575	5,535
	4x8	#2	15,860	15,090	12,270	10,105	8,440	7,140	16,035	12,805	10,435	8,650	7,285
	4x10	#2	20,235	19,080	15,555	12,835	10,730	9,085	20,365	16,285	13,280	11,015	9,280
6-Inch Wall	2x6	#2	5,155	8,970	7,940	6,935	6,025	5,235	11,030	9,230	7,740	6,535	5,575
	3x6	#2	8,595	14,945	13,235	11,560	10,040	8,725	18,385	15,380	12,895	10,895	9,290
	(2) 2x6	#2	10,315	17,935	15,885	13,875	12,050	10,470	22,060	18,455	15,475	13,075	11,145
	4x6	#2	12,030	20,925	18,530	16,185	14,060	12,215	25,735	21,530	18,055	15,255	13,005
	(3) 2x6	#2	15,470	26,905	23,825	20,810	18,075	15,705	33,090	27,685	23,215	19,610	16,720
	6x6	#1	18,905	25,260	23,500	21,505	19,415	17,375	34,255	30,035	26,025	22,475	19,450
	6x8	#1	25,780	34,450	32,045	29,320	26,475	23,690	46,715	40,955	35,485	30,645	26,520

Post Allowable Compression Loads for Southern Pine

Framing	Lumber		Perp. to Grain, P _C ⊥	Compression Parallel to Grain, P _C (100)					Compression Parallel to Grain, P _C (160)				
	Size	Grade		Nominal Top-Plate Height (ft.)					Nominal Top-Plate Height (ft.)				
				8	9	10	11	12	8	9	10	11	12
4-Inch Wall	2x4	#2	2,965	2,815	2,270	1,860	1,550	1,310	2,955	2,350	1,910	1,580	1,330
	3x4	#2	4,945	4,690	3,785	3,105	2,585	2,180	4,920	3,920	3,185	2,635	2,220
	(2) 2x4	#2	5,935	5,625	4,540	3,725	3,100	2,620	5,905	4,700	3,820	3,165	2,660
	4x4	#2	6,920	6,565	5,295	4,345	3,615	3,055	6,890	5,485	4,460	3,690	3,105
	(3) 2x4	#2	8,900	8,440	6,810	5,585	4,650	3,925	8,860	7,050	5,735	4,745	3,990
	4x6	#2	10,875	10,260	8,295	6,810	5,675	4,790	10,800	8,600	6,995	5,795	4,875
	4x8	#2	14,335	13,450	10,890	8,950	7,460	6,305	14,195	11,315	9,210	7,630	6,420
	4x10	#2	18,290	17,055	13,835	11,380	9,495	8,030	18,055	14,405	11,730	9,720	8,180
6-Inch Wall	2x6	#2	4,660	8,195	7,190	6,230	5,385	4,660	9,905	8,235	6,875	5,795	4,930
	3x6	#2	7,770	13,655	11,980	10,385	8,975	7,765	16,510	13,725	11,460	9,655	8,220
	(2) 2x6	#2	9,325	16,390	14,375	12,465	10,765	9,320	19,810	16,470	13,755	11,590	9,865
	4x6	#2	10,875	19,120	16,775	14,540	12,560	10,875	23,115	19,215	16,045	13,520	11,505
	(3) 2x6	#2	13,985	24,580	21,565	18,695	16,150	13,980	29,715	24,700	20,630	17,385	14,795
	6x6	#1	17,090	21,495	20,270	18,835	17,260	15,655	30,025	26,820	23,595	20,610	17,975
	6x8	#1	23,305	29,315	27,640	25,680	23,540	21,345	40,940	36,575	32,180	28,105	24,515



Appendix A



Force Transfer Around Openings Calculator

TWO OPENINGS

The force transfer around openings (FTAO) method of shear wall analysis is an approach that aims to reinforce the wall such that it performs as if there were no opening. This approach lends certain advantages over segmented shear walls, more notably, because it allows for narrower wall segments while still meeting the height-to-width ratio and, often, fewer required hold-downs.

Project Information

Code:

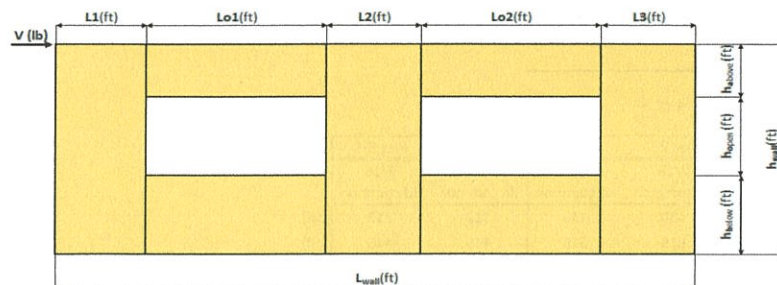
Date: 3/3/2025

Designer: JDM

Client:

Project: 48060 Breakers Blvd

Wall Line: Grid Line A Wall Element 1



Shear Wall Calculation Variables

Overall Wall Piering Analysis								
	V	3675 lbf	Opening 1		Opening 2		Wall Pier Aspect Ratio	Adj. Factor
L1	3.00 ft	ha1	1.00 ft	ha2	1.00 ft	P1=ho1/L1=	1.33	N/A
L2	4.75 ft	ho1	4.00 ft	ho2	4.00 ft	P2=ho2/L2=	0.84	N/A
L3	2.33 ft	hb1	3.00 ft	hb2	3.00 ft	P3=ho2/L3=	1.72	N/A
h _{wall}	8.00 ft	Lo1	5.00 ft	Lo2	5.00 ft			
L _{wall}	20.08 ft							

1. Hold-down forces: $H = Vh_{wall}/L_{wall}$ 1464 lbf

2. Unit shear above + below opening

First opening: $va1 = vb1 = H/(ha1+hb1) = 366$ plf

Second opening: $va2 = vb2 = H/(ha2+hb2) = 366$ plf

3. Total boundary force above + below openings

First opening: $O1 = va1 \times (Lo1) = 1830$ lbf

Second opening: $O2 = va2 \times (Lo2) = 1830$ lbf

4. Corner forces

$F1 = O1(L1)/(L1+L2) = 708$ lbf

$F2 = O1(L2)/(L1+L2) = 1122$ lbf

$F3 = O2(L2)/(L2+L3) = 1228$ lbf

$F4 = O2(L3)/(L2+L3) = 602$ lbf

5. Tributary length of openings

$T1 = (L1 \times Lo1)/(L1+L2) = 1.94$ ft

$T2 = (L2 \times Lo1)/(L1+L2) = 3.06$ ft

$T3 = (L2 \times Lo2)/(L2+L3) = 3.35$ ft

$T4 = (L3 \times Lo2)/(L2+L3) = 1.65$ ft

6. Unit shear beside opening

$V1 = (V/L)(L1+T1)/L1 = 301$ plf

$V2 = (V/L)(T2+L2+T3)/L2 = 430$ plf

$V3 = (V/L)(T4+L3)/L3 = 312$ plf

Check $V1 \times L1 + V2 \times L2 + V3 \times L3 = V?$ 3675 lbf OK

7. Resistance to corner forces

$R1 = V1 \times L1 = 903$ lbf

$R2 = V2 \times L2 = 2044$ lbf

$R3 = V3 \times L3 = 728$ lbf

8. Difference corner force + resistance

$R1-F1 = 195$ lbf

$R2-F2-F3 = -305$ lbf

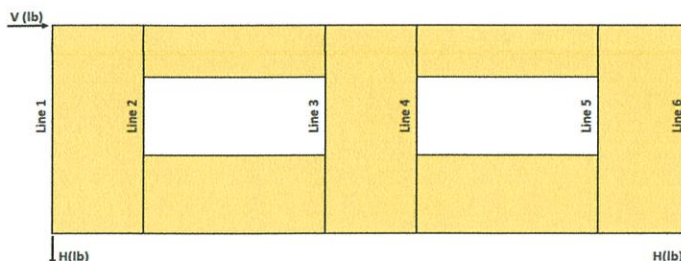
$R3-F4 = 125$ lbf

9. Unit shear in corner zones

$vc1 = (R1-F1)/L1 = 65$ plf

$vc2 = (R2-F2-F3)/L2 = -64$ plf

$vc3 = (R3-F4)/L3 = 54$ plf



Check Summary of Shear Values for Two Openings

Line 1: $vc1(ha1+hb1)+V1(ho1)=H?$	260	1204	1464 lbf
Line 2: $va1(ha1+hb1)-vc1(ha1+hb1)-V1(ho1)=0?$	1464	260	0
Line 3: $vc2(ha1+hb1)+V2(ho1)-va1(ha1+hb1)=0?$	-257	1721	0
Line 4: $va2(ha2+hb2)-V2(ho2)-vc2(ha2+hb2)=0?$	1464	1721	0
Line 5: $va2(ha2+hb2)-vc3(ha2+hb2)-V3(ho2)=0?$	1464	215	0
Line 6: $vc3(ha2+hb2)+V3(ho2)=H?$	215	1249	1464 lbf

Design Summary

Req. Sheathing Capacity	430 plf
Req. Strap Force	1228 lbf
Req. HD Force	1464 lbf

4-Term Deflection	0.690 in.
4-Term Story Drift %	0.029 %

See Page 2

3-Term Deflection	0.553 in.
3-Term Story Drift %	0.023 %

See Page 3

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Project Information

Code:		Date: 3/3/2025
Designer:	JDM	
Client:		
Project:	48060 Breakers Blvd	
Wall Line:	Grid Line A Wall Element 1	

Shear Wall Deflection Calculation Variables

Sheathing:		Wood End Post Values:		Nail Type: 8d common (penny weight)	
OSB	Sheathing Material	Species:	DF		
7/16	Performance Category	E:	1.60E+06 (psi)		
APA Rated Sheathing	Grade	Qty	Stud Size		
		Dimensions:	2 2x6		
	Gt Override	A:	16.5 (in. ²)		
	Ga Override	A Override:	(in. ²)		
				Pier 1	Pier 3
				Nail Spacing:	6 6 (in.)
				HD Capacity:	1540 1540 (lbf)
				HD Deflection:	0.088 0.088 (in.)

Four-Term Equation Deflection Check

$$\Delta = \frac{8vh^3}{EAb} + \frac{vh}{Gt} + 0.75he_a + d_a \frac{h}{b} \quad (\text{Equation 23-2})$$

	Pier 1-L	Pier 1-R	Pier 2-L	Pier 2-R	Pier 3-L	Pier 3-R	
Sheathing:	7/16	7/16	7/16	7/16	7/16	7/16	
Nail:	8d common	8d common	8d common	8d common	8d common	8d common	
V _{assd} :	301	301	430	430	312	312	(plf)
V _{strength} :	430	430	615	615	446	446	(plf)
E:	1.60E+06	1.60E+06	1.60E+06	1.60E+06	1.60E+06	1.60E+06	(psi)
h:	8.00	5.00	5.00	5.00	5.00	8.00	(ft)
A:	16.5	16.5	16.5	16.5	16.5	16.5	(in. ²)
Gt:	83,500	83,500	83,500	83,500	83,500	83,500	(lbf/in.)
Nail Spacing:	6	6	6	6	6	6	(in.)
Vn:	215	215	307	307	223	223	(plf)
e:	0.0418	0.0418	0.1227	0.1227	0.0466	0.0466	(in.)
b:	3.00	3.00	4.75	4.75	2.33	2.33	(ft)
HD Capacity:	1540	1540	1540	1540	1540	1540	(lbf)
HD Defl:	0.088	0.088	0.088	0.088	0.088	0.088	(in.)

Check Total Deflection of Wall System

Pier 1 (left)				Pier 1 (right)			
Term 1	Term 2	Term 3	Term 4	Term 1	Term 2	Term 3	Term 4
Bending	Shear	Fastener	HD-1	Bending	Shear	Fastener	HD-2
0.022	0.041	0.251	0.524	0.005	0.026	0.157	0.205
Sum			0.838	Sum			0.393
Pier 2 (left)				Pier 2 (right)			
Term 1	Term 2	Term 3	Term 4	Term 1	Term 2	Term 3	Term 4
Bending	Shear	Fastener	HD-1	Bending	Shear	Fastener	HD-2
0.005	0.037	0.460	0.185	0.005	0.037	0.460	0.185
Sum			0.687	Sum			0.687
Pier 3 (left)				Pier 3 (right)			
Term 1	Term 2	Term 3	Term 4	Term 1	Term 2	Term 3	Term 4
Bending	Shear	Fastener	HD-1	Bending	Shear	Fastener	HD-2
0.007	0.027	0.175	0.274	0.030	0.043	0.280	0.700
Sum			0.482	Sum			1.052

Total	
Defl.	(in.)
0.690	
0.0287	%drift

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Project Information

Code:		Date: 3/3/2025
Designer:	JDM	
Client:		
Project:	48060 Breakers Blvd	
Wall Line:	Grid Line A Wall Element 1	

Three-Term Equation Deflection Check

$$\delta_{sw} = \frac{8vh^3}{EAb} + \frac{vh}{1000G_a} + \frac{h\Delta_a}{b} \quad (4.3-1)$$

	Pier 1-L	Pier 1-R	Pier 2-L	Pier 2-R	Pier 3-L	Pier 3-R	
Sheathing:	7/16	7/16	7/16	7/16	7/16	7/16	
Nail:	8d common	8d common	8d common	8d common	8d common	8d common	
V _{asd} :	301	301	430	430	312	312	(plf)
V _{strength} :	430	430	615	615	446	446	(plf)
E:	1.60E+06	1.60E+06	1.60E+06	1.60E+06	1.60E+06	1.60E+06	(psi)
h:	8.00	5.00	5.00	5.00	5.00	8.00	(ft)
A:	16.5	16.5	16.5	16.5	16.5	16.5	(in. ²)
G _a :	15.0	15.0	15.0	15.0	15.0	15.0	(kips/in.)
b:	3.00	3.00	4.75	4.75	2.33	2.33	(ft)
HD Capacity:	1540	1540	1540	1540	1540	1540	(lbf)
HD Defl:	0.088	0.088	0.088	0.088	0.088	0.088	(in.)

Check Total Deflection of Wall System

Pier 1 (left)			Pier 1 (right)		
Term 1	Term 2	Term 3	Term 1	Term 2	Term 3
Bending	Shear	Fastener	Bending	Shear	Fastener
0.022	0.229	0.524	0.005	0.143	0.205
Sum		0.776	Sum		0.354
Pier 2 (left)			Pier 2 (right)		
Term 1	Term 2	Term 3	Term 1	Term 2	Term 3
Bending	Shear	Fastener	Bending	Shear	Fastener
0.005	0.205	0.185	0.005	0.205	0.185
Sum		0.395	Sum		0.395
Pier 3 (left)			Pier 3 (right)		
Term 1	Term 2	Term 3	Term 1	Term 2	Term 3
Bending	Shear	Fastener	Bending	Shear	Fastener
0.007	0.149	0.274	0.030	0.238	0.700
Sum		0.429	Sum		0.968

Total	
Defl.	
0.553	(in.)
0.0230	%drift

Comment: The 3-term equation is calibrated to be approximately equal to 4-term equation at 1.4*ASD capacity.

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Appendix B



Project: Lodging Residence

Job No: 2429

Subject: Simpson High-Strength Wood Strength Strong Wall

Date: 3-3-2025 By: JPM

Sht. 1 of

Shear and Grade A Main floor

$$V = 6706 \text{ lb}$$

Vertical Load $\rightarrow 996 \text{ PLF}$

$$\text{Load on Panel } 996(1.5) = 1494 \text{ lb}$$

SIMPSON WSWH 18x8 capacity $V = 3955 \text{ lb/panel}$

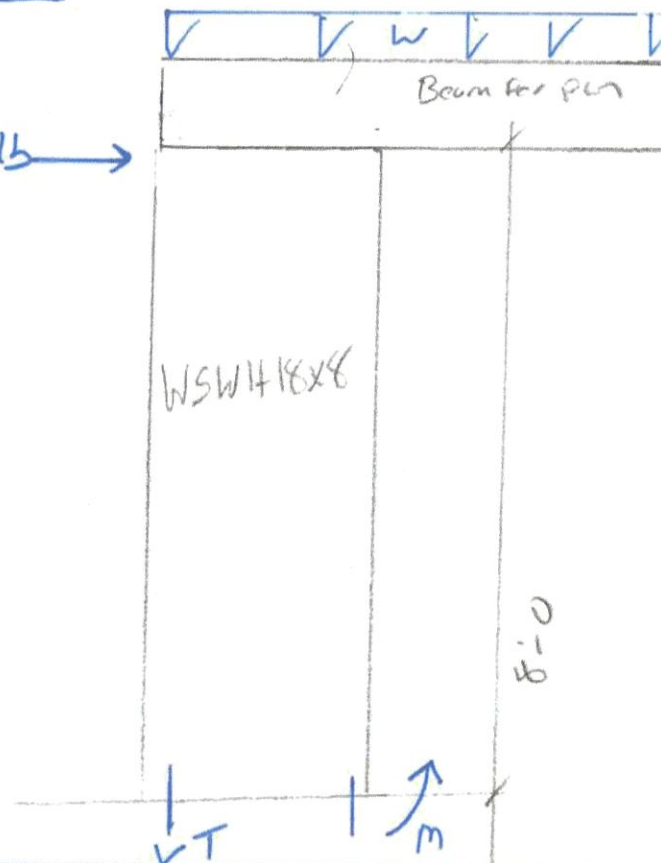
Use (2) Simpson WSWH 18x8 shear walls

$$2(3955 \text{ lb}) = 7910 \text{ lb} > 6706 \text{ lb} \text{ OK!}$$

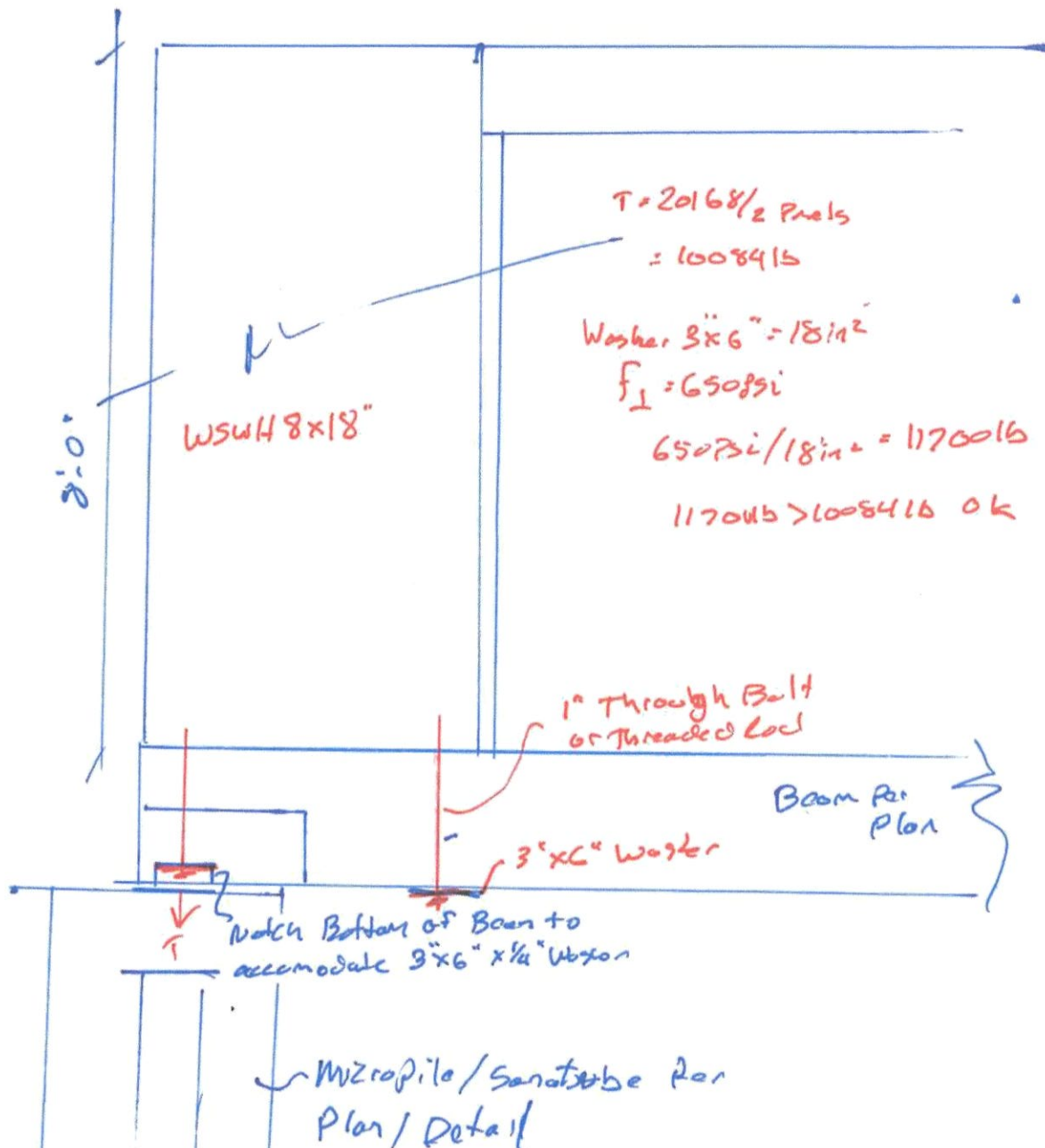
$$SM = 3353 \text{ lb}(8') + T(1.33') = 0$$

$$T = 20168 \text{ lb}$$

$$9353 \text{ lb} \rightarrow$$



Project: Lodging Residence Job No: 2429
 Subject: Strong Wall To Beam Connection
 Date: 3-8-2025 By: JDM Sht. of



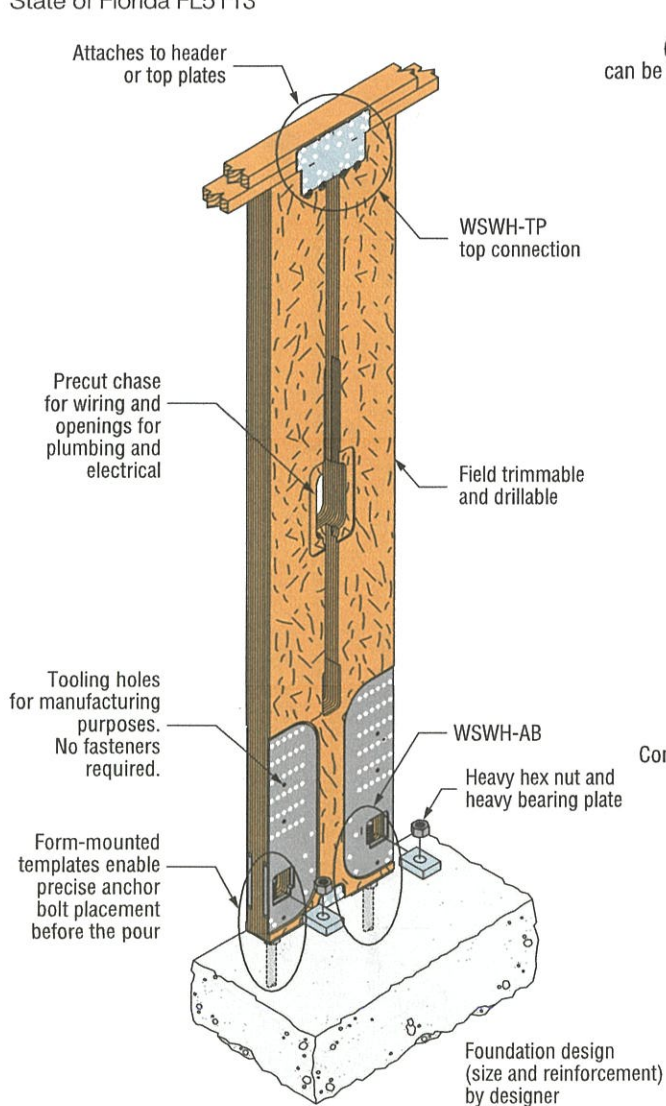
Standard and Balloon Framing on Concrete Foundations

Simpson Strong-Tie® Strong-Wall® high-strength wood shearwalls combine design flexibility with performance. Field trimmable, they can be customized to accommodate varying heights or rake walls. They are evaluated to the 2018 IRC/IBC and are listed by ICC-ES.

