



AGENDA

ASTORIA PLANNING COMMISSION

December 11, 2018

6:30 p.m.

2nd Floor Council Chambers
1095 Duane Street • Astoria OR 97103

1. CALL TO ORDER
2. ROLL CALL
3. MINUTES
 - a) November 27, 2018 (*pending receipt*)
4. PUBLIC HEARINGS
 - a) Subdivision (SP18-01) by Stan Johnson and Cary Johnson for a Preliminary Plat application for a 22-lot subdivision (no address) located off of Old Highway 30: Map T8N-R09W Section 20, Tax Lot 107. The site is zoned R-3 (High Density Residential). The following Astoria Development Code standards are applicable to the request: Article 2 (Use Zones); Article 3 (Vehicle Access), Article 9 (Administrative Procedures) and Article 13 (Subdivision) and Comprehensive Plan Sections CP.005 to CP.028 (Land and Water Use and General Development).
5. REPORT OF OFFICERS
6. STAFF/STATUS REPORTS
 - a) Meeting Schedule:
 - i. Dec. 26 – APC Meeting is cancelled
 - ii. Jan. 8 – APC Meeting @ 6:30pm (+ RFV-UC work session)
 - iii. Jan. 29 – discuss possible APC Meeting
7. PUBLIC COMMENT (Non-Agenda Items)
8. ADJOURNMENT

STAFF REPORT AND FINDINGS OF FACT

DECEMBER 6, 2018

TO: ASTORIA PLANNING COMMISSION

FROM: ROBIN SCHOLETZKY, AICP, CONTRACT PLANNER

SUBJECT: SUBDIVISION REQUEST (SP18-01) TO SUBDIVIDE 18.28 acre parcel (79,627 square feet) into a 22 lot subdivision, roadways and tracts located off of OLD HIGHWAY 30.

I. BACKGROUND SUMMARY

- A. Applicant:
- | | |
|-----------------------|---------------------------|
| Stan Johnson | Cary Johnson |
| 92732 Fernhill Road | 92080 John Day River Road |
| Astoria, Oregon 97103 | Astoria, Oregon 97103 |
- B. Owner: Astoria Northwest Homes
92732 Fernhill Road
Astoria, Oregon 97103
- C. Consultant/Engineer: Erik Hoovestol, PE
Firwood Design
359 E Historic Columbia River Highway
Troutdale, Oregon 97060
- D. Proposal: Subdivide an 18.28 acre parcel (796,276 square feet) into a 22 lot subdivision with new roadways: Road A and Road B with three tracts, A, B and C. Application materials indicate it will be developed in phases: Phase 1 includes Lots 1-7 and a portion of Road A will be part of the subsequent Final Plat. The Road A terminus is being considered a cul-de-sac, for Phase 1. Phase 2 includes Lots 8 through 22 and the completion of Road A and Road B. Tracts A, B, and Tract C are not identified for development and according to the applicant will be platted in phase 1.
- E. Location: Map T8N-R09W Section 20, Tax Lot 107. The subject property is located on the south side of Old Highway 30.
- F. Zone: R-3, High Density Residential
- G. Number of Lots: 22 proposed lots from one 18.28 acre parcel (796,276 square feet)

H. Lot and Tract Dimensions:

Table 1, Lot Dimensions

Lot Number	Lot Area	Buildable Area	Average Lot Width	Average Lot Depth
R-3 Standard	5,000 square foot minimum		45 feet	90 feet
Phase 1				
1	18,654 sf	10,990 sf	110.46	165.61
2	21,582 sf	10,441 sf	109.92	202.77
3	25,532 sf	11,428 sf	103.49	247.59
4	23,674 sf	13,593 sf	135.56	174.27
5	27,279 sf	13,848 sf	120.56	204.15
6	22,589 sf	13,581 sf	103.67	219.70
7	20,166 sf	13,197 sf	115.62	108.20
Phase 2				
8	15,835 sf	9,658 sf	104.84	167.44
9	14,805 sf	9,776 sf	80.89	174.64
10	17,706 sf	11,840 sf	99.73	177.23
11	22,067 sf	8,773 sf	161.80	136.88
12	10,040 sf	6,222 sf	85.44	118.47
13	10,070 sf	6,011 sf	96.04	104.93
14	10,058 sf	5,181 sf	106.66	95.20
15	31,364	21,449 sf	110.30	167.91
16	22,791 sf	16,518 sf	119.27	193.26
17	15,492 sf	10,268 sf	103.61	153.42
18	11,982 sf	7,122 sf	111.92	117.80
19	24,224 sf	10,464 sf	95.29	253.01
20	25,708 sf	10,460 sf	107.67	239.12
21	31,518 sf	12,388 sf	133.94	237.18
22	37,611 sf	26,048 sf	143.58	289.75
Tract A	135,813 sf			
Tract B	108,645 sf			
Tract C	2,041 sf			

I. Lot Dimensions: All lots meet the minimum standards noted in Section 2.165.

J. Use of Property: Existing: Vacant
Proposed: Single and multi-family dwellings, public roadway.

II. BACKGROUND

Project Summary. This Preliminary Plat application is for a 22 lot subdivision with a new roadway system, Road A and Road B with three tracts, A, B and C. The plan submittal set from July 2, 2018 indicates that it will be developed in phases: Phase 1 includes Lots 1-7, Tracts A, B, and C as well as a portion of Road A will be part of the subsequent Final Plat. The Road A terminus is being considered a cul-de-sac. Phase 2 includes Lots 8 through 22 and the completion of Road A and Road B.



Area Description. The proposed site is undeveloped. While the majority of area is mostly undeveloped, surrounding land uses include single family residential, the Tongue Point Jobs Corps Center and the City of Astoria Wastewater Treatment Facility. The subject property was once Federally owned property and, as noted below has access via roadways which are currently in Federal ownership. The applicant has noted that they are required to receive either a categorical exception for the project or it will be required to go through a National Environmental Policy Act analysis. This review has been submitted to the federal government. While this is not a City process any conditions of this process may affect City review of infrastructure. A condition of approval has been included to address this issue.

Topography. The site is topographically challenged and is steeply sloping in certain areas. There are areas on the property identified as having geotechnical concerns. Access to the site is proposed from the east via Old Highway 30.

Roadway(s). The Applicant proposes to construct a new roadway system which connects with Old Highway 30. This roadway (Road A) would terminate in a cul-de-sac for Phase 1 and then continue in a loop as part of Road B for Phase 2. The site is accessed via two adjacent roadways: Old Highway 30 / Maritime Road which is owned by the Department of Labor. and the applicant has access rights. There is a portion of Maritime Road at Highway 30 where ownership is in question. The City of Astoria has recently secured a grant from Business Oregon to attempt to clarify this issue.

III. PUBLIC REVIEW AND COMMENT

A Public Notice was mailed to all property owners within 200 feet, excluding rights-of-way, pursuant to Astoria Development Code 13.100.C and D. A Notice of Public Hearing was published in the Daily Astorian on November 21, 2018. Content of the notice was in compliance with Astoria Development Code 9.020.

The following comments were received prior to public notice:

- 1) Ken Shonkwiler, ODOT ADDRESS, dated September 10, 2018.

Any comments received will be made available at the Planning Commission meeting.

IV. APPLICABLE REGULATIONS AND DESIGN STANDARDS

Section 13.100 (F) states that *"the Planning Commission shall hold a public hearing on the preliminary plat, and shall make a decision on the preliminary plat in accordance with Section 9.030 of the Development Code."*

FINDING: A public hearing before the Planning Commission is scheduled for December 11, 2018.

13.100.G Preliminary Plat Approval Binding

Section 13.100(G) states that *"The preliminary plat approval shall be binding on the City and the subdivider for the purpose of preparing a final plat, provided that there are no changes of the plat of the subdivision and that it complies with all conditions set forth by the City in its preliminary plat approval."*

FINDING: Once the preliminary plat is approved any changes to conditions of approval will need to be reviewed by the Planning Commission.

APPLICABLE SECTIONS IN 13.110:

13.110. SUBDIVISION, PRELIMINARY PLAT - INFORMATION ON PRELIMINARY PLAT.

A. Information Required.

Section 13.110(A) defines the information required on the preliminary plat. These items were addressed during completeness check of the application. There were some items not provided and require a condition of approval.

- 13.110.(A) 3. Location of the subdivision sufficient to define its location and boundaries and, a legal description of the tract boundaries.

FINDING: Detailed survey information on boundaries has been provided. A legal description is not included and should be provided.

7. The locations, names, widths, approximate radii of curves and grades of all existing and proposed streets and easements in the proposed subdivision, 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: All information required above is provided except the street names for the proposed internal streets. A condition has been added which states the subdivider shall propose names for these streets to be reviewed by Planning and Engineering for conformance with street names within the City.

9. 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: Proposed easements are identified on the Preliminary Plat. However, as a part of engineering construction plan review the final set of required easements will be determined. A condition has been added which states the final set of easements required for the subdivision will be reviewed and approved by the City Engineer and included on the Final Plat.

13. The location of at least one temporary bench mark within the subdivision boundaries.

FINDING: No USGS bench mark is noted. A condition has been added that this shall be shown on the Final Plat.

OVERALL FINDING: The Preliminary Plat does comply with all of the above applicable requirements with the conditions noted. Items addressed in the findings needed for the Final Plat have been noted in the conditions at the end of the staff report.

13.110.B. Statement Required.

A statement shall accompany the preliminary plat and shall contain the following information:

1. A general explanation of the improvements and public utilities, including water supply and sewage disposal proposed to be installed.
2. Deviations from subdivision ordinance, if any.
3. Public areas proposed, if any.
4. A preliminary draft of restrictive covenants proposed, if any.

FINDING: An initial statement was provided from the Applicant as part of the original application submitted on March 20, 2018. A memorandum dated July 2, 2018 provided additional information for the file. Additional information for the file was provided on November 13, 2018. These written materials are attached.

13.110.C. Supplemental Information.

The City may require any of the following to supplement the preliminary plat:

1. Approximate center line profiles with extensions for a reasonable distance beyond the limits of the proposed subdivision showing the finished grade of streets and the nature and extent of street construction.
2. A plan for domestic water supply lines and related water service facilities.

3. Proposals for sewage disposal, storm water drainage and flood control, including profiles of proposed drainageways.
4. If an area is to be graded, a plan showing the nature of the cuts and fills and evidence provided in a site investigation that such a grading will be stable.
5. Proposals for other improvements such as electric, utilities and sidewalks.
6. Geologic investigations as required by the Community Development Director and City Engineer. Where such an investigation indicates the potential for erosion, an erosion control plan shall also be submitted.
7. A Traffic Impact Study (TIS), pursuant to Subsection 3.015.A.5.

FINDING(S):

Geotechnical Study. The applicant has submitted a Geotechnical Engineering report prepared by GeoEngineers, August 9, 2017. Staff has reviewed the report in context as to whether the proposed subdivision is in keeping with the report's analysis. Staff recommends a condition that prior to Final Plat, GeoEngineers shall review the Final Plat submittal documents to ensure compliance with their recommendations and provide documentation of their review and approval to the City of Astoria. Their documentation shall indicate any deviation from the recommendations.

The Applicant has noted the geotechnical report's no-build areas on the Preliminary Plat as Tract A and Tract B, however this line will not be included on the Final Plat. Staff is recommending a condition that the Applicant include a Plat note on the Final Plat referencing the associated Tracts as geologically sensitive and will cross-reference the Geotechnical report submitted as part of this application.

Traffic Analysis Report. The applicant has submitted a traffic analysis/technical memorandum prepared by Lancaster Engineering and provided to the City on July 2, 2018. The City Engineer and ODOT has reviewed the report and has indicated that no mitigation is required. See ODOT email from September 10, 2018.

Phase 1 and Phase 2. This Preliminary Plat is seeking approval for Phase 1 and Phase 2 lots. Phase 1 includes Lots 1-7, Tracts A, B and C and a portion of Road A. The Road A terminus is being considered a cul-de-sac. Phase 2 through-streets will not be developed until a later date. Phase 2 includes Lots 8 through 22 and the completion of Road A and Road B.

The applicant has stated that a looped water line may or may not be constructed in Phase 1. Should a looped water line not be constructed in the first Phase, the maximum number of dwelling units permitted to be constructed in that Phase would be 20. This has been noted as a condition in order to address Development Code and fire suppression concerns. Should the developer create a looped waterline in the interim, (but before the construction of Phase 2) the number of dwelling units permitted in Phase 1 could be extended to the maximum permitted by the Development Code with approval of the City of Astoria. The maximum number of units which could be constructed in the subdivision (with a single fire access) is 200 units inclusive of both phases.

The Applicant provided a statement of Public Improvement Descriptions dated March 12, 2018 and a revised version on November 13, 2018.

13.120. SUBDIVISION, FINAL PLAT - PROCEDURE FOR REVIEW.

13.130. SUBDIVISION, FINAL PLAT - FORMAT.

13.140. SUBDIVISION, FINAL PLAT - SUPPLEMENTAL DATA REQUIRED.

13.150. SUBDIVISION, FINAL PLAT - PERFORMANCE AGREEMENT.

FINDING: The Applicant will need to complete a Final Plat process in accordance with Sections 13.120, 13.130, 13.140, and 13.150. Staff and the Planning Commission will need to review and provide approval prior to Final Plat.

Note: As described within this staff report, there are a number of issues which will need to be addressed as this project continues through its land use review process. The Astoria Development Code section 13.100(H) states that *"The preliminary plat shall be valid for **one year from the date of its approval**. The Planning Commission, upon written request by the subdivider, may grant an extension of the preliminary plat approval for a period of **one year**. In granting an extension, the Planning Commission shall make a written finding that the facts upon which the approval was based have not changed to an extent sufficient to warrant refiling of the preliminary plat."*

13.410 GENERAL REGULATIONS AND DESIGN STANDARDS (Applicable to Subdivisions, Major and Minor Partition)

13.400. Principles of Acceptability.

A land division, whether by a subdivision, creation of a street, or a partitioning, shall conform to any development plans, shall take into consideration any preliminary plans made in anticipation thereof, and shall conform to the design standards established by this ordinance. The City Engineer shall prepare and submit to the City Council specifications to supplement the standards of this ordinance, based on standard engineering practices, concerning streets, drainage facilities, sidewalks, sewer and water systems.

13.410. Streets.

A. General.

Streets shall be planned and constructed pursuant to the Transportation Standards in Section 3.015.

FINDING(S):

Development Code Section 3.015 includes Transportation Standards for subdivisions. Engineering Design Standards have been adopted by the City Council as noted in Section 13.400. The applicant has applied for a Variance to the Development Code section which states a cul-de-sac shall not exceed a length of 400 feet and serve building sites for more than 18 units. Similarly, an Engineering Design Standard exception for cul-de-sac length and also one for street grades steeper than the maximum slope have been requested. It is anticipated those Design Exceptions to approve the requests will be forthcoming from City Engineering. These findings are met based upon granting those Design Exception(s) and Variance.

13.420. Utility Easements.

Easements for sewer, drainage, water mains, public utility installations, including overhead or underground systems, and other like public purposes shall be dedicated, reserved or granted by the land divider in widths not less than five (5) feet on each side of the rear lot or parcel lines, alongside lot or parcel lines and in planting strips wherever necessary, provided that easements of width, such as for anchorage, may be allowed when the purposes of easements may be accomplished by easements of lesser width as approved by the City.

FINDING(S):

As a part of the Engineering Construction Plan review, the City Engineer will review the infrastructure and the associated easements required. A condition has been proposed which states that construction plans shall be reviewed and approved by the City Engineer and that all required easements shall be shown on the Final Plat.

13.430. Building Sites.

A. Size and Shape.

The size, width, shape and orientation of building sites shall be consistent with the residential lot size provisions of the Development Code with the following exceptions:

1. In areas that will not be served by a public sewer, minimum lot and parcel sizes shall permit compliance with the requirements of the Department of Environmental Quality and shall take into consideration problems of sewage disposal, particularly problems of soil structure and water table as related to sewage disposal by septic tank.
2. Where property is zoned and planned for business or industrial use, other widths and areas may be permitted at the discretion of the Planning Commission. Depth and width of properties reserved or laid out for commercial and industrial purposes shall be adequate to provide for the off-street service and parking facilities required by the type of use and development contemplated.

B. Access.

Each lot and parcel shall abut upon a street other than an alley for a width of at least 25 feet.

C. Through Lots and Parcels.

Through lots and parcels shall be avoided except where they are essential to provide separation of residential development from major traffic arteries or adjacent nonresidential activities or to overcome specific disadvantages of topography and orientation. A planting screen easement at least ten (10) feet wide and across which there shall be no right of access may be required along the line of building sites abutting such a traffic artery or other incompatible use.

D. Lot and Parcel Side Lines.

The lines of lots and parcels, as far as is practicable, shall run at right angles to the street upon which they face, except that on curved streets they shall be radial to the curve.

FINDING(S):

Size and shape. The site is within the R-3, High Density Residential Zone. The R-3 Zone minimum lot size is dependent on the unit mix proposed. The proposed use has not been determined and use is not part of the review criteria for a subdivision. R-3 lots are a minimum of 5,000 square feet for single family dwellings and 6,500 square feet for duplex development. Multifamily development is allowed at a minimum of 5,000 square feet with an additional 1,000 square feet of lot area for each additional unit. (2.165).

Based on the size of the lots, the Preliminary Plat can support all development types allowed in the R-3 zone.

A minimum of three units per building is required to be classified as multi-family dwelling. Actual development of the site will be required to meet the standards of the R-3 Zone; specifically, sections 2.170 through 2.185 concerning development standards and requirements of the R-3 Zone identifies other development issues such as lot coverage, height, landscaping, drainage, etc. The applicant has not applied for any variances from these standards. Should it be determined that any of the zone standards cannot be met at the time of building permit review, variances would need to be obtained. Building Code construction requirements for the buildings may require specific building location, recorded easements, and possible CC&R restrictions. This is for information only at this time.

Access. Every lot abuts a street for a width of at least 25 feet. Table 1 at the beginning of this report notes the average lot widths for the project.

Through lots. Due to topography, the Plan has a number of through-lots:

Lots 15, 16, 17, and 18 are through-block with Road A and Road B. Due to the size of the lots, Engineering and Planning staff do not have concerns regarding parcel access via either roadway.

Lot and parcel side lines. Due to topography, the Preliminary Plat has a number of lots which are irregular in shape and do not run at right angles to the street.

FINDING: Although the size and shape of the lots are irregular in nature, this is due to the topography of the site and the overall large dimensions of the lots ensure adequate space for future buildability.

13.440. Blocks.

A. General.

The length, width and shape of blocks shall take into account the need for adequate building site size and street width and shall recognize the limitations of the topography.

B. Size.

Block size shall conform to the standards in Table 1 (Spacing Standards) of the Transportation System Plan.

C. Walkways.

The applicant may be required to dedicate and improve ten (10) foot walkways, with at least six (6) feet of all-weather surface, at 330-foot intervals across blocks that exceed the block standards in Table 1 (Spacing Standards) in the Transportation System Plan or to provide access to school, park, or other public areas.

FINDING(S):

This Preliminary Plat is for one project without any blocks. This criteria is not applicable.

13.450 Large Building Sites.

In dividing tracts into large lots or parcels which at some future time are likely to be re-divided, the Planning Commission may require that the blocks be of such size and shape, be so divided into building sites and contain such site restrictions as will provide for extension and opening of streets at intervals which will permit a subsequent division of any tract into lots or parcels of smaller size.

FINDING: The proposed lot sizes are substantial in nature. Some lots are established with wider frontages which could allow division should it be considered in the future.

13.460. WATER COURSES.

The land divider shall, subject to riparian rights, dedicate a right-of-way for storm drainage purposes, conforming substantially with the lines of any natural water course or channel, stream or creek that traverses the subdivision or partitions, or, at the option of the land divider, provide, by dedication, further and sufficient easements or construction, or both to dispose of the surface and storm waters.

FINDING: Preliminary engineering and a Stormwater Report (November 13, 2018) has been provided to address storm water issues. Two bioswales are proposed adjacent to Old Highway 30. Final review of storm water infrastructure plans will be conducted by the City Engineer following preliminary plat review. Stormwater easements will be required to be shown on the Final Plat as noted in conditions of approval. Furthermore, it should be noted that new stormwater infrastructure is proposed in Old Highway 30 necessitating review and approval by the U.S. Department of Labor. As noted as a condition, offsite easements will need to be obtained to accommodate this infrastructure prior to Final Plat.

13.470. Land for Public Purposes.

A. Public Acquisition.

The Planning Commission may require the reservation for public acquisition, at a cost not to exceed acreage values in the area prior to subdivision, or appropriate areas within the subdivision for a period not to exceed one year providing the City has an interest or has been advised of interest on the part of the State Highway Commission, school district or other public agency to acquire a portion of the area within the proposed subdivision for a public purpose, including substantial assurance that positive steps will be taken in the reasonable future for the acquisition.

FINDING: There is no known interest of acquisition.

B. Dedication of Parks and Playgrounds.

The Planning Commission may require the dedication of suitable areas for the parks and playgrounds that will be required for the use of the population which is intended to occupy the subdivision.

FINDING: As described by the applicant, this Preliminary Plat is planned for multi-family development which, would be expected to include children as well as adults of all ages. With all development, but especially multifamily development, that may lack individual outdoor areas it is important to have play and open space for residents. This subdivision is separated from the rest of the City by Highway 30. The playgrounds / parks in nearest proximity to this subdivision are located within the Alderbrook neighborhood.

In discussion with the Astoria Parks Department, dedication of parkland is not of interest as there are no funds available to construct park improvements. The Planning Commission needs to determine whether a playground area should be allocated within the development which would include amenities to be installed by the developer. Maintenance would need to be determined as well which could include a homeowners association.

13.480. UNSUITABLE LAND.

The Planning Commission may refuse to approve a subdivision or partition when the only practical use which can be made of the property proposed to be subdivided or partitioned is a use prohibited by this code or law, or if the property is deemed unhealthful or unfit for human habitation or occupancy by the County or State health authorities, or, if the property is deemed unsuitable for the reason that it is in an actual landslide area or in a wetlands area.

FINDING: There are large areas that are landslide prone. However, it is the rear portion of otherwise “buildable” lots. The steepest portions of the site have been proposed to be placed in Tracts: Tract A and B. The Applicant has noted the geotechnical report’s (GeoEngineers, August 9, 2018) no-build areas on the Preliminary Plat as Tract A and Tract B, however this line will not be included on the Final Plat. Staff is recommending a condition that the Applicant include a Plat note on the Final Plat referencing the associated lots as geologically sensitive and will cross-reference the Geotechnical report submitted as part of this application.

13.490. LAND SUBJECT TO INUNDATION.

If any portion of land proposed for development is subject to overflow, inundation or flood hazard by, or collection of, storm waters, an adequate system of storm drains, levees, dikes and pumping systems shall be provided.

FINDING: Nor portion of the subdivision is subject to overflow, inundation or flood hazard.

13.500. PROPOSED NAME OF SUBDIVISION.

No tentative subdivision plat or subdivision plan or subdivision shall be approved which bears a name approved by the County Surveyor or County Assessor, which is the same as similar to or pronounced the same as the name of any other subdivision in Clatsop County unless the land platted is contiguous to and platted by the same party that platted the subdivision bearing that name, or unless the party files and records the consent of the party that platted the contiguous subdivision bearing that name. All subdivision plats must continue the lot numbers and if used, the block numbers of the subdivision plat of the same name last filed.

FINDING: The proposed name of the subdivision is Eagle Point. It has been reviewed by the County Surveyor to determine if it is similar to or pronounced the same as the name of any other subdivision in Clatsop County. Verification has been provided indicating there are no other similar subdivisions or developments. This was documented in an email dated November 10, 2017 that was provided with the Applicant’s Narrative.

IMPROVEMENTS

13.600. IMPROVEMENT STANDARDS AND APPROVAL.

- A. In addition to other requirements, all improvements shall conform to the requirements of this ordinance and any other improvement standards or specifications adopted by the City, and shall be installed in accordance with the following procedure:

1. Improvement work shall not be commenced until plans have been checked for adequacy and approved by the City. To the extent necessary for the evaluation of the proposal, the plans may be required before approval of the preliminary plat of a subdivision or partition. All plans shall be prepared in accordance with requirements of the City.
2. Improvement work shall not be commenced until the City has been notified in advance, and if work has been discontinued for any reason, it shall not be resumed until the City has been notified.
3. All required improvements shall be constructed under the inspection, and to the satisfaction, of the City. The City may require changes in typical section and details if unusual conditions arise during construction to warrant such change in the interests of the City.
4. All underground utilities, sanitary sewers and storm drains installed in streets shall be constructed prior to the surfacing of such streets. Stubs for service connections for all underground utilities and sanitary sewers shall be placed to such length as will obviate the necessity for disturbing the street improvements when service connections are made.
5. A map showing all public improvements as built shall be filed with the City Recorder upon completion of the improvements.

FINDING: Subsequent to Preliminary Plat approval, the applicant will submit engineering construction plans to be reviewed and approved by the City Engineer. Construction of improvements would not be initiated until such time appropriate approvals were obtained from Astoria Public Works and other necessary agencies. As built drawings are required to be submitted as a part of the public infrastructure acceptance process.

13.610. IMPROVEMENT REQUIREMENTS.

Improvements to be installed at the expense of the subdivider or applicant and at the time of subdivision or major partition:

A. Streets.

Public streets, including alleys, within the subdivision and public streets adjacent but only partially within the subdivision shall be improved. Upon completion of the street improvement, monuments shall be re-established and protected in monument boxes at every public street intersection and all points of curvature and points of tangency on their center lines.

FINDING(S): The subdivider shall improve the streets within the subdivision, currently labeled as Road A and Road B. Streets shall be constructed in accordance with Engineering Design Standards and as approved by the City Engineer. This work shall be completed prior to Final Plat approval or alternatively a bond provided as allowed.

City of Astoria Engineering Design Exceptions have been requested for the following items. These are reviewed and pending separate approval by the City Engineer.

- A Design Exception Request has been submitted for the road grades that exceed the standard 12% maximum grade, but do not exceed 14% grade. It is anticipated this design exception will be issued shortly.

- A Design Exception Request has been submitted for the length of the cul-de-sac exceeding the standard maximum distance which should be issued shortly.

A Community Development Director reviewed Variance has also been requested for a cul-de-sac street (Road A, Phase 1) length and number of units served by a cul-de-sac. As with the associated Engineering Design Exceptions this decision should be issued shortly. There are conditions of approval included with the subject subdivision request which deal with sprinklering of structures in both phases and caps on the number of units which could be constructed in Phase 1. The applicant has stated they wish to have flexibility as to when a looped water line is constructed. If a looped water line is not constructed in Phase 1 then the maximum number of units would be 20.

This has been noted as a condition of approval in order to address Development Code and fire suppression concerns. Should the developer create a looped waterline in the interim, (but before the construction of Phase 2) the number of units permitted in Phase 1 could be extended to the maximum permitted by the Development Code with approval of the City of Astoria.

B. Structures.

Structures specified as necessary be the City, for drainage, access and public safety shall be installed.

FINDING: Any structures such as bio swales shall be reviewed and approved by the City Engineer as conditioned.

C. Sidewalks.

Sidewalks shall be installed along both sides of each street and in pedestrian ways unless a variance has been granted by the Planning Commission.

FINDING: Sidewalks are proposed on both sides of the street.

D. Sewers.

Sanitary sewer facilities connecting with the existing City sewer system and storm water sewers, of design, layout and location approved by the City, shall be installed.

FINDING: Preliminary engineering has been provided to the Public Works Department. Final construction plans will be reviewed and approved as conditioned.

E. Water.

Water mains and fire hydrants of design, layout and locations approved by the City shall be installed.

FINDING(S):

Water mains. The Composite Utility Plan (November 13, 2018) provided to the City indicate that for water provision, the project will connect to a water main in Old Highway 30.

For Phase 1, the project will construct an 8" water line in Road A. Ultimately this water line will be looped as a part of full build out and continues through Road B in the existing right of way or Birch

Street and through a 15 foot-wide access road until it reaches a 12" water line in Blue Ridge Drive. The applicant has requested the option to either build the looped water line in Phase 1 or alternatively build at a later time. The number of units which could be constructed in Phase 1 would be limited until such time the water line was looped. A condition addressing this issue is proposed.

Fire hydrants. Fire hydrants placement and locations will be reviewed and approved by the City Engineer and Fire Chief as a part of the engineering construction plan review process as conditioned.

F. Railroad Crossings.

Provision shall be made for all railroad crossings necessary to provide access to or including the preparation of all documents necessary for application to the Oregon State Public Utilities Commissioner for the establishment and improvement of such crossing. The cost of such railroad crossing improvement including, but not limited to, the construction of signals, and other protective devices required by the Public Utilities Commissioner, shall, except for that portion payable by the railroad company, be borne by the subdivider or applicant.

FINDING: The site is not in proximity to a railroad crossing.

G. Underground Utilities.

This provision shall apply only to utility lines to be installed to provide service within the area to subdivided. Utility lines, including, but not limited to, electricity, communications, street lighting and cable television, shall be required to be placed underground. Appurtenances and associated equipment such as surface-mounted transformers, pedestal-mounted terminal boxes and meter cabinets may be placed above the ground. The Planning Commission may waive the requirements of this section if topographical, soil, or other conditions make such underground installations unreasonable or impractical. The applicant shall make all necessary arrangements with the serving utility or agency for underground installations provided hereunder; all such installations shall be made in accordance with the tariff provisions of the utility, as prescribed by the State Public Utilities Commissioner.

FINDING: All utilities shall be installed underground. A condition of approval has been included on this matter.

H. Street Lighting.

Street lighting of an approved type shall be installed on all streets at locations approved by the City.

FINDING: The Composite Utility Plan (November 13, 2018) provided to the City indicate locations of street lighting on individual lots. No utility easements are indicated. As a condition, the engineering construction plans showing specific locations and spacing of streetlights will need to be reviewed and approved by the City Engineer. As a condition, for future construction, the street lighting shall be installed per City specifications. All lights should be downcast and should not glare into the street or onto adjacent properties. A condition noting this as well as that the lights either be located within public right-of-way or within easements should they be located outside a right-of-way.

