Tillamook County

DEPARTMENT OF COMMUNITY DEVELOPMENT
BUILDING, PLANNING & ON-SITE SANITATION SECTIONS

1510 – B Third Street
Tillamook, Oregon 97141
www.tillamook.or.us
Building (503) 842-3407
Planning (503) 842-3408
Sanitation (503) 842-3409
FAX (503) 842-1819
Toll Free 1(800) 488-8280

Land of Cheese, Trees and Ocean Breeze

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ORS 215 REQUIRES THAT IF YOU RECEIVE THIS NOTICE,
IT MUST BE PROMPTLY FORWARDED TO THE PURCHASER

NOTICE OF PUBLIC HEARING
TILLAMOOK COUNTY PLANNING COMMISSION
RIVERVIEW MEADOWS PHASE 3

Date of Notice: March 16, 2023

A public hearing will be held by the Tillamook County Planning Commission at 7:00p.m. on Thursday, April 13, 2023, in the Port of Tillamook Bay Conference Center, 4000 Blimp Boulevard, Tillamook, OR 97141 to consider the following:

#851-23-000009-PLNG: Request for tentative subdivision plat approval of "Riverview Meadows Phase 3", a 36-lot subdivision proposed on a property located within the City of Nehalem Urban Growth Boundary. The subject property is zoned Nehalem Medium-Density Residential (NH_R1) and Nehalem Residential Trailer (NH_Rt). The subject property is accessed via Riverview Meadows Lane, a private road, and designated as Tax Lot 3600 of Section 23B, Township 3 North, Range 10 West of the Willamette Meridian, Tillamook County, Oregon.

Notice of public hearing, a map of the request area, applicable specific request review criteria and a general explanation of the requirements for submission of testimony and the procedures for conduct of hearing has been mailed to all property owners within 250 feet of the exterior boundary of the subject property for which application has been made at least 28 days prior to the date of the hearing.

The applicable criteria are contained within City of Nehalem Municipal Codes, Chapter 156: Subdivision of Land, Sections 156.015-156.021. Only comments relevant to the approval criteria are considered relevant evidence.

The hearing will take place at the Port of Tillamook Bay Conference Center with an option for virtual participation. Oral testimony will be taken at the April 13, 2023, hearing for those who wish to testify. For instructions on how to provide oral testimony at the April 13, 2023, hearing, please visit the Tillamook County Community Development homepage at https://www.co.tillamook.or.us/commdev for instructions and protocol or email Lynn Tone, Office Specialist 2, at ltone@co.tillamook.or.us.

A virtual meeting link will be provided at the DCD homepage address as well as a dial in number for those who wish to participate via teleconference but are unable to participate virtually prior to the evening of the hearing.

Written testimony may be submitted to the Tillamook County Department of Community Development, 1510-B Third Street, Tillamook, Oregon, 97141 prior to 4:00 p.m. on the date of the April 13, 2023, Planning Commission hearing. If submitted by 4:00 p.m. on April 5, 2023, the testimony will be included in the packet mailed to the Planning Commission

the week prior to the April 13, 2023, hearing. Failure of an issue to be raised in a hearing, in person or by letter, or failure to provide sufficient specificity to afford the decision-maker an opportunity to respond to the issue precludes appeal to the Land Use Board of Appeals on that issue. Please contact Lynn Tone, Office Specialist 2, Tillamook County Department of Community Development, ltone@co.tillamook.or.us as soon as possible if you wish to have your comments included in the staff report that will be presented to the Planning Commission.

The documents and submitted application are also available on the Tillamook County Department of Community Development website (https://www.co.tillamook.or.us/commdev/landuseapps) or at the Department of Community Development office located at 1510-B Third Street, Tillamook, Oregon 97141. A copy of the application and related materials may be purchased from the Department of Community Development at a cost of 25 cents per page. The staff report will be available for public inspection seven (7) days prior to the hearing. Please contact Lynn Tone for additional information ltone@co.tillamook.or.us or call 1-800-488-8280 x3423.

In addition to the specific applicable review criteria, the City of Nehalem Subdivision Ordinance, City of Nehalem Zoning Ordinance, City of Nehalem Comprehensive Plan, and Statewide Planning Goals which may contain additional regulations, policies, zones and standards that may apply to the request are also available for review at the Department of Community Development.

The Port of Tillamook Bay Conference Center is handicapped accessible. If special accommodations are needed for persons with hearing, visual, or manual impairments who wish to participate in the hearing, please contact 1-800-488-8280 ext. 3423, at least 24 hours prior to the hearing in order that appropriate communications assistance can be arranged.

If you need additional information, please contact Lynn Tone, Office Specialist 2, at 1-800-488-8280 ext. 3423 or email ltone@co.tillamook.or.us.

Sincerely,
Tillamook County Department of Community Development

Sarah Absher

Sarah Absher, CFM, Director

Enc. Applicable City of Nehalem Subdivision Ordinance Criteria Maps
Tips for Citizen Testimony & Procedures for Conduct at a Public Hearing

REVIEW CRITERIA

CITY OF NEHALEM SUBDIVISION ORDINANCE CRITERIA 156.018-156.021

https://nehalem.municipal.codes/Code/156.016

Chapter 156.015: Initial Submission. Tentative plan must be consistent with Chapters 156.018-156.021 of this Chapter.

Chapter 156.021: Preliminary City Staff/Planning Commission Determination. (A): The city staff shall determine whether the tentative plan, under an expedited land division process, is in conformity with the provisions of the Comprehensive Plan and this chapter. In the event of a quasi-judicial process application, the City Planning Commission shall determine whether the tentative plan is in conformity with the provisions of the Comprehensive Plan and this chapter. Applicable chapters below:

Chapter 156.017: Information in the Tentative Plan. The tentative plan shall contain the following information:

(A) Proposed name, date, north-point and scale of drawing;

(B) Tentative plans shall be to a scale of one-inch equals 50 feet or better, except tracts over ten acres which may be to a scale of one inch equals 100 feet and shall be clearly and legibly produced;

(C) Location of the subdivision sufficient to define its location and boundaries, and a legal description as well;

(D) Name and address of the owner and/or authorized agent;

(E) Appropriate identification of the drawing as a tentative plan;

(F) Names, business address and number of the registered engineer and licensed surveyor who prepared the plan of the proposed subdivision;

(G) Location of natural features; such as streams, trees and rock outcroppings;

(H) Contour lines at 20-foot contour intervals;

(I) The locations, names, widths, approximate radii of the 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 the streets and alleys therein with the streets and alleys in the proposed subdivision;

(J) Names of the record owners of all contiguous land;

(K) The approximate location and character of all existing and proposed easements and public utility facilities including water and sewer lines in the subdivision or adjacent thereto, storm water drainage facilities and utility lines;

(L) The location and approximate dimensions of each lot, with each lot numbered;

(M) The outline of any existing buildings and their use showing those that will remain;

(N) The location of at least one temporary benchmark within the subdivision boundaries;

(O) City boundary lines crossing or bounding the subdivision;

(P) Approximate location of all areas subject to inundation of storm water overflow and location, width, known high water elevation, flood flow and direction of flow of watercourses;

(Q) If impracticable to show on the tentative plan, a key map showing the location of the tract in relationship to section and township lines and to adjacent property and major physical features such as streets, railroads and watercourses; and

(R) The net density of the subdivision, the total acreage of land, square footage of each lot and square footage of open areas or common open space.

Chapter 156.019: Information in Statement.

(A) A general explanation of the improvements and public utilities, including water supply and sewage disposal proposed to be installed;

(B) Requested variances;

(C) Public areas proposed;

(D) Open space, landscaped areas, tree planting proposed and means of maintaining such improvements;

(E) A preliminary draft of restrictive covenants proposed, if any; and

(F) Information showing areas to be cut or filled.

Chapter 156.020: Supplemental Information: Any of the following may be required by the Planning Commission to supplement the plan of subdivision:

(A) Approximate centerline 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;

(B) A plan for domestic water service lines and related water service facilities;

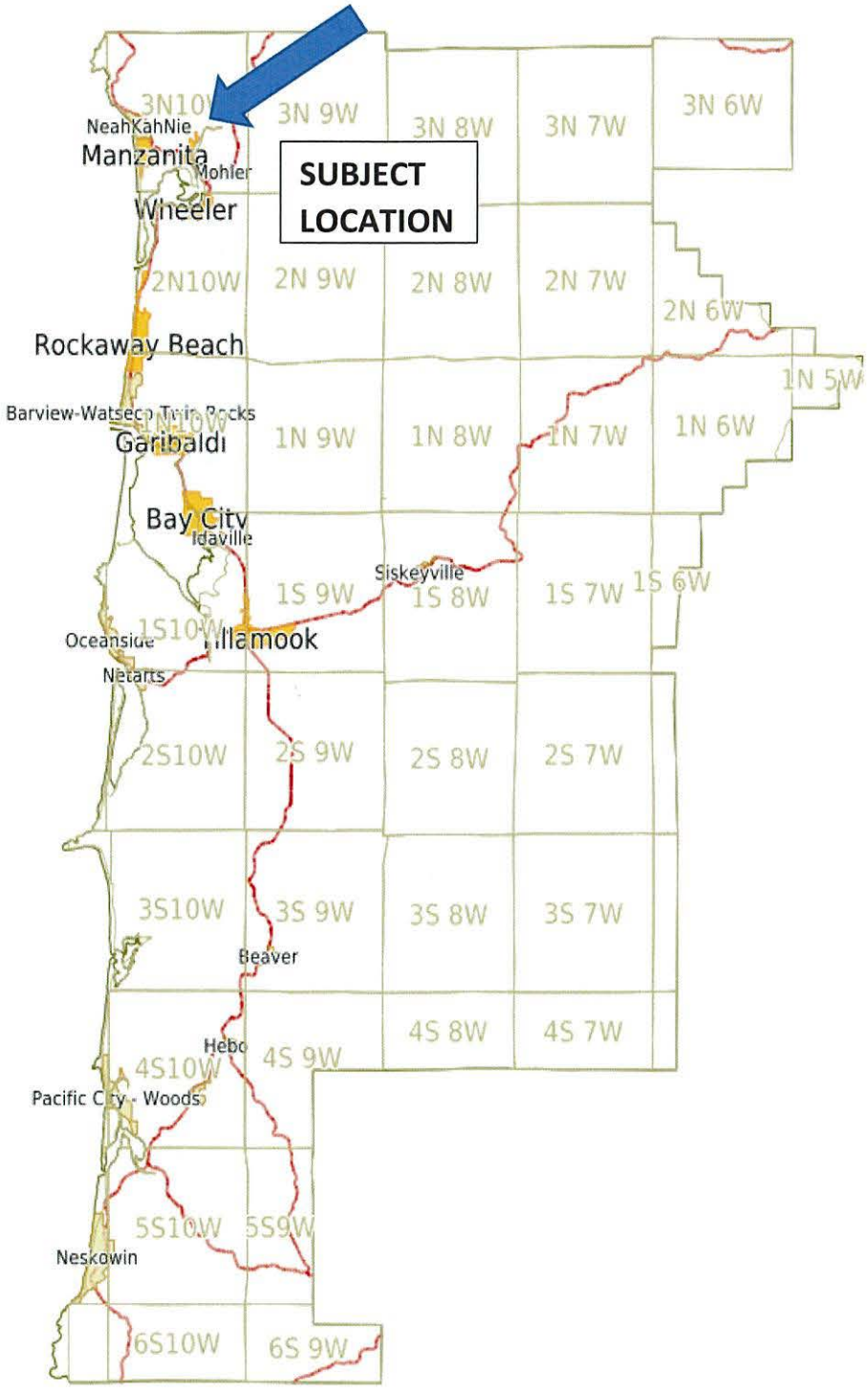
(C) Approval for sewage disposal, storm water drainage or flood control;

(D) Proposals for other improvements such as electric utilities and sidewalks, fire hydrants and street lights;

(E) An engineering geologist or soils engineering report of the stability of slopes when the average slope of created parcels is 20% or greater; and

(F) Other information as necessary.

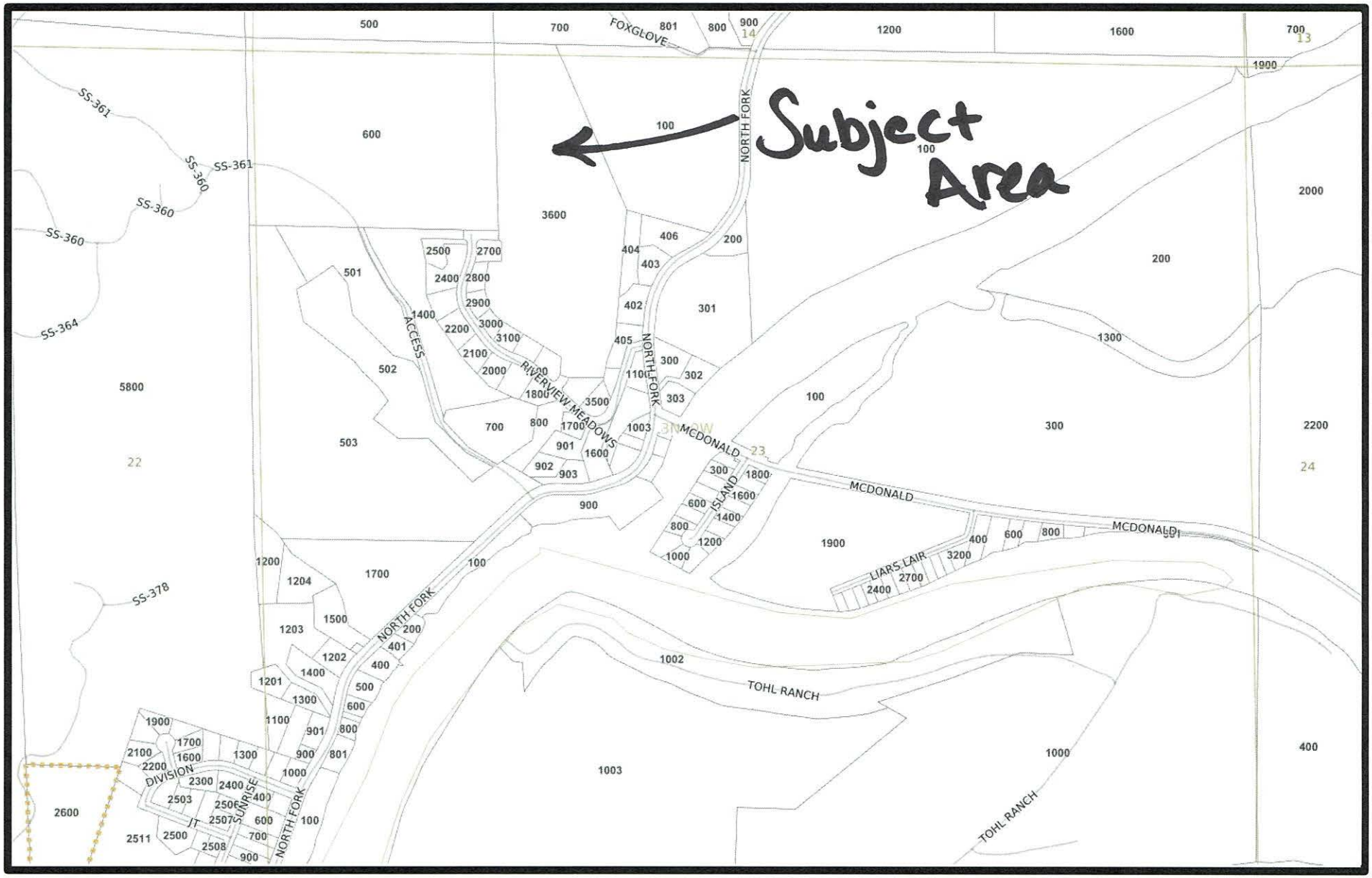
VICINITY MAP



#851-23-000009-PLNG:

RIVERVIEW MEADOWS PHASE 3

Map



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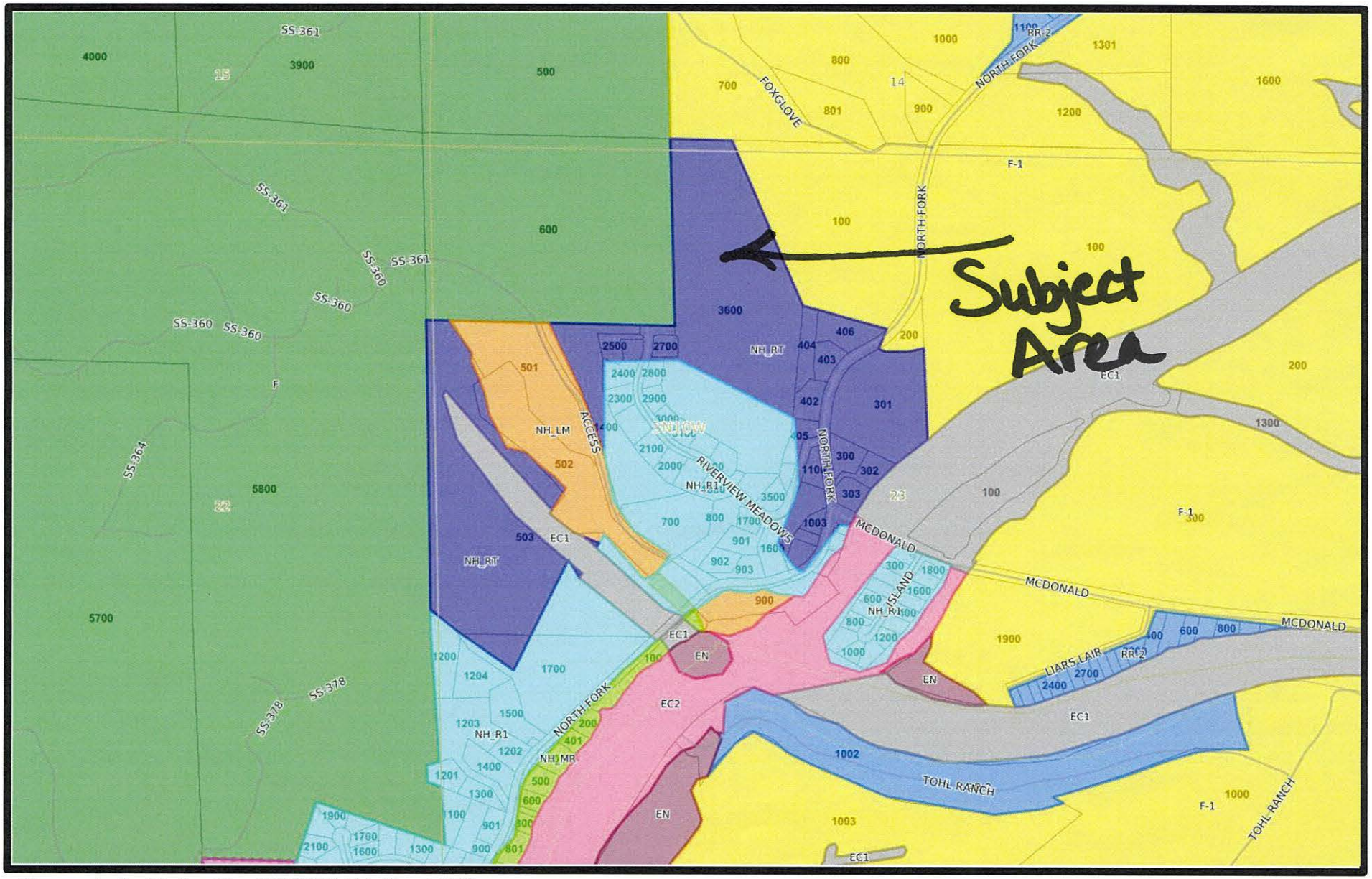
Map



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Citizen Tips for Providing Testimony at a Planning Commission/Board of County Commissioner Hearing

Goal 1 of Oregon's Statewide Planning Goals recognizes the importance of citizen involvement "in all phases of the planning process." One of the principal ways for citizens to be involved is by testifying at local land use hearings. These citizen tips are designed to help citizens prepare and deliver testimony during Tillamook County land use hearing processes.

Know the Process
The Chair of the decision-making body will always read aloud the order of presentation and the process. Presentation is generally as follows:

- Planning Staff Presentation (generally 15 minutes)
  - Questions to Staff by the Decision-Maker
- Applicant's Presentation (generally 15 minutes)
  - Questions to Applicant by the Decision-Maker
- Public Comment Period
  - Generally limited to 3 minutes per person.
- Applicant Rebuttal & Final Statements
- Staff Final Statements
- Public Hearing Closed for Decision-Maker Deliberation
  - No further public testimony accepted.
  - Decision-maker may ask questions of staff.
- Decision
  - Decision-makers vote on issue.
  - Notice of Decision mailed to all parties.

Understand the Issue

- Become familiar with the land use record (application, staff report and hearing materials) found on the Land Use Applications page under the Planning tab of the Community Development website.
- Become familiar with the relevant criteria (included in notice of public hearing).

Prepare an outline of your testimony to use while testifying and focus testimony to the relevant criteria

- Decisions to approve or deny a request are based on the relevant criteria.

Know when, where and who you are speaking to

- Tillamook County Planning Commission or Board of County Commissioners- depending on nature of request, application review process, and current phase of hearing process.
- Public testimony is generally limited to 3 minutes per person.
- Be sure to state your name and address for the record at the beginning of your testimony to ensure you receive notice of decision after hearing process has ended.

Check Department Website for Updates

- Visit the Land Use Applications page.
  - Follow posted calendar dates for written testimony submittal opportunities if the hearing is ongoing.
  - Review additional written testimony received during the open comment periods.
  - Review hearing packets and agendas if hearing process is ongoing.
  - Review Notice of Decision and remain informed on appeal dates.

Tillamook County Department of Community Development
1510-B Third Street. Tillamook, OR 97141 | Tel: 503-842-3408 Fax: 503-842-1819
www.co.tillamook.or.us

LAND DIVISION APPLICATION

OFFICE USE ONLY
Date Stamp
☐Approved ☐Denied
Received by:
Receipt #:
Fees:
Permit No: 851-___-_____-PLNG

Applicant ■ *(Check Box if Same as Property Owner)*

Name: Sheldon Development, Inc. Phone: 503-805-8741

Address: P.O. Box 883

City: Fairview State: OR Zip: 97024

Email: careysheldon17@yahoo.com

Property Owner

Name: Phone:

Address:

City: State: Zip:

Email:

Location:

Site Address: Tract B Riverview Meadows Sub Phase 1, Document No. 2010-4288

Map Number: 3 North (Township) 10 West (Range) 23B (Section) 3600 (Tax Lot(s))

Land Division Type: ☐**Partition (Two or Three Lots, Type II)** ■**Subdivision (Four or More Lots, Type III)**
☐ **Preliminary Plat (Pages 1-2)** ☐ **Final Plat (Page 3)**

■ **PRELIMINARY PLAT (LDO 060(1)(B))**

General Information

- ■ For subdivisions, the proposed name.
- ■ Date, north arrow, scale of drawing.
- ■ Location of the development sufficient to development sufficient to define its location, boundaries, and a legal description of the site.
- ■ Parcel zoning and overlays
- ■ Title Block
- ■ Clear identification of the drawing as "Preliminary Plat" and date of preparation
- ■ Name and addresses of owner(s), developer, and engineer or surveyor
- ■ Fifteen (15) legible "to scale" hard copies
- ■ One digital copy

Existing Conditions

- ■ Existing streets with names, right-of-way, pavement widths, access points.
- ■ Width, location and purpose of existing easements
- ■ The location and present use of all structures, and indication of any that will remain after platting.
- ■ Location and identity of all utilities on and abutting the site. If water mains and sewers are not on site, show distance to the nearest one and how they will be brought to standards
- ■ Location of all existing subsurface sewerage systems, including drainfields and associated easements
- ■ Ground elevations shown by contour lines at 2-foot vertical interval. Such ground elevations shall be related to some established benchmark or other datum approved by the County Surveyor
- ■ The location and elevation of the closest benchmark(s) within or adjacent to the site
- ■ Natural features such as drainage ways, rock outcroppings, aquifer recharge areas, wetlands, marshes, beaches, dunes and tide flats
- ■ For any plat that is 5 acres or larger, the Base Flood Elevation, per FEMA Flood Insurance Rate Maps

- ■ Other information:
  - Engineering Geologic Hazard Report
  - Addendum to Geologic Hazard Report
  - Drainage Calculations
  - Water System Improvements Letter
  - Traffic Impact Study
  - New Access Road Easements

Proposed Development

- ■ Proposed lots, streets, tracts, open space and park land (if any); location, names, right-of-way dimensions, approximate radius of street curves; and approximate finished street center line grades. All streets and tracts that are being held for private use and all reservations and restrictions relating to private tracts identified
- ■ Location, width and purpose of all proposed easements
- ■ Proposed deed restrictions, if any, in outline form
- ■ Approximate dimensions, area calculation (in square feet), and identification numbers for all proposed lots and tracts
- ■ Proposed uses of the property, including all areas proposed to be dedicated as public right-of-way or reserved as open space
- ■ On slopes exceeding an average grade of 10%, as shown on a submitted topographic survey, the preliminary location of development on lots demonstrating that future development can meet minimum required setbacks and applicable engineering design standards
- ■ Preliminary utility plans for sewer, water and storm drainage when these utilities are to be provided
- ■ The approximate location and identity of other utilities, including the locations of street lighting fixtures, as applicable
- ☐ Evidence of compliance with applicable overlay zones, including but not limited to the Flood Hazard Overlay (FH) zone
- ■ Evidence of contact with the applicable road authority for proposed new street connections
- ■ Certificates or letters from utility companies or districts stating that they are capable of providing service to the proposed development

Additional Information Required for Subdivisions

- ■ Preliminary street layout of undivided portion of lot
- ■ Special studies of areas which appear to be hazardous due to local geologic conditions
- ☐ Where the plat includes natural features subject to the conditions or requirements contained in the County's Land Use Ordinance, materials shall be provided to demonstrate that those conditions and/or requirements can be met
- ■ Approximate center line profiles of streets, including extensions for a reasonable distance beyond the limits of the proposed Subdivision, showing the proposed finished grades and the nature and extent of construction
- ☐ Profiles of proposed drainage ways
- ☐ In areas subject to flooding, materials shall be submitted to demonstrate that the requirements of the Flood Hazard Overlay (FHO) zone of the County's Land Use Ordinance will be met
- ☐ If lot areas are to be graded, a plan showing the nature of cuts and fills, and information on the character of the soil
- ☐ Proposed method of financing the construction of common improvements such as street, drainage ways, sewer lines and water supply lines

☐ **FINAL PLAT (LDO 090(1))**

- ☐ Date, scale, north arrow, legend, highways, and railroads contiguous to the plat perimeter
- ☐ Description of the plat perimeter
- ☐ The names and signatures of all interest holders in the land being platted, and the surveyor
- ☐ Monuments of existing surveys identified, related to the plat by distances and bearings, and referenced to a document of record
- ☐ Exact location and width of all streets, pedestrian ways, easements, and any other rights-of-way
- ☐ Easements shall be denoted by fine dotted lines, and clearly identified as to their purpose
- ☐ Provisions for access to and maintenance of off-right-of-way drainage
- ☐ Block and lot boundary lines, their bearings and lengths
- ☐ Block numbers
- ☐ Lot numbers
- ☐ The area, to the nearest hundredth of an acre, of each lot which is larger than one acre
- ☐ Identification of land parcels to be dedicated for any purpose, public or private, so as to be distinguishable from lots intended for sale

Certificates:

- ☐ Title interest & consent
- ☐ Dedication for public use
- ☐ Engineering/Survey
- ☐ Water
- ☐ Public Works

☐ Additional Information:

_____

_____

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Authorization

This permit application does not assure permit approval. The applicant and/or property owner shall be responsible for obtaining any other necessary federal, state, and local permits. Within two (2) years of final review and approval, all final plats for land divisions shall be filed and recorded with the County Clerk, except as required otherwise for the filing of a plat to lawfully establish an unlawfully created unit of land. The applicant verifies that the information submitted is complete, accurate, and consistent with other information submitted with this application.