Installation

- All panels may be field trimmed to a minimum of 74½". Trim height from top of panel only, do not trim from sides or bottom. Drilling holes in the Strong-Wall high-strength wood shearwalls is not allowed except as shown on p. 36.
- Anchor bolt nuts should be finger tight plus ½ turn.
- Maximum shim thickness between the shearwall and top plates or header is 7⁄8". For additional shim thicknesses, see detail 9/WSWH2 on p. 35.
- Walls may also be used in 2x6 wall framing. Install the panel flush to the outside face of the framing and add furring to the opposite face as required to accommodate finish material. See detail 6/WSWH2 on p. 33.
- Top connection installs with a combination of SDS25600 Heavy-Duty Connector screws and SWS16150 Strong-Wall screws.

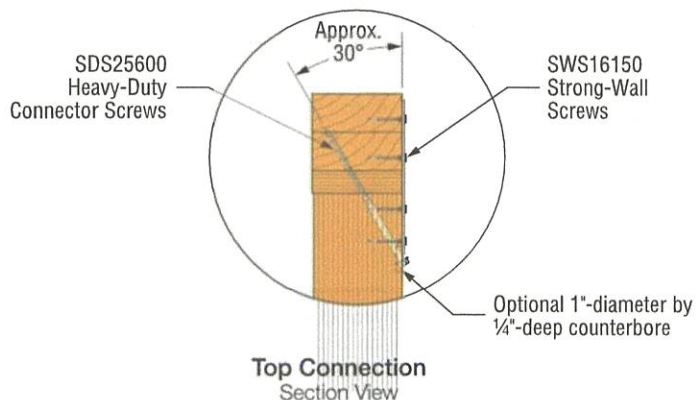
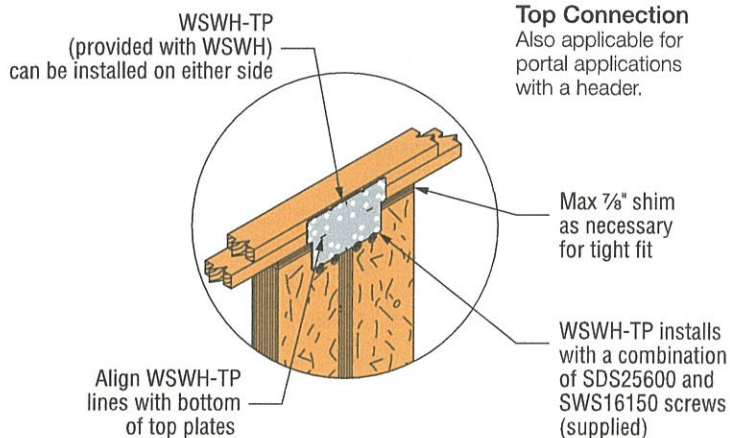
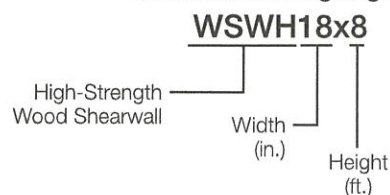
Codes: ICC-ES ESR-2652, City of LA Building Code Supplement and State of Florida FL5113



Standard Installation

US Patent 10,711,477

Strong-Wall High-Strength Wood Shearwall Naming Legend

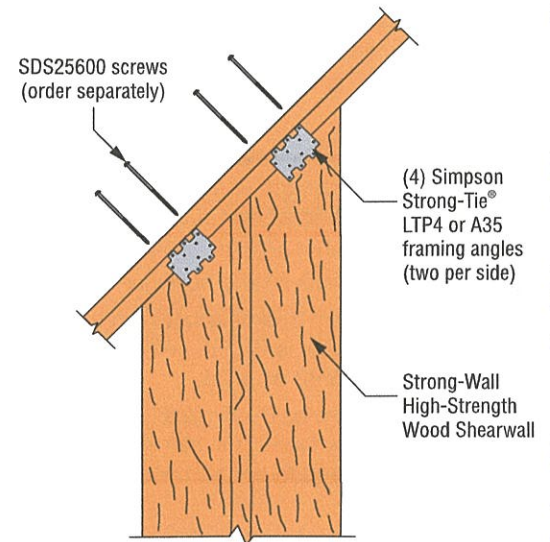


Standard and Balloon Framing on Concrete Foundations

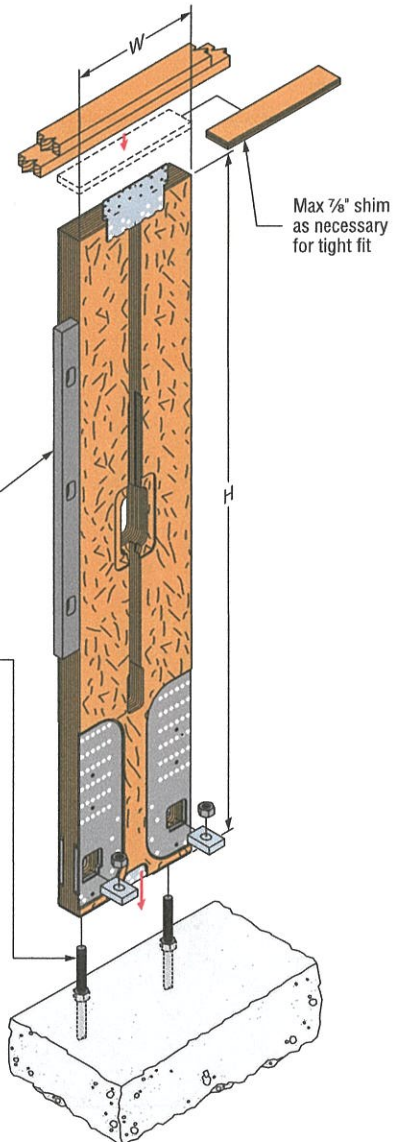
Strong-Wall® High-Strength Wood Shearwall Product Data

Model No.	Panel Information			Anchor Bolts	
	Width (in.)	Height (in.)	Weight (lb.)	Quantity	Diameter (in.)
WSWH12x7	12	84	105	2	1
WSWH18x7	18	84	155	2	1
WSWH12x8	12	96	120	2	1
WSWH18x8	18	96	175	2	1
WSWH24x8	24	96	225	2	1
WSWH12x9	12	108	130	2	1
WSWH18x9	18	108	195	2	1
WSWH24x9	24	108	250	2	1
WSWH12x10	12	120	145	2	1
WSWH18x10	18	120	210	2	1
WSWH24x10	24	120	275	2	1
WSWH12x12	12	144	165	2	1
WSWH18x12	18	144	245	2	1
WSWH24x12	24	144	325	2	1
WSWH18x14	18	168	285	2	1
WSWH24x14	24	168	370	2	1
WSWH24x16	24	192	420	2	1
WSWH18x20	18	240	390	2	1
WSWH24x20	24	240	520	2	1

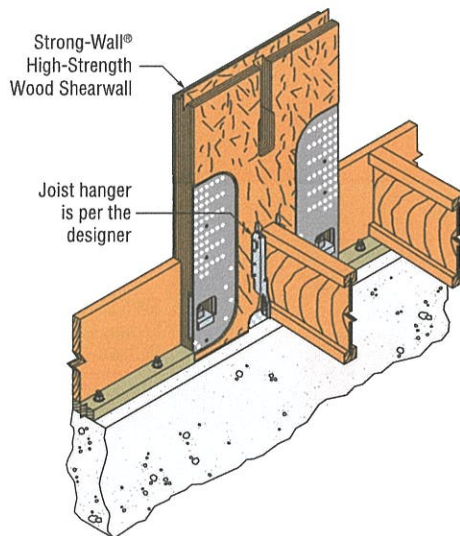
1. To achieve evaluated panel heights listed in the allowable load table or for those not listed, order the next tallest panel and trim to fit. Minimum trimmed height for all panels is 74½".
2. All panels are supplied with preattached holdowns, two heavy hex nuts, two heavy bearing plates, one WSWH-TP top connection plate (width based on panel model), required fasteners and installation instructions.
3. All panels are 3½" thick.



Rake Wall Application



Standard Installation



First-Story Installation with Wood Floor System

Specify panel height from top of foundation to underside of the top plates or beam.

- Place Strong-Wall High-Strength Wood Shearwall over the anchor bolts. Install the heavy bearing plates (provided) on the anchor bolts and secure with the heavy hex nuts (provided). Tighten nuts to finger tight plus ½ turn.
- 1½" wrench required for 1" heavy hex nut
 - WSWH anchor bolts extend 6½" above the concrete

Foundation design (size and reinforcement) by designer

Standard and Balloon Framing on Concrete Foundations

Allowable Out-of-Plane Loads for Single-Story Walls on Concrete Foundations (psf)

Panel Attachment	WSWH-TP Top Connection Fastening ¹	Strong-Wall High-Strength Wood Shearwall Model No.	Nominal Height of Shearwall (ft.)										
			7	8	9	10	11	12	13	14	16	18	20
Top Plates	Angled SDS Screws Omitted	WSWH12	N/A	N/A	85	75	70	35	N/A	N/A	N/A	N/A	N/A
		WSWH18	N/A	N/A	125	115	105	80	65	50	35	25	15
		WSWH24	N/A	N/A	120	110	100	80	65	50	35	25	15
	Angled SDS Screws Installed	WSWH12	420	290	205	145	95	35	N/A	N/A	N/A	N/A	N/A
		WSWH18	395	290	205	145	110	80	65	50	35	25	15
		WSWH24	370	290	205	145	110	80	65	50	35	25	15
Header ^{5,6}	Angled SDS Screws Installed	WSWH12	330	205	150	110	85	45	N/A	N/A	N/A	N/A	N/A
		WSWH18	285	205	150	110	85	65	N/A	N/A	N/A	N/A	N/A
		WSWH24	215	180	150	110	85	65	N/A	N/A	N/A	N/A	N/A

1. Loads shown are at ASD level in pounds per square foot with no further increase allowed.
2. Loads consider a maximum deflection limit of $H/240$.
3. Allowable out-of-plane loads can be applied in combination with the allowable vertical loads shown on pp. 14–15.
4. Angled SDS screws may be omitted for WSWH panels taller than 100" in standard applications; however, SWS16150 screws must be installed for all fastening conditions. When angled SDS screws are omitted, a reduced allowable out-of-plane load may apply.
5. Allowable values for header panel attachment assume a maximum header depth of 12". Use a load reduction factor of 0.94, 0.88 and 0.82 for 14", 16" and 18" deep headers respectively.
6. Allowable values shown for header panel attachment require the use of the portal straps to resist header rotation.
7. N/A = Not Applicable.

Allowable Axial Loads for Single-Story Walls on Concrete Foundations (lb.)

Strong-Wall High-Strength Wood Shearwall Model No.	Nominal Height of Shearwall (ft.)										
	7	8	9	10	11	12	13	14	16	18	20
WSWH12	30,700	22,400	17,900	14,600	12,100	9,800	N/A	N/A	N/A	N/A	N/A
WSWH18	53,500	39,100	31,200	25,400	21,000	17,000	14,500	12,600	9,600	7,600	6,200
WSWH24	72,000	56,100	44,700	36,400	30,200	24,400	20,900	18,000	13,900	11,000	8,900

1. Allowable ASD vertical load is the lesser of the WSWH panel buckling capacity and concrete bearing capacity beneath the holdowns assuming a minimum specified concrete compressive strength $f'_c = 2,500$ psi.
2. Allowable vertical loads assume concentric point load or uniformly distributed load without lateral loads present. For combined lateral and vertical loads, see pp. 14–15.
3. Tabulated loads apply to single-story panels on concrete foundations.
4. N/A = Not Applicable.

Garage Portal Systems on Concrete Foundations

Portal Design Information

A portal frame under lateral loads causes the portal header to experience internal stresses in addition to those created by the primary loads (live, dead and snow). These additional stresses are called induced forces and must be considered when designing portal headers. To account for the induced forces from lateral loads, a concentrated end moment equal to the top-of-panel moment must be placed at the end of the header that is connected to the WSWH panel. For the WSWH12, WSWH18 and WSWH24, the moment induced into the portal header must be taken as 20%, 10% and 0%, respectively, of the total lateral moment at the base. The total lateral moment is calculated as the design shear times the panel height. For headers with typical residential uniform loads, the induced moment and shear forces from a portal-frame system do not control the design. This is due to the 1.60 load duration factor (C_D) used in design when wind and seismic loads are included.

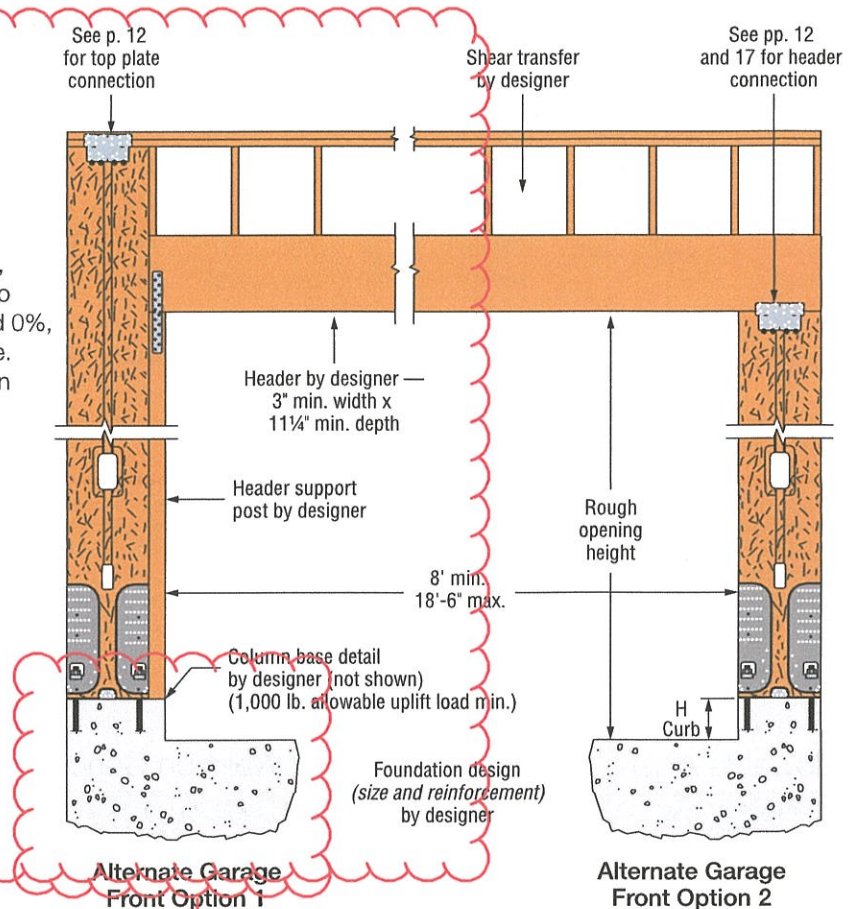
The lateral and vertical loads shown on p. 19 for portal frames assume that the header size falls within the portal-frame parameters listed in the table below.

Strong-Wall® High-Strength Wood Shearwall Portal Header Design Parameters

Header Design Parameter	Allowable Range
Width	3" – 5½"
Depth	11¼" – 18"
Clear Span	8' – 18' 6"
K	90 lb./in. – 4,000 lb./in.

1. Single- or multi-ply header members may be used.
2. Maximum clear span for multi-ply 2x DF/SP header shall be limited to 16'-4".
3. Secondary moment, shear and axial forces shall be considered in header design.
4. Header design shall be by designer and assume gravity loads only induce simple span moments in beam.
5. Header stiffness (K) for use in WSWH portal system may be determined using the following equation:

$$K = (E \times b \times d^3) / 12L^3$$
 where:
 E = Header modulus of elasticity (psi)
 b = Header width (in.)
 d = Header depth (in.)
 L = Header clear span (in.)



US Patent 10,711,477

Fastened to Glu-Lam Beam

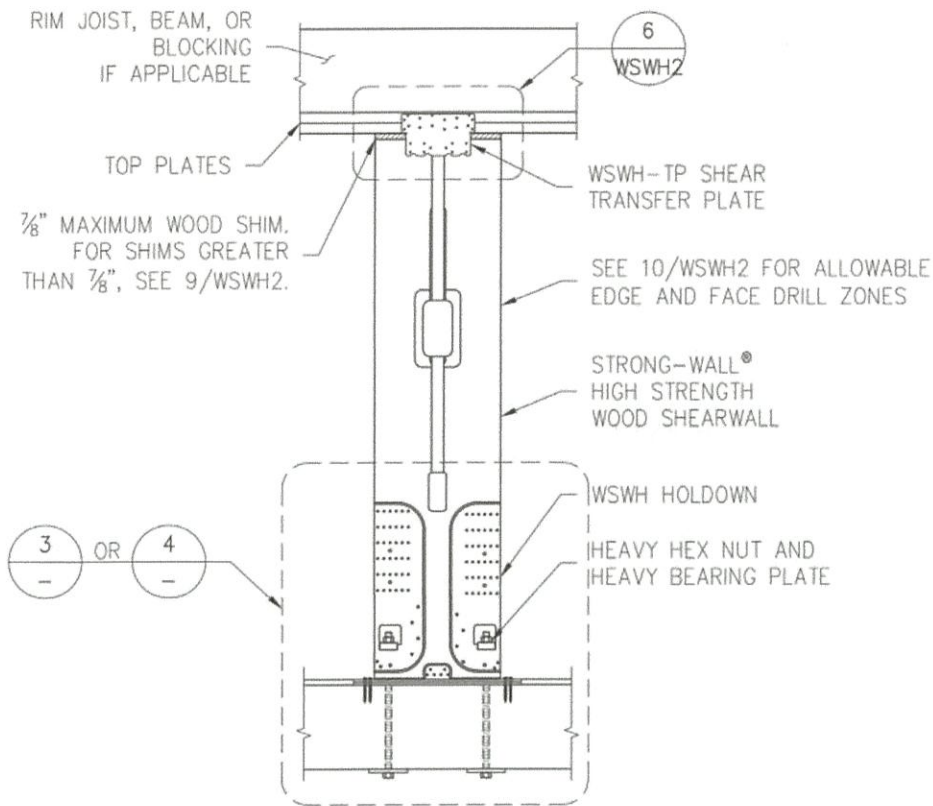
Alternative Garage Front Options

These alternative garage-front options may be used for applications when the Strong-Wall® high-strength wood shearwall is installed at the full height (option 1) or without the additional Portal-Frame Kit (option 2), when higher allowable load or reduced concrete anchorage is not needed. Refer to the Standard Application on Concrete Foundations on pp. 12–16 for product data and allowable load values.