I. Street Trees.

Street trees may be required by the City.

FINDING: The applicant has not submitted any landscaping plans. Based on the amount of tree clearing and site work completed previously and expected with this development, a number of trees have been removed from the site. As a result, staff recommends that as a condition of approval, street trees shall be installed to provide for a more aesthetically pleasing development. A condition of approval has been added which states the layout, location and species proposed for the street trees shall be approved by the City Engineer and Planner as a part of the engineering construction plans.

In regards to terms of maintenance, the applicant has been informed that the City typically requests that the maintenance and installation of street trees is the responsibility of the developer or a homeowners association. To date, the applicant has not provided any reference to a homeowners association or third-party maintenance agreements. It has been requested that the applicant provide detail how it would be proposed that maintenance can be addressed by the Planning Commission.

J. Street Name Signs.

All streets shall be legibly marked with street name signs, not less than two (2) in number at each intersection, according to specifications furnished by the City.

FINDING: Street name signs shall be installed per City specifications. Locations shall be reviewed as a part of the engineering construction plan review and shall be installed as a part of the infrastructure for the site.

K. Improvement of Easements.

Whenever the safety of adjoining property may demand, any easement for drainage or flood control purposes shall be improved in a manner approved by the City.

FINDING: All easements for infrastructure will be reviewed and approved by the City Engineer as a part of the engineering construction review.

L. Off-Site Street Improvements.

All off-site street improvements, where required shall conform to the standards of the City.

FINDING(S):

There will be offsite improvement including but not limited to water, storm sewer, and sanitary sewer utilities. There are conditions included in the recommendation which address the installation and associated easements required for these improvements.

13.620. MONUMENTS.

13.630. SURVEY REQUIREMENTS.

FINDING(S): Sections 13.620 through 13.630 detail information required. The applicant shall comply with any applicable sections.

9.100. TIME LIMIT ON PERMITS.

A. Duration of Permits.

1. Except as otherwise provided in this Code, a permit shall expire two years from the date of Final Decision unless substantial construction has taken place or use has begun. However, extensions for permits may be granted as provided in this section. A permit remains valid, if a timely request for extension has been filed, until an extension is granted or denied with the following limitations:
 - a. Any work completed by the applicant after the date the permit would have expired, but for the extension request, is at the applicant's own risk; and
 - b. Any work completed after the date the permit would have expired shall not be considered in determining if substantial construction has been completed until a permit extension has been granted; and
 - c. No additional building and/or use permits associated with the permit may be issued until an extension has been granted.

2. Phased Permits.

- a. The initial phase of a phased permit and/or project shall expire two years from the date of Final Decision unless substantial construction or use has begun.
- b. Additional phases of an approved phased permit and/or project shall expire two years from the date of completion of construction for the previous phase, unless substantial construction or use has begun on that subsequent phase. Completion of construction of a phase shall be determined by issuance of a temporary and/or final Certificate of Occupancy from the Building Official.

FINDING: The proposed subdivision is a two phase plat with all tracts included in the first phase. The time limits noted above will apply to this decision.

3.008. VEHICULAR ACCESS AND CIRCULATION.

D. Approach and Driveway Development Standards.

6. Where applicable codes require emergency vehicle access, approaches and driveways shall be designed and constructed to accommodate emergency vehicle apparatus and shall conform to applicable fire protection requirements. The City Engineer may restrict parking, require signage, or require other public safety improvements pursuant to the recommendations of an emergency service provider.

FINDING: These issues will be reviewed by the City Engineer as a part of the construction plan review process.

H. Joint Use Access Easement and Maintenance Agreement.

Where the City approves a joint use driveway, the property owners shall record an easement with the deed allowing joint use or cross access between adjacent properties. The owners of the properties agreeing to joint use of the driveway shall record a joint maintenance agreement with the deed defining maintenance responsibilities of property owners. The applicant shall provide a fully executed copy of the agreement to the City for its records, but the City is not responsible for maintaining the

driveway or resolving any dispute between property owners. This easement/agreement requirement shall also apply to separate properties under the same ownership.

FINDING: A joint use access easement is proposed for access to Lots 4 and 5. As a condition, the final configuration of the easement shall be shown on the Final Plat. Additionally, a maintenance agreement will need to be prepared and recorded along with the Final Plat to address future shared maintenance requirements. The design of the driveway improvement shall be reviewed by the City Engineer as a part of the engineering construction plan process. Construction of said driveway improvements may be installed when development on the respective lots occurs. A condition of approval has been added to address this issue.

5. Walkway Width and Surface.

Walkways shall be constructed of concrete, asphalt, brick/masonry pavers, or another durable surface, as approved by the City Engineer and meeting Americans With Disabilities Act requirements, with a surface not less than six (6) feet wide. The Community Development Director or Planning Commission as applicable may require a wider walkway where pedestrian traffic warrants.

FINDING: Sheet P2/9 includes a typical roadway section which shows a six foot sidewalk and planter strip. These will be constructed throughout the subdivision on both sides of the streets. This dimension addresses ADA widths. Final sidewalk configurations will be reviewed and approved by the City Engineer as a part of the engineering construction plan review process.

The following items address issues associated with roadways and transportation matters:

B. Street Location, Alignment, Extension, Grades, and Names.

5. Where required local street connections are not shown on an adopted City street plan, or the adopted street plan does not designate future streets with sufficient specificity, the development shall provide for the reasonable continuation and connection of existing streets to adjacent potentially developable properties, conforming to the standards of this Code.
6. Existing street-ends that abut a proposed development site shall be extended with the development, unless prevented by environmental or topographical constraints, existing development patterns, or compliance with other standards in this Code; in such situations, the applicant must provide evidence that the environmental or topographic constraint precludes reasonable street connection.
7. Proposed streets and any street extensions required pursuant with this Section shall be located, designed and constructed to allow continuity in street alignments and to facilitate future development of vacant or redevelopable land.

3.015. D. Transportation Connectivity and Future Street Plans.

The following standards apply to the creation of new streets:

1. Intersections.

Streets shall be located and designed to intersect as nearly as possible to a right angle. Street intersection angles shall conform to the Astoria Engineering Design Standards for Roadways (Chapter 4).

2. Connectivity to Abutting Lands.

The street system of a proposed development shall be designed to connect to existing, proposed, and planned streets adjacent to the proposed development. Wherever a proposed development abuts unplatted land or a future development phase of an existing development, street stubs shall be provided to allow access to future abutting subdivisions and to logically extend the street system into the surrounding area. Street ends shall contain turnarounds constructed to Uniform Fire Code standards, as the City deems applicable, and shall be designed to facilitate future extension in terms of grading, width, and temporary barricades.

Reserved strips including street plugs may be required to preserve the objectives of street extensions. Reserved strips controlling the access to public ways will be approved when necessary for the protection of the public welfare. The control and disposal of the land comprising the strips shall be placed within the jurisdiction of the City under conditions approved by the Planning Commission.

3. Street Connectivity and Formation of Blocks.

In order to promote efficient vehicular and pedestrian circulation throughout the City, subdivisions and site developments shall be served by an interconnected street network, pursuant to Table 1 (Spacing Standards) in the Transportation System Plan.

4. Cul-de-sac Street.

A cul-de-sac street shall only be used where the Community Development Director, Planning Commission, or City Engineer, as applicable, determines that environmental or topographical constraints, existing development patterns, or compliance with other applicable City requirements preclude a street extension. Where the City determines that a cul-de-sac is allowed, all of the following standards shall be met:

- a. The cul-de-sac shall not exceed a length of 400 feet and serve building sites for not more than 18 dwelling units, except where the Community Development Director, Planning Commission, or City Engineer, as applicable, determines, through a Class 1 Variance pursuant to procedures in Article 9, that topographic or other physical constraints of the site require a longer cul-de-sac; the length of the cul-de-sac shall be measured along the centerline of the roadway from the near side of the intersecting street to the farthest point of the cul-de-sac.
- b. The cul-de-sac shall terminate with a circular or hammer-head turnaround meeting the Uniform Fire Code and the roadway standards in the Transportation System Plan and Astoria Engineering Design Standards for roadways.
- c. The cul-de-sac shall provide a pedestrian and bicycle access way between it and adjacent developable lands. Such access ways shall conform to Section 3.010.B.5.

5. Access Ways.

The Community Development Director or Planning Commission, as applicable, in approving a land use application with conditions, may require a developer to provide an access way where the creation of a cul-de-sac or dead-end street is unavoidable and the access way connects the end of the street to another street, a park, or a public access way. Where an access way is required, it shall be not less than ten (10) feet wide and shall consist of a minimum six (6) foot wide paved surface or other all-weather surface approved by the Community Development Director or Planning Commission. Access ways shall be contained within a public right-of-way or public access easement.

6. Alleys.

When any lots or parcels are proposed for commercial or industrial usage, alleys of at least 20 feet in width may be required at the rear thereof with adequate ingress and egress for truck traffic unless alternative commitments for off-street service truck facilities without alleys are approved. Intersecting alleys shall not be permitted.

7. Future Street Plan.

Where a subdivision is proposed adjacent to other developable land, a future street plan shall be filed by the applicant in conjunction with an application for a subdivision.

FINDINGS FOR THE ABOVE MENTIONED ITEMS:

Cul-de-sac. A Variance for the dimensional and unit standards for a portion of Road A has been submitted with a notice of decision to be issued shortly.

Accesseways. No accessways have been proposed or provided as the cul-de-sac is an interim improvement until phase two is developed.

Alleys. No alleyways have been proposed.

Future Street Plan. The Applicant provided Future Road A Plan and Profile dated November 13, 2018 provided to the City indicate a possible future connection to Blue Ridge Drive which is satisfactory to the City.

Access from the subdivision site to Highway 30 is provided via an existing roadway which is Federally owned. It is the City's understanding that access rights over this Federally owned roadway (Old Highway 30) run with ownership of the property. However, the Federally owned roadway does not directly connect to Highway 30. The ownership of the property where the current Maritime Road connects Old Highway 30 to Highway 30 is undetermined. The City of Astoria has secured a grant from Business Oregon to attempt to clarify this issue. The goal is to ultimately gain legal access through this area. In preliminary discussions with the Applicant and the County Surveyor, it has been noted that for a final plat to record on this subdivision, the issue of legal access from the subdivision to Highway 30 will need to be addressed. Additionally, there is concern about issuing public works permits for infrastructure before this is clarified. Therefore, a condition of approval is recommended by City staff.

As a part of transportation review of the site, the Fire Marshall analyzed this subdivision in relation to the number of dwelling units which could be constructed and meet Fire Code provisions. As a result of that analysis, the maximum number of units is 200 dwelling units. Should more than 200 units be proposed a second, separate fire apparatus access road that meets the specifications as spelled out in the OFC (503.2) will be required. A condition addressing this issue has been included.

8. Street Names.

All street names shall be approved by the City Engineer for conformance with the established pattern and to avoid duplication and confusion.

FINDING: The Preliminary Plat only indicates Road A and Road B. Staff recommends that as a condition of approval for the Final Plat, street names for Road A and B will be provided to and approved by City Engineering prior to Final Plat.

VI. CONCLUSION AND RECOMMENDATION

It is recommended that the Preliminary Plat be approved with the following conditions:

GENERAL/LEGAL DESCRIPTIONS:

1. Legal descriptions of the subdivision boundaries shall be included on each of the Final Plats.

2. A USGS benchmark shall be shown on the Final Plat.

PHASES AND PLATTING:

3. The Final Plat for Phase 1 shall include Tracts A, B and C. Should the Tracts be in common ownership, that shall be noted on the plat and include deed restrictions addressing maintenance. Tract A, B and C shall be platted as part of Phase 1.
4. Final Plats shall be submitted and processed in accordance with the City of Astoria Development Code.

GEOTECHNICAL INFORMATION:

5. A Geotechnical Engineering report was developed by GeoEngineers, August 9, 2017. Prior to Final Plat, GeoEngineers shall review the Final Plat submittal documents to ensure compliance with their recommendations and provide documentation of their review and approval to the City of Astoria. Their documentation shall indicate any deviation from the recommendations.
6. The Applicant has noted the geotechnical report's no-build areas on the Preliminary Plat as Tract A and Tract B, however this line will not be included on the Final Plat. The Applicant shall include a Plat note on the Final Plat referencing the associated Tracts as geologically sensitive and will cross-reference the Geotechnical Report submitted as part of this application.

EASEMENTS AND DEDICATIONS:

7. **DEDICATIONS.** Each respective Final Plat shall indicate the rights-of-way to be dedicated with corresponding dimension, radii as reviewed and approved by the City Engineer and Planner.
8. **PUBLIC UTILITY EASEMENTS.** The Final Plat shall indicate a minimum 5' wide public utility easement on either the front or rear property lines of all lots. Final easement configurations (including easements for street lighting) will be reviewed and approved by the City Engineer prior to Final Plat approval.
9. **PUBLIC UTILITY EASEMENTS.** Prior to issuance of engineering construction permits for off-site utilities, public utility easements meeting City standard shall be obtained and recorded. Copies of recorded easements shall be provided to the City Engineer.
10. **DEPARTMENT OF LABOR EASEMENT(S).** Prior to issuance of engineering construction permits, public utility easement(s) shall to be obtained from the Department of Labor or other responsible agency for utility infrastructure in their right-of-way. Copies of recorded easements shall be provided to the City Engineer.
11. **PUBLIC UTILITY EASEMENT.** Prior to Final Plat, documentation shall be provided stating that the existing sewer easement through lots 1, 2 and 3 has been abandoned.
12. **EASEMENTS.** All final easements required for each Phase of the subdivision shall be reviewed and approved by the City Engineer prior to approval of the Final Plat.

LOTS AND STREETS:

13. **MULTIFAMILY UNITS.** Should Phase 1 of the subdivision be constructed without a looped waterline the number of units shall be limited to a maximum of 20 until such time a looped waterline is built and operational to City of Astoria Engineering Design Standards.
14. **STREET TREES.** As a part of the engineering construction plan submittal a street tree plan shall be submitted for review and approval by the City Engineer and Planner. The street tree plan shall include the location, species and caliper size. Trees shall be installed prior to acceptance of public infrastructure or alternatively a bond may be filed until installation is complete. submittal and shall be approved by the City Engineer and Planner.

15. **STREET SIGNS.** Engineering construction plans shall show the locations of proposed street signs. They shall be installed as a part of the public infrastructure construction and shall be installed in accordance with City standards.
16. **STREET LIGHTING.** Street lighting shall be indicated on the engineering construction plans to be reviewed and approved by the City Engineer. The location of these lights need to be either be in public right of way or if outside of right of way then within a utility easement. Should City staff determine that the lights be located in a utility easement, this easement needs to be included on the Final Plat for the respective Phase. The street lighting shall be installed per City specifications. All lights should be downcast and should not glare into the street or onto adjacent properties.
17. **STREET NAMES.** As a part of engineering construction plan review, the applicant shall submit names for the Road A and Road B internal street rights-of-way to be reviewed and approved by the Planner and City Engineer for conformance with street names within the City. The street names shall appear on the Final Plat.

STREET DESIGN:

18. An Engineering Design Exception Request for the road grades that exceed the standard 12% maximum grade, but do not exceed 14% grade shall be reviewed and approved prior to engineering construction plan submittal.
19. An Engineering Design Exception Request for the length of the cul-de-sac exceeding the standard maximum distance shall be submitted prior to engineering construction plan submittal.
20. The applicant has requested a Variance for a cul-de-sac street (Road A, Phase 1) that is 24 feet longer and which may serve an additional units than currently allowed by City of Astoria Development Code. This Variance shall be approved prior to engineering construction plan submittal.
21. All public roadway designs will be reviewed and approved by the City Engineer as a part of the engineering construction plan review process. Improvements shall be constructed to City standards prior to approval of the final plat. Improvements may be bonded in lieu of construction as outlined in the Development Code and as approved by the City Engineer.
22. The final configuration of the joint use access easement for Lots 4 and 5 shall be shown on the Final Plat for Phase 1. A maintenance agreement will need to be prepared and recorded along with the Final Plat to address future shared maintenance requirements. The design of the driveway improvement shall be reviewed by the City Engineer as a part of the engineering construction plan process. Construction of said driveway improvements shall be installed as a part of the public infrastructure or when development on the respective lots occurs.
23. Prior to approval of each Phases' Final Plat, the subdivider shall complete all required road improvements and infrastructure within the subdivision at the subdivider's own cost; or, execute and record an agreement between the subdivider and the City, specifying the period within which required improvements shall be completed as defined Astoria Development Code, along with a bond or other surety for completion of the improvements.

UTILITIES:

24. Prior to issuance of engineering construction permits, the applicant shall submit plans for all public utility infrastructure for review and approval by the City Engineer.
25. All Utilities shall be installed below grade.
26. Prior to approval of the Final Plat, the subdivider shall complete all required public utility improvements and infrastructure within the subdivision at the subdivider's own cost; or, execute and record an agreement between the subdivider and the City, specifying the period within which required improvements shall be completed as defined Astoria Development Code, along with a bond or other surety for completion of the improvements.

WATER/SANITARY SEWER/STORM SEWER:

27. For each Phase, a detailed water system design (for onsite and offsite infrastructure) shall be reviewed and approved by the City Engineer prior to issuance of engineering construction permits. The new water mains shall be constructed in accordance with City standards. Water mains shall be installed within the right-of-way unless otherwise approved by the City Engineer.
28. Should a looped water line not be constructed in the first Phase, the maximum number of dwelling units permitted to be constructed in this Phase would be 20 regardless of other limitations placed on unit count via the associated Variance or other condition in this staff report.
29. For each Phase, a detailed sanitary sewer plan (for onsite and offsite infrastructure) shall be reviewed and approved by the City Engineer prior to issuance of engineering construction permits. The new sewer facilities shall be constructed in accordance with City standards. Sanitary sewer facilities shall be installed within the right-of-way unless otherwise approved by the City Engineer.
30. For each Phase, a detailed storm sewer plan (for onsite and offsite infrastructure as well as a bioswale) shall be reviewed and approved by the City Engineer prior to issuance of engineering construction permits. The new stormwater facilities shall be constructed in accordance with City standards. Storm sewer facilities shall be installed within the right-of-way unless otherwise approved by the City Engineer.
31. Prior to Final Plat for each phase, as a part of engineering construction plan submittals, the applicant shall show relocation of the existing sanitary sewer line and easement for Blue Ridge Estates.

GRADING AND EROSION CONTROL:

32. A NPDES 1200-C permit shall be obtained when the project disturbs one-acre or more when all construction phases are considered.
33. A City of Astoria Grading and Erosion Control Permit is required for this project. The applicant shall submit a Grading and Erosion Control Permit application with detailed erosion and sediment control plan for construction prior to any site work.
34. All clearing, grading and construction shall be in accordance with City of Astoria permits and other applicable codes, ordinances and standards.

FIRE LIFE SAFETY:

35. **FIRE HYDRANTS.** The final location of the fire hydrants shall be included on the engineering construction plans to be reviewed and approved by the City Engineer and Fire Marshall.
36. **SPRINKLERS.** As a cross reference to the Engineering Design Standard exception process, it is required that all buildings, including any non-residential occupancies are equipped throughout with approved automatic sprinkler systems. This requirement shall be addressed at the time of building permit review process.
37. **UNIT COUNT.** For both Phases, as per the design of Eagle Point Subdivision the maximum number of units shall be 200 dwelling units. Should more than 200 units be proposed, a second, separate fire apparatus access road that meets the specifications as spelled out in the OFC (503.2) will be required.

DEPARTMENT OF LABOR (DOL):

38. **DOL/NEPA.** Prior to issuance of engineering construction permits, the project shall provide documentation from the Department of Labor that either a Categorical Exception has been

confirmed for this project or the project will have to complete a full NEPA analysis. Should a NEPA analysis be required by the Department of Labor, the findings shall be provided to the City of Astoria prior to issuance of engineering construction permits.

39. **DOL ROAD ACCESS.** The Applicant shall provide an acknowledgement from the Department of Labor that they approve of the access points and construction associated with Phase I and Phase II of this subdivision. This documentation shall be provided prior to issuance of grading and erosion control or construction permits on or off the site.

OTHER TRANSPORTATION ACCESS:

40. **MARITIME ROAD.** No engineering construction permits (including Grading and Erosion Control) for infrastructure shall be granted and no Final Plat approval shall be granted until Maritime Road ownership issues have been addressed to the City of Astoria and Clatsop County Surveyor's satisfaction to provide clear and legal access from the subdivision to Highway 30.



CITY OF ASTORIA
Founded 1511 • Incorporated 1858
COMMUNITY DEVELOPMENT

CITY OF ASTORIA
MAR 20 2018
BUILDING CODES

Credit \$500
☒ Fee Paid Date 3/20/18 By AF
FEE: \$500.00 + \$20 per lot + actual costs

SP 18-01 (EaglePoint)

APPLICATION FOR: ☐ PARTITION ☐ SUBDIVISION

Property Address: None

Lot Block Subdivision

Map T8N R09W Sec20 Tax Lot 107 Zone R3

Applicant Name: Stan Johnson Cary Johnson

Mailing Address: 92732 Fernhill Road, Astoria, OR 97103 92080 John Day River Rd, Astoria, OR 97103

Phone: 503-741-6165 (Stan) Business Phone: 503-741-6065 (Cary) Email: astorianwhomes@charter.net
carytjohnson@hotmail.com

Owner Name: Astoria Northwest Homes (Stan Johnson)

Mailing Address: 92732 Fernhill Road, Astoria, OR 97103

Phone: 503-741-6165 Business Phone: Email: astorianwhomes@charter.net

	<u>Existing</u>	<u>Proposed</u>
Lot Area: (Sq. Ft./Acres)	<u>18.28 ac/ 796,276 square feet</u>	<u>10,040 – 96,530 square feet</u>
Number of Lots:	<u>1</u>	<u>22</u>
Lot Dimensions	<u> </u>	<u>varies</u>
Use of Property:	<u>Undeveloped</u>	<u>Multi-Family Housing</u>
Flood Zone:	<u> </u>	<u>Historic</u>
Unstable Slope:	<u> </u>	<u> </u>

Applicant Signature  Date: 3-19-18

Owner Signature  Date: 3.19.18

Consultant:

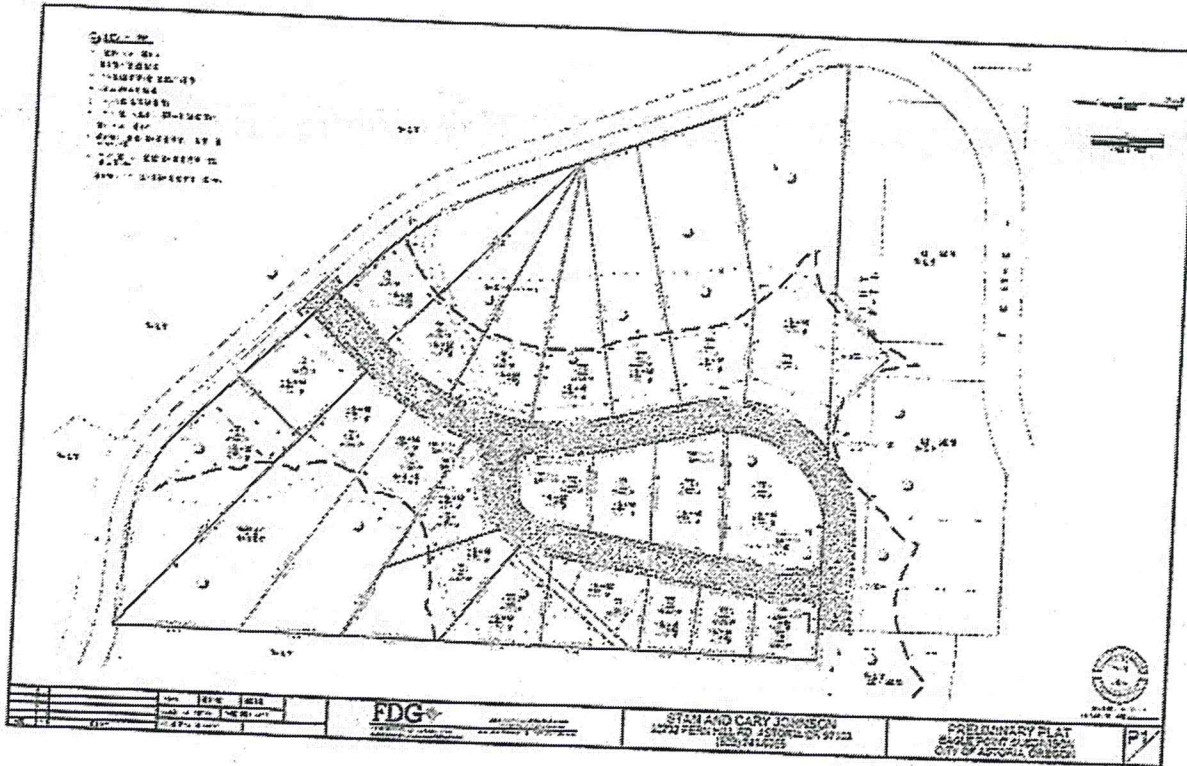
Jennifer Bunch, Wickiup Consulting, LLC
PO Box 1455, Astoria, OR 97103
503-298-8698
jennifer@wickiupconsultingllc.com

Engineer:

Erik Hoovestol PE, Firwood Design Group, LLC
359 E Historic Columbia River Hwy
Troutdale, OR 97060
503-706-6557
eh@firwooddesign.com

SUBDIVISION APPLICATION Eagle Point

**An application for a Two-Phase, 22-lot subdivision
Located in the City of Astoria, Oregon.**



Property Owner
Astoria Northwest Homes, LLC

Applicants
Stan Johnson
Cary Johnson

Consultant
Wickiup Consulting, LLC

Engineering
Firwood Design Group, LLC

INTRODUCTION

The Applicants, Stan Johnson and Cary Johnson, on behalf of property owner Astoria Northwest Homes, LLC, proposes a three phase, 22-lot subdivision, known as **Eagle Point**, located off Old Highway 30 on property zoned R3 – High Density Residential. Phase One will include Lots 1-7 and Phase Two lots 8 – 22.

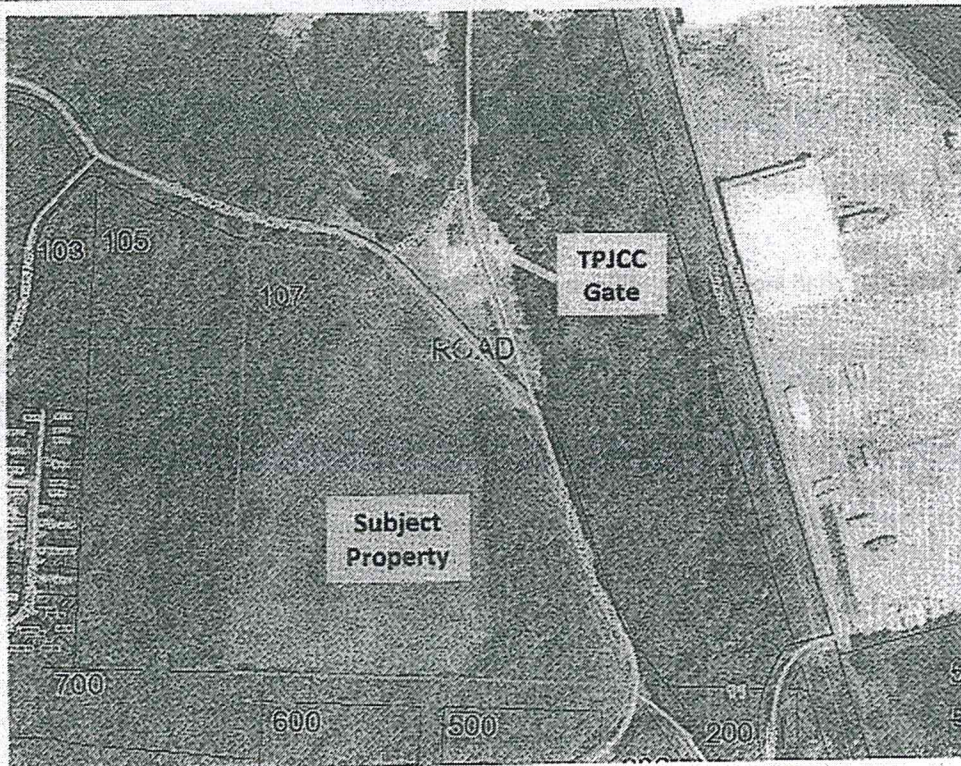
The total area of the subdivision consists of approximately 18.28 acres (796,276 square feet) and each lot will range in size from 10,040 to 96,530 square feet in size. The variation in lots size reflects the outcome of an extensive geological hazard study that was conducted in 2017. Approximately 7.55 acres (328,878 square feet) of the property were deemed a hazard and are therefore not proposed for development. This results in several lots being very large in size without the ability to be further divided in the future. The proposed lot sizes are consistent with the zoning requirements for single-family, two-family, and multi-family dwellings.

The proposed subdivision will include development of a new roadway from Old Highway 30 to be improved to City standards and dedicated to the public. A second access point will be developed on the southwest corner of the subdivision within an existing right-of-way where use will be limited to emergency vehicles, public works vehicles, and pedestrians. – how will this be done?

EXHIBITS

- A. Preliminary Plat
 - P1: Preliminary Plat
 - P2: Preliminary Site Plan
 - P3: Preliminary Grading Plan
 - P4: Cut and Fill Diagram
 - P5: Road Profiles
- B. Statement of Improvements
- C. Geotechnical Report
- D. Subdivision Name Approval

AERIAL VIEW



CITY OF ASTORIA DEVELOPMENT CODE FINDINGS

**ARTICLE 2
USE ZONES**

R-3 HIGH DENSITY RESIDENTIAL ZONE

2.155. USES PERMITTED OUTRIGHT

The following uses and their accessory uses permitted in the R-3 Zone if the Community Development Director determines that the uses will not violate standards referred to in Section 2.165 through 2.185, additional Development Code provisions, Comprehensive Plan policies, and other City laws:

1. Single-family dwelling.
2. Two-family dwelling.
3. Multi-family dwelling.

RESPONSE: Residential use of the property is allowed outright in the R-3 zone.

