CITY OF SEASIDE
PLANNING COMMISSION AGENDA

Tuesday, August 1, 2023 6:00 PM

To provide public comment for Planning Commission meetings, participants should register prior to the meeting. Please complete the form linked below to offer public comment at an upcoming Planning Commission meeting. You may provide public comment using the following methods:

1. In-person (meetings are held at Seaside City Hall, 989 Broadway, Seaside, OR)
2. Via Zoom web conference or telephone (obtain link and register at cityofseaside.us)
3. Written comments may be submitted using this form, via e-mail to publiccomment@cityofseaside.us or in person at City Hall (989 Broadway, Seaside, OR).

If you are providing public comment in person or via Zoom, please keep in mind your comments will be limited to three (3) minutes. If your comments will be longer than three (3) minutes, please submit your comment in writing and utilize your three (3) minutes to summarize your written document. Please review the Public Comment Rules of Conduct prior to the meeting.

1. CALL TO ORDER

2. PLEDGE OF ALLEGIANCE

3. ROLL CALL

4. APPROVAL OF MINUTES

5. DECLARATION OF POTENTIAL CONFLICT OF INTEREST

6. PUBLIC HEARING

a) **769-23-000048-NVST:** The Planning Commission will be conducting a compliance review of the Vacation Rental Dwelling (VRD) located at 461 14th Ave. (T6-R10-16DA-06801). The VRD was originally approved on July 31, 2019. Since that time, staff has received several complaints concerning the VRD's compliance with the conditions of approval. The Commission will be re-evaluating the conditional use permit to determine if the conditions of approval should be amended or if the permit should be denied.

b) **769-23-000022-PLNG:** A Conditional Use and Variance request by Robert Leatherman located at 2175 S Prom for a four (4) bedroom Vacation Rental Dwelling with a maximum occupancy of ten (10) persons regardless of age. In addition to the conditional use, the applicant is requesting a variance to the front yard landscaping requirement.

c) **769-23-000030-PLNG:** A conditional use request by Steve Olstedt and Ryan Osburn, Cross Creek Land 1 LLC, for a 74-unit housing development (nine 6-plexes and six 4-plexes) located at 2315 N Roosevelt Dr. within the General Commercial (C-3) zone. In conjunction with this request, the applicant has submitted a Highway Overlay Zone request and a preliminary subdivision plat that would create a separate lot for each of the housing units and common ownership of the access and off-street parking areas.

7. ORDINANCE ADMINISTRATION:

8. **PUBLIC COMMENTS** Members of the public may use this time to provide comment to the Planning Commission on items that are not scheduled on this agenda for a public hearing or public comment. Speaking time is limited to three minutes.

9. **PLANNING COMMISSION & STAFF COMMENTS:**

10. **ADJOURNMENT**

Complete copies of the Current Commission meeting Agenda, Packets, and Minutes can be viewed at: **www.cityofseaside.us.**

All meetings other than executive sessions are open to the public. When appropriate, any public member desiring to address the Commission may be recognized by the presiding officer. Remarks are limited to the question under discussion except during public comment. This meeting is handicapped accessible. Please let us know at 503-738-5511 if you will need any special accommodation to participate in this meeting.

CITY OF SEASIDE PLANNING COMMISSION

MEETING MINUTES

City Hall, 989 Broadway, Seaside, OR 97138

Tuesday, June 6, 2023

Planning Commission Meeting

I. Call to Order and Pledge of Allegiance

II. Roll Call

Council Members	P/A
Robin Montero, Chairperson	**P**
Kathy Kleczek, Vice Chairperson	**P**
Brandon Kraft	**P**
Lou Neubecker	**P**
Gretchen Stahmer	**P**
Chris Rose	**P**
Don Johnson	**P**

Staff Members	
Jeff Flory, Community Development Director	Jordan Sprague, Community Development Administrative Assistant

Visitors in Chambers (attendance sheet)	Visitors on Zoom
Seth Morrisey	
Matt Rose	
Jon Wickersham	
Russ Earl	
Joe Ballard	
Randall Henderson	
John Nagel	

III. Approval of Minutes

May 2, 2023 minutes were adopted as written

IV. Declaration of Potential Conflict of Interest

Commissioner Kraft declared potential conflict of interest for 769-23-000016-PLNG. Chair Montero declared potential conflict 769-23-000016-PLNG. Commissioner Rose declared a conflict of interest for 769-23-000006-PLNG.

V. Public Hearings

769-23-000006-PLNG: The applicant, Seth Morrisey, is requesting a Conditional Use and Highway Overlay Zone review for a self-storage unit facility.

Community Development Director Flory presented the staff report, decision criteria findings, condition, and conclusions.

Seth Morrisey, owner, spoke on behalf of the application.

Matt Rose, project designer, spoke in favor of the application.

Chair Montero opened the discussion to those in favor. There were none.

Chair Montero opened the discussion to those in opposition. There were none.

Chair Montero opened the discussion to the Commission.

Commissioner Kraft expressed concerns regarding Highway 101 access.

Vice Chair Kleczek questioned the ingress and egress of the property and the uses of surrounding properties.

Vice Chair Kleczek discussed vehicle and pedestrian safety and safety lighting for the complex.

Commissioner Stahmer requested clarification regarding the traffic impact data.

Vice Chair Kleczek recommended an additional condition for no vehicle or outside storage.

Motion:	Motion to approve 769-23-000006-PLNG with a condition to require all storage to be contained within the buildings.			
Moved:	Neubecker			
Seconded:	Kleczek			
Ayes:	Neubecker, Kleczek, Montero, Kraft, Stahmer, Johnson	**Nays:** **0**	**Absent:** **0**	**Recused:** Rose
Passed:	**6-0**			

769-23-000014-PLNG: The applicant, Joe Ballard, is requesting two new sign frames to hold temporary banners throughout the year.

Community Development Director Flory presented the staff report, decision criteria findings, condition, and conclusions.

Joe Ballard, applicant, spoke on behalf of the application.

Chair Montero opened the discussion to those in favor. There were none.

Chair Montero opened the discussion to those in opposition. There were none.

Chair Montero opened the discussion to the Commission.

Commissioner Stahmer asked for clarification if these signs were in addition to the newly installed sign.

Vice Chair Kleczek requested a description of the signs to be installed.

Chair Montero asked about the temporary sign holders that were previously used and expressed concerns regarding the amount of signage along Wahanna Rd.

Motion:	Motion to approve 769-23-000014-PLNG with the conditions provided in the staff report.			
Moved:	Johnson			
Seconded:	Neubecker			
Ayes:	Rose, Neubecker, Montero, Kraft, Stahmer, Johnson	**Nays:** Kleczek	**Absent:** **0**	**Recused:** **0**
Passed:	**6-1**			

769-23-000016-PLNG: The applicant, North Coast Land Conservancy, is requesting a conditional use request to construct an approximate 3,500 sq. ft. community center and office building.

Community Development Director Flory presented the staff report, decision criteria findings, condition, and conclusions.

Jon Wickersham, North Coast Land Conservancy, spoke on behalf of the application.

Randall Henderson, North Coast Land Conservancy, spoke on behalf of the application.

Vito Cerelli, O'Brien Design + Build, spoke on behalf of the application.

Chair Montero opened the discussion to those in favor.

Russ Earl spoke in favor of the project.

Chair Montero opened the discussion to those in opposition. There were none.

Chair Montero opened the discussion to the Commission.

Commissioner Johnson suggested to allow the non-ADA parking spaces to be gravel.

Commissioner Stahmer expressed concerns regarding traffic increase.

Commissioner Kraft expressed concerns regarding occupant capacity.

Motion:	Motion to approve 769-23-000016-PLNG with the conditions provided in the staff report and the variance for allowing the parking to not be paved.			
Moved:	Neubecker			
Seconded:	Kraft			
Ayes:	Rose, Neubecker, Kleczek, Montero, Kraft, Stahmer, Johnson	**Nays: 0**	**Absent: 0**	**Recused: 0**
Passed:	**7-0**			

VI. Ordinance Administration

There were none.

VII. Public Comments

There were none.

VIII. Planning Commission and Staff Comments

Commissioner Kraft requested an update of the comprehensive plan update.

Vice Chair Kleczek provided a reasoning for the "no" vote on 769-23-000014-PLNG.

Chair Montero asked if there were items on the July Planning Commission agenda.

IX. Adjournment at 7:13 PM.

Approved by Commission on: _____

Minutes prepared by: _____
Jordan Sprague, Administrative Assistant

_____
ROBIN MONTERO, Chairperson

Planning Commission
Staff Report

APPLICATION(S):	**769-23-000048-NVST – VRD Compliance Review of File Number 19-032VRD**
MEETING DATE:	**August 1, 2023**
PUBLIC HEARING:	**Yes**
Report Date:	July 21, 2023
Applicant:	Edward "Ted" Mittelstaedt
Owner:	Edward and Jean Mittelstaedt
Location:	461 14th Ave., Seaside, OR 97138
Major Street Access:	Beach Dr.
Parcel Number(s) & Size:	T6-R10-16DA-06801- Approximately .11 acres
Parcel Zoning:	Medium-Density Residential (R-2)
Adjacent Zoning:	Medium-Density Residential (R-2)
Current Use of Parcel:	Single-Family Residential
Adjacent Uses:	Single-Family Residential
Previous Meetings:	None
Previous Approvals:	None
Type of Action:	Administrative
Land Use Authority:	Planning Commission
Future Routing:	None
Planner:	Jeff Flory, Community Development Director

A. Summary:

The Planning Commission will be conducting a compliance review of the Vacation Rental Dwelling (VRD) located at 461 14th Ave. The VRD was originally approved on July 31, 2019. Since that time, staff has received several complaints concerning the VRD's compliance with the conditions of approval. The Commission will be re-evaluating the conditional use permit to determine if the conditions of approval should be amended or if the permit should be denied.

Staff Recommendation:

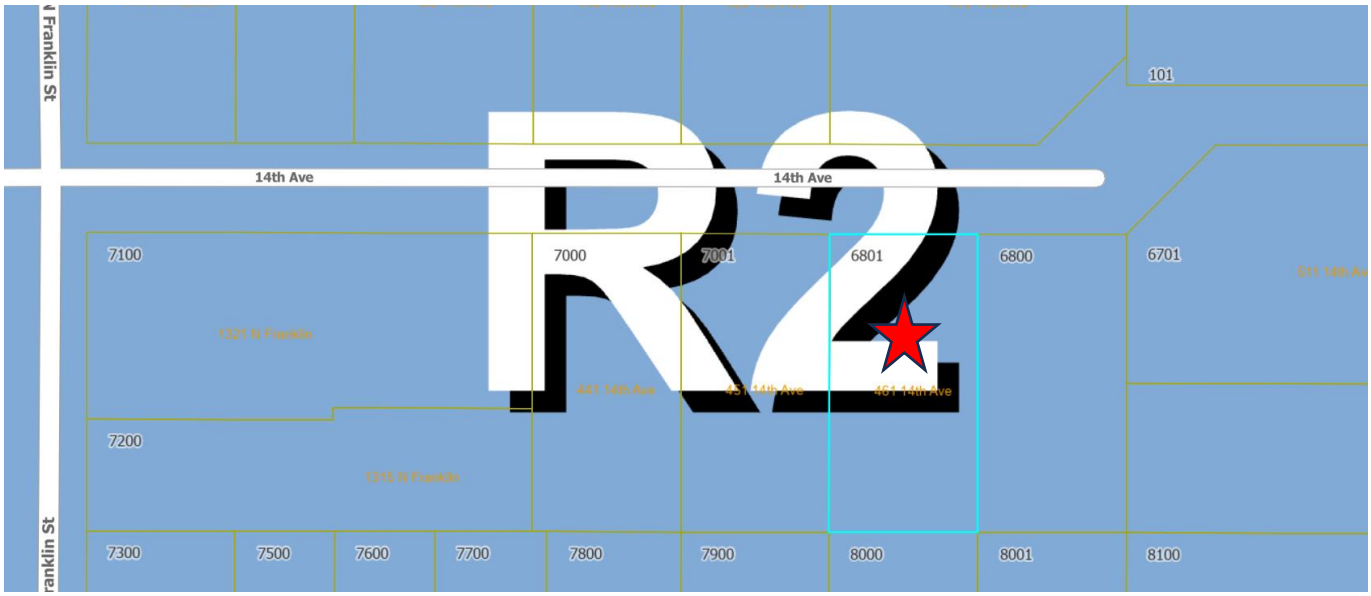
Staff recommends the Planning Commission conduct a public hearing on the application, take public comments, and review and discuss the request. Unless submitted comments or other clarifications or justifications are needed, staff recommends the Commission adopt the findings, justification statements, and conclusions in this report and move to modify Conditions 2, 3, and 5 of the original conditions of approval as well as add Condition 21 and Condition 22. (Page 15)

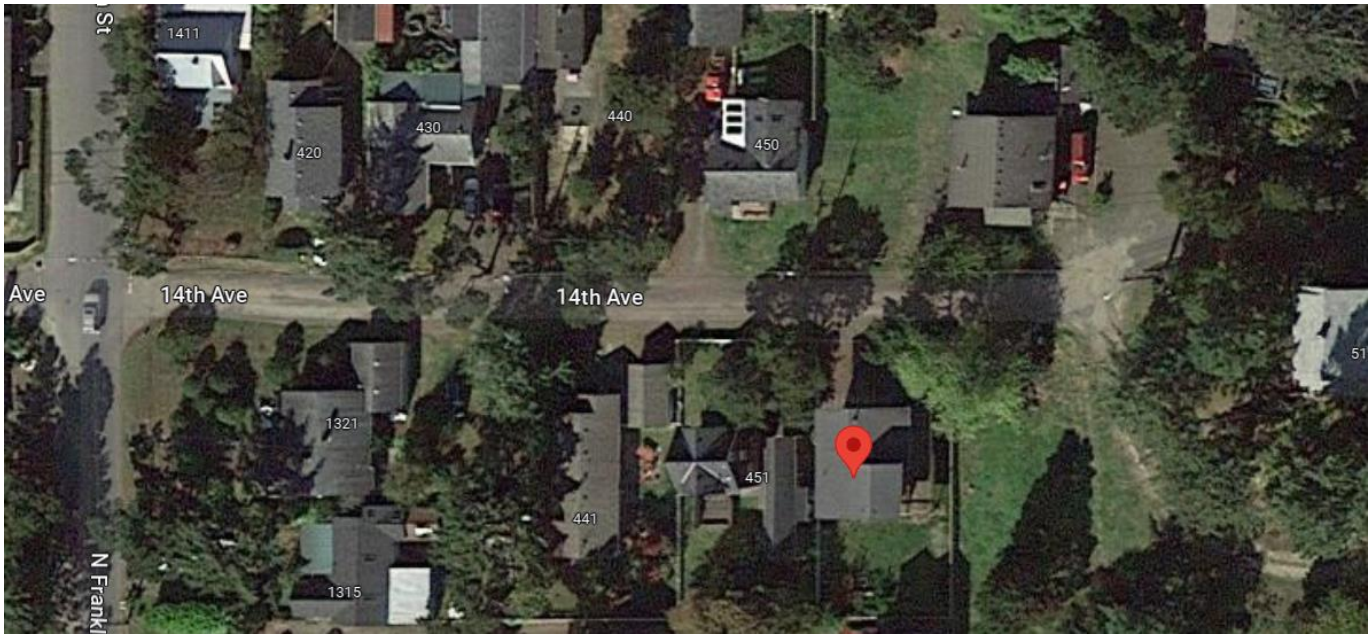
B. Exhibits:

1. **Original Application Packet**
2. **Public Comments from 2019 Public Notice**
3. **VRD Complaint Reports**

Jeff Flory, Planning Director
jflory@cityofseaside.us
989 Broadway, Seaside, OR 97138
(503) 738-7100

C. Location: 461 14th Ave (T6-R10-S16DA-TL6801)





D. Background:

The applicant, Edward "Ted" Mittelstaedt, received conditional approval to operate a Vacation Rental Dwelling at 461 14th Ave. on July 31, 2019. Ted applied for a 3-bedroom VRD to have a maximum occupancy of nine (9) persons over the age of three, no more than ten (10) persons regardless of age. The applicant was only granted an occupancy of six (6) persons over the age of three, no more than ten (10) persons regardless of age due to the inability to park three vehicles on the property while still meeting the required yard area landscaping provisions in Section 6.137 of the Zoning Ordinance.

E. Process:

This request is being reviewed under Article 6, and Article 10 of the Seaside Zoning Ordinance. Article 6 establishes the criteria for conditional uses and Article 10 establishes the process and procedures that are applicable to this request. The specific review criterion for Vacation Rental Dwellings is included in Section 6.137 of the Ordinance. Staff is also reviewing compliance with the original conditions of approval that were issued when this application was approved in 2019.

F. Community Review:

Notice of this public hearing was published in the Daily Astorian on July 13, 2023. Additionally, a mailed notice was sent on July 11, 2023, to all property owners within 100ft of the subject property.

G. Written Comments:

At the time of this report, no comments have been submitted to the Community Development Department.

H. Zoning Ordinance Criteria for a Conditional Use:

Pursuant to Section 6.137, Vacation Rental Dwellings (VRDs) within the R-2 and R-3 zones shall be reviewed by the Planning Commission whenever the surrounding VRD density is 20% or greater. A permit shall be issued as an accessory use provided the applicant can demonstrate by written application that all of the following standards are met:

a. Parking. One 9' x 18' off-street space will be provided for each bedroom in the unit, but in no event shall fewer than two spaces be provided.

Finding: *The applicant's original site plan shows three (3) side-by-side parking spaces in the front yard area. The three spaces take up more than 50% of the required landscaping. The applicant's occupancy was reduced from the requested nine (9) persons over the age of three to six (6) as a result of only having space for two cars. This criterion is met as it has space for the required two parking spaces however, the current parking configuration is in violation of the Seaside Zoning Ordinance.*

b. Number of Occupants. The maximum number of occupants cannot exceed three persons (over the age of three) per bedroom. The maximum occupancy, along with good neighbor rules, shall remain posted inside the front door in a conspicuous place. It is the owner's responsibility to ensure the renters are aware of these limitations.

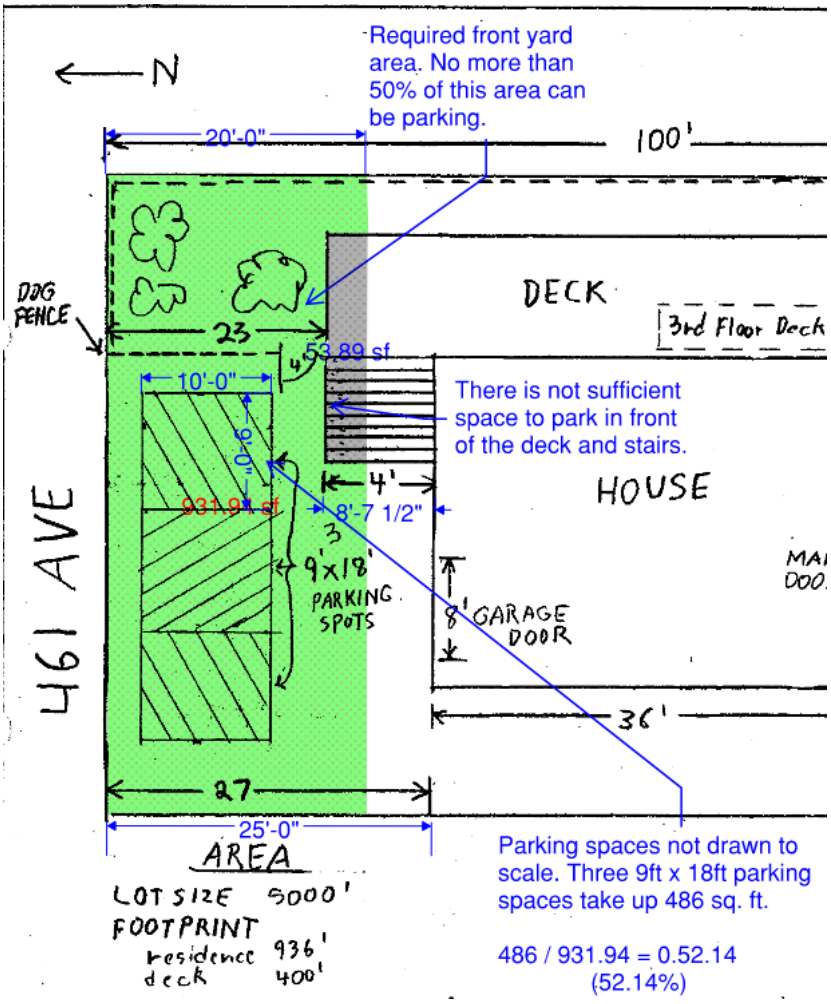
The number of overnight renters or the maximum number of occupants may be reduced by the Code Enforcement Officer or Fire Marshal at the time of Inspection for valid code reasons.

Finding: *The applicant requested an occupancy of nine (9) persons over the age of three however, the occupancy was reduced to six (6) due to parking constraints. The dwelling contains three bedrooms and allowing all three rooms to be used is contributing to the number of vehicles brought by guests. The owner is responsible for ensuring renters are aware of the occupancy limitations. This criterion is met.*

c. Residential yard areas. Front, side, and rear yards must maintain a residential appearance by limiting off street parking within yard areas. At least 50% of each yard area which is not occupied by buildings must be landscaped in some fashion so that parking will not dominate the yard.

Finding: *The applicant's original site plan showed three parking spaces that would take up more than 50% of the required yard area. The applicant had a tree planted in the required yard area that was part of his landscaping. The applicant has since removed the tree and now allows three vehicles to park side by side*

The three parking spaces that are currently being utilized take up more than 50% of the required yard area. Based on the applicant's site plan, the applicant's required front yard area not covered by a building is approximately 931.94 sq. ft. Three (3) side-by-side, 9ft x 18ft, parking spaces take up 486 sq. ft. (52.14 %) of the required yard area. The applicant's current parking configuration violates this section of the ordinance.



The applicant will need to remove a parking space so that no more than 50% of the required yard area is utilized for parking. Additionally, the applicant's parking area is not clearly defined and there is no delineation between the parking area and landscaping. The applicant will be required to install permanent landscaping that delineates the parking spaces from the landscaping. This criterion is not met due to parking taking up more than 50% of the required front yard area.

d. Local responsible party. A local responsible party that permanently resides within the County must be identified by the owner. The responsible party will serve as an initial contact person if there are questions regarding the operation of the VRD. The owner shall provide the telephone number of the local contact person to the City, and to the immediate neighbors within the notification area (within 100' of the subject property).

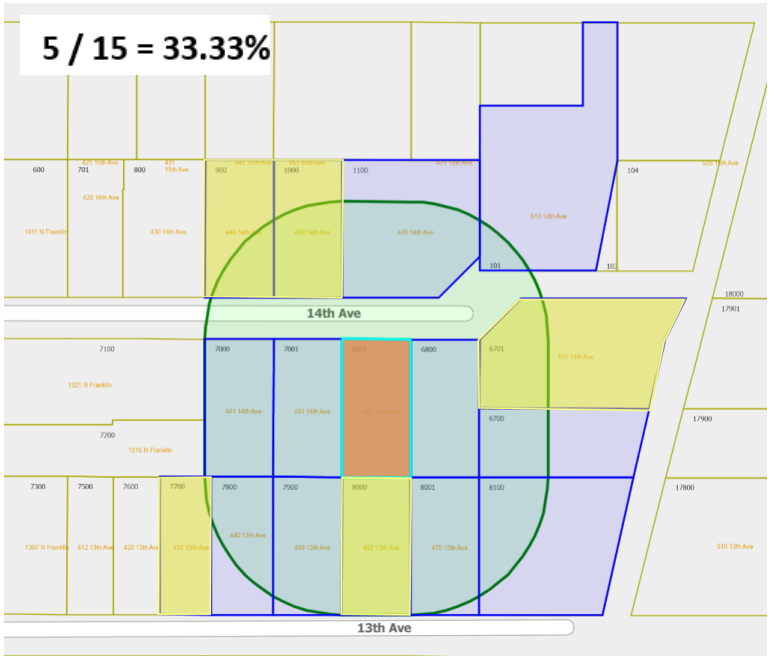
Finding: *The applicant lists Vacasa as their local contact. Vacasa's response to the complaints has not been sufficient as the same parking complaint has repeatedly occurred. Further steps are needed to correct this issue and prevent these types of complaints from recurring. This criterion is not met due to a lack of response to complaints by the local contact.*

e. Spatial distribution requirements. Within the medium density residential (R-2) zones and high density residential (R-3) zones, not more than 20% of the properties within 100' of the subject property can be currently licensed for VRD use without Planning Commission review based on the following additional criteria:

1. **The use of the property as a VRD will be compatible with the surrounding land uses.**
2. **The VRD will not contribute to excessive parking congestion on site or along adjacent streets.**

A decision by the Commission to approve a VRD request may include conditions that would restrict the number of renters or total occupants in the VRD.

Finding: *The density of surrounding VRDs within 100ft of the applicant's property was 20%. The applicant's original application was not reviewed by the Planning Commission as the density was not more than 20%. At the time of the original approval in 2019. The current density of surrounding VRDs is 33.33%. This criterion is met.*



Additional Criteria:

1. **The use of the property as a VRD will be compatible with the surrounding land uses.**

   Finding: *The approval of a VRD at this location was compatible with the surrounding land uses as this is still a predominately residential neighborhood. However, the operation of a VRD at this property has generated numerous complaints that have negatively affected the neighbors. The multiple, repeated, parking complaints have caused this VRD to no longer be compatible with the surrounding, residential uses. Staff recommends a probationary period of 6 months to allow the applicant an opportunity to demonstrate the operation of the VRD is compatible with surrounding land uses. This criterion is not met as the number of complaints has made this VRD incompatible with surrounding land uses.*

1. **The VRD will not contribute to excessive parking congestion on site or along adjacent streets.**

   Finding: *The documented complaints have shown this VRD has contributed to excessive parking congestion on-site and along the adjacent street, 14th Ave. The property owner and the property management company have not taken sufficient steps to address the repeated violations. Additional conditions may be necessary to bring the VRD into compliance with the ordinance. This criterion is not met as the majority of the complaints involve excessive parking congestion on-site and along the adjacent street.*

I. Advertising:

Airbnb:

About this space

The space
Seaside Turtle Terrace

Whether you're looking to entertain loved ones or simply relax in a beautiful coastal setting, you'll be able to do it all at this Seaside home just a few blocks from the beach. Enjoy an expansive deck and backyard, comfortable leather furnishings, and a private firepit to gather around each evening when fire season is not in effect - all in a prime location close to the sand, the Seaside Promenade, and downtown.

Additional amenities include a level 2 electric vehicle charger in the garage.

If you head less than two blocks west, you'll find an access point to the ocean beach and the end of the Seaside Promenade. Downtown Seaside is within walking distance, just three-quarters of a mile south along the river, offering superb dining options. You can also feed the seals at the historic Seaside Aquarium on the Promenade, hop on the Seaside Carousel inside the mall, or tee off at one of the five beautiful golf courses between Seaside and Astoria.

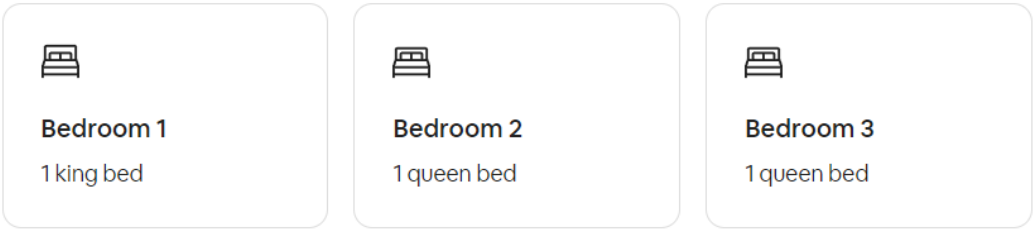
THINGS TO KNOW
4 dog(s) are welcome in this home. No other animals are allowed without specific Vacasa approval.

Parking notes: There is free parking for 2 vehicles.
Security camera details: There are two active security cameras on-site: one above the garage door focused on the street and parking area and one in the back of the garage focused on the entrance to the garage and the backyard.

Damage waiver: The total cost of your reservation for this Property includes a damage waiver fee which covers you for up to $3,000 of accidental damage to the Property or its contents (such as furniture, fixtures, and appliances) as long as you report the incident to the host prior to checking out. More information can be found from the "Additional rules" on the checkout page.

Due to local laws or HOA requirements, guests must be at least 21 years of age to book. Guests under 21 must be accompanied by a parent or legal guardian for the duration of the reservation.

Where you'll sleep



Finding: *The advertising for this property states there is parking for two vehicles but it does not restrict or limit the number of vehicles that guests bring. The property is advertised on Airbnb, VRBO, and Vacasa's website. All of the listing language between the different booking platforms is similar. The property is advertised as a three-bedroom with the bed configuration listed above. Three bedrooms with only king and queen beds may be inviting three separate families to rent the property at the same time. There is not enough parking area to accommodate three vehicles without violating the landscaping provisions in the ordinance. The applicant's bedroom configuration and advertising need to be remedied so that there are only two bedrooms available and only two bedrooms advertised.*

J. Reviews:

VRBO:

4/5 Good

Stacy S.
Sep 21, 2022

Liked: Cleanliness

Turtle terrace

The property was fantastic! Very comfortable and clean. Instead of vrbo, Vacasa was in charge , we had questions .. The only phone number given was some Vacasa central place - they had no idea about anything about the property. It would've been nice to immediately receive the phone number of the property manager or whoever was familiar with it. . We gave up. Also there was very generic instructions on close out Need more specific info on what is excepted, about recycling, leave trash in , etc.

See less

Stayed 2 nights in Sep 2022

0

1/5 Terrible

TEAL S., EAGLE, IDAHO
Sep 10, 2021

Harrassment about parking

Kept getting harrassed about the parking situation, when it was the house across the street. They have parties and shoot fireworks off every night since they rent out the ex-large parking space. The owners of the house are not aware of what's going on . Sorry 1 neighbor has ruin it, but will never will be back.

Stayed 3 nights in Aug 2021

0

Response from VrboOwner on Jun 20, 2023

Hello Teal: Thank you for staying with us! We are so glad you had a great time! We take guest feedback seriously and have forwarded this information to the local staff so they can review and update the home as needed for future guests. We will be sure to follow up with the appropriate parties regarding your experience. We hope to have the opportunity to host you again soon!

Airbnb:

Chelsea
November 2022

Overall the house is dated but nice and spacious. The location is really the kicker here. Roughly 2 blocks to the beach and .08 miles to downtown which you can walk from the promenade. The fenced in back yard was a plus for our pups. There were lots of puzzles/games. Our experience with cleanliness was the problem and the lack of communication from the host. Upon arrival the house reeked of marijuana, although this is suppose to be a "no smoking" property. Don't expect them to actually help you with any concerns, they say the are more than happy to help and then never respond. Caution of the fan in the upstairs room, it was covered in over an inch of dust, just disgusting. I would recommend this home for the location but there were other options nearby that may be better.

Response from Vacasa Oregon
November 2022

Thank you for taking the time to share your experience, Chelsea. We are happy to hear that our home provided a suitable location for your trip! That being said, we are deeply sorry to hear that you had issues with the cleanliness of the home and for our lack of follow-up. Please know that this does not reflect our standards of customer service and we greatly appreciate you bringing this to our attention. We welcome your feedback as a means to improve and will be sure to follow up with the appropriate parties regarding your experience. We hope we can invite you back to provide you with the 5-star stay that we know we can provide!

Nerissa
March 2022

This comfortable house is close to the beach and has a great deck to hang outside. However, it's fairly "lived in" and is needing minor repairs throughout the house, which add up to many annoyances.
Note that not only is the third bedroom down in the basement, you have to go through stairs and basement areas to get to it - it feels very uninviting and the bed is very high (too high for older and younger folks), and the box spring is very stained.
The primary reason for a 3-star review, however, is that Vacasa was almost completely unresponsive to questions and obviously isn't caring for the house like it should be. We found lots of old dog poop in the yard, things like power strips not functioning, had to remove multiple smoke alarms that were chirping during our stay (including high up in the vaulted ceiling at 5am), had a doorknob so loose it almost fell off, no instructions for the fireplace or the complex TV setup, and zero response from Vacasa when asked about these things.

Rachael
December 2020

Very clean! Fully stocked kitchen. Easy check-in. Loved the fire stove which we were able to use at all times of the day. Good location - just minutes from everything you need. Easy walking access to the beach. Lots of puzzles and games. My only concern was that we had 3 vehicles and we were only given a google search link to parking in the area which doesn't always give accurate information or any information at all. The city is very strict about parking on the street and having more than 2 cars in your driveway overnight and the neighbors will complain. We ended up parking the 3rd vehicle on Necanicum Dr since there were no signs indicating 'no overnight parking' and we were fine. This might be more difficult in the summertime, however. You would think if you advertise being able to accommodate 6 guests (more pre-COVID) you would have more information for a 3rd vehicle. Other than that, everything was great! Thank you!

Bernard
June 2020

Vacasa keeps you on hold for a long time to reach someone by phone.

vacasa

Response from Vacasa Oregon
July 2020

Thank you for staying with us, Bernard. We apologize for the communication issues impacting your visit. While our guest services team has experienced an unprecedented demand in light of the developing global health crisis, we are continuing to adapt and adjust our efforts to best meet the needs of our guests. We hope to host you for a great vacation in the future.

Vacasa's Website:

★★★★★ **Jessica C.** | Apr 2022

The home has a lot of space and very comfortable.
With that being said the master shower drain is running slow and there is no way to let anyone know.
Vacasa is not easy to communicate with and everything seem automated. It was hard to figure out somethings but we are resourceful people.
If this home was managed by a local management team it would be a great place. Besides not being able to use one of the showers great place.

Findings: *While there are several reviews on this property since 2020, the screenshots above show some of the reviews that indicate compliance issues with this VRD. Several reviews describe issues with guests being able to communicate with the property management company. Some reviews describe having problems with bringing more than two vehicles and complaints of being harassed due to parking the extra vehicles on the street. The reviews from guests who have stayed at the property indicate there are compliance issues with parking and a lack of communication from the VRD's local contact.*

K. Complaint Summary:

The Community Development Department categorizes complaints as sustained, not-sustained, or unfounded.

Unfounded: Complaints are categorized as unfounded if there is no reasonable evidence the complaint occurred or the local contact was not called to address a complaint.

Not-Sustained: Not-sustained complaints are complaints documented with reasonable evidence to show the complaint's validity and the local contact was called and made a reasonable attempt to resolve the issue.

Sustained: Sustained complaints are complaints that are documented with reasonable evidence to show the complaint's validity and the local contact was called but there was no answer or the local contact did not take steps to resolve the issue.

Complaint documentation is attached to this staff report.

Date	Type of Complaint	Summary	Conclusion
08/28/2020	Parking	Guest vehicles parked in the public right of way.	Not-Sustained
08/18/2021	Parking	Guest vehicle parked in the public right of way.	Not-Sustained
01/29/2022	Parking	Four vehicles at the VRD, two parked in the public right of way.	Sustained due to no follow-up by the property manager.
02/20/2023	Parking	Guest vehicle parked in the public right of way.	Sustained due to no follow-up by the property manager.
02/24/2023	Parking	Guest vehicle parked in the public right of way	Sustained. Property manager stated they had no record of the complaint however, the reporting person provided proof of the call.
03/17/2023	Parking	Guest vehicle parked in the public right of way.	Not-sustained. The property was being used by the owner.
06/22/2023	Parking	Guest vehicle parked across the street in the public right of way.	Sustained. No response to the complaint from the property manager.
06/28/2023	Parking	Vehicle from VRD moved to parking in the public right of way on 12th Ave.	Sustained. No response from the property owner.

Finding: *From the numerous complaints dating back to 2020 as well as the public reviews by guests at this property, the property owner and the property manager have not taken sufficient steps to resolve this ongoing issue. The reporting person for these complaints has provided sufficient documentation in following the complaint reporting procedures by calling the Local Contact and advising the property management company of the complaint. The numerous, repeated, complaints are in violation of multiple provisions of Section 6.137 of the Seaside Zoning Ordinance.*

2019 Notice of Decision Conditions of Approval:

1. **Compliance Inspection:** The proposed vacation rental dwelling (VRD) must pass a compliance inspection conducted by the Community Development Department prior to any transient rental. This inspection will verify compliance with all VRD standards and conditions of approval and the applicant is hereby advised that failure to meet certain standards can result in a reduction in the maximum occupancy. The final occupancy will be noted in land use file **(19-032VRD**) and reflected on the City of Seaside Business License. The license is not valid until the appropriate occupancy has been established by the approval of a final compliance inspection by the Community Development Department.

   Please be advised the VRD has already undergone a preliminary compliance inspection and all corrections must be completed and verified prior to any transient rental unless an alternative time period for completion was identified for specific items.

   Finding: *The applicant's property was inspected and corrections were completed prior to the 2019 final approval. This criterion is met.*

2. **Parking spaces: Two (2) off-street parking spaces (9' X 18' per space) are required on site.** These spaces shall be permanently maintained and available on-site for use by the vacation rental occupants. Vacation Rental Dwelling (VRD) tenants are required to park in the spaces provided on site for the VRD. No on-street parking associated with this VRD is allowed at this location. Vehicles parked at VRDs may not project over the sidewalk and block pedestrian traffic. A parking map shall be posted inside the dwelling for the VRD tenants. **The map must clearly indicate: ON-STREET PARKING CANNOT BE USED BY RENTERS. PLEASE USE THE SPACES PROVIDED ON SITE**.

   ☒ If the graveled street accessing the property (14th Avenue) is paved in the future, the required off street parking spaces must be paved (asphalt, concrete or other comparable surface authorized by the Planning Director) in accordance with City requirements while maintaining compliance with the open yard area requirements in Condition 5. Failure to complete the paving will require suspension of the rental until such time the improvements are completed.

   Finding: *The applicant's parking spaces are not clearly delineated from the landscaping. The applicant's guests have routinely utilized street parking instead of parking in the required off-street parking spaces. The applicant is required to delineate the parking area from the required landscaping and ensure no more than two vehicles are brought to the VRD by renters. This criterion is not met.*

3. **Maximum number of occupants: Six (6) persons over the age of three, no more than ten regardless of age**. The maximum occupancy, along with good neighbor rules, shall remain posted inside the front door in a conspicuous place. It is the owner's responsibility to ensure the renters are aware of these limitations. If the number of occupants is less than the original number requested, it may have been reduced for valid code reasons.

   Finding: *The owner is responsible for ensuring their guests know the occupancy limits of their VRD approval. Occupancy is calculated at three persons per bedroom. The original application lists this as a three-bedroom house. The applicant is required to provide one parking space per bedroom. The applicant does not have room for three off-street parking spaces. The applicant will need to lock off one of the three bedrooms from guest's use and no longer advertise this property as a 3-bedroom VRD. This criterion is not met.*

4. **Applicability of Restrictions**: Properties licensed for VRD use will be expected to adhere to the VRD standards and rules throughout the entire year even when they are not being rented for profit. This will not apply to the dwellings when members of the owner's family are present.

   Finding: *The majority of the complaints filed are due to renters and not the applicant's personal use of the property. This criterion is met.*

5. **Open Yard Areas:** Front, side, and rear yards must maintain a residential appearance by limiting off street parking within yard areas.

   ☒ **If the applicant's plan to prevent cars from parking in the eastern portion of the graveled front yard area is unsuccessful, additional planters or other landscape treatments will be required by the Planning Director.**

   Finding: *The applicant's off-street parking area is not clearly delineated from their required landscaping. The applicant will need to delineate their two off-street parking spaces from their required landscaping. Based on the applicant's site plan, the off-street parking area cannot exceed 465.95 sq. ft. in order to meet the 50% front yard area landscaping requirement. This criterion is not met due to parking taking up more than 50% of the required front yard area.*

6. **Local Contact**: **Vacasa, Rita SanRoy, 1803 S Roosevelt, Seaside, OR;** will be the local contact for the VRD and **she** can be reached at **(503) 345-9399.**

   The contact person must be available 24 hours a day to address compliance issues while the property is rented. Upon any change in the local contact, the owner must provide formal notice of the updated contact information to the City and all of the neighboring property owners within 100'. Managers are required to notify the City any time they stop representing a VRD.

   Local contact information is available at the Community Development Department (503) 738-7100, City Hall (503) 738-5511, or after business hours at the Seaside Police Department (503) 738-6311.

   ☒ **The local contact must sign a Local Contact Acknowledgement Form that indicates they are aware of the Commission's expectations concerning response to complaints by neighboring residents and maintain a complaint response log that would be made available to the city upon request. The signed form must be returned to the Community Development Department so it can be included in the land use file. An updated form must be submitted by the owner any time a new contact person is established.**

   Finding: *The Seaside Zoning ordinance defines "person" as "Any natural person, firm, partnership, association, social or fraternal organization, corporation, estate, trust, receiver, syndicate, branch of government, or any other group or combination acting as a unit." The applicant lists Vacasa as the local contact. Vacasa has a local office, and employees who reside in Clatsop County. The property management company has not been available 24 hours a day to address compliance issues as documented in several complaint reports. This VRD is not in compliance with this condition. This criterion is not met due to issues with the local contact not responding to complaints.*

7. **Compatibility:** A VRD will be compatible with the surrounding land uses and shall not contribute to excessive parking congestion on site or along adjacent streets.

   Finding: *This VRD has had multiple complaints making it no longer compatible with the surrounding land uses. The VRD complaints document excessive parking congestion on-site and along the adjacent street. This criterion is not met.*

8. **Exterior Outdoor Lighting:** All exterior lighting must conform to the newly adopted Outdoor Lighting Ordinance even if any pre-existing outdoor lighting would normally be exempt under the provisions of the ordinance. This will basically require shielding of any exterior lighting fixtures such that glare will not be visible from the surrounding property for any lighting element that exceeds 450 lumens, the equivalent of a 40 watt incandescent

bulb. **This does not apply to any existing outdoor security lighting that is timed for short durations and activated by motion detectors**.

Finding: *Staff has not received complaints regarding excessive exterior lighting. This criterion is met.*

9. **Ordinance Compliance & Solid Waste Pick-up:** All vacation rentals must comply with City ordinances regarding noise, smoke, dust, litter, odor, and solid waste collection. Weekly solid waste pick-up is required during all months.

   Finding: *Staff has not received complaints regarding solid waste pick-up. This criterion is met.*

10. **Required Maintenance:** It is the property owner's responsibility to assure that the vacation rental dwelling remains in substantial compliance with Oregon State requirements for the following: Health, Safety, Building, and Fire Codes, Traveler's Accommodation Statutes, and with the Uniform Housing Code. **Owners are hereby advised that Carbon Monoxide detectors must be installed and maintained in all newly established transient rental occupancies.**

    Finding: *Staff has not received complaints regarding the maintenance of this VRD. This criterion is met.*

11. **Permit Non-transferability:** Vacation rental dwelling permits are personal in nature and accordingly are not transferable. Upon transfer of the property, the new owner, if he or she so desires, may apply for a new permit in accordance with City Ordinance.

    Finding: *This VRD remains under the ownership of the original applicant. This criterion is met.*

12. **Business License, Room Tax Requirements, & Revocation for Non Payment:** A City Business License is required and all transient room tax provisions apply to VRD's. The business license must be obtained prior to any rental of the property. Renewals must be made in January of the permit year. If the business license fee or the transient room tax payments are thirty (30) days past due, the VRD Permit will be revoked unless a written extension is granted by the Finance Director.

    Although Airbnb pays the transient room tax directly to the city, owners/applicants that utilize their service are still required to report the Airbnb revenue on their quarterly returns.

    Finding: *The applicant has remitted all applicable taxes and is current on their business license status. This criterion is met.*

13. **Conflicts & Potential Denial for Non Compliance**: Upon receipt of two written complaints from two or more occupants of different residences who claim to be adversely affected by the use of the property as a vacation rental dwelling, or by notice from the City Code Compliance Officer that requirements or conditions of approval are not being met, the Planning Department will work with the parties involved to settle any conflicts. If the problems are not resolved, the permit will be reviewed by the Planning Commission as provided in Zoning Ordinance Section 6.137, Subsection 5 at the applicant's expense. Failure on the applicant's part to meet the standards or conditions will result in modification or denial of the permit.

    Finding: *Staff has received eight (8) documented complaints regarding the operation of this VRD. The documented complaints have all come from one neighboring property owner. The reporting person has clearly documented and shown repeated violations of the Zoning Ordinance and the VRDs conditions of approval. The VRD Compliance Official has attempted to work with the parties involved to resolve the repeated complaints. The applicant and their property manager have not taken sufficient steps to resolve the repeated parking issues at this VRD. The compliance hearing has been scheduled due to documentation by the City's VRD Compliance Official that the VRD is repeatedly in violation of their conditions of use and that attempts to work with the parties involved to resolve the complaints have not been successful. This criterion is met.*

14. **Complaints:** Applicants are hereby advised the City Code Compliance Officer routinely follows-up on individual complaints if there is a valid code issue that needs to be addressed by the owner and/or manager of a VRD.

Staff does not wait until the occupants of two different residences submit written complaints before they take action to achieve compliance. The VRD complaint procedures are outlined in an attachment to the notice of decision and the forms can also be accessed on the City of Seaside's web site http://www.cityofseaside.us/sites/default/files/docs/VRD-COMPLAINTFORM.pdf This should be used to report alleged violations that are not being addressed by the local contact or property manager.

Finding: *Staff has documented eight (8) complaints regarding the operation of this VRD. The VRD Compliance Official has documented that the reporting person has followed the procedures to file a complaint, including notifying the local contact first, as well as providing sufficient evidence of the validity of each complaint. This criterion is met.*

15. **Time Period for Approval, Required Re-inspection:** This VRD approval shall be limited to 5 calendar years unless the dwelling is re-inspected (subject to the applicable fee) for compliance with the VRD policies and ordinances applicable at the time of the re-inspection. Re-inspection notices will be provided to the owners at the time business licenses are issued for the 5th calendar year. If the re-inspection is not completed during the 5th year, the permit will expire and a new VRD application must be approved prior to obtaining a new business license for the 6th calendar year. Compliance with the re-inspection requirements will reauthorize the VRD for an additional 5 calendar years.

    Finding: *The applicant received their VRD approval in 2019. Their 5-year inspection is not due until 2024. This criterion is met.*

16. **Tsunami Information & Weather Radio**: The owner shall post or otherwise provide a tsunami evacuation map in a conspicuous location within the VRD. In addition, a NOAA weather radio, with automatic alert capabilities, must be permanently affixed in a central part of the VRD along with an informational sheet that summarizes the warning capabilities of the radio in the event of a distant tsunami.

    Finding: *This is a requirement of the initial VRD inspection and subsequent 5-year inspections. This criterion is met.*

17. **Grace Period:** If a currently licensed VRD sells to another party, staff is allowed to grant a temporary grace period of not more than 60 days in which current bookings can be cleared without being recognized as a violation. The manager or owner must provide staff with a list of the bookings during the grace period and no additional bookings can be taken during that time.

    Finding: *This VRD is under the same ownership as the original applicant and is not within the 60-day grace period. This criterion is met.*

18. **Pet Friendly Rental: If the rental allows pets and they generate complaints related to running at large, trespass onto neighboring property, or causing a disturbance due to excessive barking; additional restrictions or containment measures will be required by the Planning Director. The additional restriction can include prohibiting pets at this VRD.**

    Finding: *Staff has not received complaints regarding pets at this VRD. This criterion is met.*

19. **Outdoor Fire Pit Use Hours: Use of the outdoor fire pit will be restricted between the hours of 10:00 p.m. & 7:00 a.m. If these hours prove to be insufficient to protect the neighboring property owner's from unwanted noise, they will be further restricted by staff. The additional restriction can include prohibiting use of the outdoor fire pit entirely and securing it from use by VRD tenants.**

    Finding: *Staff has not received complaints regarding the use of an outdoor fire pit. This criterion is met.*

20. **Outdoor Fire Pit Smoke: Use of the outdoor fire pit will be further restricted by staff if smoke from the fire pit leads to complaints from the neighboring property owners. The additional restriction can include prohibiting the use or restricting it to a gas or propane fire pit.**

    Finding: *Staff has not received complaints regarding the use of an outdoor fire pit. This criterion is met.*

L. Recommendation and Alternatives:

Staff recommends the Planning Commission conduct a public hearing on the application, take public comments, and review and discuss the conditions under which this VRD is authorized to operate. Staff recommends the modification to the original approval, as well as adopting additional conditions to address the failure of this VRD to meet all of the criteria and provisions of the conditions of use and the Seaside Zoning Ordinance.

Recommended Additional Conditions and Modifications to Existing Conditions:

Modification to Condition 2:

Parking spaces: Two (2) off-street parking spaces (9' X 18' per space) are required on site. These spaces shall be permanently maintained and available on-site for use by the vacation rental occupants. Vacation Rental Dwelling (VRD) tenants are required to park in the spaces provided on site for the VRD. No on-street parking associated with this VRD is allowed at this location. Vehicles parked at VRDs may not project over the sidewalk and block pedestrian traffic. A parking map shall be posted inside the dwelling for the VRD tenants. **The map must clearly indicate: ON-STREET PARKING CANNOT BE USED BY RENTERS. PLEASE USE THE SPACES PROVIDED ON SITE**.

☒ **If the graveled street accessing the property (14th Avenue) is paved in the future, the required off street parking spaces must be paved (asphalt, concrete or other comparable surface authorized by the Planning Director) in accordance with City requirements while maintaining compliance with the open yard area requirements in Condition 5. Failure to complete the paving will require suspension of the rental until such time the improvements are completed.**

☒ *This VRD only has space for only two (2) off-street parking spaces. A maximum of two vehicles per booking will be allowed at this property. Advertisements for renting this property need to specify only two vehicles will be allowed per booking. It is the responsibility of the property owner to ensure the parking requirements are adhered to.*

Modification to Condition 3:

Maximum number of occupants: Six (6) persons over the age of three, no more than ten regardless of age. The maximum occupancy, along with good neighbor rules, shall remain posted inside the front door in a conspicuous place. It is the owner's responsibility to ensure the renters are aware of these limitations. If the number of occupants is less than the original number requested, it may have been reduced for valid code reasons.

☒ *Occupancy is calculated as three (3) persons over the age of three per bedroom. VRDs are required to have one off-street parking space per bedroom. This VRD only has two (2) off-street parking spaces. This VRD is advertised as a three-bedroom dwelling however, the occupancy is calculated as a two-bedroom dwelling due to off-street parking space limitations. The VRD owner is required to lock off one of the three bedrooms so that only two bedrooms are available for guests to use. This VRD cannot be advertised as a three-bedroom dwelling as it does not have sufficient off-street parking for three bedrooms.*

Modification to Condition 5:

Open Yard Areas: Front, side, and rear yards must maintain a residential appearance by limiting off street parking within yard areas.

☒ **If the applicant's plan to prevent cars from parking in the eastern portion of the graveled front yard area is unsuccessful, additional planters or other landscape treatments will be required by the Planning Director.**

☒ *The applicant's current parking configuration is in violation of the City of Seaside's Zoning Ordinance. The applicant is required to delineate the parking area from the required landscaping utilizing permanent landscape features. The applicant's two (2) parking spaces cannot take up more than 50% of the required front yard area.*

Additional Conditions

Condition 21: *Establish a compliance probationary period of one-hundred-eighty days (180) days starting August 2, 2023, and ending on January 29, 2024. During the probationary period, the VRD owner is expected to ensure the VRD is in compliance with all of the conditions listed as well as all City ordinances.*

Documented instances of VRD renters parking on the street instead of in the required off-street parking area may be cause for revocation of the VRD conditional use approval. The VRD's local contact is expected to respond to and resolve complaints in a timely manner. The VRD owner is expected to maintain a complaint log documenting any complaint received and the actions taken by their local contact to resolve the complaint.

Condition 22: *The VRD owner is required to address the existing conditions that violate the Zoning Ordinance and violations of their conditions of use by September 1, 2023. This includes permanent landscaping so that no more than 50% of the required yard area is taken up parking, locking off one of the three bedrooms from guest's use, ensuring all advertising provides language that there is a maximum limit of two vehicles per reservation, and only advertise this property as a two-bedroom rental.*

Alternative 1:

The Planning Commission may choose to continue this review to the regularly scheduled September 5, 2023, Planning Commission meeting to allow the Commission time to review submitted evidence or to allow the applicant, other affected parties, and the public, additional time to review or submit further evidence, rebuttals, or justifications.

Alternative 2:

The Planning Commission may choose to hold the public hearing and review additional submitted comments or evidence. If the Planning Commission finds that new evidence and testimony are contrary to the complaint reports received and other evidence presented, the Planning Commission can issue findings and allow the original 2019 VRD approval and conditions to continue without modification.

Alternative 3:

The Planning Commission may choose to hold the public hearing and review additional submitted comments or evidence. If new evidence justifies revoking the applicant's VRD approval, the Planning Commission can adopt the additional evidence and findings and move to revoke.

The information in this report and the recommendations of staff are not binding on the Planning Commission and may be altered or amended during the public hearing.

CITY OF SEA

APR 29 2019

PAID

CITY OF SEASIDE
VACATION RENTAL DWELLING (VRD) APPLICATION

The City of Seaside requires approval for short term (less than 30 day) rental of certain types of residential property. These uses are referred to as vacation rental dwellings (VRDs) and they must be approved in accordance with the conditional use provision in Chapter 6.137 of the Seaside Zoning Ordinance (see attached). Although most requests can be reviewed by the Planning Director; in some cases, the requests require a public hearing before the City Planning Commission. In both cases, VRD applicants must provide the following information.

In addressing the following questions, additional information and supporting evidence can be referenced and attached to the submittal.

SUBMITTAL INFORMATION

1. **Applicant's Name:** Edward Mittelstaedt
2. **Mailing Address:** 4021 SE Grant CT Portland OR 97214
3. **Telephone #: Home** 503 234 8934, **Work** 503 867 6993,
   Fax _____, **E-Mail** tedm@mittelstaedt.us,
4. **If the applicant is not the current owner, the applicant must also submit a signed statement from the owner that authorizes the VRD application.**
5. **VRD Street Address:** 461 14th Ave Seaside OR 97138
6. **What is the total number of off-street parking spaces (9' X 18') that will be available for VRD occupant use?** 3 *The VRD ordinance states: One 9' X 18' off-street space will be provided for each bedroom in the unit, but in no event shall fewer than two spaces be provided.*
7. **How many bedrooms are in the dwelling?** 3**. Is the applicant requesting that all the bedrooms be used to calculate the maximum occupancy, and if not; how many are being proposed?** 3 **Please multiply the last number by three (3) to indicate the requested maximum occupancy for the VRD** 9**.** *The VRD ordinance states: The maximum number of occupants cannot exceed three persons (over the age of three) per bedroom; however, regardless of the number of bedrooms, no more than 10 can be allowed unless the building is protected by an approved sprinkler system. The maximum occupancy, along with good neighbor rules, shall remain posted inside the front door in a conspicuous place. It is the owner's responsibility to ensure the renters are aware of these limitations. The number of overnight renters or the maximum number of occupants may be reduced by the Code Enforcement Officer or Fire Marshal at the time of inspection for valid code reasons.*

ORIGINAL

V10 20 100 4/30 9839

8. All off street parking spaces must be clearly indicated on the applicant's site plan. Will the existing parking spaces or any planned expansion of parking take up more than 50% of the property's yard areas? no.

The VRD ordinance states: Front, side, and rear yards must maintain a residential appearance by limiting off street parking within yard areas. At least 50% of each yard area which is not occupied by buildings must be landscaped in some fashion so that parking will not dominate the yard.

9. Who will be acting as the local responsible party for the VRD owner?

Name: Vacasa **Phone #** 503 345 9399.

Address: 1803 S Roosevelt Dr Seaside OR 97138.

The VRD ordinance states: A local responsible party that permanently resides within the county must be identified by the owner. The responsible party will serve as an initial contact person if there are questions regarding the operation of the VRD. The owner shall provide the telephone number of the local contact person to the City, and to the immediate neighbors within the notification area (within 100' of the subject property).

10. What is the zone designation of subject property? R-2.

The VRD ordinance states: Within the medium density residential (R-2) zones and high density residential (R-3) zones, if more than 20% of the dwelling units within 100' of the subject property are currently licensed for VRD use, a public hearing and review by the Planning Commission is required.

11. Provide a site plan, drawn to scale, which indicates the following: the actual shape and dimensions of the lot, the sizes and locations of buildings and off street parking spaces (existing & proposed). In addition to the site plan, a floor plan(s) must be included which clearly indicates the intended use of all interior areas (e.g. bedrooms, kitchen, living room, storage etc.).

12. The following is a list of standard conditions that apply to VRDs:

- **Vacation rentals must comply with City ordinances regarding noise, smoke, dust, litter, odor, and solid waste collection Weekly solid waste pick-up is required during all months.**
- **Prior to issuance of a vacation rental dwelling permit, the building in question must be inspected and be in substantial compliance with the Uniform Housing Code.**
- **It is the property owner's responsibility to assure that the vacation rental dwelling remains in substantial compliance with Oregon State requirements for the following: Health, Safety, Building, and Fire Codes; and Traveler's Accommodation Statutes, and with the Uniform Housing Code.**
- **Vacation rental dwelling permits are personal in nature and accordingly are not transferable. Upon transfer of the property, the new owner, if he**

or she desires, may apply for a new permit in accordance with the VRD ordinance.

- **A City Business License is required and all transient room tax provisions apply to VRD's. The business license must be obtained prior to any rental of the property. Renewals must be made in January of the permit year. If the business license fee or the transient room tax payments are thirty (30) days past due, the VRD Permit will be revoked unless a written extension is granted by the Finance Director.**
- **Upon receipt of two written complaints from two or more occupants of different residences who claim to be adversely affected by the use of the property as a vacation rental dwelling, or by notice from the City Code Compliance Officer that requirements or conditions of approval are not being met, the Planning Department will work with the parties involved to settle any conflicts. If the problems are not resolved, the permit will be reviewed by the Planning Commission as provided in the VRD ordinance. Failure on the applicant's part to meet the standards or conditions will result in denial of the application. This would be in addition to any violation procedures specified in Article 12 of the Seaside Zoning Ordinance.**

Has the owner or the duly authorized applicant read all the standard conditions and answered all of the questions honestly based on their understanding of the VRD request? _____.

By signing this application, the applicant is also acknowledging that if the request requires review by the Planning Commission (Ordinance Provision 6.137E), the Applicant or a duly Authorized representative must attend the Public Hearing.

Applicant's Signature: _____, Date: 4-29-2019.

----------For Office Use Only----------

At the time of submittal, the applicant must pay the annual business license fee based on the proposed occupancy of the VRD: 1-5 occupants $75.00, 6-10 occupants $100.00, 11+ occupants 150.00. This fee must be accompanied by a one time filing fee of $20.00.

In addition to the business license fee, a $430.00 planning review fee must be submitted with this application. If the surrounding density of VRDs (see question 10) requires a Planning Commission review, an additional fee of $240.00 must be paid before staff will schedule the public hearing to review the application.

If the VRD application is not approved, only the business license fee will be refunded.

Submittal Date: _____ Amount Paid: _____

City of Seaside, Planning Department

989 Broadway, Seaside, OR 97138 (503) 738-7100 Fax (503) 738-8765

Land Use Application

Kevin Cupples, Director

PLEASE PRINT OR TYPE

NAME OF APPLICANT	ADDRESS	ZIP CODE
Edward Mittelstaedt	4021 SE Grant CT Portland OR 97214	

STREET ADDRESS OR LOCATION OF PROPERTY: 461 14th Ave Seaside OR 97138

ZONE	OVERLAY ZONES	TOWNSHIP	RANGE	SECTION	TAX LOT
R-2					10953

PROPOSED USE OF PROPERTY AND PURPOSE OF APPLICATION(S):

Vacation Rental use

(PLEASE INCLUDE THE APPROPRIATE PLOT PLAN.
IF ADDITIONAL SPACE IS NEEDED OR SUPPLEMENTAL INFORMATION IS REQUIRED PLEASE ATTACH)

OWNER:	APPLICANT/REPRESENTATIVE (OTHER THAN OWNER):
PRINT NAME OF PROPERTY OWNER: Edward & Joan Mittelstaedt	PRINT NAME OF APPLICANT/REPRESENTATIVE:
ADDRESS: 4021 SE Grant CT Portland OR 97214	ADDRESS:
PHONE / FAX / EMAIL: 503 867 6993	PHONE / FAX / EMAIL:
SIGNATURE OF PROPERTY OWNER: Edward Mittelstaedt	SIGNATURE OF APPLICANT/REPRESENTATIVE:

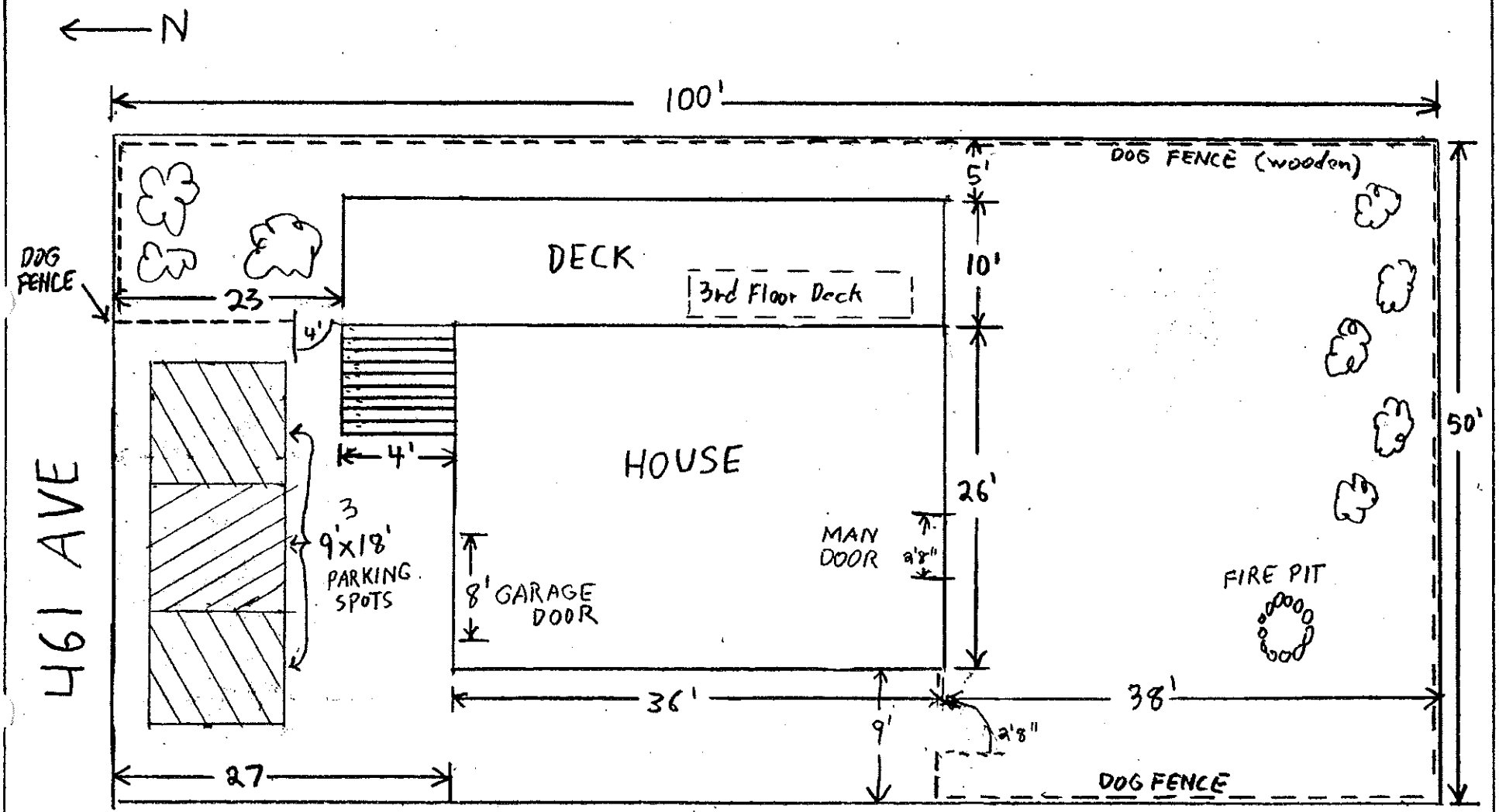
FOR CITY USE ONLY – DO NOT WRITE BELOW THIS LINE

CHECK TYPE OF PERMIT REQUESTED:

- ☐ CONDITIONAL USE
- ☐ LANDSCAPE/ACCESS REVIEW
- ☐ MAJOR PARTITION
- ☐ MINOR PARTITION
- ☐ NON CONFORMING
- ☐ PLANNED DEVELOPMENT
- ☐ PROPERTY LINE ADJUSTMENT
- ☐ SETBACK REDUCTION
- ☐ SUBDIVISION
- ☐ TEMPORARY USE
- ☐ VACATION RENTAL
- ☐ VARIANCE
- ☐ ZONING CODE AMENDMENT
- ☐ ZONING MAP AMENDMENT
- ☐ APPEAL
- ☐

PLANNING DEPARTMENT USE:	
DATE ACCEPTED AS COMPLETE	BY
CASE NUMBER (S)	
HEARING DATE	P.C. ACTION

OFFICE USE:	
FEE	RECEIPT
DATE FILED	BY



AREA

LOT SIZE 5000'

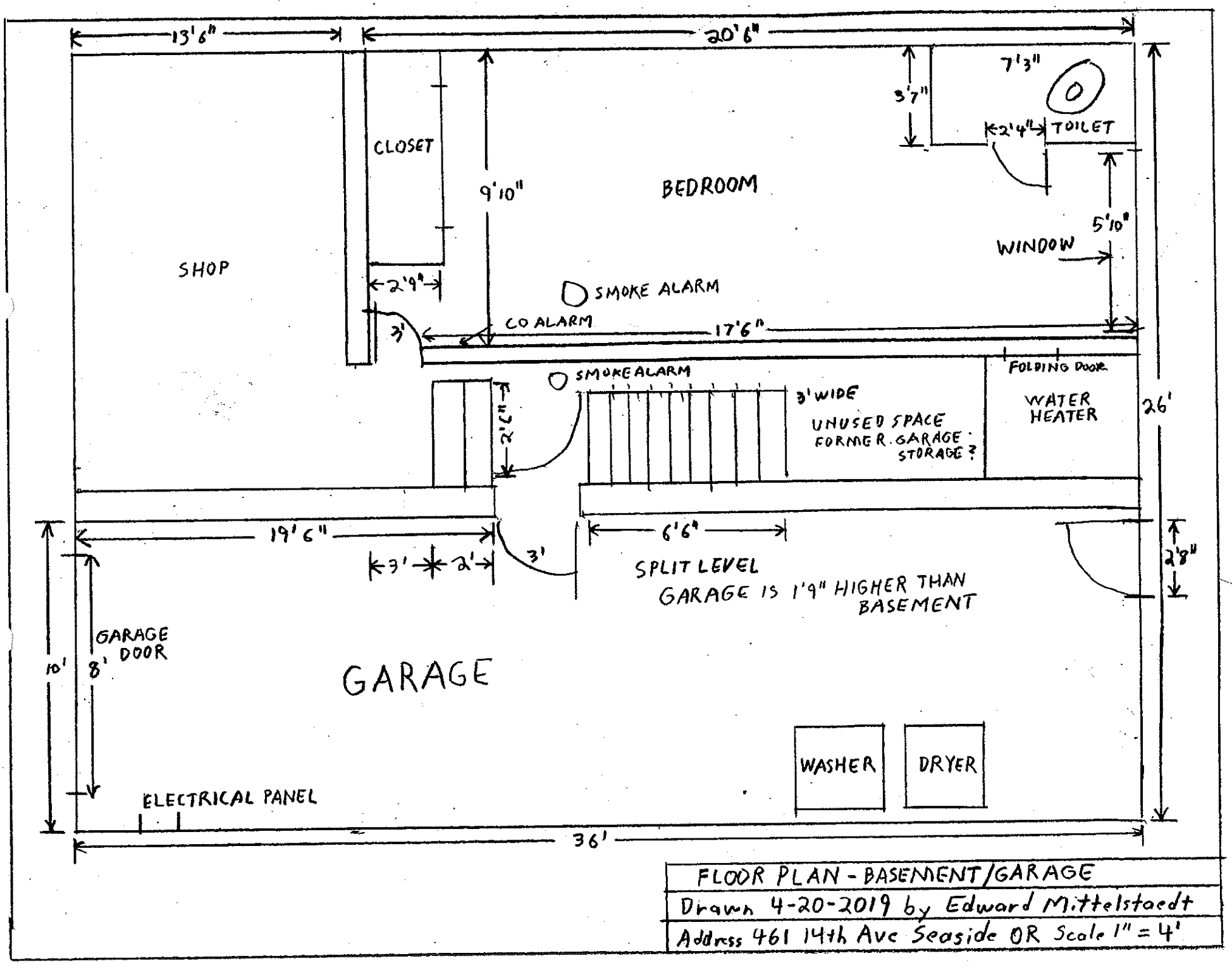
FOOTPRINT

residence 936'

deck 400'

Lot Coverage 1336 or 26.7%

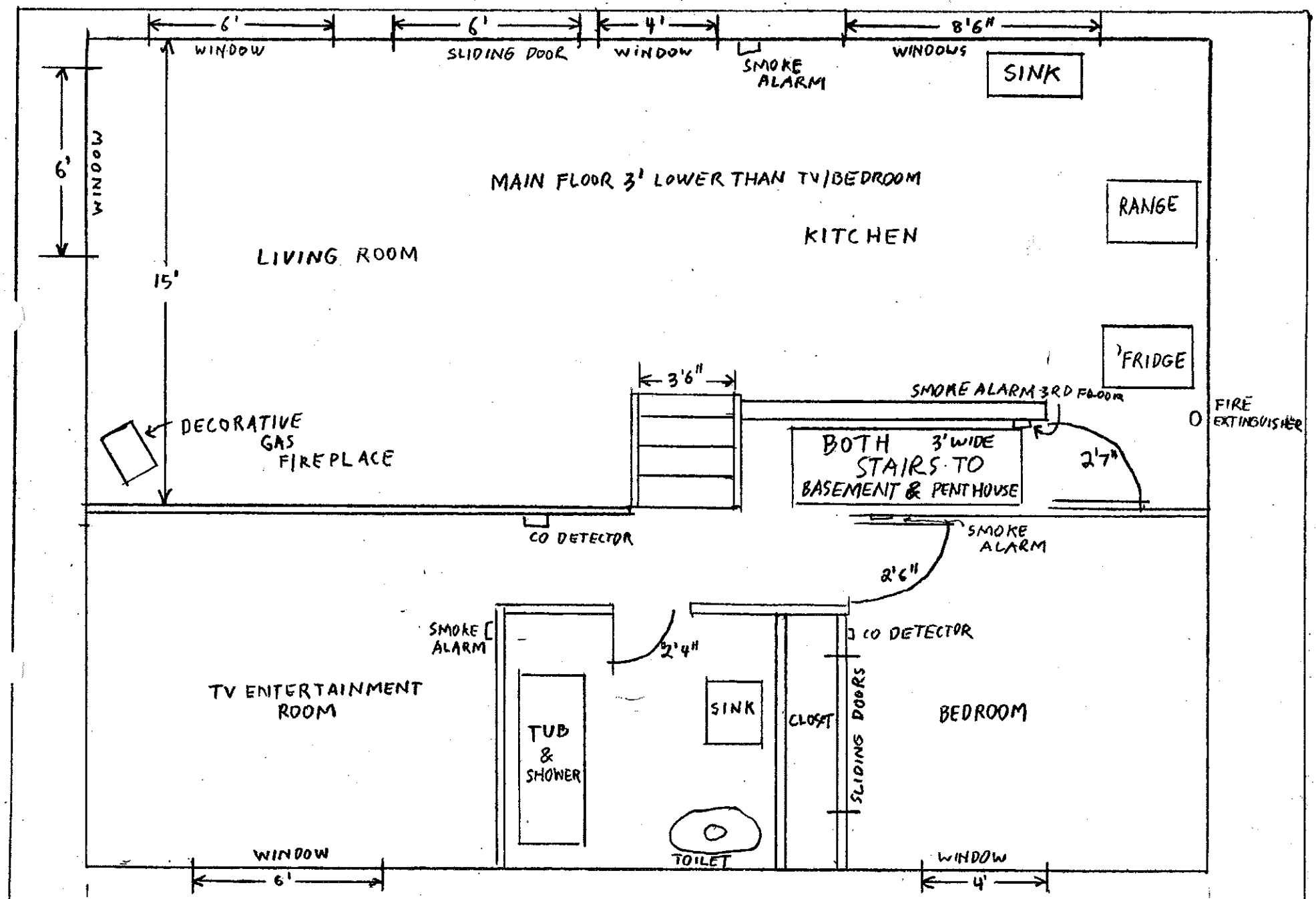
PLOT PLAN FOR VRD APPLICATION
Drawn 4-20-2019 by Edward Mittelstaedt
Address 461 14th Ave Seaside OR Scale 1" = 11'



FLOOR PLAN - BASEMENT/GARAGE

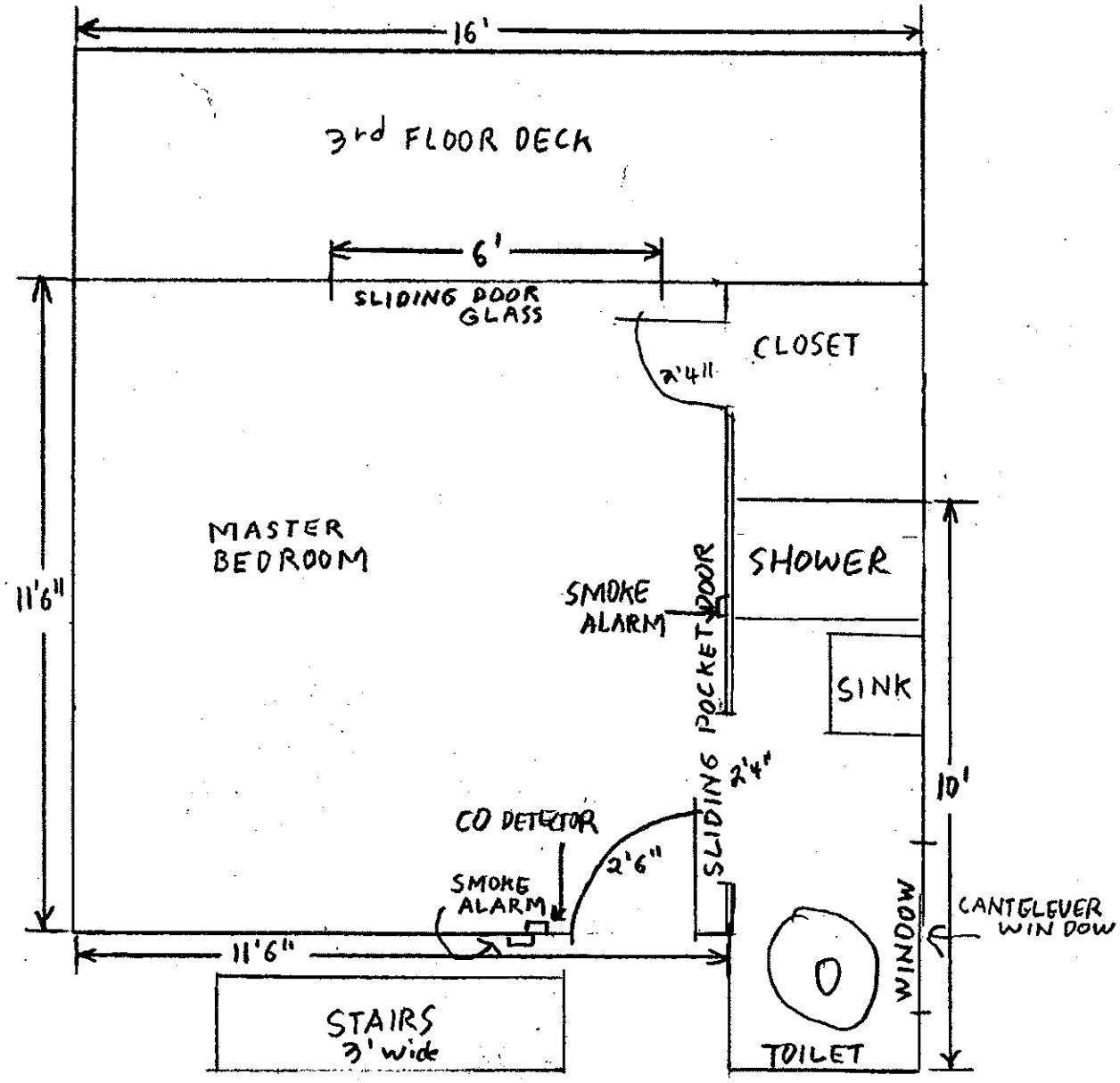
Drawn 4-20-2019 by Edward Mittelstaedt

Address 461 14th Ave Seaside OR Scale 1" = 4'



HOUSE HAS NO ATTIC

FLOOR PLAN - MAIN/TV/BEDROOM
Drawn 4-20-2019 by Edward Mittelstaedt
Address 461 14th Ave Seaside OR Scale 1" = 4'



HOUSE HAS NO ATTIC

FLOOR PLAN - MASTER BEDROOM PENTHOUSE
Drawn by Edward Mittelstaedt 4-20-2019
Address 461 14th Ave Seaside OR Scale 1" = 3'

Seaside Planning Director

Memo

To: Commenting Property Owners

From: Planning Director, Kevin S. Cupples

Date: July 31, 2019

Re: Objection to Vacation Rental Request 19-032VRD, 461 14th Avenue

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A number of surrounding property owners submitted written commented on the above referenced request and I wanted to thank you for your participation in the review process. Please be advised each of the written comments were taken into consideration prior to making the final decision on July 31, 2019. Your comments have been incorporated into the land use file associated with the request where they can be referred to if there are any future land use issues that require follow-up by the City.

I thought it was important to let you know your comments were also reviewed by the applicant so they were fully aware of your concerns. In light of that information, the applicant submitted some additional comments (see the attached email) concerning their purpose in purchasing the home and seeking approval to do some short term rental of it.

I know that conditional approval the applicant's Vacation Rental Dwelling (VRD) request was not the decision you wanted, the request was approved subject to an extensive list of conditions that are intended to reduce potential impacts from the dwelling's use as a VRD. In this case, one of the conditions has reduced the occupancy that was originally requested. Another condition will require the local contact to sign a Local Contact Acknowledgment Form that was recently supported by the Planning Commission during the review of a similar VRD request.

A number of the written comments called for a moratorium on any new VRDs. Staff did confer with the City of Seaside's legal counsel and he advised staff that a moratorium on new VRDs is not justifiable. They are a conditionally permitted use recognized in our adopted ordinance and comprehensive plan. They must be reviewed in the manner prescribed by those adopted regulations and that is the intent of the final decision.

I encourage you to call the local contact so they can follow-up on any future issues. If the issues persist and they are not being addressed by the local contact, please let us know so we can seek the implementation of addition actions to rectify the problem.

Please be advised the Planning Commission and City Council are currently looking at changing the governance of VRDs in Seaside. Although there isn't a saturation percentage currently identified, that is being taken into consideration as they look at changing the regulations, policies, and procedures related to VRDs. They are also considering how a designated compliance officer could be incorporated into the system.

If you have further questions, please contact the Department at 503-738-7100.

Steve & Joan Pennings
1321 N. Franklin
Seaside, OR 97138

RECEIVED
5/31/19

Seaside, OR 97138

Date 5/31/19

Kevin Cupples
Seaside Planning Department

989 Broadway

Seaside, OR 97138

Re: proposed Vacation Rental at 461 14th

Dear **Kevin Cupples,**

I am writing about the vacation rental application in my neighborhood that will become a nuisance. My home is located near the vacation rental and I have experienced a high level of issues with the vacation rentals in my neighborhood, consisting of loud partying, high traffic and illegal activity. This has been a continual problem over many years. Quiet and peaceful enjoyment of our home is no longer possible.

Residents are put in a position of policing the vacation rentals which creates adversarial relationships with the vacation rental owners (business owners). I would recommend a moratorium on vacation rental until the City of Seaside can assess the impact to tax paying full time residents in our city.

Sincerely

Joan L Pennings
Steven C Pennings

P.S. Please monitor the Vacation Rentals that have had numerous complaints and impose strong consequences for "nuisance" activity.

RECEIVED
5/31/19

DATE: May 30, 2019

TO: Kevin Cupples, Seaside Planning Director

FROM: Tedd & Nancy Chilless, Owners of 451 14th Ave., Seaside, OR

RE: VRD Application for 461 14th Ave., Seaside, OR

Dear Mr. Cupples:

Please be aware that there is already little available street parking for the houses at the end of 14th Avenue toward the river. Mr. Mittelstaedt's request for 3 bedrooms and 9 people over 3 has the dire potential of overloading our street with parked cars.

It is our strong and measured recommendation that a VRD permit NOT be granted so that the residential nature of 14th Avenue be maintained. 441 14th Avenue on our other side already has VRD status and it lacks off street parking.

At the very least, if a VRD permit is to be granted, it is imperative that it be restricted to 2 cars to be parked in the available parking spaces off street and that the number of people be restricted to a maximum of two people per bedroom for a maximum of 6 over the age of three.

Please feel free to contact us with any questions.

Respectfully submitted,

Tedd Chilless

Cell: 503-970-4757

Nancy Chilless

Cell: 503-816-0394

1315 N. FRANKLIN
SEASIDE OR 97138

Seaside, OR 97138

Date 6-3-19

Kevin Cupples
Seaside Planning Department

989 Broadway

Seaside, OR 97138

Re: proposed Vacation Rental at 461 14th

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Sincerely

Tim & Gloria Ramberg
441 14th

Seaside, OR 97138

RECEIVED
6 13 19

Date June 1, 2019

Kevin Cupples
Seaside Planning Department

989 Broadway

Seaside, OR 97138

Re: proposed Vacation Rental at 461 14th

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Sincerely

Gloria Ramberg
Tim Ramberg

~~Brian Goodwin~~
~~340 14th~~ Seaside

Seaside, OR 97138

RECEIVED
6/3/19

Date 6-2-19

Kevin Cupples
Seaside Planning Department

989 Broadway

Seaside, OR 97138

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Sincerely

Brian Goodwin

Seaside, OR 97138

RECEIVED
6/4/19

Date June 4, 2019

Kevin Cupples
Seaside Planning Department

989 Broadway

Seaside, OR 97138

Re: proposed Vacation Rental at 461 14th

Dear **Kevin Cupples,**

I am writing about the vacation rental application in my neighborhood that will become a nuisance. My home is located near the vacation rental and I have experienced a high level of issues with the vacation rentals in my neighborhood, consisting of loud partying, high traffic and illegal activity. This has been a continual problem over many years. Quiet and peaceful enjoyment of our home is no longer possible.

Residents are put in a position of policing the vacation rentals which creates adversarial relationships with the vacation rental owners (business owners). I would recommend a moratorium on vacation rental until the City of Seaside can assess the impact to tax paying full time residents in our city. as a long term resident (over 20 yrs) I've seen my neighborhood change from a block of neighbors, full time and vacation homes, with just a few VRV's. Now I am the only landowner on this block living full time, one long term rental and one vacation home ALL THE REST ARE VRV's. It's hard to have a neighborhood if you don't have any neighbors.

Sincerely

Joyce Hunt
510 13TH AVE

Frank Buck
439 14th Seaside

RECEIVED
5/31/19

Seaside, OR 97138

Date 5-31-19

Kevin Cupples
Seaside Planning Department

989 Broadway

Seaside, OR 97138

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Residents are put in a position of policing the vacation rentals which creates adversarial relationships with the vacation rental owners (business owners). I would recommend a moratorium on vacation rental until the City of Seaside can assess the impact to tax paying full time residents in our city. need total Reforms!

Sincerely

FC Buck

I will be attending meeting on 6th & will answer Questions

RECEIVED
5/31/19

DATE: May 30, 2019

TO: Kevin Cupples, Seaside Planning Director

FROM: Tedd & Nancy Chilless, Owners of 451 14th Ave., Seaside, OR

RE: VRD Application for 461 14th Ave., Seaside, OR

Dear Mr. Cupples:

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At the very least, if a VRD permit is to be granted, it is imperative that it be restricted to 2 cars to be parked in the available parking spaces off street and that the number of people be restricted to a maximum of two people per bedroom for a maximum of 6 over the age of three.

Please feel free to contact us with any questions.

Respectfully submitted,

Tedd Chilless

Cell: 503-970-4757

Nancy Chilless

Cell: 503-816-0394

Corey French
458 14th Av Seaside, OR

RECEIVED
5/13/19

Seaside, OR 97138

Date 5-31-19

Kevin Cupples
Seaside Planning Department

989 Broadway

Seaside, OR 97138

Re: proposed Vacation Rental at 461 14th

Dear **Kevin Cupples,**

I am writing about the vacation rental application in my neighborhood that will become a nuisance. My home is located near the vacation rental and I have experienced a high level of issues with the vacation rentals in my neighborhood, consisting of loud partying, high traffic and illegal activity. This has been a continual problem over many years. Quiet and peaceful enjoyment of our home is no longer possible.

Residents are put in a position of policing the vacation rentals which creates adversarial relationships with the vacation rental owners (business owners). I would recommend a moratorium on vacation rental until the City of Seaside can assess the impact to tax paying full time residents in our city.

Sincerely Corey French

- We already have a vacation rental at the end of street. They speed up & down the road and dont have respect for people who live year round. We dont need any more vacation rentals on our street.

Debbie Kenyon

From: Ted Mittelstaedt <tedm@mittelstaedt.us>
Sent: Tuesday, June 4, 2019 11:09 PM
To: Debbie Kenyon
Subject: Re: ONE MORE

Hi Debbie,

I haven't talked to Joyce about the VRD but I would like to address the issues that she has raised.

For starters we did not purchase the house as a moneymaking endeavor. My wife and I have lived in Portland since the 1970s we both grew up there. We both have spent summers growing up in Seaside and have wanted to buy a home at the coast for many years now. My wife Jean's father also happens to own a second home in Cannon Beach, we are no strangers to the Northern Oregon Coast.

I personally own Portlandia Cloud Services a business which many years ago purchased Seasurf Internet an ISP which was started in Seaside and still to this day has email and web customers. The URL is http://www.seasurf.net I have also done business for years with customers in Tillamook.

I do understand Joyces concern with losing permanent neighbors we have the same gentrification process happening in Portland. In Portland my wife and I bought in 25 years ago when the market was low, it is high now. Young families cannot afford to buy in anymore. Including our own children one of who is a young adult and the other right behind him. When they buy homes they will be far away from ours, far out of the core of the city.

Both my wife and I regard our property in Seaside as a second HOME! Not a business. There are some vacation rentals in Seaside that clearly businesses. For example there's one a block away on Franklin that has SIX separate bedrooms they rent out - all with private baths and fireplaces (according to the catalog at least, I've never been in it) Yet it's listed as a "home"

Our interest in renting is to make enough money to cover the ongoing costs of the house, the utilities and maintenance. We have no mortgage on the home we are trying to fund, and no desire to have high traffic, partying, and illegal activity. That is the main reason we decided not to buy a hot tub for the house, and why we are willing to live with a restriction of 6 people. The house is a place for us to "recharge our batteries" and for quiet contemplation and we intend to be the primary users of it, with the vacation renters a distant second. And one of these days when we are finally free of the rat race in Portland, it will be our primary home.

Edward Mittelstaedt

On 6/4/2019 2:05 PM, Debbie Kenyon wrote:
>
> Hope you have an Amazing Day!
>
> Debbie Kenyon
> Community Development
> Administrative Assistant
> 1387 Avenue U - Situs Address
> 989 Broadway - Mailing Address
> Seaside, OR 97138

Debbie Kenyon

From: Ted Mittelstaedt <tedm@mittelstaedt.us>
Sent: Tuesday, June 4, 2019 9:17 PM
To: Debbie Kenyon
Subject: Re: letters from neighbors regarding your VRD

Hi Debbie,

We can live with a restriction of 6 max and 2 cars. I appreciate the time that Tedd and Nancy took to write the letter and can understand that Tedd was probably uncomfortable with telling me that himself when I talked to him about it on the 24th of May about the VRD application.

Edward Mittelstaedt

On 6/4/2019 1:49 PM, Debbie Kenyon wrote:
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> Hope you have an Amazing Day!
>
> Debbie Kenyon
> Community Development
> Administrative Assistant
> 1387 Avenue U - Situs Address
> 989 Broadway - Mailing Address
> Seaside, OR 97138
> 503-738-7100 Phone
> 503-738-8765 Fax
>
> -----Original Message-----
> From: pwscanner@cityofseaside.us [mailto:pwscanner@cityofseaside.us]
> Sent: Tuesday, June 4, 2019 2:08 PM
> To: Debbie Kenyon <dkenyon@cityofseaside.us>
> Subject: Message from "RNP002673BCCC6E"
>
> This E-mail was sent from "RNP002673BCCC6E" (MP C5503).
>
> Scan Date: 06.04.2019 14:08:17 (-0700) Queries to:
> pwscanner@cityofseaside.us

Debbie Kenyon

From: Kevin Cupples <kcupples@cityofseaside.us>
Sent: Tuesday, June 4, 2019 1:28 PM
To: Debbie Kenyon
Subject: FW: VRD Inspection Corrections for 461 14th Ave permit # 19-028VRD

More for this VRD request. We should email him the comments from the people that don't want his VRD approved so he knows the natives are getting restless. He may want to comment on them prior to a decision. I think today is the deadline for comments. I'm pretty sure this is the one that Frank Buck is commenting on but I've lost track since he's been commenting on others from a complaint standpoint.

Kevin S. Cupples
Seaside Planning Director
Ph: 503-738-7100
Fx: 503-738-8765

-----Original Message-----
From: Ted Mittelstaedt [mailto:tedm@mittelstaedt.us]
Sent: Saturday, June 01, 2019 11:42 PM
To: kcupples@cityofseaside.us
Subject: Re: VRD Inspection Corrections for 461 14th Ave permit # 19-028VRD

bottom step is fixed & handrail reconfigured

Firepit rules are posted

Still more to come!

Ted

On 5/25/2019 12:12 PM, Ted Mittelstaedt wrote:
> Hi Kevin,
>
> Here are the corrected handrails/banisters in the house. I know you
> said to wait before doing them but I decided to do them anyway. I've
> been looking at handrail fixups on other vacation houses and there's
> some real ugly hack jobs out there people have done to meet compliance
> and there was no way I was going to go that route.
>
> I think you might be interested in my solution for the main floor
> stairs that have the non-compliant built-in banisters. Those do not
> match the 45 degree angle of the stairs so it took some finessing in
> the positioning to make things look OK for the handrail.
>
> Interestingly this was more involved than just moving the brackets a
> few inches up. Some of the brackets did not have all mounting screws
> installed into studs, if someone had fallen and grabbed onto a

> handrail they could have possibly torn it right out of the drywall so
> the brackets needed lateral moves as well which changed angles and
> heights. I also swapped sides on the bottom floor handrail. I had to
> put a lot of time into exactly positioning the anchors.
>
> All rails now are firmly anchored into studs with at least 40 ft
> pounds of torque on the screws - all done by hand since I reused the
> original flathead screws and brackets to maintain the look.
>
> See the pictures here:
>
> http://www.portlandiacloudservices.com/inspection-correction/
>
> Browse all handrail pictures in the above directory to see the
> measurements, here are the main ones:
>
> http://www.portlandiacloudservices.com/inspection-correction/first-flo
> or-handrail.jpg
>
>
> http://www.portlandiacloudservices.com/inspection-correction/main-floo
> r-handrail.jpg
>
>
> http://www.portlandiacloudservices.com/inspection-correction/third-flo
> or-handrail.jpg
>
>
>
> Still more to come!
>
> Ted
>
>
> On 5/18/2019 2:06 PM, Ted Mittelstaedt wrote:
>> Kitchen fire extinguisher punchlist item completed - see pictures
>>
>> http://www.portlandiacloudservices.com/inspection-correction/extingui
>> sher1.jpg
>>
>>
>> http://www.portlandiacloudservices.com/inspection-correction/extingui
>> sher2.jpg
>>
>>
>> http://www.portlandiacloudservices.com/inspection-correction/fire-ext
>> inguisher-signage.jpg
>>
>>
>> Ted
>>
>>

>>
>> Ted Mittelstaedt wrote:
>>> Upstairs bathroom window - security film installed - see attached
>>> receipts
>>>
>>> Ted
>>>
>>> Ted Mittelstaedt wrote:
>>>> Hi!
>>>>
>>>> Please take a look at the pictures here - as I get more done I'll
>>>> add to these and send you an updated email:
>>>>
>>>> http://www.portlandiacloudservices.com/inspection-correction/
>>>>
>>>>
>>>> From the items on the list:
>>>>
>>>> 3x3 Landing Downstairs Door - completed (please review and let me
>>>> know if it is OK - if the step is too high I can remove the 1 inch
>>>> blocks to drop it an inch) All pressure treated wood and it's
>>>> heavy and the galvanized brackets prevent it from being kicked
>>>> around.
>>>>
>>>> firepit posting - pending (I am unable to find specific Firepit
>>>> rules so I am attaching a text file I made up of rules that I
>>>> cobbled together from various sources,
>>>> please let me know if these are OK if so I'll get it laminated
>>>> and posted)
>>>>
>>>> Compliant handrails - all handrails except outside stair are
>>>> pending other approvals. (Please let me know if this permit is
>>>> going to have to go out for 30 day notice)
>>>>
>>>> Fire extinguisher - incomplete - purchased and mounted pending the
>>>> door sign installation
>>>>
>>>> Outside steps - incomplete. Bottom step replaced (the riser had
>>>> rotted out) However the interior of the post that needs the
>>>> handrail on top is completely rotted out all the way
>>>> to the bottom - we noticed it was loose - that is why. The rot is
>>>> in the interior of the post it's rotting from interior to exterior
>>>> which is why it looked OK. The risers are untreated cedar as is
>>>> the post, the sawtooth base for the risers is pressure treated and
>>>> it's fine. The top of the post was never properly capped which is
>>>> why it rotted out.
>>>>
>>>> I confirmed the upstairs bathroom window IS NOT tempered glass.
>>>> (that window was a DIY installation in 2014 - this type of stuff is
>>>> why I don't do windows)
>>>> security film installation is pending
>>>>

>>>> required postings 7b, 7c completed - I have not received a business
>>>> license yet from the city with max occupancy
>>>>
>>>> Thanks!
>>>>
>>>> Edward (Ted) Mittelstaedt
>>>>
>>>>
>>>>
>>>>
>>>
>>

Debbie Kenyon

From: Ted Mittelstaedt <tedm@mittelstaedt.us>
Sent: Tuesday, June 4, 2019 9:17 PM
To: Debbie Kenyon
Subject: Re: letters from neighbors regarding your VRD

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> Debbie Kenyon
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> 1387 Avenue U - Situs Address
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> 503-738-7100 Phone
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> pwscanner@cityofseaside.us

> 503-738-7100 Phone
> 503-738-8765 Fax
>
>
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> From: pwscanner@cityofseaside.us [mailto:pwscanner@cityofseaside.us]
> Sent: Tuesday, June 4, 2019 2:24 PM
> To: Debbie Kenyon <dkenyon@cityofseaside.us>
> Subject: Message from "RNP002673BCCC6E"
>
> This E-mail was sent from "RNP002673BCCC6E" (MP C5503).
>
> Scan Date: 06.04.2019 14:24:12 (-0700) Queries to:
> pwscanner@cityofseaside.us

Debbie Kenyon

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Edward Mittelstaedt

Vacation Rental Dwelling
Complaint

Address of Complaint: 461 14th
Today's Date: 8/31/2020 **Date of Incident:** 8/28/2020 **Time:** 8:16pm

Reporting Person's Information
Full Name: Frank Buck
Address: 430 14th
Phone Number:503-739-1420
E-mail Address: frankcorystuff@gmail.com

Type of Complaint: Parking
Description of Complaint: Vehicles parked in public right of way

Local Contact: Vacasa

Phone Number: 503-738-6680

Description of Action Taken by Local Contact: The reporting person never left a voicemail for Vacasa to respond. Vacasa was not made aware of the situation until the property owner contacted them to deal with the parking issue.
Vacasa sent me the following message regarding this complaint

"Once we were alerted to the issue we attempted contact the guests at 9:30am and left a voicemail, called again at 9:51am where we were able to get in contact and remind them of the policy and that further action would be needed if they didn't comply. Between 10am and 11am we did a couple of drivebys and only saw 2 cars. At 11:32am, a third card was parked in front of the fence again. We contacted them again and said we would ask them to leave if they couldn't comply immediately. 11:41am they apologized and took immediate action, and agreed they understood and would comply. We did not have any issues after that, that we are aware of.

I'm not trying to turn myself in here, but we noticed this happened again last night with different renters and were able to take action while they were still unloading their car. We also made sure that the visitors left and did not stay the night, or they would have been over occupancy. This home is now on our high watch list :)"

Photos:



Action Taken: I spoke to the reporting person via phone. The reporting person told me they have not had any luck getting a hold of Vacasa and told me he also never left a message for Vacasa to respond. The reporting person told me he did contact the owner of the property who then contacted Vacasa for action to be taken.

I explained to the reporting person that the property manager or local contact needs to be called first and a message needs to be left. The property manager or local contact has to be given a reasonable opportunity to respond to the complaint.

Through my discussion with the Vacasa's Shannon Wellman I found multiple phone numbers for Vacasa listed on the local contact spreadsheet. Shannon gave me the 24-hour number that should be the first point of contact for all complaints. Shannon told me this number is monitored 24-hours a day and any report to this number will immediately generate action to resolve the issue.

Conclusion: Vacasa responded to this complaint in a reasonable amount of time after learning about it. Vacasa made further attempts to stop the guests from continuing to park in the public right-of-way. Through driving by the property Vacasa's staff found the guests to be out of compliance a second time later on during their stay and threatened to evict them upon a third violation.

The guests checked out and Vacasa found the next guests checking in to be parking in the public right-of way. Vacasa immediately took action on the new guests prior to other complaints being reported. Vacasa's actions appear to be more than reasonable and they are taking pro-active steps to prevent further complaints. This complaint is not-sustained.

Jeff Flory

Transient Rental Compliance

Vacation Rental Dwelling
Complaint

Address of Complaint: 461 14th Ave
Today's Date: 8/18/2021 **Date of Incident:** 8/12/2021 **Time:** 7:25pm

Reporting Person's Information
Full Name: Frank Buck
Address: 430 14th
Phone Number:503-739-1420
E-mail Address: corysaccounts@gmail.com

Type of Complaint: Parking
Description of Complaint: "I observed a car parked on the street at 7:25 at 7:45 I contacted Vacasa spoke to a woman named Yolanda who did not have contact information but said she would contact her supervisor and take care of the problem I re-contacted her at 9:30 preparing for the two hour mark and she claimed that I didn't call her and didn't know what I was talking about and it wasn't recorded in the systemAnd I explain the whole thing again and wrote her name down again Yolanda and she claimed she would contact her supervisor and she actually laughed at me and I explain to her that you had two hours to take care of the problem they did not take care of the problem in two hours I have two photographs to prove it I gave them the address to Times explained the situation to TimesI also contacted the owner via text and he did not respond until three hours later and he still trying to get them to take care of the problem so Vacasa is negligent"

Local Contact: Vacasa

Phone Number: Number of local contact.

Description of Action Taken by Local Contact: Vacasa sent a message to the guest 30 minutes after the initial complaint. Vacasa stated the guests did not immediately respond but they were eventually able to get in contact with them. The guests told them the vehicle belonged to the vacation home across the street who was having a party. Vacasa sent a representative to the property the next day and ensured none of their guests were parked on the street.

Photos:

Action Taken: I sent Vacasa a notice of this complaint. Vacasa responded with the appropriate action to resolve this issue. Vacasa immediately reached out to their guests and started taking action to resolve the complaint. On 08/24/21 I received information from Community Service Officer Paul Knoch that he was working on a complaint of the residents at 470 14th. Ofc. Knoch that this property has been the source of disturbances, parties, and late-night noise. The party at 470 14th that was happening at the time of the VRD complaint is likely the source of the VRD complaint.

On 08/25/21 I sent an e-mail to the reporting person stating this complaint was likely due to the party house across the street. The reporting person told me he is positive the vehicle belonged at the VRD as he saw it parked in the driveway and he observed an occupant exit the vehicle and go into the VRD.

The reporting persons neighbor Ted Childress spoke to me and told me he too observed the occupants of the vehicle go into the VRD and he told the occupants they should not park on the street.

Conclusion: Vacasa was responsive and took action when the complaint was reported. The vehicle was moved the next day and there were no further issues. It is unclear why the guests lied to Vacasa about the vehicle not being theirs. Vacasa followed up by sending staff the next day to ensure the vehicle had in fact been removed from the street. Not-sustained.

Jeff Flory
Transient Rental Compliance

Vacation Rental Dwelling
Complaint

Address of Complaint: 461 14th
Today's Date: 1/31/2022 **Date of Incident:** 1/29/2022 **Time:** 12:40pm

Reporting Person's Information
Full Name: Frank Buck
Address: 430 14th
Phone Number:503-739-1420
E-mail Address: corysaccounts@gmail.com

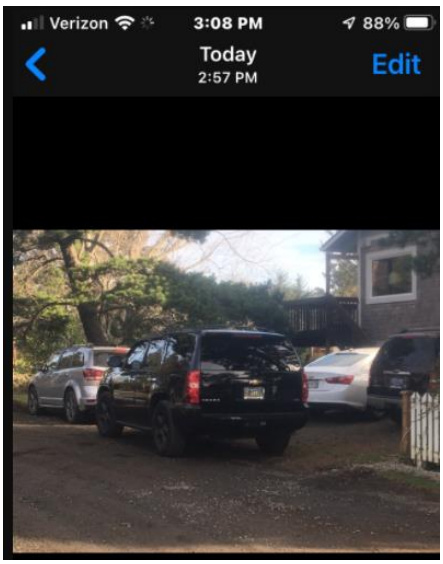
Type of Complaint: Parking
Description of Complaint: Four vehicles parked at the VRD. Two vehicles parked in front of the house on the street.

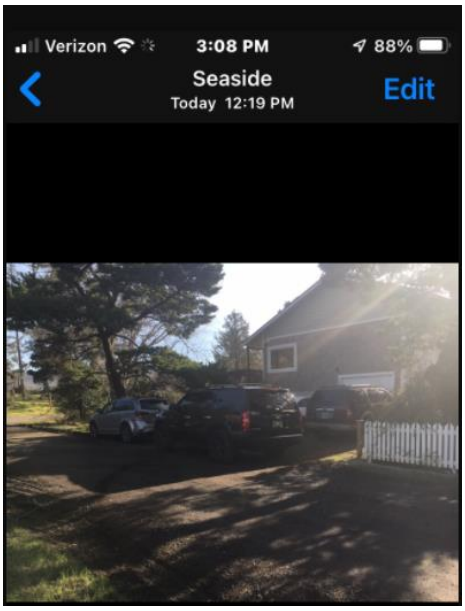
Local Contact: Vacasa

Phone Number: Number of local contact.

Description of Action Taken by Local Contact: Vacasa called the guests and left a message with them regarding parking. No further follow-up was taken.

Photos:





Action Taken: I contacted Vacasa regarding this complaint. The Vacasa property manager told me the property manager that handled the complaint called the guests and left a message about the parking situation. The property manager said there was never any follow-up conducted after that phone call. Vacasa's property manager told me any future complaint where a guest does not answer will need follow-up in person in order to address the complaint.

Conclusion: This complaint is sustained due to no follow-up on the initial complaint by Vacasa.

Jeff Flory
Transient Rental Compliance

CITY of SEASIDE

OREGON'S
FAMOUS
ALL-YEAR
RESORT

COMMUNITY DEVELOPMENT
LOCATION: 1387 AVE U
MAIL: 989 BROADWAY
SEASIDE, OREGON 97138
(503)738-7100

NOTICE OF COMPLAINT

January 31, 2022

RE: Vacation Rental at 461 14th Ave

Property Manager,

Please be advised we received a complaint at your VRD over the weekend of January 29, 2022. The reporting person stated there were four vehicles parked at this VRD and two of the vehicles were parked on the street in front of the house. This VRD appears to only have the minimum requirement of two off-street parking spaces available for renters to use.

The reporting person stated there has been parking issues at this VRD in the past. The reporting person stated they reported this issue to Vacasa and spoke to a representative named Eli. The reporting person stated the vehicles were not moved and no action was taken. The reporting person stated the vehicles remained parked on the street throughout the weekend. Please see the attached photos.

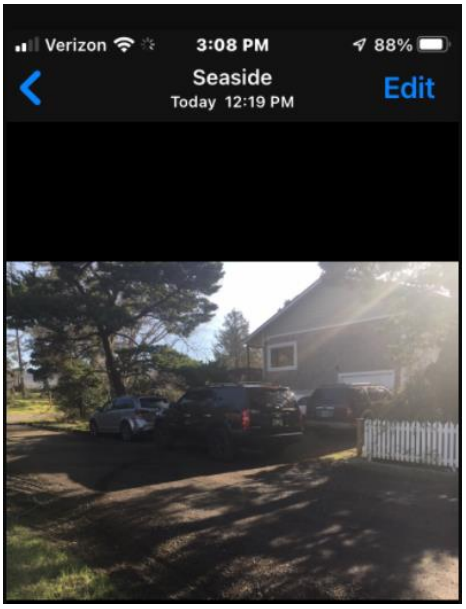
The Planning Commission expects action to be taken within two hours when a complaint is reported to a local contact of a VRD. Adequate fallow up needs to happen to ensure the complaint has been resolved. A person reporting a complaint should not have to call a second time because no follow up occurred.

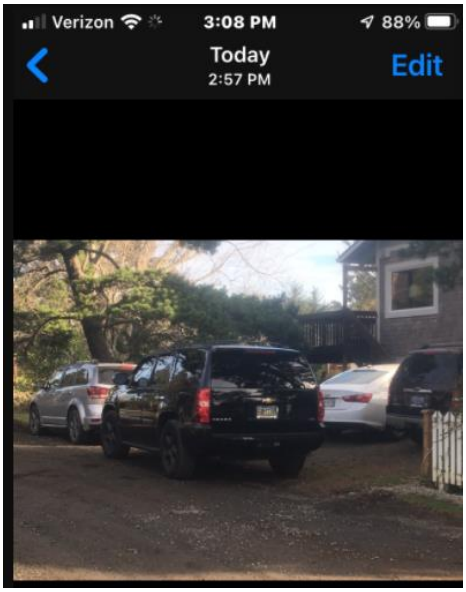
Please respond with the complaint logs for this VRD for the past 6 months. Please let me know what actions Vacasa will be taking in order to try to resolve these issues and prevent them from occurring in the future.

If you have any questions, please feel free to call me at 503-738-7100 or e-mail me at jflory@cityofseaside.us.

Respectfully,

Jeff Flory
Transient Rental Compliance
City of Seaside, Oregon


Verizon
3:08 PM
88%
Seaside
Today 12:19 PM
Edit


Verizon
3:08 PM
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Today
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Edit


Verizon
12:42 PM
100%
Seaside
Saturday 5:00 PM
Edit

SUSTAINED

Vacation Rental Dwelling
Complaint

Address of Complaint: 461 14th Ave, Seaside, OR 97138
Today's Date: 2/22/2023 **Date of Incident:** 2/20/2023 **Time:** 0530

Reporting Person's Information
Full Name: Frank Buck
Address: 430 14th Ave
Phone Number:503.739.1420
E-mail Address: corysaccounts@gmail.com

Type of Complaint: Parking
Description of Complaint: Car parked on street in front of house

Local Contact: Vacasa

Phone Number: 503.738.6680

Description of Action Taken by Local Contact: **"**Illegal on-street parking in front of property. Called the contact number listed in the file, responder did not identify herself as a local contact and when told of the parking issue stated, "it must be from a nearby hotel."" RP noted there are no hotels in the area.

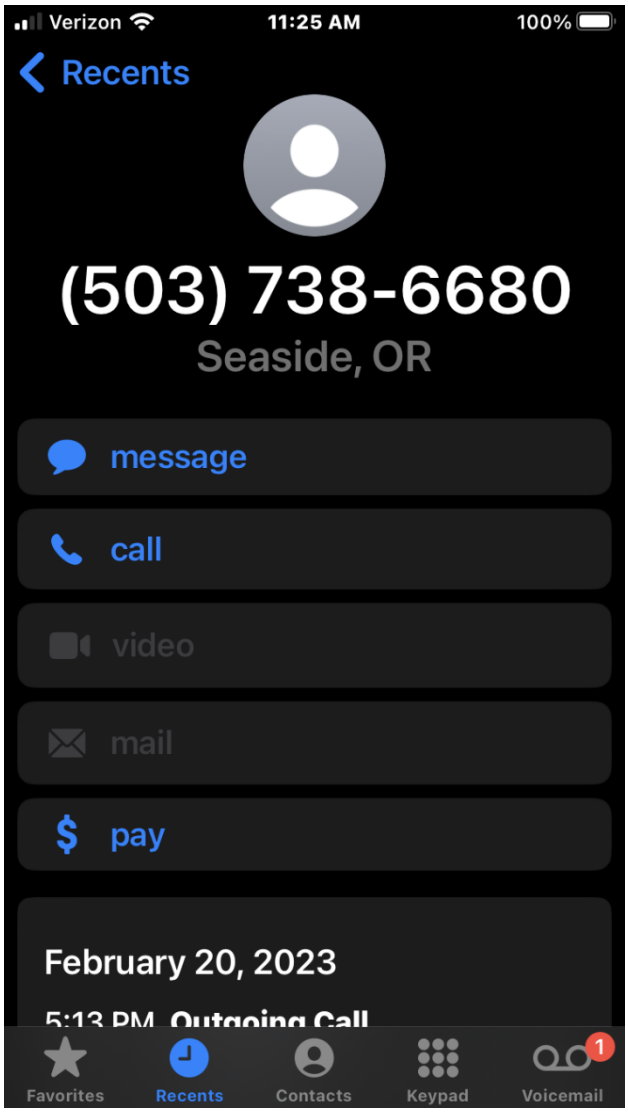
Photos:

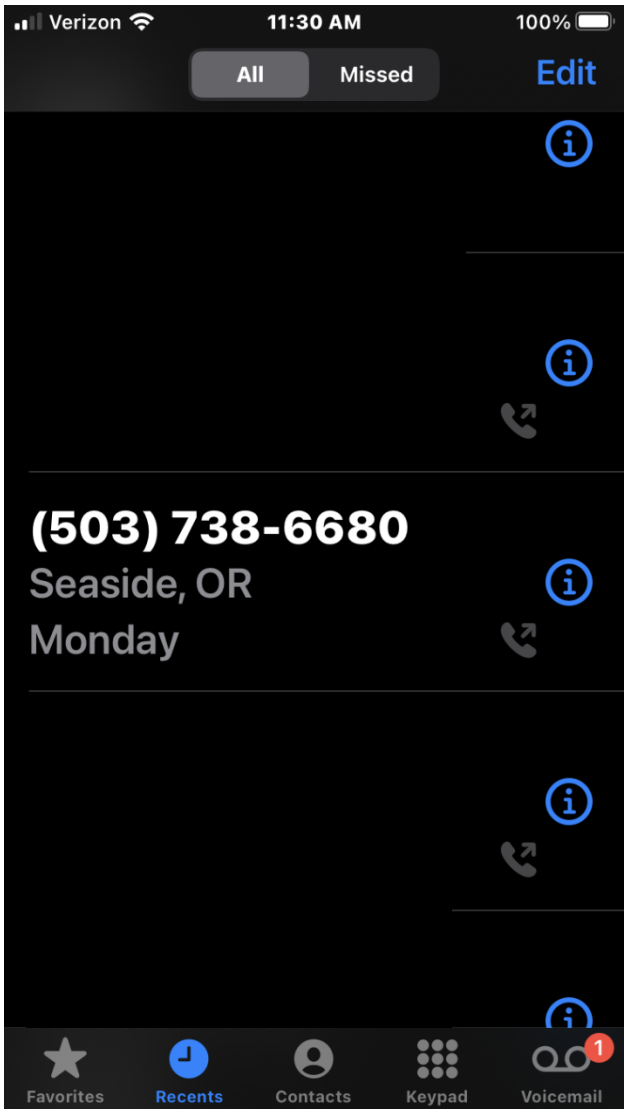
Action Taken: Wrote to owner and Vacasa. Stated the importance of the local contact being responsive to complaints. Cited validated parking complaint from 1/31/2022 where Vacasa Property manager stated, "any future complaint … will need follow-up in person in order to address the complaint." There was no follow-up or resolution to the complaint. The photos illustrate the car was parked on the street throughout the day and into the evening allowing enough time for the property management company to address the RP's complaint.

Addendum: 2/23/2023 Received response from Lisa Payne at Vacasa (email dated 2/23/2023)…

From Lisa Payne: *This is bizarre because we have no record of calls being made to us in recent days or we certainly would have dealt with it. Honestly, I am not really sure what to say when there is no record that they ever called us.*

I called the RP for a record of the call and received his response with this proof of call.





Conclusion: This document's claim remains unresolved. Vacasa replied in an email they never logged the call, however proof was given by the complainant in the form of a screen shot of the call to the local contact number provided. Complaint sustained. One week after this incident another parking complaint was filed.

Anne McBride
Transient Rental Compliance

CITY of SEASIDE

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COMMUNITY DEVELOPMENT
LOCATION: 1387 AVE U
MAIL: 989 BROADWAY
SEASIDE, OREGON 97138
(503)738-7100

NOTICE OF COMPLAINT

February 22, 2023

RE: Vacation Rental at 461 14th Ave

Property Owner,

Please be advised we received a complaint at your vacation rental dwelling on February 20, 2023. The reporting person stated a VRD guest had parked in the public right of way in front of your vacation dwelling. As set forth in the Notice of Decision, guests are not allowed to park on the street at any time and must park in only the designated parking spaces you have identified in your application.

Photos submitted with complaint showing guest parking in front of home during daylight and evening hours.

The reporting person was able to reach the local contact, Vacasa, but the responder did not identify herself (the company) as the local contact. When told of the parking issue, the RP was told "it must be from a nearby hotel." No further action was taken by the management company. The photos show the car was parked on the street for many hours, so there was plenty of time to resolve the issue and have the car moved to the required parking area.

There was a validated parking complaint filed January 31, 2022. At that time the property management company stated, "any future complaint…will need follow-up in person in order to address the complaint." From the complaint it is unknown if the management company did follow-up with an in person visit.

Please respond with what actions will be taken to ensure guests follow the parking requirements for this VRD. On-street parking is strictly prohibited and additional steps may be necessary to encourage guests to use the provided off-street parking spaces. Also, if necessary, have the property management company reread their signed Local Contact Acknowledgment Form that states they are to respond to and take remedial action on any complaint at the VRD within a reasonable period of time which the Planning Commission has deemed within a period of two hours.

Please be advised further complaints regarding parking issues at this VRD could result in a compliance hearing with the Seaside Planning Commission. If you have any questions, please feel free to call me at 503-738-7100 or e-mail me at amcbride@cityofseaside.us.

Respectfully,

Anne McBride
Transient Rental Compliance
City of Seaside, Oregon

SUSTAINED

Vacation Rental Dwelling
Complaint

Address of Complaint: 461 14th Ave, Seaside, OR 97138
Today's Date: 3/7/2023 **Date of Incident:** 2/24/2023 **Time:** 1705

Reporting Person's Information
Full Name: Frank Buck
Address: 430 14th Ave
Phone Number:503.739.1420
E-mail Address: corysaccounts@gmail.com

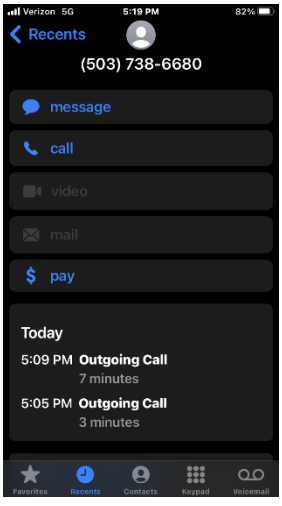
Type of Complaint: Parking
Description of Complaint: Car parked on street in front of house

Local Contact: Vacasa

Phone Number: 503.738.6680

Description of Action Taken by Local Contact: Illegal on-street parking in front of property. RP called contact number listed in file. "Paula" at call center stated she is not a "local" contact she is at a phone bank. Jeff Flory, CD Director also called in a complaint around the same time and also received a person at the phone bank. The problem was addressed and vehicles were moved at the two hour mark. According to Mr. Buck, the cars were shuffled and more cars arrived at 2100 hours.

Photos:



Daytime complaint parking in street called local contact at 5:09 p.m.

Same evening 2/24/2023. Over occupancy limit on cars in allowed 2 parking spaces.

Action Taken: This is the 2nd week a parking complaint was filed. Staff wrote an email to the owner and ask for a response and plan to mitigate this problem.

Conclusion: No response from Vacasa. Owner wrote that he would like to be the primary contact and would be able to reinstate his camera to monitor parking.

Anne McBride
Transient Rental Compliance

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COMMUNITY DEVELOPMENT
LOCATION: 1387 AVE U
MAIL: 989 BROADWAY
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(503)738-7100

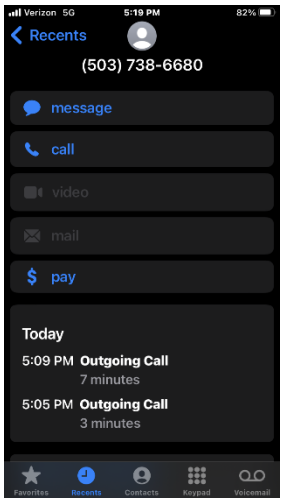
NOTICE OF COMPLAINT

March 7, 2023

RE: Vacation Rental at 461 14th Ave

Property Owner,

This is your second parking complaint at your VRD property. The first complaint filed on the February 20nd was unresolved. This new complaint filed the following week, February 24, is for numerous cars in and outside of your designated parking area. You are allowed to have 2 cars in your driveway per your Notice of Decision.

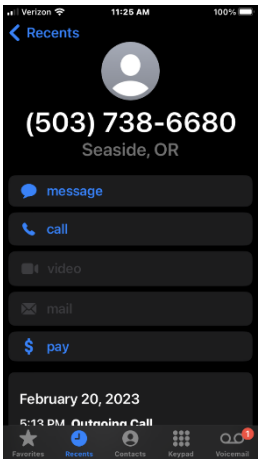


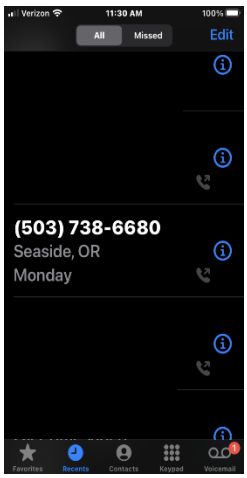
Daytime complaint parking in street called local contact at 5:09 p.m.

Same day 9 p.m. 2/24/2023. Over occupancy limit on cars. Property is allowed 2 parking spaces for 2 cars.

This current complaint is filed for illegal on-street parking in front of property. The reporting person contacted your local contact, "Paula", at the Vacasa call center. She stated she is not a "local" contact she is at a phone bank. Jeff Flory, CD Director also called in a complaint around the same time and also received a person at the phone bank. After the call, the problem was addressed and vehicles were moved at the two-hour mark. According to the reporting person, the cars were shuffled and more cars arrived at 2100 hours, see picture above. The local contact was not called for the evening's violation. Local contacts should live in Clatsop County (as stated in your Notice of Decision) and respond to complaints within 2 hours. They should also be proactive to see that the guests are in compliance throughout their stay. Two complaints in two weeks tells me that this is not happening and your property.

I did hear from Lisa Payne, Vacasa, after the first complaint on 2/20/2023. Lisa stated: "…we have no record of calls being made to us in recent days or we certainly would have dealt with it. Honestly I am not really sure what to say when there is no record that they ever called us." Here is the record of the call that Vacasa claims was never made.





This is becoming a reoccurring problem at your property. The neighbors are upset and have a valid reason for being so. We are asking you to address this issue immediately and provide a plan to the city to prevent this violation. On-street parking is strictly prohibited and additional steps may be necessary to encourage guests to use the provided off-street parking spaces. Also, if necessary, have the property management company reread their signed Local Contact Acknowledgment Form that states they are to respond to and take remedial action on any complaint at the VRD within a reasonable period of time which the Planning Commission has deemed within a period of two hours. The requirement is for a local responsible party, not a phone bank and a long-distance phone call reprimanding the guests. In this instance the guests needed a personal warning and reminder of the rules.

Please be advised further complaints regarding parking issues at this VRD could result in a compliance hearing with the Seaside Planning Commission. If you have any questions, please feel free to call me at 503-738-7100 or e-mail me at amcbride@cityofseaside.us.

Respectfully,

Anne McBride
Transient Rental Compliance
City of Seaside, Oregon

NOT SUSTAINED

Vacation Rental Dwelling
Complaint

Address of Complaint: 461 14th Ave
Today's Date: 3/22/2023 **Date of Incident:** 3/17/2023 **Time:** 10:52 p.m.

Reporting Person's Information
Full Name: Anonymous
Address: Click or tap here to enter address.
Phone Number:Click or tap here to enter phone number.
E-mail Address: Click or tap here to enter email address.

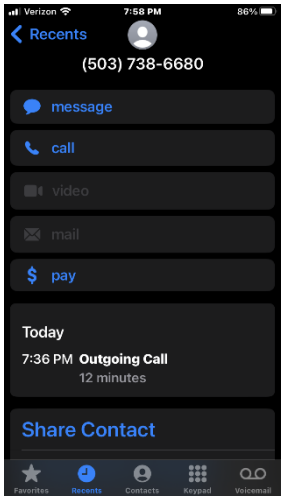
Type of Complaint: Parking
Description of Complaint: Illegal parking.

Local Contact: Vacasa

Phone Number: 503.738.6680

Description of Action Taken by Local Contact: Local contact, Jennifer at the Vacasa phone bank, said she would call someone. It was noted she did not speak clear English. She stated she would send someone to address the complaint. No one came.

Photos:



Action Taken: Wrote to Owner and Vacasa Property Management to correct the problem of there not being action to address the complaint. Reiterated the requirement of a local contact's responsibility.

Conclusion: Spoke with owner who said he would follow up with Vacasa. Owner stated there were not guests on the property during the March 17 weekend therefore the complaint is not sustained. The question arose: Should the management company have known and shared with the reporting person that the property was not rented to guests and was being used by the owner?

As a result of the complaint, Vacasa has committed to having a dedicated number for a local contact to be called, if the contact is unavailable the call will be routed to a call center.

Anne McBride
Transient Rental Compliance

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LOCATION: 1387 AVE U
MAIL: 989 BROADWAY
SEASIDE, OREGON 97138
(503)738-7100

NOTICE OF COMPLAINT

March 22, 2023

RE: Vacation Rental at 461 14h Ave

Property Manager and Property Owner,

Please be advised we received a third complaint at your vacation rental dwelling on March 17, 2023. The reporting person stated the VRD guests were again parking on the street instead of in your designated off-street parking spaces.

The property management company was notified but did not respond to the complaint. The RP stated he called the local contact had some difficulty communicating with the contact person at the phone bank and the problem was never resolved.

Mr. Mittelstaedt, I am going to require immediate action on your part. It takes the neighbors time to log a complaint and take and post pictures. In their eyes it appears you have done nothing to mitigate these parking issues and they are becoming a regular weekly occurrence. You did write to me with your situation asking to be the initial contact for the neighbors. That can be done by your filling out a form with our office. However, that does not address the problem. I am suggesting you post "No Guest Parking" signs on your fencing in addition to monitoring the guest parking through your camera feed as you suggested. Also, you are going to have to establish a responsive local contact. In all three of the complaints the local contact was called and the problem persisted. I have suggested you have your local contact drive by the property to check for parking and occupancy violations. In addition, in previous complaints the number of cars pictured could lead one to infer that you may be violating your occupancy agreement.

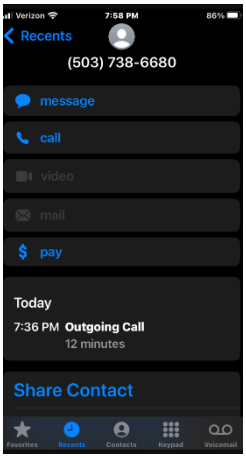
Please correct this problem immediately. On-street parking is strictly prohibited and additional steps are going to be needed to encourage your guests to use the two off-street parking spaces. This weekend is Spring Break so the town will by busy with tourists and guests. Another complaint will bring you in front of the Planning Commission for review.

If you have any questions, please feel free to call me at 503-738-7100 or e-mail me at amcbride@cityofseaside.us.

Respectfully,

Anne McBride
Code Compliance Official

On Street Parking 3.17.2023



13-minute Phone Call to Local Contact 3.17.2023

On street parking evening 3.17.2023

February 20, 2023 Possible over-occupancy violation

SUSTAINED

Vacation Rental Dwelling
Complaint

Address of Complaint: 461 14th Ave
Today's Date: 6/23/2023 **Date of Incident:** 6/22/2022 **Time:** 5.25 p

Reporting Person's Information
Full Name: Anonymous
Address: 430 14th Ave
Phone Number:5037391420
E-mail Address: corysaccounts@gmail.com

Type of Complaint: Parking
Description of Complaint: Car parked on street in front of VRD

Local Contact: Vacasa
Phone Number: 855.757.7328 (Vacasa phone bank) 971.233.6166 (published) 503.738-6688 (discontinued)
Description of Action Taken by Local Contact: "And the person I spoke to at Vacasa was named Maurice and it wasn't a local contact I got sent to their automated system one of the phone numbers that I used to call didn't work 503-738-6690 so I had to call 971-233-6166 where I got the automated Vacasa number.

Photos:

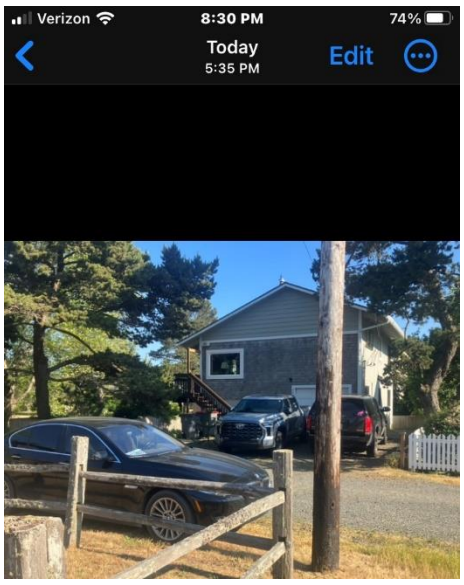
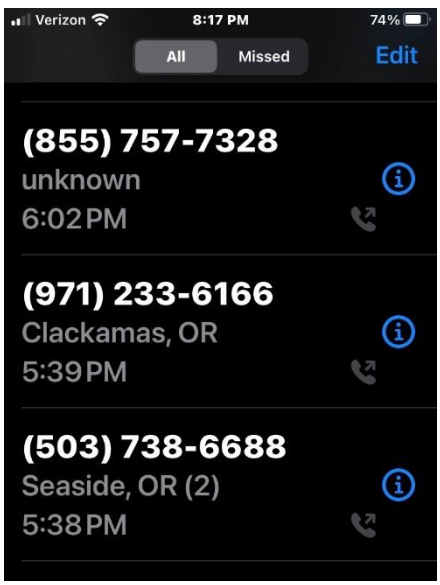


Photo taken by RP Thursday 8:30 pm



Call log from RP to Local Contact

Photo taken by Comm Dev at 7:50 a.m. Friday

Action Taken: Emailed owner a Notice of Complaint. Received an email back: Hi Anne,
I don't think that one is ours. It's across the street from us but there's also a vacation rental that is on that side of the street as well as the "party house" across the street from us.
I've sent this over to the local Vacasa contact to see if they have a record of any call. It is advisable for any pictures of complaints to be made close enough to get the license plate. This one is unusual since the first picture of the SIDE of the vehicle IS close enough to get the plate but taken from the wrong angle, the second picture is from the right angle but appears too far away.
I will also point out that one of the "sustained" complaints the writer is mentioning was also not one of ours it belonged to the "party house" across the street from us.

Letter requesting a plan and complaint response log sent to owner as a response to the above email. Included complaints, and LCAFs and Preferred Contact signed form.

Conclusion: Wrote to owner: We are continuing with parking complaints. This again was not addressed by your local contact. I drove by the morning after the complaint and the car was still parked where it had been reported and filmed the night before.

In a follow up letter, I stated:
... As for complaints, we have had four this year, including this one. It should be noted we have had complaints in past years but I was not responsible for the reporting, Jeff Flory was. Of the four, one is "not sustained," as you informed me you had personal friends visiting. However, 3 other complaints were sustained. I have attached them to this email.

2.20.2023 – Parking Complaint – Sustained
2.24.2023 – Parking Complaint – Sustained
3.17.2023 – Parking Complaint – NOT Sustained (owner use)
6.22.2023 – Parking Complaint - Sustained

Action will need to be taken to alleviate this continuing violation. The neighbors are sensitive to this issue and have tired of filing complaints. Within the next seven days please provide the complaint log and your proposal to correct this problem that is both viable and sustainable.

Received an email response from the owner. No action followed. Complaint sustained.

Anne McBride
Transient Rental Compliance

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LOCATION: 1387 AVE U
MAIL: 989 BROADWAY
SEASIDE, OREGON 97138
(503)738-7100

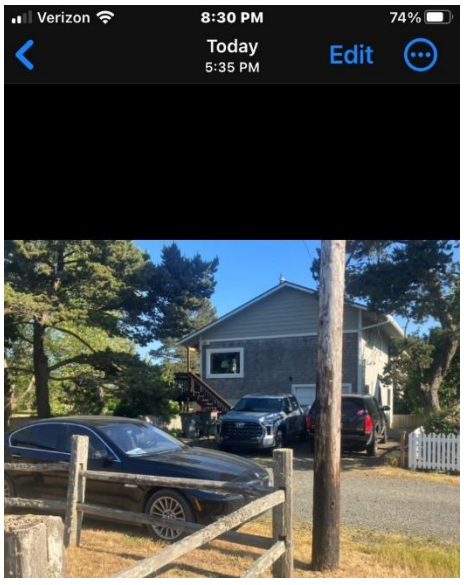
NOTICE OF COMPLAINT

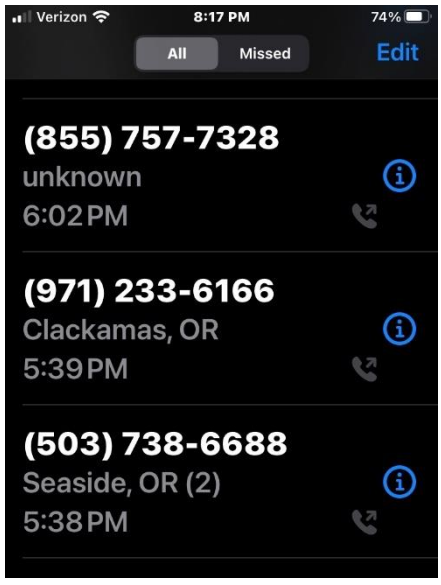
June 26, 2023

RE: Vacation Rental at 461 14th Ave

Property Owner,

We would like to inform you we have received a complaint regarding your vacation rental property on June 22, 2023. According to the report, your guests had parked their vehicle on the street in front of your residence. The person reporting the incident contacted Vacasa at 5:39 p.m., but the issue remained unresolved and the car was still parked in what looks like the same location when I drove by on Friday morning at 7:50 a.m.





Your local contact has not been responding to and correcting the continuing parking complaints we are receiving. You are responsible for your guest's actions. I can see from your listing on Airbnb that you have installed cameras to monitor the guest parking. Unfortunately, this solution has not resolved the problem and your guests are continuing to park in the street. This is the third complaint this year; all three have been sustained. The reporting person did call Vacasa's newly provided local number, 971.233.6166 which went directly to the automated regional phone bank. Having a local contact in Clatsop County is a requirement of the City of Seaside Zoning Ordinance 6.137 (D):

D. Local responsible party. A local responsible party that permanently resides within the county must be identified by the owner. The responsible party will serve as an initial contact person if there are questions regarding the operation of the VRD. The owner shall provide the telephone number of the local contact person to the City, and to the immediate neighbors within the notification area (within 100' of the subject property).

Please contact our office in writing on how you propose to address these continuing parking complaints. As the summer season begins it is imperative you are in compliance with the regulations that are conditions of your permit.

If you have any questions, please feel free to call me at 503-738-7100 or e-mail me at amcbride@cityofseaside.us.

Respectfully,

Anne McBride
Transient Rental Compliance
City of Seaside, Oregon

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COMMUNITY DEVELOPMENT
LOCATION: 1387 AVE U
MAIL: 989 BROADWAY
SEASIDE, OREGON 97138
(503)738-7100

June 27, 2023

Jean and Edward (Ted) Mittelstaedt
4021 SE Grand Ct
Portland, OR 97214

RE: 19-032VRD – 461 14th Ave, Seaside, OR 97138

Hello Ted,

Thank you for your response to the Notice of Complaint. You made mention of the parked car belonging to the neighbor's guests or property owners. As stated in the Local Contact agreement all complaints must addressed within a timely matter. The Reporting Person is under no obligation to take photos, but it's nice when they do, nor try to determine who owns the car before making a complaint. Complaints and the action to alleviate the problem are solely your responsibility as a VRD license holder. Below is the language from Vacasa's signed Local Contact form agreement and from the Preferred Local Contact which you signed.

> *I understand I must respond to and take remedial action on any complaint at this VRD within a reasonable period of time. The Seaside Planning Commission has deemed a reasonable period of time to be two (2) hours.*

One of the signed statements on the contact forms is your agreement to keep a complaint log to be available at the City's request. Can we refer to the complaint response log for confirmation on the complaints filed this year and the response from you or the management company? Below is the language from Vacasa's signed Local Contact form agreement and from the Preferred Local Contact which you signed.

> *I understand that I am expected to maintain a complaint response log that will be made available to city staff or the Planning Commission upon request. The complaint log should include the date, time, subject matter of the complaint, name and contact information of the reporting person (if not anonymous), and the action taken to resolve the complaint.*

And this is in your notice of decision:

1. **Local Contact**: **Vacasa, Rita SanRoy, 1803 S Roosevelt, Seaside, OR;** will be the local contact for the VRD and **she** can be reached at **(503) 345-9399.**

   The contact person must be available 24 hours a day to address compliance issues while the property is rented. Upon any change in the local contact, the owner must provide formal notice of the updated

contact information to the City and all of the neighboring property owners within 100'. Managers are required to notify the City any time they stop representing a VRD.

Local contact information is available at the Community Development Department (503) 738-7100, City Hall (503) 738-5511, or after business hours at the Seaside Police Department (503) 738-6311.

☒ **The local contact must sign a Local Contact Acknowledgement Form that indicates they are aware of the Commission's expectations concerning response to complaints by neighboring residents and maintain a complaint response log that would be made available to the city upon request. The signed form must be returned to the Community Development Department so it can be included in the land use file. An updated form must be submitted by the owner any time a new contact person is established.**

You've asked to be the primary contact for complaints. I have added this information to the map neighbors can request that list the contact and phone number, however, please know, it is your responsibility to inform the property owners within 100' of your property of any changes to your local contact information. This is from your Notice of Decision. Have you let the neighbors know you are the primary contact?

The contact person must be available 24 hours a day to address compliance issues while the property is rented. Upon any change in the local contact, the owner must provide formal notice of the updated contact information to the City and all of the neighboring property owners within 100'. Managers are required to notify the City any time they stop representing a VRD.

As for complaints, we have had four this year, including this one. It should be noted we have had complaints in past years but I was not responsible for the reporting, Jeff Flory was. Of the four, one is "not sustained," as you informed me you had personal friends visiting. However, 3 other complaints were sustained. I have attached them to this email.

2.20.2023 – Parking Complaint – Sustained
2.24.2023 – Parking Complaint – Sustained
3.17.2023 – Parking Complaint – NOT Sustained (owner use)
6.22.2023 – Parking Complaint - Sustained

Action will need to be taken to alleviate this continuing violation. The neighbors are sensitive to this issue and have tired of filing complaints. Within the next seven days please provide the complaint log and your proposal to correct this problem that is both viable and sustainable.

Regards,

Anne McBride
Code Compliance Official
City of Seaside, Oregon

Enclosures:

Cc: Jeff Flory
Munirevs File

Anne McBride

From: Ted Mittelstaedt <tedm@mittelstaedt.us>
Sent: Friday, June 30, 2023 4:28 AM
To: Anne McBride; Lisa Payne
Cc: Isaac Murray; Jeff Flory
Subject: Re: 6.26.2023 NOTICEofCOMPLAINT Parking.Anne

Follow Up Flag: Follow up
Flag Status: Flagged

Hi All,

Anne and Lisa, my understanding is the "local contact" must by ordinance be a local residing in the city limits so Vacasa must update that since the current local contact that Anne had sent me the other day is Rita Sanroy and that is way out of date. Anne I've asked Lisa to send you current local contact information so that part of it should be taken care of, and as for the 100' notification I would assume also Vacasa would take care of that when the local contact is updated the same way they do it for any other change in local contact for any other property in Seaside. My guess is that the various cities on the Oregon Coast all have different notification requirements for that, and I am happy that I don't have to track all of that while Vacasa staff do.

As for me asking to be the primary complaint contact I do appreciate that you have added me to the request map. While technically I cannot be the "local contact" I can be the "primary complaint contract" and while that position is not defined by ordinance I can certainly act as a "local contact" would and follow the same 100' notification requirement as they do, and I will do that on our family's next visit to the house which is July 5th - 9th as that notification requirement is not burdensome.

Now, as for the complaint log mentioned in Anne's letter - I don't keep a spreadsheet or document of complaints but I do preserve all email records and can easily make up a list of "formal" and "informal" complaints, that is, complaints taken through the city's process and complaints to me that are handled without going through the city's process - such as the call regarding the parking violation on 6/29 where the renters were involved with a 3rd vehicle parked several blocks away. Which I don't even know if that is a violation anyway since I don't know if it was just visitors and not renters - all I know is what people report to me, I got the story from the neighbor on it and then from Vacasa when they said the car was moved later in the day in response to them contacting the renters. The logging and documenting part of this does not faze me at all since I'm one that keeps pretty extensive records. In fact, I even have all video of the property cameras for the last 3 years.

Now with that out of the way let's get to the real meat of the issue.

I believe there are 2 real issues here:

1) Response time to complaints and how they are being handled.

2) Generation of the complaints in the first place

For #1, it is clear that Vacasa is operating like most larger companies do - they have a bureaucracy. This is NOT a bureaucracy that fails to function (like the federal government, LOL) but it IS a bureaucracy, nevertheless. Bureaucracies

are difficult to negotiate. Often you have to wait, leave messages, send emails, login to websites and file complaints, and wait for people to call you back and so on. None of this is going to be very friendly to people making complaints.

Vacasa is not trying to go out of it's way to put up barriers to complaints. They are, in fact, a young firm and still trying to figure all of this out. And I will also point out in their defense that they are responsive once you "work the bureaucracy" assuming you have the patience to do this. (which people complaining, aren't going to)

I have always maintained that for best complaint response the property owner must be intimately involved. The property owner - me and my wife - have a direct vested financial interest - it's our property. We all have to be realistic on this. Vacasa's minimum wage staff in a call center may be very nice people but they are going to continue to get paid whether a complaint is properly responded to or not. They don't have "skin" in the property. Only the property owner has that. Vacasa really needs to acknowledge this and stop telling their customers (the property owners - who absolutely are their customers just as much as the renters) to stay out of the business of handling property complaints. I've had this discussion with them before but it seems to fall on deaf ears. Maybe the majority of their homeowner customers are rich weirdos living in Florida who don't give a tinker's damn about some investment in Seaside and just want Vacasa to handle it. I don't know.

And from the city's part - you have to be realistic on this also. When the city stereotypes out-of-town property owners as people who are completely uninvolved and don't give a rat's ass about complaints, thus not even worthy of handling complaints then proceed to enshrine that attitude in a city ordinance that requires the local contact to live in the city - that is just nuts. This is 2023. We have the best communications infrastructure in the world and in the history of the world. We need to be using it to punish property owners who don't give a rat's ass and just want to be uninvolved, and reward property owners who do want to be involved. And I daresay the majority of absentee property owners live in Oregon anyway.

I suppose that I don't "fit the mold" of a typical property management customer because I am constantly sticking my nose into how our property is being managed, it's not just complaint management. I know that this philosophy isn't going to be solved by this letter. But I AM saying that _I_ think things will run better in the complaint department for _our_ property if I'm the first contact for complaints. It's great to have Vacasa as a backup and a second contact for complaints but I need to be first. I'm not a nasty guy. I care what's going on there. I very much appreciate Anne's willingness to list me on the property map and I'll notify the neighbors and try to make friends with them. And Portland is only at most 2 hours away so if push comes to shove and I have to be out there, I'll be out there.

For #2 now this is the rub. What is generating these parking complaints and what can be done to solve that?

Well I have a theory of what's doing it and how to solve it and I've mentioned this to Lisa and to the city before but I'll bring it up again. Our vacation rental home has bedrooms that are nice and big. Plenty of room. None of this business of converting a cramped attic into a space for one of the rooms. You can see this on the video walk-through for the house on the website. So given that, it's going to attract a certain type of renters. Adult renters. And we don't have the house full of kids toys and it's not a kid-friendly house for young kids with a lot of kid amenities. It's an adult-friendly house with a lot of adult amenities. All of this is very intentional on my wife's and my part. Our kids are grown and we are done with that. Our second home is going to reflect this and it's going to attract that clientele. We don't have a hot tub there so it's not going to attract young couples it's going to attract older couples who frequently have adult children.

Well one of the realities of this clientele is that they are all adults - so they have vehicles. Now, granted, the drive from Portland and other cities is costly with the price of gas specifically so there's incentive to carpool, not every last adult in the renting party has to drive their own car. But sometimes adult renters come and go as they please with their own cars. And many times they are going to have visitors, other couples who drive out for the day to visit and so on.

One thing I will do at the property which might help is modify the parking map that is posted there to make it clear where the other alternative parking areas are. There's public parking 4 blocks away that visitors can use. As for

overnight stayers another thing I will do is post information about acquiring an overnight parking pass from the Seaside Visitor's Bureau in the house.

And lastly, once more I will bring up that the house DOES have enough space for 3 9x18 parking spaces without modifying the frontage along the road and turning the entire frontage into a parking lot. This is on the original plot plan that is on file with the city and I, personally drew and measured out. So I know for a fact that the space exists. At that time the permit was granted we asked for 3 parking spots, and were only allowed 2. Which I thought at the time was going to cause trouble. Which, apparently, it has. So because of that I let a little tree grow in the driveway since I was told that not only could I not have 3 but I had to do something to prevent the 3rd spot from being used by renters. Which I also thought at the time was EXTREMELY silly but I complied anyway. Of course, I was also told (when I asked) that well if it's just you and your family staying there you can use the 3 spots since you are owners. But renters can't.

I would be happy to make it easy to park 3 cars at the property which will encourage renters that bring 3 cars to park ALL of them in the driveway but I want something for doing that. I want that spot recognized as an official permitted spot. I feel this is COMPLETELY reasonable. It was the city (Jeff's predecessor in fact) that insisted I modify the parking space to only allow 2 renters to park as condition for the permit. That demand has caused problems with parking in the street and so in effect, the complaints my property is getting from the city were caused by the city. So it seems to me the fix is being reasonable, recognizing we have the space for 3 9x18 spots, that we don't need to modify the landscaping to make use of that space, and just letting us have 3 permitted VRD parking spots.

And as a bonus I will throw in, we won't even modify the Vacasa listing to show 3 spots, we will keep the listing at 2 spots for now. (unless things change and renters start behaving themselves LOL) Since the renters figure they can "get away" with an extra car, sort of like people driving 70 in a posted 55, if we modified the listing to say 3 spots then I would expect they would start bringing 4 cars!

Thank you very much for your time!

Ted Mittelstaedt

On 6/28/2023 9:15 AM, Anne McBride wrote:

> Thank you for your response Lisa. This dialog is best discussed with Ted, as he is the owner and ultimately responsible for any complaints that occur at his property. In response to your 971.233.6166 direct line, I've called it twice and have been transferred directly to the phone bank, once just after the line was initiated to test it and the second time on June 23, after I took the photo attached to the complaint.
>
> My objective is to address the neighbor's concerns and enforce the requirements of the conditional use license agreement.
>
> Thanks,
> Anne
>
> Anne McBride
> Community Development
> Code Enforcement Official
> City of Seaside
> 971-601-1024 Direct Line
> 503-738-7100 Main Office

From: Lisa Payne <lisa.payne@vacasa.com>
Sent: Tuesday, June 27, 2023 9:23 PM
To: Anne McBride <amcbride@cityofseaside.us>
Cc: Isaac Murray <isaac.murray@vacasa.com>; Ted Mittelstaedt <tedm@mittelstaedt.us>
Subject: Re: 6.26.2023 NOTICEofCOMPLAINT Parking.Anne

Hello Anne,
I am definitely bummed to hear that the phone went straight to Vacasa because it never rang through on my phone. I have attached the call log. Frank had called the line on 6/6 at 7:10pm to let us know that a car was in the street and so we called and texted the guest to move their vehicle and then had staff drive over to verify it was moved right away. I have received a couple other calls on the line and have been successful in solving issues right away. Did you get a name of who at Vacasa the neighbor talked to?

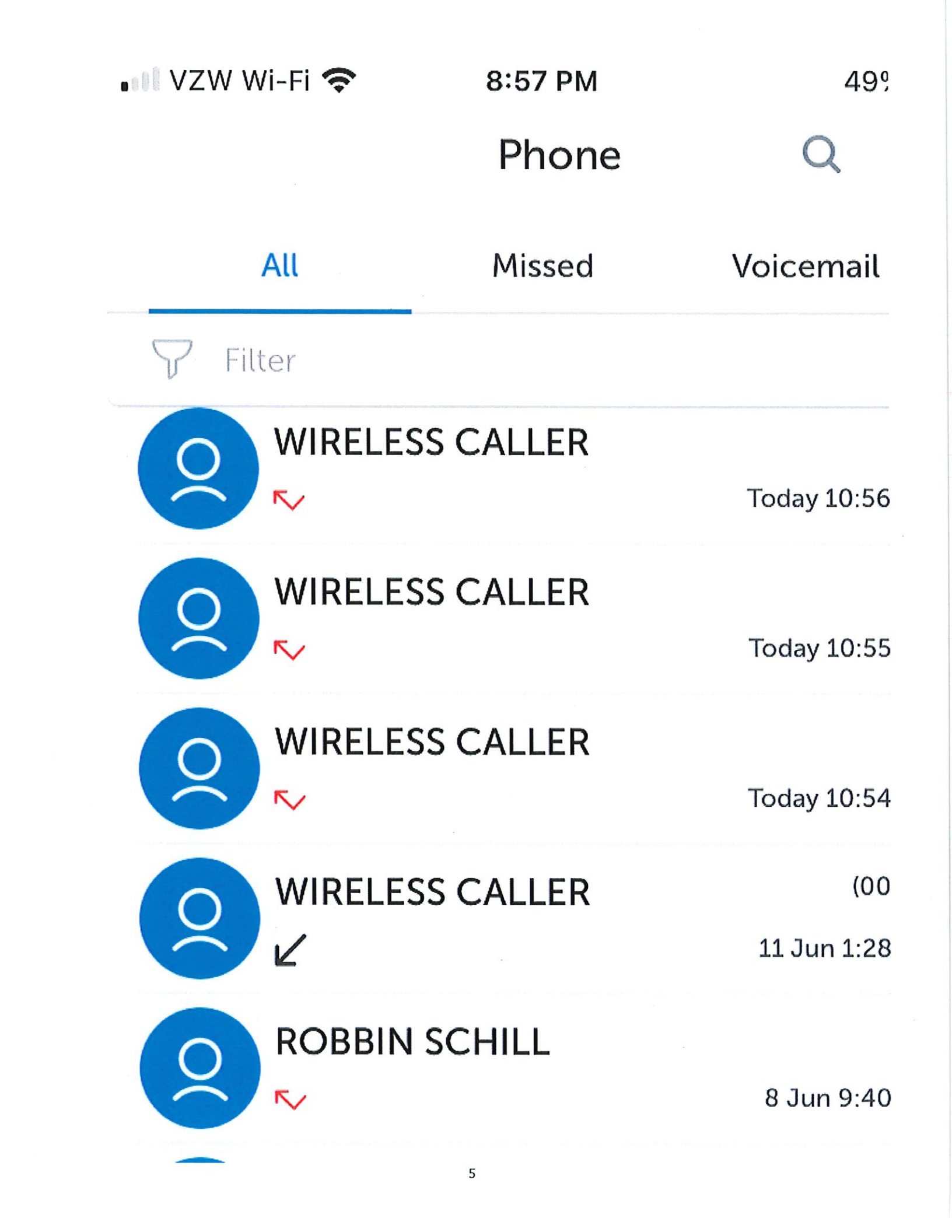
We have added a layer of management for a smaller set of units and the Local Manager for N. Seaside is Isaac Murray. He has been added to the phone line as well as our South Seaside manager Taunya. There really shouldn't ever be a time someone doesn't answer unless there is a technical issue with the line which is rare. Isaac has also started driving regularly and saw the car parked on the street Friday and asked the guest to move their vehicle and the guest said the neighbor told them they could park there and he informed them that they cannot.

Needless to say we very much want to make sure this doesn't keep happening so we will add another layer on top of the strongly worded verbiage we send guests about parking and where they can and cannot park we will have each guest called before their stay to tell them at no time can they have any vehicle parked in the street whether it's the guest or visitors or they will be towed. I am hoping that this will help.

Thank you,

Lisa Payne
General Manager | N. OR Coast and WA Peninsula
m: 503-440-8348
vacasa.com

My days off are Saturday/Sunday.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On Tue, Jun 27, 2023 at 6:04 AM Ted Mittelstaedt <tedm@mittelstaedt.us> wrote:

Hi Lisa,

Can you check into this?

Thanks,

Ted

-------- Forwarded Message --------

Subject:6.26.2023 NOTICEofCOMPLAINT Parking.Anne
Date: Mon, 26 Jun 2023 23:17:38 +0000
From: Anne McBride <amcbride@cityofseaside.us>
To: Anne McBride <amcbride@cityofseaside.us>

Hello Ted,

We are continuing with parking complaints. This again was not addressed by your local contact. I drove by the morning after the complaint and the car was still parked where is had been reported and filmed the night before. Please send us your plan, in writing, on how you will alleviate this continuing problem.

Thank you,

Anne

Anne McBride

Community Development

Code Enforcement Official

City of Seaside

971-601-1024 Direct Line

503-738-7100 Main Office

SUSTAINED

Vacation Rental Dwelling
Complaint

Address of Complaint: 461 14th Ave
Today's Date: 7/8/2023 **Date of Incident:** 6/28/2022 **Time:** 1920

Reporting Person's Information
Full Name: Anonymous
Address: Click or tap here to enter address.
Phone Number:Click or tap here to enter phone number.
E-mail Address: Click or tap here to enter email address.

Type of Complaint: Parking

Description of Complaint: The complainant (RP) overheard VRD guest tell Red Car owner they couldn't park in front of the property. Together guest and Red Car owner reparked the car on 12th Ave in front of a local residence. Red Car was still parked on 12th Ave the next day. Later it was parked in the designated parking area of the home, so obviously this was a guest at the VRD. This made for three vehicles, two parked in the designated spaces and one parked on the street on 12th Ave.

Local Contact: Preferred Contact: Owner Ted Mittelstaedt

Phone Number: 503.867.6993

Description of Action Taken by Local Contact: RP: "I contacted the local contact which turned out to be the owner that lives in Portland so it was not a local contact which means they did not follow the proper procedure." The pictures are taken over a two-day period so the problem was not resolved by the owner.