For Garage Wall Option 2, the designer shall design for:

1. Shear transfer
2. Out-of-plane loading effect
3. Increased overturning and drift due to additional height

Structural Installation Details (cont.)

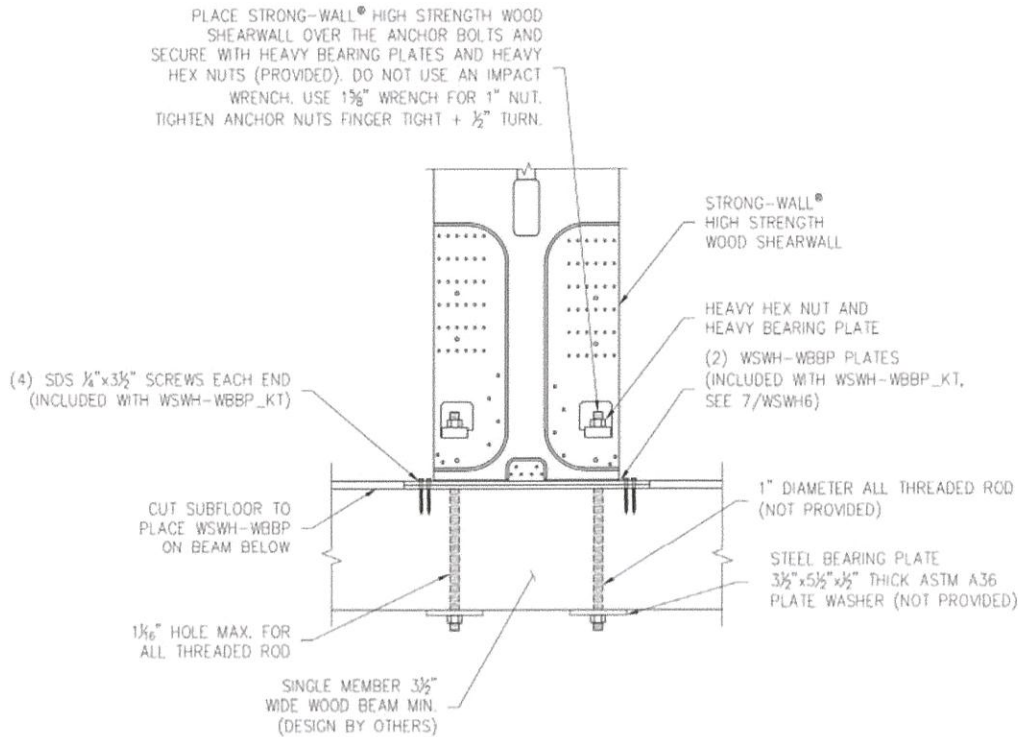


DESIGNER IS PERMITTED TO MODIFY
DETAILS FOR SPECIFIC CONDITIONS.

SINGLE-STORY WSWH ON WOOD BEAM

2/WSWH6

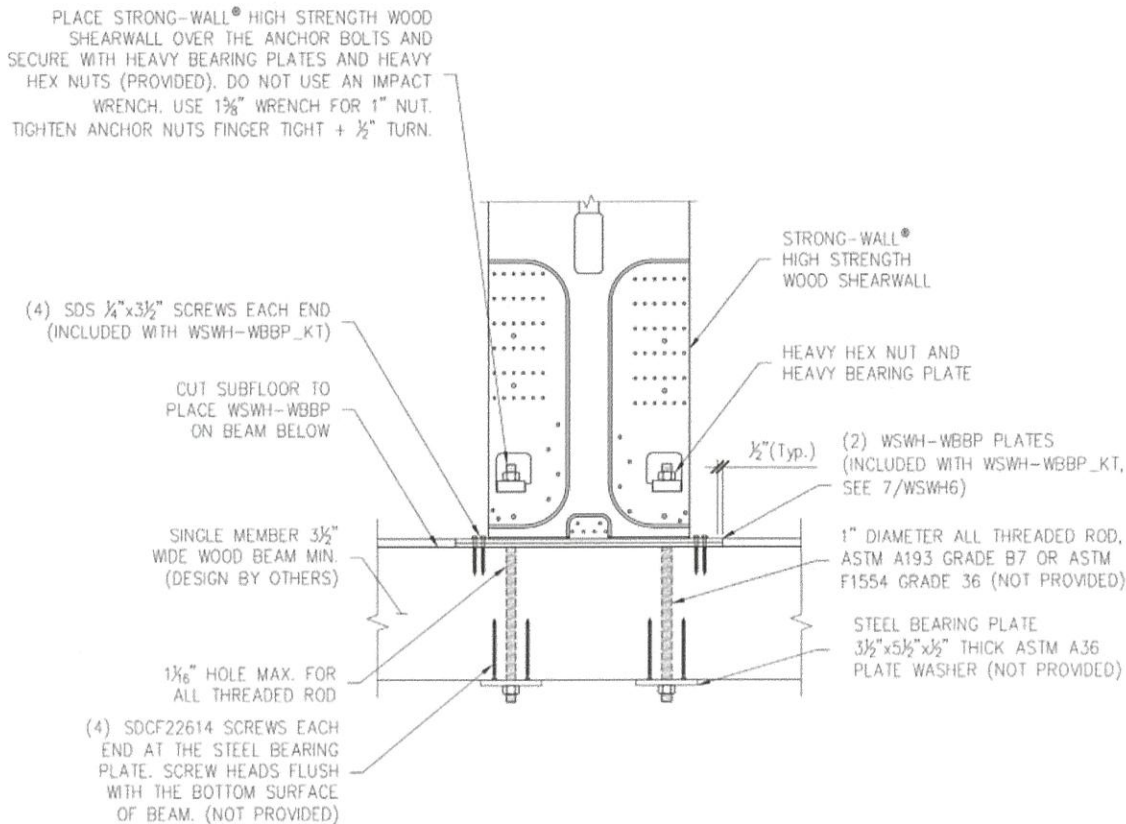
Structural Installation Details (cont.)



DESIGNER IS PERMITTED TO MODIFY DETAILS FOR SPECIFIC CONDITIONS.

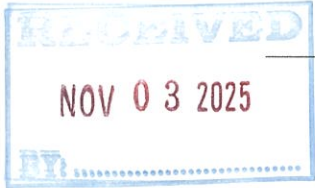
WSWH ON WOOD BEAM CONNECTION

3/WSWH6



WSWH ON WOOD BEAM CONNECTION WITH SDCF SCREWS

4/WSWH6



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FOR CITY OFFICIAL USE



NOTE: THESE PLANS HAVE BEEN PREPARED BY THE CONSULTANT FOR THE EXCLUSIVE USE OF THE CLIENT. THE CONSULTANT SHALL NOT BE RESPONSIBLE FOR ANY ERRORS OR OMISSIONS IN THE PLANS OR FOR ANY CONSEQUENCES ARISING FROM THE USE OF THE PLANS. THE CLIENT SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND FOR COMPLYING WITH ALL APPLICABLE CODES AND REGULATIONS. THE CONSULTANT'S LIABILITY IS LIMITED TO THE PROFESSIONAL SERVICES RENDERED AND SHALL NOT EXCEED THE FEE FOR SUCH SERVICES. THE CONSULTANT SHALL NOT BE RESPONSIBLE FOR ANY DELAYS OR DAMAGES CAUSED BY THE CLIENT'S FAILURE TO PROVIDE ACCURATE INFORMATION OR FOR ANY OTHER REASON. THE CONSULTANT'S LIABILITY SHALL BE LIMITED TO THE AMOUNT OF THE FEE FOR SUCH SERVICES. THE CONSULTANT SHALL NOT BE RESPONSIBLE FOR ANY CONSEQUENCES ARISING FROM THE USE OF THE PLANS. THE CLIENT SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND FOR COMPLYING WITH ALL APPLICABLE CODES AND REGULATIONS. THE CONSULTANT'S LIABILITY IS LIMITED TO THE PROFESSIONAL SERVICES RENDERED AND SHALL NOT EXCEED THE FEE FOR SUCH SERVICES. THE CONSULTANT SHALL NOT BE RESPONSIBLE FOR ANY DELAYS OR DAMAGES CAUSED BY THE CLIENT'S FAILURE TO PROVIDE ACCURATE INFORMATION OR FOR ANY OTHER REASON. THE CONSULTANT'S LIABILITY SHALL BE LIMITED TO THE AMOUNT OF THE FEE FOR SUCH SERVICES.

GENERAL NOTES:

- ALL WORK IS TO COMPLY WITH THE LATEST ADOPTED VERSION OF THE 2022 OREGON STRUCTURAL SPECIALTY CODE & IBC 2021 AND ANY APPLICABLE OTHER STATE, COUNTY OR LOCAL JURISDICTION.
- THE CONTRACTOR IS RESPONSIBLE TO CHECK THE PLANS AND IS TO NOTIFY THE ENGINEER OF ANY ERRORS OR OMISSIONS PRIOR TO THE START OF CONSTRUCTION.
- WRITTEN DIMENSIONS SHALL HAVE PRECEDENCE OVER SCALED DIMENSIONS. DO NOT SCALE THE DRAWINGS.
- ALL EXTERIOR WALLS TO BE BUILT OF 2"x6" STUDS @ 16" O.C. TYPICALLY UNLESS NOTED OTHERWISE. ALL INTERIOR WALLS ARE TO BE BUILT OF 2"x STUDS @ 16" O.C. TYPICALLY UNLESS NOTED OTHERWISE. ALL INTERIOR WALLS SUPPORTING TWO OR MORE FLOORS AND 1 OR MORE ROOF/CEILING ASSEMBLIES SHALL BE 2X6 STUDS @ 16" O.C. FOUNDATION CRIPPLE WALLS SHALL BE FRAMED OF STUDS NOT LESS IN SIZE THAN THE STUDDING ABOVE. WHEN EXCEEDING 4'-0" IN HEIGHT, SUCH WALL SHALL BE FRAMED OF STUDS HAVING THE SIZE REQUIRED FOR AN ADDITIONAL STORY.
- DESIGN LOADS: ROOF (LIVE LOAD) 20 PSF
FLOOR 40 PSF
STAIRS 40 PSF
DECKS 40 PSF
ATTIC STORAGE (CLG. JST) 30 PSF

FOUNDATION NOTES:

- FOOTINGS ARE TO BEAR ON UNDISTURBED LEVEL SOIL DEVOID OF ANY ORGANIC MATERIAL AND STEPPED AS REQUIRED TO MAINTAIN THE REQUIRED DEPTH BELOW THE FINAL GRADE.
- REFER TO GEO TECH REPORT FOR ALL INFORMATION REGARDING BUILDING SITES SOIL BEARING PRESSURE, EXCAVATION, FILLS, COMPACTION ETC.
- EXCAVATE SITE TO PROVIDE A MIN. OF 18" CLEARANCE UNDER ALL FLOOR BEAMS.
- ALL WOOD IN CONTACT WITH CONCRETE TO BE PRESSURE TREATED

FRAMING NOTES:

- ALL EXTERIOR WALL OPENINGS & BEARING WALL OPENINGS TO HAVE HEADERS AS SHOWN ON THE PLANS.
- ALL EXTERIOR WALLS TO BE BUILT OF 2"x STUDS @ 16" O.C. TYPICALLY UNLESS NOTED OTHERWISE. ALL INTERIOR WALLS ARE TO BE BUILT OF 2"x STUDS @ 16" O.C. TYPICALLY UNLESS NOTED OTHERWISE. ALL INTERIOR WALLS SUPPORTING TWO OR MORE FLOORS AND 1 OR MORE ROOF/CEILING ASSEMBLIES SHALL BE 2X6 STUDS @ 16" O.C. FOUNDATION CRIPPLE WALLS SHALL BE FRAMED OF STUDS NOT LESS IN SIZE THAN THE STUDDING ABOVE. WHEN EXCEEDING 4'-0" IN HEIGHT, SUCH WALLS SHALL BE FRAMED OF STUDS HAVING THE SIZE REQUIRED FOR AN ADDITIONAL STORY UNLESS SPECIFIED OTHERWISE.
- ALL METAL CONNECTIONS TO BE "SIMPSON" OR EQUIVALENT. U.N.O. JOISTS HUNG ON FLUSH BEAMS TO BE ATTACHED WITH LUS210 OR EQUIVALENT. MULTIPLE JOISTS USE LUS210-2/LUS210-3 AS REQUIRED. USE OF 10dX1" NAILS ARE ALLOWED WITH THESE TYPE OF HANGERS UNLESS NOTED ON THE PLANS. SEE NAIL CONVERSION CHART FROM CURRENT SIMPSON CATALOG FOR OTHER NOTES AND RESTRICTIONS THAT MAY APPLY.
- PROVIDE DOUBLE JOISTS UNDER ALL WALLS ABOVE, RUNNING PARALLEL TO JOISTS AND SOLID BLOCKING BELOW ALL BEARING WALLS RUNNING PERPENDICULAR TO FLOOR JOISTS.
- PROVIDE POSITIVE VENTILATION AT EACH END OF EACH RAFTER SPACE AT VAULTED CLG. AREAS, AND INSULATION BAFFLES AT EAVE VENTS BETWEEN RAFTERS. RAFTERS VENTILATION IS ALSO REQUIRED AT BLOCKING LOCATIONS ABOVE THE PLATE.
- RIDGE BOARDS, HIPPS, AND VALLEYS SHALL BE NOT LESS THAN IN DEPTH THAN THE CUT END OF THE RAFTER.
- PROVIDE FIRE BLOCKING, DRAFT STOPS, & FIRE STOPS AS PER THE ORSC.
- HIPS, VALLEY'S AND RIDGES SHALL NOT BE LESS IN DEPTH THAN THE END CUT OF THE RAFTER.
- LUMBER SPECS:
A. POSTS, BEAMS, HEADERS, JOISTS AND RAFTERS NO. 2 DOUGLAS FIR
B. SILLS, PLATES, BLOCKING BRIDGING ETC. NO. 3 DOUGLAS FIR
C. STUDS STUD GRADE B.F..
D. STUDS OVER 10' HIGH NO. 2 OR BETTER D/F.
E. POST & BEAM DECKING UTILITY GRADE D/F
F. PLYWOOD SHEATHING 1/2" CDX PLY, 32/16
G. GLU-LAM BEAMS Fb=2400, DRY ADH.
(EXT. ADH @ EXT. CONDITIONS)
H. PSL MATERIALS * Fb = 2900 E = 2.0 Fv = 290
LVL MATERIALS ** Fb = 2600 E = 1.8 Fv = 285
* PSL INDICATES PARALLEL STRAND LUMBER
** LVL INDICATES LAMINATED VENEER LUMBER
- APPLY GYPSUM BOARD ON ALL INTERIOR WALLS.
- ALL INTERIOR SHEATHING PER TABLE R602.3(1) OR R602.3(2). U.N.O.
- GARAGE WALLS SEPARATING RESIDENCE TO BE SHEATHED WITH 1/2" MIN. GYPSUM BOARD PER TABLE R702.3.5

DRAWING INDEX

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NOTICE

ALL FEDERAL, STATE, AND LOCAL CODES, ORDINANCES, REGULATIONS ECT. SHALL BE CONSIDERED AS PART OF SPECIFICATIONS FOR THIS BUILDING AND SHALL TAKE PREFERENCE OVER ANYTHING SHOWN, DESCRIBED, OR IMPLIED IN THESE BUILDING PLANS. COORDINATE ALL APPLICABLE MODIFICATIONS TO THESE DRAWINGS AS REQUIRED.

NOTE:

DESIGNER IS NOT AN ARCHITECT OR ENGINEER AND ASSUMES NO LIABILITY FOR THE PLANS IN PART OR WHOLE AND/OR THE CONSTRUCTION OF THE WORK CONTAINED HERE IN. A QUALIFIED PROFESSIONAL SHOULD REVIEW PLANS FOR ERRORS AND OMISSIONS. THESE PLANS SHOULD NOT BE UNDERTAKEN WITHOUT THE ASSISTANCE OF A QUALIFIED CONSTRUCTION PROFESSIONAL. THESE PLANS ARE INTENDED TO BE GUIDELINES FOR CONSTRUCTION, THE CONTRACTOR RESERVES THE RIGHT TO MAKE SUCH MINOR DEVIATIONS AS DEEMED NECESSARY AS LONG AS SUCH DEVIATIONS PROMOTE THE OVERALL EFFICACY AND AESTHETICS OF THE PLAN CONTRACTOR SHALL VERIFY AND BE RESPONSIBLE FOR ALL DIMENSIONS AND CONDITIONS ON THE JOB. DESIGNER MUST BE NOTIFIED OF ANY DISCREPANCIES OR VARIATIONS OF AND FROM THESE DRAWINGS PRIOR TO WORK ON THE JOB

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DATE: 7/8/2025

SCALE: 1/4"=1'-0"

DRAWN: ES

JOB: 23-134

SHEET:

1

ENERGY COMPLIANCE
TABLE N1101.1(1)
PRESCRIPTIVE ENVELOPE REQUIREMENTS

BUILDING COMPONENT	REQUIRED PERFORMANCE	EQUIVALENT VALUE ^B
WALL INSULATION - ABOVE GRADE	U-0.059 ^C	R-21 INTERMEDIATE ^C
WALL INSULATION - BELOW GRADE ^A	C-0.083	R-15 c.i. / R-21
FLAT CEILINGS ^F	U-0.021	R-49
VAULTED CEILINGS ^F	U-0.033	R-30 RAFTER OR R-30A ^A SCISSOR TRUSS
UNDERFLOORS	U-0.033	R-30
SLAB EDGE PERIMETER	F-0.520	R-15
HEATED SLAB INTERIOR ^I	N/A	R-10
WINDOWS ^J	U = 0.27	U = 0.27
SKYLIGHTS	U = 0.50	U = 0.50
EXTERIOR DOORS ^K	U = 0.20	U = 0.20

- For SI: 1 inch = 25.4mm 1 square foot = 0.0929 m² 1 degree = 0.0175 rad N/A = not applicable
- A. As allowed in section N1104.1 thermal performance of a component may be adjusted, provided that overall heat loss does not exceed the total resulting in conformance to the required U-factor standards. Calculations to document equivalent heat loss shall be performed using the procedure and approved U-factors contained in Table N1104.1(1).
- B. R-values used in this table are nominal for the insulation only in standard wood-framed construction and not for the entire assembly.
- C. Wall insulation requirements apply to all exterior wood-framed, concrete, or masonry walls that are above grade. This includes cripple walls & rim joist areas. Nominal compliance with R-21 insulation and Intermediate Framing (N1104.2.2) with insulated headers.
- D. The wall component shall be a minimum solid log or timber wall thickness of 3 1/2 inches.
- E. Below-grade wood, concrete, or masonry walls include all walls that are below grade and do not include those portions of such wall that extend more than 24 inches above grade. R-21 for insulation in heated cavity; R-15 continuous insulation.
- F. Insulation levels for ceilings that have limited attic/rafter depth such as dormers, bay windows, or similar architectural features totaling not more than 150 sq. ft. in area may be reduced to not less than R-21. Where reduced, the cavity shall be filled (except for required ventilation spaces). R-49 insulation installed to minimum 6-inch depth at top plate at exterior of structure to achieve U-factor.
- G. Vaulted ceiling surface area exceeding 50 percent of the total heated space floor area shall have a U-factor not greater than U-0.028 (equivalent to R-38 rafter or scissor truss with R-38 advanced framing).
- H. A=Advanced frame construction. See Section N1104.6
- I. Heated slab interior applies to concrete slab floors (both on and below grade) that incorporate a radiant heating system within the slab. Insulation shall be installed underneath the entire slab in addition to perimeter insulation.
- J. Glass doors shall comply with window performance requirements. Windows exempt from testing in accordance with section N1104.4 shall comply with window performance requirements if constructed with aluminum with thermal break, wood, vinyl, reinforced vinyl, aluminum-clad wood, or insulated fiberglass frames, and double-pane glazing with low-emissivity coatings of 0.10 or less. Buildings designed to incorporate passive solar elements may include glazing with a U-factor greater than 0.35 by using Table N1104.1(1) to demonstrate equivalence to building envelope requirements.
- K. A maximum of 26 square feet of exterior door area per dwelling unit can have a U-factor of 0.54 or less.
- L. Minimum 24-inch horizontal or vertical below grade. The minimum total distance of 24 inches may be a combination of the horizontal and vertical planes. If a horizontal plane is used on the exterior of the slab, it must be a minimum of 12 inches below finished grade.