2.615. LOT SIZE

Uses in an R-3 Zone which are part of a cluster development will comply with lot size requirements in Section 11.160. Other uses in an R-3 Zone will not violate the following requirements affecting lot size which are applicable to the particular use:

1. The minimum lot size for a single-family dwelling will be 5,000 square feet. Manufactured dwellings in an approved park may meet the requirements set forth in 11.120.
2. The minimum lot size for a two-family dwelling will be 6,500 square feet.
3. The minimum lot size for a multi-family dwelling will be 5,000 square feet for the first unit plus 1,500 square feet for each unit in excess of one.
4. The minimum lot width will be 45 feet.
5. The minimum lot depth will be 90 feet.

RESPONSE: All the proposed lots exceed the minimum lot size and dimensions for single family and two-family dwellings. Any development of multi-family housing will comply with minimum lot size requirements.

**ARTICLE 13
SUBDIVISION AND LAND PARTIONING**

13.110. SUBDIVISION, PRELIMINARY PLAT – INFORMATION ON PRELIMINARY PLAT

A. Information Required.

The preliminary plat shall include the following information:

1. Preliminary plat shall be to a scale of one (1) inch equals 50 feet or better except tracts over ten (10) acres which may be to a scale of one (1) inch equals 100 feet and shall be clearly and legibly reproduced.
2. Proposed name, date, northpoint and scale of drawing.
3. Location of the subdivision sufficient to define its location and boundaries and a legal description of the tract boundaries. Name and address of the subdivider and all property owners.
4. Appropriate identification of the drawing as a preliminary plat.

5. Name, business address, and number of the registered engineer or licensed surveyor who prepared the plan of the proposed subdivision.
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.
7. Names of the record owners of all contiguous land.
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.
9. The location, number designation and approximate dimensions of each lot.
10. The outline of any existing buildings and their use showing those which will remain.
11. Contour lines.
12. The location of at least one temporary bench mark within the subdivision boundaries.
13. City limit or Urban Growth Boundary lines crossing or bounding the subdivision.
14. Approximate location of all wetlands, areas subject to inundation or storm water overflow and the location, width, high water elevation flood flow and direction of flow of all watercourses.
15. Any area proposed to be cut or filled or otherwise graded.
16. If impractical to show on the preliminary plat, 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 and watercourses.
17. Streets to be held for private use shall be so indicated and all reservations or restrictions relating to such private streets shall be fully described.
18. If the tentative subdivision plat proposal pertains to only part of the tract owned or controlled by a subdivider, the Planning Commission may require a sketch of a tentative layout for streets in that of the tract not proposed for subdivision

RESPONSE: The preliminary plat contains the items identified in Section 13.110.A. These criteria are met.

B. Statement Required.

A statement shall accompany the preliminary plat and shall contain the following information:

1. A general explanation of the improvements and public utilities, including water supply and sewage disposal proposed to be installed.

RESPONSE: The statement of improvements is included as Exhibit B contains the items identified in Section 13.110.A. This criterion is met.

2. Deviations from subdivision ordinance, if any.

RESPONSE: Deviations from the subdivision ordinance are not proposed. This criterion does not apply.

3. Public areas proposed, if any.

RESPONSE: No public areas are not proposed. This criterion does not apply.

4. A preliminary draft of restrictive covenants proposed, if any.

RESPONSE: No restrictive covenants are proposed. This criterion does not apply.

C. Supplemental Information.

The City may require any of the following to supplement the preliminary plat:

1. Approximate center line profiles with extensions for a reasonable distance beyond the limits of the proposed subdivision showing the finished grade of streets and the nature and extent of street construction.

RESPONSE: This information is contained in the preliminary plat (Exhibit A). The criterion is met.

2. A plan for domestic water supply lines and related water service facilities.

RESPONSE: This plan will be submitted later to the City of Astoria Public Works department for review and approval. This criterion can be met with a condition of approval.

3. Proposals for sewage disposal, storm water drainage and flood control, including profiles of proposed drainageways.

RESPONSE: This proposal will be submitted later to the City of Astoria Public Works department for review and approval. This criterion can be met with a condition of approval.

4. If an area is to be graded, a plan showing the nature of the cuts and fills and evidence provided in a site investigation that such a grading will be stable.

RESPONSE: A cut and fill diagram is included with the preliminary plat (Exhibit A) as well as a geotechnical report for the site (Exhibit C). This criterion is met.

5. Proposals for other improvements such as electric, utilities and sidewalks.

RESPONSE: The location of sidewalks is included on the preliminary plat. The utility plan will be submitted later to the City of Astoria Public Works for review and approval. This criterion can be met with a condition of approval.

GENERAL REGULATIONS AND DESIGN STANDARDS

13.410. STREETS.

A. General.

Streets shall be planned and constructed pursuant to the Transportation Standards in Section 3.015.

RESPONSE: This criterion can be met with a condition of approval.

13.420. UTILITY EASEMENTS.

Easements for sewer, drainage, water mains, public utility installations, including overhead or underground systems, and other like public purposes shall be dedicated, reserved or granted by the land divider in widths not less than five (5) feet on each side of the rear lot or parcel lines, alongside lot or parcel lines and in planting strips wherever necessary, provided that easements of width, such as for anchorage, may be allowed when the purposes of easements may be accomplished by easements of lesser width as approved by the City.

RESPONSE: This criterion can be met with a condition of approval.

13.440. BLOCKS.

A. General.

The length, width and shape of blocks shall take into account the need for adequate building site size and street width and shall recognize the limitations of the topography.

B. Size.

Block size shall conform to the standards in Table 1 (Spacing Standards) of the Transportation System Plan.

C. Walkways.

The applicant may be required to dedicate and improve ten (10) foot walkways, with at least six (6) feet of all-weather surface, at 330-foot intervals across blocks that exceed the block standards in Table 1 (Spacing Standards) in the Transportation System Plan or to provide access to school, park, or other public areas.

RESPONSE: The Applicant does not propose blocks in this subdivision.

13.450. LARGE BUILDING SITES.

In dividing tracts into large lots or parcels which at some future time are likely to be redivided, the Planning Commission may require that the blocks be of such size and shape, be so divided into building sites and contain such site restrictions as will provide for extension and opening of streets at intervals which will permit a subsequent division of any tract into lots or parcels of smaller size.

RESPONSE: Understood.

13.460. WATER COURSES.

The land divider shall, subject to riparian rights, dedicate a right-of-way for storm drainage purposes, conforming substantially with the lines of any natural water course or channel, stream or creek that traverses the subdivision or partitions, or, at the option of the land divider, provide, by dedication, further and sufficient easements or construction, or both to dispose of the surface and storm waters.

RESPONSE: Compliance with this requirement can be met with a condition of approval.

13.470. LAND FOR PUBLIC PURPOSES.

A. Public Acquisition.

The Planning Commission may require the reservation for public acquisition, at a cost not to exceed acreage values in the area prior to subdivision, or appropriate areas within the subdivision for a period not to exceed one year providing the City has an interest or has been advised of interest on the part of the State Highway Commission, school district or other public agency to acquire a portion of the area within the proposed subdivision for a public purpose, including substantial assurance that positive steps will be taken in the reasonable future for the acquisition.

B. Dedication of Parks and Playgrounds

The Planning Commission may require the dedication of suitable areas for the parks and playgrounds that will be required for the use of the population which is intended to occupy the subdivision.

RESPONSE: Understood.

13.480. UNSUITABLE LAND.

The Planning Commission may refuse to approve a subdivision or partition when the only practical use which can be made of the property proposed to be subdivided or partitioned is a use prohibited by this code or law, or if the property is deemed unhealthful or unfit for human habitation or occupancy by the County or State health authorities, or, if the property is deemed unsuitable for the reason that it is in an actual landslide area or in a wetlands area.

RESPONSE: Understood.

13.490. LAND SUBJECT TO INUNDATION.

If any portion of land proposed for development is subject to overflow, inundation or flood hazard by, or collection of, storm waters, an adequate system of storm drains, levees, dikes and pumping systems shall be provided.

RESPONSE: Compliance with this requirement can be met with a condition of approval.

13.500. PROPOSED NAME OF SUBDIVISION.

No tentative subdivision plat or subdivision plan or subdivision shall be approved which bears a name approved by the County Surveyor or County Assessor, which is the same as similar to or pronounced the same as the name of any other subdivision in Clatsop County unless the land platted is contiguous to and platted by the same party that platted the subdivision bearing that name, or unless the party files and records the consent of the party that platted the contiguous subdivision bearing that name. All subdivision plats must continue the lot numbers and if used, the block numbers of the subdivision plat of the same name last filed.

RESPONSE: The County Surveyor has approved the name "Eagle Point". Documentation of this approval is included as Exhibit D.

IMPROVEMENTS

13.600. IMPROVEMENT STANDARDS AND APPROVAL.

- A. In addition to other requirements, all improvements shall conform to the requirements of this ordinance and any other improvement standards or specifications adopted by the City, and shall be installed in accordance with the following procedure:
1. Improvement work shall not be commenced until plans have been checked for adequacy and approved by the City. To the extent necessary for the evaluation of the proposal, the plans may be required before approval of the preliminary plat of a subdivision or partition. All plans shall be prepared in accordance with requirements of the City.
 2. Improvement work shall not be commenced until the City has been notified in advance, and if work has been discontinued for any reason, it shall not be resumed until the City has been notified.
 3. All required improvements shall be constructed under the inspection, and to the satisfaction, of the City. The City may require changes in typical section and details if unusual conditions arise during construction to warrant such change in the interests of the City.

4. All underground utilities, sanitary sewers and storm drains installed in streets shall be constructed prior to the surfacing of such streets. Stubs for service connections for all underground utilities and sanitary sewers shall be placed to such length as will obviate the necessity for disturbing the street improvements when service connections are made.
5. A map showing all public improvements as built shall be filed with the City Recorder upon completion of the improvements.

RESPONSE: Compliance with the requirements of 13.600 can be ensured with conditions of approval.

13.610. IMPROVEMENT REQUIREMENTS.

Improvements to be installed at the expense of the subdivider or applicant and at the time of subdivision or major partition:

A. Streets.

Public streets, including alleys, within the subdivision and public streets adjacent but only partially within the subdivision shall be improved. Upon completion of the street improvement, monuments shall be re-established and protected in monument boxes at every public street intersection and all points of curvature and points of tangency on their center lines.

B. Structures.

Structures specified as necessary by the City, for drainage, access and public safety shall be installed.

RESPONSE: Compliance with the requirements of 13.610.A and B can be ensured with a condition of approval.

C. Sidewalks.

Sidewalks shall be installed along both sides of each street and in pedestrian ways unless a variance has been granted by the Planning Commission.

RESPONSE: The preliminary plat identifies sidewalks on both sides of the proposed streets. This criterion is met.

D. Sewers.

Sanitary sewer facilities connecting with the existing City sewer system and storm water sewers, of design, layout and location approved by the City, shall be installed.

E. Water.

Water mains and fire hydrants of design, layout and locations approved by the City shall be installed.

RESPONSE: Compliance with the requirements of 13.610.D and E can be ensured with a condition of approval.

F. Railroad Crossings.

Provision shall be made for all railroad crossings necessary to provide access to or including the preparation of all documents necessary for application to the Oregon State Public Utilities Commissioner for the establishment and improvement of such crossing. The cost of such railroad crossing improvement including, but not limited to, the construction of signals, and other protective devices required by the Public Utilities Commissioner, shall, except for that portion payable by the railroad company, be borne by the subdivider or applicant.

RESPONSE: There are no railroad crossings near the subject property. This criterion does not apply.

G. Underground Utilities.

This provision shall apply only to utility lines to be installed to provide service within the area to subdivided. Utility lines, including, but not limited to, electricity, communications, street lighting and cable television, shall be required to be placed underground. Appurtenances and associated equipment such as surface-mounted transformers, pedestal-mounted terminal boxes and meter cabinets may be placed above the ground. The Planning Commission may waive the requirements of this section if topographical, soil, or other conditions make such underground installations unreasonable or impractical. The applicant shall make all necessary arrangements with the serving utility or agency for underground installations provided hereunder; all such installations shall be made in accordance with the tariff provisions of the utility, as prescribed by the State Public Utilities Commissioner.

H. Street Lighting.

Street lighting of an approved type shall be installed on all streets at locations approved by the City.

I. Street Trees.

Street trees may be required by the City.

J. Street Name Signs.

All streets shall be legibly marked with street name signs, not less than two (2) in number at each intersection, according to specifications furnished by the City.

K. Improvement of Easements.

Whenever the safety of adjoining property may demand, any easement for drainage or flood control purposes shall be improved in a manner approved by the City.

L. Off-Site Street Improvements.

All off-site street improvements, where required shall conform to the standards of the City.

<p>RESPONSE: Compliance with the requirements of 13.610.G through L can be ensured with a condition of approval.</p>

13.620. MONUMENTS.

All monuments shall be set according to the provisions of ORS 92.060. In making the survey for the subdivision or partition, the surveyor shall set sufficient permanent monuments prior to recording so that the survey or any part thereof may be retraced according to Oregon Revised Statutes. Interior boundary and lot monuments for the subdivision or partition shall be marked by a registered land surveyor in accordance with ORS 92.060, and referenced in the plat. If the monuments are in place at the time the subdivision or partition is recorded, no performance bond is necessary. If monumentation is delayed beyond the date on which the subdivision is recorded, a bond must be posted to assure that the monuments will be set by a certain date, in accordance with ORS 92.065. The City shall determine the length of time and estimated amount of bond or cash deposit to guarantee payment of the cost of setting the interior monuments in the subdivision or partition.

13.630. SURVEY REQUIREMENTS.

A. Registered Land Surveyor.

The survey and plat of the subdivision or partition shall be made by a registered professional land surveyor.

B. Scale.

The plat of the subdivision or partition shall be of such scale that all survey and mathematical information, and all other details may be clearly and legibly shown thereon.

C. Accuracy.

The survey for the plat of the subdivision or partition shall be of such accuracy that the linear error of closure shall not exceed one foot in 10,000 feet.

D. Dimensions.

All dimensions to be in feet and decimals of a foot, to the nearest .01 of a foot.

E. Bearing and Curve Information.

In addition to showing bearing in degree, minutes and seconds of a degree and distances in feet and hundredths of a foot, the following curve information shall be shown on the subdivision or partition plat either on the face of the map or in a separate table:

1. Arch length;
2. Chord length;
3. Chord bearing;
4. Radius; and
5. Central angle.

F. Geodetic Control Guidelines.

The surveyor submitting any subdivision, condominium or partition plat that is within one-half mile of an established geodetic control monument, that has been approved by the National Geodetic Survey or has been approved and filed with the County Surveyor, shall by field survey according to Federal Geodetic Control Committee guidelines for Third Order Class II show the measured angles and distances from the geodetic control monument to the initial point of a subdivision or condominium or to a monumented boundary corner of a partition. If there is an azimuth mark for the geodetic control monument or if there is another geodetic control monument that is intervisible to the primary geodetic control monument, the bearing shall be based, if practicable, on the bearings between the geodetic control monument and the azimuth mark or the intervisible geodetic control monument.

G. Requirement Waiver.

Notwithstanding the provisions of Subsection (F) of this Section, the County Surveyor may waive the requirement of a distance and bearing to a geodetic control monument if the subdivision or condominium, or partition thereof, has previously furnished the required information.

<p>RESPONSE: Compliance with the requirements of 13.620 and 13.630 can be ensured with a condition of approval.</p>
--

EXHIBIT B
Statement of Improvements



Firwood Design Group, LLC
SURVEYING • ENGINEERING • PLANNING

March 12, 2018

Public Improvement Descriptions

Eagle Point Subdivision

Prepared by Erik Hoovestol, P.E.

Roadways

The roadway section and right-of-way widths are per City standards for a residential street. Old Highway 30 right-of-way is owned by the Department of Labor. As shown on the preliminary plat, an access easement for utilities and roadway construction and maintenance is proposed. The required roadway grades exceed the City maximum of 12%. See included design exception request for street roadway grades exceeding the City standard of 12%. The alignment at the south end is designed for continuation through Tax Lot 700 easterly to Blue Ridge Road. The terminus of phase one roadway improvements at the Intersection of Road "A" and Road "B" will serve a turnaround meeting the City of Astoria requirements.

Water

Two pressure zones are proposed. As shown on the Offsite Utility Plan and the Composite Utility Plan, the water system will be fed from the existing 12" waterline with two connections. The first connection to the lower pressure zone is on Old Highway 30 by the entry to the site. This connection will service Phase 1. Future Phases will require connecting to the upper pressure zone on Blue Ridge Road, and the installation of a pressure reducing station. Hydraulic calculations are included.

Stormwater

As shown on the Offsite Utility Plan and the Composite Utility Plan the proposed stormwater system will be piped inside the subdivision, then flow through a bio-retention system along the south side of Old

Highway 30, then discharge into an existing gully (to be protected with rock) where it will enter existing 36" culverts. A stormwater report and downstream analysis will be provided with the construction plan submittal for Phase One.

Sanitary Sewer

Sanitary sewer service will be provided by the construction of an offsite sewer line from the development connecting to the City of Astoria 30' force main located at the City of Astoria Wastewater Treatment Facility as shown on the Offsite Utility drawing. Depending on final building layouts, some future lots may need to be serviced by residential pumping stations. The offsite sewer plans are being submitted separately at this time from the subdivision application. The plans including a detailed hydraulic analysis and consideration of upstream future development has been previously submitted to the City and is being submitted again addressing previous City review comments. It is the applicants hope to get approval of the alignment by the City so that easements can be proactively secured. The offsite sewer plans will be included in the Phase One subdivision construction plans.

The easterly portion of the existing sewer line that serves the Blue Ridge area will be abandoned in place and filled with grout or CDF. The existing sewer will be connected to a new line at the intersection of Road "A" and "B", routing the flows northward to the offsite sewer line. As shown on the Composite Utility Plan, a portion of the existing sewer will be utilized with new connection in the vicinity of proposed future lot 9.

An access road to the two westerly existing manholes that are to remain within our development will be constructed during Phase One.

Geotechnical Report

Geotechnical Engineering Report

Tongue Point Subdivision
Astoria, Oregon

for
C.T. Johnson, Inc.

August 9, 2017

GEOENGINEERS 
Earth Science & Technology

EXHIBIT D
Subdivision Name Approval

Mon 11/13/2017 7:45 AM

VS

Vance Swenson <VSwenson@co.clatsop.or.us>

RE: Eagle Point subdivision name

To: Jennifer Bunch

You replied to this message on 11/13/2017 2:42 AM.

Good Morning Jennifer,

I've reserved the name Eagle Point for you. It will be good for two years.

Have a great week.

Vance

Vance Swenson
Clatsop County Surveyor
1100 Olney Avenue
Astoria, OR 97103
(503)538-3662

From: Jennifer Bunch [mailto:jennifer@wickiupconsultingllc.com]

Sent: Friday, November 10, 2017 10:28 AM

To: Vance Swenson

Subject: Eagle Point subdivision name

Vance,

I'd like to request approval for the name "Eagle Point" for a subdivision in the City of Astoria. The property is identified as 809020000107.

Thank you,
Jennifer

Jennifer Bunch, CFM

Wickiup Consulting, LLC
Planning*Project Management*GIS

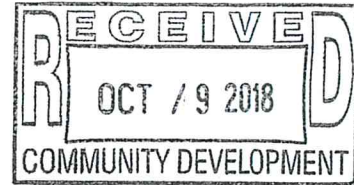
503-298-8698
PO Box 1455
Astoria, OR 97103



CITY OF ASTORIA

Founded 1811 • Incorporated 1856

COMMUNITY DEVELOPMENT



WAIVER OR EXTENSION OF 120 DAY RULE AT APPLICANT'S REQUEST

Applicant: Cary Johnson, Stan Johnson

Application Request No.: SP-18-01

Date of Original Request: complete Sept 10 2018, 120 day expires Jan 8, 2019

Pursuant to ORS 227.178*, the Applicant:

 Waives its rights to a decision on the above application within 120 days of the date the application is deemed complete.

X Extends the 120 day time period for a reasonable period of time of 30 days [ORS 227.178(4)] to Feb 7 2019. Total period may not exceed 245 days.

[Signature]
Applicant signature

10-9-18
Date

Name: CARY JOHNSON

Address: 92080 John Day River Rd
Astoria OR 97103

Phone: 503-741-6065 email: caryjohnson@hotmail.com

*** 227.178 Final action on certain applications required within 120 days; procedure; exceptions; refund of fees.** (1) Except as provided in subsections (3) and (4) of this section, the governing body of a city or its designee shall take final action on an application for a permit, limited land use decision or zone change, including resolution of all appeals under ORS 227.180, within 120 days after the application is deemed complete.

(4) The 120-day period set in subsection (1) of this section may be extended for a reasonable period of time at the request of the applicant.

(9) A city may not compel an applicant to waive the 120-day period set in subsection (1) of this section or to waive the provisions of subsection (7) of this section or ORS 227.179 as a condition for taking any action on an application for a permit, limited land use decision or zone change except when such applications are filed concurrently and considered jointly with a plan amendment.

EAGLE POINT SUBDIVISION, LAND USE SUBMITTAL
ASTORIA, OREGON

LEGAL DESCRIPTION:

NOTE: THIS IS THE CURRENT LEGAL DESCRIPTION AS RECORDED. ANY AMENDMENTS ARE ANTICIPATED UPON RECORDING OF THE FINAL PLAT SIMILAR TO AS SHOWN ON THE PRELIMINARY PLAT

LEGAL DESCRIPTION PER OUTCLAIM DEED - BOOK 597, PAGE 533:

A TRACT OF LAND LOCATED IN THE SW 1/4 OF SECTION 2 AND THE NORTH 1/2 OF SECTION 11, TOWNSHIP 8 NORTH, RANGE 9 WEST, WILAMETTE MERIDIAN, CLATSOP COUNTY, OREGON

AND BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BEGINNING AT A STONE LOCATED ON THE NORTH LINE OF BROOK STREET AS EXTENDED TO THE EAST, AND THENCE S89°45'00"E 115.37 FEET TO A POINT OF BEGINNING

THENCE FROM SAID STONE ALONG THE EASTERN LINE OF SAID JORDANIAN BEARS SOUTH 81°17'55"E EAST 80.98 FEET TO A POINT OF INTERSECTION WITH THE SOUTHERLY LINE OF OLD U.S. HIGHWAY 30

THENCE SOUTH 85°30'50"E EAST 89.40 FEET TO A POINT OF CURVATURE; THENCE 81.05 FEET ALONG THE ARC OF A 550.89 FOOT RADIUS CURVE TO THE LEFT THROUGH A CENTRAL ANGLE OF 88°29'48" (THE LONG CHORD OF WHICH BEARS SOUTH 81°17'55"E EAST 80.98 FEET) TO A POINT OF TANGENCY;

THENCE SOUTH 20°32'20"E EAST 388.90 FEET TO A POINT OF TANGENCY; THENCE 205.65 FEET ALONG THE ARC OF A 288.31 FOOT RADIUS CURVE TO THE RIGHT THROUGH A CENTRAL ANGLE OF 40°26'12" (THE LONG CHORD OF WHICH BEARS SOUTH 44°38'20"E EAST 412.30 FEET TO A POINT OF TANGENCY;

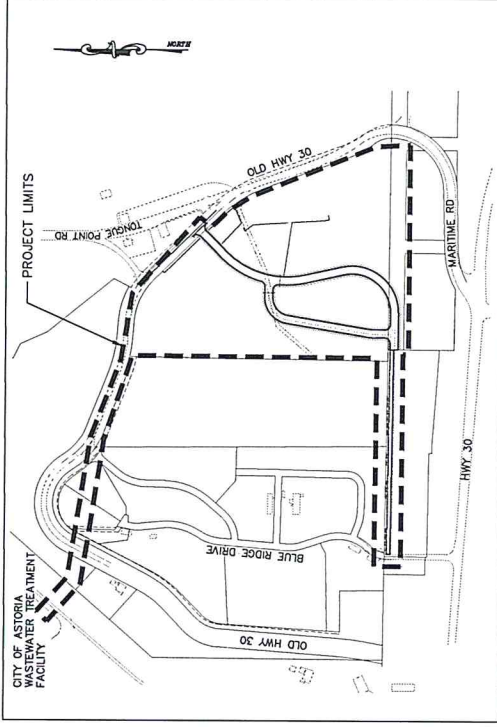
THENCE SOUTH 44°38'20"E EAST 412.30 FEET TO A POINT OF TANGENCY; THENCE 228.36 FEET ALONG THE ARC OF A 542.55 FOOT RADIUS CURVE TO THE RIGHT THROUGH A CENTRAL ANGLE OF 24°05'54" (THE LONG CHORD OF WHICH BEARS SOUTH 32°35'30"E EAST 228.89 FEET) TO A POINT OF TANGENCY;

THENCE SOUTH 20°32'20"E EAST 388.90 FEET TO A POINT OF TANGENCY; THENCE 115.62 FEET ALONG THE ARC OF A 507.47 FOOT RADIUS CURVE TO THE RIGHT THROUGH A CENTRAL ANGLE OF 15°57'27" (THE LONG CHORD OF WHICH BEARS SOUTH 27°03'27"E EAST 115.37 FEET) TO A POINT OF TANGENCY;

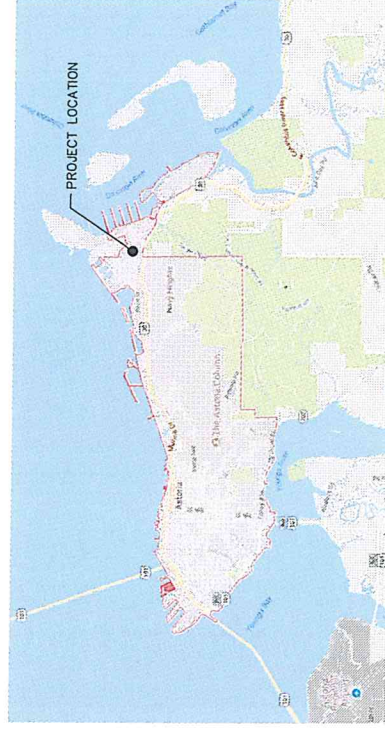
THENCE 89.07 FEET ALONG THE ARC OF A 895.05 FOOT RADIUS CURVE TO THE RIGHT THROUGH A CENTRAL ANGLE OF 27°11'37" (THE LONG CHORD OF WHICH BEARS SOUTH 19°44'45"E EAST 88.12 FEET) TO THE INTERSECTION OF THE SOUTHERLY LINE OF OLD U.S. HIGHWAY 30 AND THE SOUTHERLY LINE OF SAID BROOK STREET WEST 88°49'37" FEET TO THE POINT OF BEGINNING.