Photos:

Cars parked in designated spaces

Red Car parked on 12th Ave

Red Car guest parked on 12th Ave next day

Red Car guest parked at property address

Action Taken: Wrote to owner regarding the parking complaint. Asked for complaint log book of the incident and described the burden additional cars put on residents within the City when guests bring more cars than are allowed for their designated parking spaces.

Conclusion: Prior to sending Notice of Complaint to the owner, the owner sent an email, his response read: (Note: I requested a 2023 complaint log in a prior email.) "Now, as for the complaint log mentioned in Anne's letter - I don't keep a spreadsheet or document of complaints but I do preserve all email records and can easily make up a list of "formal" and "informal" complaints, that is, complaints taken through the city's process and complaints to me that are handled without going through the city's process - such as the call regarding the parking violation on 6/29 where the renters were involved with a 3rd vehicle parked several blocks away. Which I don't even know if that is a violation anyway since I don't know if it was just visitors and not renters - all I know is what people report to me, I got the story from the neighbor on it and then from Vacasa when they said the car was moved later in the day in response to them contacting the renters."

From his email it could be inferred the owner did not respond to the complaint he received from the RP because he wasn't sure if it was visitors or renters. This has been a problem in the past with this property and I have cited the Preferred and Local Contact Acknowledgment Form verbiage which states "I understand I must respond to and take remedial action on any [my emphasis] complaint at this VRD within a reasonable period of time." It does not say a response is required only for the complaints the local contact feels are valid. Complaint sustained.

Anne McBride
Transient Rental Compliance

CITY of SEASIDE

OREGON'S
FAMOUS
ALL-YEAR
RESORT

COMMUNITY DEVELOPMENT
LOCATION: 1387 AVE U
MAIL: 989 BROADWAY
SEASIDE, OREGON 97138
(503)738-7100

NOTICE OF COMPLAINT

July 8, 2023

RE: Vacation Rental at 461 14th Ave

Property Owner,

We would like to inform you we received a complaint regarding your vacation rental property on June 29, 2023. According to the report, your guest was unable to park in your parking area because they brought more cars than the two parking spaces you provided allow. A guest was overheard by the reporting person (RP) telling the driver in the third vehicle to park on another street. They parked on what appears to be 12th Ave. The pictures below show the car parked on-street at an alternate location, then parked in your driveway. One could conclude the red car belongs to one of your guests.

Guests parked in designated spaces

Additional car parked on-street at alternate residential street location

Additional car from alternate location parked at your home.

The RP contacted you as the preferred contact and felt because you didn't live locally, you did not qualify as a local contact. They further reported the car problem was not resolved.

According to your Conditional Use agreement, you have two off-street parking spaces for two cars. Having guests bring additional cars and parking them on-street within the city creates a burden on the neighboring

residents. There are paid parking lots available for overnight parking as you stated in an email dated 6.30.2023, “There's public parking 4 blocks away that visitors can use. As for overnight stayers another thing I will do is post information about acquiring an overnight parking pass from the Seaside Visitor's Bureau in the house.”

On June 27, I asked you to provide your complaint log and your responses, please include this incident in your presentation.

If you have any questions, please feel free to call me at 503-738-7100 or e-mail me at amcbride@cityofseaside.us.

Respectfully,

Anne McBride
Transient Rental Compliance
City of Seaside, Oregon

Planning Commission
Staff Report

APPLICATION(S):	**769-23-000022-PLNG – Conditional Use/Variance**
MEETING DATE:	**August 1, 2023**
PUBLIC HEARING:	**Yes**
Report Date:	July 21, 2023
Applicant:	Robert Leatherman
Owner:	Robert Leatherman
Location:	2175 S Prom, Seaside, OR 97138
Major Street Access:	Beach Dr.
Parcel Number(s) & Size:	T6-R10-28AB-00400- Approximately .17 acres
Parcel Zoning:	High-Density Residential (R-3)
Adjacent Zoning:	High-Density Residential (R-3)
Current Use of Parcel:	Single-Family Residential
Adjacent Uses:	Single-Family Residential
Previous Meetings:	None
Previous Approvals:	None
Type of Action:	Quasi-Judicial
Land Use Authority:	Planning Commission
Future Routing:	None
Planner:	Jeff Flory, Community Development Director

A. Summary:

A Conditional Use and Variance request by Robert Leatherman for a four (4) bedroom Vacation Rental Dwelling with a maximum occupancy of ten (10) persons regardless of age. In addition to the conditional use, the applicant is requesting a variance to the front yard landscaping requirement.

Staff Recommendation:

Staff recommends the Planning Commission conduct a public hearing on the application, take public comments, and review and discuss the request. Unless submitted comments or other clarifications or justifications are needed, staff recommends the Commission adopt the findings, justification statements, and conclusions in this report and approve the applicant's request subject to the listed conditions.

B. Exhibits:

1. **Applicant Submittals**
2. **Site Plan**
3. **Density Analysis**

Jeff Flory, Planning Director
jflory@cityofseaside.us
989 Broadway, Seaside, OR 97138
(503) 738-7100

C. Location: 2175 S Prom, Seaside, OR 97138 (T6-R10-28AB-00400)

D. Background:

The applicant's property is a flag lot with Prom frontage and contains a four (4) bedroom single-family dwelling that the tax assessor's office shows as being built around 1947. The applicant states this property will be primarily used as their second home and is requesting a permit to utilize the property as a VRD when they are not using it.

E. Required Dates:

This application was accepted as complete on July 7, 2023. The 120-day decision timeframe is November 4, 2023.

F. Specific Request:

The applicant is requesting a conditional use permit for a four (4) bedroom Vacation Rental Dwelling with a maximum occupancy of ten (10) persons regardless of age. In conjunction with the conditional use request, the applicant is requesting a variance to the front yard landscaping requirement.

G. Process:

This request is being reviewed under Article 6, Article 7, and Article 10 of the Seaside Zoning Ordinance. Article 6 establishes the criteria for conditional uses, Article 7 establishes the criteria for Variances, and Article 10 establishes the process and procedures that are applicable to this request. The specific review criterion for Vacation Rental Dwellings is included in Section 6.137 of the Ordinance.

H. Community Review:

Notice of this public hearing was published in the Daily Astorian on July 13, 2023. Additionally, a mailed notice was sent on July 11, 2023, to all property owners within 100ft of the subject property.

I. Written Comments:

At the time of this report, no comments have been submitted to the Community Development Department.

J. Comprehensive Plan:

This property is located in the High-Density Residential land use designation as stated in section 3.1.2 of the Comprehensive Plan. Although the comprehensive plan states dwelling units in this area should be for full-time residential use; Vacation Rental Dwellings are a conditional use within the zone.

Section 4.1 of the Comprehensive Plan states: "Since the City of Seaside is a recreational community and major tourist attraction on the Oregon Coast, it is recognized that there is a need for recreational types of housing, including beach homes, vacation rentals, motels, recreational vehicle parks, and campgrounds."

K. Zoning Ordinance Criteria for a Conditional Use:

Pursuant to Section 6.137, Vacation Rental Dwellings (VRDs) within the R-2 and R-3 zones shall be reviewed by the Planning Commission whenever the surrounding VRD density is 20% or greater. A permit shall be issued as an accessory use provided the applicant can demonstrate by written application that all of the following standards are met:

a. Parking. One 9' x 18' off-street space will be provided for each bedroom in the unit, but in no event shall fewer than two spaces be provided.

Finding: *The applicant's site plan shows sufficient parking area to accommodate four off-street parking spaces. The parking spaces are side by side in the applicant's parking area.*

b. Number of Occupants. The maximum number of occupants cannot exceed three persons (over the age of three) per bedroom. The maximum occupancy, along with good neighbor rules, shall remain posted inside the front door in a conspicuous place. It is the owner's responsibility to ensure the renters are aware of these limitations.

The number of overnight renters or the maximum number of occupants may be reduced by the Code Enforcement Officer or Fire Marshal at the time of Inspection for valid code reasons.

Finding: *The applicant's home is a four-bedroom single-family dwelling that allows an occupancy of ten (10) persons regardless of age.*

The good neighbor rules, occupancy, and tsunami evacuation map are required to be posted in a conspicuous place within the VRD and are verified during the VRD inspection. This VRD will also be subject to annual inspections where these items are checked for compliance.

c. Residential yard areas. Front, side, and rear yards must maintain a residential appearance by limiting off street parking within yard areas. At least 50% of each yard area which is not occupied by buildings must be landscaped in some fashion so that parking will not dominate the yard.

Finding: *The applicant's site plan shows the driveway accessing the required off-street parking area takes up 100% of the required front yard. The applicant's driveway is 10ft wide and is adjacent to the neighboring property's) driveway. The applicant purchased the property this way and did not cause the yard area to be completely paved and not landscaped. The applicant has requested a variance to this requirement.*

d. Local responsible party. A local responsible party that permanently resides within the County must be identified by the owner. The responsible party will serve as an initial contact person if there are questions regarding the operation of the VRD. The owner shall provide the telephone number of the local contact person to the City, and to the immediate neighbors within the notification area (within 100' of the subject property).

Finding: *The applicant has not listed a local contact at this time. A local contact will be required to be named and notice given to all neighboring property owners within 100ft prior to any transient rental.*

e. Spatial distribution requirements. Within the medium density residential (R-2) zones and high density residential (R-3) zones, not more than 20% of the properties within 100' of the subject property can be currently licensed for VRD use without Planning Commission review based on the following additional criteria:

1. **The use of the property as a VRD will be compatible with the surrounding land uses.**
2. **The VRD will not contribute to excessive parking congestion on site or along adjacent streets.**

A decision by the Commission to approve a VRD request may include conditions that would restrict the number of renters or total occupants in the VRD.

Finding: *The density of surrounding VRDs within 100ft of the applicant's property is 21.40%. This application is being reviewed by the Planning Commission per the spatial distribution requirements. Should there be justification to add or modify conditions; the Planning Commission should discuss those justifications and determine what additional conditions or modifications to conditions could be placed on the property to alleviate any negative impact on the surrounding neighbors.*

L. Zoning Ordinance Criteria for a Variance:

Pursuant to Section 7.030 a variance from the terms of this Ordinance shall not be granted by the Planning Director unless and until all of the standards in Section 7.031 and Section 7.032 are met. The property owner must demonstrate by written application that all of the following circumstances exist:

1. **The manner in which exceptional or extraordinary circumstances apply to the property which do not apply generally to other properties in the same zone or vicinity, and result from lot size or shape legally existing prior to the date of this Ordinance, topography, or other circumstances over which the applicant has no control.**

Finding: *The applicant's flag-shaped lot was not created by his doing or request. The applicant purchased the property this way and the small yard area on the Beach Dr. frontage is not of sufficient size to accommodate landscaping.*

2. **How literal interpretation of the provisions of this Ordinance would deprive the applicant of rights commonly enjoyed by other properties in the same district under the terms of this Ordinance.**

   Finding: *The applicant has a double frontage with front yard areas on Beach Dr. as well as the Prom. The applicant's Beach Dr. frontage is only 10ft wide. The required yard area is already an existing paved driveway and there is no room for the installation of landscaping.*

3. **That the special conditions and circumstances do not result from the actions of the applicant, and**

   Finding: *The applicant purchased the property this way and the driveway and flag lot configuration were previously existing.*

4. **Evidence that granting the variance will not confer on the applicant any special privilege that is denied by this Ordinance to owners of other lands, structures, or buildings in the same district. No nonconforming use of neighboring lands, structures, or buildings in the same district and no permitted use of land, structures or buildings in other districts shall be considered grounds for issuance of a variance.**

   Finding: *This request does not convey special privileges to the applicant. The applicant's property is a flag lot and his driveway is only 10ft wide and is the entire width of his front yard area.*

Section 7.032 The Planning Director shall make all the following findings:

1. **That the requirements of Section 7.031 have been met by the applicant for a variance.**

   Finding: *The applicant has met the requirements in Section 7.031. The applicant did not cause the condition and without the variance, would be prohibited from the conditionally permitted use that is granted to nearby properties.*

2. **That the reasons set forth in the application justify the granting of the variance and that the variance is the minimum variance which will make possible the reasonable use of the land, building or structure, and**

   Finding: *The applicant's driveway takes up the entire front yard due to the flag lot configuration. The applicant's Prom frontage is 100% landscaped. Granting the minimum variance will allow approval of the applicant's request for the conditionally permitted use that is permitted by other neighboring properties.*

3. **That the granting of the variance will be in harmony with the general purpose and intent of this Ordinance and of the Comprehensive Plan and will not be injurious to the neighborhood, or otherwise detrimental to the public welfare.**

   Finding: *The applicant's request will be in harmony with the intent of the ordinance and not change the current configuration or landscape ratio of the Beach Dr. frontage. Granting the variance will not change the flag lot and driveway however, the variance will allow the applicant to be granted the conditionally permitted use he has applied for.*

M. <u>Additional Findings, Conclusions, and Justification Statements:</u>

Mailed Notice Request Summary: A Conditional Use and Variance request by Robert Leatherman for a four (4) bedroom Vacation Rental Dwelling with a maximum occupancy of ten (10) persons regardless of age. In addition to the conditional use, the applicant is requesting a variance to the front yard landscaping requirement.

1. The applicant's submitted justification is adopted by reference and summarized below:

a. The applicant's plot plan indicates there will be at least (4) off-street parking spaces, the spaces are side by side on the applicant's parking pad on the S. Beach Dr. side of the dwelling.

b. The four (4) bedroom single-family dwelling will have a limited occupancy of (10) persons regardless of age.

c. The plot plan shows that parking (driveway) will take up more than 50% of the required front, rear, or side yards. The applicant has requested a variance for this requirement.

d. The applicant has not listed a local contact at this time. A local contact will be required prior to any transient rental.

2. The proposed VRD is located within a developed residential neighborhood primarily consisting of single-family dwellings. Currently, 21.4% of the surrounding properties within 100ft of the subject property are licensed for VRD use and 22.2% are licensed within 200ft. All of the surrounding properties within 100 ft are zoned High-Density Residential (R-3).

3. The City of Seaside Planning Commission has established a policy concerning the maximum density of VRDs within neighborhoods that are not zoned Resort Residential (RR). Depending on the location, the Commission will only support VRDs where the surrounding density of VRD licensed properties, within 100ft; is equal to or less than 30% or 50% depending on their proximity to the beachfront areas of Seaside. The Planning Commission has determined that 100% of the oceanfront properties can be licensed for VRD purposes. The applicant's property is considered oceanfront.

4. The property has undergone a preliminary compliance inspection. Any corrections noted during the inspection must be completed and approved by the Community Development Department prior to any transient rental of the property unless an alternative time period is identified for specific items.

5. The City of Seaside Planning Commission adopted a list of policies and a uniform list of conditions they believed should be incorporated into the vacation rental dwelling review process. These are intended to be consistent with the provision in Section 6.031 which in part states: "the Planning Commission may impose, in addition to those standards and requirements expressly specified by this Ordinance, additional conditions which the Planning Commission considers necessary to protect the best interest of the surrounding area of the city as a whole."

In recognition of the Planning Commission's efforts and in keeping with the purpose statement for conditional uses, these conditions are incorporated into any decision to approve a VRD in an effort to promote compatibility of the proposed VRD with surrounding uses.

6. All property owners within 100ft of the subject property were notified of the applicant's request. At the time of this report, the Community Development Department did not receive any letters concerning this request.

7. The proposed use is located within the tsunami inundation zone identified by the State of Oregon.

8. Negative impacts to a neighborhood cannot be predicted based solely on a change from full-time occupancy, part-time occupancy, long-term rental, or short-term rental. Short-term vacation rental dwellings (VRDs) are a regulated use subject to review. It is true that VRDs exhibit short-term stays by nonresidents; however, negative impacts can be caused by other permitted uses of longer duration. VRDs do have an identified local contact, restrictions that exceed those applied to the other uses of single-family dwellings, and a complaint resolution process that exceeds the "normal" restrictions applied to non-VRDs.

9. The property was not previously permitted as a VRD.

10. The glare from outdoor lighting can have an impact on adjacent properties. All exterior lighting should conform to the newly adopted Outdoor Lighting Ordinance even if any pre-existing outdoor lighting would normally be exempt under the provisions of the ordinance. This would basically require shielding

of any exterior lighting fixtures such that glare will not be visible from the surrounding property for any lighting element that exceeds 450 lumens, the equivalent of a 40-watt incandescent bulb. This does not apply to any existing outdoor security lighting that is timed for short durations and activated by motion detectors.

11. The Commissioners have indicated their expectation for a local contact's response to complaints should be made very clear to the applicant and the local contact. In light of this, they have recognized a need for the local contact to sign and return a Local Contact Acknowledgment Form in an effort to clarify their role as it relates to the VRD's conditions of approval.

12. Pet-friendly rentals can create problems for neighboring property owners if the pets are allowed to run at large, trespass onto neighboring property, or cause a disturbance due to excessive barking when left unattended.

13. Repeatedly violating the conditions of approval could render the use incompatible with the surrounding uses and undermine the basis for approving the request. The conditions of approval could include provisions that would allow the permit to be suspended and/or revoked by the Planning Director or his designee in the event the conditions are repeatedly violated. Such action would be subject to review by the Planning Commission at the applicant/owner's expense.

14. Outdoor fire rings, fireplaces, hot tubs, & spas can lead to late-night disruption in neighborhoods where sound seems to carry even more at night and people talk loudly. Smoke from outdoor fires can also be annoying to the occupants of neighboring properties. Staff routinely requires owners and managers to establish hours of use for these types of outdoor facilities to avoid late-night use and suggest limiting their use between the hours of 10:00 p.m. & 7:00 a.m.

15. There is a formal process to bring VRDs back before the Planning Commission for reconsideration based on noncompliance with VRD standards & conditions. The City encourages reporting problems with VRDs to the local responsible party and/or owner so problems can be resolved before any City action is required. If there are problems with a VRD that are not being resolved, staff can take actions intended to resolve the issues and can ultimately bring the matter before the Planning Commission if they are not resolved. Prior to review by the Commission, staff works with the owner and/or manager to try and address any noncompliance issues in an effort to address neighboring property owners' concerns. Past action by the Commission reiterated that additional conditions should be applied conservatively. They believe staff and the Commission can address additional conditions after a VRD is approved if and when an issue arises, instead of attempting to address every potential concern that may never actually come to fruition.

16. This area was not identified by the City Council or the Planning Commission as a residential area where VRDs should be discouraged due to the destabilizing impacts caused by repetitive property flipping within neighborhoods where the majority of homes are owned by local residents or distinct factors applicable to a defined neighborhood that would conflict with the intent of the Comprehensive Plan & Zoning Ordinance.

17. The Seaside Planning Commission has established a waiting period for new applicants applying for a VRD permit on properties that were not previously licensed and newly constructed properties. This property was not previously licensed for VRD use so the applicant was subject to a 90-day waiting period prior to an application being accepted. The applicant closed on the house on May 27, 2021.

CONCLUSION:

The Vacation Rental Dwelling and Variance requirements have been adequately addressed by the applicant and the request can be approved subject to the following list of special and standard recommended conditions of approval

RECOMMENDED CONDITIONS:

1. **COMPLIANCE INSPECTION:** The proposed vacation rental dwelling (VRD) must pass a compliance inspection conducted by the Community Development Department prior to any transient rental. This inspection will verify compliance with all VRD standards and conditions of approval and the applicant is hereby advised that failure to meet certain standards can result in a reduction in the maximum occupancy. The final occupancy will be noted in the land use file (769-22-000022PLNG) and reflected on the City of Seaside Business License. The license is not valid until the appropriate occupancy has been established by the approval of a final compliance inspection by the Community Development Department.

   Please be advised the VRD has undergone a preliminary compliance inspection. Any corrections noted during the inspection must be completed and verified prior to transient rental unless an alternative time period for completion is identified for specific items.

2. **PARKING SPACES:** Four (4) off-street parking spaces (9ft X 18ft per space) are required on site. These spaces shall be permanently maintained and available on-site for use by the vacation rental occupants. Vacation Rental Dwelling (VRD) tenants are required to park in the spaces provided on-site for the VRD. No on-street parking associated with this VRD is allowed at this location. Vehicles parked at VRDs may not project over the sidewalk and block pedestrian traffic. A parking map shall be posted inside the dwelling for the VRD tenants. The map must clearly indicate:

   ON-STREET PARKING CANNOT BE USED BY RENTERS. PLEASE USE THE SPACES PROVIDED ON-SITE.

3. **MAXIMUM NUMBER OF OCCUPANTS:** Ten (10) persons regardless of age. The maximum occupancy, along with good neighbor rules, shall remain posted inside the front door in a conspicuous place. It is the owner's responsibility to ensure the renters are aware of these limitations. If the number of occupants is less than the original number requested, it may have been reduced for valid code reasons.

4. **APPLICABILITY OF RESTRICTIONS:** Properties licensed for VRD use will be expected to adhere to the VRD standards and rules throughout the entire year even when they are not being rented for profit. This will not apply to the dwellings when members of the owner's family are present.

5. **OPEN YARD AREAS:** Front, side, and rear yards must maintain a residential appearance by limiting off-street parking within yard areas. At least 50% of each yard area that is not occupied by buildings must be landscaped in some fashion so parking will not dominate the yard.

   ☒ **The applicant has requested a variance to this requirement.**

6. **LOCAL CONTACT:** The applicant has not named a local contact at this time. The applicant will need to name a local contact and provide their information to all property owners within 100ft prior to any transient rental. The local contact must be available 24 hours a day to address compliance issues while the property is rented. Upon any change in the local contact, the owner must provide formal notice of the updated contact information to the City and all of the neighboring property owners within 100ft. Managers are required to notify the city any time they stop representing a VRD.

   Local contact information is available at the Community Development Department (503) 738-7100, City Hall (503) 738-5511, or after business hours at the Seaside Police Department (503) 738-6311.

   The local contact must sign a Local Contact Acknowledgement Form that indicates they are aware of the Planning Commission's expectations concerning response to complaints by neighboring residents and maintain a complaint response log that would be made available to the city upon request. The signed form must be returned to the Community Development Department so it can be included in the land use file. An updated form must be submitted by the owner any time a new contact person is established.

7. **COMPATABILITY:** A VRD will be compatible with the surrounding land uses and shall not contribute to excessive parking congestion on site or along adjacent streets.

8. **EXTERIOR OUTDOOR LIGHTING:** All exterior lighting must conform to the adopted Outdoor Lighting Ordinance even if any pre-existing outdoor lighting would normally be exempt under the provisions of the ordinance. This will

basically require shielding of any exterior lighting fixtures such that glare will not be visible from the surrounding property for any fixture that exceeds 450 lumens, the equivalent of a 40-watt incandescent bulb.

9. **ORDINANCE COMPLIANCE & SOLID WASTE PICK-UP:** All vacation rentals must comply with City ordinances regarding noise, smoke, dust, litter, odor, and solid waste collection. Weekly solid waste pick-up is required during all months.

10. **REQUIRED MAINTENANCE:** It is the property owner's responsibility to assure that the vacation rental dwelling remains in substantial compliance with Oregon State requirements for the following: Health, Safety, Building, and Fire Codes, Traveler's Accommodation Statutes, and with the Uniform Housing Code. Owners are hereby advised that Carbon Monoxide detectors must be installed and maintained in all transient rental occupancies.

11. **PERMIT NON-TRANSFERABILITY:** Vacation rental dwelling permits are personal in nature and accordingly are not transferable. Upon transfer of the property, the new owner, if he or she so desires, may apply for a new permit in accordance with City Ordinance.

    ☒ **Although the conditional use for the VRD is not transferable, the variance approval will remain with the property upon transference to a new owner and is valid for any future request.**

12. **BUSINESS LICENSE, ROOM TAX REQUIREMENTS & REVOCATION FOR NON-PAYMENT:** A City Business License is required and all transient room tax provisions apply to VRDs. The business license must be obtained prior to any rental of the property. Renewals must be made in January of the permit year. If the business license fee or the transient room tax payments are thirty (30) days past due, the VRD Permit will be revoked unless a written extension is granted by the Finance Director.

    Some web-based booking platforms (Airbnb, VRBO, etc.) collect and remit transient room tax directly to the city on behalf of VRD owners/applicants. It is the responsibility of the owners/applicants that utilize these platforms to report this revenue on their quarterly returns.

13. **CONFLICTS & POTENTIAL DENIAL FOR NON-COMPLIANCE:** Upon receipt of two written complaints from two or more occupants of different residences who claim to be adversely affected by the use of the property as a vacation rental dwelling, or by notice from the City Code Compliance Officer that requirements or conditions of approval are not being met, the Planning Department will work with the parties involved to settle any conflicts. If the problems are not resolved, the permit will be reviewed by the Planning Commission as provided in Zoning Ordinance Section 6.137, Subsection 5 at the applicant's expense. Failure on the applicant's part to meet the standards or conditions will result in modification or denial of the permit.

14. **COMPLAINTS:** Applicants are hereby advised the City Code Compliance Officer routinely follows up on individual complaints if there is a valid code issue that needs to be addressed by the owner and/or manager of a VRD. Staff does not wait until the occupants of two different residences submit written complaints before they take action to achieve compliance. The VRD complaint procedures are outlined in an attachment to the notice of decision and an electronic complaint form can also be accessed on the City of Seaside's website:

    www.cityofseaside.us/VRDComplaint

    This form should be used to report alleged violations that are not being addressed by the local contact or property manager.

15. **TIME PERIOD FOR APPROVAL, REQUIRED RE-INSPECTION:** This VRD will be subject to an annual compliance inspection (subject to an applicable fee) during the second year of operation to ensure it maintains compliance with the VRD policies, conditions of approval, and ordinances applicable at the time of re-inspection. Re-inspection notices will be provided annually to the owner and the local contact. Failure to schedule an inspection or failure to correct any deficiencies identified during the inspection will result in the expiration of the conditional use permit and a new application must be approved prior to obtaining a business license to allow the use. Any new application will be subject to the VRD policies, conditions of approval, and ordinances applicable as of the date the new application is accepted.

16. **TSUNAMI INFORMATION &WEATHER RADIO:** The owner shall post or otherwise provide a tsunami evacuation map in a conspicuous location within the VRD that clearly indicates "You Are Here". In addition, a NOAA weather radio, with automatic alert capabilities, must be provided in a central part of the VRD along with an informational sheet that summarizes the warning capabilities of the radio in the event of a distant tsunami.

17. **GRACE PERIOD:** If a currently licensed VRD sells to another party, staff is allowed to grant a temporary grace period of not more than 90 days in which current bookings can be cleared without being recognized as a violation. The manager or owner must provide staff with a list of the bookings during the grace period and no additional bookings can be taken during that time.

18. **PET-FRIENDLY RENTAL:** If the rental allows pets and they generate complaints related to running at large, trespassing onto neighboring property, or causing a disturbance due to excessive barking; additional restrictions or containment measures will be required by the Planning Director. The additional restriction can include prohibiting pets at this VRD.

19. **REPEATED VIOLATION OF CONDITIONS:** As a conditionally permitted use, owners must understand their use is expected to comply with their conditions of approval and they, their local contacts, and/or property managers will be held accountable for addressing compliance issues. Repeated violations will be subject to citations; and if the violations constitute a pattern of disregard or neglect resulting in adverse impacts to the neighboring property owner(s), their permit can be suspended and/or revoked by the Planning Director or his designee. Any such action would be subject to review by the Planning Commission to determine if the use can be reauthorized in the same manner as the original request, but subject to revised conditions. Review by the Commission would be at the applicant's expense based on the review fee applicable to the request at the time of review.

20. **OUTDOOR FIRE RINGS, FIREPLACES, HOT TUBS, & SPA FACILITIES:** If these outdoor facilities are provided, their use will only be allowed between the hours of 7:00 a.m. & 10:00 p.m. These hours must be posted along with any other established rules governing the use of the amenity. It is recommended the rules include a reminder there should be NO EXCESSIVE NOISE AT ANY TIME and renters should be considerate of the residents that live around the rental dwelling they are staying at.

    If these hours prove to be insufficient to protect the neighboring property owners from unwanted noise or smoke, they will be further restricted by staff. The additional restriction can include prohibiting the use of the outdoor facility entirely by VRD tenants.

N. Recommendation and Alternatives:

Staff Recommendation:

Staff recommends the Planning Commission conduct a public hearing on the application, take public comments, and review and discuss the request. Unless submitted comments or other clarifications or justifications are needed, staff recommends the Commission adopt the findings, justification statements, and conclusions in this report and approve the applicant's request subject to the listed conditions.

Although they are not conditions of approval, the following is a reminder to the applicant.

- The conditional use will become void one (1) year from the date of the decision unless the permit is utilized or an extension of time is approved in the manner prescribed under the Seaside Zoning Ordinance.
- All necessary permits (such as structural, plumbing, mechanical, electrical, etc.) must be obtained prior to development.
- As with any permit, the applicant must meet all applicable standards in the Seaside Zoning Ordinance (e.g. erosion control, drainage, setbacks) and any other applicable City of Seaside Ordinances.

Alternative 1:

The Planning Commission may choose to continue this request to the regularly scheduled September 5, 2023, Planning Commission meeting to allow the Commission time to review submitted evidence or to allow

the applicant, other affected parties, and the public, additional time to review or submit further evidence, rebuttals, or justifications.

Alternative 2:

The Planning Commission may choose to hold the public hearing and review additional submitted comments or evidence. If new evidence justifies denial of the applicant's request, the Planning Commission could move to deny this application.

The information in this report and the recommendation of staff is not binding on the Planning Commission and may be altered or amended during the public hearing.

RECEIVED
12/29/22
Anne

Seaside Planning Department
Land Use Application

Office: 503-738-7100 **E-mail: CDAdmin@CityofSeaside.us** **Fax: 503-738-8765**

Mailing Address: 989 Broadway Seaside, OR 97138 **Physical Address:** 1389 Avenue U Seaside, OR 97138

Name of Applicant:	Address:		Zip Code:
Robert Leatherman	2175 South Prom	Seaside, OR	97138

Street Address or Location of Property: 2175 South Prom Seaside, OR 97138

Zone	Overlay Zones	Township	Range	Section	Tax Lot
R3		6.10.28AB.00400			61028BA00400

Proposed Use of Property and Purpose of Application:

primarily my personal home. Will rent at short time intervals when I am not there.

(Attach additional pages if necessary.)

Owner	Applicant/Representative (Other than Owner)
Print Name of Property Owner: Robert Leatherman	Print Name of Applicant/Representative:
Address: 2175 South Prom	Address:
Phone: 765.667.9594	Phone:
E-mail: meleatherman@yahoo.com (please do not use email)	E-mail:
Signature of Property Owner:	Signature of Duly Authorized Applicant/Representative:

FOR OFFICE USE ONLY—DO NOT WRITE BELOW THIS LINE.

☐ Conditional Use	☐ Non-Conforming	☐ Subdivision	☐ Zoning Code Amendment
☐ Landscape/Access Review	☐ Planned Development	☐ Temporary Use	☐ Zoning Map Amendment
☐ Major Partition	☐ Property Line Adjustment	☒ Vacation Rental ☐ PC ☒ PD	☐ Appeal
☐ Minor Partition	☐ Setback Reduction	☒ Variance	☐

Planning Department Use	
Date Accepted as Complete: 07.07.23	By: J. Flory
File Number: 000022-PLNG VRD	
Hearing Date: August 1, 2023	P.C. Action:

City of Seaside
Planning Approval
By: Anne McBride
05/09/2023

Vacation Rental Dwelling Property Information

VRD Address: 2175 South Prom Seaside, OR 97138

1. **TOTAL NUMBER OF BEDROOMS:** 4

2. **TOTAL NUMBER OF OFF-STREET PARKING SPACES:** 4
   a. VRDs are required to have a minimum of two parking spaces (each space must be 9'x18') plus one additional space for each bedroom in the dwelling over two bedrooms.

3. **OCCUPANCY REQUESTED** (OVER THE AGE OF THREE) : 10
   a. To calculate your maximum occupancy, multiply the number of bedrooms by 3. If the number of parking spaces is less than the number of bedrooms, calculate your occupancy by multiplying the number of parking spaces by 3.

4. **DO THE REQUIRED OFF-STREET PARKING SPACES TAKE UP MORE THAN 50% OF THE VRD'S REQUIRED YARD AREAS?**
   Yes_____ No X

5. **DO YOU HAVE ANY OWNERSHIP IN ANY ADDITIONAL PROPERTIES IN THE CITY OF SEASIDE?**
   Yes_____ No X
   If yes what are the property addresses? _____

6. **DO YOU HAVE OWNERSHIP IN ANY OTHER SHORT-TERM RENTALS?** Yes X No_____
   If yes, what City/County/State are they located in?
   Eastport / Washington County / Maine

7. **WHO WILL BE THE LOCAL CONTACT FOR YOUR VRD?**
   (Your local contact must reside within Clatsop County.)
   Name TBD Address_____ 24-hr Phone_____

8. **ATTACH SCALE DRAWINGS OF YOUR SITE PLAN, FLOOR PLAN, AND PARKING MAP.**

By signing this application, the applicant acknowledges that if the request requires review by the Planning Commission (Seaside Zoning Ordinance 6.137E), additional Planning Commission review fees may apply and the applicant or a duly authorized representative must attend the Public Hearing. The applicant has answered these questions truthfully and to the best of their knowledge and the applicant understands that omitting information on this application could be grounds for denial of their request for VRD Conditional Use Permit.

Applicant Signature: _____ **Date:** 12-29-2022

Printed Name: Robert Leatherman

City of Seaside
Planning Approval
By: Anne McBride
05/09/2023

Parking Map

2175 South Prom

PROM

PROM

PROM

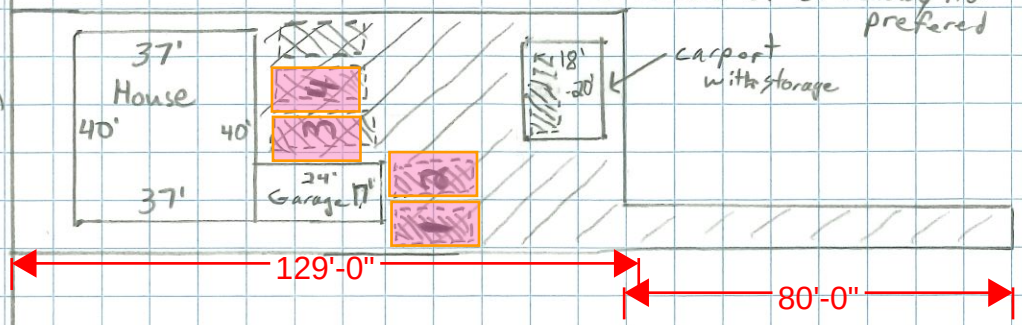
N

□ = 10 feet

▨ = Driveway

▨ = parking spots

- less ideal spots on remainder of driveway not prefered



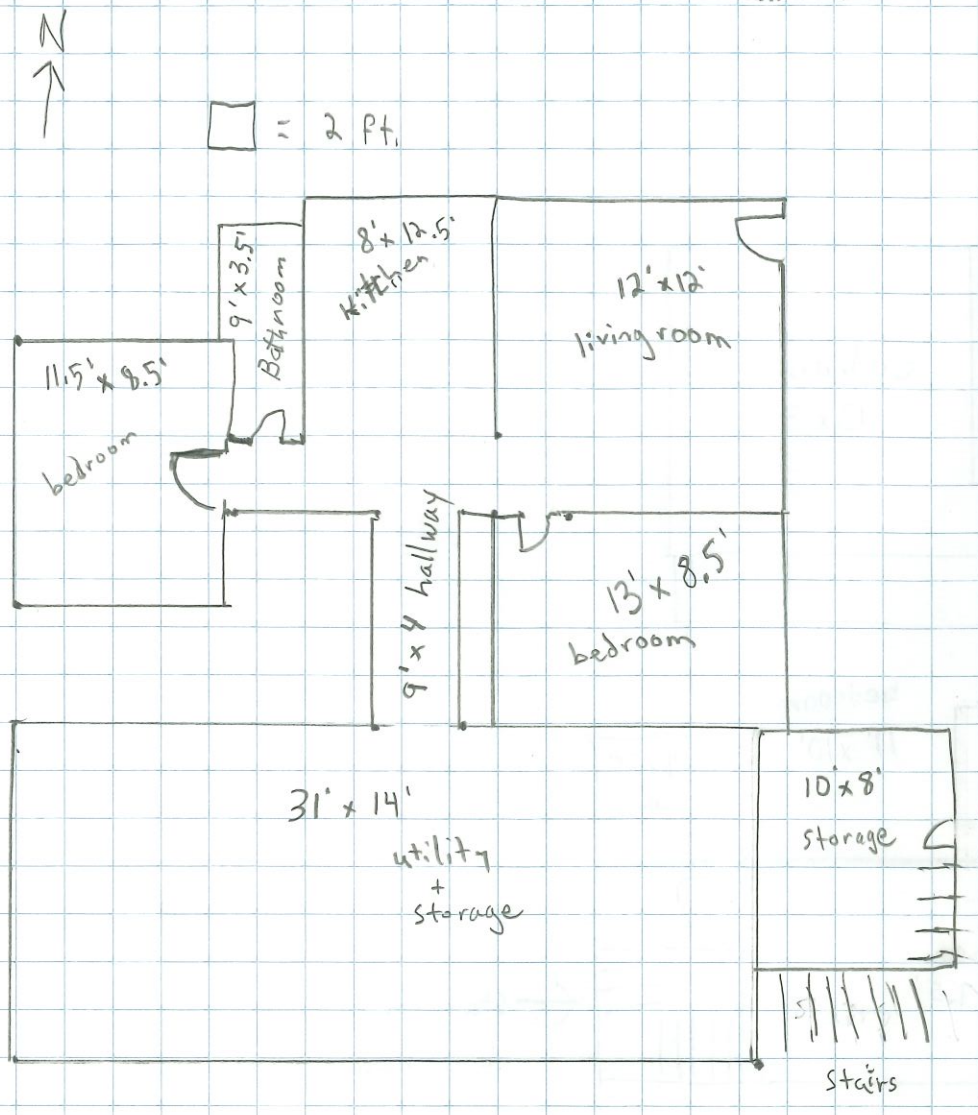
Beach Drive

← entrance to driveway

Beach Drive

ON-STREET PARKING CANNOT BE USED BY RENTERS

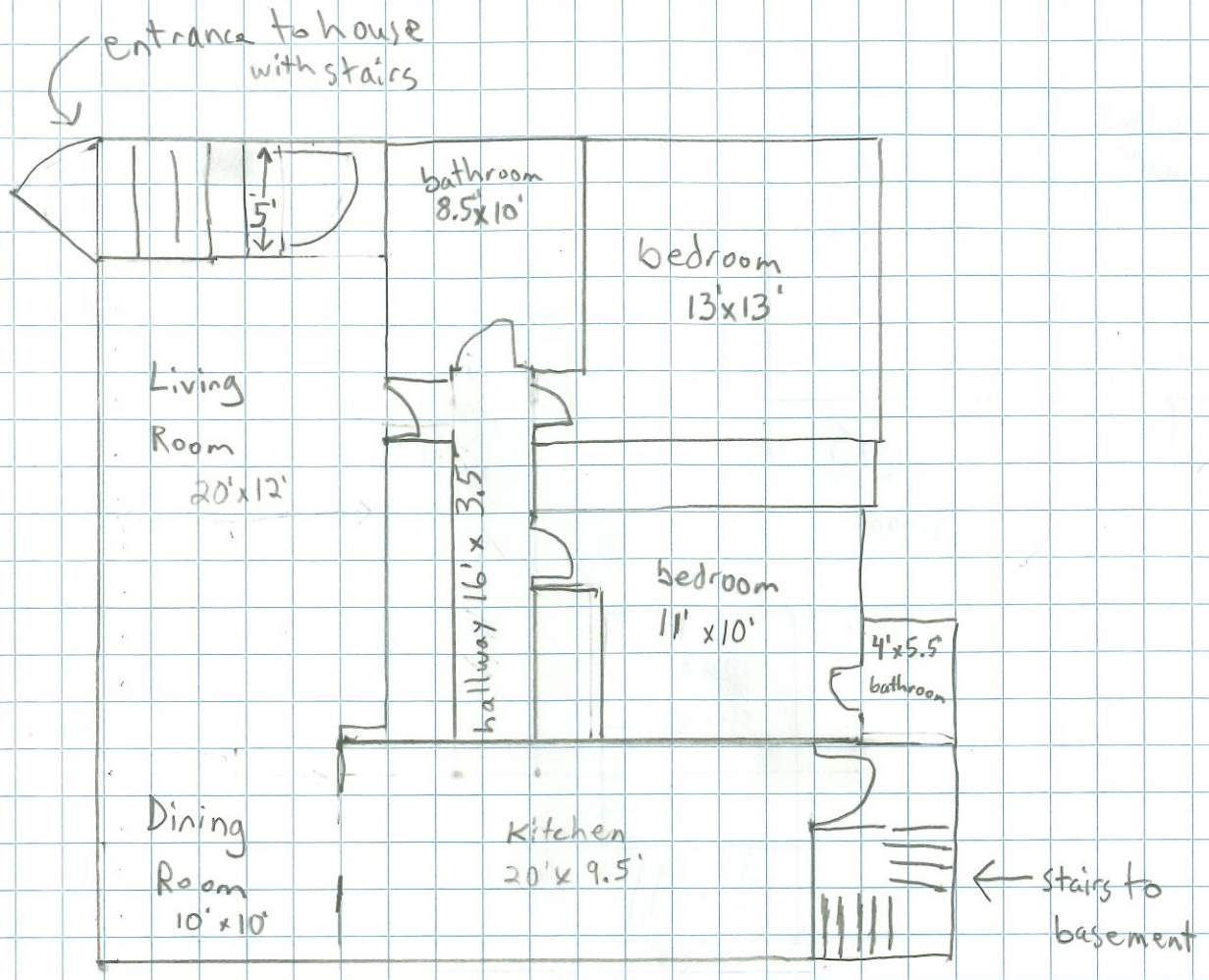
Basement Floor Plan



N

Main Floor Plan

□ = 2 ft



Seaside Planning Department
Land Use Application

Office: 503-738-7100 **E-mail: CDAdmin@CityofSeaside.us** **Fax: 503-738-8765**

Mailing Address: 989 Broadway Seaside, OR 97138 **Physical Address:** 1389 Avenue U Seaside, OR 97138

Name of Applicant:	Address:		Zip Code:
Robert Leatherman	2175 South Prom	Seaside, Oregon	97138

Street Address or Location of Property:
2175 South Prom Seaside, Oregon 97138

Zone	Overlay Zones	Township	Range	Section	Tax Lot
RR			6.10.28AB	.00400	

Proposed Use of Property and Purpose of Application:

"Flag" shaped property lot with back of house driveway only 10 feet wide. 10 feet does not meet 50% requirement for backyard landscaping, as required for VRD permit. I am requesting a variance to exempt landscaping requirement for this property.

(Attach additional pages if necessary.)

Owner	Applicant/Representative (Other than Owner)
Print Name of Property Owner: Robert Leatherman	Print Name of Applicant/Representative:
Address: 2175 South Prom Seaside, Oregon 97138	Address:
Phone: 765.667.9594	Phone:
E-mail: meleatherman@yahoo.com	E-mail:
Signature of Property Owner:	Signature of Duly Authorized Applicant/Representative:

FOR OFFICE USE ONLY—DO NOT WRITE BELOW THIS LINE.

- ☐ Conditional Use
- ☐ Landscape/Access Review
- ☐ Major Partition
- ☐ Minor Partition
- ☐ Non-Conforming
- ☐ Planned Development
- ☐ Property Line Adjustment
- ☐ Setback Reduction
- ☐ Subdivision
- ☐ Temporary Use
- ☐ Vacation Rental ☐ PC ☐ PD
- ☒ Variance
- ☐ Zoning Code Amendment
- ☐ Zoning Map Amendment
- ☐ Appeal
- ☐

Planning Department Use	
Date Accepted as Complete: 06.14.23	By: J. Flory
File Number: 23-000022-PLNG VRD	
Hearing Date: August 1, 2023	P.C. Action:

RECEIVED
City of Seaside Planning Department
By: Anne McBride
5.8.2023

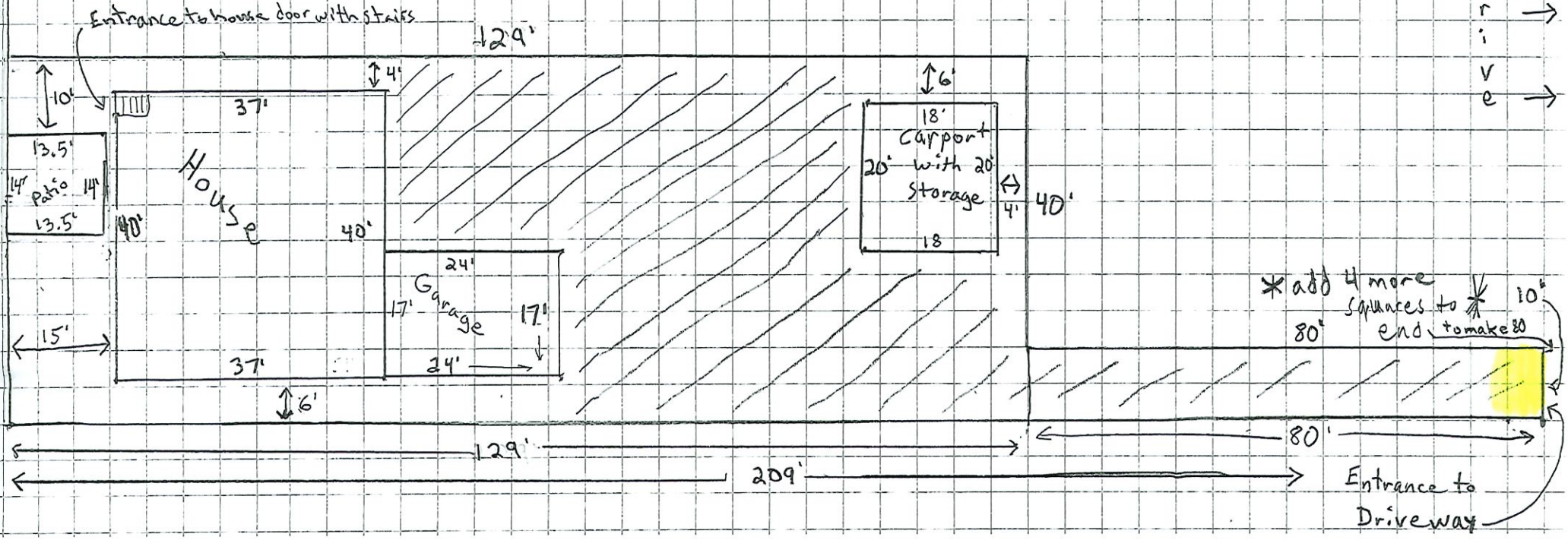
Site Plan

Robert Leatherman
2175 South Prom
Seaside, OR 97138

= 5 feet

= driveway with parking

*Note: additional parking in garage + carport (2 more cars)
(Total of 14+ cars can fit on paved driveway with parking



2175 So. Prom

ARTICLE 7 VARIANCES FEE: $ 430.00 Planning Director Decision $670 for Planning Commission Decision

The Planning Director may authorize variances from the requirements of the Seaside Zoning Ordinance where it can be shown that, owing to special and unusual circumstances related to a specific piece of property, strict application of the Ordinance would cause an undue or unnecessary hardship.

No variance shall be granted to allow the use of property for a purpose not authorized within the zone in which the proposed use would be located.

In accordance with Article 7.031, a variance shall not be granted unless and until the following standards are met. The property owner must demonstrate by written application that all of the following circumstances exist. Please address how your request complies with the following standards.

1. What exceptional or extraordinary circumstances apply to the property that do not apply generally to other properties in the same zone or vicinity, and result from lot size or shape, legally existing prior to the date of this Ordinance (6/28/83), topography, or other circumstances over which the applicant had no control?

   Flag shaped lot with back yard driveway to Beach Drive that is 10 ft. wide. Does not meet 50% landscape requirement.

2. Which literal interpretations of the provisions of this Ordinance would deprive the applicant of rights commonly enjoyed by other properties in the same district under the terms of this Ordinance?

   Limited by driveway only 10 ft. wide.

3. Are these special conditions and circumstances a result of the actions of the applicant?

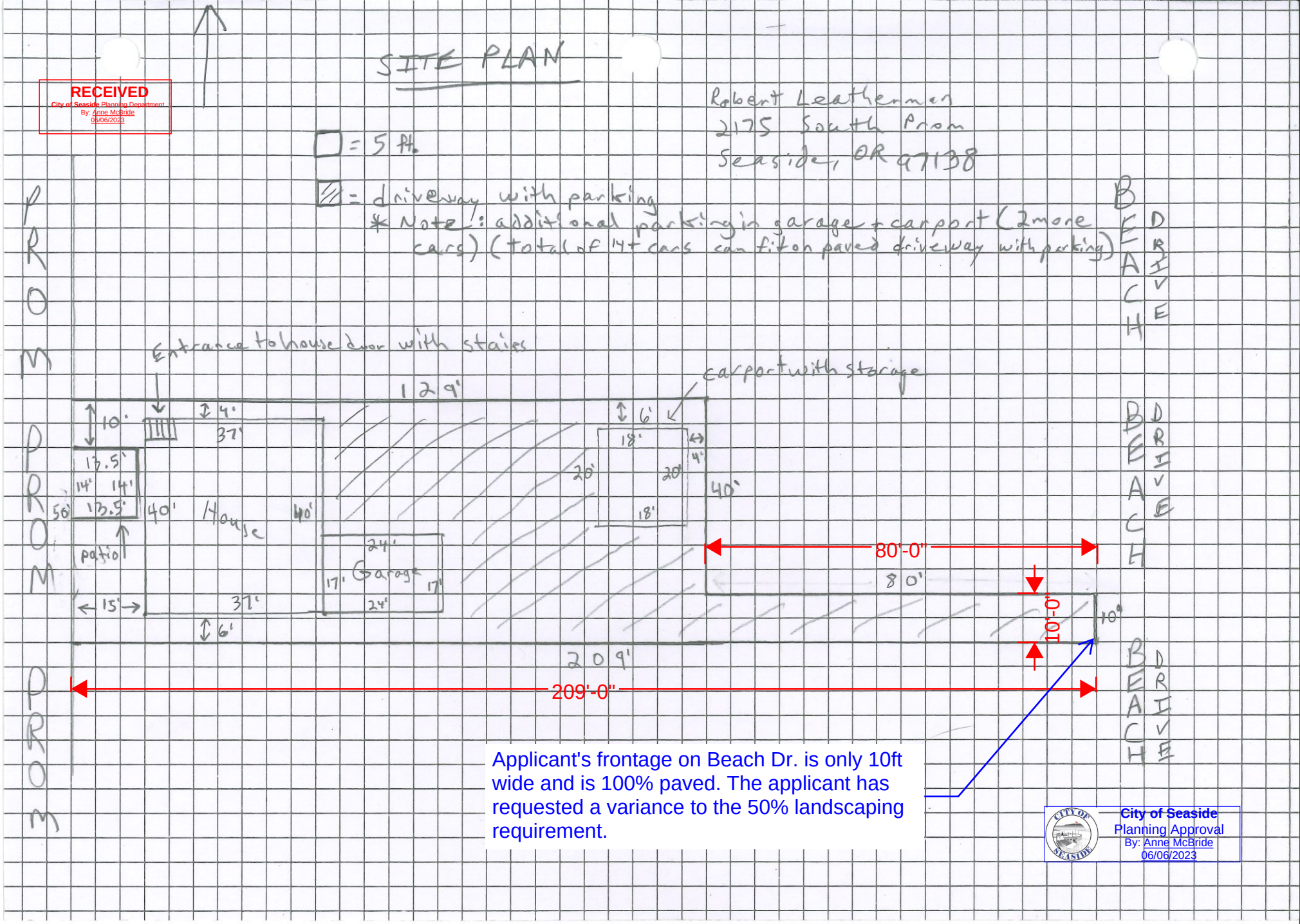
   No.

4. Is there any evidence that granting the variance will not confer on the applicant any special privilege that is denied by this Ordinance to owners of other lands, structures, or buildings in the same district? No nonconforming use of neighboring lands, structures, or buildings in the same district and no permitted use of land, structures or buildings in other districts shall be considered grounds for issuance of a variance.

   Asking for permission to grant for variance to enable to have permitted as VRD.

In addition to addressing the standards above, applications shall be accompanied by plans and specifications (plot plan), drawn to scale, showing the actual shape and dimension of the lot to be built upon, the sizes and locations on the lot of the buildings and other structures, existing and proposed, the existing and intended use of each building, structure, and/or part thereof, the number of families, if any, to be accommodated thereon, and such other information as is needed to determine conformance with this Ordinance.

RECEIVED
City of Seaside Planning Department
By: Anne McBride
06/14/2023


SITE PLAN
RECEIVED
City of Seaside Planning Department
By: Anne McBride
06/06/2023
Robert Leathermen
2175 South Prom
Seaside, OR 97138
= 5 ft.
= driveway with parking
* Note: additional parking in garage + carport (2 more cars) (total of 14+ cars can fit on paved driveway with parking)
PROM
BEACH DRIVE
Entrance to house door with stairs
carport with storage
129'
10'
4'
37'
13.5'
14'
14'
13.5'
50'
40'
House
40'
patio
15'
37'
6'
24'
17'
Garage
17'
24'
6'
18'
4'
20'
20'
18'
40'
80'-0"
80'
10'-0"
10'
209'
209'-0"
Applicant's frontage on Beach Dr. is only 10ft wide and is 100% paved. The applicant has requested a variance to the 50% landscaping requirement.
City of Seaside
Planning Approval
By: Anne McBride
06/06/2023

Applicant

Existing VRD

2175 S Prom 100’ Analysis

3 / 14 = 21.40%

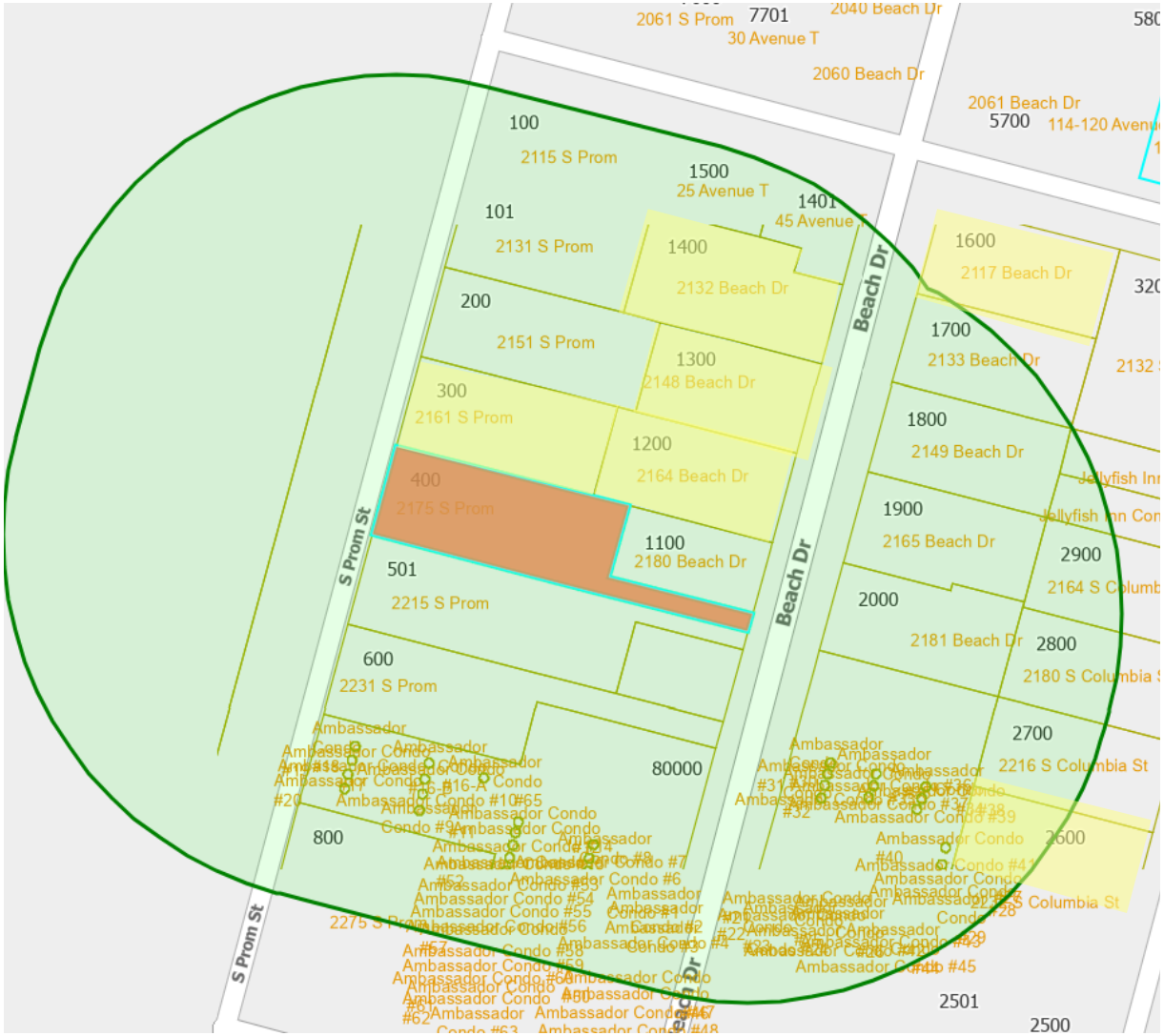
Density as of May 11, 2023

Applicant

Existing VRD

2175 S Prom 200’ Analysis

6 / 27 = 22.22%



Density as of June 6, 2023

Planning Commission
Staff Report

APPLICATION(S):	**769-23-000030 - PLNG – Conditional Use – Highway Overlay Zone - Subdivision**
MEETING DATE:	**August 1, 2023**
PUBLIC HEARING:	**Yes**
Report Date:	July 21, 2023
Applicant:	Cross Creek Land 1 LLC.
Owner:	Cross Creek Land 1 LLC.
Location:	2315 N Roosevelt Dr (6-10-15BA-TL5800)
Major Street Access:	Broadway St.
Parcel Number(s) & Size:	6-10-15BA-TL5800 / Approximately 4.59 acres
Parcel Zoning:	General Commercial (C-3)
Adjacent Zoning:	General Commercial (C-3)
Current Use of Parcel:	Vacant Land
Adjacent Uses:	General Commercial
Previous Meetings:	July 6, 2021
Previous Approvals:	Approved as a conditional use for apartments in the C-3 zone as well as for a subdivision. Approvals expired in July of 2022.
Type of Action:	Quasi-Judicial
Land Use Authority:	Planning Commission
Future Routing:	None
Planner:	Jeff Flory, Community Development Director

A. Summary:

A conditional use request by Steve Olstedt and Ryan Osburn, Cross Creek Land 1 LLC, for a 74-unit housing development (nine 6-plexes and six 4-plexes) within the General Commercial (C-3) zone. In conjunction with this request, the applicant has submitted a Highway Overlay Zone request and a preliminary subdivision plat that would create a separate lot for each building and common ownership of the access and off-street parking areas.

B. Exhibits:

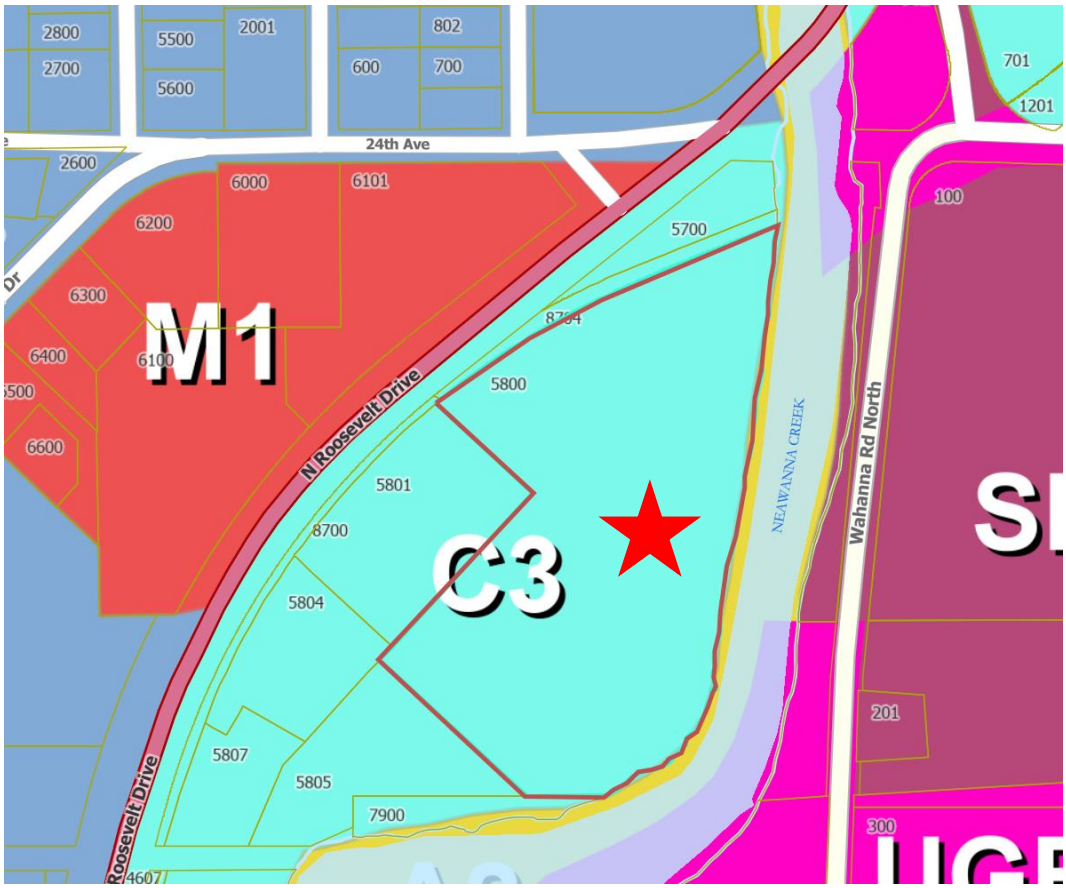
Staff Recommendation:

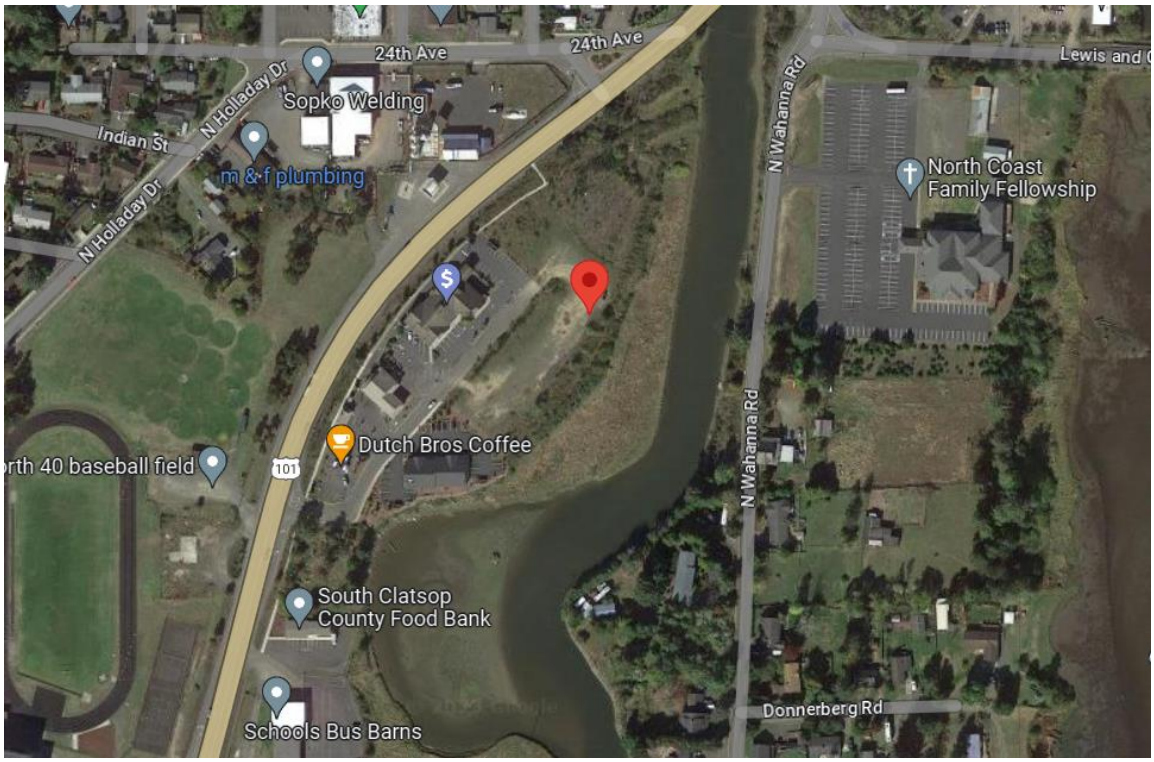
Staff recommends the Planning Commission conduct a public hearing on the application, take public comment, and review and discuss the request. Unless submitted comments or other clarifications or justifications are needed, staff recommends the Commission adopt the findings, justification statements, and conclusions in this report and approve the applicant's request subject to the listed conditions.

1. **Applicant Submittals**
2. **Site Plan**
3. **Public Comments**

Jeff Flory, Planning Director
jflory@cityofseaside.us
989 Broadway, Seaside, OR 97138
(503) 738-7100

C. Location: 2315 N Roosevelt Dr (6-10-15BA-TL5800)





D. Background:

The property is approximately 4.59 acres of vacant land that previously went through a Planning Commission review for a conditional use for apartments, a subdivision, and a highway overlay zone. The approval was granted by the Planning Commission on July 6, 2021. The approval was void after one year due to delays with the project. The current application is similar to the project that was reviewed in 2021.

The property is accessed by a private road off Hwy 101. The vacant lot borders Aquatic Conservation (A-2) zone to the east, Hwy 101 to the west, and an existing commercial development to the south.

E. Required Dates:

This application was accepted as complete on July 13, 2023. The 120-day decision timeframe is November 10, 2023.

F. Specific Request:

A conditional use request by Steve Olstedt and Ryan Osburn, Cross Creek Land 1 LLC, for a 74-unit housing development (nine 6-plexes and six 4-plexes) within the General Commercial (C-3) zone. In conjunction with this request, the applicant has submitted a Highway Overlay Zone request and a preliminary subdivision plat that would create a separate lot for each of the housing units and common ownership of the access and off-street parking areas.

G. Process:

This request is being reviewed under Article 3, Article 6, and Article 10 of the Seaside Zoning Ordinance. Article 3 establishes the development standards and the outright permitted and conditionally permitted uses within the C-3 zone. Article 6 establishes the criteria for conditional uses. Article 10 establishes the process and procedures that are applicable to this request. In addition to the requirements in the Seaside Zoning Ordinance, this review will be reviewed under Ordinance 74-36 Subdivision and Land Partitioning Ordinance Seaside, Oregon.

H. Community Review:

Notice of this public hearing was published in the Daily Astorian on July 13, 2023. Additionally, a mailed notice was sent on July 11, 2023, to all property owners within 200ft of the subject property.

Written Comments:

ODFW:

ODFW submitted a public comment requesting the applicant meet the minimum setback requirements from the estuary and wetlands and that impacts to riparian areas are avoided during construction. ODFW requests limiting access to the setback area and avoiding future impacts to the riparian area and wetlands.

Finding: *The applicant has provided a site plan that shows the setback from the Mean Higher High-Water line which is used to delineate the A-2 Zone. The applicant's proposed development is outside of that setback area. Additionally, a wetland study and delineation are provided in this site plan and the development avoids impacts to the wetland area. The developer will be required to flag these lines on-site prior to construction.*

I. Comprehensive Plan:

This project is in the General Commercial land use designation. These commercial areas are designed to be east of the Necanicum River and are areas that do not require prime locations such as the central business district or resort area. While this is generally reserved for commercial uses, apartments are a conditionally permitted use in this zone.

J. Zoning Ordinance Criteria for a Conditional Use:

Pursuant to Section 6.031 of the Seaside Zoning Ordinance, all conditional use requests must comply with the specific standards in the zone and other applicable supplementary provisions in Article 4. In

permitting a new conditional use or alteration of an existing conditional use; the Planning Commission may impose additional conditions considered necessary to protect the best interests of the surrounding area of the city as a whole. These conditions may include (but are not limited to) the following:

1. **Increasing the required lot size or yard dimension.** *Finding: The apartment complex is proposed to be constructed on 14 lots. The lots range in size from 2,625 sq. ft. to 3,195 sq ft. The applicant's site plan shows a 50,730 sq. ft. Tract 'A' that will have the ingress/egress parking and utilities for the project. Tract 'C' (96,076 sq. ft.) and Tract 'B' (7,515 sq. ft.) are provided as common open space. The C-3 zone does not specify minimum lot size requirements.*
2. **Limiting the height of buildings.** *Finding: The applicant's proposal is to install two-story and three-story 4-plex and 6-plex buildings with each building being on an individual lot. The applicant's proposed structures do not exceed the 45ft height requirement in the zone.*
3. **Controlling the location and number of vehicle access points.** *Finding: The proposed site plan will have two entrances/exits, one on the south side of the development and one at the termination of the private street.*
4. **Increasing the street width.** *Finding: The applicant's proposal will not call for the widening of any streets.*
5. **Increasing the number of required off-street parking spaces.** *Finding: The applicant plan shows the construction of 74 two-bedroom apartments. Each apartment is required to be provided with 1.5 parking spaces. The applicant's site plan provides 111 total parking spaces for this project. The applicant shows 75 standard spaces, 5 handicap spaces, and 31 compact spaces. The applicant is allowed up to 30% of the space to be compact. The applicant meets the off-street parking requirement for the project.*
6. **Limiting the number, size, location and lighting of signs.** *Finding: The applicant has submitted a lighting plan for the parking area of the project. The plan does not address any external lighting that may be attached to the buildings. All lighting for the project must meet the requirements in the Seaside Outdoor Lighting Ordinance.*
7. **Requiring diking, fencing, screening, landscaping or other facilities to protect adjacent or nearby property.** *Finding: The proposed site plan is bordered by open space, a highway, the private drive, and two existing commercial developments. The site plan shows existing fencing for the southern commercial building and no fencing for the building near the western side of the project. The applicant's proposal is to install privacy fencing to screen the refuse areas from view.*
8. **Designating sites for open space.** *Finding: The applicant's property has a significant amount of unimproved open space on the east side of the development. The open space is dominated by wetlands and is between the development and Neawanna Creek.*

Section 3.407 Highway Overlay Zone Standards

1. **Building Size: The maximum building size will be 20,000 square feet. Buildings larger than 20,000 square feet may be considered, but are subject to additional design review.** *Finding: No building is proposed to exceed 20,000 sq. ft.*
2. **Landscaping: A landscaped area must be provided along the highway frontage to assure that a buffer is provided between the development and the road surface. As a minimum requirement, the area must be equal to a 10' width multiplied by the length of the highway frontage. Any public sidewalk area provided on private property adjacent to the highway would be deducted from the required area.** *Finding: The applicant's site plan shows a landscape buffer between the development and the highway. No formal landscape plan has been submitted.*
3. **Exterior Lighting: All exterior lighting shall be designed so the lighting source or lamp is recessed or otherwise covered to eliminate line of site visibility from neighboring properties, street travel lanes, or the surrounding environment. All exterior lighting must be dark sky compliant and shielded,**

screened, or otherwise provided with cut-offs in order to prevent direct lighting on the adjacent properties, riparian area, or the state highway subject to the following exception: Line of site visibility and direct lighting of neighboring property can be permitted subject to a formal agreement with the neighboring property owner when the lighting will benefit joint parking, access, or safety. *Finding: A detailed lighting plan was submitted with the site plan however, lighting attached to the proposed buildings was not included. All lighting must comply with the City's Outdoor Lighting Ordinance.*

4. **Yards Abutting the Highway Frontage: In an effort to promote more pedestrian-oriented development, regardless of yard requirements of the underlying zone, buildings must be located close to the property line adjacent to the highway such that the property line setback for the building entrance will not exceed 10'.** *Finding: The buildings closest to the highway frontage cannot have a minimum setback of 10' from the property line because existing easements limit where the buildings can be located. It is not practical to provide a building entrance at this location based on the site or the proposed use.*
5. **Off-Street Parking: In addition to the requirements in Section 4.100, parking areas must address the specific design standards in Section 3.410.** *Finding: Off-street parking areas are not proposed between the buildings and the highway. The applicant has satisfied the parking requirements for the proposed use.*

Section 7, the tentative subdivision plan shall contain the following information:

1. **Proposed name, date, north point and scale of drawing.** *Finding: This criterion is met.*
2. **Location of the subdivision sufficient to define its location and boundaries and a legal description of the tract boundaries.** *Finding: This criterion is met.*
3. **Name and address of the subdivider.** *Finding: This criterion is met.*
4. **Appropriate identification of the drawing as a tentative plan.** *Finding: This criterion is met.*
5. **Name, business address and number of the registered engineer or licensed surveyor who prepared the plan of the proposed subdivision.** *Finding: This criterion is met.*
6. **The locations, names, widths, approximate radii of curves and grades of all existing and proposed streets and easements in the proposed subdivision and along the boundaries thereof, and the names of adjoining platted subdivisions and portions of the subdivisions as shall be necessary to show the alignment of streets and alleys therein with the streets and alleys in the proposed subdivision.** *Finding: This criterion is met.*
7. **Names of the record owners of all contiguous land.** *Finding: This criterion is met.*
8. **The approximate location and character of all existing and proposed easements and public utility facilities except water and sewer lines in the subdivision or adjacent thereto.** *Finding: This criterion is met.*
9. **The location and approximate dimensions of each lot and each to be numbered.** *Finding: This criterion is met.*
10. **Setback lines, if any, proposed by the subdivider.** *Finding: This criterion is met.*
11. **The outline of any existing buildings and their use, showing those which will remain.** *Finding: This criterion is met.*
12. **Contour lines where the data is made available by the City.** *Finding: This criterion is met.*
13. **The location of at least one temporary benchmark within the subdivision boundaries.** *Finding: This criterion is met.*
14. **City boundary lines crossing or bounding the subdivision.** *Finding: This criterion is met.*

15. **Approximate location of all areas subject to inundation or storm water overflow and the location, width, high water elevation flood flow and direction of flow of all watercourses.** *Finding: This criterion is met.*

16. **Any areas proposed to be cut or filled or otherwise graded or protected from flooding.** *Finding: This criterion is met.*

17. **If impractical to show on the tentative plan, a key map showing the location of the tract in relationship to section and township lines and to adjacent property and major physical features such as streets, railroads & water courses.** *Finding: This criterion is met.*

18. **Streets to be held for private use shall be so indicated and all reservations or restrictions relating to such private streets are fully described.** *Finding: This criterion is met.*

K. <u>Additional Findings, Conclusions, and Justification Statements:</u>

1. The applicant's submitted justification is adopted by reference and is summarized as follows:
    a. The individual building footprints are approximately 40ft x 48ft.
    b. The site plan shows nine three-story 6-plex buildings and five two story 4-plex buildings.
    c. No new ODOT accesses are proposed.
    d. Access and sidewalks are identified on the site plan and they provide access throughout the site.
    e. Site circulation provides looped traffic and pedestrian access throughout the project site.
    f. A wetland delineation has been provided by the applicant and the site plan shows the majority of the development will be outside of the identified wetland area.
    g. Five refuse areas are identified on the plan.
    h. The applicant has provided for both long and short-term bicycle parking.
2. The Conservation Aquatic (A-2) zoned area east of the upland portion of the property has a riparian setback that extends 25 feet landward of the mean higher high-water elevation (MHHW +5.01 NGVD). The Department of State Lands (DSL) can also require fill permits for any development within the identified wetland and can also require fill permits based on the highest tide datum for the estuary (+9.21 NGVD).
3. Drainage, sewer, & water provisions are included on the plan and the engineer will need to determine if all of these systems will be adequate to meet the demands within the development and the public systems they will be connected to. Required upgrades to the system would be the responsibility of the applicant.
4. The applicant has provided for off-site safety improvements for the area where the private road accesses Hwy 101.
5. The applicant's submitted justification and site plan and traffic impact study are adopted by reference. These documents address the applicable criteria in the Highway Overlay Zone.
6. The traffic impact study does indicate queueing back up significantly during periods of peak demand but their final conclusion states: *Queueing analysis of the buildout conditions shows that existing turn lanes on the highway can accommodate the additional demand generated by the proposed development. Although the queues exiting the site can be longer during the morning and evening peak hours, they are not expected to impede internal circulation or create queues of entering vehicles that could affect the highway operations*

Proposed Conditions:

The proposed softball field project will satisfy the applicable development standards and be compatible with the surrounding area provided the following conditions are attached to the approval.

Condition 1: A Hazard Mitigation Plan (HMP) will be required for lots 2-9 prior to completing a preliminary plat for the development.

Condition 2: The final plat will reference the name of the private access road subject to the approval requirements of the Clatsop County Surveyor and acceptance of the abutting property owners.

Condition 3: Fire hydrant and FDC locations will need to be approved by the Fire Marshal.

Condition 4: Minor modifications to the applicant's proposed plan must be reviewed and approved by the Planning Director. These could be required in order to comply with other code issues applicable to the request or reduce impacts to the neighboring property. Any major changes or conflicts over a proposed modification will be reviewed with the Planning Commission prior to any final approval.

L. Recommendation and Alternatives:

Staff Recommendation:

Staff recommends the Planning Commission conduct a public hearing on the application, take public comments, and review and discuss the request. Unless submitted comments or other clarifications or justifications are needed, staff recommends the Commission adopt the findings, justification statements, and conclusions in this report and approve the applicant's request subject to the listed conditions.

Although they are not conditions of approval, the following is a reminder to the applicant.

- The conditional use will become void one (1) year from the date of the decision unless the permit is utilized or an extension of time is approved in the manner prescribed under the Seaside Zoning Ordinance.
- All necessary permits (such as structural, plumbing, mechanical, electrical, etc.) must be obtained prior to development.
- As with any permit, the applicant must meet all applicable standards in the Seaside Zoning Ordinance (e.g. erosion control, drainage, setbacks) and any other applicable City of Seaside Ordinances.

Alternative 1:

The Planning Commission may choose to continue this request to the regularly scheduled September 5, 2023, Planning Commission meeting to allow the Commission time to review submitted evidence or to allow the applicant, other affected parties, and the public, additional time to review or submit further evidence, rebuttals, or justifications.

Alternative 2:

The Planning Commission may choose to hold the public hearing and review additional submitted comments or evidence. If new evidence justifies the denial of the applicant's request, the Planning Commission could move to deny this application.

The information in this report and the recommendation of staff is not binding on the Planning Commission and may be altered or amended during the public hearing.

Seaside Planning Department
Land Use Application

Office: 503-738-7100 **E-mail:** CDAdmin@CityofSeaside.us **Fax: 503-738-8765**

Mailing Address: 989 Broadway Seaside, OR 97138 **Physical Address:** 1389 Avenue U Seaside, OR 97138

Name of Applicant:	Address:	Zip Code:
Cross Creek Land 1	33485 SW Old Pine Dr Warrenton	97146

Street Address or Location of Property:
Adjacent to 2297 N Roosevelt Dr Seaside OR 97138

Zone	Overlay Zones	Township	Range	Section	Tax Lot
c3 general Commercial	HWY overlay	6 N	10 W	15 BA	5800

Proposed Use of Property and Purpose of Application:
multifamily 6 and 4 plex units. 2 and 3 story buildings
44'x 48' Parking, landscape, utilites

(Attach additional pages if necessary.)

Owner	Applicant/Representative (Other than Owner)
Print Name of Property Owner: Cross Creek land 1	Print Name of Applicant/Representative: Ryan Osburn / Steve Olstedt
Address: 33485 sw old Pine Dr Warrenton	Address: Same
Phone: 503-738-2522	Phone: Same
E-mail: grosburn@hotmail.com	E-mail: grosburn@hotmail.com / steveolstedt@gmail.com
Signature of Property Owner: Ryan Osburn member	Signature of Duly Authorized Applicant/Representative: Ryan Osburn

FOR OFFICE USE ONLY—DO NOT WRITE BELOW THIS LINE.

- [x] Conditional Use
- [ ] Non-Conforming
- [ ] Subdivision
- [ ] Zoning Code Amendment
- [ ] Landscape/Access Review
- [ ] Planned Development
- [ ] Temporary Use
- [ ] Zoning Map Amendment
- [ ] Major Partition
- [ ] Property Line Adjustment
- [ ] Vacation Rental ☐ PC ☐ PD
- [ ] Appeal
- [ ] Minor Partition
- [ ] Setback Reduction
- [ ] Variance
- [x] Hwy Overlay Zone

Planning Department Use		
Date Accepted as Complete: 07/13/23	By: J. Flory	
File Number: 769-23-000030-PLNG		
Hearing Date: August 1, 2023	P.C. Action:	

Office Use		
Fee:		Receipt:
Date Filed:	Time Filed:	By:

SECTION 3.400 HIGHWAY 101 OVERLAY ZONE FEE:$ 670.00

ACCESS REVIEW

The Planning Commission will do a site review of all proposed developments within 200' of Roosevelt Drive (Highway 101) whenever they will cause a significant number of vehicle trips. For the purpose of this review, a significant number of trips is 30 trips per day or 5 trips per hour. This review is intended to determine compliance with the City of Seaside Transportation System Plan and consider impacts of the development on the traffic carrying capacity and safety of Hwy 101.

The City of Seaside and the State Highway Division shall cooperate during the review of the proposed development to ensure the standard of the Overlay Zone are upheld. Certain actions will require the additional submittal of a Traffic Impact Analysis (TIA) in accordance with Section 3.406.1, A & B. These include:

(i) Proposed developments generating vehicle trips that equal or exceed 600 daily trips or 100 hourly trips; or

(ii) Proposed zone changes or comprehensive plan changes; or

(iii) An onsite review by the Oregon Department of Transportation Region Manager, or authorized designee, indicates that operational or safety problems exist or are anticipated at the development property.

1. At this time, has the Planning Director indicated that a TIA must be submitted. _____. If yes, a TIA must be included with the applicant's submittal. The scope, methodology, and process for the TIA shall be reviewed with ODOT prior to implementation. Developers are hereby advised to coordinate directly with ODOT's Development Review Coordinator.

2. Plan Submittal Requirements:

   a. A minimum of ten hard copies and one electronic copy of the proposed development plan must be submitted showing: streets, driveways, sidewalks, pedestrian ways, drainage facilities, off-street parking and loading areas; location and approximate dimensions of structures, utilization of structures, including activities and the number of living units; major landscaping areas; relevant operational data, drawings and/or elevations clearly establishing the scale, character and relationship of buildings, streets and open space. All elements listed in this subsection shall be characterized as existing or proposed and sufficiently detailed to indicate intent and impact.

   b. Vicinity maps and information on the use and points of access utilized by any abutting property within 200 feet of the development site.

   c. A boundary survey by a registered engineer or licensed surveyor.

   d. If the final development plan will be executed in phases, a schedule thereof will be required.

Review Standards and Criteria: The planning Commission will review the submittal during a public hearing and determine whether the proposal conforms to the attached standards and criteria set forth in the U.S. 101 overlay zone.

Section 3.407 Standards. In the Highway Overlay Zone, the following standards shall apply:

1. Building Size: The maximum building size will be 20,000 square feet. Buildings larger than 20,000 square feet may be considered, but are subject to additional design review.
2. Landscaping: A landscaped area must be provided along the highway frontage to assure that a buffer is provided between the development and the road surface. As a minimum requirement, the area must be equal to a 10' width multiplied by the length of the highway frontage. Any public sidewalk area provided on private property adjacent to the highway would be deducted from the required area.
3. Exterior Lighting: All exterior lighting shall be designed so the lighting source or lamp is recessed or otherwise covered to eliminate line of site visibility from neighboring properties, street travel lanes, or the surrounding environment. All exterior lighting must be dark sky compliant and shielded, screened, or otherwise provided with cut-offs in order to prevent direct lighting on the adjacent properties, riparian area, or the state highway subject to the following exception: Line of site visibility and direct lighting of neighboring property can be permitted subject to a formal agreement with the neighboring property owner when the lighting will benefit joint parking, access, or safety.
4. Yards Abutting the Highway Frontage: In an effort to promote more pedestrian oriented development, regardless of yard requirements of the underlying zone, buildings must be located close to the property line adjacent to highway such that the property line setback for the building entrance will not exceed 10'.
5. Off Street Parking: In addition to the requirements in Section 4.100, parking areas must address the specific design standards in Section 3.410.

Section 3.408 Criteria. Development proposals shall be evaluated according to the following criteria:

1. The proposal is consistent with the purpose of the overlay zone, and protects the capacity of US 101.
2. If the proposal involves a development with frontage along US 101, the required permits from ODOT will need to be obtained prior to construction. If a permit already exists, proof of permit shall be provided to the City and ODOT. Developers are advised to coordinate with ODOT concurrently with their development proposal to discern the appropriate permit requirements. To confirm an appropriate permit, or to obtain a permit, contact the Permit Specialist at ODOT.
3. The location, design, and size of the development are such that the development can be well integrated with the surrounding transportation facilities or anticipated future developments, and will adequately address the impact of development on US 101.
4. The location, design, and size of the development are such that traffic generated by the development can be accommodated safely and is less than the mobility standard on existing or planned streets, including US 101.
5. The location, design, and size of the development are such that the proposed uses will be adequately served by existing or planned facilities or services.

6. The location, design, and size of the development are such that the proposed uses will provide functional and efficient access and circulation for anticipated pedestrians, bicycles, and vehicles.

Section 3.409 US 101 Capacity Preservation Standards

Land use applications subject to the provisions of Section 3.400 shall consider the following:

1. Transportation demand management (TDM) measures shall be strongly encouraged as a way to minimize peak hour vehicle trips. The City will compile and adopt a list of TDM measures they wish to promote in an effort to help preserve the capacity of US 101. This list will be reviewed and evaluated by the City on an annual basis.

Section 3.410 Automobile Parking Standards

1. Off-street parking, driveways, and other vehicle areas shall not be placed between buildings and the highway; except the following vehicle areas are allowed where the approval body finds that they will not adversely affect pedestrian safety and convenience:
    a. Schools, assisted living facilities, and other institutional uses may have one driveway not exceeding 20 feet in width plus parallel parking, including ADA accessible spaces, located between the street and the primary building entrance, provided that the building's primary entrance is connected to an adjacent street by a pedestrian walkway and the driveway/parking area is crossed by a clearly defined pedestrian walkway. The intent of this exception is allow driveways for particular uses that exhibit street-like features;

    b. Attached single family housing developments (townhomes) with street-facing garages may have one driveway access located between the street and the primary building entrance for every two dwelling units, provided they meet the following criteria:

        1) Where two abutting townhomes have street-facing garages, they shall share one driveway access that does not exceed 16 feet in width where it crosses the street right-of-way;
        2) All primary building entrances shall be connected to a driveway (and sidewalk) via a pedestrian walkway that is not less than six (6) feet wide;
        3) The maximum number of consecutively attached townhomes with garages facing the same street is four (4) (two driveways); and
        4) Street-facing garages shall be setback a minimum of 20 feet from the street; where a building is placed less than 20 feet from the street, the 20-foot garage setback may be accomplished by recessing the garage behind the front building elevation.

    c. Commercial buildings and uses (e.g., neighborhood commercial or mixed-use) shall be encouraged to locate all of their off-street parking located behind or to the side of such buildings and uses and screened from abutting properties. Off-street parking shall not be located between any building and US 101.

Section 3.420 Design Standards Vehicular Access and Circulation

1. Permit Requirement – Access to US 101 requires an access permit from the Oregon Department of Transportation. The access permit or a condition that requires obtaining the permit must be attached as a condition of approval to a land use decision.

2. Closure or consolidation – The City (and/or ODOT if the parcel fronts US 101) may require the closing or consolidation of existing curb cuts or other vehicle access points, installation of traffic control devices and/or other mitigation as a condition of granting an access permit, to ensure the safe and efficient operation of the transportation system.

3. Site circulation – new developments shall be required to provide a circulation system that accommodates expected traffic on site. Pedestrian connections on the site, including connections through large sites, and connections between sites (as applicable) and adjacent sidewalks, must conform to the provisions in section 4.040.

4. Joint and cross access – requirement – The number of driveway and private street intersections with US 101 shall be minimized by the use of shared driveways for adjoining lots where deemed feasible by the City. When necessary for traffic safety and access management purposes, or to access flag lots, the City may require joint access and/or shared driveways in the following situations:

    a. Shared parking areas

    b. Adjacent developments

    c. Multi-tenant developments and developments on multiple lots or parcels. Such joint accesses and shared driveways shall incorporate all of the following:

        i. A continuous service drive or cross-access corridor that provides for driveway separation consistent with the applicable ODOT access management classification system and standards

        ii. A design speed of 10 miles per hour and a maximum width of 20 feet, in addition to any parking alongside the driveway; additional driveway width or fire lanes may be approved when necessary to accommodate specific types of service vehicles, loading vehicles, or emergency service provider vehicles

        iii. Driveway stubs to property lines (for future extension) and other design features to make it easy to see that the abutting properties may be required with future development to connect to the cross-access driveway;

5. Joint and cross access – reduction in required parking allowed – when a shared driveway is provided or required as a condition of approval, the land uses adjacent to the shared driveway may have their minimum parking standards reduced by 25 percent.

6. Joint and cross access – easement and use and maintenance agreement – property owners shall:

    a. Record an easement with the deed allowing cross-access to and from other properties served by the joint-use driveways and cross-access or service drive

    b. Record an agreement with the deed that remaining access rights along the roadway for the subject property shall be dedicated to the City and pre-existing driveways will be closed and eliminated after construction of the joint-use driveway;

    c. Record a joint maintenance agreement with the deed defining maintenance responsibilities of property owners.

7. Access connections and driveway design – all driveway connections to local street right-of-way (access) and driveways shall conform to all of the following design standards:

a. Driveway width – driveways on local streets shall meet the following standards:

   i. One-way driveways (one way in or out) shall have a minimum driveway width of 10 feet, and a maximum width of 12 feet, and shall have appropriate signage designating the driveway as a one-way connection.

   ii. For two-way access, each lane shall have a minimum width of 10 feet and a maximum width of 12 feet.

b. Driveway approaches – local street driveway approaches shall be designed and located to provide exiting vehicles with an unobstructed view of other vehicles and pedestrians, and to prevent vehicles from backing into the flow of traffic on the public street or causing conflicts with on-site circulation (an exception may be provided for single family dwellings). Construction of driveway accesses along acceleration or deceleration lanes or tapers shall be avoided due to the potential for vehicular conflicts. Driveways shall be located to allow for safe maneuvering in and around loading areas. Driveway approaches to US 101 are subject to ODOT approval and must be consistent with state requirements.

c. Driveway construction – local street driveway aprons (when required) shall be constructed of concrete and shall be installed between the street right-of-way and the private drive. Driveway aprons shall conform to ADA requirements for sidewalks and walkways, which generally require a continuous unobstructed route of travel that is not less than 6' feet in width, with a cross slope not exceeding 2 percent, and providing for landing areas and ramps at intersections. Driveway Construction on US 101 is subject to requirements for access found in OAR Division 51.

8. Relocate access along local streets – upon property development or redevelopment, driveways and approaches on US 101 shall be analyzed to determine if the approach could be relocated onto a side street as far from the intersection with US 101 as possible, allowing closure of the approach on US 101.
9. Variance to Vehicular Access and Circulation Standards. Where vehicular access and circulation cannot be reasonably designed to conform to Code standards within a particular parcel, shared access with an adjoining property shall be considered. If shared access in conjunction with another parcel is not feasible, the City may grant a variance to the access requirements after finding all of the following:

   A. There is not adequate physical space for shared access, or the owners of abutting properties do not agree to execute a joint access easement;

   B. There are no other alternative access points on the street in question or from another street;

   C. The access separation requirements cannot be met;

   D. The request is the minimum variance required to provide adequate access;

   E. The approved access or access approved with conditions will result in a reasonably safe access;

   F. The visual clearance requirements of Chapter 3.1 will be met; and

   G. Variances for street access deviations shall be subject to review and approval by the roadway authority.

CONDITIONAL USE - ARTICLE 6

TYPE 2 - PLANNING COMMISSION DECISION FEE: $ 675.00

In certain districts, conditional uses may be permitted subject to the granting of a Conditional Use Permit. Because of their unusual characteristics, or special characteristics of the area in which they are to be located, conditional uses require special considerations so they may be properly located with respect to the Comprehensive Plan and to the objectives of this Ordinance.

The Planning Commission shall have the authority to approve, approve with conditions, or disapprove Conditional Use Permits in accordance with the provisions in Article 6 of the Seaside Zoning Ordinance.

In addition to those standards and requirements expressly specified by the Ordinance, the Planning Commission may impose conditions, which are necessary to protect the best interests of the surrounding area or the city as a whole. These conditions may include the following:

1. Increasing the required lot size or yard dimension.
2. Limiting the height of buildings.
3. Controlling the location and number of vehicle access points.
4. Increasing the street width.
5. Increasing the number of required off-street parking spaces.
6. Limiting the number, size, location and lighting of signs.
7. Requiring diking, fencing, screening, landscaping or other facilities to protect adjacent or nearby property.
8. Designating sites for open space.

The Planning Commission will make a determination concerning a conditional use based on the applicant's justification of the following statements:

1. What is the proposed use in the zone?
   C-3 General Commercial
   Multi family 4-plex & 6-plex
   Individual Lot

2. How will the development conform to the general development standards in Ordinance and the specific standards in the zone?
   General development standards will be followed based on the proposed use. Zone standards will be followed based on practically for the proposed use.

3. How will the development meet any of the applicable standards in Article 6?

General development standards will be followed based on the proposed use. Zone standards will be followed based on practically for the proposed use

4. Describe any additional measures (if any) the applicant will take in order to protect the interests of the surrounding area or the city as a whole.

meet city requirement and city standard.

5. Provide a site plan, drawn to scale, which indicates the following: the actual shape and dimensions of the lot, the sizes and locations of buildings and other structures (existing & proposed), the existing and intended use of each building (include floor plans), and other information need to determine conformance with the development standards in the ordinance (e.g. setbacks, parking spaces, fences, accesses, landscaping, neighboring buildings, or uses, etc.)

ATTACH EXTRA SHEETS IF NEEDED

City of Seaside, Planning Department

989 Broadway, Seaside, OR 97138 (503) 738-7100 Fax (503) 738-8765

Land Use Application

Kevin Cupples, Director

PLEASE PRINT OR TYPE

NAME OF APPLICANT	ADDRESS	ZIP CODE
Cross Creek Land 1	P.O. Box 2870 Gearhart,OR	97138

STREET ADDRESS OR LOCATION OF PROPERTY
Adjacent to 2297 N Roosevelt Dr. Seaside, OR 97138

ZONE	OVERLAY ZONES	TOWNSHIP	RANGE	SECTION	TAX LOT
C3 General Commercial	Highway overlay	6N	10W	15	5800

PROPOSED USE OF PROPERTY AND PURPOSE OF APPLICATION(S):
Multifamily 6 and 4 unit 3 story buildings 44'X48' Parking, landscape, utilities.

(PLEASE INCLUDE THE APPROPRIATE PLOT PLAN.
IF ADDITIONAL SPACE IS NEEDED OR SUPPLEMENTAL INFORMATION IS REQUIRED PLEASE ATTACH)

OWNER:	APPLICANT/REPRESENTATIVE (OTHER THAN OWNER):
PRINT NAME OF PROPERTY OWNER Cross Creek Land 1	PRINT NAME OF APPLICANT/REPRESENTATIVE Steve Olsedt
ADDRESS P.O. Box 2870 Gearhart,OR 97138	ADDRESS P.O. Box 2870 Gearhart,OR 97138
PHONE / FAX / EMAIL 503-738-2522	PHONE / FAX / EMAIL 503-738-2522 / steveolstedt@gmail.com
SIGNATURE OF PROPERTY OWNER Steve Olsedt	SIGNATURE OF APPLICANT/REPRESENTATIVE Steve Olsedt

FOR CITY USE ONLY – DO NOT WRITE BELOW THIS LINE

CHECK TYPE OF PERMIT REQUESTED:

- ☐ CONDITIONAL USE
- ☐ LANDSCAPE/ACCESS REVIEW
- ☐ MAJOR PARTITION
- ☐ MINOR PARTITION
- ☐ NON CONFORMING
- ☐ PLANNED DEVELOPMENT
- ☐ PROPERTY LINE ADJUSTMENT
- ☐ SETBACK REDUCTION
- ☐ SUBDIVISION
- ☐ TEMPORARY USE
- ☐ VACATION RENTAL
- ☐ VARIANCE
- ☐ ZONING CODE AMENDMENT
- ☐ ZONING MAP AMENDMENT
- ☐ APPEAL
- ☐

PLANNING DEPARTMENT USE:	
DATE ACCEPTED AS COMPLETE	BY
CASE NUMBER (S)	
HEARING DATE	P.C. ACTION

OFFICE USE:	
FEE	RECEIPT
DATE FILED	BY

City of Seaside, Planning Department

989 Broadway, Seaside, OR 97138 (503) 738-7100 Fax (503) 738-8765

Land Use Application

Kevin Cupples, Director

PLEASE PRINT OR TYPE

NAME OF APPLICANT	ADDRESS	ZIP CODE
Cross Creek Land 1	P.O. Box 2870 Gearhart,OR	97138

STREET ADDRESS OR LOCATION OF PROPERTY
Adjacent to 2297 N Roosevelt Dr. Seaside, OR 97138 2341 N. ROOSEVELT

ZONE	OVERLAY ZONES	TOWNSHIP	RANGE	SECTION	TAX LOT
C3 General Commercial	Highway overlay	6N	10W	15 BA	5800

PROPOSED USE OF PROPERTY AND PURPOSE OF APPLICATION(S):

Multifamily 6 and 4 unit 3 story buildings 44'X48' Parking, landscape, utilities.

(PLEASE INCLUDE THE APPROPRIATE PLOT PLAN.
IF ADDITIONAL SPACE IS NEEDED OR SUPPLEMENTAL INFORMATION IS REQUIRED PLEASE ATTACH)

OWNER:	APPLICANT/REPRESENTATIVE (OTHER THAN OWNER):
PRINT NAME OF PROPERTY OWNER Cross Creek Land 1	PRINT NAME OF APPLICANT/REPRESENTATIVE Steve Olsedt
ADDRESS P.O. Box 2870 Gearhart,OR 97138	ADDRESS P.O. Box 2870 Gearhart,OR 97138
PHONE / FAX / EMAIL 503-738-2522	PHONE / FAX / EMAIL 503-738-2522 / steveolstedt@gmail.com
SIGNATURE OF PROPERTY OWNER	SIGNATURE OF APPLICANT/REPRESENTATIVE Adam Daily for Olstedt

FOR CITY USE ONLY – DO NOT WRITE BELOW THIS LINE

CHECK TYPE OF PERMIT REQUESTED:

- ☒ CONDITIONAL USE
- ☐ LANDSCAPE/ACCESS REVIEW
- ☐ MAJOR PARTITION
- ☐ MINOR PARTITION
- ☐ NON CONFORMING
- ☐ PLANNED DEVELOPMENT
- ☐ PROPERTY LINE ADJUSTMENT
- ☐ SETBACK REDUCTION
- ☐ SUBDIVISION
- ☐ TEMPORARY USE
- ☐ VACATION RENTAL
- ☐ VARIANCE
- ☐ ZONING CODE AMENDMENT
- ☐ ZONING MAP AMENDMENT
- ☐ APPEAL
- ☒ Highway Overlay Zone

PLANNING DEPARTMENT USE:	
DATE ACCEPTED AS COMPLETE 6/4/21	BY JAS
CASE NUMBER (S) 21-085CU, 21-036HO2	
HEARING DATE 7/6/21	P.C. ACTION

OFFICE USE:	
FEE 675.00	RECEIPT 17582
DATE FILED 6/4/21	BY JAS

CONDITIONAL USE - ARTICLE 6

TYPE 2 - PLANNING COMMISSION DECISION — FEE: $ 675.00

In certain districts, conditional uses may be permitted subject to the granting of a Conditional Use Permit. Because of their unusual characteristics, or special characteristics of the area in which they are to be located, conditional uses require special considerations so they may be properly located with respect to the Comprehensive Plan and to the objectives of this Ordinance.

The Planning Commission shall have the authority to approve, approve with conditions, or disapprove Conditional Use Permits in accordance with the provisions in Article 6 of the Seaside Zoning Ordinance.

In addition to those standards and requirements expressly specified by the Ordinance, the Planning Commission may impose conditions, which are necessary to protect the best interests of the surrounding area or the city as a whole. These conditions may include the following:

1. Increasing the required lot size or yard dimension.
2. Limiting the height of buildings.
3. Controlling the location and number of vehicle access points.
4. Increasing the street width.
5. Increasing the number of required off-street parking spaces.
6. Limiting the number, size, location and lighting of signs.
7. Requiring diking, fencing, screening, landscaping or other facilities to protect adjacent or nearby property.
8. Designating sites for open space.

The Planning Commission will make a determination concerning a conditional use based on the applicant's justification of the following statements:

1. What is the proposed use in the zone?

Wholesale or heavy commercial use on the fringe of central business district.

2. How will the development conform to the general development standards in Ordinance and the specific standards in the zone?

General development standards will be followed based on the proposed use. Zone standards will be followed based on practicality for the proposed use. Non standard zone requirements, 3.085 article 4?

3. How will the development meet any of the applicable standards in Article 6?

A.M. Engineering

Technical Memorandum

To:	Seaside Planning Commission
From:	Adam Dailey
Copies:	1
Date:	8/2/2021
Subject:	Cross Creek Subdivision
Project:	20028, Cross Creek

Purpose

The purpose of this memo is to provide a preliminary outline for the Declaration of Covenants, Conditions, and Restrictions (CC&Rs) for the Seaside Planning Commission's consideration. The final draft of the CC&Rs will significantly conform to this outline but shall provide additional details as the declarant deems necessary through the project's development. Additional document administrative sections will be provided such as are typically found in CC&Rs.

Draft CC&Rs Outline

PROPERTY SUBJECT TO DECLARATION

Declarant hereby declares that all of the real property is owned and shall be owned, conveyed, encumbered, used, occupied and improved subject to this Declaration.

HOME OWNER'S ASSOCIATION ("ASSOCIATION")

- Declarant shall organize an association of all owners within the legal boundaries of the Subdivision.
- Every person or entity who is an Owner of any Lot shall be a Proprietary Member of the Association.
- The Owners of each Lot shall pay the designated assessments levied by the Association.
- The Association shall have one class of voting membership: Voting Members shall be all Proprietary Members including the Declarant as to their initial ownership of lots prior to sale, their successors and assigns.

PROPERTY RIGHTS IN THE COMMON PROPERTIES

- Every Proprietary member (Owner of a Lot) and Associate Member shall have a right and easement of enjoyment in and to the Common property.
- Open space as designated on the plat. Said space shall be considered a Common Property. Common Property shall be subject to the right of common access by owners of all Lots within the Subdivision in accordance with the restrictions and regulations governing such use as set forth below.

COVENANT FOR MAINTENANCE ASSESSMENTS

- Lot Owner is deemed to covenant and agree to pay the Association regular annual or other regular periodic assessments or charges as established by the Association from time to time.
- Each such assessment, together with interest, costs, and reasonable attorney fees, shall also be the personal obligation of the person who was the Owner of such Lot at the time such assessment became due.
- The assessments levied by the Association shall be used exclusively for the purpose of promoting the recreation, health, safety, enjoyment, and protection of the residents, guests, and Lot Owners of the Subdivision and in particular for the maintenance of Common Property and the integrity of the Subdivision. Maintenance of the property shall include providing the garbage and recycling services located in the refuse areas within the common lot.
- The annual assessment may be established by a vote of the members.
- If the Association has any common profits at the end of any fiscal year, the Board of Directors place such funds in reserve for future use by the Association. No profits may be distributed to the Lot Owners/Members.
- If any Owner of a Lot or portion of a Lot fails to pay the respective dues, assessments, fees, or charges, made by the Association according to the terms of their agreement with the Declarant and in accordance with the terms and conditions of this Declaration of CC&Rs of the Subdivision within 30 days, then the Association, or the party paying the cost on behalf of the property of the defaulting party may be enforced upon compliance with the terms and conditions set forth herein.

RESIDENTIAL COVENANTS

- Open space shall be exempt from assessments.
- Lots shall only be used for residential purposes as permitted by City Ordinance.
- Restrictions on Development of Lots and the Structure:
    - Structures, including siding, will be consistent throughout the subdivision. Plans will be provided by the declarant in order for purchasers to maintain the standards.
- Parking of boats, trailers, campers, truck campers, trucks (excepting pickup trucks), recreational vehicles or equipment shall not be allowed in excess of 72 hours, nor shall repair of the same be permitted on any Lot or the Property, excepting within the confines of an enclosed garage or shop building or behind a screening fence, which shall be attached to the dwelling, garage or shop building. There shall be no overnight parking on any street in the Property development. No owner shall permit any vehicle which is in a state of disrepair to be abandoned or to remain parked upon any Lot or street in excess of 48 hours without be moved into an enclosed garage.
- Only exterior lighting provided by the Declarants plans shall be installed.
- No hunting or discharging of firearms is permitted within the Property.

- Only fencing provided by the Declarants plans shall be installed.
- The use of fireworks within the Subdivision is strictly prohibited.
- No structure of a temporary or transient character, including but not limited to tents, shacks, sheds, trailer, barn, or other out buildings or any other building not constructed or approved under the standards of the Uniform Building Code in effect at the time of placement, shall be located on any building site within the subject development.
- No noxious or offensive activity shall be carried on or upon any Lot.
- No storefront activity involving trades, crafts, businesses, professions, commercial, or similar activities of any kind shall be conducted on any Lot, nor shall any goods, equipment, vehicles, materials, or supplies be used in connection with any trade, service, or business be kept or stored on any Lot.
- No sign of any kind shall be displayed to the public view on any Lot or improvement, except one professionally made of not more than six (6) square feet advertising the Lot or single-family dwelling constructed thereon for sale or indicating the presence of a security system at the Lot.
- No animal, livestock, or poultry of any kind shall be raised, bred, or kept on any site, except dogs, cats, or other small household pets may be kept provided they are not kept, bred, or maintained in unreasonable numbers or for any commercial purposes.
- Pets are required to be controlled so as not to be a nuisance to other Owners, their guests, renters or invitees or wildlife.
- Construction of any Residence shall be completed, including exterior decoration and landscaping, within fourteen (14) months from the date of the start of such construction.
- Declarant hereby reserved to themselves, their successors and assigns, perpetual easements under, over, and across all common properties and under, over, and across strips of land running along all property lines of each Lot for the purpose of erecting, installing, constructing, maintaining, and operating drainage and irrigating systems, and pipes, wires, cables, and conduits for lights, heating, power, telephone, internet, water and any other method of conducting and performing any public or quasi-public utility service or function beneath, upon, or above the surface of each Common Property and such strips of land.

ENFORCEMENT

- In the event any Owner shall violate any provision of this Declaration, the Bylaws of the Association or other rules adopted by the Association, then the Association, acting through the Board of Directors, shall notify the Owner in writing that the violation exists and that the Owner is responsible.

MEMBERSHIP IN THE HOME OWNER'S ASSOCIATION

- The owners of all Lots within the Subdivision are designated as and required to be Members of the Association, or its successor entity.
- The membership commences when Lots are transferred from Declarant.
- Membership shall subject the Lot Owner and successors and assigns to the requirements to comply with the rules and regulations of the Association and the Bylaws in addition to the Declaration of CC&Rs for the Subdivision.

- The non-declarant Owner and the subsequent Owners of each Lot shall be required to pay all dues, fees, and assessments levied by the Association.

A.M. Engineering

13967 Marquesas Way #30
Marina del Rey, CA 90292
(503) 468-8600
adam@amengnr.com

Revision 1 May 25, 2023

Jeff Flory
Planning Director
City of Seaside
2341 N Roosevelt Dr.
Seaside, OR 97138

RE: – 21-035CU, 21-036HOZ & 21-044SUB: A Conditional Use & Highway Overlay Zone Review for a 74 Unit Apartment Complex & Subdivision within the General Commercial (C-3)

Dear Mr. Flory,

Enclosed is a copy of the Notice of Decision from the August 3, 2021 Planning Commission meeting. I have modified the document to include how each item is being addressed in this submittal.

On another matter, I received a letter from my client, Ryan Osburn, from Building Official Bob Mitchell stating that he would not provide a plan review because the plans were "lacking". Mr. Mitchell stated that he was only providing a quick look over the drawings because the application was incomplete. The plans were submitted for plan review, not for approval of the subdivision. Mr. Mitchel incorrectly assumed the scope of my services provided for the project as a civil engineer and incorrectly assigned many of the deficiencies to me. As a civil engineer, I do not provide any building architectural, mechanical, and plumbing design. My responsibility stops about 5' from the building. The lack of information provided was due to other consultants not providing the work they were hired to provide. I am not responsible for their work or assuring it gets submitted. Mr. Mitchell also incorrectly identified deficiencies in the plans that are not in actuality deficient. I can provide a point-by-point response to each of his claims if you would like to see it. I am not sure why he would say he was providing a look over and then proceed to make very detailed incorrect comments. The majority of the information is in the plans. There was at least one item he commented on that should have been forwarded to the proper department to make the decision on acceptance. This is regarding the fire access lane width which I have had experience getting waived previously on other projects.

Aside from incorrect comments on the plans, there are several instances where Mr. Mitchell insinuates that the applicant should find a different consultant. Insinuations like these are very unprofessional, especially based on incorrect information. They do not belong in a review document, much less a City of Seaside official document.

I have been contracted with the City of Warrenton for a couple of years to provide review of development projects on behalf of the Community Development Department and Public Works. In that capacity, essentially as a City employee, I provide reviews that help applicants submit plans that meet the City's requirements in order to get their projects moving so I have a reasonable expectation of what a professional review provides. I hope you will accept the civil plans and the attached NOD responses as a part of the project submittal package and ensure that your department gives the review and attention that the applicant deserves. I would also ask that the plans not be kept from the other departments so they may review and make their own review and decisions on what, if any, comments are necessary. I look

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forward to working with you to move the project forward in a productive manner contrary to this experience so far.

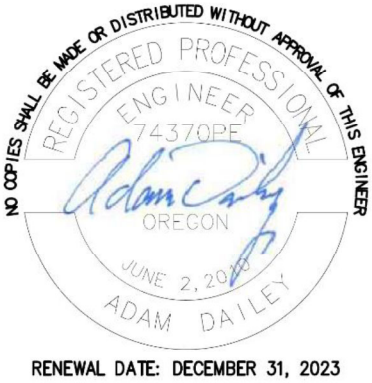
If there are any questions, please don't hesitate to call me.

Sincerely,

Adam Dailey, P.E.

Enclosures: None

Cc: Client
File
Joey Daniels, City of Seaside Fire Chief
Genesee Dennis, City of Seaside Fire Marshal
Dale McDowell, City of Seaside Public Works Director



RENEWAL DATE: DECEMBER 31, 2023

A.M. Engineering

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Marina del Rey, CA 90292
(503) 468-8600
adam@amengnr.com

COPY OF

SEASIDE PLANNING COMMISSION

NOTICE OF DECISION

Date: **August 5, 2021**

To: **Applicant & Interested Parties**

From: **Kevin Cupples, Planning Director**

Location: **2341 N Roosevelt Dr. (T6-R10-15BA-TL5800)**

RE: **21-035CU, 21-036HOZ & 21-044SUB: A Conditional Use & Highway Overlay Zone Review for a 74 Unit Apartment Complex & Subdivision within the General Commercial (C-3)**

PLANNING COMMISSION DECISION:

On **August 3, 2021**; the Seaside Planning Commission conditionally approved the above referenced requests in accordance with the provision in the City of Seaside Zoning Ordinance.

The Commission's decision was based on any written comments received prior to the hearing, the oral & written testimony provided during the hearing, the information submitted by the applicant, and the staff report. **The approval will allow the applicant to develop a 74 unit apartment complex (nine 6-plexes & five 4-plexes) at 2341 N Roosevelt Dr. The upland property is zoned General Commercial (C-3) and the preliminary subdivision plat will allow the creation of a separate lot for each of the housing units, a common ownership lot for the access and off-street parking areas, and an undeveloped open space lot along the eastern portion of the property that abuts the Neawanna Creek Estuary Conservation Aquatic (A-2) zone.**

In addition to the findings, justification statements, and conclusions adopted by the Commission; the request was approved subject to the applicant satisfying the following condition(s):

Condition 1: The applicant must provide short and long term bike parking in accordance with the provision in Appendix G of the TSP for the apartments (18 covered long term & 4 short term spaces). These are commonly incorporated into stairwells on the ground floor.

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Long Term bicycle parking is provided the individual building entrances, design by others. Short Term parking is provided as shown on civil plan sheet C4. See appendix A.

Condition 2: The applicant will need to determine what DSL permitting requirements will be necessary in order to provide the working walkway for the Fire Department. Based on this determination, a preliminary revised plan must be submitted for review in order to show the walkway can be feasibly incorporated into the proposed development plan.

As requested by the Fire department, a 4' wide walkway through the 11 private properties, centered 9' from the buildings to accommodate the fire ladders has been provided. See sheets C4, C5, C6, C7. See appendix A. The wetland boundary has been determined and concurred with by the State, see Appendix B. Determination WD2021-0124 dated 8/2/21. This condition is met.

Condition 3: The applicants engineer will need to determine if the planned drainage, sewer, & water system capacity is adequate to meet the demands within the development and the public systems they will be connected to. This determination will need to be submitted for review and approval by the Seaside Public Works Director. The plan would also need to address water quality measures that would be incorporated into the system in an effort to limit oil & sediment from entering the public storm water system or local groundwater. Required upgrades to the system would be the responsibility of the applicant.

Water System (Fire) Demand:

Neither the Fire Chief, the building designer, or the fire sprinkler system have provided the fire demand for the buildings to me. Therefore, I have assumed a minimum fire flow of 1500 gpm per the Fire Code Table B105.2. There are two existing fire hydrant lines coming off of the existing looped water main within 165 feet of the proposed 2 connections. Because these are previously accepted hydrants, it can be reasonably assumed the proposed hydrants flow a minimum flow of 1500 gpm and that the 8-inch water main is adequate to provide this flow particularly in a looped condition to these hydrants at an assumed 90 psi working pressure. Tapping two additional hydrants between these two existing hydrants will also be provided with the existing flow due to the continuity equation. The two proposed fire laterals will flow 1500 gpm each with a pressure drop at the outlet of about 11 psi. The existing water main and proposed hydrant branches are adequate to serve the development. See appendix C.

Sewer Demand:

The sewer demand calculations are based on typical values used for number of people per bedroom and gallons of waste per capita per day. A peak factor of 4 is conservatively used. The average peak demand is calculated as 0.20 cubic feet per

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second. The existing sewer pipe capacity is calculated using Manning's formula and is 0.90 cubic feet per second. The proposed sewer pipe capacity is calculated using Manning's formula and is 0.82 cubic feet per second. The existing and proposed sewer is adequate to serve the development. See appendix C.

Storm:

The storm demand calculations are included in the HYDRCAD data in appendix D. The proposed system has a demand of 2.73 cubic feet per second using a conservative storm recurrence interval of 100 years. The Existing system which connects to the proposed system has a capacity of 4.95 cubic feet per second using Manning's. The total demand on the proposed system is the sum of these systems, 7.68 cubic feet per second. The existing system downstream from the development will be upgraded with a larger pipe with a capacity of 8.05 cubic feet per second using Manning's. The existing and proposed storm drainage is adequate to serve the development. See appendix D.

This condition is met.

Condition 4: The applicant must provide a detailed exterior lighting plan. The plan must document that all exterior lighting fixtures will be designed to limit glare in accordance with the City's Outdoor Lighting Ordinance, the Highway Overlay Zone provisions, and limit lighting of the adjacent wetland area.

The lighting plan is provided, see sheet C4.6. See appendix A. This condition is met.

Condition 5: The trash and recycle area must be appropriately screened from public view or enclosed within a building(s). The capacity must meet guidelines established by Recology and additional trash and recycle areas may need to be incorporated into the development plan.

Several refuse areas have been provided, see sheet C4. See appendix A. Coordination with Recology dictated the pickup frequency, size, and number of receptacles has been used to provide adequate service. This condition is met.

Condition 6: The final plan for development must document the buildings setback from the MHHW elevation contour line.

The MHHW elevation of 5.01 NGVD (8.6' NAVD), as provided by the City, and the 25' setback is shown on sheet C4. See appendix A. This condition is met.

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Condition 7: A Hazard Mitigation Plan (HMP) will be required for lots 2-9 prior to completing a preliminary plat for the development.

The hazard mitigation plan is provided by others.

Condition 8: Minor modifications to the applicant's proposed plan must be reviewed and approved by the Planning Director. These could be required in order to comply with other code issues applicable to the request or reduce impacts to the neighboring property. Any major changes or conflicts over a proposed modification will be reviewed with the Planning Commission prior to any final approval.

The plan is fundamentally identical to the plan provided for the Planning Commission hearing and incorporates the requested changes and other minor changes made to meet the requirements of the Notice of Decision. See appendix A. This condition is met.

Condition 9: The examples of pedestrian safety measures that were provided by the applicant's traffic engineering firm must be incorporated into the access at North Roosevelt Drive, in addition to improved lighting at the north and south ends of the crosswalk, providing reflective thermal plastic slow, arrows & crosswalk demarcations, flashing crosswalk signage, approaching crosswalk along the northbound deceleration lane, and improved lighting along the future walkway north of the title company and dental office property, subject to authorization by the Oregon Department of Transportation under their permit authorization for the current access.

The safety measures presented in the Cross Creek Multifamily Development – Pedestrian Safety Plan, dated July 16, 2021 by Lancaster Mobely which have been included in the plans include:

- Install R1-5bR sign on Driveway Approach Leg
- Install High-Visibility Continental Crosswalks
- Install "SLOW" Pavement Legend at Northbound Right Turn Approach

The following safety measures recommendations are modified:

- Relocation the existing street light was not looked upon favorably by the Commission Chair as an improvement to the safety at the driveway and is not implemented in the plans.
- Additional private street lights are proposed on the private property adjacent to the access entrance, see sheet C4.6.

Note that ODOT will not allow the installation of any flashing beacons, RRFBs, or pedestrian push button activated control devices at the driveway access to the State

A.M. Engineering

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Highway. The implementation of this condition is not possible due to the Authority Having jurisdiction. See appendix A.

Condition 10: The final plat will reference the name of the private access road as Cross Creek Lane, Way, or Drive subject to the approval requirements of the Clatsop County Surveyor and acceptance by the other abutting owners. If this name is unacceptable, the alternative name must be approved by the Planning Commission at the time the final plat is reviewed.

Changing of the name is to be provided by the final plat document by others.

Although they are not conditions of approval, the following is a reminder to the applicant.

- The conditional use will become void one (1) year from the date of decision unless the permit is utilized or an extension of time is approved in the manner prescribed under the Seaside Zoning Ordinance.
- All the applicable subdivision plat approval processes must be followed in addition to obtaining and the necessary permits (such as structural, plumbing, mechanical, electrical, etc.) prior to development.
- As with any permit, the applicant must meet all applicable standards in the Seaside Zoning Ordinance (e.g. erosion control, drainage, setbacks), the Subdivision and Land Partition Ordinance, and any other applicable City of Seaside Ordinances.

APPEAL PROVISIONS:

The Planning Commission's decisions may be appealed in accordance with Section 10.068 of the Seaside Zoning Ordinance which states:

> Any action or ruling of the Planning Commission pursuant to this Ordinance may be appealed to the City Council within fifteen (15) days after Notice of Decision is provided pursuant to Section 10.066. Written notice of the appeal shall be filed with the City Auditor. If the appeal is not filed (or postmarked) within the fifteen (15) day period, the decision of the Planning Commission shall be final. If the appeal is filed, the City Council shall receive a report and recommendation on it from the Planning Commission and shall hold a public hearing on the appeal.

The appeal must be filed at the Planning Department (located at 1387 Ave. U) or mailed to 989 Broadway, Seaside, OR 97138. The appeal must include the applicable fee of $625.00.

If you have any questions regarding this decision or the appeal process, please contact the Planning Department at (503)738-7100. The Notice of Decision date and appeal deadline are listed below. Appeals must be submitted or postmarked by this deadline.

Date of Decision: August 5, 2021 **Appeal Deadline: August 20, 2021**

A.M. Engineering

13967 Marquesas Way #30
Marina del Rey, CA 90292
(503) 468-8600
adam@amengnr.com

FINAL DECISION JUSTIFICATION SUMMARY:

The Planning Commission's final decision was supported by the Applicant's submitted evidence & justification, the adopted information in the staff report, & any substantive oral or written testimony or evidence that was provided prior to or during the public hearing process. The staff report provided findings, justifications, conclusions & conditions to support the Commission's final decision, subject to any modifications. If any information in the report was modified by the Commission prior to adoption by deleting, adding, or amending the findings, conditions, or conclusions; they are noted below.

FINAL PLANNING COMMISSION DECISION MODIFICATION

In addition to the original staff report's findings, justification statements, and conclusions adopted by the Commission; the requests were approved subject to the following amendments to the information included in the staff report:

The Planning Commission added the following conditions of approval.

Condition 9: The examples of pedestrian safety measures that were provided by the applicant's traffic engineering firm must be incorporated into the access at North Roosevelt Drive, in addition to improved lighting at the north and south ends of the crosswalk, providing reflective thermal plastic slow, arrows & crosswalk demarcations, flashing crosswalk signage, approaching crosswalk along the northbound deceleration lane, and improved lighting along the future walkway north of the title company and dental office property, subject to authorization by the Oregon Department of Transportation under their permit authorization for the current access.

Condition 10: The final plat will reference the name of the private access road as Cross Creek Lane, Way, or Drive subject to the approval requirements of the Clatsop County Surveyor and acceptance by the other abutting owners. If this name is unacceptable, the alternative name must be approved by the Planning Commission at the time the final plat is reviewed.

Appendices

A.M. Engineering

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Appendix A

A.M. Engineering

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Appendix B

A.M. Engineering

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Oregon
Kate Brown, Governor

Department of State Lands
775 Summer Street NE, Suite 100
Salem, OR 97301-1279
(503) 986-5200
FAX (503) 378-4844
www.oregon.gov/dsl

August 2, 2021

Steve Olstedt
PO Box 2363
Gearhart, OR 97138

Re: WD # 2021-0124 **Approved**
Wetland Delineation Report for Apartment Building
Clatsop County; T6N R10W S15BA TL5800 (partial)
Seaside Local Wetlands Inventory, Wetland NEA-2

Dear Mr. Olstedt:

The Department of State Lands has reviewed the wetland delineation report prepared by Critical Areas Consulting for the site referenced above. Please note that the study area includes only a portion of the tax lot described above (see the attached maps). Based upon the information presented in the report and additional information submitted upon request, we concur with the wetland and waterway boundaries as mapped in Figure 6 of the report. Please replace all copies of the preliminary wetland map with this final Department-approved map.

Within the study area, one wetland (Wetland 1, totaling approximately 1.08 acres) one waterway (Neawanna River estuary), one pond (Detention Pond), and one ditch (Ditch 1) were identified. The wetland and estuary are subject to the permit requirements of the state Removal-Fill Law. Normally, a state permit is required for cumulative fill or annual excavation of 50 cubic yards or more in the wetland or below the ordinary high-water line (OHWL) of the waterway (or the 2-year recurrence interval flood elevation if OHWL cannot be determined). However, the Neawanna River estuary and all hydrologically connected wetlands (Wetland 1) are designated essential salmonid habitat; therefore, fill or removal of any amount of material within the wetland or below the Highest Measured Tide (HMT) elevation for the estuary may require a state permit. The HMT elevation for the estuary is 12.81 feet above NAVD88. In addition, the Detention Pond and Ditch 1 are above the HMT elevation and are exempt per OAR 141-085-0515(7) and (8); therefore, are not subject to these current state permit requirements. Finally, this portion of the estuary is a state-owned waterway; any activity encroaching within the submerged and submersible land may require a lease, registration, or easement to occupy state-owned land. Please contact Blake Helm at (503) 986-5288 for more information.

This concurrence is for purposes of the state Removal-Fill Law only. We recommend that you attach a copy of this concurrence letter to any subsequent state permit application to speed application review. Federal or local permit requirements may apply as well. The U.S. Army Corps of Engineers will determine jurisdiction under the Clean Water Act, which may require submittal of a complete Wetland Delineation Report.

Please be advised that state law establishes a preference for avoidance of wetland impacts. Because measures to avoid and minimize wetland impacts may include reconfiguring parcel layout and size or development design, we recommend that you work with Department staff on appropriate site design before completing the city or county land use approval process.

This concurrence is based on information provided to the agency. The jurisdictional determination is valid for five years from the date of this letter unless new information necessitates a revision. Circumstances under which the Department may change a determination are found in OAR 141-090-0045 (available on our web site or upon request). In addition, laws enacted by the legislature and/or rules adopted by the Department may result in a change in jurisdiction; individuals and applicants are subject to the regulations that are in effect at the time of the removal-fill activity or complete permit application. The applicant, landowner, or agent may submit a request for reconsideration of this determination in writing within six months of the date of this letter.

Thank you for having the site evaluated. If you have any questions, please contact the Jurisdiction Coordinator for Clatsop County, Daniel Evans, PWS at (503) 986-5271.

Sincerely,

Peter Ryan, SPWS
Aquatic Resource Specialist

Enclosures

ec: Robert Bogar, Critical Areas Consulting
City of Seaside Planning Department (Maps enclosed for updating LWI)
Brad Johnson, Corps of Engineers
Dan Cary, SPWS, DSL
Oregon Coastal Management Program (coast.permits@state.or.us)

WETLAND DELINEATION / DETERMINATION REPORT COVER FORM

Fully completed and signed report cover forms and applicable fees are required before report review timelines are initiated by the Department of State Lands. Make checks payable to the Oregon Department of State Lands. To pay fees by credit card, go online at: https://apps.oregon.gov/DSL/EPS/program?key=4.

Attach this completed and signed form to the front of an unbound report or include a hard copy with a digital version (single PDF file of the report cover form and report, minimum 300 dpi resolution) and submit to: **Oregon Department of State Lands, 775 Summer Street NE, Suite 100, Salem, OR 97301-1279.** A single PDF of the completed cover from and report may be e-mailed to: **Wetland_Delineation@dsl.state.or.us**. For submittal of PDF files larger than 10 MB, e-mail DSL instructions on how to access the file from your ftp or other file sharing website.

Contact and Authorization Information

☐ Applicant ☒ Owner Name, Firm and Address:

Steve Olstedt
PO Box 2363
Gearhart, OR 97138

Business phone # (503) 738-2522
Mobile phone # (optional)
E-mail: steveolstedt@gmail.com

☐ Authorized Legal Agent, Name and Address (if different):

Business phone #
Mobile phone # (optional)
E-mail:

I either own the property described below or I have legal authority to allow access to the property. I authorize the Department to access the property for the purpose of confirming the information in the report, after prior notification to the primary contact.

Typed/Printed Name: Steve Olstedt **Signature:** Steve Olstedt

Date: 3-2-21 Special instructions regarding site access: _____

Project and Site Information

Project Name: Map No. 61015BA05800

Latitude: 46.00910 Longitude: -123.91242
decimal degree - centroid of site or start & end points of linear project

Proposed Use:
Apartment Building

Tax Map # Map No. 61015BA0
Tax Lot(s) 5800

Tax Map #
Tax Lot(s)

Project Street Address (or other descriptive location):
Not Assigned

Township 6 Range 10 Section 15 QQ BA

Use separate sheet for additional tax and location information

City: Seaside County: Clatsop

Waterway: Neawanna River Mile: 2

Wetland Delineation Information

Wetland Consultant Name, Firm and Address:

Critical Areas Consulting
949 14th Street
Astoria, OR 97103

Phone # (360) 244-2630
Mobile phone # (if applicable)
E-mail: Rbogar@gmail.com

The information and conclusions on this form and in the attached report are true and correct to the best of my knowledge.

Consultant Signature: Robert S Bog Date: 02/18/2021

Primary Contact for report review and site access ☒ Consultant ☒ Applicant/Owner ☐ Authorized Agent

Wetland/Waters Present? ☒ Yes ☐ No Study Area size: 2.11 acres Total Wetland Acreage: 1.08

Check Applicable Boxes Below

☐ R-F permit application submitted
☐ Mitigation bank site
☐ EFSC/ODOE Proj. Mgr: _____
☐ Wetland restoration/enhancement project (not mitigation)
☐ Previous delineation/application on parcel
If known, previous DSL # _____

☐ Fee payment submitted $ _____
☐ Resubmittal of rejected report ($100)
☐ Request for Reissuance. See eligibility criteria. (no fee)
DSL # _____ Expiration date_____
☒ LWI shows wetlands or waters on parcel
Wetland ID code NEA-2

For Office Use Only

DSL Reviewer: DE Fee Paid Date: ____/____/____ DSL WD # 2021-0124

Date Delineation Received: 3 / 8 / 21 Scanned: ☐ Electronic: ☒ DSL App.# _____

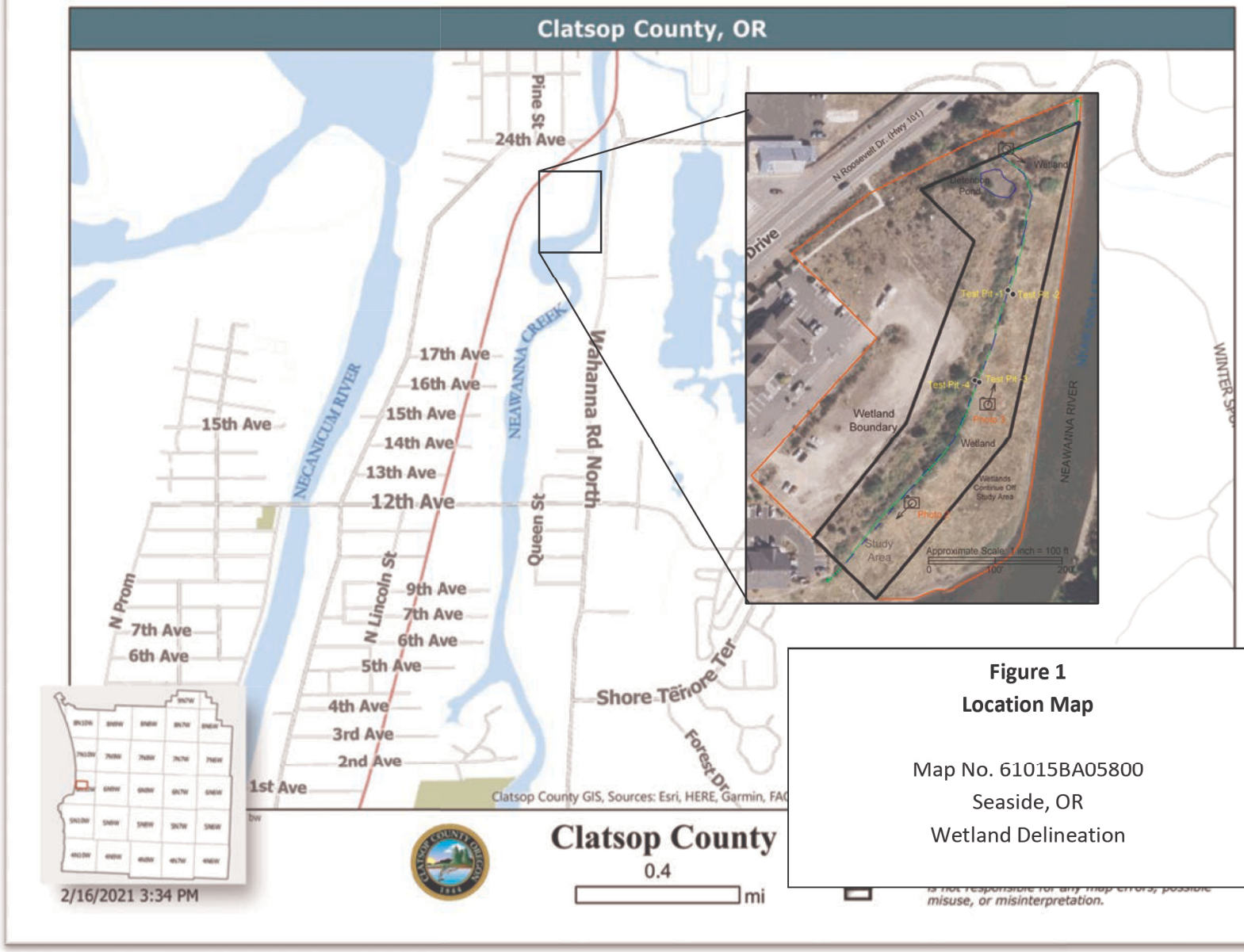


Figure 1
Location Map

Map No. 61015BA05800
Seaside, OR
Wetland Delineation

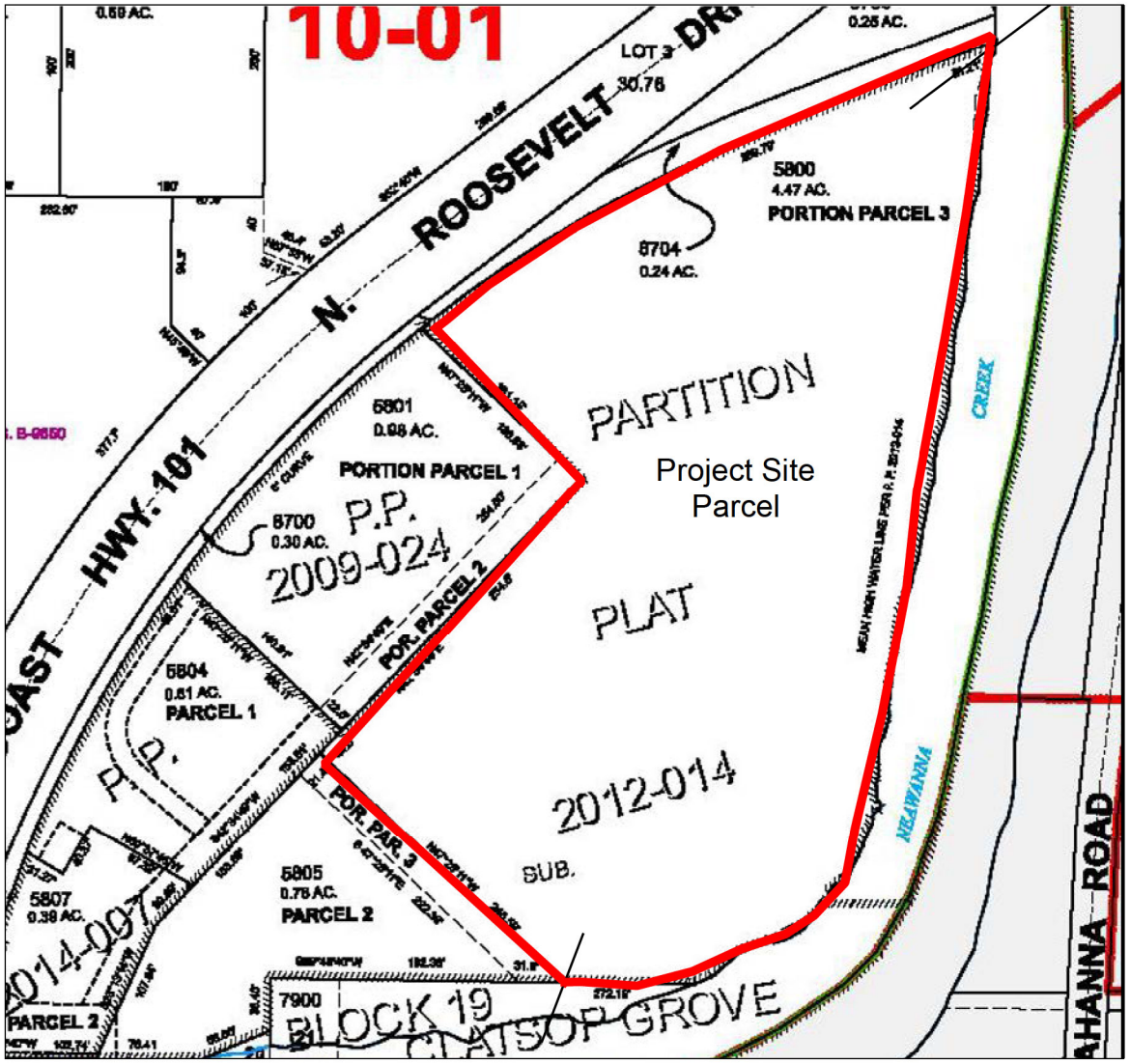


FIGURE 2: Tax Lot Map

Project: Wetland Delineation Map No.: 61015BA05800 Address: Not Assigned City/County: Seaside, Clatsop County	Field Date(s): January 19 2021 Drawing By: RSB Drawing Date: Revised 7/12/21 Report Title: Wetland Delineation	Critical Areas Consulting

DSL WD # 2021-0124
Approval Issued 08/02/2021
Approval Expires 08/02/2026

FIGURE 6:
Wetland Delineation Map

LEGEND

Parcel Boundary

Test Pit

Storm Water Detention Pond

0.034 AC

Wetland Boundary

Study Area

Ditch 1 (Dashed Line = Max OHW)

Highest Measured Tide (HMT = 12.81 NAVD)

Photograph No.(see text)
Arrow Indicates View Direction

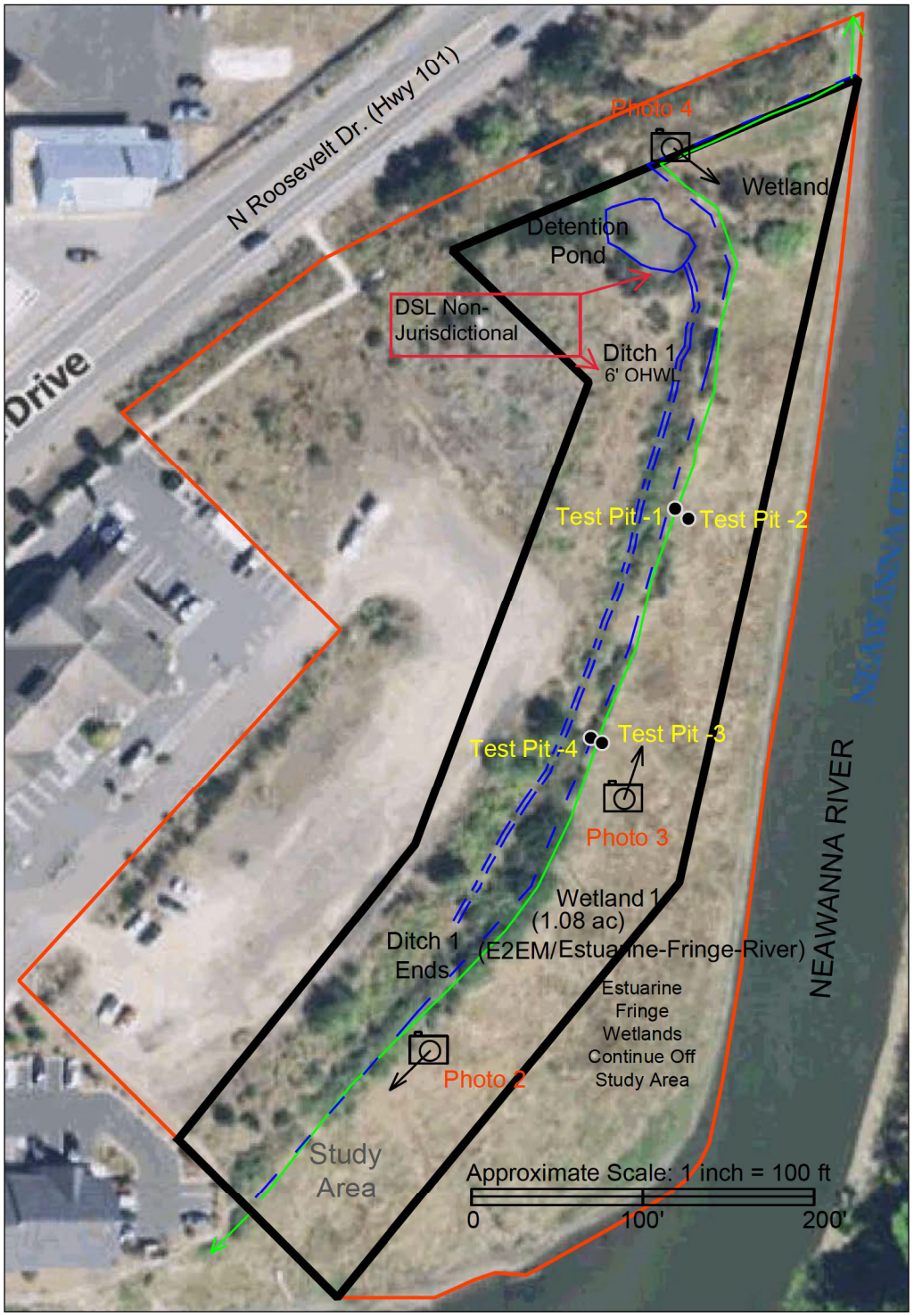
Note: The wetland boundary flagging, data plot locations, and pond top of bank were located the field using a Garmin GPS meter accurate to about ±1 meter in open conditions. The study area is accurate to within about ±4 feet with the boundary drawn based on aerial photographs using adjacent areas on each side of the wetland boundary. The ditch location was placed on the aerial photograph using surface features noted in the field and is accurate to approximately ±4 feet. Wetlands (1.08 acres) in the Study Area (2.30 acres) account for about 47% of the study area and are considered intertidal emergent wetlands. The delineated wetland continues off site to the north and south.