NOTE

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ENERGY COMPLIANCE
TABLE N1101.1(2)
ADDITIONAL MEASURES

☐	1	HIGH-EFFICIENCY HVAC SYSTEM ^A a. Gas-fired furnace or boiler AFUE 94%, or b. Air-source heat pump HSPF 10.0/14.0 SEER cooling or 8.5 HSPF2 / 15.0 SEER2, or c. Ground-source heat pump COP 3.5 or ENERGY STAR rated
☐	2	HIGH-EFFICIENCY WATER HEATING SYSTEM a. Natural gas/propane water heater with minimum 0.80 UEF, or b. Electric heat pump water heater with minimum 3.45 UEF, or c. Natural gas/propane tankless/instantaneous heater with minimum 0.80 UEF and drain water heat recovery unit installed on minimum of one shower/tub-shower
☐	3	WALL INSULATION UPGRADE Exterior walls - U-0.045/R-21 conventional framing with R-5.0 continuous insulation
☐	4	ADVANCED ENVELOPE Windows - U-0.21 (area weighted average), and Flat Ceiling ^F - U-0.017/R-80, and Framed Floors - U-0.026/R-38 or slab edge insulation to F-0.46 or less (R-10 for 48"; R-15 for 36"; or R-5 fully insulated slab)
☐	5	DUCTLESS HEAT PUMP (Dwelling units with all-electric heat) a. Provide ductless heat pump of minimum HSPF 10.0 or HSPF2 9.0 in primary zone replaces zonal electric heat sources, and b. Provide programmable thermostat for all heaters in bedrooms
☐	6	HIGH EFFICIENCY THERMAL ENVELOPE UA ^C Proposed UA is 6% lower than the code UA
☐	7	2.75 ACH AIR LEAKAGE CONTROL AND EFFICIENT VENTILATION Achieve a maximum of 2.75 ACH50 whole-house air leakage when third-party tested and provide a whole-house ventilation system, including heat recovery with a minimum sensible heat recovery efficiency of not less than 65% and total fan efficacy of 1.6 CFM/Watt (combined input for supply and exhaust)

- For SI: 1 square foot = 0.0929 m² 1 watt per square foot = 10.8 W/m²
- A. Appliances located within the building thermal envelope shall have sealed combustion air installed. Combustion air shall be ducted directly from the outdoors.
- B. The maximum vaulted ceiling surface area shall not be greater than 50 percent of the total heated space floor area unless vaulted area has a U-factor no greater than U-0.028.
- C. In accordance with Table N1104.1(1), the Proposed UA total of the Proposed Alternative Design shall be a minimum 6% less than the code UA total of the Standard Base Case

TABLE N1101.3 - SMALL-ADDITIONAL MEASURES (SELECT ONE)		
☐	1	Increase the ceiling insulation of the existing portion of the home as specified in Table N1101.2
☐	2	Replace all existing single-pane wood or aluminum windows to the U-factor as specified in Table N1101.2
☐	3	Insulate the existing floor, crawl space, or basement wall systems as specified in Table N1101.2 and install 100% of permanently installed lighting fixtures as CFL, LED, or linear fluorescent, or a minimum efficacy of 40 lumens per watt as specified in Section N1107.2.
☐	4	Test the entire dwelling with a blower door and exhibit not more than 4.5 air changes per hour @ 50 Pascals.
☐	5	Seal and performance test the duct system.
☐	6	Replace existing 80-percent AFUE or less gas furnace with a 94-percent AFUE or greater system.
☐	7	Replace existing electric radiant space heaters with a ductless mini split system with a min. HSPF of 10.0 or HSPF2 of 9.0
☐	8	Replace existing electric forced-air furnace with an air source heat pump with a minimum HSPF of 9.5 or HSPF2 of 8.1
☐	9	Replace existing water heater with one of the following: a. Natural gas/propane water heater with minimum 0.90 UEF, or b. Electric heat pump water heater with minimum 3.45 UEF

N1104.4.3 FENESTRATION AIR LEAKAGE

Windows, skylights, and sliding glass doors shall have an air infiltration rate of not greater than 0.3 CFM per square foot (1.5 L/s/m²), and for swinging doors, not greater than 0.5 CFM per square foot (2.6 L/s/m²) when tested in accordance with NFRC 400 or AAMA/NWMA/CSA 1017.8.2/A440 by an accredited, independent laboratory and listed and labeled by the manufacturer.

Exception: Site-built windows, skylights, and doors

N1104.8.2 SEALING REQUIRED

Exterior joints around window and door frames; between wall cavities and window or door frames; between walls and foundation; between walls and roof; between wall panels; at penetrations or utility services through walls, floors, and roofs; and all other openings in the exterior envelope shall be sealed in a manner approved by the building official.

Sealing for the purpose of creating a continuous air barrier shall be in accordance with the applicable requirements of Table N1104.8, or the dwelling shall be tested to demonstrate a blower door result not greater than 3.25 ACH50.

AIR BARRIER INSTALLATION
AND SEALING REQUIREMENTS
TABLE N1104.8

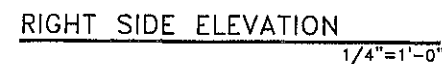
COMPONENT	AIR BARRIER CRITERIA
GENERAL REQUIREMENTS	A continuous air barrier shall be installed in alignment with the building thermal envelope. Breaks or joints in the air barrier shall be sealed.
CEILING / ATTIC	The air barrier in any dropped ceiling or soffit shall be aligned with the insulation and any gaps in the air barrier shall be sealed. Access openings, drop-down stairs, or knee wall doors to unconditioned attic spaces shall be gasketed and sealed.
WALLS	The junction of the foundation and sill plate shall be sealed. The junction of the top plate and the top of walls shall be sealed between wall cavities and windows or door frames. All penetrations or utility services through the top and bottom plates shall be sealed. Knee walls shall be sealed.
WINDOWS, SKYLIGHTS, AND DOORS	The space between framing and skylights, and the jambs of windows and doors shall be sealed.
RIM / BAND JOISTS	Rim/band joists shall be a part of the thermal envelope and have a continuous air barrier.
FLOORS (including cantilevered floors and floors above garages)	The air barrier shall be installed at any exposed edge of insulation.
CRAWL SPACE WALLS	Exposed earth in unvented crawl spaces shall be covered with a Class I vapor retarder with overlapping joints taped.
SHAFTS & PENETRATIONS	Duct shafts, utility penetrations and flue shafts opening to exterior or unconditioned space shall be sealed.
GARAGE SEPARATION	Air sealing shall be provided between the garage and conditioned spaces.
RECESSED LIGHTING	Recessed light fixtures installed in the building thermal envelope shall be sealed to the finished surface.
SHOWERS & TUBS ON EXTERIOR WALLS	The air barrier installed at exterior walls adjacent to showers and tubs shall separate the wall from the shower or tub.
ELECTRICAL & PHONE BOXES ON EXTERIOR WALLS	The air barrier shall be installed behind electrical and communication boxes. Alternatively, air-sealed boxes shall be installed.
HVAC REGISTER BOOTS	HVAC supply and return register boots that penetrate the building thermal envelope shall be sealed to the subfloor, wall covering, or ceiling penetrated by the boot.

NOTE: THESE PLANS WERE PREPARED BY THE DESIGNER FOR THE CLIENT'S USE ONLY. THE CLIENT IS RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND FOR VERIFYING THAT THE PLANS COMPLY WITH ALL APPLICABLE CODES AND REGULATIONS. THE DESIGNER ASSUMES NO LIABILITY FOR THE PLANS IN PART OR WHOLE AND/OR THE CONSTRUCTION OF THE WORK CONTAINED HEREIN. A QUALIFIED PROFESSIONAL SHOULD REVIEW PLANS FOR ERRORS AND OMISSIONS. THESE PLANS SHOULD NOT BE UNDERTAKEN WITHOUT THE ASSISTANCE OF A QUALIFIED CONSTRUCTION PROFESSIONAL. THESE PLANS ARE INTENDED TO BE GUIDELINES FOR CONSTRUCTION. THE CONTRACTOR RESERVES THE RIGHT TO MAKE SUCH MINOR DEVIATIONS AS DEEMED NECESSARY AS LONG AS SUCH DEVIATIONS PROMOTE THE OVERALL EFFICIENCY AND AESTHETICS OF THE PLAN. CONTRACTOR SHALL VERIFY AND BE RESPONSIBLE FOR ALL DIMENSIONS AND CONDITIONS ON THE JOB. DESIGNER MUST BE NOTIFIED OF ANY DISCREPANCIES OR VARIATIONS OF AND FROM THESE DRAWINGS PRIOR TO WORK ON THE JOB.

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JOB: 23-134
SHEET:



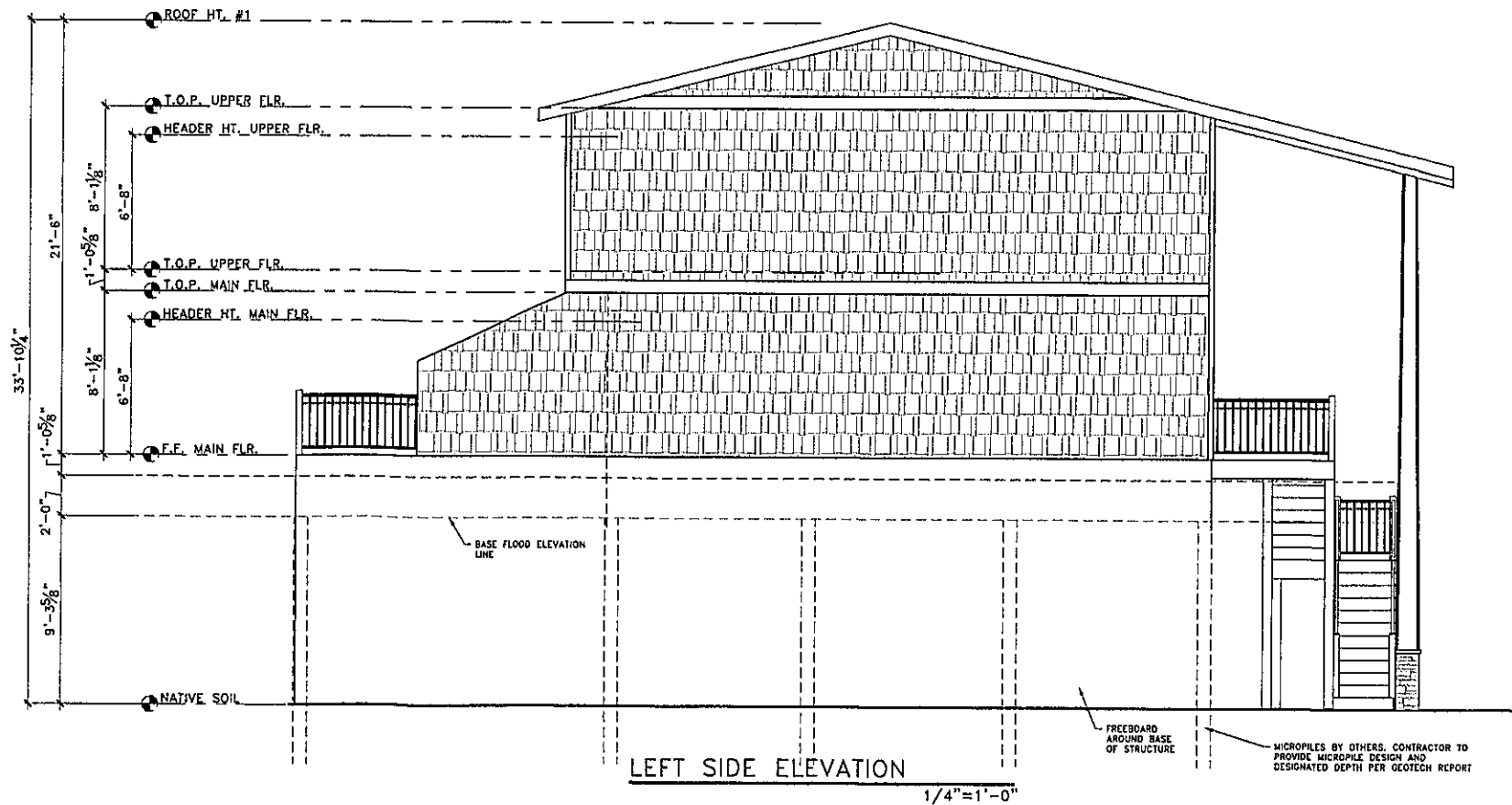
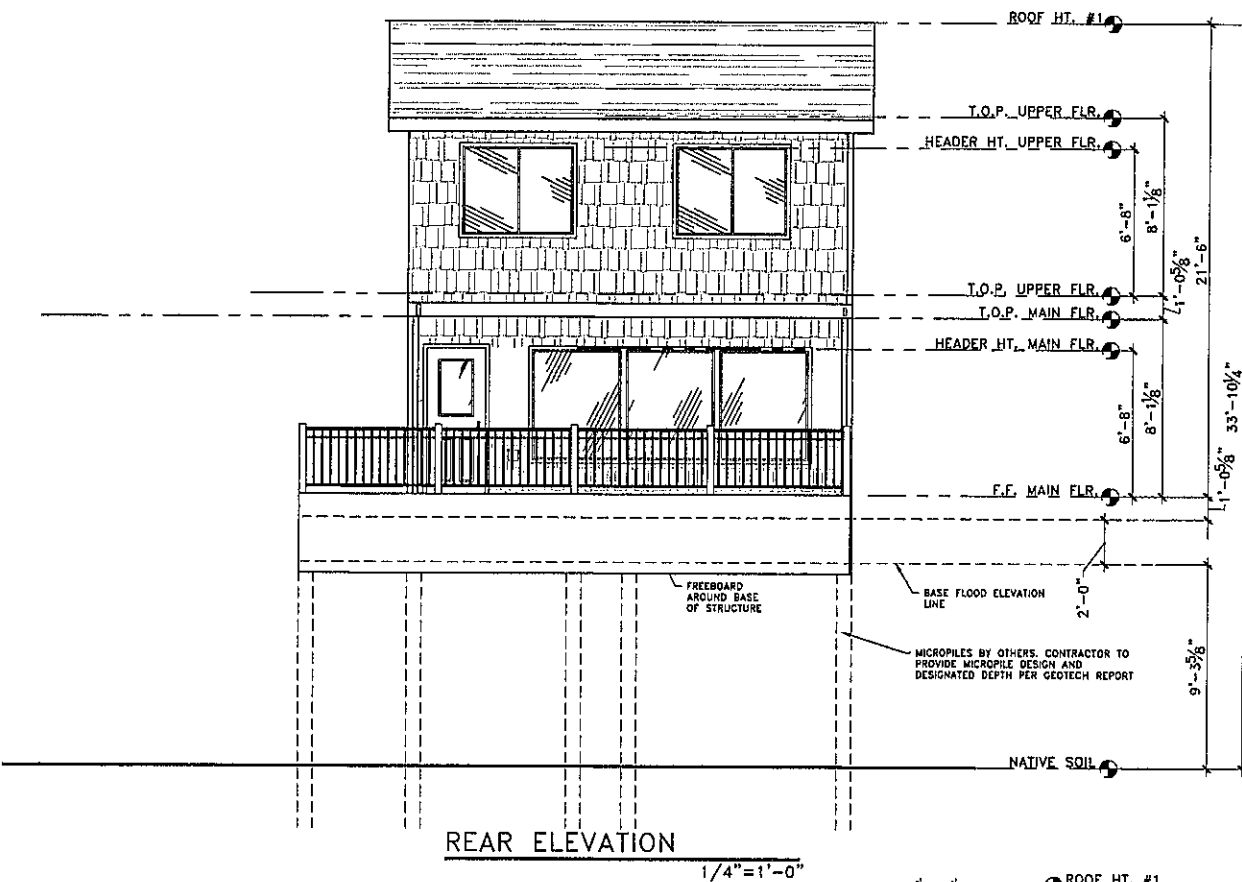
TOPLINE
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DATE: 7/8/2025
SCALE: 1/4"=1'-0"
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3



NOTE:
DESIGNER IS NOT AN ARCHITECT OR ENGINEER AND ASSUMES NO LIABILITY FOR THE PLANS IN PART OR WHOLE AND/OR THE CONSTRUCTION OF THE WORK CONTAINED HERE IN. A QUALIFIED PROFESSIONAL SHOULD REVIEW PLANS FOR ERRORS AND OMISSIONS. THESE PLANS SHOULD NOT BE UNDERTAKEN WITHOUT THE ASSISTANCE OF A QUALIFIED CONSTRUCTION PROFESSIONAL. THESE PLANS ARE INTENDED TO BE GUIDELINES FOR CONSTRUCTION, THE CONTRACTOR RESERVES THE RIGHT TO MAKE SUCH MINOR DEVIATIONS AS DEEMED NECESSARY AS LONG AS SUCH DEVIATIONS PROMOTE THE OVERALL EFFICACY AND AESTHETICS OF THE PLAN. CONTRACTOR SHALL VERIFY AND BE RESPONSIBLE FOR ALL DIMENSIONS AND CONDITIONS ON THE JOB. DESIGNER MUST BE NOTIFIED OF ANY DISCREPANCIES OR VARIATIONS OF AND FROM THESE DRAWINGS PRIOR TO WORK ON THE JOB

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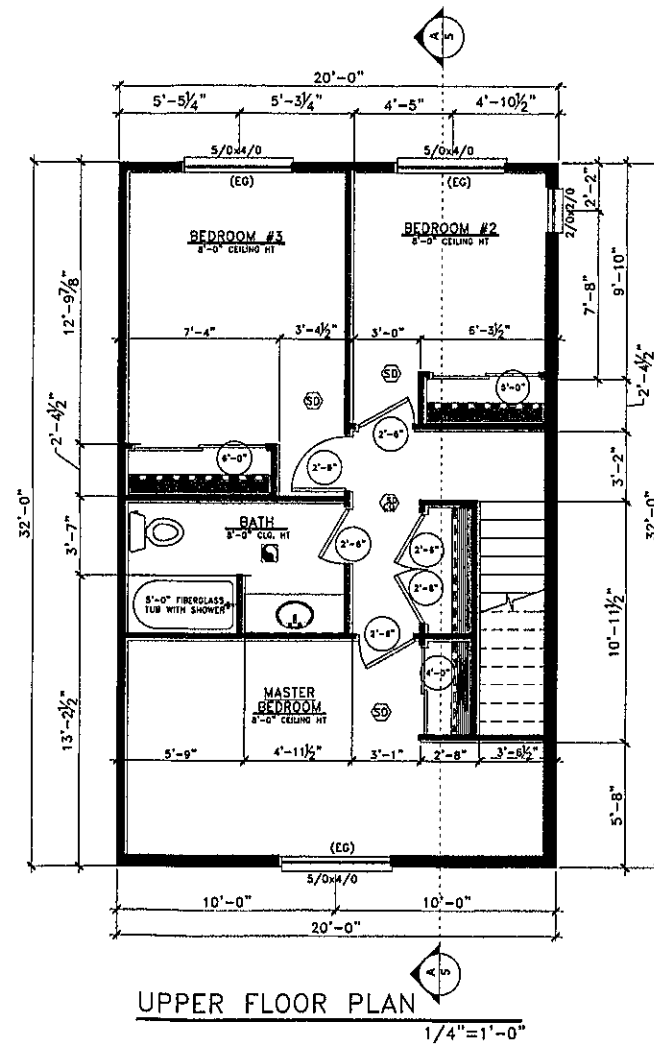
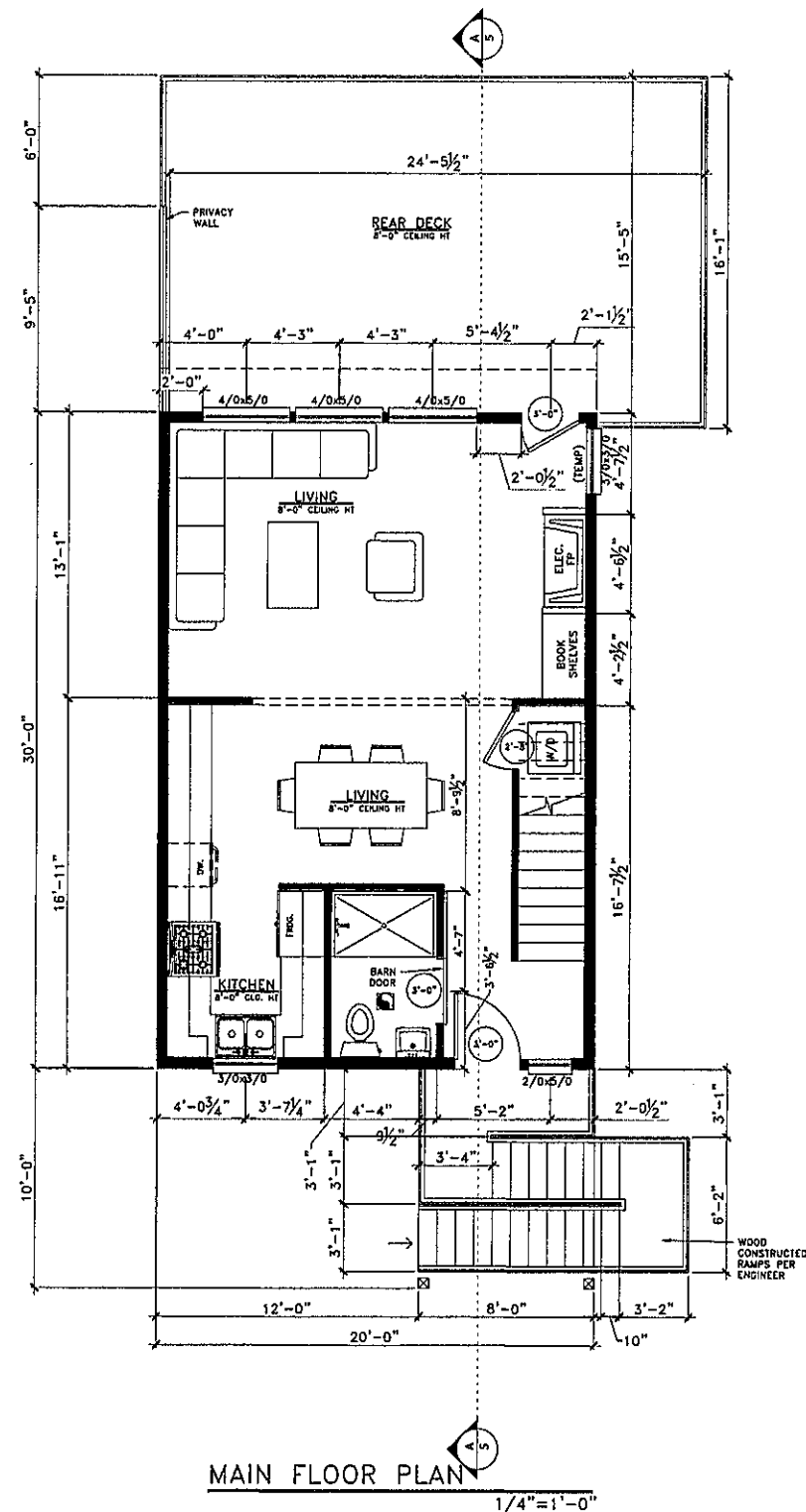
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NOTE:
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ELEC. NOTES:
ALL ELECTRICAL APPLIANCES, OUTLETS, ELECTRICAL RECEPTACLES SHALL BE INSTALLED 1FT ABOVE BASE FLOOD ELEVATION MIN.