SHEET INDEX

- P1 COVER SHEET
- P2 PRELIMINARY PLAT
- P3 PHASE 1 SITE PLAN
- P4 PRELIMINARY GRADING & EROSION CONTROL PLAN
- P5 ROAD PROFILES
- P6 COMPOSITE ONSITE UTILITY PLAN
- P7 OFFSITE UTILITY PLAN
- P8 FUTURE ROAD A PLAN & PROFILE
- P9 PHASE 1 CUT AND FILL DIAGRAM



SITE MAP
SCALE: NTS



VICINITY MAP
NTS

LOT NUMBER	AVERAGE LOT WIDTH (FT)	AVERAGE LOT DEPTH (FT)	LOT AREA (SF)	BUILDABLE AREA (SF)
1	110.13	173.51	19,152	10,387
2	116.19	186.23	21,673	10,612
3	104.51	242.41	25,215	11,408
4	115.62	177.14	20,384	10,509
5	120.55	201.15	24,354	12,559
6	103.67	219.70	22,688	11,581
7	115.62	183.20	21,166	11,197
8	104.84	167.44	17,535	9,603
9	80.89	174.64	14,025	8,773
10	99.73	177.23	17,706	10,635
11	101.80	185.88	18,907	10,774
12	104.51	177.14	18,409	10,050
13	96.04	108.93	10,466	5,181
14	106.66	95.20	10,098	5,181
15	110.30	167.51	18,364	11,449
16	113.27	193.26	21,781	14,501
17	103.61	133.42	13,842	10,267
18	111.92	117.80	13,150	7,122
19	95.95	242.89	23,291	10,426
20	101.80	185.88	18,907	10,400
21	133.54	231.12	30,861	15,400
22	143.58	289.75	38,350	20,731

PRELIMINARY
NOT FOR
CONSTRUCTION

DATE	NO	REVISION	PROJECT NO. E18-047	CHECKED: DH	DATE: NOV 13, 2018
SCALE: AS SHOWN					

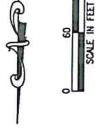


349 E. 1ST, COLUMBIA RIVER HWY
ASTORIA, OREGON 97103
BUS: (503) 325-0377 • FAX: (503) 325-0378

ASTORIA NORTHWEST HOMES
92732 FERN HILL RD, ASTORIA OR 97103
(503) 741-8065

COVER SHEET
EAGLE POINT SUBDIVISION
CITY OF ASTORIA, OREGON
P1
9

NORTH



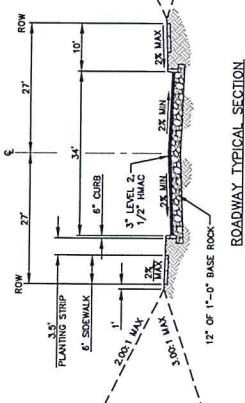
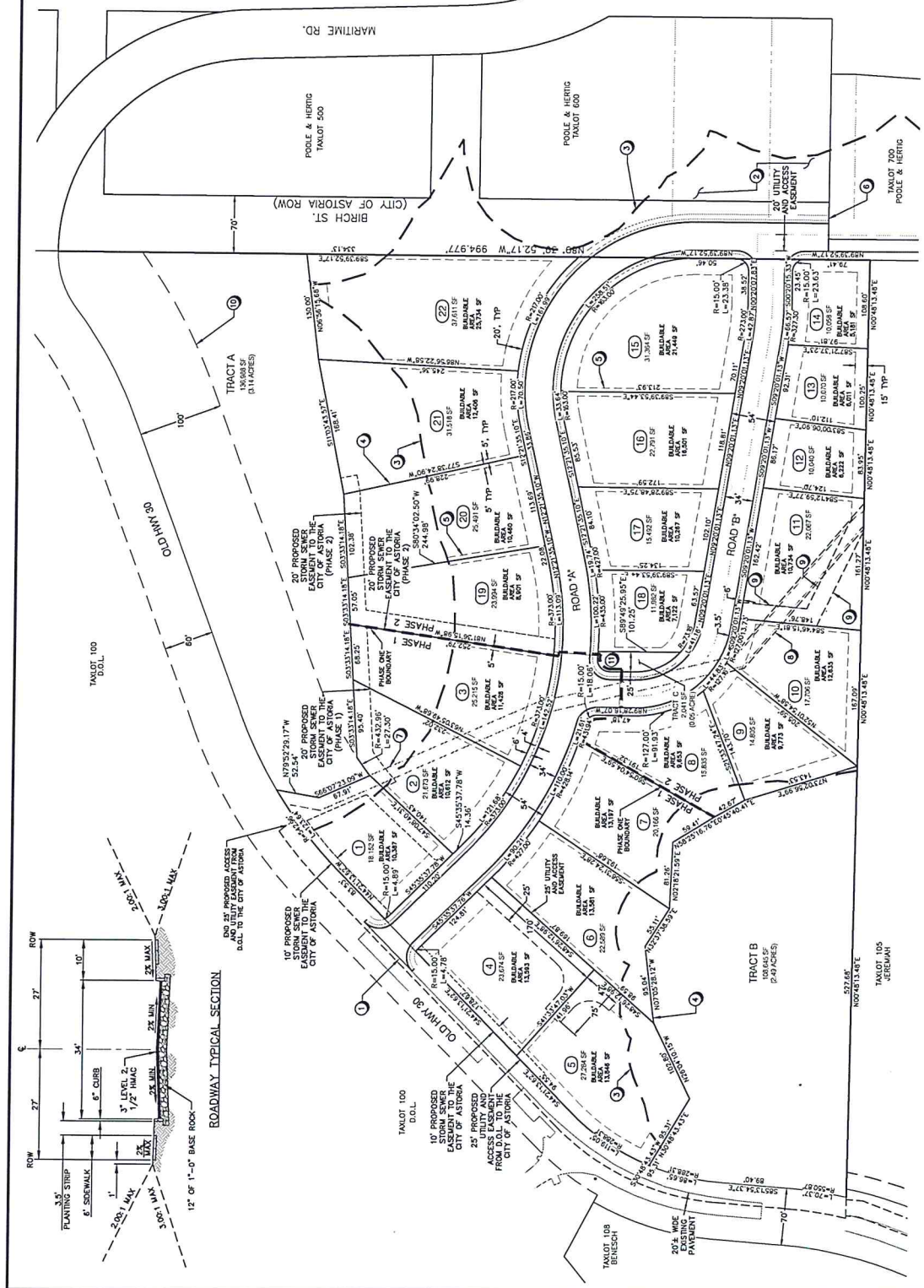
- APPLICANT
STAN AND CARY JOHNSON
92732 FERN HILL RD
ASTORIA, OR 97103
503-741-6065
- OWNER
ASTORIA NORTHWEST HOMES INC.
92732 FERN HILL RD
ASTORIA, OR 97103-8006
- DEVELOPER
STAN AND CARY JOHNSON
92732 FERN HILL RD
ASTORIA, OR 97103
503-741-6065
- ENGINEER
ERIK HOONSTOL, P.E.
FRIMWOOD DESIGN GROUP, LLC
1500 N. COLUMBIA RIVER HWY
TRUENATE, OR 97160
503-668-3737
info@frimwoodgroup.com
- SUBMITTER
MAYKAR LAND SURVEYING, LLC
PO BOX 1509 ASTORIA, OR 97103
- ORIGINAL PARCEL
TAX LOT 107
25' PROPOSED
EXISTING USE: VACANT
ZONING: HIGH DENSITY RESIDENTIAL

KEY NOTES

1. BEGIN ROADWAY AT EXIST. EDGE OF PAVEMENT.
2. POSSIBLE FUTURE OFFSITE DEVELOPMENT (NOT A PART)
3. GED-SETBACK LINE, SEE GEOTECH REPORT DATED 6/9/2017
4. PROPOSED LOT LINE, TYP
5. PROPOSED BUILDING SETBACK LINE, TYP
6. END ROAD ROADWAY
7. EXISTING 15' SEWER EASEMENT TO D.O.L. TO BE ABANDONED
8. PROPOSED 20' SEWER EASEMENT TO CITY OF ASTORIA (PHASE 1) TO BE ABANDONED IN PHASE 2
9. SEWER EASEMENT TO CITY OF ASTORIA (PHASE 2)
10. EXISTING 100' SLOPE EASEMENT FOR OLD HIGHWAY 30 TO REMAIN
11. TRACT C FOR PARK/PLAYGROUND

NOTE:

OLD HIGHWAY 30 IS OWNED BY THE U.S. DEPARTMENT OF LABOR (D.O.L.)



DATE: 10/13/2018	PROJECT NO. 1814-007	REVISION
DRAWN BY: JEREMY	DESIGNED BY: JEREMY	CHECKED BY: JEREMY
SCALE: AS SHOWN	DATE: NOV 13, 2018	

FDG
Frimwood Design Group, LLC
SURVEYING • ENGINEERING • PLANNING

395 E. 1ST, COLUMBIA RIVER HWY
ASTORIA, OR 97103
BUS: (503) 668-3737 • FAX: (503) 668-3738

ASTORIA NORTHWEST HOMES
92732 FERN HILL RD, ASTORIA OR 97103
(503) 741-6065

KEY NOTES

- 1 BEGIN ROAD CONSTRUCTION
- 2 EXISTING TREE LINE
- 3 POSSIBLE FUTURE DEVELOPMENT
- 4 EDO-SETBACK LINE, SEE GORTCH REPORT DATED 6/1/2017
- 5 PROPOSED LOT LINE, TYP
- 6 PROPOSED BUILDING SETBACK LINE, TYP
- 7 END ROAD CONSTRUCTION
- 8 EXISTING SEWER EASEMENT TO DOL TO BE ABANDONED
- 9 PROPOSED 25' ACCESS AND UTILITY EASEMENT TO CITY OF ASTORIA (PHASE 1)
- 10 EXISTING 100' SLOPE EASEMENT TO REMAIN
- 11 15' ACCESS ROAD
- 12 EXISTING ACCESS ROAD
- 13 5' GRADING SETBACK LINE
- 14 PROPOSED STORM SEWER EASEMENT TO CITY OF ASTORIA (PHASE 1)
- 15 PROPOSED STORM SEWER EASEMENT TO CITY OF ASTORIA (PHASE 2)

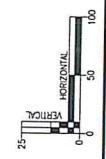
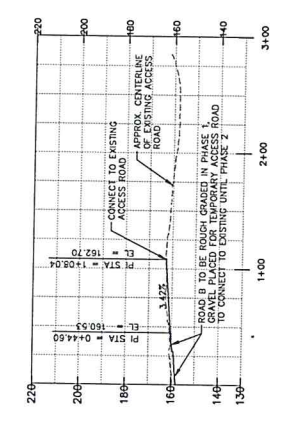
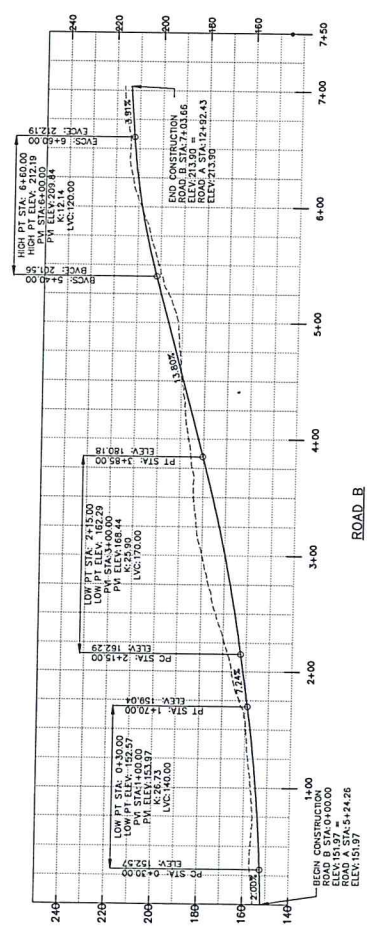
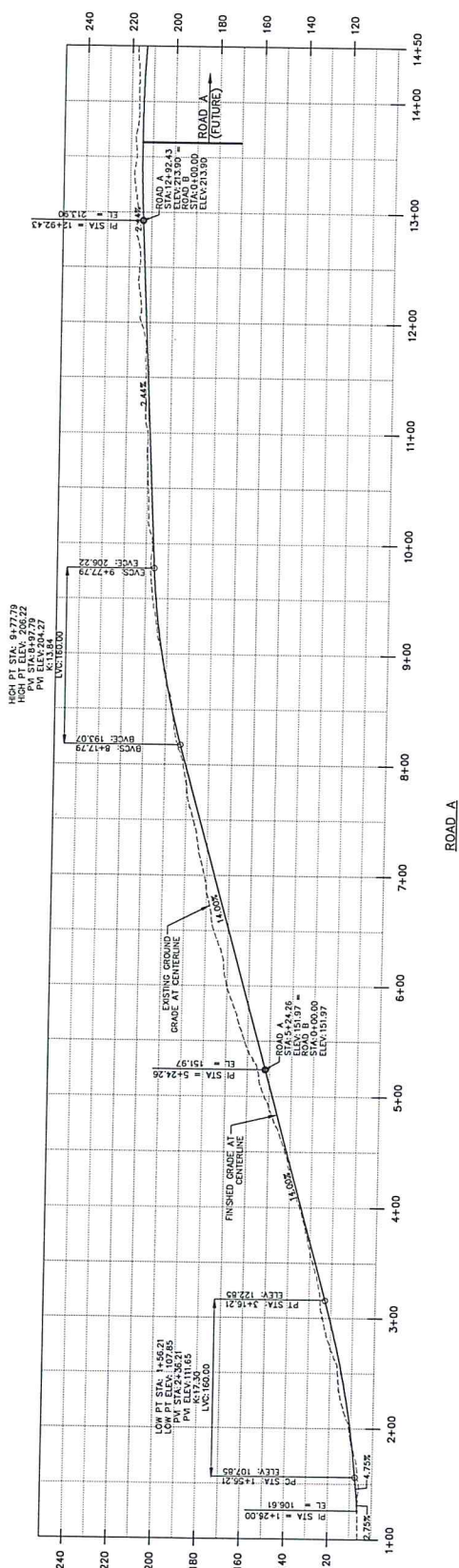


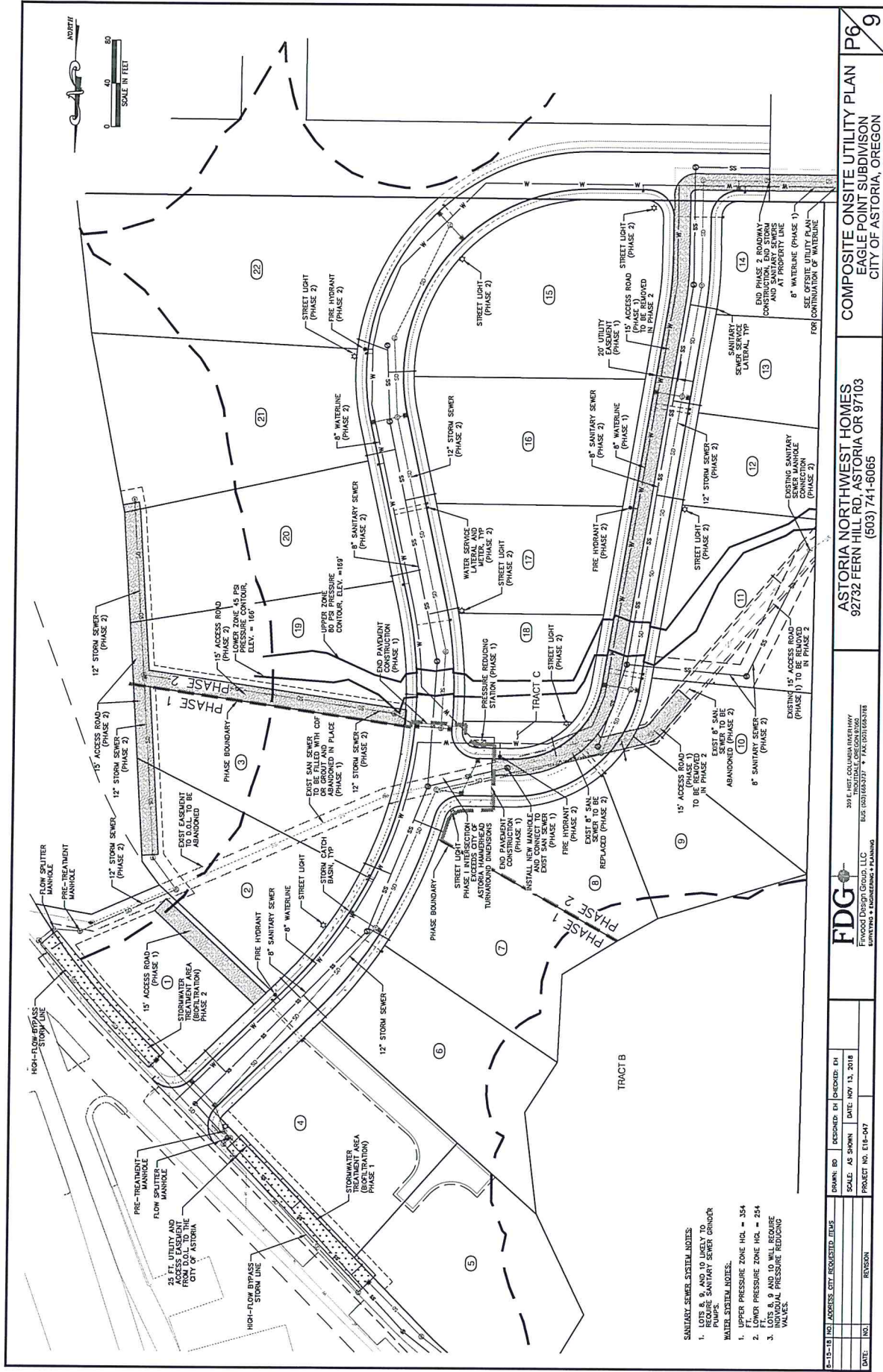
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DRAWN	RD	DESIGNED	DA	CHECKED	CH
SCALE	AS SHOWN	DATE	NOV 13, 2018		
PROJECT	NO. E18-047				
DATE	NO.	REVISION			



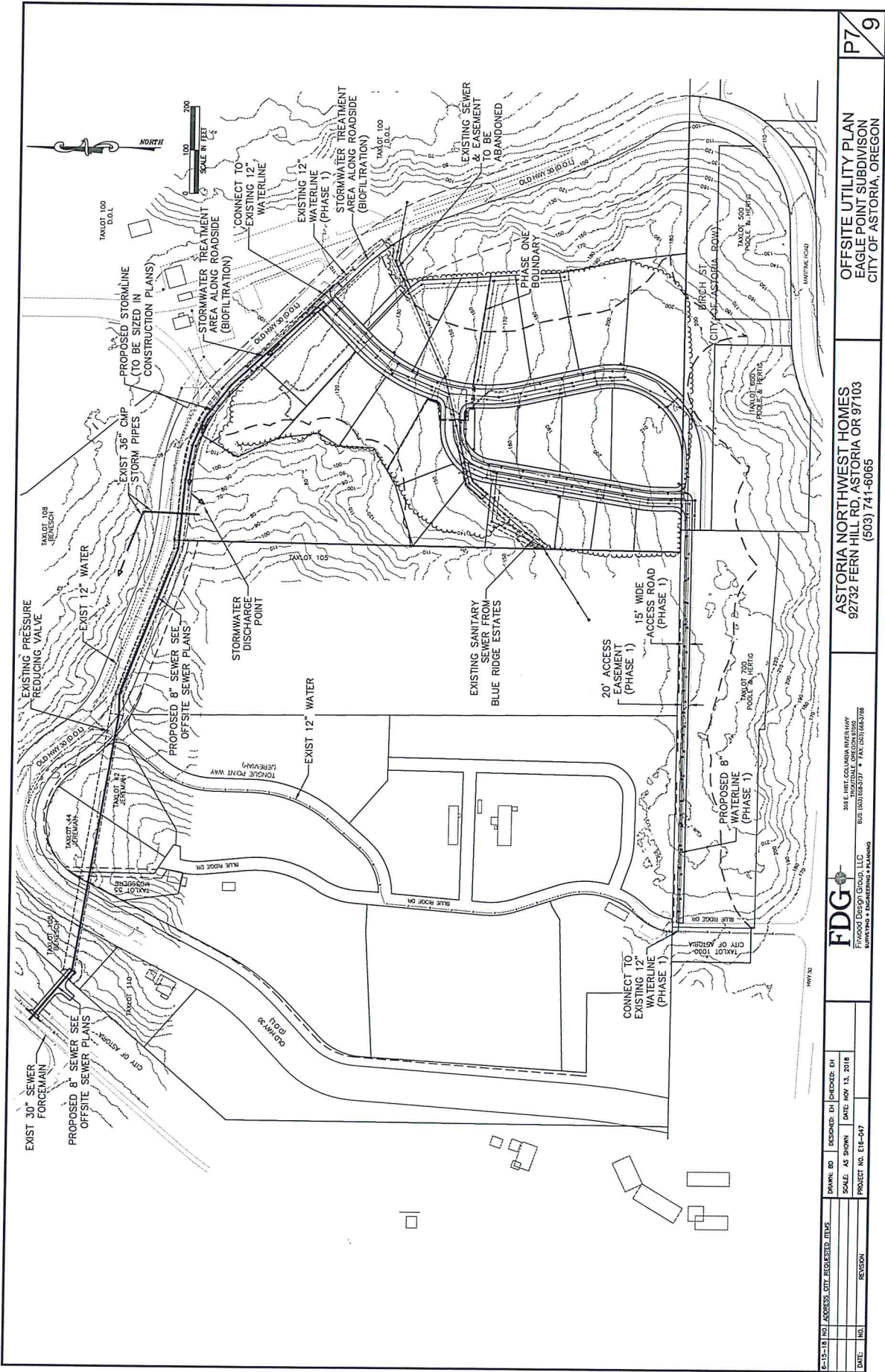
ASTORIA NORTHWEST HOMES
92732 FERN HILL RD, ASTORIA OR 97103
(503) 741-6065

PHASE 1 SITE PLAN
EAGLE POINT SUBDIVISION
CITY OF ASTORIA, OREGON





- SANITARY SEWER SYSTEM NOTES:**
1. LOTS 8, 9, AND 10, AND 11, ARE LIKELY TO BE REMOVED. SANITARY SEWER GRINDER PUMPS.
- WATER SYSTEM NOTES:**
1. UPPER PRESSURE ZONE HGL = 154 FT.
 2. LOWER PRESSURE ZONE HGL = 214 FT.
 3. LOTS 8, 9, AND 10 WILL REQUIRE VALVES.



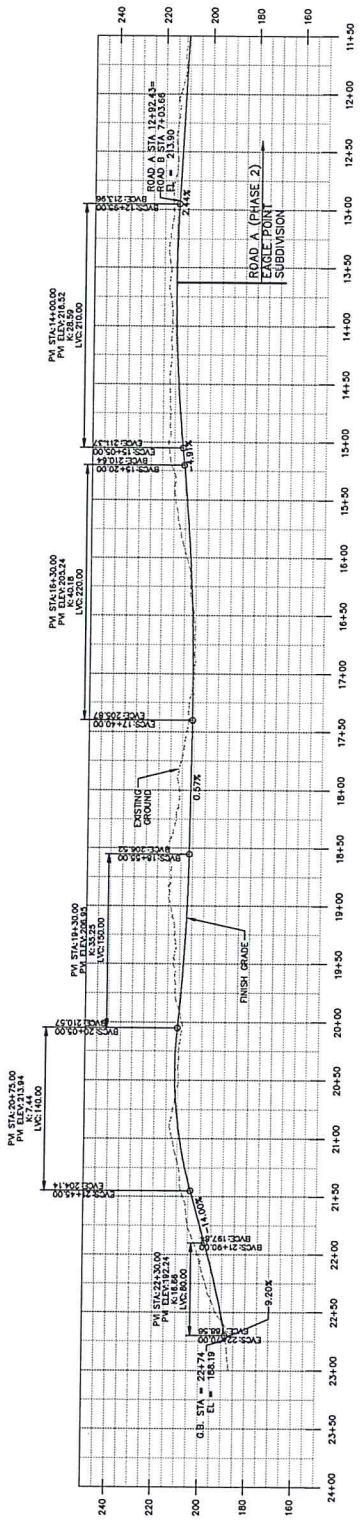
DATE:	NOV 13, 2018
REVISION:	

DESIGNED BY:	CH
CHECKED BY:	CH
SCALE:	AS SHOWN
PROJECT NO.:	E18-047

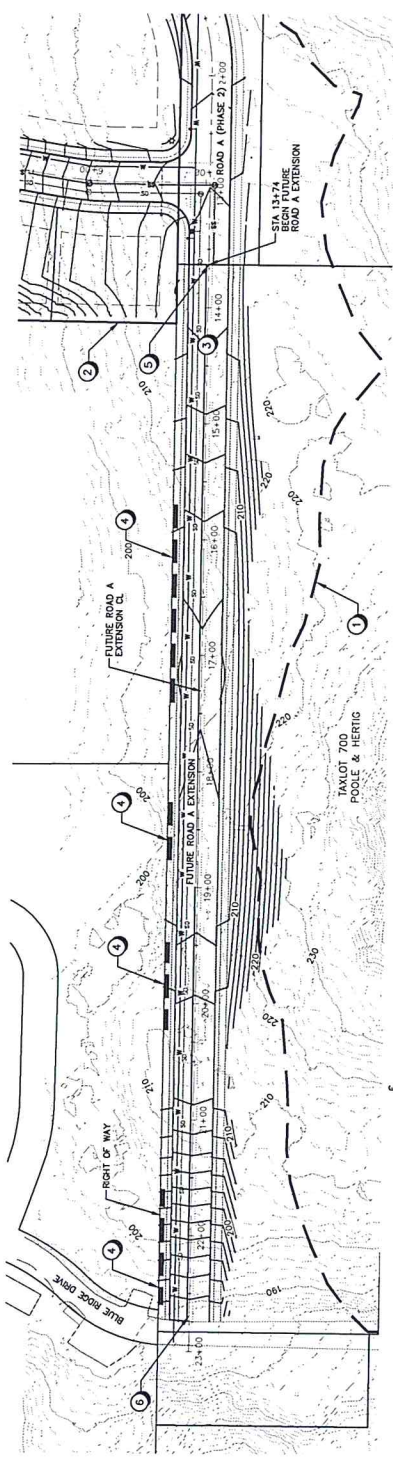
FDG
Floodwood Design Group, LLC
333 E. 1ST COLUMBIA RIVER HWY
TRINITAS, OREGON 97138
BUS: (503) 263-5177 FAX: (503) 263-5178
SURVEYING • ENGINEERING • PLANNING

ASTORIA NORTHWEST HOMES
92732 FERN HILL RD, ASTORIA OR 97103
(503) 741-6065

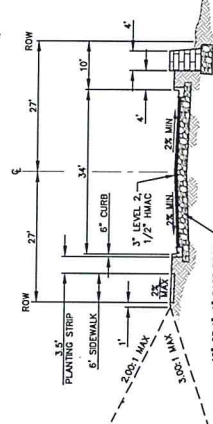
OFFSITE UTILITY PLAN
EAGLE POINT SUBDIVISION
CITY OF ASTORIA, OREGON



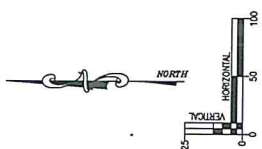
- 1 GCS-SETBACK LINE, SEE GUTTER REPORT DATED 4/7/2017
- 2 PROPOSED LOT LINE, TYP
- 3 FUTURE ROAD A EXTENSION, SEE TYPICAL SECTIONS
- 4 RETAINING WALL TO BE INSTALLED AT LOCATIONS SHOWN, SEE TYPICAL SECTIONS
- 5 END ROAD A CONSTRUCTION, PHASE 2, EAGLE POINT SUBDIVISION
- 6 END FUTURE ROAD A EXTENSION, MATCH EXISTING GRADE AT EDGE OF PAVEMENT, BLUE ROSE DRIVE



FUTURE ROAD A EXTENSION
TYPICAL SECTION



FUTURE ROAD A EXTENSION WITH
RETAINING WALL TYPICAL SECTION



Eagle Point Subdivision

Transportation Impact Study
Astoria, Oregon

Date:

July 25, 2018

Prepared for:

Cary Johnson
Astoria Northwest Homes

Prepared by:

Richard Martin, EI
William Farley, PE



RENEWAL: 12/31/2019



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Executive Summary

1. A 22-lot multi-family subdivision planned for development as a 120-unit apartment complex is proposed for tax lot 107 near Tongue Point in Astoria, Oregon.
2. The trip generation calculations for the 120 apartment units show a total of 43 new site trips during the morning peak hour and 53 during the evening peak hour.
3. The intersection of Maritime Road at US Highway 30 is projected to operate within the performance standards established by the City of Astoria and the Oregon Department of Transportation through anticipated build-out year 2020, either with or without the addition of site trips from the proposed development. No operational mitigations are recommended as part of the proposed project.
4. Right-turn lane and traffic signal warrants are not met at the study intersection under any analysis scenario. No new turn lanes or traffic signals are recommended as part of this development.
5. A 1983 deed from the Federal government to the property grants access to the property from the eastern side and it is currently unknown whether or not the Department of Labor will someday choose to restrict traffic on Old Highway 30 west of the proposed development. As such, the Road A access will be designed to discourage right turns into and left turns out of the site with posted signs.
6. Based on the review of the collision data, no crash patterns or significant design concerns were identified at the study area intersection. No safety mitigations are recommended.
7. Intersection and stopping sight distance was measured at the proposed site access location on Old US Highway 30 and found to be adequate in both directions.



Introduction

This traffic study analyzes and addresses the potential transportation impacts of a proposed subdivision of 22 lots hosting multi-family housing. The project site is located at tax lot 107 near Tongue Point in Astoria, Oregon. The proposed project is expected to be fully built-out by 2020.

This report includes morning and evening traffic counts as well as full operational analysis, including safety and capacity / level-of-service analyses, at the intersection of Maritime Road at US Highway 30.

This report analyzes the traffic impacts of the proposed apartments on the transportation network in the site vicinity. The purpose of the study is to determine whether the transportation system in the site vicinity is capable of safely and efficiently supporting the proposed development, and to determine any mitigation that might be necessary to do so.

Detailed information on traffic counts, trip generation calculations, and intersection capacity calculations is included in the technical appendix of this report.

Location and Description

The development will include the construction of one roadway, currently designated as Road “A”, which will take access to Old US Highway 30 near the intersection of Old US Highway 30 at Tongue Point Road, as well as an internal roadway Road “B” that will connect twice to Road “A”.

As of completion of this traffic study, it is unknown whether or not the Department of Labor will grant access west of the site along Old US Highway 30. As such, the access to the property at Road “A” will be restricted to left-in / right-out, which is also reflected in the capacity analysis section.

North of the project site are several industrial facilities, including the Tongue Point Job Corps Center, Astoria Wastewater Treatment, and Pacific Coast Seafoods. West of the project site is downtown Astoria, accessed primarily by US Highway 30. East of the site is the Marine and Environmental Research and Training Center, a facility operated by Clatsop Community College. Figure 1 shows the site vicinity.

Vicinity Streets

Old US Highway 30 is under federal jurisdiction and classified as “Other Local” in the Astoria Transportation System Plan (TSP). The roadway has a two-lane cross-section with centerline and edgeline striping along the segment of roadway allowed for use by the public. It has a posted speed limit of 25 mph.

Tongue Point Road is under federal jurisdiction and classified as “Other Local” in the Astoria TSP. The roadway has a two-lane cross-section and a statutory speed limit of 25 mph.

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Maritime Road and Nimitz Drive are under City of Astoria jurisdiction and classified as Major Local roads. The roadways have two-lane cross-sections with centerline and edgeline striping, and have posted speed limits of 25 mph.

US Highway 30 is under the jurisdiction of the Oregon Department of Transportation (ODOT) and is classified as a Principal Arterial in the Astoria TSP. The roadway generally has a two-lane cross-section with centerline and edgeline striping, except at the intersection with Maritime Road, where it hosts a two-way left-turn lane. The roadway has a posted speed limit within the city of 45 mph. East of the site vicinity, the posted speed limit increases to 55 mph.

Study Intersections

The intersection of Maritime Road / Nimitz Drive at US Highway 30 is a four-legged intersection that is stop-controlled for the minor street approaches of Maritime Road / Nimitz Drive. The eastbound and westbound approaches of US Highway 30 have one left-turn lane and one shared through / right-turn lane. The northbound and southbound approaches of Nimitz Drive and Maritime Road have one shared lane for all turning movements. No pedestrian or bicycle-specific infrastructure exists in the vicinity of the intersection. The eastbound approach of US Highway 30 has a wide shoulder that helps facilitate right turns onto Nimitz Drive.