Field Date(s): January 19 & July 9, 2021
Drawing By: RSB
Drawing Date: Revised July 30, 2021
Report Title: Wetland Delineation

Project: Wetland Delineation
Map No.: 61015BA05800
Address: Not Assigned
City/County: Seaside, Clatsop County

Critical Areas Consulting

N



Appendix C

A.M. Engineering

A.M. Engineering

13967 Marquesas Way #30
Marina del Rey, CA 90292
(503) 468-8600
adam@amengnr.com

7/18/2022

Sewer and Water Demand and Capacity

Cross Creek Development

Sewer Demand and Capacity

Persons per bedroom (Assumed) =	1.50
Bedrooms per unit (Actual) =	2.00
Number of Units (Actual) =	74.00
Total number of bedrooms (Actual) =	148.00
Total population =	222.00
Gallons per capita per day (Assumed) =	120.00
Peak Factor (Assumed) =	4.00
Average peak demand gallons per day =	106560.00
Average peak demand gallons per hour =	4440.00
Average peak demand gallons per minute =	74.00
Average peak demand cubic feet per second =	0.20
6" Pipe Capacity at 0.4% Slope	0.82

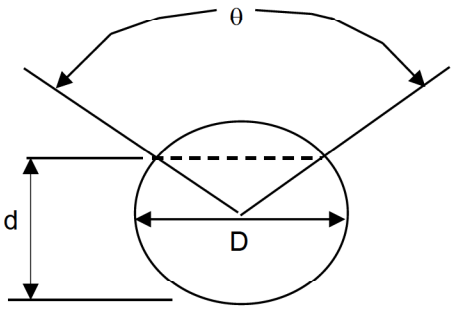
Water (Fire) Demand and Capacity

Fire flow gallons per minute demand (Assumed) =	1500.0	gpm
Existing 8" water main minimum capacity (Assumed) =	1500.0	gpm
Existing 8" water main operating pressure (Assumed) =	90.0	psi
Operating pressure at the beginning of the 6" hydrant branch = (Minor loss through the 8" to 6" treansition is neglected)	90.0	psi
Elevation Change from the branch tee to the hydrant =	5.5	ft
Pressure drop due to elevation change (Bernoulli's Equation) =	-2.4	psi
Pressure drop due to friction loss (Darcy–Weisbach equation) =	-6.6	psi
Pressure drop due to minor losses (Minor Loss Calculation for Liquids and Gases, gate valve and 90 bend) =	-1.9	psi
Total pressure drop =	-10.9	
Pressure available at the hydrant outlet =	79.1	psi

MANNING'S EQUATION FOR PIPE FLOW

Project: Cross Creek Location: Existing Sewer Pipe Capacity
By: add Date: 7/14/2022
Chk. By: Date:
mdo version 12.8.00

Clear Data Entry Cells



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d=	7.52	inches
n=	0.013	mannings coeff
θ=	56.7	degrees
S=	0.0048	slope in/in

Mannings Formula

$Q=(1.486/n)AR_h^{2/3}S^{1/2}$

R=A/P
A=cross sectional area
P=wetted perimeter
S=slope of channel
n=Manning's roughness coefficient

$V=(1.49/n)R_h^{2/3}S^{1/2}$

Q=V x A

Solution to Mannings Equation				
Area,ft^2	Wetted Perimeter, ft	Hydraulic Radius, ft	velocity ft/s	flow, cfs
0.34	1.76	0.19	2.64	0.90

Manning's n-values	
PVC	0.01
PE (<9"dia)	0.015
PE (>12"dia)	0.02
PE(9-12"dia)	0.017
CMP	0.025
ADS N12	0.012
HCMP	0.023
Conc	0.013

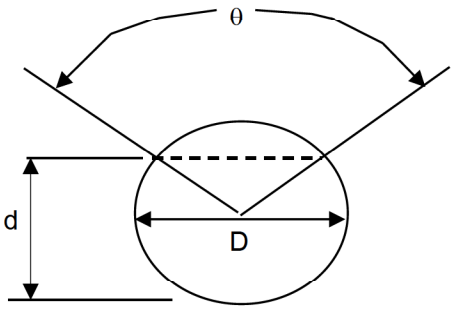
Created by: Mike O'Shea

MANNING'S EQUATION FOR PIPE FLOW

Project:	Cross Creek	Location:	Proposed Sewer Pipe Capacity
By:	add	Date:	7/14/2022
Chk. By:		Date:	

mdo version 12.8.00

Clear Data Entry Cells



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θ=	56.7	degrees
S=	0.004	slope in/in

Mannings Formula

$Q=(1.486/n)AR_h^{2/3}S^{1/2}$

R=A/P

A=cross sectional area

P=wetted perimeter

S=slope of channel

n=Manning's roughness coefficient

$V=(1.49/n)R_h^{2/3}S^{1/2}$

Q=V x A

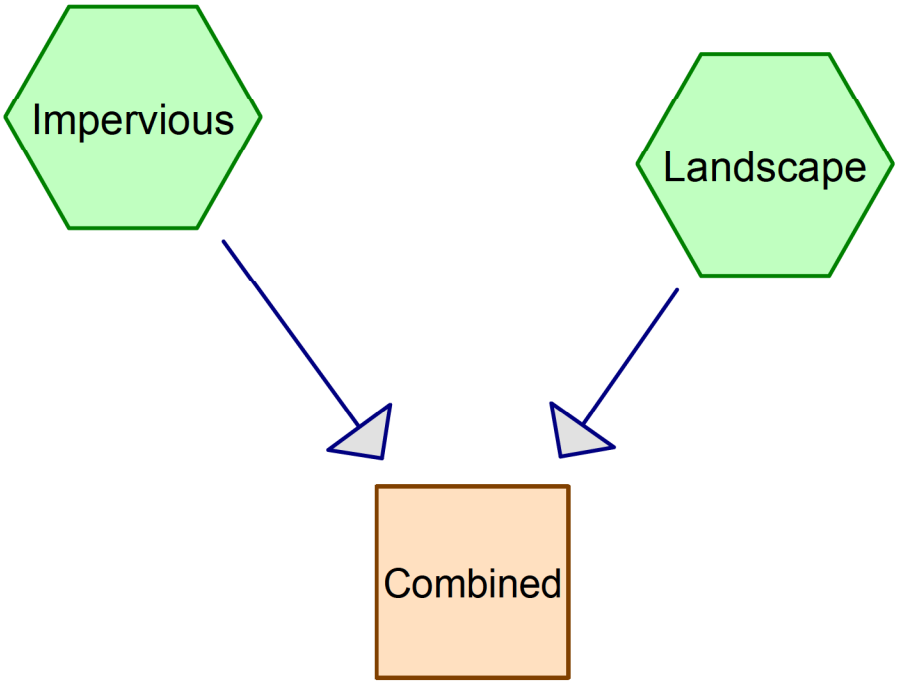
Solution to Mannings Equation				
Area,ft^2	Wetted Perimeter, ft	Hydraulic Radius, ft	velocity ft/s	flow, cfs
0.34	1.76	0.19	2.41	0.82

Manning's n-values	
PVC	0.01
PE (<9"dia)	0.015
PE (>12"dia)	0.02
PE(9-12"dia)	0.017
CMP	0.025
ADS N12	0.012
HCMP	0.023
Conc	0.013

Created by: Mike O'Shea

Appendix D

A.M. Engineering



Subcat Reach Pond Link

Routing Diagram for Cross Creek Stormwater
Prepared by A.M. Engineering, Printed 7/6/2022

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
0.679	98	Bldg (Impervious)
0.174	98	Concrete (Impervious)
0.887	98	HMAC (Impervious)
0.365	68	Open Space <50% Grass cover, Poor, HSG A (Landscape)
2.104	**93**	**TOTAL AREA**

Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
0.365	HSG A	Landscape
0.000	HSG B	
0.000	HSG C	
0.000	HSG D	
1.739	Other	Impervious
2.104		**TOTAL AREA**

Ground Covers (all nodes)

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchm Numbers
0.000	0.000	0.000	0.000	0.679	0.679	Bldg	
0.000	0.000	0.000	0.000	0.174	0.174	Concrete	
0.000	0.000	0.000	0.000	0.887	0.887	HMAC	
0.365	0.000	0.000	0.000	0.000	0.365	Open Space <50% Grass cover, Poor	
0.365	**0.000**	**0.000**	**0.000**	**1.739**	**2.104**	**TOTAL AREA**	

Time span=0.00-24.00 hrs, dt=0.01 hrs, 2401 points x 9
Runoff by SBUH method, Split Pervious/Imperv.
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment Impervious: Runoff Area=75,759 sf 100.00% Impervious Runoff Depth>5.85"
Tc=5.0 min CN=0/98 Runoff=2.52 cfs 0.848 af

Subcatchment Landscape: Runoff Area=15,908 sf 0.00% Impervious Runoff Depth>2.69"
Tc=5.0 min CN=68/0 Runoff=0.22 cfs 0.082 af

Reach Combined: Inflow=2.73 cfs 0.930 af
Outflow=2.73 cfs 0.930 af

Total Runoff Area = 2.104 ac Runoff Volume = 0.930 af Average Runoff Depth = 5.30"
17.35% Pervious = 0.365 ac 82.65% Impervious = 1.739 ac

Summary for Subcatchment Impervious:

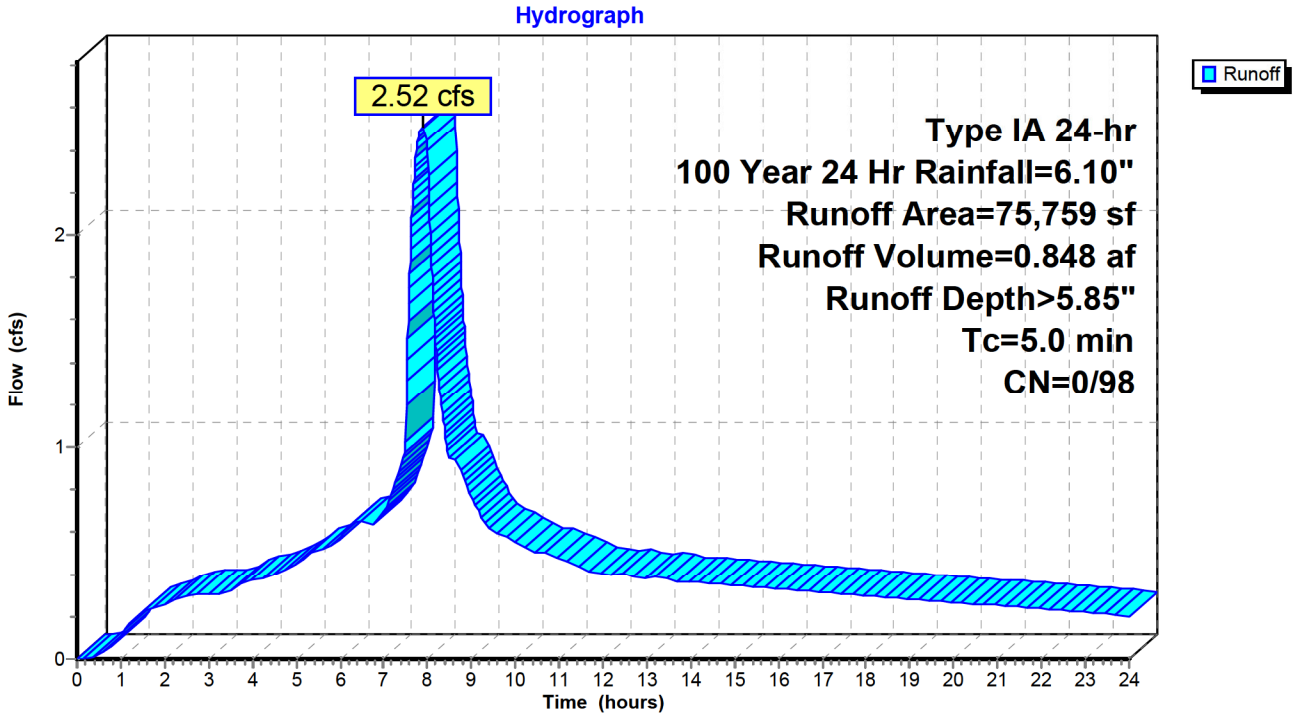
Runoff = 2.52 cfs @ 7.87 hrs, Volume= 0.848 af, Depth> 5.85"
Routed to Reach Combined :

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type IA 24-hr 100 Year 24 Hr Rainfall=6.10"

	Area (sf)	CN	Description
*	29,568	98	Bldg
*	7,561	98	Concrete
*	38,630	98	HMAC
	75,759	98	Weighted Average
	75,759		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment Impervious:



Summary for Subcatchment Landscape:

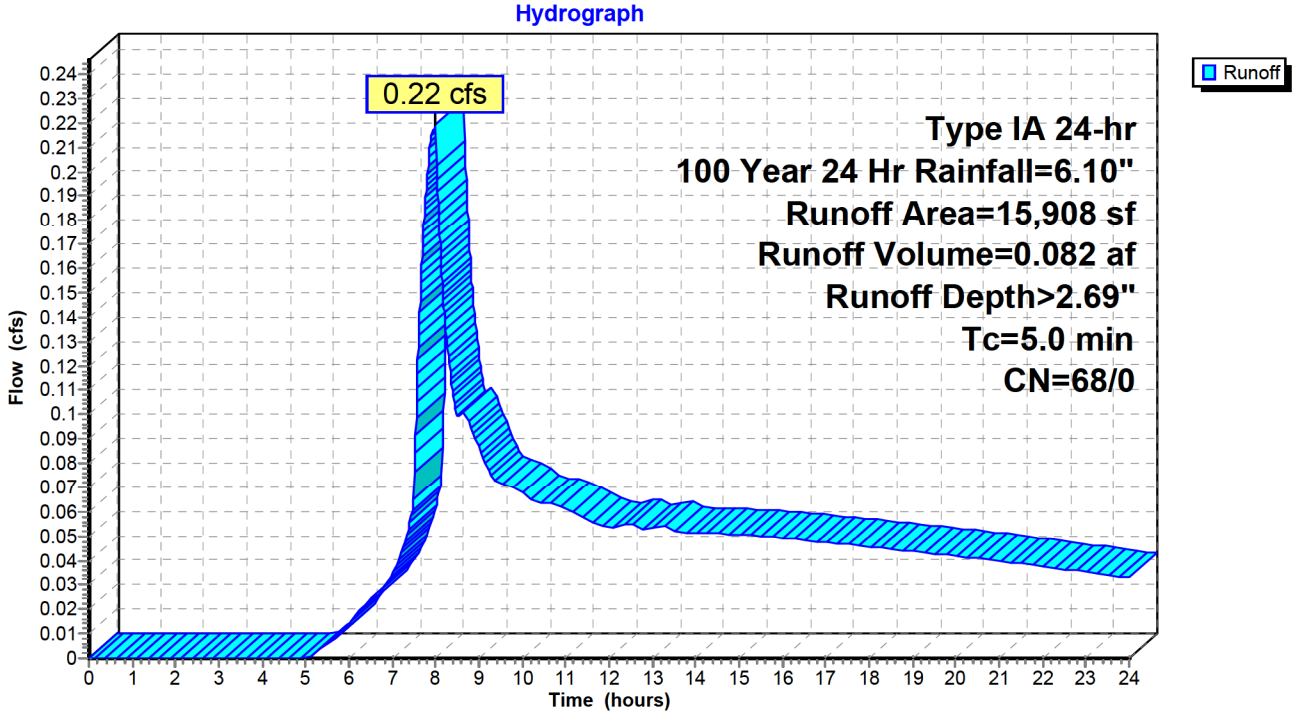
Runoff = 0.22 cfs @ 7.99 hrs, Volume= 0.082 af, Depth> 2.69"
Routed to Reach Combined :

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type IA 24-hr 100 Year 24 Hr Rainfall=6.10"

	Area (sf)	CN	Description
*	15,908	68	Open Space <50% Grass cover, Poor, HSG A
	15,908		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment Landscape:



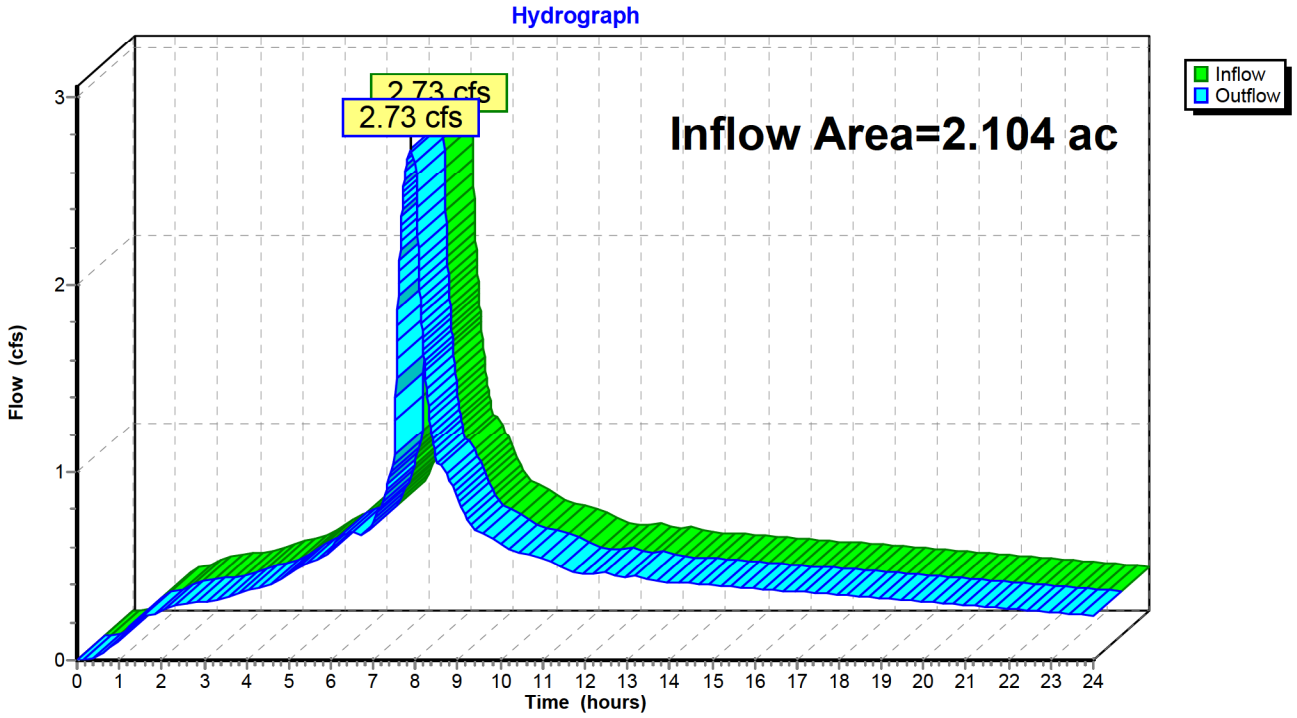
Summary for Reach Combined:

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 2.104 ac, 82.65% Impervious, Inflow Depth > 5.30" for 100 Year 24 Hr event
Inflow = 2.73 cfs @ 7.88 hrs, Volume= 0.930 af
Outflow = 2.73 cfs @ 7.88 hrs, Volume= 0.930 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs / 9

Reach Combined:

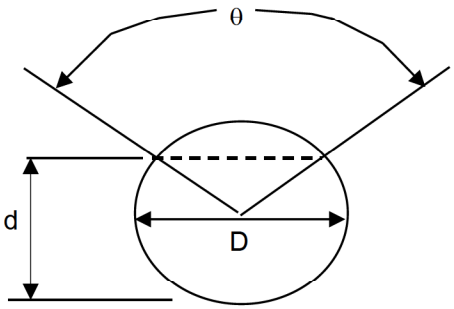


MANNING'S EQUATION FOR PIPE FLOW

Project:	Cross Creek	Location:	Existing Storm Pipe Capacity
By:	add	Date:	2/3/2022
Chk. By:		Date:	

mdo version 12.8.00

Clear Data Entry Cells



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D=	15	inches
d=	14.1	inches
n=	0.01	mannings coeff
θ=	56.7	degrees
S=	0.003	slope in/in

Mannings Formula

$Q=(1.486/n)AR_h^{2/3}S^{1/2}$

R=A/P

A=cross sectional area

P=wetted perimeter

S=slope of channel

n=Manning's roughness coefficient

$V=(1.49/n)R_h^{2/3}S^{1/2}$

Q=V x A

Solution to Mannings Equation				
Area,ft^2	Wetted Perimeter, ft	Hydraulic Radius, ft	velocity ft/s	flow, cfs
1.20	3.31	0.36	4.13	4.95

Manning's n-values	
PVC	0.01
PE (<9"dia)	0.015
PE (>12"dia)	0.02
PE(9-12"dia)	0.017
CMP	0.025
ADS N12	0.012
HCMP	0.023
Conc	0.013

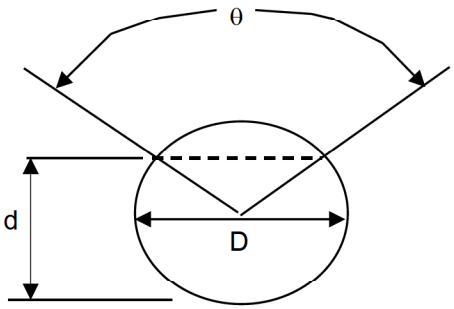
Created by: Mike O'Shea

MANNING'S EQUATION FOR PIPE FLOW

Project:	Cross Creek	Location:	Proposed Strom Pipe Capacity
By:	add	Date:	7/14/2022
Chk. By:		Date:	

mdo version 12.8.00

Clear Data Entry Cells



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θ=	56.7	degrees
S=	0.003	slope in/in

Mannings Formula

$Q=(1.486/n)AR_h^{2/3}S^{1/2}$

R=A/P

A=cross sectional area

P=wetted perimeter

S=slope of channel

n=Manning's roughness coefficient

$V=(1.49/n)R_h^{2/3}S^{1/2}$

Q=V x A

Solution to Mannings Equation				
Area,ft^2	Wetted Perimeter, ft	Hydraulic Radius, ft	velocity ft/s	flow, cfs
1.72	3.97	0.43	4.67	8.05

Manning's n-values	
PVC	0.01
PE (<9"dia)	0.015
PE (>12"dia)	0.02
PE(9-12"dia)	0.017
CMP	0.025
ADS N12	0.012
HCMP	0.023
Conc	0.013

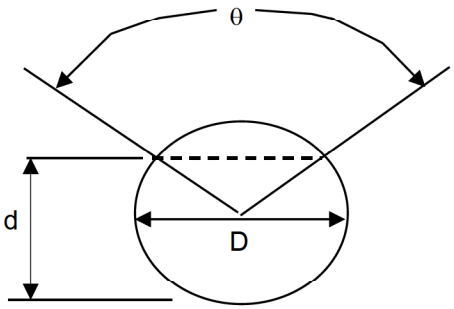
Created by: Mike O'Shea

MANNING'S EQUATION FOR PIPE FLOW

Project:	Cross Creek	Location:	Proposed Strom Pipe Capacity
By:	add	Date:	7/14/2022
Chk. By:		Date:	

mdo version 12.8.00

Clear Data Entry Cells



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d=	14.1	inches
n=	0.01	mannings coeff
θ=	56.7	degrees
S=	0.002	slope in/in

Mannings Formula

$Q=(1.486/n)AR_h^{2/3}S^{1/2}$

R=A/P

A=cross sectional area

P=wetted perimeter

S=slope of channel

n=Manning's roughness coefficient

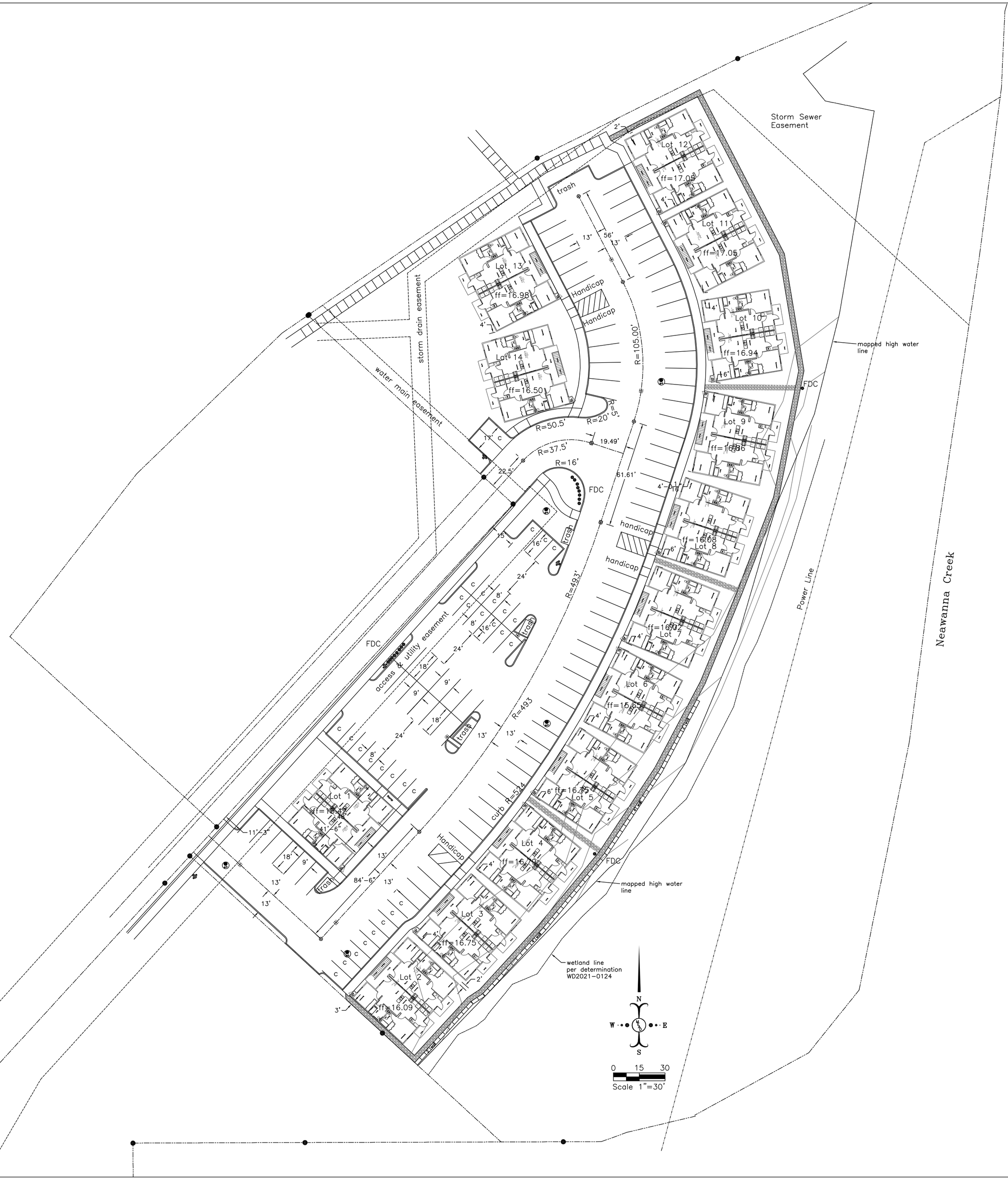
$V=(1.49/n)R_h^{2/3}S^{1/2}$

Q=V x A

Solution to Mannings Equation				
Area,ft^2	Wetted Perimeter, ft	Hydraulic Radius, ft	velocity ft/s	flow, cfs
1.20	3.31	0.36	3.37	4.04

Manning's n-values	
PVC	0.01
PE (<9"dia)	0.015
PE (>12"dia)	0.02
PE(9-12"dia)	0.017
CMP	0.025
ADS N12	0.012
HCMP	0.023
Conc	0.013

Created by: Mike O'Shea



24x36 sheet

Building	Number Units per Bld
1	4
2	6
3	6
4	6
5	6
6	6
7	6
8	6
9	6
10	4
11	4
12	4
13	4
14	6

Total 74 Units
All units are two bedroom
required parking = 111 spaces
parking provided
standard 75
handicap 5 three are van type
compact 31 28% allowable 30%
total 111

standard space 9'x18'
compact space 8'x16'
handicap space 9'x18 with unloading area

see additional elevations on detail grading plans sheets C-5, C-6, C-7 and ADA details on sheets C-8 By AM Engineering
See additional details C-13, C-14, C-15, C-16 C-17, C-18, C-19, C-20
See lighting plan C4.6
See offsite improvements C-4.5
See existing site plan C-3
See general notes C-2

Site Plan
Cross Creek Development

2315 N Roosevelt
Seaside, Oregon 97138

Mead Engineering LLC
89643 OCEAN DRIVE
WARRENTON, OREGON 97146
Ph. 503-738-2538
Email: mark@meadeng.com

REGISTERED PROFESSIONAL ENGINEER
12,181
Mark M Mead
OREGON
JULY 15, 1995
MARK M MEAD
EXPIRES 12/31/2024

Date:18 April 2023

Scale 1"=30' Sht 2

VICINITY MAP
NO SCALE

PROJECT MAP
NO SCALE

LEGEND

PROPOSED	EXISTING	DESCRIPTION
#.#		PARKING (STANDARD/COMPACT)
		POWERPOLE
		WHEEL STOP
		CATCH BASIN
BO	BO	WATER BLOW-OFF
ARV	ARV	AIR RELIEF VALVE
WM	WM	WATER-METER
		FIRE HYDRANT
	WV	WATER VALVE
		FIRE FDC
XX	XX	MAJOR CONTOUR
XX.X		MINOR CONTOUR
		ASPHALT EDGE
OH	OH	ELECTRIC OVERHEAD
UG	UG	ELECTRIC UNDERGROUND
COM	COM	COMMUNICATION LINE
G G	G G	GAS LINE
SD	SD	STORM LINE
		PROPERTY LINE
X X	X X	FENCE LINE
SS	SS	SANITARY SEWER
FM	FM	SANITARY PRESSURE LINE
W W	W W	WATER PIPE
		RIGHT OF WAY
T	T	TELEPHONE UNDERGROUND
		CENTER LINE
		SAWCUT
		SILT FENCE

3CY REFUSE, 6.7'X3.75'

6CY REFUSE, 6'X5'

SITE INFORMATION

A TRACT OF LAND BEING A PORTION OF PARCEL 3 OF PARTITION PLAT NO. 2012-014, (A RE-PLANT OF PARCEL I AND A PORTION OF PARCEL 2, PARTITION PLAT NO. 2009-024) SITUATED IN THE NORTHWEST QUARTER OF SECTION 15, TOWNSHIP 6 NORTH, RANGE 10 WEST, WILLAMETTE MERIDIAN, CITY OF SEASIDE, COUNTY OF CLATSOP, STATE OF OREGON

EXISTING GROSS LOT AREA
199,916 SF = 4.59 ACRES

PROPOSED LOT
16 LOTS, LOT 15 IS A COMMON LOT WITH AGREEMENTS FOR PARKING, REFUSE SERVICE, AND MAINTENANCE. LOT 16 FUTURE IS YET TO BE DETERMINED.
14 BUILDINGS
74 UNITS TOTAL (44'X48')
54 UNITS FROM 6-PLEXES
20 UNITS FROM 4-PLEXES

PARKING REQUIREMENT
PER SEASIDE ZONING ORDINANCE NO. 83-10 SECTION 4.100 OFF-STREET PARKING REQUIREMENTS: APARTMENT DWELLINGS, CONDOMINIUM OR TIME SHARE PROJECT, 1.5 PER UNIT
111 TOTAL PARKING SPACES

PARKING PROVIDED
111 TOTAL PARKING SPACES:
78 STANDARD 9' X 19'
28 COMPACT SPACES 8' X 19' MIN. (25%) (30% ALLOWED)
3 VAN ACCESSIBLE ADA SPACES 9' X 19'
2 ADA NON-VAN ACCESSIBLE SPACES 9' X 19'

IMPERVIOUS AREA
BUILDING 29,568 SF (±15%)
ASPHALT/CONCRETE 46,581 SF (±23%)

UTILITY PROVIDERS

CITY OF SEASIDE
ATTN: DALE MCDOWELL
PUBLIC WORKS DIRECTOR
1387 AVENUE U
SEASIDE, OR 97138
(503) 738 - 5112
(503) 738 - 8765 (FAX)

WATER AND SANITARY SEWER
CITY OF SEASIDE
ATTN: TONY BIAMONT
WASTE WATER TREATMENT PLANT FOREMAN
(503) 738 - 6839
ATTN: MIKE DIMMICK
WATER SERVICE MAINTENANCE FOREMAN
(503) 738 - 5112

ELECTRICITY
PACIFIC POWER
ATTN.: MARILYN BROCKEY
2340 SE DOLPHIN
WARRENTON, OR 97146
503-861-6005
503-861-6020 (FAX)

CABLE TELEVISION
CHARTER COMMUNICATIONS
ATTN.: VINNY BELLECI
419 GATEWAY
ASTORIA, OR 97103
503-735-5887
503-235-7421 (FAX)

GAS
NORTHWEST NATURAL GAS
ATTN.: RICH GIRARD
220 2ND AVENUE
PORTLAND, OR 97209
503-226-4211 EXT. 2980
503-281-6169 (CELL)

TELEPHONE
CENTURYLINK
ATTN.: MIKE MEISNER
481 INDUSTRY
ASTORIA, OR 97103
503-242-7676
503-242-8449 (FAX)

ONE CALL CENTER
1-800-332-2344 OR 811

BENCHMARK/DATUM

PROJECT ELEVATION DATUM: NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88), NGVD TO NAVD CONVERSION IS +3.5990814 FEET, PER HTTPS://WWW.NGS.NOAA.GOV/CGI-BIN/VERTCON/VERT_CON.PRL

REFERENCE REPORTS

TRANSPORTATION IMPACT STUDY
CROSS CREEK MULTIFAMILY HOUSING
LANCASTER MOBLEY, 4/9/21

WETLAND DELINEATION
WETLAND DELINEATION
CRITICAL AREAS CONSULTING, 2/23/21

PROJECT TEAM

OWNER
CROSS CREEK LAND 1 LLC
PO BOX 2870
GEARHART, OR 97138

SURVEYOR
S&F LAND SERVICES
JACK WHITE, PLS
1725 N ROOSEVELT RD. STE B
SEASIDE, OR. 97138
503-738-3425

HYDROGEOLOGIST
CRITICAL AREAS CONSULTING
ROBERT BOGAR
949 14TH STREET
ASTORIA, OR. 97103
360-244-2630

CIVIL ENGINEER
A.M. ENGINEERING, LLC
ADAM DAILEY, P.E.
13967 MARQUESAS WAY #30
MARINA DEL MAR, CA 90292
503-468-8600

TRAFFIC ENGINEER
LANCASTER MOBLEY
321 SW 4TH AVENUE
SUITE 400
PORTLAND, OREGON 97204

SHEET INDEX

811 Know what's below. Call before you dig.

PERMIT SET

NO CHANGES THIS SHEET

REGISTERED PROFESSIONAL ENGINEER
74370PE
OREGON
JUNE 9, 2010
ADAM DAILEY
RENEWAL DATE: DECEMBER 31, 2023

A.M. Engineering
P.O. BOX 373 SEASIDE, OREGON 97138
Phone: 503.468.8600 WWW.AMENGNR.COM

CROSS CREEK SUBDIVISION PLAN

COVER

S15, T6N, R10W

SEASIDE, CLATSOP COUNTY, OREGON

NO.	DATE	BY	REVISION COMMENTS
1	12/19/22	ADD	CITY COMMENTS ALL SHEETS

INITIAL ISSUE

DESIGN:	DRAWN:
ADD	ADD
CHECKED:	DATE:
ADD	8/24/22

C1

P:\20028 Cross Creek 4-Plex Site Development\ACAD\C20028-200.dwg Plotted: By anne dell, 12/17/2022 3:04:18 PM

GENERAL SITE PLAN NOTES

1 NO PERSON SHALL DO WORK AFFECTING THE PUBLIC RIGHT-OF-WAY WITHOUT FIRST OBTAINING A PERMIT FROM THE PUBLIC WORKS DEPARTMENT. WORK AFFECTING THE RIGHT-OF-WAY INCLUDES, BUT IS NOT LIMITED TO, CONSTRUCTION, RECONSTRUCTION, GRADING, OILING, REPAIR, OPENING OR EXCAVATION OF A SIDEWALK, STREET, CURB, DRIVEWAY, CULVERT OR DITCH IN A PUBLIC RIGHT-OF-WAY.

2 IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY ALL UTILITY LOCATIONS PRIOR TO CONSTRUCTION AND ARRANGE FOR THE RELOCATION OF ANY IN CONFLICT WITH THE PROPOSED CONSTRUCTION. THE LOCATIONS, DEPTH, AND DESCRIPTION OF EXISTING UTILITIES SHOWN WERE COMPILED FROM AVAILABLE RECORDS AND-OR FIELD SURVEYS. THE ACCURACY OF THE COMPLETENESS OF SUCH RECORDS IS NOT GUARANTEED BY THESE PLANS. ADDITIONAL UTILITIES MAY EXIST WITHIN THE WORK AREA.

3 OREGON LAW REQUIRES THAT THE RULES ADOPTED BY OREGON UTILITY NOTIFICATION CENTER BE FOLLOWED. THOSE RULES ARE SET FORTH IN OAR 952-001-0090. THE CONTRACTOR IS RESPONSIBLE TO CALL 1-800-332-2344 FOR LOCATES PRIOR TO EXCAVATION. ANY DAMAGE TO PUBLIC OR PRIVATE SERVICES SHALL BE REPAIRED BY THE CONTRACTOR WITH OWN REPAIR MATERIALS.

4 THE CONTRACTOR SHALL MAKE PROVISIONS TO KEEP ALL EXISTING UTILITIES (INCLUDING NON-LOCATABLE) IN SERVICE AND PROTECT THEM DURING CONSTRUCTION. CONTRACTOR SHALL BE RESPONSIBLE FOR THE IMMEDIATE NOTIFICATION OF DAMAGE TO UTILITIES AND THE REPAIR OR REPLACEMENT OF DAMAGED UTILITIES USING MATERIALS AND METHODS APPROVED BY THE UTILITY OWNER. NO SERVICE INTERRUPTIONS SHALL BE PERMITTED WITHOUT PRIOR WRITTEN AGREEMENT WITH THE UTILITY OWNER/PROVIDER.

5 THE CONTRACTOR SHALL POTHOLE AND VERIFY LOCATION AND DEPTH OF ALL EXISTING UTILITIES PRIOR TO THE START OF CONSTRUCTION. THE CONTRACTOR SHALL TAKE ALL NECESSARY FIELD MEASUREMENTS AND OTHERWISE VERIFY ALL DIMENSIONS AND EXISTING CONSTRUCTION CONDITIONS INDICATED AND OR SHOWN ON THE PLANS. SHOULD ANY ERROR OR INCONSISTENCY EXIST, THE CONTRACTOR SHALL NOT PROCEED WITH THE WORK AFFECTED UNTIL REPORTED TO THE DESIGN ENGINEER FOR CLARIFICATION OR CORRECTION.

6 ALL PROJECT ELEMENTS SHALL BE CONSTRUCTED PER APPROVED PROJECT DRAWINGS; SPECIFICATIONS; FEDERAL, STATE AND LOCAL PERMITS; AND PRECONSTRUCTION MEETING NOTES.

7 THE CONTRACTOR SHALL KEEP AN APPROVED SET OF PLANS ON THE PROJECT SITE AT ALL TIMES.

8 ALL DSL, DEQ, ODOT, AND OHA PERMITS AND REGULATIONS WILL BE THE RESPONSIBILITY OF THE DEVELOPER.
PROJECT INSPECTION ON PRIVATE PROJECTS IS THE RESPONSIBILITY OF THE DEVELOPER.
PROJECT PLANS SHALL ALWAYS HAVE AN ENGINEER-OF-RECORD PERFORMING THE FUNCTION OF DESIGN ENGINEER. IF THE DESIGN ENGINEER IS CHANGED DURING THE COURSE OF THE WORK, THE CITY SHALL BE NOTIFIED IN WRITING AND THE WORK SHALL BE STOPPED UNTIL THE REPLACEMENT ENGINEER HAS AGREED TO ACCEPT THE RESPONSIBILITIES OF THE DESIGN ENGINEER. THE NEW DESIGN ENGINEER SHALL PROVIDE WRITTEN NOTICE OF ACCEPTING PROJECT RESPONSIBILITY TO THE CITY WITHIN 72 HOURS OF ACCEPTING THE POSITION AS DESIGN ENGINEER.
INFRASTRUCTURE THROUGH NEIGHBORING PROPERTY IS ALLOWED ONLY WHEN RECORDED ACCESS EASEMENTS ARE GRANTED BY OWNERS. RECORDED EASEMENTS SHALL BE SUBMITTED TO PUBLIC WORKS PRIOR TO THE START OF THE WARRANTY PERIOD.

9 SUBDIVISION PROJECTS ARE REQUIRED TO HAVE UTILITY LOCATION PLAN.
ALL PUBLIC, PRIVATE AND FRANCHISE UTILITIES SHALL BE IN PLACE PRIOR TO PROJECT FINAL APPROVAL AND ACCEPTANCE, E.G. ALL STREET LIGHTS MUST BE IN AND OPERATIONAL.

10 ALL SURVEY MONUMENTS ON THE PROJECT'S SITE OR THAT MAY BE SUBJECT TO DISTURBANCE WITHIN THE CONSTRUCTION AREA, OR THE CONSTRUCTION OF ANY OFF-SITE IMPROVEMENTS SHALL BE ADEQUATELY REFERENCED AND PROTECTED PRIOR TO COMMENCEMENT OF ANY CONSTRUCTION ACTIVITY. IF THE SURVEY MONUMENTS ARE DISTURBED, MOVED, RELOCATED, OR DESTROYED AS A RESULT OF ANY CONSTRUCTION, THE CONTRACTOR SHALL, AT THEIR COST, RETAIN THE SERVICES OF A REGISTERED PROFESSIONAL LAND SURVEYOR IN THE STATE OF OREGON TO RESTORE THE MONUMENT TO ITS ORIGINAL CONDITION AND FILE THE NECESSARY SURVEYS AS REQUIRED BY OREGON STATE LAW.

11 THE CONTRACTOR IS REQUIRED TO METER CONSTRUCTION WATER THROUGH A CITY HYDRANT WATER METER. WATER USED DURING CONSTRUCTION FOR DUST CONTROL OR OTHER PROCEDURES SHALL BE WITH A PERMIT AND FEE. CERTAIN HYDRANTS ARE AVAILABLE. PERMITS FOR CONNECTION AND FLOW ARE REQUIRED FROM THE PUBLIC WORKS DEPARTMENT, AND BACKFLOW DEVICES SHALL BE PRESENT.

12 ALL EXISTING STREETS AND SIDEWALKS TO BE CLEANED AND OR PROTECTED DAILY.

13 CONTRACTOR SHALL ERECT AND MAINTAIN TEMPORARY TRAFFIC CONTROL PER THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MUTCD), PART 6, AND DEVIATIONS TO THE MUTCD AS ADOPTED AND MODIFIED BY ODOT.
SHOULD WORK BE IN AN EXISTING PUBLIC RIGHT OF WAY THAT IS OPEN TO TRAFFIC, THE CONTRACTOR SHALL SUBMIT A TRAFFIC CONTROL PLAN WITH ROW PERMIT TO APPROPRIATE CITY, COUNTY, AND STATE PERSONNEL FOR APPROVAL. APPROVALS SHALL BE OBTAINED PRIOR TO START OF WORK.

14 ANY INSPECTION BY THE CITY, COUNTY, STATE, FEDERAL AGENCY OR DESIGN ENGINEER SHALL NOT, IN ANY WAY, RELIEVE THE CONTRACTOR FROM ANY OBLIGATION TO PERFORM THE WORK IN COMPLIANCE WITH THE APPLICABLE CODES, REGULATIONS, CITY STANDARDS AND PROJECT CONTRACT DOCUMENTS.

15 TRACER WIRE INSTALLATION SHALL BE PERFORMED IN SUCH A MANNER THAT ALLOWS PROPER ACCESS FOR CONNECTION OF LINE TRACING EQUIPMENT. PROPER LOCATING OF WIRE WITHOUT LOSS OR DETERIORATION OF LOW FREQUENCY SIGNAL, AND WITHOUT DISTORTION OF SIGNAL CAUSED BY MORE THAN ONE WIRE BEING INSTALLED IN CLOSE PROXIMITY TO ONE ANOTHER.

16 TRACER WIRE SYSTEMS MUST BE INSTALLED AS A SINGLE CONTINUOUS WIRE, EXCEPT WHERE USING APPROVED CONNECTORS. NO LOOPING OR COILING OF WIRE IS ALLOWED. ONE FOOT OF EXCESS/SLACK WIRE IS REQUIRED IN ALL TRACER WIRE ACCESS POINTS AFTER MEETING FINAL ELEVATION.

17 UPON COMPLETION OF CONSTRUCTION, THE CONTRACTOR SHALL SUBMIT "REDLINE DRAWINGS" TO DESIGN ENGINEER FOR PREPARATION OF RECORD DRAWINGS. "REDLINE DRAWINGS" DOCUMENT ALL DEVIATIONS AND REVISIONS TO THE APPROVED PLANS; THEY ALSO RECORD A DESCRIPTION OF CONSTRUCTION MATERIALS ACTUALLY USED (PIPE MATERIAL, ETC.). FROM THE INFORMATION CONTAINED ON THESE REDLINE DRAWINGS, AS WELL AS ANY NOTES RECORDED BY THE DESIGN ENGINEER, THE DESIGN ENGINEER SHALL PREPARE AND SUBMIT RECORD DRAWINGS TO PUBLIC WORKS ENGINEERING DEVELOPMENT SERVICES. RECORD DRAWINGS ARE REQUIRED FOR ANY PUBLIC IMPROVEMENTS. CITY ACCEPTANCE OF ANY PUBLIC IMPROVEMENTS ARE TIED TO THE SUBMITTAL OF THESE RECORD DRAWINGS.
DIGITAL MAPPING REQUIREMENTS.

SEWER PLAN NOTES:

1 THE INTERIOR OF THE MANHOLE BASE SHALL BE FORMED SO THE EFFLUENT ENTERS THE FLOW SMOOTHLY WITH THE SHELF SLOPE NO MORE THAN 1:12. GROUTING SHALL BE SMOOTH WITH NO PROTRUDING SHARP EDGES. GROUTING AROUND PIPE INTRUSIONS INCLUDING SERVICE LATERALS TO BE SMOOTH WITH FLOW CHANNELS TO PREVENT UNCONTROLLED DROPS.

2 MANHOLE, BASE, AND CONE OR FLAT-TOP LIDS SHALL HAVE ONLY MAINLINE TRACER WIRE EXTENDED INTO EACH MANHOLE AND SECURED UNDER THE MANHOLE LID FOR EASY ACCESS.

3 NEW LATERAL TO CONNECTION ON PRIVATE MAINLINE WITH SANITARY TEE-WYE.

4 THE SEWER LATERALS SHALL BE INSTALLED ENTERING THE SEWER MAIN LINE FROM THE UPPER QUADRANT OF THE PIPE.

5 CONSTRUCT SERVICE SADDLES AT LEAST 24" FROM MANHOLE WALL OR ADJACENT SERVICE.

6 CONTRACTOR IS RESPONSIBLE FOR VACUUM, MANDREL AND TELEVISION TESTING AND INSPECTION REQUIREMENTS.

7 CONTRACTOR SHALL KEEP DOWNSTREAM SANITARY SEWER PIPES AND MANHOLES CLEAN OF CONSTRUCTION DEBRIS.

8 THE CONTRACTOR IS RESPONSIBLE FOR ALL CLEANING WHICH MAY INCLUDE MANHOLES DOWNSTREAM OF THE PROJECT SCOPE OF WORK.

9 ALL MANHOLES LOCATED IN UNIMPROVED EASEMENTS AND RIGHT OF WAYS SHALL BE PROVIDED WITH TAMPER PROOF LIDS.

10 CONTRACTOR SHALL SUBMIT ACCURATE AS-BUILT STATIONS FOR ALL CONNECTIONS OF SEWER LATERALS AND NOTE THE DISTANCE FROM UPSTREAM MANHOLES. THIS INFORMATION WILL BE PROVIDED ON THE AS-BUILT DOCUMENTS BEFORE SUBMITTAL.

WATER PLAN NOTES:

1 CONTRACTOR IS RESPONSIBLE TO FLUSH, CLEAN, DISINFECT AND PRESSURE TEST WATER LINES PER AWWA STANDARDS. TESTING IS TO BE PERFORMED BY THE CONTRACTOR AND WITNESSED BY CITY PERSONNEL. TEST SAMPLES TO BE TRANSPORTED TO A LAB APPROVED BY THE CITY. CITY AND DESIGN ENGINEER SHALL RECEIVE COPIES OF TEST REPORTS.

2 FIRE HYDRANTS SHALL BE MUELLER SUPER CENTURION 250 MODEL A-423 OR AN APPROVED EQUAL WITH A RECIRCULATION OIL LUBRICATION SYSTEM.

3 CONTRACTOR SHALL PERFORM A FLOW TEST FOR EACH HYDRANT AND VERIFY HYDRANT OPENING EASE AND LUBRICANT. CONTRACTOR SHALL PAINT FIRE HYDRANTS TO CITY STANDARD.

4 AIR RELEASE AND VALVE ASSEMBLIES SHALL BE AUTOMATIC ONLY.

5 VALVE BOXES SHALL BE MODEL 910 VANCOUVER STYLE AND TRAFFIC RATED LID, LABELED "W" OR "WATER" OR EQUAL.

6 ALL VALVES SHALL BE OPERATED TO VERIFY VALVE WRENCH TOOL CLEARANCE PRIOR TO FINAL PAVING.

7 ALL VALVE BOXES NOT SET IN ASPHALT SHALL HAVE A MINIMUM OF 18" X 18" X 3" THICK CONCRETE PAD WITH VALVE BOX CENTERED.

8 RESIDENTIAL SERVICE LINES SHALL HAVE FORD F1100-4-NL BRASS ONE-INCH (1") CORPORATION STOP, ONE-INCH (1") MUNICIPEX® WATER SERVICE LINE WITH COMPRESSION FITTINGS, AND A 1"X3/4" LOCKABLE ANGLE STOP USING FORD GRIP RING FITTINGS. ALL SERVICE FITTINGS SHALL BE BRASS, MALE X MALE, IRON PIPE SIZE, AND IRON PIPE THREAD. IF 1"X1" ANGLE STOPS ARE INSTALLED, 1"X3/4" ADAPTERS SHALL BE INCLUDED. METER BOXES SHALL BE ARMORCAST® STRAIGHT WALL POLYMER CONCRETE RPM A6000485 (12X20X12) WITH ARMORCAST® ONE-PIECE 20K TRAFFIC-RATED LID.

9 CONSTRUCT SERVICE SADDLES AT LEAST 24" FROM MAINLINE END OR AN ADJACENT SERVICE.

STORMWATER PLAN NOTES:

1 CONNECTION TO EXISTING PUBLIC SYSTEMS FROM PRIVATE CATCHMENTS SHALL BE AT OR HAVE INSTALLED CURB CATCH BASINS OR AREA INLETS WITHIN THE PUBLIC RIGHT-OF-WAY.

2 ROOF RUNOFF DRAINAGE SHALL DRAIN TO CURB AND GUTTER STREET SYSTEMS

3 CONTRACTOR IS RESPONSIBLE FOR, MANDREL AND TELEVISION TESTING AND INSPECTION REQUIREMENTS.

STREET PLAN NOTES:

1 ALL CUTS IN ASPHALT PAVING, PORTLAND CEMENT PAVING, CONCRETE CURBS, GUTTERS AND SIDEWALKS SHALL BE SAW CUT AT LEAST THREE INCHES DEEP.

2 TRENCH COMPACTION OF 1' OR ¾'-0" BACKFILL IN PUBLIC UTILITIES. STREET SAW CUT AND RESTORATION ARE REQUIRED.

3 TACK COATING AND SAND SEALING OF EDGES OF PAVEMENT CUT IS REQUIRED.

4 DAMAGE TO ADA RAMPS OR SIDEWALKS DURING CONSTRUCTION OR BUILDING CONSTRUCTION SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO REPAIR.

5 ALL STREET MARKINGS SUCH AS STOP BARS OR CROSSWALKS ETC., SHALL BE INSTALLED BY CONTRACTOR FOLLOWING THE MOST CURRENT ADDITION OF THE MUTCD AND BE MADE OF THERMOPLASTIC MATERIAL PER APWA STANDARDS.

6 STREETLIGHT POLES AND LUMINARIES SHALL BE INSTALLED PRIOR TO FINAL APPROVAL.

7 SIDEWALK PORTIONS TO BE (RE)CONSTRUCTED FOR FULL FRONTAGE OR WHERE BROKEN AND MISSING. TWO INCHES OF COMPACTED ¾'-0" BASE ROCK UNDER CONCRETE, WITH ½" FIBER BOARD EXPANSION JOINT AT ENDS, DUMMY TOOL CONSTRUCTION JOINTS EVERY 5 FEET ALSO MATCHING SCORE MARKS IN ANY EXISTING ADJACENT CURB AND GUTTER. THE SIDEWALK SHALL BE A MINIMUM OF FOUR INCHES THICK AND SIX INCHES THICK AT THE DRIVEWAYS.

1 NO CHANGES THIS SHEET

PERMIT SET

A.M. Engineering
P.O. BOX 973 SEASIDE, OREGON 97138
Phone: 503.468.8600 WWW.AMENGNR.COM

NO COPIES SHALL BE MADE OF DISTRIBUTED W/O/ WRITTEN APPROVAL OF AMS ENGINEERING
REGISTERED PROFESSIONAL ENGINEER
74370PE
OREGON
JUNE 2, 2010
ADAM DAILEY
RENEWAL DATE: DECEMBER 31, 2023

CROSS CREEK
SUBDIVISION PLAN
GENERAL NOTES
S15, T6N, R10W
SEASIDE, CLATSOP COUNTY, OREGON

NO.	DATE	BY	REVISION COMMENTS
1	12/9/22	ADD	CITY COMMENTS ALL SHEETS

INITIAL ISSUE	
DESIGN:	DRAWN:
ADD	ADD
CHECKED:	DATE:
ADD	8/24/22

C2

P:\20028 Cross Creek 4-Plex Site Development\ACAD\C20028-200.dwg Plotted: By ame dell, 12/17/2022 3:04:23 PM

DEMOLITION NOTES

	DETAIL(S)
10	SAWCUT EXISTING PAVEMENT OR CONCRETE
20	DEMO AND REMOVE EXISTING PAVEMENT OR CONCRETE FROM SITE
30	PRESERVE AND PROTECT ALL EXISTING UTILITIES
40	NOT USED
50	DEMO AND REMOVE EXISTING STORM PIPE FOR REPLACEMENT. SEE SHEETS C11 AND C12.
60	DEMO AND REMOVE EXISTING SEWER PIPE FOR REPLACEMENT. MANHOLE PENETRATIONS TO BE GROUTED CLOSED. SEE SHEETS C9 AND C10.
70	DEMO AND REMOVE EXISTING SEWER PIPE TO MANHOLE. MANHOLE PENETRATIONS TO BE GROUTED CLOSED.
80	DEMO AND REMOVE EXISTING WATER METER BOXES. WATER SERVICE LINE TO REMAIN, FILL HOLE WITH CRUSHED AGGREGATE AND COMPACT.

1 NO CHANGES THIS SHEET

OWNER: RMH PROPERTIES LLC

PARTITION PLAT 2014-007

EXISTING BUILDING

OWNER: SK CROSS CREEK PROPERTIES LLC

ZONING: C3

EXISTING HYDRANT

PRIVATE ACCESS (ASPHALT)

EXISTING WATER METERS

EXISTING STORM STUBBED TO THIS LOCATION, NO CONNECTION

OWNER: CLATSOP COUNTY

BLOCK 19 CLATSOP CROVE

VARIABLE WIDTH PRIVATE ACCESS, EMERGENCY VEHICLE & NON-EXCLUSIVE UTILITIES EASEMENT

PARTITION PLAT 2009-024

EXISTING BUILDING

OWNER: FIBER FEDERAL CREDIT UNION

HIGHWAY 101 (ASPHALT)

EXISTING SEWER CLEANOUT (TYP)

EXISTING PRIVATE SEWER MAIN

EXISTING WATER METERS

EXISTING 10' WATERLINE EASEMENT

EXISTING 10' STORM EASEMENT

EXISTING VEGETATION TO REMAIN

PARTITION PLAT 2012-014

EXISTING PRIVATE WATER MAIN

EXISTING COMM PEDESTAL

EXISTING WATER METERS

EXISTING POWER VAULT, EMPTY

EXISTING SEWER MANHOLE

EXISTING FIRE HYDRANT

EXISTING SEWER CLEANOUT (TYP)

TAXLOT 61015BA05800

10.0' HIGHWAY OVERLAY LANDSCAPE BUFFER

EXISTING 10' STORM EASEMENT

EXISTING 15" PVC STORM PIPE

MAPPED HIGH WATER MARK

WETLAND BOUNDARY DETERMINATION WD2021-0124

"UPLANDS" WETLAND

EXISTING POWER EASEMENT 10' TYPICAL

EXISTING VEGETATION

EXISTING STORMWATER FACILITY

OWNER: WILCOX AND FLAGEL OIL CO.

MAPPED HIGH WATER MARK

MEAN HIGHER HIGH WATER (MHHW) PER PLANNING DIRECTOR NAVD 8.6' (NGVD 5.01')

25' MHHW BUFFER

FLOW NEAWANNA CREEK EBB

EXISTING CONDITIONS AND DEMOLITION PLAN

SCALE: 1" = 30'

30' 0' 30' 60'
SCALE IN FEET

PERMIT SET

A.M. Engineering
P.O. BOX 973 SEASIDE, OREGON 97138
Phone: 503.468.8600 WWW.AMENGNR.COM

REGISTERED PROFESSIONAL ENGINEER 74370PE OREGON JUNE 2, 2010 ADAM DAILEY
RENEWAL DATE: DECEMBER 31, 2023

NO CHANGES OR USE OF THIS DRAWING SHALL BE MADE OR DISTRIBUTED WITHOUT APPROVAL OF AM ENGINEERING

CROSS CREEK SUBDIVISION PLAN

EXISTING CONDITIONS AND DEMOLITION PLAN
S15, T6N, R10W
SEASIDE, CLATSOP COUNTY, OREGON

NO.	DATE	BY	REVISION COMMENTS
1	12/19/22	ADD	CITY COMMENTS ALL SHEETS

INITIAL ISSUE

DESIGN:	DRAWN:
ADD	ADD
CHECKED:	DATE:
ADD	8/24/22

C3

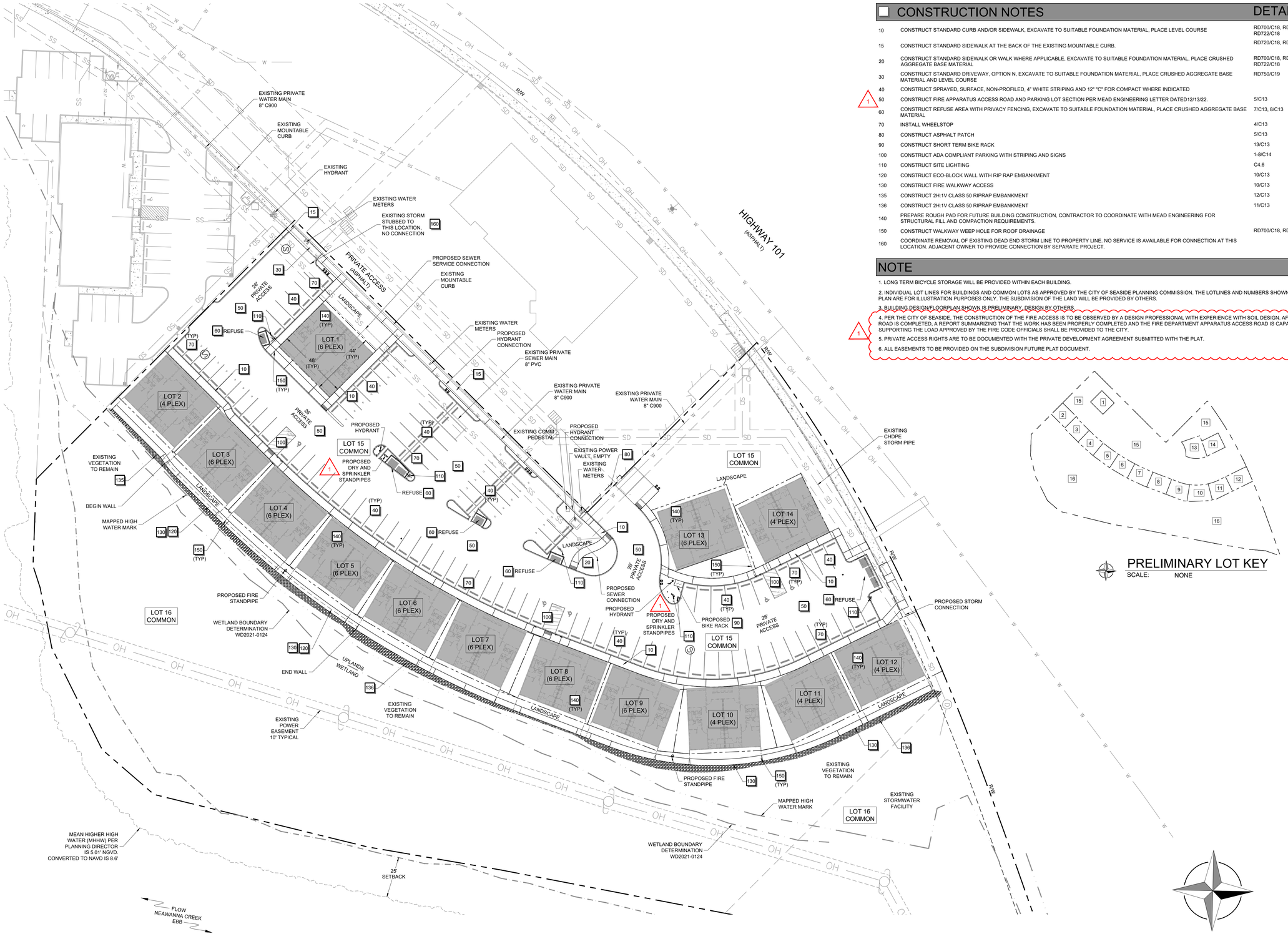
P:\20028 Cross Creek 4-Plex Site Development\ACAD\C20028-200.dwg Plotted: By anne dell, 12/17/2022 3:04:31 PM

CONSTRUCTION NOTES

			DETAIL(S)
	10	CONSTRUCT STANDARD CURB AND/OR SIDEWALK, EXCAVATE TO SUITABLE FOUNDATION MATERIAL, PLACE LEVEL COURSE	RD700/C18, RD720/C18, RD722/C18
	15	CONSTRUCT STANDARD SIDEWALK AT THE BACK OF THE EXISTING MOUNTABLE CURB.	RD720/C18, RD722/C18
	20	CONSTRUCT STANDARD SIDEWALK OR WALK WHERE APPLICABLE, EXCAVATE TO SUITABLE FOUNDATION MATERIAL, PLACE CRUSHED AGGREGATE BASE MATERIAL	RD700/C18, RD 720/C18, RD722/C18
	30	CONSTRUCT STANDARD DRIVEWAY, OPTION N, EXCAVATE TO SUITABLE FOUNDATION MATERIAL, PLACE CRUSHED AGGREGATE BASE MATERIAL AND LEVEL COURSE	RD750/C19
	40	CONSTRUCT SPRAYED, SURFACE, NON-PROFILED, 4" WHITE STRIPING AND 12" "C" FOR COMPACT WHERE INDICATED	
1	50	CONSTRUCT FIRE APPARATUS ACCESS ROAD AND PARKING LOT SECTION PER MEAD ENGINEERING LETTER DATED12/13/22.	5/C13
	60	CONSTRUCT REFUSE AREA WITH PRIVACY FENCING, EXCAVATE TO SUITABLE FOUNDATION MATERIAL, PLACE CRUSHED AGGREGATE BASE MATERIAL	7/C13, 8/C13
	70	INSTALL WHEELSTOP	4/C13
	80	CONSTRUCT ASPHALT PATCH	5/C13
	90	CONSTRUCT SHORT TERM BIKE RACK	13/C13
	100	CONSTRUCT ADA COMPLIANT PARKING WITH STRIPING AND SIGNS	1-8/C14
	110	CONSTRUCT SITE LIGHTING	C4.6
	120	CONSTRUCT ECO-BLOCK WALL WITH RIP RAP EMBANKMENT	10/C13
	130	CONSTRUCT FIRE WALKWAY ACCESS	10/C13
	135	CONSTRUCT 2H:1V CLASS 50 RIPRAP EMBANKMENT	12/C13
	136	CONSTRUCT 2H:1V CLASS 50 RIPRAP EMBANKMENT	11/C13
	140	PREPARE ROUGH PAD FOR FUTURE BUILDING CONSTRUCTION, CONTRACTOR TO COORDINATE WITH MEAD ENGINEERING FOR STRUCTURAL FILL AND COMPACTION REQUIREMENTS.	
	150	CONSTRUCT WALKWAY WEEP HOLE FOR ROOF DRAINAGE	RD700/C18, RD720/C18
	160	COORDINATE REMOVAL OF EXISTING DEAD END STORM LINE TO PROPERTY LINE. NO SERVICE IS AVAILABLE FOR CONNECTION AT THIS LOCATION. ADJACENT OWNER TO PROVIDE CONNECTION BY SEPARATE PROJECT.	

NOTE

1. LONG TERM BICYCLE STORAGE WILL BE PROVIDED WITHIN EACH BUILDING.
2. INDIVIDUAL LOT LINES FOR BUILDINGS AND COMMON LOTS AS APPROVED BY THE CITY OF SEASIDE PLANNING COMMISSION. THE LOTLINES AND NUMBERS SHOWN IN THIS PLAN ARE FOR ILLUSTRATION PURPOSES ONLY. THE SUBDIVISION OF THE LAND WILL BE PROVIDED BY OTHERS.
3. BUILDING DESIGN/FLOORPLAN SHOWN IS PRELIMINARY. DESIGN BY OTHERS.
4. PER THE CITY OF SEASIDE, THE CONSTRUCTION OF THE FIRE ACCESS IS TO BE OBSERVED BY A DESIGN PROFESSIONAL WITH EXPERIENCE WITH SOIL DESIGN. AFTER THE ROAD IS COMPLETED, A REPORT SUMMARIZING THAT THE WORK HAS BEEN PROPERLY COMPLETED AND THE FIRE DEPARTMENT APPARATUS ACCESS ROAD IS CAPABLE OF SUPPORTING THE LOAD APPROVED BY THE FIRE CODE OFFICIALS SHALL BE PROVIDED TO THE CITY.
5. PRIVATE ACCESS RIGHTS ARE TO BE DOCUMENTED WITH THE PRIVATE DEVELOPMENT AGREEMENT SUBMITTED WITH THE PLAT.
6. ALL EASEMENTS TO BE PROVIDED ON THE SUBDIVISION FUTURE PLAT DOCUMENT.



SITE PLAN

SCALE: 1" = 30'

PRELIMINARY LOT KEY

SCALE: NONE

30' 0' 30' 60'

SCALE IN FEET

PERMIT SET

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74370PE
OREGON
JUNE 2, 2010
ADAM DAILEY
RENEWAL DATE: DECEMBER 31, 2023

CROSS CREEK SUBDIVISION PLAN

SITE PLAN

S15, T6N, R10W

SEASIDE, CLATSOP COUNTY, OREGON

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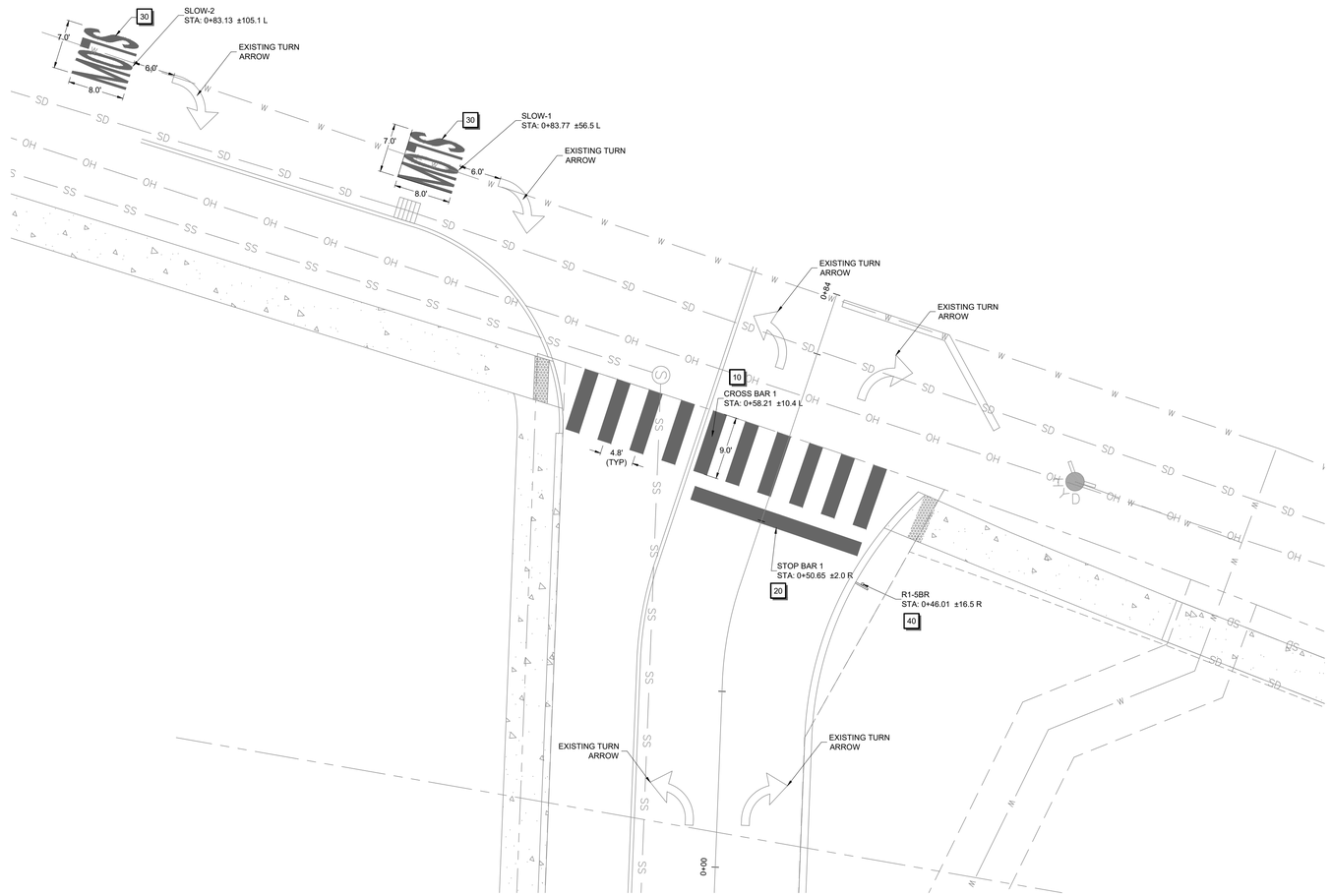

OFFSITE IMPROVEMENTS

SCALE: 1" = 10'

CONSTRUCTION NOTES

		DETAIL(S)
10	CONSTRUCT STAGGERED CONTINENTAL CROSSWALK 2' WHITE BARS	TM503/C20
20	INSTALL WHITE 2' SURFACE INSTALLED STOP BAR	TM503/C20
30	INSTALL TYPE B-HS: PREFORMED, FUSED THERMOPLASTIC FILM HIGH SKID WHITE PAVEMENT SYMBOLS	
40	INSTALL SIGN, STOP HERE SIGN R1-5BR, 24" X 24"	3/C13

30' 0' 30' 60'

SCALE IN FEET

PERMIT SET

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CROSS CREEK SUBDIVISION PLAN

OFFSITE IMPROVEMENTS

S15, T6N, R10W

SEASIDE, CLATSOP COUNTY, OREGON

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Schedule						
Symbol	Label	Quantity	Catalog Number	Description	Lamp	Wattage
	R23	1	RSX1-LED-P3-40K-R3-MVOLT-SPA	Double Head D180 Lithonia RSX1 Series LED Area Unit w/Type R3 Distribution (22ft. Pole Height w/3ft. Concrete Bbase) FULL CUTOFF DESIGN	LED/4000K (FULL CUTOFF DESIGN)	218.88
	R24	1	RSX1-LED-P3-40K-R4-MVOLT-SPA	Double Head D90 Lithonia RSX1 Series LED Area Unit w/Type R4 Distribution (22ft. Pole Height w/3ft. Concrete Bbase) FULL CUTOFF DESIGN	LED/4000K (FULL CUTOFF DESIGN)	218.88
	R3	1	RSX1-LED-P3-40K-R3-MVOLT-SPA	Tripl Head T90 Lithonia RSX1 Series LED Area Unit w/Type R3 Distribution (22ft. Pole Height w/3ft. Concrete Bbase) FULL CUTOFF DESIGN	LED/4000K (FULL CUTOFF DESIGN)	328.32
	R4	1	RSX1-LED-P3-40K-R3-MVOLT-SPA	Quad Head Q90 Lithonia RSX1 Series LED Area Unit w/Type R3 Distribution (22ft. Pole Height w/3ft. Concrete Bbase) FULL CUTOFF DESIGN	LED/4000K (FULL CUTOFF DESIGN)	437.76
	P24H	1	RSX1 LED P4 40K R4 HS	Double Head D90R Lithonia RSX1 Series LED Area Unit w/Type R3 Distribution (22ft. Pole Height w/3ft. Concrete Bbase) FULL CUTOFF DESIGN & HOUSE SIDE SHIELDING	LED/4000K (FULL CUTOFF DESIGN)	266.28

Statistics							
Description	Symbol	Avg	Max	Min	Max/Avg	Max/Min	Avg/Min
Parking Lot Light Levels	+	2.8 fc	11.8 fc	0.7 fc	4.21	16.9:1	4.0:1
Property Line Light Levels	+	0.2 fc	2.5 fc	0.0 fc	12.50	N/A	N/A

vita LIGHTING

Cross Creek Site
Parking Lot Lighting Layout

Designer
Adam Carrier
Date
07/18/2022
Scale
Not to Scale
Drawing No.

Summary

1 of 1

1 NO CHANGES THIS SHEET

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OREGON
JUNE 9, 2010
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CROSS CREEK SUBDIVISION PLAN

LIGHTING PLAN

S15, T6N, R10W

SEASIDE, CLATSOP COUNTY, OREGON

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CONSTRUCTION NOTES — DETAIL(S)

10 PROVIDE RED FIRE LANE CURB PAINTING TO EXTENTS SHOWN IN THE PLAN WITH WHITE 4" "FIRE LANE NO PARKING" PAINTED ON THE FACE OF CURB

NOTES

1 FIRE HYDRANT DISTRIBUTION LINES DEMAND FIRE FLOW OF 1500 GPM PROVIDED PER MEAD ENGINEERING LLC UNIT FIRE PLANS, REVISED 12/5/22.

2 PROPOSED BUILDING FDC STANDPIPES AND ASSOCIATED PIPING LOCATED IN COMMON LOTS TO BE TO BE OWNED AND MAINTAINED BY THE INDIVIDUAL BUILDING OWNERS. ACCESS TO THE FDC AND PIPING TO BE GRANTED THROUGH THE DEVELOPMENT ASSOCIATION AGREEMENT.

3 PER THE CITY OF SEASIDE, ANY WATER FLOW DEVICE INSTALLED ON THE SPRINKLER SYSTEM RISER SHALL SEND A SIGNAL TO A SOLENOID USED TO TURN A VALVE OFF THAT SUPPLIES WATER TO THE DOMESTIC WATER SUPPLY. SEE MEAD ENGINEERING LLC UNIT FIRE PLANS, REVISED 12/5/22 FOR FIRE SPRINKLER DESIGN.

EXISTING HYDRANT

HIGHWAY 101 (ASPHALT)

LOT 1 (6 PLEX)

LOT 2 (4 PLEX)

LOT 3 (6 PLEX)

LOT 4 (6 PLEX)

LOT 5 (6 PLEX)

LOT 6 (6 PLEX)

LOT 7 (6 PLEX)

LOT 8 (6 PLEX)

LOT 9 (6 PLEX)

LOT 10 (4 PLEX)

LOT 11 (4 PLEX)

LOT 12 (4 PLEX)

LOT 13 (6 PLEX)

LOT 14 (4 PLEX)

LOT 15 COMMON

LOT 16 COMMON

4' MIN. BUILDING SEPARATION (TYP)

PROPOSED HYDRANT

PROPOSED DRY AND SPRINKLER STANDPIPES

PROPOSED FIRE STANDPIPE

EXISTING HYDRANT

PRIVATE HYDRANT FLOW RESULTS:
TESTED 8/9/22 AS REPORTED
BY CITY OF SEASIDE:
PSI WITHOUT FLOW 70 PSI
PSI WITH FLOW 47 PSI
ESTIMATED FLOW 2,229 GPM
GPM AT 20 PSI = 3,381 GPM

FIRE PLAN
SCALE: 1" = 30'

30' 0' 30' 60'
SCALE IN FEET

PERMIT SET

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CROSS CREEK SUBDIVISION PLAN
FIRE PLAN
S15, T6N, R10W
SEASIDE, CLATSOP COUNTY, OREGON

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SPOT LABEL LEGEND

TC	TOP OF CURB
BC	BACK OF CURB
EA	EDGE OF ASPHALT
EW	EDGE OF WALK
FG	FINISHED GRADE
EG	EXISTING GROUND
FL	FLOW LINE
GS	GROUND SHOT
ME	MATCH EXISTING
GB	GRADE BREAK
WB	WALL BOTTOM
WT	WALL TOP
FF	FINISHED FLOOR
(E)	NOTATES EXISTING

1 NO CHANGES THIS SHEET

SITE KEY
SCALE: NONE

GRADING PLAN I
SCALE: 1" = 10'

SCALE 10' 0' 10' 20' IN FEET

PERMIT SET

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RENEWAL DATE: DECEMBER 31, 2023

CROSS CREEK SUBDIVISION PLAN
GRADING PLAN I
S15, T6N, R10W
SEASIDE, CLATSOP COUNTY, OREGON

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C5

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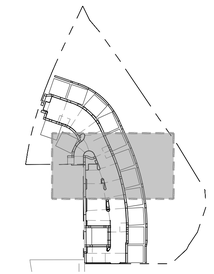
SPOT LABEL LEGEND

TC	TOP OF CURB
BC	BACK OF CURB
EA	EDGE OF ASPHALT
EW	EDGE OF WALK
FG	FINISHED GRADE
EG	EXISTING GROUND
FL	FLOW LINE
GS	GROUND SHOT
ME	MATCH EXISTING
GB	GRADE BREAK
WB	WALL BOTTOM
WT	WALL TOP
FF	FINISHED FLOOR
(E)	NOTATES EXISTING



SITE KEY
SCALE: NONE

MATCHLINE - SEE - SHEET C5

MATCHLINE - SEE - SHEET C7

MAPPED HIGH WATER MARK

WETLAND BOUNDARY DETERMINATION WD2021-0124

LOT 13 (6 PLEX) FF = ±16.95'

LOT 8 (6 PLEX) FF = ±15.75'

LOT 7 (6 PLEX) FF = ±16.23'

LOT 6 (6 PLEX) FF = ±16.14'

SEE ADA DETAIL II/C8

SEE ADA DETAIL V/C8

SEE ADA DETAIL VII/C8

NO PARKING

WALKWAY

FIRE WALKWAY

EXISTING 10' WATERLINE EASEMENT

VARIABLE WIDTH PRIVATE ACCESS, EMERGENCY VEHICLE & NON-EXCLUSIVE UTILITIES EASEMENT

EXISTING MOUNTABLE CURB

END WALL EW 15.79' WT 15.79' WB 15.79' HT=0.0"

EW 16.77' WT 16.10' WB 14.10' HT=24.0"

WALL BELOW WALKWAY

RIM 15.79'

GRADING PLAN II
SCALE: 1" = 10'

10' 0' 10' 20'
SCALE IN FEET

PERMIT SET

NO CHANGES THIS SHEET

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CROSS CREEK SUBDIVISION PLAN

GRADING PLAN II

S15, T6N, R10W

SEASIDE, CLATSOP COUNTY, OREGON

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C6

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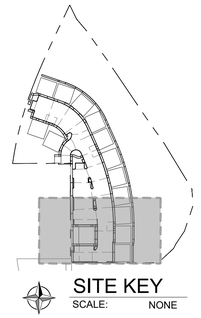
SPOT LABEL LEGEND

TC	TOP OF CURB
BC	BACK OF CURB
EA	EDGE OF ASPHALT
EW	EDGE OF WALK
FG	FINISHED GRADE
EG	EXISTING GROUND
FL	FLOW LINE
GS	GROUND SHOT
ME	MATCH EXISTING
GB	GRADE BREAK
WB	WALL BOTTOM
WT	WALL TOP
FF	FINISHED FLOOR
(E)	NOTATES EXISTING



SITE KEY
SCALE: NONE

GRADING PLAN III
SCALE: 1" = 10'

10' 0' 10' 20'
SCALE IN FEET

1 NO CHANGES THIS SHEET

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CROSS CREEK SUBDIVISION PLAN
GRADING PLAN III
S15, T6N, R10W
SEASIDE, CLATSOP COUNTY, OREGON

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C7

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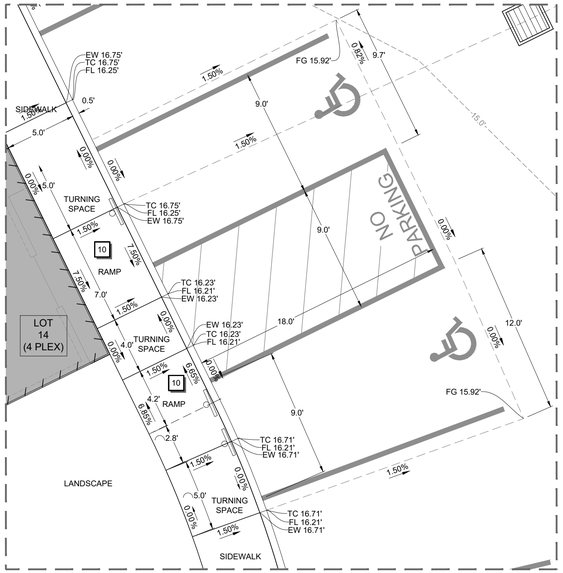
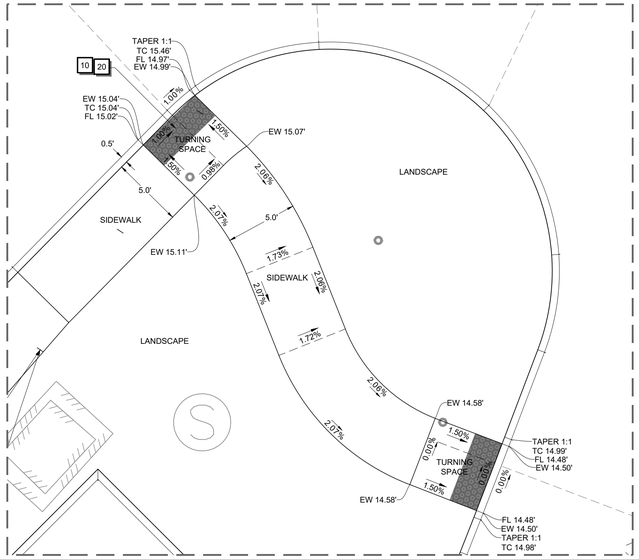
CONSTRUCTION NOTES — DETAIL(S)

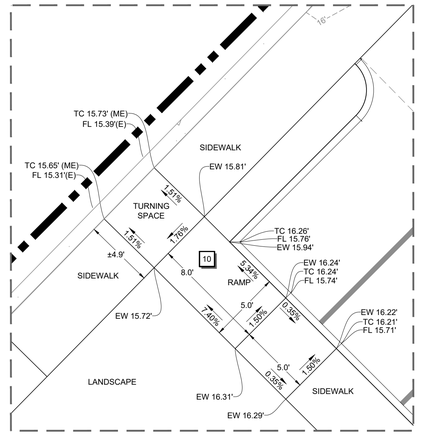
10	CONSTRUCT ADA COMPLIANT TURNING SPACE AND RAMPS WHERE INDICATED, EXCAVATE TO SUITABLE FOUNDATION MATERIAL, PLACE CRUSHED AGGREGATE BASE MATERIAL AND LEVEL COURSE	RD902/C19, RD910/C19, RD920/C19
20	CONSTRUCT ADA COMPLIANT BRICK RED CAST IN PLACE TRUNCATED DOMES	RD902/C19



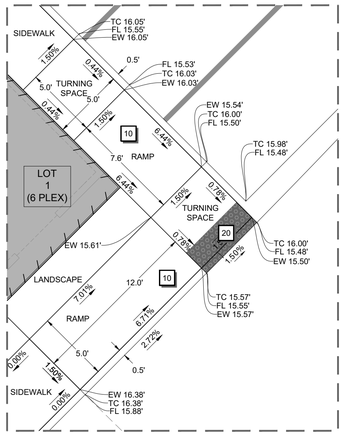
ADA DETAIL I
SCALE: 1" = 5'



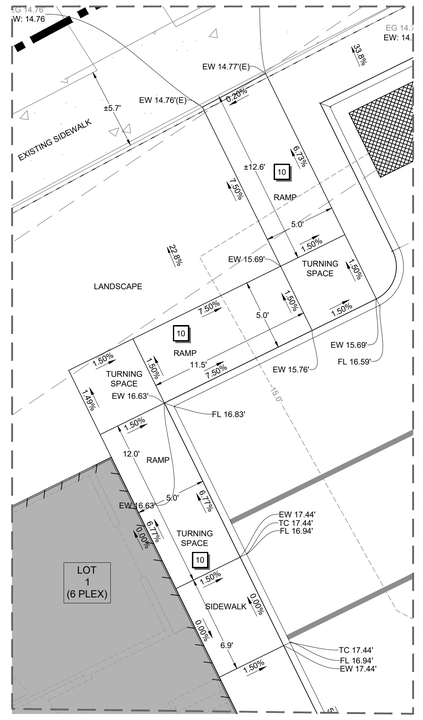
ADA DETAIL II
SCALE: 1" = 5'



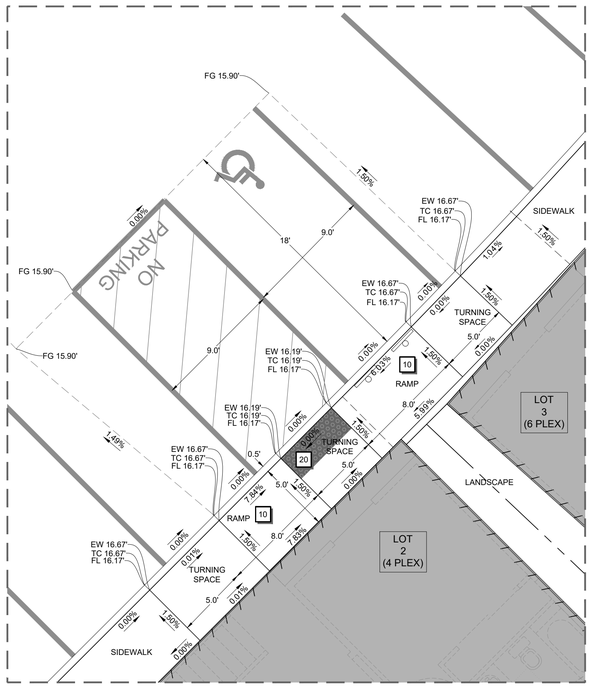
ADA DETAIL III
SCALE: 1" = 5'



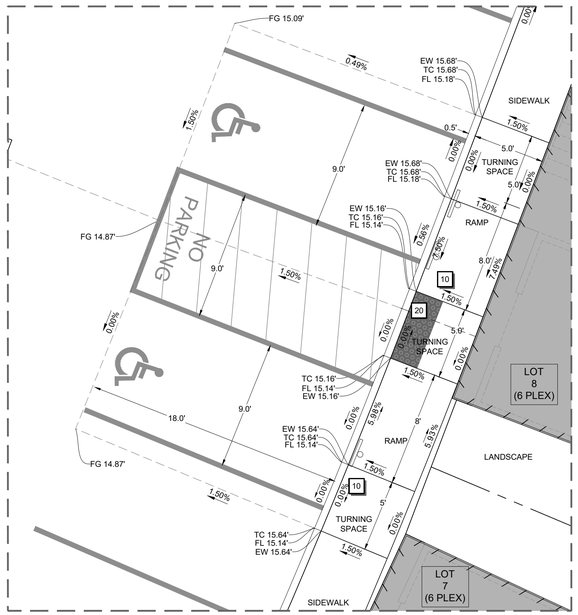
ADA DETAIL VI
SCALE: 1" = 5'



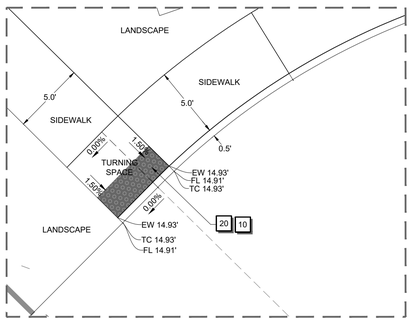
ADA DETAIL VIII
SCALE: 1" = 5'



ADA DETAIL IV
SCALE: 1" = 5'



ADA DETAIL V
SCALE: 1" = 5'



ADA DETAIL VII
SCALE: 1" = 5'

NO CHANGES THIS SHEET

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JUNE 2, 2010
ADAM DAILEY
RENEWAL DATE: DECEMBER 31, 2023

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CROSS CREEK SUBDIVISION PLAN

ADA GRADING DETAILS I

S15, T6N, R10W

SEASIDE, CLATSOP COUNTY, OREGON

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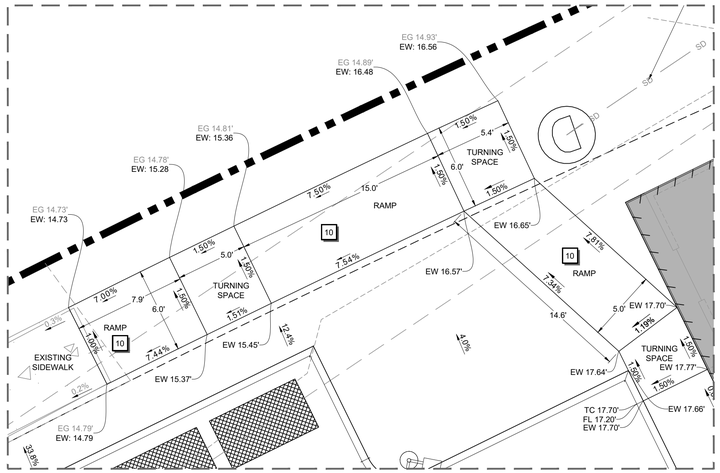

ADA DETAIL I

SCALE: 1" = 5'

CONSTRUCTION NOTES

		DETAIL(S)
10	CONSTRUCT ADA COMPLIANT TURNING SPACE AND RAMPS WHERE INDICATED, EXCAVATE TO SUITABLE FOUNDATION MATERIAL, PLACE CRUSHED AGGREGATE BASE MATERIAL AND LEVEL COURSE	RD902/C19, RD910/C19, RD920/C19 RD902/C19

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OREGON
JUNE 2, 2020
ADAM DAILEY

RENEWAL DATE: DECEMBER 31, 2023

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CROSS CREEK
SUBDIVISION PLAN
ADA GRADING DETAILS II
S15, T6N, R10W
SEASIDE, CLATSOP COUNTY, OREGON

C8.5

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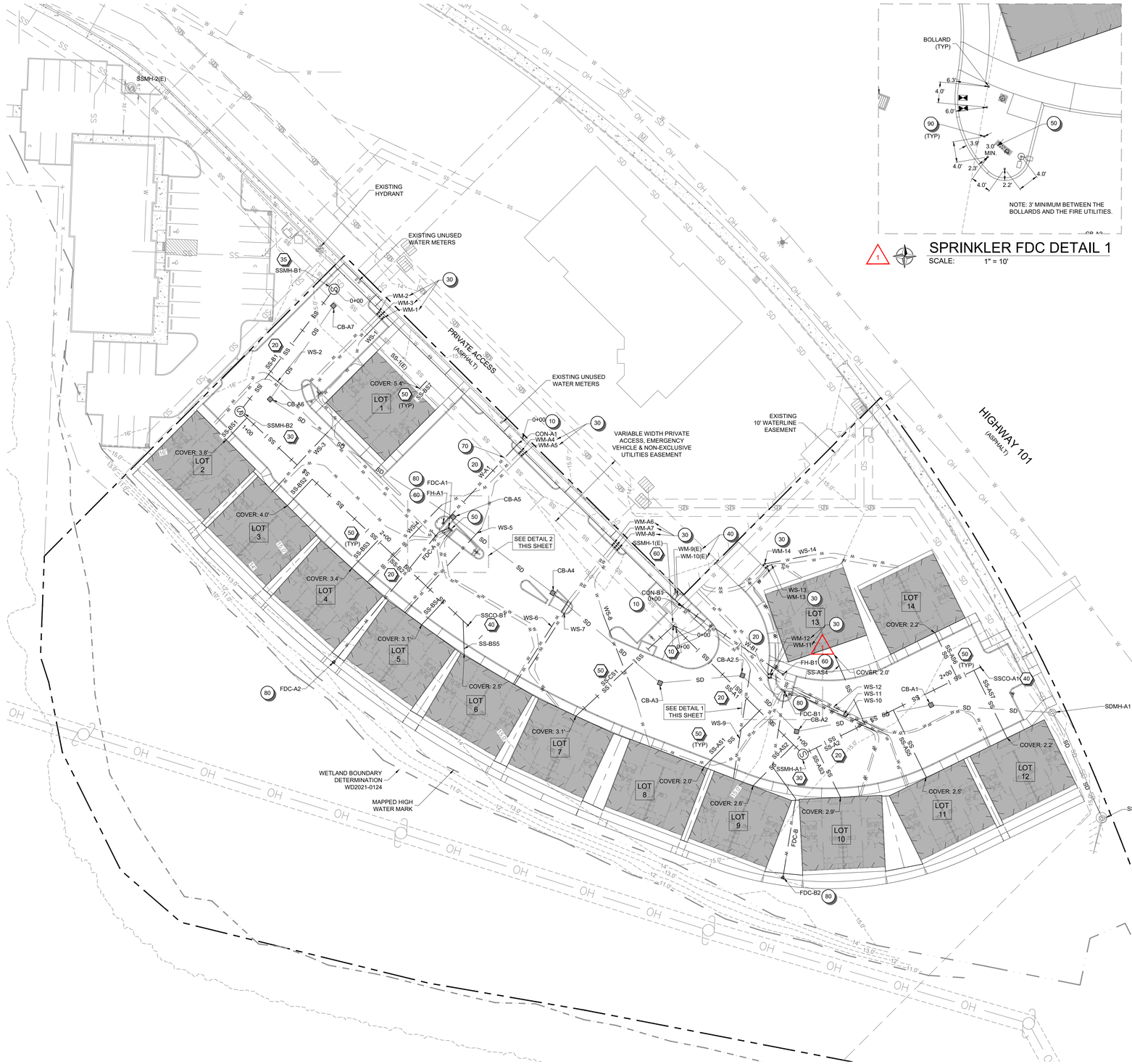


PRIVATE UTILITY AND SERVICES PLAN
SCALE: 1" = 30'

1 SPRINKLER FDC DETAIL 1
SCALE: 1" = 10'

WATER NOTES — DETAIL(S)

	10	CONSTRUCT PRIVATE WATER CONNECTION WITH THRUST BLOCK	1&2/C13, RD258/C15, PROFILE SHEET
	20	CONSTRUCT PRIVATE WATER LINE WITH TRACER WIRE	RD300/C15, RD254/C15, PROFILES/C10, PROFILE SHEET
1	30	CONSTRUCT PRIVATE SERVICE SADDLE CONNECTION AT THE MAIN, 24" FROM OTHER SERVICES OR FITTINGS, 2" MUNICIPEX COMBINED PRIVATE DOMESTIC/FIRE LINE WITH 1-1/2" METER, PRIVATE METER BOX AND TRACER WIRE. (EXISTING UNUSED METER BOXES MAY BE RELOCATED AND USED IF SIZED ADEQUATELY) COMBINED SERVICE LINE DESIGN PER MEAD ENGINEERING LLC UNIT FIRE PLANS NFPA-13R FIRE SYSTEM, REVISED 12/5/22.	RD274/C15
	40	USE EXISTING SERVICE LINE AFTER SIZE VERIFICATION AND METER BOX, CONSTRUCT 2" MUNICIPEX COMBINED PRIVATE DOMESTIC/FIRE LINE WITH 1-1/2" METER, PRIVATE METER BOX AND TRACER WIRE. (EXISTING UNUSED METER BOXES MAY BE RELOCATED AND USED IF SIZED ADEQUATELY) COMBINED SERVICE LINE DESIGN PER MEAD ENGINEERING LLC UNIT FIRE PLANS NFPA-13R FIRE SYSTEM, REVISED 12/5/22.	RD274/C15
1	50	CONSTRUCT BOLLARDS AND TYPICAL 2" SPRINKLER FDC CONNECTIONS WITH LOCKING CAPS AND ADDRESS LABELS BENEATH THE FDC CONNECTION PER MEAD ENGINEERING LLC UNIT FIRE PLANS NFPA-13R FIRE SYSTEM SHEET F-03, REVISED 12/5/22.	DETAILS 1&2/THIS SHEET
	60	CONSTRUCT BOLLARDS AND FIRE HYDRANT ASSEMBLY WITH 3000 PSI CONCRETE PAD AND THRUST BLOCK.	RD254/C15, RD258/C15, RD300/C15, DETAILS 1&2/THIS SHEET
	70	CENTER WATER PIPE LENGTH ON EXISTING SEWER LINE AT CROSSING. EXPOSE SANITARY SEWER ENCASE SEWER PIPE IN CDF 10' EACH SIDE OF WATER LINE CROSSING 6" MIN. ALL AROUND	PROFILE SHEET
	80	CONSTRUCT 6" MECHANICALLY RESTRAINED C900 DR18 FIRE DEPARTMENT DRY STANDPIPE AND FDC WITH LOCKING CAPS AND "DRY FDC" LABEL, TRACER WIRE, 2'X3' 3,000 PSI THRUST BLOCKS AT ALL BENDS, AND CONCRETE PAD.	6/C13
1	90	CONSTRUCT VEHICLE IMPACT PROTECTION BOLLARD WITH 1' X 4' X 4" CONCRETE COLLAR. PROVIDE 3' MIN. FROM BOLLARD TO STRUCTURE AND 4' MAX. BETWEEN BOLLARDS.	9/C13

SEWER NOTES — DETAIL(S)

	10	CONSTRUCT CORED SANITARY SEWER CONNECTIONS, GROUT CHANNELING AND KOR-N-SEAL CONNECTOR, TO EXISTING MANHOLE	RD345/C17
	20	CONSTRUCT 8" PVC D3034 PRIVATE BUILDING SEWER PIPE WITH TRACER WIRE	RD300/C15FIND
	30	CONSTRUCT PRIVATE SANITARY FLAT TOP SHALLOW MANHOLE	RD342/C17, RD344/C17, PROFILE SHEET
	35	CONSTRUCT PRIVATE SANITARY STANDARD MANHOLE	RD338/C16, RD344/C17, PROFILE SHEET
	40	CONSTRUCT 8" PVC D3034 PRIVATE SANITARY CLEANOUT WITH TRACER WIRE	RD362/C17, RD300/C/15, PROFILE SHEET
	50	CONSTRUCT PRIVATE UNDERGROUND 4" D3034 SDR35 WASTE LATERAL AT 2% WITH CLEANOUT, TO WITHIN 5' OF BUILDING, 1/4" PER FOOT SLOPE, WITH TRACER WIRE	RD310/C16, RD300/C15, PROFILE SHEET
	60	ADJUST MANHOLE LID AND FRAME WITH GRADE RING TO MATCH FINISH GRADE. REGROUT GRADE RINGS AND FRAME.	RD338/C16

1 WATER MAIN TESTING

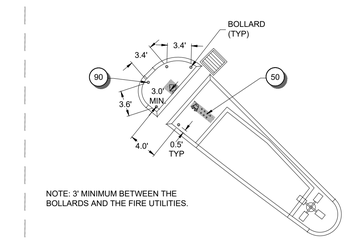
1. WATER MAINS TO BE PRESSURE TESTED PER ODOT STANDARD 01140.51 HYDROSTATIC TESTING
2. WATER MAINS TO BE DISINFECTED PER ODOT STANDARD 01140.52 DISINFECTING
3. PER CITY OF SEASIDE, A.M. ENGINEERING TO PROVIDE OBSERVATION OF PRIVATE WATER MAIN INSTALLATION BETWEEN THE WATER MAIN CONNECTIONS AND THE WATER METERS

SANITARY SEWER TESTING

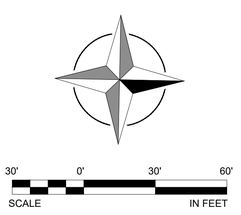
1. WATER TIGHTNESS/VACUUM TESTING, PIPES AND MODIFIED MANHOLE, OAR DIVISION 52, APPENDIX A
2. MANDREL AND VIDEO INSPECTION, APWA STANDARD SPECIFICATION 445

NOTE

1. COMBINED DOMESTIC/FIRE WATER SERVICE, DESIGN PER MEAD ENGINEERING LLC UNIT FIRE PLANS NFPA-13R FIRE SYSTEM, REVISED 12/5/22.
2. SEWER SERVICE LATERALS TO THE BUILDINGS ARE SIZED PER 2021 OREGON PLUMBING SPECIALTY CODE TABLE C 304.2.
3. SEWER MAINS ARE SIZED PER 2021 OREGON PLUMBING SPECIALTY CODE TABLE C 304.2, NOTE 1.
4. WATER LINE SIZING METHODOLOGY FOR FIRE FLOW AT THE HYDRANTS IS PROVIDED IN THE CONDITIONS OF APPROVAL RESPONSE LETTER SUBMITTED WITH THE PLANS TO THE CITY ON 7/18/22.
5. WATER METER AND METER SERVICE LINE SIZING PROVIDED BY MEAD ENGINEERING LLC SEE UNIT FIRE PLANS NFPA-13R FIRE SYSTEM SHEET F-01, REVISED 12/5/22.



1 SPRINKLER FDC DETAIL 2
SCALE: 1" = 10'



PERMIT SET

A.M. Engineering
P.O. BOX 973 SEASIDE, OREGON 97138
Phone: 503.468.8600 WWW.AMENGINR.COM

REGISTERED PROFESSIONAL ENGINEER 74370PE OREGON JUNE 2, 2020 ADAM DAILEY
NO CHANGES SHALL BE MADE TO THESE PLANS WITHOUT WRITTEN APPROVAL OF AM ENGINEERING
RENEWAL DATE: DECEMBER 31, 2023

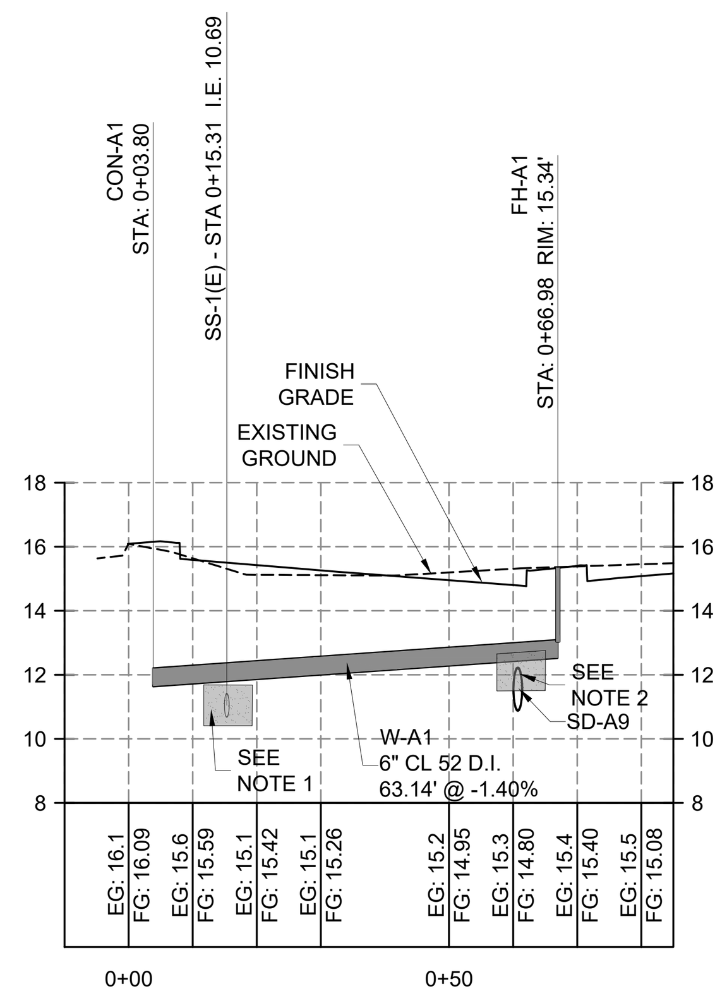
CROSS CREEK SUBDIVISION PLAN
PRIVATE UTILITY AND SERVICES PLAN
S15, T6N, R10W
SEASIDE, CLATSOP COUNTY, OREGON

NO.	DATE	BY	REVISION COMMENTS
1	12/19/22	ADD	CITY COMMENTS ALL SHEETS

INITIAL ISSUE

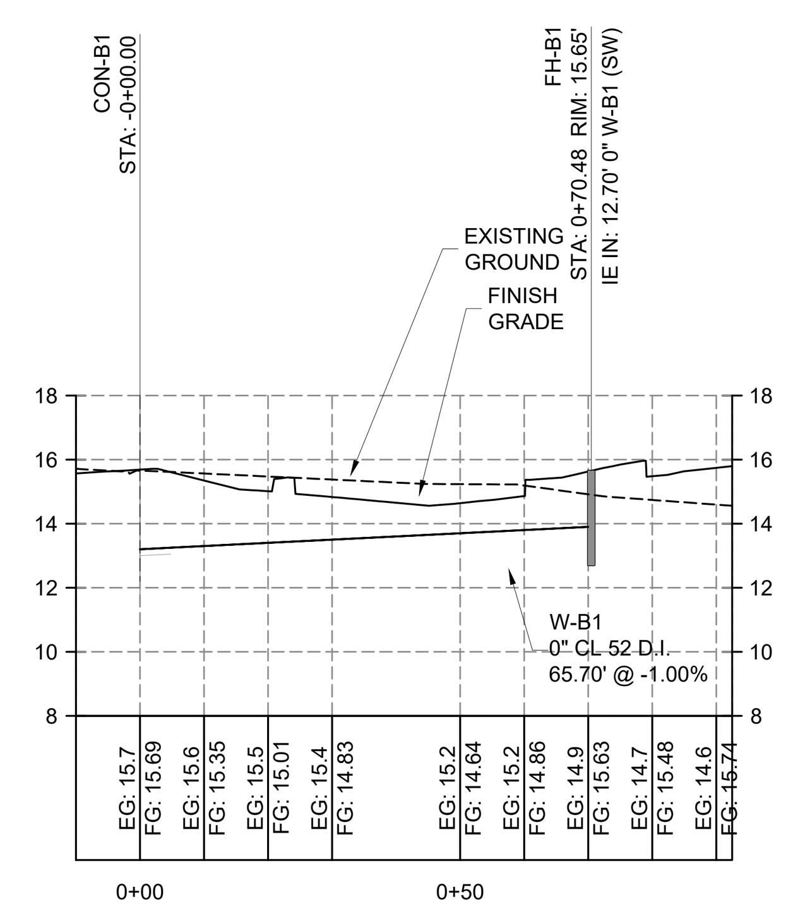
DESIGN:	DRAWN:
ADD	ADD
CHECKED:	DATE:
ADD	8/24/22

C9



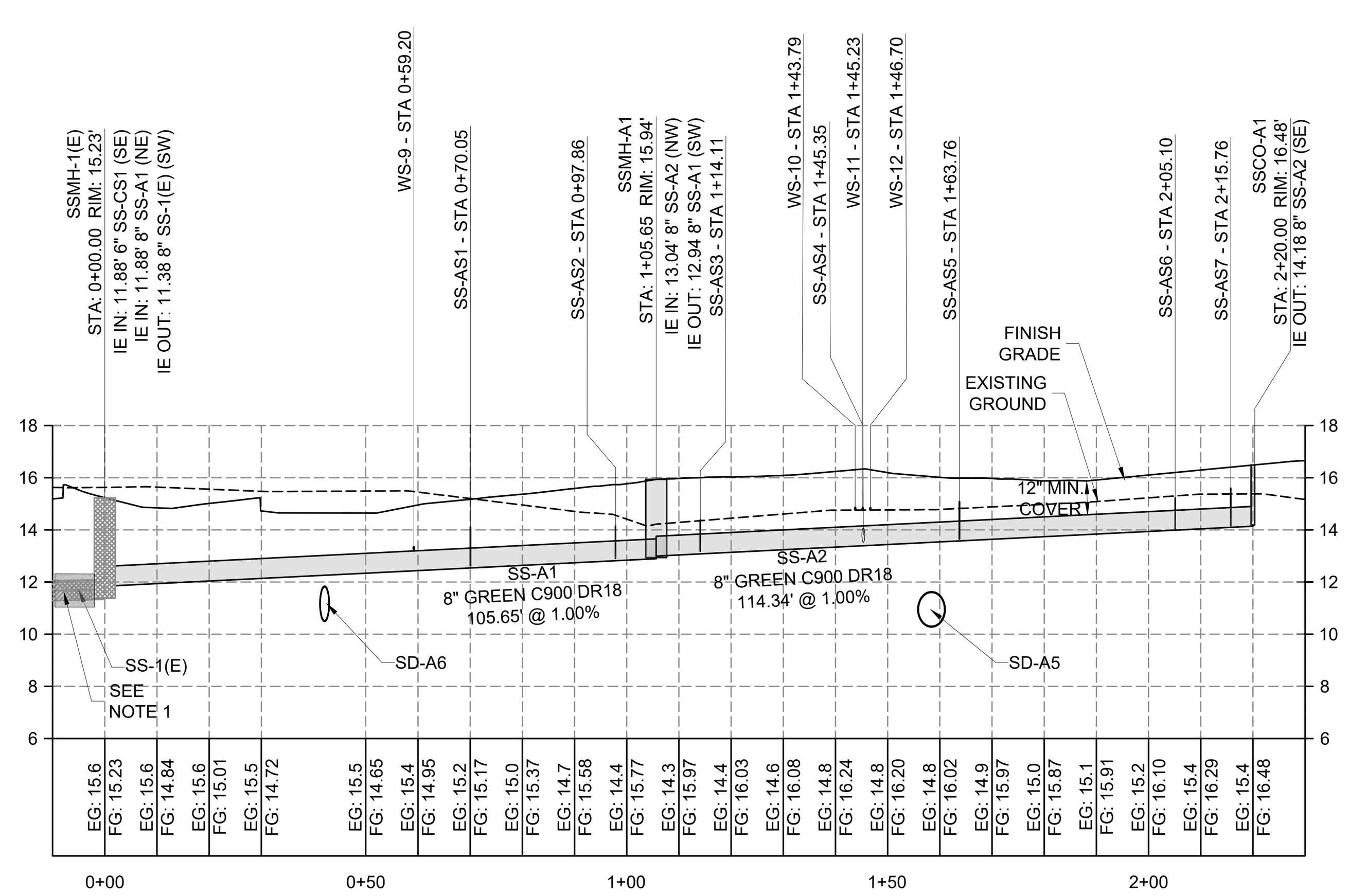
PRIVATE WATR-A1

HORIZ. SCALE: 1"=30'
VERT. SCALE: 1"=6'



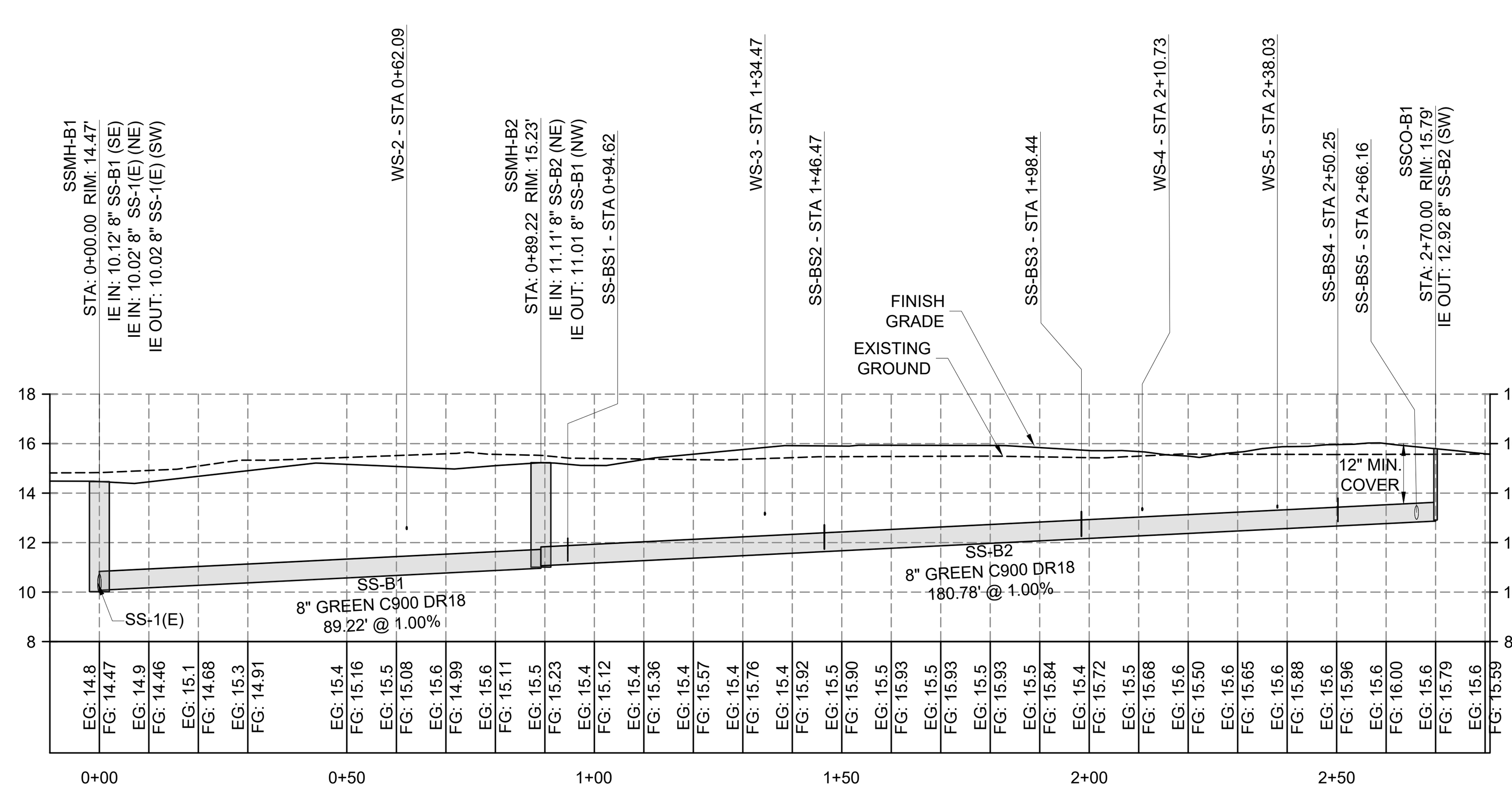
PRIVATE WATR-B1

HORIZ. SCALE: 1"=30'
VERT. SCALE: 1"=6'



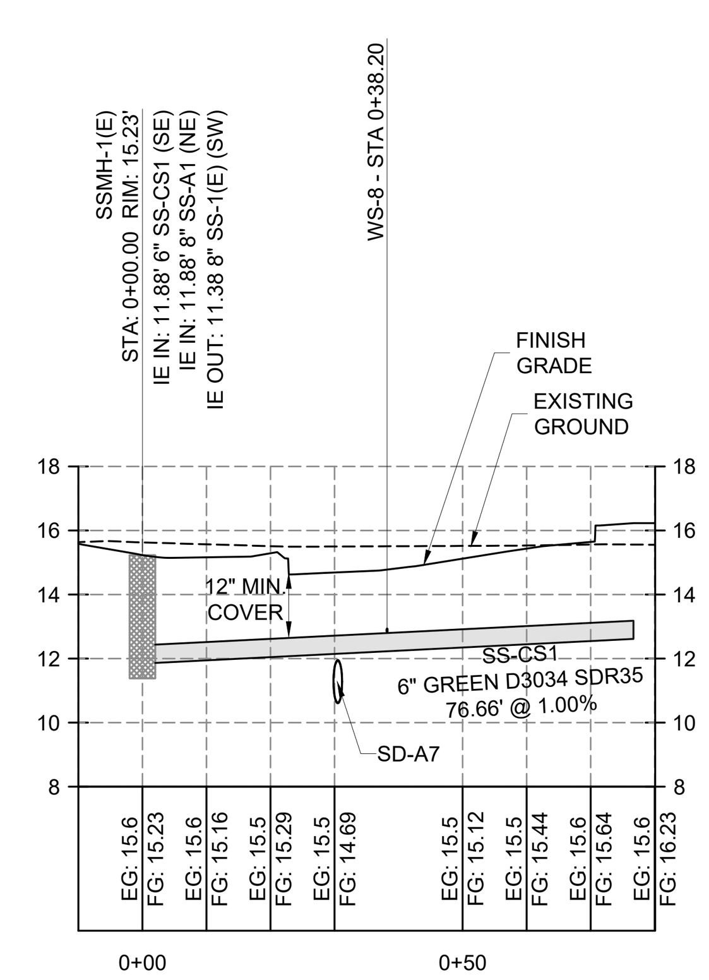
PRIVATE SSWR-A

HORIZ. SCALE: 1"=30'
VERT. SCALE: 1"=6'



PRIVATE SSWR-B1

HORIZ. SCALE: 1"=30'
VERT. SCALE: 1"=6'



WASTE LATERAL C

HORIZ. SCALE: 1"=30'
VERT. SCALE: 1"=6'

NOTE

1. CENTER WATER PIPE LENGTH ON EXISTING SEWER LINE AT CROSSING. EXPOSE SANITARY SEWER ENCASE SEWER PIPE IN CDF 10' EACH SIDE OF WATER LINE CROSSING 6" MIN. ALL AROUND.
2. PROVIDE CDF SEPARATION, SPRINGLINE TO SPRINGLINE 6" BEYOND LARGEST PIPE WIDTH.
3. WHERE WATER SERVICES ARE WITHIN 18" OF THE TOP OF THE SEWER PIPE, THE WATER SERVICE LINE SHALL CROSS THE SEWER AT THE SEWER PIPE MIDPOINT.

1 NO CHANGES THIS SHEET

REGISTERED PROFESSIONAL ENGINEER 74370PE OREGON JUNE 2, 2020 ADAM DAILEY
RENEWAL DATE: DECEMBER 31, 2023

A.M. Engineering
P.O. BOX 973 SEASIDE, OREGON 97138
Phone: 503.468.8600 WWW.AMENGNR.COM

CROSS CREEK SUBDIVISION PLAN

PRIVATE UTILITY AND SERVICES PLAN PROFILES
S15, T6N, R10W
SEASIDE, CLATSOP COUNTY, OREGON

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C10

PRIVATE STORM DRAINAGE PLAN

SCALE: 1" = 30'

30' 0' 30' 60'
SCALE IN FEET

STORMWATER NOTES

		DETAIL(S)
10	CONSTRUCT PIPE TO MANHOLE CONNECTIONS AT PREVIOUSLY REMOVED PIPE LOCATION. UPSIZE EXISTING WATER QUALITY TEE INSIDE THE MANHOLE.	RD335/C16, PROFILE SHEET
20	CONSTRUCT D3034 STORM PIPE WITH TRACER WIRE	RD300/C15, RD336/C16, C12, PROFILE SHEET
30	CONSTRUCT STORM MANHOLE	RD335/C16, RD336/C16, PROFILE SHEET
40	CONSTRUCT STORM CATCH BASIN WITH TRAP	RD378/C18, C12, PROFILE SHEET
50	CONSTRUCT ROOF DRAIN CONNECTION TO WALKWAY WEEP HOLES	RD700/C18, RD720/C18

STORM SEWER TESTING

1	MANDREL AND VIDEO INSPECTION, APWA STANDARD SPECIFICATION 445

1 NO CHANGES THIS SHEET

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REGISTERED PROFESSIONAL ENGINEER
74370PE
OREGON
JUNE 2, 2020
ADAM DAILEY
RENEWAL DATE: DECEMBER 31, 2023

CROSS CREEK SUBDIVISION PLAN
PRIVATE STORM DRAINAGE PLAN
S15, T6N, R10W
SEASIDE, CLATSOP COUNTY, OREGON

NO.	DATE	BY	REVISION COMMENTS
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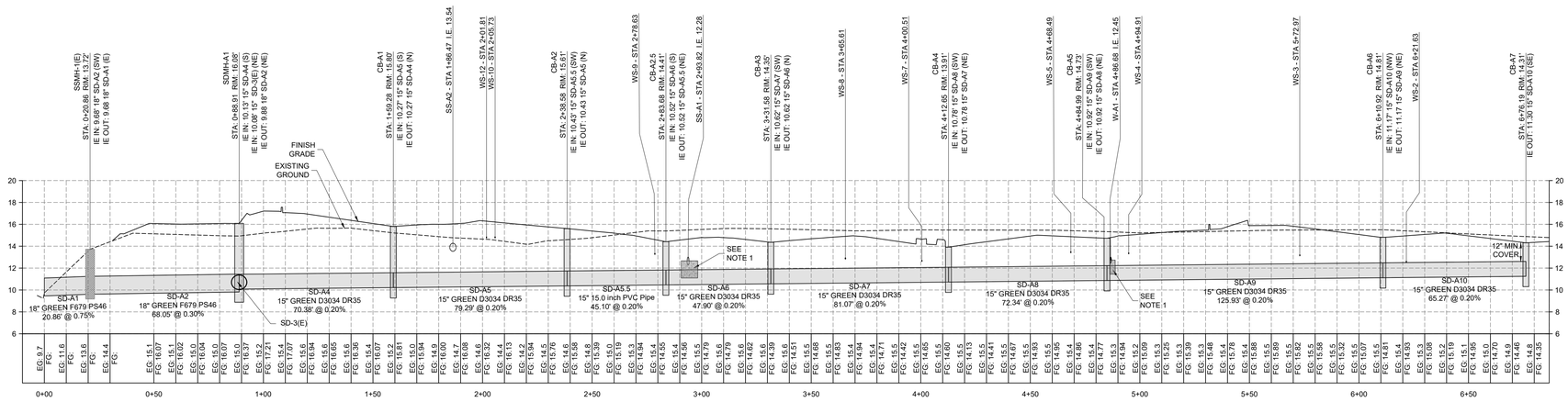
CHECKED:	DATE:
ADD	8/24/22

C11

NOTE

1. PROVIDE CDF SEPARATION, SPRINGLINE TO SPRINGLINE 6" BEYOND LARGEST PIPE WIDTH.



PRIVATE STRM-A

HORIZ. SCALE: 1"=30'
VERT. SCALE: 1"=6'

Cross Creek Stormwater *Type IA 24-hr 100 Year 24 Hr Rainfall=6.10"*
Prepared by A.M. Engineering Printed 7/6/2022
HydroCAD® 10.10-7a s/n M06985 © 2021 HydroCAD Software Solutions LLC Page 5

Time span=0.00-24.00 hrs, dt=0.01 hrs, 2401 points x 9
Runoff by SBUH method, Split Pervious/Imperv.
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment Impervious: Runoff Area=75,759 sf 100.00% Impervious Runoff Depth>5.85"
Tc=5.0 min CN=0/98 Runoff=2.52 cfs 0.848 af

Subcatchment Landscape: Runoff Area=15,908 sf 0.00% Impervious Runoff Depth>2.69"
Tc=5.0 min CN=68/0 Runoff=0.22 cfs 0.082 af

Reach Combined: Inflow=2.73 cfs 0.930 af
Outflow=2.73 cfs 0.930 af

Total Runoff Area = 2.104 ac Runoff Volume = 0.930 af Average Runoff Depth = 5.30"
17.35% Pervious = 0.365 ac 82.65% Impervious = 1.739 ac

15" CAPACITY AT MIN. SLOPE

MANNING'S EQUATION FOR PIPE FLOW

Project: Cross Creek Location: Existing Storm Pipe Capacity
By: add Date: 2/3/2022
Chk. By: Date:
mdo version 12.8.00

Clear Data Entry Cells

INPUT

D=	15	inches
d=	14.1	inches
n=	0.01	mannings coeff
θ=	56.7	degrees
S=	0.003	slope in/in

Mannings Formula
$Q=(1.486/n)AR_h^{2/3}S^{1/2}$
R=A/P
A=cross sectional area
P=wetted perimeter
S=slope of channel
n=Manning's roughness coefficient
$V=(1.49/n)R_h^{2/3}S^{1/2}$
Q=V x A

Solution to Mannings Equation				
Area,ft²	Wetted Perimeter, ft	Hydraulic Radius, ft	velocity ft/s	flow, cfs
1.20	3.31	0.36	4.13	4.95

Manning's n-values	
PVC	0.01
PE (<9"dia)	0.015
PE (>12"dia)	0.02
PE(9-12"dia)	0.017
CMP	0.025
ADS N12	0.012
HCMP	0.023
Conc	0.013

Created by: Mike O'Shea

12:00 PM
P:\20028 Cross Creek 4-Plex Site Development\Calculations\Cross Creek Existing Storm Pipe Capacity.xls 7/6/2022

18" F679 CAPACITY AT MIN. SLOPE

MANNING'S EQUATION FOR PIPE FLOW

Project: Cross Creek Location: Proposed Strom Pipe Capacity
By: add Date: 7/14/2022
Chk. By: Date:
mdo version 12.8.00

Clear Data Entry Cells

INPUT

D=	18	inches
d=	16.92	inches
n=	0.01	mannings coeff
θ=	56.7	degrees
S=	0.003	slope in/in

Mannings Formula
$Q=(1.486/n)AR_h^{2/3}S^{1/2}$
R=A/P
A=cross sectional area
P=wetted perimeter
S=slope of channel
n=Manning's roughness coefficient
$V=(1.49/n)R_h^{2/3}S^{1/2}$
Q=V x A

Solution to Mannings Equation				
Area,ft²	Wetted Perimeter, ft	Hydraulic Radius, ft	velocity ft/s	flow, cfs
1.72	3.97	0.43	4.67	8.05

Manning's n-values	
PVC	0.01
PE (<9"dia)	0.015
PE (>12"dia)	0.02
PE(9-12"dia)	0.017
CMP	0.025
ADS N12	0.012
HCMP	0.023
Conc	0.013

Created by: Mike O'Shea

12:01 PM
P:\20028 Cross Creek 4-Plex Site Development\Calculations\Cross Creek Proposed Storm Pipe Capacity.xls 7/6/2022

15" D3034 CAPACITY AT MIN. SLOPE

MANNING'S EQUATION FOR PIPE FLOW

Project: Cross Creek Location: Proposed Strom Pipe Capacity
By: add Date: 7/14/2022
Chk. By: Date:
mdo version 12.8.00

Clear Data Entry Cells

INPUT

D=	15	inches
d=	14.1	inches
n=	0.01	mannings coeff
θ=	56.7	degrees
S=	0.002	slope in/in

Mannings Formula
$Q=(1.486/n)AR_h^{2/3}S^{1/2}$
R=A/P
A=cross sectional area
P=wetted perimeter
S=slope of channel
n=Manning's roughness coefficient
$V=(1.49/n)R_h^{2/3}S^{1/2}$
Q=V x A

Solution to Mannings Equation				
Area,ft²	Wetted Perimeter, ft	Hydraulic Radius, ft	velocity ft/s	flow, cfs
1.20	3.31	0.36	3.37	4.04

Manning's n-values	
PVC	0.01
PE (<9"dia)	0.015
PE (>12"dia)	0.02
PE(9-12"dia)	0.017
CMP	0.025
ADS N12	0.012
HCMP	0.023
Conc	0.013

Created by: Mike O'Shea

12:01 PM
P:\20028 Cross Creek 4-Plex Site Development\Calculations\Cross Creek Proposed Storm Pipe Capacity.xls 7/6/2022

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REGISTERED PROFESSIONAL ENGINEER
74370PE
OREGON
JUNE 9, 2010
ADAM DAILEY
RENEWAL DATE: DECEMBER 31, 2023

CROSS CREEK SUBDIVISION PLAN

PRIVATE STORM DRAINAGE PROFILES

S15, T6N, R10W

SEASIDE, CLATSOP COUNTY, OREGON

NO.	DATE	BY	REVISION COMMENTS
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C12

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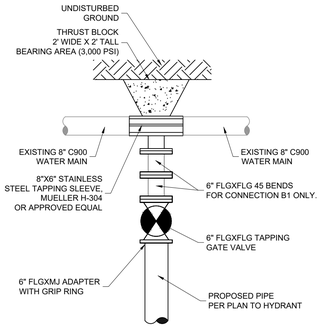

1 C13 CONNECTION A1 DETAIL
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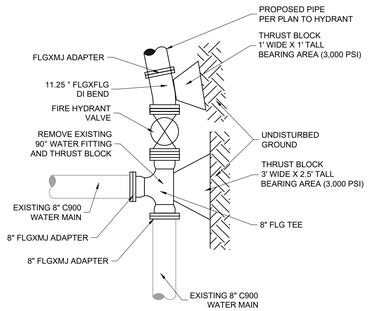

2 C13 CONNECTION B1 DETAIL
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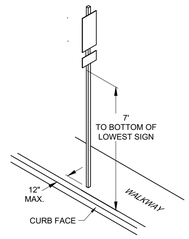

3 C13 SIGN PLACEMENT DETAIL
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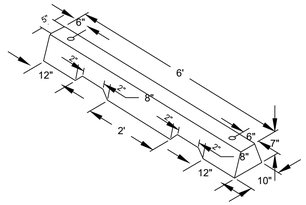
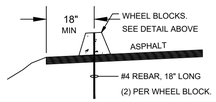


WHEEL BLOCK DETAIL



4 C13 WHEEL STOP DETAIL
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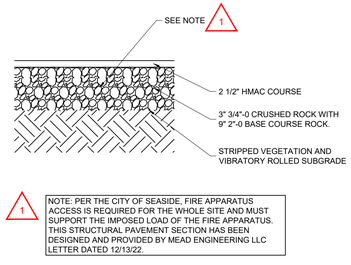
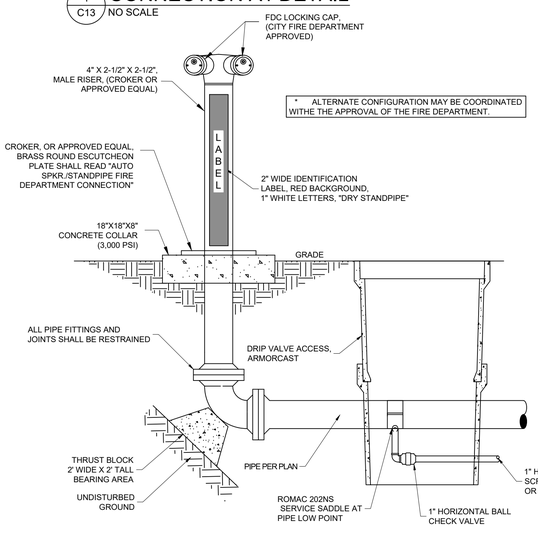


1 NOTE: PER THE CITY OF SEASIDE, FIRE APPARATUS ACCESS IS REQUIRED FOR THE WHOLE SITE AND MUST SUPPORT THE IMPOSED LOAD OF THE FIRE APPARATUS. THIS STRUCTURAL PAVEMENT SECTION HAS BEEN DESIGNED AND PROVIDED BY MEAD ENGINEERING LLC LETTER DATED 12/13/22.

5 C13 FIRE ACCESS PAVEMENT SECTION
NO SCALE



6 C13 FDC DRY STANDPIPE DETAIL
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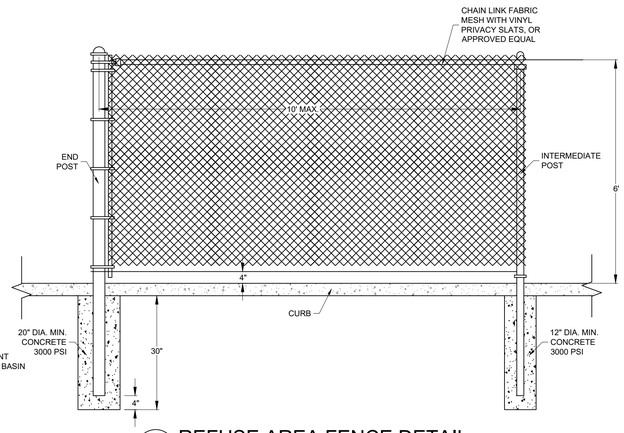

7 C13 REFUSE AREA FENCE DETAIL
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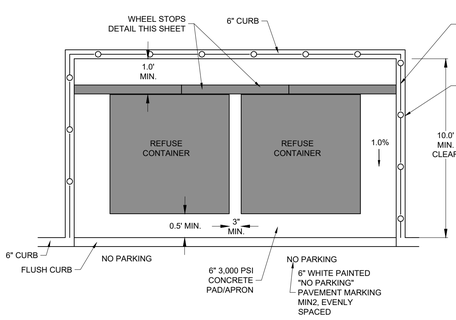

8 C13 TYPICAL REFUSE AREA DETAIL
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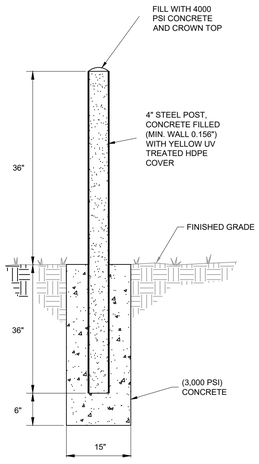
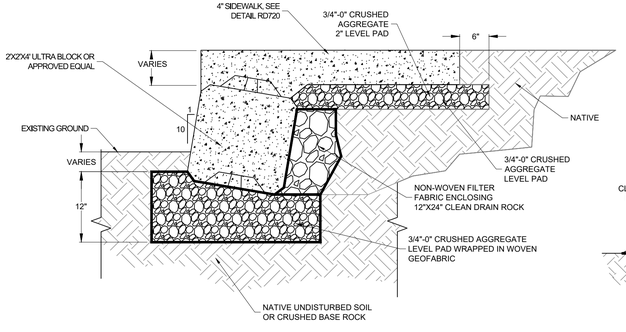


9 C13 BOLLARD DETAIL
NO SCALE

1



10 C13 WALKWAY/BLOCK DETAIL I
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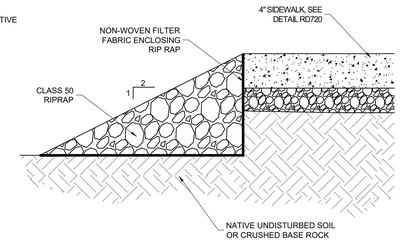
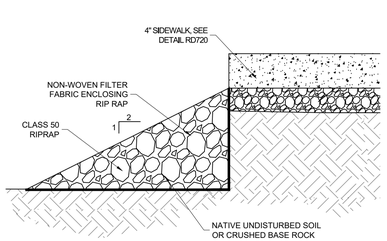
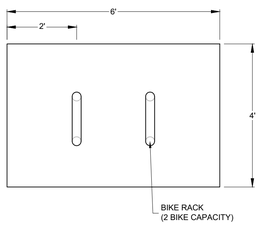


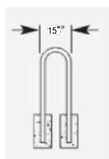
11 C13 WALKWAY EMBANKMENT DETAIL I
NO SCALE



12 C13 WALKWAY EMBANKMENT DETAIL II
NO SCALE



13 C13 SHORT TERM BIKE RACK DETAIL
NO SCALE



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P.O. BOX 973 SEASIDE, OREGON 97138
Phone: 503.468.8600 WWW.AMENGNR.COM

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REGISTERED PROFESSIONAL ENGINEER
74370PE
OREGON
JUNE 2, 2020
ADAM DAILEY
RENEWAL DATE: DECEMBER 31, 2023

CROSS CREEK SUBDIVISION PLAN
DETAILS I
S15, T6N, R10W
SEASIDE, CLATSOP COUNTY, OREGON

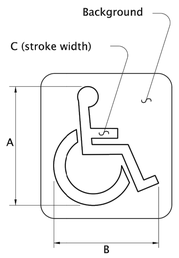
NO.	DATE	BY	REVISION COMMENTS
1	12/19/22	ADD	CITY COMMENTS ALL SHEETS

INITIAL ISSUE	
DESIGN:	DRAWN:
ADD	ADD
CHECKED:	DATE:
ADD	8/24/22

C13

PERMIT SET

PAVEMENT MARKING STENCIL



Pavement Marking Background: Optional: Blue, Retroreflective

Pavement Marking Stencil: White, Retroreflective

LEGEND	DIMENSIONS (INCHES)						
	A	B	C	D	E	F	G
MINIMUM	28	24	3				
STANDARD	41	36	4				

The pavement marking stencil shall be used to designate an accessible parking area reserved for vehicles with DMV permits.

Figure 6

PAVEMENT MARKING LEGEND

Pavement Marking Legend: White or Yellow, Retroreflective

The "No Parking" pavement marking is used to designate an access aisle reserved for persons use parking with a DMV permit. This marking shall be required for all access aisles next to accessible parking spaces. Engineering judgement should be used for placement location to give best visual location to prevent illegal use of access aisle. Yellow may be used instead of white to increase contrast between access aisle white lines and the "No Parking" legend.

Figure 7

SIGN DESIGN

SIGN NO. R7-8

Sign Background: White, Retroreflective sheeting

Sign Legend: Green, Retroreflective sheeting

Sign Symbol: White on Blue, Retroreflective sheeting

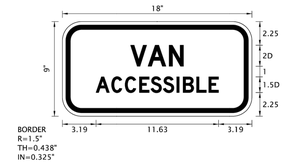
Refer to Standard Highway Signs book for details.

The Disabled Person parking sign is used to designate a parking area reserved for vehicles with DMV permit as stated.

Figure 8

SIGN DESIGN

SIGN NO. R7-8P



Sign Background: White, Retroreflective sheeting

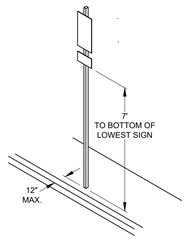
Sign Legend: Green, Retroreflective sheeting

Refer to Standard Highway Signs book for details and dimensions.

The VAN-ACCESSIBLE sign shall only be used with sign R7-8 to designate the parking spaces that have an access aisle 8 ft or wider

Figure 9

1 C14 ADA SIGNAGE DETAIL I
NO SCALE

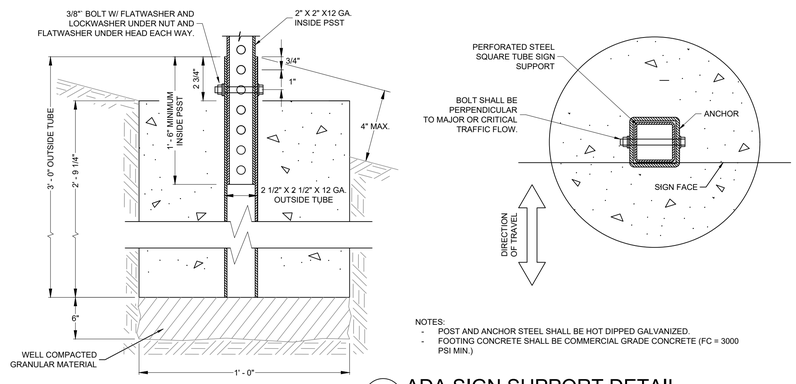


2 C14 ADA SIGNAGE DETAIL II
NO SCALE

3 C14 ADA SIGNAGE DETAIL III
NO SCALE

4 C14 ADA SIGNAGE DETAIL IV
NO SCALE

5 C14 ADA SIGN PLACEMENT DETAIL
NO SCALE



NOTES:
- POST AND ANCHOR STEEL SHALL BE HOT DIPPED GALVANIZED.
- FOOTING CONCRETE SHALL BE COMMERCIAL GRADE CONCRETE (FC = 3000 PSI MIN.)

6 C14 ADA SIGN SUPPORT DETAIL
NO SCALE

MINIMUM STANDARD
SINGLE-ACCESSIBLE PARKING SPACE
(VAN-ACCESSIBLE DESIGNATION REQUIRED)

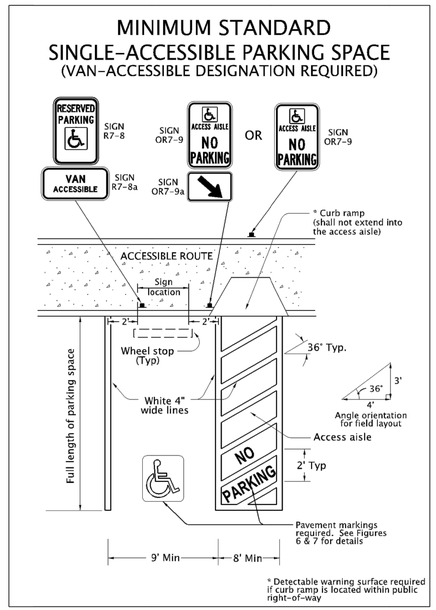


Figure 1

7 C14 ADA SIGNAGE DETAIL V
NO SCALE

MINIMUM STANDARD
DOUBLE-ACCESSIBLE PARKING SPACE
(ONE VAN-ACCESSIBLE DESIGNATION REQUIRED)

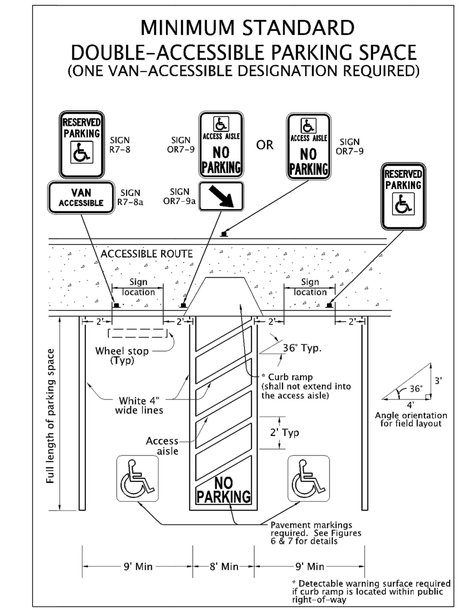


Figure 2

8 C14 ADA SIGNAGE DETAIL VI
NO SCALE

NO CHANGES THIS SHEET

PERMIT SET

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Phone: 503.468.8600 WWW.AMENGNR.COM

REGISTERED PROFESSIONAL ENGINEER
74370PE
OREGON
JUNE 2, 2010
ADAM DAILEY
RENEWAL DATE: DECEMBER 31, 2023

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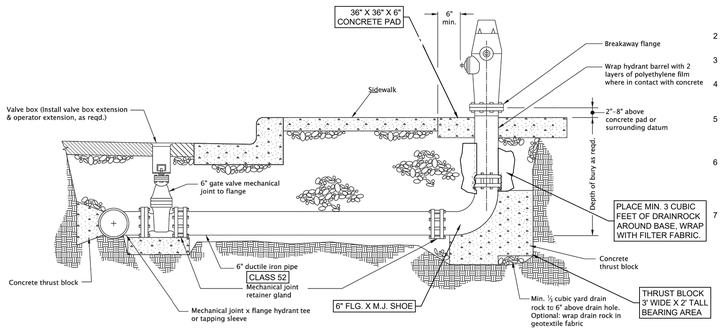
CROSS CREEK SUBDIVISION PLAN
DETAILS II
S15, T6N, R10W
SEASIDE, CLATSOP COUNTY, OREGON

NO.	DATE	BY	REVISION COMMENTS
1	12/9/22	ADD	CITY COMMENTS ALL SHEETS

INITIAL ISSUE	
DESIGN:	DRAWN:
ADD	ADD
CHECKED:	DATE:
ADD	8/24/22

C14

rd254.dgn 20-JUL-2020



HYDRANT ASSEMBLY

NOTE:

1. WRAP PIPE AND OR FITTINGS WITH 12 MIL TOTAL THICKNESS POLYETHYLENE WHERE IN CONTACT WITH CONCRETE. HYDRANT DRAIN HOLES TO REMAIN OPEN TO DRAIN ROCK AND OPERATIONAL.
2. 1 1/2" - 3/4" CLEAN DRAIN ROCK MIN. OF 6" ABOVE DRAIN OUTLET.
3. HYDRANT VALVE SHALL BE MUELLER RESILIENT SEAT GATE VALVE ONLY.
4. JOINTS TO BE RESTRAINED BY GRIP RING GASKETS OR BY USING FLANGE HYDRANT SHOE, GATE VALVE AND SPOOL.
5. CONTRACTOR SHALL CONFIRM REQUIRED HYDRANT ASSEMBLY PARTS AND DEPTH OF BURY WITH EACH INDIVIDUAL HYDRANT BEFORE ORDERING PARTS.
6. 12-GAUGE, SOLID CORE,COATED COPPER WIRE WITH THERMOPLASTIC INSULATION RECOMMENDED FOR DIRECT BURIAL, WITH PRO-TRACE TW CONNECTORS (IF REQUIRED) BLUE = WATER
7. DUCTILE IRON PIPE SHALL BE CLASS 52, CEMENT MORTAR-LINED WITH PUSH-ON OR MECHANICAL TYPE JOINTS, AND CONFORM TO AWWA C151.

GENERAL NOTES FOR ALL DETAILS ON THIS SHEET:

1. When pipe is shorter than 18', no joints allowed. Use mechanical joint retainer glands. Two ½" galvanized tie rods may be used in lieu of thrust blocks for installations less than 18' long. Coat tie rods with two coats of coal tar epoxy.
2. When pipe is longer that 18' retainer glands not required.
3. There shall be a minimum of 18" horizontal clearance around hydrant.
4. When placed adjacent to curb, hydrant port shall be 24" from face of curb.
5. Concrete thrust blocks shall be constructed as per thrust blocking Std. Dwg. RD250. Do not block drain holes.
6. Extensions required for hydrant systems shall be installed to the manufacturer's specifications.
7. Hydrants shall be placed to provide a minimum of 5' clearance from driveways, poles, and other obstructions.
8. Hydrant pumper port shall face direction of access.
9. Set hydrant plumb in all directions.
10. See project plans for details not shown.

CALC. BOOK NO. N/A

SDR DATE 25-JUL-2017

NOTE: All material and workmanship shall be in accordance with the current Oregon Standard Specifications

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.

OREGON STANDARD DRAWINGS

HYDRANT INSTALLATION

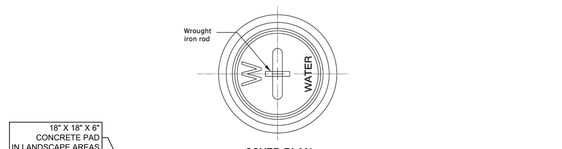
2021

DATE	REVISION DESCRIPTION

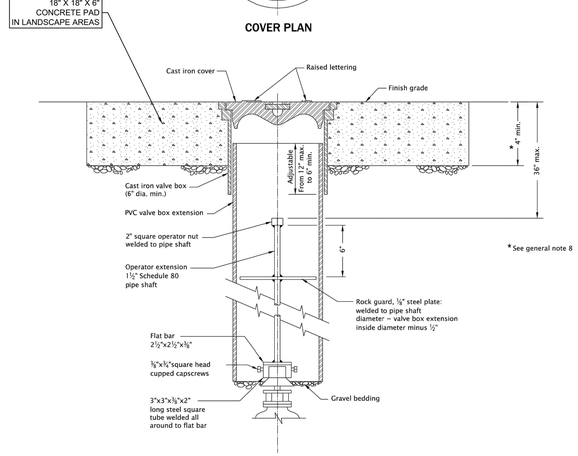
RD254

Effective Date: June 1, 2022 - November 30, 2022

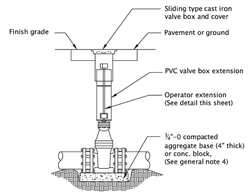
rd258.dgn 20-JUL-2020



COVER PLAN



VALVE BOX EXTENSION SECTION



VALVE BOX ASSEMBLY DETAIL

GENERAL NOTES FOR ALL DETAILS ON THIS SHEET:

1. Valve box not to rest on operating assembly.
2. Operator extension required when valve nut is deeper than 4' from finish grade.
3. Center valve box on axis of operator nut.
4. Valves 12" and smaller shall be provided with compacted aggr. base on undisturbed ground. Valves greater than 12" shall be installed on precast concrete block, (4" thick).
5. Welds shall be minimum ¼" all around.
6. Hot dip galvanize operator extension after fabrication.
7. Casting shall meet H20 load requirement.
8. Provide concrete or asphalt pad (24" square, 4" thick), when required.
9. See project plans for details not shown.

CALC. BOOK NO. N/A

SDR DATE 25-JUL-2017

NOTE: All material and workmanship shall be in accordance with the current Oregon Standard Specifications

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.

OREGON STANDARD DRAWINGS

VALVE BOX AND OPERATOR EXTENSION ASSEMBLY

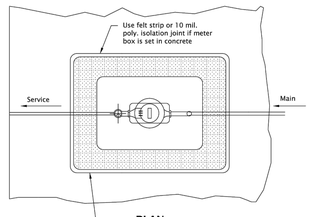
2021

DATE	REVISION DESCRIPTION

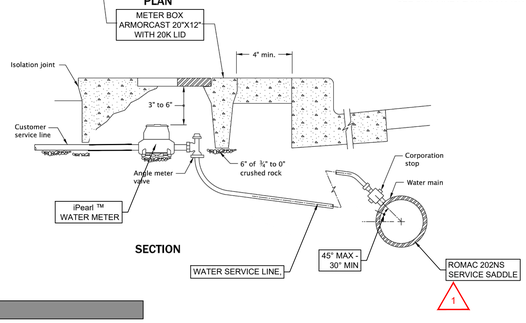
RD258

Effective Date: June 1, 2022 - November 30, 2022

rd274.dgn 20-JUL-2020



PLAN



SECTION

NOTE:

1. WATER SERVICE LINE AND METER SIZE BY OTHERS

NOTE:

1. 2" MUNICIPEX COMBINED PRIVATE DOMESTIC/FIRE LINE WATER SERVICE WITH 1-1/2" METER. WATER METER AND METER SERVICE LINE SIZING PROVIDED MY MEAD ENGINEERING LLC SEE UNIT FIRE PLANS NFPA-13R FIRE SYSTEM SHEET F-01, DATED 10/24/22.

GENERAL NOTES FOR ALL DETAILS ON THIS SHEET:

1. Meter to be centered and set plumb inside meter box.
2. Manufactured meter setter may be used for ¾" to 2" services.
3. Set meter box 4" minimum behind curb or sidewalk.
4. Meter boxes set in driveways shall have traffic lids.
5. See project plans for meter box size.
6. See project plans for details not shown.

CALC. BOOK NO. N/A

SDR DATE 25-JUL-2017

NOTE: All material and workmanship shall be in accordance with the current Oregon Standard Specifications

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.

OREGON STANDARD DRAWINGS

¾" TO 2" WATER SERVICE CONNECTION

2021

DATE	REVISION DESCRIPTION

RD274

Effective Date: June 1, 2022 - November 30, 2022

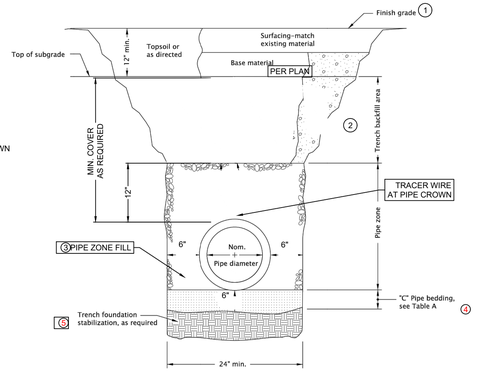
rd300.dgn 20-JUL-2020

NOTE:

1. 12-GAUGE, SOLID CORE,COATED COPPER WIRE WITH THERMOPLASTIC INSULATION FOR DIRECT BURIAL, WITH PRO-TRACE TW CONNECTORS (IF REQUIRED) GREEN = SEWER, AND STORM, BLUE = WATER
2. * ALL DIMENSIONS SHOWN ARE MINIMUM AND RELATIVE TO OUTSIDE OF PIPE BELL.

TRENCH MATERIAL:

1. MATCH FINISH GRADE MATERIALS AS SHOWN ON PLANS.
2. APWA CLASS C SAND BACKFILL.
3. COMPACTED 3/4"-0" CRUSHED ROCK.
4. COMPACTED 3/4"-0" CRUSHED ROCK.
5. UNDISTURBED NATIVE MATERIAL OR 1-1/2" MINUS CRUSHED ROCK IF TRENCH FOUNDATION STABILIZATION IS REQUIRED.



MULTIPLE INSTALLATIONS

DIAMETER	MIN. SPACE BETWEEN PIPES
Up to 48"	24"
48" to 72"	One half (½) dia. of pipe

GENERAL NOTES FOR ALL DETAILS ON THIS SHEET:

1. Surfacing of paved areas shall comply with street cut Std. Dwg. RD302.
2. For pipe installation in embankment areas where the trench method will not be used and the pipe is ≥ 36" diameter, increase dimension "B" to nominal pipe diameter.
3. Pipes over 72" diameter are structures, and are not applicable to this drawing.

CALC. BOOK NO. N/A

SDR DATE 14-JUL-2014

NOTE: All material and workmanship shall be in accordance with the current Oregon Standard Specifications

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.

OREGON STANDARD DRAWINGS

TRENCH BACKFILL, BEDDING, PIPE ZONE AND MULTIPLE INSTALLATIONS

2021

DATE	REVISION DESCRIPTION

RD300

Effective Date: June 1, 2022 - November 30, 2022

A.M. Engineering
P.O. BOX 973 SEASIDE, OREGON 97138
Phone: 503.468.8600 WWW.AMENGINR.COM

CROSS CREEK SUBDIVISION PLAN

OREGON DETAILS I

S15, T6N, R10W

SEASIDE, CLATSOP COUNTY, OREGON

PERMIT SET

NO.	DATE	BY	REVISION COMMENTS
1	12/19/22	ADD	CITY COMMENTS ALL SHEETS

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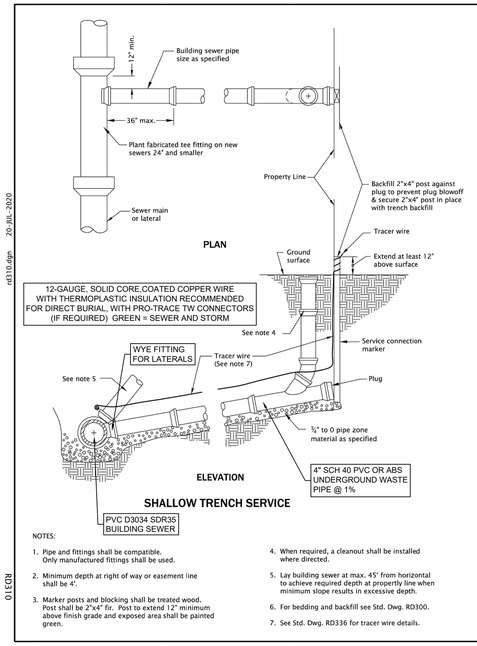
ADD	8/24/22

C15

P:\20028 Cross Creek 4-Plex Site Development\ACADIC\20028-210.dwg Plotted: By anne dell, 12/17/2022 3:10:34 PM

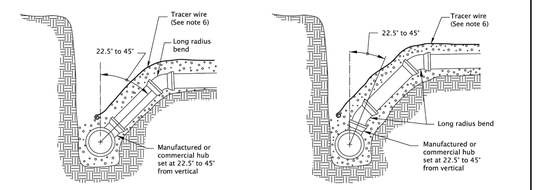
rd310.dgm 20-JUL-2020



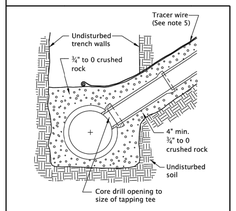
NOTES:

1. Pipe and fittings shall be compatible. Only manufactured fittings shall be used.
2. Minimum depth at right of way or easement line shall be 4'.
3. Marker posts and blocking shall be treated wood. Post shall be 2"x4" fir. Post to extend 12" minimum above finish grade and exposed area shall be painted green.
4. When required, a cleanout shall be installed where directed.
5. Lay building sewer at max. 45° from horizontal to achieve required depth at property line when minimum slope results in excessive depth.
6. For bedding and backfill see Std. Dwg. RD300.
7. See Std. Dwg. RD336 for tracer wire details.

RD310



DEEP TRENCH SERVICE



WASTEWATER SERVICE TAP

NOTES:

1. Seat tee in place to fit outside surface of carrier pipe and to form watertight seal.
2. Type of tapping tee shall be watertight and conform to standard specification requirements.
3. Tapping tee shall not protrude into pipe except as approved by the engineer.
4. For bedding and backfill, see Std. Dwg. RD300.
5. See Std. Dwg. RD336 for tracer wire details.

NOTES:

1. Pipe and fittings shall be compatible. Only manufactured fittings shall be used.
2. For details not shown see shallow trench service connection drawing.
3. Vertical trench walls are required. If it is not possible to maintain vertical trench walls, use alternate connection method to maintain 6" maximum distance between riser pipe and trench walls. Replace all excavated or disturbed material with full depth granular backfill compacted to 95% relative density.
4. Where deep connection is at an angle less than 45° from vertical, ductile iron pipe and fittings should be used.
5. For bedding and backfill, see Std. Dwg. RD300.
6. See Std. Dwg. RD336 for tracer wire details.

CALC. BOOK NO. N/A

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.

SDR DATE 21-JUL-2015

NOTE: All material and workmanship shall be in accordance with the current Oregon Standard Specifications

OREGON STANDARD DRAWINGS

SHALLOW/DEEP TRENCH SERVICE CONNECTION, BLOCKING AND MARKERS

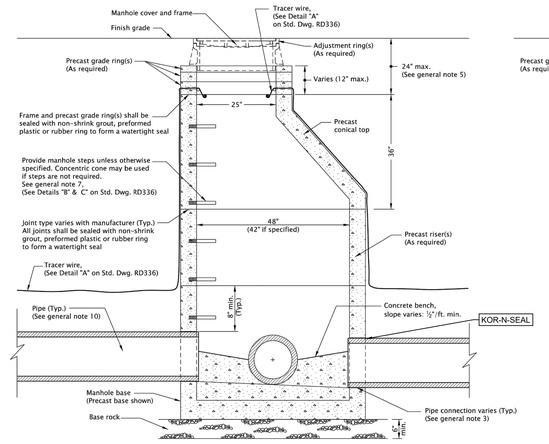
2021

DATE	REVISION DESCRIPTION

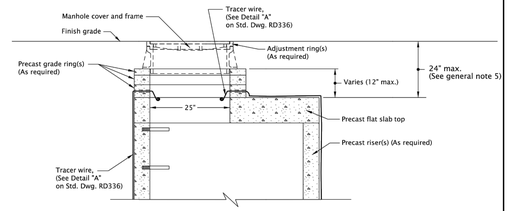
RD310

Effective Date: June 1, 2022 - November 30, 2022

rd335.dgm 20-JUL-2020



MANHOLE WITH PRECAST CONICAL TOP



MANHOLE WITH PRECAST FLAT SLAB TOP

12-GAUGE, SOLID CORE,COATED COPPER WIRE WITH THERMOPLASTIC INSULATION RECOMMENDED FOR DIRECT BURIAL, WITH PRO-TRACE TW CONNECTORS (IF REQUIRED) GREEN = SEWER AND STORM

GENERAL NOTES FOR ALL DETAILS ON THIS SHEET:

1. All precast products shall conform to requirements of ASTM C478.
2. Standard precast manhole section diameter shall be 48". Use 42" if specified by the Engineer.
3. See Std. Dwg. RD345 for pipe to manhole connections.
4. See Std. Dwg. RD344 for manhole base section.
5. Adjust 24" maximum.
6. All connecting pipes shall have a tracer wire, or approved alternate.
7. See Std. Dwg. RD336 for manhole steps.
8. See Std. Dwg. RD336 for details not shown.
9. See Std. Dwg. RD356 for manhole covers and frames, manhole adjustment rings, etc.
10. Max. pipe diameter varies with pipe material.
11. See Std. Dwg. RD342 for shallow manholes.
12. Location, elevation, diameter, slope, and number of pipe(s) varies, see project plans.

CALC. BOOK NO. N/A

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.

SDR DATE 21-JUN-2019

NOTE: All material and workmanship shall be in accordance with the current Oregon Standard Specifications

OREGON STANDARD DRAWINGS

STANDARD STORM SEWER MANHOLE

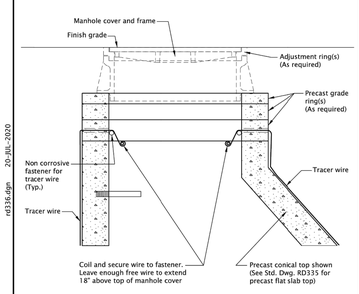
2021

DATE	REVISION DESCRIPTION

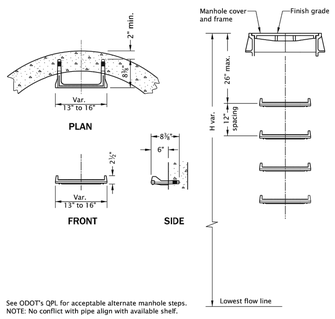
RD335

Effective Date: June 1, 2022 - November 30, 2022

rd336.dgm 20-JUL-2020



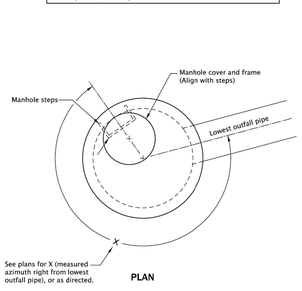
DETAIL "A"
TRACER WIRE
(See general note 6)



See ODOT's QPL for acceptable alternate manhole steps.
NOTE: No conflict with pipe align with available shelf.