Property Owner (*Required) — Date: 11/15/2022

Applicant Signature — Date: 11/15/2022

EXHIBIT B

Project Narrative

Riverview Meadows Subdivision Phase 3
Nehalem, OR

(Township 3 North, Range 10 West, Section 23B, tax lot 3600)

Prepared by Tracy Brown Planning Consultants, LLC
January 2023

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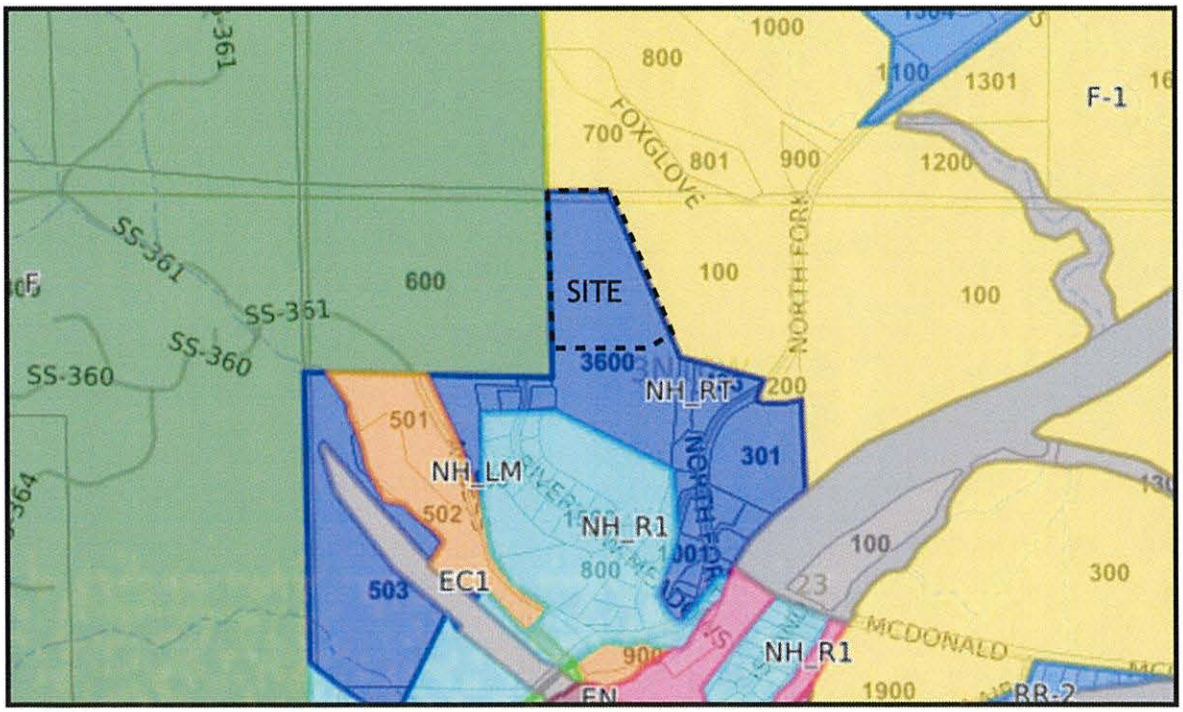
I. Introduction

The proposed subdivision is part of the planned progression of land use planning for this area of Nehalem. The subject property is within the City of Nehalem urban growth boundary but is currently located outside the Nehalem city limits. The applicant, Sheldon Development, Inc. requests land use approval to construct Phase 3 of Riverview Meadows to include 36 lot residential lots. The subject property is located directly north of Riverview Meadows Phase 2 approved by the Tillamook Planning Commission on October 20, 2022. The Phase 3 subdivision will extend the street system and utilities approved with Phase 2.

The project site consists of a single parcel located at Township 3 North, Range 10 West, Section 23B, tax lot 3600. The property is the northern portion of Tract B of Riverview Meadows Subdivision Phase 1 recorded as Document No. 2010-4288. This portion of the site contains 10.25 acres and is currently vacant. Moderate slopes border the northeastern portion of the site. The property is zoned NH-RT, Nehalem Residential Trailer and the applicant proposes constructing single family detached dwellings on the proposed lots as permitted by this zone. The subject property is bordered by properties zoned NH-RT to the south, Farm (F-1) zoned by Tillamook County to the north and east, and property zoned Forest (F) to the west.



The subject property is located in the northern region of the Nehalem Urban Growth Boundary. Access to the property is currently provided by an extension of Riverview Meadows Lane, a private road off Northfork Road, a Tillamook County road. Riverview

Meadows Lane was constructed as part of the Riverview Meadows Phase 1 subdivision improvements, platted in 2010.

The Tillamook County Planning Commission reviewed Phase 2 of the Riverview Meadows subdivision at a public hearing on October 20, 2022 (File No. 851-21-000415-PLNG). The Planning Commission approved the subdivision with the Geologic Hazard Report at this hearing and the Tillamook County Department of Community Development issued a Notice of Decision with Conditions for the application on October 25, 2022.

As was detailed with the Riverview Meadows, Phase 2 application, the applicant proposes constructing a new public access road to be called "Riverview Drive" intersecting with Northfork Road. This road located west of Riverview Meadows Lane will serve as the primary access for the development. Riverview Drive presents a superior design and location to the original access road (Riverview Meadows Drive) and is proposed to be privately maintained. As included with this application, all necessary easements have been secured to allow construction of this facility. In addition to construction of the new access road identified as Riverview Drive, the applicant is also proposing to modify two previously approved road names platted with Riverview Meadows Phase 1. The existing small north-south street stub platted as "Verns Place" is proposed to be changed to "Coltee Drive" and the existing east-west street stub platted as "Sunnyview Drive" is proposed to be changed to "Riverview Drive".

With development of Phases 2 and 3, the applicant proposes constructing a new 80,000 gallon water reservoir to serve the development. As discussed, with the Phase 2 application, this facility is designed to ensure adequate fire protection and domestic water pressure will be provided for the development. This system will also be designed to connect with the city's existing water distribution system to provide additional benefits to the city's system in this area of the city. During review of the Phase 2 application, the City of Nehalem issued a letter dated October 12, 2022, recommending the proposed subdivision be approved with Conditions.

The applicant intends to record CC&R's with the subdivision final plat similar to those recorded with Phase 1.

II. Application Approval Requests

The applicant requests the following approvals with this application:

- Preliminary Plat Subdivision Review
- Geologic Hazard Report Review
- Street Name Changes - Verns Place to Coltee Drive and Sunnyview Drive to Riverview Drive

III. Items Submitted With This Application

Exhibit A - Land Use Application
Exhibit B - Project Narrative
Exhibit C - Civil Plans

- Sheet 1 - Phase 3 Tentative Plan
- Sheet 2 - Phase 3 Tentative Plan

- Sheet 3 - Phase 3 Tentative Plan
- Sheet 4 - Phase 2 Layout
- Sheet 5 - Drainage Layout
- Sheet 6 - Utility Layout
- Sheet 7 - Entrance Road
- Sheet 8 - Entrance Road 2
- Sheet 9 - Entrance Road 3
- Sheet 10 - Entrance Road 4
- Sheet 11 - Entrance Road 5
- Sheet 12 - Entrance Road 6
- Sheet 13 - Entrance Road Profile
- Sheet 14 - Utility Layout Coltee Drive
- Sheet 15 - Utility Layout Coltee Drive
- Sheet 16 - Utility Layout Coltee Drive
- Sheet 17 - Utility Layout Kinlee Drive
- Sheet 18 - Utility Layout Kinlee Drive
- Sheet 19 - Utility Layout Meeka Drive
- Sheet 20 - Utility Layout Meeka Drive
- Sheet 21 - Utility Layout Pluto Drive
- Sheet 22 - Road Alignments
- Sheet 23 - Sewer System Details
- Sheet 24 - Water System Details

Exhibit D - Geologic Hazard Report (11/21/22)
Exhibit E - Engineering Portion of Geologic Hazard Report (12/15/22)
Exhibit F - Drainage Calculations (1/6/23)
Exhibit G - Water System Improvement Letter (11/7/22)
Exhibit H - Traffic Impact Study (10/7/22)
Exhibit I - New Public Access Road Easements
Exhibit J - Proposed CC&R (Riverview Meadows Phase 1)
Exhibit K - Service Provider Letters

- Nehalem Bay Wastewater Agency
- Tillamook Peoples Utility District
- Nehalem Bay Fire and Rescue District
- City of Nehalem, Water Service Availability

Exhibit L - Wendie Kellington email to Sarah Absher (10/12/22)
Exhibit M - Ray Moore water model email to Kyle Ayers (10/7/22)

IV. Review of Applicable Approval Criteria

Subdivision applications are required to comply with the code criteria found in the City of Nehalem Subdivision Ordinance and Zoning Ordinance. Each of the relevant code sections are reviewed below. Each relevant code section is written in regular text followed by a response written in *italics*.

City of Nehalem - Chapter 156 - Subdivisions

156.015 - Initial submission

Ten copies of a tentative plan consistent with Sections 156.018 through 156.021 of this chapter shall be submitted to the City Manager/Recorder at least 30 days prior to the

meeting of the City Planning Commission or formal declaration of applicability of expedited land division process; together with a fee in the amount as listed in the city's most up-to-date schedule of fees, charges and monetary penalties.
Response: *The intergovernmental agreement between the City of Nehalem and Tillamook County specifies the County is in charge of reviewing applications on behalf of the city for property located outside the city and within the urban growth boundary. Tillamook County Planning will be in charge of reviewing the subject application. The applicant has submitted 15 copies of all plans and one copy of all other materials as required by Tillamook County. In addition, a digital copy of all application materials was sent to the County.*

156.016 - Preliminary review

(A) Upon receipt of a completed application accompanied with filing fees, the City Manager/ Recorder shall transmit copies of the tentative plan to the City Planning Commission, City Council and other agencies such as the county and affected special districts.

(B)(1) The City Manager/Recorder shall prepare a report on the plan for submission to the City Planning Commission.

(2) The report shall include:

(a) Information on the Comprehensive Plan;

(b) Comprehensive Plan background report;

(c) Zoning;

(d) Adjoining streets and property;

(e) Existing sewers, water mains, culverts, electric conduits and other community facilities in addition to features of the proposal; together with

(f) Any other data pertinent to the review of the plan.

(C) The City Manager/Recorder shall provide adequate public notice of at least ten days in advance of the public hearing.

(1) Individual notices shall be mailed to all owners of parcels of land within 250 feet of the subdivision.

(2) In addition, at least ten days in advance of a public hearing a notice of the public hearing shall be published in a newspaper of general circulation within the affected area.

(D) In the event of a request for an expedited land division, the City Manager/Recorder of his or her designate shall review the application by the following criteria:

(1) Be within the urban growth boundary;

(2) Be used solely for residential purposes; including recreational or open space used accessory to residential uses;

(3) Not allow dwellings or accessory buildings to be located on land that is specially mapped and designated in the Comprehensive Plan and land use regulations for hill or partial protection of open spaces, scenic and historic areas and natural resources; or the Willamette River greenway, coastal shorelands or beaches and dunes; and

(4) Satisfy minimum street or other right-of-way standards established by the acknowledged land use plan or, if such standards are not contained in the applicable regulations, as required by the statewide planning goals; and propose development at a density equal to at least 80% of the maximum density permitted

by the zoning designation of the site, if the proposal will create four or more parcels. (This density requirement does not apply to proposals that will create three or fewer parcels.) (Ord. 80-3, passed 04/12/2004)
Response: *Tillamook County Planning is responsible for providing legal noticing and reviewing the subject application based on City of Nehalem code requirements.*

156.017 - Information in the tentative plan

The tentative plan shall contain the following information:

(A) Proposed name, date, north-point and scale of drawing;

(B) Tentative plans shall be to a scale of one inch equals 50 feet or better, except tracts over ten acres which may be to a scale of one inch equals 100 feet and shall be clearly and legibly produced;

(C) Location of the subdivision sufficient to define its location and boundaries, and a legal description as well;

(D) Name and address of the owner and/or authorized agent;

(E) Appropriate identification of the drawing as a tentative plan;

(F) Names, business address and number of the registered engineer and licensed surveyor who prepared the plan of the proposed subdivision;

(G) Location of natural features; such as streams, trees and rock outcroppings;

(H) Contour lines at 20-foot contour intervals;

(I) The locations, names, widths, approximate radii of the 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 the streets and alleys therein with the streets and alleys in the proposed subdivision;

(J) Names of the record owners of all contiguous land;
Response: *All of this information is included on the Plan set.*

(K) The approximate location and character of all existing and proposed easements and public utility facilities including water and sewer lines in the subdivision or adjacent thereto, storm water drainage facilities and utility lines;
Response: *Sheet 5 of the plan set shows the proposed stormwater conveyance and discharge plan for the development. The proposed plan is to utilize a combination of existing ditches, newly constructed roadside ditches, and culverts to convey stormwater to the existing stormwater discharge points established with Phase I. Arrows on the plan show the proposed direction of stormwater flow.*

(L) The location and approximate dimensions of each lot, with each lot numbered;
Response: *Each proposed lot and tract shown on the plan contains dimensions and the calculated area.*

(M) The outline of any existing buildings and their use showing those that will remain;
Response: *The site does not contain any existing buildings.*

(N) The location of at least one temporary benchmark within the subdivision boundaries;
Response: *This information is provided.*

(O) City boundary lines crossing or bounding the subdivision;
Response: *As noted above, the subject property is located outside the current Nehalem city limits but is located within the urban growth boundary.*

(P) Approximate location of all areas subject to inundation of storm water overflow and location, width, known high water elevation, flood flow and direction of flow of watercourses;
Response: *As shown on Sheet 5, Bob's Creek is located just west of the proposed Riverview Drive, new entrance road.*

(Q) If impracticable to show on the tentative plan, a key map showing the location of the tract in relationship to section and township lines and to adjacent property and major physical features such as streets, railroads and watercourses; and
Response: *All property corners are clearly identified and the requested datum has been added to the plan set.*

(R) The net density of the subdivision, the total acreage of land, square footage of each lot and square footage of open areas or common open space.
Response: *All of this information is shown on the revised plat. The proposal contains 36 residential lots and one tract. Tract A is proposed as a public utility tract to contain the proposed public water reservoir. Phase 3 contains a gross site area of 10.25 acres and after deducting proposed roads and Tract A, the site contains 6.99 net acres. The net density of the Phase 3 subdivision is 5.15 units/acre (36 lots/6.99 = 5.15 units/net acre).*