MECH NOTE:
UNIT WILL BE HEATED USING A ELECTRIC BASE BOARD HEATING SYSTEM.
ALL APPLIANCES WILL BE ELECTRIC, NO GAS RUNS.

LEGEND

- FAN
- SMOKE/CARBON MONOXIDE DETECTOR
- SMOKE DETECTOR
- (EG) EGRESS WINDOW
- (TEMP.) WINDOWS WITH TEMPERED GLASS

DOOR SCHEDULE			
COUNT	WIDTH	FUNCTION	NOTES
2	3'-0"	EXTERIOR DOORS	
1	2'-8"	INTERIOR DOORS	
6	2'-6"	INTERIOR DOORS	
1	6'-0"	INTERIOR BYPASS	
1	5'-0"	INTERIOR BYPASS	
1	4'-0"	INTERIOR BYPASS	
1	3'-0"	INTERIOR BARN DOORS	

WINDOW SCHEDULE		
COUNT	SIZE	NOTES
1	2/0x5/0	
1	2/0x2/0	
2	3/0x3/0	
3	5/0x4/0	

MAIN FLOOR AREA = 600 sf
UPPER FLOOR AREA = 640 sf
DECK & RAMP AREA = 466 sf
COVERED PORCH AREA = 80 sf
TOTAL HEATED AREA = 1,240 sf

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NOTE: THE USER OF THESE PLANS IS RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND FOR COMPLYING WITH ALL APPLICABLE CODES AND REGULATIONS. THE DESIGNER ASSUMES NO LIABILITY FOR ANY DAMAGE OR INJURY RESULTING FROM THE USE OF THESE PLANS. THE USER SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND FOR COMPLYING WITH ALL APPLICABLE CODES AND REGULATIONS. THE DESIGNER ASSUMES NO LIABILITY FOR ANY DAMAGE OR INJURY RESULTING FROM THE USE OF THESE PLANS.

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1. INSTALL 50 YEAR MALARKEY LEGACY BLACK COMPOSITION SHINGLE OVER 30# ROOFING FELT, INSTALLED PER MANUFACTURER SPECS.
2. PROVIDE MINIMUM 26 GAUGE GALVANIZED METAL FLASHING AT ALL ROOF TO WALL, AND ROOF TO CHIMNEY CONDITIONS. (A MIN. OF 8" ABOVE ROOF SHEATHING)
3. ROOF PITCH AS SHOWN ON THE ROOF PLAN 3:12
4. INSTALL RAIN GUTTER AND DOWNSPOUT AS REQUIRED.
5. 2'-0" OVERHANGS UNLESS NOTED OTHERWISE.
6. MANUFACTURED TRUSSES BY OTHERS @ 24" O.C. U.N.O.
7. PROVIDE POSITIVE SUPPORT UNDER EACH GIRDER TRUSS WITH EITHER A 6x6 POST OR 2X BUILT UP
8. APPLY DOUBLE UNDERLAYMENT FELT ON ANY ROOFS WITH LESS THAN A 4:12 PITCH

TOPLINE

DRAFTING & DESIGN

Architectural drawing of a roof plan. The drawing shows a large rectangular area divided into four quadrants, each labeled "SLOPE 3/12". A dashed line indicates the continuation of the roof slope to a covered porch area, labeled "CONTINUE ROOF SLOPE TO COVERED PORCH". A small rectangular area at the bottom is marked with "X" symbols.

Architectural elevation drawing of a house, showing structural details, room labels, and dimensions. The drawing includes the following elements:

- Roof:** TYPICAL TRUSS ROOF, ASPHALT SHINGLES 7/16" ROOFING PLYWOOD (OSB) C/B "H" CLIPS U.N.O. BY ENGINEER. PRE ENGINEERED TRUSSES @ 24" O.C. 2x4 TRUSS BRACING, R-49 INSULATION FLAT CEILING R-30A VAULTED CEILING INSULATION, #15 FELT V.B. 1/2" CEILING BOARD TAPED & SANDED. MANUFACTURED TRUSSES @ 24" O.C. SEE MANUFACTURED DRAWINGS FOR TRUSS LAYOUT. CONTRACTOR TO INSTALL ROOF VENTILATION RIDGE CAP. IF FURTHER VENTILATION IS NEEDED, INSTALL 8" X 8" ROOF VENTILATION JACKS AS REQUIRED BY CODE FOR PROPER VENTILATION OF ATTIC AREA, INCLUDE JACKS FOR HOOD VENT AND BATHROOM FAN IF NECESSARY.
- Rooms:** MASTER BEDROOM (8'-0" CEILING HT), BEDROOM #2 (8'-0" CEILING HT), LIVING (8'-0" CEILING HT), LIVING (8'-0" CEILING HT).
- Dimensions:**
 - Roof HT. #1
 - T.O.P. UPPER FLR.
 - HEADER HT. UPPER FLR.
 - 6'-8"
 - 8'-1 1/8"
 - 21'-6"
 - T.O.P. UPPER FLR.
 - T.O.P. MAIN FLR.
 - HEADER HT. MAIN FLR.
 - 6'-8"
 - 8'-1 1/8"
 - 33'-10 1/8"
 - E.E. MAIN FLR.
 - 2'-0"
 - 9'-5 7/8"
 - NAIVE SOIL
- Structural Details:**
 - COVERED PORCH ROOF FRAMING PER PLAN
 - EXTERIOR WALL TYPICAL 2X6 STUDS @ 16" O.C.
 - 7/16" PLYWOOD (OSB) SHEATHING WALL INSULATION R-21 HOUSEWRAP V.B. SHAKE SIDING
 - NEW EXTERIOR WALLS OF 2X6 STUDS @ 16" O.C. (UNLESS NOTED OTHERWISE).
 - ALL WALL & CLGS. OF 1/2" & 5/8" GYPSUM ALL JOINTS TAPED MUDD, DOUBLE FLUSHED AND SANDED WALLS W/ SPLATTER OR KNOCK DOWN TEXTURE CLGS. BROCADE.
 - R-30 FLOOR INSULATION
 - JOIST PER STRUCTURAL PLANS
 - DECK JOIST PER STRUCTURAL PLANS
 - DECK FRAMING PER STRUCTURAL PLANS
 - BASEFLOOD ELEVATION
 - 2'-0"
 - 2'-0"
 - MICROPILES BY OTHERS, CONTRACTOR TO PROVIDE MICROPILE DESIGN AND DESIGNATED DEPTH PER GEOTECH REPORT

[illegible]

48060 Breakers Bld.
Neskowin, OR 97149

6

FOR CITY OFFICIAL USE

LEGEND

- DESIGNATED LOCATION OF HOLDDOWN
SEE SHEET S-2 FOR MORE INFORMATION
- ☒ 8X8 POST UNDER BEAM
- ☒ 6X6 POST OR (4) 2X BUILT UP UNDER BEAM
- ☒ 4X4 POST OR (3) 2X BUILT UP UNDER BEAM
- ☒ 4X6 POST OR 2X BUILT UP UNDER BEAM

• COLUMNS SHALL CONTINUE DOWN TO BEAM OR FOUNDATION

DESIGN CRITERIA:

ROOF LOAD: 15 PSF DL & 25 PSF LL
FLOOR LOAD: 12 PSF DL & 40 PSF LL

CONCRETE:

SLABS: 4" THICK - 3,000 PSI OVER COMPACTED 3/4"-ROCK
CONCRETE GRADE BEAM: 3,000 PSI MINIMUM

FLOOR FRAMING NOTES

- FLR. SHTH. = 7/8" APA RATED T&G INSTALLED PERPENDICULAR TO FLOOR FRAMING, GLUED AND NAILED W/ 10d AT 6" O.C. AT PANEL EDGES AND AT 12" O.C. AT FIELD (U.N.O.)
- VERIFY AND COORDINATE ALL DIMENSIONS WITH FLOOR PLANS.
- EXTERIOR WALLS: 7/16" OSB (24/0) OR APA RATED SHTH. W/ 8d AT 6" O.C. AT EDGES AND 12" O.C. AT FIELD UNLESS NOTED OTHERWISE - SEE SHEAR WALL SCHEDULE.
- PROVIDE SOLID BLK FRAMING UNDER ALL BEAMS, HEADERS, BEARING WALLS AND POST TRANSFERS FROM ROOF TO FND.

BEAM SCHEDULE

MARK	SIZE	TYPE	SUPPORT 1	SUPPORT 2	NOTES
BM-1	6x8	DF #1	ECCQ	ECCQ	
BM-2	6X12	DR #1	ECC/CC/ECCLR	ECC/CC/ECCLR	SEE SIMPSON WEBSITE FOR LALLY CAP SIZING
BM-3	(2) 1 1/2"x11 1/8"	2.0E LVL	BIW	BIW	
BM-4	3 1/2"x15"	24F-V4 G.L.B.	ECC/CC/ECCLR	ECC/CC/ECCLR	

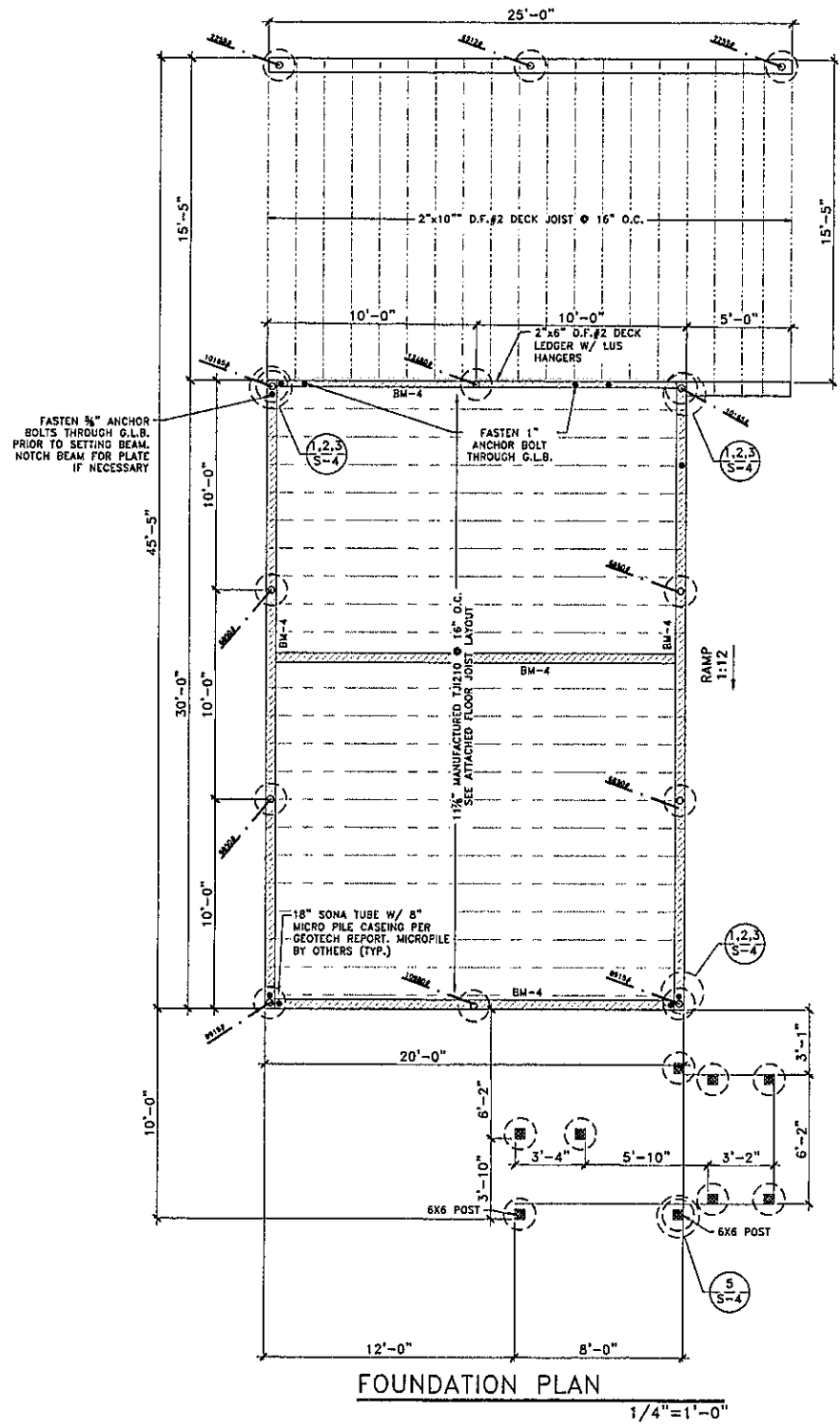
NOTE:
HEADER & BEAM SCHEDULE SHOWN HERE IS A SUMMARIZATION OF ALL BEAMS USED FOR THIS BUILD. SEE ENGINEERING PACKET FOR MORE INFORMATION AND INDIVIDUAL BEAM CALCULATIONS.

HOLDDOWN SCHEDULE

HOLDDOWN TYPE	HOLDDOWN	ANCHOR BOLT	ANCHOR DIAMETER	EMBED LENGTH	MIN. STEM WALL WIDTH	WOOD MEMBER	CONNECTION TO WOOD MEMBER	REMARKS	ALLOWABLE LOAD
☒ No Holdown									
☒ HDU2	55TD24	5/8"	20 5/8"	6"	(2) 2x6 ⁶	(6) 1/4"x2-1/2" ⁷			3,075#
☒ HDU4	55S/6x24	5/8"	18"	6"	(2) 2x6 ⁶	(10) 1/4"x2-1/2" ⁷			4,565#
☒ HDU5	55S/6x24	5/8"	18"	6"	4x6	(14) 1/4"x2-1/2" ⁷			5,645#
☒ HDU8	55T/8x24	7/8"	18"	8"	6x6	(20) 1/4"x2-1/2" ⁷			7,870#
☒ HDU11	PAB7-30	1"	26 3/4"	8"	6x6	(30) 1/4" x2-1/2" ⁷			9,230#
☒ HD12	PAB8-30	1"	26 3/4"	8"	6x6	(4) 1" DIA. M.B.			14,220#
☒ HDU14	PAB8-30	1"	26 3/4"	8"	(1) 6x6	(36) 1/4"x2-1/2" ⁷			14,445#
☒ MSTC28	N/A	N/A	N/A	N/A	(2) 2x6 ⁶	(16) - 16d Sinker			1,540#
☒ MSTC40	N/A	N/A	N/A	N/A	(2) 2x6 ⁶	(32) - 16d Sinker			3,080#
☒ MSTC52	N/A	N/A	N/A	N/A	(2) 2x6 ⁶	(48) - 16d Sinker			4,620#
☒ MSTC66	N/A	N/A	N/A	N/A	(2) 2x6 ⁶	(64) - 16d Sinker			5,860#

Notes:
1. Holdowns by Simpson Strong-Tie Company, Inc. See Simpson catalog for proper installation.
2. Holddowns at holdown anchors prior to concrete pour.
3. Edge not sheathing to all posts or boundary members at holdowns.
4. Locate holddown within 6" of end of Shear Panel.
5. All wood members must be 'Douglas fir'.
6. Laminated studs with 16d Nails at 12" on center staggered. Clinch tips of nails.
7. Use Simpson SDS 1/4" dia. wood screws.
8. 2 Holddowns required (See 'Holddowns between floors' detail this sheet).
9. Use threaded rod + CNW coupler to attach to anchor bolt at foundation. Run threaded rod up to holddown at lower floor and connect.

Shearwall Type
Holdown Type



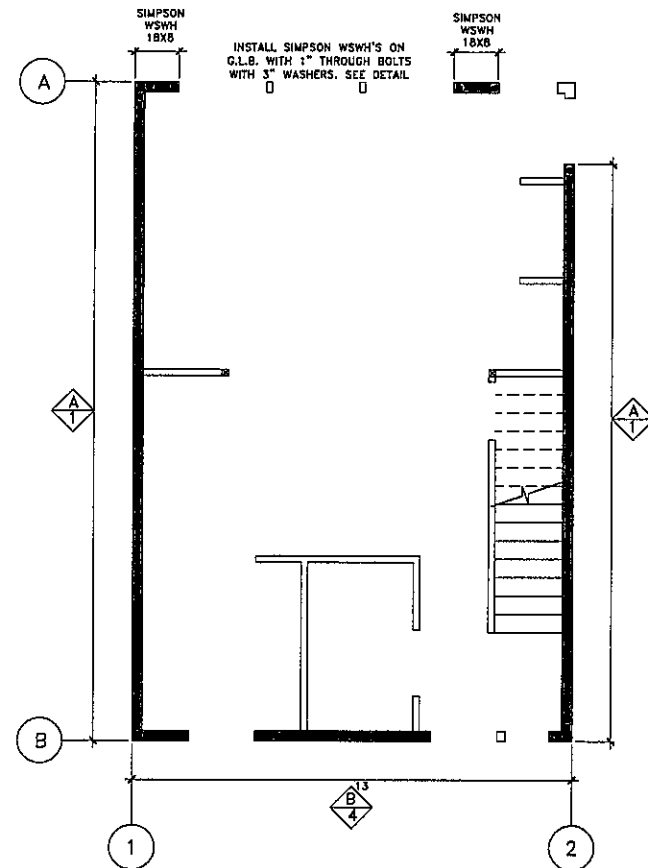
FOUNDATION PLAN
1/4"=1'-0"

NOTE:
1. ALL COLUMNS ARE TO BE 6X6 OF DF #1 U.N.O.

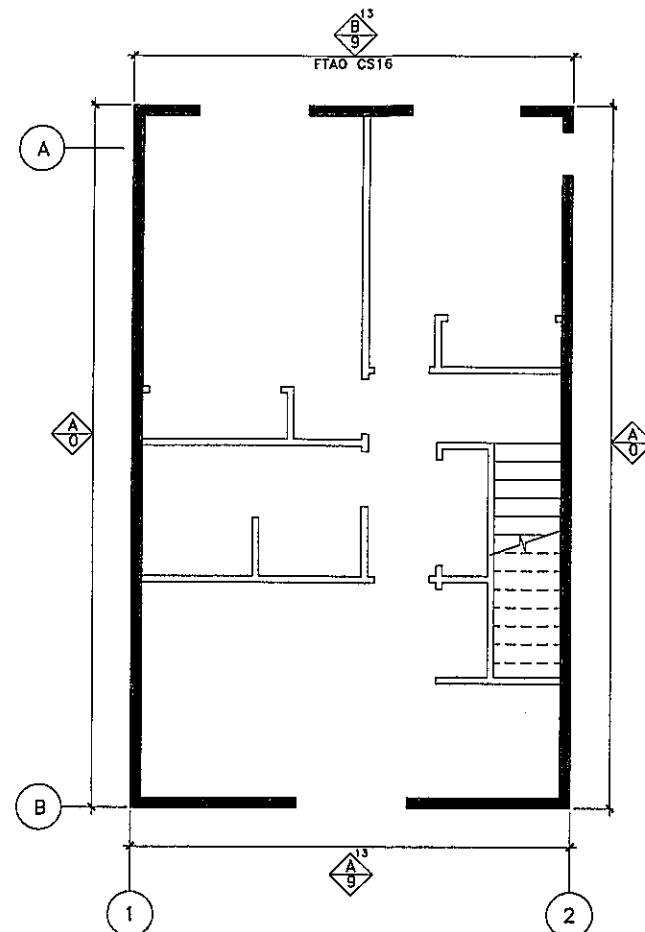
NOTE "A":
ALL HARDWARE TO BE COMPATIBLE W/ P.T. MATERIAL

NOTE "B":
ALL LUMBER FOR DECKS ARE TO BE PRESSURE TREATED.