DETAIL "B"
MANHOLE STEPS
(See general note 7)

12-GAUGE, SOLID CORE,COATED COPPER WIRE WITH THERMOPLASTIC INSULATION RECOMMENDED FOR DIRECT BURIAL, WITH PRO-TRACE TW CONNECTORS (IF REQUIRED) GREEN = SEWER AND STORM



DETAIL "C"
PRECAST CONICAL TOP
OR
PRECAST FLAT SLAB TOP
AND MANHOLE STEPS ORIENTATION
(See general note 7)

GENERAL NOTES FOR ALL DETAILS ON THIS SHEET:

1. All precast products shall conform to requirements of ASTM C478.
2. Standard precast manhole section diameter shall be 48". Use 42" if specified by the Engineer.
3. See Std. Dwg. RD345 for pipe to manhole connections.
4. See Std. Dwg. RD344 for manhole base section.
5. Adjust 24" maximum.
6. All connecting pipes shall have a tracer wire, or approved alternate. Place tracer wire directly over pipe centerline and on top of the pipe zone material.
7. Steps shall conform to requirements of ASTM C478. When H=42" or less omit steps. See Detail "C" for alignment of steps, and manhole cover and frame.
8. See Std. Dwg. RD335 for details not shown.
9. See Std. Dwg. RD356 for manhole covers and frames, manhole adjustment rings, etc.
10. Max. pipe diameter varies with pipe material.
11. See Std. Dwg. RD342 for shallow manholes.
12. See project plans for details not shown.

CALC. BOOK NO. N/A

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.

SDR DATE 16-JAN-2019

NOTE: All material and workmanship shall be in accordance with the current Oregon Standard Specifications

OREGON STANDARD DRAWINGS

STANDARD MANHOLE DETAILS

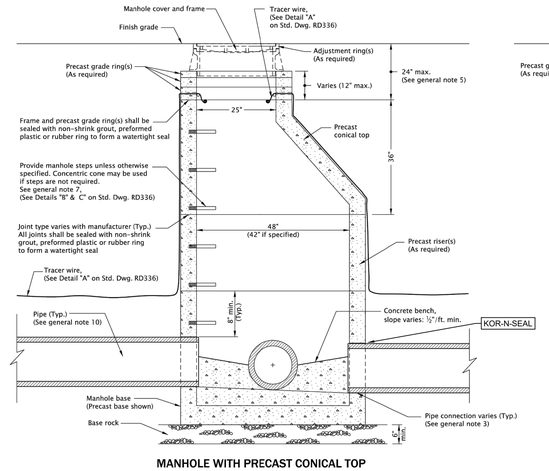
2021

DATE	REVISION DESCRIPTION

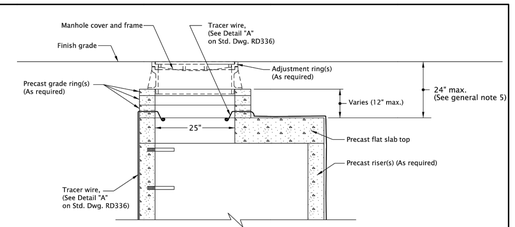
RD336

Effective Date: June 1, 2022 - November 30, 2022

rd338.dgm 20-JUL-2020



MANHOLE WITH PRECAST CONICAL TOP



MANHOLE WITH PRECAST FLAT SLAB TOP

12-GAUGE, SOLID CORE,COATED COPPER WIRE WITH THERMOPLASTIC INSULATION RECOMMENDED FOR DIRECT BURIAL, WITH PRO-TRACE TW CONNECTORS (IF REQUIRED) GREEN = SEWER AND STORM

GENERAL NOTES FOR ALL DETAILS ON THIS SHEET:

1. All precast products shall conform to requirements of ASTM C478.
2. Standard precast manhole section diameter shall be 48". Use 42" if specified by the Engineer.
3. See Std. Dwg. RD345 for pipe to manhole connections.
4. See Std. Dwg. RD344 for manhole base section.
5. Adjust 24" maximum.
6. All connecting pipes shall have a tracer wire, or approved alternate.
7. See Std. Dwg. RD336 for manhole steps.
8. See Std. Dwg. RD336 for details not shown.
9. See Std. Dwg. RD356 for manhole covers and frames, manhole adjustment rings, etc.
10. Max. pipe diameter varies with pipe material.
11. See Std. Dwg. RD342 for shallow manholes.
12. Location, elevation, diameter, slope, and number of pipe(s) varies, see project plans.
13. This detail limited to interior drop of 24". See Std. Dwgs. RD350 or RD352 for drop manhole details for drops in excess of 24".

CALC. BOOK NO. N/A

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.

SDR DATE 21-JUN-2019

NOTE: All material and workmanship shall be in accordance with the current Oregon Standard Specifications

OREGON STANDARD DRAWINGS

STANDARD SANITARY SEWER MANHOLE

2021

DATE	REVISION DESCRIPTION

RD338

Effective Date: June 1, 2022 - November 30, 2022

NO CHANGES THIS SHEET

A.M. Engineering
P.O. BOX 973 SEASIDE, OREGON 97138
Phone: 503.468.8600 WWW.AMENGNR.COM

OREGON REGISTERED PROFESSIONAL ENGINEER 74370PE ADAM DAILEY JUNE 2, 2020

RENEWAL DATE: DECEMBER 31, 2023

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CROSS CREEK SUBDIVISION PLAN

OREGON DETAILS II

S15, T6N, R10W

SEASIDE, CLATSOP COUNTY, OREGON

NO.	DATE	BY	REVISION COMMENTS
1	12/19/22	ADD	CITY COMMENTS ALL SHEETS

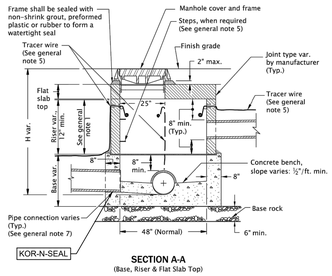
PERMIT SET

INITIAL ISSUE

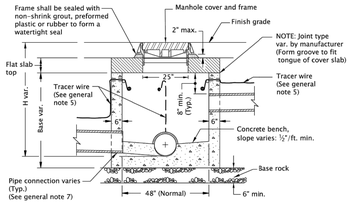
DESIGN:	DRAWN:
ADD	ADD
CHECKED:	DATE:
ADD	8/24/22

C16

P:\20028 Cross Creek 4-Plex Site Development\ACAD\C20028-210.dwg Plotted: By anne dell, 12/17/2022 3:10:38 PM



SECTION A-A
(Base, Riser & Flat Slab Top)

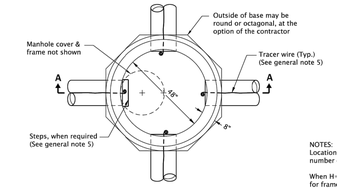


SECTION B-B
(Base, Riser & Flat Slab Top)

LEGEND
(See general note 3)

- Cast-in-Place concrete
- Precast concrete
- 1: 2 cement mortar
- Sewer pipe

12-GAUGE, SOLID CORE,COATED COPPER WIRE WITH THERMOPLASTIC INSULATION RECOMMENDED FOR DIRECT BURIAL, WITH PRO-TRACE TW CONNECTORS (IF REQUIRED) GREEN = SEWER AND STORM

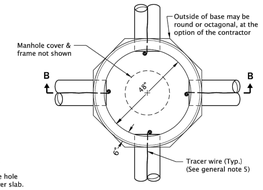


TOP VIEW
(Base, Riser & Flat Slab Top)

NOTES:
Location, elevation, and number of pipe(s) varies.

When H=42" or less make hole for frame in center of cover slab.

When H=42" or less omit steps.



TOP VIEW
(Base & Flat Slab Top)

GENERAL NOTES FOR ALL DETAILS ON THIS SHEET:

1. Minimum length if laterals or connections are inserted: outside diameter of pipe + 17".
2. Use Section B-B when length of riser becomes less than minimum shown.
3. Base may be precast or cast-in-place.
4. All precast products shall conform to the requirements of ASTM C478.
5. See Std. Dwg. RD336 for details not shown.
6. See Std. Dwg. RD344 for manhole base section.
7. See Std. Dwg. RD345 for pipe to manhole connections.
8. See Std. Dwg. RD356 for manhole covers and frames.
9. All concrete shall be commercial grade concrete.
10. Max. pipe diameter varies with pipe material.
11. Location, elevation, diameter, slope, and number of pipe(s) varies, see project plans.

CALC. BOOK NO. N/A

SDR DATE 21-JUL-2015

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.

NOTE: All material and workmanship shall be in accordance with the current Oregon Standard Specifications

OREGON STANDARD DRAWINGS

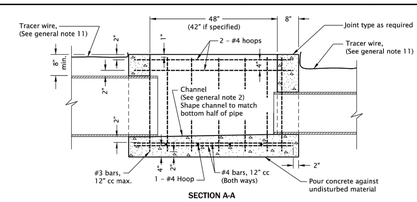
SHALLOW MANHOLES

2021

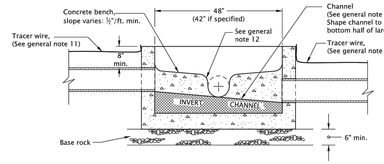
DATE	REVISION DESCRIPTION

RD342

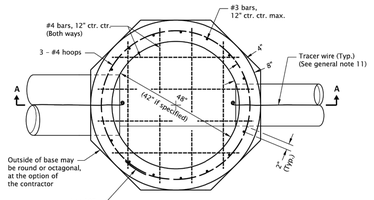
Effective Date: June 1, 2022 - November 30, 2022 RD342



SECTION A-A



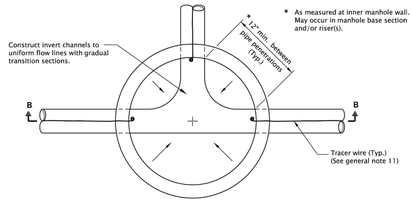
SECTION B-B



PLAN

All reinforcement shall be 2" clear of nearest face of conc., unless otherwise shown.

CAST IN PLACE MANHOLE BASE
(For invert channel details, see precast option at right)



PLAN

PRECAST MANHOLE BASE

GENERAL NOTES FOR ALL DETAILS ON THIS SHEET:

1. All concrete shall be commercial grade concrete.
2. Channels shall be constructed to provide smooth slopes and radii to outlet pipe.
3. Bases may be precast or cast in place.
4. Max. pipe diameter varies with pipe material.
5. Use on 42" and 48" diameter manhole.
6. Extend pipe into manhole and grout smooth. Pipe(s) may extend 2" max. beyond the interior manhole wall.
7. Location, elevation, diameter, slope, and number of pipe(s) varies, see project plans.
8. All precast products shall conform to the requirements of ASTM C478.
9. See Std. Dwg. RD345 for pipe to manhole connections.
10. See Std. Dwg. RD336 for manhole steps details.
11. See Std. Dwg. RD336 for tracer wire details.
12. At spring line of pipe, extend channel up to crown line on 12:1 batter.

CALC. BOOK NO. N/A

SDR DATE 14-JUL-2014

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NOTE: All material and workmanship shall be in accordance with the current Oregon Standard Specifications

OREGON STANDARD DRAWINGS

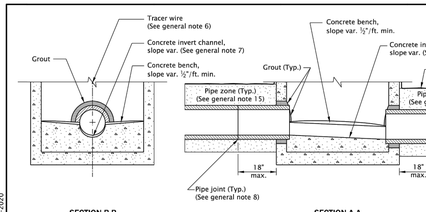
STANDARD MANHOLE BASE SECTION

2021

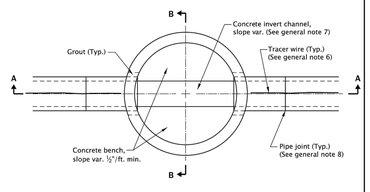
DATE	REVISION DESCRIPTION

RD344

Effective Date: June 1, 2022 - November 30, 2022 RD344

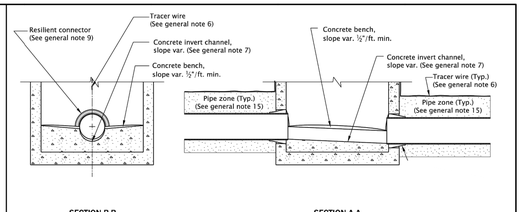


SECTION B-B **SECTION A-A**

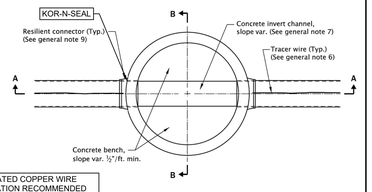


PLAN

CONNECTION OF RIGID PIPE TO MANHOLE



SECTION B-B **SECTION A-A**



PLAN

12-GAUGE, SOLID CORE,COATED COPPER WIRE WITH THERMOPLASTIC INSULATION RECOMMENDED FOR DIRECT BURIAL, WITH PRO-TRACE TW CONNECTORS (IF REQUIRED) GREEN = SEWER AND STORM

CONNECTION OF FLEXIBLE PIPE TO MANHOLE

GENERAL NOTES FOR ALL DETAILS ON THIS SHEET:

1. All precast sections shall conform to requirements of ASTM C478.
2. Manhole base sections may be precast or cast-in-place.
3. All concrete shall be commercial grade concrete.
4. Location, elevation, diameter, slope, and number of pipe(s) varies, see project plans.
5. Max. pipe diameter varies with pipe material.
6. All connecting pipes shall have a tracer wire, or approved alternate. See Std. Dwg. RD336 for tracer wire details.
7. Invert channels shall be constructed to provide smooth slopes and radii to outlet pipe.
8. When rigid pipe is used, the connecting pipe shall have a flexible, gasketted and unrestrained joint within 18" of manhole wall. Joint type varies with manufacturer.
9. When flexible pipe is used, install resilient connectors conforming to requirements of ASTM C923.
10. See Std. Dwgs. RD335, RD336, and RD338 for details not shown.
11. See Std. Dwg. RD336 for manhole steps details.
12. See Std. Dwg. RD342 for shallow manholes.
13. See Std. Dwg. RD344 for manhole base section.
14. See Std. Dwg. RD356 for manhole covers and frames, manhole adjustment rings, etc.
15. Pipe zone varies, see Std. Dwg. RD300.

CALC. BOOK NO. N/A

SDR DATE 14-JUL-2014

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.

NOTE: All material and workmanship shall be in accordance with the current Oregon Standard Specifications

OREGON STANDARD DRAWINGS

PIPE TO MANHOLE CONNECTIONS

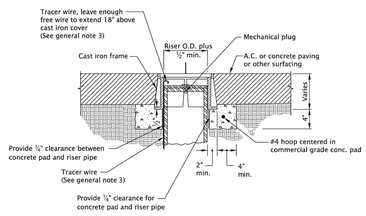
2021

DATE	REVISION DESCRIPTION

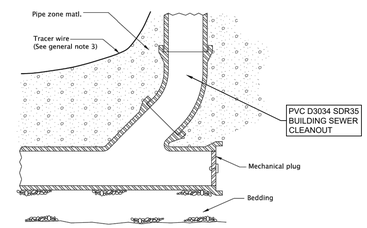
RD345

Effective Date: June 1, 2022 - November 30, 2022 RD345

CAST IRON COVER



CAST IRON FRAME



CLEANOUT

12-GAUGE, SOLID CORE,COATED COPPER WIRE WITH THERMOPLASTIC INSULATION RECOMMENDED FOR DIRECT BURIAL, WITH PRO-TRACE TW CONNECTORS (IF REQUIRED) GREEN = SEWER AND STORM

CALC. BOOK NO. N/A

SDR DATE 14-JUL-2014

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OREGON STANDARD DRAWINGS

SANITARY CLEANOUT

2021

DATE	REVISION DESCRIPTION

RD362

Effective Date: June 1, 2022 - November 30, 2022 RD362

rd343.dgn 20-JUL-2020
rd344.dgn 20-JUL-2020
rd345.dgn 20-JUL-2020
rd362.dgn 20-JUL-2020

NO CHANGES THIS SHEET

1

A.M. Engineering
P.O. BOX 973 SEASIDE, OREGON 97138
Phone: 503.468.8600 WWW.AMENGINR.COM

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REGISTERED PROFESSIONAL ENGINEER
74370PE
OREGON
JUNE 2, 2020
ADAM DAILEY

RENEWAL DATE: DECEMBER 31, 2023

CROSS CREEK SUBDIVISION PLAN

OREGON DETAILS III

S15, T6N, R10W

SEASIDE, CLATSOP COUNTY, OREGON

NO.	DATE	BY	REVISION COMMENTS
1	12/19/22	ADD	CITY COMMENTS ALL SHEETS

INITIAL ISSUE

DESIGN:	DRAWN:
ADD	ADD
CHECKED:	DATE:
ADD	8/24/22

C17

PERMIT SET

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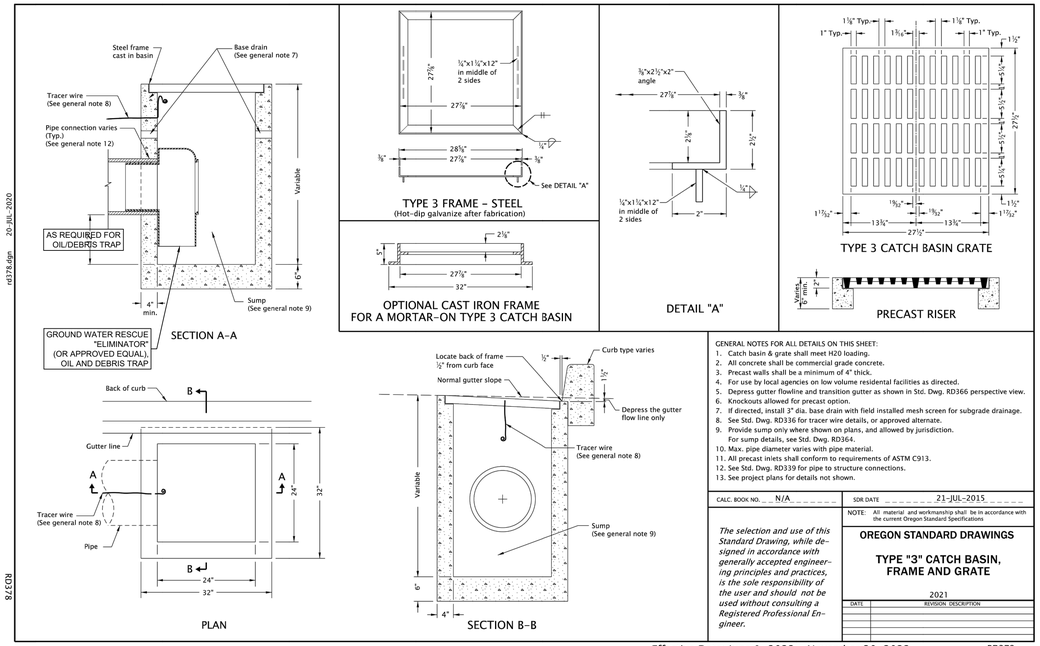

12-GAUGE, SOLID CORE,COATED COPPER WIRE WITH THERMOPLASTIC INSULATION RECOMMENDED FOR DIRECT BURIAL, WITH PRO-TRACE TW CONNECTORS (IF REQUIRED) GREEN = SEWER AND STORM

GENERAL NOTES FOR ALL DETAILS ON THIS SHEET:

1. Catch basin & grate shall meet H20 loading.
2. All concrete shall be commercial grade concrete.
3. Precast walls shall be a minimum of 4" thick.
4. For use by local agencies on low volume residental facilities as directed.
5. Depress gutter flowline and transition gutter as shown in Std. Dwg. RD366 perspective view.
6. Knockouts allowed for precast option.
7. If directed, install 3" dia. base drain with field installed mesh screen for subgrade drainage.
8. See Std. Dwg. RD336 for tracer wire details, or approved alternate.
9. Provide sump only where shown on plans, and allowed by jurisdiction. For sump details, see Std. Dwg. RD364.
10. Max. pipe diameter varies with pipe material.
11. All precast inlets shall conform to requirements of ASTM C913.
12. See Std. Dwg. RD339 for pipe to structure connections.
13. See project plans for details not shown.

CALC. BOOK NO. N/A | SDR DATE 21-JUL-2015

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NOTE: All material and workmanship shall be in accordance with the current Oregon Standard Specifications

OREGON STANDARD DRAWINGS

TYPE "3" CATCH BASIN, FRAME AND GRATE

2021

DATE	REVISION DESCRIPTION

rd376.dgn 20-JUL-2020 — RD376

Effective Date: June 1, 2022 - November 30, 2022 — RD378

*** Objects with base below 2'-3" may protrude any distance as long as the 5' circulation path is maintained. When an object with a base higher than 2'-3" protrudes further than 4" provide a detection below protrusion to delineate edge.

* Min. 4" or as specified in plans. A thickness ≥ 6" if sidewalk is intended as portion of a driveway or mountable curb is used.

** Provide compacted backfill adjacent to curb and sidewalk

GENERAL NOTES FOR ALL DETAILS ON THIS SHEET:

1. Include additional paved or unpaved 2' shy distance to vertical faces higher than 5' such as retaining walls, sound walls, fences and buildings.
2. Curb type and sidewalk width as shown on plans or as directed. On sidewalks 8' and wider, provide a longitudinal joint at the midpoint.
3. Install 3" pvc weep hole pipes in sidewalks where shown on plans, and allowed by jurisdiction. Place contraction joint over top of pipe. See Std. Dwg. RD700 for weep hole details.
4. Provide expansion joints around poles, posts, boxes, at ends of each driveway, and other fixtures which protrude through or against the structures. For sidewalk, monolithic curb & sidewalk, const. expansion joints at 45' maximum spacing. See Std. Dwg. RD722 for expansion joints details.
5. Const. contraction joints at 15' maximum spacing, and at ends of each curb ramp. See Std. Dwg. RD722 for contraction joints details.
6. For curb details, see Std. Dwgs. RD700 & RD701. ODOT standard E=7".
7. Sidewalk details are based on applicable ODOT standards.
8. Fully lowered sidewalk shown; see project plans for the diveway design specified. For driveway details not shown, see Std. Dwgs. RD725, RD730, RD735, RD740, RD745 & RD750.
9. See project plans for details not shown.

LEGEND

- Sidewalk pay limit.
- Driveway pay limit, varies by option, (See general note 8).
- Cross slope 1.5% max. (Max. 2.0% finished surface slope) (Normal sidewalk cross slope)

CALC. BOOK NO. N/A | SDR DATE 21-JUN-2019

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OREGON STANDARD DRAWINGS

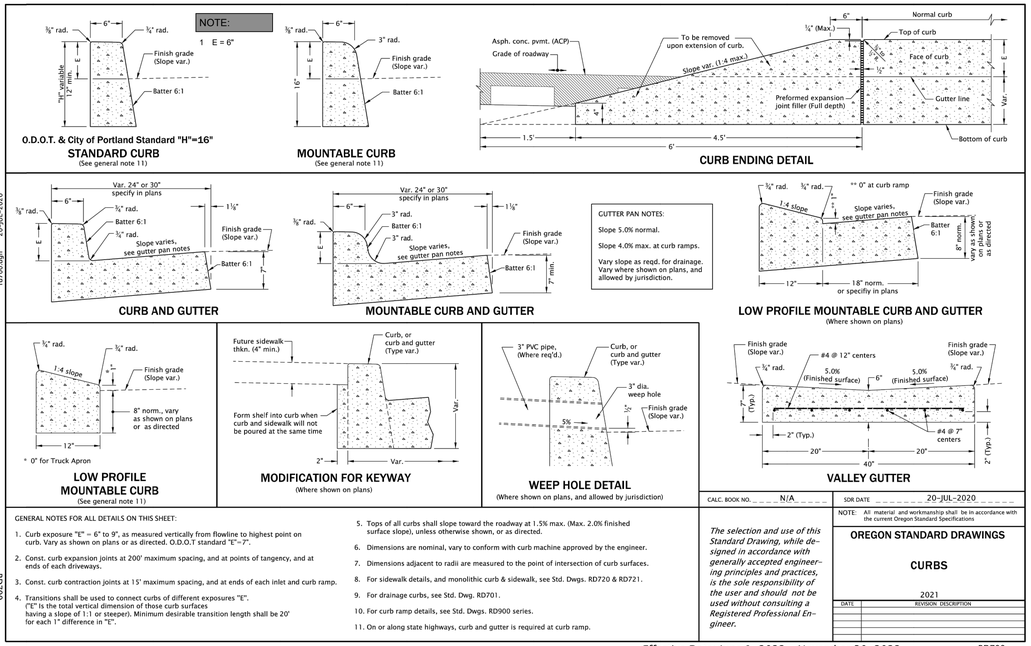
CURB LINE SIDEWALKS

2021

DATE	REVISION DESCRIPTION

rd720.dgn 20-JUL-2020 — RD720

Effective Date: June 1, 2022 - November 30, 2022 — RD720



GENERAL NOTES FOR ALL DETAILS ON THIS SHEET:

1. Curb exposure "E" = 6" to 9", as measured vertically from flowline to highest point on curb. Vary as shown on plans or as directed. O.D.O.T standard "E"=7".
2. Const. curb expansion joints at 200' maximum spacing, and at points of tangency, and at ends of each driveways.
3. Const. curb contraction joints at 15' maximum spacing, and at ends of each inlet and curb ramp.
4. Transitions shall be used to connect curbs of different exposures "E". ("E" is the total vertical dimension of those curb surfaces having a slope of 1:1 or steeper). Minimum desirable transition length shall be 20' for each 1" difference in "E".
5. Tops of all curbs shall slope toward the roadway at 1.5% max. (Max. 2.0% finished surface slope), unless otherwise shown, or as directed.
6. Dimensions are nominal, vary to conform with curb machine approved by the engineer.
7. Dimensions adjacent to radii are measured to the point of intersection of curb surfaces.
8. For sidewalk details, and monolithic curb & sidewalk, see Std. Dwgs. RD720 & RD721.
9. For drainage curbs, see Std. Dwg. RD701.
10. For curb ramp details, see Std. Dwgs. RD900 series.
11. On or along state highways, curb and gutter is required at curb ramp.

CALC. BOOK NO. N/A | SDR DATE 20-JUL-2020

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NOTE: All material and workmanship shall be in accordance with the current Oregon Standard Specifications

OREGON STANDARD DRAWINGS

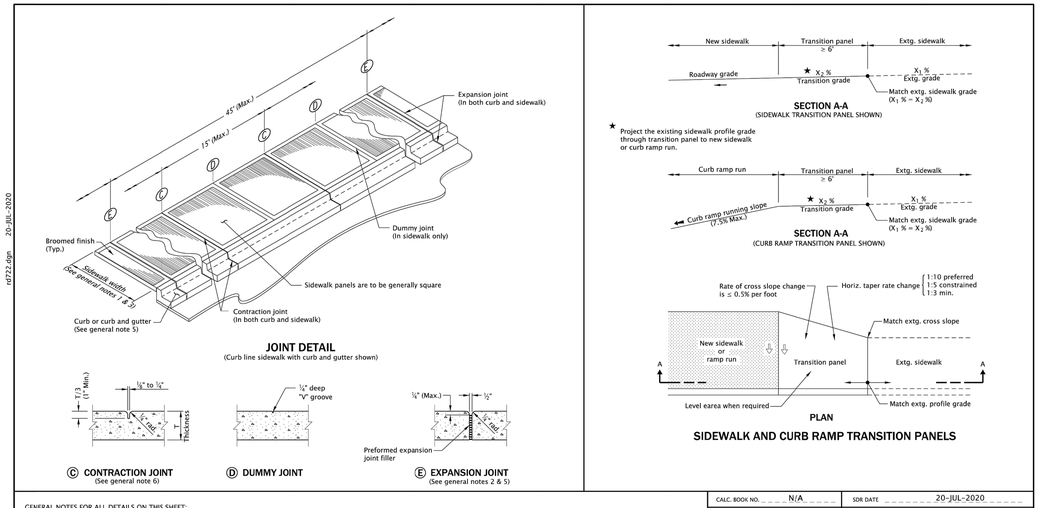
CURBS

2021

DATE	REVISION DESCRIPTION

rd700.dgn 20-JUL-2020 — RD700

Effective Date: June 1, 2022 - November 30, 2022 — RD700



GENERAL NOTES FOR ALL DETAILS ON THIS SHEET:

1. See Std. Dwgs. RD720 & RD721 for concrete sidewalk details. See project plans for sidewalk width, placement and design specified.
2. Provide expansion joints around poles, boxes, at ends of each driveway and other fixtures which protrude through or against the structures. For sidewalk, monolithic curb and sidewalk, construction expansion joints at 45' max. spacing.
3. On sidewalks 8' and wider, provide a longitudinal joint at the midpoint of sidewalk panel.
4. See Std. Dwgs. RD700 & RD701 for concrete curb details. See project plans for the curb design specified.
5. For curb ramps, do not place expansion joints within the limits of curb ramps and between separate concrete pours.
6. Const. contraction joints at 15' max. spacing, and at each curb ramp, driveway, sidewalk and curb.

LEGEND:

- New sidewalk or ramp run
- Slope 1.5% max. (Max. 2.0% finished surface slope) (Normal sidewalk cross slope)
- Slope 7.5% max. (Max. 8.3% finished surface slope)
- Zero exposure

CALC. BOOK NO. N/A | SDR DATE 20-JUL-2020

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NOTE: All material and workmanship shall be in accordance with the current Oregon Standard Specifications

OREGON STANDARD DRAWINGS

SIDEWALK JOINTS AND TRANSITION PANELS

2021

DATE	REVISION DESCRIPTION

rd722.dgn 20-JUL-2020 — RD722

Effective Date: June 1, 2022 - November 30, 2022 — RD722

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PERMIT SET

NO.	DATE	BY	REVISION COMMENTS
1	12/19/22	ADD	CITY COMMENTS ALL SHEETS

INITIAL ISSUE

DESIGN:	DRAWN:
ADD	ADD
CHECKED:	DATE:
ADD	8/24/22

C18

NO CHANGES THIS SHEET

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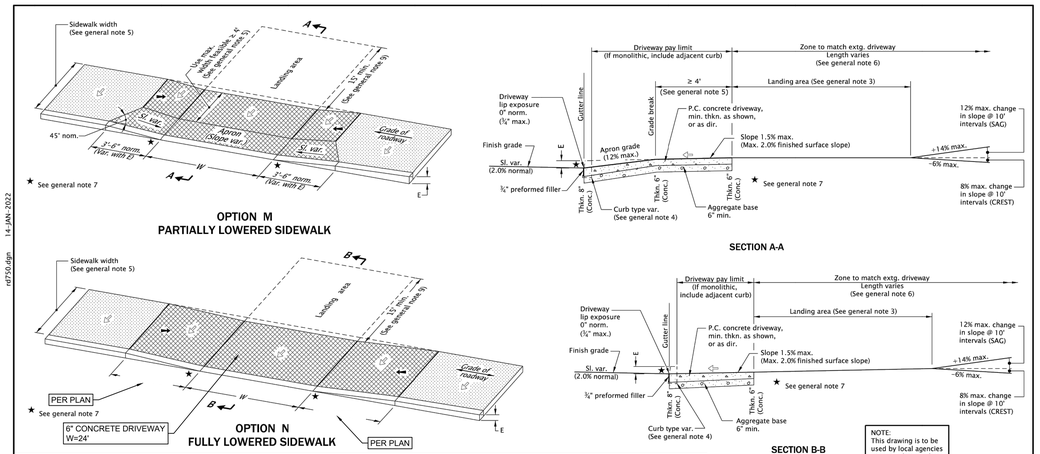
REGISTERED PROFESSIONAL ENGINEER
74370PE
OREGON
JUNE 2, 2020
ADAM DAILEY
RENEWAL DATE: DECEMBER 31, 2023

A.M. Engineering
P.O. BOX 973 SEASIDE, OREGON 97138
Phone: 503.468.8600 WWW.AMENGINR.COM

CROSS CREEK SUBDIVISION PLAN
OREGON DETAILS IV
S15, T6N, R10W
SEASIDE, CLATSOP COUNTY, OREGON



GENERAL NOTES FOR ALL DETAILS ON THIS SHEET:

1. Details are based on applicable ODOT Standards.
2. Only use details allowed by jurisdiction.
3. The following dimensions are as shown on plans, or as directed: driveway width, driveway slope, sidewalk width, curb exposure, driveway lip exposure, landing area length and width. See project plans for details not shown.
4. Curb, gutter, and sidewalk types varies, see plans.
   See Std. Dwgs. RD700 & RD701 for curb details.
   See Std. Dwg. RD720 for sidewalk details
   See Std. Dwg. RD722 for joint details.
5. A greater than or equal 4' unobstructed clear passage with cross slope 1.5% max. (Max. 2.0% finished surface slope) is required behind driveway apron.
6. Where existing driveway is in good condition, and meets slope requirements, construct only as much landing area as required for satisfactory connection with new work.
7. Check the gutter flow depth at driveway locations to assure that the design flood does not overtop the back of sidewalk at driveway. If overtopping occurs place an inlet at upstream side of driveway or perform other approved design mitigation.
8. Construct a full depth expansion joints with 1#2" (in) preformed joint filler at ends of each driveway. Tooled joints are required at all driveway slope break lines.
9. 15' min. of the driveway behind the sidewalk should be surfaced to prevent tracking of gravel onto the sidewalk.
10. Monolithic curb & sidewalk shall retain thickened edge through lowered profile, to accommodate driveway use. See Std. Dwg. RD720 for details.
11. Any dimensions except those of general note 5 may be amended by local agencies for their use.

LEGEND:

- Sidewalk
- Driveway pay limit (If monolithic, include adjacent curb) (See project plans for details not shown)
- Cross slope 1.5% max. (Max. 2.0% finished surface slope) (Normal sidewalk cross slope)
- Running slope 7.5% max. (Max. 8.3% finished surface slope)
- W Width of driveway
- E Curb exposure

CALC. BOOK NO. N/A

SDR DATE 20-JUL-2020

NOTE: All material and workmanship shall be in accordance with the current Oregon Standard Specifications

OREGON STANDARD DRAWINGS

CURB LINE SIDEWALK DRIVEWAYS OR ALLEYS (OPTIONS M & N) LOCAL JURISDICTIONS

2021

DATE	REVISION DESCRIPTION

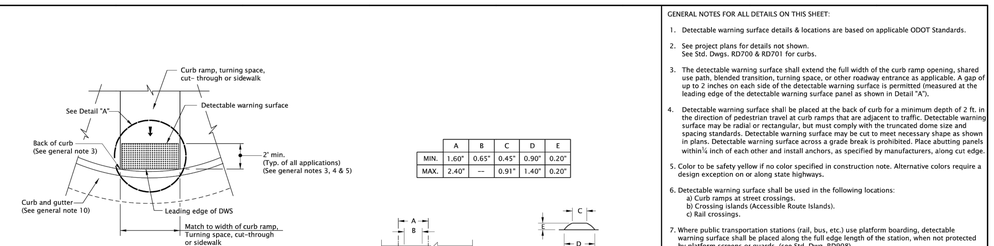
The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.

rd750.dgn 14-JAN-2022

RD750

Effective Date: June 1, 2022 - November 30, 2022

RD750



	A	B	C	D	E
MIN.	1.60"	0.65"	0.45"	0.90"	0.20"
MAX.	2.40"	---	0.91"	1.40"	0.20"

GENERAL NOTES FOR ALL DETAILS ON THIS SHEET:

1. Detectable warning surface details & locations are based on applicable ODOT Standards.
2. See project plans for details not shown.
   See Std. Dwgs. RD700 & RD701 for curbs.
3. The detectable warning surface shall extend the full width of the curb ramp opening, shared use path, blended transition, turning space, or other roadway entrance as applicable. A gap of up to 2 inches on each side of the detectable warning surface is permitted (measured at the leading edge of the detectable warning surface panel as shown in Detail "A").
4. Detectable warning surface shall be placed at the back of curb for a minimum depth of 2 ft. in the direction of pedestrian travel at curb ramps that are adjacent to traffic. Detectable warning surface may be radial or rectangular, but must comply with the truncated dome size and spacing standards. Detectable warning surface may be cut to meet necessary shape as shown in plans. Detectable warning surface across a grade break is prohibited. Place abutting panels within¼ inch of each other and install anchors, as specified by manufacturers, along cut edge.
5. Color to be safety yellow if no color specified in construction note. Alternative colors require a design exception on or along state highways.
6. Detectable warning surface shall be used in the following locations:
   a) Curb ramps at street crossings.
   b) Crossing islands (Accessible Route Islands).
   c) Rail crossings.
7. Where public transportation stations (rail, bus, etc.) use platform boarding, detectable warning surface shall be placed along the full edge length of the station, when not protected by platform screens or guards, (see Std. Dwg. RD908).
8. Detectable warning surface shall not be used on the following locations:
   a) End of sidewalk transitions that are not at a crosswalk, (see Std. Dwgs. RD950, RD952 and RD960).
   b) Driveways, unless constructed with curb return or are signalized.
   c) Parking lots, access aisles and passenger loading zones where curb ramp does not lead to vehicular way.
9. Where no curb is present, the detectable warning surface shall be placed at the edge of the roadway.
10. On or along state highways, curb and gutter is required at curb ramps.

LEGEND:

- Detectable warning surface
- Cross slope 1.5% max. (Max. 2.0% finished surface slope) (Normal sidewalk cross slope)
- Running slope 7.5% max. (Max. 8.3% finished surface slope)

CALC. BOOK NO. N/A

SDR DATE 19-JULY-2021

NOTE: All material and workmanship shall be in accordance with the current Oregon Standard Specifications

OREGON STANDARD DRAWINGS

DETECTABLE WARNING SURFACE DETAILS

2021

DATE	REVISION DESCRIPTION
01-2020	DRAWING CREATED
07-2021	REVISED DETAIL AND NOTES

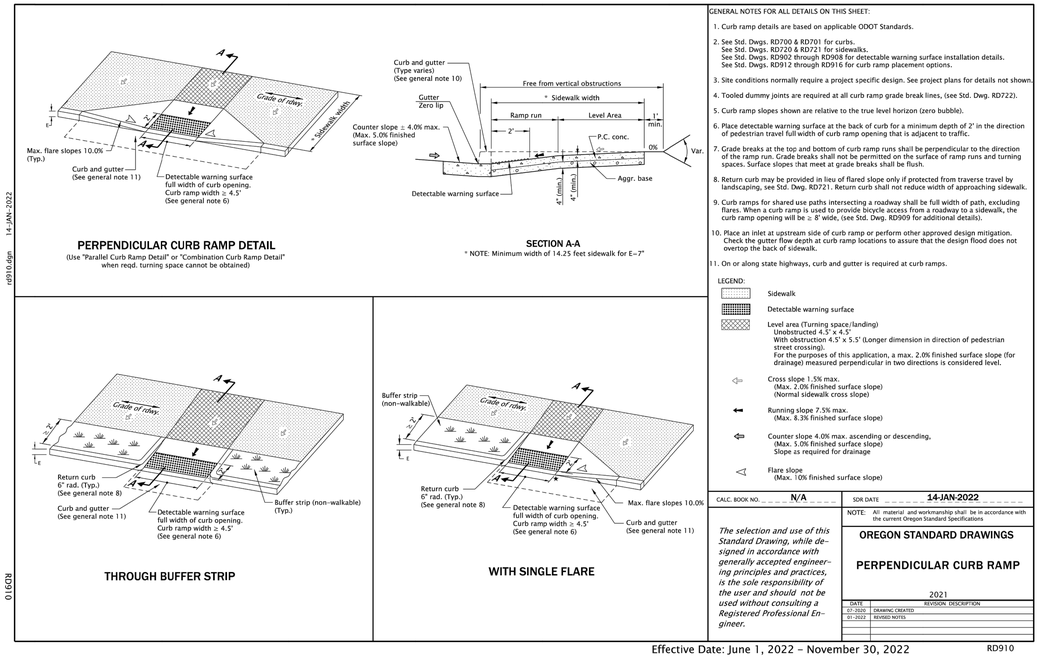
The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.

rd902.dgn 19-JUL-2021

RD902

Effective Date: June 1, 2022 - November 30, 2022

RD902



GENERAL NOTES FOR ALL DETAILS ON THIS SHEET:

1. Curb ramp details are based on applicable ODOT Standards.
2. See Std. Dwgs. RD700 & RD701 for curbs.
   See Std. Dwgs. RD720 & RD721 for sidewalks.
   See Std. Dwgs. RD902 through RD908 for detectable warning surface installation details.
   See Std. Dwgs. RD912 through RD916 for curb ramp placement options.
3. Site conditions normally require a project specific design. See project plans for details not shown.
4. Tooled dummy joints are required at all curb ramp grade break lines, (see Std. Dwg. RD722).
5. Curb ramp slopes shown are relative to the true level horizon (zero bubble).
6. Place detectable warning surface at the back of curb for a minimum depth of 2' in the direction of pedestrian travel full width of curb ramp opening that is adjacent to traffic.
7. Grade breaks at the top and bottom of curb ramp runs shall be perpendicular to the direction of the ramp run. Grade breaks shall not be permitted on the surface of ramp runs and turning spaces. Surface slopes that meet at grade breaks shall be flush.
8. Return curb may be provided in lieu of flared slope only if protected from traverse travel by landscaping, see Std. Dwg. RD721. Return curb shall not reduce width of approaching sidewalk.
9. Curb ramps for shared use paths intersecting a roadway shall be full width of path, excluding flares. When a curb ramp is used to provide bicycle access from a roadway to a sidewalk, the curb ramp opening will be ≥ 8' wide, (see Std. Dwg. RD909 for additional details).
10. Place an inlet at upstream side of curb ramp or perform other approved design mitigation. Check the gutter flow depth at curb ramp locations to assure that the design flood does not overtop the back of sidewalk.
11. On or along state highways, curb and gutter is required at curb ramps.

LEGEND:

- Sidewalk
- Detectable warning surface
- Level Area (Turning space/landing) Unobstructed 4.5' x 4.5' With obstruction 4.5' x 5.5' (Longer dimension in direction of pedestrian street crossing). For the purposes of this application, a max. 2.0% finished surface slope (for drainage) measured perpendicular in two directions is considered level.
- Cross slope 1.5% max. (Max. 2.0% finished surface slope) (Normal sidewalk cross slope)
- Running slope 7.5% max. (Max. 8.3% finished surface slope)
- Counter slope 4.0% max. ascending or descending, (Max. 5.0% finished surface slope) Slope as required for drainage
- Flare slope (Max. 10% finished surface slope)

CALC. BOOK NO. N/A

SDR DATE 14-JAN-2022

NOTE: All material and workmanship shall be in accordance with the current Oregon Standard Specifications

OREGON STANDARD DRAWINGS

PERPENDICULAR CURB RAMP

2021

DATE	REVISION DESCRIPTION
07-2020	DRAWING CREATED
01-2022	REVISED NOTES

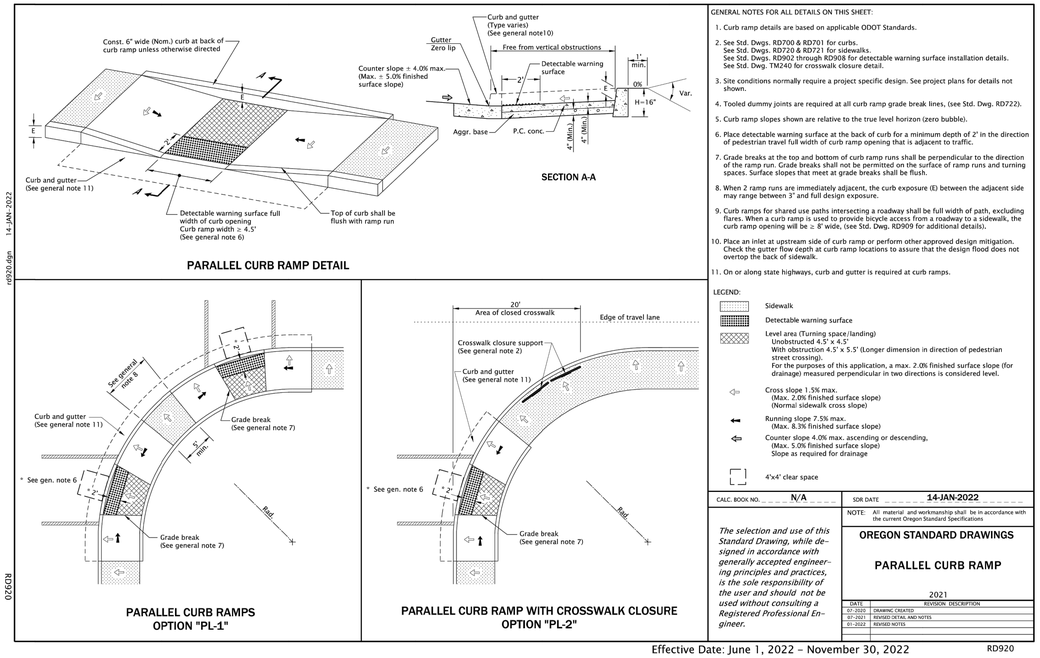
The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.

rd910.dgn 14-JAN-2022

RD910

Effective Date: June 1, 2022 - November 30, 2022

RD910



GENERAL NOTES FOR ALL DETAILS ON THIS SHEET:

1. Curb ramp details are based on applicable ODOT Standards.
2. See Std. Dwgs. RD700 & RD701 for curbs.
   See Std. Dwgs. RD720 & RD721 for sidewalks.
   See Std. Dwgs. RD902 through RD908 for detectable warning surface installation details.
   See Std. Dwg. TM240 for crosswalk closure detail.
3. Site conditions normally require a project specific design. See project plans for details not shown.
4. Tooled dummy joints are required at all curb ramp grade break lines, (see Std. Dwg. RD722).
5. Curb ramp slopes shown are relative to the true level horizon (zero bubble).
6. Place detectable warning surface at the back of curb for a minimum depth of 2' in the direction of pedestrian travel full width of curb ramp opening that is adjacent to traffic.
7. Grade breaks at the top and bottom of curb ramp runs shall be perpendicular to the direction of the ramp run. Grade breaks shall not be permitted on the surface of ramp runs and turning spaces. Surface slopes that meet at grade breaks shall be flush.
8. When 2 ramp runs are immediately adjacent, the curb exposure (E) between the adjacent side may range between 3' and full design exposure.
9. Curb ramps for shared use paths intersecting a roadway shall be full width of path, excluding flares. When a curb ramp is used to provide bicycle access from a roadway to a sidewalk, the curb ramp opening will be ≥ 8' wide, (see Std. Dwg. RD909 for additional details).
10. Place an inlet at upstream side of curb ramp or perform other approved design mitigation. Check the gutter flow depth at curb ramp locations to assure that the design flood does not overtop the back of sidewalk.
11. On or along state highways, curb and gutter is required at curb ramps.

LEGEND:

- Sidewalk
- Detectable warning surface
- Level area (Turning space/landing) Unobstructed 4.5' x 4.5' With obstruction 4.5' x 5.5' (Longer dimension in direction of pedestrian street crossing). For the purposes of this application, a max. 2.0% finished surface slope (for drainage) measured perpendicular in two directions is considered level.
- Cross slope 1.5% max. (Max. 2.0% finished surface slope) (Normal sidewalk cross slope)
- Running slope 7.5% max. (Max. 8.3% finished surface slope)
- Counter slope 4.0% max. ascending or descending, (Max. 5.0% finished surface slope) Slope as required for drainage
- 4'x4' clear space

CALC. BOOK NO. N/A

SDR DATE 14-JAN-2022

NOTE: All material and workmanship shall be in accordance with the current Oregon Standard Specifications

OREGON STANDARD DRAWINGS

PARALLEL CURB RAMP

2021

DATE	REVISION DESCRIPTION
01-2020	DRAWING CREATED
07-2021	REVISED DETAIL AND NOTES
01-2022	REVISED NOTES

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.

rd920.dgn 14-JAN-2022

RD920

Effective Date: June 1, 2022 - November 30, 2022

RD920

NO CHANGES THIS SHEET

1

A.M. Engineering
P.O. BOX 973 SEASIDE, OREGON 97138
Phone: 503.468.8600 WWW.AMENGINR.COM

NO OPTICS SHALL BE USED OR DISTRIBUTED WITHOUT APPROVAL OF THIS AGENCIES

REGISTERED PROFESSIONAL ENGINEER
74370PE
OREGON
JUNE 2, 2020
ADAM DAILEY

RENEWAL DATE: DECEMBER 31, 2023

CROSS CREEK SUBDIVISION PLAN

OREGON DETAILS V

S15, T6N, R10W

SEASIDE, CLATSOP COUNTY, OREGON

NO.	DATE	BY	REVISION COMMENTS
1	12/19/22	ADD	CITY COMMENTS ALL SHEETS

INITIAL ISSUE

DESIGN:	DRAWN:
ADD	ADD
CHECKED:	DATE:
ADD	8/24/22

C19

PERMIT SET

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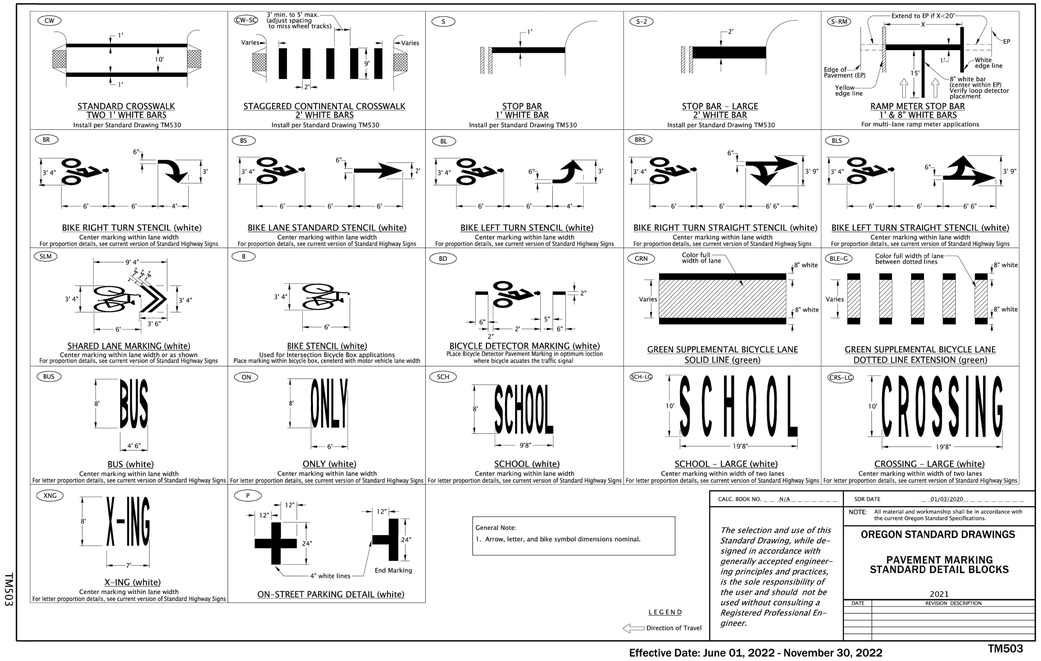

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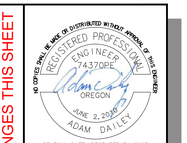

A.M. Engineering
P.O. BOX 973 SEASIDE, OREGON 97138
Phone: 503.468.8600 WWW.AMENGINR.COM

PERMIT SET

NO.	DATE	BY	REVISION COMMENTS
1	12/19/22	ADD	CITY COMMENTS ALL SHEETS

INITIAL ISSUE

DESIGN:	DRAWN:
ADD	ADD
CHECKED:	DATE:
ADD	8/24/22

CROSS CREEK
SUBDIVISION PLAN
OREGON DETAILS VI
S15, T6N, R10W
SEASIDE, CLATSOP COUNTY, OREGON

C20

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769-23-000030-PLNG

lancaster mobley

Cross Creek Multifamily Housing

2315 N Roosevelt Dr.

Transportation Impact Study

Seaside, Oregon

Date:
June 17, 2021

Prepared For:
Steve Olstedt
Ryan Osburn
Adam Dailey, PE, A.M. Engineering

Prepared by:
Nick Mesler, EIT
Jennifer Danziger, PE

RENEWS: 12.31.21

List of Figures

List of Tables

Executive Summary

1. The Cross Creek site is located on tax lot 61015-BA-05800 in northern Seaside. The project site encompasses approximately 4.47 acres and is bordered by existing commercial uses to the west, N Roosevelt Drive (Oregon Coast Highway US 101) to the north, and Neawanna Creek to the east and south. The site is currently zoned C3 (General Commercial), which allows the development of the proposed 74-unit multifamily units with a conditional use permit.
2. The project intends to take access to the local transportation network via the existing, shared driveway serving the nearby commercial uses. The driveway connects to N Roosevelt Drive (US 101) via a side-street stop-controlled intersection. US 101 functions as a Principal Arterial as identified in the City of Seaside *Street Functional Classifications* and is classified as a Statewide Highway in the *Oregon Highway Plan*. US 101 will service all the project traffic.
3. The proposed development is projected to generate an additional 36 net new morning peak hour trips, 45 net new evening peak hour trips, and 418 net new average weekday trips.
4. No significant trends or crash patterns were identified at any of the study intersections that were indicative of safety concerns. No additional safety mitigation is recommended per the crash data analysis.
5. The preliminary traffic signal analysis determined that signal warrants are not projected to be met at the site access driveway.
6. All study intersections are currently operating acceptably per ODOT standards and are projected to continue operating acceptably in Background Year 2023, both with and without the addition of project traffic.
7. Queueing analysis of the buildout conditions shows that existing turn lanes on the highway can accommodate the addition demand generated by the proposed development. Although the queues exiting the site can be longer during the peak hours, they are not expected to impede internal circulation or create queues of entering vehicles that could affect the highway operations.

Project Description

Introduction

This report describes and evaluates the transportation impacts associated with the proposed Cross Creek multi-family residential property conditional use permit application located at 2275 N Roosevelt Drive in Seaside, Oregon. The site is currently zoned C3 (General Commercial), which allows the development of the proposed 74-unit multifamily units with a conditional use permit. To gain approval for the conditional use permit, a Transportation Impact Study (TIS) is required.

The purpose of this study is to determine whether the transportation system within the vicinity of the site is capable of safely and efficiently supporting the existing and proposed uses and to determine any mitigation that may be necessary to do so. Detailed information on traffic counts, trip generation calculations, safety analyses, and level of service calculations is included in the appendix to this report.

Based on correspondence with the City of Seaside and the Oregon Department of Transportation (ODOT), a safety and capacity/level of service analysis was conducted at one intersection: US 101 & Site Driveway

Location Description

The project site is located on tax lot 61015-BA-05800 in northern Seaside. The project site encompasses approximately 4.47 acres and is bordered by existing commercial uses to the west, N Roosevelt Drive (Oregon Coast Highway US 101) to the north, and Neawanna Creek to the east and south. The site is currently zoned C3 (General Commercial), which allows the development of the proposed 74-unit multifamily units with a conditional use permit.

The project intends to take access to the local transportation network via the existing, shared driveway serving the nearby commercial uses. The driveway connects to N Roosevelt Drive (US 101) via a side-street stop-controlled intersection. US 101 functions as a Principal Arterial as identified in the City of Seaside *Street Functional Classifications*. It is anticipated that US 101 will service all the project traffic.

Vicinity Roadways

The proposed development is expected to impact one (1) vicinity roadway. Table 1 provides a description of that roadway.

Table 1: Vicinity Roadway Descriptions

Roadway Name	Jurisdiction	Functional Classification	Speed (MPH)	Curbs & Sidewalks	On-Street Parking	Bicycle Facilities
US 101	ODOT	Statewide Scenic Byway	40 MPH	None	Parallel	Class II Bike Lanes

In addition to its highway classification, US 101 functions as a Principal Arterial as identified in the City of Seaside *Street Functional Classifications*.

Study Intersections

The proposed development is expected to impact one (1) existing vicinity intersection of significance. Table 2 below provides a summarized description of the study intersection.

Table 2: Vicinity Intersection Descriptions

ID	Intersection	Approaches	Traffic Control	Phasing/Stopped Approaches
1	US 101 & Site Driveway	Three	Stop-Controlled	WB Stop Controlled

A vicinity map displaying the project site, vicinity streets, and the study intersections with their associated lane configurations and control types is shown in Figure 1.

Site Trips

Trip Generation

To estimate the number of trips that are projected to be generated by the housing development, trip rates from the *Trip Generation Manual*[1] were used. Specifically, data from land use code 220, Multifamily Housing (Low Rise), was used to estimate the proposed development's trip generation based on the proposed number of dwelling units.

The trip generation calculations show that the proposed development is projected to generate 36 morning peak hour trips, 45 evening peak hour trips, and 518 average weekday trips. The trip generation estimates are summarized in Table 3. Detailed trip generation calculations are attached to this memorandum.

Table 3: Trip Generation Summary

Land Use	ITE Code	Size	AM Peak Hour			PM Peak Hour			Weekday
			In	Out	Total	In	Out	Total	Total
Multifamily Housing (Low-Rise)	220	74 DU	8	28	36	28	17	45	518

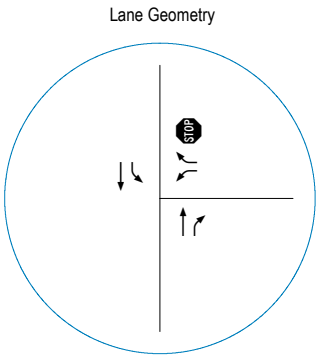
Trip Distribution

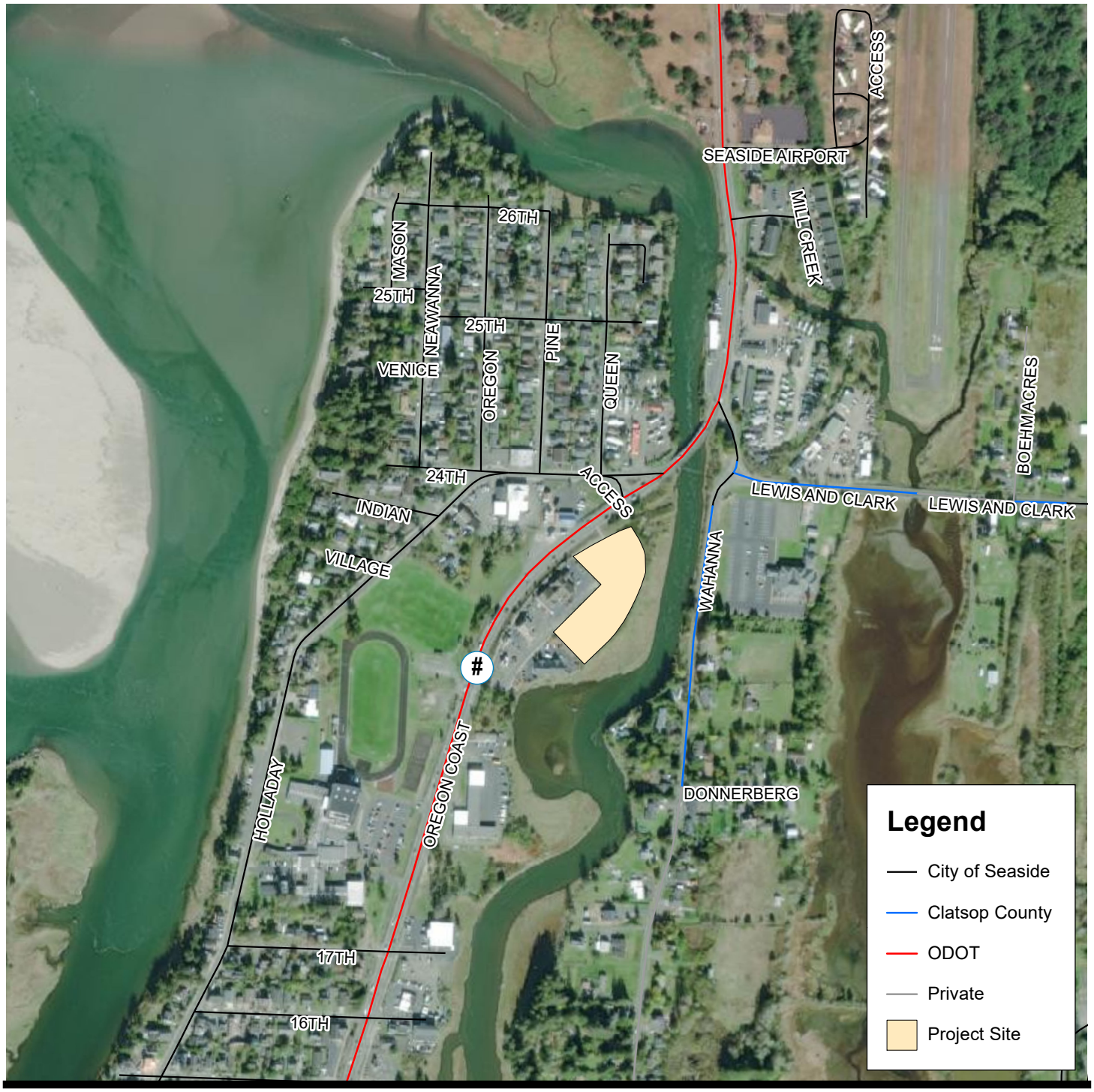
The project trip distribution was developed based on the geographical location of the project, US residential/employment census data (https://onthemap.ces.census.gov/), preferred route choice, and the existing roadway network facilities. The following trip distribution is projected:

- 60 percent of site trips are expected to travel to and from the north along US 101
- 20 percent of site trips are expected to travel to and from the west along 12th Avenue via US 101
- 15 percent of site trips are expected to travel to and from the south along US 101
- 5 percent of site trips are expected to travel to and from the east along 12th Avenue via US 101

The regional trip distribution and traffic assignment for site trips generated by the proposed development are shown in Figure 2.

[1] Institute of Transportation Engineers (ITE), *Trip Generation Manual*, 10th Edition, 2017.





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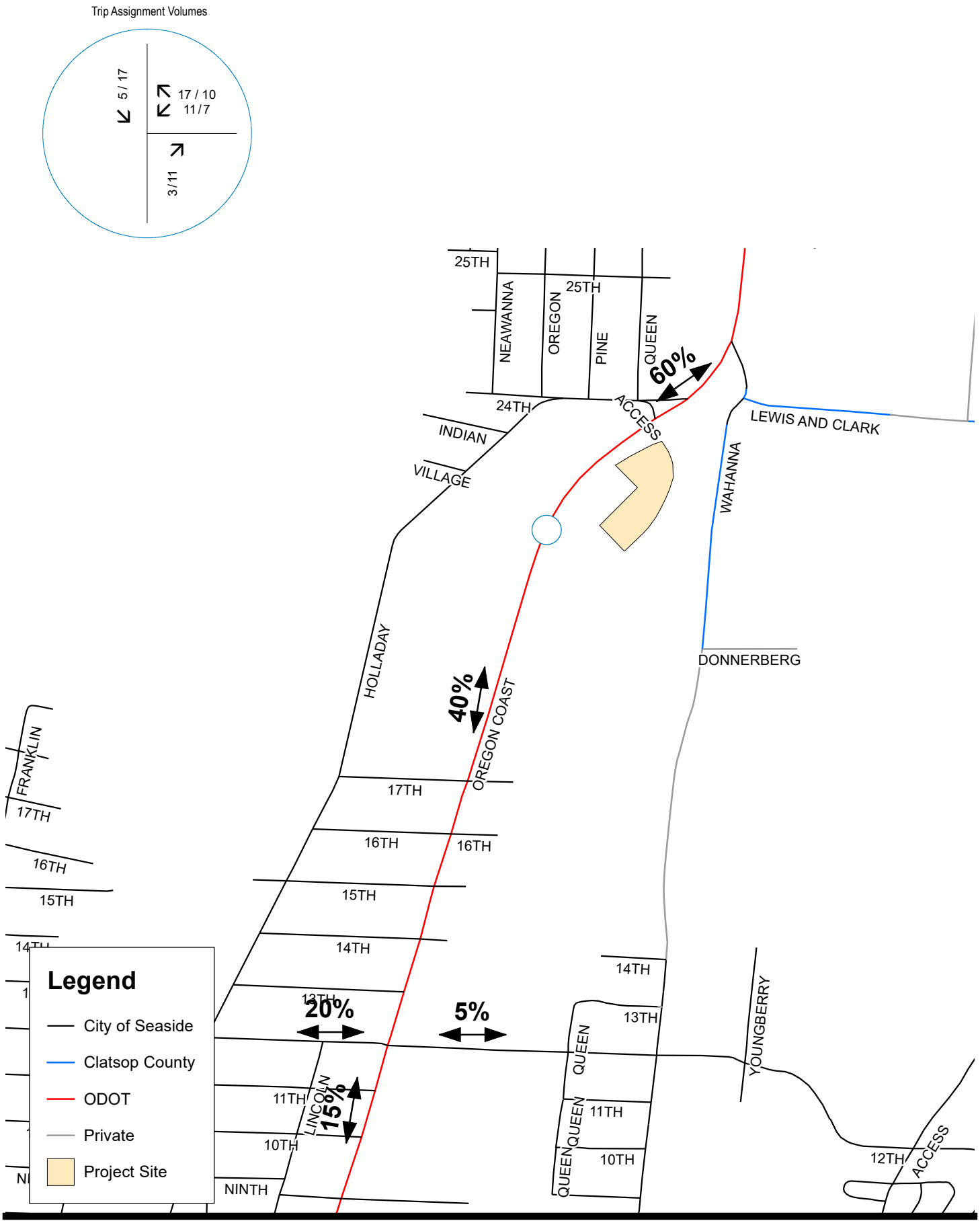
Vicinity Map

NOT TO SCALE

Figure 1
Cross Creek Multifamily TIS
2/4/2021



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TRAFFIC VOLUMES
Trip Distribution & Assignment
AM & PM Peak Hour

NOT TO SCALE

Figure 2
Cross Creek Multifamily TIS
4/5/2021

Traffic Volumes

This section describes the study intersection peak hour traffic volumes under existing conditions (year 2021), the future year 2023 background volumes, and the future year 2023 (opening day) buildout volumes.

Existing Conditions

Since this study is being conducted during the COVID-19 viral pandemic, which has become a public health concern throughout the State of Oregon, collection of current traffic counts is not feasible at this time. Due to the pandemic, traffic volumes have been significantly depressed statewide since March 2020. Additionally, US 101 is identified as a Coastal Destination Route, meaning that summertime traffic volumes are significantly higher than wintertime conditions. Thus, conducting new traffic counts at this time is not advisable. To reflect normal travel conditions, baseline traffic volumes at the study intersection were deduced using two methods:

- Traffic volumes along US 101 were calculated using an ODOT average annual daily traffic (AADT) volume data collected throughout 2018. The count location directly fronts the project site, with no driveways between the it and the site driveway.
- Ingress and egress traffic volumes were calculated using standard trip rates from the *Trip Generation Manual*[2]. Specifically, data from the following land use codes were employed for the various uses sharing the project driveway:
    - TLC Credit Union (Drive-In Bank, 912) – based on square footage of the building;
    - Randall Lee's FlooringAmerica (Building Materials and Lumber Store, 812) – based on square footage of the building;
    - Seaside Car & Boat Wash (Self-Service Car Wash, 947) – based on the number of stalls;
    - Los Tacos Locos (Fast-Food Restaurant with Drive-Thru, 934) – based on square footage of the building;
    - Seaside Family Dentistry (Medical/Dental Office Building, 720) – based on square footage of the building;
    - Ticor Title (Small Office, 712) – based on square footage of the building; and
    - Dutch Bros Coffee (Coffee-Donut with Drive Thru no Seating, 938) – based on square footage of the building.
- The Automatic Traffic Recorder (ATR) Gearhart #04-001 at US101; MP 15.90; OREGON COAST HIGHWAY NO. 9; 2.09 miles north of Dellmoor Loop Road was used to develop a seasonal adjustment factor.
- A seasonal adjustment factor (SAF) of 1.1485 was applied to adjust the September count period to the peak month (typically August). The SAF is intended to adjust traffic volumes along ODOT intersections to reflect the 30th highest hour of traffic. The adjustment factor was applied to each intersection turning movement.

[2] Institute of Transportation Engineers (ITE), *Trip Generation Manual*, 10th Edition, 2017.

The site uses and the square footage of each use were established using the Clatsop County webmap tax information,(https://delta.co.clatsop.or.us/portal/apps/webappviewer/index.html?id=66f9167f01304850aacc7ad1a0d3d217). The webmap information is provided as an appendix to this report. A summary of the existing site uses trip generation is provided in Table 4.

Table 4: Existing Site Uses Trip Generation Summary

Tax Lot: Tenant	ITE Land Use: Code	Size	Units	Morning Peak Hour			Evening Peak Hour			ADT
				Enter	Exit	Total	Enter	Exit	Total	
5801: TLC Credit Union	Drive-In Bank: 912	4,600	Square Feet	26	18	44	47	47	94	460
5801: Randall Lee's Flooring America	Building Materials and Lumber Store: 812	3,500	Square Feet	3	2	5	3	4	7	64
5804: Seaside Car & Boat Wash	Self-Service Car Wash: 947	4	Stalls	16	16	32	11	11	22	432
5804: Los Tacos Locos	Fast-Food Restaurant with Drive-Thru: 934	384	Square Feet	8	7	15	7	6	13	180
5805: Seaside Family Dentistry	Medical/Dental Office Building: 720	2,672	Square Feet	7	2	9	3	8	11	92*
5805: Ticor Title	Small Office: 712	2,659	Square Feet	4	1	5	2	5	7	44
5807: Dutch Bros Coffee	Coffee-Donut with Drive Thru no Seating: 938	351	Square Feet	59	59	118	14	15	29	702
Existing Uses				123	105	228	87	96	183	1,974

** The equations were used for the morning and evening peak hour estimates the the average rate was used for the daily estimate because the equation produces unrealistic estimates.*

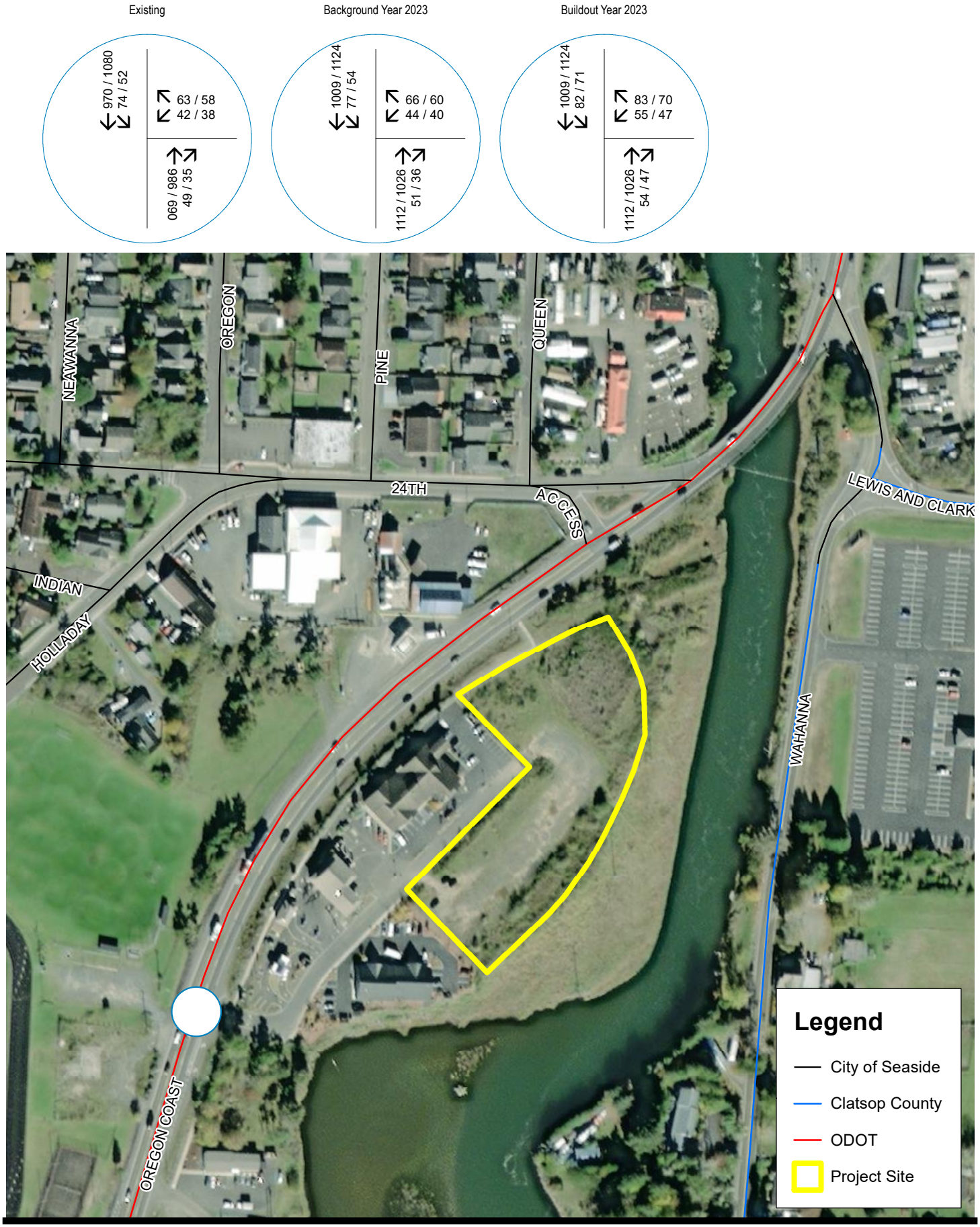
To adjust for year 2021 baseline conditions from the 2018 counts, a conservative, compounding annual growth rate of 2.00% was applied to each intersection movement. Figure 3 displays the baseline existing conditions traffic volumes for the study intersections during the evening peak hour. The 2018 count data is provided as an appendix to this report.

Background Conditions

To provide analysis of the impact of the proposed development on the nearby transportation facilities, an estimate of future traffic volumes is required. Consistent with the growth factors identified in the development of the Existing Conditions baseline volume, an annual compounded growth rate of 2.00% was applied to the 2021 Existing Conditons baseline volumes for future year 2023 conditions. Figure 3 displays the Year 2023 background volumes during the evening peak hour.

Buildout Conditions

Peak hour trips calculated to be generated by the proposed development, as described earlier within the *Site Trips* section, were added to the Year 2023 background volumes to obtain the expected Year 2023 buildout conditions. Figure 3 displays the Year 2023 background volumes with the additional site trips projected to be generated by the proposed development.



lancaster mobley

TRAFFIC VOLUMES
All Scenarios
AM & PM Peak Hour

NOT TO SCALE

Figure 3
Cross Creek Multifamily TIS
6/17/2021

Safety Analysis

Crash History Review

Using data obtained from ODOT's Crash Analysis and Reporting Unit, a review was performed of the most recent five years of available crash data at the study intersections (January 2014 through December 2018). The crash data was evaluated based on the number of crashes, the type of collisions, the severity of the collisions, and the resulting crash rate for each intersection. Crash severity is based on injuries sustained by people involved in the crash, and includes five categories:

- *PDO* – Property Damage Only;
- *Injury C* – Possible Injury;
- *Injury B* – Suspected Minor Injury;
- *Injury A* – Suspected Serious Injury; and
- *Fatality*

Crash rates provide the ability to compare safety risks at different intersections by accounting for both the number of crashes that have occurred during the study period and the number of vehicles that typically travel through the intersection. Crash rates were calculated under the common assumption that traffic counted during the evening peak hour represents approximately ten percent of annual average daily traffic (AADT) at each intersection.

The study intersection adheres to the crash analysis methodologies within ODOT's APM. According to *Exhibit 4-1: Intersection Crash Rates per MEV by Land Type and Traffic Control* of the APM, intersections which experience crash rates exceeding their respective 90th percentile crash rates should be "flagged for further analysis" and may be indicative of design deficiencies and therefore require a need for further investigation and possible mitigation. The 90th percentile rate for an unsignalized, three-leg intersection in urban areas is 0.293 CMEV.

Table 5 provides a summary of crash types and rates for the study intersection. All the collisions were classified as "possible injury" (Injury C). Detailed crash reports are included in the technical appendix to this report.

Table 5: Crash Type Summary

Intersection	Crash Type			Total Crashes	PHEV	Crash Rate	ODOT 90th %
	Rear-End	Sideswipe	Turning				
US 101 & Site Driveway	1	1	1	3	2,249	0.07	0.293

PHEV = Peak Hour Entering Vehicles.

Based on a review of the most recent five years of available crash data, no significant trends or crash patterns were identified at any of the study intersections that were indicative of safety concerns. Accordingly, no additional safety mitigation is recommended per the crash data analysis.

Warrant Analysis

Preliminary Traffic Signal Warrants

Preliminary traffic signal warrants were examined for the unsignalized site access intersection. Methodologies were based on the Manual on Uniform Traffic Control Devices (MUTCD), published by the Federal Highway Administration in 2009. Warrant 1, Eight-Hour Vehicular Volumes, was evaluated based on the common assumption that traffic counted during the evening peak hour represents 10 percent of the average daily traffic (ADT) and that the 8th highest hour is 5.65 percent of the daily volume. Detailed analysis worksheets can be found in an appendix to this report.

The preliminary traffic signal analysis determined that signal warrants are not projected to be met at the study intersection under year 2023 Buildout Conditions.

Left- & Right-Turn Lane Warrants

Left-turn lane and right-turn lane warrants were not examined for the site access intersection along US 101 as there are currently existing turn lanes accessing the site.

Operational Analysis

Capacity and delay analyses were conducted for the study intersection per the unsignalized intersection analysis methodologies in the *Highway Capacity Manual* [3] (HCM). Calculations for the intersection are performed using Synchro 10.3.122.0 software. Intersections are generally evaluated based on the average control delay experienced by vehicles and are assigned a grade according to their operation. The level of service (LOS) of an intersection can range from LOS A, which indicates very little, or no delay experienced by vehicles, to LOS F, which indicates a high degree of congestion and delay. The volume-to-capacity (v/c) ratio is a measure that compares the traffic volumes (demand) against the available capacity of an intersection.

Performance Standards

In accordance with the ODOT Oregon Highway Plan (1999), statewide routes outside an MPO and STA with a roadway speed of 40 mph have an intersection v/c ratio target not to exceed 0.85.

3 Transportation Research Board, *Highway Capacity Manual*, 6th Edition, 2016.

Delay & Capacity Analysis

The v/c, delay, and LOS results of the capacity analysis are shown in Table 6 for the morning and evening peak hours. Detailed calculations as well as tables showing the relationship between delay and LOS are included in the appendix to this report.

Table 6: Intersection Capacity Analysis Summary

Scenario	Morning Peak Hour			Evening Peak Hour		
	V/C	LOS	Delay (s)	V/C	LOS	Delay (s)
Existing Conditions	0.29	D	32	0.24	D	31
2023 Background Conditions	0.32	E	35	0.26	D	33
2023 Buildout Conditions	0.41	E	39	0.32	E	37

BOLDED text indicates intersection operation above jurisdictional standards.

Based on the results of the operational and capacity analysis, all study intersections are currently operating acceptably per ODOT standards and are projected to continue operating acceptably in Year 2023, both with and without the addition of project traffic.

Queuing Analysis

An analysis of projected queuing was conducted for the study intersection. To determine the expected queuing which may form at critical study area movements, a queuing analysis was conducted based on the results of a Synchro/SimTraffic simulation (version 10.3.122.0), with the reported values representing 95th percentile queue lengths. The 95th percentile queue is a statistical measurement which indicates there is a 5 percent chance that the queue may exceed this length during the analysis period; however, given this is a probability, the 95th percentile queue length may theoretically never be met or observed in the field. In order to provide an analysis for a worst-case scenario, the analysis summarized in Table 7 is based on the peak 15-minute periods of the morning and evening peak hours.

Table 7: Queuing Analysis Summary - Buildout Year 2023

Movement	Available Storage (ft)	Background Year 2023 95th Percentile Queue	Buildout Year 2023 95th Percentile Queue
US 101 - SBL	400	100 / 75	125 / 100
Site Access - WBL	115	75 / 75	100 / 100
Site Access - WBR	115	100 / 100	275 / 150

BOLDED text indicates queue length exceeding storage capacity.

A reported queue lengths were rounded up to the nearest twenty five feet, or the approximate length of one vehicle.

On US 101, the available storage in the southbound left-turn lane can easily accommodate the additional traffic generated by the proposed development. The left-turn movement will not affect the adjacent through travel lane.

For the westbound approach, the 95th percentile queue length is shown to extend past the turn pockets during the morning and evening peak hours under the Buildout Year 2023 scenario. However, the lane extends farther into the development which has enough storage to accommodate the estimated 95th percentile queue while maintaining gaps for individual driveway access. Traffic entering the shared driveway will continue to have access to all destinations served by the driveway. Internal queues that could affect the highway operations are unlikely to form.

It should be reiterated; however, that the 95th percentile queue accounts for 5 percent of possible queuing conditions for only the peak 15-minute period of rush hour traffic. Under all other traffic conditions, the outbound driveway queue is not expected to extend past the Dutch Bros driveway, and will not prevent vehicles from safely and expeditiously turning left and right out of the driveway and onto US 101. Safe driveway ingress and egress is demonstrated to occur during the highest peak hour of traffic under the expected typical queuing conditions. Accordingly, no mitigation pertaining to queuing is necessary or recommended.

Conclusions

Finding of the analysis include:

- No significant trends or crash patterns were identified at any of the study intersection that were indicative of safety concerns. No additional safety mitigation is recommended per the crash data analysis.
- The preliminary traffic signal analysis determined that signal warrants are not projected to be met at the site access driveway.
- All study intersections are currently operating acceptably per ODOT standards and are projected to continue operating acceptably in Background Year 2023, both with and without the addition of project traffic.
- Queueing analysis of the buildout conditions shows that existing turn lanes on the highway can accommodate the addition demand generated by the proposed development. Although the queues exiting the site can be longer during the morning and evening peak hours, they are not expected to impede internal circulation or create queues of entering vehicles that could affect the highway operations.

Appendix

Appendix A

Traffic Counts

Milepoint 19.89

Location Info	
Location ID	994
Type	I-SECTION
Functional Class	3
Located On	OREGON COAST HIGHWAY NO. 9
SOUTH OF	24th Avenue [0.10 miles]
Direction	2-WAY
Community	Seaside
MPO_ID	
HPMS ID	
Agency	Oregon Traffic Monitoring System

Count Data Info	
Start Date	9/11/2018
End Date	9/12/2018
Start Time	3:30 AM
End Time	3:30 AM
Direction	
Notes	
Count Source	
File Name	OR_Volume_Short_15_2017And2018
Weather	
Study	
Owner	LEGACY
QC Status	Accepted

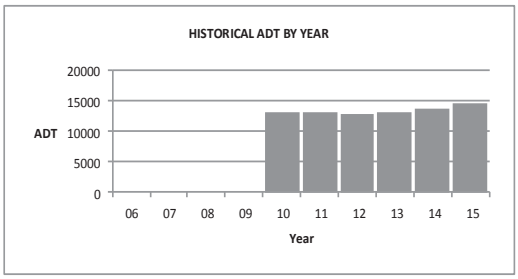
Interval: 15 mins

Time	15 Min				Hourly Count
	1st	2nd	3rd	4th	
00:00 - 01:00	11	18	7	9	45
01:00 - 02:00	11	15	12	11	49
02:00 - 03:00	15	12	11	10	48
03:00 - 04:00	20	8	11	12	51
04:00 - 05:00	27	20	28	28	103
05:00 - 06:00	35	45	51	86	217
06:00 - 07:00	101	92	125	159	477
07:00 - 08:00	181	246	315	373	1115
08:00 - 09:00	337	270	262	294	1163
09:00 - 10:00	269	298	315	316	1198
10:00 - 11:00	315	321	349	346	1331
11:00 - 12:00	369	390	351	375	1485
12:00 - 13:00	393	357	366	394	1510
13:00 - 14:00	385	396	364	382	1527
14:00 - 15:00	388	360	402	395	1545
15:00 - 16:00	378	404	419	395	1596
16:00 - 17:00	394	433	393	340	1560
17:00 - 18:00	373	389	394	329	1485
18:00 - 19:00	301	252	230	230	1013
19:00 - 20:00	184	179	158	129	650
20:00 - 21:00	158	131	135	120	544
21:00 - 22:00	108	78	90	76	352
22:00 - 23:00	45	44	40	49	178
23:00 - 24:00	46	36	20	17	119
TOTAL					19361

Location:	OR213; MP 8.90; CASCADE HIGHWAY SOUTH NO. 160; 0.94 mile south of S. Spangler Road	Site Name:	Mulino (03-020)
		Installed:	April, 2009

HISTORICAL TRAFFIC DATA

		Percent of ADT				
Year	ADT	Max Day	Max Hour	10TH Hour	20TH Hour	30TH Hour
2006	***	***	***	***	***	***
2007	***	***	***	***	***	***
2008	***	***	***	***	***	***
2009	***	***	***	***	***	***
2010	13007	119	10.1	9.6	9.6	9.5
2011	12962	124	10.2	9.7	9.6	9.5
2012	12721	122	10.1	9.8	9.6	9.5
2013	13132	122	9.9	9.6	9.5	9.5
2014	13552	126	10.0	9.7	9.5	9.4
2015	14402	122	9.9	9.4	9.2	9.2



2015 TRAFFIC DATA

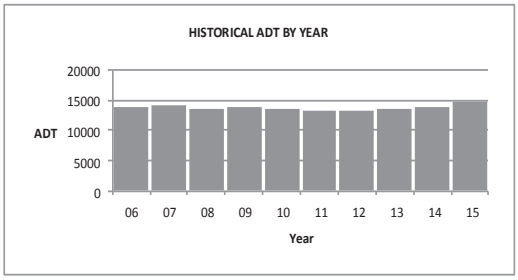
	Average Weekday Traffic	Percent of ADT	Average Daily Traffic	Percent of ADT
January	13935	97	12989	90
February	14482	101	13709	95
March	14767	103	14003	97
April	15051	105	14386	100
May	14917	104	14464	100
June	15632	109	15162	105
July	15736	109	15170	105
August	15535	108	14983	104
September	15266	106	14907	104
October	15583	108	14781	103
November	15285	106	14247	99
December	14993	104	14028	97

For Vehicle Classification data near this ATR, please go to the following web page:
https://gis.odot.state.or.us/TransGIS/

Location:	US101; MP 15.90; OREGON COAST HIGHWAY NO. 9; 2.09 miles north of Dellmoor Loop Road	Site Name:	Gearhart (04-001)
		Installed:	October, 1956

HISTORICAL TRAFFIC DATA

		Percent of ADT				
Year	ADT	Max Day	Max Hour	10TH Hour	20TH Hour	30TH Hour
2006	13797	146	12.8	12.3	11.9	11.8
2007	14019	145	12.5	12.1	11.9	11.7
2008	13486	153	14.3	12.2	11.8	11.7
2009	13797	146	12.8	12.4	12.1	12.0
2010	13635	149	12.7	12.4	12.1	12.0
2011	13182	149	14.2	12.5	12.4	12.2
2012	13158	157	13.6	12.9	12.5	12.4
2013	13409	150	13.5	12.7	12.4	12.2
2014	13825	150	13.1	12.7	12.5	12.2
2015	14702	142	12.2	11.7	11.5	11.4



2015 TRAFFIC DATA

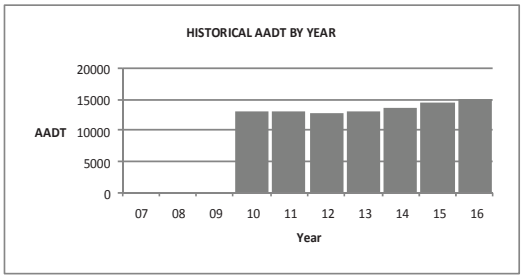
	Average Weekday Traffic	Percent of ADT	Average Daily Traffic	Percent of ADT
January	11733	80	11556	79
February	12783	87	13195	90
March	13793	94	13939	95
April	14454	98	14660	100
May	14387	98	14719	100
June	16153	110	16722	114
July	18237	124	18236	124
August	18670	127	18602	127
September	15989	109	16401	112
October	14196	97	14026	95
November	12845	87	12593	86
December	12689	86	11776	80

For Vehicle Classification data near this ATR, please go to the following web page:
https://gis.odot.state.or.us/TransGIS/

Location:	OR213; MP 8.90; CASCADE HIGHWAY SOUTH NO. 160; 0.94 mile south of S. Spangler Road	Site Name:	Mulino (03-020)
		Installed:	April, 2009

HISTORICAL TRAFFIC DATA

Year	AADT	Percent of AADT				
		Max Day	Max Hour	10TH Hour	20TH Hour	30TH Hour
2007	***	***	***	***	***	***
2008	***	***	***	***	***	***
2009	***	***	***	***	***	***
2010	13007	119	10.1	9.6	9.6	9.5
2011	12962	124	10.2	9.7	9.6	9.5
2012	12721	122	10.1	9.8	9.6	9.5
2013	13132	122	9.9	9.6	9.5	9.5
2014	13552	126	10.0	9.7	9.5	9.4
2015	14402	122	9.9	9.4	9.2	9.2
2016	15132	125	9.9	9.4	9.3	9.2



2016 TRAFFIC DATA

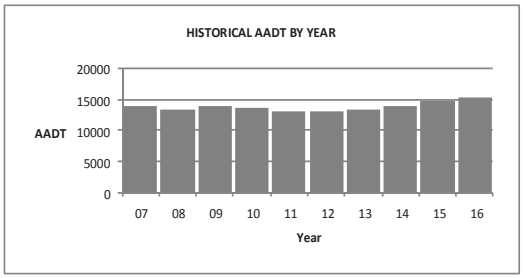
	Average Weekday Traffic	Percent of AADT	Average Daily Traffic	Percent of AADT
January	14541	96	13352	88
February	15434	102	14465	96
March	15545	103	14681	97
April	16232	107	15579	103
May	16360	108	15657	103
June	16632	110	16048	106
July	16662	110	16229	107
August	16835	111	16304	108
September	16299	108	15655	103
October	16184	107	15183	100
November	16094	106	14918	99
December	14259	94	13516	89

For Vehicle Classification data near your project, please go to the following web page:
https://gis.odot.state.or.us/TransGIS/

Location:	US101; MP 15.90; OREGON COAST HIGHWAY NO. 9; 2.09 miles north of Dellmoor Loop Road	Site Name:	Gearhart (04-001)
		Installed:	October, 1956

HISTORICAL TRAFFIC DATA

Year	AADT	Percent of AADT				
		Max Day	Max Hour	10TH Hour	20TH Hour	30TH Hour
2007	14019	145	12.5	12.1	11.9	11.7
2008	13486	153	14.3	12.2	11.8	11.7
2009	13797	146	12.8	12.4	12.1	12.0
2010	13635	149	12.7	12.4	12.1	12.0
2011	13182	149	14.2	12.5	12.4	12.2
2012	13158	157	13.6	12.9	12.5	12.4
2013	13409	150	13.5	12.7	12.4	12.2
2014	13825	150	13.1	12.7	12.5	12.2
2015	14702	142	12.2	11.7	11.5	11.4
2016	15243	144	12.0	11.7	11.6	11.4



2016 TRAFFIC DATA

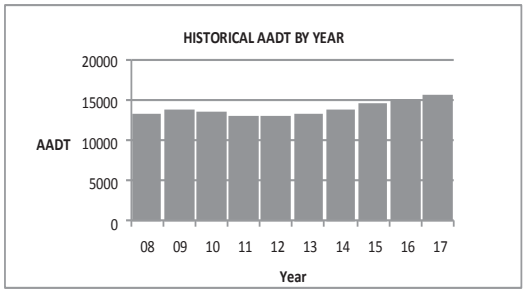
	Average Weekday Traffic	Percent of AADT	Average Daily Traffic	Percent of AADT
January	12294	81	12019	79
February	13498	89	13654	90
March	14098	92	13945	91
April	15260	100	15665	103
May	15388	101	15788	104
June	17061	112	17334	114
July	18573	122	18689	123
August	19210	126	19391	127
September	16856	111	17079	112
October	14311	94	13729	90
November	13445	88	13286	87
December	13014	85	12337	81

For Vehicle Classification data near your project, please go to the following web page:
https://gis.odot.state.or.us/TransGIS/

Location:	US101; MP 15.90; OREGON COAST HIGHWAY NO. 9; 2.09 miles north of Dellmoor Loop Road	Site Name:	Gearhart (04-001)
		Installed:	October, 1956

HISTORICAL TRAFFIC DATA

		Percent of AADT				
Year	AADT	Max Day	Max Hour	10TH Hour	20TH Hour	30TH Hour
2008	13486	153	14.3	12.2	11.8	11.7
2009	13797	146	12.8	12.4	12.1	12.0
2010	13635	149	12.7	12.4	12.1	12.0
2011	13182	149	14.2	12.5	12.4	12.2
2012	13158	157	13.6	12.9	12.5	12.4
2013	13409	150	13.5	12.7	12.4	12.2
2014	13825	150	13.1	12.7	12.5	12.2
2015	14702	142	12.2	11.7	11.5	11.4
2016	15243	144	12.0	11.7	11.6	11.4
2017	15717	142	12.2	11.6	11.3	11.2



2017 TRAFFIC DATA

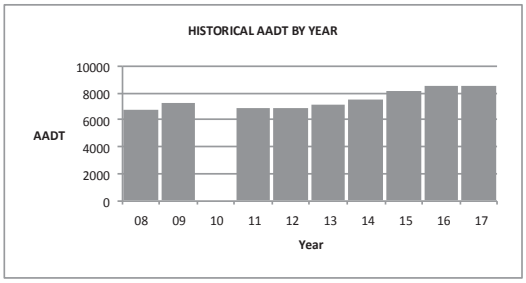
	Average Weekday Traffic	Percent of AADT	Average Daily Traffic	Percent of AADT
January	12411	79	12121	77
February	13228	84	13360	85
March	14256	91	14298	91
April	15928	101	15843	101
May	16111	103	16452	105
June	17482	111	17531	112
July	19500	124	19459	124
August	19906	127	19848	126
September	17599	112	17842	114
October	15308	97	15210	97
November	13576	86	13582	86
December	13485	86	13060	83

For Vehicle Classification data near your project, please go to the following web page: https://www.oregon.gov/ODOT/Data/Documents/TVT_2017.xlsx

Location:	US101; MP 3.79; OREGON COAST HIGHWAY NO. 9; 0.01 mile north of Lower Columbia River Highway No. 92 (US30)	Site Name:	Astoria Bridge (04-004)
		Installed:	September, 1995

HISTORICAL TRAFFIC DATA

		Percent of AADT				
Year	AADT	Max Day	Max Hour	10TH Hour	20TH Hour	30TH Hour
2008	6761	175	17.3	15.8	15.0	14.3
2009	7207	191	17.2	15.9	15.0	14.6
2010	***	***	***	***	***	***
2011	6912	174	18.9	16.0	15.5	15.0
2012	6878	168	16.8	15.2	14.7	14.5
2013	7171	180	16.7	15.4	14.4	14.1
2014	7488	169	17.3	14.9	14.5	14.0
2015	8158	178	24.0	15.3	14.5	13.9
2016	8506	164	22.9	15.4	14.5	13.7
2017	8534	162	19.7	14.8	14.2	13.9



2017 TRAFFIC DATA

	Average Weekday Traffic	Percent of AADT	Average Daily Traffic	Percent of AADT
January	*6236*	*73*	*6127*	*72*
February	*6925*	*81*	*7156*	*84*
March	*7133*	*84*	*7363*	*86*
April	*7929*	*93*	*8521*	*100*
May	*8312*	*97*	*8837*	*104*
June	*9053*	*106*	*9382*	*110*
July	*10445*	*122*	*10830*	*127*
August	*11103*	*130*	*11601*	*136*
September	*10400*	*122*	*10500*	*123*
October	*7500*	*88*	*7800*	*91*
November	*7110*	*83*	*7286*	*85*
December	*7046*	*83*	*7000*	*82*

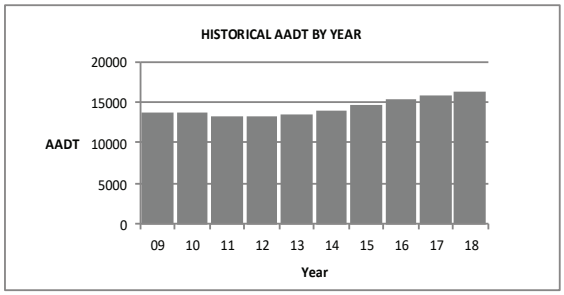
2017 –Use Seasonal Factors with caution - many volumes were estimated

For Vehicle Classification data near your project, please go to the following web page: https://www.oregon.gov/ODOT/Data/Documents/TVT_2017.xlsx

Location:	US101; MP 15.90; OREGON COAST HIGHWAY NO. 9; 2.09 miles north of Dellmoor Loop Road	Site Name:	Gearhart (04-001)
		Installed:	October, 1956

HISTORICAL TRAFFIC DATA

		Percent of AADT				
Year	AADT	Max Day	Max Hour	10TH Hour	20TH Hour	30TH Hour
2009	13797	146	12.8	12.4	12.1	12.0
2010	13635	149	12.7	12.4	12.1	12.0
2011	13182	149	14.2	12.5	12.4	12.2
2012	13158	157	13.6	12.9	12.5	12.4
2013	13409	150	13.5	12.7	12.4	12.2
2014	13825	150	13.1	12.7	12.5	12.2
2015	14702	142	12.2	11.7	11.5	11.4
2016	15243	144	12.0	11.7	11.6	11.4
2017	15717	142	12.2	11.6	11.3	11.2
2018	16204	140	12.1	11.4	11.2	11.1



2018 TRAFFIC DATA

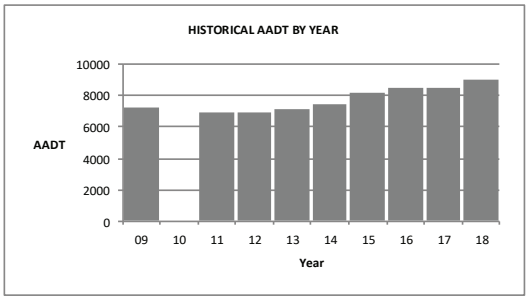
	Average Weekday Traffic	Percent of AADT	Average Daily Traffic	Percent of AADT
January	12958	80	12877	79
February	13643	84	13703	85
March	15246	94	15274	94
April	16227	100	15770	97
May	16446	101	16900	104
June	18362	113	18304	113
July	20029	124	20124	124
August	20337	126	20265	125
September	17776	110	17767	110
October	15605	96	15628	96
November	14462	89	14388	89
December	13642	84	13449	83

For Vehicle Classification data near your project, please go to the following web page: https://www.oregon.gov/ODOT/Data/Documents/TVT_2018.xlsx

Location:	US101; MP 3.79; OREGON COAST HIGHWAY NO. 9; 0.01 mile north of Lower Columbia River Highway No. 92 (US30)	Site Name:	Astoria Bridge (04-004)
		Installed:	September, 1995

HISTORICAL TRAFFIC DATA

		Percent of AADT				
Year	AADT	Max Day	Max Hour	10TH Hour	20TH Hour	30TH Hour
2009	7207	191	17.2	15.9	15.0	14.6
2010	***	***	***	***	***	***
2011	6912	174	18.9	16.0	15.5	15.0
2012	6878	168	16.8	15.2	14.7	14.5
2013	7171	180	16.7	15.4	14.4	14.1
2014	7488	169	17.3	14.9	14.5	14.0
2015	8158	178	24.0	15.3	14.5	13.9
2016	8506	164	22.9	15.4	14.5	13.7
2017	8534	162	19.7	14.8	14.2	13.9
2018	9017	***	***	***	***	***



2018 TRAFFIC DATA

	Average Weekday Traffic	Percent of AADT	Average Daily Traffic	Percent of AADT
January	6829	76	6890	76
February	7100	79	7300	81
March	7973	88	8200	91
April	8800	98	9100	101
May	9000	100	9400	104
June	9715	108	10110	112
July	11326	126	11728	130
August	11228	125	11691	130
September	9905	110	10151	113
October	8502	94	8614	96
November	7500	83	7600	84
December	7300	81	7414	82

For Vehicle Classification data near your project, please go to the following web page: https://www.oregon.gov/ODOT/Data/Documents/TVT_2018.xlsx

Summary of Trends
at
Automatic Traffic Recorder Stations
2019

Location	US101; MP 15.90; OREGON COAST HIGHWAY NO. 9; 2.09 miles north of Dellmoor Loop Rd	Site Name	Gearhart (04-001)
		Installed	October, 1956

HISTORICAL ANNUAL TRAFFIC DATA

Year	Annual Average Daily Traffic (AADT)	Critical Values as percent of Annual Average Daily Traffic (AADT)				
		Max Day	Max Hour	10th Hour	20th Hour	30th Hour
2010	13635	149	12.7	12.4	12.1	12.0
2011	13182	149	14.2	12.5	12.4	12.2
2012	13158	157	13.6	12.9	12.5	12.4
2013	13409	150	13.5	12.7	12.4	12.2
2014	13825	150	13.1	12.7	12.5	12.2
2015	14702	142	12.2	11.7	11.5	11.4
2016	15243	144	12.0	11.7	11.6	11.4
2017	15717	142	12.2	11.6	11.3	11.2
2018	16204	140	12.1	11.4	11.2	11.1
2019	16516	140	11.7	11.3	11.1	11.0

2019 SEASONAL TRAFFIC DATA

Month	Weekday		Daily	
	Average	% AADT	Average	% AADT
January	13777	83	13667	83
February	13406	81	13333	81
March	15629	95	15839	96
April	16386	99	16393	99
May	16917	102	17277	105
June	18517	112	18600	113
July	19968	121	20082	122
August	20535	124	20573	125
September	18071	109	18034	109
October	16120	98	16063	97
November	14858	90	14735	89
December	14012	85	13599	82

Appendix B

Site Plan & Trip Generation Calculations

VICINITY MAP
NO SCALE

PROJECT MAP
NO SCALE

LEGEND

PROPOSED	EXISTING	DESCRIPTION
8/8		PARKING (STANDARD/COMPACT)
		POWERPOLE
		WHEEL STOP
		CATCH BASIN
BO	BO	WATER BLOW-OFF
ARV	ARV	AIR RELIEF VALVE
WM	WM	WATER-METER
		FIRE HYDRANT
	WV	WATER VALVE
		FIRE FDC
XX	XX	MAJOR CONTOUR
XX.X		MINOR CONTOUR
		ASPHALT EDGE
OH	OH	ELECTRIC OVERHEAD
UG	UG	ELECTRIC UNDERGROUND
COM	COM	COMMUNICATION LINE
G G	G G	GAS LINE
SD	SD	STORM LINE
		PROPERTY LINE
X X	X X	FENCE LINE
SS	SS	SANITARY SEWER
FM	FM	SANITARY PRESSURELINE
W W	W W	WATER PIPE
		RIGHT OF WAY
T	T	TELEPHONE UNDERGROUND
		CENTER LINE
		SAWCUT
		SILT FENCE
		BUILDING
		AREA OF POTENTIAL FILL

SITE INFORMATION

A TRACT OF LAND BEING A PORTION OF PARCEL 3 OF PARTITION PLAT NO. 2012-014, (A REPLAT OF PARCEL I AND A PORTION OF PARCEL 2, PARTITION PLAT NO. 2009-024) SITUATED IN THE NORTHWEST QUARTER OF SECTION 15, TOWNSHIP 6 NORTH, RANGE 10 WEST, WILLAMETTE MERIDIAN, CITY OF SEASIDE, COUNTY OF CLATSOP, STATE OF OREGON

EXISTING GROSS LOT AREA
199,916 SF = 4.59 ACRES

PROPOSED LOT
16 LOTS, LOT 15 IS A COMMON LOT WITH AGREEMENTS FOR PARKING, REFUSE SERVICE, AND MAINTENANCE. LOT 16 FUTURE IS YET TO BE DETERMINED.
14 BUILDINGS
74 UNITS TOTAL (44'X48')
54 UNITS FROM 6-PLEXES
20 UNITS FROM 4-PLEXES

PARKING REQUIREMENT
PER SEASIDE ZONING ORDINANCE NO. 83-10 SECTION 4.100 OFF-STREET PARKING REQUIREMENTS: APARTMENT DWELLINGS, CONDOMINIUM OR TIME SHARE PROJECT, 1.5 PER UNIT.
111 TOTAL PARKING SPACES

PARKING PROVIDED
112 TOTAL PARKING SPACES:
78 STANDARD 9' X 19'
29 COMPACT SPACES (8' X 19')
3 VAN ACCESSIBLE ADA SPACES 9' X 19'
2 ADA NON-VAN ACCESSIBLE SPACES 9' X 19'

IMPERVIOUS AREA
BUILDING 29,568 SF (±15%)
ASPHALT/CONCRETE 46,581 SF (±23%)

UTILITY PROVIDERS

CITY OF SEASIDE
ATTN: DALE MCDOWELL
PUBLIC WORKS DIRECTOR
1387 AVENUE U
SEASIDE, OR 97138
(503) 738 - 5112
(503) 738 - 8765 (FAX)

WATER AND SANITARY SEWER
CITY OF SEASIDE
ATTN: TONY BAMONT
WASTE WATER TREATMENT PLANT FOREMAN
(503) 738 - 6839
ATTN: MIKE DIMMICK
WATER SERVICE MAINTENANCE FOREMAN
(503) 738 - 5112

ELECTRICITY
PACIFIC POWER
ATTN.: MARILYN BROCKEY
2340 SE DOLPHIN
WARRENTON, OR 97146
503-861-6005
503-861-6020 (FAX)

CABLE TELEVISION
CHARTER COMMUNICATIONS
ATTN.: VINNY BELLECI
419 GATEWAY
ASTORIA, OR 97103
503-735-5887
503-235-7421 (FAX)

GAS
NORTHWEST NATURAL GAS
ATTN.: RICH GIRARD
220 2ND AVENUE
PORTLAND, OR 97209
503-226-4211 EXT. 2980
503-281-6169 (CELL)

TELEPHONE
CENTURYLINK
ATTN.: MIKE MEISNER
481 INDUSTRY
ASTORIA, OR 97103
503-242-7676
503-242-8449 (FAX)

ONE CALL CENTER
1-800-332-2344 OR 811

BENCHMARK/DATUM

PROJECT ELEVATION DATUM: NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88), 2009 OREGON DEPARTMENT OF GEOLOGY AND MINERAL INDUSTRIES (DOGAMI) OREGON LIDAR: NORTH COAST

REFERENCE REPORTS

TRANSPORTATION IMPACT STUDY
CROSS CREEK MULTIFAMILY HOUSING
LANCASTER MOBLEY, 4/9/21

WETLAND DELINEATION
WETLAND DELINEATION
CRITICAL AREAS CONSULTING, 2/23/21

PROJECT TEAM

OWNER
CROSS CREEK LAND 1 LLC
PO BOX 2870
GEARHART, OR 97138

SURVEYOR
S&F LAND SERVICES
GABY CHRISTERSON, PLS
1725 N ROOSEVELT RD. STE B
SEASIDE, OR. 97138
503-738-3425

CIVIL ENGINEER
A.M. ENGINEERING, LLC
ADAM DAILEY, P.E.
P.O. BOX 973
SEASIDE, OR 97138
503-468-8600

TRAFFIC ENGINEER
LANCASTER MOBLEY

SHEET INDEX

Know what's below. Call before you dig.

PLANNING HEARING SET

REGISTERED PROFESSIONAL ENGINEER
74370PE
Adam Dailey
OREGON
JUNE 2, 2010
ADAM DAILEY
Seaside, Or.
RENEWAL DATE: DECEMBER 31, 2021

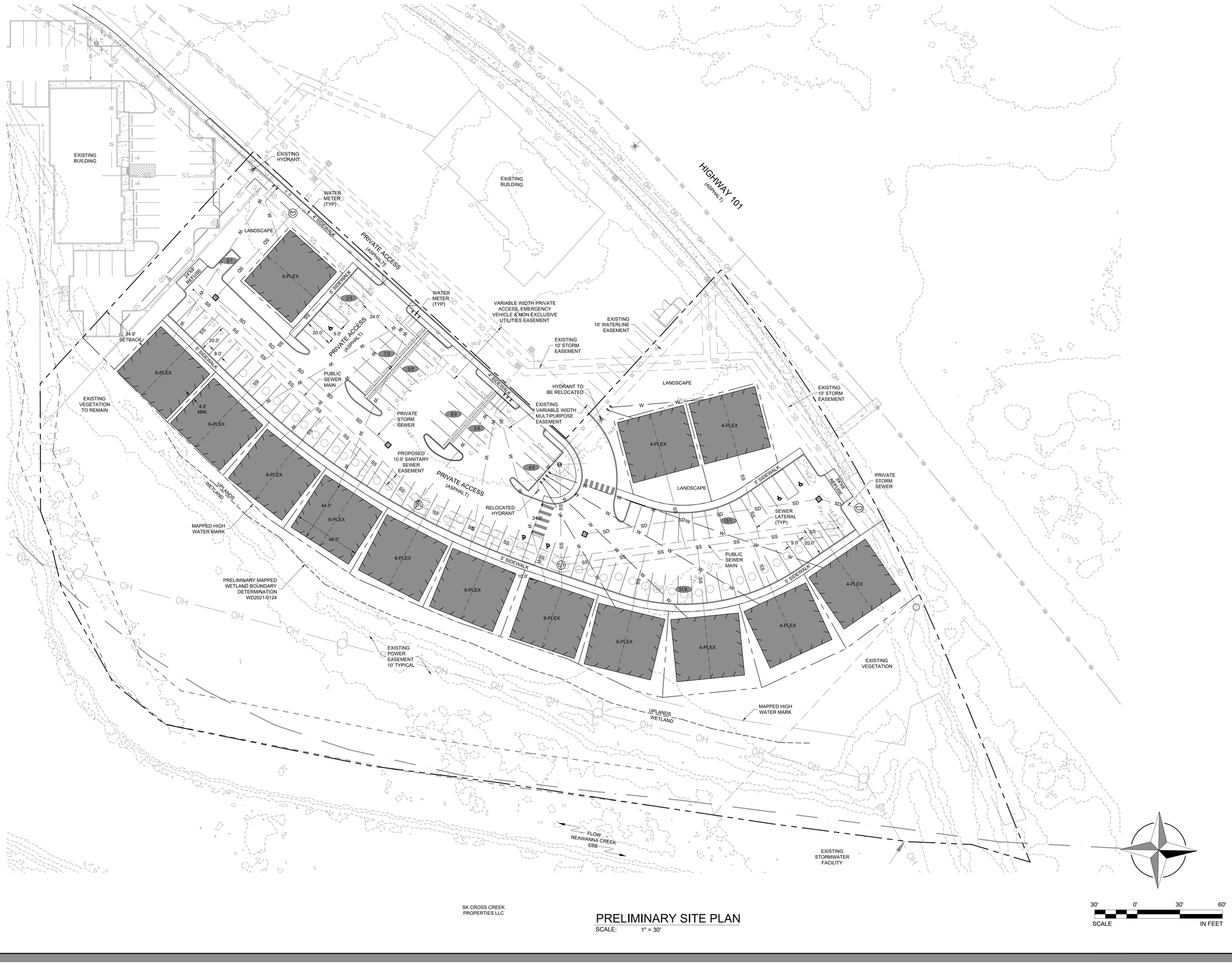
A.M. Engineering
P.O. BOX 973 SEASIDE, OREGON 97138
Phone: 503.468.8600 WWW.AMENGNR.COM

CROSS CREEK
SUBDIVISION TENTATIVE PLAN
COVER
S15, T6N, R10W
SEASIDE, CLATSOP COUNTY, OREGON

NO.	DATE	BY	REVISION COMMENTS

INITIAL ISSUE	
DESIGN: ADD	DRAWN: MBD
CHECKED: ADD	DATE: 5/7/21

C1



PRELIMINARY SITE PLAN
SCALE: 1" = 30'

30' 0' 30' 60'
SCALE IN FEET

PLANNING HEARING SET

P:\20028 Cross Creek 4-Plex Site Development\ACAD\C20028-100.dwg Plotted: By a.m. engineering2, 5/7/2021 2:34:19 PM

NO PORTION SHALL BE USED OR DISTRIBUTED WITHOUT APPROVAL OF AMENGINEERING
REGISTERED PROFESSIONAL ENGINEER
14,370PE
OREGON
JUNE 2, 2010
ADAM DAILEY
RENEWAL DATE: DECEMBER 31, 2021

A.M. Engineering
P.O. BOX 973 SEASIDE, OREGON 97138
Phone: 503.468.8600 WWW.AMENGINR.COM

CROSS CREEK SUBDIVISION TENTATIVE PLAN

PRELIMINARY SITE PLAN
S15, T6N, R10W
SEASIDE, CLATSOP COUNTY, OREGON

NO.	DATE	BY	REVISION COMMENTS

INITIAL ISSUE	
DESIGN:	DRAWN:
ADD	MSD
CHECKED:	DATE:
ADD	5/7/21

C2

LOT KEY MAP

SCALE: 1" = 30'

P:\20028 Cross Creek 4-Plex Site Development\ACAD\C20028-100.dwg Plotted: By a.m. engineering2, 5/7/2021 2:34:24 PM

NO COPIES SHALL BE MADE OR DISTRIBUTED WITHOUT APPROVAL OF THIS ENGINEER

REGISTERED PROFESSIONAL ENGINEER 74370PE OREGON JUNE 2, 2010 ADAM DAILEY

RENEWAL DATE: DECEMBER 31, 2021

A.M. Engineering
P.O. BOX 973 SEASIDE, OREGON 97138
Phone: 503.468.8600 WWW.AMENGNR.COM

CROSS CREEK
SUBDIVISION TENTATIVE PLAN
LOT KEY MAP
S15, T6N, R10W
SEASIDE, CLATSOP COUNTY, OREGON

NO.	DATE	BY	REVISION COMMENTS
#			

PLANNING HEARING SET

INITIAL ISSUE	
DESIGN:	DRAWN:
ADD	MSD
CHECKED:	DATE:
ADD	5/7/21

C3

TRIP GENERATION CALCULATIONS

Land Use: Multifamily Housing (Low-Rise)
Land Use Code: 220
Setting/Location General Urban/Suburban
Variable: Dwelling Units
Variable Value: 74

AM PEAK HOUR

Trip Equation: Ln(T)=0.95Ln(X)-0.51

	Enter	Exit	Total
Directional Distribution	23%	77%	
Trip Ends	**8**	**28**	**36**

PM PEAK HOUR

Trip Equation: Ln(T)=0.89Ln(X)-0.02

	Enter	Exit	Total
Directional Distribution	63%	37%	
Trip Ends	**28**	**17**	**45**

WEEKDAY

Trip Equation: T=7.56(X)-40.86

	Enter	Exit	Total
Directional Distribution	50%	50%	
Trip Ends	**259**	**259**	**518**

SATURDAY

Trip Equation: T=14.01(X)-521.69

	Enter	Exit	Total
Directional Distribution	50%	50%	
Trip Ends	**258**	**258**	**516**

Source: TRIP GENERATION, Tenth Edition

TRIP GENERATION CALCULATIONS

Land Use: Small Office Building
Land Use Code: 712
Setting/Location General Urban/Suburban
Variable: 1000 Sq Ft Gross Floor Area
Variable Value: 2.659

AM PEAK HOUR

Trip Rate: 1.92

	Enter	Exit	Total
Directional Distribution	83%	18%	
Trip Ends	**4**	**1**	**5**

PM PEAK HOUR

Trip Rate: 2.45

	Enter	Exit	Total
Directional Distribution	32%	68%	
Trip Ends	**2**	**5**	**7**

WEEKDAY

Trip Rate: 16.19

	Enter	Exit	Total
Directional Distribution	50%	50%	
Trip Ends	**22**	**22**	**44**

SATURDAY

Trip Rate:

	Enter	Exit	Total
Directional Distribution	50%	50%	
Trip Ends	**0**	**0**	**0**

Source: TRIP GENERATION, Tenth Edition

TRIP GENERATION CALCULATIONS

Land Use: Medical-Dental Office Building
Land Use Code: 720
Setting/Location General Urban/Suburban
Variable: 1,000 Sq Ft Gross Floor Area
Variable Quantity: 2.672

AM PEAK HOUR

Trip Equation: Ln (T)=0.89Ln(X)+1.31

	Enter	Exit	Total
Directional Distribution	78%	22%	
Trip Ends	**7**	**2**	**9**

PM PEAK HOUR

Trip Equation: T = 3.39(X) + 2.02

	Enter	Exit	Total
Directional Distribution	28%	72%	
Trip Ends	**3**	**8**	**11**

WEEKDAY

Trip Equation: T = 38.42(X) - 87.62

	Enter	Exit	Total
Directional Distribution	50%	50%	
Trip Ends	**~~8~~**	**~~8~~**	**~~16~~**

SATURDAY

Trip Rate: 8.57

	Enter	Exit	Total
Directional Distribution	50%	50%	
Trip Ends	**11**	**11**	**22**

The average rate of 34.8 trips per KSF yields a daily estimate of 92 trips, which is more releastic than the estimate provided using the equation.

Source: TRIP GENERATION, Tenth Edition

TRIP GENERATION CALCULATIONS

Land Use: Building Materials and Lumber Store
Land Use Code: 812
Setting/Location: General Urban/Suburban
Variable: 1,000 Sq. Ft. Gross Floor Area
Variable Value: 3.5

AM PEAK HOUR

Trip Rate: 1.57

	Enter	Exit	Total
Directional Distribution	63%	37%	
Trip Ends	**3**	**2**	**5**

PM PEAK HOUR

Trip Rate: 2.06

	Enter	Exit	Total
Directional Distribution	47%	53%	
Trip Ends	**3**	**4**	**7**

WEEKDAY

Trip Rate: 18.05

	Enter	Exit	Total
Directional Distribution	50%	50%	
Trip Ends	**32**	**32**	**64**

SATURDAY

Trip Rate: 51.61

	Enter	Exit	Total
Directional Distribution	50%	50%	
Trip Ends	**90**	**90**	**180**

Source: TRIP GENERATION, Tenth Edition

TRIP GENERATION CALCULATIONS

Land Use: Drive-in Bank
Land Use Code: 912
Setting/Location: General Urban/Suburban
Variable: 1000 Sq Ft Gross Floor Area
Variable Quantity: 4.6

AM PEAK HOUR

Trip Rate: 9.5

	Enter	Exit	Total
Directional Distribution	58%	42%	
Trip Ends	**26**	**18**	**44**

PM PEAK HOUR

Trip Rate: 20.45

	Enter	Exit	Total
Directional Distribution	50%	50%	
Trip Ends	**47**	**47**	**94**

WEEKDAY

Trip Rate: 100.03

	Enter	Exit	Total
Directional Distribution	50%	50%	
Trip Ends	**230**	**230**	**460**

SATURDAY

Trip Rate: 86.48

	Enter	Exit	Total
Directional Distribution	50%	50%	
Trip Ends	**199**	**199**	**398**

Source: TRIP GENERATION, Tenth Edition

TRIP GENERATION CALCULATIONS

Land Use: Fast-Food Restaurant with a Drive-Thru Window
Land Use Code: 934
Setting/Location: General Urban/Suburban
Variable: 1,000 Sq. Ft. GFA
Variable Value: 0.384

AM PEAK HOUR

Trip Rate: 40.19

	Enter	Exit	Total
Directional Distribution	51%	49%	
Trip Ends	**8**	**7**	**15**

PM PEAK HOUR

Trip Rate: 32.67

	Enter	Exit	Total
Directional Distribution	52%	48%	
Trip Ends	**7**	**6**	**13**

WEEKDAY

Trip Rate: 470.95

	Enter	Exit	Total
Directional Distribution	50%	50%	
Trip Ends	**90**	**90**	**180**

SATURDAY

Trip Rate: 616.12

	Enter	Exit	Total
Directional Distribution	50%	50%	
Trip Ends	**118**	**118**	**236**

Source: TRIP GENERATION, Tenth Edition

TRIP GENERATION CALCULATIONS

Land Use: Coffee/Donut Shop with Drive-Through Window and No Indoor Seating
Land Use Code: 938
Setting/Location: General Urban/Suburban
Variable: 1000 Sq Ft Gross Floor Area
Variable Quantity: 0.351

AM PEAK HOUR

Trip Rate: 337.04

	Enter	Exit	Total
Directional Distribution	50%	50%	
Trip Ends	**59**	**59**	**118**

PM PEAK HOUR

Trip Rate: 83.33

	Enter	Exit	Total
Directional Distribution	50%	50%	
Trip Ends	**15**	**14**	**29**

WEEKDAY

Trip Rate: 2000.00

	Enter	Exit	Total
Directional Distribution	50%	50%	
Trip Ends	**351**	**351**	**702**

Source: TRIP GENERATION, Tenth Edition

TRIP GENERATION CALCULATIONS

Land Use: Self-Service Car Wash
Land Use Code: 947
Setting/Location: General Urban/Suburban
Variable: Wash Stalls
Variable Quantity: 4

AM PEAK HOUR OF GENERATOR

Trip Rate: 8.00

	Enter	Exit	Total
Directional Distribution	50%	50%	
Trip Ends	**16**	**16**	**32**

PM PEAK HOUR

Trip Rate: 5.54

	Enter	Exit	Total
Directional Distribution	51%	49%	
Trip Ends	**11**	**11**	**22**

WEEKDAY

Trip Rate: 108.00

	Enter	Exit	Total
Directional Distribution	50%	50%	
Trip Ends	**216**	**216**	**432**

Source: TRIP GENERATION, Tenth Edition

Appendix C

ODOT Crash Data Reports

009: OREGON COAST

Highway 009 ALL ROAD TYPES, MP 19.9 to 20 01/01/2014 to 12/31/2018, Both Add and Non-Add mileage

1 - 3 of 3 Crash records shown.

SER# / INVEST / RD DPT / UNLOC?	S P E D	A L C	D R G S	M J U I	S C N V	W O H L	R K	DATE / DAY / TIME / LAT	COUNTY / CITY / URBAN AREA / LONG	RD# / COMPNT / MLG / MILEPNT	FC	CONN# / FIRST STREET / SECOND STREET / LRS	RD CHAR / DIRECT / LOCTN	INT-TYPE / (MEDIAN) / LEGS / (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER / TYPE	MOVE / FROM / TO	P#	PRTC / INJ / SVRTY	A G E	S E X	LICNS / RES	PED LOC	ERROR	ACT	EVENT	CAUSE
00429	N	N	N	N				08/17/2018	CLATSOP	1	14		CURVE		N	N	CLR	O-STRGHT	01	NONE 0	STRGHT									010	05
CITY								FR	SEASIDE	MN 0		ROOSEVELT DR	SW	(NONE)	NONE	N	DRY	SS-M		PRVTE	SW-NE							000		00
Y								10P	SEASIDE UA	19.93		21ST AVE	03			N	DLIT	INJ		PSNGR CAR		01	DRVR	NONE	00	Unk	UNK		080	000		05
N								46 0 30.29	-123 54 52.6			000900100S00		(02)													UNK				
																			02	NONE 0	STRGHT										
																				PRVTE	NE-SW							000	010	00
																				PSNGR CAR		01	DRVR	INJC	33	M	OTH-Y		000	000		00
																											N-RES					
																			02	NONE 0	STRGHT										
																				PRVTE	NE-SW							000	010	00
																				PSNGR CAR		02	PSNG	INJC	30	F		000	000		00
																			02	NONE 0	STRGHT										
																				PRVTE	NE-SW							000	010	00
																				PSNGR CAR		03	PSNG	NONE	01	M		000	000		00
																			02	NONE 0	STRGHT										
																				PRVTE	NE-SW							000	010	00
																				PSNGR CAR		04	PSNG	NONE	03	F		000	000		00
																			02	NONE 0	STRGHT										
																				PRVTE	NE-SW							000	010	00
																				PSNGR CAR		05	PSNG	NONE	08	M		000	000		00
00297	N	Y	N	N				06/24/2018	CLATSOP	1	14		ALLEY		N	N	CLD	ANGL-OTH	01	NONE 0	TURN-L										02
CITY								SU	SEASIDE	MN 0		ROOSEVELT DR	NE	(NONE)	STOP SIGN	N	WET	TURN		PRVTE	E -SW							018		00
N								9P	SEASIDE UA	19.94		24TH AVE	04			N	DUSK	INJ		PSNGR CAR		01	DRVR	INJC	43	M	OR-Y		028	000		02
N								46 0 29.73	-123 54 52.85			000900100S00		(02)													OR<25				
																			02	NONE 0	STRGHT										
																				PRVTE	SW-NE							000		00
																				PSNGR CAR		01	DRVR	NONE	47	M	OR-Y		000	088		00
																											OR<25					
00396	N	N	N	N	N	N		08/07/2015	CLATSOP	1	14		ALLEY		N	N	RAIN	S-STRGHT	01	NONE 0	STRGHT										07
CITY								FR	SEASIDE	MN 0		ROOSEVELT DR	N	(NONE)	STOP SIGN	N	WET	REAR		PRVTE	S -N							000		00
N								6P	SEASIDE UA	19.95		24TH AVE	04			N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	48	M	OR-Y		043	000		07
N								46 0 29.14	-123 54 53.06			000900100S00		(02)													OR<25				
																			02	NONE 0	TURN-R										
																				PRVTE	S -E							019		00
																				PSNGR CAR		01	DRVR	INJC	47	M	OR-Y		000	000		00
																											OR<25					

Appendix D

Signal Warrant Worksheets

Traffic Signal Warrant Analysis

Project: 20191 - Cross Creek TIS
Date: 6/17/2021
Scenario: Year 2023 Buildout Conditions - AM Peak Hour

Major Street:	US 101	Minor Street:	Project Site
Number of Lanes:	1	Number of Lanes:	1
PM Peak Hour Volumes:	2257	PM Peak Hour Volumes:	55

Warrant Used:

x 100 percent of standard warrants used

_____ 70 percent of standard warrants used due to 85th percentile speed in excess of 40 mph or isolated community with population less than 10,000.

Number of Lanes for Moving Traffic on Each Approach:		ADT on Major St. (total of both approaches)		ADT on Minor St. (higher-volume approach)	
WARRANT 1, CONDITION A		100%	70%	100%	70%
Major St.	Minor St.	Warrants	Warrants	Warrants	Warrants
1	1	8,850	6,200	2,650	1,850
2 or more	1	10,600	7,400	2,650	1,850
2 or more	2 or more	10,600	7,400	3,550	2,500
1	2 or more	8,850	6,200	3,550	2,500
WARRANT 1, CONDITION B					
1	1	13,300	9,300	1,350	950
2 or more	1	15,900	11,100	1,350	950
2 or more	2 or more	15,900	11,100	1,750	1,250
1	2 or more	13,300	9,300	1,750	1,250

Note: ADT volumes assume 8th highest hour is 5.6% of the daily volume

	Approach Volumes	Minimum Volumes	Is Signal Warrant Met?
Warrant 1			
Condition A: Minimum Vehicular Volume			
Major Street	22,570	8,850	
Minor Street*	550	2,650	**No**
Condition B: Interruption of Continuous Traffic			
Major Street	22,570	13,300	
Minor Street*	550	1,350	**No**
Combination Warrant			
Major Street	22,570	10,640	
Minor Street*	550	2,120	**No**

* Minor street right-turning traffic volumes reduced by 25%

Traffic Signal Warrant Analysis

Project: 20191 - Cross Creek TIS
Date: 6/17/2021
Scenario: Year 2023 Buildout Conditions - PM Peak Hour

Major Street:	US 101	Minor Street:	Project Site
Number of Lanes:	1	Number of Lanes:	1
PM Peak Hour Volumes:	2268	PM Peak Hour Volumes:	47

Warrant Used:

x 100 percent of standard warrants used

_____ 70 percent of standard warrants used due to 85th percentile speed in excess of 40 mph or isolated community with population less than 10,000.

Number of Lanes for Moving Traffic on Each Approach:		ADT on Major St. (total of both approaches)		ADT on Minor St. (higher-volume approach)	
WARRANT 1, CONDITION A		100%	70%	100%	70%
Major St.	Minor St.	Warrants	Warrants	Warrants	Warrants
1	1	8,850	6,200	2,650	1,850
2 or more	1	10,600	7,400	2,650	1,850
2 or more	2 or more	10,600	7,400	3,550	2,500
1	2 or more	8,850	6,200	3,550	2,500
WARRANT 1, CONDITION B					
1	1	13,300	9,300	1,350	950
2 or more	1	15,900	11,100	1,350	950
2 or more	2 or more	15,900	11,100	1,750	1,250
1	2 or more	13,300	9,300	1,750	1,250

Note: ADT volumes assume 8th highest hour is 5.6% of the daily volume

	Approach Volumes	Minimum Volumes	Is Signal Warrant Met?
Warrant 1			
Condition A: Minimum Vehicular Volume			
Major Street	22,680	8,850	
Minor Street*	470	2,650	**No**
Condition B: Interruption of Continuous Traffic			
Major Street	22,680	13,300	
Minor Street*	470	1,350	**No**
Combination Warrant			
Major Street	22,680	10,640	
Minor Street*	470	2,120	**No**

* Minor street right-turning traffic volumes reduced by 25%

Appendix E

LOS Definition

LEVEL OF SERVICE

Level of service is used to describe the quality of traffic flow. Levels of service A to C are considered good, and rural roads are usually designed for level of service C. Urban streets and signalized intersections are typically designed for level of service D. Level of service E is considered to be the limit of acceptable delay. For unsignalized intersections, level of service E is generally considered acceptable. Here is a more complete description of levels of service:

Level of service A: Very low delay at intersections, with all traffic signal cycles clearing and no vehicles waiting through more than one signal cycle. On highways, low volume and high speeds, with speeds not restricted by other vehicles.

Level of service B: Operating speeds beginning to be affected by other traffic; short traffic delays at intersections. Higher average intersection delay than for level of service A resulting from more vehicles stopping.

Level of service C: Operating speeds and maneuverability closely controlled by other traffic; higher delays at intersections than for level of service B due to a significant number of vehicles stopping. Not all signal cycles clear the waiting vehicles. This is the recommended design standard for rural highways.

Level of service D: Tolerable operating speeds; long traffic delays occur at intersections. The influence of congestion is noticeable. At traffic signals many vehicles stop, and the proportion of vehicles not stopping declines. The number of signal cycle failures, for which vehicles must wait through more than one signal cycle, are noticeable. This is typically the design level for urban signalized intersections.

Level of service E: Restricted speeds, very long traffic delays at traffic signals, and traffic volumes near capacity. Flow is unstable so that any interruption, no matter how minor, will cause queues to form and service to deteriorate to level of service F. Traffic signal cycle failures are frequent occurrences. For unsignalized intersections, level of service E or better is generally considered acceptable.

Level of service F: Extreme delays, resulting in long queues which may interfere with other traffic movements. There may be stoppages of long duration, and speeds may drop to zero. There may be frequent signal cycle failures. Level of service F will typically result when vehicle arrival rates are greater than capacity. It is considered unacceptable by most drivers.

LEVEL OF SERVICE CRITERIA FOR SIGNALIZED INTERSECTIONS

LEVEL OF SERVICE	CONTROL DELAY PER VEHICLE (Seconds)
A	<10
B	10-20
C	20-35
D	35-55
E	55-80
F	>80

LEVEL OF SERVICE CRITERIA FOR UNSIGNALIZED INTERSECTIONS

LEVEL OF SERVICE	CONTROL DELAY PER VEHICLE (Seconds)
A	<10
B	10-15
C	15-25
D	25-35
E	35-50
F	>50

Appendix F

Capacity Analysis Worksheets

Intersection	
Int Delay, s/veh	1.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	38	58	986	35	52	1080
Future Vol, veh/h	38	58	986	35	52	1080
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	65	-	-	45	150	-
Veh in Median Storage, #	2	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	6	6	6	6
Mvmt Flow	41	63	1072	38	57	1174

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	2360	1072	0	0	1110	0
Stage 1	1072	-	-	-	-	-
Stage 2	1288	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.16	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.254	-
Pot Cap-1 Maneuver	~ 39	268	-	-	614	-
Stage 1	329	-	-	-	-	-
Stage 2	259	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	~ 35	268	-	-	614	-
Mov Cap-2 Maneuver	182	-	-	-	-	-
Stage 1	329	-	-	-	-	-
Stage 2	235	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	25.7	0	0.5
HCM LOS	D		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	182	268	614	-
HCM Lane V/C Ratio	-	-	0.227	0.235	0.092	-
HCM Control Delay (s)	-	-	30.5	22.5	11.5	-
HCM Lane LOS	-	-	D	C	B	-
HCM 95th %tile Q(veh)	-	-	0.8	0.9	0.3	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	1.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	42	63	1069	49	74	970
Future Vol, veh/h	42	63	1069	49	74	970
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	65	-	-	45	150	-
Veh in Median Storage, #	2	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	6	6	6	6
Mvmt Flow	46	68	1162	53	80	1054

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	2376	1162	0	0	1215	0
Stage 1	1162	-	-	-	-	-
Stage 2	1214	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.16	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.254	-
Pot Cap-1 Maneuver	~ 38	237	-	-	560	-
Stage 1	298	-	-	-	-	-
Stage 2	281	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	~ 33	237	-	-	560	-
Mov Cap-2 Maneuver	178	-	-	-	-	-
Stage 1	298	-	-	-	-	-
Stage 2	241	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	28.6	0	0.9
HCM LOS	D		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	178	237	560	-
HCM Lane V/C Ratio	-	-	0.256	0.289	0.144	-
HCM Control Delay (s)	-	-	32.1	26.2	12.5	-
HCM Lane LOS	-	-	D	D	B	-
HCM 95th %tile Q(veh)	-	-	1	1.2	0.5	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	1.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	44	66	1112	51	77	1009
Future Vol, veh/h	44	66	1112	51	77	1009
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	65	-	-	45	150	-
Veh in Median Storage, #	2	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	6	6	6	6
Mvmt Flow	48	72	1209	55	84	1097

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	2474	1209	0	0	1264	0
Stage 1	1209	-	-	-	-	-
Stage 2	1265	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.16	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.254	-
Pot Cap-1 Maneuver	~ 33	223	-	-	537	-
Stage 1	283	-	-	-	-	-
Stage 2	265	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	~ 28	223	-	-	537	-
Mov Cap-2 Maneuver	166	-	-	-	-	-
Stage 1	283	-	-	-	-	-
Stage 2	224	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	31.2	0	0.9
HCM LOS	D		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	166	223	537	-
HCM Lane V/C Ratio	-	-	0.288	0.322	0.156	-
HCM Control Delay (s)	-	-	35.2	28.6	12.9	-
HCM Lane LOS	-	-	E	D	B	-
HCM 95th %tile Q(veh)	-	-	1.1	1.3	0.5	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	1.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	40	60	1026	36	54	1124
Future Vol, veh/h	40	60	1026	36	54	1124
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	65	-	-	45	150	-
Veh in Median Storage, #	2	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	6	6	6	6
Mvmt Flow	43	65	1115	39	59	1222

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	2455	1115	0	0	1154	0
Stage 1	1115	-	-	-	-	-
Stage 2	1340	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.16	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.254	-
Pot Cap-1 Maneuver	~ 34	253	-	-	591	-
Stage 1	314	-	-	-	-	-
Stage 2	244	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	~ 31	253	-	-	591	-
Mov Cap-2 Maneuver	171	-	-	-	-	-
Stage 1	314	-	-	-	-	-
Stage 2	220	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	27.7	0	0.5
HCM LOS	D		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	171	253	591	-
HCM Lane V/C Ratio	-	-	0.254	0.258	0.099	-
HCM Control Delay (s)	-	-	33.1	24.1	11.8	-
HCM Lane LOS	-	-	D	C	B	-
HCM 95th %tile Q(veh)	-	-	1	1	0.3	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	2.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	55	83	1112	54	82	1009
Future Vol, veh/h	55	83	1112	54	82	1009
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	65	-	-	45	150	-
Veh in Median Storage, #	2	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	6	6	6	6
Mvmt Flow	60	90	1209	59	89	1097

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	2484	1209	0	0	1268	0
Stage 1	1209	-	-	-	-	-
Stage 2	1275	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.16	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.254	-
Pot Cap-1 Maneuver	~ 32	223	-	-	535	-
Stage 1	283	-	-	-	-	-
Stage 2	263	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	~ 27	223	-	-	535	-
Mov Cap-2 Maneuver	164	-	-	-	-	-
Stage 1	283	-	-	-	-	-
Stage 2	219	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	34.6	0	1
HCM LOS	D		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	164	223	535	-
HCM Lane V/C Ratio	-	-	0.365	0.405	0.167	-
HCM Control Delay (s)	-	-	39	31.7	13.1	-
HCM Lane LOS	-	-	E	D	B	-
HCM 95th %tile Q(veh)	-	-	1.5	1.8	0.6	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	1.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	47	70	1026	47	71	1124
Future Vol, veh/h	47	70	1026	47	71	1124
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	65	-	-	45	150	-
Veh in Median Storage, #	2	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	6	6	6	6
Mvmt Flow	51	76	1115	51	77	1222

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	2491	1115	0	0	1166	0
Stage 1	1115	-	-	-	-	-
Stage 2	1376	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.16	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.254	-
Pot Cap-1 Maneuver	~ 32	253	-	-	585	-
Stage 1	314	-	-	-	-	-
Stage 2	234	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	~ 28	253	-	-	585	-
Mov Cap-2 Maneuver	161	-	-	-	-	-
Stage 1	314	-	-	-	-	-
Stage 2	203	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	30.1	0	0.7
HCM LOS	D		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	161	253	585	-
HCM Lane V/C Ratio	-	-	0.317	0.301	0.132	-
HCM Control Delay (s)	-	-	37.4	25.2	12.1	-
HCM Lane LOS	-	-	E	D	B	-
HCM 95th %tile Q(veh)	-	-	1.3	1.2	0.5	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Appendix G

Queuing Analysis Worksheets

Intersection: 1: US 101 & Site Access

Movement	WB	WB	NB	NB	SB
Directions Served	L	R	T	R	L
Maximum Queue (ft)	80	132	84	59	102
Average Queue (ft)	29	39	34	8	38
95th Queue (ft)	64	97	88	37	82
Link Distance (ft)		337			
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)	65			45	150
Storage Blk Time (%)	5	3	2	0	0
Queuing Penalty (veh)	4	1	1	1	1

Intersection: 1: US 101 & Site Access

Movement	WB	WB	NB	NB	SB
Directions Served	L	R	T	R	L
Maximum Queue (ft)	67	124	89	43	73
Average Queue (ft)	25	34	25	3	24
95th Queue (ft)	56	79	73	24	58
Link Distance (ft)		338			
Upstream Blk Time (%)			0		
Queuing Penalty (veh)			0		
Storage Bay Dist (ft)	65			45	150
Storage Blk Time (%)	1	2	1	0	
Queuing Penalty (veh)	0	1	0	0	

Intersection: 1: US 101 & Site Access

Movement	WB	WB	NB	NB	SB	SB
Directions Served	L	R	T	R	L	T
Maximum Queue (ft)	90	285	68	62	140	96
Average Queue (ft)	56	100	6	6	52	3
95th Queue (ft)	100	272	34	33	107	49
Link Distance (ft)		338	152			637
Upstream Blk Time (%)		4				
Queuing Penalty (veh)		0				
Storage Bay Dist (ft)	65			45	150	
Storage Blk Time (%)	38	12	0	0	1	0
Queuing Penalty (veh)	32	7	0	0	7	0

Intersection: 1: US 101 & Site Access

Movement	WB	WB	NB	NB	SB	SB
Directions Served	L	R	T	R	L	T
Maximum Queue (ft)	88	162	67	66	119	51
Average Queue (ft)	40	46	11	6	41	3
95th Queue (ft)	83	129	46	33	93	51
Link Distance (ft)		339	117			637
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)	65			45	150	
Storage Blk Time (%)	17	2	0	0	0	
Queuing Penalty (veh)	12	1	0	0	5	

Oregon
Kate Brown, Governor

Department of Transportation
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DATE: June 8, 2021

TO: Karen Strauss, PE
Development Review Coordinator

FROM: Arielle Ferber, PE
Traffic Analysis Engineer

SUBJECT: Cross Creek Multifamily Housing (Seaside, OR) – Outright Use
TIA Review Comments

ODOT Region 2 Traffic has completed our review of the submitted traffic impact analysis (dated April 9, 2021) to address traffic impacts due to development south of the Oregon Coast Highway No. 9 (US 101) at 24th Avenue intersection in the city of Seaside, with respect to consistency and compliance with ODOT's Analysis Procedures Manual, Version 2 (APM). The APM was most recently updated in October 2020. The current version is published online at: http://www.oregon.gov/ODOT/TD/TP/Pages/APM.aspx. As a result, we submit the following comments for the City's consideration:

Analysis items to note:

- Region Traffic assumes the land use and density cited in the report is consistent with the City's code.

Analysis items to be addressed:

1. Our review identified multiple trip generation errors of the existing site uses which has underestimated the existing site uses trip generation. Trip generation should be modified to reflect the appropriate method of trip generation.
    - Land Use Code (LUC) 812 (Building Materials and Lumber Store) – 6,500 sf was listed in Table 4, however, the AM and PM peak hour and daily trip generations were developed using a smaller square footage of 3,500 sf. This change will increase trips by five in the AM, six in the PM, and 53 in the daily.
    - LUC 720 (Medical/Dental Office Building) – The fitted curve equation method should instead be utilized for both AM and PM trip generation. This change will increase trips by two in the AM and PM.
    - LUC 938 (Coffee-Donut with Drive Thru no Seating) – The PM peak hour entering and exiting trips should be 14 and 15, respectively.

2. The study does not discuss calculation of nor application of a seasonal factor. Although general information regarding ATR #04-001 (Gearhart) was provided in the Appendix there are no seasonal factor calculations nor discussion within the report of applying a seasonal factor.
3. The study cites use of a historical 2019 count, however, the count provided in the Appendix has a count date of September 2018. Development of the existing conditions traffic volumes should apply the appropriate years of growth (three vs. two). The accompanying figure, analysis, and discussion should be updated as appropriate.
4. A peak hour factor (PHF) of 0.92 was utilized for the US 101 at Site Driveway intersection for the current year analysis. While the PHF identified by the actual count data (0.95) should be used for the existing conditions (*APM*, Section 5.8.2) use of a 0.92 PHF, which correlates to the default PHF for major arterial roadways (*APM*, Section 5.8.2) is more conservative and therefore may be used.
5. The analysis assumed a heavy vehicle percentage of 2% for all approaches for all peak hours studied. However, per the ODOT 2019 Traffic Volumes and Vehicle Classification database this section of US 101 experienced approximately 6% heavy vehicles.
6. Typically queue analysis should be conducted for the no build conditions in addition to the build conditions for comparison purposes to determine the effect the development will have on queuing at the study area intersection.
7. The preliminary traffic signal warrant analysis includes a note that minor street right-turning traffic volumes were reduced by 25%. Per Section 12.4.1 of the *APM* only minor-street right-turning traffic which exceeds 85% of the capacity of the exclusive right-turn lane should be included in the preliminary traffic signal warrant analysis, therefore, none of the westbound right-turning traffic should be included. This will not have an effect on the results of the analysis.
8. Figure 3, discussed in the study as displaying the existing, 2023 background, and 2023 buildout traffic volumes appears to have not been included in the study.
9. The Appendix is missing the Synchro reports for the existing and 2023 background conditions.
10. Typographical errors
    - Table 4 lists 2,781 sf as the size for LUC 947 (Self-Service Car Wash), however, it appears that this value should be four (stalls) to correlate to the unit used to develop the trip generation.

Proposed mitigation comments:

11. ODOT maintains jurisdiction of the Oregon Coast Highway No. 9 (US 101) and ODOT approval shall be required for all proposed mitigation measures to this facility.
12. No mitigation measures have been proposed, however, as additional information has been requested Region 2 Traffic will comment on the proposed mitigation following resubmittal.

Thank you for the opportunity to review this traffic impact analysis. As the analysis software files were not provided, Region 2 Traffic has only reviewed the submitted report. <u>As the above comments request additional information, we look forward to a second round of review.</u> If there are any questions regarding these comments, please contact me at (503) 986-2857 or Arielle.Ferber@ODOT.state.or.us

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Memorandum

To: **Steve Olstedt, Ryan Osburn**

Copy: **Adam Dailey, A.M. Engineering**

From: **Nick Mesler**

Date: **July 16, 2021**

Subject: **Cross Creek Multifamily Development – Pedestrian Safety Plan**

This memorandum serves to identify potential safety improvement options for the proposed Cross Creek Multifamily development at the existing site access driveway along US 101 (N Roosevelt Drive). The safety improvement options described further in this memorandum was precipitated by concerns raised by the Seaside Planning Commission. In order to address these concerns, a Pedestrian Safety Plan was prepared to create safer crossing conditions across the existing site access driveway for all roadway users, with a specific focus on pedestrians. The following sections will describe the existing safety conditions at the site access driveway, identify changes to pedestrian and vehicular activity at the project site, and propose safety options that will create an overall safer environment for all modes of transportation, with a focus on pedestrians.

Pedestrian Safety Environment

Crash History Review

Using data obtained from ODOT's Crash Analysis and Reporting Unit, a review was performed of the most recent five years of available crash data at the study intersections (January 2015 through December 2019). The crash data was evaluated based on the number of crashes, the type of collisions, and the severity of the collisions. Crash severity is based on injuries sustained by people involved in the crash, and includes five categories:

- *PDO* – Property Damage Only;
- *Injury C* – Possible Injury;
- *Injury B* – Suspected Minor Injury;
- *Injury A* – Suspected Serious Injury; and
- *Fatality*

Table 1 provides a summary of crash types and severities for the subject intersection. A detailed crash report at the project access driveway is provided as an attachment.

Table 1: Crash Type and Severity Summary

Intersection at US 101 & Site Driveway	Crash Type				Total Crashes
	Sideswipe	Rear-End	Pedestrian	Turning	
Count	2	1	1	1	5
Severity	PDO / C	C	B	C	

The collision identified to involve a pedestrian occurred when a westbound right-turning vehicle onto US 101 struck a pedestrian reportedly crossing the northern leg of the intersection from the west to the east corner of the intersection. The crash report identified that the driver of the vehicle failed to avoid the pedestrian. The collision was reported to have occurred under favorable weather and roadway conditions. It should be noted that this location is not an intended roadway crossing location.

Site Conditions

The existing site has a range of uses that are primarily auto-centric, including a drive-thru bank, drive-thru coffee, drive-thru fast-food restaurant, and car wash. The project development intends to construct 74 multifamily units with the potential to increase pedestrian activity throughout the local roadway system. In combination with the vehicular traffic experienced at the site driveway, it is anticipated that pedestrian/vehicle conflicts may occur at the intersection.

The existing site property has a sidewalk fronting US 101, with a continuation south of the site driveway. Sidewalks are not common along the majority of US 101 outside of the Seaside business district. It is anticipated that the majority of pedestrian activity will be to and from the south of the multifamily residential development to the city center. Pedestrian conditions from the project site to the sidewalk network south of 12th Avenue is provided by a mix of sidewalk and unimproved shoulder paths.

The existing pedestrian crossing at the site driveway is approximately 47 feet wide with directional sidewalk ramps equipped with yellow detectable warning surfaces. The driveway stop bar extends beyond the de-facto crossing area with sufficient length for a standard passenger vehicle to stop between the stop bar and crossing area without significant interference in the crosswalk.

Proposed Safety Improvements

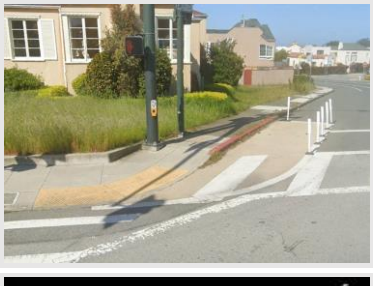
In order to improve pedestrian safety conditions at the project site access, several improvement options have been identified to create a safer pedestrian environment. The identified improvement options are provided in Table 2 on the following page, including the improvement description, example photo, improvement considerations, and potential crash reduction factor.

Conclusion

All of the potential pedestrian safety improvement options identified in this memorandum have the potential to significantly reduce the likelihood of pedestrian collisions at the Cross Creek Driveway & US 101 intersection. In addition, the likelihood of vehicular only and bicycle-involved collisions would also be reduced as a result of these improvements. It is recommended that one or more of these pedestrian safety improvement options be implemented to create a safer pedestrian environment for the existing and proposed uses utilizing the access driveway.

These improvements are consistent with the existing character of the US 101 corridor throughout the City of Seaside and are not anticipated to generate significant implementation construction closures or generate unintended consequences such as sight distance reduction, pedestrian rerouting outside of the existing crossing area and sidewalk, or reduce pedestrian visibility.

Table 2: Pedestrian Safety Improvement Options

Improvement	Example	Improvement Considerations	Crash Reduction Factor
Install R1-5bR sign on Driveway Approach Leg		Installing a R1-5bR sign on the westbound approach leg will notify drivers where to stop and allow for pedestrians to safely cross the intersection.	25% average crash reduction for pedestrian crashes
Install High-Visibility Continental Crosswalks		High-visibility continental crosswalks delineate the pedestrian crossing area that drivers should avoid when a pedestrian is present. The existing stop bar is to remain in place (consistent with other locations along US 101 corridor).	19% average crash reduction for vehicular crashes 40% average crash reduction for pedestrian crashes
Install "SLOW" Pavement Legend at Northbound Right Turn Approach		Installing this pavement marking reinforces defensive driver behavior to slow down and be aware of their surroundings.	30% average crash reduction for all crash types
Install Flexible Post Delineators at Northbound Right Turn Approach		Installing delineators can reduce the crossing distance required for pedestrians, thereby reducing the mode conflict area between pedestrians and drivers.	30% average crash reduction for all crash types
Relocate Existing Streetlight North of Intersection to Driveway Intersection		Improving lighting at the intersection reduces the silhouette effect on pedestrians and makes pedestrians more visible to drivers. There is an existing pole ~50 feet north of the intersection which can be relocated.	12-71% average crash reduction for nighttime crashes 44% average crash reduction for pedestrian crashes

Note: Crash reduction factors retrieved from Crash Modification Factors Clearinghouse www.cmfclearinghouse.org and the ODOT HSIP Countermeasures and Crash Reduction Factors https://www.oregon.gov/ODOT/Engineering/Docs_TrafficEng/CRF-Appendix.pdf

SER# / INVEST / RD DPT / UNLOC?	S P E D	A L C	D R G S	M J U N V	S I H L	C	W O R K	DATE / DAY / TIME / LAT	COUNTY / CITY / URBAN AREA / LONG	RD# / COMPNT / MLG / MILEPNT	FC	CONN# / FIRST STREET / SECOND STREET / LRS	RD CHAR / DIRECT / LOCTN	INT-TYPE / (MEDIAN) / LEGS / (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER / TYPE	MOVE / FROM / TO	P#	PRTC / TYPE	INJ / SVRTY	A G E	S E X	LICNS / RES	PED / LOC	ERROR	ACT	EVENT	CAUSE
00429	N	N	N	N				08/17/2018	CLATSOP	1	14		CURVE		N	N	CLR	O-STRGHT	01	NONE 0	STRGHT										010	05
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Jordan Sprague

From: Jeff Flory
Sent: Monday, June 5, 2023 10:37 AM
To: Jordan Sprague
Subject: FW: FW: 2275 N Roosevelt Drive Safety Improvements

Follow Up Flag: Follow up
Flag Status: Flagged

Can you add this e-mail string to documents for Cross Creek.