The intersection of Old US Highway 30 at Road A will be a three-legged intersection that is stop-controlled for the minor street approach of Road A. There will be no striping along either roadway at the intersection. Road A will have one lane restricted to right-out movements. Old US Highway 30 will have one shared lane in both directions for all turning movements.

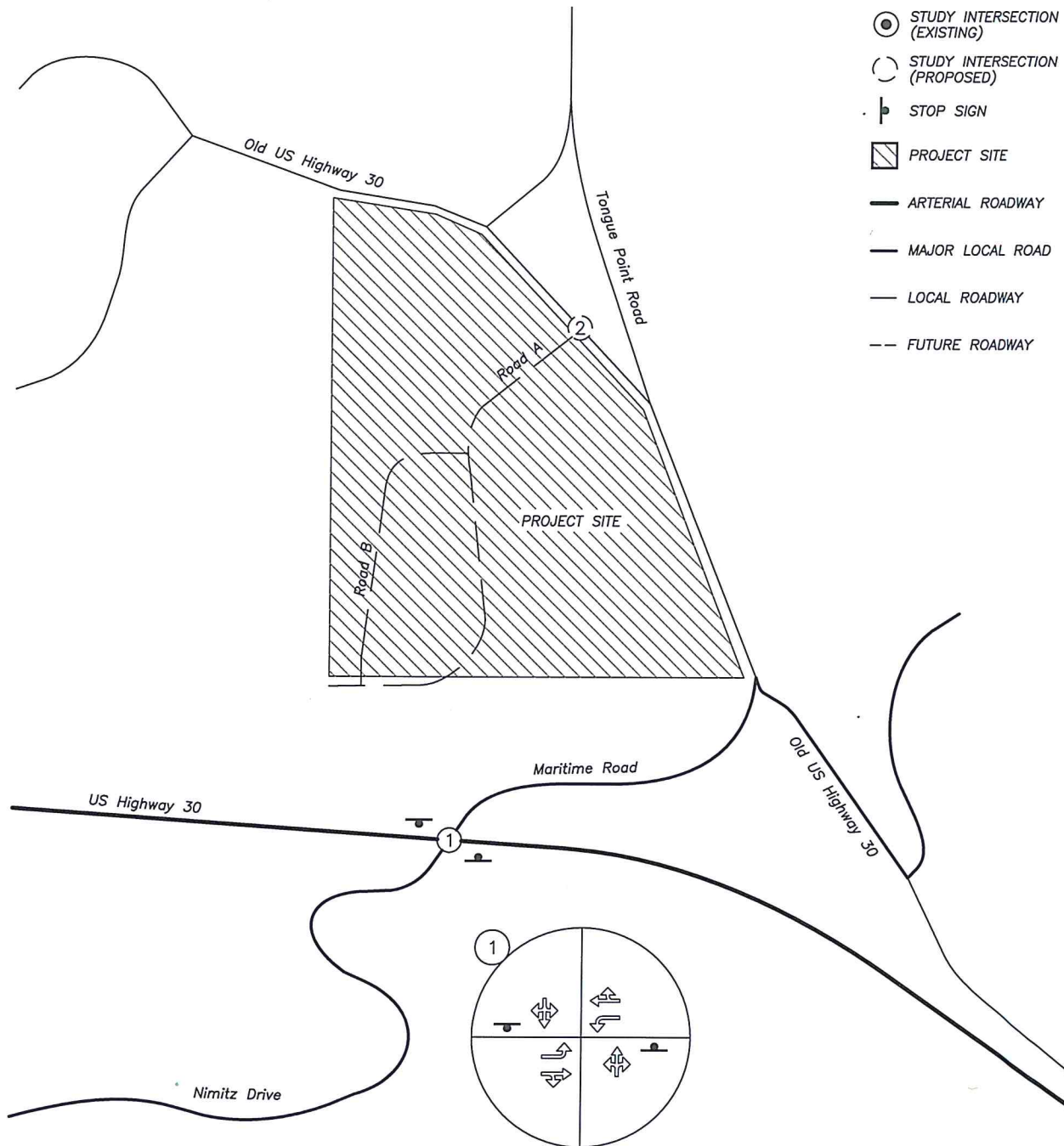
Traffic Counts

Traffic counts were conducted at the intersection of Maritime Road at US Highway 30 on Thursday, June 14th, 2018, from 7:00 to 9:00 AM and from 4:00 to 6:00 PM. At the study intersection, the morning peak hour was determined to be 7:20 to 8:20 AM and the evening peak hour was determined to be 4:35 to 5:35 PM. These peak hours were used in intersection analyses.

Figure 2 on page 5 shows the existing traffic volumes at the study intersections.

LEGEND

-  STUDY INTERSECTION (EXISTING)
-  STUDY INTERSECTION (PROPOSED)
-  STOP SIGN
-  PROJECT SITE
-  ARTERIAL ROADWAY
-  MAJOR LOCAL ROAD
-  LOCAL ROADWAY
-  FUTURE ROADWAY

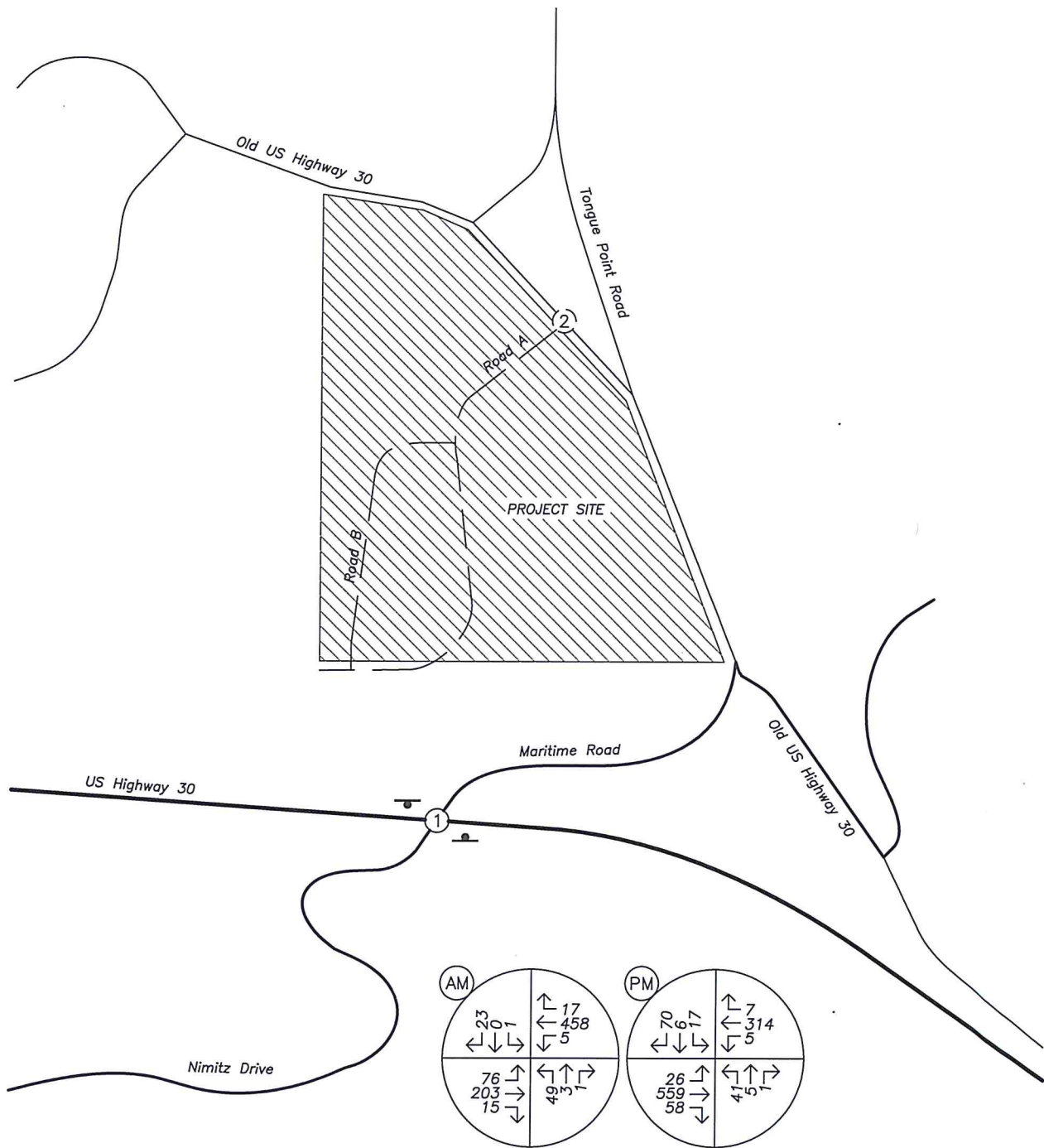


VICINITY MAP



FIGURE
1

PAGE
4



TRAFFIC VOLUMES
Existing Conditions
AM & PM Peak Hours



FIGURE
2

PAGE
5

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Trip Generation and Distribution

To estimate the trip generation from the proposed subdivision and 120-unit apartment complex, trip rates were taken from the *Trip Generation Manual, Tenth Edition*, published by the Institute of Transportation Engineers (ITE). The trip rates used were those given for land-use category 221, *Multifamily Housing (Mid-Rise)*, based on the number of dwelling units.

The site is expected to generate 43 total trips during the morning peak hour, with 11 trips entering and 32 trips exiting the site. During the evening peak hour, the site is projected to generate 53 trips, with 32 entering and 21 exiting the site. The following table offers a summary of the trip generation.

Detailed trip generation calculations are included in the appendix to this report.

Table 1: Trip Generation Summary

		AM Peak Hour			PM Peak Hour			Weekday
	Size	In	Out	Total	In	Out	Total	Total
Proposed Development								
Multifamily Housing (Mid-Rise)	120 units	11	32	43	32	21	53	652

Trip Distribution

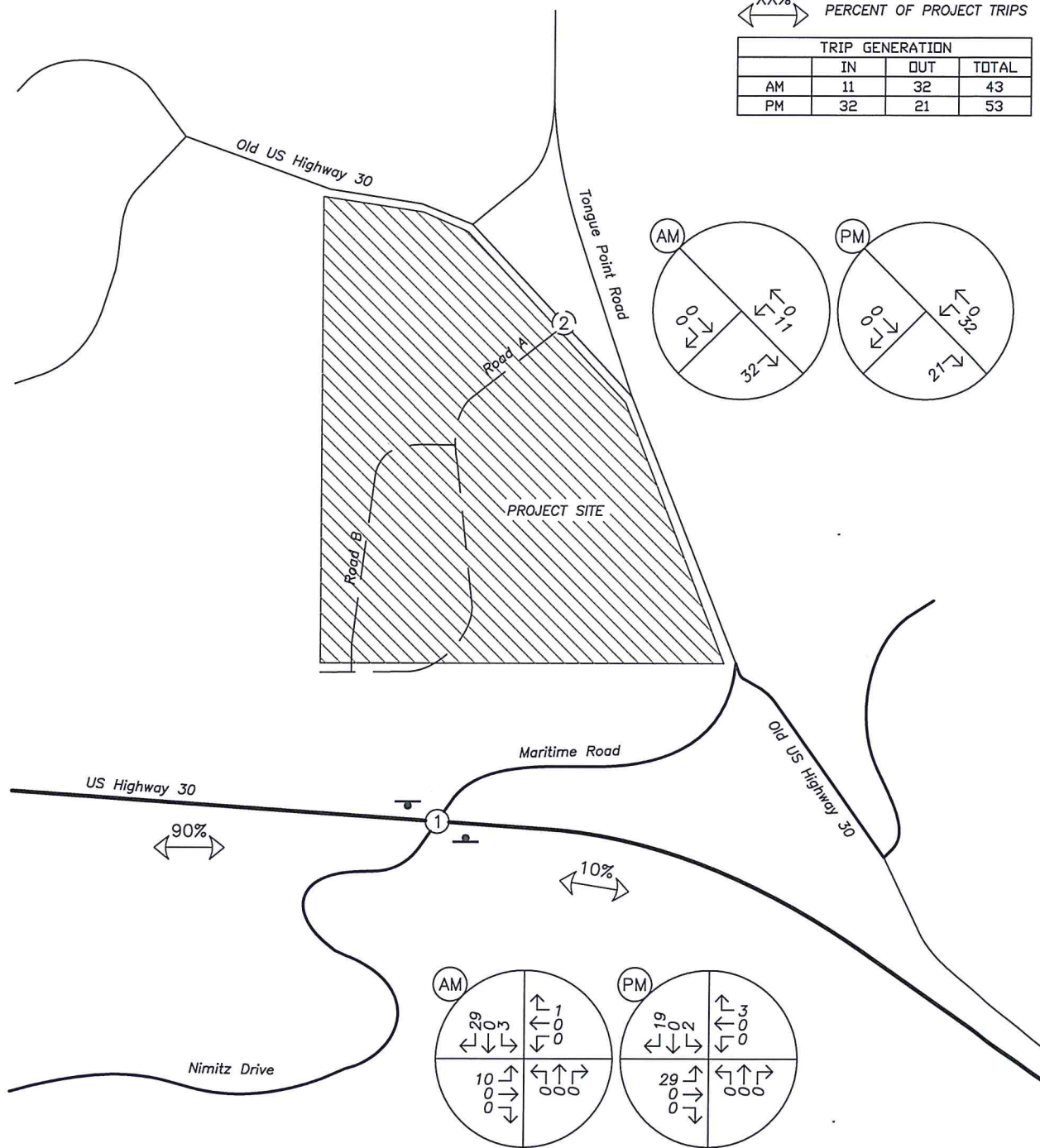
The subject property is located within the City of Astoria, east of the downtown area. It is expected that the majority of site traffic would travel to and from the west by way of US Highway 30. Based on the location of the site, 90 percent of trips are estimated to travel to/from the west and 10 percent to/from the east of the site along US Highway 30.

The trip assignment and distribution for the subject property is shown in Figure 3 on page 7.

LEGEND

XX%
PERCENT OF PROJECT TRIPS

TRIP GENERATION			
	IN	OUT	TOTAL
AM	11	32	43
PM	32	21	53



TRAFFIC VOLUMES
Site Trips Distribution & Assignment
AM & PM Peak Hours



FIGURE
3

PAGE
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Operational Analysis

The operational analysis for the subject property includes 2018 existing conditions, 2020 background conditions, and 2020 background plus site trips conditions.

Background Traffic

Prior to assigning the site trips to the study intersections, existing volumes were adjusted to account for anticipated growth in the study area that occurs during construction of the development. Background traffic volumes were projected for the year 2020 conditions, when the proposed subdivision is assumed to be completed and fully occupied.

Since US Highway 30 is a state highway, a seasonal adjustment factor of 1.236 was applied to existing volumes to represent volumes during the 30th-highest hour in accordance with the Analysis Procedures Manual.

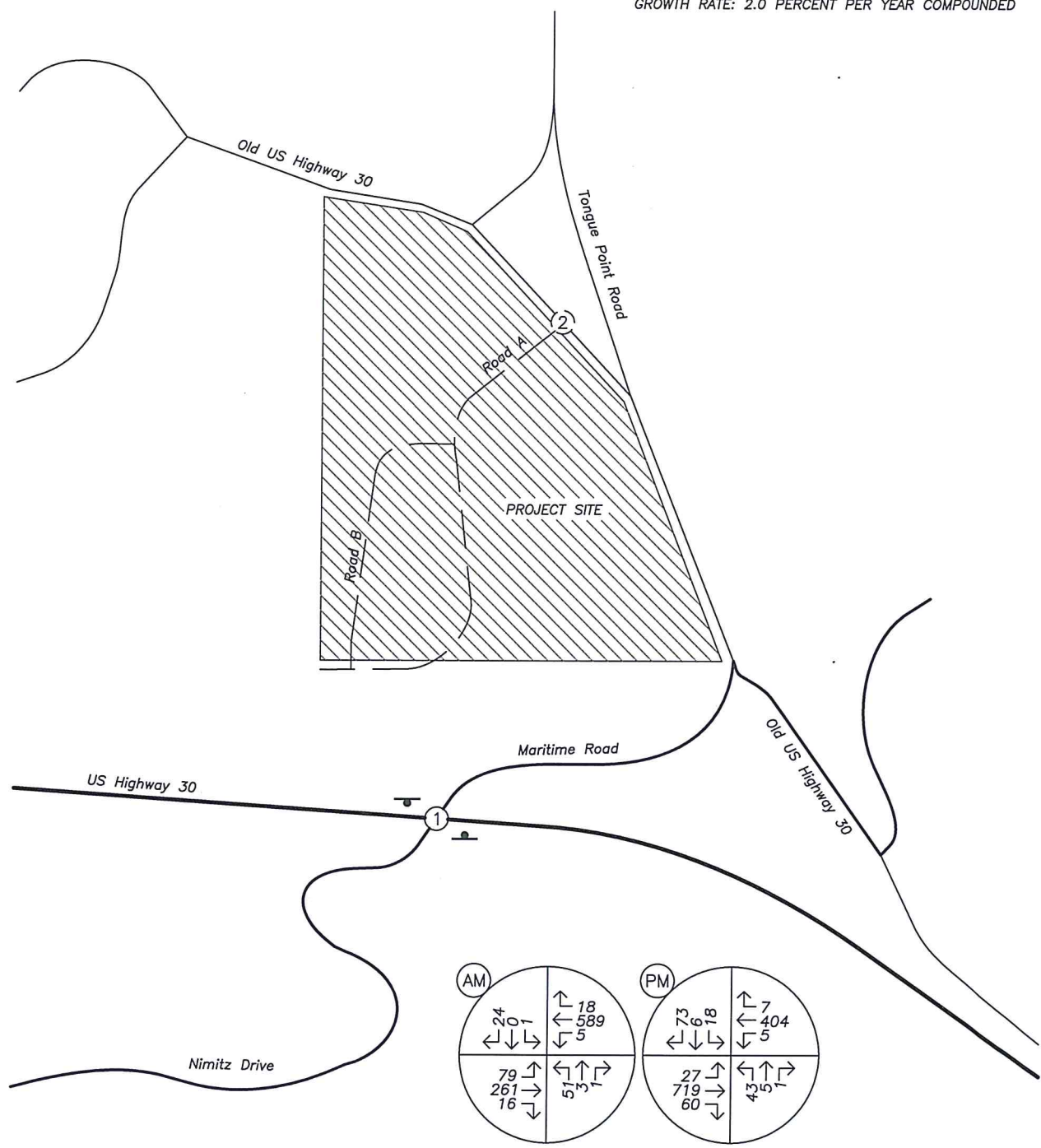
Based on the methodology from ODOT's Analysis Procedures Manual and the 2036 Future Volumes Tables, a growth rate of 0.8 percent is projected for through traffic on US Highway 30. However, to maintain a conservative analysis, a linear growth rate of two percent per year was used to estimate future traffic volumes at the intersection.

The growth factor was applied over a two year period to the existing traffic volumes in order to determine the expected year 2020 background traffic volumes, shown in Figure 4 on page 9.

Background plus Site Trips

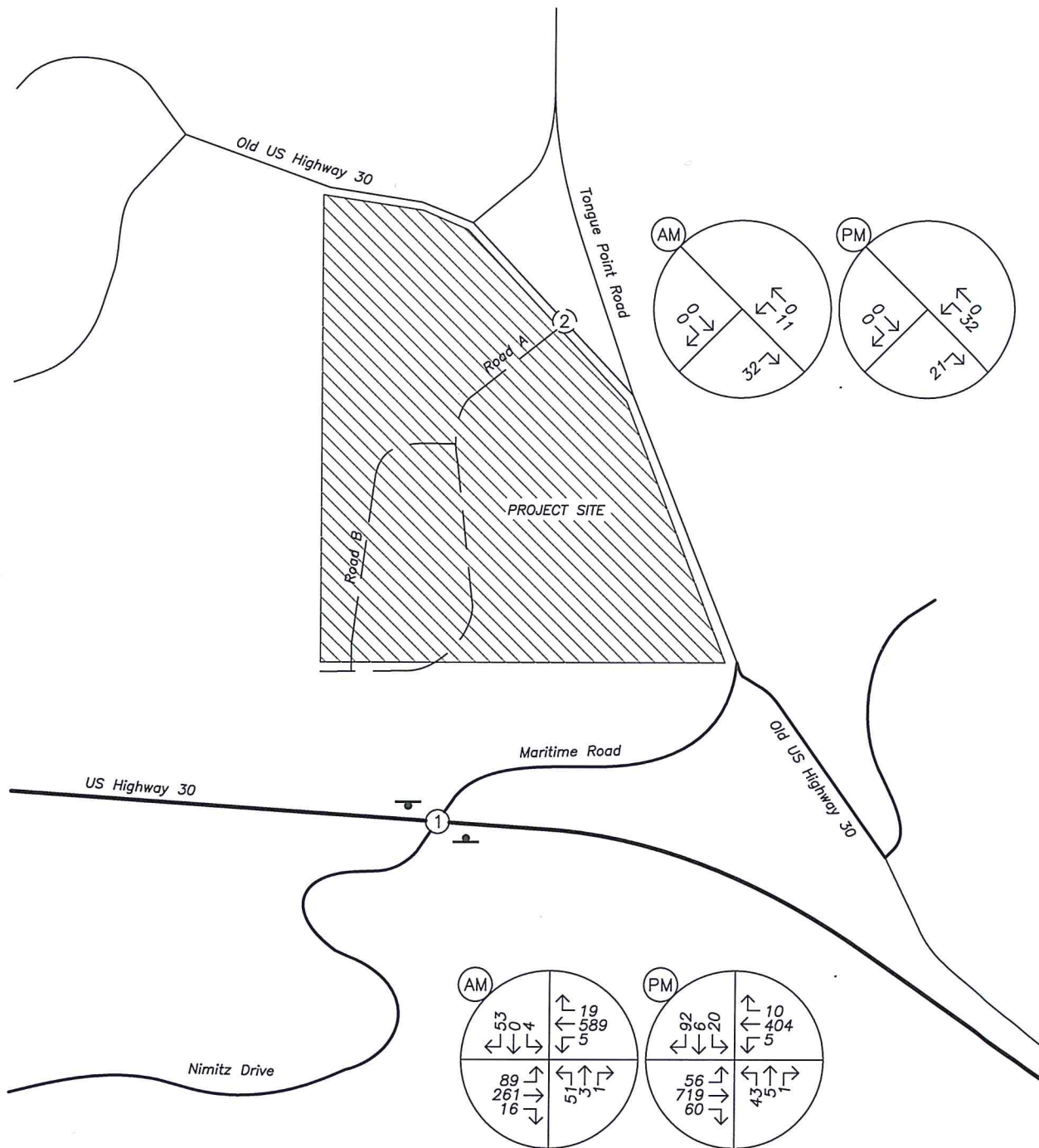
Peak hour trips calculated to be generated from the proposed development, as described earlier within the Trip Generation section, were added to the projected year 2020 volumes to obtain 2020 background plus site trips conditions. Figure 5 on page 10 shows the projected year 2020 peak hour background traffic volumes plus site trips from the proposed development.

GROWTH RATE: 2.0 PERCENT PER YEAR COMPOUNDED



TRAFFIC VOLUMES
 Year 2020 Background Conditions
 AM & PM Peak Hours





TRAFFIC VOLUMES
 Year 2020 Background plus Site Trips
 AM & PM Peak Hours



FIGURE
5

PAGE
10

Intersection Capacity Analysis

To determine the level of service at the study intersections, a capacity analysis was conducted. The analysis was made for the morning and evening peak hours for existing conditions, year 2020 background conditions, and year 2020 background plus site trips from the proposed development at full build-out.

The analysis was conducted using the unsignalized intersection analysis methodologies in the *Highway Capacity Manual (HCM)* published by the Transportation Research Board. Level of service (LOS) can range from LOS A, which indicates little or no delay, to LOS F, which indicates a significant amount of congestion and delay.

The study intersection of Maritime Road at US Highway 30 is under ODOT jurisdiction. State capacity analysis requirements include reporting a volume-to-capacity (v/c) ratio for each study area intersection. State performance standards require a v/c ratio of 0.90 or better during either peak hour.

LOS and v/c ratios are included in Table 2. For LOS, delay, and v/c ratio related to the analysis of unsignalized intersections, the reported result applies to the stop-controlled movement that was calculated to experience the largest delay. Detailed LOS descriptions are included in the appendix to this report.

The intersection of US Highway 30 at Maritime Road currently meets ODOT operational standards during both peak hours, but is projected to reach LOS E during the AM peak hour under year 2020 background conditions and LOS F under all other background scenarios. While this may be the case, the v/c ratio remains well below the threshold for ODOT performance, primarily due to the large volume of northbound left turns at the intersection. The operation of the intersection is not expected to be significantly impacted by the proposed development.

The intersection of Old US Highway 30 at the site access is projected to operate within the operational standards during both peak hours at the full build-out scenario. No mitigations are necessary or recommended.

The results of the capacity analysis, along with the levels of service and delay, are shown in the following table. Detailed calculations, as well as tables showing the relationships between delay and level of service are included in the appendix to this report.

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Table 2: Capacity Analysis Summary

	AM Peak Hour			PM Peak Hour		
	LOS	Delay (s)	v/c	LOS	Delay (s)	v/c
Maritime Road at US Highway 30						
Existing Conditions	D	32	0.32	D	34	0.29
2020 Background	E	47	0.43	F	60	0.45
2020 Background + Site	F	56	0.48	F	78	0.53
Old US Highway 30 at Site Access						
2020 Background + Site	A	8	0.02	A	8	0.02

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Safety Analysis

Crash Data Analysis

Using data obtained from ODOT's Crash Data System, a review of the most recent available five years of crash data (January 2012 through December 2016) at the study intersections was performed. A crash rate was calculated under the common assumption that traffic counted during the PM peak period represents 10% of the average daily traffic (ADT) at the intersection. Crash rates greater than 1.0 crash per million entering vehicles (CMEV) are generally indicative of a need for further investigation and possible mitigation.

The intersection of Maritime Road at US Highway 30 had two crashes reported during the analysis period. One report was a turning movement collision that resulted in two reports of Injury C – *Possible Injury or Complaint of Pain*. The other crash was an angle-type collision that resulted in three reports of Injury B – *Non-Incapacitating Injury* and one report of Injury A – *Incapacitating Injury*. This crash occurred when a vehicle stopped at the southbound stop sign and then failed to yield the right-of-way to an oncoming westbound vehicle, pulling forward into the intersection and causing the crash. The driver of the vehicle at fault sustained the Injury A, while the driver and two passengers of the westbound vehicle each sustained an Injury B. The crash rate for the intersection was calculated to be 0.099 CMEV.

Based on the review of collision data, no significant crash patterns or design concerns were identified at the study intersection. Accordingly, no safety mitigations are recommended. Detailed information about crashes and crash reports for the study intersection are included in the appendix to this report.

Sight Distance

Intersection sight distance (ISD) was measured and evaluated in accordance with the standards established in *A Policy on Geometric Design of Highways and Streets*, published in 2011 by the American Association of State Highway and Transportation Officials (AASHTO). According to AASHTO, the driver's eye is assumed to be 15 feet from the near edge of the nearest lane of the intersecting street and at a height of 3.5 feet above the approach street pavement, which is representative of driver's operating a wide range of vehicles from passenger cars to heavy vehicles. Vehicle / object height is assumed to be 3.5 feet above the cross-street pavement.

Sight distance was examined for the site access onto Old US Highway 30. According to AASHTO, minimum ISD for a roadway with a posted speed of 25 mph is 280 feet. ISD was measured to be 348 feet south, past the intersection at Tongue Point Road, and 343 feet north, obscured by the curve of the roadway and vegetation. ISD standards are met and no mitigations are necessary or recommended.

Warrants Analysis

A traffic signal warrant analysis was completed for the intersection of US Highway 30 at Maritime Road in accordance with ODOT requirements. Preliminary traffic signal warrants are not met under any analysis scenario. As such, no signal is necessary or recommended as part of this development.

Turn lane warrant analyses were conducted for right turn lanes at the intersection of US Highway 30 at Maritime Road. Right-turn lanes are not met under any analysis scenario. As such, no turn lanes are necessary or recommended as part of this development.

Detailed warrant analysis worksheets are included in the technical appendix of this report.

Conclusions

The intersection of Maritime Road at US Highway 30 is projected to operate within the performance standards established by ODOT through year 2020, either with or without the addition of site trips from the proposed development. No operational mitigations are recommended as part of the proposed project.

Turn lane and signal warrants are not met at the study intersection under any analysis scenario. No new turn lanes or traffic signals are recommended as part of this development.

Based on the review of the collision data, no crash patterns and no significant design concerns were identified at the study area intersections. No safety mitigations are recommended.

Intersection and stopping sight distance was measured at the proposed site access location on Old US Highway 30 and found to be adequate in both directions.

Based on the analysis, it is projected that the transportation system in the site vicinity is capable of safely and efficiently supporting the proposed 22-lot subdivision and the development of a 120-unit apartment complex.