NOTE "C":
JOIST-BEAM: USE SIMPSON LUS28 • EA. JOIST
BEAM-POST: PER PLAN DETAILS
POST-FOOTING: PER PLAN DETAILS



MAIN FLOOR SHEARWALL PLAN
1/4"=1'-0"



UPPER FLOOR SHEARWALL PLAN
1/4"=1'-0"

SHEAR WALL SCHEDULE

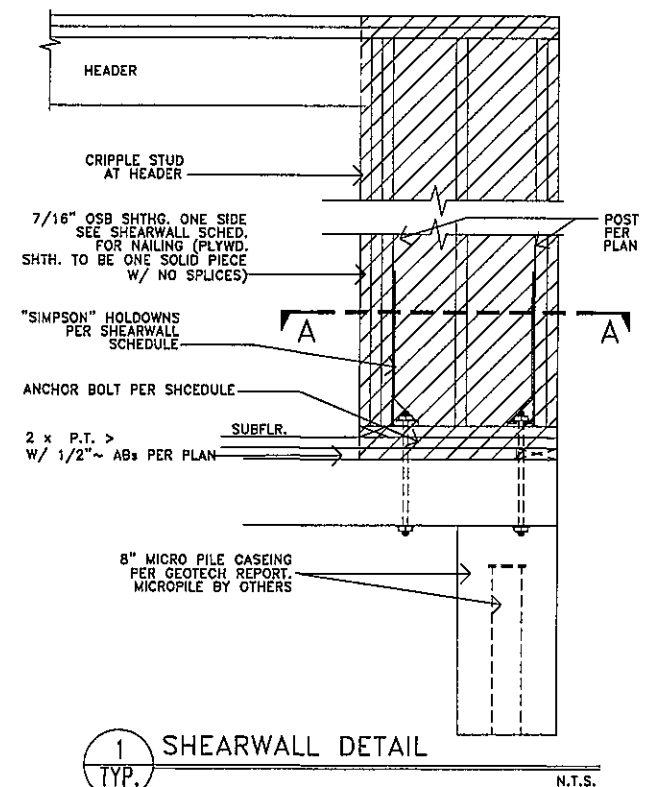
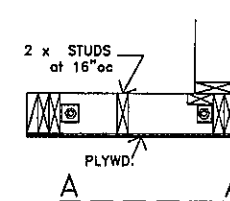
WALL TYPE	STRUCTURAL PANEL SHEATHING	PANEL EDGE NAILING	FIELD NAILING	A 35 CUP DOUBLE TOP PLATE CONN.	SILL PLATE CONNECTION (A.B.)	SOLE PLATE CONNECTION	SHEAR VALUE (PL) DOUGLAS FR
				1/2" DIA. x 10' LONG	5/8" DIA. x 10' LONG	16d Nails at 6" o.c.	WIND SEISMIC
1	7/16" OSB or 15/32" Plywood	0.131" Dia. x 2.5' Nails at 6" o.c.	0.131" Dia. x 2.5' Nails at 12" o.c.	20' O.C.	3'-8" O.C. ¹⁰	4'-0" O.C. ¹⁰	365 260
2	7/16" OSB or 15/32" Plywood	0.131" Dia. x 2.5' Nails at 4" o.c.	0.131" Dia. x 2.5' Nails at 12" o.c.	15' O.C.	2'-9" O.C. ¹⁰	4'-0" O.C. ¹⁰	530 380
3	7/16" OSB or 15/32" Plywood	0.131" Dia. x 2.5' Nails at 3" o.c.	0.131" Dia. x 2.5' Nails at 12" o.c.	11' O.C.	N/A	2'-4" O.C. ¹⁰	685 490
4	15/32" Plywood ¹¹	0.148" Dia. x 3" Nails at 3" o.c.	0.148" Dia. x 3" Nails at 12" o.c.	9' O.C.	N/A	2'-4" O.C. ¹⁰	840 600
5	15/32" Plywood ¹¹	0.148" Dia. x 3" Nails at 3" o.c.	0.148" Dia. x 3" Nails at 12" o.c.	7' O.C.	N/A	1'-9" O.C. ¹²	1075 770
6	1/2" GWB MIN.	5d cooler nails at 4' o.c.	5d cooler nails at 12" o.c.	24' O.C.	4'-0" O.C.	4'-0" O.C.	125 125
7	5/8" GWB	#6x1-1/4" type S or W screws 8" o.c. (blocked)	#6x1-1/4" type S or W screws 12" o.c.	24' O.C.	4'-0" O.C.	4'-0" O.C.	160 160

- Notes:
- Block all edges of sheathing.
 - Do not break sheathing skin by over driving nails.
 - Pre-drill as required to avoid splitting sills, etc.
 - Nails should be located 3/8" clear of panel edges.
 - Use Simpson A35 clips to attach blocking to top plate at floor line. At roof line use Simpson H-1 clips at each truss (U.O.N.).
 - Values of other standard construction Fasteners will require spacing adjustments and must be approved by the engineer-of-record.
 - Use hot dipped galvanized nails at all exterior applications.
 - C-D, C-C sheathing, plywood panels siding, and other grades covered in APA Plywood Design Specification.
 - Sheathing face grain can be applied perpendicular or parallel to wall studs, provided studs are spaced a maximum of 16" o.c.
 - 3"x3"x1/4" washer required on A.B. with 2x sill plates.
 - Framing at adjoining panel edges shall be (3) 2x studs laminated (see detail this sheet).
 - Min. 3" nominal sill plate w/ 3"x3"x1/4" washers.
 - Sheath entire wall (above + below) windows and doors according to shearwall schedule. Use of 3"x3"x1/4" washers are required on all anchor bolts for these walls.
 - Install LTPs when required at 32" o.c. per detail.
 - All wood members must be "Douglas Fir".
 - All walls not designated as shearwalls to have 1/2"x10" anchor bolts at 4'-0" o.c. maximum.
 - Interior shearwall to extend to roof sheathing via truss or blocking panels.

HOLDOWN SCHEDULE^{12,3,4}

HOLDOWN TYPE	HOLDOWN	ANCHOR BOLT	ANCHOR DIAMETER	EMBED LENGTH	MIN. STEM-WALL WIDTH	WOOD MEMBER	CONNECTION TO WOOD MEMBER	REMARKS	ALLOWABLE LOAD
1	No Holdown								
2	HDU2	95TB24	5/8"	20 5/8"	6"	(2) 2x6 ⁶	(G) 1/4"x2-1/2" ⁷		3,075#
3	HDU4	585/8x24	5/8"	18"	6"	(2) 2x6 ⁶	(10) 1/4"x2-1/2" ⁷		4,565#
4	HDU5	585/8x24	5/8"	18"	6"	4x6	(14) 1/4"x2-1/2" ⁷		5,645#
5	HDU8	587/8x24	7/8"	18"	8"	6x6	(20) 1/4"x2-1/2" ⁷		7,870#
6	HDU11	PAB7-30	1"	26 3/4"	8"	6x6	(30) 1/4" x2-1/2" ⁷		9,230#
7	HD12	PAB8-30	1"	26 3/4"	8"	6x6	(4) 1" DIA. M.B.		14,220#
8	HDU14	PAB8-30	1"	26 3/4"	8"	(1) 6x6	(36) 1/4"x2-1/2" ⁷		14,445#
9	MSTC26	N/A	N/A	N/A	N/A	(2) 2x6 ⁶	(16) - 16d Sinker		1,540#
10	MSTC40	N/A	N/A	N/A	N/A	(2) 2x6 ⁶	(32) - 16d Sinker		3,080#
11	MSTC52	N/A	N/A	N/A	N/A	(2) 2x6 ⁶	(48) - 16d Sinker		4,620#
12	MSTC66	N/A	N/A	N/A	N/A	(2) 2x6 ⁶	(64) - 16d Sinker		5,860#

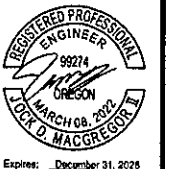
- Notes:
- Holdowns by Simpson strong-Tie Company, Inc. See Simpson catalog for proper installation.
 - Hardmount all holdown anchors prior to concrete pour.
 - Edge nail sheathing to all posts or boundary members at holdowns.
 - Locate Holdown within 6" of end of Shear Panel.
 - All wood members must be "Douglas Fir".
 - Laminate studs with 16d Nails at 12" on center staggered. Clinch tips of nails.
 - Use Simpson SDS 1/4" dia. wood screws.
 - 2 Holdowns required (See "Holdowns between floors" detail this sheet).
 - Use threaded rod + CNW coupler to attach to anchor bolt at foundation. Run threaded rod up to Holdown at lower floor and connect.



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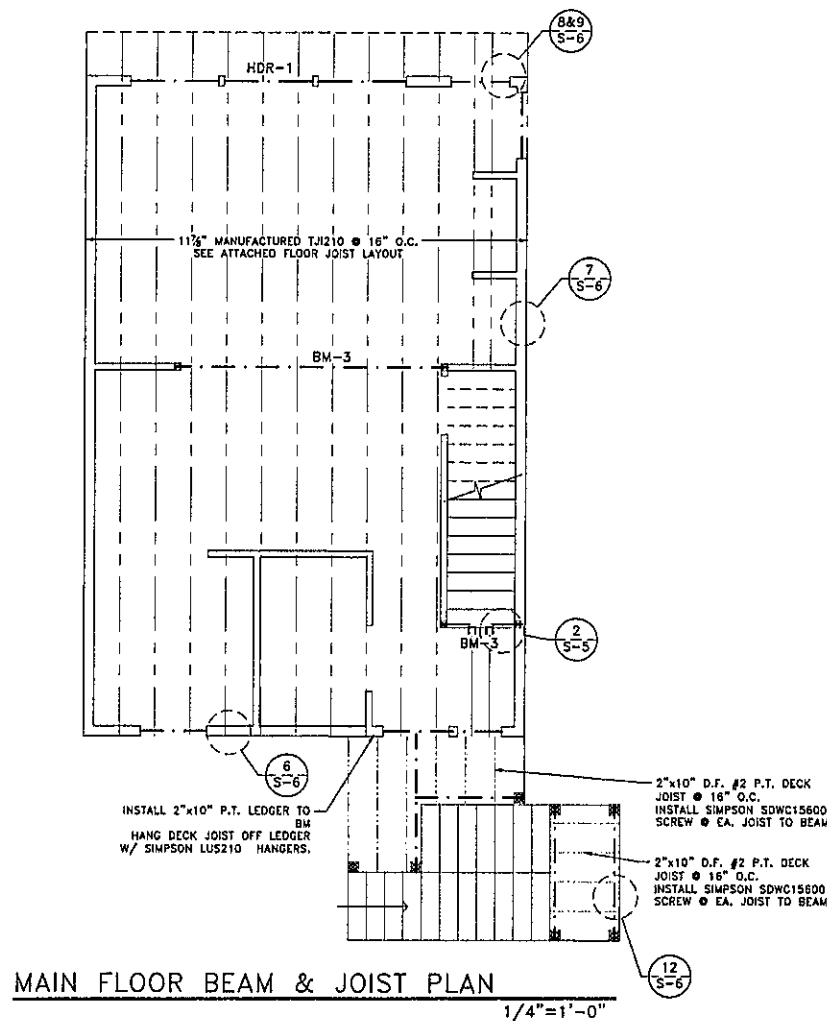
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ENGINEER STAMP

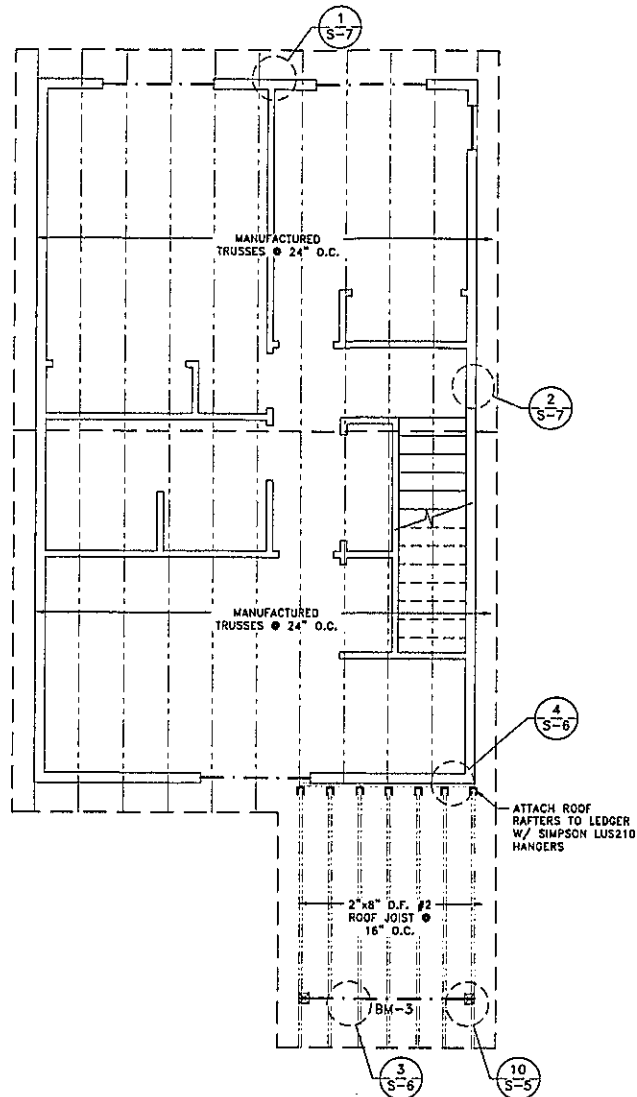


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SHEET: S-2



MAIN FLOOR BEAM & JOIST PLAN
1/4"=1'-0"



UPPER FLOOR BEAM & ROOF FRAMING PLAN
1/4"=1'-0"

FLOOR FRAMING NOTES

- FLR. SHTH. = 3/4" APA RATED T&G INSTALLED PERPENDICULAR TO FLOOR FRAMING. GLUED AND NAILED W/ 10d AT 6" O.C. AT PANEL EDGES AND AT 12" O.C. AT FIELD (U.N.O.)
- VERIFY AND COORDINATE ALL DIMENSIONS WITH FLOOR PLANS.
- EXTERIOR WALLS: 7/16" OSB (24/0) OR APA RATED SHTH. W/ 8d AT 6" O.C. AT EDGES AND 12" O.C. AT FIELD UNLESS NOTED OTHERWISE - SEE SHEAR WALL SCHEDULE.
- PROVIDE SOLID BLK FRAMING UNDER ALL BEAMS, HEADERS, BEARING WALLS AND POST TRANSFERS FROM ROOF TO FND.

ROOF GENERAL NOTES

- ROOF FRAMING = MANUF. TRUSSES AT 24" O.C. UNLESS NOTED OTHERWISE. DESIGN FOR 25PSF LL, 12PSF DL.
- ROOF SHTH. = 3/4" OSB APA RATED SHTH. 8d AT 6" O.C. AT ALL EDGES AND 6" O.C. AT FIELD
- PROVIDE BIRD BLOCKING W/ 2x12 SCREENED VENTS AT 6'-0" O.C. (EA. ONE AT VAULTS).
- VERIFY AND COORDINATE ALL DIMENSIONS WITH FLOOR PLANS.
- ROOF PITCH TO BE 5:12 U.N.O.
- 12" RAKE AND 24" EAVE OVERHANGS UNLESS NOTED OTHERWISE.
- ALL EXTERIOR DOOR AND WINDOW HEADERS PER PLAN.
- TRUSS MANUF. TO ENGINEER AND SUPPLY ALL TRUSS HANGERS.
- TRUSS MANUF. TO PROVIDE SHOP DRAWINGS PRIOR TO CONSTRUCTION.
- ROOF SHTH. TO BE NAILED AT 4" O.C. TO ALL TRUSSES DESIGNATED AS DRAG STRUTS.
- PROVIDE FLASHING AND COUNTER FLASHING AT CHIMNEYS AND AT VERTICAL PLANES.
- CONTRACTOR WILL PROVIDE ATTIC VENTILATION AS PER CODE.
- ALL MULTIPLE COLS NAILED TOGETHER W/ 16d @ 4" O.C. STAGG.
- ALL EXTERIOR DOOR AND WINDOW HEADERS TO BE SUPPORTED W/ (1) TRIMMER STUD UNDERNEATH AND ONE KING STUD U.N.O.

NOTE:

- ALL COLUMNS ARE TO BE 6X6 OF DF #1 U.N.O.

NOTE "A":

- ALL HARDWARE TO BE COMPATIBLE W/ P.T. MATERIAL

NOTE "B":

- ALL LUMBER FOR DECKS ARE TO BE PRESSURE TREATED.

NOTE "C":

- JOIST-BEAM: USE SIMPSON LUS28 @ EA. JOIST
- BEAM-POST: PER PLAN DETAILS
- POST-FOOTING: PER PLAN DETAILS

HEADER SCHEDULE

MARK	SIZE	TYPE	SUPPORT 1	SUPPORT 2	NOTES
0" TO 3'-0"	(2) 2X6	D.F. #2	(1) 2X	(1) 2X	
3'-0" TO 6'-0"	(2) 2X8	D.F. #2	(1) 2X	(1) 2X	
HDR-1	(2) 1 3/4"x11 1/8"	2.0E LVL	(2) 2x	(2) 2x	

(1) COMPARE KING STUDS TO HOLDDOWN STUDS PER HOLDDOWN SCHEDULE. LARGER SIZE GOVERNS

BEAM SCHEDULE

MARK	SIZE	TYPE	SUPPORT 1	SUPPORT 2	NOTES
BM-1	6x8	DF #1	ECCO	ECCQ	
BM-2	8x12	DR #1	ECC/CC/ECCLR	ECC/CC/ECCLR	SEE SIMPSON WEBSITE FOR LALLY CAP SIZING
BM-3	(2) 1 3/4"x11 1/8"	2.0E LVL	BIW	BIW	
BM-4	3 1/2"x15"	24F-V4 G.L.B.	ECC/CC/ECCLR	ECC/CC/ECCLR	

NOTE:

HEADER & BEAM SCHEDULE SHOWN HERE IS A SUMMARIZATION OF ALL BEAMS USED FOR THIS BUILD. SEE ENGINEERING PACKET FOR MORE INFORMATION AND INDIVIDUAL BEAM CALCULATIONS.

FOR CITY OFFICIAL USE

TOPLINE
DRAFTING & DESIGN

ENGINEER STAMP



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Neskowin, OR 97149

DATE: 7/8/2025

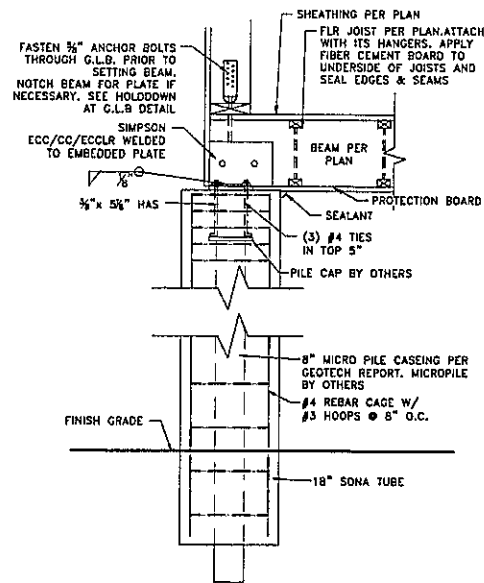
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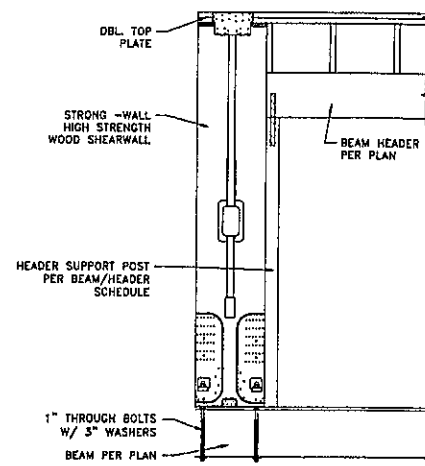
JOB: 23-134

SHEET:

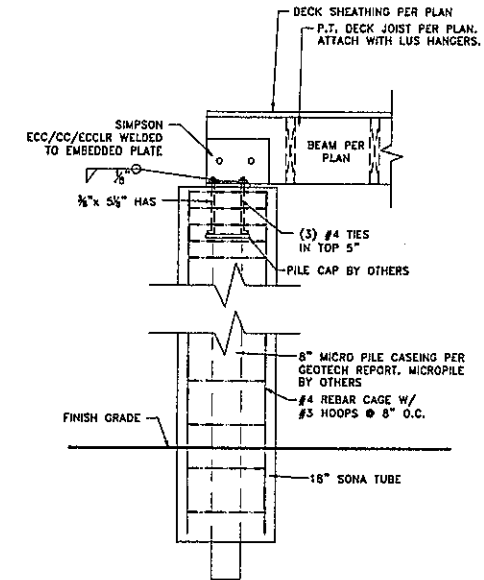
S-3



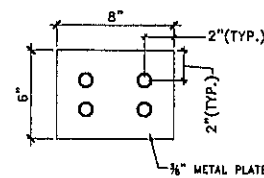
1 FOUNDATION MICROPILE TO BEAM
S-4 SHEARWALL N.T.S.