Thanks.

Jeff Flory
Community Development Director

Phone: (503) 738-7100
E-mail : jflory@cityofseaside.us
Mailing : 989 Broadway
Seaside, OR 97138

From: Steve Olstedt <steveolstedt@gmail.com>
Sent: Monday, June 5, 2023 10:06 AM
To: Jeff Flory <jflory@cityofseaside.us>
Subject: Fwd: FW: 2275 N Roosevelt Drive Safety Improvements

Jeff; this is the document I spoke to you about.

---------- Forwarded message ---------
From: **Steve Olstedt** <steveolstedt@gmail.com>
Date: Mon, Jun 5, 2023 at 10:02 AM
Subject: Fwd: FW: 2275 N Roosevelt Drive Safety Improvements
To: KEARNS Richard A <Richard.A.KEARNS@odot.state.or.us>, WILLIAMS Virginia L <Virginia.L.WILLIAMS@odot.state.or.us>

---------- Forwarded message ---------
From: **Steve Olstedt** <steveolstedt@gmail.com>
Date: Wed, May 31, 2023 at 9:50 AM
Subject: Fwd: FW: 2275 N Roosevelt Drive Safety Improvements
To: Steve Olstedt <steveolstedt@gmail.com>, Ryan Osburn <grosburn@hotmail.com>

---------- Forwarded message ---------
From: **Nick Mesler** <nick@lancastermobley.com>
Date: Mon, Oct 4, 2021 at 8:03 AM
Subject: Re: FW: 2275 N Roosevelt Drive Safety Improvements
To: STRAUSS Karen A <Karen.A.STRAUSS@odot.state.or.us>
Cc: KEARNS Richard A <Richard.A.KEARNS@odot.state.or.us>, UPTON Dorothy J <Dorothy.J.UPTON@odot.state.or.us>, BUFFINGTON Mark W <Mark.W.BUFFINGTON@odot.state.or.us>, NELSON Scott <Scott.NELSON@odot.state.or.us>, Adam <adam@amengnr.com>, Steve Olstedt <steveolstedt@gmail.com>, Ryan Osburn <grosburn@hotmail.com>, Elizabeth Shumaker <elizabeth@lancastermobley.com>

Good morning Karen,

Thank you so much to you and the rest of the ODOT team for the assistance in resolving this matter. We will continue to monitor the discussion as it further resolves.

Best,

Nick Mesler
Transportation Analyst

321 SW 4th Avenue, Suite 400 | Portland, OR 97204
Office: 503-248-0313 x332 | Mobile: 201-968-7974
Website: lancastermobley.com
Offices: Portland, OR | Bend, OR

On Mon, Oct 4, 2021 at 6:48 AM STRAUSS Karen A <Karen.A.STRAUSS@odot.state.or.us> wrote:

> Nick,
>
> Please see below from our traffic engineer. In short, we agree that this is not the best location for an RRFB, and explain why. I'll also be forwarding this to the City.
>
> Karen A. Strauss, PE (she/her/hers)
>
> Development Review Coordinator, District 1
>
> Desk 503-986-2849 *(note: I am teleworking so this will forward to my mobile phone.)*
>
> Mobile 503-509-7173

From: UPTON Dorothy J <Dorothy.J.UPTON@odot.state.or.us>
Sent: Friday, October 1, 2021 10:23 AM
To: STRAUSS Karen A <Karen.A.STRAUSS@odot.state.or.us>
Cc: BUFFINGTON Mark W <Mark.W.BUFFINGTON@odot.state.or.us>; CHRISTENSEN Karen * Kc <Karen.CHRISTENSEN@odot.state.or.us>; OBERY Gary R <Gary.R.OBERY@odot.state.or.us>; NELSON Scott <Scott.NELSON@odot.state.or.us>; KEARNS Richard A <Richard.A.KEARNS@odot.state.or.us>
Subject: 2275 N Roosevelt Drive Improvement

Karen,

Please forward this as appropriate.

It is our understanding that the conditions of approval for your development includes "flashing crosswalk signage, approaching crosswalk along the northbound deceleration" meaning they want a flasher facing northbound US 101 traffic in the deceleration lane to warn the right turn movement of the possible pedestrian crossing. This would be in conjunction with the flashing signage for the marked crosswalk across the driveway opening.

The purpose of a flashing beacon at a crossing is to warn the oncoming traffic that pedestrians are crossing the travel lanes in a crosswalk. These devices are meant for traffic that could possibly intersect the pedestrians, not for traffic that is traveling in the same direction as the pedestrians. The movement the city is trying to control is the 'normal" right hand turn conflict that occurs at any driveway access. I spoke with our headquarter staff and they said it is not really possible for the flasher to only be seen by the turning drivers. While ODOT values safety, a flashing beacon pointed at northbound traffic for pedestrians that are *not* crossing US-101 would be confusing for drivers and not provide the safety enhancement sought. ODOT would not approve an installation of such a flasher facing US 101 traffic in this configuration.

If an RRFB is desired for a crossing of US 101, the City (not a private developer) would have to be the entity to maintain and operate the device – but under a permit that identifies the location and operating parameters. However, we do not believe what is given in the conditions of approval concept is appropriate and will not be seeking approval for it.

Dorothy J. Upton, P.E.
ODOT Region 2 Traffic Operations Engineer
455 Airport Road, SE Building A
Salem, OR 97301-5397

Office: 503-986-5761
dorothy.j.upton@odot.state.or.us

From: Nick Mesler <nick@lancastermobley.com>
Sent: Thursday, September 23, 2021 2:57 PM
To: STRAUSS Karen A <Karen.A.STRAUSS@odot.state.or.us>
Cc: KEARNS Richard A <Richard.A.KEARNS@odot.state.or.us>; UPTON Dorothy J <Dorothy.J.UPTON@odot.state.or.us>; BUFFINGTON Mark W <Mark.W.BUFFINGTON@odot.state.or.us>; NELSON Scott <Scott.NELSON@odot.state.or.us>; Adam <adam@amengnr.com>; Steve Olstedt <steveolstedt@gmail.com>; Ryan Osburn <grosburn@hotmail.com>; Elizabeth Shumaker <elizabeth@lancastermobley.com>
Subject: Re: FW: 2275 N Roosevelt Drive Safety Improvements

Hi Karen,

Thanks for reaching out on the subject matter here. The improvements listed in Condition #9 are actually in relation to the existing driveway access just south of the Dutch Bros Coffee. The photo attached shows where the site development is located (outlined in yellow). No new access points along US 101 are being proposed.

The condition of approval is worded a little funky I will admit. Effectively there are two parts to it:

At the driveway

- improved lighting at the north and south ends of the crosswalk
- providing reflective thermal plastic slow, arrows & crosswalk demarcations
- flashing crosswalk signage, approaching crosswalk along the northbound deceleration

and

Interior to the site parking area

- improved lighting along the future walkway north of the title company and dental office property

The specific request that we are taking issue with is "flashing crosswalk signage, approaching crosswalk along the northbound deceleration". It should read as "flashing crosswalk signage approaching crosswalk along the northbound deceleration" (without the comma). As shown at the driveway, there are a myriad of safety improvements that we concur are useful and appropriate, such as continental crosswalks (sketched in blue), SLOW pavement markings, better lighting, etc. However, the City of Seaside is also requesting "flashing crosswalk signage", like an RRFB, to be facing the northbound right turn lane (sketched in red). We believe this is an inappropriate application of an RRFB and would create confusion amongst drivers and pedestrians. Having the sign face the northbound approach (shaded in yellow) would make it appear as if pedestrians can cross at US 101 and expect vehicles to stop (which is not intended). Even

with arrow signage, this still has the potential to create a lot of confusion, and therefore an unsafe environment. Additionally, it would have to be on ODOT ROW, which becomes a maintenance issue for ODOT. We are seeking ODOT support in recommending that an RRFB not be implemented as it may well lead to driver/pedestrian confusion along this busy highway.

Feel free to give me a call with any other questions or concerns.

Best,

Nick Mesler

Transportation Analyst

321 SW 4th Avenue, Suite 400 | Portland, OR 97204
Office: 503-248-0313 x332 | Mobile: 201-968-7974
Website: lancastermobley.com

Offices: Portland, OR | Bend, OR

On Thu, Sep 23, 2021 at 1:16 PM STRAUSS Karen A <Karen.A.STRAUSS@odot.state.or.us> wrote:

Hello Nick,

Thanks for your patience while I investigated this question.

I don't believe I have a copy of the site plan for the development, which has made this a bit difficult to ferret out exactly where the City wants the RRFB. I saw this:

Condition 9: The examples of pedestrian safety measures that were provided by the applicant's traffic engineering firm must be incorporated into the access at North Roosevelt Drive, in addition to improved lighting at the north and south ends of the crosswalk, providing reflective thermal plastic slow, arrows & crosswalk demarcations, flashing crosswalk signage, approaching crosswalk along the northbound deceleration lane, and improved lighting along the future walkway north of the title company and dental office property, subject to authorization by the Oregon Department of Transportation under their permit authorization for the current access.

Is the city indicating they want the RRFB across the highway at this location? Or do they want it across the driveway?

As soon as I nail down where the actual location is for this, I can get you more answers. Or, if you have the site plan, that would help too. Thank you!

Karen A. Strauss, PE (she/her/hers)

Development Review Coordinator, District 1

Desk 503-986-2849 *(note: I am teleworking so this will forward to my mobile phone.)*

Mobile 503-509-7173

From: STRAUSS Karen A
Sent: Thursday, September 23, 2021 10:06 AM
To: UPTON Dorothy J <Dorothy.J.UPTON@odot.state.or.us>; BUFFINGTON Mark W <Mark.W.BUFFINGTON@odot.state.or.us>
Cc: NELSON Scott <Scott.NELSON@odot.state.or.us>; KEARNS Richard A <Richard.A.KEARNS@odot.state.or.us>
Subject: RE: 2275 N Roosevelt Drive Safety Improvements

Attached is the NOD from the City, also.

Karen A. Strauss, PE (she/her/hers)

Development Review Coordinator, District 1

Desk 503-986-2849 *(note: I am teleworking so this will forward to my mobile phone.)*

Mobile 503-509-7173

From: STRAUSS Karen A
Sent: Thursday, September 23, 2021 10:05 AM
To: UPTON Dorothy J <Dorothy.J.UPTON@odot.state.or.us>; BUFFINGTON Mark W <Mark.W.BUFFINGTON@odot.state.or.us>
Cc: NELSON Scott <Scott.NELSON@odot.state.or.us>; KEARNS Richard A <Richard.A.KEARNS@odot.state.or.us>
Subject: FW: 2275 N Roosevelt Drive Safety Improvements

Hi Dorothy and Mark,

This question is for both of you… Seaside recently gave Conditions of Approval regarding the Cross Creek Development, and in those recommendations they want RRFB's (See string below and google link for location.) It's Highway 101, MP 19.945.

Thanks,
Karen

Karen A. Strauss, PE (she/her/hers)

Development Review Coordinator, District 1

Desk 503-986-2849 *(note: I am teleworking so this will forward to my mobile phone.)*

Mobile 503-509-7173

From: KEARNS Richard A <Richard.A.KEARNS@odot.state.or.us>
Sent: Thursday, September 2, 2021 10:12 AM
To: LINER Duane J <Duane.J.LINER@odot.state.or.us>; STRAUSS Karen A <Karen.A.STRAUSS@odot.state.or.us>
Subject: FW: 2275 N Roosevelt Drive Safety Improvements

This came from the Engineer working on the Cross Creek development in Seaside concerning the Seaside's Conditions of Approval requirements. This is Hwy 101, mp 19.945.

https://www.google.com/maps/@46.0082294,-123.9146308,3a,75y,122.34h,78.13t/data=!3m6!1e1!3m4!1s4XVY6Pi0VUdAIVfZ4yHQfw!2e0!7i13312!8i6656

From: Nick Mesler <nick@lancastermobley.com>
Sent: Thursday, September 2, 2021 9:52 AM
To: KEARNS Richard A <Richard.A.KEARNS@odot.state.or.us>
Cc: Steve Olstedt <steveolstedt@gmail.com>; Adam <adam@amengnr.com>; Ryan Osburn <grosburn@hotmail.com>; Elizabeth Shumaker <elizabeth@lancastermobley.com>
Subject: Re: 2275 N Roosevelt Drive Safety Improvements

Hi Richard,

Great talking to you this morning. Attached here is the Conditions of Approval for Cross Creek. Specifically, Condition 9 relates to traffic. The safety improvements outlined in the Pedestrian Safety Plan I sent you earlier (also outlined in the COA), thermal plastic, and lighting are all reasonable improvements to make, which are intended to be implemented. The flashing crosswalk signage (RRFB) we do not think is an appropriate solution for this application. Additionally, it would have to be on ODOT ROW, which becomes a maintenance issue for ODOT. We are seeking ODOT support in recommending that an RRFB not be implemented as it may well lead to driver/pedestrian confusion along this busy highway.

Thank you again - and feel free to reach out if you have any questions or concerns.

Best,

Nick Mesler

Transportation Analyst

321 SW 4th Avenue, Suite 400 | Portland, OR 97204
Office: 503-248-0313 x332 | Mobile: 201-968-7974
Website: lancastermobley.com

Offices: Portland, OR | Bend, OR

On Wed, Aug 18, 2021 at 3:55 PM Nick Mesler <nick@lancastermobley.com> wrote:

> Good afternoon Richard,
>
> I am working with Adam Dailey of AM Engineering and Steve Olstedt on a project in Seaside that takes direct access to an existing driveway along US 101. Our development intends to construct 80+ multi family homes on a vacant parcel. As part of the City of Seaside's Planning Commission's Conditions of Approval for the proposed development, they are requesting a number of safety improvements at the existing driveway. On behalf of our client, I am reaching out to you to discuss the implications of this COA improvement, how this will effect ODOT facilities, and whether or not this is indeed an appropriate solution that is supported by ODOT.

Many of the COA safety measures are relatively simple and are worthwhile improvements. However, the City is requiring an RRFB be placed at the driveway's north/south crosswalk on the eastern leg of the intersection. They are also requesting the RRFB to be visible to northbound right-turning traffic. We feel that this is an unusual application for this type of safety improvement, that may cause confusion amongst drivers and pedestrians alike, thereby creating a more dangerous crossing environment. We do not want to give drivers the impression that traffic will stop along the mainline US 101 approaches if the flashing signs are visible to the northbound approach, and thereby be giving right-of-way to pedestrians crossing US 101. Additionally, this is a relatively unusual application for an RRFB, given that it is at a driveway approach, where these are generally seen at mid-block crossings.

In either case, this improvement would need to be constructed on the southeastern corner of the intersection, which is ODOT-owned ROW. Given that this would fall under ODOT ownership, we are concerned that this solution would not be preferred by the agency.

In place of this, we have proposed a number of safety improvements that are more appropriate for this application, do not interfere significantly with ODOT ROW, and would not require additional ODOT maintenance. A memo we prepared for the City, detailing these improvements, is attached.

We are hoping to set up a short video conference call with you to discuss the best way to approach this issue and hear your thoughts on this matter. We are fully intent on being compliant with implementing improvements, but would like to see the best solution available implemented. Ultimately, the improvements implemented will require ODOT coordination as this will be done within ODOT ROW, so having this conversation now would be very helpful to us.

Please let me know what your thoughts are and if you would be open to having a meeting to discuss this further sometime next week.

Thank you in advance,

Nick Mesler

Transportation Analyst

321 SW 4th Avenue, Suite 400 | Portland, OR 97204
Office: 503-248-0313 x332 | Mobile: 201-968-7974
Website: lancastermobley.com

CROSS CREEK DEVELOPMENT
2 STORY

2315 N ROOSEVELT DR.
SEASIDE, OREGON

DECEMBER 20TH, 2022
JOB# 22-0411

STRUCTURAL CALCULATIONS
BY

STABILITY ENGINEERING INC.
P.O. BOX 2646 · CORVALLIS, OREGON 97339
P: 541.223.5360 F: 541.223-5278

12/20/2022

⚠ This is a beta release of the new ATC Hazards by Location website. Please contact us with feedback.

ℹ The ATC Hazards by Location website will not be updated to support ASCE 7-22. Find out why.

Hazards by Location

Search Information

Coordinates: 46.00950363610217, -123.91231199529268

Elevation: 15 ft

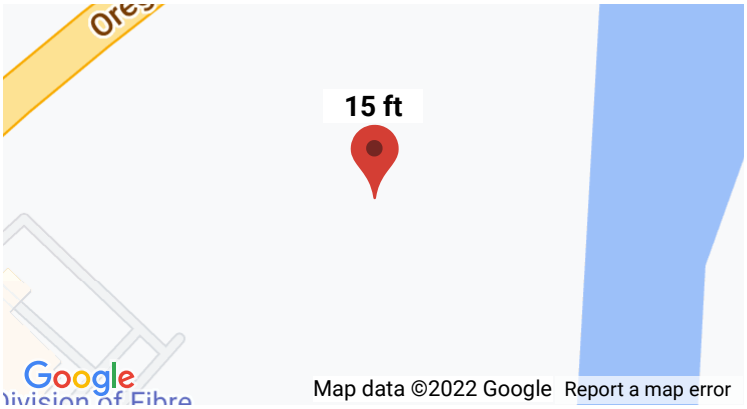
Timestamp: 2022-09-09T18:34:24.752Z

Hazard Type: Seismic

Reference Document: ASCE7-16

Risk Category: II

Site Class: D



Basic Parameters

Name	Value	Description
S_S	1.294	MCE_R ground motion (period=0.2s)
S_1	0.679	MCE_R ground motion (period=1.0s)
S_{MS}	1.294	Site-modified spectral acceleration value
S_{M1}	* null	Site-modified spectral acceleration value
S_{DS}	0.862	Numeric seismic design value at 0.2s SA
S_{D1}	* null	Numeric seismic design value at 1.0s SA

* See Section 11.4.8

Additional Information

Name	Value	Description
SDC	* null	Seismic design category
F_a	1	Site amplification factor at 0.2s
F_v	* null	Site amplification factor at 1.0s
CR_S	0.862	Coefficient of risk (0.2s)
CR_1	0.854	Coefficient of risk (1.0s)
PGA	0.65	MCE_G peak ground acceleration
F_{PGA}	1.1	Site amplification factor at PGA

PGA_M	0.715	Site modified peak ground acceleration
T_L	16	Long-period transition period (s)
SsRT	1.294	Probabilistic risk-targeted ground motion (0.2s)
SsUH	1.501	Factored uniform-hazard spectral acceleration (2% probability of exceedance in 50 years)
SsD	1.86	Factored deterministic acceleration value (0.2s)
S1RT	0.679	Probabilistic risk-targeted ground motion (1.0s)
S1UH	0.796	Factored uniform-hazard spectral acceleration (2% probability of exceedance in 50 years)
S1D	0.967	Factored deterministic acceleration value (1.0s)
PGAd	0.874	Factored deterministic acceleration value (PGA)

* See Section 11.4.8

The results indicated here DO NOT reflect any state or local amendments to the values or any delineation lines made during the building code adoption process. Users should confirm any output obtained from this tool with the local Authority Having Jurisdiction before proceeding with design.

Please note that the ATC Hazards by Location website will not be updated to support ASCE 7-22. Find out why.

Disclaimer

Hazard loads are provided by the U.S. Geological Survey Seismic Design Web Services.

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STABILITY ENGINEERING INC.

P.O. Box 2646 Corvallis, Oregon 97339
p: 541.223.5360 f: 541.223.5278

PROJECT: 22-0411 Cross Creek 2-Story DATE: 9/9/22

SEISMIC LOADS

Establish Dead Loads	**Mat. Wt**	**3rd Flr**		**2nd Flr**		**1st Flr**		**Base Level**	
	DL(psf)	Area(sf)	DL(lbs)	Area(SF)	DL(lbs)	Area(SF)	DL(lbs)	Area(SF)	DL(lbs)
Wt. Roof	15	0	0	2288	34320	0	0	0	0
Wt. Ceil	15	0	0	0	0	0	0	0	0
Wt. Ext. Wall[1]	12	0	0	1512	18144	1512	18144	0	0
Wt. Ext. Wall[2]	12	0	0	0	0	0	0	0	0
Wt. Int. Wall	10	0	0	1776	17760	1776	17760	0	0
Wt. Floor	12	0	0	1953	23436	0	0	0	0
		Sum 3rd	0	Sum 2nd	93660	Sum 1st	35904	Sum Base	0
1. Total Weight of Ext. Wall								Sum Total	129564
2. the Weight of Ext. Wall Perpendicular to Shear Force									

Distribute Weights to Various Levels	**Roof**	**3rd FL**	**2nd FL**	**1st FL**		**Wt**
Tributary Weight	**Line**	**Line**	**Line**	**LIne**		**Sum**
Wt Roof 3rd	0					0
Wt Ceil 3rd	0					0
1/2 Wt Ext. Wl 3[1]	0	0				0
1/2 Wt Ext. Wl 3[2]	0	0				
Wt Int. Wl 3		0				0
Wt Floor 3		0				0
Wt Roof 2nd		34320				34320
Wt Ceil 2nd		0				0
1/2 Wt Ext. Wl 2[1]		9072	9072			18144
1/2 Wt Ext. Wl 2[2]		0	0			
Wt Int. Wl 2			17760			17760
Wt Floor 2			23436			23436
Wt Roof 1st			0			0
Wt Ceil 1st			0			0
1/2 Wt Ext. Wl 1[1]			9072	9072		18144
1/2 Wt Ext. Wl 1[2]			0	0		
Wt Int. Wl 1				17760		17760
Wt Floor 1				0		0
1/2 Wt Ext. W Bsmt				0		
Wt Ceil Bsmt				0		
Line Sum[3]	0	43392	59340	26832		102732
Line Sum[4]	0	34320	41196	17760		

3. Total Weight including Total Ext. Wall Weight
4. Total Weight including Ext. Wall Weight Perpendicular to Shear Force

Determine Base Shear *ASCE 7-16 Section 12.8

Seismic Design Category:		D		ASCE 7-16; 11.4.3
Seismic Soil Classification Sx:		D		ASCE 7-16; 11.4.3
Snow Load:		25		
Importance Factor:	I=	1		ASCE 7-16; Table 1.5-2
Ground Motion:	S_s=	1.294	**g, 0.2 sec response**	ASCE 7-16; 11.4.2
	S_1=	0.679	**g, 1 sec response**	ASCE 7-16; 11.4.2
Site Coefficient	Fa=	1		ASCE 7-16; Table 11.4-1
	Fv=	1.7		ASCE 7-16; Table 11.4-2
Max Considered Earthquake acceleration	S_{MS}=	1.29		ASCE 7-16; Equation 11.4-1
	S_{M1}=	1.15		ASCE 7-16; Equation 11.4-2
Design Spectral Acceleration:	S_{DS}=	0.863		ASCE 7-16; Equation 11.4-3
	S_{D1}=	0.77		ASCE 7-16; Equation 11.4-4
Response Modification Coefficient:	R=	6.5		ASCE 7-16; Table 12.2-1
Building Period:	C_t=	0.02		ASCE 7-16; Table 12.8-2
	h_n=	26		(highest level of structure)
	x=	0.75		ASCE 7-16; Table 12.8-2
	T_a=	$C_t h_n^x$=	0.230	ASCE 7-16; Equation 12.8-7
	T_s=	S_{D1}/S_{DS}=	0.9	ASCE 7-16; 11.4.6
	T_L=	16		ASCE 7-16; Figure 22-14
Seismic response coefficent:	Cs=	$S_{DS}/(R/I)$=	0.1327	ASCE 7-16; Equation 12.8-2
	Cs, Min=	max of 0.01 or	$0.5S_1/(R/I)$= 0.05	ASCE 7-16; Equations 12.8-5 and 12.8-6
	Cs, Max=	$(S_{D1}/T(R/I)$ for $T<=T_L$,		
		$S_{D1}T_L/T^2(R/I)$ for $T>T_L$) =	0.5141	ASCE 7-16; Equations 12.8-3 and 12.8-4
Base Shear Acceleration:	V=	0.13	W	
		13634.38	(lbs)	ASCE 7-16; Equation 12.8-1

Distribute Shear to Various Levels

	Wtx	Htx	$(Wtx)(Ht)^k$	shear wall Fx	diaphragm Fpx	Max Fpx	Min Fpx	Cal. Fpx	Wpx
Roof 3	0	0.0	0	0	#DIV/0!	0	0	#DIV/0!	0
3rd Fl/Roof2	43392	17.0	737664	7909	6255	11843	5921	6255	34320
2nd Fl/Roof 1	59340	9.0	534060	5726	7108	14215	7108	5467	41196
1 st Floor	26832	0.0	0	0	3064	6128	3064	1869	17760
Sum	129564		1271724	13634					

STABILITY ENGINEERING INC.

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PROJECT: 22-0411 Cross Creek 2-Story DATE: 12/5/22

GENERAL BUILDING DATA Name: MB

			Plate	Roof
Snow Load	25	psf	Max. Ht(ft)	
Allowable Soil Pressure	1500	psf	Roof	0	0
Occupancy Category	2		3rd fl	17	26
			2nd fl	9	0
			1st fl	0	

LATERAL LOAD SUMMARY

-----WIND(OSSC 19, SIMPLIFIED)-----

Basic Wind Speed: 135 mph
Adjustment Factor: 1.574
Important Factor: 1
K_{zt} #: 1.00

$P_s = \lambda \times I_w \times K_{zt} \times P_{net30}$

Wind Exposure: D
Roof Slope: 5 12
Degrees: 22.61986
Load combination factor: .6*W

		Zones									
		Horizontal Pressures				Vertical Pressures				Overhangs	
		A	B	C	D	E	F	G	H	E_{OH}	G_{OH}
Load Case I	P_{net30}	40.1	-10.6	26.7	-5.9	-34.8	-24.2	-24.2	-18.4	-48.7	-38.1
	P_s	63.0	-16.7	42.0	-9.2	-54.7	-38.1	-38.1	-28.9	-76.7	-60.0

	LEFT WALL		RIGHT WALL					
	Exp. Width	Shear	Exp. Width	Shear	Exp. Width	Shear	Exp. Width	Shear
Story	(ft)	(K)	(ft)	(K)	(ft)	(K)	(ft)	(K)
3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	24.0	2.8	24.0	2.8	0.0	0.0	0.0	0.0
1	24.0	6.9	24.0	6.9	0.0	0.0	0.0	0.0

-----SEISMIC(OSSC 19)-----

Seismic Design Category: D
The short period spectral acceleration (S_s): 1.294
1-sec spectral acceleration (S_1): 0.679
Design Spectral Analysis Short Period Time(S_{DS}): 0.86
Design Spectral Analysis 1-sec Time(S_{D1}): 0.77

Seismic Soil Classification Sx: D
Lateral Resisting Factor (R): 6.5
Importance Factor (I): 1
Structural Period (T): 0.2303

Roof Dead Load(psf): 15
Exterior wall Dead Load(psf): 12
Floor Dead Load(psf): 12
Interior wall Dead Load(psf): 10

Total Dead Load(K): 102.73 (W)

Design Base Shear(K): **14** (**0.13** x W)

Shear Force Distribution:

						LEFT WALL		RIGHT WALL					
Story	Weight (K)	Height (ft)	Force F_x(K)	Summation (K)	Force F_{px}(K)	Weight (K)	Shear (K)	Weight (K)	Shear (K)	Weight (K)	Shear (K)	Weight (K)	Shear (K)
3	0.0	0	0	0	#DIV/0!	0.00		0.00		0.00		0.00	
2	43.4	17	8	8	6	26.14	4.76	26.14	4.76	0.00		0.00	
1	59.3	9	6	14	7	29.68	2.86	29.68	2.86	0.00		0.00	

Redundancy Calculation:

	Area	Fx(k)	S_{max}	þ
3rd flr	0	0	0	
2nd flr	1953	7.9086	0	1
1st flr	0	5.7258	0	1

Redundancy Factor(þ): 1.00

Project: 22-0411 Cross Creek 2-Story
Loading Direction: F-B
Loading Area: LEFT WALL

Date: 12/5/22
Name: MB

STABILITY ENGINEERING INC.
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WALL DESIGN

Nailing:	10				Holdown							3RD	2ND	1ST		
Sheathing Thickness(in):	15/32	Rated			Capacities (lb):	SEISMIC	WIND		Length of Bolt(in):			3	3	3		
Capacity(plf):					DTT2Z	2145	2145		(In Vertical Wood Member)							
SW1	260	SW5	760		HDU2	2550	3075		Anchor Bolt Capacity(lbs):							
SW2	350	SW6	980		HDU4	2960	3880		Strap span(16, 18, 24, 30):				18			
SW3	490	SW7	1280		HDU5	3325	4295		MSTA49	2.02	k					
SW4	640				HDU8	7315	7870		MSTC28	1.15	k					
Thickness of Sill Plate in):	1.5				HDU11	11175	11175		MSTC40	2.69	k					
Sill Bolt Size (in):	0.5				HDU14-5.5	14445	14445		MSTC52	4.225	k					
Sill Bolt Capacity (lbs/bolt):	944				HD19-1 1/8	16775	16775		MSTC66	5.85	k					
Max. Sill Bolt Spacing (in):	47				HD19-1 1/4	19070	19070		MSTC78	5.85	k					

Transverse Direction:								Offset	Wind		Seismic		Wall	HD	18 in Strap
	G_{roup}	L	D	W	H_{max}	C_o	FR_{trib}	Y/N	V_{wind}	$HD_{wind(k)}$	V_{seis}	$HD_{seis(k)}$	Type	Type	Type
		0	0	0	0	1		n	0						
	1	0	0	0	0	1	3	n	0						
		0	0	0	0	1		n	0						
		0	0	0	0	1		n	0						
	2	0	0	0	0	1	3	n	0						
		0	0	0	0	1		n	0						
		0	0	0	0	1		n	0						
	3	0	0	0	0	1	3	n	0						
		0	0	0	0	1		n	0						
	4	0	0	0	0	1			0						
	5	0	0	0	0	1	3		0						
	6	0	0	0	0	1			0						
	7	0	0	0	0	1			0						
	8	0	0	0	0	1	3		0						
	9	0	0	0	0	1			0						
		40	0	0	0	1		n	71	2.4	85	0.0	SW1	HDU2	MSTC40
	1	0	0	0	0	1	3		0		0				
2ND		0	0	0	0	1			0		0				
Transverse:Y		0	0	0	0	1			0		0				
Total Length: 40 ft	2	0	0	0	0	1	3		0		0				
Effective Length: 40 ft		0	0	0	0	1			0		0				
Roof Height: 9 ft		0	0	0	0	1			0		0				
Wall Height: 8 ft	3	0	0	0	0	1	3		0		0				
		0	0	0	0	1			0		0				
Tributary Width: 24 ft	4	0	0	0	0	1			0		0				
Wind Force: 2.82 K	5	0	0	0	0	1	3		0		0				
Roof Area: 1144 ft2	6	0	0	0	0	1			0		0				
Wall Area: 1496 ft2	7	0	0	0	0	1			0		0				
Floor Area: 0 ft2	8	0	0	0	0	1	3		0		0				
Seismic Force: 3.40 K	9	0	0	0	0	1			0		0				
		40	0	0	0	1			242	3.0	158	0.0	SW1	HDU2	
	1	0	0	0	0	1	3		0	0.0	0	0.0			
1ST		0	0	0	0	1			0	0.0	0	0.0			
Transverse:N		0	0	0	0	1			0	0.0	0	0.0			
Total Length: 40 ft	2	0	0	0	0	1	3		0	0.0	0	0.0			
Effective Length: 40 ft		0	0	0	0	1			0	0.0	0	0.0			
		0	0	0	0	1			0	0.0	0	0.0			
Wall Height: 9 ft	3	0	0	0	0	1	3	n	0	0.0	0	0.0			
		0	0	0	0	1			0	0.0	0	0.0			
Tributary Width: 24 ft	4	0	0	0	0	1			0	0.0	0	0.0			
Wind Force: 6.86 K	5	0	0	0	0	1	3		0	0.0	0	0.0			
Roof Area: 0 ft2	6	0	0	0	0	1			0	0.0	0	0.0			
Wall Area: 1496 ft2	7	0	0	0	0	1			0	0.0	0	0.0			
Floor Area: 977 ft2	8	0	0	0	0	1	3		0	0.0	0	0.0			
Seismic Force: 2.92 K	9	0	0	0	0	1			0	0.0	0	0.0			

Definitions

L: Wall Length
D: Door Length
H_{max}: Opening height
W: Window Length
V_{wind}: Wind Shear
HD_{wind}: Hold-Down Force(wind)
V_{seis}: Seismic Shear
HD_{seis}: Hold-Down Force(seismic)
FR_{trib}: Framing Tributary Width
Load Combo: .6D + .7E, .6D + W

Project:	22-0411 Cross Creek 2-Story		Date:	12/5/22
Loading Direction:	F-B		Name:	MB
Loading Area:	RIGHT WALL			

STABILITY ENGINEERING INC.

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WALL DESIGN

Nailing:	10				
Sheathing Thickness(in):	15/32	Rated			
Capacity(plf):					
SW1	260	SW5	760		
SW2	350	SW6	980		
SW3	490	SW7	1280		
SW4	640				
Thickness of Sill Plate(in):	1.5				
Sill Bolt Size (in):	0.5				
Sill Bolt Capacity (lbs/bolt):	944				
Max. Sill Bolt Spacing (in):	47				

Holdown Capacities (lb):	SEISMIC	WIND
DTT2Z	2145	2145
HDU2	2550	3075
HDU4	2960	3880
HDU5	3325	4295
HDU8	7315	7870
HDU11	11175	11175
HDU14-5.5	14445	14445
HD19-1 1/8	16775	16775
HD19-1 1/4	19070	19070

	3RD	2ND	1ST
Length of Bolt(in):	3	3	3
(In Vertical Wood Member)			
Anchor Bolt Capacity(lbs):			
Strap span(16, 18, 24, 30):	18		
MSTA49	2.02 k		
MSTC28	1.15 k		
MSTC40	2.69 k		
MSTC52	4.225 k		
MSTC66	5.85 k		
MSTC78	5.85 k		

	Group	L	D	W	H_{max}	C_o	FR_{trib}	Offset Y/N	Wind V_{wind}	$HD_{wind(k)}$	Seismic V_{seis}	$HD_{seis(k)}$	Wall Type	HD Type	18 in Strap Type
		0	0	0	0	1			0						
	1	0	0	0	0	1	3		0						
		0	0	0	0	1			0						
		0	0	0	0	1			0						
	2	0	0	0	0	1	3		0						
		0	0	0	0	1			0						
		0	0	0	0	1		n	0						
	3	0	0	0	0	1	3	n	0						
		0	0	0	0	1			0						
	4	0	0	0	0	1			0						
	5	0	0	0	0	1	3		0						
	6	0	0	0	0	1			0						
	7	0	0	0	0	1			0						
	8	0	0	0	0	1	3		0						
	9	0	0	0	0	1			0						
		40	0	0	0	1		N	71	2.4	85	0.0	SW1	HDU2	MSTC40
	1	0	0	0	0	1	3		0		0				
2ND		0	0	0	0	1			0		0				
Transverse:Y		0	0	0	0	1			0		0				
Total Length: 40 ft	2	0	0	0	0	1	3		0		0				
Effective Length: 40 ft		0	0	0	0	1			0		0				
Roof Height: 9 ft		0	0	0	0	1			0		0				
Wall Height: 8 ft	3	0	0	0	0	1	3		0		0				
		0	0	0	0	1			0		0				
Tributary Width: 24 ft	4	0	0	0	0	1			0		0				
Wind Force: 2.82 K	5	0	0	0	0	1	3		0		0				
Roof Area: 1144 ft2	6	0	0	0	0	1			0		0				
Wall Area: 1496 ft2	7	0	0	0	0	1			0		0				
Floor Area: 0 ft2	8	0	0	0	0	1	3		0		0				
Seismic Force: 3.40 K	9	0	0	0	0	1			0		0				
		40	0	0	0	1			242	3.0	158	0.0	SW1	HDU2	
	1	0	0	0	0	1	3		0	0.0	0	0.0			
1ST		0	0	0	0	1			0	0.0	0	0.0			
Transverse:N		0	0	0	0	1			0	0.0	0	0.0			
Total Length: 40 ft	2	0	0	0	0	1	3		0	0.0	0	0.0			
Effective Length: 40 ft		0	0	0	0	1			0	0.0	0	0.0			
		0	0	0	0	1			0	0.0	0	0.0			
Wall Height: 9 ft	3	0	0	0	0	1	3		0	0.0	0	0.0			
		0	0	0	0	1			0	0.0	0	0.0			
Tributary Width: 24 ft	4	0	0	0	0	1			0	0.0	0	0.0			
Wind Force: 6.86 K	5	0	0	0	0	1	3		0	0.0	0	0.0			
Roof Area: 0 ft2	6	0	0	0	0	1			0	0.0	0	0.0			
Wall Area:1496 ft2	7	0	0	0	0	1			0	0.0	0	0.0			
Floor Area: 977 ft2	8	0	0	0	0	1	3		0	0.0	0	0.0			
Seismic Force: 2.92 K	9	0	0	0	0	1			0	0.0	0	0.0			

Definitions

L: Wall Length | H_{max}: Opening height | V_{wind}: Wind Shear | V_{seis}: Seismic Shear | FR_{trib}: Framing Tributary Width

D: Door Length | W: Window Length | HD_{wind}: Hold-Down Force(wind) | HD_{seis}: Hold-Down Force(seismic) | Load Combo: .6D + .7E, .6D + W

STABILITY ENGINEERING INC.

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PROJECT: 22-0411 Cross Creek 2-Story DATE: 12/5/22

GENERAL BUILDING DATA Name: MB

			Plate	Roof
Snow Load	25	psf	Max. Ht(ft)	
Allowable Soil Pressure	1500	psf	Roof	0	0
Occupancy Category	2		3rd fl	17	26
			2nd fl	9	0
			1st fl	0	

LATERAL LOAD SUMMARY

-----WIND(OSSC 19, SIMPLIFIED)-----

Basic Wind Speed: 135 mph
Adjustment Factor: 1.574
Important Factor: 1
K_{zt} #: 1.00

$P_s = \lambda \times I_w \times K_{zt} \times P_{net30}$

Wind Exposure: D
Roof Slope: 5 12
Degrees: 22.61986
Load combination factor: .6*W

		Zones									
		Horizontal Pressures				Vertical Pressures				Overhangs	
		A	B	C	D	E	F	G	H	E_{OH}	G_{OH}
Load Case I	P_{net30}	40.1	-10.6	26.7	-5.9	-34.8	-24.2	-24.2	-18.4	-48.7	-38.1
	P_s	63.0	-16.7	42.0	-9.2	-54.7	-38.1	-38.1	-28.9	-76.7	-60.0

	FRONT WALLS		BACK WALL					
	Exp. Width	Shear	Exp. Width	Shear	Exp. Width	Shear	Exp. Width	Shear
Story	(ft)	(K)	(ft)	(K)	(ft)	(K)	(ft)	(K)
3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	20.8	2.5	20.8	2.5	0.0	0.0	0.0	0.0
1	20.8	4.4	20.8	6.2	0.0	0.0	0.0	0.0

-----SEISMIC(OSSC 19)-----

Seismic Design Category: D
The short period spectral acceleration (S_s): 1.294
1-sec spectral acceleration (S_1): 0.679
Design Spectral Analysis Short Period Time(S_{DS}): 0.86
Design Spectral Analysis 1-sec Time(S_{D1}): 0.77

Seismic Soil Classification Sx: D
Lateral Resisting Factor (R): 6.5
Importance Factor (I): 1
Structural Period (T): 0.2303

Roof Dead Load(psf): 15
Exterior wall Dead Load(psf): 12
Floor Dead Load(psf): 12
Interior wall Dead Load(psf): 10

Total Dead Load(K): 102.73 (W)

Design Base Shear(K): **14** (**0.13** x W)

Shear Force Distribution:

						FRONT WALL		BACK WALL					
Story	Weight (K)	Height (ft)	Force F_x(K)	Summation (K)	Force F_{px}(K)	Weight (K)	Shear (K)	Weight (K)	Shear (K)	Weight (K)	Shear (K)	Weight (K)	Shear (K)
3	0.0	0	0	0	#DIV/0!	0.00		0.00		0.00		0.00	
2	43.4	17	8	8	6	26.14	4.76	26.14	4.76	0.00		0.00	
1	59.3	9	6	14	7	29.68	2.86	29.68	2.86	0.00		0.00	

Redundancy Calculation:

	Area	Fx(k)	S_{max}	þ
3rd flr	0	0	0	
2nd flr	1953	7.9086	0	1
1st flr	0	5.7258	0	1

Redundancy Factor(þ): 1.00

Project: 22-0411 Cross Creek 2-Story
Loading Direction: L-R
Loading Area: FRONT WALLS

Date: 12/5/22
Name: MB

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WALL DESIGN

Nailing:	10			
Sheathing Thickness(in):	15/32	Rated		
Capacity(plf):				
SW1	260	SW5	760	
SW2	350	SW6	980	
SW3	490	SW7	1280	
SW4	640			
Thickness of Sill Plate in):	1.5			
Sill Bolt Size (in):	0.5			
Sill Bolt Capacity (lbs/bolt):	944			
Max. Sill Bolt Spacing (in):	48			
Transverse Direction:				

Holdown Capacities (lb):	SEISMIC	WIND
DTT2Z	2145	2145
HDU2	2550	3075
HDU4	2960	3880
HDU5	3325	4295
HDU8	7315	7870
HDU11	11175	11175
HDU14-5.5	14445	14445
HD19-1 1/8	16775	16775
HD19-1 1/4	19070	19070

	3RD	2ND	1ST
Length of Bolt(in):	3	3	3

(In Vertical Wood Member)
Anchor Bolt Capacity(lbs):
Strap span(16, 18, 24, 30): 18

MSTA49	2.02	k
MSTC28	1.15	k
MSTC40	2.69	k
MSTC52	4.225	k
MSTC66	5.85	k
MSTC78	5.85	k

G_{roup}	L	D	W	H_{max}	C_o	FR_{trib}	Offset Y/N	Wind V_{wind}	Wind $HD_{wind(k)}$	Seismic V_{seis}	Seismic $HD_{seis(k)}$	Wall Type	HD Type	18 in Strap Type
	0	0	0	0	1		n	0						
1	0	0	0	0	1	3	n	0						
	0	0	0	0	1		n	0						
	0	0	0	0	1		n	0						
2	0	0	0	0	1	3	n	0						
	0	0	0	0	1		n	0						
	0	0	0	0	1		n	0						
3	0	0	0	0	1	3	n	0						
	0	0	0	0	1		n	0						
4	0	0	0	0	1			0						
5	0	0	0	0	1	3		0						
6	0	0	0	0	1			0						
7	0	0	0	0	1			0						
8	0	0	0	0	1	3		0						
9	0	0	0	0	1			0						
	6.8	0	0	0	1		n	101	1.1	137	0.7	SW1	DTT2Z	MSTC28
1	13	0	4	5	0.792262	3		127	1.6	173	0.7	SW1	DTT2Z	MSTA49
2ND	13	0	4	5	0.792262			127	1.6	173	0.7	SW1	DTT2Z	MSTA49
Transverse:Y	0	0	0	0	1			0		0				
Total Length: 32.8 ft 2	0	0	0	0	1	3		0		0				
Effective Length: 24.8 ft	0	0	0	0	1			0		0				
Roof Height: 5.8 ft	0	0	0	0	1			0		0				
Wall Height: 8 ft 3	0	0	0	0	1	3		0		0				
	0	0	0	0	1			0		0				
Tributary Width: 20.75 ft 4	0	0	0	0	1			0		0				
Wind Force: 2.50 K 5	0	0	0	0	1	3		0		0				
Roof Area: 1144 ft2 6	0	0	0	0	1			0		0				
Wall Area: 1496 ft2 7	0	0	0	0	1			0		0				
Floor Area: 0 ft2 8	0	0	0	0	1	3		0		0				
Seismic Force: 3.40 K 9	0	0	0	0	1			0		0				
	6.8	0	0	0	1			280	3.4	255	2.6	SW1	HDU5	
1	13	0	4	5	0.833741	3		336	4.1	306	2.6	SW2	HDU5	
1ST	13	0	4	5	0.833741			336	4.1	306	2.6	SW2	HDU5	
Transverse:N	0	0	0	0	1			0	0.0	0	0.0			
Total Length: 32.8 ft 2	0	0	0	0	1	3		0	0.0	0	0.0			
Effective Length: 24.8 ft	0	0	0	0	1			0	0.0	0	0.0			
	0	0	0	0	1			0	0.0	0	0.0			
Wall Height: 9 ft 3	0	0	0	0	1	3	n	0	0.0	0	0.0			
	0	0	0	0	1			0	0.0	0	0.0			
Tributary Width: 20.75 ft 4	0	0	0	0	1			0	0.0	0	0.0			
Wind Force: 4.45 K 5	0	0	0	0	1	3		0	0.0	0	0.0			
Roof Area: 0 ft2 6	0	0	0	0	1			0	0.0	0	0.0			
Wall Area: 1496 ft2 7	0	0	0	0	1			0	0.0	0	0.0			
Floor Area: 977 ft2 8	0	0	0	0	1	3		0	0.0	0	0.0			
Seismic Force: 2.92 K 9	0	0	0	0	1			0	0.0	0	0.0			

Definitions

L: Wall Length
D: Door Length
H_{max}: Opening height
W: Window Length
V_{wind}: Wind Shear
HD_{wind}: Hold-Down Force(wind)
V_{seis}: Seismic Shear
HD_{seis}: Hold-Down Force(seismic)
FR_{trib}: Framing Tributary Width
Load Combo: .6D + .7E, .6D + W

Project:	22-0411 Cross Creek 2-Story	Date:	12/5/22
Loading Direction:	L-R	Name:	MB
Loading Area:	BACK WALL		

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WALL DESIGN

Nailing:	10		
Sheathing Thickness(in):	15/32 Rated		
Capacity(plf):			
SW1	260	SW5	760
SW2	350	SW6	980
SW3	490	SW7	1280
SW4	640		
Thickness of Sill Plate(in):	1.5		
Sill Bolt Size (in):	0.5		
Sill Bolt Capacity (lbs/bolt):	944		
Max. Sill Bolt Spacing (in):	48		

Holdown Capacities (lb):	SEISMIC	WIND
DTT2Z	2145	2145
HDU2	2550	3075
HDU4	2960	3880
HDU5	3325	4295
HDU8	7315	7870
HDU11	11175	11175
HDU14-5.5	14445	14445
HD19-1 1/8	16775	16775
HD19-1 1/4	19070	19070

	3RD	2ND	1ST
Length of Bolt(in):	3	3	3
(In Vertical Wood Member)			
Anchor Bolt Capacity(lbs):			
Strap span(16, 18, 24, 30):		18	
MSTA49	2.02 k		
MSTC28	1.15 k		
MSTC40	2.69 k		
MSTC52	4.225 k		
MSTC66	5.85 k		
MSTC78	5.85 k		

	G_{roup}	L	D	W	H_{max}	C_o	FR_{trib}	Offset Y/N	Wind V_{wind}	$HD_{wind(k)}$	Seismic V_{seis}	$HD_{seis(k)}$	Wall Type	HD Type	18 in Strap Type
		0	0	0	0	1			0						
	1	0	0	0	0	1	3		0						
		0	0	0	0	1			0						
		0	0	0	0	1			0						
	2	0	0	0	0	1	3		0						
		0	0	0	0	1			0						
		0	0	0	0	1		n	0						
	3	0	0	0	0	1	3	n	0						
		0	0	0	0	1			0						
	4	0	0	0	0	1			0						
	5	0	0	0	0	1	3		0						
	6	0	0	0	0	1			0						
	7	0	0	0	0	1			0						
	8	0	0	0	0	1	3		0						
	9	0	0	0	0	1			0						
		48	6	13	6.7	0.630795		N	136	0.2	186	0.1	SW1	DTT2Z	MSTC28
	1	0	0	0	0	1	0		0		0				
2ND		0	0	0	0	1			0		0				
Transverse:Y		0	0	0	0	1			0		0				
Total Length: 48 ft	2	0	0	0	0	1	3		0		0				
Effective Length: 29 ft		0	0	0	0	1			0		0				
Roof Height: 5.8 ft		0	0	0	0	1			0		0				
Wall Height: 8 ft	3	0	0	0	0	1	3		0		0				
		0	0	0	0	1			0		0				
Tributary Width: 20.75 ft	4	0	0	0	0	1			0		0				
Wind Force: 2.50 K	5	0	0	0	0	1	3		0		0				
Roof Area: 1144 ft2	6	0	0	0	0	1			0		0				
Wall Area: 1496 ft2	7	0	0	0	0	1			0		0				
Floor Area: 0 ft2	8	0	0	0	0	1	3		0		0				
Seismic Force: 3.40 K	9	0	0	0	0	1			0		0				
		48	6	13	6.7	0.675899			442	2.2	323	0.2	SW2	HDU2	
	1	0	0	0	0	1	3		0	0.0	0	0.0			
1ST		0	0	0	0	1			0	0.0	0	0.0			
Transverse:N		0	0	0	0	1			0	0.0	0	0.0			
Total Length: 48 ft	2	0	0	0	0	1	3		0	0.0	0	0.0			
Effective Length: 29 ft		0	0	0	0	1			0	0.0	0	0.0			
		0	0	0	0	1			0	0.0	0	0.0			
Wall Height: 9 ft	3	0	0	0	0	1	3		0	0.0	0	0.0			
		0	0	0	0	1			0	0.0	0	0.0			
Tributary Width: 20.75 ft	4	0	0	0	0	1			0	0.0	0	0.0			
Wind Force: 6.16 K	5	0	0	0	0	1	3		0	0.0	0	0.0			
Roof Area: 0 ft2	6	0	0	0	0	1			0	0.0	0	0.0			
Wall Area:1496 ft2	7	0	0	0	0	1			0	0.0	0	0.0			
Floor Area: 977 ft2	8	0	0	0	0	1	3		0	0.0	0	0.0			
Seismic Force: 2.92 K	9	0	0	0	0	1			0	0.0	0	0.0			

Definitions

L: Wall Length H_{max}: Opening height V_{wind}: Wind Shear V_{seis}: Seismic Shear FR_{trib}: Framing Tributary Width

D: Door Length W: Window Length HD_{wind}: Hold-Down Force(wind) HD_{seis}: Hold-Down Force(seismic) Load Combo: .6D + .7E, .6D + W

9/9/2022 Project: 22-0411 Cross Creek - 2 Story

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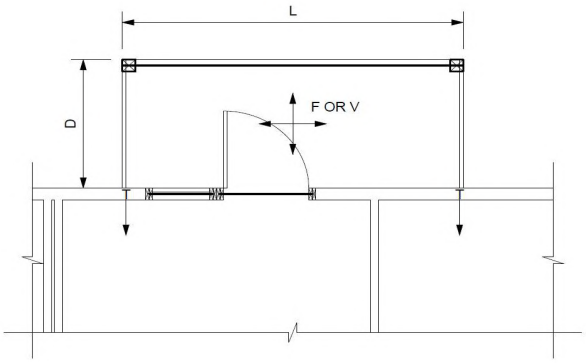
LATERAL DESIGN

SKETCH:



ROTATION EQUATION:
T = MAX(F,V)*(D/2)/L

PULLOUT EQUATION:
T = V/2

WIND PRESSURE	P = 42	PSF	[ZONE C]
SEISMIC FACTOR	S_{DS} = 0.862		

REAR DECK

L =	12	FT	F = (P)(D)(H)		[WIND LOAD]
D =	5	FT	F = 126	LB	
H =	1	FT	V = (S_{DS}/R)*W		[SEISMIC LOAD]
			V = 156	LB	

ROTATION:	T =	32	LB		T =	78	LB CONTROLS
PULLOUT:	T =	78	LB				
				?			
DTT1Z CAPACITY =		640	LB	>		78	LB

GOOD

9/9/2022 Project: 22-0411 Cross Creek - 2 Story

STABILITY ENGINEERING INC.

By: Max Beaudoin

OUT OF PLANE CHECKS

8' STUD CHECK
H = 8'-0" LOAD = 25.2 PSF
AT 16" O.C.

8' SINGLE KING STUD
H = 8'-0" TRIB WIDTH = 5.67 FT
LOAD = 143 PLF
***MAX WIDTH = 10' > ALL OPENINGS**

KEY: (ZONE C)
WIND LOAD = 42 PSF
$WIND\ LOAD_{ASD}$ = 25.2 PSF

Project: 22-0411 2-STORY

Location: 8' STUD CHECK
Column
[2015 International Building Code(2015 NDS)]
1.5 IN x 5.5 IN x 8.0 FT @ 16 O.C.
#2 - Douglas-Fir-Larch - Dry Use
Section Adequate By: 80.3%

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777 NE 2nd Street
Corvallis OR 97333

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DEFLECTIONS

Deflection due to lateral loads only:	Defl = 0.09	IN = L/1040
Live Load Deflection Criteria:		L/180

VERTICAL REACTIONS

Live Load:	Vert-LL-Rxn =	0	lb
Dead Load:	Vert-DL-Rxn =	14	lb
Total Load:	Vert-TL-Rxn =	14	lb

HORIZONTAL REACTIONS

Total Reaction at Top of Column:	TL-Rxn-Top =	133	lb
Total Reaction at Bottom of Column:	TL-Rxn-Bottom =	133	lb

COLUMN DATA

Total Column Length:	8	ft
Unbraced Length (X-Axis) Lx:	8	ft
Unbraced Length (Y-Axis) Ly:	0	ft
Column End Condition-K (e):	1	
Axial Load Duration Factor	1.00	
Lateral Load Duration Factor (Wind/Seismic)	1.60	

STUD PROPERTIES

#2 - Douglas-Fir-Larch

	Base Values	Adjusted
Compressive Stress:	Fc = 1350 psi	Fc' = 1272 psi
	Cd=1.60 Cf=1.10 Cp=0.54	
Bending Stress (X-X Axis):	Fbx = 900 psi	Fbx' = 2153 psi
	Cd=1.60 CF=1.30 Cr=1.15 Cl=1.00	
Bending Stress (Y-Y Axis):	Fby = 900 psi	Fby' = 2153 psi
	Cd=1.60 CF=1.30 Cr=1.15	
Modulus of Elasticity:	E = 1600 ksi	E' = 1600 ksi

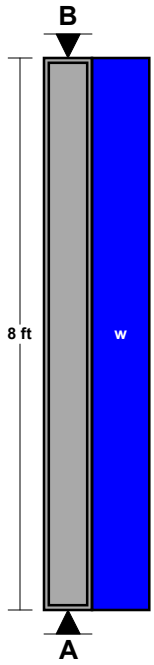
Stud Section (X-X Axis):	dx =	5.5	in
Stud Section (Y-Y Axis):	dy =	1.5	in
Area:	A =	8.25	in2
Section Modulus (X-X Axis):	Sx =	7.56	in3
Section Modulus (Y-Y Axis):	Sy =	2.06	in3
Slenderness Ratio:	Lex/dx =	17.45	
	Ley/dy =	0	

Stud Calculations (Controlling Case Only):

Controlling Load Case: Axial Dead Load and Lateral loads (D + W or E)

Actual Compressive Stress:	Fc =	2	psi
Allowable Compressive Stress:	Fc' =	1272	psi
Eccentricity Moment (X-X Axis):	Mx-ex =	0	ft-lb
Eccentricity Moment (Y-Y Axis):	My-ey =	0	ft-lb
Moment Due to Lateral Loads (X-X Axis):	Mx =	267	ft-lb
Moment Due to Lateral Loads (Y-Y Axis):	My =	0	ft-lb
Bending Stress Lateral Loads Only (X-X Axis):	Fbx =	423	psi
Allowable Bending Stress (X-X Axis):	Fbx' =	2153	psi
Bending Stress Lateral Loads Only (Y-Y Axis):	Fby =	0	psi
Allowable Bending Stress (Y-Y Axis):	Fby' =	2153	psi
Combined Stress Factor:	**CSF =**	**0.2**	

LOADING DIAGRAM



AXIAL LOADING

Live Load:	PL =	0	plf
Dead Load:	PD =	0	plf
Column Self Weight:	CSW =	14	plf
Total Axial Load:	PT =	14	plf

LATERAL LOADING (Dy Face)

Uniform Lateral Load:	wL-Lat =	25	psf

Project: 22-0411 2-STORY

Location: 8' SINGLE KING STUD
Column
[2015 International Building Code(2015 NDS)]
1.5 IN x 5.5 IN x 8.0 FT
#2 - Douglas-Fir-Larch - Dry Use
Section Adequate By: 2.9%

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DEFLECTIONS

Deflection due to lateral loads only:	Defl = 0.4	IN = L/242
Live Load Deflection Criteria:		L/180

VERTICAL REACTIONS

Live Load:	Vert-LL-Rxn =	0	lb
Dead Load:	Vert-DL-Rxn =	14	lb
Total Load:	Vert-TL-Rxn =	14	lb

HORIZONTAL REACTIONS

Total Reaction at Top of Column:	TL-Rxn-Top =	572	lb
Total Reaction at Bottom of Column:	TL-Rxn-Bottom =	572	lb

COLUMN DATA

Total Column Length:	8	ft
Unbraced Length (X-Axis) Lx:	8	ft
Unbraced Length (Y-Axis) Ly:	0	ft
Column End Condition-K (e):	1	
Axial Load Duration Factor	1.00	
Lateral Load Duration Factor (Wind/Seismic)	1.60	

COLUMN PROPERTIES

#2 - Douglas-Fir-Larch

	Base Values	Adjusted
Compressive Stress:	Fc = 1350 psi	Fc' = 1272 psi
	Cd=1.60 Cf=1.10 Cp=0.54	
Bending Stress (X-X Axis):	Fbx = 900 psi	Fbx' = 1872 psi
	Cd=1.60 CF=1.30 Cl=1.00	
Bending Stress (Y-Y Axis):	Fby = 900 psi	Fby' = 1872 psi
	Cd=1.60 CF=1.30	
Modulus of Elasticity:	E = 1600 ksi	E' = 1600 ksi

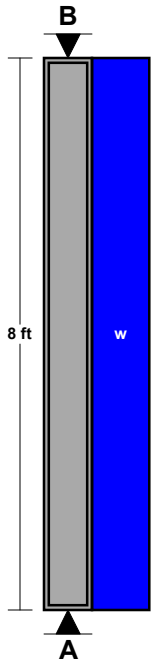
Column Section (X-X Axis):	dx =	5.5	in
Column Section (Y-Y Axis):	dy =	1.5	in
Area:	A =	8.25	in2
Section Modulus (X-X Axis):	Sx =	7.56	in3
Section Modulus (Y-Y Axis):	Sy =	2.06	in3
Slenderness Ratio:	Lex/dx =	17.45	
	Ley/dy =	0	

Column Calculations (Controlling Case Only):

Controlling Load Case: Axial Dead Load and Lateral loads (D + W or E)

Actual Compressive Stress:	Fc =	2	psi
Allowable Compressive Stress:	Fc' =	1272	psi
Eccentricity Moment (X-X Axis):	Mx-ex =	0	ft-lb
Eccentricity Moment (Y-Y Axis):	My-ey =	0	ft-lb
Moment Due to Lateral Loads (X-X Axis):	Mx =	1144	ft-lb
Moment Due to Lateral Loads (Y-Y Axis):	My =	0	ft-lb
Bending Stress Lateral Loads Only (X-X Axis):	Fbx =	1815	psi
Allowable Bending Stress (X-X Axis):	Fbx' =	1872	psi
Bending Stress Lateral Loads Only (Y-Y Axis):	Fby =	0	psi
Allowable Bending Stress (Y-Y Axis):	Fby' =	1872	psi
Combined Stress Factor:	**CSF =**	**0.97**	

LOADING DIAGRAM



AXIAL LOADING

Live Load:	PL =	0	lb
Dead Load:	PD =	0	lb
Column Self Weight:	CSW =	14	lb
Total Axial Load:	PT =	14	lb

LATERAL LOADING (Dy Face)

Uniform Lateral Load: wL-Lat = 143 plf

12/5/2022 Project: 22-0411 Cross Creek - 2 Story

STABILITY ENGINEERING INC.

By: Max Beaudoin

TRUSS CONNECTIONS

TRUSS UPLIFT CONNECTIONS:

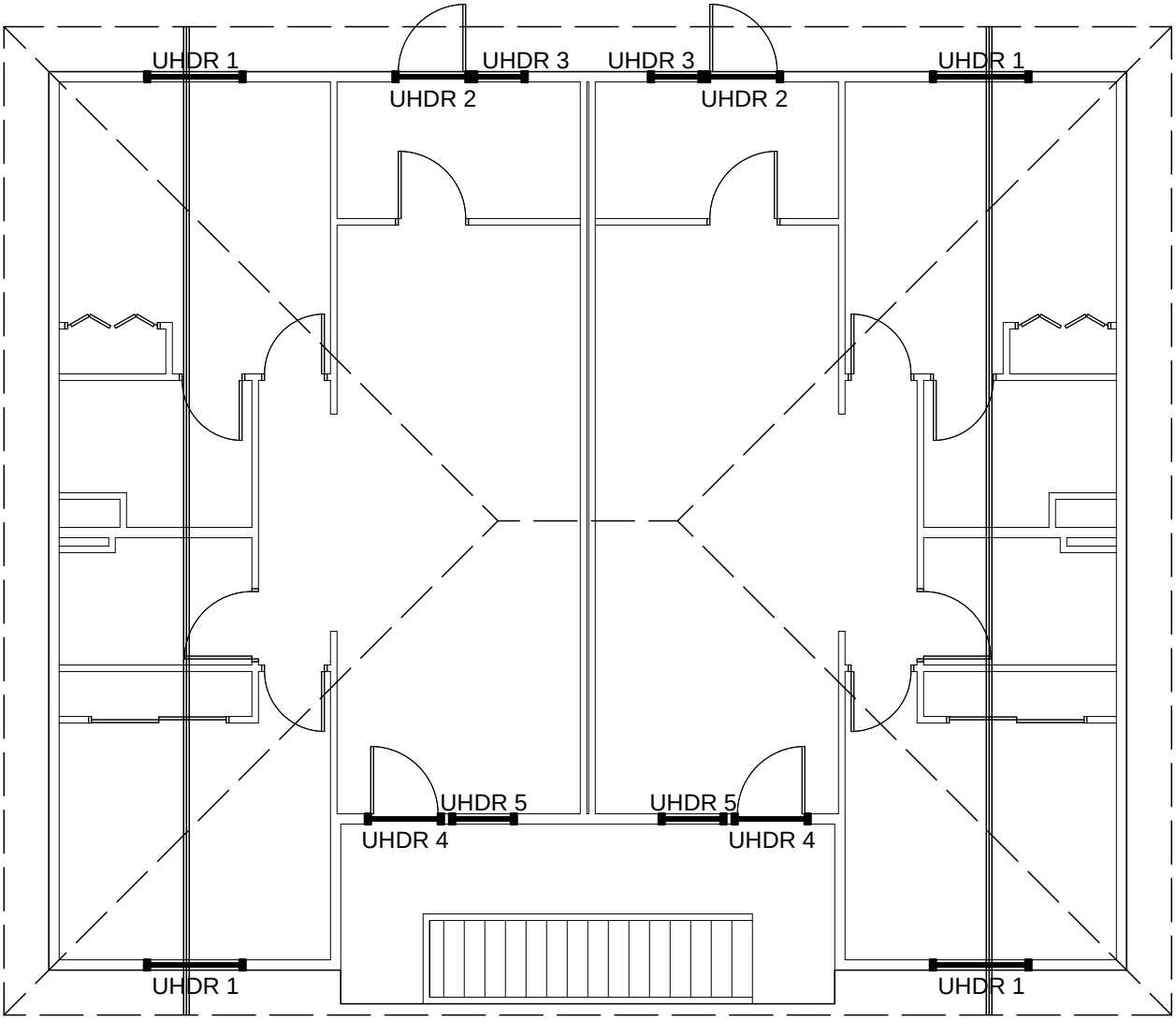
*BOLD INDICATES 2-PLY GIRDER (2-PLY); UNDERLINE INDICATES 3-PLY GIRDER

	UPLIFT	
TRUSS	LEFT	RIGHT
A01	866	866
A02	442	442
A03	680	680
A04	408	408
A05	586	959
A06	308	648
A07	404	685
A08	392	633
HRA1	194	0
JA01	109	13
JA02	109	52
JA03	113	96
JA04	105	135
JA05	0	139
JA06	0	140
JA07	0	141
JA08	0	146
JA09	0	150
JA10	0	150
SA01	133	0
SA02	121	0

LEGEND

COLOR	TIE	CAP.
	SDWC15600	715
	(2) SDWC15600	1115

ROOF FRAMING GUIDE



12/5/2022 Project: 22-0411 Cross Creek - 2 Story

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ROOF FRAMING

KEY:
ROOF LOAD:
SNOW LOAD (SL) = [(TRUSS RXN)/2']*0.6
DEAD LOAD (DL) = [(TRUSS RXN)/2']*0.4

UHDR 1
L = 4'-6"

DISTRIBUTED LOADS (PLF):

	SOURCE	SL	DL	DISTRIBUTION
1	SA02	92	61	0' - 1.75'
2	A02	551	367	1.75' - END

POINT LOADS:

	SOURCE	LOCATION
1	A01	1.75'

UHDR 2
L = 3'-6"

DISTRIBUTED LOADS (PLF):

	SOURCE	SL	DL	DISTRIBUTION
1	A05	545	364	FULL SPAN

UHDR 3
L = 2'-6"

DISTRIBUTED LOADS (PLF):

	SOURCE	SL	DL	DISTRIBUTION
1	A05	545	364	FULL SPAN

UHDR 4
L = 3'-6"

DISTRIBUTED LOADS (PLF):

	SOURCE	SL	DL	DISTRIBUTION
1	A05	815	543	FULL SPAN

UHDR 5
L = 3'-0"

DISTRIBUTED LOADS (PLF):

	SOURCE	SL	DL	DISTRIBUTION
1	A05	815	543	FULL SPAN

Project: 22-0411 2-STORY

Location: UHDR 1
Multi-Loaded Multi-Span Beam
[2015 International Building Code(2015 NDS)]
3.5 IN x 11.25 IN x 4.5 FT
#2 - Douglas-Fir-Larch - Dry Use
Section Adequate By: 48.8%
Controlling Factor: Moment

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DEFLECTIONS Center

Live Load	0.01	IN L/3906
Dead Load	0.01	in
Total Load	0.02	IN L/2332

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

REACTIONS A B

Live Load	1688	lb	1781	lb
Dead Load	1144	lb	1206	lb
Total Load	2832	lb	2987	lb
Bearing Length	1.29	in	1.37	in

BEAM DATA Center

Span Length	4.5	ft
Unbraced Length-Top	0	ft
Unbraced Length-Bottom	4.5	ft
Live Load Duration Factor	1.15	
Notch Depth	0.00	

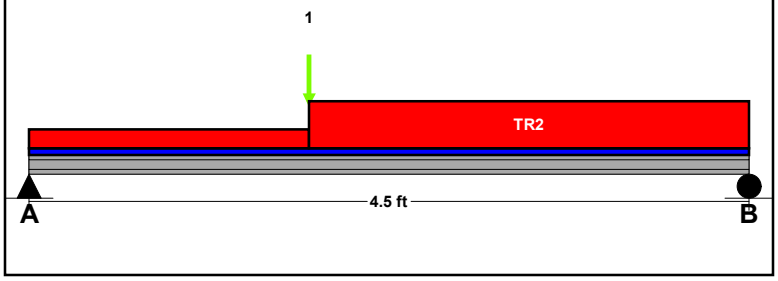
MATERIAL PROPERTIES
#2 - Douglas-Fir-Larch

	Base Values		Adjusted	
Bending Stress:	Fb = 900	psi	Fb' = 1139	psi
	Cd=1.15 CF=1.10			
Shear Stress:	Fv = 180	psi	Fv' = 207	psi
	Cd=1.15			
Modulus of Elasticity:	E = 1600	ksi	E' = 1600	ksi
Comp. ⊥ to Grain:	Fc - ⊥ = 625	psi	Fc - ⊥' = 625	psi

Controlling Moment: 4707 ft-lb
1.76 Ft from left support of span 2 (Center Span)
Created by combining all dead loads and live loads on span(s) 2
Controlling Shear: -2986 lb
5.0 Ft from left support of span 2 (Center Span)
Created by combining all dead loads and live loads on span(s) 2

Comparisons with required sections:	Req'd	Provided
Section Modulus:	49.61 in3	73.83 in3
Area (Shear):	21.64 in2	39.38 in2
Moment of Inertia (deflection):	32.05 in4	415.28 in4
Moment:	4707 ft-lb	7004 ft-lb
Shear:	-2986 lb	5434 lb

LOADING DIAGRAM



UNIFORM LOADS Center

Uniform Live Load	0	plf
Uniform Dead Load	0	plf
Beam Self Weight	9	plf
Total Uniform Load	9	plf

POINT LOADS - CENTER SPAN

Load Number	One	
Live Load	1793	lb
Dead Load	1195	lb
Location	1.75	ft

TRAPEZOIDAL LOADS - CENTER SPAN

Load Number	One		Two	
Left Live Load	92	plf	551	plf
Left Dead Load	61	plf	367	plf
Right Live Load	92	plf	551	plf
Right Dead Load	61	plf	367	plf
Load Start	0	ft	1.75	ft
Load End	1.75	ft	4.5	ft
Load Length	1.75	ft	2.75	ft

Project: 22-0411 2-STORY

Location: UHDR 2
Multi-Loaded Multi-Span Beam
[2015 International Building Code(2015 NDS)]
3.5 IN x 7.25 IN x 3.5 FT
#2 - Douglas-Fir-Larch - Dry Use
Section Adequate By: 118.8%
Controlling Factor: Shear

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DEFLECTIONS Center

Live Load	0.01	IN L/4060
Dead Load	0.01	in
Total Load	0.02	IN L/2419

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

REACTIONS A B

Live Load	954	lb	954	lb
Dead Load	647	lb	647	lb
Total Load	1601	lb	1601	lb
Bearing Length	0.73	in	0.73	in

BEAM DATA Center

Span Length	3.5	ft
Unbraced Length-Top	0	ft
Unbraced Length-Bottom	3.5	ft
Live Load Duration Factor	1.15	
Notch Depth	0.00	

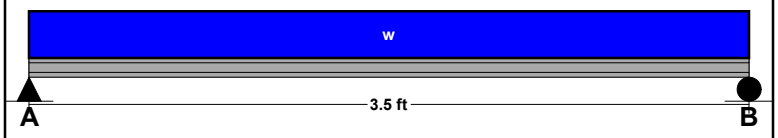
MATERIAL PROPERTIES
#2 - Douglas-Fir-Larch

	Base Values		Adjusted	
Bending Stress:	Fb = 900	psi	Fb' = 1346	psi
	Cd=1.15 CF=1.30			
Shear Stress:	Fv = 180	psi	Fv' = 207	psi
	Cd=1.15			
Modulus of Elasticity:	E = 1600	ksi	E' = 1600	ksi
Comp. ⊥ to Grain:	Fc - ⊥ = 625	psi	Fc - ⊥' = 625	psi

Controlling Moment: 1400 ft-lb
1.75 Ft from left support of span 2 (Center Span)
Created by combining all dead loads and live loads on span(s) 2
Controlling Shear: -1600 lb
4.0 Ft from left support of span 2 (Center Span)
Created by combining all dead loads and live loads on span(s) 2

Comparisons with required sections:	Req'd	Provided
Section Modulus:	12.49 in3	30.66 in3
Area (Shear):	11.6 in2	25.38 in2
Moment of Inertia (deflection):	8.27 in4	111.15 in4
Moment:	1400 ft-lb	3438 ft-lb
Shear:	-1600 lb	3502 lb

LOADING DIAGRAM



UNIFORM LOADS Center

Uniform Live Load	545	plf
Uniform Dead Load	364	plf
Beam Self Weight	6	plf
Total Uniform Load	915	plf

Project: 22-0411 2-STORY

Location: UHDR 3
Multi-Loaded Multi-Span Beam
[2015 International Building Code(2015 NDS)]
3.5 IN x 7.25 IN x 2.5 FT
#2 - Douglas-Fir-Larch - Dry Use
Section Adequate By: 206.3%
Controlling Factor: Shear

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DEFLECTIONS	Center	
Live Load	0.00	IN L/MAX
Dead Load	0.00	in
Total Load	0.00	IN L/6639

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

REACTIONS	A		B	
Live Load	681	lb	681	lb
Dead Load	462	lb	462	lb
Total Load	1143	lb	1143	lb
Bearing Length	0.52	in	0.52	in

BEAM DATA	Center	
Span Length	2.5	ft
Unbraced Length-Top	0	ft
Unbraced Length-Bottom	2.5	ft
Live Load Duration Factor	1.15	
Notch Depth	0.00	

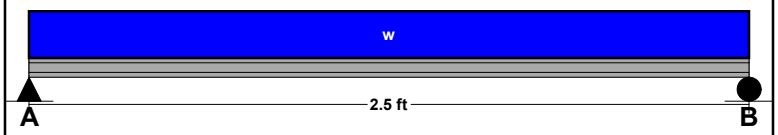
MATERIAL PROPERTIES
#2 - Douglas-Fir-Larch

	Base Values		Adjusted	
Bending Stress:	Fb = 900	psi	Fb' = 1346	psi
	Cd=1.15 CF=1.30			
Shear Stress:	Fv = 180	psi	Fv' = 207	psi
	Cd=1.15			
Modulus of Elasticity:	E = 1600	ksi	E' = 1600	ksi
Comp. ⊥ to Grain:	Fc - ⊥ = 625	psi	Fc - ⊥' = 625	psi

Controlling Moment: 714 ft-lb
1.25 Ft from left support of span 2 (Center Span)
Created by combining all dead loads and live loads on span(s) 2
Controlling Shear: 1143 lb
At left support of span 2 (Center Span)
Created by combining all dead loads and live loads on span(s) 2

Comparisons with required sections:	Req'd		Provided	
Section Modulus:	6.37	in3	30.66	in3
Area (Shear):	8.28	in2	25.38	in2
Moment of Inertia (deflection):	3.01	in4	111.15	in4
Moment:	714	ft-lb	3438	ft-lb
Shear:	1143	lb	3502	lb

LOADING DIAGRAM



UNIFORM LOADS	Center	
Uniform Live Load	545	plf
Uniform Dead Load	364	plf
Beam Self Weight	6	plf
Total Uniform Load	915	plf

Project: 22-0411 2-STORY

Location: UHDR 4
Multi-Loaded Multi-Span Beam
[2015 International Building Code(2015 NDS)]
3.5 IN x 7.25 IN x 3.5 FT
#2 - Douglas-Fir-Larch - Dry Use
Section Adequate By: 46.8%
Controlling Factor: Shear

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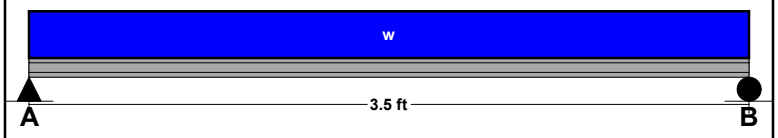
DEFLECTIONS	Center	
Live Load	0.02	IN L/2715
Dead Load	0.01	in
Total Load	0.03	IN L/1623

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

REACTIONS	A		B	
Live Load	1426	lb	1426	lb
Dead Load	960	lb	960	lb
Total Load	2386	lb	2386	lb
Bearing Length	1.09	in	1.09	in

BEAM DATA	Center	
Span Length	3.5	ft
Unbraced Length-Top	0	ft
Unbraced Length-Bottom	3.5	ft
Live Load Duration Factor	1.15	
Notch Depth	0.00	

LOADING DIAGRAM



UNIFORM LOADS	Center	
Uniform Live Load	815	plf
Uniform Dead Load	543	plf
Beam Self Weight	6	plf
Total Uniform Load	1364	plf

MATERIAL PROPERTIES
#2 - Douglas-Fir-Larch

	Base Values		Adjusted	
Bending Stress:	Fb = 900	psi	Fb' = 1346	psi
	Cd=1.15 CF=1.30			
Shear Stress:	Fv = 180	psi	Fv' = 207	psi
	Cd=1.15			
Modulus of Elasticity:	E = 1600	ksi	E' = 1600	ksi
Comp. ⊥ to Grain:	Fc - ⊥ = 625	psi	Fc - ⊥' = 625	psi

Controlling Moment: 2088 ft-lb
1.75 Ft from left support of span 2 (Center Span)
Created by combining all dead loads and live loads on span(s) 2
Controlling Shear: 2386 lb
At left support of span 2 (Center Span)
Created by combining all dead loads and live loads on span(s) 2

Comparisons with required sections:	Req'd		Provided	
Section Modulus:	18.62	in3	30.66	in3
Area (Shear):	17.29	in2	25.38	in2
Moment of Inertia (deflection):	12.33	in4	111.15	in4
Moment:	2088	ft-lb	3438	ft-lb
Shear:	2386	lb	3502	lb

Project: 22-0411 2-STORY

Location: UHDR 5
Multi-Loaded Multi-Span Beam
[2015 International Building Code(2015 NDS)]
3.5 IN x 7.25 IN x 3.0 FT
#2 - Douglas-Fir-Larch - Dry Use
Section Adequate By: 71.2%
Controlling Factor: Shear

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DEFLECTIONS	Center	
Live Load	0.01	IN L/4311
Dead Load	0.01	in
Total Load	0.01	IN L/2577

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

REACTIONS	A		B	
Live Load	1223	lb	1223	lb
Dead Load	823	lb	823	lb
Total Load	2046	lb	2046	lb
Bearing Length	0.93	in	0.93	in

BEAM DATA	Center	
Span Length	3	ft
Unbraced Length-Top	0	ft
Unbraced Length-Bottom	3	ft
Live Load Duration Factor	1.15	
Notch Depth	0.00	

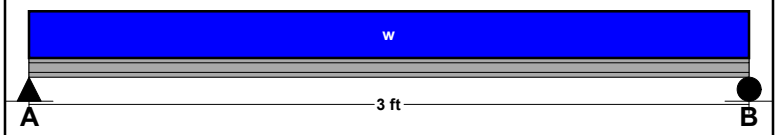
MATERIAL PROPERTIES
#2 - Douglas-Fir-Larch

	Base Values		Adjusted	
Bending Stress:	Fb = 900	psi	Fb' = 1346	psi
	Cd=1.15 CF=1.30			
Shear Stress:	Fv = 180	psi	Fv' = 207	psi
	Cd=1.15			
Modulus of Elasticity:	E = 1600	ksi	E' = 1600	ksi
Comp. ⊥ to Grain:	Fc - ⊥ = 625	psi	Fc - ⊥' = 625	psi

Controlling Moment: 1534 ft-lb
1.5 Ft from left support of span 2 (Center Span)
Created by combining all dead loads and live loads on span(s) 2
Controlling Shear: -2045 lb
At right support of span 2 (Center Span)
Created by combining all dead loads and live loads on span(s) 2

Comparisons with required sections:	Req'd		Provided	
Section Modulus:	13.68	in3	30.66	in3
Area (Shear):	14.82	in2	25.38	in2
Moment of Inertia (deflection):	7.76	in4	111.15	in4
Moment:	1534	ft-lb	3438	ft-lb
Shear:	-2045	lb	3502	lb

LOADING DIAGRAM



UNIFORM LOADS	Center	
Uniform Live Load	815	plf
Uniform Dead Load	543	plf
Beam Self Weight	6	plf
Total Uniform Load	1364	plf

Project: 22-0411 2-STORY

Location: UHDR 1 TRIMMERS
Column
[2015 International Building Code(2015 NDS)]
1.5 IN x 5.5 IN x 7.0 FT
#2 - Douglas-Fir-Larch - Dry Use
Section Adequate By: 19.2%

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VERTICAL REACTIONS

Live Load:	Vert-LL-Rxn =	1781	lb
Dead Load:	Vert-DL-Rxn =	1219	lb
Total Load:	Vert-TL-Rxn =	3000	lb

COLUMN DATA

Total Column Length:	7	ft
Unbraced Length (X-Axis) Lx:	7	ft
Unbraced Length (Y-Axis) Ly:	0	ft
Column End Condition-K (e):	1	
Load Eccentricity (X-Axis) - ex:	0.5	in
Load Eccentricity (Y-Axis) - ey:	0.5	in
Axial Load Duration Factor	1.15	

COLUMN PROPERTIES

#2 - Douglas-Fir-Larch

	Base Values	Adjusted
Compressive Stress:	Fc = 1350 psi	Fc' = 1279 psi
	Cd=1.15 Cf=1.10 Cp=0.75	
Bending Stress (X-X Axis):	Fbx = 900 psi	Fbx' = 1346 psi
	Cd=1.15 CF=1.30 Cl=1.00	
Bending Stress (Y-Y Axis):	Fby = 900 psi	Fby' = 1346 psi
	Cd=1.15 CF=1.30	
Modulus of Elasticity:	E = 1600 ksi	E' = 1600 ksi

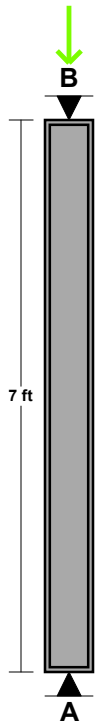
Column Section (X-X Axis):	dx =	5.5	in
Column Section (Y-Y Axis):	dy =	1.5	in
Area:	A =	8.25	in2
Section Modulus (X-X Axis):	Sx =	7.56	in3
Section Modulus (Y-Y Axis):	Sy =	2.06	in3
Slenderness Ratio:	Lex/dx =	15.27	
	Ley/dy =	0	

Column Calculations (Controlling Case Only):

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

Actual Compressive Stress:	Fc =	364	psi
Allowable Compressive Stress:	Fc' =	1279	psi
Eccentricity Moment (X-X Axis):	Mx-ex =	124	ft-lb
Eccentricity Moment (Y-Y Axis):	My-ey =	124	ft-lb
Moment Due to Lateral Loads (X-X Axis):	Mx =	0	ft-lb
Moment Due to Lateral Loads (Y-Y Axis):	My =	0	ft-lb
Bending Stress Lateral Loads Only (X-X Axis):	Fbx =	0	psi
Allowable Bending Stress (X-X Axis):	Fbx' =	1346	psi
Bending Stress Lateral Loads Only (Y-Y Axis):	Fby =	0	psi
Allowable Bending Stress (Y-Y Axis):	Fby' =	1346	psi
Combined Stress Factor:	**CSF =**	**0.81**	

LOADING DIAGRAM



AXIAL LOADING

Live Load:	PL =	1781	lb *
Dead Load:	PD =	1206	lb *
Column Self Weight:	CSW =	13	lb
Total Axial Load:	PT =	3000	lb

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

Project: 22-0411 2-STORY

Location: UHDR 2 TRIMMERS
Column
[2015 International Building Code(2015 NDS)]
1.5 IN x 5.5 IN x 7.0 FT
#2 - Douglas-Fir-Larch - Dry Use
Section Adequate By: 59.6%

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VERTICAL REACTIONS

Live Load:	Vert-LL-Rxn =	954	lb
Dead Load:	Vert-DL-Rxn =	660	lb
Total Load:	Vert-TL-Rxn =	1614	lb

COLUMN DATA

Total Column Length:	7	ft
Unbraced Length (X-Axis) Lx:	7	ft
Unbraced Length (Y-Axis) Ly:	0	ft
Column End Condition-K (e):	1	
Load Eccentricity (X-Axis) - ex:	0.5	in
Load Eccentricity (Y-Axis) - ey:	0.5	in
Axial Load Duration Factor	1.15	

COLUMN PROPERTIES

#2 - Douglas-Fir-Larch

	Base Values	Adjusted
Compressive Stress:	Fc = 1350 psi	Fc' = 1279 psi
	Cd=1.15 Cf=1.10 Cp=0.75	
Bending Stress (X-X Axis):	Fbx = 900 psi	Fbx' = 1346 psi
	Cd=1.15 CF=1.30 Cl=1.00	
Bending Stress (Y-Y Axis):	Fby = 900 psi	Fby' = 1346 psi
	Cd=1.15 CF=1.30	
Modulus of Elasticity:	E = 1600 ksi	E' = 1600 ksi

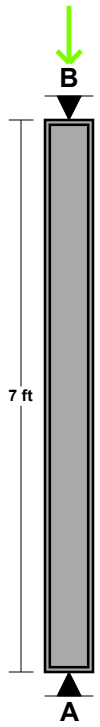
Column Section (X-X Axis):	dx =	5.5	in
Column Section (Y-Y Axis):	dy =	1.5	in
Area:	A =	8.25	in2
Section Modulus (X-X Axis):	Sx =	7.56	in3
Section Modulus (Y-Y Axis):	Sy =	2.06	in3
Slenderness Ratio:	Lex/dx =	15.27	
	Ley/dy =	0	

Column Calculations (Controlling Case Only):

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

Actual Compressive Stress:	Fc =	196	psi
Allowable Compressive Stress:	Fc' =	1279	psi
Eccentricity Moment (X-X Axis):	Mx-ex =	67	ft-lb
Eccentricity Moment (Y-Y Axis):	My-ey =	67	ft-lb
Moment Due to Lateral Loads (X-X Axis):	Mx =	0	ft-lb
Moment Due to Lateral Loads (Y-Y Axis):	My =	0	ft-lb
Bending Stress Lateral Loads Only (X-X Axis):	Fbx =	0	psi
Allowable Bending Stress (X-X Axis):	Fbx' =	1346	psi
Bending Stress Lateral Loads Only (Y-Y Axis):	Fby =	0	psi
Allowable Bending Stress (Y-Y Axis):	Fby' =	1346	psi
Combined Stress Factor:	**CSF =**	**0.4**	

LOADING DIAGRAM



AXIAL LOADING

Live Load:	PL =	954	lb *
Dead Load:	PD =	647	lb *
Column Self Weight:	CSW =	13	lb
Total Axial Load:	PT =	1614	lb

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

Project: 22-0411 2-STORY

Location: UHDR 3 TRIMMERS
Column
[2015 International Building Code(2015 NDS)]
1.5 IN x 5.5 IN x 7.0 FT
#2 - Douglas-Fir-Larch - Dry Use
Section Adequate By: 71.8%

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VERTICAL REACTIONS

Live Load:	Vert-LL-Rxn =	681	lb
Dead Load:	Vert-DL-Rxn =	475	lb
Total Load:	Vert-TL-Rxn =	1156	lb

COLUMN DATA

Total Column Length:	7	ft
Unbraced Length (X-Axis) Lx:	7	ft
Unbraced Length (Y-Axis) Ly:	0	ft
Column End Condition-K (e):	1	
Load Eccentricity (X-Axis) - ex:	0.5	in
Load Eccentricity (Y-Axis) - ey:	0.5	in
Axial Load Duration Factor	1.15	

COLUMN PROPERTIES

#2 - Douglas-Fir-Larch

	Base Values	Adjusted
Compressive Stress:	Fc = 1350 psi	Fc' = 1279 psi
	Cd=1.15 Cf=1.10 Cp=0.75	
Bending Stress (X-X Axis):	Fbx = 900 psi	Fbx' = 1346 psi
	Cd=1.15 CF=1.30 Cl=1.00	
Bending Stress (Y-Y Axis):	Fby = 900 psi	Fby' = 1346 psi
	Cd=1.15 CF=1.30	
Modulus of Elasticity:	E = 1600 ksi	E' = 1600 ksi

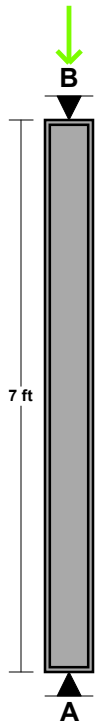
Column Section (X-X Axis):	dx =	5.5	in
Column Section (Y-Y Axis):	dy =	1.5	in
Area:	A =	8.25	in2
Section Modulus (X-X Axis):	Sx =	7.56	in3
Section Modulus (Y-Y Axis):	Sy =	2.06	in3
Slenderness Ratio:	Lex/dx =	15.27	
	Ley/dy =	0	

Column Calculations (Controlling Case Only):

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

Actual Compressive Stress:	Fc =	140	psi
Allowable Compressive Stress:	Fc' =	1279	psi
Eccentricity Moment (X-X Axis):	Mx-ex =	48	ft-lb
Eccentricity Moment (Y-Y Axis):	My-ey =	48	ft-lb
Moment Due to Lateral Loads (X-X Axis):	Mx =	0	ft-lb
Moment Due to Lateral Loads (Y-Y Axis):	My =	0	ft-lb
Bending Stress Lateral Loads Only (X-X Axis):	Fbx =	0	psi
Allowable Bending Stress (X-X Axis):	Fbx' =	1346	psi
Bending Stress Lateral Loads Only (Y-Y Axis):	Fby =	0	psi
Allowable Bending Stress (Y-Y Axis):	Fby' =	1346	psi
Combined Stress Factor:	**CSF =**	**0.28**	

LOADING DIAGRAM



AXIAL LOADING

Live Load:	PL =	681	lb *
Dead Load:	PD =	462	lb *
Column Self Weight:	CSW =	13	lb
Total Axial Load:	PT =	1156	lb

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

Project: 22-0411 2-STORY

Location: UHDR 4 TRIMMERS
Column
[2015 International Building Code(2015 NDS)]
1.5 IN x 5.5 IN x 7.0 FT
#2 - Douglas-Fir-Larch - Dry Use
Section Adequate By: 37.4%

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VERTICAL REACTIONS

Live Load:	Vert-LL-Rxn =	1426	lb
Dead Load:	Vert-DL-Rxn =	973	lb
Total Load:	Vert-TL-Rxn =	2399	lb

COLUMN DATA

Total Column Length:	7	ft
Unbraced Length (X-Axis) Lx:	7	ft
Unbraced Length (Y-Axis) Ly:	0	ft
Column End Condition-K (e):	1	
Load Eccentricity (X-Axis) - ex:	0.5	in
Load Eccentricity (Y-Axis) - ey:	0.5	in
Axial Load Duration Factor	1.15	

COLUMN PROPERTIES

#2 - Douglas-Fir-Larch

	Base Values	Adjusted
Compressive Stress:	Fc = 1350 psi	Fc' = 1279 psi
	Cd=1.15 Cf=1.10 Cp=0.75	
Bending Stress (X-X Axis):	Fbx = 900 psi	Fbx' = 1346 psi
	Cd=1.15 CF=1.30 Cl=1.00	
Bending Stress (Y-Y Axis):	Fby = 900 psi	Fby' = 1346 psi
	Cd=1.15 CF=1.30	
Modulus of Elasticity:	E = 1600 ksi	E' = 1600 ksi

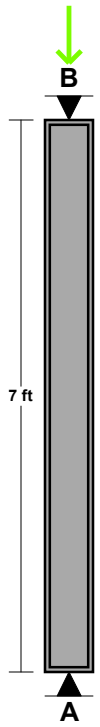
Column Section (X-X Axis):	dx =	5.5	in
Column Section (Y-Y Axis):	dy =	1.5	in
Area:	A =	8.25	in2
Section Modulus (X-X Axis):	Sx =	7.56	in3
Section Modulus (Y-Y Axis):	Sy =	2.06	in3
Slenderness Ratio:	Lex/dx =	15.27	
	Ley/dy =	0	

Column Calculations (Controlling Case Only):

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

Actual Compressive Stress:	Fc =	291	psi
Allowable Compressive Stress:	Fc' =	1279	psi
Eccentricity Moment (X-X Axis):	Mx-ex =	99	ft-lb
Eccentricity Moment (Y-Y Axis):	My-ey =	99	ft-lb
Moment Due to Lateral Loads (X-X Axis):	Mx =	0	ft-lb
Moment Due to Lateral Loads (Y-Y Axis):	My =	0	ft-lb
Bending Stress Lateral Loads Only (X-X Axis):	Fbx =	0	psi
Allowable Bending Stress (X-X Axis):	Fbx' =	1346	psi
Bending Stress Lateral Loads Only (Y-Y Axis):	Fby =	0	psi
Allowable Bending Stress (Y-Y Axis):	Fby' =	1346	psi
Combined Stress Factor:	**CSF =**	**0.63**	

LOADING DIAGRAM



AXIAL LOADING

Live Load:	PL =	1426	lb *
Dead Load:	PD =	960	lb *
Column Self Weight:	CSW =	13	lb
Total Axial Load:	PT =	2399	lb

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

Project: 22-0411 2-STORY

Location: UHDR 5 TRIMMERS
Column
[2015 International Building Code(2015 NDS)]
1.5 IN x 5.5 IN x 7.0 FT
#2 - Douglas-Fir-Larch - Dry Use
Section Adequate By: 47.3%

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VERTICAL REACTIONS

Live Load:	Vert-LL-Rxn =	1223	lb
Dead Load:	Vert-DL-Rxn =	836	lb
Total Load:	Vert-TL-Rxn =	2059	lb

COLUMN DATA

Total Column Length:	7	ft
Unbraced Length (X-Axis) Lx:	7	ft
Unbraced Length (Y-Axis) Ly:	0	ft
Column End Condition-K (e):	1	
Load Eccentricity (X-Axis) - ex:	0.5	in
Load Eccentricity (Y-Axis) - ey:	0.5	in
Axial Load Duration Factor	1.15	

COLUMN PROPERTIES

#2 - Douglas-Fir-Larch

	Base Values	Adjusted
Compressive Stress:	Fc = 1350 psi	Fc' = 1279 psi
	Cd=1.15 Cf=1.10 Cp=0.75	
Bending Stress (X-X Axis):	Fbx = 900 psi	Fbx' = 1346 psi
	Cd=1.15 CF=1.30 Cl=1.00	
Bending Stress (Y-Y Axis):	Fby = 900 psi	Fby' = 1346 psi
	Cd=1.15 CF=1.30	
Modulus of Elasticity:	E = 1600 ksi	E' = 1600 ksi

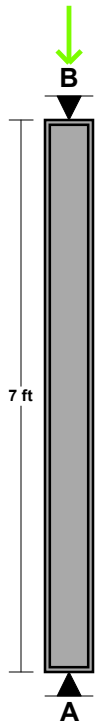
Column Section (X-X Axis):	dx =	5.5	in
Column Section (Y-Y Axis):	dy =	1.5	in
Area:	A =	8.25	in2
Section Modulus (X-X Axis):	Sx =	7.56	in3
Section Modulus (Y-Y Axis):	Sy =	2.06	in3
Slenderness Ratio:	Lex/dx =	15.27	
	Ley/dy =	0	

Column Calculations (Controlling Case Only):

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

Actual Compressive Stress:	Fc =	250	psi
Allowable Compressive Stress:	Fc' =	1279	psi
Eccentricity Moment (X-X Axis):	Mx-ex =	85	ft-lb
Eccentricity Moment (Y-Y Axis):	My-ey =	85	ft-lb
Moment Due to Lateral Loads (X-X Axis):	Mx =	0	ft-lb
Moment Due to Lateral Loads (Y-Y Axis):	My =	0	ft-lb
Bending Stress Lateral Loads Only (X-X Axis):	Fbx =	0	psi
Allowable Bending Stress (X-X Axis):	Fbx' =	1346	psi
Bending Stress Lateral Loads Only (Y-Y Axis):	Fby =	0	psi
Allowable Bending Stress (Y-Y Axis):	Fby' =	1346	psi
Combined Stress Factor:	**CSF =**	**0.53**	

LOADING DIAGRAM

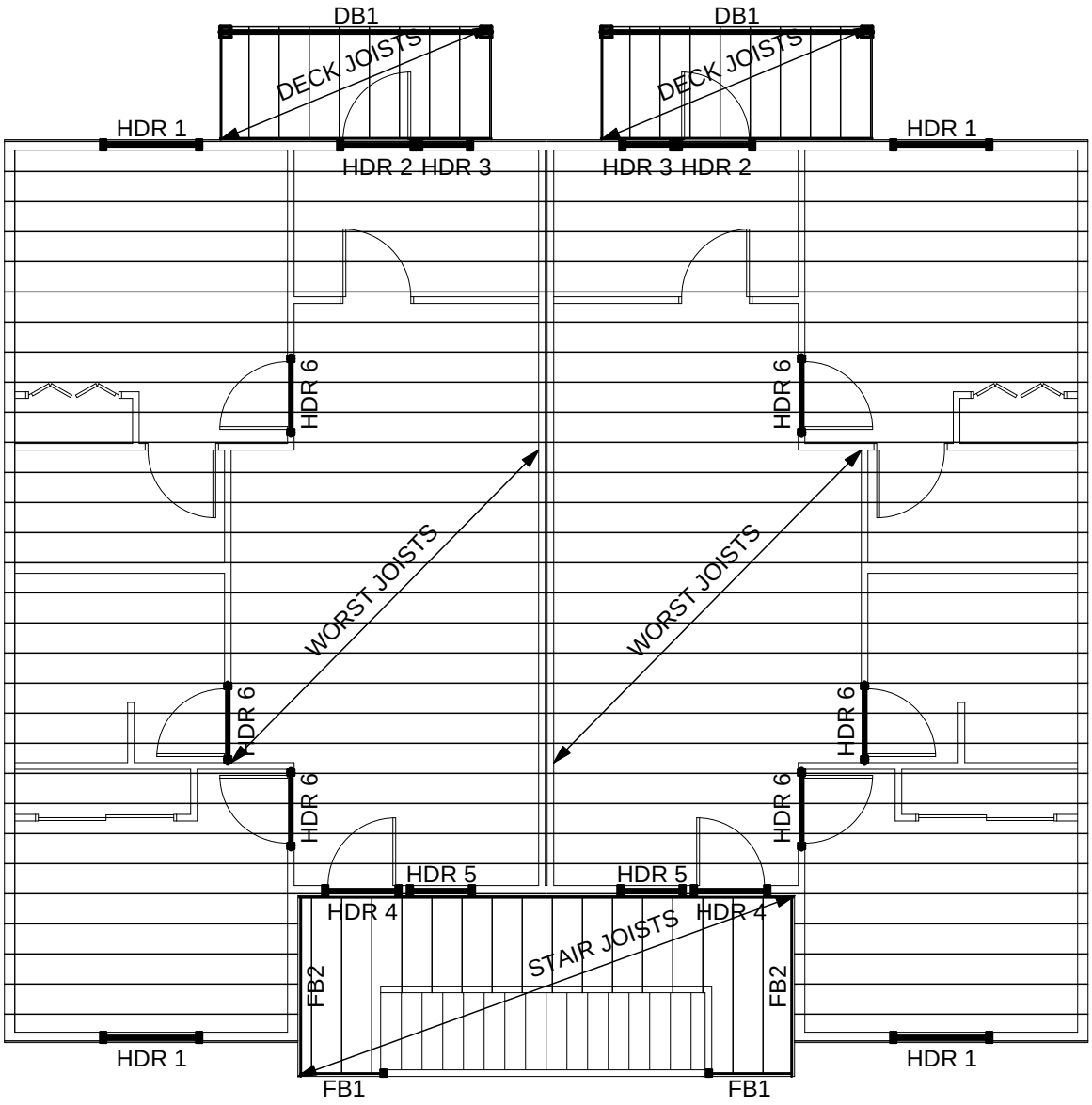


AXIAL LOADING

Live Load:	PL =	1223	lb *
Dead Load:	PD =	823	lb *
Column Self Weight:	CSW =	13	lb
Total Axial Load:	PT =	2059	lb

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

UPPER FLOOR FRAMING GUIDE



12/6/2022 Project: 22-0411 Cross Creek - 2 Story

STABILITY ENGINEERING INC.

By: Max Beaudoin

UPPER FLOOR FRAMING

TYP JOISTS		DISTRIBUTED LOADS (PSF):			
L = 15' MAX		SOURCE	LL	DL	DISTRIBUTION
@ 16"	1	FLOOR	40	25	FULL SPAN

DECK JOISTS		DISTRIBUTED LOADS (PSF):			
L = 5'		SOURCE	LL	DL	DISTRIBUTION
@ 16"	1	FLOOR	40	12	FULL SPAN

STAIR JOISTS		DISTRIBUTED LOADS (PSF):			
L = 8'		SOURCE	LL	DL	DISTRIBUTION
@ 16"	1	FLOOR	100	25	FULL SPAN

HDR 1		DISTRIBUTED LOADS (PLF):			
L = 4'-6"		SOURCE	LL	DL	DISTRIBUTION
	1	FLOOR	27	17	0' - 1.75'
	2	WALL	0	48	FULL SPAN

HDR 2		DISTRIBUTED LOADS (PLF):			
L = 3'-6"		SOURCE	LL	DL	DISTRIBUTION
	1	FLOOR	127	47	FULL SPAN
	2	WALL	0	48	FULL SPAN

HDR 3		DISTRIBUTED LOADS (PLF):			
L = 2'-6"		SOURCE	LL	DL	DISTRIBUTION
	1	FLOOR	127	47	FULL SPAN
	2	WALL	0	48	FULL SPAN

HDR 4		DISTRIBUTED LOADS (PLF):			
L = 3'-6"		SOURCE	LL	DL	DISTRIBUTION
	1	FLOOR	427	117	FULL SPAN
	2	WALL	0	48	FULL SPAN

HDR 5		DISTRIBUTED LOADS (PLF):			
L = 3'-0"		SOURCE	LL	DL	DISTRIBUTION
	1	FLOOR	242	67	FULL SPAN
	2	WALL	0	48	FULL SPAN

HDR 6		DISTRIBUTED LOADS (PLF):			
L = 3'-6"		SOURCE	LL	DL	DISTRIBUTION
	1	FLOOR	480	300	FULL SPAN
	2	WALL	0	40	FULL SPAN

FB1		DISTRIBUTED LOADS (PLF):			
L = 4'-0"		SOURCE	LL	DL	DISTRIBUTION
	1	FLOOR	400	100	FULL SPAN

FB2		DISTRIBUTED LOADS (PLF):			
L = 6'-6" + 1'-6"		SOURCE	LL	DL	DISTRIBUTION
	1	FLOOR	67	17	FULL SPAN

POINT LOADS:

SOURCE	LOCATION
1 FB1	END'

Project: 22-0411 2-STORY

Location: TYP JOISTS
Floor Joist
[2015 International Building Code(2015 NDS)]
1.5 IN x 11.25 IN x 15.0 FT @ 16 O.C.
#2 - Douglas-Fir-Larch - Dry Use
Section Adequate By: 12.0%
Controlling Factor: Moment

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DEFLECTIONS	Center
Live Load	0.21 IN L/844
Dead Load	0.13 in
Total Load	0.35 IN L/519

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

REACTIONS	A	B
Live Load	400 lb	400 lb
Dead Load	250 lb	250 lb
Total Load	650 lb	650 lb
Bearing Length	0.69 in	0.69 in

SUPPORT LOADS	A	B
Live Load	300 plf	300 plf
Dead Load	188 plf	188 plf
Total Load	488 plf	488 plf

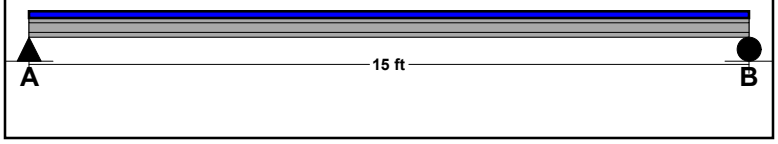
MATERIAL PROPERTIES
#2 - Douglas-Fir-Larch

	Base Values		Adjusted	
Bending Stress:	Fb = 900 psi		Fb' = 1035 psi	
	Cd=1.00 CF=1.00 Cr=1.15			
Shear Stress:	Fv = 180 psi		Fv' = 180 psi	
	Cd=1.00			
Modulus of Elasticity:	E = 1600 ksi		E' = 1600 ksi	
Comp. ⊥ to Grain:	Fc - ⊥ = 625 psi		Fc - ⊥' = 625 psi	

Controlling Moment: 2437 ft-lb
7.5 Ft from left support of span 2 (Center Span)
Created by combining all dead loads and live loads on span(s) 2
Controlling Shear: 650 lb
At left support of span 2 (Center Span)
Created by combining all dead loads and live loads on span(s) 2

Comparisons with required sections:	Req'd	Provided
Section Modulus:	28.26 in3	31.64 in3
Area (Shear):	5.42 in2	16.88 in2
Moment of Inertia (deflection):	123.38 in4	177.98 in4
Moment:	2437 ft-lb	2729 ft-lb
Shear:	650 lb	2025 lb

LOADING DIAGRAM



JOIST DATA	Center
Span Length	15 ft
Unbraced Length-Top	0 ft
Unbraced Length-Bottom	0 ft

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

JOIST LOADING

Uniform Floor Loading		Center
Live Load	LL =	40 psf
Dead Load	DL =	25 psf
Total Load	TL =	65 psf
TL Adj. For Joist Spacing	wT =	86.7 plf

Project: 22-0411 2-STORY

Location: DECK JOISTS
Floor Joist
[2015 International Building Code(2015 NDS)]
1.5 IN x 7.25 IN x 5.0 FT Pressure Treated @ 16 O.C.
#2 - Hem-Fir - Dry Use
Section Adequate By: 374.3%
Controlling Factor: Moment

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DEFLECTIONS	Center	
Live Load	0.01	IN L/4707
Dead Load	0.00	in
Total Load	0.02	IN L/3621

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

REACTIONS	A		B	
Live Load	133	lb	133	lb
Dead Load	40	lb	40	lb
Total Load	173	lb	173	lb
Bearing Length	0.29	in	0.29	in

SUPPORT LOADS	A		B	
Live Load	100	plf	100	plf
Dead Load	30	plf	30	plf
Total Load	130	plf	130	plf

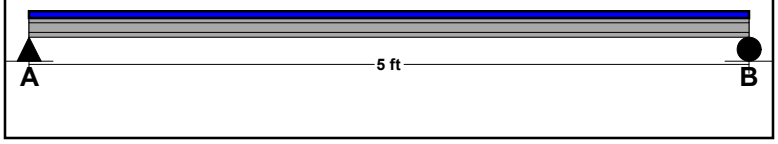
MATERIAL PROPERTIES
#2 - Hem-Fir

	Base Values		Adjusted	
Bending Stress:	Fb = 850	psi	Fb' = 938	psi
	Cd=1.00 CF=1.20 Cr=1.15 Ci=0.80			
Shear Stress:	Fv = 150	psi	Fv' = 120	psi
	Cd=1.00 Ci=0.80			
Modulus of Elasticity:	E = 1300	ksi	E' = 1235	ksi
	Ci=0.95			
Comp. ⊥ to Grain:	Fc - ⊥ = 405	psi	Fc - ⊥' = 405	psi

Controlling Moment: 217 ft-lb
2.5 Ft from left support of span 2 (Center Span)
Created by combining all dead loads and live loads on span(s) 2
Controlling Shear: 173 lb
At left support of span 2 (Center Span)
Created by combining all dead loads and live loads on span(s) 2

Comparisons with required sections:	Req'd	Provided
Section Modulus:	2.77 in3	13.14 in3
Area (Shear):	2.17 in2	10.88 in2
Moment of Inertia (deflection):	3.64 in4	47.63 in4
Moment:	217 ft-lb	1028 ft-lb
Shear:	173 lb	870 lb

LOADING DIAGRAM



JOIST DATA	Center
Span Length	5 ft
Unbraced Length-Top	0 ft
Unbraced Length-Bottom	0 ft

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

JOIST LOADING

Uniform Floor Loading		Center	
Live Load	LL =	40	psf
Dead Load	DL =	12	psf
Total Load	TL =	52	psf
TL Adj. For Joist Spacing	wT =	69.3	plf

Project: 22-0411 2-STORY

Location: STAIR JOISTS
Floor Joist
[2015 International Building Code(2015 NDS)]
1.5 IN x 9.25 IN x 8.0 FT Pressure Treated @ 16 O.C.
#2 - Hem-Fir - Dry Use
Section Adequate By: 15.0%
Controlling Factor: Moment

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DEFLECTIONS Center

Live Load	0.10	IN L/955
Dead Load	0.03	in
Total Load	0.13	IN L/764

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

REACTIONS

	A		B	
Live Load	533	lb	533	lb
Dead Load	133	lb	133	lb
Total Load	666	lb	666	lb
Bearing Length	1.10	in	1.10	in

SUPPORT LOADS

	A		B	
Live Load	400	plf	400	plf
Dead Load	100	plf	100	plf
Total Load	500	plf	500	plf

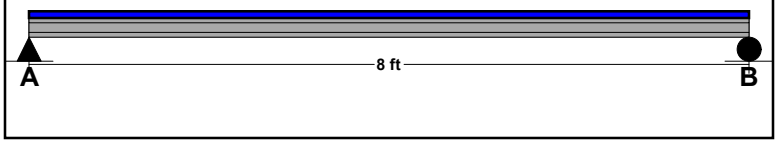
MATERIAL PROPERTIES
#2 - Hem-Fir

	Base Values		Adjusted	
Bending Stress:	Fb = 850	psi	Fb' = 860	psi
Cd=1.00 CF=1.10 Cr=1.15 Ci=0.80				
Shear Stress:	Fv = 150	psi	Fv' = 120	psi
Cd=1.00 Ci=0.80				
Modulus of Elasticity:	E = 1300	ksi	E' = 1235	ksi
Ci=0.95				
Comp. ⊥ to Grain:	Fc - ⊥ = 405	psi	Fc - ⊥' = 405	psi

Controlling Moment: 1333 ft-lb
4.0 Ft from left support of span 2 (Center Span)
Created by combining all dead loads and live loads on span(s) 2
Controlling Shear: 667 lb
At left support of span 2 (Center Span)
Created by combining all dead loads and live loads on span(s) 2

Comparisons with required sections:	Req'd		Provided	
Section Modulus:	18.6	in3	21.39	in3
Area (Shear):	8.33	in2	13.88	in2
Moment of Inertia (deflection):	37.31	in4	98.93	in4
Moment:	1333	ft-lb	1533	ft-lb
Shear:	667	lb	1110	lb

LOADING DIAGRAM



JOIST DATA Center

Span Length	8	ft
Unbraced Length-Top	0	ft
Unbraced Length-Bottom	0	ft

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

JOIST LOADING

Uniform Floor Loading		Center	
Live Load	LL =	100	psf
Dead Load	DL =	25	psf
Total Load	TL =	125	psf
TL Adj. For Joist Spacing	wT =	166.7	plf

Project: 22-0411 2-STORY

Location: HDR 1
Multi-Loaded Multi-Span Beam
[2015 International Building Code(2015 NDS)]
3.5 IN x 7.25 IN x 4.5 FT
#2 - Douglas-Fir-Larch - Dry Use
Section Adequate By: 1111.3%
Controlling Factor: Moment

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DEFLECTIONS	Center	
Live Load	0.00	IN L/MAX
Dead Load	0.00	in
Total Load	0.01	IN L/MAX

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

REACTIONS	A		B	
Live Load	61	lb	61	lb
Dead Load	159	lb	159	lb
Total Load	220	lb	220	lb
Bearing Length	0.10	in	0.10	in

BEAM DATA	Center	
Span Length	4.5	ft
Unbraced Length-Top	0	ft
Unbraced Length-Bottom	4.5	ft
Live Load Duration Factor	1.00	
Notch Depth	0.00	

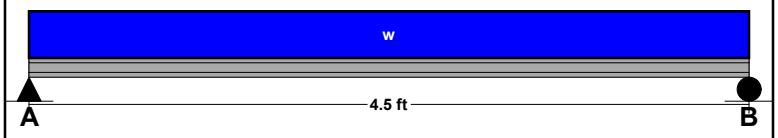
MATERIAL PROPERTIES
#2 - Douglas-Fir-Larch

	Base Values			Adjusted		
Bending Stress:	Fb =	900	psi	Fb' =	1170	psi
	Cd=1.00 CF=1.30					
Shear Stress:	Fv =	180	psi	Fv' =	180	psi
	Cd=1.00					
Modulus of Elasticity:	E =	1600	ksi	E' =	1600	ksi
Comp. ⊥ to Grain:	Fc - ⊥ =	625	psi	Fc - ⊥' =	625	psi

Controlling Moment: 247 ft-lb
2.25 Ft from left support of span 2 (Center Span)
Created by combining all dead loads and live loads on span(s) 2
Controlling Shear: -219 lb
5.0 Ft from left support of span 2 (Center Span)
Created by combining all dead loads and live loads on span(s) 2

Comparisons with required sections:	Req'd		Provided	
Section Modulus:	2.53	in3	30.66	in3
Area (Shear):	1.83	in2	25.38	in2
Moment of Inertia (deflection):	2.5	in4	111.15	in4
Moment:	247	ft-lb	2989	ft-lb
Shear:	-219	lb	3045	lb

LOADING DIAGRAM



UNIFORM LOADS	Center	
Uniform Live Load	27	plf
Uniform Dead Load	65	plf
Beam Self Weight	6	plf
Total Uniform Load	98	plf

Project: 22-0411 2-STORY

Location: HDR 2
Multi-Loaded Multi-Span Beam
[2015 International Building Code(2015 NDS)]
3.5 IN x 7.25 IN x 3.5 FT
#2 - Douglas-Fir-Larch - Dry Use
Section Adequate By: 664.8%
Controlling Factor: Shear

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DEFLECTIONS Center

Live Load	0.00	IN L/MAX
Dead Load	0.00	in
Total Load	0.00	IN L/9725

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

REACTIONS

	A		B	
Live Load	222	lb	222	lb
Dead Load	176	lb	176	lb
Total Load	398	lb	398	lb
Bearing Length	0.18	in	0.18	in

BEAM DATA Center

Span Length	3.5	ft
Unbraced Length-Top	0	ft
Unbraced Length-Bottom	3.5	ft
Live Load Duration Factor	1.00	
Notch Depth	0.00	

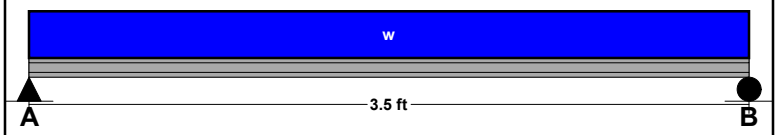
MATERIAL PROPERTIES
#2 - Douglas-Fir-Larch

	Base Values		Adjusted	
Bending Stress:	Fb = 900	psi	Fb' = 1170	psi
	Cd=1.00 CF=1.30			
Shear Stress:	Fv = 180	psi	Fv' = 180	psi
	Cd=1.00			
Modulus of Elasticity:	E = 1600	ksi	E' = 1600	ksi
Comp. ⊥ to Grain:	Fc - ⊥ = 625	psi	Fc - ⊥' = 625	psi

Controlling Moment: 348 ft-lb
1.75 Ft from left support of span 2 (Center Span)
Created by combining all dead loads and live loads on span(s) 2
Controlling Shear: -398 lb
4.0 Ft from left support of span 2 (Center Span)
Created by combining all dead loads and live loads on span(s) 2

Comparisons with required sections:	Req'd		Provided	
Section Modulus:	3.57	in3	30.66	in3
Area (Shear):	3.32	in2	25.38	in2
Moment of Inertia (deflection):	2.74	in4	111.15	in4
Moment:	348	ft-lb	2989	ft-lb
Shear:	-398	lb	3045	lb

LOADING DIAGRAM



UNIFORM LOADS Center

Uniform Live Load	127	plf
Uniform Dead Load	95	plf
Beam Self Weight	6	plf
Total Uniform Load	228	plf

Project: 22-0411 2-STORY

Location: HDR 3
Multi-Loaded Multi-Span Beam
[2015 International Building Code(2015 NDS)]
3.5 IN x 7.25 IN x 2.5 FT
#2 - Douglas-Fir-Larch - Dry Use
Section Adequate By: 970.8%
Controlling Factor: Shear

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DEFLECTIONS	Center	
Live Load	0.00	IN L/MAX
Dead Load	0.00	in
Total Load	0.00	IN L/MAX

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

REACTIONS	A		B	
Live Load	159	lb	159	lb
Dead Load	126	lb	126	lb
Total Load	285	lb	285	lb
Bearing Length	0.13	in	0.13	in

BEAM DATA	Center	
Span Length	2.5	ft
Unbraced Length-Top	0	ft
Unbraced Length-Bottom	2.5	ft
Live Load Duration Factor	1.00	
Notch Depth	0.00	

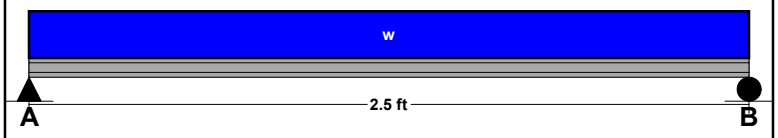
MATERIAL PROPERTIES
#2 - Douglas-Fir-Larch

	Base Values		Adjusted	
Bending Stress:	Fb = 900	psi	Fb' = 1170	psi
	Cd=1.00 CF=1.30			
Shear Stress:	Fv = 180	psi	Fv' = 180	psi
	Cd=1.00			
Modulus of Elasticity:	E = 1600	ksi	E' = 1600	ksi
Comp. ⊥ to Grain:	Fc - ⊥ = 625	psi	Fc - ⊥' = 625	psi

Controlling Moment: 178 ft-lb
1.25 Ft from left support of span 2 (Center Span)
Created by combining all dead loads and live loads on span(s) 2
Controlling Shear: -284 lb
3.0 Ft from left support of span 2 (Center Span)
Created by combining all dead loads and live loads on span(s) 2

Comparisons with required sections:	Req'd		Provided	
Section Modulus:	1.82	in3	30.66	in3
Area (Shear):	2.37	in2	25.38	in2
Moment of Inertia (deflection):	1	in4	111.15	in4
Moment:	178	ft-lb	2989	ft-lb
Shear:	-284	lb	3045	lb

LOADING DIAGRAM



UNIFORM LOADS	Center	
Uniform Live Load	127	plf
Uniform Dead Load	95	plf
Beam Self Weight	6	plf
Total Uniform Load	228	plf

Project: 22-0411 2-STORY

Location: HDR 4
Multi-Loaded Multi-Span Beam
[2015 International Building Code(2015 NDS)]
3.5 IN x 7.25 IN x 3.5 FT
#2 - Douglas-Fir-Larch - Dry Use
Section Adequate By: 191.2%
Controlling Factor: Shear

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DEFLECTIONS Center

Live Load	0.01	IN L/5182
Dead Load	0.00	in
Total Load	0.01	IN L/3703

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

REACTIONS A B

Live Load	747	lb	747	lb
Dead Load	298	lb	298	lb
Total Load	1045	lb	1045	lb
Bearing Length	0.48	in	0.48	in

BEAM DATA Center

Span Length	3.5	ft
Unbraced Length-Top	0	ft
Unbraced Length-Bottom	3.5	ft
Live Load Duration Factor	1.00	
Notch Depth	0.00	

MATERIAL PROPERTIES
#2 - Douglas-Fir-Larch

	Base Values		Adjusted	
Bending Stress:	Fb = 900	psi	Fb' = 1170	psi
	Cd=1.00 CF=1.30			
Shear Stress:	Fv = 180	psi	Fv' = 180	psi
	Cd=1.00			
Modulus of Elasticity:	E = 1600	ksi	E' = 1600	ksi
Comp. ⊥ to Grain:	Fc - ⊥ = 625	psi	Fc - ⊥' = 625	psi

Controlling Moment: 915 ft-lb
1.75 Ft from left support of span 2 (Center Span)
Created by combining all dead loads and live loads on span(s) 2
Controlling Shear: -1046 lb
4.0 Ft from left support of span 2 (Center Span)
Created by combining all dead loads and live loads on span(s) 2

Comparisons with required sections:	Req'd		Provided	
Section Modulus:	9.38	in3	30.66	in3
Area (Shear):	8.71	in2	25.38	in2
Moment of Inertia (deflection):	7.72	in4	111.15	in4
Moment:	915	ft-lb	2989	ft-lb
Shear:	-1046	lb	3045	lb

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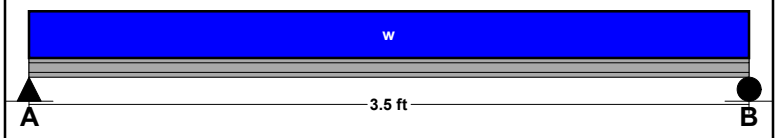

UNIFORM LOADS Center

Uniform Live Load	427	plf
Uniform Dead Load	165	plf
Beam Self Weight	6	plf
Total Uniform Load	598	plf

Project: 22-0411 2-STORY

Location: HDR 5
Multi-Loaded Multi-Span Beam
[2015 International Building Code(2015 NDS)]
3.5 IN x 7.25 IN x 3.0 FT
#2 - Douglas-Fir-Larch - Dry Use
Section Adequate By: 460.0%
Controlling Factor: Shear

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DEFLECTIONS	Center	
Live Load	0.00	IN L/MAX
Dead Load	0.00	in
Total Load	0.00	IN L/9692

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

REACTIONS	A		B	
Live Load	363	lb	363	lb
Dead Load	181	lb	181	lb
Total Load	544	lb	544	lb
Bearing Length	0.25	in	0.25	in

BEAM DATA	Center	
Span Length	3	ft
Unbraced Length-Top	0	ft
Unbraced Length-Bottom	3	ft
Live Load Duration Factor	1.00	
Notch Depth	0.00	

MATERIAL PROPERTIES
#2 - Douglas-Fir-Larch

	Base Values		Adjusted	
Bending Stress:	Fb = 900	psi	Fb' = 1170	psi
	Cd=1.00 CF=1.30			
Shear Stress:	Fv = 180	psi	Fv' = 180	psi
	Cd=1.00			
Modulus of Elasticity:	E = 1600	ksi	E' = 1600	ksi
Comp. ⊥ to Grain:	Fc - ⊥ = 625	psi	Fc - ⊥' = 625	psi

Controlling Moment: 408 ft-lb
1.5 Ft from left support of span 2 (Center Span)
Created by combining all dead loads and live loads on span(s) 2
Controlling Shear: -544 lb
At right support of span 2 (Center Span)
Created by combining all dead loads and live loads on span(s) 2

Comparisons with required sections:	Req'd		Provided	
Section Modulus:	4.18	in3	30.66	in3
Area (Shear):	4.53	in2	25.38	in2
Moment of Inertia (deflection):	2.76	in4	111.15	in4
Moment:	408	ft-lb	2989	ft-lb
Shear:	-544	lb	3045	lb

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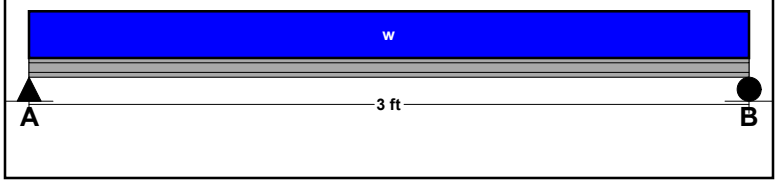

UNIFORM LOADS	Center	
Uniform Live Load	242	plf
Uniform Dead Load	115	plf
Beam Self Weight	6	plf
Total Uniform Load	363	plf

Project: 22-0411 2-STORY

Location: HDR 6
Multi-Loaded Multi-Span Beam
[2015 International Building Code(2015 NDS)]
3.5 IN x 7.25 IN x 3.5 FT
#2 - Douglas-Fir-Larch - Dry Use
Section Adequate By: 110.8%
Controlling Factor: Shear

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DEFLECTIONS Center

Live Load	0.01	IN L/4609
Dead Load	0.01	in
Total Load	0.02	IN L/2680

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

REACTIONS

	A		B	
Live Load	840	lb	840	lb
Dead Load	605	lb	605	lb
Total Load	1445	lb	1445	lb
Bearing Length	0.66	in	0.66	in

BEAM DATA Center

Span Length	3.5	ft
Unbraced Length-Top	0	ft
Unbraced Length-Bottom	3.5	ft
Live Load Duration Factor	1.00	
Notch Depth	0.00	

MATERIAL PROPERTIES
#2 - Douglas-Fir-Larch

	Base Values		Adjusted	
Bending Stress:	Fb = 900	psi	Fb' = 1170	psi
	Cd=1.00 CF=1.30			
Shear Stress:	Fv = 180	psi	Fv' = 180	psi
	Cd=1.00			
Modulus of Elasticity:	E = 1600	ksi	E' = 1600	ksi
Comp. ⊥ to Grain:	Fc - ⊥ = 625	psi	Fc - ⊥' = 625	psi

Controlling Moment: 1264 ft-lb
1.75 Ft from left support of span 2 (Center Span)
Created by combining all dead loads and live loads on span(s) 2
Controlling Shear: -1445 lb
4.0 Ft from left support of span 2 (Center Span)
Created by combining all dead loads and live loads on span(s) 2

Comparisons with required sections:	Req'd		Provided	
Section Modulus:	12.96	in3	30.66	in3
Area (Shear):	12.04	in2	25.38	in2
Moment of Inertia (deflection):	9.95	in4	111.15	in4
Moment:	1264	ft-lb	2989	ft-lb
Shear:	-1445	lb	3045	lb

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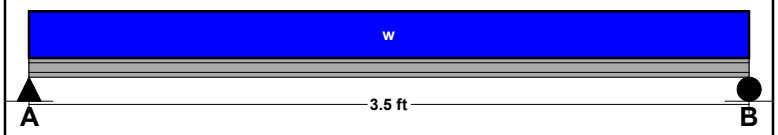

UNIFORM LOADS Center

Uniform Live Load	480	plf
Uniform Dead Load	340	plf
Beam Self Weight	6	plf
Total Uniform Load	826	plf

Project: 22-0411 2-STORY

Location: FB1
Multi-Loaded Multi-Span Beam
[2015 International Building Code(2015 NDS)]
1.5 IN x 11.25 IN x 4.0 FT Pressure Treated
#2 - Hem-Fir - Dry Use
Section Adequate By: 34.2%
Controlling Factor: Shear

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DEFLECTIONS	Center	
Live Load	0.01	IN L/4580
Dead Load	0.00	in
Total Load	0.01	IN L/3641

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

REACTIONS	A		B	
Live Load	800	lb	800	lb
Dead Load	206	lb	206	lb
Total Load	1006	lb	1006	lb
Bearing Length	1.66	in	1.66	in

BEAM DATA	Center	
Span Length	4	ft
Unbraced Length-Top	0	ft
Unbraced Length-Bottom	4	ft
Live Load Duration Factor	1.00	
Notch Depth	0.00	

MATERIAL PROPERTIES
#2 - Hem-Fir

	Base Values			Adjusted		
Bending Stress:	Fb =	850	psi	Fb' =	680	psi
	Cd=1.00 CF=1.00 Ci=0.80					
Shear Stress:	Fv =	150	psi	Fv' =	120	psi
	Cd=1.00 Ci=0.80					
Modulus of Elasticity:	E =	1300	ksi	E' =	1235	ksi
	Ci=0.95					
Comp. ⊥ to Grain:	Fc - ⊥ =	405	psi	Fc - ⊥' =	405	psi

Controlling Moment: 1006 ft-lb
2.0 Ft from left support of span 2 (Center Span)
Created by combining all dead loads and live loads on span(s) 2
Controlling Shear: -1006 lb
At right support of span 2 (Center Span)
Created by combining all dead loads and live loads on span(s) 2

Comparisons with required sections:	Req'd		Provided	
Section Modulus:	17.76	in3	31.64	in3
Area (Shear):	12.58	in2	16.88	in2
Moment of Inertia (deflection):	13.99	in4	177.98	in4
Moment:	1006	ft-lb	1793	ft-lb
Shear:	-1006	lb	1350	lb

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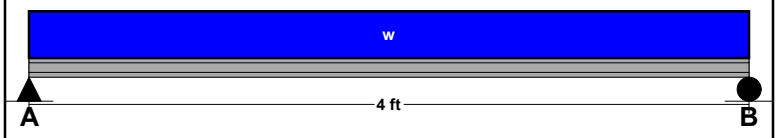

UNIFORM LOADS	Center	
Uniform Live Load	400	plf
Uniform Dead Load	100	plf
Beam Self Weight	3	plf
Total Uniform Load	503	plf

Project: 22-0411 2-STORY

Location: FB2
Multi-Loaded Multi-Span Beam
[2015 International Building Code(2015 NDS)]
(2) 1.5 IN x 11.25 IN x 8.0 FT Pressure Treated (6.5 + 1.5)
#2 - Hem-Fir - Dry Use
Section Adequate By: 119.0%
Controlling Factor: Moment

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

DEFLECTIONS	Center		Right	
Live Load	-0.01	IN L/5741	0.02	IN 2L/1800
Dead Load	0.00	in	0.00	in
Total Load	-0.02	IN L/4699	0.02	IN 2L/1450

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

REACTIONS	A		B	
Live Load	0	lb	1097	lb
Dead Load	-31	lb	313	lb
Total Load	-31	lb	1410	lb
Uplift (1.5 F.S)	**-227**	**lb**	0	**lb**
Bearing Length	0.00	in	1.16	in

BEAM DATA	Center		Right	
Span Length	6.5	ft	1.5	ft
Unbraced Length-Top	0	ft	0	ft
Unbraced Length-Bottom	6.5	ft	1.5	ft
Live Load Duration Factor	1.00			
Notch Depth	0.00			

MATERIAL PROPERTIES
#2 - Hem-Fir

	Base Values		Adjusted	
Bending Stress:	Fb = 850	psi	Fb' = 669	psi
	Cd=1.00 Cl=0.98 CF=1.00 Ci=0.80			
Shear Stress:	Fv = 150	psi	Fv' = 120	psi
	Cd=1.00 Ci=0.80			
Modulus of Elasticity:	E = 1300	ksi	E' = 1235	ksi
	Ci=0.95			
Comp. ⊥ to Grain:	Fc - ⊥ = 405	psi	Fc - ⊥' = 405	psi

Controlling Moment: -1611 ft-lb
Over right support of span 2 (Center Span)
Created by combining all dead loads and live loads on span(s) 2, 3
Controlling Shear: 1141 lb
At left support of span 3 (Right Span)
Created by combining all dead loads and live loads on span(s) 2, 3

Comparisons with required sections:	Req'd	Provided
Section Modulus:	28.9 in3	63.28 in3
Area (Shear):	14.27 in2	33.75 in2
Moment of Inertia (deflection):	71.18 in4	355.96 in4
Moment:	-1611 ft-lb	3527 ft-lb
Shear:	1141 lb	2700 lb

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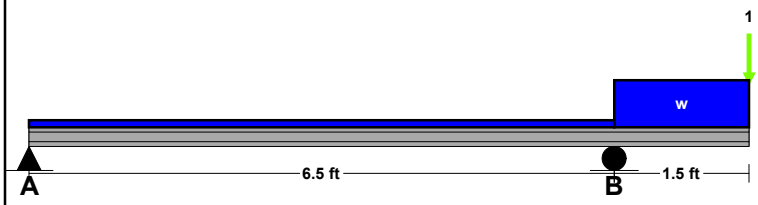

UNIFORM LOADS	Center		Right	
Uniform Live Load	0	plf	67	plf
Uniform Dead Load	0	plf	17	plf
Beam Self Weight	6	plf	6	plf
Total Uniform Load	6	plf	90	plf

POINT LOADS - RIGHT SPAN

Load Number	One *
Live Load	800 lb
Dead Load	206 lb
Location	1.5 ft

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

Project: 22-0411 2-STORY

Location: DB1
Multi-Loaded Multi-Span Beam
[2015 International Building Code(2015 NDS)]
5.5 IN x 9.5 IN x 12.0 FT
#2 - Hem-Fir - Dry Use
Section Adequate By: 85.0%
Controlling Factor: Moment

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DEFLECTIONS	Center	
Live Load	0.11	IN L/1334
Dead Load	0.04	in
Total Load	0.15	IN L/955

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

REACTIONS	A	B
Live Load	600 lb	600 lb
Dead Load	238 lb	238 lb
Total Load	838 lb	838 lb
Bearing Length	0.38 in	0.38 in

BEAM DATA	Center
Span Length	12 ft
Unbraced Length-Top	0 ft
Unbraced Length-Bottom	12 ft
Live Load Duration Factor	1.00
Notch Depth	0.00

MATERIAL PROPERTIES
#2 - Hem-Fir

	Base Values		Adjusted	
Bending Stress:	Fb = 675 psi		Fb' = 675 psi	
	Cd=1.00 CF=1.00			
Shear Stress:	Fv = 140 psi		Fv' = 140 psi	
	Cd=1.00			
Modulus of Elasticity:	E = 1100 ksi		E' = 1100 ksi	
Comp. ⊥ to Grain:	Fc - ⊥ = 405 psi		Fc - ⊥' = 405 psi	

Controlling Moment: 2515 ft-lb
6.0 Ft from left support of span 2 (Center Span)
Created by combining all dead loads and live loads on span(s) 2
Controlling Shear: 838 lb
At left support of span 2 (Center Span)
Created by combining all dead loads and live loads on span(s) 2

Comparisons with required sections:	Req'd	Provided
Section Modulus:	44.72 in3	82.73 in3
Area (Shear):	8.98 in2	52.25 in2
Moment of Inertia (deflection):	106.02 in4	392.96 in4
Moment:	2515 ft-lb	4654 ft-lb
Shear:	838 lb	4877 lb

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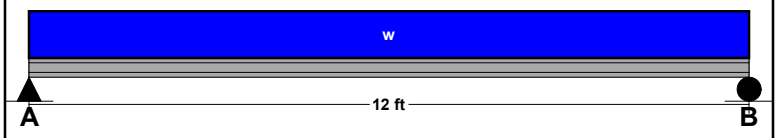

UNIFORM LOADS	Center
Uniform Live Load	100 plf
Uniform Dead Load	30 plf
Beam Self Weight	10 plf
Total Uniform Load	140 plf

Project: 22-0411 2-STORY

Location: FB1 POST
Column
[2015 International Building Code(2015 NDS)]
(2) 1.5 IN x 3.5 IN x 8.0 FT
#2 - Douglas-Fir-Larch - Dry Use
Section Adequate By: 82.2%

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CAUTIONS
* Laminations to be nailed together per National Design Specifications for Wood Construction Section 15.3.3.1

VERTICAL REACTIONS

Live Load:	Vert-LL-Rxn =	800	lb
Dead Load:	Vert-DL-Rxn =	224	lb
Total Load:	Vert-TL-Rxn =	1024	lb

COLUMN DATA

Total Column Length:	8	ft
Unbraced Length (X-Axis) Lx:	8	ft
Unbraced Length (Y-Axis) Ly:	0	ft
Column End Condition-K (e):	1	
Load Eccentricity (X-Axis) - ex:	0.5	in
Load Eccentricity (Y-Axis) - ey:	0.5	in
Axial Load Duration Factor	1.00	

COLUMN PROPERTIES
#2 - Douglas-Fir-Larch

	Base Values	Adjusted
Compressive Stress:	Fc = 1350 psi	Fc' = 568 psi
	Cd=1.00 Cf=1.15 Cp=0.37	
Bending Stress (X-X Axis):	Fbx = 900 psi	Fbx' = 1350 psi
	Cd=1.00 CF=1.50	
Bending Stress (Y-Y Axis):	Fby = 900 psi	Fby' = 1350 psi
	Cd=1.00 CF=1.50	
Modulus of Elasticity:	E = 1600 ksi	E' = 1600 ksi

Column Section (X-X Axis):	dx =	3.5	in
Column Section (Y-Y Axis):	dy =	3	in
Area:	A =	10.5	in2
Section Modulus (X-X Axis):	Sx =	6.13	in3
Section Modulus (Y-Y Axis):	Sy =	2.63	in3
Slenderness Ratio:	Lex/dx =	27.43	
	Ley/dy =	0	

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

Actual Compressive Stress:	Fc =	98	psi
Allowable Compressive Stress:	Fc' =	568	psi
Eccentricity Moment (X-X Axis):	Mx-ex =	42	ft-lb
Eccentricity Moment (Y-Y Axis):	My-ey =	42	ft-lb
Moment Due to Lateral Loads (X-X Axis):	Mx =	0	ft-lb
Moment Due to Lateral Loads (Y-Y Axis):	My =	0	ft-lb
Bending Stress Lateral Loads Only (X-X Axis):	Fbx =	0	psi
Allowable Bending Stress (X-X Axis):	Fbx' =	1350	psi
Bending Stress Lateral Loads Only (Y-Y Axis):	Fby =	0	psi
Allowable Bending Stress (Y-Y Axis):	Fby' =	1350	psi
Combined Stress Factor:	**CSF =**	**0.18**	

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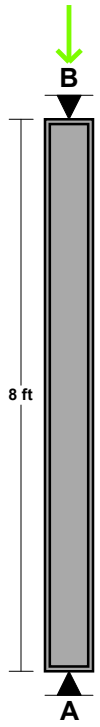

AXIAL LOADING

Live Load:	PL =	800	lb *
Dead Load:	PD =	206	lb *
Column Self Weight:	CSW =	18	lb
Total Axial Load:	PT =	1024	lb

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

Project: 22-0411 2-STORY

Location: FB2 POST
Column
[2015 International Building Code(2015 NDS)]
(2) 1.5 IN x 5.5 IN x 8.0 FT
#2 - Douglas-Fir-Larch - Dry Use
Section Adequate By: 87.5%

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CAUTIONS
* Laminations to be nailed together per National Design Specifications for Wood Construction Section 15.3.3.1

VERTICAL REACTIONS

Live Load:	Vert-LL-Rxn =	1097	lb
Dead Load:	Vert-DL-Rxn =	342	lb
Total Load:	Vert-TL-Rxn =	1439	lb

COLUMN DATA

Total Column Length:	8	ft
Unbraced Length (X-Axis) Lx:	8	ft
Unbraced Length (Y-Axis) Ly:	0	ft
Column End Condition-K (e):	1	
Load Eccentricity (X-Axis) - ex:	0.5	in
Load Eccentricity (Y-Axis) - ey:	0.5	in
Axial Load Duration Factor	1.00	

COLUMN PROPERTIES
#2 - Douglas-Fir-Larch

	Base Values	Adjusted
Compressive Stress:	Fc = 1350 psi	Fc' = 1053 psi
	Cd=1.00 Cf=1.10 Cp=0.71	
Bending Stress (X-X Axis):	Fbx = 900 psi	Fbx' = 1170 psi
	Cd=1.00 CF=1.30	
Bending Stress (Y-Y Axis):	Fby = 900 psi	Fby' = 1170 psi
	Cd=1.00 CF=1.30	
Modulus of Elasticity:	E = 1600 ksi	E' = 1600 ksi

Column Section (X-X Axis):	dx =	5.5	in
Column Section (Y-Y Axis):	dy =	3	in
Area:	A =	16.5	in2
Section Modulus (X-X Axis):	Sx =	15.13	in3
Section Modulus (Y-Y Axis):	Sy =	4.13	in3
Slenderness Ratio:	Lex/dx =	17.45	
	Ley/dy =	0	

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

Actual Compressive Stress:	Fc =	87	psi
Allowable Compressive Stress:	Fc' =	1053	psi
Eccentricity Moment (X-X Axis):	Mx-ex =	59	ft-lb
Eccentricity Moment (Y-Y Axis):	My-ey =	59	ft-lb
Moment Due to Lateral Loads (X-X Axis):	Mx =	0	ft-lb
Moment Due to Lateral Loads (Y-Y Axis):	My =	0	ft-lb
Bending Stress Lateral Loads Only (X-X Axis):	Fbx =	0	psi
Allowable Bending Stress (X-X Axis):	Fbx' =	1170	psi
Bending Stress Lateral Loads Only (Y-Y Axis):	Fby =	0	psi
Allowable Bending Stress (Y-Y Axis):	Fby' =	1170	psi
Combined Stress Factor:	**CSF =**	**0.12**	

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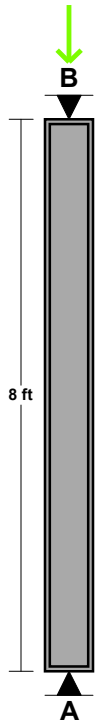

AXIAL LOADING

Live Load:	PL =	1097	lb *
Dead Load:	PD =	313	lb *
Column Self Weight:	CSW =	29	lb
Total Axial Load:	PT =	1439	lb

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

Project: 22-0411 2-STORY

Location: DECK POST
Column
[2015 International Building Code(2015 NDS)]
5.5 IN x 5.5 IN x 8.0 FT
#2 - Hem-Fir - Dry Use
Section Adequate By: 93.9%

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VERTICAL REACTIONS

Live Load:	Vert-LL-Rxn =	600	lb
Dead Load:	Vert-DL-Rxn =	283	lb
Total Load:	Vert-TL-Rxn =	883	lb

COLUMN DATA

Total Column Length:	8	ft
Unbraced Length (X-Axis) Lx:	8	ft
Unbraced Length (Y-Axis) Ly:	8	ft
Column End Condition-K (e):	1	
Load Eccentricity (X-Axis) - ex:	0.5	in
Load Eccentricity (Y-Axis) - ey:	0.5	in
Axial Load Duration Factor	1.00	

COLUMN PROPERTIES

#2 - Hem-Fir

	Base Values	Adjusted
Compressive Stress:	Fc = 575 psi	Fc' = 492 psi
	Cd=1.00 Cp=0.86	
Bending Stress (X-X Axis):	Fbx = 575 psi	Fbx' = 575 psi
	Cd=1.00 CF=1.00	
Bending Stress (Y-Y Axis):	Fby = 575 psi	Fby' = 575 psi
	Cd=1.00 CF=1.00	
Modulus of Elasticity:	E = 1100 ksi	E' = 1100 ksi

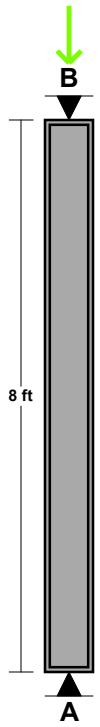
Column Section (X-X Axis):	dx =	5.5	in
Column Section (Y-Y Axis):	dy =	5.5	in
Area:	A =	30.25	in2
Section Modulus (X-X Axis):	Sx =	27.73	in3
Section Modulus (Y-Y Axis):	Sy =	27.73	in3
Slenderness Ratio:	Lex/dx =	17.45	
	Ley/dy =	17.45	

Column Calculations (Controlling Case Only):

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

Actual Compressive Stress:	Fc =	29	psi
Allowable Compressive Stress:	Fc' =	492	psi
Eccentricity Moment (X-X Axis):	Mx-ex =	35	ft-lb
Eccentricity Moment (Y-Y Axis):	My-ey =	35	ft-lb
Moment Due to Lateral Loads (X-X Axis):	Mx =	0	ft-lb
Moment Due to Lateral Loads (Y-Y Axis):	My =	0	ft-lb
Bending Stress Lateral Loads Only (X-X Axis):	Fbx =	0	psi
Allowable Bending Stress (X-X Axis):	Fbx' =	575	psi
Bending Stress Lateral Loads Only (Y-Y Axis):	Fby =	0	psi
Allowable Bending Stress (Y-Y Axis):	Fby' =	575	psi
Combined Stress Factor:	**CSF =**	**0.06**	

LOADING DIAGRAM



AXIAL LOADING

Live Load:	PL =	600	lb *
Dead Load:	PD =	238	lb *
Column Self Weight:	CSW =	45	lb
Total Axial Load:	PT =	883	lb

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

Project Title:
Engineer:
Project ID:
Project Descr:

Wood Column

Project File: 22-0411 2-STORY.ec6

DESCRIPTION: HDR 1 TRIMMERS

Code References

Calculations per NDS 2018, IBC 2018, CBC 2019, ASCE 7-16
Load Combinations Used : IBC 2021

General Information

Analysis Method	Allowable Stress Design		
End Fixities	Top & Bottom Pinned		
Overall Column Height	7 ft		
(Used for non-slender calculations)			
Wood Species	Douglas Fir-Larch		
Wood Grade	No.2		
Fb +	900 psi	Fv	180 psi
Fb -	900 psi	Ft	575 psi
Fc - Prll	1350 psi	Density	31.21 pcf
Fc - Perp	625 psi		

E : Modulus of Elasticity . . .	x-x Bending	y-y Bending	Axial
Basic	1600	1600	1600 ksi
Minimum	580	580	

Wood Section Name	**2x6**		
Wood Grading/Manuf.	Graded Lumber		
Wood Member Type	Sawn		
Exact Width	**1.50** in	Allow Stress Modification Factors	
Exact Depth	**5.50** in	Cf or Cv for Bending	1.30
Area	8.250 in^2	Cf or Cv for Compressio	1.10
Ix	20.797 in^4	Cf or Cv for Tension	1.30
Iy	1.547 in^4	Cm : Wet Use Factor	1.0
		Ct : Temperature Fact	1.0
		Cfu : Flat Use Factor	1.0
		Kf : Built-up columns	1.0 *NDS 15.3.2*
		Use Cr : Repetitive ?	No

Brace condition for deflection (buckling) along columns :
X-X (width) axis : Fully braced against buckling ABOUT Y-Y Axis
Y-Y (depth) axis : Unbraced Length for buckling ABOUT X-X Axis = 7 ft, K

Applied Loads

Service loads entered. Load Factors will be applied for calculations.

Column self weight included : 12.517 lbs * Dead Load Factor
AXIAL LOADS . . .
UHDR 1 TRIMMER: Axial Load at 7.0 ft, Xecc = 0.50 in, Yecc = 0.50 in, D = 1.219, S = 1.781 k
HDR 1: Axial Load at 7.0 ft, Xecc = 0.50 in, Yecc = 0.50 in, D = 0.1590, L = 0.0610 k

DESIGN SUMMARY

Bending & Shear Check Results

PASS Max. Axial+Bending Stress Ratio = **0.8455 : 1**

Load Combination	+D+S
Governing NDS Formula	Comp + Mxx + Myy, NDS Eq. 3.9-
Location of max.above base	6.953 ft
At maximum location values are .	
Applied Axial	3.172 k
Applied Mx	-0.1307 k-ft
Applied My	-0.1307 k-ft
Fc : Allowable	1,279.47 psi

PASS Maximum Shear Stress Ratio = **0.01652 : 1**

Load Combination	+D+S
Location of max.above base	7.0 ft
Applied Design Shear	3.419 psi
Allowable Shear	207.0 psi

Maximum SERVICE Lateral Load Reactions . .

Top along Y-Y	0.01880 k	Bottom along Y-Y	0.01880 k
Top along X-X	0.01880 k	Bottom along X-X	0.01880 k

Maximum SERVICE Load Lateral Deflections . . .

Along Y-Y -0.02167 in at 4.087 ft above base
for load combination : +D+S

Along X-X -0.2914 in at 4.087 ft above base
for load combination : +D+S

Other Factors used to calculate allowable stresses . . .

	Bending	Compression	Tension

Maximum Reactions

Note: Only non-zero reactions are listed.

Load Combination	X-X Axis Reaction k @ Base	@ Top	Y-Y Axis Reaction @ Base	@ Top	Axial Reaction @ Base	My - End Moments k-ft @ Base	@ Top	Mx - End Moments @ Base	@ Top
D Only	-0.008	0.008	-0.008	0.008	1.391				
+D+L	-0.009	0.009	-0.009	0.009	1.452				
+D+S	-0.019	0.019	-0.019	0.019	3.172				
+D+0.750L	-0.008	0.008	-0.008	0.008	1.436				
+D+0.750L+0.750S	-0.016	0.016	-0.016	0.016	2.772				
+0.60D	-0.005	0.005	-0.005	0.005	0.834				
L Only	-0.000	0.000	-0.000	0.000	0.061				
S Only	-0.011	0.011	-0.011	0.011	1.781				

Project Title:
Engineer:
Project ID:
Project Descr:

Wood Column

Project File: 22-0411 2-STORY.ec6

DESCRIPTION: HDR 2 TRIMMERS

Code References

Calculations per NDS 2018, IBC 2018, CBC 2019, ASCE 7-16
Load Combinations Used : IBC 2021

General Information

Analysis Method	Allowable Stress Design			Wood Section Name	**2x6**
End Fixities	Top & Bottom Pinned			Wood Grading/Manuf.	Graded Lumber
Overall Column Height	7 ft			Wood Member Type	Sawn
(Used for non-slender calculations)					
Wood Species	Douglas Fir-Larch			Exact Width	**1.50** in
Wood Grade	No.2			Exact Depth	**5.50** in
Fb +	900.0 psi	Fv	180.0 psi	Area	8.250 in^2
Fb -	900.0 psi	Ft	575.0 psi	Ix	20.797 in^4
Fc - Prll	1,350.0 psi	Density	31.210 pcf	Iy	1.547 in^4
Fc - Perp	625.0 psi				

E : Modulus of Elasticity . . .	x-x Bending	y-y Bending	Axial
Basic	1,600.0	1,600.0	1,600.0 ksi
Minimum	580.0	580.0	

Allow Stress Modification Factors

Cf or Cv for Bending	1.30
Cf or Cv for Compressio	1.10
Cf or Cv for Tension	1.30
Cm : Wet Use Factor	1.0
Ct : Temperature Fact	1.0
Cfu : Flat Use Factor	1.0
Kf : Built-up columns	1.0 *NDS 15.3.2*
Use Cr : Repetitive ?	No

Brace condition for deflection (buckling) along columns :
X-X (width) axis : Fully braced against buckling ABOUT Y-Y Axis
Y-Y (depth) axis : Unbraced Length for buckling ABOUT X-X Axis = 7 ft, K

Applied Loads

Service loads entered. Load Factors will be applied for calculations.

Column self weight included : 12.517 lbs * Dead Load Factor
AXIAL LOADS . . .
UHDR 2 TRIMMER: Axial Load at 7.0 ft, Xecc = 0.50 in, Yecc = 0.50 in, D = 0.660, S = 0.9540 k
HDR 2: Axial Load at 7.0 ft, Xecc = 0.50 in, Yecc = 0.50 in, D = 0.1760, L = 0.2220 k

DESIGN SUMMARY

Bending & Shear Check Results

PASS Max. Axial+Bending Stress Ratio = **0.4473 : 1**

Load Combination	+D+S
Governing NDS Formula	Cmap + Mxx + Myy, NDS Eq. 3.9-
Location of max.above base	6.953 ft
At maximum location values are .	
Applied Axial	1.803 k
Applied Mx	-0.07408 k-ft
Applied My	-0.07408 k-ft
Fc : Allowable	1,279.47 psi

PASS Maximum Shear Stress Ratio = **0.009359 : 1**

Load Combination	+D+S
Location of max.above base	7.0 ft
Applied Design Shear	1.937 psi
Allowable Shear	207.0 psi

Maximum SERVICE Lateral Load Reactions . .

Top along Y-Y	0.01066 k	Bottom along Y-Y	0.01066 k
Top along X-X	0.01066 k	Bottom along X-X	0.01066 k

Maximum SERVICE Load Lateral Deflections . . .

Along Y-Y -0.01228 in at 4.087 ft above base
for load combination : +D+S

Along X-X -0.1651 in at 4.087 ft above base
for load combination : +D+S

Other Factors used to calculate allowable stresses . . .

	Bending	Compression	Tension

Maximum Reactions

Note: Only non-zero reactions are listed.