156.018 - Partial development
If the subdivision proposal pertains to only part of the tract owned or controlled by the subdivider, the Planning Commission may require a sketch of a tentative layout for streets in the unsubdivided portion.
Response: *Phase 3 is the last remaining property in this development owned by the applicant.*

156.019 - Information in statement
(A) A general explanation of the improvements and public utilities, including water supply and sewage disposal proposed to be installed;
Response: *A detailed discussion of these facilities is included on the plan set. As discussed in submitted materials, the applicant is proposing to construct a new 80,000 water reservoir to be located on Tract A of the proposed subdivision. This facility is designed to resolve domestic and fire protection water pressure needs of the subdivision. As noted above, this system is also designed to connect to the city water system and will help to increase water pressure in this area of the city.*

(B) Requested variances;
Response: *No variances are requested.*

(C) Public areas proposed;

Response: *No public areas are proposed.*

(D) Open space, landscaped areas, tree planting proposed and means of maintaining such improvements;
Response: *No open space, landscaped areas, or tree planting is proposed.*

(E) A preliminary draft of restrictive covenants proposed, if any; and
Response: *The applicant proposes using the CC&R recorded with the Riverview Meadows Phase I plat for the proposed development. This document is included with the application package.*

(F) Information showing areas to be cut or filled.
Response: *The subject property is generally flat with the exception of steep slopes located along the eastern portion of the property. Site grading will be limited to the minimum necessary to construct proposed roads as shown on the plan set.*

156.020 - Supplemental information
Any of the following may be required by the Planning Commission to supplement the plan of subdivision:

(A) Approximate centerline 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 included on the plan set.*

(B) A plan for domestic water service lines and related water service facilities;
Response: *The submitted plan set shows the location of proposed water lines. The proposed development intends to connect to the end of service lines in Phase 2 . As noted above, the applicant is proposing to construct a water reservoir on Tract A of the proposed subdivision. This facility is intended to resolve water pressure issues for the proposed development in addition to properties outside the development.*

(C) Approval for sewage disposal, storm water drainage or flood control;
Response: *The submitted plan set shows the location of the proposed sanitary sewer system, As noted in item 2 above, the proposed stormwater design is also shown on the plan set.*

(D) Proposals for other improvements such as electric utilities and sidewalks, fire hydrants and street lights;
Response: *No sidewalks are proposed with the development. The plan set shows the location of proposed fire hydrants. The electric facility design for street lights will be coordinated with the utility provider following preliminary plat approval.*

(E) An engineering geologist or soils engineering report of the stability of slopes when the average slope of created parcels is 20% or greater; and
Response: *A Geologic Hazard Report and Engineering Geology Report are included with the application package.*

(F) Other information as necessary.
Response: *In addition to items listed above, the application package includes drainages calculations, a Water System Improvement Letter, Traffic Impact Study, Service Provider letters, and recorded easements for the proposed new access road.*

156.021 - Preliminary city staff/planning commission determination

(A) The city staff shall determine whether the tentative plan, under an expedited land division process, is in conformity with the provisions of the Comprehensive Plan and this chapter. In the event of a quasi-judicial process application, the City Planning Commission shall determine whether the tentative plan is in conformity with the provisions of the Comprehensive Plan and this chapter.

(B) The Planning Commission may approve the tentative plan as submitted or as it may be modified. If the Planning Commission does not approve the plan, it shall state the reasons for denial.

(C) The action of the Planning Commission shall be noted on two copies of the tentative plan, including any conditions attached thereto. The Planning Commission shall retain one copy and the other returned to the subdivider.

(D) An appeal to the City Council of a Planning Commission decision may be made consistent with § 156.028 of this chapter.
Response: *The intergovernmental agreement between the City of Nehalem and Tillamook County specifies the County is in charge of reviewing applications on behalf of the city for property located outside the city and within the urban growth boundary. Tillamook County Planning will be in charge of reviewing the subject application. The proposed development complies with all applicable Goals contained in the Nehalem Comprehensive Plan and the requirements of this chapter.*

City of Nehalem - Chapter 157 - Zoning

157.110 - Intent

The Residential Trailer Area, designated by the primary symbol "RT", is established to provide for mobile homes, as well as conventional housing, in areas where there are few constraints on development.
Response: *The subject property is zoned Residential Trailer "RT" as shown on the City of Nehalem official zoning map.*

157.111 - Permitted principal uses

The following uses and their accessory uses are permitted outright:
(A) Single-family housing;
Response: *The applicant is proposing to construct single family dwellings, a permitted outright use in the RT zoning district*

157.113 - Development standards

The following standards shall apply.
(A) The minimum lot size shall be 5,000 square feet for a one-family dwelling, plus 2,500 square feet for each additional dwelling unit. Where public sewers are not available, the County Sanitarian may establish a minimum lot size greater than 5,000 square feet.
(B) The minimum lot width shall be 60 feet; except on a corner lot, it shall be 65 feet.

(C) The minimum lot depth shall be 85 feet.
(D) The minimum front yard shall be 20 feet.
(E) The minimum side yard shall be five feet; except on the side street of a corner lot, it shall be 15 feet.
(F) The minimum rear yard shall be 20 feet; except on the side street of a corner lot, it may be five feet.
(G) The maximum building height shall be 24 feet.
(H) Parking shall be in accordance with §§ 157.305 through 157.311 of this chapter.
(I) Manufactured home parks shall be in accordance with § 157.262 of this chapter.
(J) Manufactured home subdivisions shall be in accordance with Ch. 156 of this code of ordinances.
(K) Manufactured homes located on individual lots in parks or subdivisions shall be in accordance with § 157.262 of this chapter.
(L) Short-term rentals shall comply with § 157.276 of this chapter.
Response: *As shown on submitted plans, all lots contain at least 5,000 square feet. All corner lots are at least 65 feet wide, interior lots are at least 60 feet wide, and all lots contain at least 85 feet of depth. Homes constructed on these lots will be required to contain at least a 20 foot front setback, five foot side setbacks and corner lots a 15 foot side setback. All homes constructed on these lots will have a 20 foot minimum rear setback and homes no homes will exceed 24 feet in height. The proposal is capable of compiling with all other standards including parking detailed in this section.*

Supplementary Provisions

157.260 - Intent

The purpose of this subchapter is to provide for general zoning rules including suitable access parking and sign control; as well as to make provisions for geologic investigations, home occupations and criteria for approval of mobile home parks and accessory uses/ structures.
Response: *A review of applicable sections is included below.*

157.261 - Geologic investigation

(A) The following are geologic hazard areas to which the standards of this section apply:
(1) Active landslides identified in State Department of Geology and Mineral Industries (DOGMI) Bulletins 74 and 79;
(2) Inactive landslides, landslide topography and mass movement topography, identified in DOGMI Bulletins 74 and 79 where slopes are greater than 20%;
(3) Areas prone to mudflows identified in DOGMI Bulletin 79;
(4) Brallier peat soils identified in Soil Survey, Tillamook Area, Oregon (USDA, Soil Conservation Service, 1964) and the unpublished Soil Conservation Service soils survey for coastal Tillamook County; or
(5) Other locally known areas of geologic hazard based on evidence of past occurrences.

Response: *The subject property is located within an area containing geologic hazard, landslide topography. For this reason, an Geologic Hazard Report and Engineering Geology Report are included with the application package.*

(B) All development within geologic hazard areas shall comply with the following standards.
(1) Vegetation removal shall be the minimum necessary to accommodate the use.
(2) Temporary measures shall be taken to control runoff and erosion of soils during construction. Such measures include temporary stabilization (mulching or sodding), sediment basins or other performance equivalent structures required by the city.
(3) Exposed areas shall be planted in permanent cover as soon as possible after construction.
(4) Storm water shall be directed into drainages with adequate capacity so as not to flood adjacent downstream properties. Finished grades should preferably be designed to direct water flows along natural drainage courses.
(5) Additional requirements contained in a geologic report required by this section shall be followed.
Response: *All of the standards in this section will be considered in constructing the proposed development.*

(C) A geologic hazard report is required prior to approval of planned developments, subdivisions and partitions governed by Ch. 156 of this code of ordinances, building permits, manufactured home permits, mining and excavation occurring in areas identified in division (A) above.
(D) A report prepared for a subdivision, planned development or partition pursuant to the requirements of this section, may be used to satisfy these requirements for subsequent building, mobile home or manufactured home permits; providing that, the original report provided recommendations on building placement and construction and that these recommendations are followed.
(E) The geologic hazard report shall be prepared by a geologist, engineer, engineering geologist or other person having professional experience analyzing the relevant geologic hazards.
(1) Structural recommendations must be stamped by a registered professional engineer.
(2) The boundaries of the study area shall be determined by the city.
(3) It shall be prepared in a format easily understood by a "lay-person" and shall include plan and sectional diagrams of the area showing property boundaries and the geographic information required by division (F) below.
Response: *An Engineering Geologic Hazard Report is included with this application package. R. Warren Krager, R.G, C.E.G an Oregon Licensed Engineering Geologist prepared a Geologic Report report and the project Engineer, Jason Morgan, P.E. prepared the Engineering portion of the Geologic Report. These reports contain conclusions and recommendations for developing the proposed subdivision.*

(F) The geologic hazard analysis shall include the following:
(1) In landslide areas (divisions (A)(1) and (A)(2) above):
(a) Soils and bedrock type;
(b) Slope;
(c) Orientation of bedding planes in relation to the dip of the surface slope;

(d) Soil depth;
(e) Other relevant soils engineering data;
(f) Water drainage patterns; and
(g) Identification of visible landslide activity in the immediate area.

(2) In areas prone to mudflow (division (A)(3) above):
(a) History of mud or debris flow; and
(b) Areas likely to be affected by future mudflow.

(3) In Brallier peat soils (division (A)(4) above):
(a) Boring log or other similar measure;
(b) Bearing capacity; and
(c) Drainage patterns.

Response: *All of the items in this section were considered in the report.*

(G) The geologic hazards report shall recommend development standards that will protect development on the property and surrounding properties. These should include standards for:

(1) Development density (when more than one use is possible);
(2) Locations for structures and roads;
(3) Land grading practices, including standards for cuts and fills;
(4) Vegetation removal and re-vegetation practices;
(5) Foundation design (if special design is necessary);
(6) Road design (if applicable); and
(7) Management of storm water runoff during and after construction.

Response: *The Geologic Report and Engineering Portion of the Geologic contain conclusions and recommendations for developing the subdivision.*

(H) The geologic hazard report shall include the following summary findings and conclusions:

(1) The type of use proposed and the adverse effects it might have on adjacent areas;
(2) Hazards to life, public and private property, and the natural environment which may be caused by the proposed use;
(3) Methods for protecting the surrounding area from any adverse effects of the development;
(4) Temporary and permanent stabilization programs and the planned maintenance of new and existing vegetation;
(5) The proposed development is adequately protected from any reasonably foreseeable hazards including, but not limited to, geologic hazards, wind erosion, undercutting and flooding; and
(6) The proposed development is designed to minimize adverse environmental effects.

Response: *The Geologic Report and Engineering Portion of the Geologic Report contain conclusions and recommendations for developing the subdivision.*

157.268 - Access.

Every lot shall abut a street, other than an alley, for at least 20 feet.

Response: *All lots abut a street and contain at least 20 feet of frontage.*

157.269 - Clear-vision areas.

(A) A clear-vision area shall be maintained on the corners of all property at the intersection of two streets.
(B) A clear-vision area shall consist of a triangular area, two sides of which are lot lines measured from the corner intersection of the street lot lines for a distance specified in this regulation; or, where the lot lines extended in a straight line to a point of intersection and so measured, and the third side of each is a line across the corner of the lot joining the non-intersecting ends of the other two sides.
(C) A clear-vision area shall contain no planting, fences, walls, structures or temporary or permanent obstructions exceeding two and one-half feet in height; measured from the top of the curb, or, where no curb exists, from the established street center line grade; except that, trees exceeding this height may be located in this area; provided that, all branches and foliage are removed to a height of eight feet above the grade.
(D) The following measurements shall establish clear-vision areas.
(1) In a residential zone, the minimum distance shall be 25 feet or, at an intersection including an alley, ten feet.
(2) In all other zones, where yards are required, the minimum distance shall be 15 feet or, at intersections including an alley, it shall be ten feet; except that, when the angle of intersection between streets, other than an alley, is less than 30 degrees, the distance shall be 25 feet.
Response: *The clear vision area required by this section will be provided on all corner lots.*