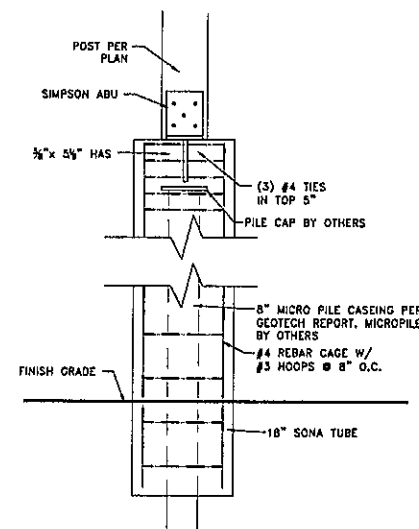
4 SIMPSON STRONG PANEL DETAIL
S-4 SHEARWALL N.T.S.



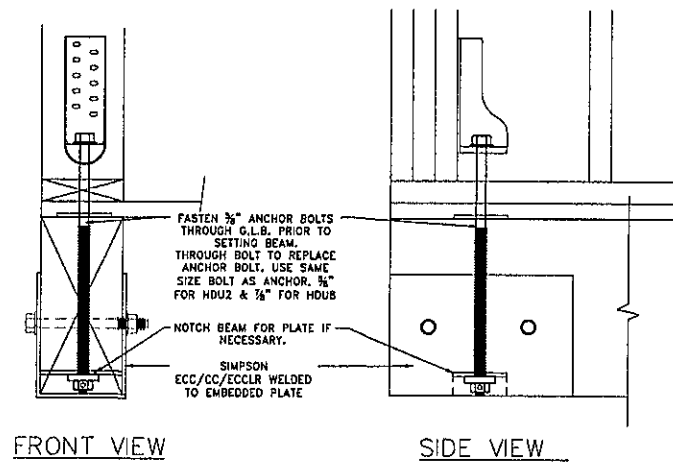
1 FOUNDATION MICROPILE TO DECK BEAMS
S-4 SHEARWALL N.T.S.



2 TYP. EMBEDDED PLATE
S-4 DETAIL N.T.S.



5 MICROPILE TO POST DETAIL
S-4 SHEARWALL N.T.S.



FRONT VIEW

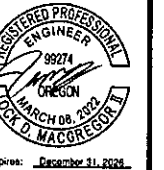
SIDE VIEW

3 HOLDDOWN @ G.L.B.
S-4 SHEARWALL N.T.S.

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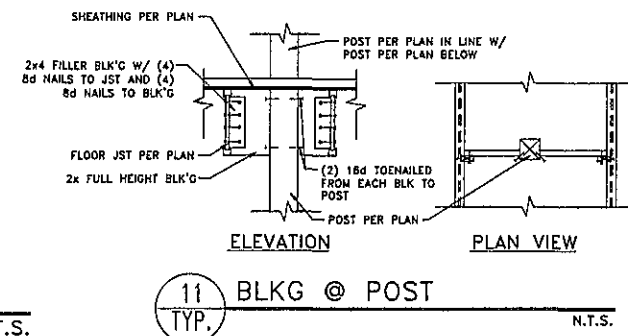
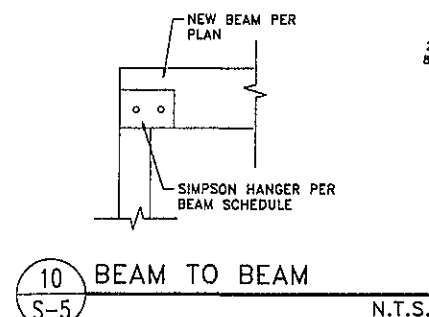
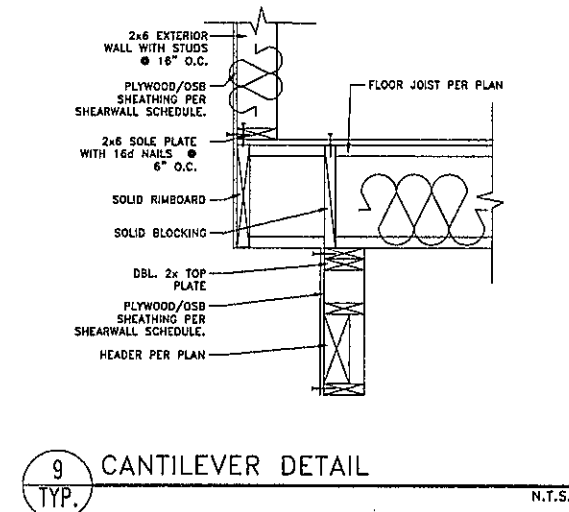
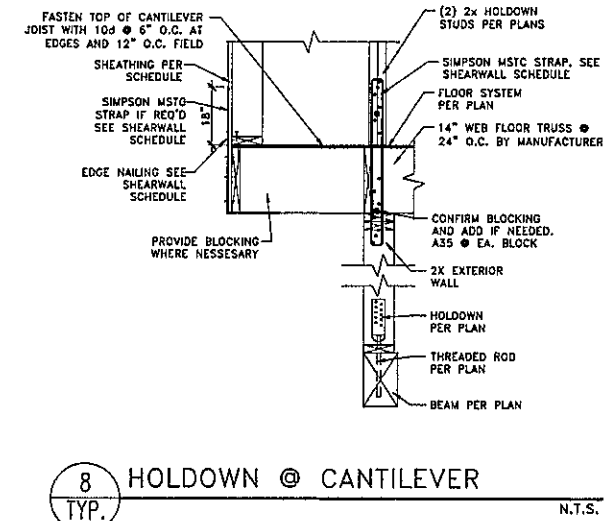
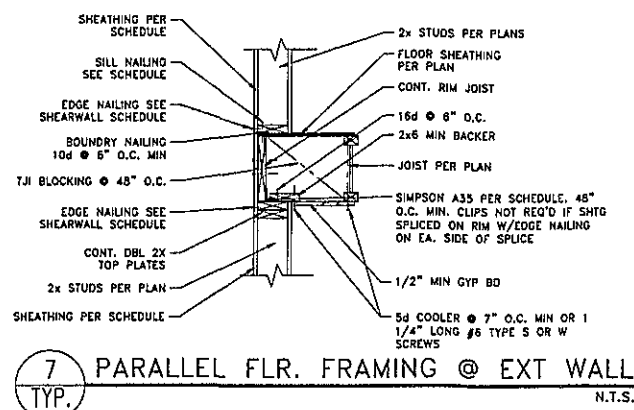
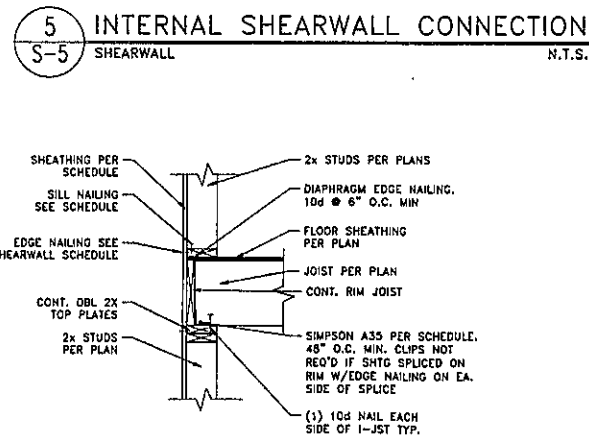
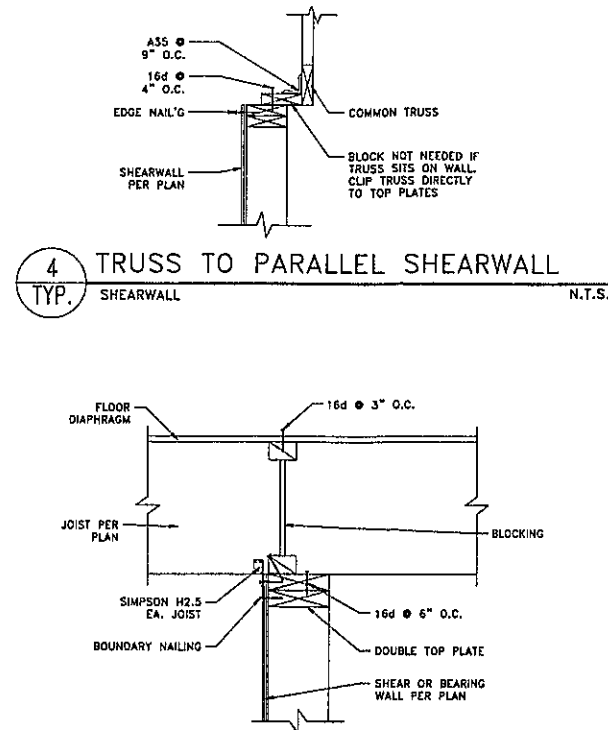
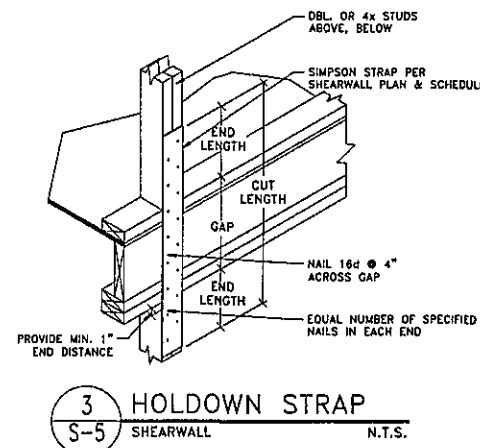
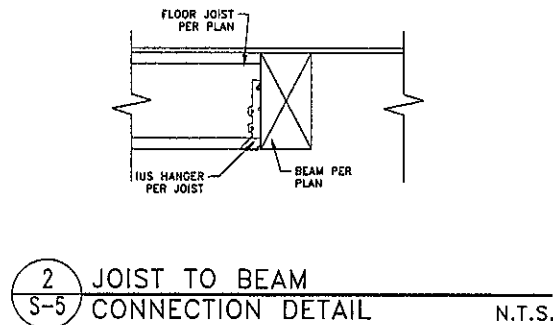
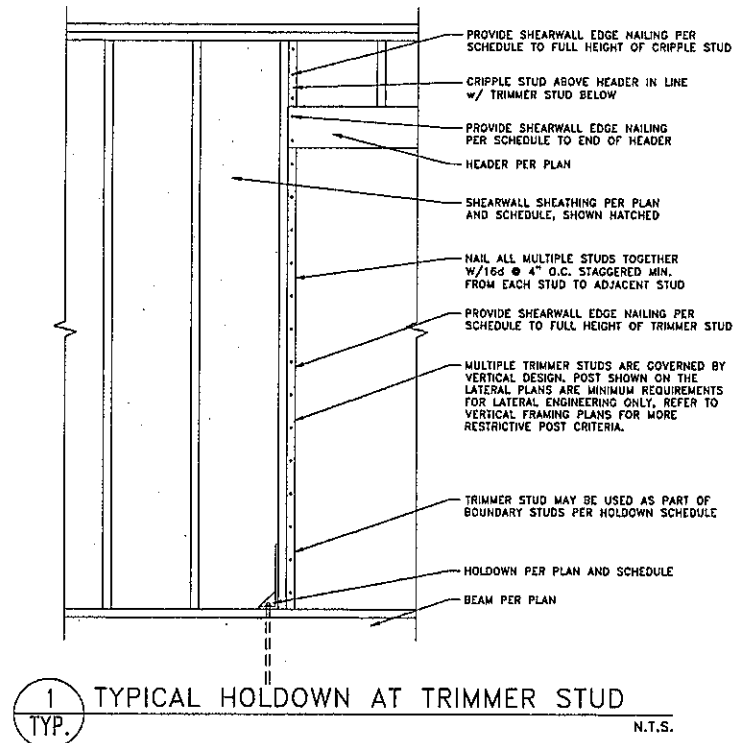
ENGINEER STAMP



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evgeni@toplinednd.com
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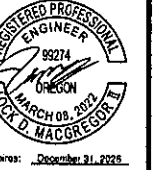
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DRAWN: ES
JOB: 23-134
SHEET:
S-4



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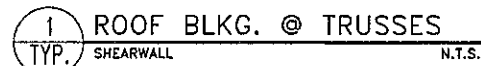
ENGINEER STAMP



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DATE: 7/8/2025
SCALE: 1/4"=1'-0"
DRAWN: ES
JOB: 23-131
SHEET:
S-5

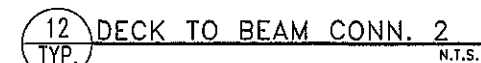


3 ROOF RAFT. TO BEAM
S-6 SHEARWALL N.T.S.

4 ROOF LEDGER BOARD SPACING
S-6 N.T.S.



8 DECK TO BEAM CONN. N.T.S.



Topline

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DATE: 7/8/2025
SCALE: 1/4"=1'-0"
DRAWN: ES
JOIN: 23-134
SHEET:

S-6

OWNER INFORMATION:
MELINDA RHODES
6645 S. 1650 E.
OGDEN, UT 84405-9753
PHONE: 801-389-1177

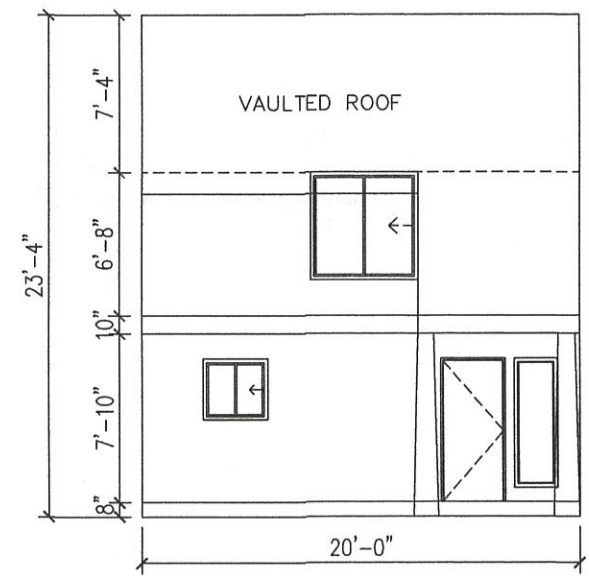
SITE INFORMATION:
MAP: 5S-11-25-CB
TAX LOT: 92410
ADDRESS: 48060 BREAKERS BLVD. UNIT 10
NEKOWIN, OR 97149

SCOPE OF WORK:
REBUILD CONDO AFTER FIRE
ACCORDING TO THESE AS BUILT
DRAWINGS. UPGRADE ELECTRICAL,
PLUMBING AND ENERGY REQUIREMENTS
TO MEET CURRENT CODES.

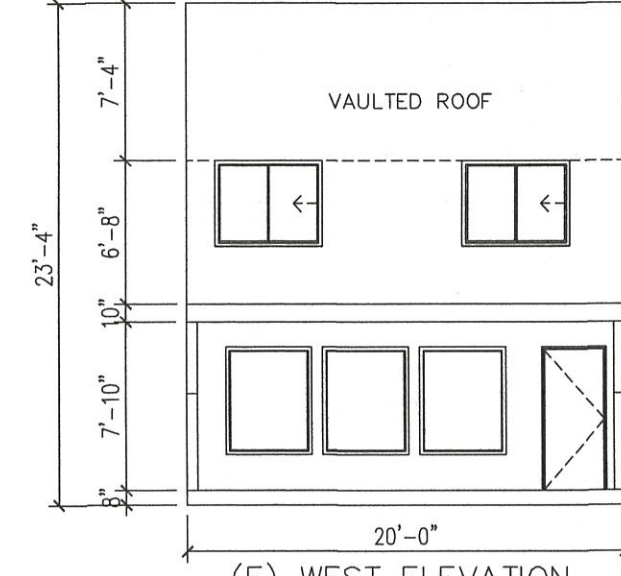
EXAMPLE OF WHAT THE
OTHER 10 HOMES LOOK LIKE

- NOTES:
1. STRONGLY SUGGEST REMOVING ALL DRYWALL DUE TO THE FACT THE CONDO WAS COMPLETELY SOAKED BY THE FIRE DEPARTMENT WHILE PUTTING OUT THE FIRE. NORMALLY, WHEN THIS OCCURS, ALL WIRING SHOULD BE REPLACED AS ROMEX WILL HOLD THE MOISTURE.
 2. HAVE PLUMBING CONTRACTOR VERIFY WATER/SEWER PIPING IS IN GOOD CONDITION ONCE DRYWALL IS REMOVED.
 3. FLOORS SHOULD BE EXAMINED BY LICENSED FLOORING CONTRACTOR, TO SEE IF REPLACEMENT IS NECESSARY.
 4. ADD NEW 4" CLOSED CELL FOAM TO ALL EXT. WALLS TO MEET R-21 CODE REQUIREMENTS.
 5. SHOULD CAR DECKING NEED TO BE REPLACED AT ROOF LINE, PLEASE ADVISE OF EXISTING INSULATION METHODS AND OF PROPOSED INSULATIONS METHODS.
 6. REPLACE BURNT FRAMING MEMBERS AS SHOWN IN CLOUDED AREAS WITH LIKE MEMBERS ON FLOOR PLANS. THE FRAMING MEMBERS THAT SEEM TO BE IN GOOD CONDITION NEED TO BE FURTHER INSPECTED ONCE DRYWALL IS REMOVED.

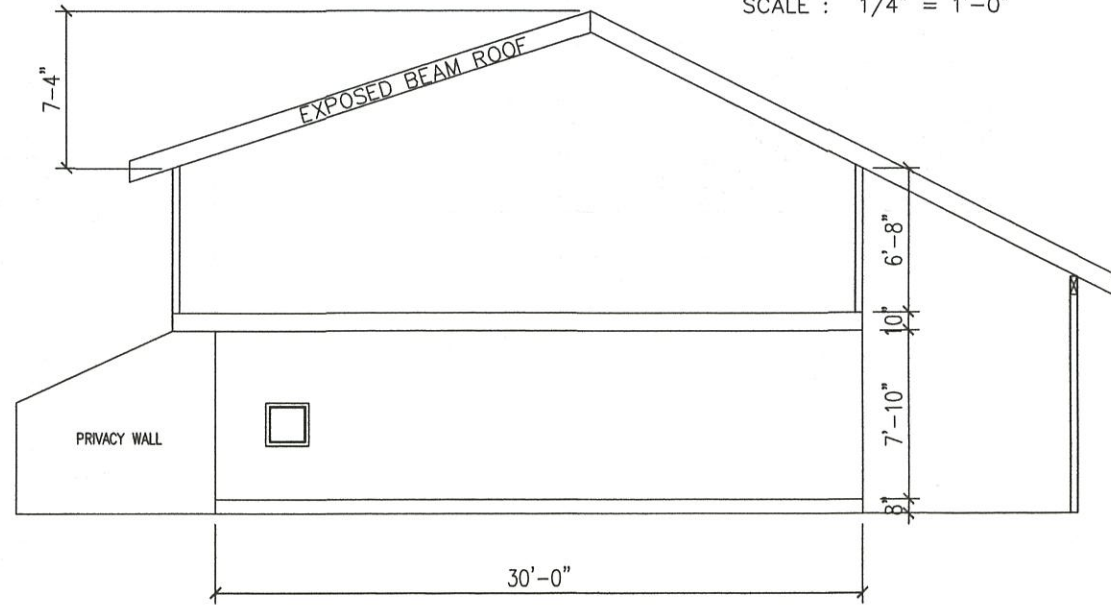
NOV 03 2025



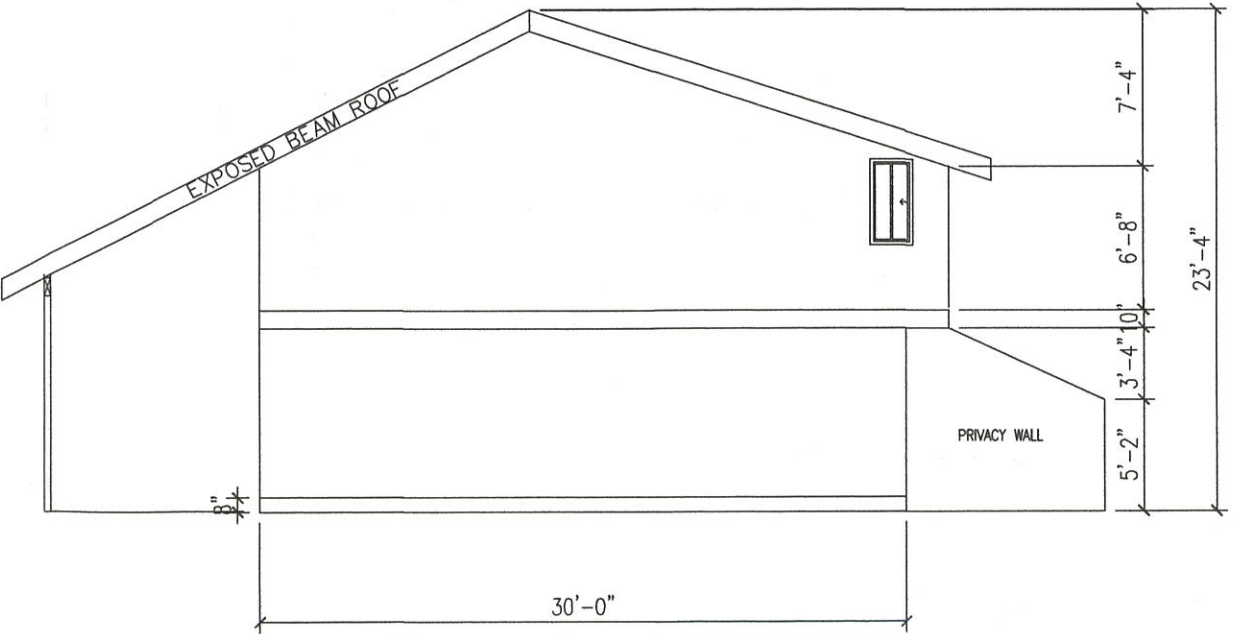
(E) EAST ELEVATION
SCALE : 1/4" = 1'-0"