Load Combination	X-X Axis Reaction k @ Base	@ Top	Y-Y Axis Reaction @ Base	@ Top	Axial Reaction @ Base	My - End Moments k-ft @ Base	@ Top	Mx - End Moments @ Base	@ Top
D Only	-0.005	0.005	-0.005	0.005	0.849				
+D+L	-0.006	0.006	-0.006	0.006	1.071				
+D+S	-0.011	0.011	-0.011	0.011	1.803				
+D+0.750L	-0.006	0.006	-0.006	0.006	1.015				
+D+0.750L+0.750S	-0.010	0.010	-0.010	0.010	1.731				
+0.60D	-0.003	0.003	-0.003	0.003	0.509				
L Only	-0.001	0.001	-0.001	0.001	0.222				
S Only	-0.006	0.006	-0.006	0.006	0.954				

Project Title:
Engineer:
Project ID:
Project Descr:

Wood Column

Project File: 22-0411 2-STORY.ec6

DESCRIPTION: HDR 3 TRIMMERS

Code References

Calculations per NDS 2018, IBC 2018, CBC 2019, ASCE 7-16
Load Combinations Used : IBC 2021

General Information

Analysis Method	Allowable Stress Design		
End Fixities	Top & Bottom Pinned		
Overall Column Height	7 ft		
(Used for non-slender calculations)			
Wood Species	Douglas Fir-Larch		
Wood Grade	No.2		
Fb +	900.0 psi	Fv	180.0 psi
Fb -	900.0 psi	Ft	575.0 psi
Fc - Prll	1,350.0 psi	Density	31.210 pcf
Fc - Perp	625.0 psi		

E : Modulus of Elasticity . . .	x-x Bending	y-y Bending	Axial
Basic	1,600.0	1,600.0	1,600.0 ksi
Minimum	580.0	580.0	

Wood Section Name	**2x6**
Wood Grading/Manuf.	Graded Lumber
Wood Member Type	Sawn
Exact Width	**1.50** in
Exact Depth	**5.50** in
Area	8.250 in^2
Ix	20.797 in^4
Iy	1.547 in^4

Allow Stress Modification Factors

Cf or Cv for Bending	1.30
Cf or Cv for Compressio	1.10
Cf or Cv for Tension	1.30
Cm : Wet Use Factor	1.0
Ct : Temperature Fact	1.0
Cfu : Flat Use Factor	1.0
Kf : Built-up columns	1.0 *NDS 15.3.2*
Use Cr : Repetitive ?	No

Brace condition for deflection (buckling) along columns :
X-X (width) axis : Fully braced against buckling ABOUT Y-Y Axis
Y-Y (depth) axis : Unbraced Length for buckling ABOUT X-X Axis = 7 ft, K

Applied Loads

Service loads entered. Load Factors will be applied for calculations.

Column self weight included : 12.517 lbs * Dead Load Factor
AXIAL LOADS . . .
UHDR 3 TRIMMER: Axial Load at 7.0 ft, Xecc = 0.50 in, Yecc = 0.50 in, D = 0.4750, S = 0.6810 k
HDR 3: Axial Load at 7.0 ft, Xecc = 0.50 in, Yecc = 0.50 in, D = 0.1260, L = 0.1590 k

DESIGN SUMMARY

Bending & Shear Check Results

PASS Max. Axial+Bending Stress Ratio = **0.3122 : 1**

Load Combination	+D+S
Governing NDS Formula	Cmap + Mxx + Myy, NDS Eq. 3.9-
Location of max.above base	6.953 ft
At maximum location values are .	
Applied Axial	1.295 k
Applied Mx	-0.05306 k-ft
Applied My	-0.05306 k-ft
Fc : Allowable	1,279.47 psi

PASS Maximum Shear Stress Ratio = **0.006703 : 1**

Load Combination	+D+S
Location of max.above base	7.0 ft
Applied Design Shear	1.387 psi
Allowable Shear	207.0 psi

Maximum SERVICE Lateral Load Reactions . .

Top along Y-Y	0.007631 k	Bottom along Y-Y	0.007631 k
Top along X-X	0.007631 k	Bottom along X-X	0.007631 k

Maximum SERVICE Load Lateral Deflections . . .

Along Y-Y -0.008795 in at 4.087 ft above base
for load combination : +D+S

Along X-X -0.1182 in at 4.087 ft above base
for load combination : +D+S

Other Factors used to calculate allowable stresses . . .

	Bending	Compression	Tension

Maximum Reactions

Note: Only non-zero reactions are listed.

Load Combination	X-X Axis Reaction k @ Base	@ Top	Y-Y Axis Reaction @ Base	@ Top	Axial Reaction @ Base	My - End Moments k-ft @ Base	@ Top	Mx - End Moments @ Base	@ Top
D Only	-0.004	0.004	-0.004	0.004	0.614				
+D+L	-0.005	0.005	-0.005	0.005	0.773				
+D+S	-0.008	0.008	-0.008	0.008	1.295				
+D+0.750L	-0.004	0.004	-0.004	0.004	0.733				
+D+0.750L+0.750S	-0.007	0.007	-0.007	0.007	1.244				
+0.60D	-0.002	0.002	-0.002	0.002	0.368				
L Only	-0.001	0.001	-0.001	0.001	0.159				
S Only	-0.004	0.004	-0.004	0.004	0.681				

Project Title:
Engineer:
Project ID:
Project Descr:

Wood Column

Project File: 22-0411 2-STORY.ec6

DESCRIPTION: HDR 4 TRIMMERS

Code References

Calculations per NDS 2018, IBC 2018, CBC 2019, ASCE 7-16
Load Combinations Used : IBC 2021

General Information

Analysis Method	Allowable Stress Design		
End Fixities	Top & Bottom Pinned		
Overall Column Height	7 ft		
(Used for non-slender calculations)			
Wood Species	Douglas Fir-Larch		
Wood Grade	No.2		
Fb +	900.0 psi	Fv	180.0 psi
Fb -	900.0 psi	Ft	575.0 psi
Fc - Prll	1,350.0 psi	Density	31.210 pcf
Fc - Perp	625.0 psi		

E : Modulus of Elasticity . . .	x-x Bending	y-y Bending	Axial
Basic	1,600.0	1,600.0	1,600.0 ksi
Minimum	580.0	580.0	

Wood Section Name	**2x6**		
Wood Grading/Manuf.	Graded Lumber		
Wood Member Type	Sawn		
Exact Width	**1.50** in	Allow Stress Modification Factors	
Exact Depth	**5.50** in	Cf or Cv for Bending	1.30
Area	8.250 in^2	Cf or Cv for Compressio	1.10
Ix	20.797 in^4	Cf or Cv for Tension	1.30
Iy	1.547 in^4	Cm : Wet Use Factor	1.0
		Ct : Temperature Fact	1.0
		Cfu : Flat Use Factor	1.0
		Kf : Built-up columns	1.0 *NDS 15.3.2*
		Use Cr : Repetitive ?	No

Brace condition for deflection (buckling) along columns :
X-X (width) axis : Fully braced against buckling ABOUT Y-Y Axis
Y-Y (depth) axis : Unbraced Length for buckling ABOUT X-X Axis = 7 ft, K

Applied Loads

Service loads entered. Load Factors will be applied for calculations.

Column self weight included : 12.517 lbs * Dead Load Factor
AXIAL LOADS . . .
UHDR 4 TRIMMER: Axial Load at 7.0 ft, Xecc = 0.50 in, Yecc = 0.50 in, D = 0.9730, S = 1.426 k
HDR 4: Axial Load at 7.0 ft, Xecc = 0.50 in, Yecc = 0.50 in, D = 0.2980, L = 0.7470 k

DESIGN SUMMARY

Bending & Shear Check Results

PASS Max. Axial+Bending Stress Ratio = **0.7665 : 1**
Load Combination +D+0.750L+0.750S
Governing NDS Formula Cmap + Mxx + Myy, NDS Eq. 3.9-
Location of max.above base 6.953 ft
At maximum location values are .
Applied Axial 2.913 k
Applied Mx -0.1201 k-ft
Applied My -0.1201 k-ft
Fc : Allowable 1,279.47 psi

PASS Maximum Shear Stress Ratio = **0.01517 : 1**
Load Combination +D+0.750L+0.750S
Location of max.above base 7.0 ft
Applied Design Shear 3.139 psi
Allowable Shear 207.0 psi

Maximum SERVICE Lateral Load Reactions . .
Top along Y-Y 0.01727 k Bottom along Y-Y 0.01727 k
Top along X-X 0.01727 k Bottom along X-X 0.01727 k

Maximum SERVICE Load Lateral Deflections . . .
Along Y-Y -0.01990 in at 4.087 ft above base
for load combination : +D+0.750L+0.750S
Along X-X -0.2675 in at 4.087 ft above base
for load combination : +D+0.750L+0.750S

Other Factors used to calculate allowable stresses . . .

	Bending	Compression	Tension

Maximum Reactions

Note: Only non-zero reactions are listed.

Load Combination	X-X Axis Reaction k @ Base	@ Top	Y-Y Axis Reaction @ Base	@ Top	Axial Reaction @ Base	My - End Moments k-ft @ Base	@ Top	Mx - End Moments @ Base	@ Top
D Only	-0.008	0.008	-0.008	0.008	1.284				
+D+L	-0.012	0.012	-0.012	0.012	2.031				
+D+S	-0.016	0.016	-0.016	0.016	2.710				
+D+0.750L	-0.011	0.011	-0.011	0.011	1.844				
+D+0.750L+0.750S	-0.017	0.017	-0.017	0.017	2.913				
+0.60D	-0.005	0.005	-0.005	0.005	0.770				
L Only	-0.004	0.004	-0.004	0.004	0.747				
S Only	-0.008	0.008	-0.008	0.008	1.426				

Project Title:
Engineer:
Project ID:
Project Descr:

Wood Column

Project File: 22-0411 2-STORY.ec6

DESCRIPTION: HDR 5 TRIMMERS

Code References

Calculations per NDS 2018, IBC 2018, CBC 2019, ASCE 7-16
Load Combinations Used : IBC 2021

General Information

Analysis Method	Allowable Stress Design		
End Fixities	Top & Bottom Pinned		
Overall Column Height	7 ft		
(Used for non-slender calculations)			
Wood Species	Douglas Fir-Larch		
Wood Grade	No.2		
Fb +	900.0 psi	Fv	180.0 psi
Fb -	900.0 psi	Ft	575.0 psi
Fc - Prll	1,350.0 psi	Density	31.210 pcf
Fc - Perp	625.0 psi		

E : Modulus of Elasticity . . .	x-x Bending	y-y Bending	Axial
Basic	1,600.0	1,600.0	1,600.0 ksi
Minimum	580.0	580.0	

Wood Section Name	**2x6**		
Wood Grading/Manuf.	Graded Lumber		
Wood Member Type	Sawn		
Exact Width	**1.50** in	Allow Stress Modification Factors	
Exact Depth	**5.50** in	Cf or Cv for Bending	1.30
Area	8.250 in^2	Cf or Cv for Compressio	1.10
Ix	20.797 in^4	Cf or Cv for Tension	1.30
Iy	1.547 in^4	Cm : Wet Use Factor	1.0
		Ct : Temperature Fact	1.0
		Cfu : Flat Use Factor	1.0
		Kf : Built-up columns	1.0 *NDS 15.3.2*
		Use Cr : Repetitive ?	No

Brace condition for deflection (buckling) along columns :
X-X (width) axis : Fully braced against buckling ABOUT Y-Y Axis
Y-Y (depth) axis : Unbraced Length for buckling ABOUT X-X Axis = 7 ft, K

Applied Loads

Service loads entered. Load Factors will be applied for calculations.

Column self weight included : 12.517 lbs * Dead Load Factor
AXIAL LOADS . . .
UHDR 5 TRIMMER: Axial Load at 7.0 ft, Xecc = 0.50 in, Yecc = 0.50 in, D = 0.8360, S = 1.223 k
HDR 5: Axial Load at 7.0 ft, Xecc = 0.50 in, Yecc = 0.50 in, D = 0.1810, L = 0.3630 k

DESIGN SUMMARY

Bending & Shear Check Results

PASS Max. Axial+Bending Stress Ratio = **0.5726 : 1**

Load Combination	+D+S
Governing NDS Formula	Cmap + Mxx + Myy, NDS Eq. 3.9-
Location of max.above base	6.953 ft
At maximum location values are .	
Applied Axial	2.253 k
Applied Mx	-0.09271 k-ft
Applied My	-0.09271 k-ft
Fc : Allowable	1,279.47 psi

PASS Maximum Shear Stress Ratio = **0.01171 : 1**

Load Combination	+D+S
Location of max.above base	7.0 ft
Applied Design Shear	2.424 psi
Allowable Shear	207.0 psi

Maximum SERVICE Lateral Load Reactions . .

Top along Y-Y	0.01333 k	Bottom along Y-Y	0.01333 k
Top along X-X	0.01333 k	Bottom along X-X	0.01333 k

Maximum SERVICE Load Lateral Deflections . . .

Along Y-Y -0.01537 in at 4.087 ft above base
for load combination : +D+S

Along X-X -0.2066 in at 4.087 ft above base
for load combination : +D+S

Other Factors used to calculate allowable stresses . . .

	Bending	Compression	Tension

Maximum Reactions

Note: Only non-zero reactions are listed.

Load Combination	X-X Axis Reaction k @ Base	@ Top	Y-Y Axis Reaction @ Base	@ Top	Axial Reaction @ Base	My - End Moments k-ft @ Base	@ Top	Mx - End Moments @ Base	@ Top
D Only	-0.006	0.006	-0.006	0.006	1.030				
+D+L	-0.008	0.008	-0.008	0.008	1.393				
+D+S	-0.013	0.013	-0.013	0.013	2.253				
+D+0.750L	-0.008	0.008	-0.008	0.008	1.302				
+D+0.750L+0.750S	-0.013	0.013	-0.013	0.013	2.219				
+0.60D	-0.004	0.004	-0.004	0.004	0.618				
L Only	-0.002	0.002	-0.002	0.002	0.363				
S Only	-0.007	0.007	-0.007	0.007	1.223				

Project: 22-0411 2-STORY

Location: HDR 6 TRIMMER
Column
[2015 International Building Code(2015 NDS)]
(2) 1.5 IN x 3.5 IN x 7.0 FT
#2 - Douglas-Fir-Larch - Dry Use
Section Adequate By: 74.8%

Max Beaudoin
Stability Engineering Inc.
777 NE 2nd Street
Corvallis OR 97333

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CAUTIONS
* Laminations to be nailed together per National Design Specifications for Wood Construction Section 15.3.3.1

VERTICAL REACTIONS

Live Load:	Vert-LL-Rxn =	840	lb
Dead Load:	Vert-DL-Rxn =	621	lb
Total Load:	Vert-TL-Rxn =	1461	lb

COLUMN DATA

Total Column Length:	7	ft
Unbraced Length (X-Axis) Lx:	7	ft
Unbraced Length (Y-Axis) Ly:	0	ft
Column End Condition-K (e):	1	
Load Eccentricity (X-Axis) - ex:	0.5	in
Load Eccentricity (Y-Axis) - ey:	0.5	in
Axial Load Duration Factor	1.00	

COLUMN PROPERTIES
#2 - Douglas-Fir-Larch

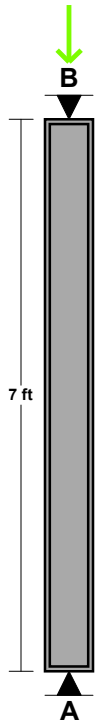
	Base Values	Adjusted
Compressive Stress:	Fc = 1350 psi	Fc' = 709 psi
	Cd=1.00 Cf=1.15 Cp=0.46	
Bending Stress (X-X Axis):	Fbx = 900 psi	Fbx' = 1350 psi
	Cd=1.00 CF=1.50	
Bending Stress (Y-Y Axis):	Fby = 900 psi	Fby' = 1350 psi
	Cd=1.00 CF=1.50	
Modulus of Elasticity:	E = 1600 ksi	E' = 1600 ksi

Column Section (X-X Axis):	dx =	3.5	in
Column Section (Y-Y Axis):	dy =	3	in
Area:	A =	10.5	in2
Section Modulus (X-X Axis):	Sx =	6.13	in3
Section Modulus (Y-Y Axis):	Sy =	2.63	in3
Slenderness Ratio:	Lex/dx =	24	
	Ley/dy =	0	

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

Actual Compressive Stress:	Fc =	139	psi
Allowable Compressive Stress:	Fc' =	709	psi
Eccentricity Moment (X-X Axis):	Mx-ex =	60	ft-lb
Eccentricity Moment (Y-Y Axis):	My-ey =	60	ft-lb
Moment Due to Lateral Loads (X-X Axis):	Mx =	0	ft-lb
Moment Due to Lateral Loads (Y-Y Axis):	My =	0	ft-lb
Bending Stress Lateral Loads Only (X-X Axis):	Fbx =	0	psi
Allowable Bending Stress (X-X Axis):	Fbx' =	1350	psi
Bending Stress Lateral Loads Only (Y-Y Axis):	Fby =	0	psi
Allowable Bending Stress (Y-Y Axis):	Fby' =	1350	psi
Combined Stress Factor:	**CSF =**	**0.25**	

LOADING DIAGRAM



AXIAL LOADING

Live Load:	PL =	840	lb *
Dead Load:	PD =	605	lb *
Column Self Weight:	CSW =	16	lb
Total Axial Load:	PT =	1461	lb

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

12/6/2022 Project: 22-0411 Cross Creek - 2 Story

STABILITY ENGINEERING INC.

By: Max Beaudoin

UPPER FLOOR FRAMING CONNECTIONS

DECK LEDGER
LOAD = (40 PSF + 12 PSF)(2.5')(1.33')
LOAD = 173 LB
1/4" X 3 1/2" SDS CAPACITY = 340 LB > 173 LB

STAIR LEDGER
LOAD = (100 PSF + 25 PSF)(4')(1.33')
LOAD = 665 LB
(2) 1/4" X 3 1/2" SDS CAPACITY = 680 LB > 665 LB

DECK JOISTS TO LEDGER
RXN = 173 LB
LU28 CAPACITY = 955 LB > 173 LB

STAIR JOISTS TO LEDGER
RXN = 666 LB
LU210 CAPACITY = 1195 LB > 666 LB

FB1 TO FB2
RXN = 1006 LB
HUC212-2 CAPACITY = 2385 LB > 1006 LB

FB2 TO WALL
RXN = 1450 LB
(3) 3/4" BOLT CAPACITY = (3)*(500 LB)
(3) 3/4" BOLT CAPACITY = 1500 LB > 1450 LB

12/6/2022 Project: 22-0411 Cross Creek - 2 Story

STABILITY ENGINEERING INC.

By: Max Beaudoin

FOOTINGS

EXTERIOR FOOTINGS (LEFT & RIGHT)

DISTRIBUTED LOADS (PLF):

	SOURCE	SL	LL	DL
1	JA04	125	-	83
2	U FLOOR	-	256	160
3	L FLOOR	-	256	96
4	WALL	-	-	206
	TOTAL	125	512	654

FRONT WALL CONTROLS

EXTERIOR FOOTINGS (FRONT)

DISTRIBUTED LOADS (PLF):

	SOURCE	SL	LL	DL
1	A05	815	-	543
2	U FLOOR	-	27	17
3	L FLOOR	-	27	17
4	U STAIR	-	400	100
5	WALL	-	-	206
	TOTAL	815	454	883

DL + 0.75*(SL + LL) CONTROLS EXTERIOR FOOTING

INTERIOR FOOTINGS

DISTRIBUTED LOADS:

	SOURCE	LL	DL
1	U FLOOR	480	300
2	L FLOOR	480	180
3	WALL	-	172
	TOTAL	690	652

STAIR FOOTINGS

DISTRIBUTED LOADS (PLF):

	SOURCE	LL	DL
1	U STAIR	200	30
2	U JOISTS	200	50
5	WALL	-	315
	TOTAL	400	375

EXTERIOR FOOTING - POINT LOAD CHECK

RXN = 2913 LB + 2219 LB = 5132 LB [HDR 4+5 TRIMMERS CONTROL]

SOIL PRESSURE = (RXN)/[(FTG WIDTH)(FTG SPREAD)]
WHERE: FTG SPREAD = 2(FTG HEIGHT) = 2(2') = 4'

SOIL PRESSURE = (5132 LB)/[(1.5')(4')] = 855 PSF < ALLOWABLE (1500 PSF)

Project: 22-0411 2-STORY

Location: TYP EXTERIOR FOOTINGS
Footing
[2015 International Building Code(2015 NDS)]
Footing Size: 18.0 IN Wide x 8.0 IN Deep Continuous Footing With 6.0 IN Thick x 18.0 IN Tall Stemwall
LongitudinalReinforcement: (2) Continuous #4 Bars
TransverseReinforcement: #4 Bars @ 12.00 IN. O.C. (unnecessary)
Section Footing Design Adequate

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FOOTING PROPERTIES

Allowable Soil Bearing Pressure:	Qs =	1500	psf
Concrete Compressive Strength:	F'c =	2500	psi
Reinforcing Steel Yield Strength:	Fy =	40000	psi
Concrete Reinforcement Cover:	c =	3	in

FOOTING SIZE

Width:	W =	18	in
Depth:	Depth =	8	in
Effective Depth to Top Layer of Steel:	d =	4.25	in

STEMWALL SIZE

Stemwall Width:	6	in
Stemwall Height:	18	in
Stemwall Weight:	150	pcf

FOOTING CALCULATIONS

Bearing Calculations:

Ultimate Bearing Pressure:	Qu =	1298	psf
Effective Allowable Soil Bearing Pressure:	Qe =	1400	psf
Width Required:	Wreq =	1.39	ft

Beam Shear Calculations (One Way Shear):

Beam Shear:	Vu1 =	264	lb
Allowable Beam Shear:	Vc1 =	3825	lb

Transverse Direction:

Bending Calculations:

Factored Moment:	Mu =	2718	in-lb
Nominal Moment Strength:	Mn =	0	in-lb

Reinforcement Calculations:

Concrete Compressive Block Depth:	a =	0.30	in
Steel Required Based on Moment:	As(1) =	0.02	in2
Min. Code Req'd Reinf. Shrink./Temp. (ACI-10.5.4)	As(2) =	0.19	in2
Controlling Reinforcing Steel:	As-reqd =	0.19	in2
Selected Reinforcement:	Trans: #4's @ 12.0 in. o.c.		
Reinforcement Area Provided:	As =	0.19	in2

Development Length Calculations:

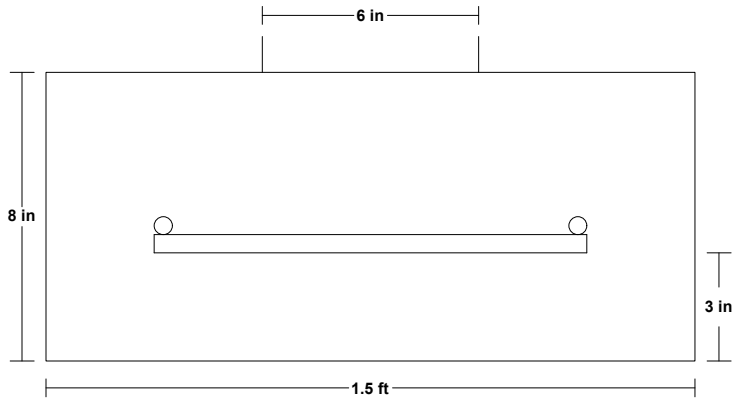
Development Length Required:	Ld =	15	in
Development Length Supplied:	Ld-sup =	3	in

Longitudinal Direction:

Reinforcement Calculations:

Min. Code Req'd Reinf. Shrink./Temp. (ACI-10.5.4):	As(2) =	0.29	in2
Controlling Reinforcing Steel:	As-reqd =	0.29	in2
Selected Reinforcement:	Longitudinal: (2) Cont. #4 Bars		
Reinforcement Area Provided:	As =	0.39	in2

LOADING DIAGRAM



FOOTING LOADING

Live Load:	PL =	952	plf
Dead Load:	PD =	883	plf
Total Load:	PT =	1948	plf
Ultimate Factored Load:	Pu =	2718	plf

Project: 22-0411 2-STORY

Location: TYP INTERIOR FOOTINGS
Footing
[2015 International Building Code(2015 NDS)]
Footing Size: 18.0 IN Wide x 8.0 IN Deep Continuous Footing
LongitudinalReinforcement: (2) Continuous #4 Bars
TransverseReinforcement: #4 Bars @ 12.00 IN. O.C. (unnecessary)
Section Footing Design Adequate

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FOOTING PROPERTIES

Allowable Soil Bearing Pressure:	Qs =	1500	psf
Concrete Compressive Strength:	F'c =	2500	psi
Reinforcing Steel Yield Strength:	Fy =	40000	psi
Concrete Reinforcement Cover:	c =	3	in

FOOTING SIZE

Width:	W =	18	in
Depth:	Depth =	8	in
Effective Depth to Top Layer of Steel:	d =	4.25	in

STEMWALL SIZE

Stemwall Width:	0	in
Stemwall Height:	0	in
Stemwall Weight:	150	pcf

FOOTING CALCULATIONS

Bearing Calculations:

Ultimate Bearing Pressure:	Qu =	895	psf
Effective Allowable Soil Bearing Pressure:	Qe =	1400	psf
Width Required:	Wreq =	0.96	ft

Beam Shear Calculations (One Way Shear):

Beam Shear:	Vu1 =	498	lb
Allowable Beam Shear:	Vc1 =	3825	lb

Transverse Direction:

Bending Calculations:

Factored Moment:	Mu =	4244	in-lb
Nominal Moment Strength:	Mn =	0	in-lb

Reinforcement Calculations:

Concrete Compressive Block Depth:	a =	0.30	in
Steel Required Based on Moment:	As(1) =	0.03	in2
Min. Code Req'd Reinf. Shrink./Temp. (ACI-10.5.4)	As(2) =	0.19	in2
Controlling Reinforcing Steel:	As-reqd =	0.19	in2
Selected Reinforcement:	Trans: #4's @ 12.0 in. o.c.		
Reinforcement Area Provided:	As =	0.19	in2

Development Length Calculations:

Development Length Required:	Ld =	15	in
Development Length Supplied:	Ld-sup =	6	in

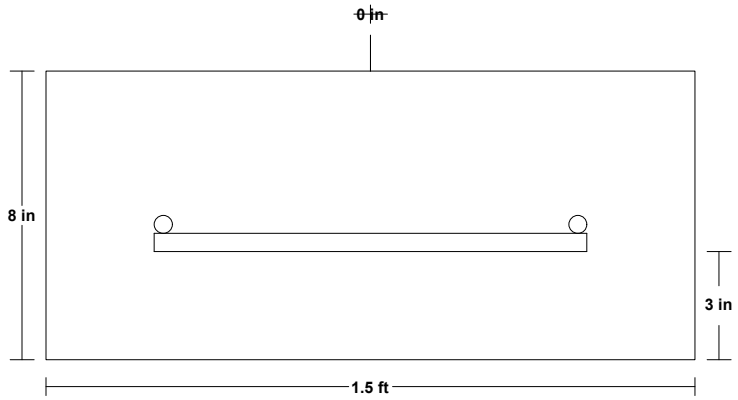
Note: Plain concrete adequate for bending, therefore adequate development length not required.

Longitudinal Direction:

Reinforcement Calculations:

Min. Code Req'd Reinf. Shrink./Temp. (ACI-10.5.4):	As(2) =	0.29	in2
Controlling Reinforcing Steel:	As-reqd =	0.29	in2
Selected Reinforcement:	Longitudinal: (2) Cont. #4 Bars		
Reinforcement Area Provided:	As =	0.39	in2

LOADING DIAGRAM



FOOTING LOADING

Live Load:	PL =	690	plf
Dead Load:	PD =	652	plf
Total Load:	PT =	1342	plf
Ultimate Factored Load:	Pu =	1886	plf

Project: 22-0411 2-STORY

Location: STAIR FOOTINGS
Footing
[2015 International Building Code(2015 NDS)]
Footing Size: 16.0 IN Wide x 8.0 IN Deep Continuous Footing
LongitudinalReinforcement: (2) Continuous #4 Bars
TransverseReinforcement: #4 Bars @ 12.00 IN. O.C. (unnecessary)
Section Footing Design Adequate

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FOOTING PROPERTIES

Allowable Soil Bearing Pressure:	Qs =	1500	psf
Concrete Compressive Strength:	F'c =	2500	psi
Reinforcing Steel Yield Strength:	Fy =	40000	psi
Concrete Reinforcement Cover:	c =	3	in

FOOTING SIZE

Width:	W =	16	in
Depth:	Depth =	8	in
Effective Depth to Top Layer of Steel:	d =	4.25	in

STEMWALL SIZE

Stemwall Width:	0	in
Stemwall Height:	0	in
Stemwall Weight:	150	pcf

FOOTING CALCULATIONS

Bearing Calculations:

Ultimate Bearing Pressure:	Qu =	596	psf
Effective Allowable Soil Bearing Pressure:	Qe =	1400	psf
Width Required:	Wreq =	0.57	ft

Beam Shear Calculations (One Way Shear):

Beam Shear:	Vu1 =	261	lb
Allowable Beam Shear:	Vc1 =	3825	lb

Transverse Direction:

Bending Calculations:

Factored Moment:	Mu =	2228	in-lb
Nominal Moment Strength:	Mn =	0	in-lb

Reinforcement Calculations:

Concrete Compressive Block Depth:	a =	0.30	in
Steel Required Based on Moment:	As(1) =	0.01	in2
Min. Code Req'd Reinf. Shrink./Temp. (ACI-10.5.4)	As(2) =	0.19	in2
Controlling Reinforcing Steel:	As-reqd =	0.19	in2
Selected Reinforcement:	Trans: #4's @ 12.0 in. o.c.		
Reinforcement Area Provided:	As =	0.19	in2

Development Length Calculations:

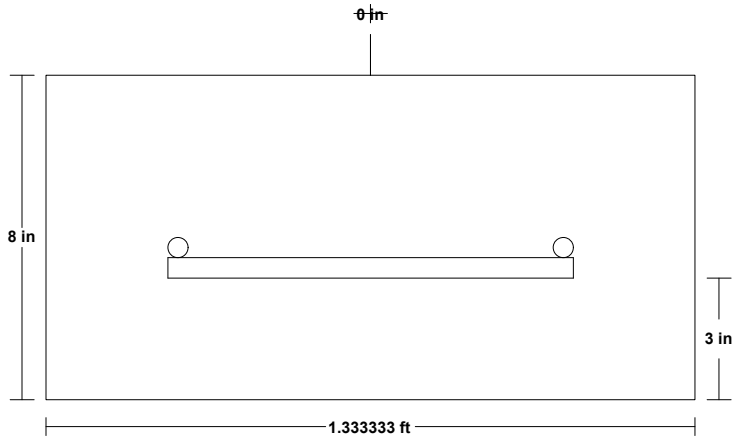
Development Length Required:	Ld =	15	in
Development Length Supplied:	Ld-sup =	5	in

Longitudinal Direction:

Reinforcement Calculations:

Min. Code Req'd Reinf. Shrink./Temp. (ACI-10.5.4):	As(2) =	0.26	in2
Controlling Reinforcing Steel:	As-reqd =	0.26	in2
Selected Reinforcement:	Longitudinal: (2) Cont. #4 Bars		
Reinforcement Area Provided:	As =	0.39	in2

LOADING DIAGRAM



FOOTING LOADING

Live Load:	PL =	400	plf
Dead Load:	PD =	395	plf
Total Load:	PT =	795	plf
Ultimate Factored Load:	Pu =	1114	plf

Project: 22-0411 2-STORY

Location: DECK FOOTINGS
Footing
[2015 International Building Code(2015 NDS)]
Footing Size: 1.5 FT x 1.5 FT x 12.00 IN
Reinforcement: #4 Bars @ 5.75 IN. O.C. E/W / (3) min.
Section Footing Design Adequate

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FOOTING PROPERTIES

Allowable Soil Bearing Pressure:	Qs =	1500	psf
Concrete Compressive Strength:	F'c =	2500	psi
Reinforcing Steel Yield Strength:	Fy =	40000	psi
Concrete Reinforcement Cover:	c =	3	in

FOOTING SIZE

Width:	W =	1.5	ft
Length:	L =	1.5	ft
Depth:	Depth =	12	in
Effective Depth to Top Layer of Steel:	d =	8.25	in

COLUMN AND BASEPLATE SIZE

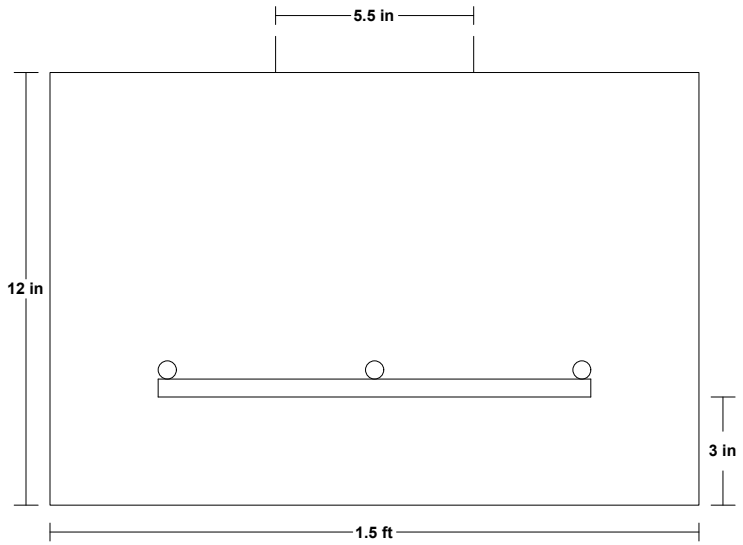
Column Type:	Wood		
Column Width:	m =	5.5	in
Column Depth:	n =	5.5	in

FOOTING CALCULATIONS

Bearing Calculations:			
Ultimate Bearing Pressure:	Qu =	392	psf
Effective Allowable Soil Bearing Pressure:	Qe =	1350	psf
Required Footing Area:	Areq =	0.65	sf
Area Provided:	A =	2.25	sf
Baseplate Bearing:			
Bearing Required:	Bear =	1300	lb
Allowable Bearing:	Bear-A =	83566	lb
Beam Shear Calculations (One Way Shear):			
Beam Shear:	Vu1 =	54	lb
Allowable Beam Shear:	Vc1 =	11138	lb
Punching Shear Calculations (Two Way Shear):			
Critical Perimeter:	Bo =	55	in
Punching Shear:	Vu2 =	541	lb
Allowable Punching Shear (ACI 11-35):	vc2-a =	102094	lb
Allowable Punching Shear (ACI 11-36):	vc2-b =	136125	lb
Allowable Punching Shear (ACI 11-37):	vc2-c =	68063	lb
Controlling Allowable Punching Shear:	vc2 =	68063	lb
Bending Calculations:			
Factored Moment:	Mu =	2924	in-lb
Nominal Moment Strength:	Mn =	168334	in-lb
Reinforcement Calculations:			
Concrete Compressive Block Depth:	a =	0.62	in
Steel Required Based on Moment:	As(1) =	0.01	in2
Min. Code Req'd Reinf. Shrink./Temp. (ACI-10.5.4):	As(2) =	0.43	in2
Controlling Reinforcing Steel:	As-reqd =	0.43	in2
Selected Reinforcement:	#4's @ 5.8 in. o.c. e/w (3) Min.		
Reinforcement Area Provided:	As =	0.59	in2
Development Length Calculations:			
Development Length Required:	Ld =	15	in
Development Length Supplied:	Ld-sup =	6	in

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

LOADING DIAGRAM



FOOTING LOADING

Live Load:	PL =	600	lb *
Dead Load:	PD =	283	lb *
Total Load:	PT =	883	lb *
Ultimate Factored Load:	Pu =	1300	lb
Footing plus soil above footing weight:	Wt =	218	lb

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

GENERAL NOTES:

A. STRUCTURE DESIGNED IN ACCORDANCE WITH THE 2019 OSSC.

B. STRUCTURE DESIGNED FOR THE FOLLOWING LOADS:

ROOF DEAD LOADS:

ROOF (TOTAL) = 15 PSF

ROOF LIVE LOADS:

GROUND SNOW LOAD = 3 PSF

MIN ROOF SNOW LOAD = 25 PSF

FLOOR DEAD LOADS:

FLOOR (TOTAL) = 15 PSF

FLOOR AT DECK = 12 PSF

FLOOR LIVE LOADS:

TYP LIVE LOAD = 40 PSF

LIVE LOAD AT ENTRY STAIRS & LANDINGS = 100 PSF

WIND LOADS:

BASIC WIND SPEED (V) = 135 MPH
EXPOSURE = D
IMPORTANCE FACTOR = I

SEISMIC DESIGN DATA:

SEISMIC DESIGN CATEGORY = D
SITE SOIL CLASS = D
S_S = 1.294
S_1 = 0.679
S_{DS} = 0.862

BASIC STRUCTURAL & SEISMIC RESISTING SYSTEM:

LIGHT-FRAMED SHEARWALL SYSTEM: R = 6.5
WOOD FRAMED SHEARWALLS

ANALYZED USING THE EQUIVALENT LATERAL FORCE PROCEDURE

C. IF ANY FIELD CONDITIONS PRECLUDE COMPLIANCE WITH THESE DRAWINGS AND/OR CONDITIONS SPECIFIED, THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY AND SHALL NOT PROCEED WITH THE AFFECTED WORK. THE CONTRACTOR SHALL VERIFY ALL BUILDING DIMENSIONS, DETAILS, AND CONDITIONS PRIOR TO START OF CONSTRUCTION THAT MAY BE IMPACTED BY VARIATIONS FROM THE CONDITIONS SHOWN HEREIN.

SOIL NOTES:

A. SOIL BEARING CAPACITY USED IN DESIGN OF NEW FOUNDATION: 1500 PSF. ALL FOOTINGS TO BEAR A MINIMUM OF 18" BELOW FINISHED GRADE. IF UNSUITABLE SOILS ARE ENCOUNTERED, OR IF ROCK IS ENCOUNTERED IN THE AREA OF THE PROPOSED BOTTOM OF FOOTING, NOTIFY THE ENGINEER IMMEDIATELY.

WOOD GENERAL NOTES:

A. WOOD FRAMING TO BE #2 DOUGLAS FIR OR BETTER UNLESS NOTED OTHERWISE ON THE PLANS. GLULAM MEMBERS ARE TO BE 24F-V4 UNLESS NOTED OTHERWISE ON THE PLANS.

B. GLULAM BEAMS/RAFTERS TO BE ATTACHED TO STRUCTURE PER THE FRAMING PLANS AND STRUCTURAL DETAILS.

C. PROVIDE SOLID BLOCKING BETWEEN TRUSSES AT ALL BEARING LOCATIONS.

D. SHEATHING TO BE SPAN RATED PLYWOOD OR OSB
FLOOR: 3/4"
ROOF: 15/32"
WALLS: 15/32"

CONCRETE NOTES:

A. ALL CONCRETE WORK SHALL CONFORM WITH A.C.I. "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE", ACI 318 - LATEST EDITION, AND "MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES", ACI 315 - LATEST EDITION.

B. ALL CONCRETE FORM WORK WORK SHALL CONFORM WITH A.C.I. "RECOMMENDED PRACTICES FOR CONCRETE FORM WORK" - ACI 347.

C. ALL CONCRETE SHALL HAVE MINIMUM COMPRESSIVE STRENGTH AT 28 DAYS OF 3000 PSI. ALL STRUCTURAL CONCRETE SHALL CONFORM WITH A.C.I. "SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDINGS" - ACI 301.

D. CONTRACTOR SHALL SUBMIT MIX DESIGNS FOR APPROVAL. MIX DESIGN SHALL INDICATE 7 AND 28 DAYS STRENGTHS, CEMENT CONTENT, AIR CONTENT, WATER-CEMENT RATIO, AMOUNT OF FINE AND COARSE AGGREGATES AND ADMIXTURES. ALL EXTERIOR CONCRETE AND CONCRETE EXPOSED TO WEATHER SHALL BE AIR-ENTRAINED (4% TO 6%) UNLESS LOCAL STANDARDS ARE OTHERWISE.

MAXIMUM WATER-CEMENT RATIO = 0.49

MAXIMUM SLUMP LIMIT = 4"

MAXIMUM AGGREGATE SIZE:

FOOTINGS & FOUNDATIONS = 3/4" TO 1 1/2"
SLAB-ON-GRADE = 3/4" TO 1"
CONCRETE FILL = 1/2"

CEMENT SHALL BE PORTLAND CEMENT, TYPE I OR II, CONFORMING TO ASTM-C-150.

CONCRETE AGGREGATES SHALL CONFORM TO ASTM C-33.

AIR-ENTRAINING ADMIXTURES SHALL CONFORM TO ASTM C-260.

NON-SHRINK GROUT SHALL CONFORM TO ASTM C-109.

EXPANSION JOINTS SHALL BE 1/2" THICK ASPHALT IMPREGNATED FIBERBOARD

JOINT MATERIAL, CONFORMING TO ASTM D-1751.

CURING COMPOUND SHALL BE CLEAR, CONFORMING TO ASTM C-309.

E. COLD WEATHER CONCRETE WORK, WHEN APPLICABLE, SHALL CONFORM TO ACI 306.

F. HOT WEATHER CONCRETE WORK, WHEN APPLICABLE, SHALL CONFORM TO ACI 305.

G. SCREED SLABS AT GRADE LEVEL, MAINTAINING SURFACE FLATNESS OF MAXIMUM 1/4" IN 10'-0".

H. ALL BAR REINFORCING FOR CONCRETE TO CONFORM TO ASTM A615, GRADE 60. WELDED WIRE FABRIC SHALL CONFORM TO ASTM A185.

I. CONCRETE ACCESSORIES TO BE ADEQUATE TO MAINTAIN REINFORCING ACCURATELY IN PLACE AND BE NON-CORROSIVE, NON-STAINING TYPE.

J. LAP ALL BAR REINFORCING PER ACI 318. STAGGER SPLICES IN HORIZONTAL WALLS AND SLABS.

K. REINFORCEMENT COVER, UNLESS NOTED OTHERWISE:

1) FOOTINGS AND GRADE BEAMS - BOTT. 3" - TOP 1-1/2"
2) WALLS - OUTSIDE 2", INSIDE 1"
3) SLABS - 1 1/2" FROM TOP

L. WELDED WIRE FABRIC SHALL HAVE MINIMUM END AND SIDE LAPS OF 1'-0".

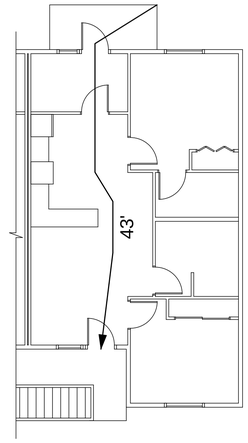
M. HILTI HY 200 OR SIMPSON SET XP EPOXY ADHESIVE IS REQUIRED FOR ALL REBAR DOWELS OR ALL THREAD DRILLED AND EPOXIED INTO CONCRETE.

N. CONCRETE STEEL REINFORCEMENT SHOP DRAWINGS SHALL BE SUBMITTED TO ENGINEER OF RECORD FOR REVIEW.

CONCRETE SPECIAL INSPECTION REQUIREMENTS

ALL CONCRETE WORK, REINFORCING PLACEMENT, FORM WORK AND SHORING SHALL BE SPECIAL INSPECTED BY AN INDEPENDENT TESTING AGENCY RETAINED BY THE OWNER FOR THE FOLLOWING ITEMS:

A. EPOXIED ALL THREAD AND REBAR DOWELS: AND EXPANSION ANCHORS INTO CONCRETE.



EXIT ACCESS TRAVEL DISTANCE

CODE SUMMARY

THESE DRAWINGS ARE BASED ON THE 2019 OSSC.

CHAPTER 3 - USE & OCCUPANCY CLASSIFICATION

SECTION 310: (R-2)

CHAPTER 5 - GENERAL BUILDING HEIGHTS AND AREAS

NEW BUILDING AREA = 1953 SF (1ST FLOOR)
NEW BUILDING AREA = 1953 SF (2ND FLOOR)
NEW BUILDING AREA = 3906 SF (TOTAL)

TABLE 506.2: ALLOWABLE AREA = 21,000 SF > 3906 SF ∴ O.K.

TABLE 504.3/4: NEW BUILDING HEIGHT = 25'-10" (2-STORY)
ALLOWABLE BUILDING HEIGHT = 60' (3-STORY) ∴ O.K.

CHAPTER 6 - TYPE OF CONSTRUCTION

V-B, SPRINKLERED:

FIRE RESISTANCE RATING FOR EXTERIOR WALLS: 1 HOUR

CHAPTER 10 - MEANS OF EGRESS

SEE TABLE 1004.1.1 MAXIMUM FLOOR AREA PER OCCUPANT

SECTION 1005.1 - MINIMUM REQUIRED EGRESS WIDTH

TOTAL OCCUPANTS = 20
REQUIRED WIDTH 0.20 PER OCCUPANT = 4"
ACTUAL EXIT WIDTH = 36"

TABLE 1006.3.3 - STORIES WITH ONE EXIT FOR R-2 OCCUPANCIES

MAXIMUM NUMBER OF DWELLING UNITS = 4 > 2 ∴ O.K.

MAXIMUM EXIT ACCESS TRAVEL DISTANCE = 125' > 43' ∴ O.K.

TABLE 1021.1 MINIMUM NUMBER OF EXITS FOR OCCUPANT LOAD

OCCUPANT LOAD = 20 OCCUPANTS
MINIMUM NUMBER OF EXITS = 2
NUMBER PROVIDED = 2
MAX. TRAVEL DISTANCE = 75'

PER TABLE 1004.1.1 MAXIMUM FLOOR AREA PER OCCUPANT

ROOM	AREA (S.F.)	OCCUPANCY PER 1004.1.1	
STORY 2	1953	200 S.F./OCC.	10
STORY 1	1953	200 S.F./OCC.	10
		TOTAL	20

SHEET INDEX

12/20/2022

REGISTERED PROFESSIONAL ENGINEER
09943PE
OREGON
NOV. 8, 2022
MAXWELL GUY BEAUDOIN
EXPIRES: 12/31/23

REVISIONS		
No.	DATE	DESCRIPTION

PROJECT:
CROSS CREEK DEVELOPMENT - 2 STORY

LOCATION:
2315 N ROOSEVELT DR.
SEASIDE, OREGON

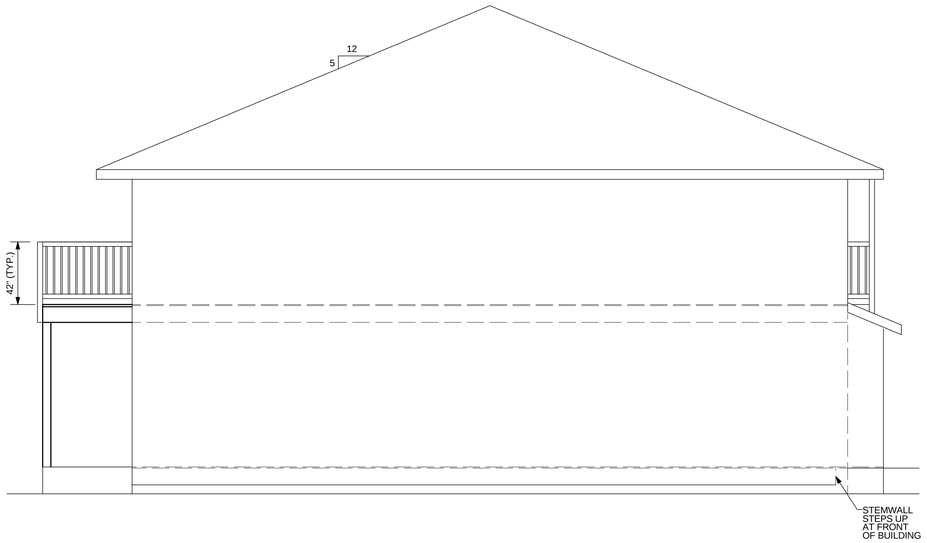
SHEET TITLE:
COVER SHEET

CLIENT:
OSBURN OLSON LLC

STABILITY ENGINEERING INC.
777 NE 2ND ST. SUITE 280
P.O. BOX 2646, CORVALLIS, OR 97339
TEL.: (541)223-5360 FAX: (541)223-5278

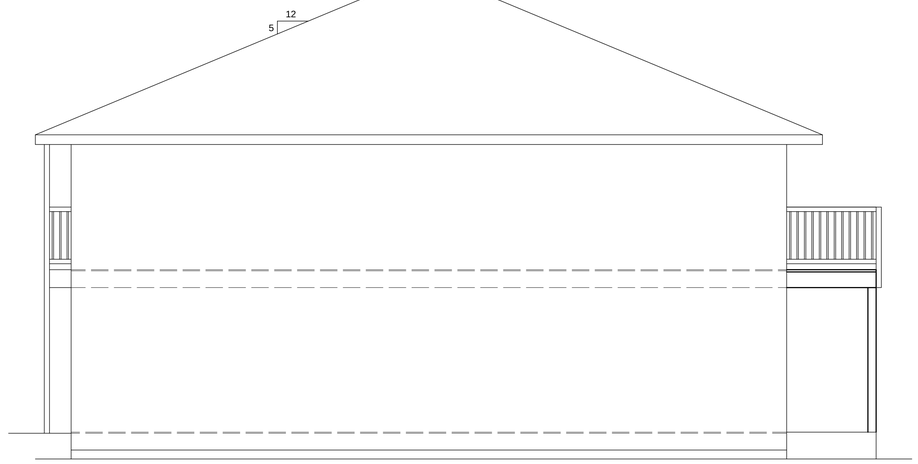
JOB NO. 22-0411
DATE: 12/20/2022
DRAWN: MB
SCALE: AS SHOWN
SHEET
A0.0

A A1.0 FRONT ELEVATION
SCALE: 1/4" = 1'-0"



B A1.0 LEFT ELEVATION
SCALE: 1/4" = 1'-0"

C A1.0 BACK ELEVATION
SCALE: 1/4" = 1'-0"



D A1.0 RIGHT ELEVATION
SCALE: 1/4" = 1'-0"

12/20/2022

REGISTERED PROFESSIONAL ENGINEER
MAXWELL GUY BEAUDOIN
99431PE
OREGON
NOV. 8, 2022
EXPIRES: 12/31/23

REVISIONS

No.	DATE	DESCRIPTION

PROJECT:
CROSS CREEK DEVELOPMENT - 2 STORY

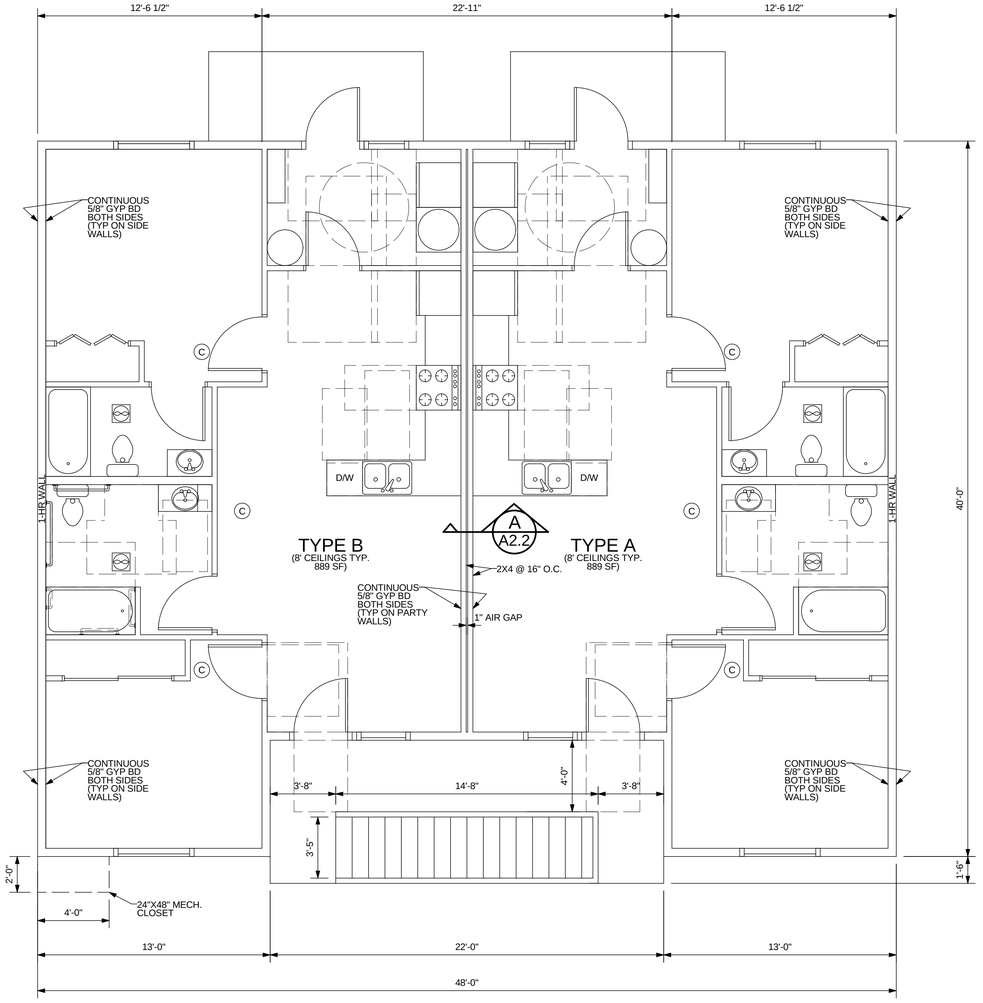
LOCATION:
2315 N ROOSEVELT DR.
SEASIDE, OREGON

SHEET TITLE:
ELEVATIONS

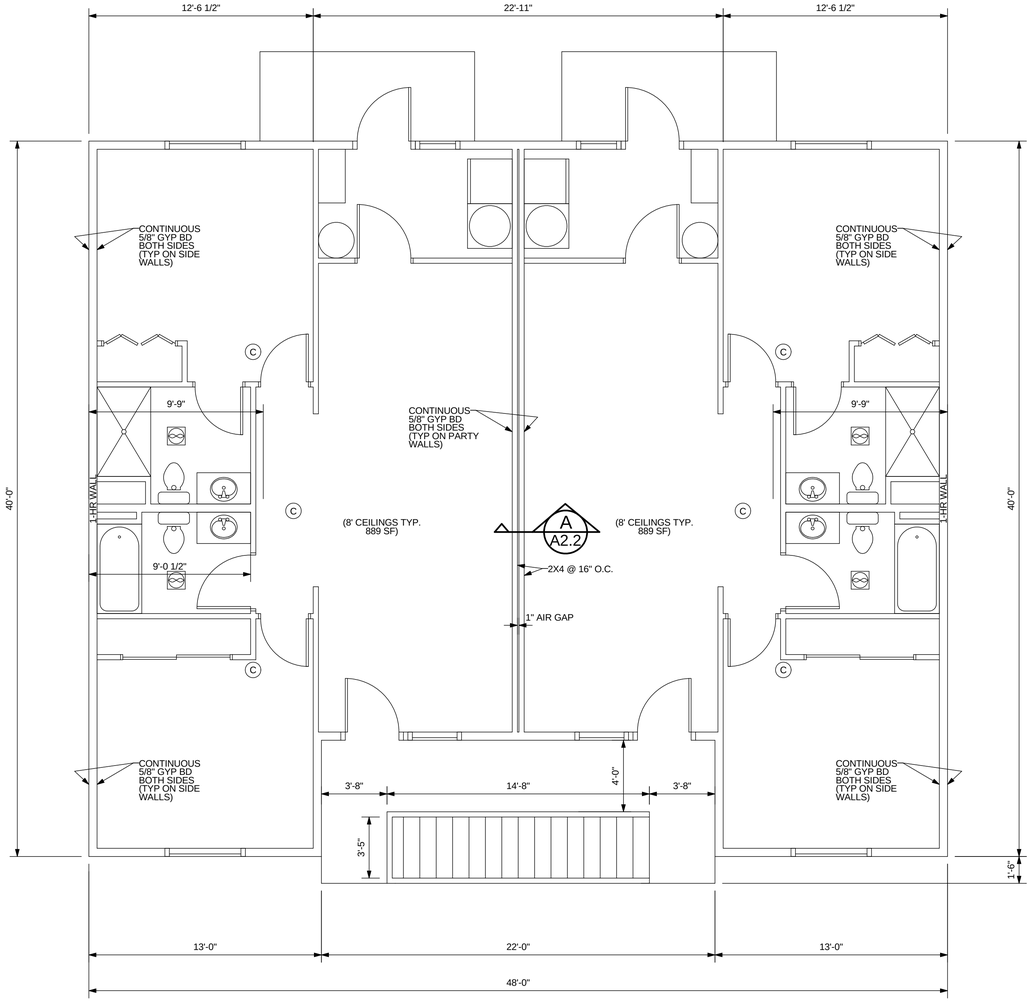
CLIENT:
OSBURN OLSON LLC

STABILITY ENGINEERING INC.
777 NE 2ND ST. SUITE 280
P.O. BOX 2646, CORVALLIS, OR 97339
TEL.: (541)223-5360 FAX: (541)223-5278

JOB NO.	22-0411
DATE:	12/20/2022
DRAWN:	MB
SCALE:	AS SHOWN
SHEET	A1.0



A A2.0 FIRST FLOOR LAYOUT
SCALE: 1/4" = 1'-0"



B A2.0 SECOND FLOOR LAYOUT
SCALE: 1/4" = 1'-0"

LEGEND

- 80 CFM FAN
- (C) CARBON MONOXIDE/SMOKE DETECTOR COMBINATION

NOTE: PLANS MAY BE MIRRORED (FINAL UNIT TYPES TBD DURING CONSTRUCTION)

12/20/2022

REGISTERED PROFESSIONAL ENGINEER
099431PE
OREGON
NOV. 8, 2022
MAXWELL GUY BEAUDOIN
EXPIRES: 12/31/23

REVISIONS

No:	DATE	DESCRIPTION

PROJECT:
CROSS CREEK DEVELOPMENT - 2 STORY

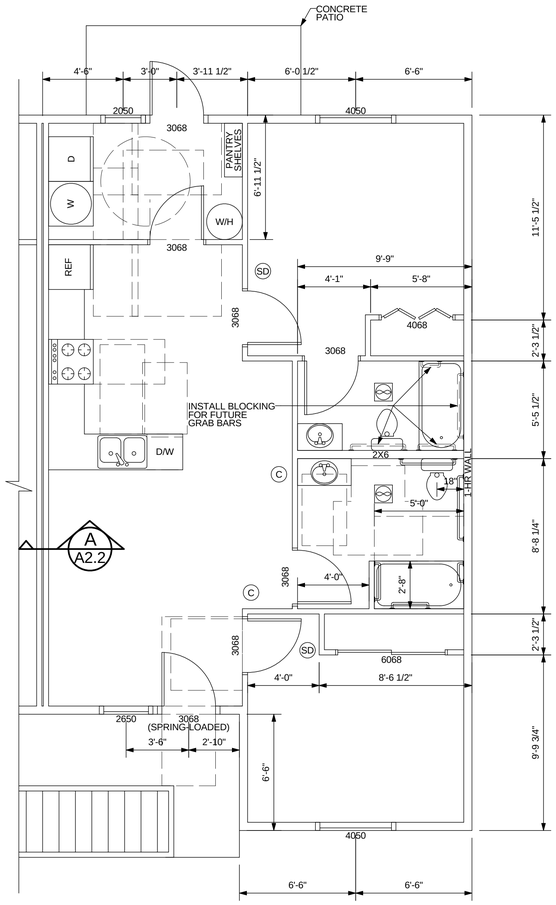
LOCATION:
2315 N ROOSEVELT DR. SEASIDE, OREGON

SHEET TITLE:
FLOOR LAYOUTS

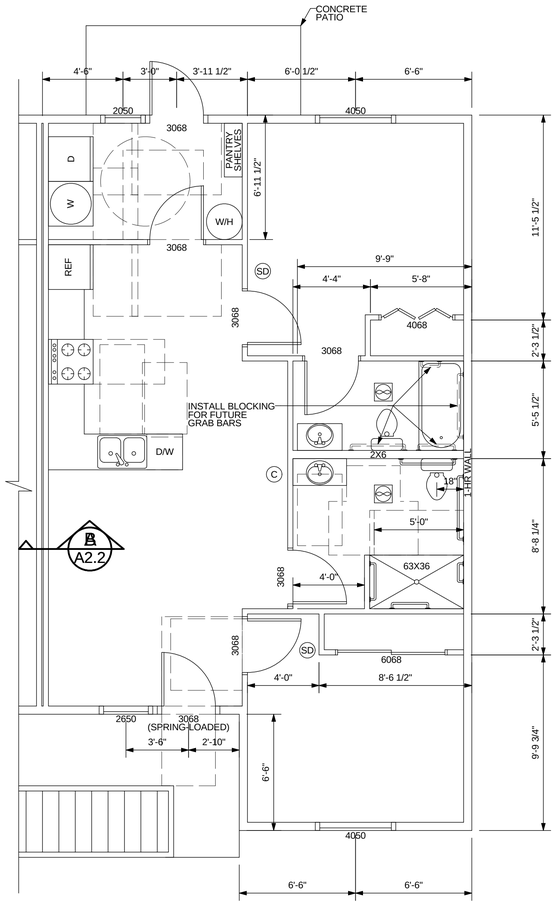
CLIENT:
OSBURN OLSON LLC

STABILITY ENGINEERING INC.
777 NE 2ND ST. SUITE 280
P.O. BOX 2646, CORVALLIS, OR 97339
TEL.: (541)223-5360 FAX: (541)223-5278

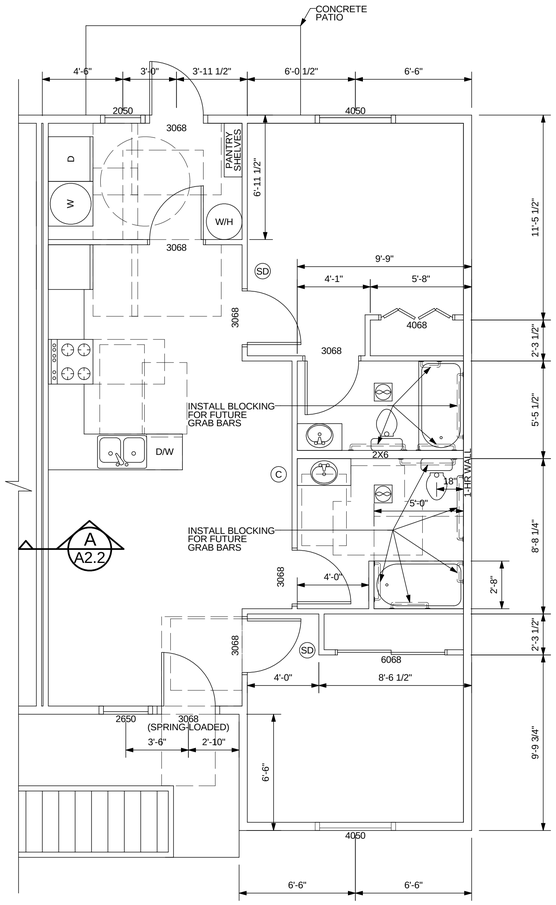
JOB NO.	22-0411
DATE:	12/20/2022
DRAWN:	MB
SCALE:	AS SHOWN
SHEET	A2.0



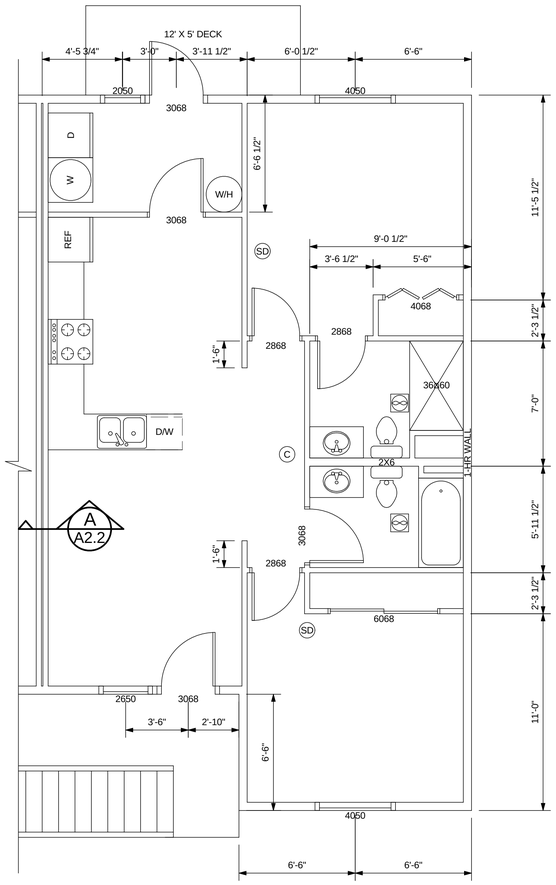
A A2.1 TYPE A TUB SHOWER FLOOR PLAN (1 UNIT MIN.)
SCALE: 1/4" = 1'-0"



B A2.1 TYPE A ROLL-IN SHOWER FLOOR PLAN (1 UNIT MIN.)
SCALE: 1/4" = 1'-0"



C A2.1 TYPE B FLOOR PLAN (TYP. 1ST FLOOR UNLESS TYPE A)
SCALE: 1/4" = 1'-0"



D A2.1 2ND FLOOR PLAN (TYP.)
SCALE: 1/4" = 1'-0"

LEGEND

- 80 CFM FAN
- (C) CARBON MONOXIDE/SMOKE DETECTOR COMBINATION

NOTE: PLANS MAY BE MIRRORED (FINAL UNIT TYPES TBD DURING CONSTRUCTION)

12/20/2022

REGISTERED PROFESSIONAL ENGINEER
09943PE
OREGON
NOV. 8, 2022
MAXWELL GUY BEAUDOIN
EXPIRES: 12/31/23

REVISIONS

No.	DATE	DESCRIPTION

PROJECT: **CROSS CREEK DEVELOPMENT - 2 STORY**

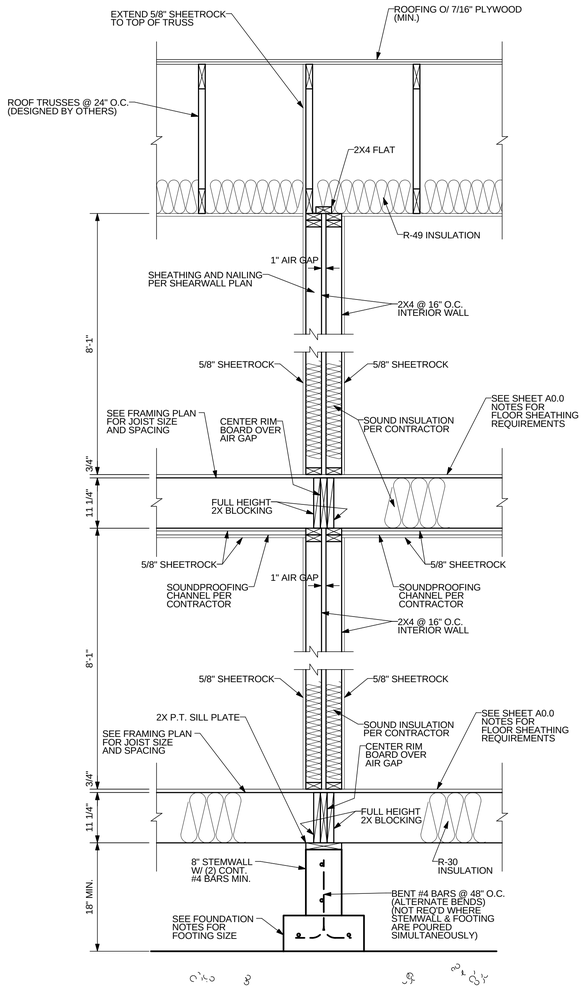
LOCATION: **2315 N ROOSEVELT DR. SEASIDE, OREGON**

SHEET TITLE: **UNIT FLOOR PLANS**

CLIENT: **OSBURN OLSON LLC**

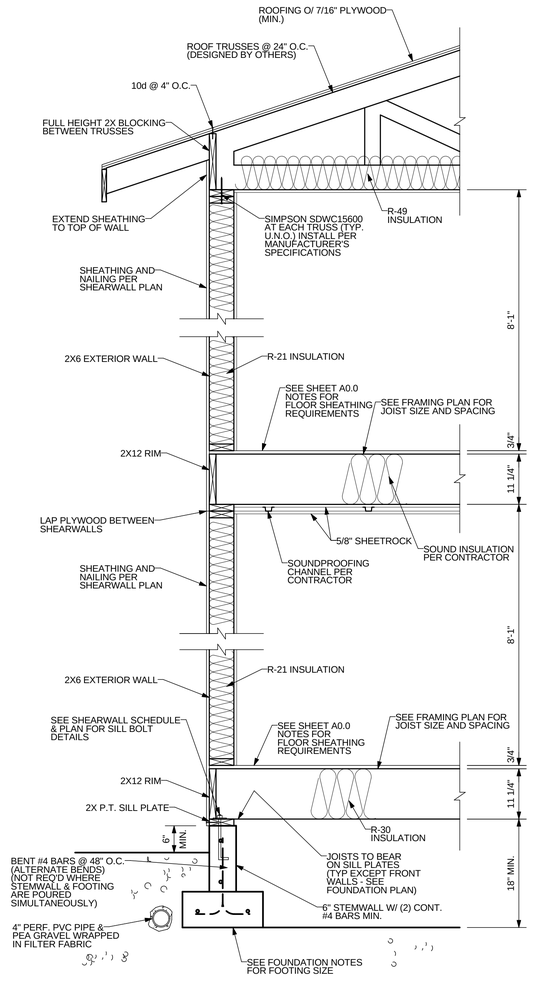
STABILITY ENGINEERING INC.
777 NE 2ND ST. SUITE 280
P.O. BOX 2646, CORVALLIS, OR 97339
TEL.: (541)223-5360 FAX: (541)223-5278

JOB NO.	22-0411
DATE:	12/20/2022
DRAWN:	MB
SCALE:	AS SHOWN
SHEET	A2.1



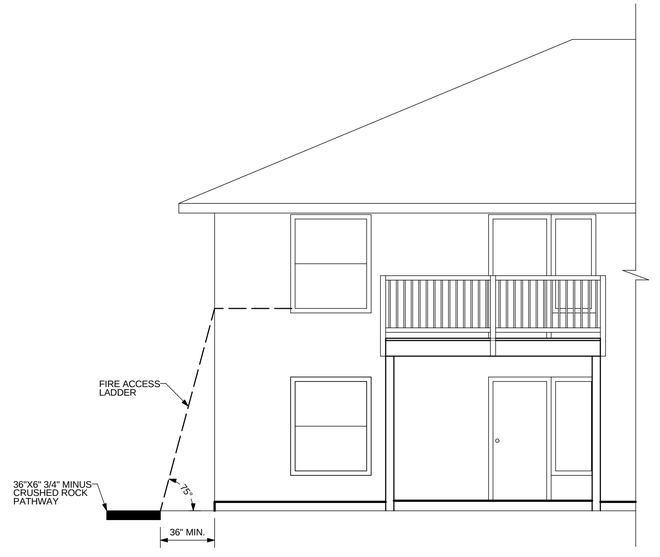
A A2.2 TYPICAL INTERIOR WALL SECTION

SCALE: 3/4" = 1'-0"



B A2.2 TYPICAL EXTERIOR WALL SECTION (JOISTS PERP.)

SCALE: 3/4" = 1'-0"



C A2.2 FIRE ACCESS DETAIL - 2 STORY

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

12/20/2022

REGISTERED PROFESSIONAL ENGINEER
099431PE
OREGON
NOV. 8, 2022
MAXWELL GUY BEAUDOIN
EXPIRES: 12/31/23

REVISIONS		
No:	DATE	DESCRIPTION

PROJECT:
CROSS CREEK DEVELOPMENT - 2 STORY

LOCATION:
2315 N ROOSEVELT DR.
SEASIDE, OREGON

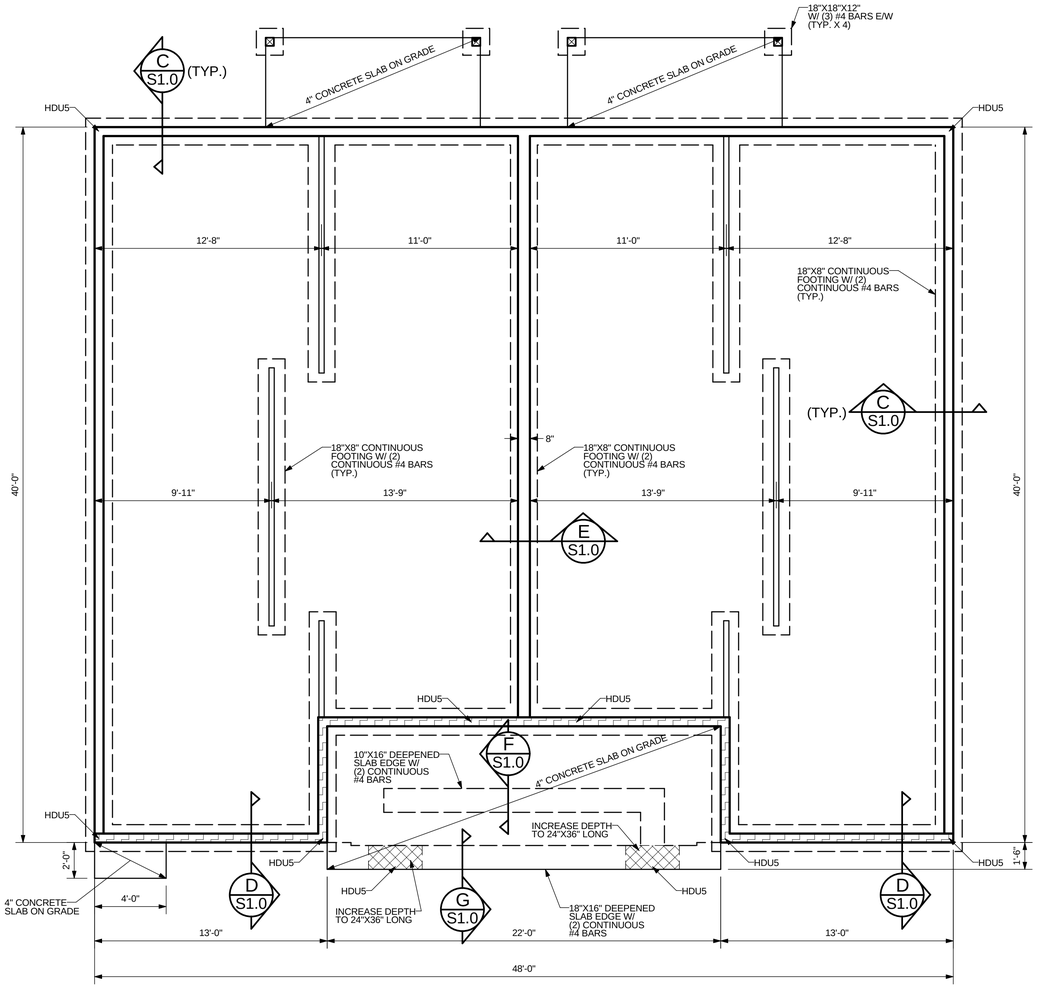
SHEET TITLE:
SECTION DETAILS

CLIENT:
OSBURN OLSON LLC

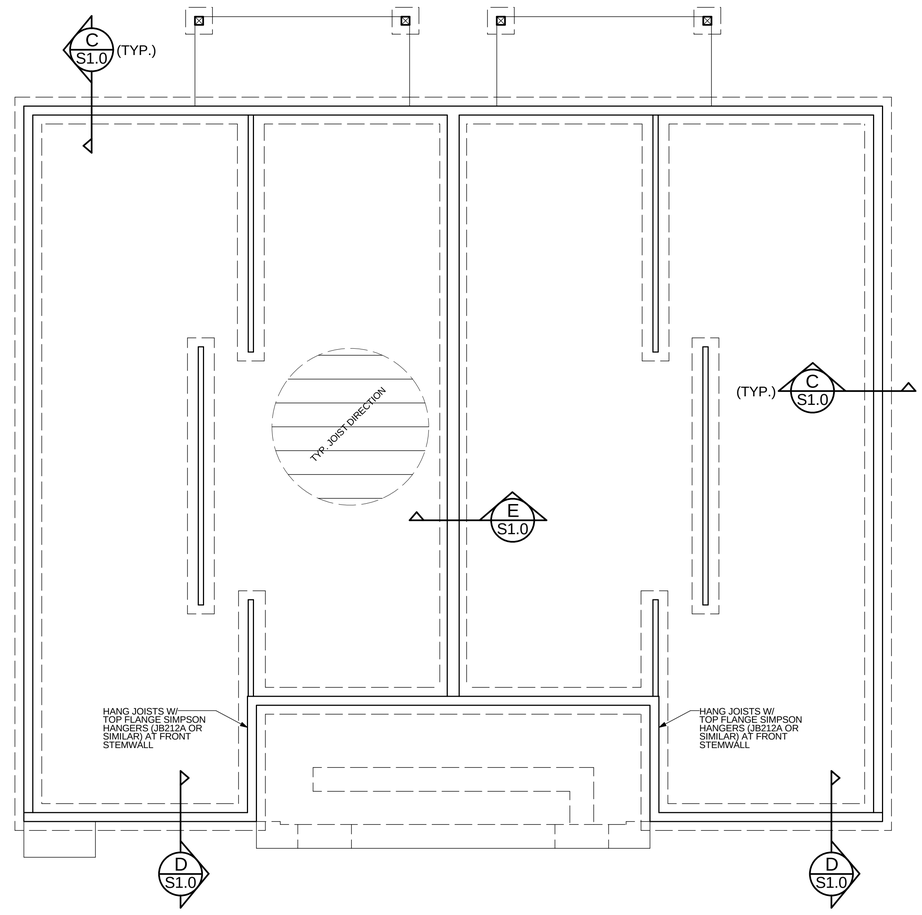
STABILITY ENGINEERING INC.
777 NE 2ND ST. SUITE 280
P.O. BOX 2646, CORVALLIS, OR 97339
TEL.: (541)223-5360 FAX: (541)223-5278

JOB NO.	22-0411
DATE:	12/20/2022
DRAWN:	MB
SCALE:	AS SHOWN

SHEET
A2.2



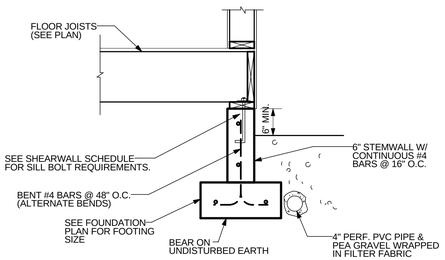
A S1.0 FOUNDATION PLAN
SCALE: 1/4" = 1'-0"



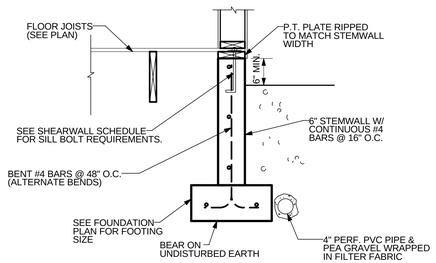
B S1.0 FIRST FLOOR FRAMING PLAN
SCALE: 1/4" = 1'-0"

FLOOR FRAMING NOTES:

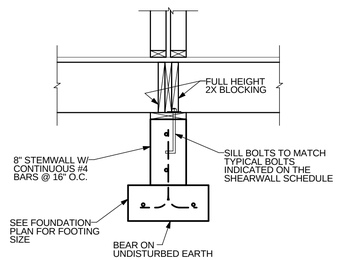
1. ALL FLOOR JOISTS = 2X12 @ 16" O.C. U.N.O ON PLANS. MAXIMUM SPAN NOT TO EXCEED 15'-0"
2. PROVIDE FULL HEIGHT 2X BLOCKING BETWEEN JOISTS AT ALL PONY WALLS.
6. FLOOR DIAPHRAGM TO BE 3/4" CDX PLYWOOD OR OSB WITH ALL SUPPORTED PANEL EDGES TO BE NAILED 8d (RINGSHANK) @ 6" O.C. (OR #8 (2 1/2") SCREWS @ 6" O.C.) AND PANEL FIELD TO BE NAILED 12" O.C. U.N.O.



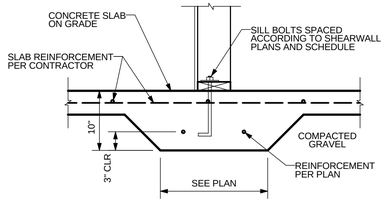
C S1.0 TYPICAL STEMWALL DETAIL
NOT TO SCALE



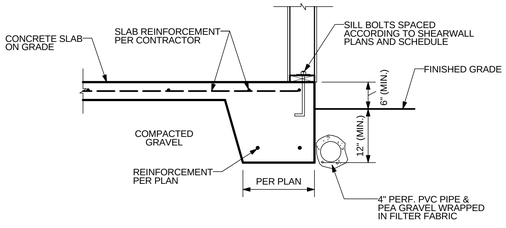
D S1.0 FRONT STEMWALL DETAIL
NOT TO SCALE



E S1.0 PARTY WALL STEMWALL DETAIL
NOT TO SCALE



F S1.0 DEEPENED SLAB DETAIL
SCALE: 1" = 1'-0"



G S1.0 DEEPENED SLAB EDGE DETAIL
SCALE: 3/4" = 1'-0"

12/20/2022

REGISTERED PROFESSIONAL ENGINEER
099431PE
OREGON
NOV. 8, 2022
MAXWELL GUY BEAUDOIN
EXPIRES: 12/31/23

REVISIONS		
No:	DATE	DESCRIPTION

PROJECT:
CROSS CREEK DEVELOPMENT - 2 STORY

LOCATION:
2315 N ROOSEVELT DR.
SEASIDE, OREGON

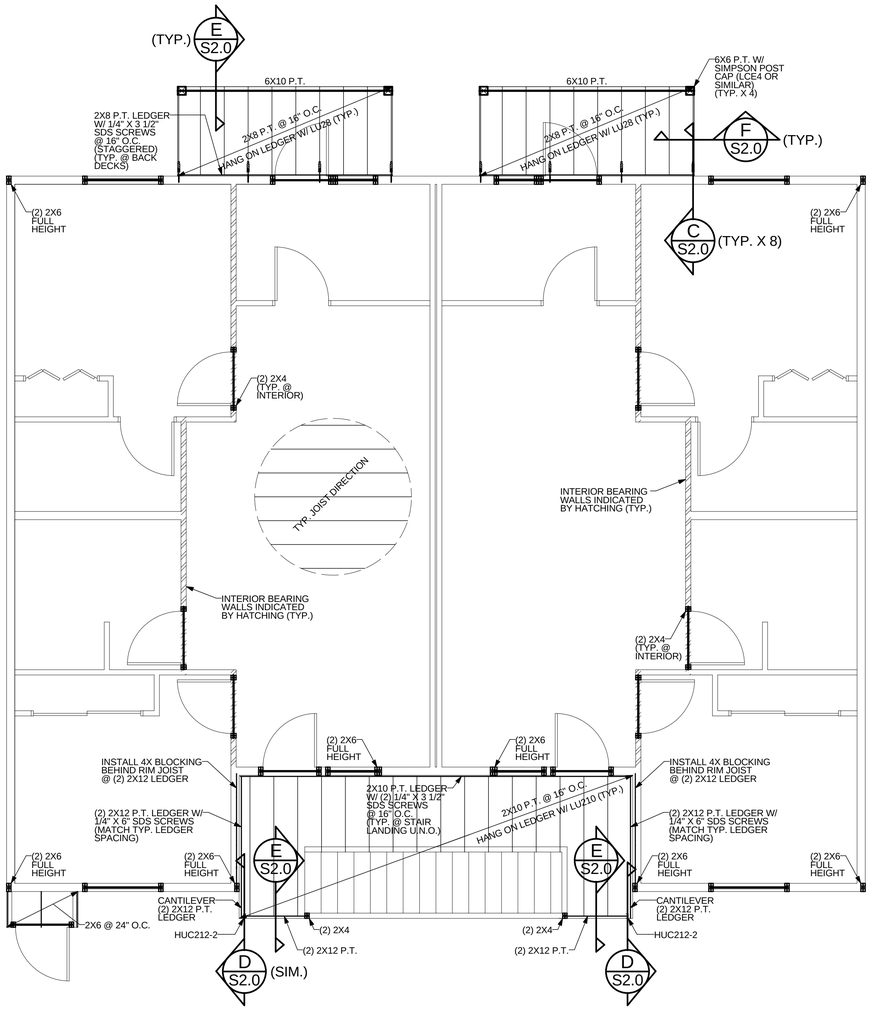
SHEET TITLE:
FOUNDATION PLAN & DETAILS

CLIENT:
OSBURN OLSON LLC

STABILITY ENGINEERING INC.
777 NE 2ND ST. SUITE 280
P.O. BOX 2646, CORVALLIS, OR 97339
TEL.: (541)223-5360 FAX: (541)223-5278

JOB NO.	22-0411
DATE:	12/20/2022
DRAWN:	MB
SCALE:	AS SHOWN
SHEET	

S1.0

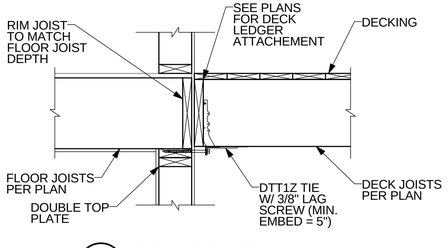


A S2.0 SECOND FLOOR FRAMING PLAN

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

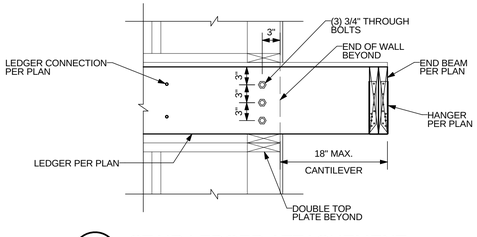
FLOOR FRAMING NOTES:

1. ALL HEADERS = 4X8 U.N.O. ON PLANS
2. ALL TRIMMERS = (1) 2X6 U.N.O ON PLANS
3. ALL KING STUDS = (1) 2X6 U.N.O ON PLANS
4. ALL FLOOR JOISTS = 2X12 @ 16" O.C. U.N.O ON PLANS. MAXIMUM SPAN NOT TO EXCEED 15'-0"
5. PROVIDE FULL HEIGHT 2X BLOCKING BETWEEN JOISTS AT ALL BEARING WALLS (AS INDICATED).
6. FLOOR DIAPHRAGM TO BE 3/4" CDX PLYWOOD OR OSB WITH ALL SUPPORTED PANEL EDGES TO BE NAILED 8d (RINGSHANK) @ 6" O.C. (OR #8 (2 1/2") SCREWS @ 6" O.C.) AND PANEL FIELD TO BE NAILED 12" O.C. U.N.O.
7. ALL HARDWARE (HANGERS, POST CAPS, POST BASES, ETC.) EXPOSED TO WEATHER SHALL BE STAINLESS STEEL.



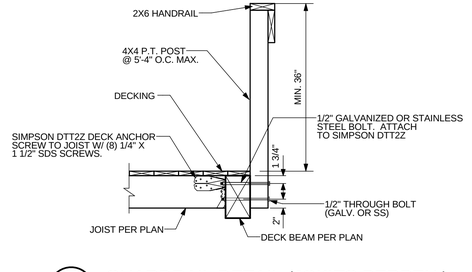
C S2.0 DECK TIE DETAIL

SCALE: 1" = 1'-0"



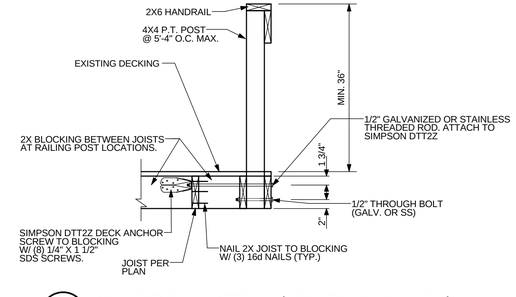
D S2.0 STAIR LEDGER ATTACHEMENT

SCALE: 1" = 1'-0"



E S2.0 GUARDRAIL DETAIL (JOISTS PERPEN.)

SCALE: 3/4" = 1'-0"



F S2.0 GUARDRAIL DETAIL (JOISTS PARALLEL)

SCALE: 3/4" = 1'-0"

12/20/2022

REGISTERED PROFESSIONAL ENGINEER
099431PE
OREGON
NOV. 8, 2022
MAXWELL GUY BEAUDOIN
EXPIRES: 12/31/23

DESCRIPTION

PROJECT:
CROSS CREEK DEVELOPMENT - 2 STORY

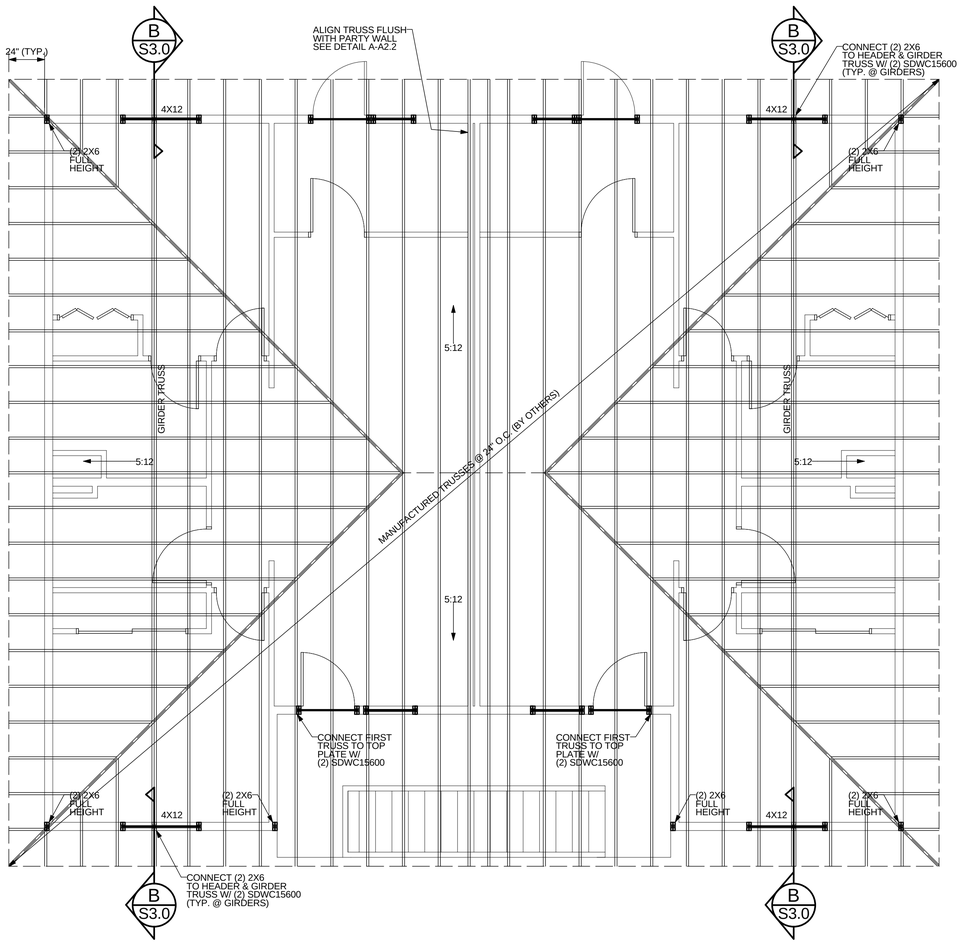
LOCATION:
2315 N ROOSEVELT DR.
SEASIDE, OREGON

SHEET TITLE:
FLOOR FRAMING PLAN & DETAILS

CLIENT:
OSBURN OLSON LLC

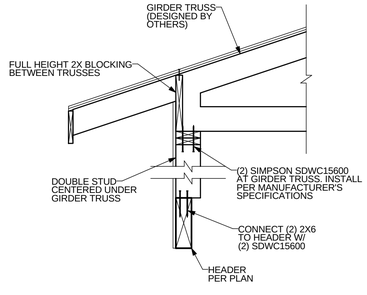
STABILITY ENGINEERING INC.
777 NE 2ND ST. SUITE 280
P.O. BOX 2646, CORVALLIS, OR 97339
TEL.: (541)223-5360 FAX: (541)223-5278

JOB NO.	22-0411
DATE:	12/20/2022
DRAWN:	MB
SCALE:	AS SHOWN
SHEET	**S2.0**



A S3.0 ROOF FRAMING PLAN

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



B S3.0 GIRDER TRUSS ATTACHEMENT DETAIL

SCALE: 3/4" = 1'-0"

ROOF FRAMING NOTES:

1. ALL HEADERS = 4X8 U.N.O. ON PLANS
2. ALL TRIMMERS = (1) 2X6 U.N.O ON PLANS
3. ALL KING STUDS = (1) 2X6 U.N.O ON PLANS
4. SUPPORT ALL GIRDER TRUSSES W/ (2) 2X6 STUDS
5. CONNECT ALL TRUSSES TO DOUBLE TOP PLATE W/ SIMPSON SDWC15600 (1 PER TRUSS U.N.O.). INSTALL PER MANUFACTURER'S SPECIFICATIONS
6. PROVIDE FULL HEIGHT 2X BLOCKING BETWEEN ALL TRUSSES OVER SUPPORTS
7. ROOF DIAPHRAGM TO BE 15/32" CDX PLYWOOD OR OSB WITH ALL SUPPORTED PANEL EDGES TO BE NAILED 10d @ 6" O.C. AND PANEL FIELD TO BE NAILED 12" O.C. U.N.O.

12/20/2022

REGISTERED PROFESSIONAL ENGINEER
099431PE
OREGON
NOV. 8, 2022
MAXWELL GUY BEAUDOIN
EXPIRES: 12/31/23

REVISIONS No:	DATE	DESCRIPTION

PROJECT:
CROSS CREEK DEVELOPMENT - 2 STORY

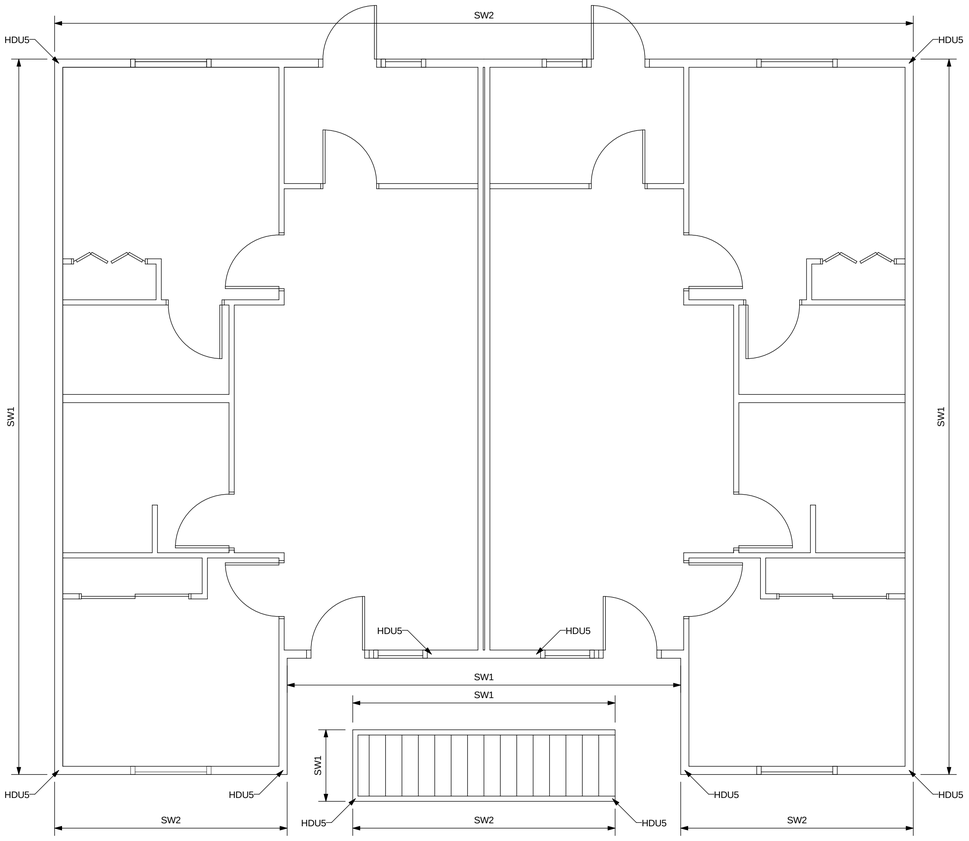
LOCATION:
2315 N ROOSEVELT DR.
SEASIDE, OREGON

SHEET TITLE:
ROOF FRAMING PLAN & DETAILS

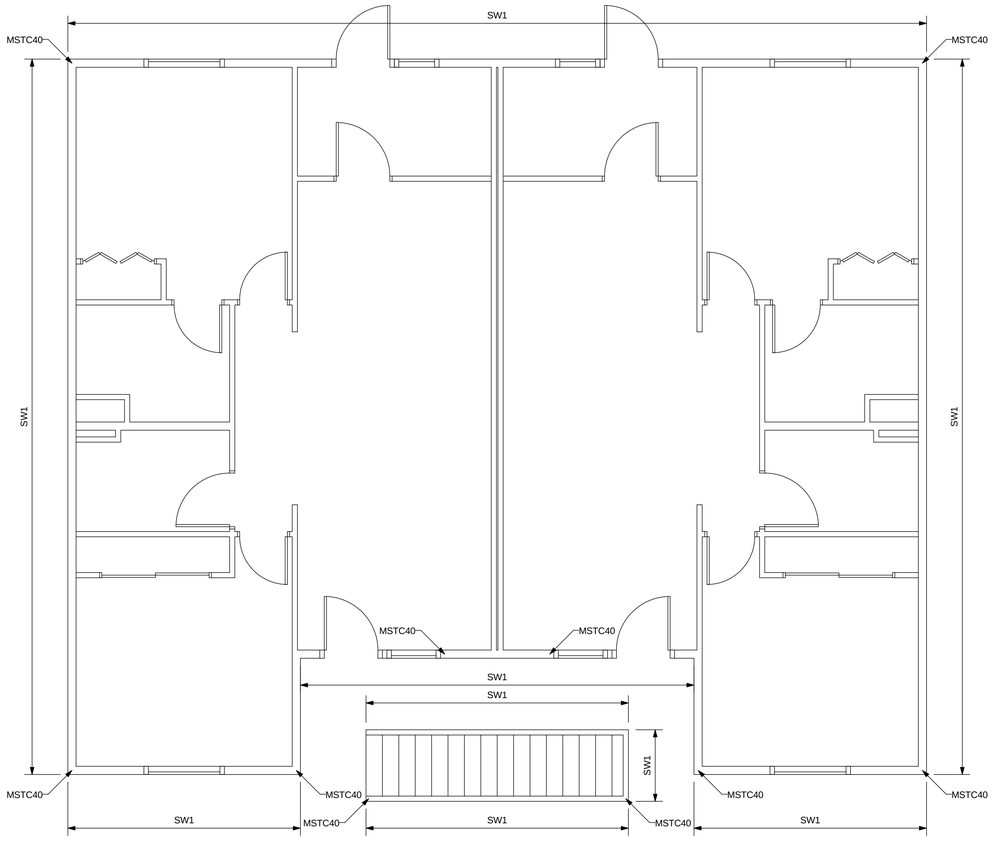
CLIENT:
OSBURN OLSON LLC

STABILITY ENGINEERING INC.
777 NE 2ND ST. SUITE 280
P.O. BOX 2646, CORVALLIS, OR 97339
TEL.: (541)223-5360 FAX: (541)223-5278

JOB NO.	22-0411
DATE:	12/20/2022
DRAWN:	MB
SCALE:	AS SHOWN
SHEET	**S3.0**



A S4.0 FIRST FLOOR SHEARWALL PLAN
SCALE: 1/4" = 1'-0"



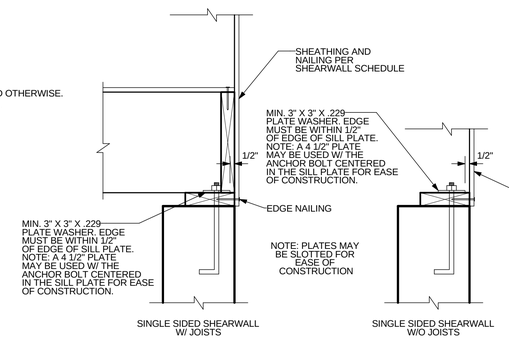
B S4.0 SECOND FLOOR SHEARWALL PLAN
SCALE: 1/4" = 1'-0"

SHEAR WALL SCHEDULES

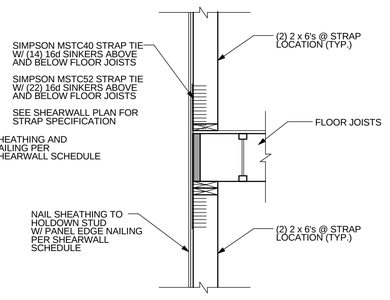
SW1- 15/32" PLYWOOD WITH ALL PANEL EDGES TO BE NAILED 10d @ MAXIMUM 6" O.C..
SW2- 15/32" PLYWOOD WITH ALL PANEL EDGES TO BE NAILED 10d @ MAXIMUM 4" O.C..

NOTES:
1. ALL NAILS ARE TO BE 10D BOX NAIL OR LARGER. MIN DIA.: .128" . MIN. LENGTH: 3"
2. 15/32" OSB MAY BE USED IN LIEU OF PLYWOOD IN SHEARWALL APPLICATIONS. (M-S OR M-2 GRADE W/ EXTERIOR GLUE).
3. PROVIDE 2X BLOCKING ALONG ALL UNSUPPORTED PLYWOOD PANEL EDGES UNLESS NOTED OTHERWISE.
4. NAIL SHEATHING TO HOLDOWN STUD W/ PANEL EDGE NAILING PER SHEARWALL SCHEDULE.
5. ALL SHEARWALL NAILINGS ARE TO EXTEND DOWN TO THE FOUNDATION PLATE LINE.
6. WALL SHEATHING TO EXTEND TO TOP PLATE. PROVIDE FULL HEIGHT BLOCKING BETWEEN RAFTERS OR TRUSSES.
7. 1/2" x 10" SILL BOLTS @ 48" O.C. W/ A 3" X 3" X .229" GALVANIZED PLATE WASHER ALL SHEARWALLS U.N.O.. PLATE WASHER MUST BE A MAXIMUM OF ½" FROM EDGE OF SHEATHING. SEE DETAIL C-S4.0
8. FOR SHEARWALL APPLICATIONS WHERE DOUBLE 2X MEMBERS ARE REQUIRED, THEY ARE TO BE NAILED TOGETHER WITH (2) ROWS 12d NAILS SPACED 6" O.C..
9. USE HOT-DIPPED GALVANIZED NAILS FOR ALL NAILS IN PRESSURE TREATED PLATES.
10. PROVIDE SIMPSON STRAP TIES ACROSS FLOOR FRAMING AT LOCATIONS SHOWN. SEE DETAIL D-S4.0
11. AT LOCATIONS WHERE HOLDOWNS OR STRAPS ARE SHOWN AT THE SAME CORNER FOR TWO PERPENDICULAR SHEARWALLS THE HOLDOWN POST IS TO BE INSTALLED SO THAT THE SHEATHING FROM BOTH SHEARWALLS IS NAILED TO THE POST. SEE DETAIL E-S4.0
12. USE SIMPSON SSTB ANCHOR BOLTS AS INDICATED ON SCHEDULE AT FOUNDATION LOCATIONS. INSTALL PER SIMPSON SPECIFICATIONS.
13. WHERE MULTIPLE STUDS ARE SHOWN NAIL STUDS TOGETHER W/ (2) ROWS 12d NAILS SPACED @ 4" O.C. (STAGGERED) ALONG ENTIRE LENGTH.
14. PROVIDE THE FOLLOWING BOLTS AND THREADED RODS FOR HOLDOWNS.

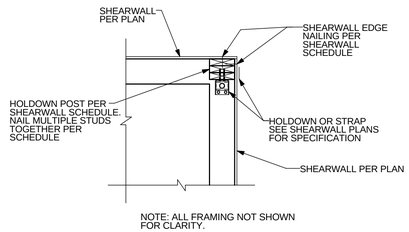
HOLDOWN	ANCHOR BOLT REQ'T	STUD NAIL/ SCREW REQ'T	STUD REQ'T	THREADED ROD REQ'T
HDU5	SSTB24	(14) SDS 1/4X2.5	(2) 2X6	5/8"



C S4.0 SHEARWALL SILL BOLT DETAIL
SCALE: 1 1/2" = 1'-0"



D S4.0 WALL TO WALL HOLDOWN (TYP.)
SCALE: 3/4" = 1'-0"



E S4.0 TYPICAL CORNER HOLDOWN DETAIL
SCALE: 3/4" = 1'-0"

12/20/2022

REGISTERED PROFESSIONAL ENGINEER
09943PE
OREGON
NOV. 8, 2022
MAXWELL GUY BEAUDOIN
EXPIRES: 12/31/23

REVISIONS

No:	DATE	DESCRIPTION

PROJECT:
CROSS CREEK DEVELOPMENT - 2 STORY

LOCATION:
2315 N ROOSEVELT DR.
SEASIDE, OREGON

SHEET TITLE:
SHEARWALL PLANS & DETAILS

CLIENT:
OSBURN OLSON LLC

STABILITY ENGINEERING INC.
777 NE 2ND ST. SUITE 280
P.O. BOX 2646, CORVALLIS, OR 97339
TEL.: (541)223-5360 FAX: (541)223-5278

JOB NO. 22-0411
DATE: 12/20/2022
DRAWN: MB
SCALE: AS SHOWN
SHEET
S4.0

CROSS CREEK DEVELOPMENT
3 STORY

2315 N ROOSEVELT DR.
SEASIDE, OREGON

DECEMBER 20TH, 2022
JOB# 22-0411

STRUCTURAL CALCULATIONS
BY

STABILITY ENGINEERING INC.
P.O. BOX 2646 · CORVALLIS, OREGON 97339
P: 541.223.5360 F: 541.223-5278

12/20/2022

⚠ This is a beta release of the new ATC Hazards by Location website. Please contact us with feedback.

ℹ The ATC Hazards by Location website will not be updated to support ASCE 7-22. Find out why.

Hazards by Location

Search Information

Coordinates: 46.00950363610217, -123.91231199529268

Elevation: 15 ft

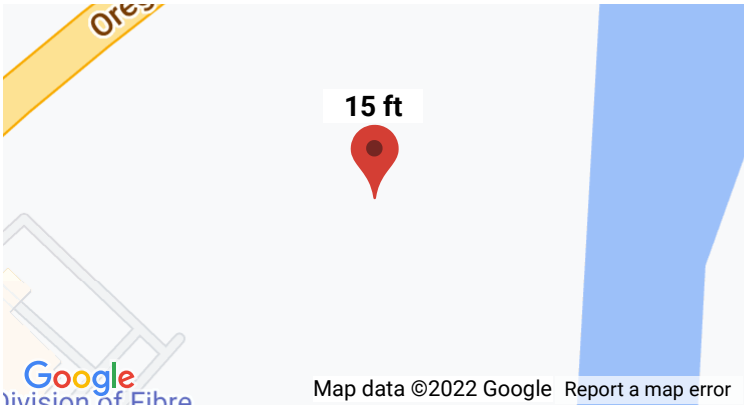
Timestamp: 2022-09-09T18:34:24.752Z

Hazard Type: Seismic

Reference Document: ASCE7-16

Risk Category: II

Site Class: D



Basic Parameters

Name	Value	Description
S_S	1.294	MCE_R ground motion (period=0.2s)
S_1	0.679	MCE_R ground motion (period=1.0s)
S_{MS}	1.294	Site-modified spectral acceleration value
S_{M1}	* null	Site-modified spectral acceleration value
S_{DS}	0.862	Numeric seismic design value at 0.2s SA
S_{D1}	* null	Numeric seismic design value at 1.0s SA

* See Section 11.4.8

Additional Information

Name	Value	Description
SDC	* null	Seismic design category
F_a	1	Site amplification factor at 0.2s
F_v	* null	Site amplification factor at 1.0s
CR_S	0.862	Coefficient of risk (0.2s)
CR_1	0.854	Coefficient of risk (1.0s)
PGA	0.65	MCE_G peak ground acceleration
F_{PGA}	1.1	Site amplification factor at PGA

PGA_M	0.715	Site modified peak ground acceleration
T_L	16	Long-period transition period (s)
SsRT	1.294	Probabilistic risk-targeted ground motion (0.2s)
SsUH	1.501	Factored uniform-hazard spectral acceleration (2% probability of exceedance in 50 years)
SsD	1.86	Factored deterministic acceleration value (0.2s)
S1RT	0.679	Probabilistic risk-targeted ground motion (1.0s)
S1UH	0.796	Factored uniform-hazard spectral acceleration (2% probability of exceedance in 50 years)
S1D	0.967	Factored deterministic acceleration value (1.0s)
PGAd	0.874	Factored deterministic acceleration value (PGA)

* See Section 11.4.8

The results indicated here DO NOT reflect any state or local amendments to the values or any delineation lines made during the building code adoption process. Users should confirm any output obtained from this tool with the local Authority Having Jurisdiction before proceeding with design.

Please note that the ATC Hazards by Location website will not be updated to support ASCE 7-22. Find out why.

Disclaimer

Hazard loads are provided by the U.S. Geological Survey Seismic Design Web Services.

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STABILITY ENGINEERING INC.

P.O. Box 2646 Corvallis, Oregon 97339
p: 541.223.5360 f: 541.223.5278

PROJECT: 22-0411 Cross Creek 3-Story DATE: 12/6/22

SEISMIC LOADS

Establish Dead Loads	**Mat. Wt**	**3rd Flr**		**2nd Flr**		**1st Flr**		**Base Level**	
	DL(psf)	Area(sf)	DL(lbs)	Area(SF)	DL(lbs)	Area(SF)	DL(lbs)	Area(SF)	DL(lbs)
Wt. Roof	15	2288	34320	0	0	0	0	0	0
Wt. Ceil	15	0	0	0	0	0	0	0	0
Wt. Ext. Wall[1]	12	1512	18144	1512	18144	1512	18144	0	0
Wt. Ext. Wall[2]	12	0	0	0	0	0	0	0	0
Wt. Int. Wall	10	1776	17760	1776	17760	1776	17760	0	0
Wt. Floor	25	1953	48825	1953	48825	0	0	0	0
		Sum 3rd	119049	Sum 2nd	84729	Sum 1st	35904	Sum Base	0
								Sum Total	239682

1. Total Weight of Ext. Wall
2. the Weight of Ext. Wall Perpendicular to Shear Force

Distribute Weights to Various Levels	**Roof**	**3rd FL**	**2nd FL**	**1st FL**		**Wt**
Tributary Weight	**Line**	**Line**	**Line**	**LIne**		**Sum**
Wt Roof 3rd	34320					34320
Wt Ceil 3rd	0					0
1/2 Wt Ext. Wl 3[1]	9072	9072				18144
1/2 Wt Ext. Wl 3[2]	0	0				
Wt Int. Wl 3		17760				17760
Wt Floor 3		48825				48825
Wt Roof 2nd		0				0
Wt Ceil 2nd		0				0
1/2 Wt Ext. Wl 2[1]		9072	9072			18144
1/2 Wt Ext. Wl 2[2]		0	0			
Wt Int. Wl 2			17760			17760
Wt Floor 2			48825			48825
Wt Roof 1st			0			0
Wt Ceil 1st			0			0
1/2 Wt Ext. Wl 1[1]			9072	9072		18144
1/2 Wt Ext. Wl 1[2]			0	0		
Wt Int. Wl 1				17760		17760
Wt Floor 1				0		0
1/2 Wt Ext. W Bsmt				0		
Wt Ceil Bsmt				0		
Line Sum[3]	43392	84729	84729	26832		212850
Line Sum[4]	34320	66585	66585	17760		

3. Total Weight including Total Ext. Wall Weight
4. Total Weight including Ext. Wall Weight Perpendicular to Shear Force

Determine Base Shear *ASCE 7-16 Section 12.8

Seismic Design Category:		D		ASCE 7-16; 11.4.3
Seismic Soil Classification Sx:		D		ASCE 7-16; 11.4.3
Snow Load:		25		
Importance Factor:	I=	1		ASCE 7-16; Table 1.5-2
Ground Motion:	S_s=	1.294	**g, 0.2 sec response**	ASCE 7-16; 11.4.2
	S_1=	0.679	**g, 1 sec response**	ASCE 7-16; 11.4.2
Site Coefficient	Fa=	1		ASCE 7-16; Table 11.4-1
	Fv=	1.7		ASCE 7-16; Table 11.4-2
Max Considered Earthquake acceleration	S_{MS}=	1.29		ASCE 7-16; Equation 11.4-1
	S_{M1}=	1.15		ASCE 7-16; Equation 11.4-2
Design Spectral Acceleration:	S_{DS}=	0.863		ASCE 7-16; Equation 11.4-3
	S_{D1}=	0.77		ASCE 7-16; Equation 11.4-4
Response Modification Coefficient:	R=	6.5		ASCE 7-16; Table 12.2-1
Building Period:	C_t=	0.02		ASCE 7-16; Table 12.8-2
	h_n=	35		(highest level of structure)
	x=	0.75		ASCE 7-16; Table 12.8-2
	T_a=	$C_t h_n^x$=	0.288	ASCE 7-16; Equation 12.8-7
	T_s=	S_{D1}/S_{DS}=	0.9	ASCE 7-16; 11.4.6
	T_L=	16		ASCE 7-16; Figure 22-14
Seismic response coefficent:	Cs=	S_{DS}/(R/I)=	0.1327	ASCE 7-16; Equation 12.8-2
	Cs, Min=	max of 0.01 or	$0.5S_1/(R/I)$= 0.05	ASCE 7-16; Equations 12.8-5 and 12.8-6
	Cs, Max=	(S_{D1}/T(R/I) for T<=T_L,		
		$S_{D1}T_L/T^2$(R/I) for T>T_L) =	0.4114	ASCE 7-16; Equations 12.8-3 and 12.8-4
Base Shear Acceleration:	V=	0.13	W	
		28249.02	(lbs)	ASCE 7-16; Equation 12.8-1

Distribute Shear to Various Levels

	Wtx	Htx	$(Wtx)(Ht)^k$	shear wall Fx	diaphragm Fpx	Max Fpx	Min Fpx	Cal. Fpx	Wpx
Roof 3	43392	26.0	1128192	9330	7379	11843	5921	7379	34320
3rd Fl/Roof2	84729	18.0	1525122	12613	11488	22976	11488	11404	66585
2nd Fl/Roof 1	84729	9.0	762561	6306	11488	22976	11488	8837	66585
1 st Floor	26832	0.0	0	0	3064	6128	3064	2093	17760
Sum	239682		3415875	28249					

STABILITY ENGINEERING INC.

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PROJECT: 22-0411 Cross Creek 3-Story DATE: 12/6/22

GENERAL BUILDING DATA Name: MB

Snow Load	25	psf
Allowable Soil Pressure	1500	psf
Occupancy Category	2	

	Plate Max. Ht(ft)	Roof Max. Ht(ft)
Roof	26	35
3rd fl	18	0
2nd fl	9	0
1st fl	0	

LATERAL LOAD SUMMARY

-----WIND(OSSC 19, SIMPLIFIED)-----

Basic Wind Speed:	135	mph							Wind Exposure:	D	
Adjustment Factor:	1.668								Roof Slope:	5	12
Important Factor:	1		$P_s=\lambda \times I_w \times K_{zt} \times P_{net30}$						Degrees:	22.61986	
K_{zt} #:	1.00								Load combination factor:	.6*W	

		Zones									
		Horizontal Pressures				Vertical Pressures				Overhangs	
		A	B	C	D	E	F	G	H	E_{OH}	G_{OH}
Load Case I	P_{net30}	40.1	-10.6	26.7	-5.9	-34.8	-24.2	-24.2	-18.4	-48.7	-38.1
	P_s	66.8	-17.7	44.5	-9.8	-58.0	-40.4	-40.4	-30.6	-81.2	-63.6

	LEFT WALL		RIGHT WALL					
	Exp. Width	Shear	Exp. Width	Shear	Exp. Width	Shear	Exp. Width	Shear
Story	(ft)	(K)	(ft)	(K)	(ft)	(K)	(ft)	(K)
3	24.0	3.0	24.0	3.0	0.0	0.0	0.0	0.0
2	24.0	6.8	24.0	6.8	0.0	0.0	0.0	0.0
1	24.0	7.7	24.0	7.7	0.0	0.0	0.0	0.0

-----SEISMIC(OSSC 19)-----

Seismic Design Category:	D	Seismic Soil Classification Sx:	D	Roof Dead Load(psf):	15
The short period spectral acceleration (S_s):	1.294	Lateral Resisting Factor (R):	6.5	Exterior wall Dead Load(psf):	12
1-sec spectral acceleration (S_1):	0.679	Importance Factor (I):	1	Floor Dead Load(psf):	25
Design Spectral Analysis Short Period Time(S_{DS}):	0.86	Structural Period (T):	0.2878	Interior wall Dead Load(psf):	10
Design Spectral Analysis 1-sec Time(S_{D1}):	0.77				

Total Dead Load(K): 212.85 (W)

Design Base Shear(K): **28** (**0.13** x W)

Shear Force Distribution:

						LEFT WALL		RIGHT WALL					
Story	Weight (K)	Height (ft)	Force F_x(K)	Summation (K)	Force F_{px}(K)	Weight (K)	Shear (K)	Weight (K)	Shear (K)	Weight (K)	Shear (K)	Weight (K)	Shear (K)
3	43.4	26	9	9	7	26.14	5.62	26.14	5.62	0.00		0.00	
2	84.7	18	13	22	11	42.38	6.31	42.38	6.31	0.00		0.00	
1	84.7	9	6	28	11	42.38	3.15	42.38	3.15	0.00		0.00	

Redundancy Calculation:

	Area	Fx(k)	S_{max}	þ
3rd flr	1953	9.3301	0	
2nd flr	1953	12.613	0	1
1st flr	0	6.3063	0	1

Redundancy Factor(þ): 1.00

Project: 22-0411 Cross Creek 3-Story
Loading Direction: F-B
Loading Area: LEFT WALL

Date: 12/6/22
Name: MB

STABILITY ENGINEERING INC.
P.O. Box 2646 Corvallis, Oregon 97339
p: 541.223.5360 f: 541.223.5278

WALL DESIGN

Nailing:	10			
Sheathing Thickness(in):	15/32	Rated		
Capacity(plf):				
SW1	260	SW5	760	
SW2	350	SW6	980	
SW3	490	SW7	1280	
SW4	640			
Thickness of Sill Plate in):	1.5			
Sill Bolt Size (in):	0.625			
Sill Bolt Capacity (lbs/bolt):	1376			
Max. Sill Bolt Spacing (in):	38			
Transverse Direction:				

Holdown Capacities (lb):	SEISMIC	WIND
DTT2Z	2145	2145
HDU2	2550	3075
HDU4	2960	3880
HDU5	3325	4295
HDU8	7315	7870
HDU11	11175	11175
HDU14-5.5	14445	14445
HD19-1 1/8	16775	16775
HD19-1 1/4	19070	19070

	3RD	2ND	1ST
Length of Bolt(in):	3	3	3

(In Vertical Wood Member)
Anchor Bolt Capacity(lbs):
Strap span(16, 18, 24, 30): 18

MSTA49	2.02	k
MSTC28	1.15	k
MSTC40	2.69	k
MSTC52	4.225	k
MSTC66	5.85	k
MSTC78	5.85	k

	G_{roup}	L	D	W	H_{max}	C_o	FR_{trib}	Offset Y/N	Wind V_{wind}	Wind $HD_{wind(k)}$	Seismic V_{seis}	Seismic $HD_{seis(k)}$	Wall Type	HD Type	18 in Strap Type
		40	0	0	0	1		n	75	2.6	100	0.0	SW1	HDU2	MSTC40
	1	0	0	0	0	1	3	n	0						
3RD		0	0	0	0	1		n	0						
Transverse:Y		0	0	0	0	1		n	0						
Total Length: 40 ft	2	0	0	0	0	1	3	n	0						
Effective Length: 40 ft		0	0	0	0	1		n	0						
Roof Height: 9 ft		0	0	0	0	1		n	0						
Wall Height: 8 ft	3	0	0	0	0	1	3	n	0						
		0	0	0	0	1		n	0						
Tributary Width: 24 ft	4	0	0	0	0	1			0						
Wind Force: 2.99 K	5	0	0	0	0	1	3		0						
Roof Area: 1144 ft2	6	0	0	0	0	1			0						
Wall Length:1496 ft	7	0	0	0	0	1			0						
Seismic Force: 4.01 K	8	0	0	0	0	1	3		0						
	9	0	0	0	0	1			0						
		40	0	0	0	1		n	246	3.2	213	0.0	SW1	HDU5	MSTC52
	1	0	0	0	0	1	3		0		0				
2ND		0	0	0	0	1			0		0				
Transverse:N		0	0	0	0	1			0		0				
Total Length: 40 ft	2	0	0	0	0	1	3		0		0				
Effective Length: 40 ft		0	0	0	0	1			0		0				
		0	0	0	0	1			0		0				
Wall Height: 9 ft	3	0	0	0	0	1	3		0		0				
		0	0	0	0	1			0		0				
Tributary Width: 24 ft	4	0	0	0	0	1			0		0				
Wind Force: 6.84 K	5	0	0	0	0	1	3		0		0				
Roof Area: 0 ft2	6	0	0	0	0	1			0		0				
Wall Area: 1496 ft2	7	0	0	0	0	1			0		0				
Floor Area: 977 ft2	8	0	0	0	0	1	3		0		0				
Seismic Force: 4.51 K	9	0	0	0	0	1			0		0				
		40	0	0	0	1			438	5.6	284	0.2	SW2	HDU8	
	1	0	0	0	0	1	3		0	0.0	0	0.0			
1ST		0	0	0	0	1			0	0.0	0	0.0			
Transverse:N		0	0	0	0	1			0	0.0	0	0.0			
Total Length: 40 ft	2	0	0	0	0	1	3		0	0.0	0	0.0			
Effective Length: 40 ft		0	0	0	0	1			0	0.0	0	0.0			
		0	0	0	0	1			0	0.0	0	0.0			
Wall Height: 9 ft	3	0	0	0	0	1	3	n	0	0.0	0	0.0			
		0	0	0	0	1			0	0.0	0	0.0			
Tributary Width: 24 ft	4	0	0	0	0	1			0	0.0	0	0.0			
Wind Force: 7.70 K	5	0	0	0	0	1	3		0	0.0	0	0.0			
Roof Area: 0 ft2	6	0	0	0	0	1			0	0.0	0	0.0			
Wall Area: 1496 ft2	7	0	0	0	0	1			0	0.0	0	0.0			
Floor Area: 977 ft2	8	0	0	0	0	1	3		0	0.0	0	0.0			
Seismic Force: 2.85 K	9	0	0	0	0	1			0	0.0	0	0.0			

Definitions

L: Wall Length
D: Door Length
H_{max}: Opening height
W: Window Length
V_{wind}: Wind Shear
HD_{wind}: Hold-Down Force(wind)
V_{seis}: Seismic Shear
HD_{seis}: Hold-Down Force(seismic)
FR_{trib}: Framing Tributary Width
Load Combo: .6D + .7E, .6D + W

Project: 22-0411 Cross Creek 3-Story
Loading Direction: F-B
Loading Area: RIGHT WALL

Date: 12/6/22
Name: MB

STABILITY ENGINEERING INC.

P.O. Box 2646 Corvallis, Oregon 97339
p: 541.223.5360 f: 541.223.5278

WALL DESIGN

Nailing: 10
Sheathing Thickness(in): 15/32 Rated
Capacity(plf):

SW1	260	SW5	760
SW2	350	SW6	980
SW3	490	SW7	1280
SW4	640		

Thickness of Sill Plate(in): 1.5
Sill Bolt Size (in): 0.625
Sill Bolt Capacity (lbs/bolt): 1376
Max. Sill Bolt Spacing (in): 38

Holdown Capacities (lb):	SEISMIC	WIND
DTT2Z	2145	2145
HDU2	2550	3075
HDU4	2960	3880
HDU5	3325	4295
HDU8	7315	7870
HDU11	11175	11175
HDU14-5.5	14445	14445
HD19-1 1/8	16775	16775
HD19-1 1/4	19070	19070

	3RD	2ND	1ST
Length of Bolt(in):	3	3	3

(In Vertical Wood Member)
Anchor Bolt Capacity(lbs):
Strap span(16, 18, 24, 30): 18

MSTA49	2.02	k
MSTC28	1.15	k
MSTC40	2.69	k
MSTC52	4.225	k
MSTC66	5.85	k
MSTC78	5.85	k

	Group	L	D	W	H_{max}	C_o	FR_{trib}	Offset Y/N	Wind V_{wind}	$HD_{wind(k)}$	Seismic V_{seis}	$HD_{seis(k)}$	Wall Type	HD Type	18 in Strap Type
		40	0	0	0	1			75	2.6	100	0.0	SW1	HDU2	MSTC40
	1	0	0	0	0	1	3								
3RD		0	0	0	0	1									
Transverse:Y		0	0	0	0	1									
Total Length: 40 ft	2	0	0	0	0	1	3								
Effective Length: 40 ft		0	0	0	0	1									
Roof Height: 9 ft		0	0	0	0	1		n							
Wall Height: 8 ft	3	0	0	0	0	1	3	n							
		0	0	0	0	1									
Tributary Width: 24 ft	4	0	0	0	0	1									
Wind Force: 2.99 K	5	0	0	0	0	1	3								
Roof Area: 1144 ft2	6	0	0	0	0	1									
Wall Length:1496 ft	7	0	0	0	0	1									
Seismic Force: 4.01 K	8	0	0	0	0	1	3								
	9	0	0	0	0	1									
		40	0	0	0	1		N	246	3.2	213	0.0	SW1	HDU5	MSTC52
	1	0	0	0	0	1	3		0		0				
2ND		0	0	0	0	1			0		0				
Transverse:N		0	0	0	0	1			0		0				
Total Length: 40 ft	2	0	0	0	0	1	3		0		0				
Effective Length: 40 ft		0	0	0	0	1			0		0				
		0	0	0	0	1			0		0				
Wall Height: 9 ft	3	0	0	0	0	1	3		0		0				
		0	0	0	0	1			0		0				
Tributary Width: 24 ft	4	0	0	0	0	1			0		0				
Wind Force: 6.84 K	5	0	0	0	0	1	3		0		0				
Roof Area: 0 ft2	6	0	0	0	0	1			0		0				
Wall Area: 1496 ft2	7	0	0	0	0	1			0		0				
Floor Area: 977 ft2	8	0	0	0	0	1	3		0		0				
Seismic Force: 4.51 K	9	0	0	0	0	1			0		0				
		40	0	0	0	1			438	5.6	284	0.2	SW2	HDU8	
	1	0	0	0	0	1	3		0	0.0	0	0.0			
1ST		0	0	0	0	1			0	0.0	0	0.0			
Transverse:N		0	0	0	0	1			0	0.0	0	0.0			
Total Length: 40 ft	2	0	0	0	0	1	3		0	0.0	0	0.0			
Effective Length: 40 ft		0	0	0	0	1			0	0.0	0	0.0			
		0	0	0	0	1			0	0.0	0	0.0			
Wall Height: 9 ft	3	0	0	0	0	1	3		0	0.0	0	0.0			
		0	0	0	0	1			0	0.0	0	0.0			
Tributary Width: 24 ft	4	0	0	0	0	1			0	0.0	0	0.0			
Wind Force: 7.70 K	5	0	0	0	0	1	3		0	0.0	0	0.0			
Roof Area: 0 ft2	6	0	0	0	0	1			0	0.0	0	0.0			
Wall Area:1496 ft2	7	0	0	0	0	1			0	0.0	0	0.0			
Floor Area: 977 ft2	8	0	0	0	0	1	3		0	0.0	0	0.0			
Seismic Force: 2.85 K	9	0	0	0	0	1			0	0.0	0	0.0			

Definitions

L: Wall Length	H_{max}: Opening height	V_{wind}: Wind Shear	V_{seis}: Seismic Shear	FR_{trib}: Framing Tributary Width
D: Door Length	W: Window Length	HD_{wind}: Hold-Down Force(wind)	HD_{seis}: Hold-Down Force(seismic)	Load Combo: .6D + .7E, .6D + W

STABILITY ENGINEERING INC.

P.O. Box 2646 Corvallis, Oregon 97339
p: 541.223.5360 f: 541.223.5278

PROJECT: 22-0411 Cross Creek 3-Story DATE: 12/17/22

GENERAL BUILDING DATA Name: MB

			Plate	Roof
Snow Load	25	psf	Max. Ht(ft)	
Allowable Soil Pressure	1500	psf	Roof	26	35
Occupancy Category	2		3rd fl	18	0
			2nd fl	9	0
			1st fl	0	

LATERAL LOAD SUMMARY

-----WIND(OSSC 19, SIMPLIFIED)-----

Basic Wind Speed: 135 mph
Adjustment Factor: 1.668
Important Factor: 1
K_{zt} #: 1.00

$P_s = \lambda \times I_w \times K_{zt} \times P_{net30}$

Wind Exposure: D
Roof Slope: 5 12
Degrees: 22.61986
Load combination factor: .6*W

		Zones									
		Horizontal Pressures				Vertical Pressures				Overhangs	
		A	B	C	D	E	F	G	H	E_{OH}	G_{OH}
Load Case I	P_{net30}	40.1	-10.6	26.7	-5.9	-34.8	-24.2	-24.2	-18.4	-48.7	-38.1
	P_s	66.8	-17.7	44.5	-9.8	-58.0	-40.4	-40.4	-30.6	-81.2	-63.6

	FRONT WALLS		BACK WALL					
	Exp. Width	Shear	Exp. Width	Shear	Exp. Width	Shear	Exp. Width	Shear
Story	(ft)	(K)	(ft)	(K)	(ft)	(K)	(ft)	(K)
3	20.8	2.6	20.8	2.6	0.0	0.0	0.0	0.0
2	20.8	6.1	20.8	6.1	0.0	0.0	0.0	0.0
1	20.8	5.0	20.8	6.9	0.0	0.0	0.0	0.0

-----SEISMIC(OSSC 19)-----

Seismic Design Category: D
The short period spectral acceleration (S_s): 1.294
1-sec spectral acceleration (S_1): 0.679
Design Spectral Analysis Short Period Time(S_{DS}): 0.86
Design Spectral Analysis 1-sec Time(S_{D1}): 0.77

Seismic Soil Classification Sx: D
Lateral Resisting Factor (R): 6.5
Importance Factor (I): 1
Structural Period (T): 0.2878

Roof Dead Load(psf): 15
Exterior wall Dead Load(psf): 12
Floor Dead Load(psf): 25
Interior wall Dead Load(psf): 10

Total Dead Load(K): 212.85 (W)

Design Base Shear(K): **28** (**0.13** x W)

Shear Force Distribution:

						FRONT WALL		BACK WALL					
Story	Weight (K)	Height (ft)	Force F_x(K)	Summation (K)	Force F_{px}(K)	Weight (K)	Shear (K)	Weight (K)	Shear (K)	Weight (K)	Shear (K)	Weight (K)	Shear (K)
3	43.4	26	9	9	7	26.14	5.62	26.14	5.62	0.00		0.00	
2	84.7	18	13	22	11	35.11	5.23	35.11	5.23	0.00		0.00	
1	84.7	9	6	28	11	42.38	3.15	42.38	3.15	0.00		0.00	

Redundancy Calculation:

	Area	Fx(k)	S_{max}	þ
3rd flr	1953	9.3301	0	
2nd flr	1953	12.613	0	1
1st flr	0	6.3063	0	1

Redundancy Factor(þ): 1.00

Project: 22-0411 Cross Creek 3-Story
Loading Direction: L-R
Loading Area: FRONT WALLS

Date: 12/17/22
Name: MB

STABILITY ENGINEERING INC.
P.O. Box 2646 Corvallis, Oregon 97339
p: 541.223.5360 f: 541.223.5278

WALL DESIGN

Nailing:	10			
Sheathing Thickness(in):	15/32	Rated		
Capacity(plf):				
SW1	260	SW5	760	
SW2	350	SW6	980	
SW3	490	SW7	1280	
SW4	640			
Thickness of Sill Plate in):	1.5			
Sill Bolt Size (in):	0.625			
Sill Bolt Capacity (lbs/bolt):	1376			
Max. Sill Bolt Spacing (in):	39			
Transverse Direction:				

Holdown Capacities (lb):	SEISMIC	WIND
DTT2Z	2145	2145
HDU2	2550	3075
HDU4	2960	3880
HDU5	3325	4295
HDU8	7315	7870
HDU11	11175	11175
HDU14-5.5	14445	14445
HD19-1 1/8	16775	16775
HD19-1 1/4	19070	19070

	3RD	2ND	1ST
Length of Bolt(in):	3	3	3

(In Vertical Wood Member)
Anchor Bolt Capacity(lbs):
Strap span(16, 18, 24, 30): 18

MSTA49	2.02	k
MSTC28	1.15	k
MSTC40	2.69	k
MSTC52	4.225	k
MSTC66	5.85	k
MSTC78	5.85	k

	G_{roup}	L	D	W	H_{max}	C_o	FR_{trib}	Offset Y/N	Wind V_{wind}	Wind $HD_{wind(k)}$	Seismic V_{seis}	Seismic $HD_{seis(k)}$	Wall Type	HD Type	18 in Strap Type
		6.8	0	0	0	1		n	107	1.2	162	0.9	SW1	DTT2Z	MSTA49
	1	13	0	4	5	0.792262	3	n	135	1.7	204	0.9	SW1	DTT2Z	MSTA49
3RD		13	0	4	5	0.792262		n	135	1.7	204	0.9	SW1	DTT2Z	MSTA49
Transverse:Y		0	0	0	0	1		n	0						
Total Length: 32.8 ft	2	0	0	0	0	1	3	n	0						
Effective Length: 24.8 ft		0	0	0	0	1		n	0						
Roof Height: 9 ft		0	0	0	0	1		n	0						
Wall Height: 8 ft	3	0	0	0	0	1	3	n	0						
		0	0	0	0	1		n	0						
Tributary Width: 20.75 ft	4	0	0	0	0	1			0						
Wind Force: 2.65 K	5	0	0	0	0	1	3		0						
Roof Area: 1144 ft2	6	0	0	0	0	1			0						
Wall Length:1496 ft	7	0	0	0	0	1			0						
Seismic Force: 4.01 K	8	0	0	0	0	1	3		0						
	9	0	0	0	0	1			0						
		6.8	0	0	0	1		n	353	4.1	312	3.0	SW2	HDU5	MSTC52
	1	13	0	4	5	0.833741	3		423	4.8	375	2.9	SW3	HDU8	MSTC66
2ND		13	0	4	5	0.833741			423	4.8	375	2.9	SW3	HDU8	MSTC66
Transverse:N		0	0	0	0	1			0		0				
Total Length: 32.8 ft	2	0	0	0	0	1	3		0		0				
Effective Length: 24.8 ft		0	0	0	0	1			0		0				
		0	0	0	0	1			0		0				
Wall Height: 9 ft	3	0	0	0	0	1	3		0		0				
		0	0	0	0	1			0		0				
Tributary Width: 20.75 ft	4	0	0	0	0	1			0		0				
Wind Force: 6.10 K	5	0	0	0	0	1	3		0		0				
Roof Area: 1144 ft2	6	0	0	0	0	1			0		0				
Wall Area: 1496 ft2	7	0	0	0	0	1			0		0				
Floor Area: 0 ft2	8	0	0	0	0	1	3		0		0				
Seismic Force: 3.73 K	9	0	0	0	0	1			0		0				
		6.8	0	0	0	1			554	8.8	427	6.4	SW3	HDU11	
	1	13	0	4	5	0.833741	3		664	10.3	513	6.7	SW4	HDU11	
1ST		13	0	4	5	0.833741			664	10.3	513	6.7	SW4	HDU11	
Transverse:N		0	0	0	0	1			0	0.0	0	0.0			
Total Length: 32.8 ft	2	0	0	0	0	1	3		0	0.0	0	0.0			
Effective Length: 24.8 ft		0	0	0	0	1			0	0.0	0	0.0			
		0	0	0	0	1			0	0.0	0	0.0			
Wall Height: 9 ft	3	0	0	0	0	1	3	n	0	0.0	0	0.0			
		0	0	0	0	1			0	0.0	0	0.0			
Tributary Width: 20.75 ft	4	0	0	0	0	1			0	0.0	0	0.0			
Wind Force: 4.99 K	5	0	0	0	0	1	3		0	0.0	0	0.0			
Roof Area: 0 ft2	6	0	0	0	0	1			0	0.0	0	0.0			
Wall Area: 1496 ft2	7	0	0	0	0	1			0	0.0	0	0.0			
Floor Area: 977 ft2	8	0	0	0	0	1	3		0	0.0	0	0.0			
Seismic Force: 2.85 K	9	0	0	0	0	1			0	0.0	0	0.0			

Definitions

L: Wall Length
D: Door Length
H_{max}: Opening height
W: Window Length
V_{wind}: Wind Shear
HD_{wind}: Hold-Down Force(wind)
V_{seis}: Seismic Shear
HD_{seis}: Hold-Down Force(seismic)
FR_{trib}: Framing Tributary Width
Load Combo: .6D + .7E, .6D + W

Project:	22-0411 Cross Creek 3-Story	Date:	12/17/22
Loading Direction:	L-R	Name:	MB
Loading Area:	BACK WALL		

STABILITY ENGINEERING INC.

P.O. Box 2646 Corvallis, Oregon 97339
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WALL DESIGN

Nailing:	10			
Sheathing Thickness(in):	15/32	Rated		
Capacity(plf):				
SW1	260	SW5	760	
SW2	350	SW6	980	
SW3	490	SW7	1280	
SW4	640			
Thickness of Sill Plate(in):	1.5			
Sill Bolt Size (in):	0.625			
Sill Bolt Capacity (lbs/bolt):	1376			
Max. Sill Bolt Spacing (in):	44			

Holdown Capacities (lb):	SEISMIC	WIND
DTT2Z	2145	2145
HDU2	2550	3075
HDU4	2960	3880
HDU5	3325	4295
HDU8	7315	7870
HDU11	11175	11175
HDU14-5.5	14445	14445
HD19-1 1/8	16775	16775
HD19-1 1/4	19070	19070

		3RD	2ND	1ST
Length of Bolt(in):		3	3	3
(In Vertical Wood Member)				
Anchor Bolt Capacity(lbs):				
Strap span(16, 18, 24, 30):		18		
MSTA49	2.02 k			
MSTC28	1.15 k			
MSTC40	2.69 k			
MSTC52	4.225 k			
MSTC66	5.85 k			
MSTC78	5.85 k			

	G_{roup}	L	D	W	H_{max}	C_o	FR_{trib}	Offset Y/N	Wind V_{wind}	$HD_{wind(k)}$	Seismic V_{seis}	$HD_{seis(k)}$	Wall Type	HD Type	18 in Strap Type
		48	6	13	6.7	0.630795			145	0.2	219	0.4	SW1	DTT2Z	MSTC28
	1	0	0	0	0	1	0								
3RD		0	0	0	0	1									
Transverse:Y		0	0	0	0	1									
Total Length: 48 ft	2	0	0	0	0	1	3								
Effective Length: 29 ft		0	0	0	0	1									
Roof Height: 5.8 ft		0	0	0	0	1		n							
Wall Height: 8 ft	3	0	0	0	0	1	3	n							
		0	0	0	0	1									
Tributary Width: 20.75 ft	4	0	0	0	0	1									
Wind Force: 2.65 K	5	0	0	0	0	1	3								
Roof Area: 1144 ft2	6	0	0	0	0	1									
Wall Length:1496 ft	7	0	0	0	0	1									
Seismic Force: 4.01 K	8	0	0	0	0	1	3								
	9	0	0	0	0	1									
		48	6	13	6.7	0.675899		N	446	2.1	395	0.7	SW3	DTT2Z	MSTC40
	1	0	0	0	0	1	3		0		0				
2ND		0	0	0	0	1			0		0				
Transverse:N		0	0	0	0	1			0		0				
Total Length: 48 ft	2	0	0	0	0	1	3		0		0				
Effective Length: 29 ft		0	0	0	0	1			0		0				
		0	0	0	0	1			0		0				
Wall Height: 9 ft	3	0	0	0	0	1	3		0		0				
		0	0	0	0	1			0		0				
Tributary Width: 20.75 ft	4	0	0	0	0	1			0		0				
Wind Force: 6.10 K	5	0	0	0	0	1	3		0		0				
Roof Area: 1144 ft2	6	0	0	0	0	1			0		0				
Wall Area: 1496 ft2	7	0	0	0	0	1			0		0				
Floor Area: 0 ft2	8	0	0	0	0	1	3		0		0				
Seismic Force: 3.73 K	9	0	0	0	0	1			0		0				
		48	6	13	6.7	0.675899			799	7.4	541	2.7	SW4	HDU8	
	1	0	0	0	0	1	3		0	0.0	0	0.0			
1ST		0	0	0	0	1			0	0.0	0	0.0			
Transverse:N		0	0	0	0	1			0	0.0	0	0.0			
Total Length: 48 ft	2	0	0	0	0	1	3		0	0.0	0	0.0			
Effective Length: 29 ft		0	0	0	0	1			0	0.0	0	0.0			
		0	0	0	0	1			0	0.0	0	0.0			
Wall Height: 9 ft	3	0	0	0	0	1	3		0	0.0	0	0.0			
		0	0	0	0	1			0	0.0	0	0.0			
Tributary Width: 20.75 ft	4	0	0	0	0	1			0	0.0	0	0.0			
Wind Force: 6.91 K	5	0	0	0	0	1	3		0	0.0	0	0.0			
Roof Area: 0 ft2	6	0	0	0	0	1			0	0.0	0	0.0			
Wall Area:1496 ft2	7	0	0	0	0	1			0	0.0	0	0.0			
Floor Area: 977 ft2	8	0	0	0	0	1	3		0	0.0	0	0.0			
Seismic Force: 2.85 K	9	0	0	0	0	1			0	0.0	0	0.0			

Definitions

L: Wall Length	H_{max}: Opening height	V_{wind}: Wind Shear	V_{seis}: Seismic Shear	FR_{trib}: Framing Tributary Width
D: Door Length	W: Window Length	HD_{wind}: Hold-Down Force(wind)	HD_{seis}: Hold-Down Force(seismic)	Load Combo: .6D + .7E, .6D + W

SIMPSON Strong-Tie®

Anchor Designer™ Software
Version 3.0.7947.0

Company:	Stability Engineering	Date:	9/12/2022
Engineer:	M. Beaudoin	Page:	1/5
Project:	22-0411 Cross Creek 3-Story		
Address:			
Phone:			
E-mail:			

1.Project information

Customer company: Osburn Olson LLC
Customer contact name:
Customer e-mail:
Comment:

Project description:
Location: HD19 Anchors
Fastening description:

2. Input Data & Anchor Parameters

General
Design method:ACI 318-14
Units: Imperial units

Anchor Information:
Anchor type: Cast-in-place
Material: AB
Diameter (inch): 1.125
Effective Embedment depth, h_{ef} (inch): 15.000
Anchor category: -
Anchor ductility: Yes
h_{min} (inch): 17.75
C_{min} (inch): 6.75
S_{min} (inch): 6.75

Base Material
Concrete: Normal-weight
Concrete thickness, h (inch): 18.00
State: Uncracked
Compressive strength, f'_c (psi): 2500
$\Psi_{c,V}$: 1.0
Reinforcement condition: B tension, B shear
Supplemental reinforcement: No
Reinforcement provided at corners: No
Ignore concrete breakout in tension: No
Ignore concrete breakout in shear: No
Ignore 6do requirement: No
Build-up grout pad: No

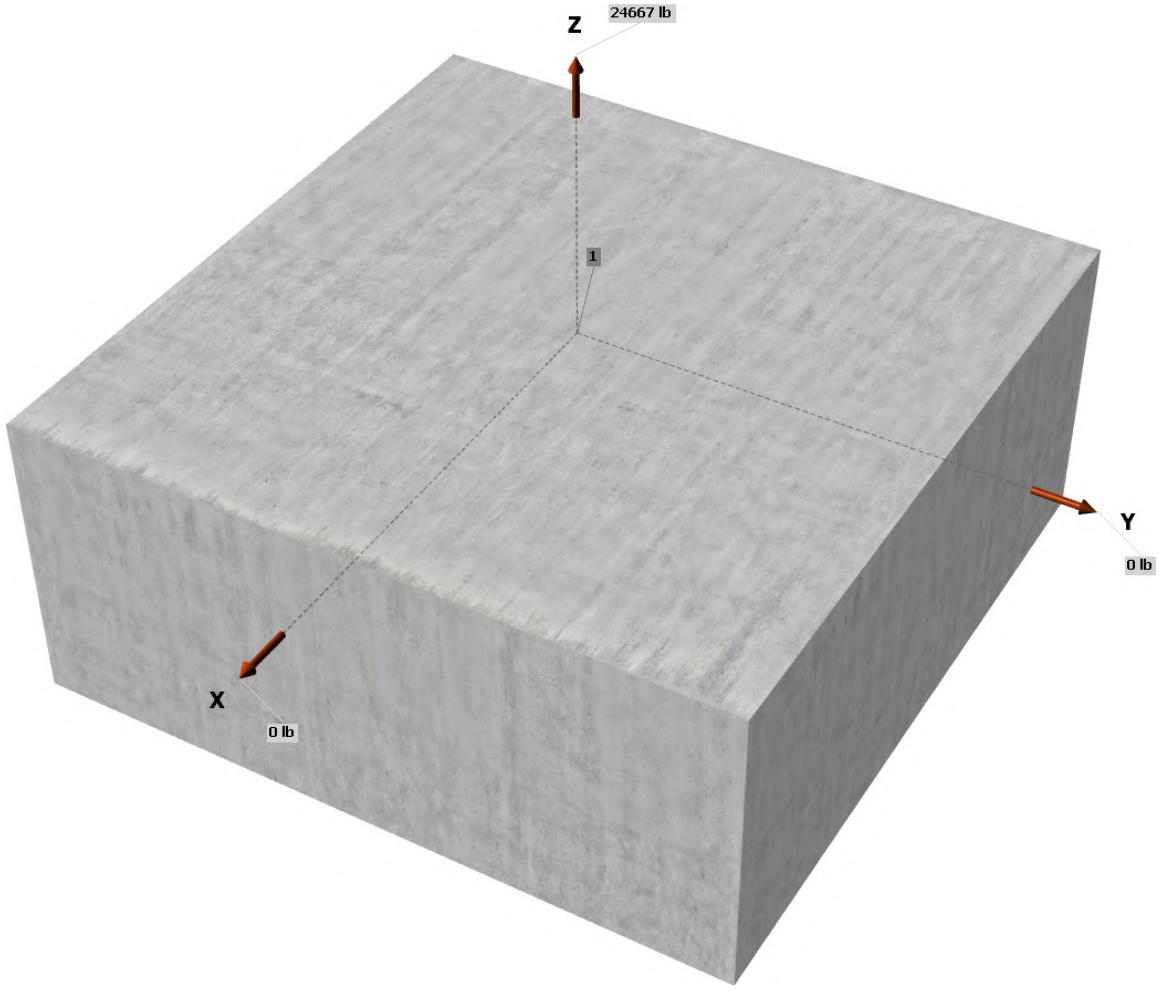
Recommended Anchor
Anchor Name: PAB Pre-Assembled Anchor Bolt - PAB9 (1 1/8"Ø)

Load and Geometry
Load factor source: ACI 318 Section 5.3
Load combination: not set
Seismic design: No
Anchors subjected to sustained tension: Not applicable
Apply entire shear load at front row: No
Anchors only resisting wind and/or seismic loads: No

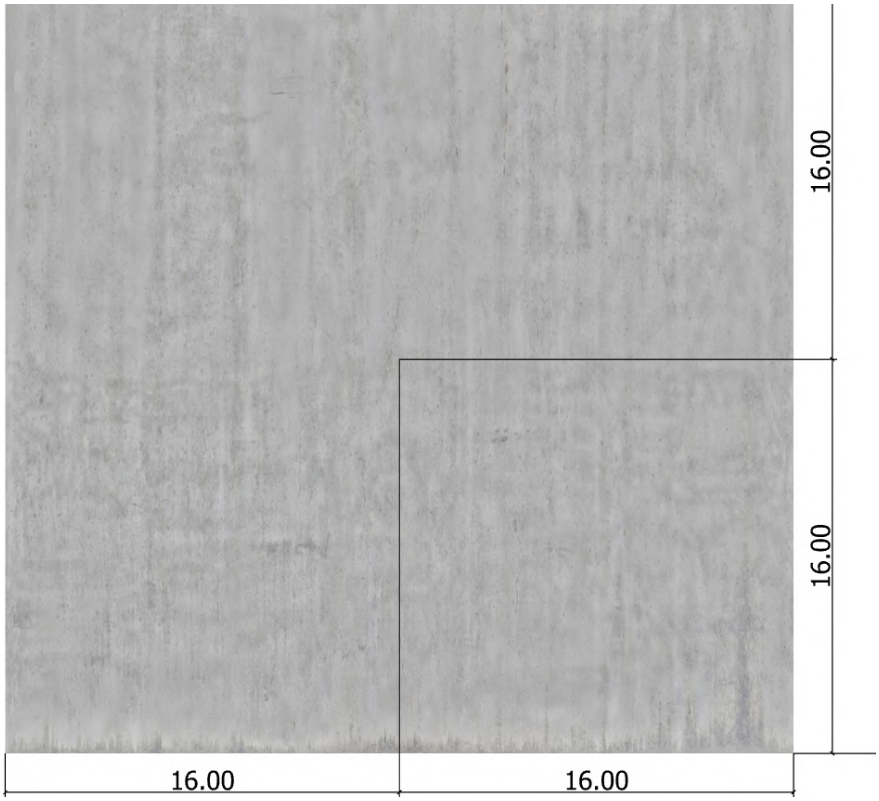
Strength level loads:

N_{ua} [lb]: 24667
V_{uax} [lb]: 0
V_{uay} [lb]: 0

<Figure 1>



<Figure 2>



3. Resulting Anchor Forces

Anchor	Tension load, N_{ua} (lb)	Shear load x, V_{uax} (lb)	Shear load y, V_{uay} (lb)	Shear load combined, $\sqrt{(V_{uax})^2+(V_{uay})^2}$ (lb)
1	24667.0	0.0	0.0	0.0
Sum	24667.0	0.0	0.0	0.0

Maximum concrete compression strain (‰): 0.00
Maximum concrete compression stress (psi): 0
Resultant tension force (lb): 24667
Resultant compression force (lb): 0
Eccentricity of resultant tension forces in x-axis, e'_{Nx} (inch): 0.00
Eccentricity of resultant tension forces in y-axis, e'_{Ny} (inch): 0.00

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

N_{sa} (lb)	ϕ	ϕN_{sa} (lb)
44255	0.75	33191

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

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

λ_a	f'_c (psi)	h_{ef} (in)	N_b (lb)
1.00	2500	10.667	41350

$\phi N_{cb} = \phi\,(A_{Nc}/A_{Nco})\,\Psi_{ed,N}\,\Psi_{c,N}\,\Psi_{cp,N}N_b$ (Sec. 17.3.1 & Eq. 17.4.2.1a)

A_{Nc} (in^2)	A_{Nco} (in^2)	$c_{a,min}$ (in)	$\Psi_{ed,N}$	$\Psi_{c,N}$	$\Psi_{cp,N}$	N_b (lb)	ϕ	ϕN_{cb} (lb)
1024.00	1024.00	16.00	1.000	1.25	1.000	41350	0.70	36181

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

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

$\Psi_{c,P}$	A_{brg} (in^2)	f'_c (psi)	ϕ	ϕN_{pn} (lb)
1.4	6.37	2500	0.70	124852

11. Results

11. Interaction of Tensile and Shear Forces (Sec. D.7)?

Tension	Factored Load, N_{ua} (lb)	Design Strength, ϕN_n (lb)	Ratio	Status
Steel	**24667**	**33191**	**0.74**	**Pass (Governs)**
Concrete breakout	24667	36181	0.68	Pass
Pullout	24667	124852	0.20	Pass

PAB9 (1 1/8"Ø) with hef = 15.000 inch meets the selected design criteria.

12. Warnings

- Designer must exercise own judgement to determine if this design is suitable.