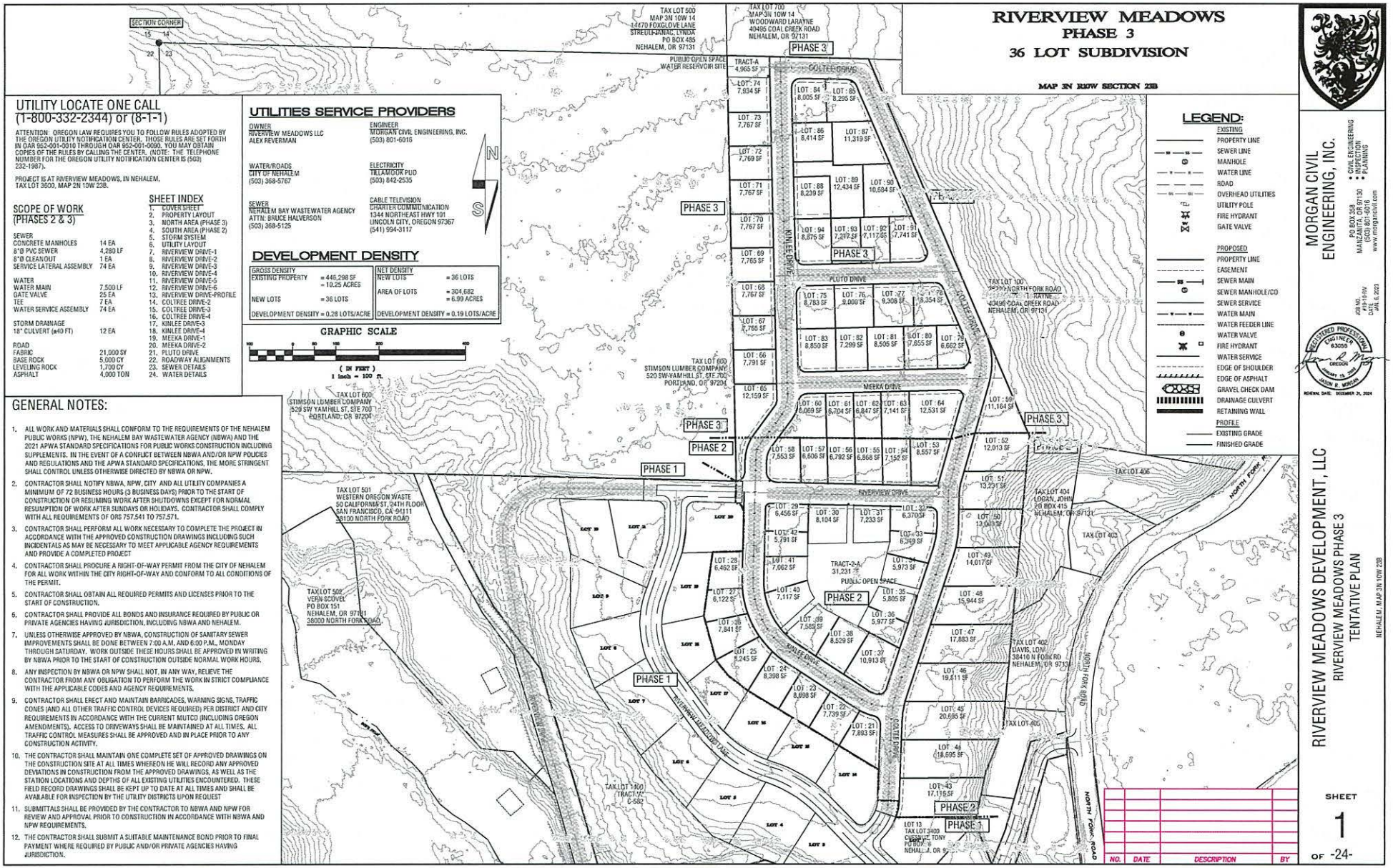
V. Conclusion

Sheldon Development, Inc. requests land use approval to construct Phase 3 of Riverview Meadows subdivision to include 36 residential lots. The subject property is located directly north of Riverview Meadows Phase 2 approved by the Tillamook Planning Commission on October 20, 2022. The Phase 3 subdivision is an extension of the street and utility system approved with Phase 2. The project site consists of a single parcel located at Township 3 North, Range 10 West, Section 23B, tax lot 3600. The property is zoned NH-RT, Nehalem Residential Trailer and the applicant proposes constructing single family detached dwellings on the proposed lots as permitted by this zone. With this application, the applicant proposes constructing a new entrance road, Riverview Drive, and a new 80,000 gallon water reservoir and related piping to serve the development. As noted above, in addition to construction of the new access road identified as Riverview Drive, the applicant is also proposing to modify two previously approved road names platted with Riverview Meadows Phase 1. The existing small north-south street stub platted as "Verns Place" is proposed to be changed to "Coltee Drive" and the existing east-west street stub platted as "Sunnyview Drive" is proposed to be changed to "Riverview Drive". As reviewed in this narrative, the proposal complies with all applicable standards and criteria contained in the Nehalem Subdivision and Zoning Codes. The applicant respectfully requests the application be approved as presented.

EXHIBIT C

RIVERVIEW MEADOWS
PHASE 3
36 LOT SUBDIVISION

MAP 3N R10W SECTION 23B



UTILITY LOCATE ONE CALL
(1-800-332-2344) or (8-1-1)

ATTENTION: OREGON LAW REQUIRES YOU TO FOLLOW RULES ADOPTED BY THE OREGON UTILITY NOTIFICATION CENTER. THOSE RULES ARE SET FORTH IN OAR 952-001-0010 THROUGH OAR 952-001-0090. YOU MAY OBTAIN COPIES OF THE RULES BY CALLING THE CENTER. (NOTE: THE TELEPHONE NUMBER FOR THE OREGON UTILITY NOTIFICATION CENTER IS (503) 232-1987).

PROJECT IS AT RIVERVIEW MEADOWS, IN NEHALEM, TAX LOT 3500, MAP 2N 10W 23B.

SCOPE OF WORK
(PHASES 2 & 3)

SEWER	
CONCRETE MANHOLES	14 EA
8"Ø PVC SEWER	4,280 LF
8"Ø CLEANOUT	1 EA
SERVICE LATERAL ASSEMBLY	74 EA
WATER	
WATER MAIN	7,500 LF
GATE VALVE	25 EA
TEE	7 EA
WATER SERVICE ASSEMBLY	74 EA
STORM DRAINAGE	
18" CULVERT (±40 FT)	12 EA
ROAD	
FABRIC	21,000 SY
BASE ROCK	5,000 CY
LEVELING ROCK	1,700 CY
ASPHALT	4,000 TON

SHEET INDEX

UTILITIES SERVICE PROVIDERS

OWNER RIVERVIEW MEADOWS LLC ALEX REVERMAN	ENGINEER MORGANT CIVIL ENGINEERING, INC. (503) 801-6016
WATER/ROADS CITY OF NEHALEM (503) 368-5767	ELECTRICITY TILLAMOOK PUD (503) 842-2535
SEWER NEHALEM BAY WASTEWATER AGENCY ATTN: BRUCE HALVERSON (503) 368-5125	CABLE TELEVISION CHARTER COMMUNICATION 1344 NORTHEAST HWY 101 LINCOLN CITY, OREGON 97367 (541) 994-3117

DEVELOPMENT DENSITY

GROSS DENSITY		NET DENSITY	
EXISTING PROPERTY	= 446,298 SF = 10.25 ACRES	NEW LOTS	= 36 LOTS
NEW LOTS	= 36 LOTS	AREA OF LOTS	= 304,682 = 6.99 ACRES
DEVELOPMENT DENSITY = 0.28 LOTS/ACRE		DEVELOPMENT DENSITY = 0.19 LOTS/ACRE	

GRAPHIC SCALE

100 0 50 100 200 400

(IN FEET)
1 inch = 100 ft.

LEGEND:

EXISTING
- PROPERTY LINE
- SEWER LINE
- MANHOLE
- WATER LINE
- ROAD
- OVERHEAD UTILITIES
- UTILITY POLE
- FIRE HYDRANT
- GATE VALVE

PROPOSED
- PROPERTY LINE
- EASEMENT
- SEWER MAIN
- SEWER MANHOLE/CO
- SEWER SERVICE
- WATER MAIN
- WATER FEEDER LINE
- WATER VALVE
- FIRE HYDRANT
- WATER SERVICE
- EDGE OF SHOULDER
- EDGE OF ASPHALT
- GRAVEL CHECK DAM
- DRAINAGE CULVERT
- RETAINING WALL

PROFILE
- EXISTING GRADE
- FINISHED GRADE

GENERAL NOTES:

1. ALL WORK AND MATERIALS SHALL CONFORM TO THE REQUIREMENTS OF THE NEHALEM PUBLIC WORKS (NPW), THE NEHALEM BAY WASTEWATER AGENCY (NBWA) AND THE 2021 APWA STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION INCLUDING SUPPLEMENTS. IN THE EVENT OF A CONFLICT BETWEEN NBWA AND/OR NPW POLICIES AND REGULATIONS AND THE APWA STANDARD SPECIFICATIONS, THE MORE STRINGENT SHALL CONTROL UNLESS OTHERWISE DIRECTED BY NBWA OR NPW.
2. CONTRACTOR SHALL NOTIFY NBWA, NPW, CITY AND ALL UTILITY COMPANIES A MINIMUM OF 72 BUSINESS HOURS (3 BUSINESS DAYS) PRIOR TO THE START OF CONSTRUCTION OR RESUMING WORK AFTER SHUTDOWNS EXCEPT FOR NORMAL RESUMPTION OF WORK AFTER SUNDAYS OR HOLIDAYS. CONTRACTOR SHALL COMPLY WITH ALL REQUIREMENTS OF ORS 757.541 TO 757.571.
3. CONTRACTOR SHALL PERFORM ALL WORK NECESSARY TO COMPLETE THE PROJECT IN ACCORDANCE WITH THE APPROVED CONSTRUCTION DRAWINGS INCLUDING SUCH INCIDENTALS AS MAY BE NECESSARY TO MEET APPLICABLE AGENCY REQUIREMENTS AND PROVIDE A COMPLETED PROJECT
4. CONTRACTOR SHALL PROCURE A RIGHT-OF-WAY PERMIT FROM THE CITY OF NEHALEM FOR ALL WORK WITHIN THE CITY RIGHT-OF-WAY AND CONFORM TO ALL CONDITIONS OF THE PERMIT.
5. CONTRACTOR SHALL OBTAIN ALL REQUIRED PERMITS AND LICENSES PRIOR TO THE START OF CONSTRUCTION.
6. CONTRACTOR SHALL PROVIDE ALL BONDS AND INSURANCE REQUIRED BY PUBLIC OR PRIVATE AGENCIES HAVING JURISDICTION, INCLUDING NBWA AND NEHALEM.
7. UNLESS OTHERWISE APPROVED BY NBWA, CONSTRUCTION OF SANITARY SEWER IMPROVEMENTS SHALL BE DONE BETWEEN 7:00 A.M. AND 6:00 P.M., MONDAY THROUGH SATURDAY. WORK OUTSIDE THESE HOURS SHALL BE APPROVED IN WRITING BY NBWA PRIOR TO THE START OF CONSTRUCTION OUTSIDE NORMAL WORK HOURS.
8. ANY INSPECTION BY NBWA OR NPW SHALL NOT, IN ANY WAY, RELIEVE THE CONTRACTOR FROM ANY OBLIGATION TO PERFORM THE WORK IN STRICT COMPLIANCE WITH THE APPLICABLE CODES AND AGENCY REQUIREMENTS.
9. CONTRACTOR SHALL ERECT AND MAINTAIN BARRICADES, WARNING SIGNS, TRAFFIC CONES (AND ALL OTHER TRAFFIC CONTROL DEVICES REQUIRED) PER DISTRICT AND CITY REQUIREMENTS IN ACCORDANCE WITH THE CURRENT MUTCD (INCLUDING OREGON AMENDMENTS). ACCESS TO DRIVEWAYS SHALL BE MAINTAINED AT ALL TIMES. ALL TRAFFIC CONTROL MEASURES SHALL BE APPROVED AND IN PLACE PRIOR TO ANY CONSTRUCTION ACTIVITY.
10. THE CONTRACTOR SHALL MAINTAIN ONE COMPLETE SET OF APPROVED DRAWINGS ON THE CONSTRUCTION SITE AT ALL TIMES WHEREON HE WILL RECORD ANY APPROVED DEVIATIONS IN CONSTRUCTION FROM THE APPROVED DRAWINGS, AS WELL AS THE STATION LOCATIONS AND DEPTHS OF ALL EXISTING UTILITIES ENCOUNTERED. THESE FIELD RECORD DRAWINGS SHALL BE KEPT UP TO DATE AT ALL TIMES AND SHALL BE AVAILABLE FOR INSPECTION BY THE UTILITY DISTRICTS UPON REQUEST
11. SUBMITTALS SHALL BE PROVIDED BY THE CONTRACTOR TO NBWA AND NPW FOR REVIEW AND APPROVAL PRIOR TO CONSTRUCTION IN ACCORDANCE WITH NBWA AND NPW REQUIREMENTS.
12. THE CONTRACTOR SHALL SUBMIT A SUITABLE MAINTENANCE BOND PRIOR TO FINAL PAYMENT WHERE REQUIRED BY PUBLIC AND/OR PRIVATE AGENCIES HAVING JURISDICTION.

NO.	DATE	DESCRIPTION	BY

MORGAN CIVIL ENGINEERING, INC.
• CIVIL ENGINEERING
• LAND SURVEYING
• PLANNING
PO BOX 358
MANZANITA, OR 97130
(503) 801-6016
www.morgancivil.com

JOB NO. 19-10-RIV
DATE: APR. 6 2023

REGISTERED PROFESSIONAL ENGINEER
63050
OREGON
JANUARY 13, 2015
JASON R. MORGAN
RENEW. DATE: DECEMBER 31, 2024

RIVERVIEW MEADOWS DEVELOPMENT, LLC
RIVERVIEW MEADOWS PHASE 3
TENTATIVE PLAN
NEHALEM, MAP 3N 10W 23B

SHEET
1
OF -24-

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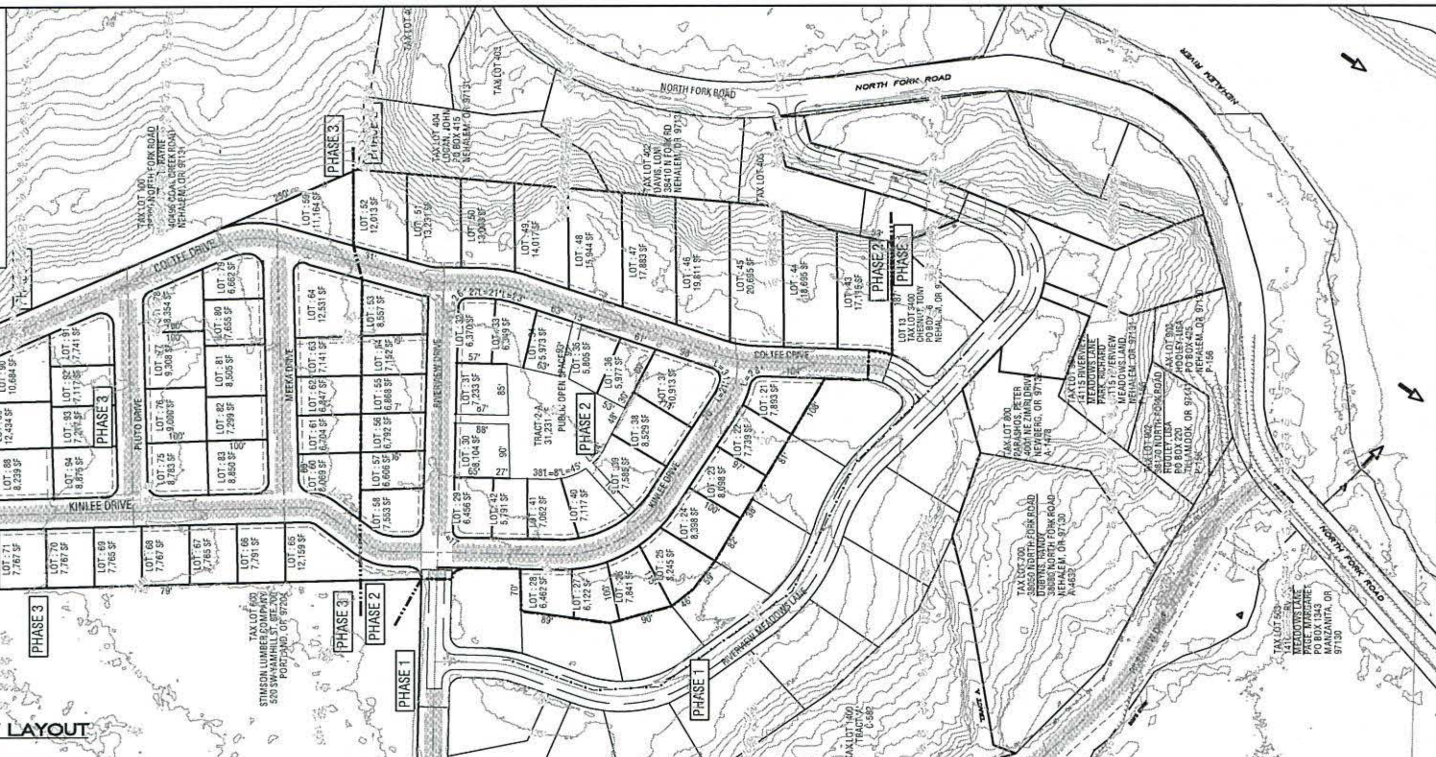
RIVERVIEW MEADOWS
PHASE 3
36 LOT SUBDIVISION