(E) WEST ELEVATION
SCALE : 1/4" = 1'-0"



(E) SOUTH ELEVATION
SCALE : 1/4" = 1'-0"



(E) NORTH ELEVATION
SCALE : 1/4" = 1'-0"

REVISIONS BY:	

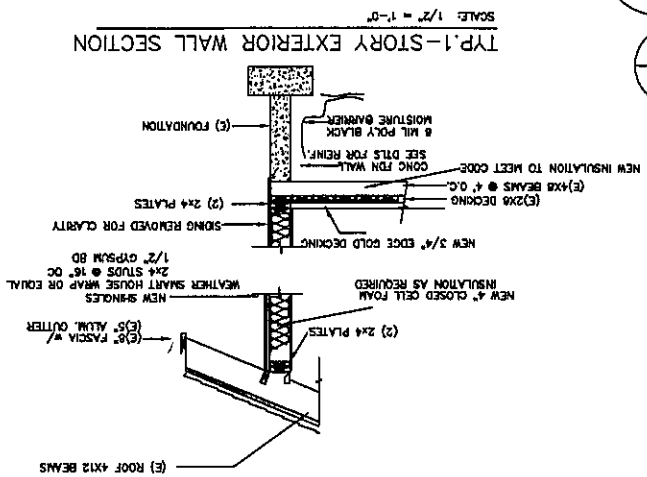
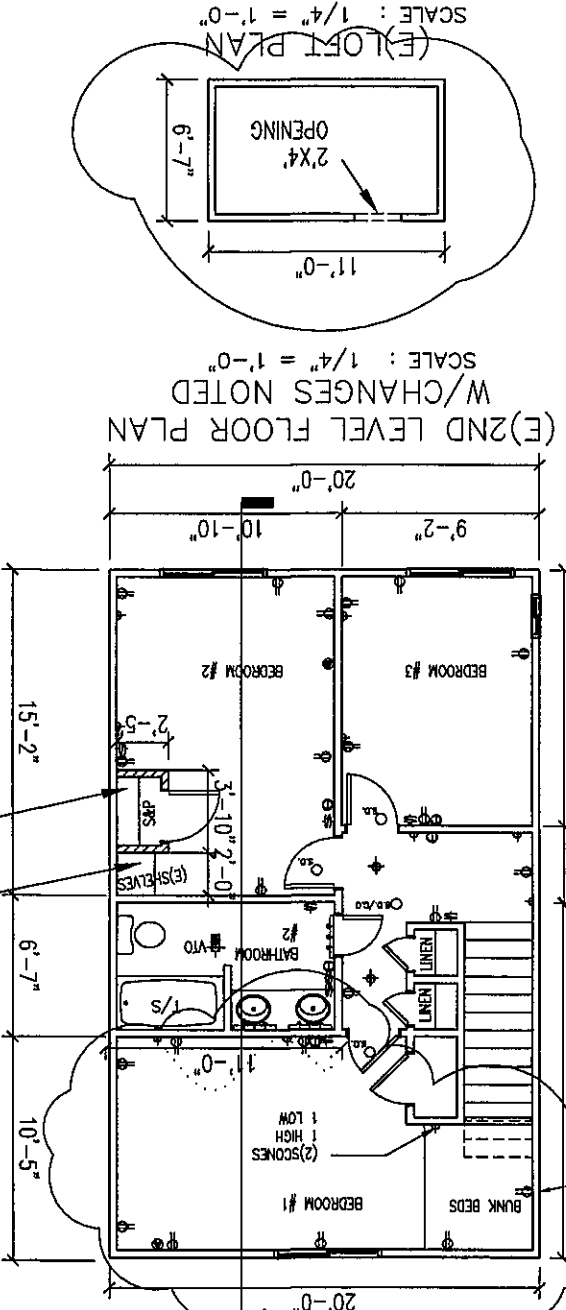
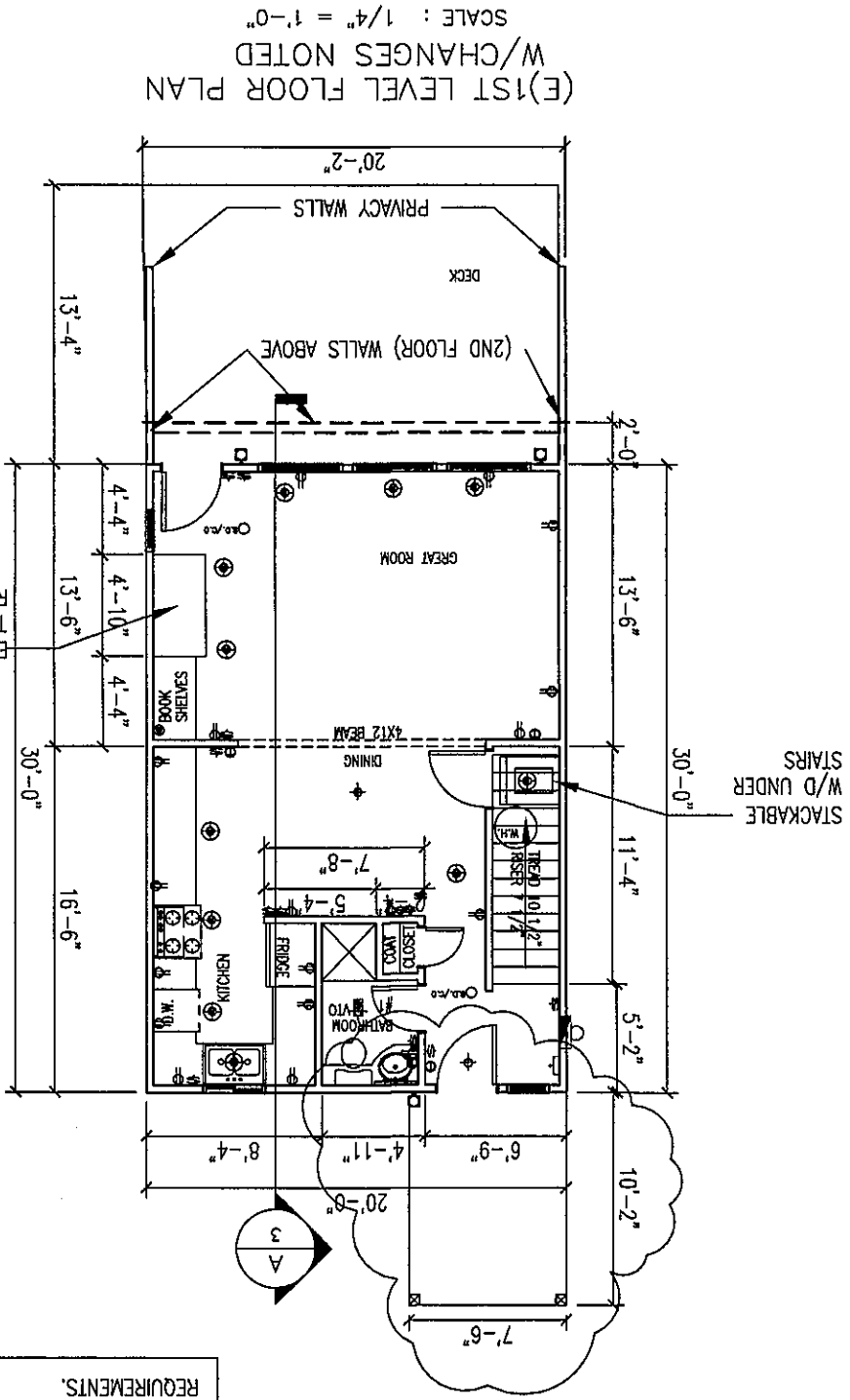
COAST DRAFTING & DESIGN
1540 SE. HIGHWAY 101
LINCOLN CITY, OR 97367
PH: (541) 996-6131 FAX: (541) 996-4306

RHODES, MELINDA
ELEVATIONS

DRAWN: SHALOM TUL
DATE: 11/17/22
SCALE: AS NOTED
JOB: RHODES
SHEETS 1 OF 3
SHEETS

NO.	DATE	BY	CHKD.	APP'D.	REVISION
1	11/17/22	SHALOM TUL			

ELECTRICAL LEGEND	
	3-WAY WALL SWITCH
	CEILING MT. LIGHT FIXTURE
	110V OUTLET
	QUIET HEATER
	GROUND FAULT INTERRUPT OUTLET
	FLOOD LIGHTS
	SMOKE DETECTOR - HARD WIRED
	MOTION ACTIVATED
	WATERPROOF OUTLET
	OUTDOOR LIGHT FIXTURE
	FUSE PANEL & METER
	QUAD/PLEX OUTLET
	VANITY LIGHTS
	HALF SWITCHED OUTLET
	WATER RESISTANT
	220V OUTLET
	BATHROOM FAN/LIGHT FIXTURE
	1x4' LED
	6\"/>
	THERMOSTAT
	PHONE OUTLET
	CABLE T.V. OUTLET
	HOSE BIB
	H.V.A.C. VENTS
ELECTRICAL PLAN IS SUGGESTIVE ONLY. SEE PROFESSIONAL ELECTRICIAN FOR FINAL LAYOUT AND CODE COMPLIANCE.	



ALL HARDWARE EXPOSED TO WEATHER TO BE STAINLESS STEEL

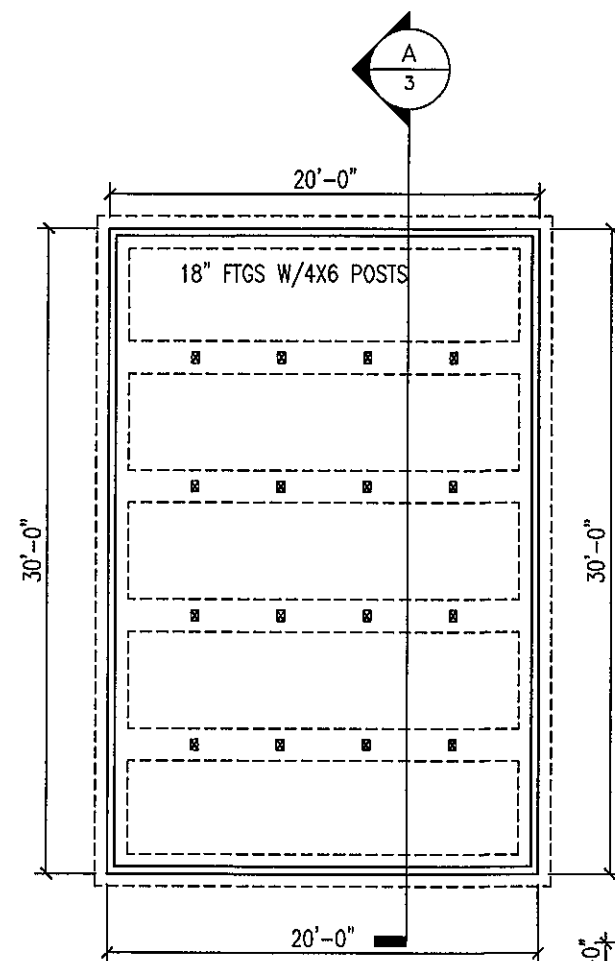
NOTE:
SEE ATTACHED E-1 & E-2 SHEETS FOR ENERGY REQUIREMENTS.

DRAWN: SHALOM TUL
DATE: 11/17/22
SCALE: AS NOTED
JOB: RHODES
SHEETS: 2 OF 3

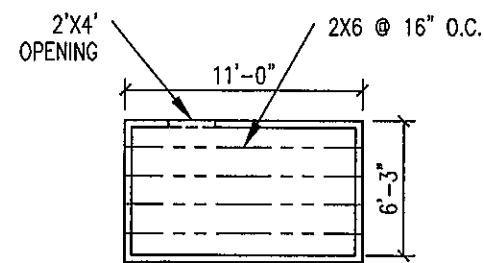
RHODES, MELINDA
FLOOR PLANS

COAST DRAFTING & DESIGN
1540 SE. HIGHWAY 101
LINCOLN CITY, OR 97367
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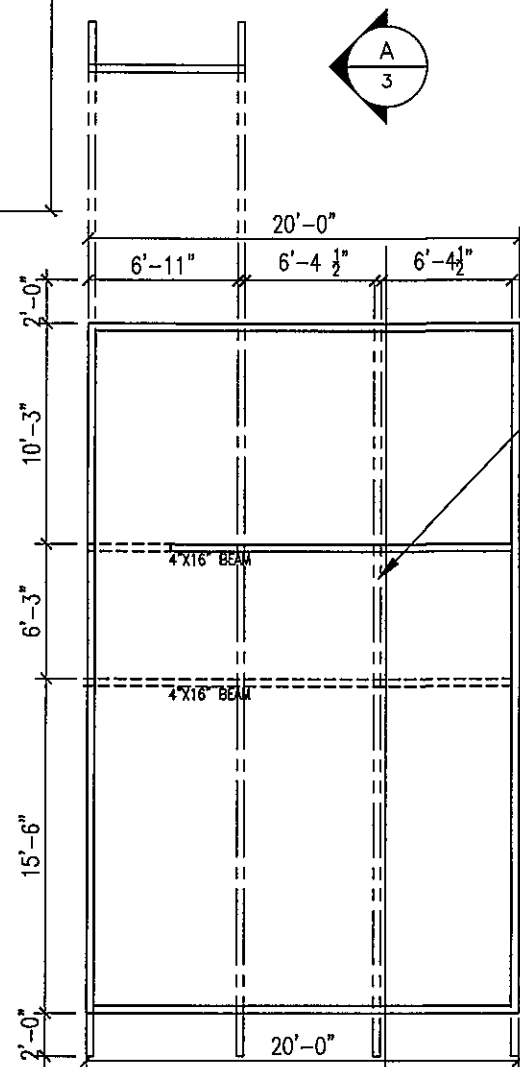
NO.	DATE	BY	CHKD.	APP'D.	REVISION
1	11/17/22	SHALOM TUL			



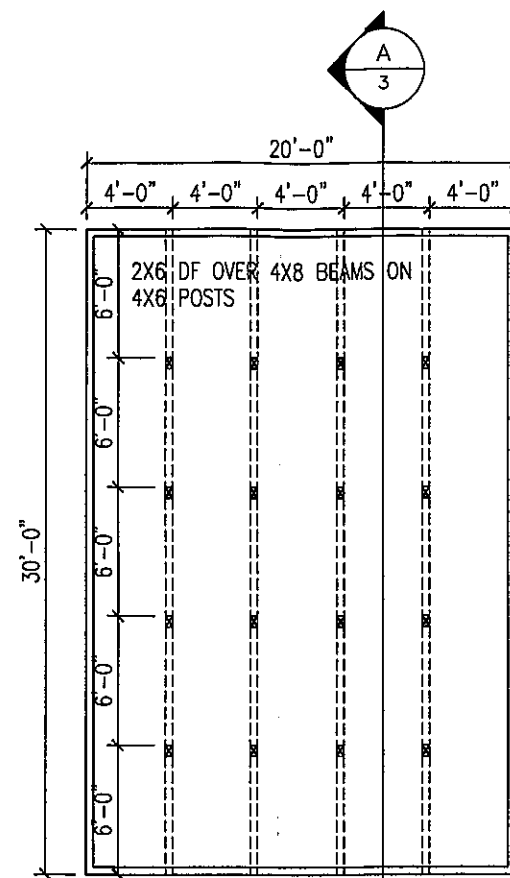
(E) FOUNDATION PLAN
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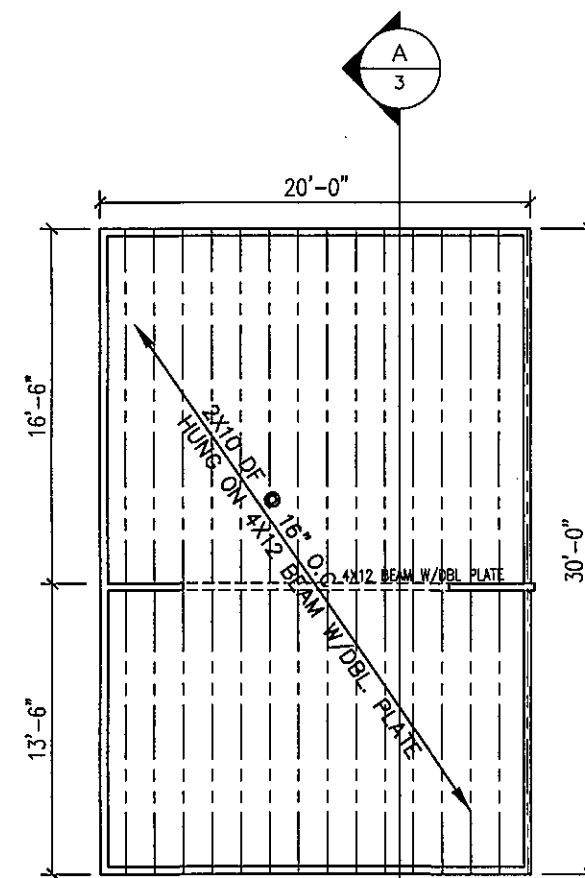
(E) LOFT FLOOR FRAMING
SCALE : 1/4" = 1'-0"



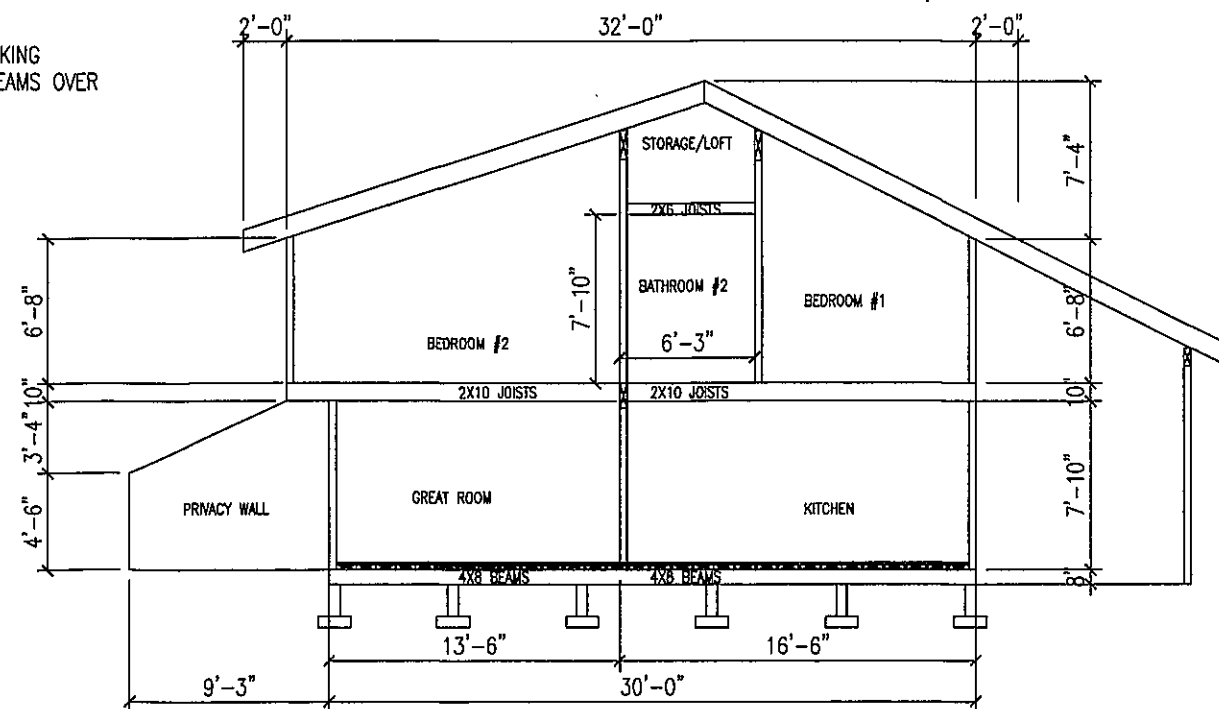
(E) ROOF PLAN
SCALE : 1/4" = 1'-0"



(E) 1ST LEVEL FLOOR FRAMING PLAN
SCALE : 1/4" = 1'-0"



(E) 2ND LEVEL FLOOR FRAMING PLAN
SCALE : 1/4" = 1'-0"



(E) SECTION A-3
SCALE : 1/4" = 1'-0"

REVISIONS BY:

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LINCOLN CITY, OR 97367
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RHODES, MELINDA
FOUNDATION/FLOOR FRAMING PLAN
ROOF PLAN/SECTION

DRAWN: SHALOM TUL
DATE: 11/17/22
SCALE: AS NOTED
JOB: RHODES
SHEETS 3 OF 3
SHEETS