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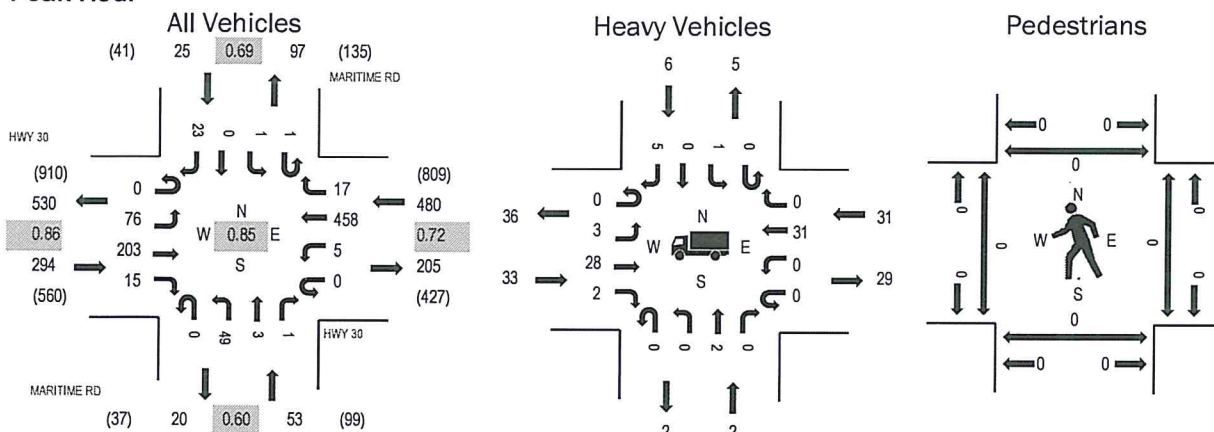
Appendix



(303) 216-2439
www.alltrafficdata.net

Location: MARITIME RD & HWY 30 AM
Date: Thursday, June 14, 2018
Peak Hour: 07:20 AM - 08:20 AM
Peak 15-Minutes: 07:35 AM - 07:50 AM

Peak Hour



Note: Total study counts contained in parentheses.

	HV%	PHF
EB	11.2%	0.86
WB	6.5%	0.72
NB	3.8%	0.60
SB	24.0%	0.69
All	8.5%	0.85

Traffic Counts - All Vehicles

Interval Start Time	HWY 30 Eastbound				HWY 30 Westbound				MARITIME RD Northbound				MARITIME RD Southbound				Total	Rolling Hour
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right		
7:00 AM	0	3	16	1	0	0	12	0	0	3	0	0	0	0	0	2	37	817
7:05 AM	0	9	14	0	0	0	40	0	0	2	1	1	0	0	0	0	67	843
7:10 AM	0	6	22	1	0	1	27	1	0	3	0	0	0	0	0	0	61	837
7:15 AM	0	3	11	0	0	0	33	0	0	4	0	0	0	1	0	1	53	850
7:20 AM	0	8	30	1	0	0	39	0	0	3	0	0	0	0	0	2	83	852
7:25 AM	0	3	17	0	0	1	29	0	0	7	1	0	0	0	0	2	60	816
7:30 AM	0	5	18	2	0	0	31	0	0	7	0	0	0	0	0	4	67	806
7:35 AM	0	6	17	1	0	1	49	2	0	7	0	1	0	1	0	2	87	789
7:40 AM	0	6	15	1	0	0	61	4	0	4	0	0	0	0	0	2	93	776
7:45 AM	0	9	6	0	0	0	45	5	0	3	0	0	0	0	0	2	70	728
7:50 AM	0	15	14	1	0	1	31	1	0	2	0	0	0	0	0	1	66	722
7:55 AM	0	13	17	1	0	0	35	2	0	4	0	0	0	0	0	1	73	705
8:00 AM	0	8	18	0	0	0	32	1	0	3	0	0	0	0	0	1	63	692
8:05 AM	0	2	18	4	0	1	30	0	0	2	1	0	0	0	0	3	61	
8:10 AM	0	1	15	1	0	1	47	1	0	5	1	0	1	0	0	1	74	
8:15 AM	0	0	18	3	0	0	29	1	0	2	0	0	0	0	0	2	55	
8:20 AM	0	1	13	0	0	0	26	1	0	5	0	0	0	0	0	1	47	
8:25 AM	0	3	18	0	0	0	25	0	0	2	0	0	0	1	0	1	50	
8:30 AM	0	1	14	2	0	0	24	0	0	6	0	0	0	0	0	3	50	
8:35 AM	0	1	27	0	0	0	37	1	0	6	0	0	0	0	0	2	74	
8:40 AM	0	1	18	1	0	0	21	1	0	3	0	0	0	0	0	0	45	
8:45 AM	0	2	30	4	0	0	21	0	0	5	0	0	0	0	0	2	64	
8:50 AM	0	1	18	3	0	0	24	0	0	2	0	0	0	0	0	1	49	
8:55 AM	0	1	17	4	0	0	33	1	0	3	0	0	0	1	0	0	60	
Count Total	0	108	421	31	0	6	781	22	0	93	4	2	1	4	0	36	1,509	
Peak Hour	0	76	203	15	0	5	458	17	0	49	3	1	1	1	0	23	852	

Traffic Counts - Heavy Vehicles, Bicycles on Road, and Pedestrians/Bicycles on Crosswalk

Interval Start Time	Heavy Vehicles					Interval Start Time	Bicycles on Roadway					Interval Start Time	Pedestrians/Bicycles on Crosswalk				
	EB	NB	WB	SB	Total		EB	NB	WB	SB	Total		EB	NB	WB	SB	Total
7:00 AM	1	0	0	0	1	7:00 AM	0	0	0	0	0	7:00 AM	0	0	0	0	0
7:05 AM	0	0	2	0	2	7:05 AM	0	0	0	0	0	7:05 AM	0	0	0	0	0
7:10 AM	4	1	4	0	9	7:10 AM	0	0	0	0	0	7:10 AM	0	0	0	0	0
7:15 AM	5	0	2	0	7	7:15 AM	0	0	0	0	0	7:15 AM	0	0	0	0	0
7:20 AM	4	0	2	0	6	7:20 AM	0	0	0	0	0	7:20 AM	0	0	0	0	0
7:25 AM	2	0	6	0	8	7:25 AM	0	0	0	0	0	7:25 AM	0	0	0	0	0
7:30 AM	2	0	0	1	3	7:30 AM	0	0	0	0	0	7:30 AM	0	0	0	0	0
7:35 AM	2	0	1	1	4	7:35 AM	0	0	0	0	0	7:35 AM	0	0	0	0	0
7:40 AM	1	0	2	0	3	7:40 AM	0	0	0	0	0	7:40 AM	0	0	0	0	0
7:45 AM	2	0	2	1	5	7:45 AM	0	0	0	0	0	7:45 AM	0	0	0	0	0
7:50 AM	2	0	3	0	5	7:50 AM	0	0	0	0	0	7:50 AM	0	0	0	0	0
7:55 AM	5	0	3	0	8	7:55 AM	0	0	0	0	0	7:55 AM	0	0	0	0	0
8:00 AM	2	0	2	0	4	8:00 AM	0	0	0	0	0	8:00 AM	0	0	0	0	0
8:05 AM	7	1	4	1	13	8:05 AM	0	0	0	0	0	8:05 AM	0	0	0	0	0
8:10 AM	1	1	2	0	4	8:10 AM	0	0	0	0	0	8:10 AM	0	0	0	0	0
8:15 AM	3	0	4	2	9	8:15 AM	0	0	0	0	0	8:15 AM	0	0	0	0	0
8:20 AM	3	0	1	1	5	8:20 AM	0	0	0	0	0	8:20 AM	0	0	0	0	0
8:25 AM	6	0	2	0	8	8:25 AM	0	0	0	0	0	8:25 AM	0	0	0	0	0
8:30 AM	0	0	2	1	3	8:30 AM	0	0	0	0	0	8:30 AM	0	0	0	0	0
8:35 AM	1	0	6	0	7	8:35 AM	0	0	0	0	0	8:35 AM	0	0	0	0	0
8:40 AM	0	0	1	0	1	8:40 AM	0	0	0	0	0	8:40 AM	0	0	0	0	0
8:45 AM	2	0	3	0	5	8:45 AM	0	0	0	0	0	8:45 AM	0	0	0	0	0
8:50 AM	3	0	2	0	5	8:50 AM	0	0	0	0	0	8:50 AM	0	0	0	0	0
8:55 AM	2	0	4	0	6	8:55 AM	0	0	0	0	0	8:55 AM	0	0	0	0	0
Count Total	60	3	60	8	131	Count Total	0	0	0	0	0	Count Total	0	0	0	0	0
Peak Hour	33	2	31	6	72	Peak Hour	0	0	0	0	0	Peak Hour	0	0	0	0	0



(303) 216-2439
www.alltrafficdata.net

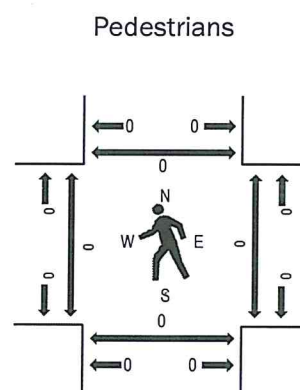
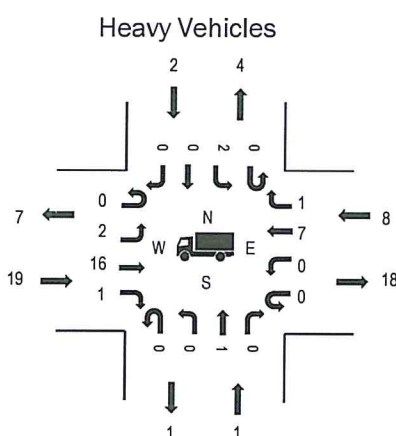
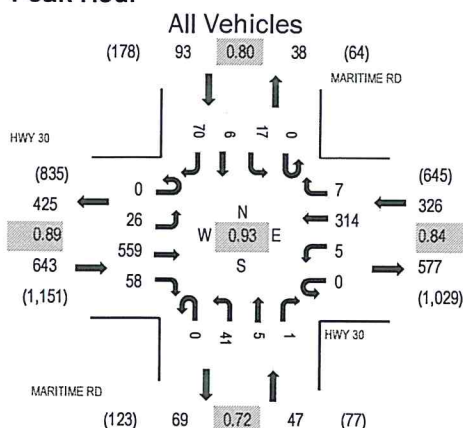
Location: MARITIME RD & HWY 30 PM

Date: Thursday, June 14, 2018

Peak Hour: 04:35 PM - 05:35 PM

Peak 15-Minutes: 05:20 PM - 05:35 PM

Peak Hour



Note: Total study counts contained in parentheses.

	HV%	PHF
EB	3.0%	0.89
WB	2.5%	0.84
NB	2.1%	0.72
SB	2.2%	0.80
All	2.7%	0.93

Traffic Counts - All Vehicles

Interval Start Time	HWY 30 Eastbound				HWY 30 Westbound				MARITIME RD Northbound				MARITIME RD Southbound				Total	Rolling Hour	
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			
4:00 PM	0	3	34	5	0	0	31	0	0	2	0	0	0	0	0	0	5	80	1,012
4:05 PM	0	3	23	5	0	2	31	0	0	4	0	0	0	2	0	5	75	1,028	
4:10 PM	0	2	40	10	0	0	40	0	0	1	1	0	0	1	0	11	106	1,056	
4:15 PM	0	3	42	2	0	0	31	0	0	1	0	1	0	2	0	5	87	1,045	
4:20 PM	0	1	48	5	0	0	24	0	0	2	0	0	0	1	0	3	84	1,040	
4:25 PM	0	0	27	3	0	0	25	2	0	2	0	1	0	2	0	4	66	1,069	
4:30 PM	0	4	26	4	0	0	29	0	0	4	0	1	0	0	0	12	80	1,102	
4:35 PM	0	2	49	7	0	0	34	1	0	4	0	0	0	3	0	5	105	1,109	
4:40 PM	0	1	41	4	0	0	30	0	0	8	0	0	0	1	2	9	96	1,075	
4:45 PM	0	3	41	3	0	0	21	0	0	2	1	0	0	0	0	3	74	1,057	
4:50 PM	0	2	38	2	0	0	21	0	0	5	0	1	0	0	0	1	70	1,051	
4:55 PM	0	1	51	5	0	0	25	1	0	1	0	0	0	1	0	4	89	1,058	
5:00 PM	0	3	42	11	0	0	28	0	0	4	0	0	0	1	0	7	96	1,039	
5:05 PM	0	1	50	8	0	0	28	0	0	3	0	0	0	1	0	12	103		
5:10 PM	0	1	60	5	0	1	18	0	0	3	0	0	0	0	0	7	95		
5:15 PM	0	4	43	3	0	0	23	0	0	1	2	0	0	2	1	3	82		
5:20 PM	0	2	57	4	0	0	33	2	0	4	1	0	0	2	1	7	113		
5:25 PM	0	3	52	2	0	3	25	2	0	3	1	0	0	3	0	5	99		
5:30 PM	0	3	35	4	0	1	28	1	0	3	0	0	0	3	2	7	87		
5:35 PM	0	2	39	1	0	0	17	1	0	1	0	0	0	2	0	8	71		
5:40 PM	0	2	40	5	0	0	27	0	0	1	0	0	0	1	0	2	78		
5:45 PM	0	0	34	2	0	0	20	0	0	4	0	0	0	1	1	6	68		
5:50 PM	0	1	47	3	0	0	18	1	0	2	0	1	0	0	0	4	77		
5:55 PM	0	0	36	6	0	0	20	0	0	1	0	0	0	0	0	7	70		
Count Total	0	47	995	109	0	7	627	11	0	66	6	5	0	29	7	142	2,051		
Peak Hour	0	26	559	58	0	5	314	7	0	41	5	1	0	17	6	70	1,109		

Traffic Counts - Heavy Vehicles, Bicycles on Road, and Pedestrians/Bicycles on Crosswalk

Interval Start Time	Heavy Vehicles					Interval Start Time	Bicycles on Roadway					Interval Start Time	Pedestrians/Bicycles on Crosswalk				
	EB	NB	WB	SB	Total		EB	NB	WB	SB	Total		EB	NB	WB	SB	Total
4:00 PM	3	0	3	1	7	4:00 PM	0	0	0	0	0	4:00 PM	0	0	0	0	0
4:05 PM	4	0	0	0	4	4:05 PM	0	0	0	0	0	4:05 PM	0	0	0	0	0
4:10 PM	4	1	1	1	7	4:10 PM	0	0	0	0	0	4:10 PM	0	0	0	0	0
4:15 PM	2	0	0	0	2	4:15 PM	0	0	0	0	0	4:15 PM	0	0	0	0	0
4:20 PM	0	0	1	0	1	4:20 PM	0	0	0	0	0	4:20 PM	0	0	0	0	0
4:25 PM	1	0	1	0	2	4:25 PM	0	0	0	0	0	4:25 PM	0	0	0	0	0
4:30 PM	0	0	1	0	1	4:30 PM	0	0	0	0	0	4:30 PM	0	0	0	0	0
4:35 PM	2	0	0	0	2	4:35 PM	0	0	0	0	0	4:35 PM	0	0	0	0	0
4:40 PM	2	0	0	0	2	4:40 PM	0	0	0	0	0	4:40 PM	0	0	0	0	0
4:45 PM	2	0	0	0	2	4:45 PM	1	0	0	0	1	4:45 PM	0	0	0	0	0
4:50 PM	1	0	2	0	3	4:50 PM	0	0	0	0	0	4:50 PM	0	0	0	0	0
4:55 PM	1	0	1	0	2	4:55 PM	0	0	0	0	0	4:55 PM	0	0	0	0	0
5:00 PM	2	0	0	0	2	5:00 PM	0	0	0	0	0	5:00 PM	0	0	0	0	0
5:05 PM	2	0	0	0	2	5:05 PM	0	0	0	0	0	5:05 PM	0	0	0	0	0
5:10 PM	0	0	0	0	0	5:10 PM	0	0	0	0	0	5:10 PM	0	0	0	0	0
5:15 PM	1	1	2	0	4	5:15 PM	0	0	0	0	0	5:15 PM	0	0	0	0	0
5:20 PM	2	0	1	0	3	5:20 PM	0	0	0	0	0	5:20 PM	0	0	0	0	0
5:25 PM	2	0	1	0	3	5:25 PM	0	0	0	0	0	5:25 PM	0	0	0	0	0
5:30 PM	2	0	1	2	5	5:30 PM	0	0	0	0	0	5:30 PM	0	0	0	0	0
5:35 PM	0	0	0	1	1	5:35 PM	0	0	0	0	0	5:35 PM	0	0	0	0	0
5:40 PM	2	0	1	0	3	5:40 PM	0	0	0	0	0	5:40 PM	0	0	0	0	0
5:45 PM	1	0	0	0	1	5:45 PM	0	0	0	0	0	5:45 PM	0	0	0	0	0
5:50 PM	1	0	0	0	1	5:50 PM	0	0	0	0	0	5:50 PM	0	0	0	0	0
5:55 PM	0	0	1	0	1	5:55 PM	0	0	0	0	0	5:55 PM	0	0	0	0	0
Count Total	37	2	17	5	61	Count Total	1	0	0	0	1	Count Total	0	0	0	0	0
Peak Hour	19	1	8	2	30	Peak Hour	1	0	0	0	1	Peak Hour	0	0	0	0	0

CITY OF ASTORIA, CLATSOP COUNTY

MARITIME RD at LEIF ERICKSON DR, City of Astoria, Clatsop County, 01/01/2012 to 12/31/2016
1 - 2 of 2 Crash records shown.

SER#	P	R	S	W	DATE	CLASS	CITY STREET	RD CHAR	INT-TYPE	INT-REL	OFFRD	WTHR	CRASH	SPCL USE	MOVE	FROM	PRTC	INJ	G	E	L	C	M	S	CAUSE
INVEST	E	A	U	C	O	D	FIRST STREET	DIRECT	(MEDIAN)	TRAF-	RNDBT	SURF	COLL	OWNER	TRLR QTY	FROM	PRTC	INJ	G	E	L	C	M	S	CAUSE
RD DPT	E	L	G	H	R	TIME	SECOND STREET	LOCN	(LANES)	CONFL	DRVM	LIGHT	SVRTY	VI TYPE	01 NONE	0	PH TYPE	SVRTY	E	X	R	E	S	LOC	CAUSE
UNLOC?	D	C	S	L	K	LAT	LONG	LOCN	CROSS	N	N	CLR	ANGL-OTH	01 NONE	0	STRGHT	PH TYPE	SVRTY	E	X	R	E	S	LOC	CAUSE
00641	N	N	N	N	N	12/31/2014	14	MARITIME RD	INTER	CROSS	N	STOP	SIGN	N	DAY	INJ	01	DRVR	INJB	38	F	OR-Y	OR>25	00	
CITY	WE							CN			N	DAY	INJ	PRVTE	PSNGR CAR	E -W								00	
N	4P							01	0		N	DAY	INJ	PRVTE	PSNGR CAR	E -W								00	
N	46 11 41.15	-123 46					009200100500				N	DAY	INJ	PRVTE	PSNGR CAR	E -W								00	
						6.19					N	DAY	INJ	PRVTE	PSNGR CAR	E -W								00	
											N	DAY	INJ	PRVTE	PSNGR CAR	TURN-L								00	
											N	DAY	INJ	PRVTE	PSNGR CAR	N -E								00	
											N	DAY	INJ	PRVTE	PSNGR CAR	N -E								00	
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1e

TRIP GENERATION CALCULATIONS

Land Use: Multifamily Housing (Mid-Rise)

Land Use Code: 221

Setting/Location: General Urban/Suburban

Variable: Dwelling Units

Variable Value: 120

AM PEAK HOUR

Trip Rate: 0.36

	Enter	Exit	Total
Directional Distribution	26%	74%	
Trip Ends	11	32	43

PM PEAK HOUR

Trip Rate: 0.44

	Enter	Exit	Total
Directional Distribution	61%	39%	
Trip Ends	32	21	53

WEEKDAY

Trip Rate: 5.44







	Enter	Exit	Total
Directional Distribution	50%	50%	
Trip Ends	326	326	652

SATURDAY

Trip Rate: 4.91

	Enter	Exit	Total
Directional Distribution	50%	50%	
Trip Ends	295	295	590

Source: TRIP GENERATION, Tenth Edition

Intersection												
Int Delay, s/veh	3.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	76	203	15	5	458	17	49	3	1	1	0	23
Future Vol, veh/h	76	203	15	5	458	17	49	3	1	1	0	23
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	150	-	-	150	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	85	85	85	85	85	85	85	85	85	85	85	85
Heavy Vehicles, %	11	11	11	7	7	7	4	4	4	25	25	25
Mvmt Flow	89	239	18	6	539	20	58	4	1	1	0	27

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	559	0	0	257	0	0	1001	997	248	990	996	549
Stage 1	-	-	-	-	-	-	426	426	-	561	561	-
Stage 2	-	-	-	-	-	-	575	571	-	429	435	-
Critical Hdwy	4.21	-	-	4.17	-	-	7.14	6.54	6.24	7.35	6.75	6.45
Critical Hdwy Stg 1	-	-	-	-	-	-	6.14	5.54	-	6.35	5.75	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.14	5.54	-	6.35	5.75	-
Follow-up Hdwy	2.299	-	-	2.263	-	-	3.536	4.036	3.336	3.725	4.225	3.525
Pot Cap-1 Maneuver	968	-	-	1279	-	-	220	242	786	205	223	494
Stage 1	-	-	-	-	-	-	602	582	-	474	475	-
Stage 2	-	-	-	-	-	-	500	502	-	562	543	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	968	-	-	1279	-	-	193	219	786	187	201	494
Mov Cap-2 Maneuver	-	-	-	-	-	-	193	219	-	187	201	-
Stage 1	-	-	-	-	-	-	547	528	-	430	473	-
Stage 2	-	-	-	-	-	-	470	499	-	506	493	-







Approach	EB	WB	NB	SB
HCM Control Delay, s	2.4	0.1	31.5	13.3
HCM LOS			D	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	197	968	-	-	1279	-	-	462
HCM Lane V/C Ratio	0.317	0.092	-	-	0.005	-	-	0.061
HCM Control Delay (s)	31.5	9.1	-	-	7.8	-	-	13.3
HCM Lane LOS	D	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	1.3	0.3	-	-	0	-	-	0.2

HCM 2010 TWSC

1: Nimitz Drive/Maritime Road & US Highway 30








06/28/2018

Intersection												
Int Delay, s/veh	3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	26	559	58	5	314	7	41	5	1	17	6	70
Future Vol, veh/h	26	559	58	5	314	7	41	5	1	17	6	70
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	150	-	-	150	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	3	3	3	3	3	3	2	2	2	2	2	2
Mvmt Flow	28	601	62	5	338	8	44	5	1	18	6	75

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	346	0	0	663	0	0	1081	1044	632	1043	1071	342
Stage 1	-	-	-	-	-	-	688	688	-	352	352	-
Stage 2	-	-	-	-	-	-	393	356	-	691	719	-
Critical Hdwy	4.13	-	-	4.13	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.227	-	-	2.227	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1207	-	-	921	-	-	195	229	480	207	221	701
Stage 1	-	-	-	-	-	-	436	447	-	665	632	-
Stage 2	-	-	-	-	-	-	632	629	-	435	433	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1207	-	-	921	-	-	166	223	480	198	215	701
Mov Cap-2 Maneuver	-	-	-	-	-	-	166	223	-	198	215	-
Stage 1	-	-	-	-	-	-	426	437	-	650	629	-
Stage 2	-	-	-	-	-	-	555	626	-	419	423	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.3	0.1	34.2	15.7
HCM LOS			D	C







Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	173	1207	-	-	921	-	-	435
HCM Lane V/C Ratio	0.292	0.023	-	-	0.006	-	-	0.23
HCM Control Delay (s)	34.2	8.1	-	-	8.9	-	-	15.7
HCM Lane LOS	D	A	-	-	A	-	-	C
HCM 95th %tile Q(veh)	1.2	0.1	-	-	0	-	-	0.9

Intersection												
Int Delay, s/veh	3.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	79	261	16	5	589	18	51	3	1	1	0	24
Future Vol, veh/h	79	261	16	5	589	18	51	3	1	1	0	24
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	150	-	-	150	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	85	85	85	85	85	85
Heavy Vehicles, %	11	11	11	7	7	7	4	4	4	25	25	25
Mvmt Flow	88	290	18	6	654	20	60	4	1	1	0	28

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	674	0	0	308	0	0	1165	1161	299	1154	1160	664
Stage 1	-	-	-	-	-	-	475	475	-	676	676	-
Stage 2	-	-	-	-	-	-	690	686	-	478	484	-
Critical Hdwy	4.21	-	-	4.17	-	-	7.14	6.54	6.24	7.35	6.75	6.45
Critical Hdwy Stg 1	-	-	-	-	-	-	6.14	5.54	-	6.35	5.75	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.14	5.54	-	6.35	5.75	-
Follow-up Hdwy	2.299	-	-	2.263	-	-	3.536	4.036	3.336	3.725	4.225	3.525
Pot Cap-1 Maneuver	876	-	-	1225	-	-	170	194	736	157	177	423
Stage 1	-	-	-	-	-	-	567	554	-	408	419	-
Stage 2	-	-	-	-	-	-	432	445	-	527	516	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	876	-	-	1225	-	-	146	174	736	142	159	423
Mov Cap-2 Maneuver	-	-	-	-	-	-	146	174	-	142	159	-
Stage 1	-	-	-	-	-	-	510	499	-	367	417	-
Stage 2	-	-	-	-	-	-	401	443	-	470	464	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	2.1	0.1	46.5	14.9
HCM LOS			E	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	149	876	-	-	1225	-	-	392
HCM Lane V/C Ratio	0.434	0.1	-	-	0.005	-	-	0.075
HCM Control Delay (s)	46.5	9.6	-	-	8	-	-	14.9
HCM Lane LOS	E	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	1.9	0.3	-	-	0	-	-	0.2

Intersection												
Int Delay, s/veh	3.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	27	719	60	5	404	7	43	5	1	18	6	73
Future Vol, veh/h	27	719	60	5	404	7	43	5	1	18	6	73
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	150	-	-	150	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	3	3	3	3	3	3	2	2	2	2	2	2
Mvmt Flow	28	757	63	5	425	7	45	5	1	19	6	77

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	432	0	0	820	0	0	1325	1287	789	1287	1315	429
Stage 1	-	-	-	-	-	-	845	845	-	439	439	-
Stage 2	-	-	-	-	-	-	480	442	-	848	876	-
Critical Hdwy	4.13	-	-	4.13	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.227	-	-	2.227	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1122	-	-	805	-	-	133	164	391	141	158	626
Stage 1	-	-	-	-	-	-	357	379	-	597	578	-
Stage 2	-	-	-	-	-	-	567	576	-	356	367	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1122	-	-	805	-	-	110	159	391	134	153	626
Mov Cap-2 Maneuver	-	-	-	-	-	-	110	159	-	134	153	-
Stage 1	-	-	-	-	-	-	348	370	-	582	575	-
Stage 2	-	-	-	-	-	-	489	573	-	341	358	-







Approach	EB	WB	NB	SB
HCM Control Delay, s	0.3	0.1	59.6	20.5
HCM LOS			F	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	115	1122	-	-	805	-	-	334
HCM Lane V/C Ratio	0.449	0.025	-	-	0.007	-	-	0.306
HCM Control Delay (s)	59.6	8.3	-	-	9.5	-	-	20.5
HCM Lane LOS	F	A	-	-	A	-	-	C
HCM 95th %tile Q(veh)	2	0.1	-	-	0	-	-	1.3

HCM 2010 TWSC

1: Nimitz Drive/Old US Highway 30 & US Highway 30

07/24/2018

Intersection												
Int Delay, s/veh	4.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	89	261	16	5	589	19	51	3	1	4	0	53
Future Vol, veh/h	89	261	16	5	589	19	51	3	1	4	0	53
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	150	-	-	150	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	11	11	11	7	7	7	4	4	4	25	25	25
Mvmt Flow	99	290	18	6	654	21	57	3	1	4	0	59




Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	675	0	0	308	0	0	1203	1184	299	1176	1183	665
Stage 1	-	-	-	-	-	-	497	497	-	677	677	-
Stage 2	-	-	-	-	-	-	706	687	-	499	506	-
Critical Hdwy	4.21	-	-	4.17	-	-	7.14	6.54	6.24	7.35	6.75	6.45
Critical Hdwy Stg 1	-	-	-	-	-	-	6.14	5.54	-	6.35	5.75	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.14	5.54	-	6.35	5.75	-
Follow-up Hdwy	2.299	-	-	2.263	-	-	3.536	4.036	3.336	3.725	4.225	3.525
Pot Cap-1 Maneuver	875	-	-	1225	-	-	160	188	736	151	172	422
Stage 1	-	-	-	-	-	-	551	541	-	407	419	-
Stage 2	-	-	-	-	-	-	423	444	-	513	504	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	875	-	-	1225	-	-	125	166	736	135	152	422
Mov Cap-2 Maneuver	-	-	-	-	-	-	125	166	-	135	152	-
Stage 1	-	-	-	-	-	-	489	480	-	361	417	-
Stage 2	-	-	-	-	-	-	362	442	-	451	447	-







Approach	EB			WB			NB			SB		
HCM Control Delay, s	2.3			0.1			55.8			16.8		
HCM LOS							F			C		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	129	875	-	-	1225	-	-	367
HCM Lane V/C Ratio	0.474	0.113	-	-	0.005	-	-	0.173
HCM Control Delay (s)	55.8	9.6	-	-	8	-	-	16.8
HCM Lane LOS	F	A	-	-	A	-	-	C
HCM 95th %tile Q(veh)	2.2	0.4	-	-	0	-	-	0.6

HCM 2010 TWSC
2: Road A & Old US Highway 30

07/24/2018

Intersection						
Int Delay, s/veh	7.9					
Movement	SET	SER	NWL	NWT	NEL	NER
Lane Configurations						
Traffic Vol, veh/h	0	0	11	0	0	32
Future Vol, veh/h	0	0	11	0	0	32
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	12	0	0	35
Major/Minor	Major1	Major2	Minor1			
Conflicting Flow All	0	0	1	0	-	1
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	4.12	-	-	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	2.218	-	-	3.318
Pot Cap-1 Maneuver	-	-	1622	-	0	1084
Stage 1	-	-	-	-	0	-
Stage 2	-	-	-	-	0	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1622	-	-	1084
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	SE	NW	NE			
HCM Control Delay, s	0	7.2	8.4			
HCM LOS	A					
Minor Lane/Major Mvmt	NELn1	NWL	NWT	SET	SER	
Capacity (veh/h)	1084	1622	-	-	-	
HCM Lane V/C Ratio	0.032	0.007	-	-	-	
HCM Control Delay (s)	8.4	7.2	0	-	-	
HCM Lane LOS	A	A	A	-	-	
HCM 95th %tile Q(veh)	0.1	0	-	-	-	