MAP 3N R10W SECTION 23B

GRAPHIC SCALE

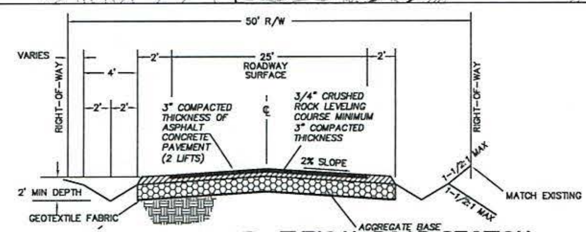
(IN FEET)
1 inch = 100 ft.



PROPERTY LAYOUT
SCALE: 1"=100'

EXISTING UTILITIES AND FACILITIES:

1. CONTRACTOR SHALL LOCATE AND MARK ALL EXISTING PROPERTY AND STREET MONUMENTS PRIOR TO CONSTRUCTION. ANY MONUMENTS DISTURBED DURING CONSTRUCTION OF THE SANITARY SEWERAGE IMPROVEMENTS SHALL BE REPLACED BY A REGISTERED LAND SURVEYOR AT THE CONTRACTOR'S EXPENSE. THE MONUMENTS SHALL BE REPLACED WITHIN A MAXIMUM OF 90 DAYS, AND THE CITY SURVEYOR SHALL BE NOTIFIED IN WRITING AS REQUIRED BY ORS 209.150.
2. THE LOCATION AND DESCRIPTION OF EXISTING NBWA AND NPW FACILITIES SHOWN ON THE DRAWINGS ARE COMPILED FROM AVAILABLE RECORDS AND/OR FIELD SURVEYS. NBWA AND NPW DO NOT GUARANTEE THE ACCURACY OR THE COMPLETENESS OF SUCH RECORDS. CONTRACTOR SHALL FIELD VERIFY SIZES AND LOCATIONS OF ALL EXISTING NBWA FACILITIES PRIOR TO CONSTRUCTION.
3. ATTENTION: OREGON LAW REQUIRES YOU TO FOLLOW RULES ADOPTED BY THE OREGON UTILITY NOTIFICATION CENTER. THOSE RULES ARE SET FORTH IN OAR 952-001-0010 THROUGH OAR 952-0010090. YOU MAY OBTAIN COPIES OF THE RULES BY CALLING THE CENTER. (NOTE: THE TELEPHONE NUMBER FOR THE OREGON UTILITY NOTIFICATION CENTER IS (503) 232-1987).
4. CONTRACTOR SHALL FIELD VERIFY THE LOCATION AND DEPTH OF ALL EXISTING UTILITIES -WHERE NEW FACILITIES CROSS OR ARE CLOSELY PARALLEL TO THE EXISTING FACILITIES. ALL UTILITY CROSSINGS MARKED OR SHOWN ON THE DRAWINGS SHALL BE POTHOLED USING HAND TOOLS OR OTHER NON-INVASIVE METHODS PRIOR TO EXCAVATING OR BORING. CONTRACTOR SHALL BE RESPONSIBLE FOR EXPOSING POTENTIAL UTILITY CONFLICTS FAR ENOUGH AHEAD OF CONSTRUCTION TO MAKE NECESSARY GRADE MODIFICATIONS WITHOUT DELAYING THE WORK. IF GRADE MODIFICATION IS NECESSARY, CONTRACTOR SHALL NOTIFY THE DEVELOPER'S ENGINEER, AND THE DEVELOPER'S ENGINEER SHALL OBTAIN APPROVAL FROM NBWA AND/OR NPW PRIOR TO CONSTRUCTION. ALL UTILITY CROSSINGS SHALL BE POTHOLED AS NECESSARY PRIOR TO EXCAVATING OR BORING TO ALLOW THE CONTRACTOR TO PREVENT GRADE OR ALIGNMENT CONFLICTS.
5. ALL EXISTING NBWA AND NPW FACILITIES SHALL BE MAINTAINED IN-PLACE BY THE CONTRACTOR UNLESS OTHERWISE SHOWN OR DIRECTED BY NBWA OR NPW. CONTRACTOR SHALL TAKE ALL PRECAUTIONS NECESSARY TO SUPPORT, MAINTAIN OR OTHERWISE PROTECT EXISTING FACILITIES AT ALL TIMES DURING CONSTRUCTION. CONTRACTOR SHALL LEAVE EXISTING FACILITIES IN AN EQUAL OR BETTER-THAN-ORIGINAL CONDITION AND TO THE SATISFACTION OF NBWA AND/OR NPW.
6. NBWA OR NPW UTILITIES, OR INTERFERING PORTIONS OF NBWA OR NPW FACILITIES, THAT ARE ABANDONED IN PLACE SHALL BE REMOVED BY THE CONTRACTOR TO THE EXTENT NECESSARY TO ACCOMPLISH THE WORK. THE CONTRACTOR SHALL PLUG THE REMAINING EXPOSED ENDS OF THE ABANDONED UTILITIES.



TYPICAL ROAD SECTION
NO SCALE

MORGAN CIVIL ENGINEERING, INC.

PO BOX 358
MANZANITA, OR 97130
(503) 801-6016
www.morgancivil.com

• CIVIL ENGINEERING
• INSPECTION
• PLANNING

JOB NO. #19-10-RV
DATE JAN. 6, 2023

REGISTERED PROFESSIONAL ENGINEER
63055
OREGON
JASON R. MORGAN
RENEWAL DATE: DECEMBER 31, 2024

RIVERVIEW MEADOWS DEVELOPMENT, LLC
RIVERVIEW MEADOWS PHASE 3
TENTATIVE PLAN
NEHALEM, MAP 3N 10W 23B

NO.	DATE	DESCRIPTION	BY

SHEET 2 OF -24-

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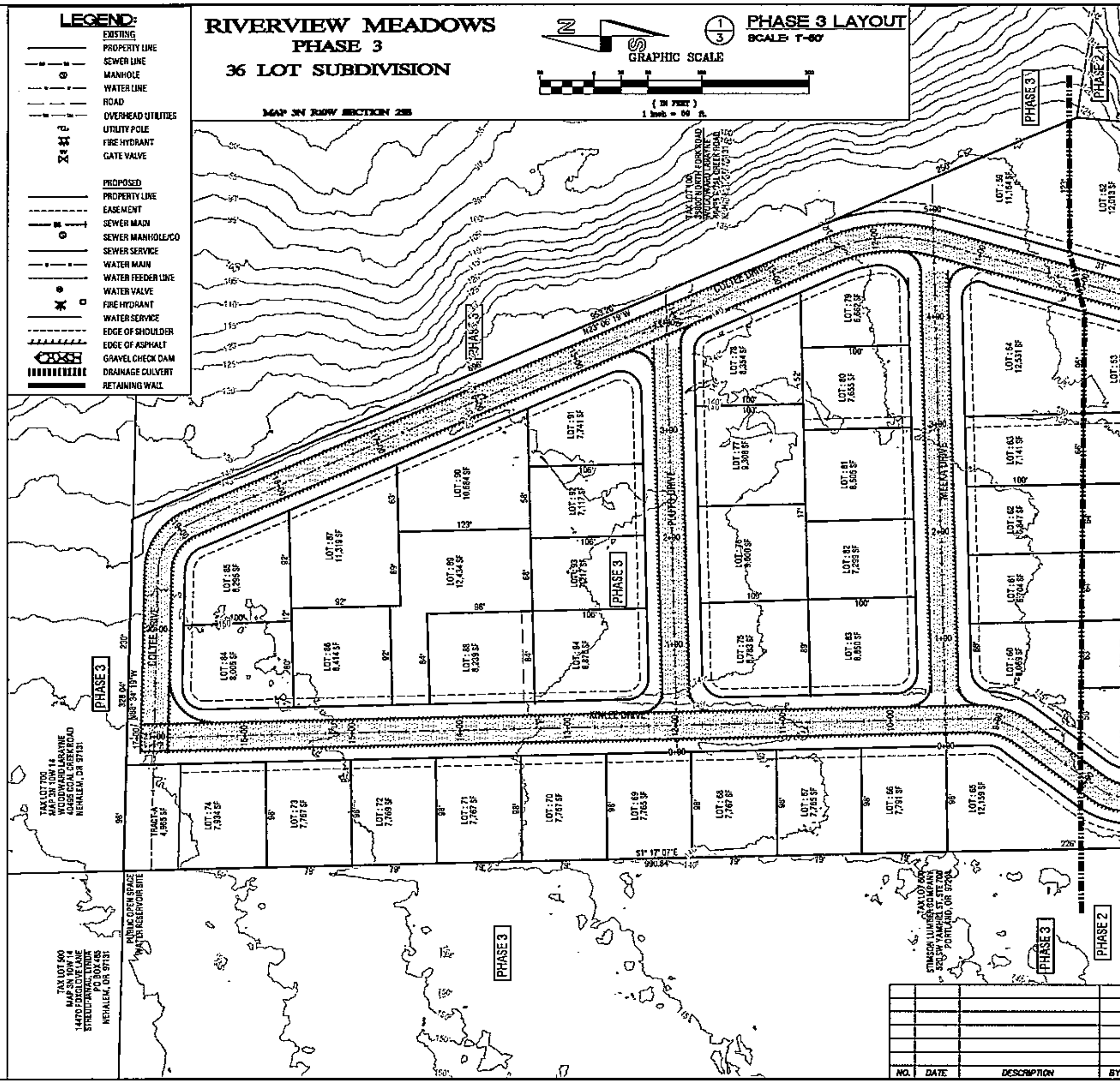
SANITARY SEWAGE FACILITIES:

1. UNLESS OTHERWISE NOTED, MATERIALS AND WORKMANSHIP FOR SANITARY SEWER SHALL CONFORM TO OSSC (ODOT/APWA) SPECIFICATIONS, 2021 EDITION.
2. THE CONTRACTOR SHALL HAVE APPROPRIATE EQUIPMENT ON SITE TO PRODUCE A FIRM, SMOOTH, UNDISTURBED SUBGRADE AT THE TRENCH BOTTOM, TRUE TO GRADE. THE BOTTOM OF THE TRENCH EXCAVATION SHALL BE SHALL BE SMOOTH, FREE OF LOOSE MATERIALS OR TOOTH GROOVES FOR THE ENTIRE WIDTH OF THE TRENCH PRIOR TO PLACING THE GRANULAR BEDDING MATERIAL.
3. BEDDING AND BACKFILL. ALL SANITARY SEWER PIPES SHALL BE BEDDED WITH A MINIMUM OF 4-INCHES OF 3/4" MINUS CRUSHED ROCK BEDDING AND BACKFILLED WITH COMPACTED 3/4" MINUS CRUSHED ROCK IN THE PIPE ZONE (CRUSHED ROCK SHALL EXTEND A MINIMUM OF 12-INCHES OVER THE TOP OF THE PIPE IN ALL CASES). CRUSHED ROCK TRENCH BACKFILL SHALL BE USED UNDER ALL IMPROVED AREAS, INCLUDING SIDEWALKS.
4. TRENCH BACKFILL IN THE PIPE ZONE SHALL BE ACHIEVED BY MECHANICAL MEANS IN HORIZONTAL LIFTS TO NINETY PERCENT (90%) OF THE MAXIMUM DRY DENSITY PER AASHTO T-180 TEST METHOD.
5. COMPACTION IN THE BACKFILL ZONE (MORE THAN 12" ABOVE THE TOP OF PIPE) AND WITHIN THE STREET RIGHT OF WAY SHALL BE ACHIEVED BY MECHANICAL MEANS IN HORIZONTAL LIFTS TO NINETY-TWO PERCENT (92%) OF THE MAXIMUM DRY DENSITY PER AASHTO T-180 TEST METHOD UNLESS A GREATER DEGREE OF COMPACTION IS REQUIRED BY ANOTHER AGENCY WITH JURISDICTION.
6. COMPACTION IN THE BACKFILL ZONE (MORE THAN 12" ABOVE THE TOP OF PIPE) AND OUTSIDE THE STREET RIGHT OF WAY SHALL BE ACHIEVED BY MECHANICAL MEANS IN HORIZONTAL LIFTS TO NINETY PERCENT (90%) OF THE MAXIMUM DRY DENSITY PER AASHTO T-180 TEST METHOD UNLESS A GREATER DEGREE OF COMPACTION IS REQUIRED BY ANOTHER AGENCY WITH JURISDICTION.
7. CRUSHED ROCK SHALL CONFORM TO THE REQUIREMENTS OF OSSC (2021 ODOT/APWA) 02630.10 (DENSE GRADED BASE AGGREGATE).
8. ALL CITY OF NEHALEM PIPED FACILITIES ABANDONED IN PLACE SHALL HAVE ALL OPENINGS CLOSED WITH CONCRETE PLUGS WITH A MINIMUM LENGTH EQUAL TO TWO (2) TIMES THE DIAMETER OF THE ABANDONED PIPE.
9. THE END OF ALL UTILITY STUBS SHALL BE MARKED WITH A PAINTED 2x4, EXTENDING 2 FEET MINIMUM ABOVE FINISH GRADE, AND WIRED TO PIPE STUB (PAINTED WHITE FOR SANITARY SEWER). TYPE OF UTILITY (IE, SEWER) AND DEPTH BELOW GRADE TO PIPE INVERT SHALL BE CLEARLY & PERMANENTLY LABELED ON THE MARKER POST.
10. NO TRENCHES IN ROADS OR DRIVEWAYS SHALL BE LEFT IN AN OPEN CONDITION OVERNIGHT. ALL SUCH TRENCHES SHALL BE CLOSED BEFORE THE END OF EACH WORK DAY AND NORMAL TRAFFIC FLOWS RESTORED.
11. SANITARY SEWER & WATERLINE CROSSINGS. WHERE SANITARY SEWER LINES CROSS ABOVE OR WITHIN 18-INCHES OF VERTICAL SEPARATION BELOW A WATERLINE, SEWER MAINS AND/OR LATERALS SHALL BE REPLACED WITH DUCTILE IRON PIPE AT THE CROSSING. CENTER ONE FULL LENGTH OF CLASS 50 DUCTILE IRON PIPE CONFORMING TO AWWA C-151 AND C-104 AT POINT OF CROSSING. CONNECT TO EXISTING SEWER LINES WITH APPROVED RUBBER COUPLINGS.
12. PER DEQ REQUIREMENTS, DEVELOPER/CONTRACTOR SHALL HAVE SANITARY SEWERAGE FACILITIES INSPECTED, TESTED PER APWA PROCEDURES AND CERTIFIED BY A LICENSED ENGINEER.
13. UNLESS OTHERWISE SPECIFIED, SANITARY SEWER PIPE SHALL BE PVC IN CONFORMANCE WITH ASTM D3034, SDR 35. MINIMUM STIFFNESS SHALL BE 46 PSI PER ASTM D-2412 AND JOINT TYPE SHALL BE ELASTOMERIC GASKET CONFORMING TO ASTM D-3212. ALL OTHER APPURTENANCES AND INSTALLATION SHALL CONFORM TO CITY OF NEHALEM REQUIREMENTS.
14. SANITARY SEWER MANHOLES SHALL HAVE PRECAST BASE SECTIONS OF MONOLITHIC CONSTRUCTION AND SHALL BE MANUFACTURED SUCH THAT THE BASE SECTION IS INTEGRAL WITH THE BASE SLAB. THE MINIMUM BASE THICKNESS SHALL BE 6-INCHES. MANHOLE BASES SHALL HAVE CORE DRILLED OPENINGS AND FLEXIBLE MANHOLE TO PIPE CONNECTORS FOR THE CONNECTIONS TO PIPE STUB OUTS. FLEXIBLE JOINTS FOR PIPE OPENINGS SHALL BE "RES-SEAL" AS MANUFACTURED BY PRICE BROTHERS CO., "KOR-N-SEAL" AS MANUFACTURED BY NATIONAL POLLUTION CONTROL SYSTEMS, INC. OR CITY OF NEHALEM APPROVED EQUAL.
15. MANHOLE PRECAST SECTIONS SHALL MEET OR EXCEED ASTM C-478 AND SHALL HAVE WATERTIGHT O-RING OR MASTIC KEYLOCK JOINT.
16. MANHOLES SHALL BE INSTALLED WITH STEPS. STEPS TO BE FACTORY INSTALLED POLYPROPYLENE PLASTIC WITH GRADE 60 REINFORCING ROD.
17. FLAT TOP MANHOLES SHALL BE USED FOR ALL MANHOLES LESS THAN 5 FEET RIM TO INVERT.
18. OPENINGS FOR CONNECTIONS TO EXISTING MANHOLES SHALL BE MADE BY CORE-DRILLING THE EXISTING MANHOLE STRUCTURE AND INSTALLING A RUBBER BOOT. CONNECTIONS TO BE WATERTIGHT AND SHALL PROVIDE A SMOOTH FLOW INTO AND THROUGH THE MANHOLE. SMALL CHIPPING HAMMERS OR SIMILAR LIGHT TOOLS WHICH WILL NOT DAMAGE OR CRACK THE MANHOLE BASE MAY BE USED TO SHAPE CHANNELS. USE OF LARGE PNEUMATIC JACKHAMMERS SHALL BE PROHIBITED. UNLESS OTHERWISE APPROVED IN WRITING BY THE DISTRICT ENGINEER, MANHOLE STEPS SHALL BE INSTALLED IN ANY MANHOLE TAPPED WHICH DOES NOT HAVE EXISTING STEPS.
19. SANITARY SEWER TESTING. SANITARY SEWERS AND RELATED APPURTENANCES SHALL BE TESTED IN ACCORDANCE WITH THE OSSC (ODOT/APWA) SPECIFICATIONS, 2021 EDITION UNLESS OTHERWISE REQUIRED BY CITY OF NEHALEM. THE COST OF ALL TESTING AND ANY CORRECTIVE WORK ARE THE RESPONSIBILITY OF THE DEVELOPER.
20. SANITARY PIPE CLEANING. PRIOR TO MANDREL OR AIR TESTING, FLUSH AND CLEAN ALL SEWERS TO REMOVE ALL FOREIGN MATERIALS FROM MAINLINES AND MANHOLES. FAILURE TO CLEAN ALL DIRT AND DEBRIS FROM PIPELINES PRIOR TO TV INSPECTION WILL RESULT IN THE NEED TO RE-CLEAN AND RE-TV THE LINES.
21. SEWER PIPE AIR TESTING. CONFORM TO OSSC (ODOT/APWA) 00455.72.C AND THE PROCEDURE LISTED ON THE TEST FORM IN PWDS APPENDIX A. ALL SANITARY SEWER MAINS, SERVICES AND APPURTENANCES SHALL BE TESTED FOR LEAKAGE. LEAKAGE TESTS SHALL INCLUDE AN AIR TEST OF ALL SEWER MAINS AND LATERALS PRIOR TO PAVING, AND A SEPARATE AIR TEST OF ALL SEWER MAINS AND LATERALS FOLLOWING EXCAVATION AND BACKFILLING OF ANY FRANCHISE UTILITY TRENCHES OR OTHER UTILITY WORK THAT CROSSES SANITARY SEWER LATERALS.
22. SEWER PIPE DEFLECTION TESTING. CONFORM TO OSSC (ODOT/APWA) 00445.73. CONTRACTOR SHALL CONDUCT DEFLECTION TEST OF FLEXIBLE SANITARY SEWER PIPES BY PULLING AN APPROVED MANDREL THROUGH ALL COMPLETED SEWER MAINS FOLLOWING TRENCH COMPACTION. THE DIAMETER OF THE MANDREL SHALL BE 95% OF THE INITIAL PIPE DIAMETER.
23. TV INSPECTION OF SANITARY SEWERS. UPON COMPLETION OF ALL SEWER CONSTRUCTION, TESTING AND REPAIR, THE CONTRACTOR SHALL CONDUCT A COLOR TV ACCEPTANCE INSPECTION OF ALL MAINLINES IN ACCORDANCE WITH OSSC (ODOT/APWA) 445.74 TO DETERMINE COMPLIANCE WITH GRADE REQUIREMENTS OF OSSC (ODOT/APWA) 445.40.B. THE TV INSPECTION SHALL BE CONDUCTED BY AN APPROVED TECHNICAL SERVICE WHICH IS EQUIPPED TO MAKE AUDIO-VISUAL RECORDINGS OF THE TV INSPECTIONS ON DVD (VHS VIDEO TAPE ACCEPTABLE ONLY UPON PRIOR WRITTEN APPROVAL BY CITY OF NEHALEM). UNLESS OTHERWISE APPROVED IN WRITING BY THE DISTRICT ENGINEER, A STANDARD 1-INCH DIAMETER BALL SHALL BE SUSPENDED IN FRONT OF THE CAMERA DURING THE INSPECTION TO DETERMINE THE DEPTH OF ANY STANDING WATER. SUFFICIENT WATER TO REVEAL LOW AREAS OR REVERSE GRADES SHALL BE DISCHARGED INTO THE PIPE IMMEDIATELY PRIOR TO INITIATION OF THE TV INSPECTION. THE DVD AND WRITTEN REPORT SHALL BE DELIVERED TO THE DISTRICT ENGINEER.
24. MANHOLE TESTING. CONFORM TO SECTION OSSC (ODOT/APWA) 00471.B OR CITY OF NEHALEM APPROVED VACUUM TEST PROCEDURE. ALL MANHOLES SHALL BE VACUUM TESTED FOLLOWING COMPLETION OF PAVING OR FINAL SURFACE RESTORATION.
25. RE-INSPECTION OF THE SANITARY SEWER SYSTEM USING TV INSPECTION PLUS ANY OR ALL OF THE ABOVE TEST METHODS SHALL BE PERFORMED AS REQUIRED BY CITY OF NEHALEM NEAR THE COMPLETION OF THE 18 MONTH WARRANTY PERIOD. THE RESULTS OF THESE TEST(S) WILL BE USED BY CITY OF NEHALEM TO DETERMINE IF FINAL ACCEPTANCE OF THE SYSTEM IS WARRANTED AND WHAT CORRECTIVE WORK IS REQUIRED PRIOR TO FINAL ACCEPTANCE. THE COST OF THESE RE-INSPECTIONS AND ANY CORRECTIVE WORK ARE THE RESPONSIBILITY OF THE DEVELOPER.
26. PRIOR TO OR CONCURRENT WITH CONNECTION TO A SANITARY SEWER LATERAL, IT SHALL BE DEMONSTRATED TO THE DISTRICT THAT THE SEWER LATERAL IS NOT OBSTRUCTED. THIS SHALL BE ACCOMPLISHED BY "SNAKING" THE SERVICE LATERAL DOWNSTREAM OF THE CONNECTION POINT TO THE MAINLINE, OR SIMILAR METHOD ACCEPTABLE TO THE DISTRICT. DISTRICT PERSONNEL OR AUTHORIZED AGENT SHALL BE PRESENT DURING THE "SNAKING" OR OTHER DEMONSTRATION METHOD.
27. THE CONTRACTOR SHALL BE RESPONSIBLE TO ENSURE THAT ALL REQUIRED OR NECESSARY INSPECTIONS ARE COMPLETED BY AUTHORIZED INSPECTORS PRIOR TO PROCEEDING WITH SUBSEQUENT WORK WHICH COVERS OR THAT IS DEPENDENT ON THE WORK TO BE INSPECTED. FAILURE TO OBTAIN NECESSARY INSPECTION(S) AND APPROVAL(S) SHALL RESULT IN THE CONTRACTOR BEING FULLY RESPONSIBLE FOR ALL PROBLEMS AND/OR CORRECTIVE MEASURES ARISING FROM UNINSPECTED WORK.



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RIVERVIEW MEADOWS DEVELOPMENT, LLC
RIVERVIEW MEADOWS PHASE 3
TENTATIVE PLAN

NEHALEM, MAP 3N 10W 23B

NO.	DATE	DESCRIPTION	BY

SHEET
3
OF -24-

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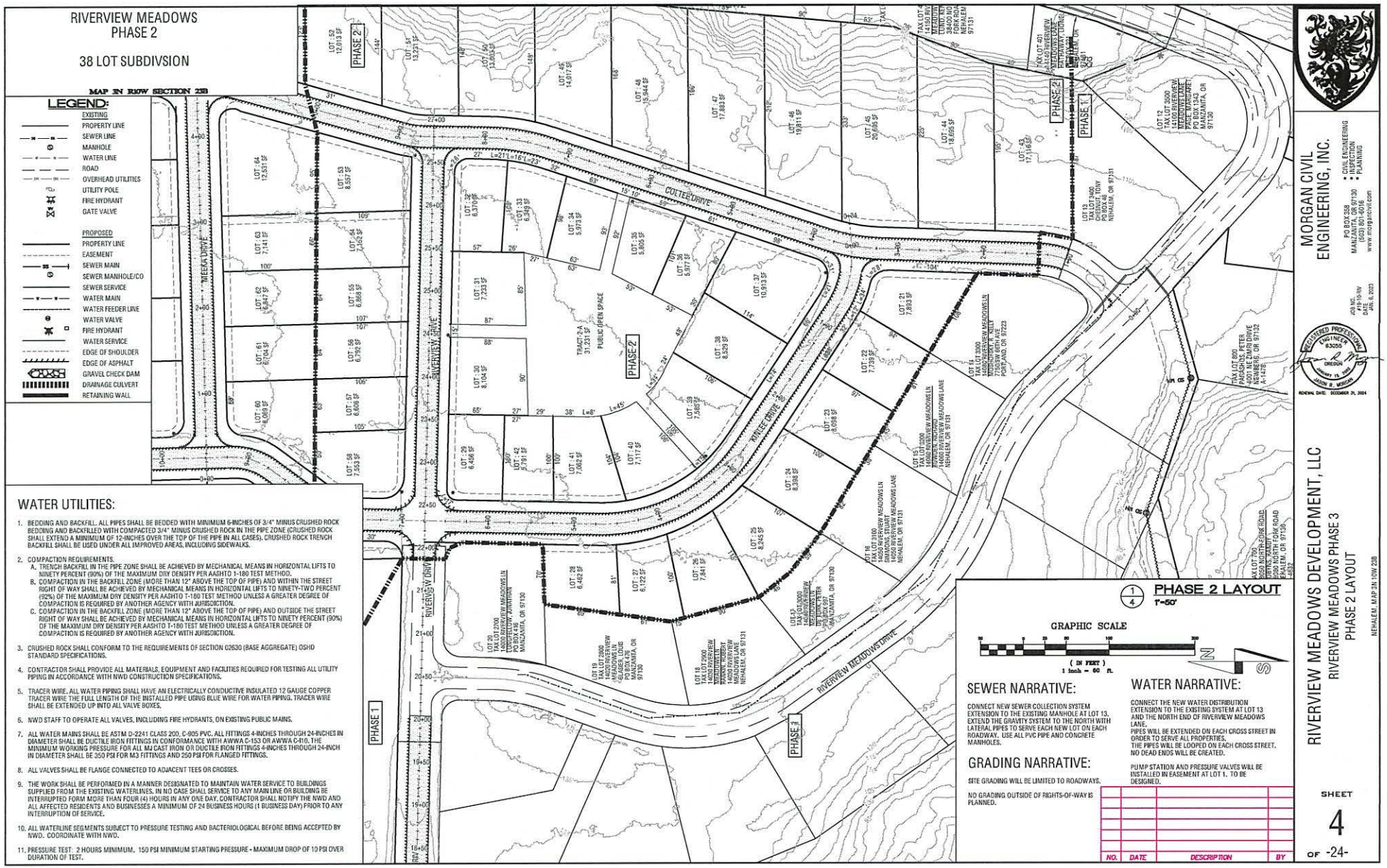
RIVERVIEW MEADOWS
PHASE 2