SIMPSON Strong-Tie®

Anchor Designer™ Software
Version 3.0.7947.0

Company:	Stability Engineering	Date:	9/12/2022
Engineer:	M. Beaudoin	Page:	1/5
Project:	22-0411 Cross Creek 3-Story		
Address:			
Phone:			
E-mail:			

1.Project information

Customer company: Osburn Olson LLC
Customer contact name:
Customer e-mail:
Comment:

Project description:
Location: HDU14 Anchors
Fastening description:

2. Input Data & Anchor Parameters

General
Design method:ACI 318-14
Units: Imperial units

Anchor Information:
Anchor type: Cast-in-place
Material: AB
Diameter (inch): 1.000
Effective Embedment depth, h_{ef} (inch): 13.000
Anchor category: -
Anchor ductility: Yes
h_{min} (inch): 15.63
C_{min} (inch): 6.00
S_{min} (inch): 6.00

Base Material
Concrete: Normal-weight
Concrete thickness, h (inch): 16.00
State: Uncracked
Compressive strength, f'_c (psi): 2500
$\Psi_{c,V}$: 1.0
Reinforcement condition: B tension, B shear
Supplemental reinforcement: No
Reinforcement provided at corners: No
Ignore concrete breakout in tension: No
Ignore concrete breakout in shear: No
Ignore 6do requirement: No
Build-up grout pad: No

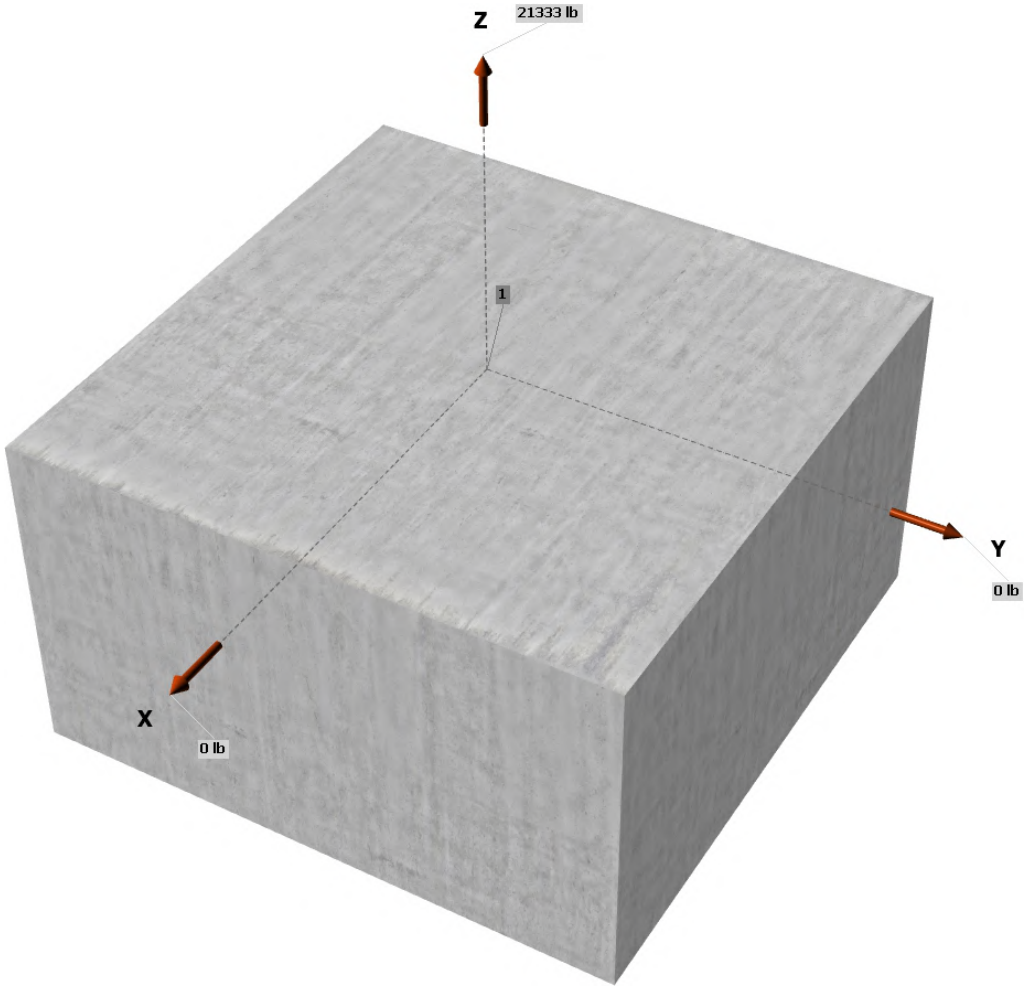
Recommended Anchor
Anchor Name: PAB Pre-Assembled Anchor Bolt - PAB8 (1"Ø)

Load and Geometry
Load factor source: ACI 318 Section 5.3
Load combination: not set
Seismic design: No
Anchors subjected to sustained tension: Not applicable
Apply entire shear load at front row: No
Anchors only resisting wind and/or seismic loads: No

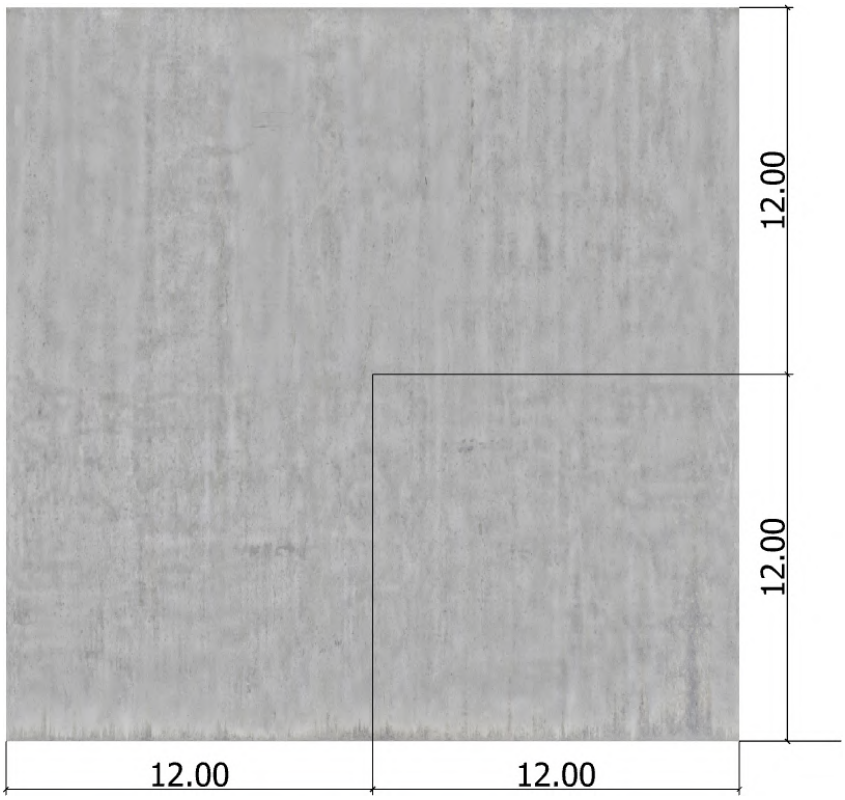
Strength level loads:

N_{ua} [lb]: 21333
V_{uax} [lb]: 0
V_{uay} [lb]: 0

<Figure 1>



<Figure 2>



3. Resulting Anchor Forces

Anchor	Tension load, N_{ua} (lb)	Shear load x, V_{uax} (lb)	Shear load y, V_{uay} (lb)	Shear load combined, $\sqrt{(V_{uax})^2+(V_{uay})^2}$ (lb)
1	21333.0	0.0	0.0	0.0
Sum	21333.0	0.0	0.0	0.0

Maximum concrete compression strain (‰): 0.00
Maximum concrete compression stress (psi): 0
Resultant tension force (lb): 21333
Resultant compression force (lb): 0
Eccentricity of resultant tension forces in x-axis, e'_{Nx} (inch): 0.00
Eccentricity of resultant tension forces in y-axis, e'_{Ny} (inch): 0.00

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

N_{sa} (lb)	ϕ	ϕN_{sa} (lb)
35150	0.75	26363

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

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

λ_a	f'_c (psi)	h_{ef} (in)	N_b (lb)
1.00	2500	8.000	25600

$\phi N_{cb} = \phi\,(A_{Nc}/A_{Nco})\,\Psi_{ed,N}\,\Psi_{c,N}\,\Psi_{cp,N}N_b$ (Sec. 17.3.1 & Eq. 17.4.2.1a)

A_{Nc} (in^2)	A_{Nco} (in^2)	$c_{a,min}$ (in)	$\Psi_{ed,N}$	$\Psi_{c,N}$	$\Psi_{cp,N}$	N_b (lb)	ϕ	ϕN_{cb} (lb)
576.00	576.00	12.00	1.000	1.25	1.000	25600	0.70	22400

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

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

$\Psi_{c,P}$	A_{brg} (in^2)	f'_c (psi)	ϕ	ϕN_{pn} (lb)
1.4	5.15	2500	0.70	101018

11. Results

11. Interaction of Tensile and Shear Forces (Sec. D.7)?

Tension	Factored Load, N_{ua} (lb)	Design Strength, ϕN_n (lb)	Ratio	Status
Steel	21333	26363	0.81	Pass
Concrete breakout	**21333**	**22400**	**0.95**	**Pass (Governs)**
Pullout	21333	101018	0.21	Pass

PAB8 (1"Ø) with hef = 13.000 inch meets the selected design criteria.

12. Warnings

- Designer must exercise own judgement to determine if this design is suitable.

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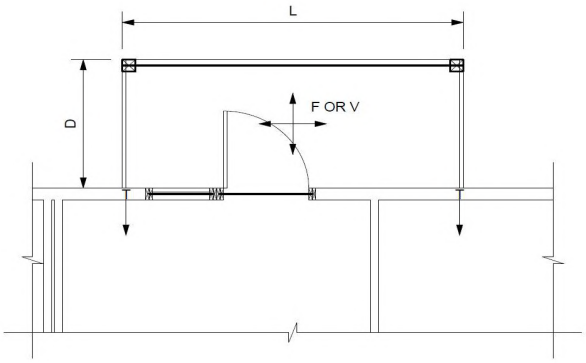
LATERAL DESIGN

SKETCH:



ROTATION EQUATION:
T = MAX(F,V)*(D/2)/L

PULLOUT EQUATION:
T = V/2

WIND PRESSURE	P = 42	PSF	[ZONE C]
SEISMIC FACTOR	S_{DS} = 0.862		

REAR DECK

L =	12	FT	F = (P)(D)(H)		[WIND LOAD]
D =	5	FT	F = 126	LB	
H =	1	FT	V = (S_{DS}/R)*W		[SEISMIC LOAD]
			V = 156	LB	

ROTATION:	T =	32	LB	T = 78 LB	CONTROLS
PULLOUT:	T =	78	LB		
				?	
DTT1Z CAPACITY =		640	LB	> 78	LB

GOOD

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OUT OF PLANE CHECKS

8' STUD CHECK
H = 8'-0" LOAD = 25.2 PSF
AT 16" O.C.

8' SINGLE KING STUD
H = 8'-0" TRIB WIDTH = 5.67 FT
LOAD = 143 PLF
***MAX WIDTH = 10' > ALL OPENINGS**

KEY: (ZONE C)
WIND LOAD = 42 PSF
$WIND\ LOAD_{ASD}$ = 25.2 PSF

Project: 22-0411 3-STORY

Location: 8' STUD CHECK
Column
[2015 International Building Code(2015 NDS)]
1.5 IN x 5.5 IN x 8.0 FT @ 16 O.C.
#2 - Douglas-Fir-Larch - Dry Use
Section Adequate By: 80.3%

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DEFLECTIONS

Deflection due to lateral loads only:	Defl = 0.09	IN = L/1040
Live Load Deflection Criteria:		L/180

VERTICAL REACTIONS

Live Load:	Vert-LL-Rxn =	0	lb
Dead Load:	Vert-DL-Rxn =	14	lb
Total Load:	Vert-TL-Rxn =	14	lb

HORIZONTAL REACTIONS

Total Reaction at Top of Column:	TL-Rxn-Top =	133	lb
Total Reaction at Bottom of Column:	TL-Rxn-Bottom =	133	lb

COLUMN DATA

Total Column Length:	8	ft
Unbraced Length (X-Axis) Lx:	8	ft
Unbraced Length (Y-Axis) Ly:	0	ft
Column End Condition-K (e):	1	
Axial Load Duration Factor	1.00	
Lateral Load Duration Factor (Wind/Seismic)	1.60	

STUD PROPERTIES

#2 - Douglas-Fir-Larch

	Base Values	Adjusted
Compressive Stress:	Fc = 1350 psi	Fc' = 1272 psi
	Cd=1.60 Cf=1.10 Cp=0.54	
Bending Stress (X-X Axis):	Fbx = 900 psi	Fbx' = 2153 psi
	Cd=1.60 CF=1.30 Cr=1.15 Cl=1.00	
Bending Stress (Y-Y Axis):	Fby = 900 psi	Fby' = 2153 psi
	Cd=1.60 CF=1.30 Cr=1.15	
Modulus of Elasticity:	E = 1600 ksi	E' = 1600 ksi

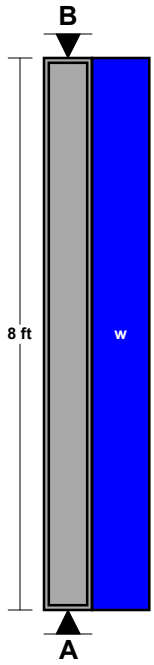
Stud Section (X-X Axis):	dx =	5.5	in
Stud Section (Y-Y Axis):	dy =	1.5	in
Area:	A =	8.25	in2
Section Modulus (X-X Axis):	Sx =	7.56	in3
Section Modulus (Y-Y Axis):	Sy =	2.06	in3
Slenderness Ratio:	Lex/dx =	17.45	
	Ley/dy =	0	

Stud Calculations (Controlling Case Only):

Controlling Load Case: Axial Dead Load and Lateral loads (D + W or E)

Actual Compressive Stress:	Fc =	2	psi
Allowable Compressive Stress:	Fc' =	1272	psi
Eccentricity Moment (X-X Axis):	Mx-ex =	0	ft-lb
Eccentricity Moment (Y-Y Axis):	My-ey =	0	ft-lb
Moment Due to Lateral Loads (X-X Axis):	Mx =	267	ft-lb
Moment Due to Lateral Loads (Y-Y Axis):	My =	0	ft-lb
Bending Stress Lateral Loads Only (X-X Axis):	Fbx =	423	psi
Allowable Bending Stress (X-X Axis):	Fbx' =	2153	psi
Bending Stress Lateral Loads Only (Y-Y Axis):	Fby =	0	psi
Allowable Bending Stress (Y-Y Axis):	Fby' =	2153	psi
Combined Stress Factor:	**CSF =**	**0.2**	

LOADING DIAGRAM



AXIAL LOADING

Live Load:	PL =	0	plf
Dead Load:	PD =	0	plf
Column Self Weight:	CSW =	14	plf
Total Axial Load:	PT =	14	plf

LATERAL LOADING (Dy Face)

Uniform Lateral Load:	wL-Lat =	25	psf

Project: 22-0411 3-STORY

Location: 8' SINGLE KING STUD
Column
[2015 International Building Code(2015 NDS)]
1.5 IN x 5.5 IN x 8.0 FT
#2 - Douglas-Fir-Larch - Dry Use
Section Adequate By: 2.9%

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DEFLECTIONS

Deflection due to lateral loads only:	Defl =	0.4	IN = L/242
Live Load Deflection Criteria:			L/180

VERTICAL REACTIONS

Live Load:	Vert-LL-Rxn =	0	lb
Dead Load:	Vert-DL-Rxn =	14	lb
Total Load:	Vert-TL-Rxn =	14	lb

HORIZONTAL REACTIONS

Total Reaction at Top of Column:	TL-Rxn-Top =	572	lb
Total Reaction at Bottom of Column:	TL-Rxn-Bottom =	572	lb

COLUMN DATA

Total Column Length:	8	ft
Unbraced Length (X-Axis) Lx:	8	ft
Unbraced Length (Y-Axis) Ly:	0	ft
Column End Condition-K (e):	1	
Axial Load Duration Factor	1.00	
Lateral Load Duration Factor (Wind/Seismic)	1.60	

COLUMN PROPERTIES

#2 - Douglas-Fir-Larch

	Base Values	Adjusted
Compressive Stress:	Fc = 1350 psi	Fc' = 1272 psi
	Cd=1.60 Cf=1.10 Cp=0.54	
Bending Stress (X-X Axis):	Fbx = 900 psi	Fbx' = 1872 psi
	Cd=1.60 CF=1.30 Cl=1.00	
Bending Stress (Y-Y Axis):	Fby = 900 psi	Fby' = 1872 psi
	Cd=1.60 CF=1.30	
Modulus of Elasticity:	E = 1600 ksi	E' = 1600 ksi

Column Section (X-X Axis):	dx =	5.5	in
Column Section (Y-Y Axis):	dy =	1.5	in
Area:	A =	8.25	in2
Section Modulus (X-X Axis):	Sx =	7.56	in3
Section Modulus (Y-Y Axis):	Sy =	2.06	in3
Slenderness Ratio:	Lex/dx =	17.45	
	Ley/dy =	0	

Column Calculations (Controlling Case Only):

Controlling Load Case: Axial Dead Load and Lateral loads (D + W or E)

Actual Compressive Stress:	Fc =	2	psi
Allowable Compressive Stress:	Fc' =	1272	psi
Eccentricity Moment (X-X Axis):	Mx-ex =	0	ft-lb
Eccentricity Moment (Y-Y Axis):	My-ey =	0	ft-lb
Moment Due to Lateral Loads (X-X Axis):	Mx =	1144	ft-lb
Moment Due to Lateral Loads (Y-Y Axis):	My =	0	ft-lb
Bending Stress Lateral Loads Only (X-X Axis):	Fbx =	1815	psi
Allowable Bending Stress (X-X Axis):	Fbx' =	1872	psi
Bending Stress Lateral Loads Only (Y-Y Axis):	Fby =	0	psi
Allowable Bending Stress (Y-Y Axis):	Fby' =	1872	psi
Combined Stress Factor:	**CSF =**	**0.97**	

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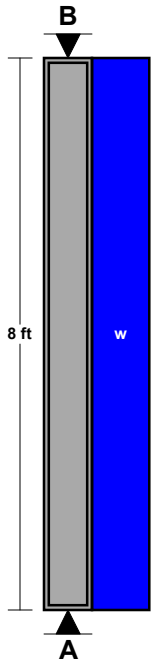

AXIAL LOADING

Live Load:	PL =	0	lb
Dead Load:	PD =	0	lb
Column Self Weight:	CSW =	14	lb
Total Axial Load:	PT =	14	lb

LATERAL LOADING (Dy Face)

Uniform Lateral Load:	wL-Lat =	143	plf

12/5/2022 Project: 22-0411 Cross Creek - 3 Story

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TRUSS CONNECTIONS

TRUSS UPLIFT CONNECTIONS:

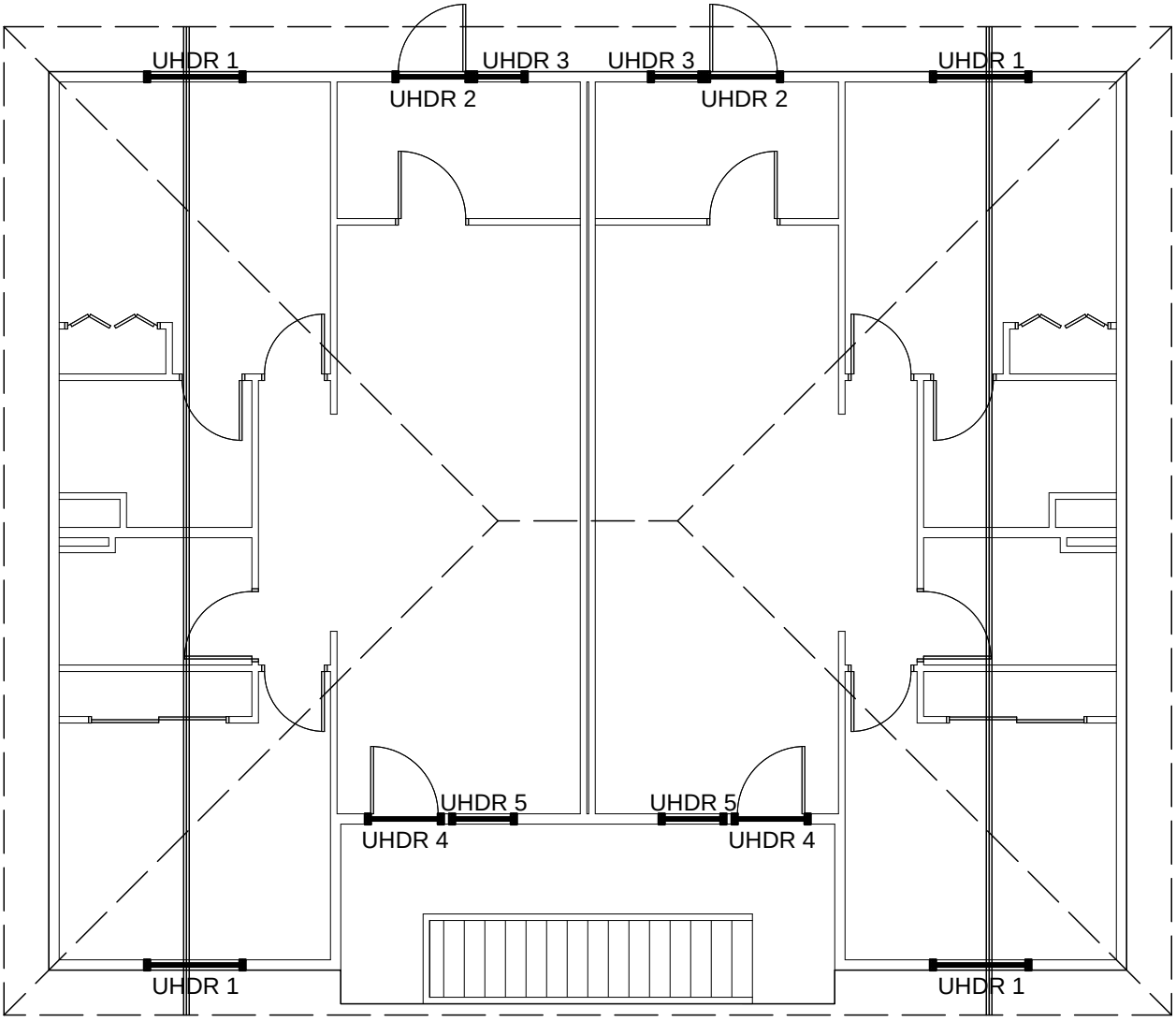
*BOLD INDICATES 2-PLY GIRDER (2-PLY); UNDERLINE INDICATES 3-PLY GIRDER

	UPLIFT	
TRUSS	LEFT	RIGHT
A01	866	866
A02	442	442
A03	680	680
A04	408	408
A05	586	959
A06	308	648
A07	404	685
A08	392	633
HRA1	194	0
JA01	109	13
JA02	109	52
JA03	113	96
JA04	105	135
JA05	0	139
JA06	0	140
JA07	0	141
JA08	0	146
JA09	0	150
JA10	0	150
SA01	133	0
SA02	121	0

LEGEND

COLOR	TIE	CAP.
	SDWC15600	715
	(2) SDWC15600	1115

ROOF FRAMING GUIDE



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ROOF FRAMING

KEY:
ROOF LOAD:
SNOW LOAD (SL) = [(TRUSS RXN)/2']*0.6
DEAD LOAD (DL) = [(TRUSS RXN)/2']*0.4

UHDR 1
L = 4'-6"

DISTRIBUTED LOADS (PLF):

	SOURCE	SL	DL	DISTRIBUTION
1	SA02	92	61	0' - 1.75'
2	A02	551	367	1.75' - END

POINT LOADS:

	SOURCE	LOCATION
1	A01	1.75'

UHDR 2
L = 3'-6"

DISTRIBUTED LOADS (PLF):

	SOURCE	SL	DL	DISTRIBUTION
1	A05	545	364	FULL SPAN

UHDR 3
L = 2'-6"

DISTRIBUTED LOADS (PLF):

	SOURCE	SL	DL	DISTRIBUTION
1	A05	545	364	FULL SPAN

UHDR 4
L = 3'-6"

DISTRIBUTED LOADS (PLF):

	SOURCE	SL	DL	DISTRIBUTION
1	A05	815	543	FULL SPAN

UHDR 5
L = 3'-0"

DISTRIBUTED LOADS (PLF):

	SOURCE	SL	DL	DISTRIBUTION
1	A05	815	543	FULL SPAN

Project: 22-0411 3-STORY

Location: UHDR 1
Multi-Loaded Multi-Span Beam
[2015 International Building Code(2015 NDS)]
3.5 IN x 11.25 IN x 4.5 FT
#2 - Douglas-Fir-Larch - Dry Use
Section Adequate By: 48.8%
Controlling Factor: Moment

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DEFLECTIONS Center

Live Load	0.01	IN L/3906
Dead Load	0.01	in
Total Load	0.02	IN L/2332

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

REACTIONS A B

Live Load	1688	lb	1781	lb
Dead Load	1144	lb	1206	lb
Total Load	2832	lb	2987	lb
Bearing Length	1.29	in	1.37	in

BEAM DATA Center

Span Length	4.5	ft
Unbraced Length-Top	0	ft
Unbraced Length-Bottom	4.5	ft
Live Load Duration Factor	1.15	
Notch Depth	0.00	

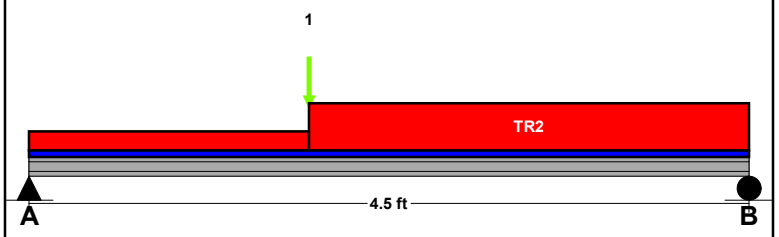
MATERIAL PROPERTIES
#2 - Douglas-Fir-Larch

	Base Values		Adjusted	
Bending Stress:	Fb = 900	psi	Fb' = 1139	psi
	Cd=1.15 CF=1.10			
Shear Stress:	Fv = 180	psi	Fv' = 207	psi
	Cd=1.15			
Modulus of Elasticity:	E = 1600	ksi	E' = 1600	ksi
Comp. ⊥ to Grain:	Fc - ⊥ = 625	psi	Fc - ⊥' = 625	psi

Controlling Moment: 4707 ft-lb
1.76 Ft from left support of span 2 (Center Span)
Created by combining all dead loads and live loads on span(s) 2
Controlling Shear: -2986 lb
5.0 Ft from left support of span 2 (Center Span)
Created by combining all dead loads and live loads on span(s) 2

Comparisons with required sections:	Req'd	Provided
Section Modulus:	49.61 in3	73.83 in3
Area (Shear):	21.64 in2	39.38 in2
Moment of Inertia (deflection):	32.05 in4	415.28 in4
Moment:	4707 ft-lb	7004 ft-lb
Shear:	-2986 lb	5434 lb

LOADING DIAGRAM



UNIFORM LOADS Center

Uniform Live Load	0	plf
Uniform Dead Load	0	plf
Beam Self Weight	9	plf
Total Uniform Load	9	plf

POINT LOADS - CENTER SPAN

Load Number	One	
Live Load	1793	lb
Dead Load	1195	lb
Location	1.75	ft

TRAPEZOIDAL LOADS - CENTER SPAN

Load Number	One		Two	
Left Live Load	92	plf	551	plf
Left Dead Load	61	plf	367	plf
Right Live Load	92	plf	551	plf
Right Dead Load	61	plf	367	plf
Load Start	0	ft	1.75	ft
Load End	1.75	ft	4.5	ft
Load Length	1.75	ft	2.75	ft

Project: 22-0411 3-STORY

Location: UHDR 2
Multi-Loaded Multi-Span Beam
[2015 International Building Code(2015 NDS)]
3.5 IN x 7.25 IN x 3.5 FT
#2 - Douglas-Fir-Larch - Dry Use
Section Adequate By: 118.8%
Controlling Factor: Shear

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DEFLECTIONS Center

Live Load	0.01	IN L/4060
Dead Load	0.01	in
Total Load	0.02	IN L/2419

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

REACTIONS

	A		B	
Live Load	954	lb	954	lb
Dead Load	647	lb	647	lb
Total Load	1601	lb	1601	lb
Bearing Length	0.73	in	0.73	in

BEAM DATA Center

Span Length	3.5	ft
Unbraced Length-Top	0	ft
Unbraced Length-Bottom	3.5	ft
Live Load Duration Factor	1.15	
Notch Depth	0.00	

MATERIAL PROPERTIES
#2 - Douglas-Fir-Larch

	Base Values		Adjusted	
Bending Stress:	Fb = 900	psi	Fb' = 1346	psi
	Cd=1.15 CF=1.30			
Shear Stress:	Fv = 180	psi	Fv' = 207	psi
	Cd=1.15			
Modulus of Elasticity:	E = 1600	ksi	E' = 1600	ksi
Comp. ⊥ to Grain:	Fc - ⊥ = 625	psi	Fc - ⊥' = 625	psi

Controlling Moment: 1400 ft-lb
1.75 Ft from left support of span 2 (Center Span)
Created by combining all dead loads and live loads on span(s) 2
Controlling Shear: -1600 lb
4.0 Ft from left support of span 2 (Center Span)
Created by combining all dead loads and live loads on span(s) 2

Comparisons with required sections:	Req'd		Provided	
Section Modulus:	12.49	in3	30.66	in3
Area (Shear):	11.6	in2	25.38	in2
Moment of Inertia (deflection):	8.27	in4	111.15	in4
Moment:	1400	ft-lb	3438	ft-lb
Shear:	-1600	lb	3502	lb

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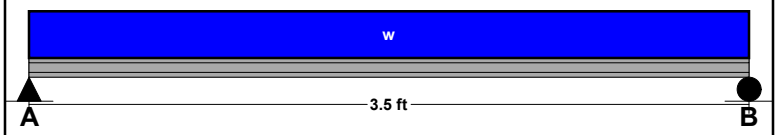

UNIFORM LOADS Center

Uniform Live Load	545	plf
Uniform Dead Load	364	plf
Beam Self Weight	6	plf
Total Uniform Load	915	plf

Project: 22-0411 3-STORY

Location: UHDR 3
Multi-Loaded Multi-Span Beam
[2015 International Building Code(2015 NDS)]
3.5 IN x 7.25 IN x 2.5 FT
#2 - Douglas-Fir-Larch - Dry Use
Section Adequate By: 206.3%
Controlling Factor: Shear

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DEFLECTIONS	Center	
Live Load	0.00	IN L/MAX
Dead Load	0.00	in
Total Load	0.00	IN L/6639

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

REACTIONS	A		B	
Live Load	681	lb	681	lb
Dead Load	462	lb	462	lb
Total Load	1143	lb	1143	lb
Bearing Length	0.52	in	0.52	in

BEAM DATA	Center	
Span Length	2.5	ft
Unbraced Length-Top	0	ft
Unbraced Length-Bottom	2.5	ft
Live Load Duration Factor	1.15	
Notch Depth	0.00	

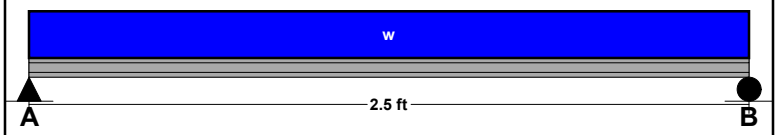
MATERIAL PROPERTIES
#2 - Douglas-Fir-Larch

	Base Values			Adjusted		
Bending Stress:	Fb =	900	psi	Fb' =	1346	psi
	Cd=1.15 CF=1.30					
Shear Stress:	Fv =	180	psi	Fv' =	207	psi
	Cd=1.15					
Modulus of Elasticity:	E =	1600	ksi	E' =	1600	ksi
Comp. ⊥ to Grain:	Fc - ⊥ =	625	psi	Fc - ⊥' =	625	psi

Controlling Moment: 714 ft-lb
1.25 Ft from left support of span 2 (Center Span)
Created by combining all dead loads and live loads on span(s) 2
Controlling Shear: 1143 lb
At left support of span 2 (Center Span)
Created by combining all dead loads and live loads on span(s) 2

Comparisons with required sections:	Req'd		Provided	
Section Modulus:	6.37	in3	30.66	in3
Area (Shear):	8.28	in2	25.38	in2
Moment of Inertia (deflection):	3.01	in4	111.15	in4
Moment:	714	ft-lb	3438	ft-lb
Shear:	1143	lb	3502	lb

LOADING DIAGRAM



UNIFORM LOADS	Center	
Uniform Live Load	545	plf
Uniform Dead Load	364	plf
Beam Self Weight	6	plf
Total Uniform Load	915	plf

Project: 22-0411 3-STORY

Location: UHDR 4
Multi-Loaded Multi-Span Beam
[2015 International Building Code(2015 NDS)]
3.5 IN x 7.25 IN x 3.5 FT
#2 - Douglas-Fir-Larch - Dry Use
Section Adequate By: 46.8%
Controlling Factor: Shear

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DEFLECTIONS	Center	
Live Load	0.02	IN L/2715
Dead Load	0.01	in
Total Load	0.03	IN L/1623

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

REACTIONS	A		B	
Live Load	1426	lb	1426	lb
Dead Load	960	lb	960	lb
Total Load	2386	lb	2386	lb
Bearing Length	1.09	in	1.09	in

BEAM DATA	Center	
Span Length	3.5	ft
Unbraced Length-Top	0	ft
Unbraced Length-Bottom	3.5	ft
Live Load Duration Factor	1.15	
Notch Depth	0.00	

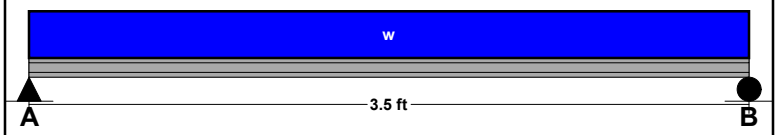
MATERIAL PROPERTIES
#2 - Douglas-Fir-Larch

	Base Values		Adjusted	
Bending Stress:	Fb = 900	psi	Fb' = 1346	psi
	Cd=1.15 CF=1.30			
Shear Stress:	Fv = 180	psi	Fv' = 207	psi
	Cd=1.15			
Modulus of Elasticity:	E = 1600	ksi	E' = 1600	ksi
Comp. ⊥ to Grain:	Fc - ⊥ = 625	psi	Fc - ⊥' = 625	psi

Controlling Moment: 2088 ft-lb
1.75 Ft from left support of span 2 (Center Span)
Created by combining all dead loads and live loads on span(s) 2
Controlling Shear: 2386 lb
At left support of span 2 (Center Span)
Created by combining all dead loads and live loads on span(s) 2

Comparisons with required sections:	Req'd		Provided	
Section Modulus:	18.62	in3	30.66	in3
Area (Shear):	17.29	in2	25.38	in2
Moment of Inertia (deflection):	12.33	in4	111.15	in4
Moment:	2088	ft-lb	3438	ft-lb
Shear:	2386	lb	3502	lb

LOADING DIAGRAM



UNIFORM LOADS	Center	
Uniform Live Load	815	plf
Uniform Dead Load	543	plf
Beam Self Weight	6	plf
Total Uniform Load	1364	plf

Project: 22-0411 3-STORY

Location: UHDR 5
Multi-Loaded Multi-Span Beam
[2015 International Building Code(2015 NDS)]
3.5 IN x 7.25 IN x 3.0 FT
#2 - Douglas-Fir-Larch - Dry Use
Section Adequate By: 71.2%
Controlling Factor: Shear

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DEFLECTIONS	Center
Live Load	0.01 IN L/4311
Dead Load	0.01 in
Total Load	0.01 IN L/2577

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

REACTIONS	A	B
Live Load	1223 lb	1223 lb
Dead Load	823 lb	823 lb
Total Load	2046 lb	2046 lb
Bearing Length	0.93 in	0.93 in

BEAM DATA	Center
Span Length	3 ft
Unbraced Length-Top	0 ft
Unbraced Length-Bottom	3 ft
Live Load Duration Factor	1.15
Notch Depth	0.00

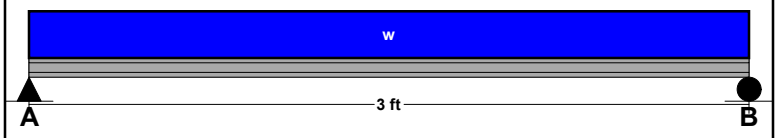
MATERIAL PROPERTIES
#2 - Douglas-Fir-Larch

	Base Values		Adjusted	
Bending Stress:	Fb = 900 psi		Fb' = 1346 psi	
	Cd=1.15 CF=1.30			
Shear Stress:	Fv = 180 psi		Fv' = 207 psi	
	Cd=1.15			
Modulus of Elasticity:	E = 1600 ksi		E' = 1600 ksi	
Comp. ⊥ to Grain:	Fc - ⊥ = 625 psi		Fc - ⊥' = 625 psi	

Controlling Moment: 1534 ft-lb
1.5 Ft from left support of span 2 (Center Span)
Created by combining all dead loads and live loads on span(s) 2
Controlling Shear: -2045 lb
At right support of span 2 (Center Span)
Created by combining all dead loads and live loads on span(s) 2

Comparisons with required sections:	Req'd	Provided
Section Modulus:	13.68 in3	30.66 in3
Area (Shear):	14.82 in2	25.38 in2
Moment of Inertia (deflection):	7.76 in4	111.15 in4
Moment:	1534 ft-lb	3438 ft-lb
Shear:	-2045 lb	3502 lb

LOADING DIAGRAM



UNIFORM LOADS	Center
Uniform Live Load	815 plf
Uniform Dead Load	543 plf
Beam Self Weight	6 plf
Total Uniform Load	1364 plf

Project: 22-0411 3-STORY

Location: UHDR 1 TRIMMERS
Column
[2015 International Building Code(2015 NDS)]
1.5 IN x 5.5 IN x 7.0 FT
#2 - Douglas-Fir-Larch - Dry Use
Section Adequate By: 19.2%

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VERTICAL REACTIONS

Live Load:	Vert-LL-Rxn =	1781	lb
Dead Load:	Vert-DL-Rxn =	1219	lb
Total Load:	Vert-TL-Rxn =	3000	lb

COLUMN DATA

Total Column Length:	7	ft
Unbraced Length (X-Axis) Lx:	7	ft
Unbraced Length (Y-Axis) Ly:	0	ft
Column End Condition-K (e):	1	
Load Eccentricity (X-Axis) - ex:	0.5	in
Load Eccentricity (Y-Axis) - ey:	0.5	in
Axial Load Duration Factor	1.15	

COLUMN PROPERTIES

#2 - Douglas-Fir-Larch

	Base Values	Adjusted
Compressive Stress:	Fc = 1350 psi	Fc' = 1279 psi
	Cd=1.15 Cf=1.10 Cp=0.75	
Bending Stress (X-X Axis):	Fbx = 900 psi	Fbx' = 1346 psi
	Cd=1.15 CF=1.30 Cl=1.00	
Bending Stress (Y-Y Axis):	Fby = 900 psi	Fby' = 1346 psi
	Cd=1.15 CF=1.30	
Modulus of Elasticity:	E = 1600 ksi	E' = 1600 ksi

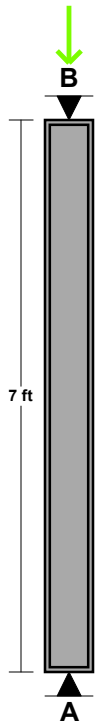
Column Section (X-X Axis):	dx =	5.5	in
Column Section (Y-Y Axis):	dy =	1.5	in
Area:	A =	8.25	in2
Section Modulus (X-X Axis):	Sx =	7.56	in3
Section Modulus (Y-Y Axis):	Sy =	2.06	in3
Slenderness Ratio:	Lex/dx =	15.27	
	Ley/dy =	0	

Column Calculations (Controlling Case Only):

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

Actual Compressive Stress:	Fc =	364	psi
Allowable Compressive Stress:	Fc' =	1279	psi
Eccentricity Moment (X-X Axis):	Mx-ex =	124	ft-lb
Eccentricity Moment (Y-Y Axis):	My-ey =	124	ft-lb
Moment Due to Lateral Loads (X-X Axis):	Mx =	0	ft-lb
Moment Due to Lateral Loads (Y-Y Axis):	My =	0	ft-lb
Bending Stress Lateral Loads Only (X-X Axis):	Fbx =	0	psi
Allowable Bending Stress (X-X Axis):	Fbx' =	1346	psi
Bending Stress Lateral Loads Only (Y-Y Axis):	Fby =	0	psi
Allowable Bending Stress (Y-Y Axis):	Fby' =	1346	psi
Combined Stress Factor:	**CSF =**	**0.81**	

LOADING DIAGRAM



AXIAL LOADING

Live Load:	PL =	1781	lb *
Dead Load:	PD =	1206	lb *
Column Self Weight:	CSW =	13	lb
Total Axial Load:	PT =	3000	lb

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

Project: 22-0411 3-STORY

Location: UHDR 2 TRIMMERS
Column
[2015 International Building Code(2015 NDS)]
1.5 IN x 5.5 IN x 7.0 FT
#2 - Douglas-Fir-Larch - Dry Use
Section Adequate By: 59.6%

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VERTICAL REACTIONS

Live Load:	Vert-LL-Rxn =	954	lb
Dead Load:	Vert-DL-Rxn =	660	lb
Total Load:	Vert-TL-Rxn =	1614	lb

COLUMN DATA

Total Column Length:	7	ft
Unbraced Length (X-Axis) Lx:	7	ft
Unbraced Length (Y-Axis) Ly:	0	ft
Column End Condition-K (e):	1	
Load Eccentricity (X-Axis) - ex:	0.5	in
Load Eccentricity (Y-Axis) - ey:	0.5	in
Axial Load Duration Factor	1.15	

COLUMN PROPERTIES

#2 - Douglas-Fir-Larch

	Base Values	Adjusted
Compressive Stress:	Fc = 1350 psi	Fc' = 1279 psi
	Cd=1.15 Cf=1.10 Cp=0.75	
Bending Stress (X-X Axis):	Fbx = 900 psi	Fbx' = 1346 psi
	Cd=1.15 CF=1.30 Cl=1.00	
Bending Stress (Y-Y Axis):	Fby = 900 psi	Fby' = 1346 psi
	Cd=1.15 CF=1.30	
Modulus of Elasticity:	E = 1600 ksi	E' = 1600 ksi

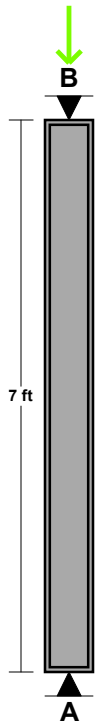
Column Section (X-X Axis):	dx =	5.5	in
Column Section (Y-Y Axis):	dy =	1.5	in
Area:	A =	8.25	in2
Section Modulus (X-X Axis):	Sx =	7.56	in3
Section Modulus (Y-Y Axis):	Sy =	2.06	in3
Slenderness Ratio:	Lex/dx =	15.27	
	Ley/dy =	0	

Column Calculations (Controlling Case Only):

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

Actual Compressive Stress:	Fc =	196	psi
Allowable Compressive Stress:	Fc' =	1279	psi
Eccentricity Moment (X-X Axis):	Mx-ex =	67	ft-lb
Eccentricity Moment (Y-Y Axis):	My-ey =	67	ft-lb
Moment Due to Lateral Loads (X-X Axis):	Mx =	0	ft-lb
Moment Due to Lateral Loads (Y-Y Axis):	My =	0	ft-lb
Bending Stress Lateral Loads Only (X-X Axis):	Fbx =	0	psi
Allowable Bending Stress (X-X Axis):	Fbx' =	1346	psi
Bending Stress Lateral Loads Only (Y-Y Axis):	Fby =	0	psi
Allowable Bending Stress (Y-Y Axis):	Fby' =	1346	psi
Combined Stress Factor:	**CSF =**	**0.4**	

LOADING DIAGRAM



AXIAL LOADING

Live Load:	PL =	954	lb *
Dead Load:	PD =	647	lb *
Column Self Weight:	CSW =	13	lb
Total Axial Load:	PT =	1614	lb

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

Project: 22-0411 3-STORY

Location: UHDR 3 TRIMMERS
Column
[2015 International Building Code(2015 NDS)]
1.5 IN x 5.5 IN x 7.0 FT
#2 - Douglas-Fir-Larch - Dry Use
Section Adequate By: 71.8%

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VERTICAL REACTIONS

Live Load:	Vert-LL-Rxn =	681	lb
Dead Load:	Vert-DL-Rxn =	475	lb
Total Load:	Vert-TL-Rxn =	1156	lb

COLUMN DATA

Total Column Length:	7	ft
Unbraced Length (X-Axis) Lx:	7	ft
Unbraced Length (Y-Axis) Ly:	0	ft
Column End Condition-K (e):	1	
Load Eccentricity (X-Axis) - ex:	0.5	in
Load Eccentricity (Y-Axis) - ey:	0.5	in
Axial Load Duration Factor	1.15	

COLUMN PROPERTIES

#2 - Douglas-Fir-Larch

	Base Values	Adjusted
Compressive Stress:	Fc = 1350 psi	Fc' = 1279 psi
	Cd=1.15 Cf=1.10 Cp=0.75	
Bending Stress (X-X Axis):	Fbx = 900 psi	Fbx' = 1346 psi
	Cd=1.15 CF=1.30 Cl=1.00	
Bending Stress (Y-Y Axis):	Fby = 900 psi	Fby' = 1346 psi
	Cd=1.15 CF=1.30	
Modulus of Elasticity:	E = 1600 ksi	E' = 1600 ksi

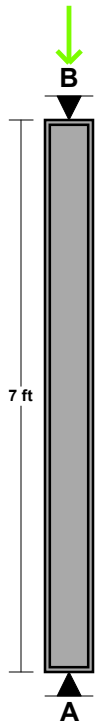
Column Section (X-X Axis):	dx =	5.5	in
Column Section (Y-Y Axis):	dy =	1.5	in
Area:	A =	8.25	in2
Section Modulus (X-X Axis):	Sx =	7.56	in3
Section Modulus (Y-Y Axis):	Sy =	2.06	in3
Slenderness Ratio:	Lex/dx =	15.27	
	Ley/dy =	0	

Column Calculations (Controlling Case Only):

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

Actual Compressive Stress:	Fc =	140	psi
Allowable Compressive Stress:	Fc' =	1279	psi
Eccentricity Moment (X-X Axis):	Mx-ex =	48	ft-lb
Eccentricity Moment (Y-Y Axis):	My-ey =	48	ft-lb
Moment Due to Lateral Loads (X-X Axis):	Mx =	0	ft-lb
Moment Due to Lateral Loads (Y-Y Axis):	My =	0	ft-lb
Bending Stress Lateral Loads Only (X-X Axis):	Fbx =	0	psi
Allowable Bending Stress (X-X Axis):	Fbx' =	1346	psi
Bending Stress Lateral Loads Only (Y-Y Axis):	Fby =	0	psi
Allowable Bending Stress (Y-Y Axis):	Fby' =	1346	psi
Combined Stress Factor:	**CSF =**	**0.28**	

LOADING DIAGRAM



AXIAL LOADING

Live Load:	PL =	681	lb *
Dead Load:	PD =	462	lb *
Column Self Weight:	CSW =	13	lb
Total Axial Load:	PT =	1156	lb

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

Project: 22-0411 3-STORY

Location: UHDR 4 TRIMMERS
Column
[2015 International Building Code(2015 NDS)]
1.5 IN x 5.5 IN x 7.0 FT
#2 - Douglas-Fir-Larch - Dry Use
Section Adequate By: 37.4%

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VERTICAL REACTIONS

Live Load:	Vert-LL-Rxn =	1426	lb
Dead Load:	Vert-DL-Rxn =	973	lb
Total Load:	Vert-TL-Rxn =	2399	lb

COLUMN DATA

Total Column Length:	7	ft
Unbraced Length (X-Axis) Lx:	7	ft
Unbraced Length (Y-Axis) Ly:	0	ft
Column End Condition-K (e):	1	
Load Eccentricity (X-Axis) - ex:	0.5	in
Load Eccentricity (Y-Axis) - ey:	0.5	in
Axial Load Duration Factor	1.15	

COLUMN PROPERTIES

#2 - Douglas-Fir-Larch

	Base Values	Adjusted
Compressive Stress:	Fc = 1350 psi	Fc' = 1279 psi
	Cd=1.15 Cf=1.10 Cp=0.75	
Bending Stress (X-X Axis):	Fbx = 900 psi	Fbx' = 1346 psi
	Cd=1.15 CF=1.30 Cl=1.00	
Bending Stress (Y-Y Axis):	Fby = 900 psi	Fby' = 1346 psi
	Cd=1.15 CF=1.30	
Modulus of Elasticity:	E = 1600 ksi	E' = 1600 ksi

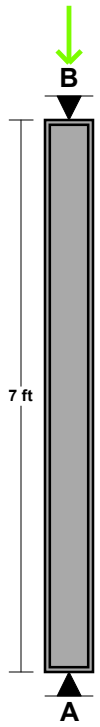
Column Section (X-X Axis):	dx =	5.5	in
Column Section (Y-Y Axis):	dy =	1.5	in
Area:	A =	8.25	in2
Section Modulus (X-X Axis):	Sx =	7.56	in3
Section Modulus (Y-Y Axis):	Sy =	2.06	in3
Slenderness Ratio:	Lex/dx =	15.27	
	Ley/dy =	0	

Column Calculations (Controlling Case Only):

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

Actual Compressive Stress:	Fc =	291	psi
Allowable Compressive Stress:	Fc' =	1279	psi
Eccentricity Moment (X-X Axis):	Mx-ex =	99	ft-lb
Eccentricity Moment (Y-Y Axis):	My-ey =	99	ft-lb
Moment Due to Lateral Loads (X-X Axis):	Mx =	0	ft-lb
Moment Due to Lateral Loads (Y-Y Axis):	My =	0	ft-lb
Bending Stress Lateral Loads Only (X-X Axis):	Fbx =	0	psi
Allowable Bending Stress (X-X Axis):	Fbx' =	1346	psi
Bending Stress Lateral Loads Only (Y-Y Axis):	Fby =	0	psi
Allowable Bending Stress (Y-Y Axis):	Fby' =	1346	psi
Combined Stress Factor:	**CSF =**	**0.63**	

LOADING DIAGRAM



AXIAL LOADING

Live Load:	PL =	1426	lb *
Dead Load:	PD =	960	lb *
Column Self Weight:	CSW =	13	lb
Total Axial Load:	PT =	2399	lb

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

Project: 22-0411 3-STORY

Location: UHDR 5 TRIMMERS
Column
[2015 International Building Code(2015 NDS)]
1.5 IN x 5.5 IN x 7.0 FT
#2 - Douglas-Fir-Larch - Dry Use
Section Adequate By: 47.3%

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VERTICAL REACTIONS

Live Load:	Vert-LL-Rxn =	1223	lb
Dead Load:	Vert-DL-Rxn =	836	lb
Total Load:	Vert-TL-Rxn =	2059	lb

COLUMN DATA

Total Column Length:	7	ft
Unbraced Length (X-Axis) Lx:	7	ft
Unbraced Length (Y-Axis) Ly:	0	ft
Column End Condition-K (e):	1	
Load Eccentricity (X-Axis) - ex:	0.5	in
Load Eccentricity (Y-Axis) - ey:	0.5	in
Axial Load Duration Factor	1.15	

COLUMN PROPERTIES

#2 - Douglas-Fir-Larch

	Base Values	Adjusted
Compressive Stress:	Fc = 1350 psi	Fc' = 1279 psi
	Cd=1.15 Cf=1.10 Cp=0.75	
Bending Stress (X-X Axis):	Fbx = 900 psi	Fbx' = 1346 psi
	Cd=1.15 CF=1.30 Cl=1.00	
Bending Stress (Y-Y Axis):	Fby = 900 psi	Fby' = 1346 psi
	Cd=1.15 CF=1.30	
Modulus of Elasticity:	E = 1600 ksi	E' = 1600 ksi

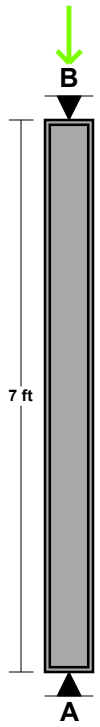
Column Section (X-X Axis):	dx =	5.5	in
Column Section (Y-Y Axis):	dy =	1.5	in
Area:	A =	8.25	in2
Section Modulus (X-X Axis):	Sx =	7.56	in3
Section Modulus (Y-Y Axis):	Sy =	2.06	in3
Slenderness Ratio:	Lex/dx =	15.27	
	Ley/dy =	0	

Column Calculations (Controlling Case Only):

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

Actual Compressive Stress:	Fc =	250	psi
Allowable Compressive Stress:	Fc' =	1279	psi
Eccentricity Moment (X-X Axis):	Mx-ex =	85	ft-lb
Eccentricity Moment (Y-Y Axis):	My-ey =	85	ft-lb
Moment Due to Lateral Loads (X-X Axis):	Mx =	0	ft-lb
Moment Due to Lateral Loads (Y-Y Axis):	My =	0	ft-lb
Bending Stress Lateral Loads Only (X-X Axis):	Fbx =	0	psi
Allowable Bending Stress (X-X Axis):	Fbx' =	1346	psi
Bending Stress Lateral Loads Only (Y-Y Axis):	Fby =	0	psi
Allowable Bending Stress (Y-Y Axis):	Fby' =	1346	psi
Combined Stress Factor:	**CSF =**	**0.53**	

LOADING DIAGRAM

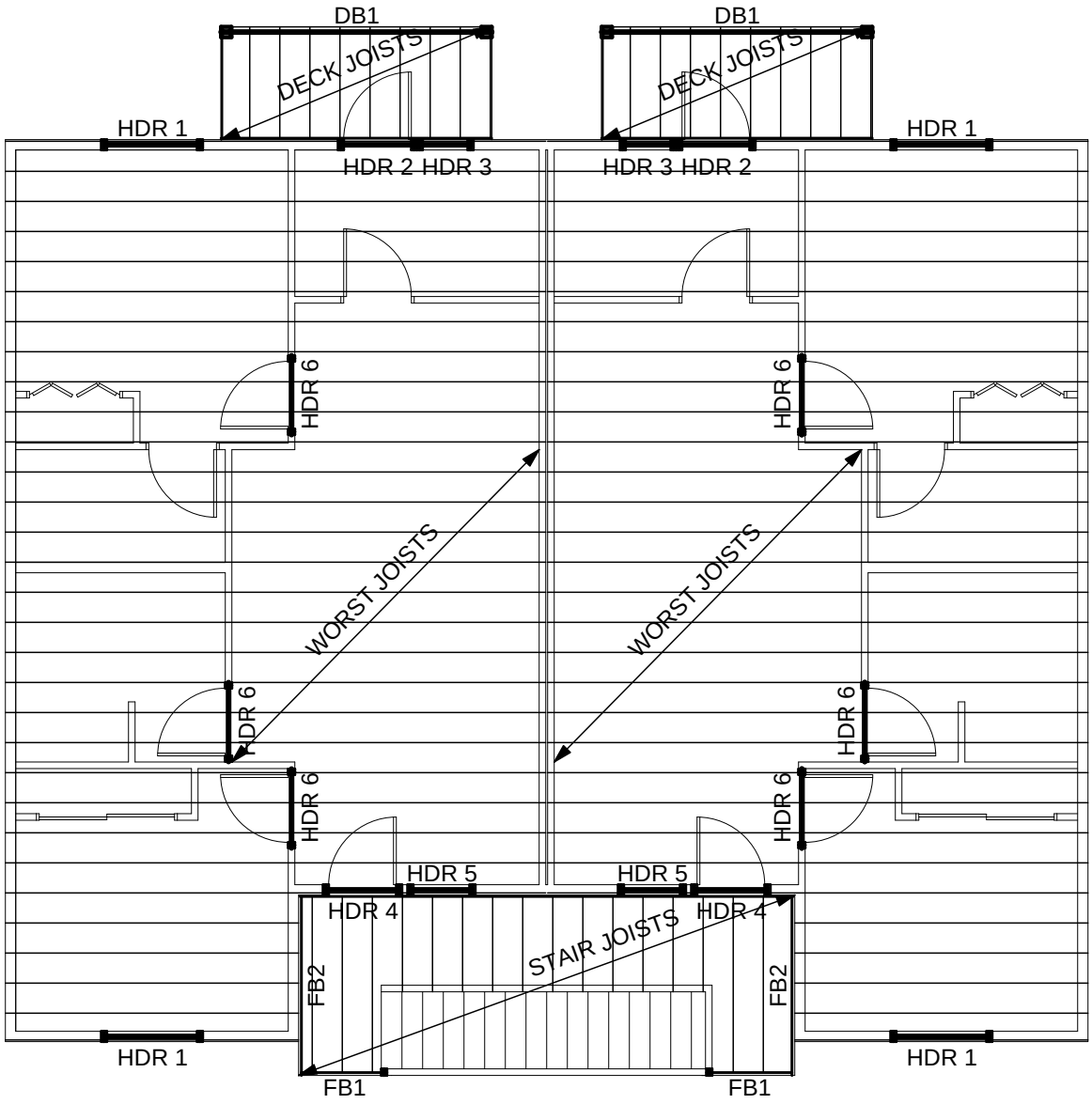


AXIAL LOADING

Live Load:	PL =	1223	lb *
Dead Load:	PD =	823	lb *
Column Self Weight:	CSW =	13	lb
Total Axial Load:	PT =	2059	lb

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

UPPER FLOOR FRAMING GUIDE



12/6/2022 Project: 22-0411 Cross Creek - 3 Story

STABILITY ENGINEERING INC.

By: Max Beaudoin

UPPER FLOOR FRAMING

TYP JOISTS		DISTRIBUTED LOADS (PSF):			
L = 15' MAX		SOURCE	LL	DL	DISTRIBUTION
@ 16"	1	FLOOR	40	25	FULL SPAN

DECK JOISTS		DISTRIBUTED LOADS (PSF):			
L = 5'		SOURCE	LL	DL	DISTRIBUTION
@ 16"	1	FLOOR	40	12	FULL SPAN

STAIR JOISTS		DISTRIBUTED LOADS (PSF):			
L = 8'		SOURCE	LL	DL	DISTRIBUTION
@ 16"	1	FLOOR	100	25	FULL SPAN

HDR 1		DISTRIBUTED LOADS (PLF):			
L = 4'-6"		SOURCE	LL	DL	DISTRIBUTION
	1	FLOOR	27	17	0' - 1.75'
	2	WALL	0	48	FULL SPAN

HDR 2		DISTRIBUTED LOADS (PLF):			
L = 3'-6"		SOURCE	LL	DL	DISTRIBUTION
	1	FLOOR	127	47	FULL SPAN
	2	WALL	0	48	FULL SPAN

HDR 3		DISTRIBUTED LOADS (PLF):			
L = 2'-6"		SOURCE	LL	DL	DISTRIBUTION
	1	FLOOR	127	47	FULL SPAN
	2	WALL	0	48	FULL SPAN

HDR 4		DISTRIBUTED LOADS (PLF):			
L = 3'-6"		SOURCE	LL	DL	DISTRIBUTION
	1	FLOOR	427	117	FULL SPAN
	2	WALL	0	48	FULL SPAN

HDR 5		DISTRIBUTED LOADS (PLF):			
L = 3'-0"		SOURCE	LL	DL	DISTRIBUTION
	1	FLOOR	242	67	FULL SPAN
	2	WALL	0	48	FULL SPAN

HDR 6		DISTRIBUTED LOADS (PLF):			
L = 3'-6"		SOURCE	LL	DL	DISTRIBUTION
	1	FLOOR	480	300	FULL SPAN
	2	WALL	0	40	FULL SPAN

FB1		DISTRIBUTED LOADS (PLF):			
L = 4'-0"		SOURCE	LL	DL	DISTRIBUTION
	1	FLOOR	400	100	FULL SPAN

FB2		DISTRIBUTED LOADS (PLF):			
L = 6'-6" + 1'-6"		SOURCE	LL	DL	DISTRIBUTION
	1	FLOOR	67	17	FULL SPAN

POINT LOADS:

SOURCE	LOCATION
1 FB1	END'

Project: 22-0411 3-STORY

Location: TYP JOISTS
Floor Joist
[2015 International Building Code(2015 NDS)]
1.5 IN x 11.25 IN x 15.0 FT @ 16 O.C.
#2 - Douglas-Fir-Larch - Dry Use
Section Adequate By: 12.0%
Controlling Factor: Moment

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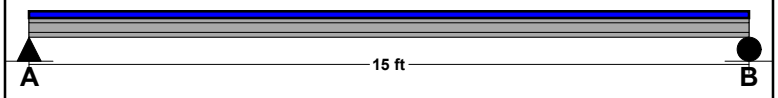
DEFLECTIONS	Center	
Live Load	0.21	IN L/844
Dead Load	0.13	in
Total Load	0.35	IN L/519

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

REACTIONS	A		B	
Live Load	400	lb	400	lb
Dead Load	250	lb	250	lb
Total Load	650	lb	650	lb
Bearing Length	0.69	in	0.69	in

SUPPORT LOADS	A		B	
Live Load	300	plf	300	plf
Dead Load	188	plf	188	plf
Total Load	488	plf	488	plf

LOADING DIAGRAM



MATERIAL PROPERTIES
#2 - Douglas-Fir-Larch

	Base Values		Adjusted	
Bending Stress:	Fb = 900	psi	Fb' = 1035	psi
	Cd=1.00 CF=1.00 Cr=1.15			
Shear Stress:	Fv = 180	psi	Fv' = 180	psi
	Cd=1.00			
Modulus of Elasticity:	E = 1600	ksi	E' = 1600	ksi
Comp. ⊥ to Grain:	Fc - ⊥ = 625	psi	Fc - ⊥' = 625	psi

Controlling Moment: 2437 ft-lb
7.5 Ft from left support of span 2 (Center Span)
Created by combining all dead loads and live loads on span(s) 2
Controlling Shear: 650 lb
At left support of span 2 (Center Span)
Created by combining all dead loads and live loads on span(s) 2

Comparisons with required sections:	Req'd	Provided
Section Modulus:	28.26 in3	31.64 in3
Area (Shear):	5.42 in2	16.88 in2
Moment of Inertia (deflection):	123.38 in4	177.98 in4
Moment:	2437 ft-lb	2729 ft-lb
Shear:	650 lb	2025 lb

JOIST DATA	Center
Span Length	15 ft
Unbraced Length-Top	0 ft
Unbraced Length-Bottom	0 ft

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

JOIST LOADING

Uniform Floor Loading		Center	
Live Load	LL =	40	psf
Dead Load	DL =	25	psf
Total Load	TL =	65	psf
TL Adj. For Joist Spacing	wT =	86.7	plf

Project: 22-0411 3-STORY

Location: DECK JOISTS
Floor Joist
[2015 International Building Code(2015 NDS)]
1.5 IN x 7.25 IN x 5.0 FT Pressure Treated @ 16 O.C.
#2 - Hem-Fir - Dry Use
Section Adequate By: 374.3%
Controlling Factor: Moment

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DEFLECTIONS Center

Live Load	0.01	IN L/4707
Dead Load	0.00	in
Total Load	0.02	IN L/3621

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

REACTIONS

	A		B	
Live Load	133	lb	133	lb
Dead Load	40	lb	40	lb
Total Load	173	lb	173	lb
Bearing Length	0.29	in	0.29	in

SUPPORT LOADS

	A		B	
Live Load	100	plf	100	plf
Dead Load	30	plf	30	plf
Total Load	130	plf	130	plf

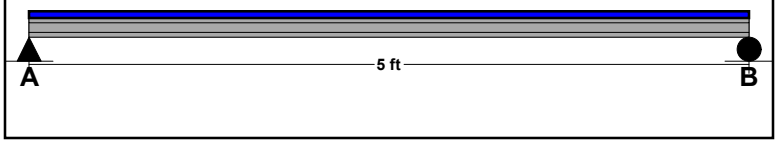
MATERIAL PROPERTIES
#2 - Hem-Fir

	Base Values		Adjusted	
Bending Stress:	Fb = 850	psi	Fb' = 938	psi
	Cd=1.00 CF=1.20 Cr=1.15 Ci=0.80			
Shear Stress:	Fv = 150	psi	Fv' = 120	psi
	Cd=1.00 Ci=0.80			
Modulus of Elasticity:	E = 1300	ksi	E' = 1235	ksi
	Ci=0.95			
Comp. ⊥ to Grain:	Fc - ⊥ = 405	psi	Fc - ⊥' = 405	psi

Controlling Moment: 217 ft-lb
2.5 Ft from left support of span 2 (Center Span)
Created by combining all dead loads and live loads on span(s) 2
Controlling Shear: 173 lb
At left support of span 2 (Center Span)
Created by combining all dead loads and live loads on span(s) 2

Comparisons with required sections:	Req'd	Provided
Section Modulus:	2.77 in3	13.14 in3
Area (Shear):	2.17 in2	10.88 in2
Moment of Inertia (deflection):	3.64 in4	47.63 in4
Moment:	217 ft-lb	1028 ft-lb
Shear:	173 lb	870 lb

LOADING DIAGRAM



JOIST DATA Center

Span Length	5	ft
Unbraced Length-Top	0	ft
Unbraced Length-Bottom	0	ft

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

JOIST LOADING

Uniform Floor Loading		Center	
Live Load	LL =	40	psf
Dead Load	DL =	12	psf
Total Load	TL =	52	psf
TL Adj. For Joist Spacing	wT =	69.3	plf

Project: 22-0411 3-STORY

Location: STAIR JOISTS
Floor Joist
[2015 International Building Code(2015 NDS)]
1.5 IN x 9.25 IN x 8.0 FT Pressure Treated @ 16 O.C.
#2 - Hem-Fir - Dry Use
Section Adequate By: 15.0%
Controlling Factor: Moment

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DEFLECTIONS Center

Live Load	0.10	IN L/955
Dead Load	0.03	in
Total Load	0.13	IN L/764

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

REACTIONS

	A		B	
Live Load	533	lb	533	lb
Dead Load	133	lb	133	lb
Total Load	666	lb	666	lb
Bearing Length	1.10	in	1.10	in

SUPPORT LOADS

	A		B	
Live Load	400	plf	400	plf
Dead Load	100	plf	100	plf
Total Load	500	plf	500	plf

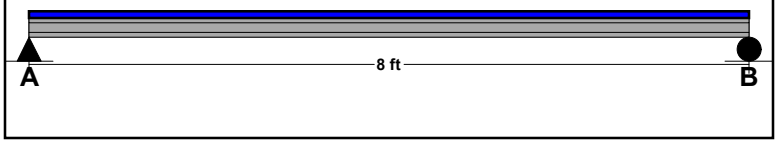
MATERIAL PROPERTIES
#2 - Hem-Fir

	Base Values		Adjusted	
Bending Stress:	Fb = 850	psi	Fb' = 860	psi
	Cd=1.00 CF=1.10 Cr=1.15 Ci=0.80			
Shear Stress:	Fv = 150	psi	Fv' = 120	psi
	Cd=1.00 Ci=0.80			
Modulus of Elasticity:	E = 1300	ksi	E' = 1235	ksi
	Ci=0.95			
Comp. ⊥ to Grain:	Fc - ⊥ = 405	psi	Fc - ⊥' = 405	psi

Controlling Moment: 1333 ft-lb
4.0 Ft from left support of span 2 (Center Span)
Created by combining all dead loads and live loads on span(s) 2
Controlling Shear: 667 lb
At left support of span 2 (Center Span)
Created by combining all dead loads and live loads on span(s) 2

Comparisons with required sections:	Req'd		Provided	
Section Modulus:	18.6	in3	21.39	in3
Area (Shear):	8.33	in2	13.88	in2
Moment of Inertia (deflection):	37.31	in4	98.93	in4
Moment:	1333	ft-lb	1533	ft-lb
Shear:	667	lb	1110	lb

LOADING DIAGRAM



JOIST DATA Center

Span Length	8	ft
Unbraced Length-Top	0	ft
Unbraced Length-Bottom	0	ft

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

JOIST LOADING

Uniform Floor Loading		Center	
Live Load	LL =	100	psf
Dead Load	DL =	25	psf
Total Load	TL =	125	psf
TL Adj. For Joist Spacing	wT =	166.7	plf

Project: 22-0411 3-STORY

Location: HDR 1
Multi-Loaded Multi-Span Beam
[2015 International Building Code(2015 NDS)]
3.5 IN x 7.25 IN x 4.5 FT
#2 - Douglas-Fir-Larch - Dry Use
Section Adequate By: 1111.3%
Controlling Factor: Moment

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DEFLECTIONS	Center	
Live Load	0.00	IN L/MAX
Dead Load	0.00	in
Total Load	0.01	IN L/MAX

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

REACTIONS	A		B	
Live Load	61	lb	61	lb
Dead Load	159	lb	159	lb
Total Load	220	lb	220	lb
Bearing Length	0.10	in	0.10	in

BEAM DATA	Center	
Span Length	4.5	ft
Unbraced Length-Top	0	ft
Unbraced Length-Bottom	4.5	ft
Live Load Duration Factor	1.00	
Notch Depth	0.00	

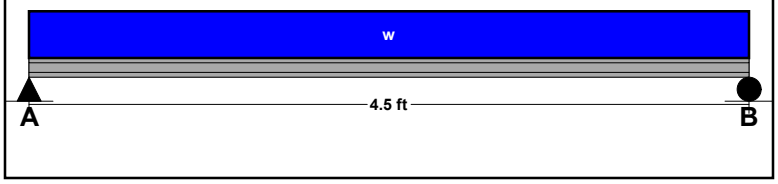
MATERIAL PROPERTIES
#2 - Douglas-Fir-Larch

	Base Values		Adjusted	
Bending Stress:	Fb = 900	psi	Fb' = 1170	psi
	Cd=1.00 CF=1.30			
Shear Stress:	Fv = 180	psi	Fv' = 180	psi
	Cd=1.00			
Modulus of Elasticity:	E = 1600	ksi	E' = 1600	ksi
Comp. ⊥ to Grain:	Fc - ⊥ = 625	psi	Fc - ⊥' = 625	psi

Controlling Moment: 247 ft-lb
2.25 Ft from left support of span 2 (Center Span)
Created by combining all dead loads and live loads on span(s) 2
Controlling Shear: -219 lb
5.0 Ft from left support of span 2 (Center Span)
Created by combining all dead loads and live loads on span(s) 2

Comparisons with required sections:	Req'd		Provided	
Section Modulus:	2.53	in3	30.66	in3
Area (Shear):	1.83	in2	25.38	in2
Moment of Inertia (deflection):	2.5	in4	111.15	in4
Moment:	247	ft-lb	2989	ft-lb
Shear:	-219	lb	3045	lb

LOADING DIAGRAM



UNIFORM LOADS	Center	
Uniform Live Load	27	plf
Uniform Dead Load	65	plf
Beam Self Weight	6	plf
Total Uniform Load	98	plf

Project: 22-0411 3-STORY

Location: HDR 2
Multi-Loaded Multi-Span Beam
[2015 International Building Code(2015 NDS)]
3.5 IN x 7.25 IN x 3.5 FT
#2 - Douglas-Fir-Larch - Dry Use
Section Adequate By: 664.8%
Controlling Factor: Shear

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DEFLECTIONS Center

Live Load	0.00	IN L/MAX
Dead Load	0.00	in
Total Load	0.00	IN L/9725

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

REACTIONS A B

Live Load	222	lb	222	lb
Dead Load	176	lb	176	lb
Total Load	398	lb	398	lb
Bearing Length	0.18	in	0.18	in

BEAM DATA Center

Span Length	3.5	ft
Unbraced Length-Top	0	ft
Unbraced Length-Bottom	3.5	ft
Live Load Duration Factor	1.00	
Notch Depth	0.00	

MATERIAL PROPERTIES
#2 - Douglas-Fir-Larch

	Base Values		Adjusted	
Bending Stress:	Fb = 900	psi	Fb' = 1170	psi
	Cd=1.00 CF=1.30			
Shear Stress:	Fv = 180	psi	Fv' = 180	psi
	Cd=1.00			
Modulus of Elasticity:	E = 1600	ksi	E' = 1600	ksi
Comp. ⊥ to Grain:	Fc - ⊥ = 625	psi	Fc - ⊥' = 625	psi

Controlling Moment: 348 ft-lb
1.75 Ft from left support of span 2 (Center Span)
Created by combining all dead loads and live loads on span(s) 2
Controlling Shear: -398 lb
4.0 Ft from left support of span 2 (Center Span)
Created by combining all dead loads and live loads on span(s) 2

Comparisons with required sections:	Req'd		Provided	
Section Modulus:	3.57	in3	30.66	in3
Area (Shear):	3.32	in2	25.38	in2
Moment of Inertia (deflection):	2.74	in4	111.15	in4
Moment:	348	ft-lb	2989	ft-lb
Shear:	-398	lb	3045	lb

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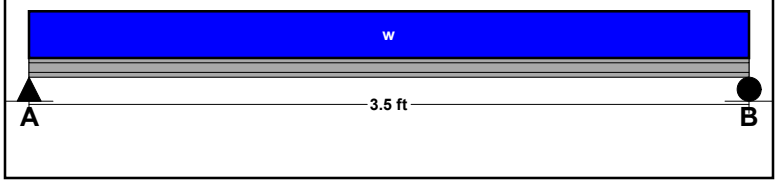

UNIFORM LOADS Center

Uniform Live Load	127	plf
Uniform Dead Load	95	plf
Beam Self Weight	6	plf
Total Uniform Load	228	plf

Project: 22-0411 3-STORY

Location: HDR 3
Multi-Loaded Multi-Span Beam
[2015 International Building Code(2015 NDS)]
3.5 IN x 7.25 IN x 2.5 FT
#2 - Douglas-Fir-Larch - Dry Use
Section Adequate By: 970.8%
Controlling Factor: Shear

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DEFLECTIONS	Center	
Live Load	0.00	IN L/MAX
Dead Load	0.00	in
Total Load	0.00	IN L/MAX

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

REACTIONS	A		B	
Live Load	159	lb	159	lb
Dead Load	126	lb	126	lb
Total Load	285	lb	285	lb
Bearing Length	0.13	in	0.13	in

BEAM DATA	Center	
Span Length	2.5	ft
Unbraced Length-Top	0	ft
Unbraced Length-Bottom	2.5	ft
Live Load Duration Factor	1.00	
Notch Depth	0.00	

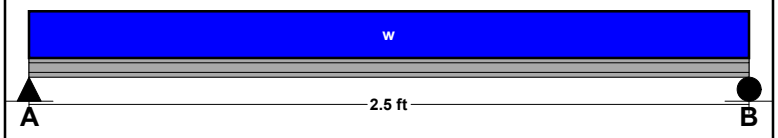
MATERIAL PROPERTIES
#2 - Douglas-Fir-Larch

	Base Values			Adjusted		
Bending Stress:	Fb =	900	psi	Fb' =	1170	psi
	Cd=1.00 CF=1.30					
Shear Stress:	Fv =	180	psi	Fv' =	180	psi
	Cd=1.00					
Modulus of Elasticity:	E =	1600	ksi	E' =	1600	ksi
Comp. ⊥ to Grain:	Fc - ⊥ =	625	psi	Fc - ⊥' =	625	psi

Controlling Moment: 178 ft-lb
1.25 Ft from left support of span 2 (Center Span)
Created by combining all dead loads and live loads on span(s) 2
Controlling Shear: -284 lb
3.0 Ft from left support of span 2 (Center Span)
Created by combining all dead loads and live loads on span(s) 2

Comparisons with required sections:	Req'd		Provided	
Section Modulus:	1.82	in3	30.66	in3
Area (Shear):	2.37	in2	25.38	in2
Moment of Inertia (deflection):	1	in4	111.15	in4
Moment:	178	ft-lb	2989	ft-lb
Shear:	-284	lb	3045	lb

LOADING DIAGRAM



UNIFORM LOADS	Center	
Uniform Live Load	127	plf
Uniform Dead Load	95	plf
Beam Self Weight	6	plf
Total Uniform Load	228	plf

Project: 22-0411 3-STORY

Location: HDR 4
Multi-Loaded Multi-Span Beam
[2015 International Building Code(2015 NDS)]
3.5 IN x 7.25 IN x 3.5 FT
#2 - Douglas-Fir-Larch - Dry Use
Section Adequate By: 191.2%
Controlling Factor: Shear

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DEFLECTIONS Center

Live Load	0.01	IN L/5182
Dead Load	0.00	in
Total Load	0.01	IN L/3703

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

REACTIONS A B

Live Load	747	lb	747	lb
Dead Load	298	lb	298	lb
Total Load	1045	lb	1045	lb
Bearing Length	0.48	in	0.48	in

BEAM DATA Center

Span Length	3.5	ft
Unbraced Length-Top	0	ft
Unbraced Length-Bottom	3.5	ft
Live Load Duration Factor	1.00	
Notch Depth	0.00	

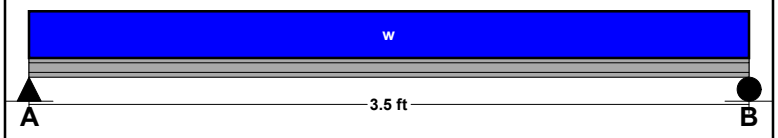
MATERIAL PROPERTIES
#2 - Douglas-Fir-Larch

	Base Values		Adjusted	
Bending Stress:	Fb = 900	psi	Fb' = 1170	psi
	Cd=1.00 CF=1.30			
Shear Stress:	Fv = 180	psi	Fv' = 180	psi
	Cd=1.00			
Modulus of Elasticity:	E = 1600	ksi	E' = 1600	ksi
Comp. ⊥ to Grain:	Fc - ⊥ = 625	psi	Fc - ⊥' = 625	psi

Controlling Moment: 915 ft-lb
1.75 Ft from left support of span 2 (Center Span)
Created by combining all dead loads and live loads on span(s) 2
Controlling Shear: -1046 lb
4.0 Ft from left support of span 2 (Center Span)
Created by combining all dead loads and live loads on span(s) 2

Comparisons with required sections:	Req'd		Provided	
Section Modulus:	9.38	in3	30.66	in3
Area (Shear):	8.71	in2	25.38	in2
Moment of Inertia (deflection):	7.72	in4	111.15	in4
Moment:	915	ft-lb	2989	ft-lb
Shear:	-1046	lb	3045	lb

LOADING DIAGRAM



UNIFORM LOADS Center

Uniform Live Load	427	plf
Uniform Dead Load	165	plf
Beam Self Weight	6	plf
Total Uniform Load	598	plf

Project: 22-0411 3-STORY

Location: HDR 5
Multi-Loaded Multi-Span Beam
[2015 International Building Code(2015 NDS)]
3.5 IN x 7.25 IN x 3.0 FT
#2 - Douglas-Fir-Larch - Dry Use
Section Adequate By: 460.0%
Controlling Factor: Shear

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DEFLECTIONS Center

Live Load	0.00	IN L/MAX
Dead Load	0.00	in
Total Load	0.00	IN L/9692

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

REACTIONS

	A		B	
Live Load	363	lb	363	lb
Dead Load	181	lb	181	lb
Total Load	544	lb	544	lb
Bearing Length	0.25	in	0.25	in

BEAM DATA Center

Span Length	3	ft
Unbraced Length-Top	0	ft
Unbraced Length-Bottom	3	ft
Live Load Duration Factor	1.00	
Notch Depth	0.00	

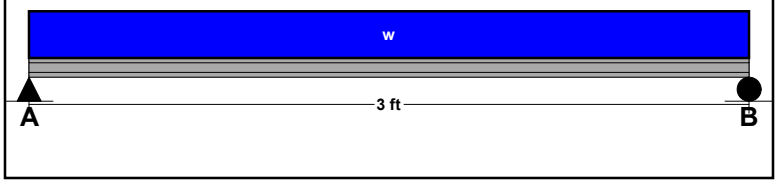
MATERIAL PROPERTIES
#2 - Douglas-Fir-Larch

	Base Values		Adjusted	
Bending Stress:	Fb = 900	psi	Fb' = 1170	psi
	Cd=1.00 CF=1.30			
Shear Stress:	Fv = 180	psi	Fv' = 180	psi
	Cd=1.00			
Modulus of Elasticity:	E = 1600	ksi	E' = 1600	ksi
Comp. ⊥ to Grain:	Fc - ⊥ = 625	psi	Fc - ⊥' = 625	psi

Controlling Moment: 408 ft-lb
1.5 Ft from left support of span 2 (Center Span)
Created by combining all dead loads and live loads on span(s) 2
Controlling Shear: -544 lb
At right support of span 2 (Center Span)
Created by combining all dead loads and live loads on span(s) 2

Comparisons with required sections:	Req'd		Provided	
Section Modulus:	4.18	in3	30.66	in3
Area (Shear):	4.53	in2	25.38	in2
Moment of Inertia (deflection):	2.76	in4	111.15	in4
Moment:	408	ft-lb	2989	ft-lb
Shear:	-544	lb	3045	lb

LOADING DIAGRAM



UNIFORM LOADS Center

Uniform Live Load	242	plf
Uniform Dead Load	115	plf
Beam Self Weight	6	plf
Total Uniform Load	363	plf

Project: 22-0411 3-STORY

Location: HDR 6
Multi-Loaded Multi-Span Beam
[2015 International Building Code(2015 NDS)]
3.5 IN x 7.25 IN x 3.5 FT
#2 - Douglas-Fir-Larch - Dry Use
Section Adequate By: 110.8%
Controlling Factor: Shear

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DEFLECTIONS Center

Live Load	0.01	IN L/4609
Dead Load	0.01	in
Total Load	0.02	IN L/2680

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

REACTIONS

	A		B	
Live Load	840	lb	840	lb
Dead Load	605	lb	605	lb
Total Load	1445	lb	1445	lb
Bearing Length	0.66	in	0.66	in

BEAM DATA Center

Span Length	3.5	ft
Unbraced Length-Top	0	ft
Unbraced Length-Bottom	3.5	ft
Live Load Duration Factor	1.00	
Notch Depth	0.00	

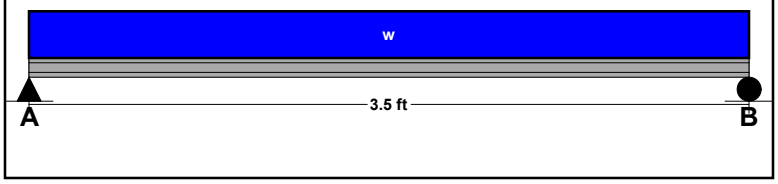
MATERIAL PROPERTIES
#2 - Douglas-Fir-Larch

	Base Values		Adjusted	
Bending Stress:	Fb = 900	psi	Fb' = 1170	psi
	Cd=1.00 CF=1.30			
Shear Stress:	Fv = 180	psi	Fv' = 180	psi
	Cd=1.00			
Modulus of Elasticity:	E = 1600	ksi	E' = 1600	ksi
Comp. ⊥ to Grain:	Fc - ⊥ = 625	psi	Fc - ⊥' = 625	psi

Controlling Moment: 1264 ft-lb
1.75 Ft from left support of span 2 (Center Span)
Created by combining all dead loads and live loads on span(s) 2
Controlling Shear: -1445 lb
4.0 Ft from left support of span 2 (Center Span)
Created by combining all dead loads and live loads on span(s) 2

Comparisons with required sections:	Req'd		Provided	
Section Modulus:	12.96	in3	30.66	in3
Area (Shear):	12.04	in2	25.38	in2
Moment of Inertia (deflection):	9.95	in4	111.15	in4
Moment:	1264	ft-lb	2989	ft-lb
Shear:	-1445	lb	3045	lb

LOADING DIAGRAM



UNIFORM LOADS Center

Uniform Live Load	480	plf
Uniform Dead Load	340	plf
Beam Self Weight	6	plf
Total Uniform Load	826	plf

Project: 22-0411 3-STORY

Location: FB1
Multi-Loaded Multi-Span Beam
[2015 International Building Code(2015 NDS)]
1.5 IN x 11.25 IN x 4.0 FT Pressure Treated
#2 - Hem-Fir - Dry Use
Section Adequate By: 34.2%
Controlling Factor: Shear

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DEFLECTIONS	Center	
Live Load	0.01	IN L/4580
Dead Load	0.00	in
Total Load	0.01	IN L/3641

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

REACTIONS	A		B	
Live Load	800	lb	800	lb
Dead Load	206	lb	206	lb
Total Load	1006	lb	1006	lb
Bearing Length	1.66	in	1.66	in

BEAM DATA	Center	
Span Length	4	ft
Unbraced Length-Top	0	ft
Unbraced Length-Bottom	4	ft
Live Load Duration Factor	1.00	
Notch Depth	0.00	

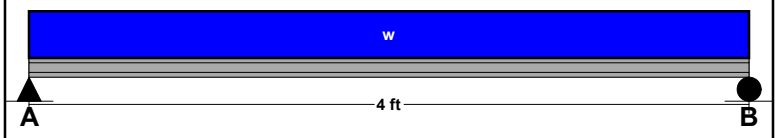
MATERIAL PROPERTIES
#2 - Hem-Fir

	Base Values			Adjusted		
Bending Stress:	Fb =	850	psi	Fb' =	680	psi
	Cd=1.00 CF=1.00 Ci=0.80					
Shear Stress:	Fv =	150	psi	Fv' =	120	psi
	Cd=1.00 Ci=0.80					
Modulus of Elasticity:	E =	1300	ksi	E' =	1235	ksi
	Ci=0.95					
Comp. ⊥ to Grain:	Fc - ⊥ =	405	psi	Fc - ⊥' =	405	psi

Controlling Moment: 1006 ft-lb
2.0 Ft from left support of span 2 (Center Span)
Created by combining all dead loads and live loads on span(s) 2
Controlling Shear: -1006 lb
At right support of span 2 (Center Span)
Created by combining all dead loads and live loads on span(s) 2

Comparisons with required sections:	Req'd		Provided	
Section Modulus:	17.76	in3	31.64	in3
Area (Shear):	12.58	in2	16.88	in2
Moment of Inertia (deflection):	13.99	in4	177.98	in4
Moment:	1006	ft-lb	1793	ft-lb
Shear:	-1006	lb	1350	lb

LOADING DIAGRAM



UNIFORM LOADS	Center	
Uniform Live Load	400	plf
Uniform Dead Load	100	plf
Beam Self Weight	3	plf
Total Uniform Load	503	plf

Project: 22-0411 3-STORY

Location: FB2
Multi-Loaded Multi-Span Beam
[2015 International Building Code(2015 NDS)]
(2) 1.5 IN x 11.25 IN x 8.0 FT Pressure Treated (6.5 + 1.5)
#2 - Hem-Fir - Dry Use
Section Adequate By: 119.0%
Controlling Factor: Moment

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

DEFLECTIONS	Center		Right	
Live Load	-0.01	IN L/5741	0.02	IN 2L/1800
Dead Load	0.00	in	0.00	in
Total Load	-0.02	IN L/4699	0.02	IN 2L/1450

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

REACTIONS	A		B	
Live Load	0	lb	1097	lb
Dead Load	-31	lb	313	lb
Total Load	-31	lb	1410	lb
Uplift (1.5 F.S)	**-227**	**lb**	0	**lb**
Bearing Length	0.00	in	1.16	in

BEAM DATA	Center		Right	
Span Length	6.5	ft	1.5	ft
Unbraced Length-Top	0	ft	0	ft
Unbraced Length-Bottom	6.5	ft	1.5	ft
Live Load Duration Factor	1.00			
Notch Depth	0.00			

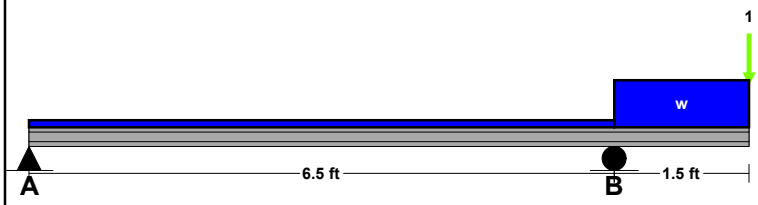
MATERIAL PROPERTIES
#2 - Hem-Fir

	Base Values		Adjusted	
Bending Stress:	Fb = 850	psi	Fb' = 669	psi
	Cd=1.00 Cl=0.98 CF=1.00 Ci=0.80			
Shear Stress:	Fv = 150	psi	Fv' = 120	psi
	Cd=1.00 Ci=0.80			
Modulus of Elasticity:	E = 1300	ksi	E' = 1235	ksi
	Ci=0.95			
Comp. ⊥ to Grain:	Fc - ⊥ = 405	psi	Fc - ⊥' = 405	psi

Controlling Moment: -1611 ft-lb
Over right support of span 2 (Center Span)
Created by combining all dead loads and live loads on span(s) 2, 3
Controlling Shear: 1141 lb
At left support of span 3 (Right Span)
Created by combining all dead loads and live loads on span(s) 2, 3

Comparisons with required sections:	Req'd		Provided	
Section Modulus:	28.9	in3	63.28	in3
Area (Shear):	14.27	in2	33.75	in2
Moment of Inertia (deflection):	71.18	in4	355.96	in4
Moment:	-1611	ft-lb	3527	ft-lb
Shear:	1141	lb	2700	lb

LOADING DIAGRAM



UNIFORM LOADS	Center		Right	
Uniform Live Load	0	plf	67	plf
Uniform Dead Load	0	plf	17	plf
Beam Self Weight	6	plf	6	plf
Total Uniform Load	6	plf	90	plf

POINT LOADS - RIGHT SPAN

Load Number	One *
Live Load	800 lb
Dead Load	206 lb
Location	1.5 ft

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

Project: 22-0411 3-STORY

Location: DB1
Multi-Loaded Multi-Span Beam
[2015 International Building Code(2015 NDS)]
5.5 IN x 9.5 IN x 12.0 FT
#2 - Hem-Fir - Dry Use
Section Adequate By: 85.0%
Controlling Factor: Moment

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DEFLECTIONS	Center	
Live Load	0.11	IN L/1334
Dead Load	0.04	in
Total Load	0.15	IN L/955

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

REACTIONS	A		B	
Live Load	600	lb	600	lb
Dead Load	238	lb	238	lb
Total Load	838	lb	838	lb
Bearing Length	0.38	in	0.38	in

BEAM DATA	Center	
Span Length	12	ft
Unbraced Length-Top	0	ft
Unbraced Length-Bottom	12	ft
Live Load Duration Factor	1.00	
Notch Depth	0.00	

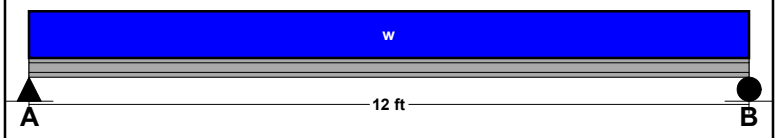
MATERIAL PROPERTIES
#2 - Hem-Fir

	Base Values		Adjusted	
Bending Stress:	Fb = 675	psi	Fb' = 675	psi
	Cd=1.00 CF=1.00			
Shear Stress:	Fv = 140	psi	Fv' = 140	psi
	Cd=1.00			
Modulus of Elasticity:	E = 1100	ksi	E' = 1100	ksi
Comp. ⊥ to Grain:	Fc - ⊥ = 405	psi	Fc - ⊥' = 405	psi

Controlling Moment: 2515 ft-lb
6.0 Ft from left support of span 2 (Center Span)
Created by combining all dead loads and live loads on span(s) 2
Controlling Shear: 838 lb
At left support of span 2 (Center Span)
Created by combining all dead loads and live loads on span(s) 2

Comparisons with required sections:	Req'd		Provided	
Section Modulus:	44.72	in3	82.73	in3
Area (Shear):	8.98	in2	52.25	in2
Moment of Inertia (deflection):	106.02	in4	392.96	in4
Moment:	2515	ft-lb	4654	ft-lb
Shear:	838	lb	4877	lb

LOADING DIAGRAM



UNIFORM LOADS	Center	
Uniform Live Load	100	plf
Uniform Dead Load	30	plf
Beam Self Weight	10	plf
Total Uniform Load	140	plf

Project: 22-0411 3-STORY

Location: FB1 POST
Column
[2015 International Building Code(2015 NDS)]
(2) 1.5 IN x 3.5 IN x 8.0 FT
#2 - Douglas-Fir-Larch - Dry Use
Section Adequate By: 82.2%

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CAUTIONS
* Laminations to be nailed together per National Design Specifications for Wood Construction Section 15.3.3.1

VERTICAL REACTIONS

Live Load:	Vert-LL-Rxn =	800	lb
Dead Load:	Vert-DL-Rxn =	224	lb
Total Load:	Vert-TL-Rxn =	1024	lb

COLUMN DATA

Total Column Length:	8	ft
Unbraced Length (X-Axis) Lx:	8	ft
Unbraced Length (Y-Axis) Ly:	0	ft
Column End Condition-K (e):	1	
Load Eccentricity (X-Axis) - ex:	0.5	in
Load Eccentricity (Y-Axis) - ey:	0.5	in
Axial Load Duration Factor	1.00	

COLUMN PROPERTIES
#2 - Douglas-Fir-Larch

	Base Values	Adjusted
Compressive Stress:	Fc = 1350 psi	Fc' = 568 psi
	Cd=1.00 Cf=1.15 Cp=0.37	
Bending Stress (X-X Axis):	Fbx = 900 psi	Fbx' = 1350 psi
	Cd=1.00 CF=1.50	
Bending Stress (Y-Y Axis):	Fby = 900 psi	Fby' = 1350 psi
	Cd=1.00 CF=1.50	
Modulus of Elasticity:	E = 1600 ksi	E' = 1600 ksi

Column Section (X-X Axis):	dx =	3.5	in
Column Section (Y-Y Axis):	dy =	3	in
Area:	A =	10.5	in2
Section Modulus (X-X Axis):	Sx =	6.13	in3
Section Modulus (Y-Y Axis):	Sy =	2.63	in3
Slenderness Ratio:	Lex/dx =	27.43	
	Ley/dy =	0	

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

Actual Compressive Stress:	Fc =	98	psi
Allowable Compressive Stress:	Fc' =	568	psi
Eccentricity Moment (X-X Axis):	Mx-ex =	42	ft-lb
Eccentricity Moment (Y-Y Axis):	My-ey =	42	ft-lb
Moment Due to Lateral Loads (X-X Axis):	Mx =	0	ft-lb
Moment Due to Lateral Loads (Y-Y Axis):	My =	0	ft-lb
Bending Stress Lateral Loads Only (X-X Axis):	Fbx =	0	psi
Allowable Bending Stress (X-X Axis):	Fbx' =	1350	psi
Bending Stress Lateral Loads Only (Y-Y Axis):	Fby =	0	psi
Allowable Bending Stress (Y-Y Axis):	Fby' =	1350	psi
Combined Stress Factor:	**CSF =**	**0.18**	

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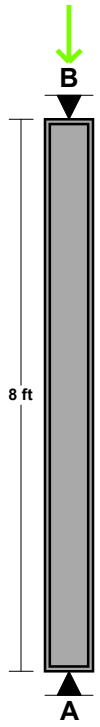

AXIAL LOADING

Live Load:	PL =	800	lb *
Dead Load:	PD =	206	lb *
Column Self Weight:	CSW =	18	lb
Total Axial Load:	PT =	1024	lb

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

Project: 22-0411 3-STORY

Location: FB2 POST
Column
[2015 International Building Code(2015 NDS)]
(2) 1.5 IN x 5.5 IN x 8.0 FT
#2 - Douglas-Fir-Larch - Dry Use
Section Adequate By: 87.5%

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CAUTIONS
* Laminations to be nailed together per National Design Specifications for Wood Construction Section 15.3.3.1

VERTICAL REACTIONS

Live Load:	Vert-LL-Rxn =	1097	lb
Dead Load:	Vert-DL-Rxn =	342	lb
Total Load:	Vert-TL-Rxn =	1439	lb

COLUMN DATA

Total Column Length:	8	ft
Unbraced Length (X-Axis) Lx:	8	ft
Unbraced Length (Y-Axis) Ly:	0	ft
Column End Condition-K (e):	1	
Load Eccentricity (X-Axis) - ex:	0.5	in
Load Eccentricity (Y-Axis) - ey:	0.5	in
Axial Load Duration Factor	1.00	

COLUMN PROPERTIES
#2 - Douglas-Fir-Larch

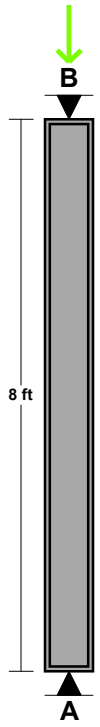
	Base Values	Adjusted
Compressive Stress:	Fc = 1350 psi	Fc' = 1053 psi
	Cd=1.00 Cf=1.10 Cp=0.71	
Bending Stress (X-X Axis):	Fbx = 900 psi	Fbx' = 1170 psi
	Cd=1.00 CF=1.30	
Bending Stress (Y-Y Axis):	Fby = 900 psi	Fby' = 1170 psi
	Cd=1.00 CF=1.30	
Modulus of Elasticity:	E = 1600 ksi	E' = 1600 ksi

Column Section (X-X Axis):	dx =	5.5	in
Column Section (Y-Y Axis):	dy =	3	in
Area:	A =	16.5	in2
Section Modulus (X-X Axis):	Sx =	15.13	in3
Section Modulus (Y-Y Axis):	Sy =	4.13	in3
Slenderness Ratio:	Lex/dx =	17.45	
	Ley/dy =	0	

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

Actual Compressive Stress:	Fc =	87	psi
Allowable Compressive Stress:	Fc' =	1053	psi
Eccentricity Moment (X-X Axis):	Mx-ex =	59	ft-lb
Eccentricity Moment (Y-Y Axis):	My-ey =	59	ft-lb
Moment Due to Lateral Loads (X-X Axis):	Mx =	0	ft-lb
Moment Due to Lateral Loads (Y-Y Axis):	My =	0	ft-lb
Bending Stress Lateral Loads Only (X-X Axis):	Fbx =	0	psi
Allowable Bending Stress (X-X Axis):	Fbx' =	1170	psi
Bending Stress Lateral Loads Only (Y-Y Axis):	Fby =	0	psi
Allowable Bending Stress (Y-Y Axis):	Fby' =	1170	psi
Combined Stress Factor:	**CSF =**	**0.12**	

LOADING DIAGRAM



AXIAL LOADING

Live Load:	PL =	1097	lb *
Dead Load:	PD =	313	lb *
Column Self Weight:	CSW =	29	lb
Total Axial Load:	PT =	1439	lb

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

Project: 22-0411 3-STORY

Location: DECK POST
Column
[2015 International Building Code(2015 NDS)]
5.5 IN x 5.5 IN x 8.0 FT
#2 - Hem-Fir - Dry Use
Section Adequate By: 93.9%

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VERTICAL REACTIONS

Live Load:	Vert-LL-Rxn =	600	lb
Dead Load:	Vert-DL-Rxn =	283	lb
Total Load:	Vert-TL-Rxn =	883	lb

COLUMN DATA

Total Column Length:	8	ft
Unbraced Length (X-Axis) Lx:	8	ft
Unbraced Length (Y-Axis) Ly:	8	ft
Column End Condition-K (e):	1	
Load Eccentricity (X-Axis) - ex:	0.5	in
Load Eccentricity (Y-Axis) - ey:	0.5	in
Axial Load Duration Factor	1.00	

COLUMN PROPERTIES

#2 - Hem-Fir

	Base Values		Adjusted	
Compressive Stress:	Fc = 575	psi	Fc' = 492	psi
	Cd=1.00 Cp=0.86			
Bending Stress (X-X Axis):	Fbx = 575	psi	Fbx' = 575	psi
	Cd=1.00 CF=1.00			
Bending Stress (Y-Y Axis):	Fby = 575	psi	Fby' = 575	psi
	Cd=1.00 CF=1.00			
Modulus of Elasticity:	E = 1100	ksi	E' = 1100	ksi

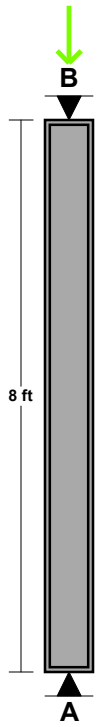
Column Section (X-X Axis):	dx =	5.5	in
Column Section (Y-Y Axis):	dy =	5.5	in
Area:	A =	30.25	in2
Section Modulus (X-X Axis):	Sx =	27.73	in3
Section Modulus (Y-Y Axis):	Sy =	27.73	in3
Slenderness Ratio:	Lex/dx =	17.45	
	Ley/dy =	17.45	

Column Calculations (Controlling Case Only):

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

Actual Compressive Stress:	Fc =	29	psi
Allowable Compressive Stress:	Fc' =	492	psi
Eccentricity Moment (X-X Axis):	Mx-ex =	35	ft-lb
Eccentricity Moment (Y-Y Axis):	My-ey =	35	ft-lb
Moment Due to Lateral Loads (X-X Axis):	Mx =	0	ft-lb
Moment Due to Lateral Loads (Y-Y Axis):	My =	0	ft-lb
Bending Stress Lateral Loads Only (X-X Axis):	Fbx =	0	psi
Allowable Bending Stress (X-X Axis):	Fbx' =	575	psi
Bending Stress Lateral Loads Only (Y-Y Axis):	Fby =	0	psi
Allowable Bending Stress (Y-Y Axis):	Fby' =	575	psi
Combined Stress Factor:	**CSF =**	**0.06**	

LOADING DIAGRAM



AXIAL LOADING

Live Load:	PL =	600	lb *
Dead Load:	PD =	238	lb *
Column Self Weight:	CSW =	45	lb
Total Axial Load:	PT =	883	lb

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

Project Title:
Engineer:
Project ID:
Project Descr:

Wood Column

Project File: 22-0411 3-STORY.ec6

DESCRIPTION: HDR 1 TRIMMERS

Code References

Calculations per NDS 2018, IBC 2018, CBC 2019, ASCE 7-16
Load Combinations Used : IBC 2021

General Information

Analysis Method	Allowable Stress Design		
End Fixities	Top & Bottom Pinned		
Overall Column Height	7 ft		
(Used for non-slender calculations)			
Wood Species	Douglas Fir-Larch		
Wood Grade	No.2		
Fb +	900.0 psi	Fv	180.0 psi
Fb -	900.0 psi	Ft	575.0 psi
Fc - Prll	1,350.0 psi	Density	31.210 pcf
Fc - Perp	625.0 psi		

E : Modulus of Elasticity . . .	x-x Bending	y-y Bending	Axial
Basic	1,600.0	1,600.0	1,600.0 ksi
Minimum	580.0	580.0	

Wood Section Name	**2x6**		
Wood Grading/Manuf.	Graded Lumber		
Wood Member Type	Sawn		
Exact Width	**1.50** in	Allow Stress Modification Factors	
Exact Depth	**5.50** in	Cf or Cv for Bending	1.30
Area	8.250 in^2	Cf or Cv for Compressio	1.10
Ix	20.797 in^4	Cf or Cv for Tension	1.30
Iy	1.547 in^4	Cm : Wet Use Factor	1.0
		Ct : Temperature Fact	1.0
		Cfu : Flat Use Factor	1.0
		Kf : Built-up columns	1.0 *NDS 15.3.2*
		Use Cr : Repetitive ?	No

Brace condition for deflection (buckling) along columns :
X-X (width) axis : Fully braced against buckling ABOUT Y-Y Axis
Y-Y (depth) axis : Unbraced Length for buckling ABOUT X-X Axis = 7 ft, K

Applied Loads

Service loads entered. Load Factors will be applied for calculations.

Column self weight included : 12.517 lbs * Dead Load Factor
AXIAL LOADS . . .
UHDR 1 TRIMMER: Axial Load at 7.0 ft, Xecc = 0.50 in, Yecc = 0.50 in, D = 1.219, S = 1.781 k
HDR 1: Axial Load at 7.0 ft, Xecc = 0.50 in, Yecc = 0.50 in, D = 0.1590, L = 0.0610 k

DESIGN SUMMARY

Bending & Shear Check Results

PASS Max. Axial+Bending Stress Ratio = **0.8455 : 1**

Load Combination	+D+S
Governing NDS Formula	Cmap + Mxx + Myy, NDS Eq. 3.9-
Location of max.above base	6.953 ft
At maximum location values are .	
Applied Axial	3.172 k
Applied Mx	-0.1307 k-ft
Applied My	-0.1307 k-ft
Fc : Allowable	1,279.47 psi

PASS Maximum Shear Stress Ratio = **0.01652 : 1**

Load Combination	+D+S
Location of max.above base	7.0 ft
Applied Design Shear	3.419 psi
Allowable Shear	207.0 psi

Maximum SERVICE Lateral Load Reactions . .

Top along Y-Y	0.01880 k	Bottom along Y-Y	0.01880 k
Top along X-X	0.01880 k	Bottom along X-X	0.01880 k

Maximum SERVICE Load Lateral Deflections . . .

Along Y-Y -0.02167 in at 4.087 ft above base
for load combination : +D+S

Along X-X -0.2914 in at 4.087 ft above base
for load combination : +D+S

Other Factors used to calculate allowable stresses . . .

	Bending	Compression	Tension

Maximum Reactions

Note: Only non-zero reactions are listed.

Load Combination	X-X Axis Reaction k @ Base	@ Top	Y-Y Axis Reaction @ Base	@ Top	Axial Reaction @ Base	My - End Moments k-ft @ Base	@ Top	Mx - End Moments @ Base	@ Top
D Only	-0.008	0.008	-0.008	0.008	1.391				
+D+L	-0.009	0.009	-0.009	0.009	1.452				
+D+S	-0.019	0.019	-0.019	0.019	3.172				
+D+0.750L	-0.008	0.008	-0.008	0.008	1.436				
+D+0.750L+0.750S	-0.016	0.016	-0.016	0.016	2.772				
+0.60D	-0.005	0.005	-0.005	0.005	0.834				
L Only	-0.000	0.000	-0.000	0.000	0.061				
S Only	-0.011	0.011	-0.011	0.011	1.781				

Project Title:
Engineer:
Project ID:
Project Descr:

Wood Column

Project File: 22-0411 3-STORY.ec6

DESCRIPTION: HDR 2 TRIMMERS

Code References

Calculations per NDS 2018, IBC 2018, CBC 2019, ASCE 7-16
Load Combinations Used : IBC 2021

General Information

Analysis Method	Allowable Stress Design		
End Fixities	Top & Bottom Pinned		
Overall Column Height	7 ft		
(Used for non-slender calculations)			
Wood Species	Douglas Fir-Larch		
Wood Grade	No.2		
Fb +	900.0 psi	Fv	180.0 psi
Fb -	900.0 psi	Ft	575.0 psi
Fc - Prll	1,350.0 psi	Density	31.210 pcf
Fc - Perp	625.0 psi		

E : Modulus of Elasticity . . .	x-x Bending	y-y Bending	Axial
Basic	1,600.0	1,600.0	1,600.0 ksi
Minimum	580.0	580.0	

Wood Section Name	**2x6**		
Wood Grading/Manuf.	Graded Lumber		
Wood Member Type	Sawn		
Exact Width	**1.50** in	Allow Stress Modification Factors	
Exact Depth	**5.50** in	Cf or Cv for Bending	1.30
Area	8.250 in^2	Cf or Cv for Compressio	1.10
Ix	20.797 in^4	Cf or Cv for Tension	1.30
Iy	1.547 in^4	Cm : Wet Use Factor	1.0
		Ct : Temperature Fact	1.0
		Cfu : Flat Use Factor	1.0
		Kf : Built-up columns	1.0 *NDS 15.3.2*
		Use Cr : Repetitive ?	No

Brace condition for deflection (buckling) along columns :
X-X (width) axis : Fully braced against buckling ABOUT Y-Y Axis
Y-Y (depth) axis : Unbraced Length for buckling ABOUT X-X Axis = 7 ft, K

Applied Loads

Service loads entered. Load Factors will be applied for calculations.

Column self weight included : 12.517 lbs * Dead Load Factor
AXIAL LOADS . . .
UHDR 2 TRIMMER: Axial Load at 7.0 ft, Xecc = 0.50 in, Yecc = 0.50 in, D = 0.660, S = 0.9540 k
HDR 2: Axial Load at 7.0 ft, Xecc = 0.50 in, Yecc = 0.50 in, D = 0.1760, L = 0.2220 k

DESIGN SUMMARY

Bending & Shear Check Results

PASS Max. Axial+Bending Stress Ratio = **0.4473 : 1**

Load Combination	+D+S
Governing NDS Formula	Comp + Mxx + Myy, NDS Eq. 3.9-
Location of max.above base	6.953 ft
At maximum location values are .	
Applied Axial	1.803 k
Applied Mx	-0.07408 k-ft
Applied My	-0.07408 k-ft
Fc : Allowable	1,279.47 psi

PASS Maximum Shear Stress Ratio = **0.009359 : 1**

Load Combination	+D+S
Location of max.above base	7.0 ft
Applied Design Shear	1.937 psi
Allowable Shear	207.0 psi

Maximum SERVICE Lateral Load Reactions . .

Top along Y-Y	0.01066 k	Bottom along Y-Y	0.01066 k
Top along X-X	0.01066 k	Bottom along X-X	0.01066 k

Maximum SERVICE Load Lateral Deflections . . .

Along Y-Y -0.01228 in at 4.087 ft above base
for load combination : +D+S

Along X-X -0.1651 in at 4.087 ft above base
for load combination : +D+S

Other Factors used to calculate allowable stresses . . .

	Bending	Compression	Tension

Maximum Reactions

Note: Only non-zero reactions are listed.

Load Combination	X-X Axis Reaction k @ Base	@ Top	Y-Y Axis Reaction @ Base	@ Top	Axial Reaction @ Base	My - End Moments k-ft @ Base	@ Top	Mx - End Moments @ Base	@ Top
D Only	-0.005	0.005	-0.005	0.005	0.849				
+D+L	-0.006	0.006	-0.006	0.006	1.071				
+D+S	-0.011	0.011	-0.011	0.011	1.803				
+D+0.750L	-0.006	0.006	-0.006	0.006	1.015				
+D+0.750L+0.750S	-0.010	0.010	-0.010	0.010	1.731				
+0.60D	-0.003	0.003	-0.003	0.003	0.509				
L Only	-0.001	0.001	-0.001	0.001	0.222				
S Only	-0.006	0.006	-0.006	0.006	0.954				

Project Title:
Engineer:
Project ID:
Project Descr:

Wood Column

Project File: 22-0411 3-STORY.ec6

DESCRIPTION: HDR 3 TRIMMERS

Code References

Calculations per NDS 2018, IBC 2018, CBC 2019, ASCE 7-16
Load Combinations Used : IBC 2021

General Information

Analysis Method	Allowable Stress Design		
End Fixities	Top & Bottom Pinned		
Overall Column Height	7 ft		
(Used for non-slender calculations)			
Wood Species	Douglas Fir-Larch		
Wood Grade	No.2		
Fb +	900.0 psi	Fv	180.0 psi
Fb -	900.0 psi	Ft	575.0 psi
Fc - Prll	1,350.0 psi	Density	31.210 pcf
Fc - Perp	625.0 psi		

E : Modulus of Elasticity . . .	x-x Bending	y-y Bending	Axial
Basic	1,600.0	1,600.0	1,600.0 ksi
Minimum	580.0	580.0	

Wood Section Name	**2x6**		
Wood Grading/Manuf.	Graded Lumber		
Wood Member Type	Sawn		
Exact Width	**1.50** in	Allow Stress Modification Factors	
Exact Depth	**5.50** in	Cf or Cv for Bending	1.30
Area	8.250 in^2	Cf or Cv for Compressio	1.10
Ix	20.797 in^4	Cf or Cv for Tension	1.30
Iy	1.547 in^4	Cm : Wet Use Factor	1.0
		Ct : Temperature Fact	1.0
		Cfu : Flat Use Factor	1.0
		Kf : Built-up columns	1.0 *NDS 15.3.2*
		Use Cr : Repetitive ?	No

Brace condition for deflection (buckling) along columns :
X-X (width) axis : Fully braced against buckling ABOUT Y-Y Axis
Y-Y (depth) axis : Unbraced Length for buckling ABOUT X-X Axis = 7 ft, K

Applied Loads

Service loads entered. Load Factors will be applied for calculations.

Column self weight included : 12.517 lbs * Dead Load Factor
AXIAL LOADS . . .
UHDR 3 TRIMMER: Axial Load at 7.0 ft, Xecc = 0.50 in, Yecc = 0.50 in, D = 0.4750, S = 0.6810 k
HDR 3: Axial Load at 7.0 ft, Xecc = 0.50 in, Yecc = 0.50 in, D = 0.1260, L = 0.1590 k

DESIGN SUMMARY

Bending & Shear Check Results

PASS Max. Axial+Bending Stress Ratio = **0.3122 : 1**

Load Combination	+D+S
Governing NDS Formula	Pmap + Mxx + Myy, NDS Eq. 3.9-
Location of max.above base	6.953 ft
At maximum location values are .	
Applied Axial	1.295 k
Applied Mx	-0.05306 k-ft
Applied My	-0.05306 k-ft
Fc : Allowable	1,279.47 psi

PASS Maximum Shear Stress Ratio = **0.006703 : 1**

Load Combination	+D+S
Location of max.above base	7.0 ft
Applied Design Shear	1.387 psi
Allowable Shear	207.0 psi

Maximum SERVICE Lateral Load Reactions . .

Top along Y-Y	0.007631 k	Bottom along Y-Y	0.007631 k
Top along X-X	0.007631 k	Bottom along X-X	0.007631 k

Maximum SERVICE Load Lateral Deflections . . .

Along Y-Y -0.008795 in at 4.087 ft above base
for load combination : +D+S

Along X-X -0.1182 in at 4.087 ft above base
for load combination : +D+S

Other Factors used to calculate allowable stresses . . .

	Bending	Compression	Tension

Maximum Reactions

Note: Only non-zero reactions are listed.

Load Combination	X-X Axis Reaction k @ Base	@ Top	Y-Y Axis Reaction k @ Base	@ Top	Axial Reaction @ Base	My - End Moments k-ft @ Base	@ Top	Mx - End Moments @ Base	@ Top
D Only	-0.004	0.004	-0.004	0.004	0.614				
+D+L	-0.005	0.005	-0.005	0.005	0.773				
+D+S	-0.008	0.008	-0.008	0.008	1.295				
+D+0.750L	-0.004	0.004	-0.004	0.004	0.733				
+D+0.750L+0.750S	-0.007	0.007	-0.007	0.007	1.244				
+0.60D	-0.002	0.002	-0.002	0.002	0.368				
L Only	-0.001	0.001	-0.001	0.001	0.159				
S Only	-0.004	0.004	-0.004	0.004	0.681				

Project Title:
Engineer:
Project ID:
Project Descr:

Wood Column

Project File: 22-0411 3-STORY.ec6

DESCRIPTION: HDR 4 TRIMMERS

Code References

Calculations per NDS 2018, IBC 2018, CBC 2019, ASCE 7-16
Load Combinations Used : IBC 2021

General Information

Analysis Method	Allowable Stress Design		
End Fixities	Top & Bottom Pinned		
Overall Column Height	7 ft		
(Used for non-slender calculations)			
Wood Species	Douglas Fir-Larch		
Wood Grade	No.2		
Fb +	900.0 psi	Fv	180.0 psi
Fb -	900.0 psi	Ft	575.0 psi
Fc - Prll	1,350.0 psi	Density	31.210 pcf
Fc - Perp	625.0 psi		

E : Modulus of Elasticity . . .	x-x Bending	y-y Bending	Axial
Basic	1,600.0	1,600.0	1,600.0 ksi
Minimum	580.0	580.0	

Wood Section Name	**2x6**		
Wood Grading/Manuf.	Graded Lumber		
Wood Member Type	Sawn		
Exact Width	**1.50** in	Allow Stress Modification Factors	
Exact Depth	**5.50** in	Cf or Cv for Bending	1.30
Area	8.250 in^2	Cf or Cv for Compressio	1.10
Ix	20.797 in^4	Cf or Cv for Tension	1.30
Iy	1.547 in^4	Cm : Wet Use Factor	1.0
		Ct : Temperature Fact	1.0
		Cfu : Flat Use Factor	1.0
		Kf : Built-up columns	1.0 *NDS 15.3.2*
		Use Cr : Repetitive ?	No

Brace condition for deflection (buckling) along columns :
X-X (width) axis : Fully braced against buckling ABOUT Y-Y Axis
Y-Y (depth) axis : Unbraced Length for buckling ABOUT X-X Axis = 7 ft, K

Applied Loads

Service loads entered. Load Factors will be applied for calculations.

Column self weight included : 12.517 lbs * Dead Load Factor
AXIAL LOADS . . .
UHDR 4 TRIMMER: Axial Load at 7.0 ft, Xecc = 0.50 in, Yecc = 0.50 in, D = 0.9730, S = 1.426 k
HDR 4: Axial Load at 7.0 ft, Xecc = 0.50 in, Yecc = 0.50 in, D = 0.2980, L = 0.7470 k

DESIGN SUMMARY

Bending & Shear Check Results

PASS Max. Axial+Bending Stress Ratio = **0.7665 : 1**
Load Combination +D+0.750L+0.750S
Governing NDS Formula Cmap + Mxx + Myy, NDS Eq. 3.9-
Location of max.above base 6.953 ft
At maximum location values are .
Applied Axial 2.913 k
Applied Mx -0.1201 k-ft
Applied My -0.1201 k-ft
Fc : Allowable 1,279.47 psi

PASS Maximum Shear Stress Ratio = **0.01517 : 1**
Load Combination +D+0.750L+0.750S
Location of max.above base 7.0 ft
Applied Design Shear 3.139 psi
Allowable Shear 207.0 psi

Maximum SERVICE Lateral Load Reactions . .
Top along Y-Y 0.01727 k Bottom along Y-Y 0.01727 k
Top along X-X 0.01727 k Bottom along X-X 0.01727 k

Maximum SERVICE Load Lateral Deflections . . .
Along Y-Y -0.01990 in at 4.087 ft above base
for load combination : +D+0.750L+0.750S
Along X-X -0.2675 in at 4.087 ft above base
for load combination : +D+0.750L+0.750S

Other Factors used to calculate allowable stresses . . .

	Bending	Compression	Tension

Maximum Reactions

Note: Only non-zero reactions are listed.

Load Combination	X-X Axis Reaction k @ Base	@ Top	Y-Y Axis Reaction @ Base	@ Top	Axial Reaction @ Base	My - End Moments k-ft @ Base	@ Top	Mx - End Moments @ Base	@ Top
D Only	-0.008	0.008	-0.008	0.008	1.284				
+D+L	-0.012	0.012	-0.012	0.012	2.031				
+D+S	-0.016	0.016	-0.016	0.016	2.710				
+D+0.750L	-0.011	0.011	-0.011	0.011	1.844				
+D+0.750L+0.750S	-0.017	0.017	-0.017	0.017	2.913				
+0.60D	-0.005	0.005	-0.005	0.005	0.770				
L Only	-0.004	0.004	-0.004	0.004	0.747				
S Only	-0.008	0.008	-0.008	0.008	1.426				

Project Title:
Engineer:
Project ID:
Project Descr:

Wood Column

Project File: 22-0411 3-STORY.ec6

DESCRIPTION: HDR 5 TRIMMERS

Code References

Calculations per NDS 2018, IBC 2018, CBC 2019, ASCE 7-16
Load Combinations Used : IBC 2021

General Information

Analysis Method	Allowable Stress Design		
End Fixities	Top & Bottom Pinned		
Overall Column Height	7 ft		
(Used for non-slender calculations)			
Wood Species	Douglas Fir-Larch		
Wood Grade	No.2		
Fb +	900.0 psi	Fv	180.0 psi
Fb -	900.0 psi	Ft	575.0 psi
Fc - Prll	1,350.0 psi	Density	31.210 pcf
Fc - Perp	625.0 psi		

E : Modulus of Elasticity . . .	x-x Bending	y-y Bending	Axial
Basic	1,600.0	1,600.0	1,600.0 ksi
Minimum	580.0	580.0	

Wood Section Name	**2x6**		
Wood Grading/Manuf.	Graded Lumber		
Wood Member Type	Sawn		
Exact Width	**1.50** in	Allow Stress Modification Factors	
Exact Depth	**5.50** in	Cf or Cv for Bending	1.30
Area	8.250 in^2	Cf or Cv for Compressio	1.10
Ix	20.797 in^4	Cf or Cv for Tension	1.30
Iy	1.547 in^4	Cm : Wet Use Factor	1.0
		Ct : Temperature Fact	1.0
		Cfu : Flat Use Factor	1.0
		Kf : Built-up columns	1.0 *NDS 15.3.2*
		Use Cr : Repetitive ?	No

Brace condition for deflection (buckling) along columns :
X-X (width) axis : Fully braced against buckling ABOUT Y-Y Axis
Y-Y (depth) axis : Unbraced Length for buckling ABOUT X-X Axis = 7 ft, K

Applied Loads

Service loads entered. Load Factors will be applied for calculations.

Column self weight included : 12.517 lbs * Dead Load Factor
AXIAL LOADS . . .
UHDR 5 TRIMMER: Axial Load at 7.0 ft, Xecc = 0.50 in, Yecc = 0.50 in, D = 0.8360, S = 1.223 k
HDR 5: Axial Load at 7.0 ft, Xecc = 0.50 in, Yecc = 0.50 in, D = 0.1810, L = 0.3630 k

DESIGN SUMMARY

Bending & Shear Check Results

PASS Max. Axial+Bending Stress Ratio = **0.5726 : 1**

Load Combination	+D+S
Governing NDS Formula	Cmap + Mxx + Myy, NDS Eq. 3.9-
Location of max.above base	6.953 ft
At maximum location values are .	
Applied Axial	2.253 k
Applied Mx	-0.09271 k-ft
Applied My	-0.09271 k-ft
Fc : Allowable	1,279.47 psi

PASS Maximum Shear Stress Ratio = **0.01171 : 1**

Load Combination	+D+S
Location of max.above base	7.0 ft
Applied Design Shear	2.424 psi
Allowable Shear	207.0 psi

Maximum SERVICE Lateral Load Reactions . .

Top along Y-Y	0.01333 k	Bottom along Y-Y	0.01333 k
Top along X-X	0.01333 k	Bottom along X-X	0.01333 k

Maximum SERVICE Load Lateral Deflections . . .

Along Y-Y -0.01537 in at 4.087 ft above base
for load combination : +D+S

Along X-X -0.2066 in at 4.087 ft above base
for load combination : +D+S

Other Factors used to calculate allowable stresses . . .

	Bending	Compression	Tension

Maximum Reactions

Note: Only non-zero reactions are listed.

Load Combination	X-X Axis Reaction k @ Base	@ Top	Y-Y Axis Reaction @ Base	@ Top	Axial Reaction @ Base	My - End Moments k-ft @ Base	@ Top	Mx - End Moments @ Base	@ Top
D Only	-0.006	0.006	-0.006	0.006	1.030				
+D+L	-0.008	0.008	-0.008	0.008	1.393				
+D+S	-0.013	0.013	-0.013	0.013	2.253				
+D+0.750L	-0.008	0.008	-0.008	0.008	1.302				
+D+0.750L+0.750S	-0.013	0.013	-0.013	0.013	2.219				
+0.60D	-0.004	0.004	-0.004	0.004	0.618				
L Only	-0.002	0.002	-0.002	0.002	0.363				
S Only	-0.007	0.007	-0.007	0.007	1.223				

Project: 22-0411 3-STORY

Location: HDR 6 TRIMMER
Column
[2015 International Building Code(2015 NDS)]
(2) 1.5 IN x 3.5 IN x 7.0 FT
#2 - Douglas-Fir-Larch - Dry Use
Section Adequate By: 74.8%

Max Beaudoin
Stability Engineering Inc.
777 NE 2nd Street
Corvallis OR 97333

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CAUTIONS
* Laminations to be nailed together per National Design Specifications for Wood Construction Section 15.3.3.1

VERTICAL REACTIONS

Live Load:	Vert-LL-Rxn =	840	lb
Dead Load:	Vert-DL-Rxn =	621	lb
Total Load:	Vert-TL-Rxn =	1461	lb

COLUMN DATA

Total Column Length:	7	ft
Unbraced Length (X-Axis) Lx:	7	ft
Unbraced Length (Y-Axis) Ly:	0	ft
Column End Condition-K (e):	1	
Load Eccentricity (X-Axis) - ex:	0.5	in
Load Eccentricity (Y-Axis) - ey:	0.5	in
Axial Load Duration Factor	1.00	

COLUMN PROPERTIES
#2 - Douglas-Fir-Larch

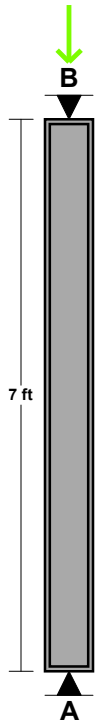
	Base Values	Adjusted
Compressive Stress:	Fc = 1350 psi	Fc' = 709 psi
	Cd=1.00 Cf=1.15 Cp=0.46	
Bending Stress (X-X Axis):	Fbx = 900 psi	Fbx' = 1350 psi
	Cd=1.00 CF=1.50	
Bending Stress (Y-Y Axis):	Fby = 900 psi	Fby' = 1350 psi
	Cd=1.00 CF=1.50	
Modulus of Elasticity:	E = 1600 ksi	E' = 1600 ksi

Column Section (X-X Axis):	dx =	3.5	in
Column Section (Y-Y Axis):	dy =	3	in
Area:	A =	10.5	in2
Section Modulus (X-X Axis):	Sx =	6.13	in3
Section Modulus (Y-Y Axis):	Sy =	2.63	in3
Slenderness Ratio:	Lex/dx =	24	
	Ley/dy =	0	

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

Actual Compressive Stress:	Fc =	139	psi
Allowable Compressive Stress:	Fc' =	709	psi
Eccentricity Moment (X-X Axis):	Mx-ex =	60	ft-lb
Eccentricity Moment (Y-Y Axis):	My-ey =	60	ft-lb
Moment Due to Lateral Loads (X-X Axis):	Mx =	0	ft-lb
Moment Due to Lateral Loads (Y-Y Axis):	My =	0	ft-lb
Bending Stress Lateral Loads Only (X-X Axis):	Fbx =	0	psi
Allowable Bending Stress (X-X Axis):	Fbx' =	1350	psi
Bending Stress Lateral Loads Only (Y-Y Axis):	Fby =	0	psi
Allowable Bending Stress (Y-Y Axis):	Fby' =	1350	psi
Combined Stress Factor:	**CSF =**	**0.25**	

LOADING DIAGRAM



AXIAL LOADING

Live Load:	PL =	840	lb *
Dead Load:	PD =	605	lb *
Column Self Weight:	CSW =	16	lb
Total Axial Load:	PT =	1461	lb

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

12/6/2022 Project: 22-0411 Cross Creek - 3 Story

STABILITY ENGINEERING INC.

By: Max Beaudoin

UPPER FLOOR FRAMING CONNECTIONS

DECK LEDGER
LOAD = (40 PSF + 12 PSF)(2.5')(1.33')
LOAD = 173 LB
1/4" X 3 1/2" SDS CAPACITY = 340 LB > 173 LB

STAIR LEDGER
LOAD = (100 PSF + 25 PSF)(4')(1.33')
LOAD = 665 LB
(2) 1/4" X 3 1/2" SDS CAPACITY = 680 LB > 665 LB

DECK JOISTS TO LEDGER
RXN = 173 LB
LU28 CAPACITY = 955 LB > 173 LB

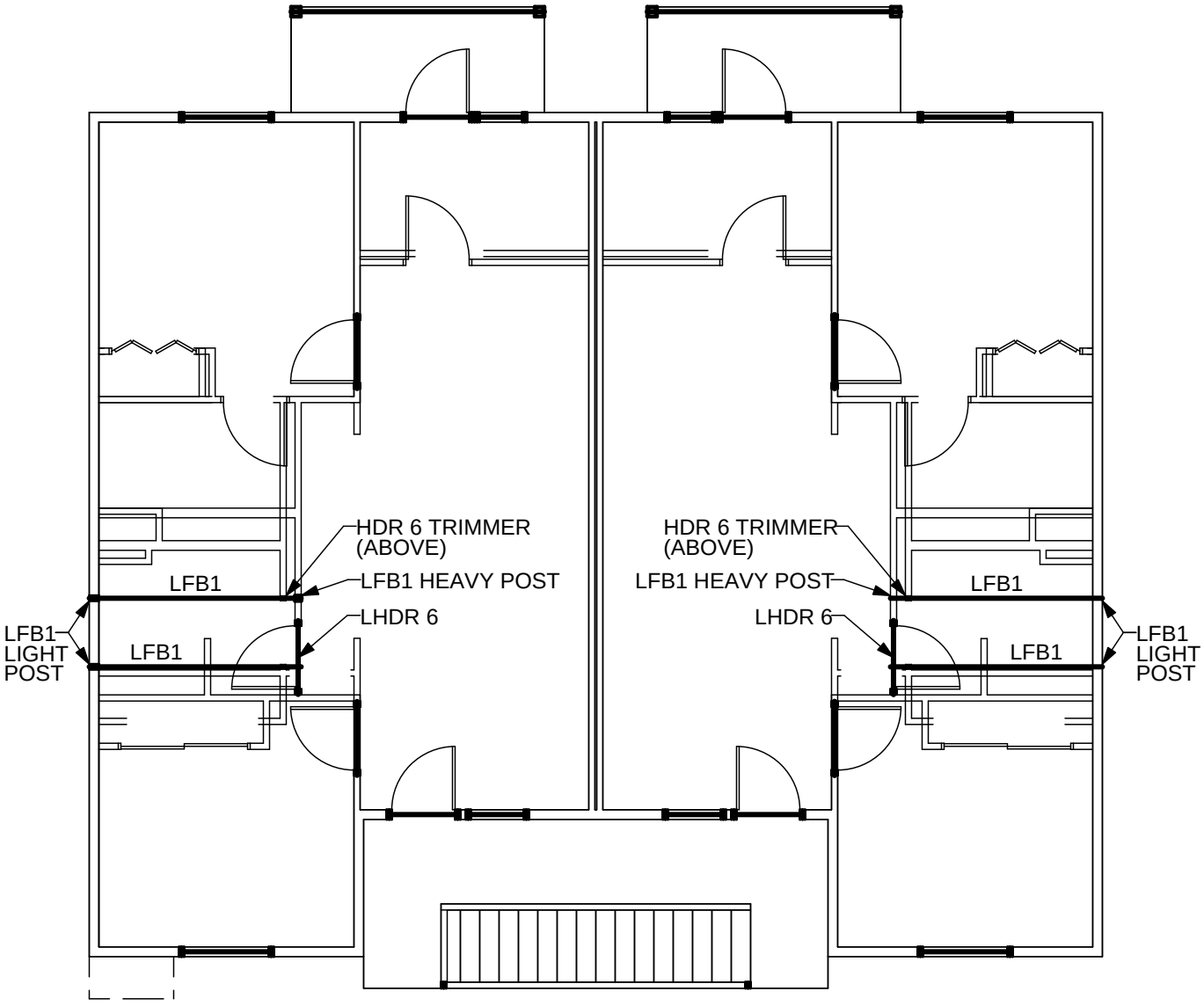
STAIR JOISTS TO LEDGER
RXN = 666 LB
LU210 CAPACITY = 1195 LB > 666 LB

FB1 TO FB2
RXN = 1006 LB
HUC212-2 CAPACITY = 2385 LB > 1006 LB

FB2 TO WALL
RXN = 1450 LB
(3) 3/4" BOLT CAPACITY = (3)*(500 LB)
(3) 3/4" BOLT CAPACITY = 1500 LB > 1450 LB

MIDDLE FLOOR FRAMING GUIDE

(SEE UPPER FLOOR FRAMING GUIDE FOR
MEMBERS NOT SPECIFIED)



12/6/2022 Project: 22-0411 Cross Creek - 3 Story

STABILITY ENGINEERING INC.

By: Max Beaudoin

MIDDLE FLOOR FRAMING

MIDDLE JOIST CHECK
L = 10'
@ 16"

DISTRIBUTED LOADS (PSF):

	SOURCE	LL	DL	LOCATION
1	FLOOR	40 PSF	25 PSF	FULL SPAN

WALL LOADS (PLF):

1	UFLOOR	480 PLF	300 PLF	9.2'
2	WALL	0	80 PLF	9.2'

LFB1
L = 10'

DISTRIBUTED LOADS (PLF):

	SOURCE	LL	DL	DISTRIBUTION
1	FLOOR	53	33	FULL SPAN

POINT LOADS:

	SOURCE	LOCATION
1	HDR 6 TRIM	9.2'

LHDR 1
L = 3'-6"

DISTRIBUTED LOADS (PLF):

	SOURCE	LL	DL	DISTRIBUTION
1	FLOOR	480	300	FULL SPAN
2	UFLOOR	480	300	0' - 1.3'
3	WALL	0	80	0' - 1.3'

POINT LOADS:

	SOURCE	LOCATION
1	LFB1	1.3'

LHDR 2
L = 3'-6"

DISTRIBUTED LOADS (PLF):

	SOURCE	LL	DL	DISTRIBUTION
1	FLOOR	480	300	FULL SPAN
2	UFLOOR	480	300	FULL SPAN
3	WALL	0	80	FULL SPAN

Project: 22-0411 3-STORY

Location: MIDDLE JOIST CHECK
Floor Joist
[2015 International Building Code(2015 NDS)]
1.5 IN x 11.25 IN x 10.0 FT @ 16 O.C.
#2 - Douglas-Fir-Larch - Dry Use
Section Adequate By: 36.1%
Controlling Factor: Shear

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DEFLECTIONS	Center
Live Load	0.06 IN L/1950
Dead Load	0.04 in
Total Load	0.10 IN L/1163

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

REACTIONS	A	B
Live Load	318 lb	855 lb
Dead Load	207 lb	633 lb
Total Load	525 lb	1488 lb
Bearing Length	0.56 in	1.59 in

SUPPORT LOADS	A	B
Live Load	239 plf	641 plf
Dead Load	155 plf	475 plf
Total Load	394 plf	1116 plf

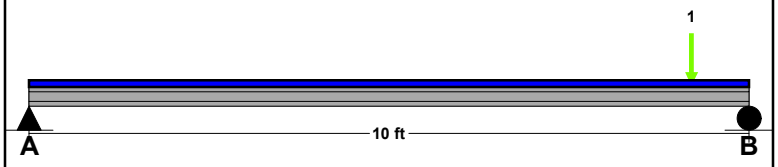
MATERIAL PROPERTIES
#2 - Douglas-Fir-Larch

	Base Values		Adjusted	
Bending Stress:	Fb = 900 psi		Fb' = 1035 psi	
	Cd=1.00 CF=1.00 Cr=1.15			
Shear Stress:	Fv = 180 psi		Fv' = 180 psi	
	Cd=1.00			
Modulus of Elasticity:	E = 1600 ksi		E' = 1600 ksi	
Comp. ⊥ to Grain:	Fc - ⊥ = 625 psi		Fc - ⊥' = 625 psi	

Controlling Moment: 1590 ft-lb
6.1 Ft from left support of span 2 (Center Span)
Created by combining all dead loads and live loads on span(s) 2
Controlling Shear: -1488 lb
At right support of span 2 (Center Span)
Created by combining all dead loads and live loads on span(s) 2

Comparisons with required sections:	Req'd	Provided
Section Modulus:	18.44 in3	31.64 in3
Area (Shear):	12.4 in2	16.88 in2
Moment of Inertia (deflection):	55.11 in4	177.98 in4
Moment:	1590 ft-lb	2729 ft-lb
Shear:	-1488 lb	2025 lb

LOADING DIAGRAM



JOIST DATA	Center
Span Length	10 ft
Unbraced Length-Top	0 ft
Unbraced Length-Bottom	0 ft

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

JOIST LOADING

Uniform Floor Loading		Center	
Live Load	LL =	40	psf
Dead Load	DL =	25	psf
Total Load	TL =	65	psf
TL Adj. For Joist Spacing	wT =	86.7	plf

Wall Loading
Wall One

Live Load (⊥ to Joists):	L1 =	480	plf
Dead Load (⊥ to Joists):	D1 =	380	plf
Load Location	X1 =	9.2	ft

Project: 22-0411 3-STORY

Location: LFB1
Multi-Loaded Multi-Span Beam
[2015 International Building Code(2015 NDS)]
(2) 1.5 IN x 11.25 IN x 10.0 FT
#2 - Douglas-Fir-Larch - Dry Use
Section Adequate By: 123.7%
Controlling Factor: Shear

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

DEFLECTIONS	Center	
Live Load	0.03	IN L/3563
Dead Load	0.03	in
Total Load	0.06	IN L/2033

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

REACTIONS	A		B	
Live Load	332	lb	1038	lb
Dead Load	251	lb	773	lb
Total Load	583	lb	1811	lb
Bearing Length	0.31	in	0.97	in

BEAM DATA	Center	
Span Length	10	ft
Unbraced Length-Top	0	ft
Unbraced Length-Bottom	10	ft
Live Load Duration Factor	1.00	
Notch Depth	0.00	

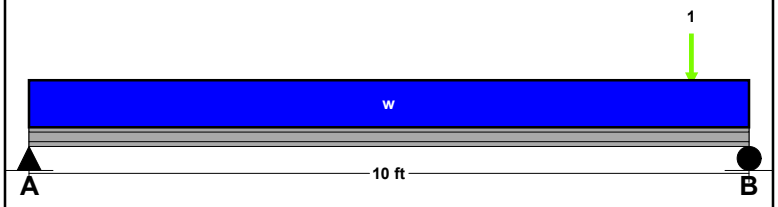
MATERIAL PROPERTIES
#2 - Douglas-Fir-Larch

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

Controlling Moment: 1824 ft-lb
6.3 Ft from left support of span 2 (Center Span)
Created by combining all dead loads and live loads on span(s) 2
Controlling Shear: -1811 lb
At right support of span 2 (Center Span)
Created by combining all dead loads and live loads on span(s) 2

Comparisons with required sections:	Req'd	Provided
Section Modulus:	24.32 in3	63.28 in3
Area (Shear):	15.09 in2	33.75 in2
Moment of Inertia (deflection):	42.02 in4	355.96 in4
Moment:	1824 ft-lb	4746 ft-lb
Shear:	-1811 lb	4050 lb

LOADING DIAGRAM



UNIFORM LOADS	Center	
Uniform Live Load	53	plf
Uniform Dead Load	33	plf
Beam Self Weight	7	plf
Total Uniform Load	93	plf

POINT LOADS - CENTER SPAN

Load Number	One *	
Live Load	840	lb
Dead Load	621	lb
Location	9.2	ft

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

Project: 22-0411 3-STORY

Location: LHDR 1
Multi-Loaded Multi-Span Beam
[2015 International Building Code(2015 NDS)]
3.5 IN x 11.25 IN x 3.5 FT
#2 - Douglas-Fir-Larch - Dry Use
Section Adequate By: 37.8%
Controlling Factor: Shear

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DEFLECTIONS Center

Live Load	0.01	IN L/7810
Dead Load	0.00	in
Total Load	0.01	IN L/4581

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

REACTIONS

	A		B	
Live Load	2001	lb	1341	lb
Dead Load	1428	lb	919	lb
Total Load	3429	lb	2260	lb
Bearing Length	1.57	in	1.03	in

BEAM DATA Center

Span Length	3.5	ft
Unbraced Length-Top	0	ft
Unbraced Length-Bottom	3.5	ft
Live Load Duration Factor	1.00	
Notch Depth	0.00	

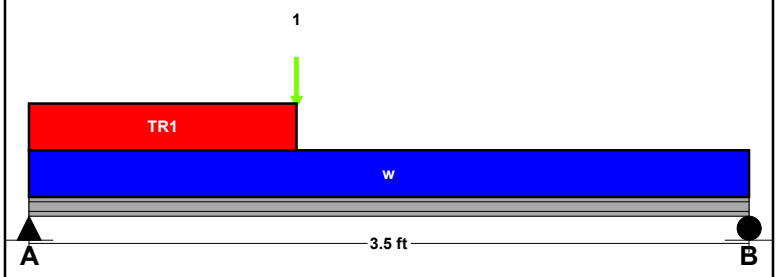
MATERIAL PROPERTIES
#2 - Douglas-Fir-Larch

	Base Values			Adjusted		
Bending Stress:	Fb =	900	psi	Fb' =	990	psi
	Cd=1.00 CF=1.10					
Shear Stress:	Fv =	180	psi	Fv' =	180	psi
	Cd=1.00					
Modulus of Elasticity:	E =	1600	ksi	E' =	1600	ksi
Comp. ⊥ to Grain:	Fc - ⊥ =	625	psi	Fc - ⊥' =	625	psi

Controlling Moment: 3058 ft-lb
1.29 Ft from left support of span 2 (Center Span)
Created by combining all dead loads and live loads on span(s) 2
Controlling Shear: 3429 lb
At left support of span 2 (Center Span)
Created by combining all dead loads and live loads on span(s) 2

Comparisons with required sections:	Req'd		Provided	
Section Modulus:	37.06	in3	73.83	in3
Area (Shear):	28.57	in2	39.38	in2
Moment of Inertia (deflection):	21.76	in4	415.28	in4
Moment:	3058	ft-lb	6091	ft-lb
Shear:	3429	lb	4725	lb

LOADING DIAGRAM



UNIFORM LOADS Center

Uniform Live Load	480	plf
Uniform Dead Load	300	plf
Beam Self Weight	9	plf
Total Uniform Load	789	plf

POINT LOADS - CENTER SPAN

Load Number	One *	
Live Load	1038	lb
Dead Load	773	lb
Location	1.3	ft

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

TRAPEZOIDAL LOADS - CENTER SPAN

Load Number	One	
Left Live Load	480	plf
Left Dead Load	380	plf
Right Live Load	480	plf
Right Dead Load	380	plf
Load Start	0	ft
Load End	1.3	ft
Load Length	1.3	ft

Project: 22-0411 3-STORY

Location: LHDR 2
Multi-Loaded Multi-Span Beam
[2015 International Building Code(2015 NDS)]
3.5 IN x 11.25 IN x 3.5 FT
#2 - Douglas-Fir-Larch - Dry Use
Section Adequate By: 63.8%
Controlling Factor: Shear

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DEFLECTIONS	Center	
Live Load	0.00	IN L/8611
Dead Load	0.00	in
Total Load	0.01	IN L/5015

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

REACTIONS	A		B	
Live Load	1680	lb	1680	lb
Dead Load	1205	lb	1205	lb
Total Load	2885	lb	2885	lb
Bearing Length	1.32	in	1.32	in

BEAM DATA	Center	
Span Length	3.5	ft
Unbraced Length-Top	0	ft
Unbraced Length-Bottom	3.5	ft
Live Load Duration Factor	1.00	
Notch Depth	0.00	

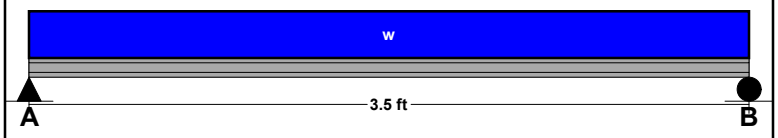
MATERIAL PROPERTIES
#2 - Douglas-Fir-Larch

	Base Values		Adjusted	
Bending Stress:	Fb = 900	psi	Fb' = 990	psi
	Cd=1.00 CF=1.10			
Shear Stress:	Fv = 180	psi	Fv' = 180	psi
	Cd=1.00			
Modulus of Elasticity:	E = 1600	ksi	E' = 1600	ksi
Comp. ⊥ to Grain:	Fc - ⊥ = 625	psi	Fc - ⊥' = 625	psi

Controlling Moment: 2524 ft-lb
1.75 Ft from left support of span 2 (Center Span)
Created by combining all dead loads and live loads on span(s) 2
Controlling Shear: 2885 lb
At left support of span 2 (Center Span)
Created by combining all dead loads and live loads on span(s) 2

Comparisons with required sections:	Req'd		Provided	
Section Modulus:	30.6	in3	73.83	in3
Area (Shear):	24.04	in2	39.38	in2
Moment of Inertia (deflection):	19.88	in4	415.28	in4
Moment:	2524	ft-lb	6091	ft-lb
Shear:	2885	lb	4725	lb

LOADING DIAGRAM



UNIFORM LOADS	Center	
Uniform Live Load	960	plf
Uniform Dead Load	680	plf
Beam Self Weight	9	plf
Total Uniform Load	1649	plf

Project: 22-0411 3-STORY

Location: LFB1 HEAVY POST
Column
[2015 International Building Code(2015 NDS)]
(2) 1.5 IN x 3.5 IN x 8.0 FT
#2 - Douglas-Fir-Larch - Dry Use
Section Adequate By: 61.5%

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CAUTIONS
* Laminations to be nailed together per National Design Specifications for Wood Construction Section 15.3.3.1

VERTICAL REACTIONS

Live Load:	Vert-LL-Rxn =	1038	lb
Dead Load:	Vert-DL-Rxn =	791	lb
Total Load:	Vert-TL-Rxn =	1829	lb

COLUMN DATA

Total Column Length:	8	ft
Unbraced Length (X-Axis) Lx:	8	ft
Unbraced Length (Y-Axis) Ly:	0	ft
Column End Condition-K (e):	1	
Load Eccentricity (X-Axis) - ex:	0.5	in
Load Eccentricity (Y-Axis) - ey:	0.5	in
Axial Load Duration Factor	1.00	

COLUMN PROPERTIES
#2 - Douglas-Fir-Larch

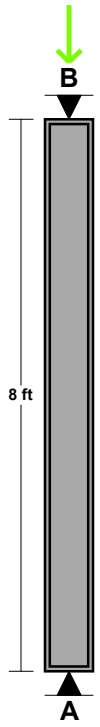
	Base Values	Adjusted
Compressive Stress:	Fc = 1350 psi	Fc' = 568 psi
	Cd=1.00 Cf=1.15 Cp=0.37	
Bending Stress (X-X Axis):	Fbx = 900 psi	Fbx' = 1350 psi
	Cd=1.00 CF=1.50	
Bending Stress (Y-Y Axis):	Fby = 900 psi	Fby' = 1350 psi
	Cd=1.00 CF=1.50	
Modulus of Elasticity:	E = 1600 ksi	E' = 1600 ksi

Column Section (X-X Axis):	dx =	3.5	in
Column Section (Y-Y Axis):	dy =	3	in
Area:	A =	10.5	in2
Section Modulus (X-X Axis):	Sx =	6.13	in3
Section Modulus (Y-Y Axis):	Sy =	2.63	in3
Slenderness Ratio:	Lex/dx =	27.43	
	Ley/dy =	0	

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

Actual Compressive Stress:	Fc =	174	psi
Allowable Compressive Stress:	Fc' =	568	psi
Eccentricity Moment (X-X Axis):	Mx-ex =	75	ft-lb
Eccentricity Moment (Y-Y Axis):	My-ey =	75	ft-lb
Moment Due to Lateral Loads (X-X Axis):	Mx =	0	ft-lb
Moment Due to Lateral Loads (Y-Y Axis):	My =	0	ft-lb
Bending Stress Lateral Loads Only (X-X Axis):	Fbx =	0	psi
Allowable Bending Stress (X-X Axis):	Fbx' =	1350	psi
Bending Stress Lateral Loads Only (Y-Y Axis):	Fby =	0	psi
Allowable Bending Stress (Y-Y Axis):	Fby' =	1350	psi
Combined Stress Factor:	**CSF =**	**0.39**	

LOADING DIAGRAM



AXIAL LOADING

Live Load:	PL =	1038	lb *
Dead Load:	PD =	773	lb *
Column Self Weight:	CSW =	18	lb
Total Axial Load:	PT =	1829	lb

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

Project: 22-0411 3-STORY

Location: LFB1 LIGHT POST
Column
[2015 International Building Code(2015 NDS)]
(2) 1.5 IN x 5.5 IN x 8.0 FT
#2 - Douglas-Fir-Larch - Dry Use
Section Adequate By: 94.9%

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CAUTIONS
* Laminations to be nailed together per National Design Specifications for Wood Construction Section 15.3.3.1

VERTICAL REACTIONS

Live Load:	Vert-LL-Rxn =	332	lb
Dead Load:	Vert-DL-Rxn =	280	lb
Total Load:	Vert-TL-Rxn =	612	lb

COLUMN DATA

Total Column Length:	8	ft
Unbraced Length (X-Axis) Lx:	8	ft
Unbraced Length (Y-Axis) Ly:	0	ft
Column End Condition-K (e):	1	
Load Eccentricity (X-Axis) - ex:	0.5	in
Load Eccentricity (Y-Axis) - ey:	0.5	in
Axial Load Duration Factor	1.00	

COLUMN PROPERTIES
#2 - Douglas-Fir-Larch

	Base Values	Adjusted
Compressive Stress:	Fc = 1350 psi	Fc' = 1053 psi
	Cd=1.00 Cf=1.10 Cp=0.71	
Bending Stress (X-X Axis):	Fbx = 900 psi	Fbx' = 1170 psi
	Cd=1.00 CF=1.30	
Bending Stress (Y-Y Axis):	Fby = 900 psi	Fby' = 1170 psi
	Cd=1.00 CF=1.30	
Modulus of Elasticity:	E = 1600 ksi	E' = 1600 ksi

Column Section (X-X Axis):	dx =	5.5	in
Column Section (Y-Y Axis):	dy =	3	in
Area:	A =	16.5	in2
Section Modulus (X-X Axis):	Sx =	15.13	in3
Section Modulus (Y-Y Axis):	Sy =	4.13	in3
Slenderness Ratio:	Lex/dx =	17.45	
	Ley/dy =	0	

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

Actual Compressive Stress:	Fc =	37	psi
Allowable Compressive Stress:	Fc' =	1053	psi
Eccentricity Moment (X-X Axis):	Mx-ex =	24	ft-lb
Eccentricity Moment (Y-Y Axis):	My-ey =	24	ft-lb
Moment Due to Lateral Loads (X-X Axis):	Mx =	0	ft-lb
Moment Due to Lateral Loads (Y-Y Axis):	My =	0	ft-lb
Bending Stress Lateral Loads Only (X-X Axis):	Fbx =	0	psi
Allowable Bending Stress (X-X Axis):	Fbx' =	1170	psi
Bending Stress Lateral Loads Only (Y-Y Axis):	Fby =	0	psi
Allowable Bending Stress (Y-Y Axis):	Fby' =	1170	psi
Combined Stress Factor:	**CSF =**	**0.05**	

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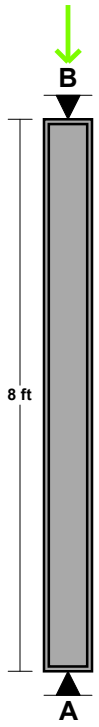

AXIAL LOADING

Live Load:	PL =	332	lb *
Dead Load:	PD =	251	lb *
Column Self Weight:	CSW =	29	lb
Total Axial Load:	PT =	612	lb

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

Project: 22-0411 3-STORY

Location: LHDR 1 TRIMMERS
Column
[2015 International Building Code(2015 NDS)]
(2) 1.5 IN x 3.5 IN x 7.0 FT
#2 - Douglas-Fir-Larch - Dry Use
Section Adequate By: 16.6%

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CAUTIONS
* Laminations to be nailed together per National Design Specifications for Wood Construction Section 15.3.3.1

VERTICAL REACTIONS

Live Load:	Vert-LL-Rxn =	2001	lb
Dead Load:	Vert-DL-Rxn =	1444	lb
Total Load:	Vert-TL-Rxn =	3445	lb

COLUMN DATA

Total Column Length:	7	ft
Unbraced Length (X-Axis) Lx:	7	ft
Unbraced Length (Y-Axis) Ly:	0	ft
Column End Condition-K (e):	1	
Load Eccentricity (X-Axis) - ex:	0.5	in
Load Eccentricity (Y-Axis) - ey:	0.5	in
Axial Load Duration Factor	1.00	

COLUMN PROPERTIES
#2 - Douglas-Fir-Larch

	Base Values	Adjusted
Compressive Stress:	Fc = 1350 psi	Fc' = 709 psi
	Cd=1.00 Cf=1.15 Cp=0.46	
Bending Stress (X-X Axis):	Fbx = 900 psi	Fbx' = 1350 psi
	Cd=1.00 CF=1.50	
Bending Stress (Y-Y Axis):	Fby = 900 psi	Fby' = 1350 psi
	Cd=1.00 CF=1.50	
Modulus of Elasticity:	E = 1600 ksi	E' = 1600 ksi

Column Section (X-X Axis):	dx =	3.5	in
Column Section (Y-Y Axis):	dy =	3	in
Area:	A =	10.5	in2
Section Modulus (X-X Axis):	Sx =	6.13	in3
Section Modulus (Y-Y Axis):	Sy =	2.63	in3
Slenderness Ratio:	Lex/dx =	24	
	Ley/dy =	0	

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

Actual Compressive Stress:	Fc =	328	psi
Allowable Compressive Stress:	Fc' =	709	psi
Eccentricity Moment (X-X Axis):	Mx-ex =	143	ft-lb
Eccentricity Moment (Y-Y Axis):	My-ey =	143	ft-lb
Moment Due to Lateral Loads (X-X Axis):	Mx =	0	ft-lb
Moment Due to Lateral Loads (Y-Y Axis):	My =	0	ft-lb
Bending Stress Lateral Loads Only (X-X Axis):	Fbx =	0	psi
Allowable Bending Stress (X-X Axis):	Fbx' =	1350	psi
Bending Stress Lateral Loads Only (Y-Y Axis):	Fby =	0	psi
Allowable Bending Stress (Y-Y Axis):	Fby' =	1350	psi
Combined Stress Factor:	**CSF =**	**0.83**	

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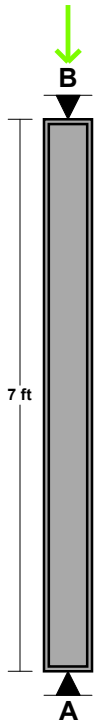

AXIAL LOADING

Live Load:	PL =	2001	lb *
Dead Load:	PD =	1428	lb *
Column Self Weight:	CSW =	16	lb
Total Axial Load:	PT =	3445	lb

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

Project: 22-0411 3-STORY

Location: LHDR 2 TRIMMERS
Column
[2015 International Building Code(2015 NDS)]
(2) 1.5 IN x 3.5 IN x 7.0 FT
#2 - Douglas-Fir-Larch - Dry Use
Section Adequate By: 35.9%

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CAUTIONS
* Laminations to be nailed together per National Design Specifications for Wood Construction Section 15.3.3.1

VERTICAL REACTIONS

Live Load:	Vert-LL-Rxn =	1680	lb
Dead Load:	Vert-DL-Rxn =	1221	lb
Total Load:	Vert-TL-Rxn =	2901	lb

COLUMN DATA

Total Column Length:	7	ft
Unbraced Length (X-Axis) Lx:	7	ft
Unbraced Length (Y-Axis) Ly:	0	ft
Column End Condition-K (e):	1	
Load Eccentricity (X-Axis) - ex:	0.5	in
Load Eccentricity (Y-Axis) - ey:	0.5	in
Axial Load Duration Factor	1.00	

COLUMN PROPERTIES
#2 - Douglas-Fir-Larch

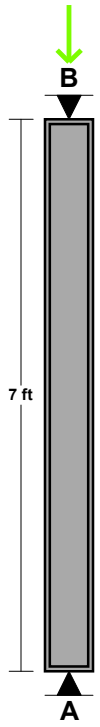
	Base Values	Adjusted
Compressive Stress:	Fc = 1350 psi	Fc' = 709 psi
	Cd=1.00 Cf=1.15 Cp=0.46	
Bending Stress (X-X Axis):	Fbx = 900 psi	Fbx' = 1350 psi
	Cd=1.00 CF=1.50	
Bending Stress (Y-Y Axis):	Fby = 900 psi	Fby' = 1350 psi
	Cd=1.00 CF=1.50	
Modulus of Elasticity:	E = 1600 ksi	E' = 1600 ksi

Column Section (X-X Axis):	dx =	3.5	in
Column Section (Y-Y Axis):	dy =	3	in
Area:	A =	10.5	in2
Section Modulus (X-X Axis):	Sx =	6.13	in3
Section Modulus (Y-Y Axis):	Sy =	2.63	in3
Slenderness Ratio:	Lex/dx =	24	
	Ley/dy =	0	

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

Actual Compressive Stress:	Fc =	276	psi
Allowable Compressive Stress:	Fc' =	709	psi
Eccentricity Moment (X-X Axis):	Mx-ex =	120	ft-lb
Eccentricity Moment (Y-Y Axis):	My-ey =	120	ft-lb
Moment Due to Lateral Loads (X-X Axis):	Mx =	0	ft-lb
Moment Due to Lateral Loads (Y-Y Axis):	My =	0	ft-lb
Bending Stress Lateral Loads Only (X-X Axis):	Fbx =	0	psi
Allowable Bending Stress (X-X Axis):	Fbx' =	1350	psi
Bending Stress Lateral Loads Only (Y-Y Axis):	Fby =	0	psi
Allowable Bending Stress (Y-Y Axis):	Fby' =	1350	psi
Combined Stress Factor:	**CSF =**	**0.64**	

LOADING DIAGRAM



AXIAL LOADING

Live Load:	PL =	1680	lb *
Dead Load:	PD =	1205	lb *
Column Self Weight:	CSW =	16	lb
Total Axial Load:	PT =	2901	lb

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

Project: 22-0411 3-STORY

Location: LOWER FB1 POST
Column
[2015 International Building Code(2015 NDS)]
(2) 1.5 IN x 3.5 IN x 8.0 FT
#2 - Douglas-Fir-Larch - Dry Use
Section Adequate By: 54.6%

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CAUTIONS
* Laminations to be nailed together per National Design Specifications for Wood Construction Section 15.3.3.1

VERTICAL REACTIONS

Live Load:	Vert-LL-Rxn =	1600	lb
Dead Load:	Vert-DL-Rxn =	448	lb
Total Load:	Vert-TL-Rxn =	2048	lb

COLUMN DATA

Total Column Length:	8	ft
Unbraced Length (X-Axis) Lx:	8	ft
Unbraced Length (Y-Axis) Ly:	0	ft
Column End Condition-K (e):	1	
Load Eccentricity (X-Axis) - ex:	0.5	in
Load Eccentricity (Y-Axis) - ey:	0.5	in
Axial Load Duration Factor	1.00	

COLUMN PROPERTIES
#2 - Douglas-Fir-Larch

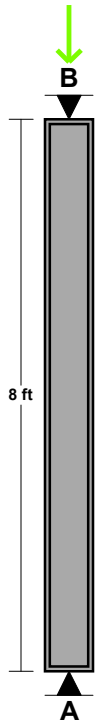
	Base Values	Adjusted
Compressive Stress:	Fc = 1350 psi	Fc' = 568 psi
	Cd=1.00 Cf=1.15 Cp=0.37	
Bending Stress (X-X Axis):	Fbx = 900 psi	Fbx' = 1350 psi
	Cd=1.00 CF=1.50	
Bending Stress (Y-Y Axis):	Fby = 900 psi	Fby' = 1350 psi
	Cd=1.00 CF=1.50	
Modulus of Elasticity:	E = 1600 ksi	E' = 1600 ksi

Column Section (X-X Axis):	dx =	3.5	in
Column Section (Y-Y Axis):	dy =	3	in
Area:	A =	10.5	in2
Section Modulus (X-X Axis):	Sx =	6.13	in3
Section Modulus (Y-Y Axis):	Sy =	2.63	in3
Slenderness Ratio:	Lex/dx =	27.43	
	Ley/dy =	0	

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

Actual Compressive Stress:	Fc =	195	psi
Allowable Compressive Stress:	Fc' =	568	psi
Eccentricity Moment (X-X Axis):	Mx-ex =	85	ft-lb
Eccentricity Moment (Y-Y Axis):	My-ey =	85	ft-lb
Moment Due to Lateral Loads (X-X Axis):	Mx =	0	ft-lb
Moment Due to Lateral Loads (Y-Y Axis):	My =	0	ft-lb
Bending Stress Lateral Loads Only (X-X Axis):	Fbx =	0	psi
Allowable Bending Stress (X-X Axis):	Fbx' =	1350	psi
Bending Stress Lateral Loads Only (Y-Y Axis):	Fby =	0	psi
Allowable Bending Stress (Y-Y Axis):	Fby' =	1350	psi
Combined Stress Factor:	**CSF =**	**0.45**	

LOADING DIAGRAM



AXIAL LOADING

Live Load:	PL =	1600	lb *
Dead Load:	PD =	430	lb *
Column Self Weight:	CSW =	18	lb
Total Axial Load:	PT =	2048	lb

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

Project: 22-0411 3-STORY

Location: LOWER FB2 POST
Column
[2015 International Building Code(2015 NDS)]
(2) 1.5 IN x 5.5 IN x 8.0 FT
#2 - Douglas-Fir-Larch - Dry Use
Section Adequate By: 73.0%

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CAUTIONS
* Laminations to be nailed together per National Design Specifications for Wood Construction Section 15.3.3.1

VERTICAL REACTIONS

Live Load:	Vert-LL-Rxn =	2194	lb
Dead Load:	Vert-DL-Rxn =	684	lb
Total Load:	Vert-TL-Rxn =	2878	lb

COLUMN DATA

Total Column Length:	8	ft
Unbraced Length (X-Axis) Lx:	8	ft
Unbraced Length (Y-Axis) Ly:	0	ft
Column End Condition-K (e):	1	
Load Eccentricity (X-Axis) - ex:	0.5	in
Load Eccentricity (Y-Axis) - ey:	0.5	in
Axial Load Duration Factor	1.00	

COLUMN PROPERTIES
#2 - Douglas-Fir-Larch

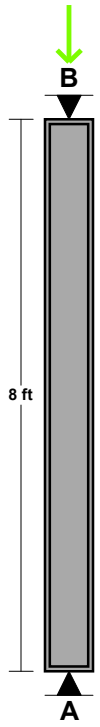
	Base Values	Adjusted
Compressive Stress:	Fc = 1350 psi	Fc' = 1053 psi
	Cd=1.00 Cf=1.10 Cp=0.71	
Bending Stress (X-X Axis):	Fbx = 900 psi	Fbx' = 1170 psi
	Cd=1.00 CF=1.30	
Bending Stress (Y-Y Axis):	Fby = 900 psi	Fby' = 1170 psi
	Cd=1.00 CF=1.30	
Modulus of Elasticity:	E = 1600 ksi	E' = 1600 ksi

Column Section (X-X Axis):	dx =	5.5	in
Column Section (Y-Y Axis):	dy =	3	in
Area:	A =	16.5	in2
Section Modulus (X-X Axis):	Sx =	15.13	in3
Section Modulus (Y-Y Axis):	Sy =	4.13	in3
Slenderness Ratio:	Lex/dx =	17.45	
	Ley/dy =	0	

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

Actual Compressive Stress:	Fc =	174	psi
Allowable Compressive Stress:	Fc' =	1053	psi
Eccentricity Moment (X-X Axis):	Mx-ex =	119	ft-lb
Eccentricity Moment (Y-Y Axis):	My-ey =	119	ft-lb
Moment Due to Lateral Loads (X-X Axis):	Mx =	0	ft-lb
Moment Due to Lateral Loads (Y-Y Axis):	My =	0	ft-lb
Bending Stress Lateral Loads Only (X-X Axis):	Fbx =	0	psi
Allowable Bending Stress (X-X Axis):	Fbx' =	1170	psi
Bending Stress Lateral Loads Only (Y-Y Axis):	Fby =	0	psi
Allowable Bending Stress (Y-Y Axis):	Fby' =	1170	psi
Combined Stress Factor:	**CSF =**	**0.27**	

LOADING DIAGRAM



AXIAL LOADING

Live Load:	PL =	2194	lb *
Dead Load:	PD =	655	lb *
Column Self Weight:	CSW =	29	lb
Total Axial Load:	PT =	2878	lb

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

Project: 22-0411 3-STORY

Location: LOWER DECK POST
Column
[2015 International Building Code(2015 NDS)]
5.5 IN x 5.5 IN x 8.0 FT
#2 - Hem-Fir - Dry Use
Section Adequate By: 86.7%

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VERTICAL REACTIONS

Live Load:	Vert-LL-Rxn =	1200	lb
Dead Load:	Vert-DL-Rxn =	566	lb
Total Load:	Vert-TL-Rxn =	1766	lb

COLUMN DATA

Total Column Length:	8	ft
Unbraced Length (X-Axis) Lx:	8	ft
Unbraced Length (Y-Axis) Ly:	8	ft
Column End Condition-K (e):	1	
Load Eccentricity (X-Axis) - ex:	0.5	in
Load Eccentricity (Y-Axis) - ey:	0.5	in
Axial Load Duration Factor	1.00	

COLUMN PROPERTIES

#2 - Hem-Fir

	Base Values	Adjusted
Compressive Stress:	Fc = 575 psi	Fc' = 492 psi
	Cd=1.00 Cp=0.86	
Bending Stress (X-X Axis):	Fbx = 575 psi	Fbx' = 575 psi
	Cd=1.00 CF=1.00	
Bending Stress (Y-Y Axis):	Fby = 575 psi	Fby' = 575 psi
	Cd=1.00 CF=1.00	
Modulus of Elasticity:	E = 1100 ksi	E' = 1100 ksi

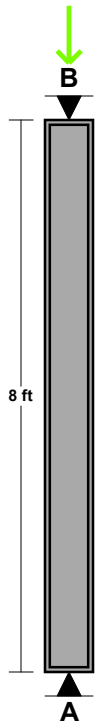
Column Section (X-X Axis):	dx =	5.5	in
Column Section (Y-Y Axis):	dy =	5.5	in
Area:	A =	30.25	in2
Section Modulus (X-X Axis):	Sx =	27.73	in3
Section Modulus (Y-Y Axis):	Sy =	27.73	in3
Slenderness Ratio:	Lex/dx =	17.45	
	Ley/dy =	17.45	

Column Calculations (Controlling Case Only):

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

Actual Compressive Stress:	Fc =	58	psi
Allowable Compressive Stress:	Fc' =	492	psi
Eccentricity Moment (X-X Axis):	Mx-ex =	72	ft-lb
Eccentricity Moment (Y-Y Axis):	My-ey =	72	ft-lb
Moment Due to Lateral Loads (X-X Axis):	Mx =	0	ft-lb
Moment Due to Lateral Loads (Y-Y Axis):	My =	0	ft-lb
Bending Stress Lateral Loads Only (X-X Axis):	Fbx =	0	psi
Allowable Bending Stress (X-X Axis):	Fbx' =	575	psi
Bending Stress Lateral Loads Only (Y-Y Axis):	Fby =	0	psi
Allowable Bending Stress (Y-Y Axis):	Fby' =	575	psi
Combined Stress Factor:	**CSF =**	**0.13**	

LOADING DIAGRAM



AXIAL LOADING

Live Load:	PL =	1200	lb *
Dead Load:	PD =	521	lb *
Column Self Weight:	CSW =	45	lb
Total Axial Load:	PT =	1766	lb

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

Project Title:
Engineer:
Project ID:
Project Descr:

Wood Column

Project File: 22-0411 3-STORY.ec6

DESCRIPTION: LOWER HDR 1 TRIMMERS

Code References

Calculations per NDS 2018, IBC 2018, CBC 2019, ASCE 7-16
Load Combinations Used : IBC 2021

General Information

Analysis Method	Allowable Stress Design		
End Fixities	Top & Bottom Pinned		
Overall Column Height	7 ft		
(Used for non-slender calculations)			
Wood Species	Douglas Fir-Larch		
Wood Grade	No.2		
Fb +	900.0 psi	Fv	180.0 psi
Fb -	900.0 psi	Ft	575.0 psi
Fc - Prll	1,350.0 psi	Density	31.210 pcf
Fc - Perp	625.0 psi		

E : Modulus of Elasticity . . .	x-x Bending	y-y Bending	Axial
Basic	1,600.0	1,600.0	1,600.0 ksi
Minimum	580.0	580.0	

Wood Section Name	**2x6**		
Wood Grading/Manuf.	Graded Lumber		
Wood Member Type	Sawn		
Exact Width	**1.50** in	Allow Stress Modification Factors	
Exact Depth	**5.50** in	Cf or Cv for Bending	1.30
Area	8.250 in^2	Cf or Cv for Compressio	1.10
Ix	20.797 in^4	Cf or Cv for Tension	1.30
Iy	1.547 in^4	Cm : Wet Use Factor	1.0
		Ct : Temperature Fact	1.0
		Cfu : Flat Use Factor	1.0
		Kf : Built-up columns	1.0 *NDS 15.3.2*
		Use Cr : Repetitive ?	No

Brace condition for deflection (buckling) along columns :
X-X (width) axis : Fully braced against buckling ABOUT Y-Y Axis
Y-Y (depth) axis : Unbraced Length for buckling ABOUT X-X Axis = 7 ft, K

Applied Loads

Service loads entered. Load Factors will be applied for calculations.