Intersection												
Int Delay, s/veh	5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	56	719	60	5	404	10	43	5	1	20	6	92
Future Vol, veh/h	56	719	60	5	404	10	43	5	1	20	6	92
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	150	-	-	150	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	3	3	3	3	3	3	2	2	2	2	2	2
Mvmt Flow	59	757	63	5	425	11	45	5	1	21	6	97




Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	436	0	0	820	0	0	1399	1353	789	1351	1379	431
Stage 1	-	-	-	-	-	-	907	907	-	441	441	-
Stage 2	-	-	-	-	-	-	492	446	-	910	938	-
Critical Hdwy	4.13	-	-	4.13	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.227	-	-	2.227	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1118	-	-	805	-	-	118	150	391	127	144	624
Stage 1	-	-	-	-	-	-	330	355	-	595	577	-
Stage 2	-	-	-	-	-	-	558	574	-	329	343	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1118	-	-	805	-	-	92	141	391	118	136	624
Mov Cap-2 Maneuver	-	-	-	-	-	-	92	141	-	118	136	-
Stage 1	-	-	-	-	-	-	313	336	-	563	574	-
Stage 2	-	-	-	-	-	-	463	571	-	306	325	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.6	0.1	78.1	22.6
HCM LOS			F	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	97	1118	-	-	805	-	-	327
HCM Lane V/C Ratio	0.532	0.053	-	-	0.007	-	-	0.38
HCM Control Delay (s)	78.1	8.4	-	-	9.5	-	-	22.6
HCM Lane LOS	F	A	-	-	A	-	-	C
HCM 95th %tile Q(veh)	2.4	0.2	-	-	0	-	-	1.7

HCM 2010 TWSC
2: Road A & Old US Highway 30

07/24/2018

Intersection						
Int Delay, s/veh	7.6					
Movement	SET	SER	NWL	NWT	NEL	NER
Lane Configurations						
Traffic Vol, veh/h	0	0	32	0	0	21
Future Vol, veh/h	0	0	32	0	0	21
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	35	0	0	23

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	1
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	4.12	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	2.218	-
Pot Cap-1 Maneuver	-	1622	0
Stage 1	-	-	0
Stage 2	-	-	0
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	1622	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	SE	NW	NE
HCM Control Delay, s	0	7.3	8.4
HCM LOS	A		

Minor Lane/Major Mvmt	NELn1	NWL	NWT	SET	SER
Capacity (veh/h)	1084	1622	-	-	-
HCM Lane V/C Ratio	0.021	0.021	-	-	-
HCM Control Delay (s)	8.4	7.3	0	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0.1	0.1	-	-	-

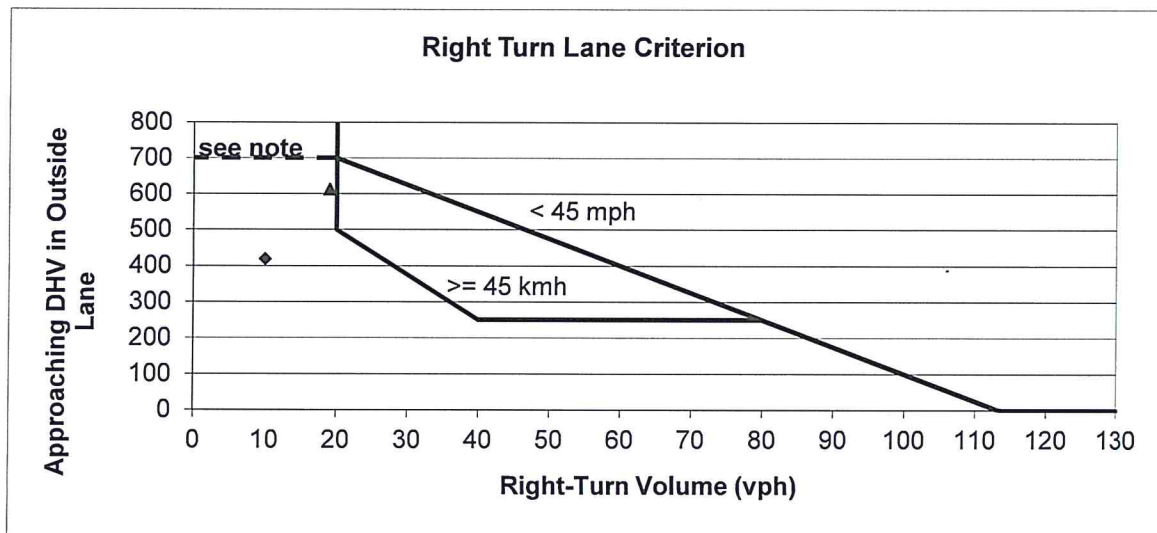


Project: 18099 - Eagle Point Subdivision
Date: 7/24/2018
Scenario: 2020 Background + Site Trips

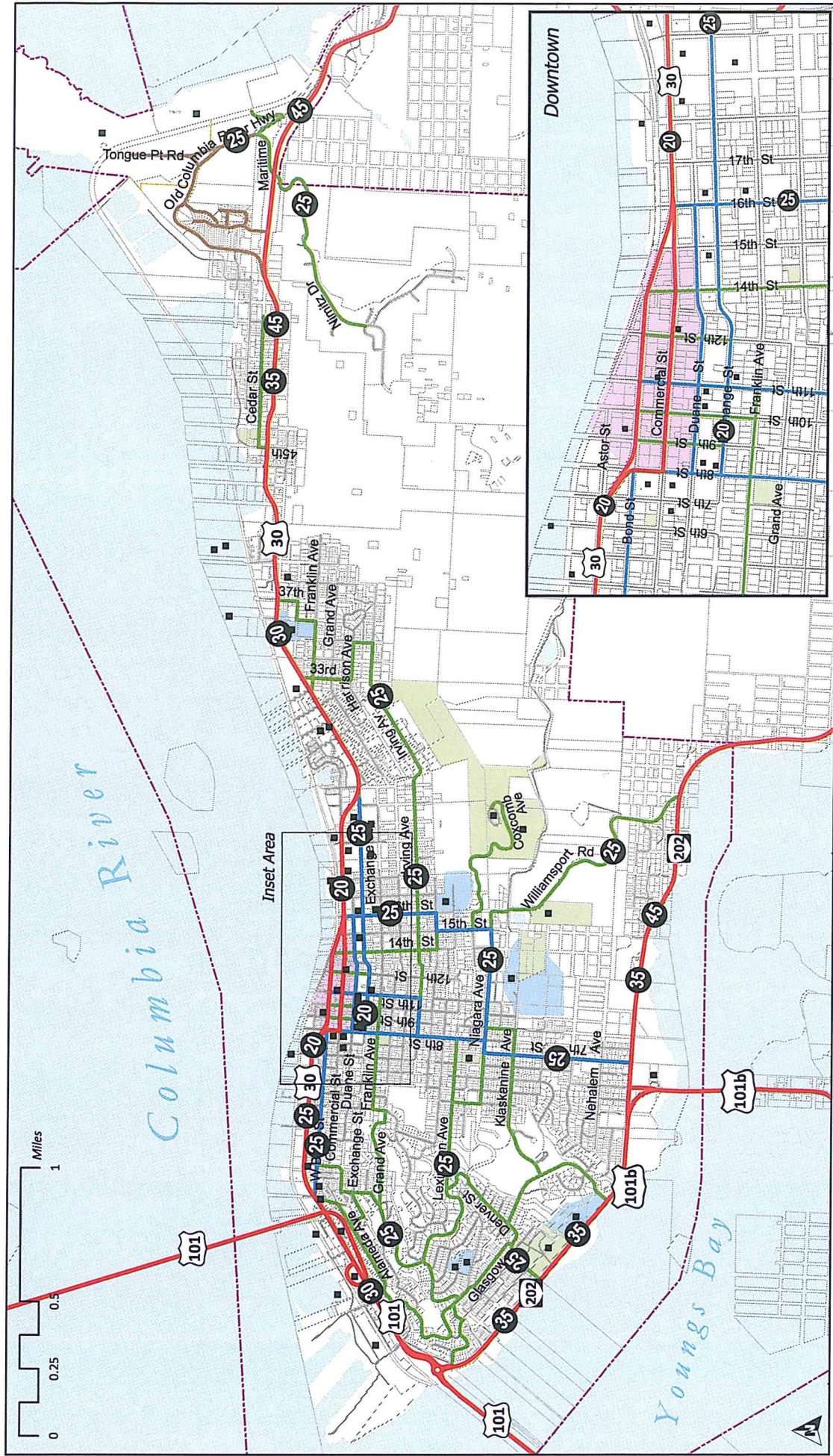
Speed? 45 mph 72 kmh

AM Peak Hour
Right-Turn Volume 19
Approaching DHV 613
Lane Needed? No

PM Peak Hour
Right-Turn Volume 10
Approaching DHV 419
Lane Needed? No



Note: If there is no right turn lane, a shoulder needs to be provided.
If this intersection is in a rural area and is a connection to a public street, a right turn lane is needed.



Existing Functional Classification, Roadway Jurisdictions, and Posted Speed Limits

City of Astoria Transportation System Plan

Traffic Signal Warrant Analysis

16

Project: 18099 - Eagle Point Subdivision
Date: 7/24/2018
Scenario: 2020 Background Plus Site Trips Conditions

Major Street:	US Highway 30	Minor Street:	Maritime Road / Nimitz Drive
Number of Lanes:	1	Number of Lanes:	1
PM Peak Hour Volumes:	1254	PM Peak Hour Volumes:	167

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)	
<u>WARRANT 1, CONDITION A</u>		100%	70%	100%	70%
<u>Major St.</u>	<u>Minor St.</u>	<u>Warrants</u>	<u>Warrants</u>	<u>Warrants</u>	<u>Warrants</u>
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
<u>WARRANT 1, CONDITION B</u>					
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

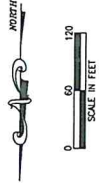
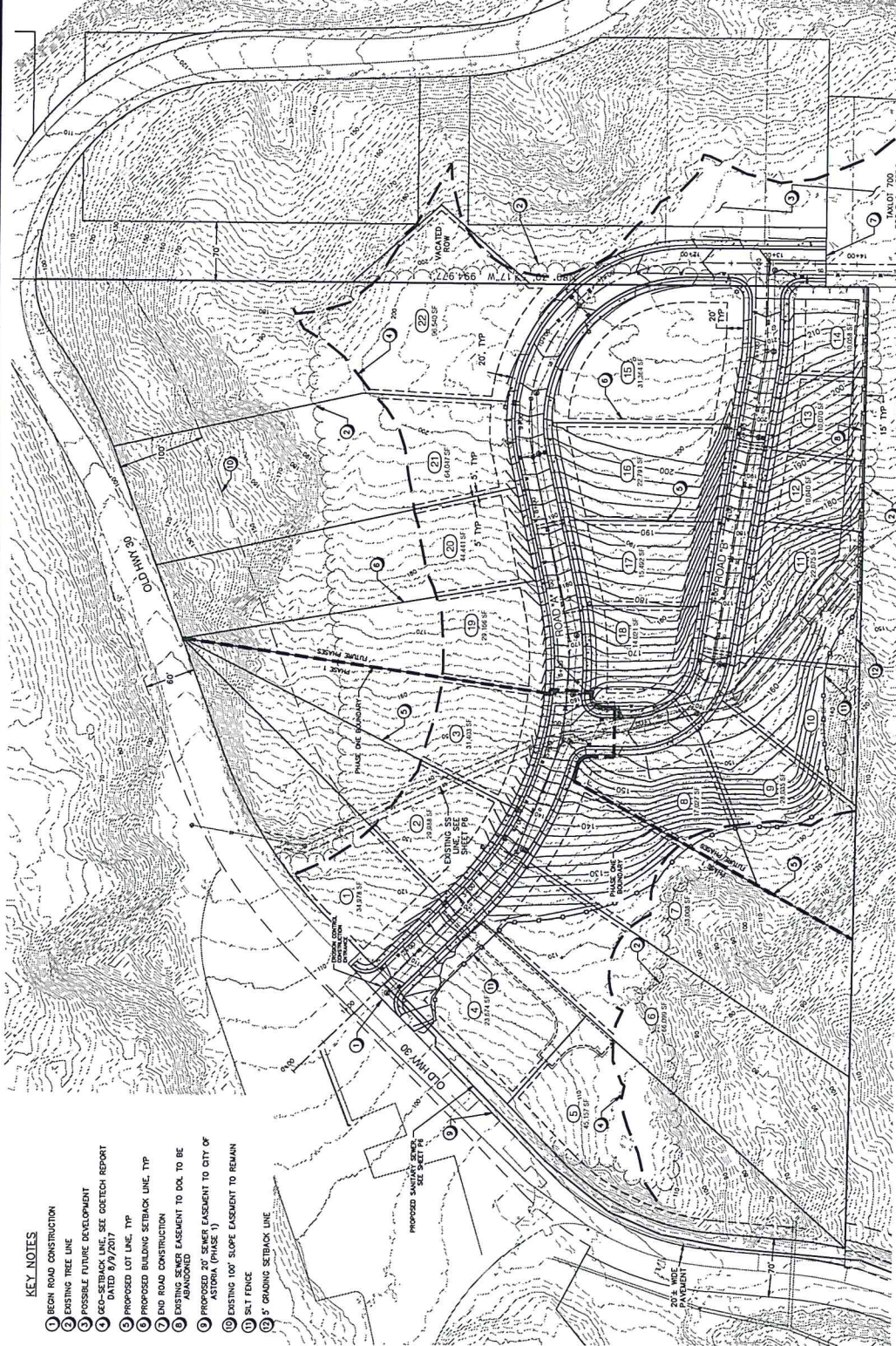
Note: ADT volumes assume 8th highest hour is 5.6% of the daily volume

	Approach Volumes	Minimum Volumes	Is Signal Warrant Met?
<i>Warrant 1</i>			
<i>Condition A: Minimum Vehicular Volume</i>			
Major Street	12,540	8,850	
Minor Street*	1,670	2,650	No
<i>Condition B: Interruption of Continuous Traffic</i>			
Major Street	12,540	13,300	
Minor Street*	1,670	1,350	No
<i>Combination Warrant</i>			
Major Street	12,540	10,640	
Minor Street*	1,670	2,120	No

* Minor street right-turning traffic volumes reduced by 25%

DATE:	NO.	REVISION	PROJECT NO. E18-147	SCALE: AS SHOWN	DATE: MARCH 12, 2018	DRAWN: _____	CHECKED: _____
<div style="display: flex; justify-content: space-between; align-items: center;"> <div>  <p>FDG</p> <p>Finwood Design Group, LLC</p> <p>1000 WEST COLUMBIA RIVER HWY TRIDENT, OREGON 97139 TEL: (503) 695-3771 * FAX: (503) 695-3718</p> <p>PLANNING & ENGINEERING</p> </div> <div> <p>ASTORIA NORTHWEST HOMES</p> <p>92732 FERN HILL RD, ASTORIA OR 97103</p> <p>(503) 741-6065</p> </div> <div> <p>COVER SHEET</p> <p>EAGLE POINT SUBDIVISION</p> <p>CITY OF ASTORIA, OREGON</p> </div> </div>							
<div style="display: flex; justify-content: space-between;"> <div>P1</div> <div>8</div> </div>							

- KEY NOTES**
1. BEGIN ROAD CONSTRUCTION
 2. EXISTING TREE LINE
 3. POSSIBLE FUTURE DEVELOPMENT
 4. GEO-SETBACK LINE, SEE GEOTECH REPORT DATED 8/9/2017
 5. PROPOSED LOT LINE, TYP
 6. PROPOSED BUILDING SETBACK LINE, TYP
 7. 2ND ROAD CONSTRUCTION
 8. EXISTING SEWER EASEMENT TO DOL TO BE ABANDONED
 9. PROPOSED 30" SEWER EASEMENT TO CITY OF ASTORIA (PHASE 1)
 10. EXISTING 100' SLOPE EASEMENT TO REMAIN
 11. SLOPE FENCE
 12. 5' GRADING SETBACK LINE



DATE	NO.	REVISION

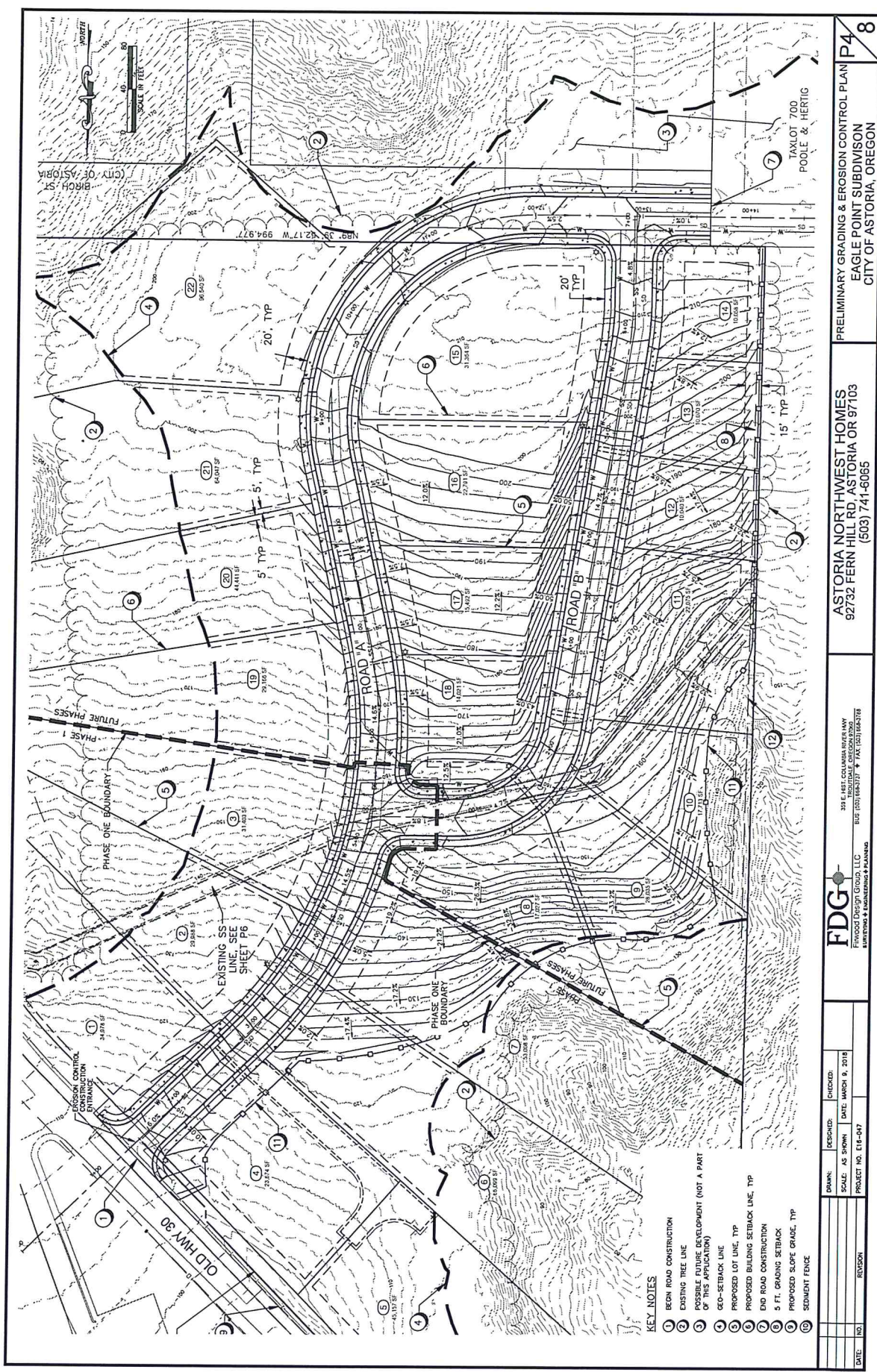
DRAWN	DESIGNED	CHECKED
AS SHOWN	DATE: MARCH 9, 2018	
PROJECT NO. E18-047		

FDG
 FINWOOD DESIGN GROUP, LLC
 SURVEYING & ENGINEERING & PLANNING

330 E. 1ST, COLUMBIA WATERWAY
 BUREAU 1001 100-107 * FAX 1001 100-107

ASTORIA NORTHWEST HOMES
 92732 FERN HILL RD, ASTORIA OR 97103
 (503) 741-0085

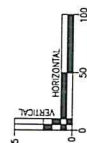
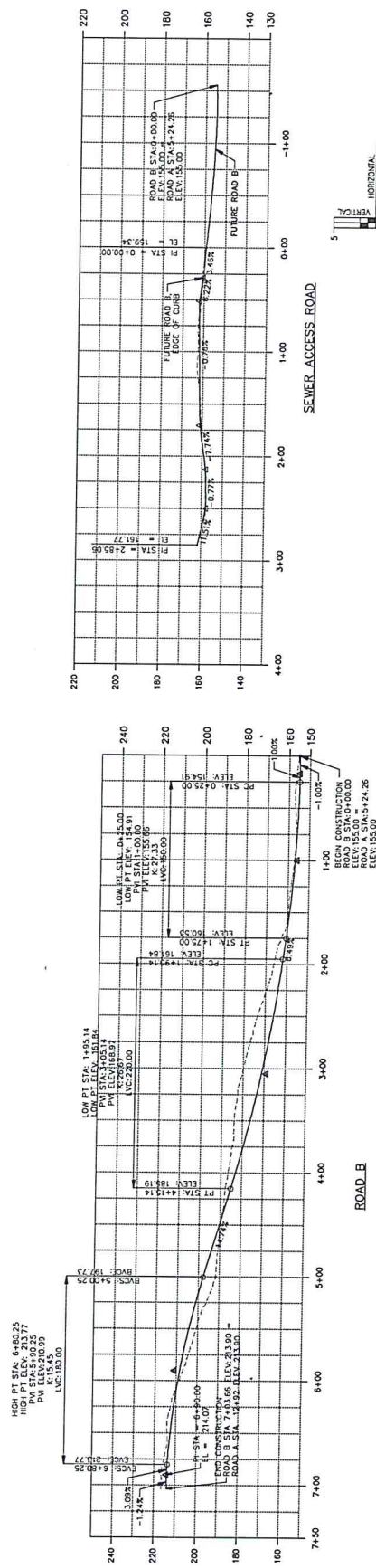
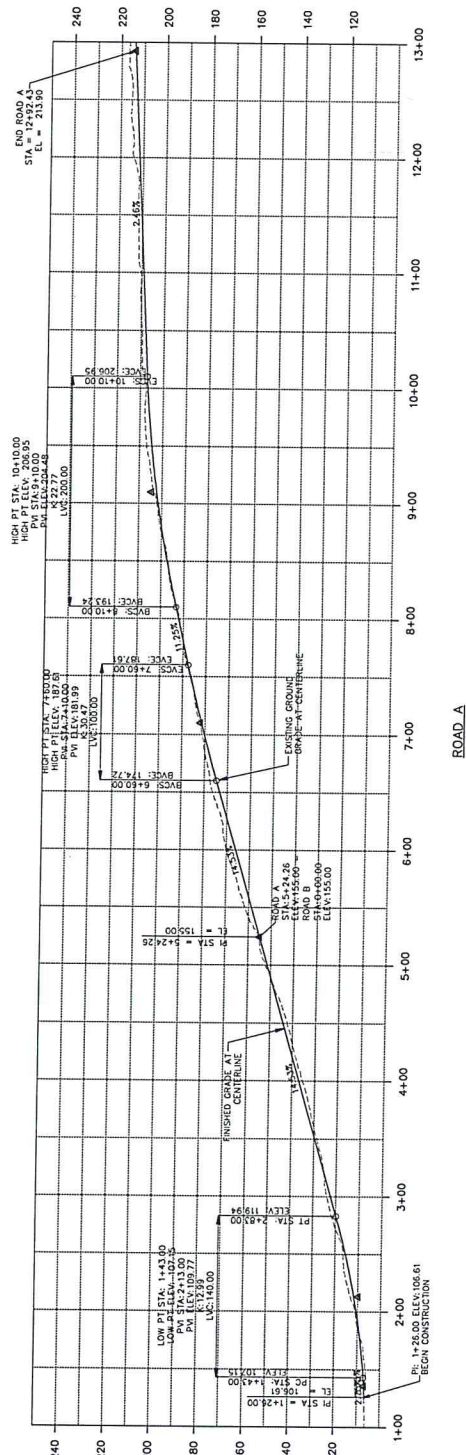
PRELIMINARY SITE PLAN
 EAGLE POINT SUBDIVISION
 CITY OF ASTORIA, OREGON

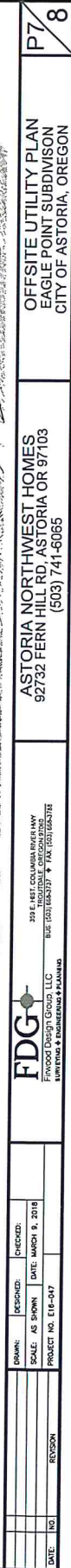


303 E. 1ST, COLUMBIA, INDIANA 46702
BLVD 1001 1001-1001 * FAX 1001-1001

ASTORIA NORTHWEST HOMES
92732 FERN HILL RD, ASTORIA OR 97103
(503) 741-0055

PRELIMINARY GRADING & EROSION CONTROL PLAN
EAGLE POINT SUBDIVISION
CITY OF ASTORIA, OREGON





STORMWATER REPORT

Eagle Point Subdivision Astoria, OR

Prepared By:



Firwood Design Group, LLC

SURVEYING • ENGINEERING • PLANNING

359 E. Historic Columbia River Highway
Troutdale, OR 97060
503.668.3737- fax 503.668.3788

FIRWOOD DESIGN GROUP, LLC

STORMWATER CALCULATIONS

Proposed Site Improvements

Eagle Point Subdivision

City of Astoria, Oregon

For

Cary and Stan Johnson

November 13, 2018

Prepared by:

Firwood Design Group, LLC
359 E. Historic Columbia River Highway
Troutdale, OR 97060
(503) 668-3737

FDG # E16-028

TABLE OF CONTENTS

- I. OBJECTIVE
- II. METHODOLOGY
- III. REFERENCES
- IV. SITE DESCRIPTION
- V. STORMWATER MANAGEMENT

APPENDICES

Oregon 2-Year Isopluvial Map

HydroCAD Output

Preliminary Drainage Map

STORM DRAINAGE CALCULATIONS

I. OBJECTIVE

The objective is to provide stormwater water quality treatment for the new impervious area associated with the proposed development. The proposed stormwater facilities will conform to the City of Astoria storm water requirements.

The proposed 18.6-acre site development for multi-family residences includes 2.01 acres of new impervious area (street and, sidewalks) requiring water quality treatment. Water quality treatment will be provided by two bio-filtration cells located along the old Highway 30 frontage. The required stormwater detention and treatment of the remaining area (including private properties) will be addressed during the building plan phase with each lot providing detention and water quality treatment for on-site impervious areas. Detention of flows from each lot will separate the flows timewise from the water quality flows so that the bio-filtration swales are not overwhelmed. Stormwater discharge from the proposed impervious areas will be collected and conveyed via storm pipe to existing public storm water systems. Prior to the stormwater entering the existing storm water system, two weir-type flow splitters will allow runoff up to the required water quality treatment design flow to enter the two water quality swales for the upper and lower treatment bioswales, respectively. The remaining runoff will bypass the water quality swales via piping. Sizing of pipes, pipe slopes, and downstream analysis will be developed during the construction plan episode.

II. METHODOLOGY

As per the City of Astoria Public Works Standards, the Oregon Department of Transportation (ODOT) Hydraulics Manual was applied in developing the proposed water quality treatment for biofiltration swales. HydroCAD was used to apply the Santa Barbara unit hydrograph for the required storm intensities with a 24-hr duration. The ODOT Hydraulics Manual was used to determine adequate sizing of the treatment facilities and HydroCAD was used to verify these dimensions.

III. REFERENCES:

City of Astoria Public Works Standards
ODOT Hydraulics Manual
NRCS Web Soil Survey

IV. SITE DESCRIPTION:

The site is approximately 18.6 acres on steep (>10% average slope) terrain. The soils are primarily Templeton medial silt loam and Templeton-Ecola silt loams. The site has large grassy areas and areas of dense forested vegetation.

V. STORMWATER MANAGEMENT:

Drainage Basin

The impervious area related to the proposed development that requires water quality treatment is 2.01 acres, including streets and sidewalks. This area is separated into two basins, an upper area of 0.78 acres, and a lower area of 1.23 acres, to be treated in two separate treatment swales. See attached Preliminary Drainage Map.

Quantity Control Analysis

The required ODOT water quality storm is 50% of the 2-year, 24-hour design storm. The 2-year, 24-hour design storm depth is 3.5" (see the Western Oregon Isopleth in appendix). Thus, the water quality storm is 1.75" in depth.

The Santa Barbara Urban Hydrograph was used to create the basin hydrographs (see appendix for HydroCAD data and calculations) and to estimate the peak flows for the design storms. A curve number (CN) value of 98 was assigned to the impervious surfaces and a time of concentration is 6 minutes as a minimum value. The peak water quality flow is calculated at 0.30 cfs and 0.48 cfs for the upper and lower development areas, respectively.

Weir-type flow splitters (see ODOT Hydraulics Manual, pg. 14-E-9) will be installed in-line with the new stormwater conveyance systems to allow only the water quality flow to enter the water quality facilities. Rip rap will be installed as an energy dissipator at the base of the conveyance outlet at the head of the water quality swale according to ODOT standards.

Water Quality Analysis

The proposed water quality swales are designed in conformance to the ODOT Hydraulic Manual standards to meet the following design parameters:

- Length \geq 100 ft
- Width \geq 4 ft
- Side slope = 4:1 max
- Freeboard \geq 12"
- Flow resistance coefficient (Manning's n) = 0.24
- Hydraulic residence time \geq 9 minutes at peak flow
- Water depth \leq 4" for longitudinal swale slope of 4% or less

The two swales are designed with 12" freeboard and 4:1 sideslopes. The remaining design parameters are listed in Table 1.

Stormwater Report

Table 1: Water quality swale design parameters

Parameter	Upper WQ Swale	Lower WQ Swale
Basin area	0.78 ac.	1.23 ac.
Peak flow	0.30 cfs	0.48 cfs
Length	145 ft	180 ft
Width	9 ft	9 ft
Longitudinal slope	3.5%	4.0%
Peak water depth	1.4 in	1.8 in
Peak flow HRT	9.0 min	9.1 min

The HydroCAD output is included in the appendices.

Conclusion

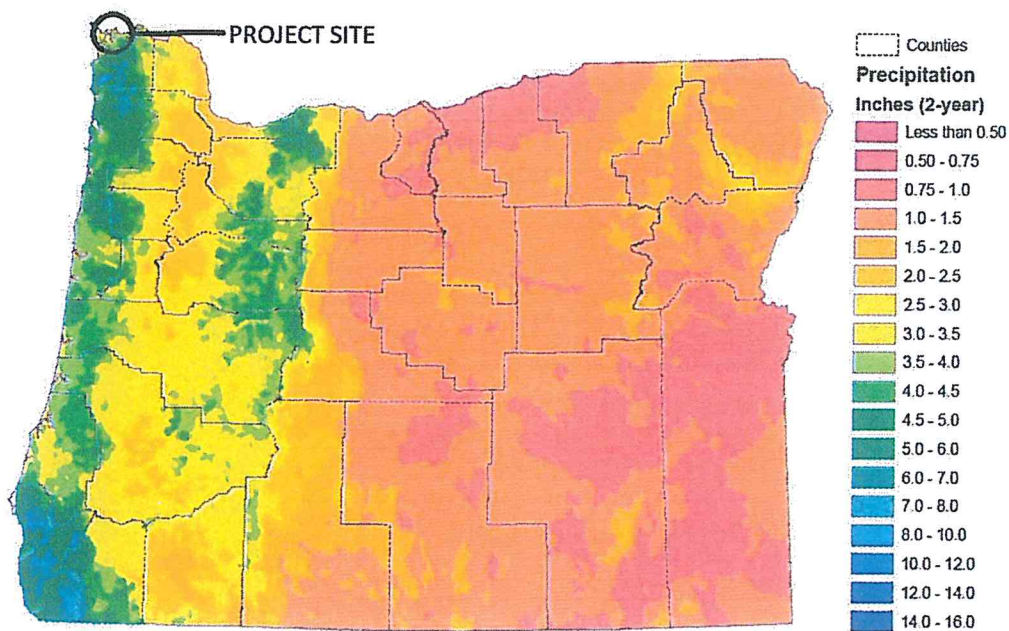
The proposed 18.6-acre development includes 2.01 acres of impervious street and sidewalk which will require stormwater treatment conforming to the City of Astoria's development code, which refers to ODOT stormwater design standards. The proposed dual swale system has been sized in accordance with ODOT stormwater design standards and will provide sufficient stormwater treatment capacity for the design area. Areas not included in the design area include the private lots, and the stormwater detention and treatment of these lots are to be addressed on a lot by lot basis during the building plan phase.

APPENDICES

Stormwater Report

Two-Year Water Quality Storm

Oregon 24-hour 2-year Precipitation



HydroCAD Output

STORMWATER

Type IA 24-hr 2-YR WATER QUALITY Rainfall=1.75"

Prepared by HydroCAD SAMPLER 1-800-927-7246 www.hydrocad.net

Printed 11/12/2018

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Time span=0.00-24.00 hrs, dt=0.01 hrs, 2401 points

Runoff by SBUH method, Split Pervious/Imperv.

Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1S: LOWER BASIN

Runoff Area=1.230 ac 100.00% Impervious Runoff Depth>1.52"

Tc=6.0 min CN=0/98 Runoff=0.48 cfs 0.156 af

Subcatchment 4S: UPPER BASIN

Runoff Area=0.780 ac 100.00% Impervious Runoff Depth>1.52"

Tc=6.0 min CN=0/98 Runoff=0.30 cfs 0.099 af

Reach 2R: LOWER SWALEAvg. Flow Depth=0.15' Max Vel=0.33 fps Inflow=0.48 cfs 0.156 af
n=0.240 L=180.0' S=0.0400 ' /' Capacity=1.85 cfs Outflow=0.46 cfs 0.154 af**Reach 5R: UPPER SWALE**Avg. Flow Depth=0.12' Max Vel=0.27 fps Inflow=0.30 cfs 0.099 af
n=0.240 L=145.0' S=0.0350 ' /' Capacity=1.73 cfs Outflow=0.29 cfs 0.098 af**Total Runoff Area = 2.010 ac Runoff Volume = 0.255 af Average Runoff Depth = 1.52"****0.00% Pervious = 0.000 ac 100.00% Impervious = 2.010 ac**

STORMWATER

Type IA 24-hr 2-YR WATER QUALITY Rainfall=1.75"

Prepared by HydroCAD SAMPLER 1-800-927-7246 www.hydrocad.net

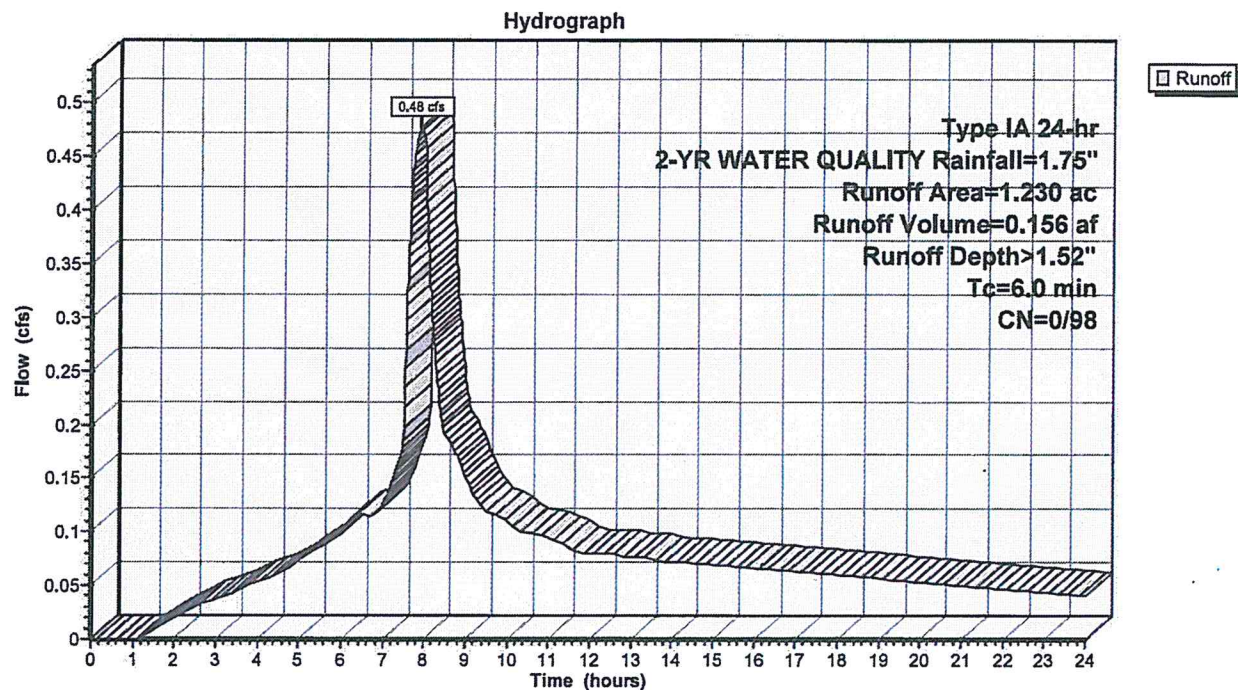
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Subcatchment 1S: LOWER BASIN



STORMWATER

Type IA 24-hr 2-YR WATER QUALITY Rainfall=1.75"

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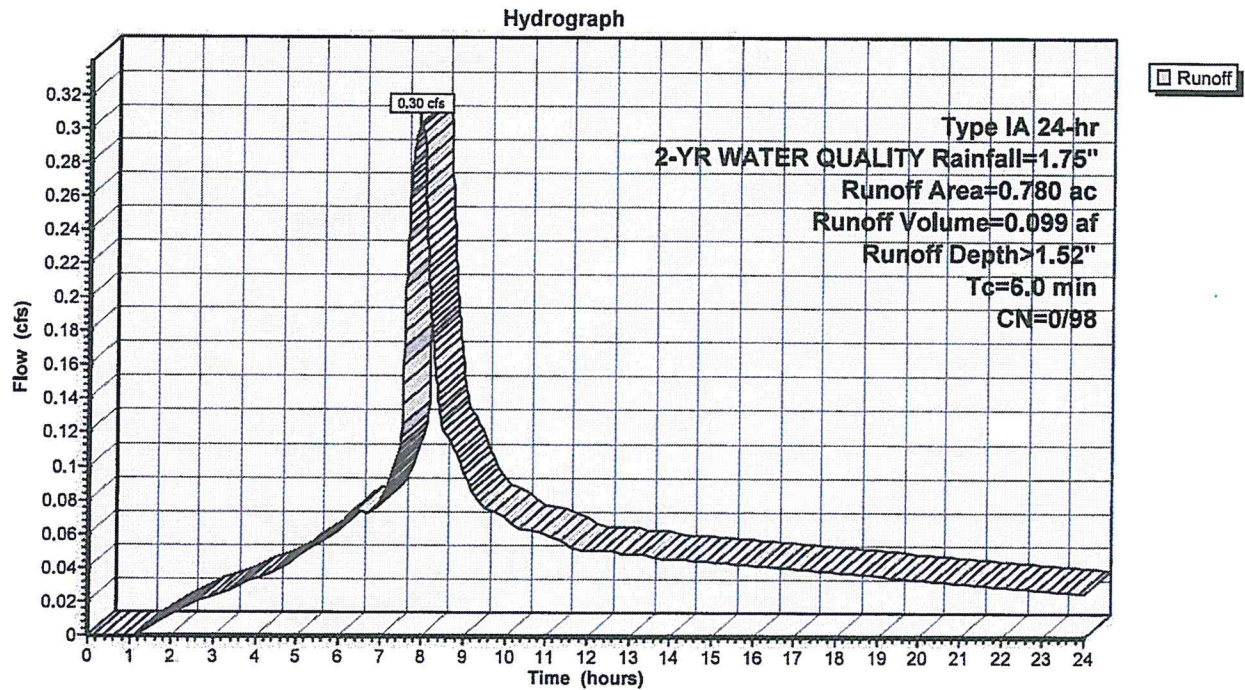
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Subcatchment 4S: UPPER BASIN



STORMWATER

Type IA 24-hr 2-YR WATER QUALITY Rainfall=1.75"

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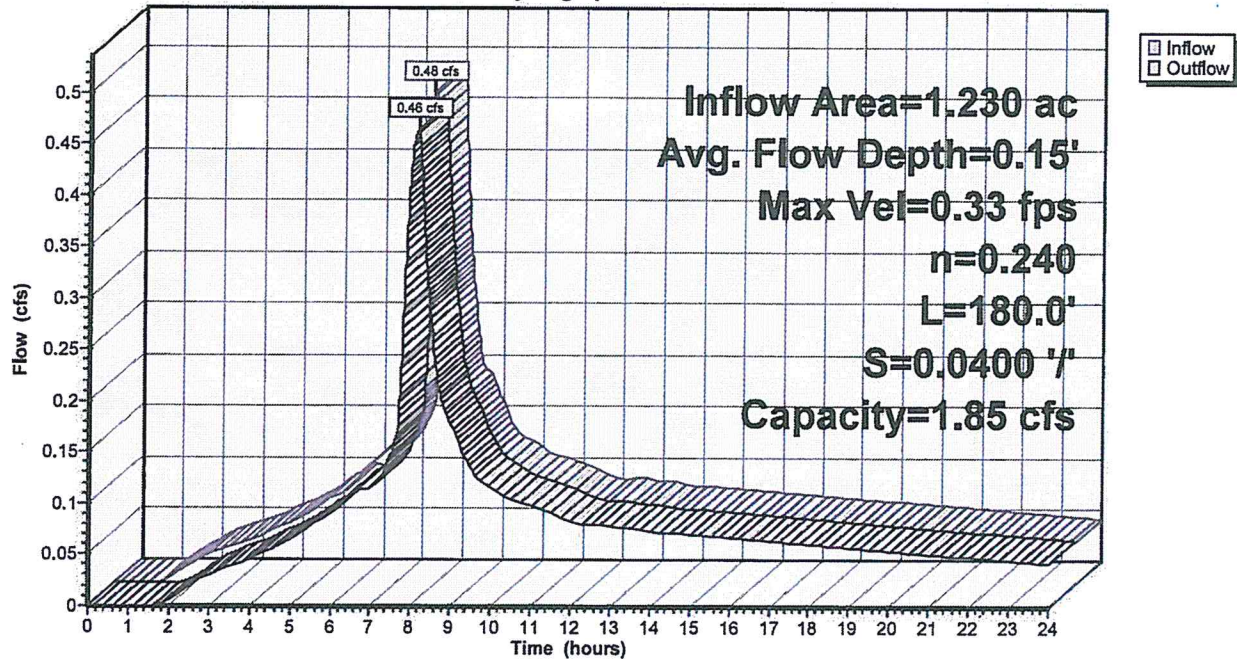
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Reach 2R: LOWER SWALE

Hydrograph



STORMWATER

Type IA 24-hr 2-YR WATER QUALITY Rainfall=1.75"

Prepared by HydroCAD SAMPLER 1-800-927-7246 www.hydrocad.net

Printed 11/12/2018

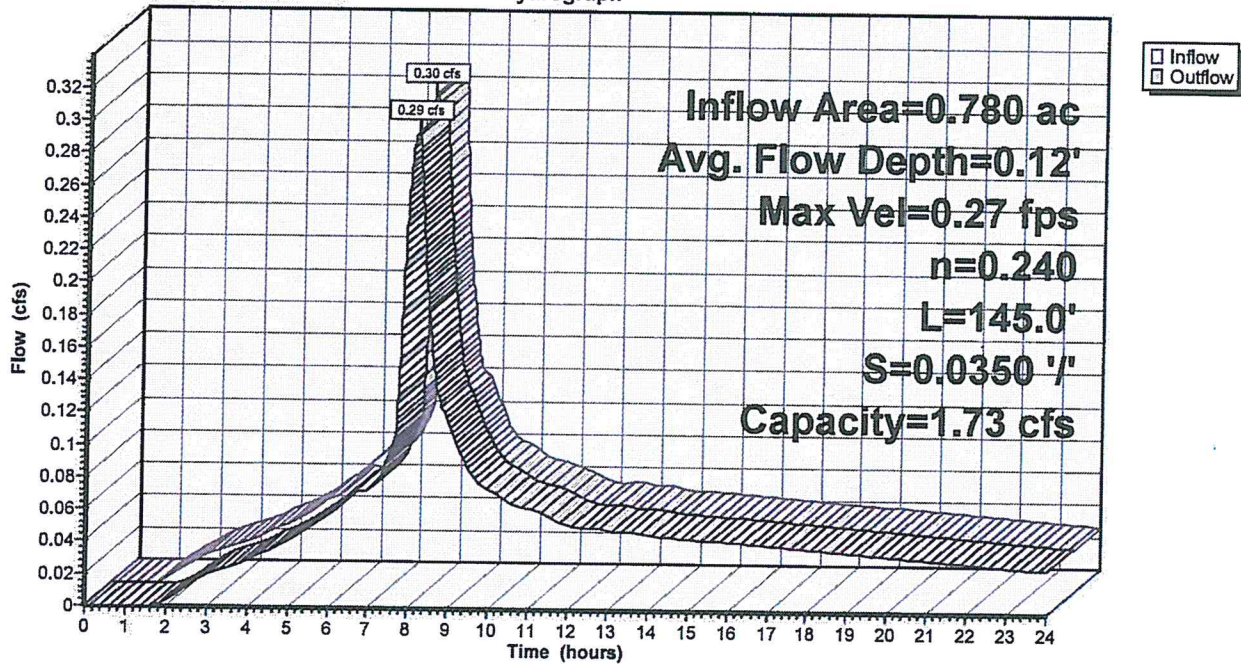
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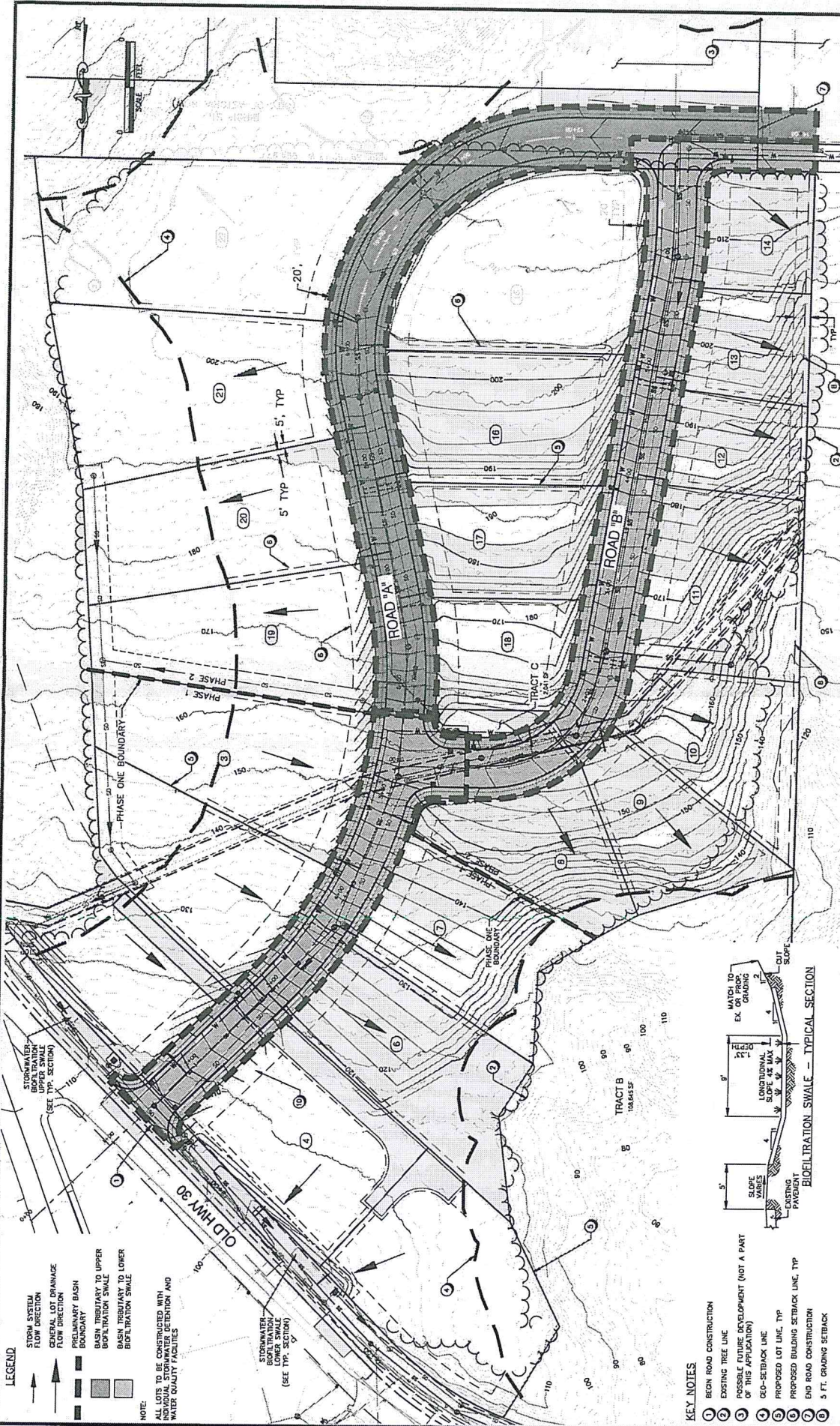
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Reach 5R: UPPER SWALE

Hydrograph



Preliminary Drainage Map



OWNER: BO

SCALE: AS SHOWN

DATE: MAY 13, 2018

PROJECT NO. 018-047

DESIGNED BY: []

CHECKED BY: []

REVISION: []

348 E. 1ST, COLUMBIA RIVER HWY
BUX (503) 684-3377 • FAX (503) 684-3378

FDG
Finwood Design Group, LLC
SURVEYING & ENGINEERING & PLANNING

ASTORIA NORTHWEST HOMES
92732 FERN HILL RD, ASTORIA OR 97103
(503) 741-6065

PRELIMINARY DRAINAGE MAP
EAGLE POINT SUBDIVISION
CITY OF ASTORIA, OREGON

TAXLOT 700
POOLE & HERTIG

D1
1



4000 Kruse Way Place
Bldg. 3, Suite 200
Lake Oswego, Oregon 97035
503.624.9274

November 26, 2018

C.T. Johnson, Inc.
92080 John Day River Road
Astoria, Oregon 97103

Attention: Cary Johnson

Subject: Compliance Review
Eagle Point Subdivision
Astoria, Oregon
File No. 22890-001-00

GeoEngineers has reviewed the Eagle Point Subdivision, Land Use Submittal by Firwood Design Group (FDG), including relevant parts of the following:

- Eagle Point Subdivision Land Use Submittal, pages P1 through P9, dated November 13, 2018; and
- Stormwater Report, Eagle Point Subdivision, Astoria, Oregon, dated November 13, 2018.

Based on our review, the above-mentioned plans appear in compliance with the recommendations provided in our geotechnical report titled, "Geotechnical Engineering Report, Tongue Point Subdivision, Astoria, Oregon," dated August 9, 2017 for CT Johnson, Inc.

Sincerely,
GeoEngineers, Inc.

A handwritten signature in blue ink, appearing to read "Greg A. Landau", with a long horizontal flourish extending to the right.

Greg A. Landau, PE, GE
Associate Geotechnical Engineer

TNG:GAL:cje

Disclaimer: Any electronic form, facsimile or hard copy of the original document (email, text, table, and/or figure), if provided, and any attachments are only a copy of the original document. The original document is stored by GeoEngineers, Inc. and will serve as the official document of record.

November 13, 2018

Public Improvement Descriptions

Eagle Point Subdivision

Prepared by Erik Hoovestol, P.E.

Grading

The applicant is proposing to do mass grading of the site During Phase 1, including rough grading of Phase 2 areas. All Disturbed areas will be stabilized. Additional grading will be included in the Phase 1 and Phase 2 construction plan design episodes. Final site plans and final grading plans for each lot, which may include retaining walls, will be determined during the building permit application stage.

Roadways

The roadway section and right-of-way widths are per City standards for a residential street. Old Highway 30 right-of-way is owned by the Department of Labor. As shown on the preliminary plat ,an access easement for utilities and roadway construction and maintenance is proposed. The required roadway grades exceed the City maximum of 12%. See included design exception request for street roadway grades exceeding the City standard of 12%. The alignment at the south end is designed for continuation through Tax Lot 700 easterly to Blue Ridge Road as shown on the future road Sheet, P8 . The terminus of Phase One roadway improvements at the intersection of Road "A" and Road "B" will serve a turnaround meeting the City of Astoria requirements.

Water

Two pressure zones are proposed. Both connections are proposed for construction during Phase 1 prior to the construction 20 units. As shown on the Offsite Utility Plan (P7) and the Composite Utility Plan (P8), the water system will be fed from the existing 12" waterline with two connections. The first connection is to the lower pressure zone on Old Highway 30 by the northern entry to the site. The second connection is to the upper pressure zone on Blue Ridge Road. A 20-foot easement and access road will provided along the offsite water line. A pressure reducing vault is proposed at the connection

between the two pressure zones near the intersection of proposed roads A and B. See Sheet P7, Offsite Utility Plan. Hydraulic calculations have been provided to the City.

Stormwater

As shown on the Offsite Utility Plan and the Composite Utility Plan the proposed stormwater system will be piped inside the subdivision, then flow through a bio-filtration system along the south side of Old Highway 30, then discharged into an existing gully (to be protected with rock) where it will enter existing 36" culvert under Old Highway 30.

See the Preliminary Stormwater report describing the methodology for the sizing of the bio-filtration system for additional detail.

The bio-filtration swales are sized per the ODOT Hydraulics Manual to accommodate the water quality flows from the impervious areas of the roadways and sidewalks. Two bio-filtration swales are proposed along Old Highway 30. The top of the swales are located five feet from the edge of pavement along Old Hwy 30 to allow for future sidewalks. Each site will need to address stormwater management of impervious areas when the final site layouts are designed. Some lots will not connect to the public system due to terrain constraints causing the improved areas to be below the roadway grade and will require onsite stormwater facilities and flow spreaders.

Easements and access roads will be provided during Phase 2 to access the stormwater manholes located on the east side of the project (rear of lots 1,2,3, and 19).

Sanitary Sewer

Sanitary sewer service will be provided by the construction of an offsite sewer line from the development connecting to the City of Astoria 30-inch force main located at the City of Astoria Wastewater Treatment Facility as shown on the Offsite Utility drawing. Depending on final building layouts, some future lots may need to be serviced by residential sewer pumps. The offsite sewer plans are being submitted separately at this time from the subdivision application. The plans including a detailed hydraulic analysis and consideration of upstream future development addressing previous City review comments has been submitted. The offsite sewer construction plans will be included in the Phase One subdivision construction plans.

The existing sewer line that serves the Blue Ridge area and crosses the project site will be abandoned in place and filled with grout or CDF. The existing 15-foot easement to the Department of Labor will be abandoned. The westerly portion of the sewer line will remain in place during Phase One with a connection point at a new manhole by the terminus of the Phase One roadway. Access to the existing manholes will be preserved during Phase 1 via the existing access and new 20-foot sewer easement to the City of Astoria. During Phase 2, the existing sewer line, access road, and 20-foot easement will all be abandoned and re-routed along the property line between Lots 10 and 11 as shown on sheet P7.



Robin Scholetzky <robin@urbanlensplanning.net>

Eagle Point TIA response

SHONKWILER Kenneth D <Kenneth.D.SHONKWILER@odot.state.or.us>
To: Robin Scholetzky <robin@urbanlensplanning.net>

Thu, Sep 6, 2018 at 12:29 PM

Hi Robin,

Thanks for the opportunity to comment on the Eagle Point development on Tongue Point. As no direct access to the highway has been proposed, ODOT is serving only as an additional reviewer. We agree with the analysis and no mitigation measures have been proposed at this time.

Thank you,

Ken Shonkwiler, Senior Region Planner

Oregon Department of Transportation | Northwest Area | [350 W Marine Dr. , Astoria, OR 97103](#)

Office - [503.325.5281](#) | Cell – [971.707.1263](#)

Kenneth.d.Shonkwiler@odot.state.or.us

**YOU ARE RECEIVING THIS NOTICE BECAUSE THERE IS A
PROPOSED LAND USE APPLICATION NEAR YOUR PROPERTY IN ASTORIA**

**CITY OF ASTORIA
NOTICE OF REVIEW**

Mail	11/20/18
Email	11/21/18
Web	11/21/18
Pub	12/4/18

The City of Astoria Planning Commission will hold a public hearing on Tuesday, December 11, 2018 at 6:30 p.m., at Astoria City Hall, Council Chambers, 1095 Duane Street, Astoria. The purpose of the hearing is to consider the following request(s):

1. Subdivision (SP18-01) by Stan Johnson and Cary Johnson for a Preliminary Plat application for a 22-lot subdivision (no address) located off of Old Highway 30: Map T8N-R09W Section 20, Tax Lot 107. The site is zoned R-3 (High Density Residential). The following Astoria Development Code standards are applicable to the request: Article 2 (Use Zones); Article 3 (Vehicle Access), Article 9 (Administrative Procedures) and Article 13 (Subdivision) and Comprehensive Plan Sections CP.005 to CP.028 (Land and Water Use and General Development).

A copy of the application, all documents and evidence relied upon by the applicant, the staff report, and applicable criteria are available for inspection at no cost and will be provided at reasonable cost. A copy of the staff report will be available at least seven days prior to the hearing and are available for inspection at no cost and will be provided at reasonable cost. All such documents and information are available at the Community Development Department at 1095 Duane Street, Astoria. If additional documents or evidence are provided in support of the application, any party shall be entitled to a continuance of the hearing. Contact the Planner at 503-338-5183 for additional information.

The location of the hearing is accessible to the handicapped. An interpreter for the hearing impaired may be requested under the terms of ORS 192.630 by contacting the Community Development Department at 503-338-5183 48 hours prior to the meeting.

All interested persons are invited to express their opinion for or against the request(s) at the hearing or by letter addressed to the Planning Commission, 1095 Duane St., Astoria OR 97103. Testimony and evidence must be directed toward the applicable criteria identified above or other criteria of the Comprehensive Plan or land use regulation which you believe apply to the decision. Failure to raise an issue with sufficient specificity to afford the Planning Commission and the parties an opportunity to respond to the issue precludes an appeal based on that issue.

The Planning Commission's ruling may be appealed to the City Council by the applicant, a party to the hearing, or by a party who responded in writing, by filing a Notice of Appeal within 15 days after the Planning Commission's decision is mailed. Appellants should contact the Community Development Department concerning specific procedures for filing an appeal with the City. If an appeal is not filed with the City within the 15 day period, the recommendation of the Planning Commission shall be forwarded to the City Council for consideration.

The public hearing, as conducted by the Planning Commission, will include a review of the application and presentation of the staff report, opportunity for presentations by the applicant and those in favor of the request, those in opposition to the request, and deliberation and decision by the Planning Commission. The Planning Commission reserves the right to modify the proposal or to continue the hearing to another date and time. If the hearing is continued, no further public notice will be provided.

THE CITY OF ASTORIA

MAIL: November 20, 2018



Tiffany Taylor
Administrative Assistant