Column self weight included : 12.517 lbs * Dead Load Factor
AXIAL LOADS . . .
UHDR 1 TRIMMER: Axial Load at 7.0 ft, Xecc = 0.50 in, Yecc = 0.50 in, D = 1.219, S = 1.781 k
HDR 1: Axial Load at 7.0 ft, Xecc = 0.50 in, Yecc = 0.50 in, D = 0.1590, L = 0.0610 k
HDR 1: Axial Load at 7.0 ft, Xecc = 0.50 in, Yecc = 0.50 in, D = 0.1590, L = 0.0610 k

DESIGN SUMMARY

Bending & Shear Check Results

PASS Max. Axial+Bending Stress Ratio = **0.8952 : 1**

Load Combination	+D+S
Governing NDS Formula	Comp + Mxx + Myy, NDS Eq. 3.9-
Location of max.above base	6.953 ft
At maximum location values are .	
Applied Axial	3.331 k
Applied Mx	-0.1373 k-ft
Applied My	-0.1373 k-ft
Fc : Allowable	1,279.47 psi

PASS Maximum Shear Stress Ratio = **0.01735 : 1**

Load Combination	+D+S
Location of max.above base	7.0 ft
Applied Design Shear	3.591 psi
Allowable Shear	207.0 psi

Maximum SERVICE Lateral Load Reactions . .

Top along Y-Y	0.01975 k	Bottom along Y-Y	0.01975 k
Top along X-X	0.01975 k	Bottom along X-X	0.01975 k

Maximum SERVICE Load Lateral Deflections . . .

Along Y-Y -0.02276 in at 4.087 ft above base
for load combination : +D+S

Along X-X -0.3060 in at 4.087 ft above base
for load combination : +D+S

Other Factors used to calculate allowable stresses . . .

	Bending	Compression	Tension

Maximum Reactions

Note: Only non-zero reactions are listed.

Load Combination	X-X Axis Reaction k @ Base	@ Top	Y-Y Axis Reaction @ Base	@ Top	Axial Reaction @ Base	My - End Moments k-ft @ Base	@ Top	Mx - End Moments @ Base	@ Top
D Only	-0.009	0.009	-0.009	0.009	1.550				
+D+L	-0.010	0.010	-0.010	0.010	1.672				
+D+S	-0.020	0.020	-0.020	0.020	3.331				
+D+0.750L	-0.010	0.010	-0.010	0.010	1.641				
+D+0.750L+0.750S	-0.018	0.018	-0.018	0.018	2.977				
+0.60D	-0.005	0.005	-0.005	0.005	0.930				
L Only	-0.001	0.001	-0.001	0.001	0.122				
S Only	-0.011	0.011	-0.011	0.011	1.781				

Project Title:
Engineer:
Project ID:
Project Descr:

Wood Column

Project File: 22-0411 3-STORY.ec6

DESCRIPTION: LOWER HDR 2 TRIMMERS

Code References

Calculations per NDS 2018, IBC 2018, CBC 2019, ASCE 7-16
Load Combinations Used : IBC 2021

General Information

Analysis Method	Allowable Stress Design		
End Fixities	Top & Bottom Pinned		
Overall Column Height	7 ft		
(Used for non-slender calculations)			
Wood Species	Douglas Fir-Larch		
Wood Grade	No.2		
Fb +	900.0 psi	Fv	180.0 psi
Fb -	900.0 psi	Ft	575.0 psi
Fc - Prll	1,350.0 psi	Density	31.210 pcf
Fc - Perp	625.0 psi		

E : Modulus of Elasticity . . .	x-x Bending	y-y Bending	Axial
Basic	1,600.0	1,600.0	1,600.0 ksi
Minimum	580.0	580.0	

Wood Section Name	**2x6**		
Wood Grading/Manuf.	Graded Lumber		
Wood Member Type	Sawn		
Exact Width	**1.50** in	Allow Stress Modification Factors	
Exact Depth	**5.50** in	Cf or Cv for Bending	1.30
Area	8.250 in^2	Cf or Cv for Compressio	1.10
Ix	20.797 in^4	Cf or Cv for Tension	1.30
Iy	1.547 in^4	Cm : Wet Use Factor	1.0
		Ct : Temperature Fact	1.0
		Cfu : Flat Use Factor	1.0
		Kf : Built-up columns	1.0 *NDS 15.3.2*
		Use Cr : Repetitive ?	No

Brace condition for deflection (buckling) along columns :
X-X (width) axis : Fully braced against buckling ABOUT Y-Y Axis
Y-Y (depth) axis : Unbraced Length for buckling ABOUT X-X Axis = 7 ft, K

Applied Loads

Service loads entered. Load Factors will be applied for calculations.

Column self weight included : 12.517 lbs * Dead Load Factor
AXIAL LOADS . . .
UHDR 2 TRIMMER: Axial Load at 7.0 ft, Xecc = 0.50 in, Yecc = 0.50 in, D = 0.660, S = 0.9540 k
HDR 2: Axial Load at 7.0 ft, Xecc = 0.50 in, Yecc = 0.50 in, D = 0.1760, L = 0.2220 k
HDR 2: Axial Load at 7.0 ft, Xecc = 0.50 in, Yecc = 0.50 in, D = 0.1760, L = 0.2220 k

DESIGN SUMMARY

Bending & Shear Check Results

PASS Max. Axial+Bending Stress Ratio = **0.5220 : 1**
Load Combination +D+0.750L+0.750S
Governing NDS Formula Cmap + Mxx + Myy, NDS Eq. 3.9-
Location of max.above base 6.953 ft
At maximum location values are .
Applied Axial 2.073 k
Applied Mx -0.08528 k-ft
Applied My -0.08528 k-ft
Fc : Allowable 1,279.47 psi

PASS Maximum Shear Stress Ratio = **0.01077 : 1**
Load Combination +D+0.750L+0.750S
Location of max.above base 7.0 ft
Applied Design Shear 2.230 psi
Allowable Shear 207.0 psi

Maximum SERVICE Lateral Load Reactions . .
Top along Y-Y 0.01227 k Bottom along Y-Y 0.01227 k
Top along X-X 0.01227 k Bottom along X-X 0.01227 k

Maximum SERVICE Load Lateral Deflections . . .
Along Y-Y -0.01414 in at 4.087 ft above base
for load combination : +D+0.750L+0.750S
Along X-X -0.190 in at 4.087 ft above base
for load combination : +D+0.750L+0.750S

Other Factors used to calculate allowable stresses . . .

	Bending	Compression	Tension

Maximum Reactions

Note: Only non-zero reactions are listed.

Load Combination	X-X Axis Reaction k @ Base	@ Top	Y-Y Axis Reaction @ Base	@ Top	Axial Reaction @ Base	My - End Moments k-ft @ Base	@ Top	Mx - End Moments @ Base	@ Top
D Only	-0.006	0.006	-0.006	0.006	1.025				
+D+L	-0.009	0.009	-0.009	0.009	1.469				
+D+S	-0.012	0.012	-0.012	0.012	1.979				
+D+0.750L	-0.008	0.008	-0.008	0.008	1.358				
+D+0.750L+0.750S	-0.012	0.012	-0.012	0.012	2.073				
+0.60D	-0.004	0.004	-0.004	0.004	0.615				
L Only	-0.003	0.003	-0.003	0.003	0.444				
S Only	-0.006	0.006	-0.006	0.006	0.954				

Project Title:
Engineer:
Project ID:
Project Descr:

Wood Column

Project File: 22-0411 3-STORY.ec6

DESCRIPTION: LOWER HDR 3 TRIMMERS

Code References

Calculations per NDS 2018, IBC 2018, CBC 2019, ASCE 7-16
Load Combinations Used : IBC 2021

General Information

Analysis Method	Allowable Stress Design		
End Fixities	Top & Bottom Pinned		
Overall Column Height	7 ft		
(Used for non-slender calculations)			
Wood Species	Douglas Fir-Larch		
Wood Grade	No.2		
Fb +	900.0 psi	Fv	180.0 psi
Fb -	900.0 psi	Ft	575.0 psi
Fc - Prll	1,350.0 psi	Density	31.210 pcf
Fc - Perp	625.0 psi		

E : Modulus of Elasticity . . .	x-x Bending	y-y Bending	Axial
Basic	1,600.0	1,600.0	1,600.0 ksi
Minimum	580.0	580.0	

Wood Section Name	**2x6**		
Wood Grading/Manuf.	Graded Lumber		
Wood Member Type	Sawn		
Exact Width	**1.50** in	Allow Stress Modification Factors	
Exact Depth	**5.50** in	Cf or Cv for Bending	1.30
Area	8.250 in^2	Cf or Cv for Compressio	1.10
Ix	20.797 in^4	Cf or Cv for Tension	1.30
Iy	1.547 in^4	Cm : Wet Use Factor	1.0
		Ct : Temperature Fact	1.0
		Cfu : Flat Use Factor	1.0
		Kf : Built-up columns	1.0 *NDS 15.3.2*
		Use Cr : Repetitive ?	No

Brace condition for deflection (buckling) along columns :
X-X (width) axis : Fully braced against buckling ABOUT Y-Y Axis
Y-Y (depth) axis : Unbraced Length for buckling ABOUT X-X Axis = 7 ft, K

Applied Loads

Service loads entered. Load Factors will be applied for calculations.

Column self weight included : 12.517 lbs * Dead Load Factor
AXIAL LOADS . . .
UHDR 3 TRIMMER: Axial Load at 7.0 ft, Xecc = 0.50 in, Yecc = 0.50 in, D = 0.4750, S = 0.6810 k
HDR 3: Axial Load at 7.0 ft, Xecc = 0.50 in, Yecc = 0.50 in, D = 0.1260, L = 0.1590 k
HDR 3: Axial Load at 7.0 ft, Xecc = 0.50 in, Yecc = 0.50 in, D = 0.1260, L = 0.1590 k

DESIGN SUMMARY

Bending & Shear Check Results

PASS Max. Axial+Bending Stress Ratio = **0.3631 : 1**

Load Combination	+D+0.750L+0.750S
Governing NDS Formula	Cmap + Mxx + Myy, NDS Eq. 3.9-
Location of max.above base	6.953 ft
At maximum location values are .	
Applied Axial	1.489 k
Applied Mx	-0.06110 k-ft
Applied My	-0.06110 k-ft
Fc : Allowable	1,279.47 psi

PASS Maximum Shear Stress Ratio = **0.007718 : 1**

Load Combination	+D+0.750L+0.750S
Location of max.above base	7.0 ft
Applied Design Shear	1.598 psi
Allowable Shear	207.0 psi

Maximum SERVICE Lateral Load Reactions . .

Top along Y-Y	0.008787 k	Bottom along Y-Y	0.008787 k
Top along X-X	0.008787 k	Bottom along X-X	0.008787 k

Maximum SERVICE Load Lateral Deflections . . .

Along Y-Y -0.01013 in at 4.087 ft above base
for load combination : +D+0.750L+0.750S

Along X-X -0.1362 in at 4.087 ft above base
for load combination : +D+0.750L+0.750S

Other Factors used to calculate allowable stresses . . .

	Bending	Compression	Tension

Maximum Reactions

Note: Only non-zero reactions are listed.

Load Combination	X-X Axis Reaction k @ Base	@ Top	Y-Y Axis Reaction @ Base	@ Top	Axial Reaction @ Base	My - End Moments k-ft @ Base	@ Top	Mx - End Moments @ Base	@ Top
D Only	-0.004	0.004	-0.004	0.004	0.740				
+D+L	-0.006	0.006	-0.006	0.006	1.058				
+D+S	-0.008	0.008	-0.008	0.008	1.421				
+D+0.750L	-0.006	0.006	-0.006	0.006	0.978				
+D+0.750L+0.750S	-0.009	0.009	-0.009	0.009	1.489				
+0.60D	-0.003	0.003	-0.003	0.003	0.444				
L Only	-0.002	0.002	-0.002	0.002	0.318				
S Only	-0.004	0.004	-0.004	0.004	0.681				

Project Title:
Engineer:
Project ID:
Project Descr:

Wood Column

Project File: 22-0411 3-STORY.ec6

DESCRIPTION: LOWER HDR 4 TRIMMERS

Code References

Calculations per NDS 2018, IBC 2018, CBC 2019, ASCE 7-16
Load Combinations Used : IBC 2021

General Information

Analysis Method	Allowable Stress Design		
End Fixities	Top & Bottom Pinned		
Overall Column Height	7 ft		
(Used for non-slender calculations)			
Wood Species	Douglas Fir-Larch		
Wood Grade	No.2		
Fb +	900.0 psi	Fv	180.0 psi
Fb -	900.0 psi	Ft	575.0 psi
Fc - Prll	1,350.0 psi	Density	31.210 pcf
Fc - Perp	625.0 psi		

E : Modulus of Elasticity . . .	x-x Bending	y-y Bending	Axial
Basic	1,600.0	1,600.0	1,600.0 ksi
Minimum	580.0	580.0	

Wood Section Name	**2x6**		
Wood Grading/Manuf.	Graded Lumber		
Wood Member Type	Sawn		
Exact Width	**1.50** in	Allow Stress Modification Factors	
Exact Depth	**5.50** in	Cf or Cv for Bending	1.30
Area	8.250 in^2	Cf or Cv for Compressio	1.10
Ix	20.797 in^4	Cf or Cv for Tension	1.30
Iy	1.547 in^4	Cm : Wet Use Factor	1.0
		Ct : Temperature Fact	1.0
		Cfu : Flat Use Factor	1.0
		Kf : Built-up columns	1.0 *NDS 15.3.2*
		Use Cr : Repetitive ?	No

Brace condition for deflection (buckling) along columns :
X-X (width) axis : Fully braced against buckling ABOUT Y-Y Axis
Y-Y (depth) axis : Unbraced Length for buckling ABOUT X-X Axis = 7 ft, K

Applied Loads

Service loads entered. Load Factors will be applied for calculations.

Column self weight included : 12.517 lbs * Dead Load Factor
AXIAL LOADS . . .
HDR 4 TRIMMER: Axial Load at 7.0 ft, Xecc = 0.50 in, Yecc = 0.50 in, D = 1.284, L = 0.7470, S = 1.426 k
HDR 4: Axial Load at 7.0 ft, D = 0.2980, L = 0.7470 k

DESIGN SUMMARY

Bending & Shear Check Results

PASS Max. Axial+Bending Stress Ratio = **0.8334 : 1**

Load Combination	+D+0.750L+0.750S
Governing NDS Formula	Cmap + Mxx + Myy, NDS Eq. 3.9-
Location of max.above base	6.953 ft
At maximum location values are .	
Applied Axial	3.785 k
Applied Mx	-0.1206 k-ft
Applied My	-0.1206 k-ft
Fc : Allowable	1,279.47 psi

PASS Maximum Shear Stress Ratio = **0.01523 : 1**

Load Combination	+D+0.750L+0.750S
Location of max.above base	7.0 ft
Applied Design Shear	3.153 psi
Allowable Shear	207.0 psi

Maximum SERVICE Lateral Load Reactions . .

Top along Y-Y	0.01734 k	Bottom along Y-Y	0.01734 k
Top along X-X	0.01734 k	Bottom along X-X	0.01734 k

Maximum SERVICE Load Lateral Deflections . . .

Along Y-Y -0.01999 in at 4.087 ft above base
for load combination : +D+0.750L+0.750S

Along X-X -0.2687 in at 4.087 ft above base
for load combination : +D+0.750L+0.750S

Other Factors used to calculate allowable stresses . . .

	Bending	Compression	Tension

Maximum Reactions

Note: Only non-zero reactions are listed.

Load Combination	X-X Axis Reaction k @ Base	@ Top	Y-Y Axis Reaction k @ Base	@ Top	Axial Reaction @ Base	My - End Moments k-ft @ Base	@ Top	Mx - End Moments @ Base	@ Top
D Only	-0.008	0.008	-0.008	0.008	1.595				
+D+L	-0.012	0.012	-0.012	0.012	3.089				
+D+S	-0.016	0.016	-0.016	0.016	3.021				
+D+0.750L	-0.011	0.011	-0.011	0.011	2.715				
+D+0.750L+0.750S	-0.017	0.017	-0.017	0.017	3.785				
+0.60D	-0.005	0.005	-0.005	0.005	0.957				
L Only	-0.004	0.004	-0.004	0.004	1.494				
S Only	-0.008	0.008	-0.008	0.008	1.426				

Project Title:
Engineer:
Project ID:
Project Descr:

Wood Column

Project File: 22-0411 3-STORY.ec6

DESCRIPTION: LOWER HDR 5 TRIMMERS

Code References

Calculations per NDS 2018, IBC 2018, CBC 2019, ASCE 7-16
Load Combinations Used : IBC 2021

General Information

Analysis Method	Allowable Stress Design		
End Fixities	Top & Bottom Pinned		
Overall Column Height	7 ft		
(Used for non-slender calculations)			
Wood Species	Douglas Fir-Larch		
Wood Grade	No.2		
Fb +	900.0 psi	Fv	180.0 psi
Fb -	900.0 psi	Ft	575.0 psi
Fc - Prll	1,350.0 psi	Density	31.210 pcf
Fc - Perp	625.0 psi		

E : Modulus of Elasticity . . .	x-x Bending	y-y Bending	Axial
Basic	1,600.0	1,600.0	1,600.0 ksi
Minimum	580.0	580.0	

Wood Section Name	**2x6**		
Wood Grading/Manuf.	Graded Lumber		
Wood Member Type	Sawn		
Exact Width	**1.50** in	Allow Stress Modification Factors	
Exact Depth	**5.50** in	Cf or Cv for Bending	1.30
Area	8.250 in^2	Cf or Cv for Compressio	1.10
Ix	20.797 in^4	Cf or Cv for Tension	1.30
Iy	1.547 in^4	Cm : Wet Use Factor	1.0
		Ct : Temperature Fact	1.0
		Cfu : Flat Use Factor	1.0
		Kf : Built-up columns	1.0 *NDS 15.3.2*
		Use Cr : Repetitive ?	No

Brace condition for deflection (buckling) along columns :
X-X (width) axis : Fully braced against buckling ABOUT Y-Y Axis
Y-Y (depth) axis : Unbraced Length for buckling ABOUT X-X Axis = 7 ft, K

Applied Loads

Service loads entered. Load Factors will be applied for calculations.

Column self weight included : 12.517 lbs * Dead Load Factor
AXIAL LOADS . . .
HDR 5 TRIMMER: Axial Load at 7.0 ft, Xecc = 0.50 in, Yecc = 0.50 in, D = 1.030, L = 0.3630, S = 1.223 k
HDR 5: Axial Load at 7.0 ft, D = 0.1810, L = 0.3630 k

DESIGN SUMMARY

Bending & Shear Check Results

PASS Max. Axial+Bending Stress Ratio = **0.5908 : 1**

Load Combination	+D+0.750L+0.750S
Governing NDS Formula	Pmap + Mxx + Myy, NDS Eq. 3.9-
Location of max.above base	6.953 ft
At maximum location values are .	
Applied Axial	2.685 k
Applied Mx	-0.09186 k-ft
Applied My	-0.09186 k-ft
Fc : Allowable	1,279.47 psi

PASS Maximum Shear Stress Ratio = **0.01178 : 1**

Load Combination	+D+S
Location of max.above base	7.0 ft
Applied Design Shear	2.438 psi
Allowable Shear	207.0 psi

Maximum SERVICE Lateral Load Reactions . .

Top along Y-Y	0.01341 k	Bottom along Y-Y	0.01341 k
Top along X-X	0.01341 k	Bottom along X-X	0.01341 k

Maximum SERVICE Load Lateral Deflections . . .

Along Y-Y -0.01546 in at 4.087 ft above base
for load combination : +D+S

Along X-X -0.2078 in at 4.087 ft above base
for load combination : +D+S

Other Factors used to calculate allowable stresses . . .

	Bending	Compression	Tension

Maximum Reactions

Note: Only non-zero reactions are listed.

Load Combination	X-X Axis Reaction k @ Base	@ Top	Y-Y Axis Reaction @ Base	@ Top	Axial Reaction @ Base	My - End Moments k-ft @ Base	@ Top	Mx - End Moments @ Base	@ Top
D Only	-0.006	0.006	-0.006	0.006	1.224				
+D+L	-0.008	0.008	-0.008	0.008	1.950				
+D+S	-0.013	0.013	-0.013	0.013	2.447				
+D+0.750L	-0.008	0.008	-0.008	0.008	1.768				
+D+0.750L+0.750S	-0.013	0.013	-0.013	0.013	2.685				
+0.60D	-0.004	0.004	-0.004	0.004	0.734				
L Only	-0.002	0.002	-0.002	0.002	0.726				
S Only	-0.007	0.007	-0.007	0.007	1.223				

12/6/2022 Project: 22-0411 Cross Creek - 3 Story

STABILITY ENGINEERING INC.

By: Max Beaudoin

FOOTINGS

EXTERIOR FOOTINGS (LEFT & RIGHT)

DISTRIBUTED LOADS (PLF):

	SOURCE	SL	LL	DL
1	JA04	125	-	83
2	U FLOOR	-	256	160
3	M FLOOR	-	256	160
4	L FLOOR	-	256	96
5	WALL	-	-	315
	TOTAL	125	768	814

FRONT WALL CONTROLS

EXTERIOR FOOTINGS (FRONT)

DISTRIBUTED LOADS (PLF):

	SOURCE	SL	LL	DL
1	A05	815	-	543
2	U FLOOR	-	27	17
3	M FLOOR	-	27	17
4	L FLOOR	-	27	17
5	U STAIR	-	400	100
6	M STAIR	-	400	100
7	WALL	-	-	315
	TOTAL	815	881	1109

DL + 0.75*(SL + LL) CONTROLS EXTERIOR FOOTING

INTERIOR FOOTINGS

DISTRIBUTED LOADS (PLF):

	SOURCE	LL	DL
1	U FLOOR	480	300
2	M FLOOR	480	300
3	L FLOOR	480	180
4	WALL	-	263
	TOTAL	1440	1043

STAIR FOOTINGS

DISTRIBUTED LOADS (PLF):

	SOURCE	LL	DL
1	U STAIR	200	30
2	U JOISTS	200	50
3	M STAIR	200	30
4	M JOISTS	200	50
5	WALL	-	315
	TOTAL	800	475

EXTERIOR FOOTING - POINT LOAD CHECK

RXN = 3785 LB + 2685 LB = 6470 LB [LOWER HDR 4+5 TRIMMERS CONTROL]

SOIL PRESSURE = (RXN)/[(FTG WIDTH)(FTG SPREAD)]
WHERE: FTG SPREAD = 2(FTG HEIGHT) = 2(2') = 4'

SOIL PRESSURE = (6470 LB)/[(2')(4')] = 809 PSF < ALLOWABLE (1500 PSF)

Project: 22-0411 3-STORY

Location: TYP EXTERIOR FOOTINGS
Footing
[2015 International Building Code(2015 NDS)]
Footing Size: 24.0 IN Wide x 8.0 IN Deep Continuous Footing With 8.0 IN Thick x 18.0 IN Tall Stemwall
LongitudinalReinforcement: (2) Continuous #4 Bars
TransverseReinforcement: #4 Bars @ 12.00 IN. O.C. (unnecessary)
Section Footing Design Adequate

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FOOTING PROPERTIES

Allowable Soil Bearing Pressure:	Qs =	1500	psf
Concrete Compressive Strength:	F'c =	2500	psi
Reinforcing Steel Yield Strength:	Fy =	40000	psi
Concrete Reinforcement Cover:	c =	3	in

FOOTING SIZE

Width:	W =	24	in
Depth:	Depth =	8	in
Effective Depth to Top Layer of Steel:	d =	4.25	in

STEMWALL SIZE

Stemwall Width:	8	in
Stemwall Height:	18	in
Stemwall Weight:	150	pcf

FOOTING CALCULATIONS

Bearing Calculations:

Ultimate Bearing Pressure:	Qu =	1266	psf
Effective Allowable Soil Bearing Pressure:	Qe =	1400	psf
Width Required:	Wreq =	1.81	ft

Beam Shear Calculations (One Way Shear):

Beam Shear:	Vu1 =	554	lb
Allowable Beam Shear:	Vc1 =	3825	lb

Transverse Direction:

Bending Calculations:

Factored Moment:	Mu =	4728	in-lb
Nominal Moment Strength:	Mn =	0	in-lb

Reinforcement Calculations:

Concrete Compressive Block Depth:	a =	0.30	in
Steel Required Based on Moment:	As(1) =	0.03	in2
Min. Code Req'd Reinf. Shrink./Temp. (ACI-10.5.4)	As(2) =	0.19	in2
Controlling Reinforcing Steel:	As-reqd =	0.19	in2
Selected Reinforcement:	Trans: #4's @ 12.0 in. o.c.		
Reinforcement Area Provided:	As =	0.19	in2

Development Length Calculations:

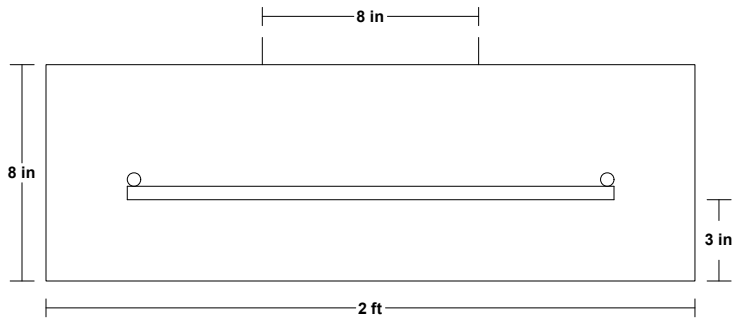
Development Length Required:	Ld =	15	in
Development Length Supplied:	Ld-sup =	5	in

Longitudinal Direction:

Reinforcement Calculations:

Min. Code Req'd Reinf. Shrink./Temp. (ACI-10.5.4):	As(2) =	0.38	in2
Controlling Reinforcing Steel:	As-reqd =	0.38	in2
Selected Reinforcement:	Longitudinal: (2) Cont. #4 Bars		
Reinforcement Area Provided:	As =	0.39	in2

LOADING DIAGRAM



FOOTING LOADING

Live Load:	PL =	1272	plf
Dead Load:	PD =	1109	plf
Total Load:	PT =	2531	plf
Ultimate Factored Load:	Pu =	3546	plf

Project: 22-0411 3-STORY

Location: STAIR FOOTINGS
Footing
[2015 International Building Code(2015 NDS)]
Footing Size: 16.0 IN Wide x 8.0 IN Deep Continuous Footing
LongitudinalReinforcement: (2) Continuous #4 Bars
TransverseReinforcement: #4 Bars @ 12.00 IN. O.C. (unnecessary)
Section Footing Design Adequate

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FOOTING PROPERTIES

Allowable Soil Bearing Pressure:	Qs =	1500	psf
Concrete Compressive Strength:	F'c =	2500	psi
Reinforcing Steel Yield Strength:	Fy =	40000	psi
Concrete Reinforcement Cover:	c =	3	in

FOOTING SIZE

Width:	W =	16	in
Depth:	Depth =	8	in
Effective Depth to Top Layer of Steel:	d =	4.25	in

STEMWALL SIZE

Stemwall Width:	0	in
Stemwall Height:	0	in
Stemwall Weight:	150	pcf

FOOTING CALCULATIONS

Bearing Calculations:

Ultimate Bearing Pressure:	Qu =	956	psf
Effective Allowable Soil Bearing Pressure:	Qe =	1400	psf
Width Required:	Wreq =	0.91	ft

Beam Shear Calculations (One Way Shear):

Beam Shear:	Vu1 =	434	lb
Allowable Beam Shear:	Vc1 =	3825	lb

Transverse Direction:

Bending Calculations:

Factored Moment:	Mu =	3700	in-lb
Nominal Moment Strength:	Mn =	0	in-lb

Reinforcement Calculations:

Concrete Compressive Block Depth:	a =	0.30	in
Steel Required Based on Moment:	As(1) =	0.02	in2
Min. Code Req'd Reinf. Shrink./Temp. (ACI-10.5.4)	As(2) =	0.19	in2
Controlling Reinforcing Steel:	As-reqd =	0.19	in2
Selected Reinforcement:	Trans: #4's @ 12.0 in. o.c.		
Reinforcement Area Provided:	As =	0.19	in2

Development Length Calculations:

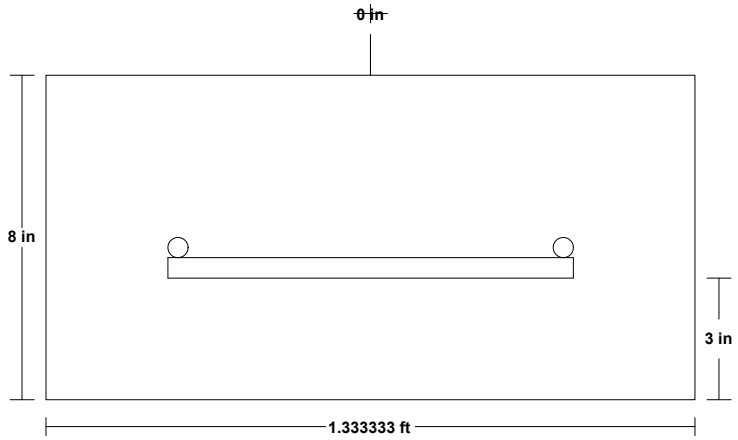
Development Length Required:	Ld =	15	in
Development Length Supplied:	Ld-sup =	5	in

Longitudinal Direction:

Reinforcement Calculations:

Min. Code Req'd Reinf. Shrink./Temp. (ACI-10.5.4):	As(2) =	0.26	in2
Controlling Reinforcing Steel:	As-reqd =	0.26	in2
Selected Reinforcement:	Longitudinal: (2) Cont. #4 Bars		
Reinforcement Area Provided:	As =	0.39	in2

LOADING DIAGRAM



FOOTING LOADING

Live Load:	PL =	800	plf
Dead Load:	PD =	475	plf
Total Load:	PT =	1275	plf
Ultimate Factored Load:	Pu =	1850	plf

Project: 22-0411 3-STORY

Location: TYP INTERIOR FOOTINGS
Footing
[2015 International Building Code(2015 NDS)]
Footing Size: 24.0 IN Wide x 10.0 IN Deep Continuous Footing
LongitudinalReinforcement: (3) Continuous #4 Bars
TransverseReinforcement: #4 Bars @ 9.00 IN. O.C. (unnecessary)
Section Footing Design Adequate

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FOOTING PROPERTIES

Allowable Soil Bearing Pressure:	Qs =	1500	psf
Concrete Compressive Strength:	F'c =	2500	psi
Reinforcing Steel Yield Strength:	Fy =	40000	psi
Concrete Reinforcement Cover:	c =	3	in

FOOTING SIZE

Width:	W =	24	in
Depth:	Depth =	10	in
Effective Depth to Top Layer of Steel:	d =	6.25	in

STEMWALL SIZE

Stemwall Width:	0	in
Stemwall Height:	0	in
Stemwall Weight:	150	pcf

FOOTING CALCULATIONS

Bearing Calculations:

Ultimate Bearing Pressure:	Qu =	1242	psf
Effective Allowable Soil Bearing Pressure:	Qe =	1375	psf
Width Required:	Wreq =	1.81	ft

Beam Shear Calculations (One Way Shear):

Beam Shear:	Vu1 =	852	lb
Allowable Beam Shear:	Vc1 =	5625	lb

Transverse Direction:

Bending Calculations:

Factored Moment:	Mu =	10667	in-lb
Nominal Moment Strength:	Mn =	0	in-lb

Reinforcement Calculations:

Concrete Compressive Block Depth:	a =	0.38	in
Steel Required Based on Moment:	As(1) =	0.05	in2
Min. Code Req'd Reinf. Shrink./Temp. (ACI-10.5.4)	As(2) =	0.24	in2
Controlling Reinforcing Steel:	As-reqd =	0.24	in2
Selected Reinforcement:	Trans: #4's @ 9.0 in. o.c.		
Reinforcement Area Provided:	As =	0.24	in2

Development Length Calculations:

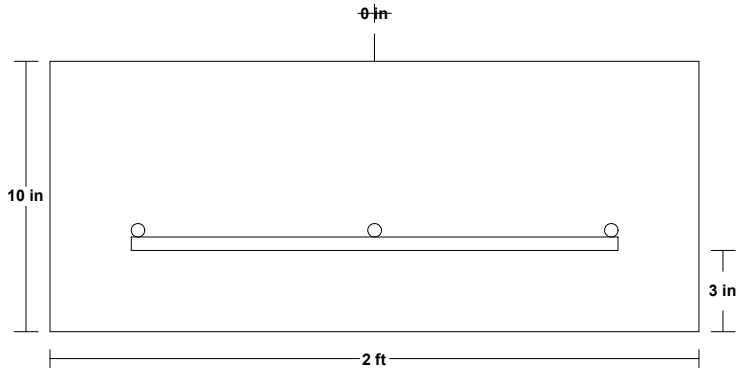
Development Length Required:	Ld =	15	in
Development Length Supplied:	Ld-sup =	9	in

Longitudinal Direction:

Reinforcement Calculations:

Min. Code Req'd Reinf. Shrink./Temp. (ACI-10.5.4):	As(2) =	0.48	in2
Controlling Reinforcing Steel:	As-reqd =	0.48	in2
Selected Reinforcement:	Longitudinal: (3) Cont. #4 Bars		
Reinforcement Area Provided:	As =	0.59	in2

LOADING DIAGRAM



FOOTING LOADING

Live Load:	PL =	1440	plf
Dead Load:	PD =	1043	plf
Total Load:	PT =	2483	plf
Ultimate Factored Load:	Pu =	3556	plf

Project: 22-0411 3-STORY

Location: DECK FOOTINGS
Footing
[2015 International Building Code(2015 NDS)]
Footing Size: 1.5 FT x 1.5 FT x 12.00 IN
Reinforcement: #4 Bars @ 5.75 IN. O.C. E/W / (3) min.
Section Footing Design Adequate

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FOOTING PROPERTIES

Allowable Soil Bearing Pressure:	Qs =	1500	psf
Concrete Compressive Strength:	F'c =	2500	psi
Reinforcing Steel Yield Strength:	Fy =	40000	psi
Concrete Reinforcement Cover:	c =	3	in

FOOTING SIZE

Width:	W =	1.5	ft
Length:	L =	1.5	ft
Depth:	Depth =	12	in
Effective Depth to Top Layer of Steel:	d =	8.25	in

COLUMN AND BASEPLATE SIZE

Column Type:	Wood		
Column Width:	m =	5.5	in
Column Depth:	n =	5.5	in

FOOTING CALCULATIONS

Bearing Calculations:			
Ultimate Bearing Pressure:	Qu =	785	psf
Effective Allowable Soil Bearing Pressure:	Qe =	1350	psf
Required Footing Area:	Areq =	1.31	sf
Area Provided:	A =	2.25	sf
Baseplate Bearing:			
Bearing Required:	Bear =	2599	lb
Allowable Bearing:	Bear-A =	83566	lb
Beam Shear Calculations (One Way Shear):			
Beam Shear:	Vu1 =	108	lb
Allowable Beam Shear:	Vc1 =	11138	lb
Punching Shear Calculations (Two Way Shear):			
Critical Perimeter:	Bo =	55	in
Punching Shear:	Vu2 =	1082	lb
Allowable Punching Shear (ACI 11-35):	vc2-a =	102094	lb
Allowable Punching Shear (ACI 11-36):	vc2-b =	136125	lb
Allowable Punching Shear (ACI 11-37):	vc2-c =	68063	lb
Controlling Allowable Punching Shear:	vc2 =	68063	lb
Bending Calculations:			
Factored Moment:	Mu =	5848	in-lb
Nominal Moment Strength:	Mn =	168334	in-lb
Reinforcement Calculations:			
Concrete Compressive Block Depth:	a =	0.62	in
Steel Required Based on Moment:	As(1) =	0.02	in2
Min. Code Req'd Reinf. Shrink./Temp. (ACI-10.5.4):	As(2) =	0.43	in2
Controlling Reinforcing Steel:	As-reqd =	0.43	in2
Selected Reinforcement:	#4's @ 5.8 in. o.c. e/w (3) Min.		
Reinforcement Area Provided:	As =	0.59	in2
Development Length Calculations:			
Development Length Required:	Ld =	15	in
Development Length Supplied:	Ld-sup =	6	in

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

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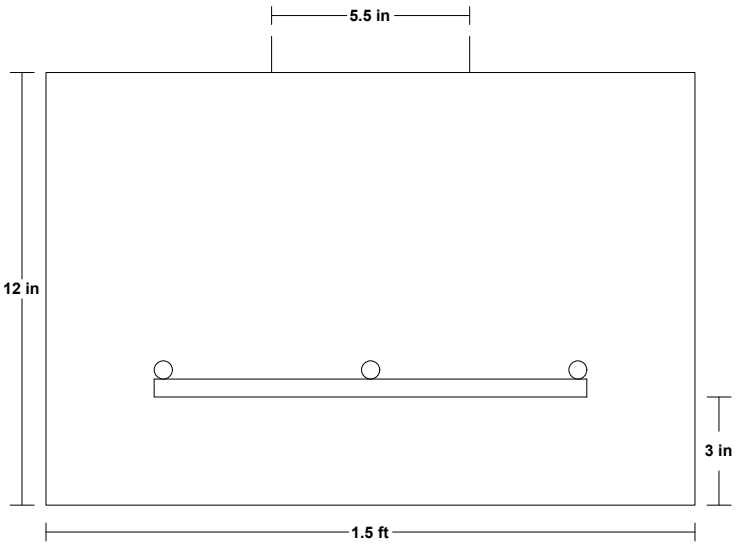


FOOTING LOADING

Live Load:	PL =	1200	lb *
Dead Load:	PD =	566	lb *
Total Load:	PT =	1766	lb *
Ultimate Factored Load:	Pu =	2599	lb
Footing plus soil above footing weight:	Wt =	218	lb

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

GENERAL NOTES:

A. STRUCTURE DESIGNED IN ACCORDANCE WITH THE 2019 OSSC.

B. STRUCTURE DESIGNED FOR THE FOLLOWING LOADS:

ROOF DEAD LOADS:

ROOF (TOTAL) = 15 PSF

ROOF LIVE LOADS:

GROUND SNOW LOAD = 3 PSF

MIN ROOF SNOW LOAD = 25 PSF

FLOOR DEAD LOADS:

FLOOR (TOTAL) = 15 PSF

FLOOR AT DECK = 12 PSF

FLOOR LIVE LOADS:

TYP LIVE LOAD = 40 PSF

LIVE LOAD AT ENTRY STAIRS & LANDINGS = 100 PSF

WIND LOADS:

BASIC WIND SPEED (V)	= 135 MPH
EXPOSURE	= D
IMPORTANCE FACTOR	= I

SEISMIC DESIGN DATA:

SEISMIC DESIGN CATEGORY	= D
SITE SOIL CLASS	= D
S_S	= 1.294
S_1	= 0.679
S_{DS}	= 0.862

BASIC STRUCTURAL & SEISMIC RESISTING SYSTEM:

LIGHT-FRAMED SHEARWALL SYSTEM: R = 6.5
WOOD FRAMED SHEARWALLS

ANALYZED USING THE EQUIVALENT LATERAL FORCE PROCEDURE

C. IF ANY FIELD CONDITIONS PRECLUDE COMPLIANCE WITH THESE DRAWINGS AND/OR CONDITIONS SPECIFIED, THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY AND SHALL NOT PROCEED WITH THE AFFECTED WORK. THE CONTRACTOR SHALL VERIFY ALL BUILDING DIMENSIONS, DETAILS, AND CONDITIONS PRIOR TO START OF CONSTRUCTION THAT MAY BE IMPACTED BY VARIATIONS FROM THE CONDITIONS SHOWN HEREIN.

SOIL NOTES:

A. SOIL BEARING CAPACITY USED IN DESIGN OF NEW FOUNDATION: 1500 PSF. ALL FOOTINGS TO BEAR A MINIMUM OF 18" BELOW FINISHED GRADE. IF UNSUITABLE SOILS ARE ENCOUNTERED, OR IF ROCK IS ENCOUNTERED IN THE AREA OF THE PROPOSED BOTTOM OF FOOTING, NOTIFY THE ENGINEER IMMEDIATELY.

WOOD GENERAL NOTES:

A. WOOD FRAMING TO BE #2 DOUGLAS FIR OR BETTER UNLESS NOTED OTHERWISE ON THE PLANS. GLULAM MEMBERS ARE TO BE 24F-V4 UNLESS NOTED OTHERWISE ON THE PLANS.

B. GLULAM BEAMS/RAFTERS TO BE ATTACHED TO STRUCTURE PER THE FRAMING PLANS AND STRUCTURAL DETAILS.

C. PROVIDE SOLID BLOCKING BETWEEN TRUSSES AT ALL BEARING LOCATIONS.

D. SHEATHING TO BE SPAN RATED PLYWOOD OR OSB
FLOOR: 3/4"
ROOF: 15/32"
WALLS: 15/32"

CONCRETE NOTES:

A. ALL CONCRETE WORK SHALL CONFORM WITH A.C.I. "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE", ACI 318 - LATEST EDITION, AND "MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES", ACI 315 - LATEST EDITION.

B. ALL CONCRETE FORM WORK WORK SHALL CONFORM WITH A.C.I. "RECOMMENDED PRACTICES FOR CONCRETE FORM WORK" - ACI 347.

C. ALL CONCRETE SHALL HAVE MINIMUM COMPRESSIVE STRENGTH AT 28 DAYS OF 3000 PSI. ALL STRUCTURAL CONCRETE SHALL CONFORM WITH A.C.I. "SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDINGS" - ACI 301.

D. CONTRACTOR SHALL SUBMIT MIX DESIGNS FOR APPROVAL. MIX DESIGN SHALL INDICATE 7 AND 28 DAYS STRENGTHS, CEMENT CONTENT, AIR CONTENT, WATER-CEMENT RATIO, AMOUNT OF FINE AND COARSE AGGREGATES AND ADMIXTURES. ALL EXTERIOR CONCRETE AND CONCRETE EXPOSED TO WEATHER SHALL BE AIR-ENTRAINED (4% TO 6%) UNLESS LOCAL STANDARDS ARE OTHERWISE.

MAXIMUM WATER-CEMENT RATIO = 0.49

MAXIMUM SLUMP LIMIT = 4"

MAXIMUM AGGREGATE SIZE:

FOOTINGS & FOUNDATIONS = 3/4" TO 1 1/2"
SLAB-ON-GRADE = 3/4" TO 1"
CONCRETE FILL = 1/2"

CEMENT SHALL BE PORTLAND CEMENT, TYPE I OR II, CONFORMING TO ASTM-C-150.

CONCRETE AGGREGATES SHALL CONFORM TO ASTM C-33.

AIR-ENTRAINING ADMIXTURES SHALL CONFORM TO ASTM C-260.

NON-SHRINK GROUT SHALL CONFORM TO ASTM C-109.

EXPANSION JOINTS SHALL BE 1/2" THICK ASPHALT IMPREGNATED FIBERBOARD

JOINT MATERIAL, CONFORMING TO ASTM D-1751.

CURING COMPOUND SHALL BE CLEAR, CONFORMING TO ASTM C-309.

E. COLD WEATHER CONCRETE WORK, WHEN APPLICABLE, SHALL CONFORM TO ACI 306.

F. HOT WEATHER CONCRETE WORK, WHEN APPLICABLE, SHALL CONFORM TO ACI 305.

G. SCREED SLABS AT GRADE LEVEL, MAINTAINING SURFACE FLATNESS OF MAXIMUM 1/4" IN 10'-0".

H. ALL BAR REINFORCING FOR CONCRETE TO CONFORM TO ASTM A615, GRADE 60. WELDED WIRE FABRIC SHALL CONFORM TO ASTM A185.

I. CONCRETE ACCESSORIES TO BE ADEQUATE TO MAINTAIN REINFORCING ACCURATELY IN PLACE AND BE NON-CORROSIVE, NON-STAINING TYPE.

J. LAP ALL BAR REINFORCING PER ACI 318. STAGGER SPLICES IN HORIZONTAL WALLS AND SLABS.

K. REINFORCEMENT COVER, UNLESS NOTED OTHERWISE:

1) FOOTINGS AND GRADE BEAMS - BOTT. 3" - TOP 1-1/2"
2) WALLS - OUTSIDE 2", INSIDE 1"
3) SLABS - 1 1/2" FROM TOP

L. WELDED WIRE FABRIC SHALL HAVE MINIMUM END AND SIDE LAPS OF 1'-0".

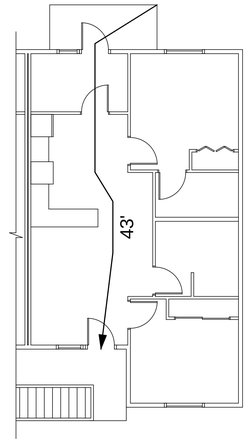
M. HILTI HY 200 OR SIMPSON SET XP EPOXY ADHESIVE IS REQUIRED FOR ALL REBAR DOWELS OR ALL THREAD DRILLED AND EPOXIED INTO CONCRETE.

N. CONCRETE STEEL REINFORCEMENT SHOP DRAWINGS SHALL BE SUBMITTED TO ENGINEER OF RECORD FOR REVIEW.

CONCRETE SPECIAL INSPECTION REQUIREMENTS

ALL CONCRETE WORK, REINFORCING PLACEMENT, FORM WORK AND SHORING SHALL BE SPECIAL INSPECTED BY AN INDEPENDENT TESTING AGENCY RETAINED BY THE OWNER FOR THE FOLLOWING ITEMS:

A. EPOXIED ALL THREAD AND REBAR DOWELS: AND EXPANSION ANCHORS INTO CONCRETE.



EXIT ACCESS TRAVEL DISTANCE

CODE SUMMARY

THESE DRAWINGS ARE BASED ON THE 2019 OSSC.

CHAPTER 3 - USE & OCCUPANCY CLASSIFICATION

SECTION 310: (R-2)

CHAPTER 5 - GENERAL BUILDING HEIGHTS AND AREAS

NEW BUILDING AREA = 1953 SF (1ST FLOOR)
NEW BUILDING AREA = 1953 SF (2ND FLOOR)
NEW BUILDING AREA = 1953 SF (3RD FLOOR)
NEW BUILDING AREA = 5859 SF (TOTAL)

TABLE 506.2: ALLOWABLE AREA = 21,000 SF > 5859 SF ∴ O.K.

TABLE 504.3/4: NEW BUILDING HEIGHT = 35'-11" (3-STORY)
ALLOWABLE BUILDING HEIGHT = 60' (3-STORY) ∴ O.K.

CHAPTER 6 - TYPE OF CONSTRUCTION

V-B, SPRINKLERED:

FIRE RESISTANCE RATING FOR EXTERIOR WALLS: 1 HOUR

CHAPTER 10 - MEANS OF EGRESS

SEE TABLE 1004.1.1 MAXIMUM FLOOR AREA PER OCCUPANT

SECTION 1005.1 - MINIMUM REQUIRED EGRESS WIDTH

TOTAL OCCUPANTS = 30
REQUIRED WIDTH 0.20 PER OCCUPANT = 6"
ACTUAL EXIT WIDTH = 36"

TABLE 1006.3.3 - STORIES WITH ONE EXIT FOR R-2 OCCUPANCIES

MAXIMUM NUMBER OF DWELLING UNITS = 4 > 2 ∴ O.K.

MAXIMUM EXIT ACCESS TRAVEL DISTANCE = 125' > 43' ∴ O.K.

TABLE 1021.1 MINIMUM NUMBER OF EXITS FOR OCCUPANT LOAD

OCCUPANT LOAD = 30 OCCUPANTS
MINIMUM NUMBER OF EXITS = 2
NUMBER PROVIDED = 2
MAX. TRAVEL DISTANCE = 75'

PER TABLE 1004.1.1 MAXIMUM FLOOR AREA PER OCCUPANT

ROOM	AREA (S.F.)	OCCUPANCY PER 1004.1.1	
STORY 3	1953	200 S.F./OCC.	10
STORY 2	1953	200 S.F./OCC.	10
STORY 1	1953	200 S.F./OCC.	10
		TOTAL	30

SHEET INDEX

12/20/2022

EXPIRES: 12/31/23

REVISIONS		
No:	DATE	DESCRIPTION

PROJECT:
CROSS CREEK DEVELOPMENT - 3 STORY

LOCATION:
2315 N ROOSEVELT DR.
SEASIDE, OREGON

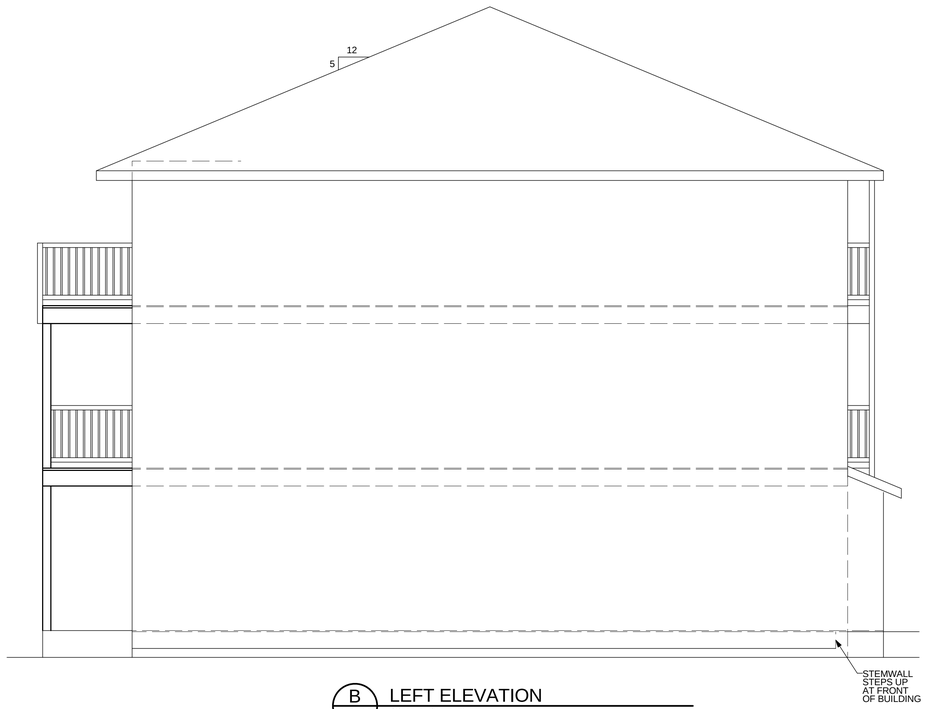
SHEET TITLE:
COVER SHEET

CLIENT:
OSBURN OLSON LLC

STABILITY ENGINEERING INC.
777 NE 2ND ST. SUITE 280
P.O. BOX 2646, CORVALLIS, OR 97339
TEL.: (541)223-5360 FAX: (541)223-5278

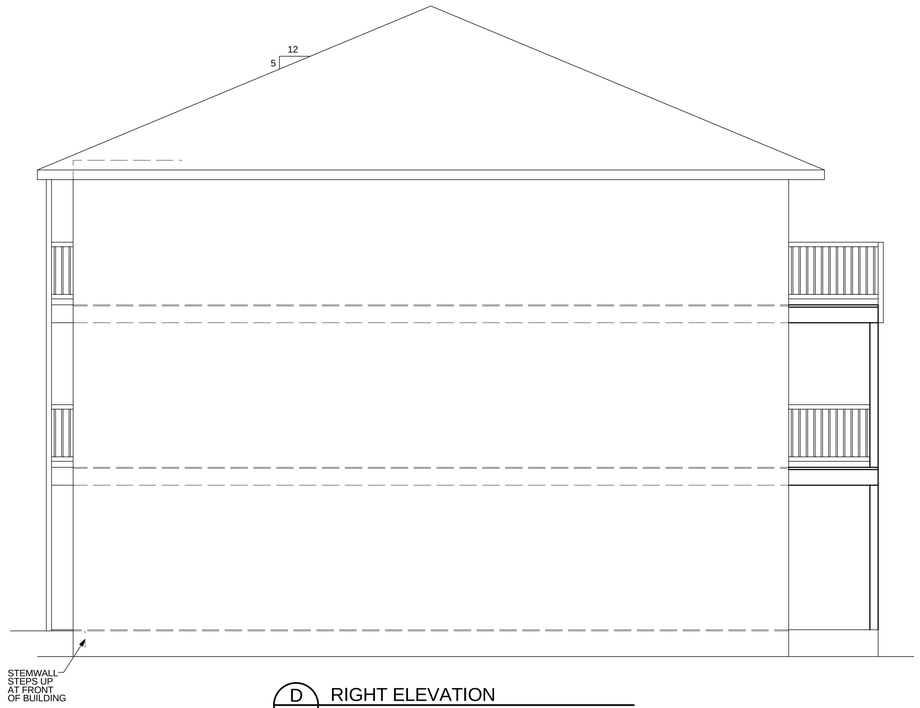
JOB NO.	22-0411
DATE:	12/20/2022
DRAWN:	MB
SCALE:	AS SHOWN
SHEET	**A0.0**

A A1.0 FRONT ELEVATION
SCALE: 1/4" = 1'-0"



B A1.0 LEFT ELEVATION
SCALE: 1/4" = 1'-0"

C A1.0 BACK ELEVATION
SCALE: 1/4" = 1'-0"



D A1.0 RIGHT ELEVATION
SCALE: 1/4" = 1'-0"

12/20/2022

REGISTERED PROFESSIONAL ENGINEER
09943PE
OREGON
NOV. 8, 2022
MAXWELL GUY BEAUDOIN
EXPIRES: 12/31/23

REVISIONS No:	DATE	DESCRIPTION

PROJECT:
CROSS CREEK DEVELOPMENT - 3 STORY

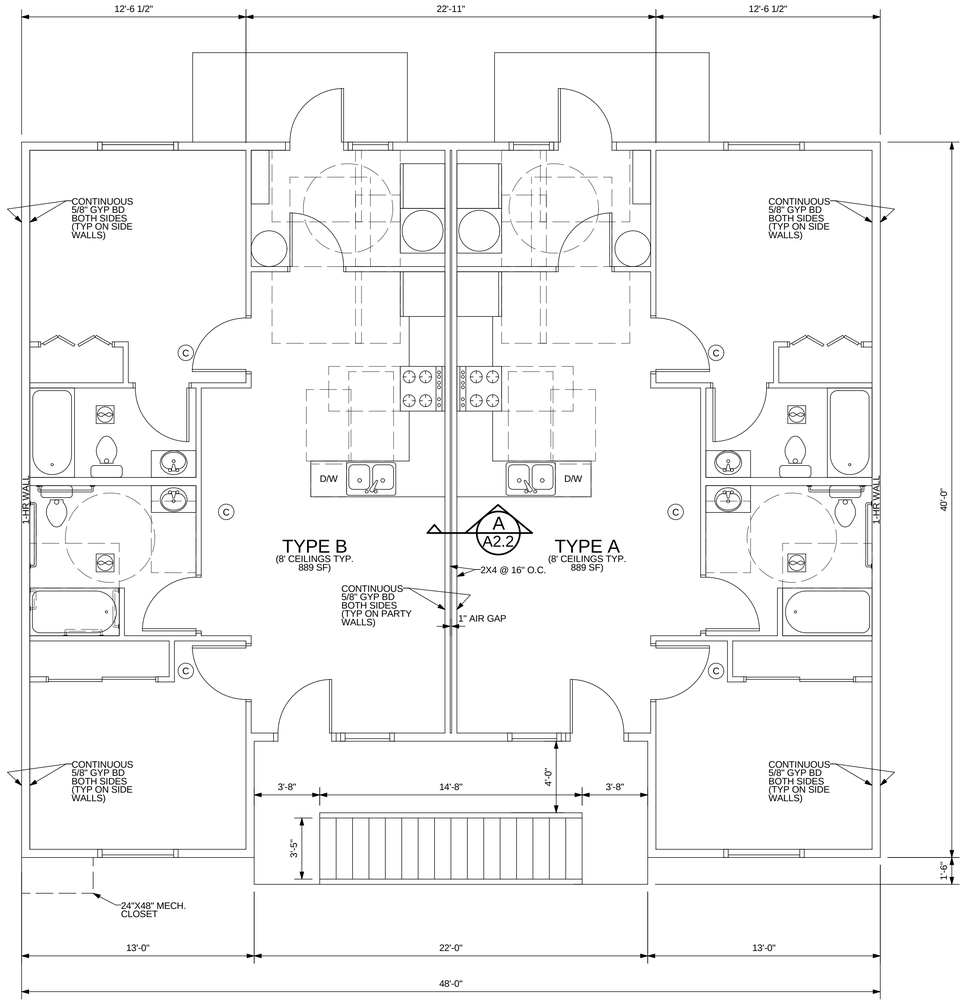
LOCATION:
2315 N ROOSEVELT DR.
SEASIDE, OREGON

SHEET TITLE:
ELEVATIONS

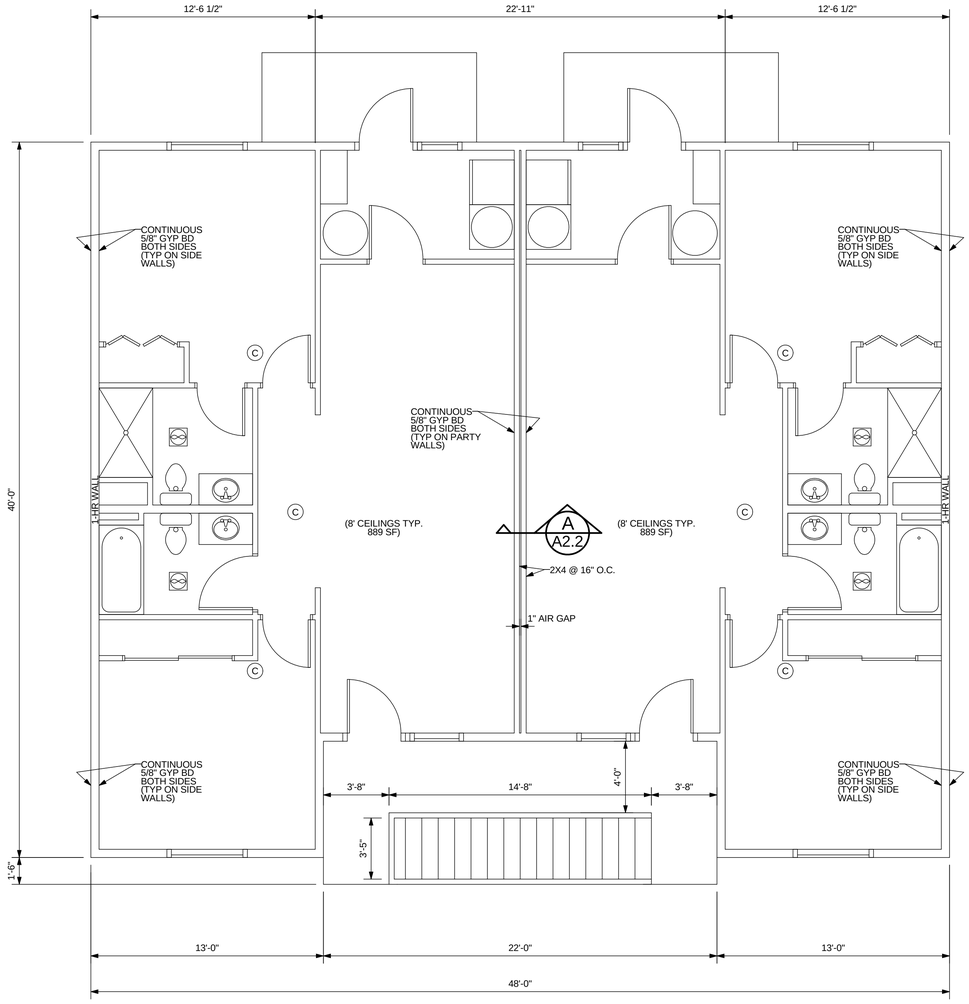
CLIENT:
OSBURN OLSON LLC

STABILITY ENGINEERING INC.
777 NE 2ND ST. SUITE 280
P.O. BOX 2646, CORVALLIS, OR 97339
TEL.: (541)223-5360 FAX: (541)223-5278

JOB NO.	22-0411
DATE:	12/20/2022
DRAWN:	MB
SCALE:	AS SHOWN
SHEET	A1.0



A A2.0 FIRST FLOOR LAYOUT
SCALE: 1/4" = 1'-0"



B A2.0 SECOND & THIRD FLOOR LAYOUT
SCALE: 1/4" = 1'-0"

LEGEND

- 80 CFM FAN
- (C) CARBON MONOXIDE/SMOKE DETECTOR COMBINATION

NOTE: PLANS MAY BE MIRRORED (FINAL UNIT TYPES TBD DURING CONSTRUCTION)

12/20/2022

REGISTERED PROFESSIONAL ENGINEER
099431PE
OREGON
NOV. 8, 2022
MAXWELL GUY BEAUDOIN
EXPIRES: 12/31/23

REVISIONS		
No:	DATE	DESCRIPTION

PROJECT:
CROSS CREEK DEVELOPMENT - 3 STORY

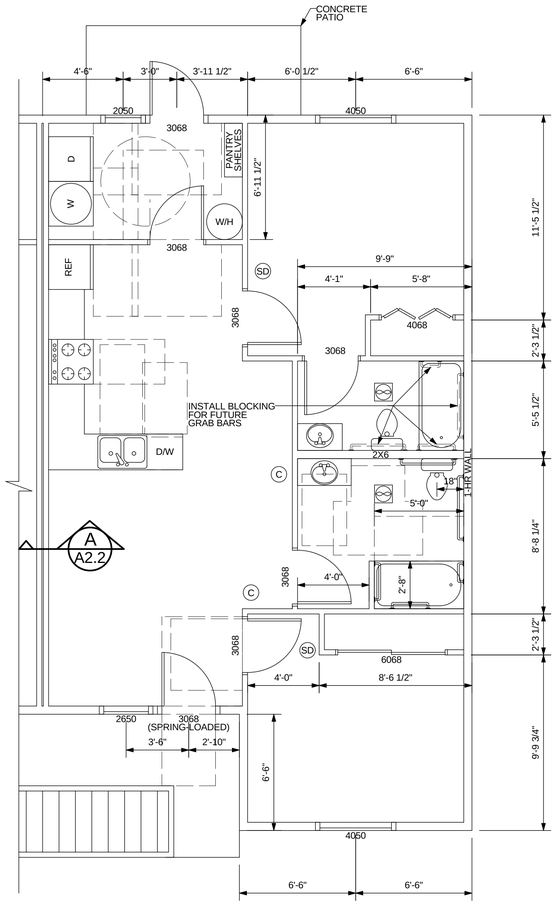
LOCATION:
2315 N ROOSEVELT DR.
SEASIDE, OREGON

SHEET TITLE:
FLOOR LAYOUTS

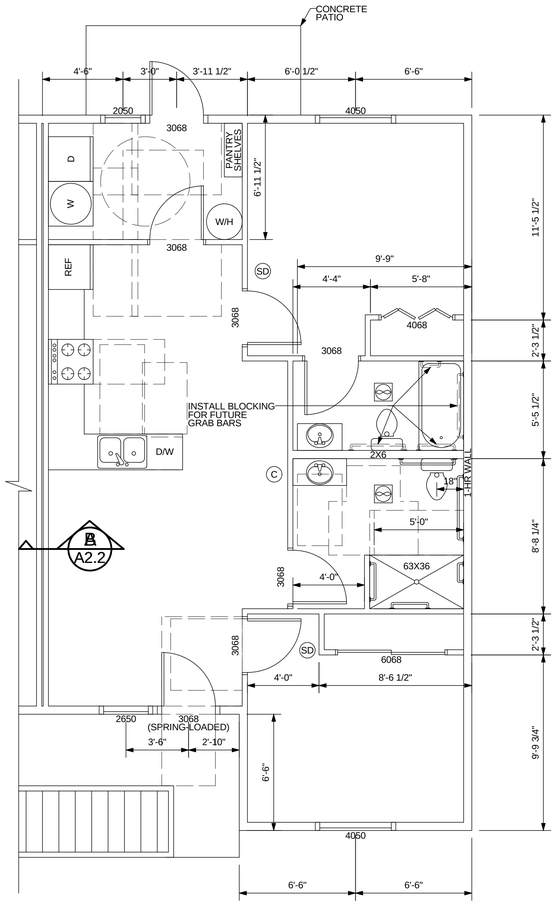
CLIENT:
OSBURN OLSON LLC

STABILITY ENGINEERING INC.
777 NE 2ND ST. SUITE 280
P.O. BOX 2646, CORVALLIS, OR 97339
TEL.: (541)223-5360 FAX: (541)223-5278

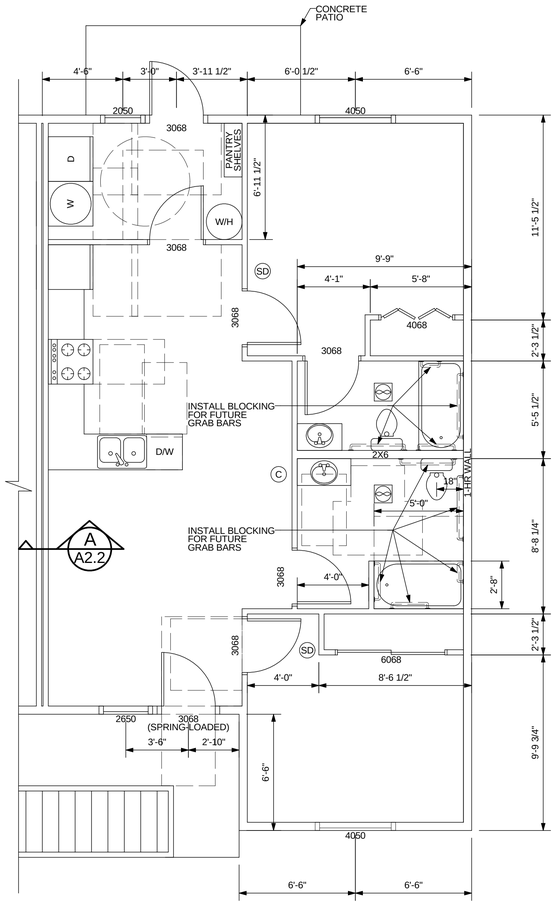
JOB NO.	22-0411
DATE:	12/20/2022
DRAWN:	MB
SCALE:	AS SHOWN
SHEET	A2.0



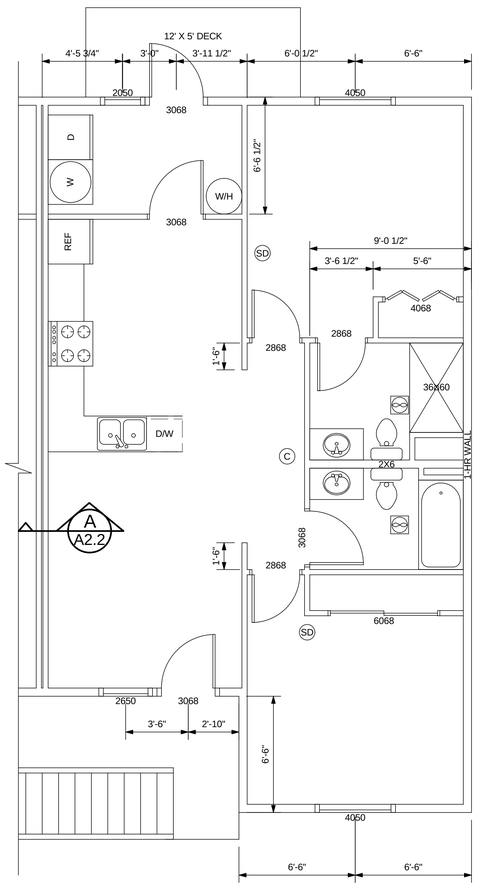
A TYPE A TUB SHOWER FLOOR PLAN (1 UNIT MIN.)
A2.1 SCALE: 1/4" = 1'-0"



B TYPE A ROLL-IN SHOWER FLOOR PLAN (1 UNIT MIN.)
A2.1 SCALE: 1/4" = 1'-0"



C TYPE B FLOOR PLAN (TYP. 1ST FLOOR UNLESS TYPE A)
A2.1 SCALE: 1/4" = 1'-0"



D 2ND FLOOR PLAN (TYP.)
A2.1 SCALE: 1/4" = 1'-0"

LEGEND

- 80 CFM FAN
- (C) CARBON MONOXIDE/SMOKE DETECTOR COMBINATION

NOTE: PLANS MAY BE MIRRORED (FINAL UNIT TYPES TBD DURING CONSTRUCTION)

12/20/2022

REGISTERED PROFESSIONAL ENGINEER
09943PE
OREGON
NOV. 8, 2022
MAXWELL GUY BEAUDOIN
EXPIRES: 12/31/23

REVISIONS		
No.	DATE	DESCRIPTION

PROJECT: **CROSS CREEK DEVELOPMENT - 3 STORY**

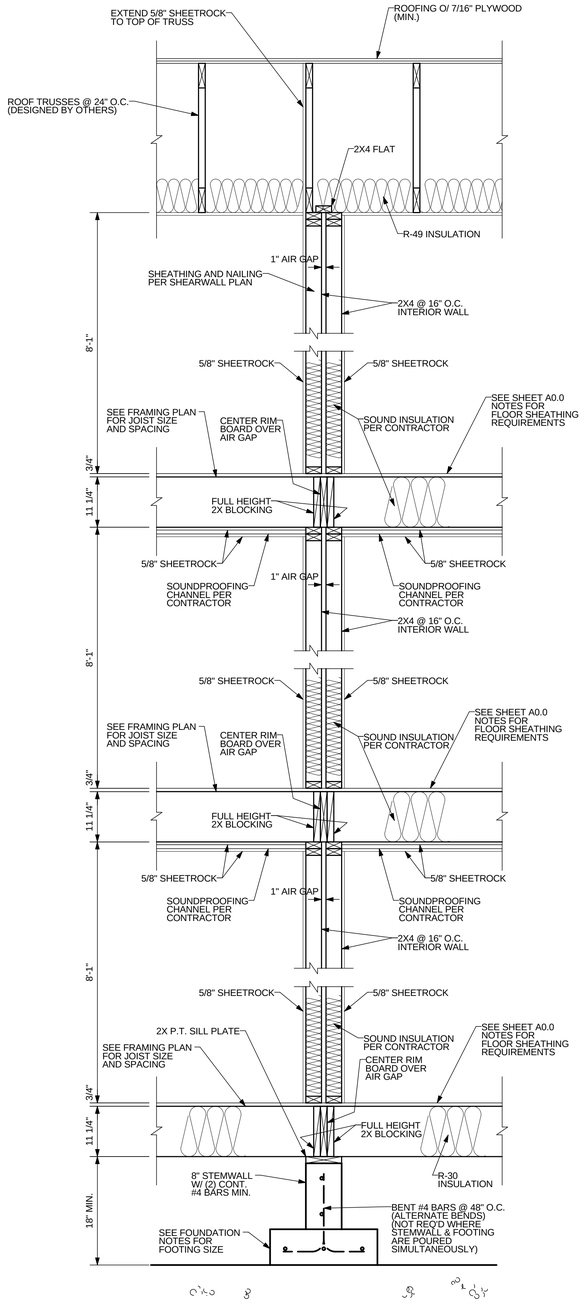
LOCATION: **2315 N ROOSEVELT DR. SEASIDE, OREGON**

SHEET TITLE: **UNIT FLOOR PLANS**

CLIENT: **OSBURN OLSON LLC**

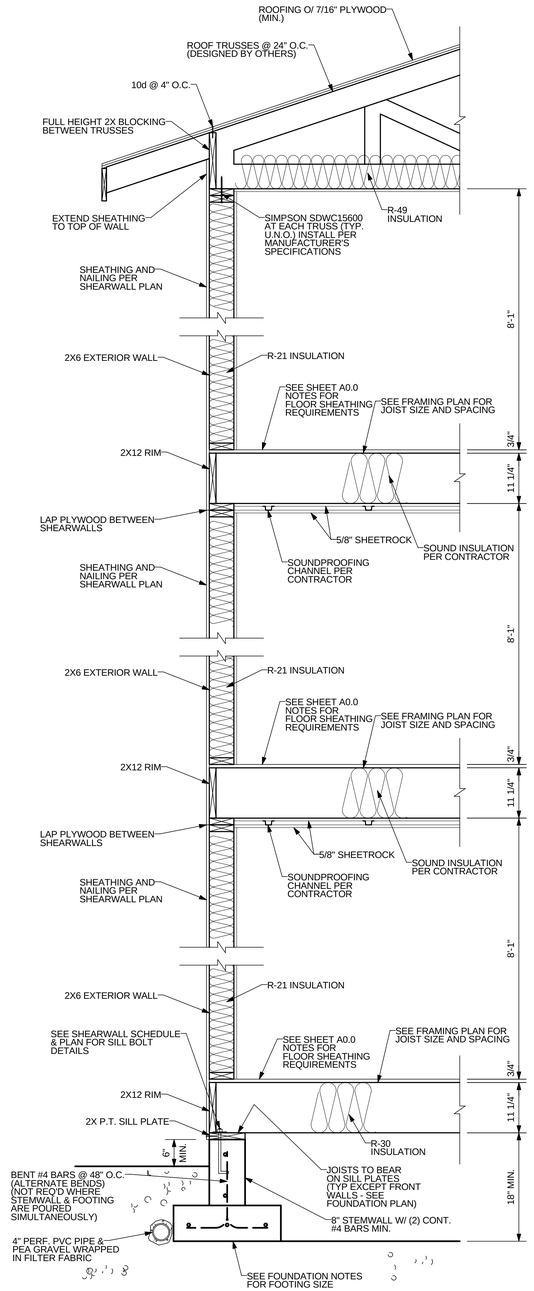
STABILITY ENGINEERING INC.
777 NE 2ND ST. SUITE 280
P.O. BOX 2646, CORVALLIS, OR 97339
TEL.: (541)223-5360 FAX: (541)223-5278

JOB NO.	22-0411
DATE:	12/20/2022
DRAWN:	MB
SCALE:	AS SHOWN
SHEET	A2.1



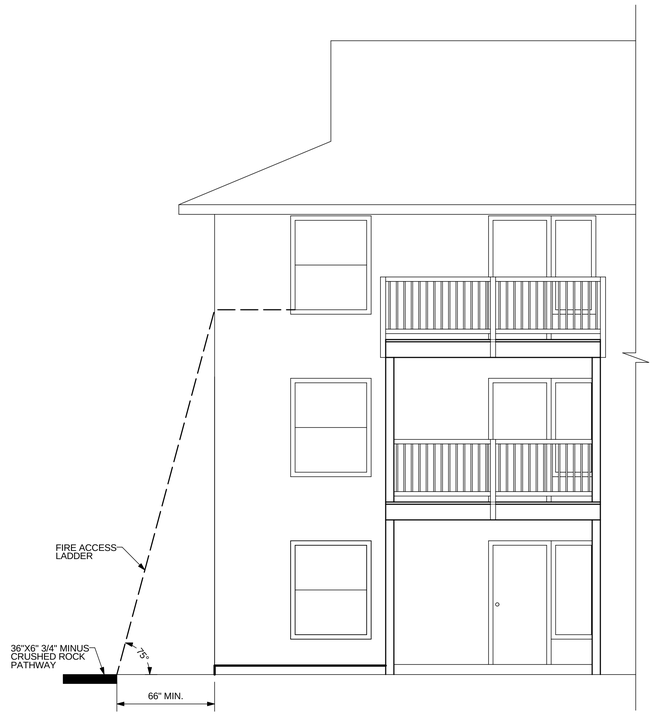
A A2.2 TYPICAL INTERIOR WALL SECTION

SCALE: 3/4" = 1'-0"



B A2.2 TYPICAL EXTERIOR WALL SECTION (JOISTS PERP.)

SCALE: 3/4" = 1'-0"



C A2.2 FIRE ACCESS DETAIL - 3 STORY

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

12/20/2022

REGISTERED PROFESSIONAL ENGINEER
09943PE
OREGON
NOV. 8, 2022
MAXWELL GUY BEAUDOIN

EXPIRES: 12/31/23

REVISIONS		
No.	DATE	DESCRIPTION

PROJECT:
CROSS CREEK DEVELOPMENT - 3 STORY

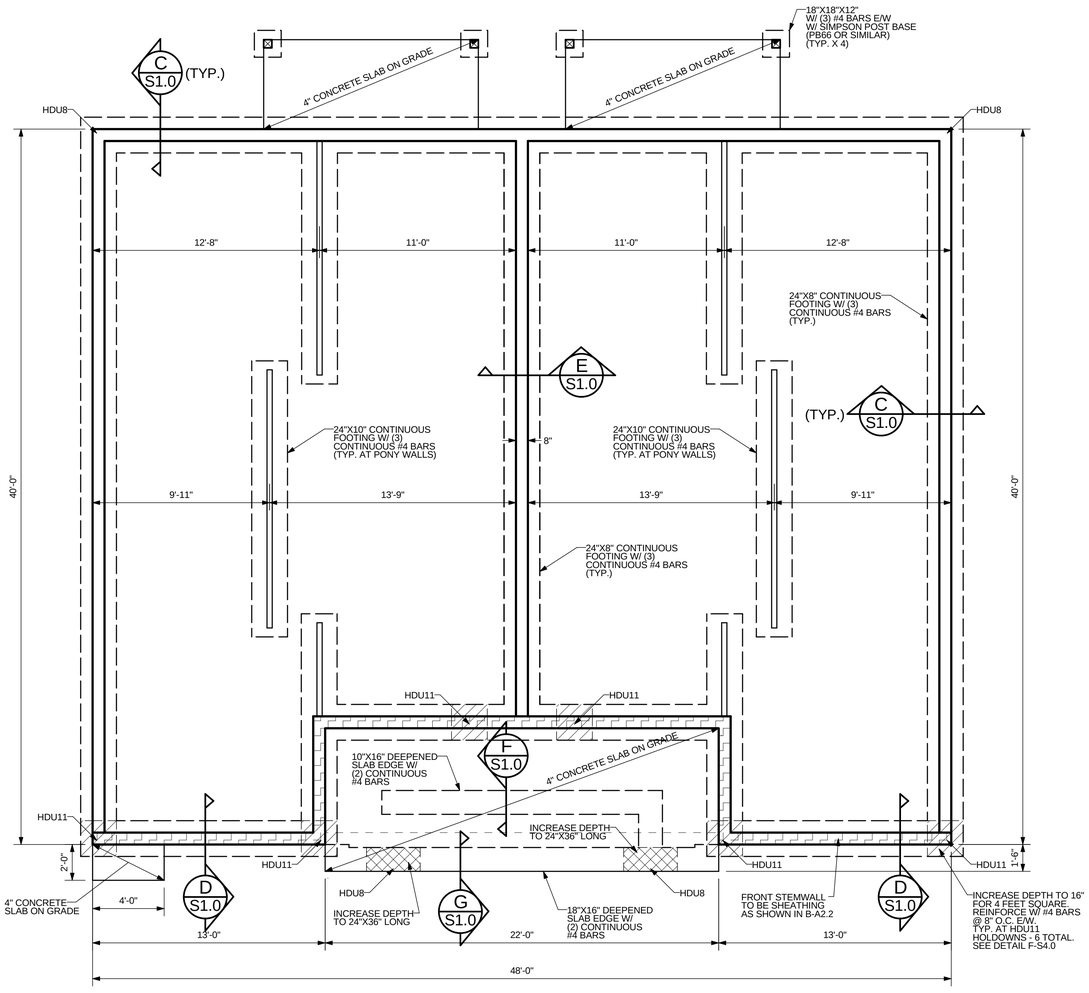
LOCATION:
2315 N ROOSEVELT DR.
SEASIDE, OREGON

SHEET TITLE:
SECTION DETAILS

CLIENT:
OSBURN OLSON LLC

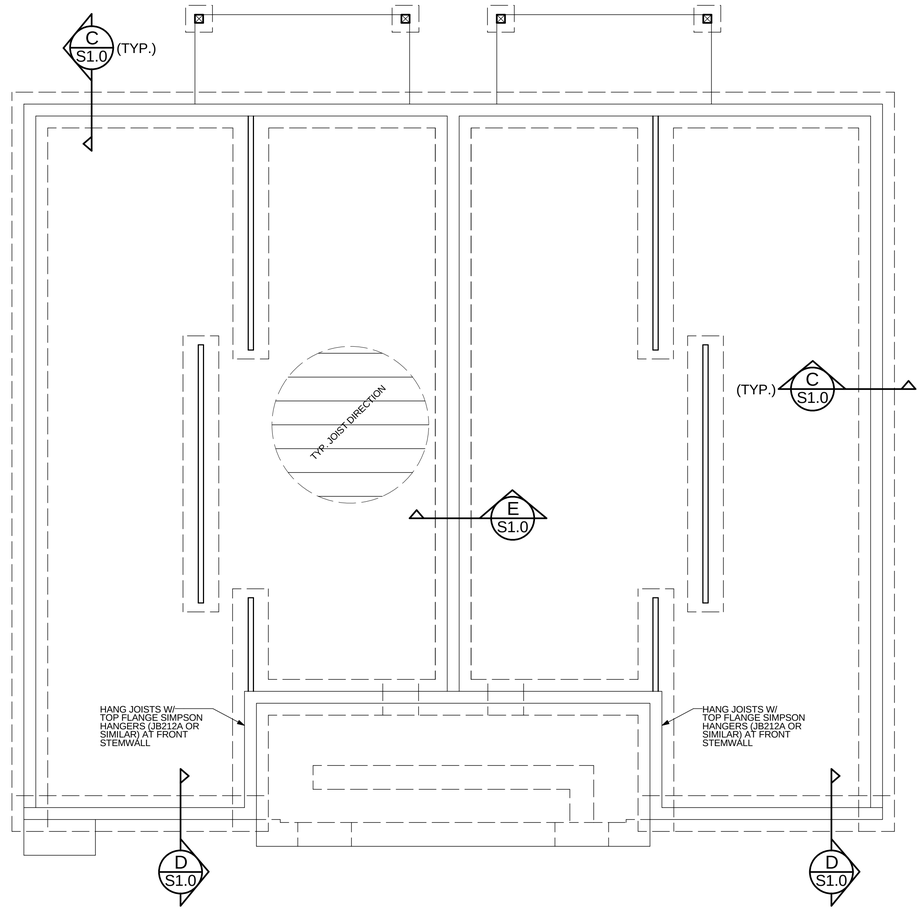
STABILITY ENGINEERING INC.
777 NE 2ND ST. SUITE 280
P.O. BOX 2646, CORVALLIS, OR 97339
TEL.: (541)223-5360 FAX: (541)223-5278

JOB NO.	22-0411
DATE:	12/20/2022
DRAWN:	MB
SCALE:	AS SHOWN
SHEET	**A2.2**



A S1.0 FOUNDATION PLAN

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

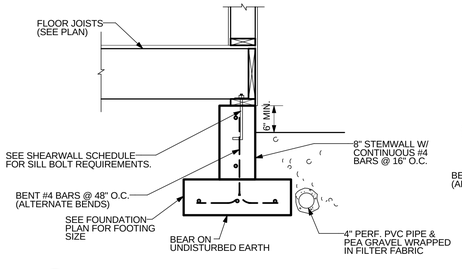


B S1.0 FIRST FLOOR FRAMING PLAN

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

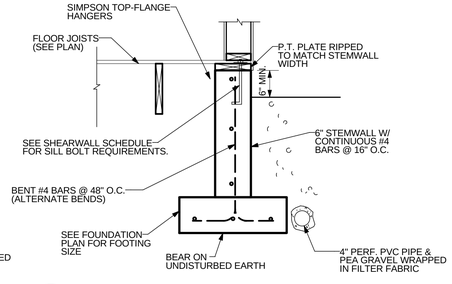
FLOOR FRAMING NOTES:

1. ALL FLOOR JOISTS = 2X12 @ 16" O.C. U.N.O ON PLANS. MAXIMUM SPAN NOT TO EXCEED 15'-0"
2. PROVIDE FULL HEIGHT 2X BLOCKING BETWEEN JOISTS AT ALL PONY WALLS.
6. FLOOR DIAPHRAGM TO BE 3/4" CDX PLYWOOD OR OSB WITH ALL SUPPORTED PANEL EDGES TO BE NAILED 8d (RINGSHANK) @ 6" O.C. (OR #8 (2 1/2") SCREWS @ 6" O.C.) AND PANEL FIELD TO BE NAILED 12" O.C. U.N.O.



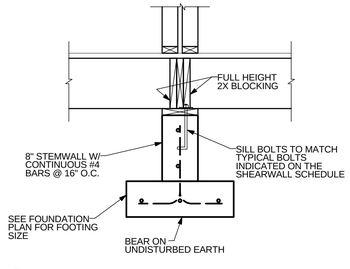
C S1.0 TYPICAL STEMWALL DETAIL

NOT TO SCALE



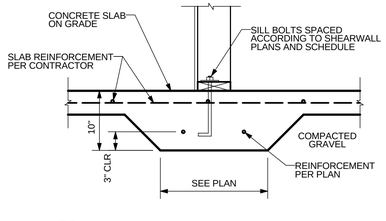
D S1.0 FRONT STEMWALL DETAIL

NOT TO SCALE



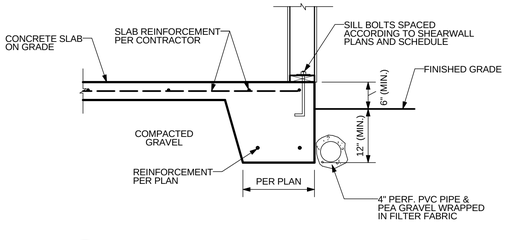
E S1.0 PARTY WALL STEMWALL DETAIL

NOT TO SCALE



F S1.0 DEEPENED SLAB DETAIL

SCALE: 1" = 1'-0"



G S1.0 DEEPENED SLAB EDGE DETAIL

SCALE: 3/4" = 1'-0"

12/20/2022

REGISTERED PROFESSIONAL ENGINEER
09943PE
OREGON
NOV. 8, 2022
MAXWELL GUY BEAUDOIN
EXPIRES: 12/31/23

REVISIONS		
No:	DATE	DESCRIPTION

PROJECT:
CROSS CREEK DEVELOPMENT - 3 STORY

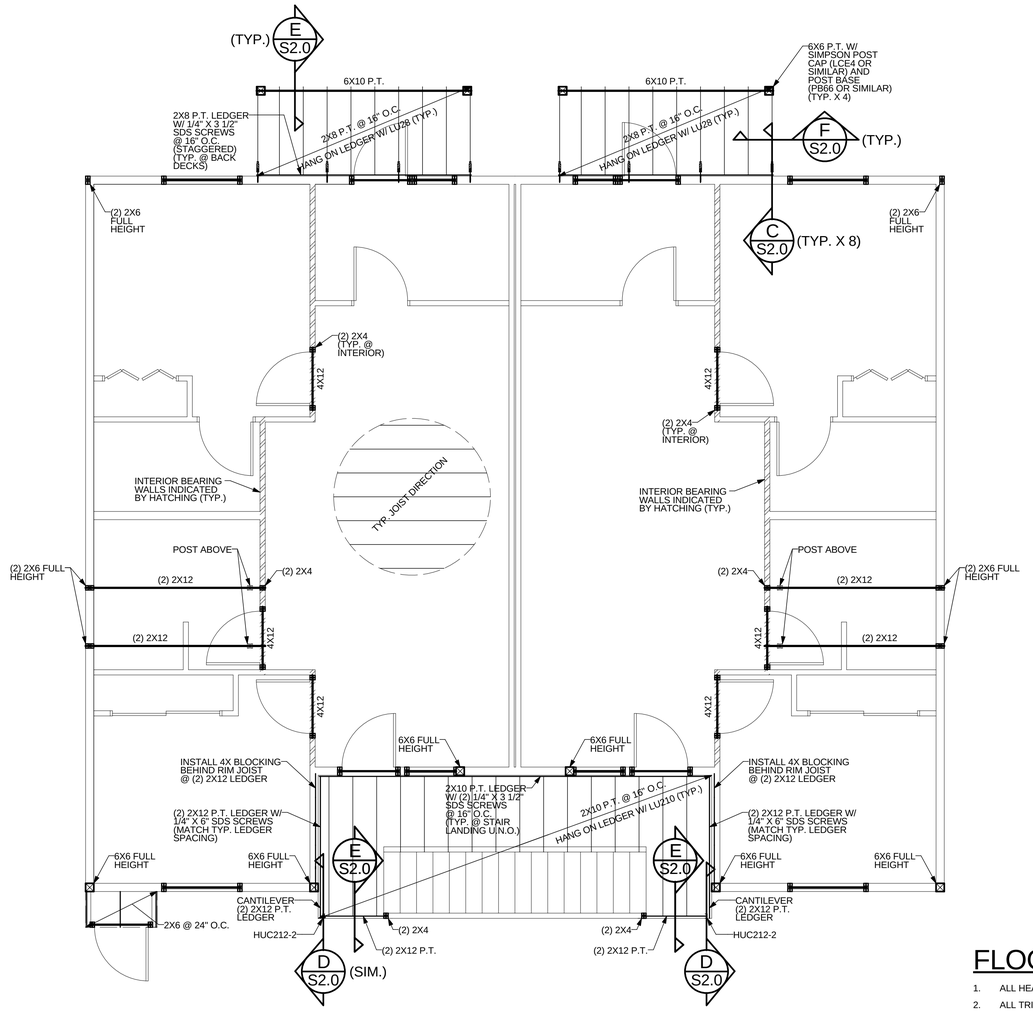
LOCATION:
2315 N ROOSEVELT DR. SEASIDE, OREGON

SHEET TITLE:
FOUNDATION PLAN & DETAILS

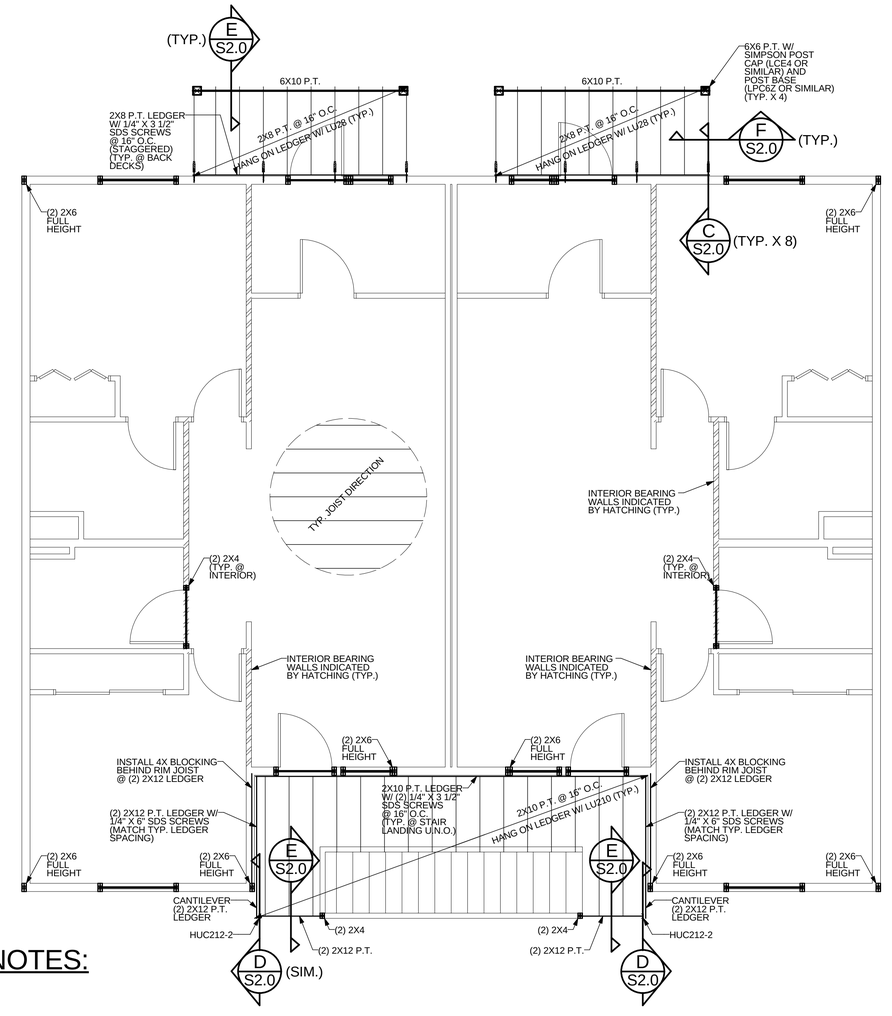
CLIENT:
OSBURN OLSON LLC

STABILITY ENGINEERING INC.
777 NE 2ND ST. SUITE 280
P.O. BOX 2646, CORVALLIS, OR 97339
TEL.: (541)223-5360 FAX: (541)223-5278

JOB NO.	22-0411
DATE:	12/20/2022
DRAWN:	MB
SCALE:	AS SHOWN
SHEET	**S1.0**



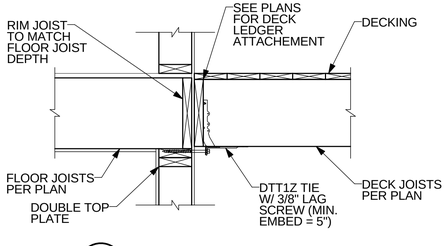
A S2.0 SECOND FLOOR FRAMING PLAN
SCALE: 1/4" = 1'-0"



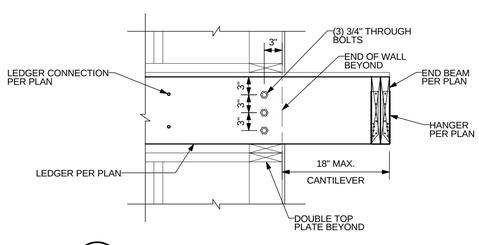
B S2.0 THIRD FLOOR FRAMING PLAN
SCALE: 1/4" = 1'-0"

FLOOR FRAMING NOTES:

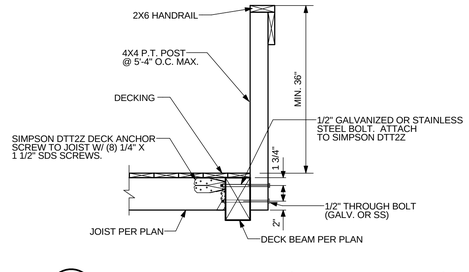
1. ALL HEADERS = 4X8 U.N.O. ON PLANS
2. ALL TRIMMERS = (1) 2X6 U.N.O ON PLANS
3. ALL KING STUDS = (1) 2X6 U.N.O ON PLANS
4. ALL FLOOR JOISTS = 2X12 @ 16" O.C. U.N.O ON PLANS. MAXIMUM SPAN NOT TO EXCEED 15'-0"
5. PROVIDE FULL HEIGHT 2X BLOCKING BETWEEN JOISTS AT ALL BEARING WALLS (AS INDICATED).
6. FLOOR DIAPHRAGM TO BE 3/4" CDX PLYWOOD OR OSB WITH ALL SUPPORTED PANEL EDGES TO BE NAILED 8d (RINGSHANK) @ 6" O.C. (OR #8 (2 1/2") SCREWS @ 6" O.C.) AND PANEL FIELD TO BE NAILED 12" O.C. U.N.O.
7. ALL HARDWARE (HANGERS, POST CAPS, POST BASES, ETC.) EXPOSED TO WEATHER SHALL BE STAINLESS STEEL.



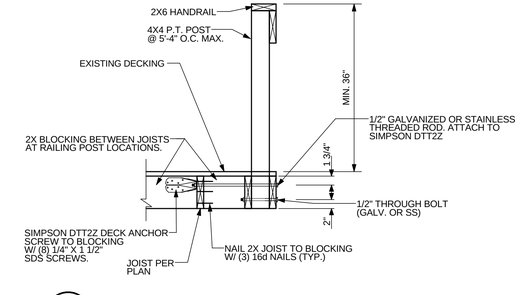
C S2.0 DECK TIE DETAIL
SCALE: 1" = 1'-0"



D S2.0 STAIR LEDGER ATTACHEMENT
SCALE: 1" = 1'-0"



E S2.0 GUARDRAIL DETAIL (JOISTS PERPEN.)
SCALE: 3/4" = 1'-0"



F S2.0 GUARDRAIL DETAIL (JOISTS PARALLEL)
SCALE: 3/4" = 1'-0"

12/20/2022

REGISTERED PROFESSIONAL ENGINEER
099431PE
OREGON
NOV. 8, 2022
MAXWELL GUY BEAUDOIN
EXPIRES: 12/31/23

REVISIONS		
No.	DATE	DESCRIPTION

PROJECT:
CROSS CREEK DEVELOPMENT - 3 STORY

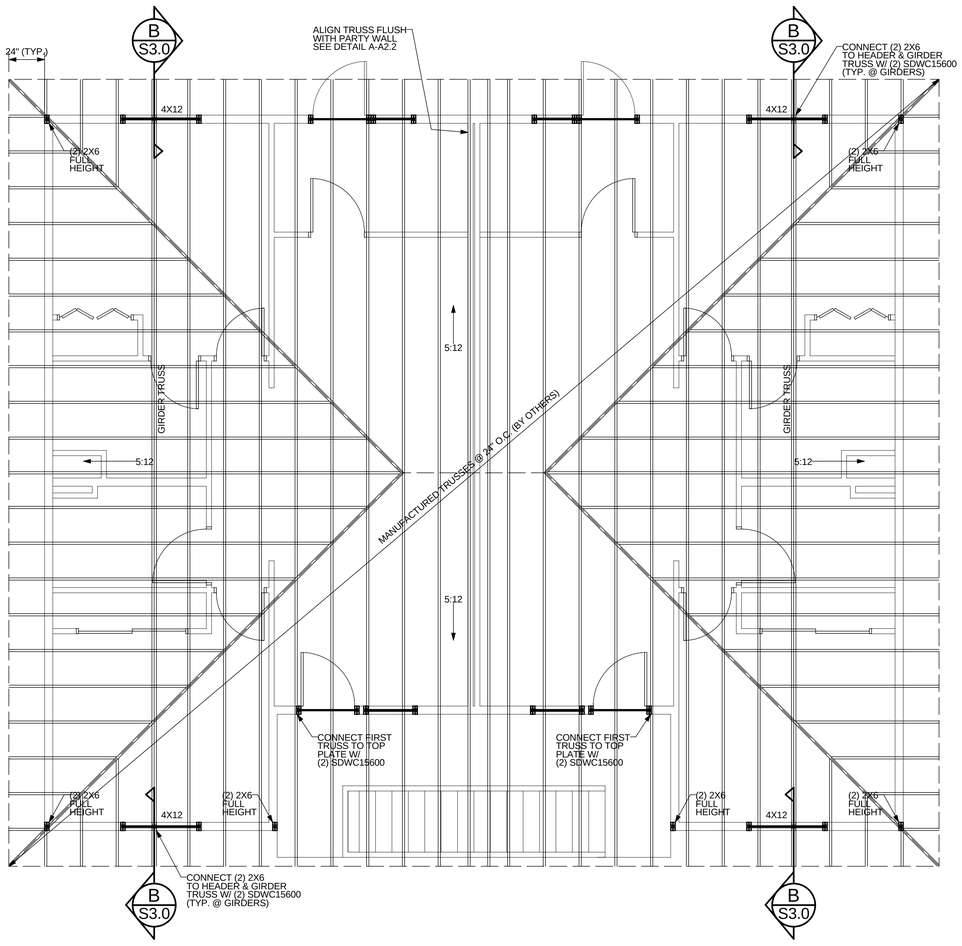
LOCATION:
2315 N ROOSEVELT DR.
SEASIDE, OREGON

SHEET TITLE:
FLOOR FRAMING PLANS & DETAILS

CLIENT:
OSBURN OLSON LLC

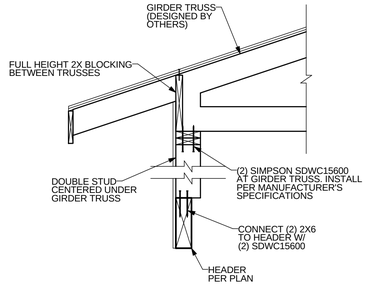
STABILITY ENGINEERING INC.
777 NE 2ND ST. SUITE 280
P.O. BOX 2646, CORVALLIS, OR 97339
TEL.: (541)223-5360 FAX: (541)223-5278

JOB NO.	22-0411
DATE:	12/20/2022
DRAWN:	MB
SCALE:	AS SHOWN
SHEET	S2.0



A S3.0 ROOF FRAMING PLAN

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



B S3.0 GIRDER TRUSS ATTACHEMENT DETAIL

SCALE: 3/4" = 1'-0"

ROOF FRAMING NOTES:

1. ALL HEADERS = 4X8 U.N.O. ON PLANS
2. ALL TRIMMERS = (1) 2X6 U.N.O ON PLANS
3. ALL KING STUDS = (1) 2X6 U.N.O ON PLANS
4. SUPPORT ALL GIRDER TRUSSES W/ (2) 2X6 STUDS
5. CONNECT ALL TRUSSES TO DOUBLE TOP PLATE W/ SIMPSON SDWC15600 (1 PER TRUSS U.N.O.). INSTALL PER MANUFACTURER'S SPECIFICATIONS
6. PROVIDE FULL HEIGHT 2X BLOCKING BETWEEN ALL TRUSSES OVER SUPPORTS
7. ROOF DIAPHRAGM TO BE 15/32" CDX PLYWOOD OR OSB WITH ALL SUPPORTED PANEL EDGES TO BE NAILED 10d @ 6" O.C. AND PANEL FIELD TO BE NAILED 12" O.C. U.N.O.

12/20/2022

REGISTERED PROFESSIONAL ENGINEER
09943PE
OREGON
NOV. 8, 2022
MAXWELL GUY BEAUDOIN
EXPIRES: 12/31/23

REVISIONS No:	DATE	DESCRIPTION

PROJECT:
CROSS CREEK DEVELOPMENT - 3 STORY

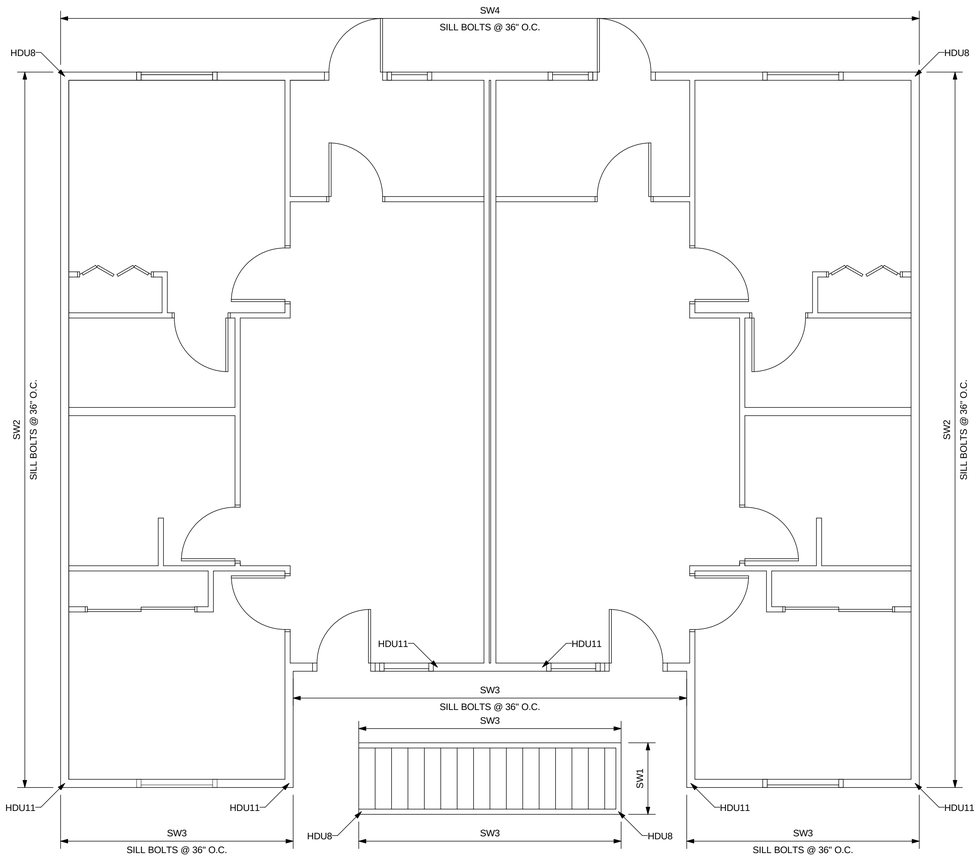
LOCATION:
2315 N ROOSEVELT DR.
SEASIDE, OREGON

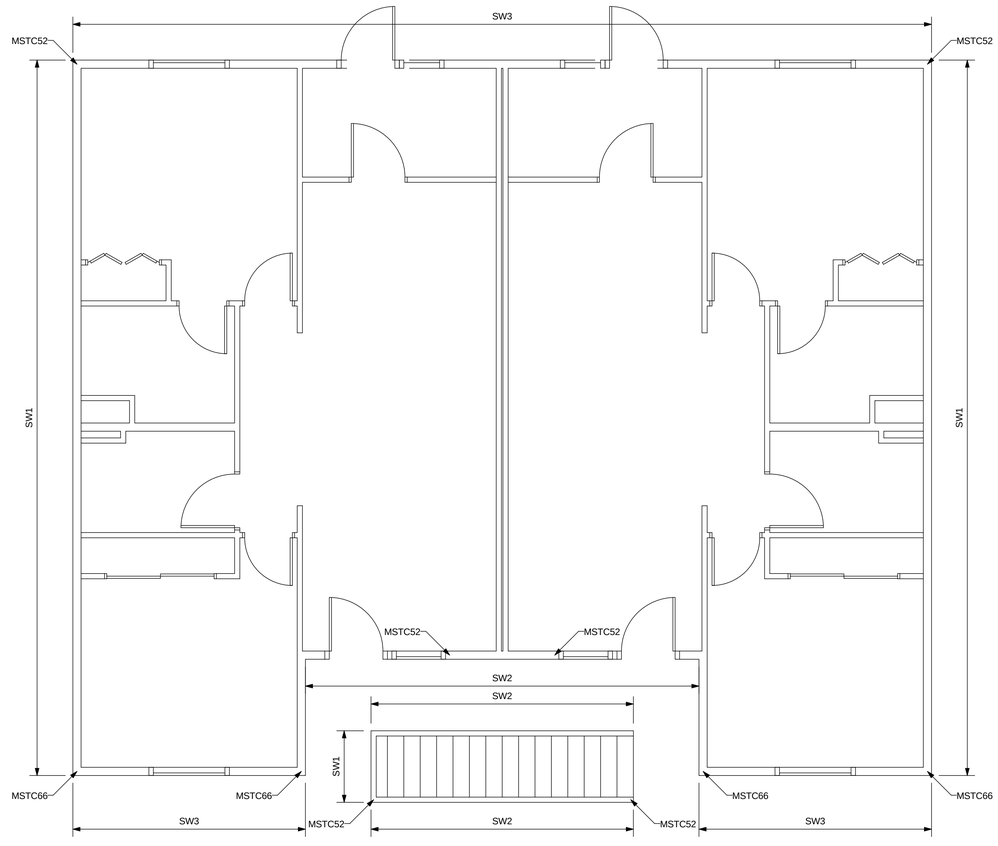
SHEET TITLE:
ROOF FRAMING PLAN & DETAILS

CLIENT:
OSBURN OLSON LLC

STABILITY ENGINEERING INC.
777 NE 2ND ST. SUITE 280
P.O. BOX 2646, CORVALLIS, OR 97339
TEL.: (541)223-5360 FAX: (541)223-5278

JOB NO.	22-0411
DATE:	12/20/2022
DRAWN:	MB
SCALE:	AS SHOWN
SHEET	**S3.0**





SHEAR WALL SCHEDULES

SW1- 15/32" PLYWOOD WITH ALL PANEL EDGES TO BE NAILED 10d @ MAXIMUM 6" O.C..
SW2- 15/32" PLYWOOD WITH ALL PANEL EDGES TO BE NAILED 10d @ MAXIMUM 4" O.C..
SW3- 15/32" PLYWOOD WITH ALL PANEL EDGES TO BE NAILED 10d @ MAXIMUM 3" O.C.. USE 3" OR 4" NOMINAL FRAMING FOR ALL PANEL EDGES.
SW4- 15/32" PLYWOOD WITH ALL PANEL EDGES TO BE NAILED 10d @ MAXIMUM 2" O.C.. USE 3" OR 4" NOMINAL FRAMING FOR ALL PANEL EDGES.

NOTES:
1. ALL NAILS ARE TO BE 10D BOX NAIL OR LARGER. MIN DIA.: .128" . MIN. LENGTH: 3"
2. 15/32" OSB MAY BE USED IN LIEU OF PLYWOOD IN SHEARWALL APPLICATIONS. (M-S OR M-2 GRADE W/ EXTERIOR GLUE).
3. PROVIDE 2X BLOCKING ALONG ALL UNSUPPORTED PLYWOOD PANEL EDGES UNLESS NOTED OTHERWISE.
4. NAIL SHEATHING TO HOLDOWN STUD W/ PANEL EDGE NAILING PER SHEARWALL SCHEDULE.
5. ALL SHEARWALL NAILINGS ARE TO EXTEND DOWN TO THE FOUNDATION PLATE LINE.
6. WALL SHEATHING TO EXTEND TO TOP PLATE. PROVIDE FULL HEIGHT BLOCKING BETWEEN RAFTERS OR TRUSSES.
7. 5/8" x 10" SILL BOLTS SPACED PER PLAN W/ A 3" X 3" X .229" GALVANIZED PLATE WASHER ALL SHEARWALLS U.N.O.. PLATE WASHER MUST BE A MAXIMUM OF ½" FROM EDGE OF SHEATHING. SEE DETAIL C-S4.0
8. FOR SHEARWALL APPLICATIONS WHERE 4X NOMINAL FRAMING IS REQUIRED ALONG PANEL EDGES, DOUBLE 2X MEMBERS CAN BE USED PROVIDED THEY ARE NAILED TOGETHER WITH (2) ROWS 12d NAILS SPACED 6" O.C.
9. USE HOT-DIPPED GALVANIZED NAILS FOR ALL NAILS IN PRESSURE TREATED PLATES.
10. PROVIDE SIMPSON STRAP TIES ACROSS FLOOR FRAMING AT LOCATIONS SHOWN. SEE DETAIL D-S4.0
11. AT LOCATIONS WHERE HOLDOWNS OR STRAPS ARE SHOWN AT THE SAME CORNER FOR TWO PERPPENDICULAR SHEARWALLS THE HOLDOWN POST IS TO BE INSTALLED SO THAT THE SHEATHING FROM BOTH SHEARWALLS IS NAILED TO THE POST. SEE DETAIL E-S4.0
12. USE SIMPSON SSTB OR PAB ANCHOR BOLTS AS INDICATED ON SCHEDULE AT FOUNDATION LOCATIONS. INSTALL PER SIMPSON SPECIFICATIONS.
13. WHERE MULTIPLE STUDS ARE SHOWN NAIL STUDS TOGETHER W/ (2) ROWS 12d NAILS SPACED @ 4" O.C. (STAGGERED) ALONG ENTIRE LENGTH.
14. PROVIDE THE FOLLOWING BOLTS AND THREADED RODS FOR HOLDOWNS.

HOLDOWN	ANCHOR BOLT REQ'T	STUD NAIL/ SCREW REQ'T	STUD REQ'T	THREADED ROD REQ'T
HDU8	SSTB28	(20) SDS 1/4X2.5	(2) 2X6	7/8"
HDU11	PAB8 1"X36"	(30) SDS 1/4X2.5	6X6	1"

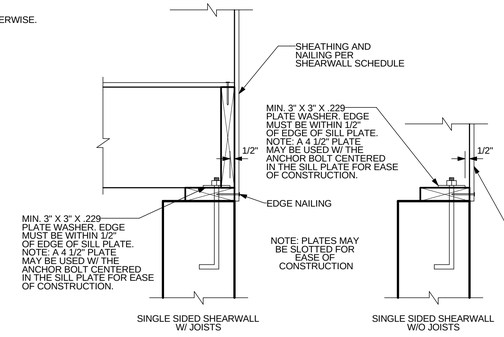
NOTE: INCREASE FOOTING SIZE TO PROVIDE MINIMUM DEPTH AND COVER FOR ANCHOR BOLT PER SIMPSON SPECIFICATIONS:

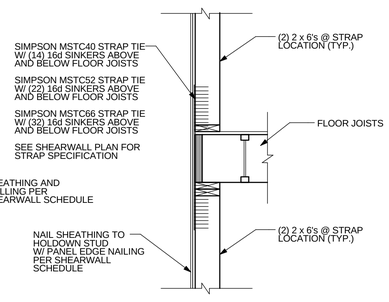
PAB8: MINIMUM 12" SIDE COVER AT FOOTING AND MIN. 13" EMBED INTO FOOTING

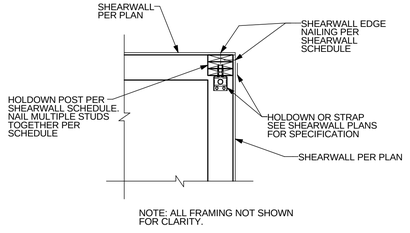
INCREASED FOOTING SIZE IS TO EXTEND MINIMUM OF 24" ADJACENT TO ANCHOR BOLT.
SEE DETAIL F-S4.0

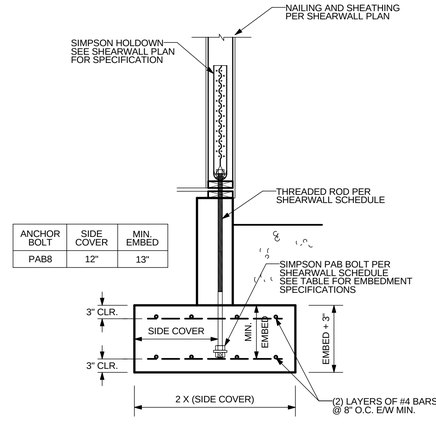
A S4.0 FIRST FLOOR SHEARWALL PLAN
SCALE: 1/4" = 1'-0"

B S4.0 SECOND FLOOR SHEARWALL PLAN
SCALE: 1/4" = 1'-0"









ANCHOR BOLT	SIDE COVER	MIN. EMBED
PAB8	12"	13"

C S4.0 SHEARWALL SILL BOLT DETAIL
SCALE: 1 1/2" = 1'-0"

D S4.0 WALL TO WALL HOLDOWN (TYP.)
SCALE: 3/4" = 1'-0"

E S4.0 TYPICAL CORNER HOLDOWN DETAIL
SCALE: 3/4" = 1'-0"

F S4.0 HOLDOWN EMBEDMENT DETAIL
SCALE: 3/4" = 1'-0"

12/20/2022

REGISTERED PROFESSIONAL ENGINEER
09943PE
OREGON
NOV. 8, 2022
MAXWELL GUY BEAUDOIN
EXPIRES: 12/31/23

REVISIONS

No:	DATE	DESCRIPTION

PROJECT:
CROSS CREEK DEVELOPMENT - 3 STORY

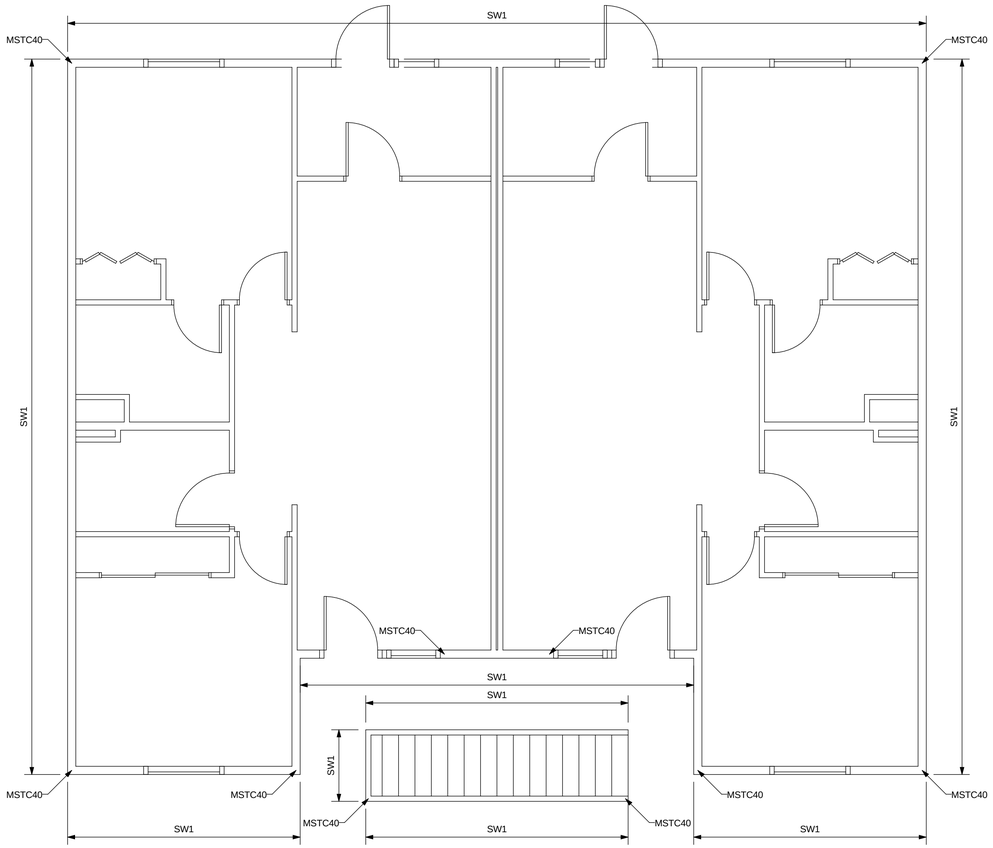
LOCATION:
2315 N ROOSEVELT DR. SEASIDE, OREGON

SHEET TITLE:
SHEARWALL PLANS & DETAILS

CLIENT:
OSBURN OLSON LLC

STABILITY ENGINEERING INC.
777 NE 2ND ST. SUITE 280
P.O. BOX 2646, CORVALLIS, OR 97339
TEL.: (541)223-5360 FAX: (541)223-5278

JOB NO. 22-0411
DATE: 12/20/2022
DRAWN: MB
SCALE: AS SHOWN
SHEET **S4.0**



A S4.1 THIRD FLOOR SHEARWALL PLAN

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

12/20/2022

REGISTERED PROFESSIONAL ENGINEER
09943PE
OREGON
NOV. 8, 2022
MAXWELL GUY BEAUDOIN
EXPIRES: 12/31/23

REVISIONS		
No:	DATE	DESCRIPTION

PROJECT:
CROSS CREEK DEVELOPMENT - 3 STORY

LOCATION:
2315 N ROOSEVELT DR.
SEASIDE, OREGON

SHEET TITLE:
THIRD FLOOR SHEARWALL PLAN

CLIENT:
OSBURN OLSON LLC

STABILITY ENGINEERING INC.
777 NE 2ND ST. SUITE 280
P.O. BOX 2646, CORVALLIS, OR 97339
TEL:: (541)223-5360 FAX: (541)223-5278

JOB NO.	22-0411
DATE:	12/20/2022
DRAWN:	MB
SCALE:	AS SHOWN
SHEET	**S4.1**

N Roosevelt
(Hwy 101)

74 units
parking 1.5*70=111

existing 8"
water main

existing hyd
static=70psi
residual=47psi
flow=2,229gpm
at 20psi=3,390

250' from
hydrant B

TLC

existing
8" water main

250' from
hydrant

Car Wash
2297 Roosevelt

tacos

Dutch
Brothers
2271 Roosevelt

Private Road

Ticor Title

dentist office
2283 Roosevelt

Property Line

250' from
hydrant

250' from
hydrant C

250' from
hydrant D

Power

250' from
hydrant D
new relocated fire hyd

250' from
hydrant

250' from
hydrant

fire path

9'-3"

FDC

26'

N
W
E
S

0 15 30
Scale 1"=30'

Group R-2, Type V-B
allowable 3 story with NFPA-13R
fire sprinkler sytem
table 602
one hour wall required for less then 5' of seperation
non-rated exterior wall for 10' or more of seperation

New proposed fire hydant D
static = 70psi -(0.16'*0.434)=69.9 psi elevation loss
flow= 2229 gpm
Head loss = 40' pipe 6"dia pipe= 5.03psi
residual = 47- 0.10-5.03=41.87psi
at 20psi = 3016 gpm

See site plans from A.M. engineering

See final building plans from Max Meaudion

Fire Hydrants & Truck Turning
Cross Creek Development

2315 N Roosevelt
Seaside, Oregon 97138

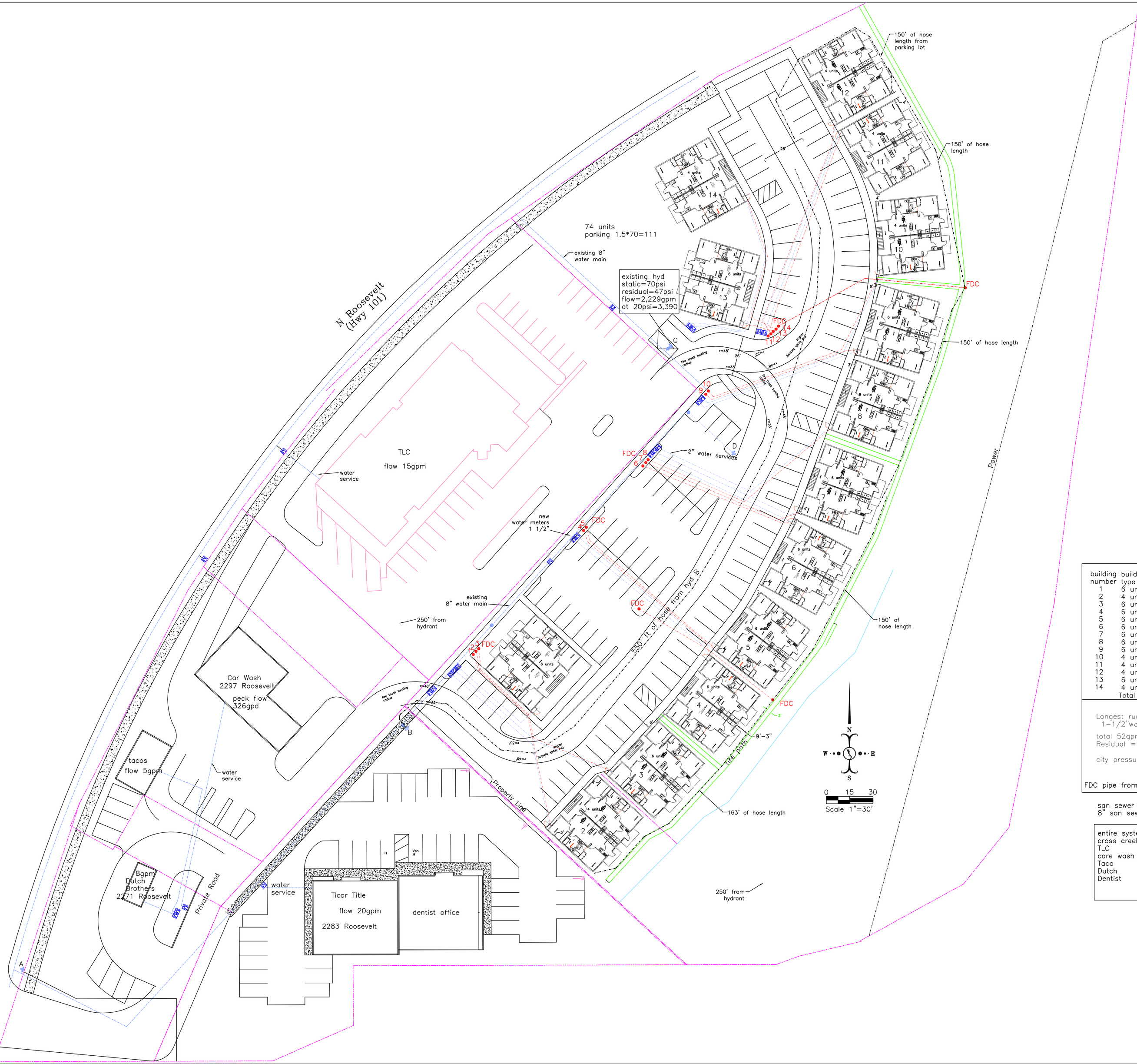
Mead Engineering LLC
89643 OCEAN DRIVE
WARRENTON, OREGON 97146
Ph. 503-738-2538
Email: mark@meadeng.com

REGISTERED PROFESSIONAL ENGINEER
12,181
Mark M Mead
OREGON
JULY 15, 1995
MARK M. MEAD
EXPIRES 12/31/2024

Date:18 April 2023

Scale 1"=30'

Sht FR-1



6 unit bld
domestic flow from Plumbing Code

Fixture	water Units	Quanity	Total	sewer Units	Total
WC	2.5	12	30	3.0	36
LAV	1.0	12	12	1.0	12
Shower	2.0	12	24	2.0	24
Kit Sink	1.5	6	9	2.0	12
Clothes Washer	4.0	6	24	3.0	18
Hose Bib	1.0	1	1		

100 WSFU 102 DFU 4" san sewer service
Domestic 42 gpm flow
Fire Flow 52 gpm flow

4 unit bld

67 WSFU 68 DFU 4" san sewer service
Domestic 38 gpm flow
Fire Flow 52 gpm flow

building number	building type	flow required at building	service length	san flow DFU
1	6 unit	52 gpm	63'	102
2	4 unit	52 gpm	122'	68
3	6 unit	52 gpm	121'	102
4	6 unit	52 gpm	114'	102
5	6 unit	52 gpm	114'	102
6	6 unit	52 gpm	102'	102
7	6 unit	52 gpm	102'	102
8	6 unit	52 gpm	131'	102
9	6 unit	52 gpm	110'	102
10	4 unit	52 gpm	152'	68
11	4 unit	52 gpm	137'	68
12	4 unit	52 gpm	142'	68
13	6 unit	52 gpm	33'	102
14	4 unit	52 gpm	125'	68
	Total			1258

Longest run to water meter = 152' at 2"pipe @ 0.0216 = 3.28 psi
1-1/2"water meter = 4psi

total 52gpm water flow to the building at 48.07psi
Residual = 16.93 psi

city pressure maximum of 65psi allowable

FDC pipe from street to buildings shall be 2"dia pressure rated to 200 psi

water meter maybe reduced to
1" full flow type meter if aproved by
city water department
1" model 70 meter
max flow = 70gpm
continues flow = 50gpm

san sewer out of site to be 8" dia pipe
8" san sewer main at 1/8"per ft slope can carry 2112 fixture units

entire system to Hwy 101	
cross creek	1258
TLC	20
care wash	10
Taco	7
Dutch	7
Dentist	24
	1326 DFU units < 2112 DFU units

Water Services
FDC Locations
Fire Hose Lengths

Cross Creek Development

2315 N Roosevelt
Seaside, Oregon 97138

Mead Engineering LLC
89643 OCEAN DRIVE
WARRENTON, OREGON 97146
Ph. 503-738-2538
Email: mark@meadeng.com

REGISTERED PROFESSIONAL ENGINEER
12,181
Mark M Mead
OREGON
JULY 15, 1982
MARK M MEAD
EXPIRES 12/31/2024
Date:18 April 2023

Scale 1"=30' Sht FR-2

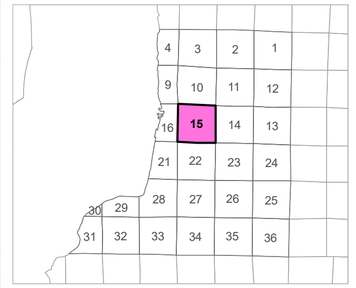
6 10 15 BA

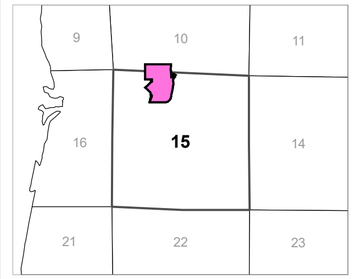
CLATSOP COUNTY

NE 1/4 NW 1/4 SEC.15 T6N R10W WM

0 62.5 125 250 ft

Scale 1:1,200





CANCELLED TAXLOT NUMBERS

100	4801	5803	6809	7200
500	4802	5806	6810	7300
801	4900	5900	6811	7400
1000	5000	6101	6812	7500
1200	5001	6101A1	6813	7600
2100	5100	6301	6814	7700
2101	5101	6700	6815	7800
3501	5102	6800	6816	8000
3901	5103	6801	6817	8100
4200	5104	6802	6818	8200
4300	5105	6803	6900	8300
4400	5200	6804	7000	8400
4500	5201	6805	7001	8500
4600	5202	6806	7002	8600
4700	5300	6807	7100	8701
4800	5802	6808	7101	8702

FOR ADDITIONAL MAPS VISIT OUR WEBSITE AT

www.co.clatsop.or.us

This map was produced using Clatsop County GIS data. The data is maintained by Clatsop County to support its governmental activities. Clatsop County is not responsible for any map errors, possible misuse, or misinterpretation.

PLOT DATE: 2/15/2022

6 10 15 BA

Wetland Land Use Notification

OREGON DEPARTMENT OF STATE LANDS
775 Summer Street NE, Suite 100, Salem, OR 97301-1279
Phone: (503) 986-5200

This form is to be completed by planning department staff for mapped wetlands and waterways.

* Required Field (?) Tool Tips

Responsible Jurisdiction

*

(●) City of ( ) County of

Municipality *

Seaside

Date *

6/12/2023

Staff Contact

First Name *

Jeff

Last Name *

Flory

Phone * (?)

503-738-7100

Email *

jflory@cityofseaside.us

Applicant

First Name *

Ryan

Last Name *

Osburn

Applicant Organization Name

(if applicable)

Cross Creek

Mailing Address *

Street Address

33485 SW Old Pine Dr

Address Line 2

City

Warrenton

State

OR

Postal / Zip Code

97146

Country

USA

Phone (?)

503-738-2522

Email (?)

grosurn@hotmail.com

Is the Property Owner name and address the same as the Applicant? *

( ) No (●) Yes

Activity Location

Township * (?)
06N

Range * (?)
10W

Section * (?)
15

Quarter-quarter Section (?)
BA

Tax Lot(s) *
5800, 5805
You can enter multiple tax lot numbers within this field. i.e. 100, 200, 300, etc.

To add additional tax map and lot information, please click the "add" button below.

Address

Street Address
2315 N Roosevelt Dr

Address Line 2

City
Seaside

State
OR

Postal / Zip Code
97138

Country
USA

County *
Clatsop

Adjacent Waterbody
Neawanna Creek

Proposed Activity

Prior to submitting, please ensure proposed activity will involve physical alterations to the land and/or new construction or expansion of footprint of existing structures.

Local Case File # * (?)
769-23-000030-PLNG

Zoning
C-3

Proposed

- [x] Building Permit (new structures)
- [x] Grading Permit
- [x] Site Plan Approval
- [ ] Other (please describe)
- [x] Conditional use Permit
- [ ] Planned Unit Development
- [x] Subdivision

Applicant's Project Description and Planner's Comments: *
The applicant is resubmitting a project that was reviewed in 2021 for a apartment complex and subdivision located at the listed address.

Required attachments with site marked: Tax map and legible, scaled site plan map. (?)
tp6_10_15BA.pdf 709.63KB

Required attachments with site marked: Tax map and legible, scaled site plan map. (?)
Preliminary Plat-Site Plan-Utilities.pdf 4.74MB

Additional Attachments

Date
6/12/2023

Wetland Land Use Notice Response

Response Page

Department of State Lands (DSL) WN# *

WN2023-0475

Responsible Jurisdiction

Staff Contact
Jeff Flory

Jurisdiction Type
City

Municipality
Seaside

Local case file #
769-23-000030-PLNG

County
Clatsop

Activity Location

Township	Range	Section	QQ section	Tax Lot(s)
06N	10W	15	BA	5800, 5805

Street Address
2315 N Roosevelt Dr
Address Line 2

City
Seaside

State / Province / Region
OR

Postal / Zip Code
97138

Country
Clatsop

Latitude
46.009207

Longitude
-123.912541

Wetland/Waterway/Other Water Features

- [x] There are/may be wetlands, waterways or other water features on the property that are subject to the State Removal-Fill Law based upon a review of wetland maps, the county soil survey and other available information.
- [x] The National Wetlands Inventory shows wetland, waterway or other water features on the property
- [x] The county soil survey shows hydric (wet) soils on the property. Hydric soils indicate that there may be wetlands.
- [x] The property includes or is adjacent to designated Essential Salmonid Habitat.

Your Activity

☑ It appears that the proposed project **may** impact Essential Salmonid Habitat and, therefore, **may** require a State permit.

Applicable Oregon Removal-Fill Permit Requirement(s)

☑ A state permit is required for any amount of fill, removal, and/or other ground alteration in Essential Salmonid Habitat and within adjacent off-channel rearing or high-flow refugia habitat with a permanent or seasonal surface water connection to the stream.

Closing Information

Additional Comments

A review of the submitted plans show that the development appears to come to the edge of the wetland boundary identified on the 2021 delineation (WD2021-0124). Given that the project is adjacent to Neawanna Creek, an Essential Salmonid waterway, the Department recommends contacting Dan Cary, Aquatic Resource Coordinator at (503) 986-5302 to discuss the project. and determine if the project avoids impacts to ESH waters and whether a No-State Permit letter is required for the project.

For your information, the onsite stormwater pond was determined to be jurisdictional (see the 2021 delineation).

This is a preliminary jurisdictional determination and is advisory only.

This report is for the State Removal-Fill law only. City or County permits may be required for the proposed activity.

☑ A Federal permit may be required by The Army Corps of Engineers: (503)808-4373

Contact Information

- For information on permitting, use of a state-owned water, wetland determination or delineation report requirements please contact the respective DSL Aquatic Resource, Proprietary or Jurisdiction Coordinator for the site county. The current list is found at: http://www.oregon.gov/dsl/ww/pages/wwstaff.aspx
- The current Removal-Fill permit and/or Wetland Delineation report fee schedule is found at: https://www.oregon.gov/dsl/WW/Documents/Removal-FillFees.pdf

Response Date

7/3/2023

Response by:

Chris Stevenson

Response Phone:

503-986-5246

Jeff Flory

From: STEVENSON Chris * DSL <Chris.STEVENSON@dsl.oregon.gov>
Sent: Monday, July 17, 2023 12:12 PM
To: Jeff Flory
Cc: 'grosburn@hotmail.coim'; 'rbogar@gmail.com'; CARY Dan * DSL; EVANS Daniel * DSL
Subject: WD2021-0124/WN2023-0475

This sender is trusted.

Jeff,

Dan Cary asked me to follow up on the response to the 2315 N Roosevelt Dr. project (769-23-000030-PLNG).

Dan does not feel that a No State Permit required official response from the Department is necessary. The project map with the wetland land use notice is sufficient to support a conclusion of no impact.

Additionally, I made an error in the determination of the stormwater pond. This pond is not jurisdictional.

Please let me know if you have any further questions.

Chris

Chris Stevenson, PWS
Jurisdictional Coordinator
DSL
(503) 798-7622