38 LOT SUBDIVSION

MAP 3N R6W SECTION 23B



WATER UTILITIES:

1. BEDDING AND BACKFILL. ALL PIPES SHALL BE BEDDED WITH MINIMUM 6-INCHES OF 3/4" MINUS CRUSHED ROCK BEDDING AND BACKFILLED WITH COMPACTED 3/4" MINUS CRUSHED ROCK IN THE PIPE ZONE (CRUSHED ROCK SHALL EXTEND A MINIMUM OF 12-INCHES OVER THE TOP OF THE PIPE IN ALL CASES). CRUSHED ROCK TRENCH BACKFILL SHALL BE USED UNDER ALL IMPROVED AREAS, INCLUDING SIDEWALKS.
2. COMPACTION REQUIREMENTS.
   A. TRENCH BACKFILL IN THE PIPE ZONE SHALL BE ACHIEVED BY MECHANICAL MEANS IN HORIZONTAL LIFTS TO NINETY PERCENT (90%) OF THE MAXIMUM DRY DENSITY PER AASHTO T-180 TEST METHOD.
   B. COMPACTION IN THE BACKFILL ZONE (MORE THAN 12" ABOVE THE TOP OF PIPE) AND WITHIN THE STREET RIGHT OF WAY SHALL BE ACHIEVED BY MECHANICAL MEANS IN HORIZONTAL LIFTS TO NINETY-TWO PERCENT (92%) OF THE MAXIMUM DRY DENSITY PER AASHTO T-180 TEST METHOD UNLESS A GREATER DEGREE OF COMPACTION IS REQUIRED BY ANOTHER AGENCY WITH JURISDICTION.
   C. COMPACTION IN THE BACKFILL ZONE (MORE THAN 12" ABOVE THE TOP OF PIPE) AND OUTSIDE THE STREET RIGHT OF WAY SHALL BE ACHIEVED BY MECHANICAL MEANS IN HORIZONTAL LIFTS TO NINETY PERCENT (90%) OF THE MAXIMUM DRY DENSITY PER AASHTO T-180 TEST METHOD UNLESS A GREATER DEGREE OF COMPACTION IS REQUIRED BY ANOTHER AGENCY WITH JURISDICTION.
3. CRUSHED ROCK SHALL CONFORM TO THE REQUIREMENTS OF SECTION 02630 (BASE AGGREGATE) OSHD STANDARD SPECIFICATIONS.
4. CONTRACTOR SHALL PROVIDE ALL MATERIALS, EQUIPMENT AND FACILITIES REQUIRED FOR TESTING ALL UTILITY PIPING IN ACCORDANCE WITH NWD CONSTRUCTION SPECIFICATIONS.
5. TRACER WIRE. ALL WATER PIPING SHALL HAVE AN ELECTRICALLY CONDUCTIVE INSULATED 12 GAUGE COPPER TRACER WIRE THE FULL LENGTH OF THE INSTALLED PIPE USING BLUE WIRE FOR WATER PIPING. TRACER WIRE SHALL BE EXTENDED UP INTO ALL VALVE BOXES.
6. NWD STAFF TO OPERATE ALL VALVES, INCLUDING FIRE HYDRANTS, ON EXISTING PUBLIC MAINS.
7. ALL WATER MAINS SHALL BE ASTM D-2241 CLASS 200, C-905 PVC. ALL FITTINGS 4-INCHES THROUGH 24-INCHES IN DIAMETER SHALL BE DUCTILE IRON FITTINGS IN CONFORMANCE WITH AWWA C-153 OR AWWA C-110. THE MINIMUM WORKING PRESSURE FOR ALL MJ CAST IRON OR DUCTILE IRON FITTINGS 4-INCHES THROUGH 24-INCH IN DIAMETER SHALL BE 350 PSI FOR M3 FITTINGS AND 250 PSI FOR FLANGED FITTINGS.
8. ALL VALVES SHALL BE FLANGE CONNECTED TO ADJACENT TEES OR CROSSES.
9. THE WORK SHALL BE PERFORMED IN A MANNER DESIGNATED TO MAINTAIN WATER SERVICE TO BUILDINGS SUPPLIED FROM THE EXISTING WATERLINES. IN NO CASE SHALL SERVICE TO ANY MAIN LINE OR BUILDING BE INTERRUPTED FORM MORE THAN FOUR (4) HOURS IN ANY ONE DAY. CONTRACTOR SHALL NOTIFY THE NWD AND ALL AFFECTED RESIDENTS AND BUSINESSES A MINIMUM OF 24 BUSINESS HOURS (1 BUSINESS DAY) PRIOR TO ANY INTERRUPTION OF SERVICE.
10. ALL WATERLINE SEGMENTS SUBJECT TO PRESSURE TESTING AND BACTERIOLOGICAL BEFORE BEING ACCEPTED BY NWD. COORDINATE WITH NWD.
11. PRESSURE TEST: 2 HOURS MINIMUM. 150 PSI MINIMUM STARTING PRESSURE - MAXIMUM DROP OF 10 PSI OVER DURATION OF TEST.

PHASE 2 LAYOUT

1" = 50'

GRAPHIC SCALE

(IN FEET)
1 inch = 50 ft.

SEWER NARRATIVE:

CONNECT NEW SEWER COLLECTION SYSTEM EXTENSION TO THE EXISTING MANHOLE AT LOT 13. EXTEND THE GRAVITY SYSTEM TO THE NORTH WITH LATERAL PIPES TO SERVE EACH NEW LOT ON EACH ROADWAY. USE ALL PVC PIPE AND CONCRETE MANHOLES.

GRADING NARRATIVE:

SITE GRADING WILL BE LIMITED TO ROADWAYS.

NO GRADING OUTSIDE OF RIGHTS-OF-WAY IS PLANNED.

WATER NARRATIVE:

CONNECT THE NEW WATER DISTRIBUTION EXTENSION TO THE EXISTING SYSTEM AT LOT 13 AND THE NORTH END OF RIVERVIEW MEADOWS LANE.
PIPES WILL BE EXTENDED ON EACH CROSS STREET IN ORDER TO SERVE ALL PROPERTIES.
THE PIPES WILL BE LOOPED ON EACH CROSS STREET. NO DEAD ENDS WILL BE CREATED.

PUMP STATION AND PRESSURE VALVES WILL BE INSTALLED IN EASEMENT AT LOT 1. TO BE DESIGNED.

NO.	DATE	DESCRIPTION	BY

MORGAN CIVIL ENGINEERING, INC.
PO BOX 3388
MANZANITA, OR 97130
(503) 801-4019
www.morgancivil.com
• CIVIL ENGINEERING
• SURVEYING
• PLANNING

JOB NO. #19-10-3W
DATE: APRIL 6, 2023

REGISTERED PROFESSIONAL ENGINEER
83058
OREGON
JANUARY 13, 1989
JASON B. MORGAN

RENEWAL DATE: DECEMBER 31, 2024

RIVERVIEW MEADOWS DEVELOPMENT, LLC
RIVERVIEW MEADOWS PHASE 3
PHASE 2 LAYOUT

NEHALEM: MAP 3N R6W 23B

SHEET
4
OF -24-

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MORGAN CIVIL ENGINEERING, INC.
PO BOX 368
MANZANITA, OR 97130
(503) 801-6016
CIVIL ENGINEERING
INSPECTION
PLANNING
www.morganciv.il.com

JOB NO. #19-10-NV
DATE JAN. 6, 2023

RIVERVIEW MEADOWS DEVELOPMENT, LLC
RIVERVIEW MEADOWS PHASE 3
DRAINAGE LAYOUT

NEHALEM, MAP 3N 10W 23B

SHEET 5 OF 24

NO.	DATE	DESCRIPTION	BY

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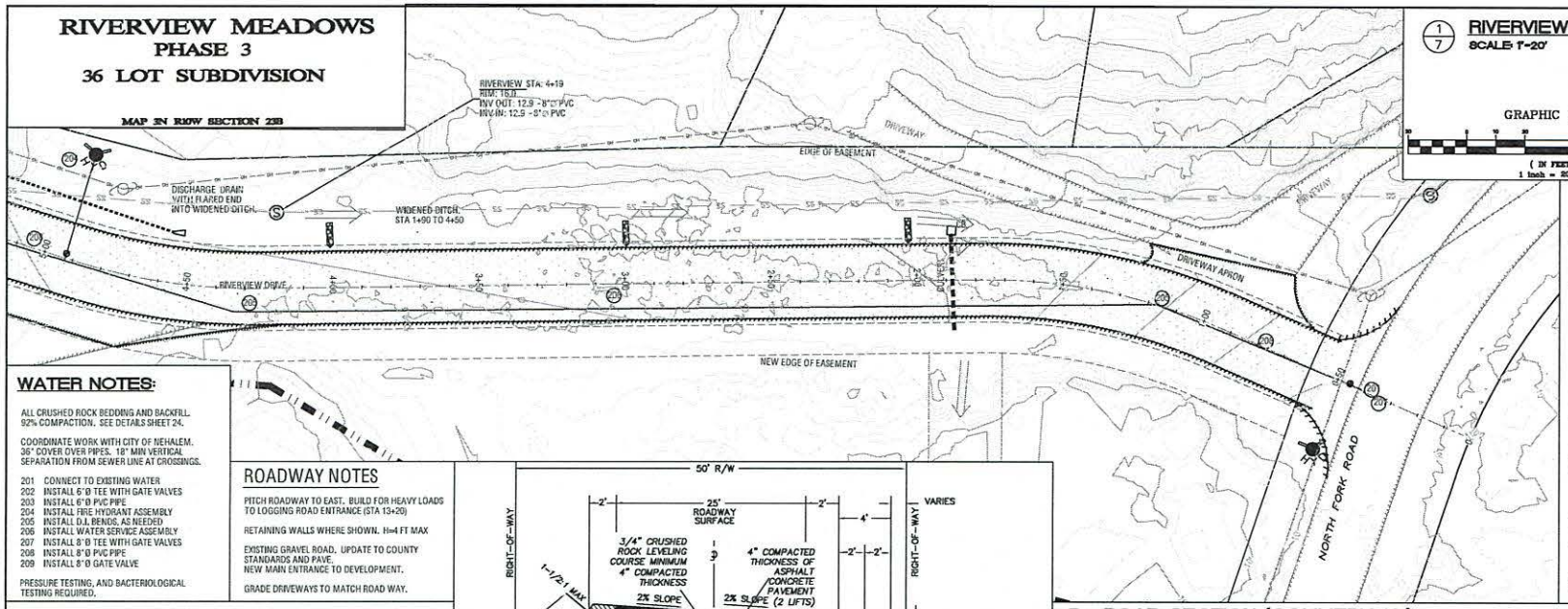
RIVERVIEW MEADOWS
PHASE 3
36 LOT SUBDIVISION

MAP 3N R10W SECTION 23B



1/7 RIVERVIEW DRIVE
SCALE: 1"=20'

GRAPHIC SCALE
(IN FEET)
1 inch = 20 ft.

LEGEND:

EXISTING
- PROPERTY LINE
- SEWER LINE
- MANHOLE
- WATER LINE
- ROAD
- OVERHEAD UTILITIES
- UTILITY POLE
- FIRE HYDRANT
- GATE VALVE

PROPOSED
- PROPERTY LINE
- EASEMENT
- SEWER MAIN
- SEWER MANHOLE/CO
- SEWER SERVICE
- WATER MAIN
- WATER FEEDER LINE
- WATER VALVE
- FIRE HYDRANT
- WATER SERVICE
- EDGE OF SHOULDER
- EDGE OF ASPHALT
- GRAVEL CHECK DAM
- DRAINAGE CULVERT
- RETAINING WALL

WATER NOTES:

ALL CRUSHED ROCK BEDDING AND BACKFILL. 92% COMPACTION. SEE DETAILS SHEET 24.

COORDINATE WORK WITH CITY OF NEHALEM. 36" COVER OVER PIPES. 18" MIN VERTICAL SEPARATION FROM SEWER LINE AT CROSSINGS.

201 CONNECT TO EXISTING WATER
202 INSTALL 6"Ø TEE WITH GATE VALVES
203 INSTALL 6"Ø PVC PIPE
204 INSTALL FIRE HYDRANT ASSEMBLY
205 INSTALL D.I. BENDS, AS NEEDED
206 INSTALL WATER SERVICE ASSEMBLY
207 INSTALL 8"Ø TEE WITH GATE VALVES
208 INSTALL 8"Ø PVC PIPE
209 INSTALL 8"Ø GATE VALVE

PRESSURE TESTING, AND BACTERIOLOGICAL TESTING REQUIRED.

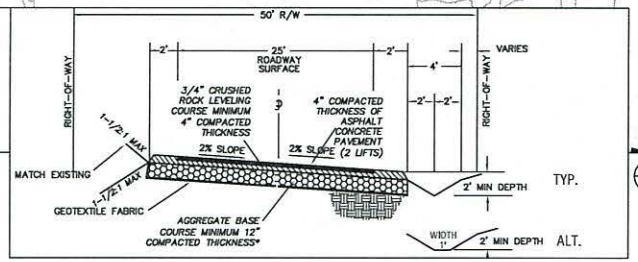
ROADWAY NOTES

PITCH ROADWAY TO EAST. BUILD FOR HEAVY LOADS TO LOGGING ROAD ENTRANCE (STA 13+20)

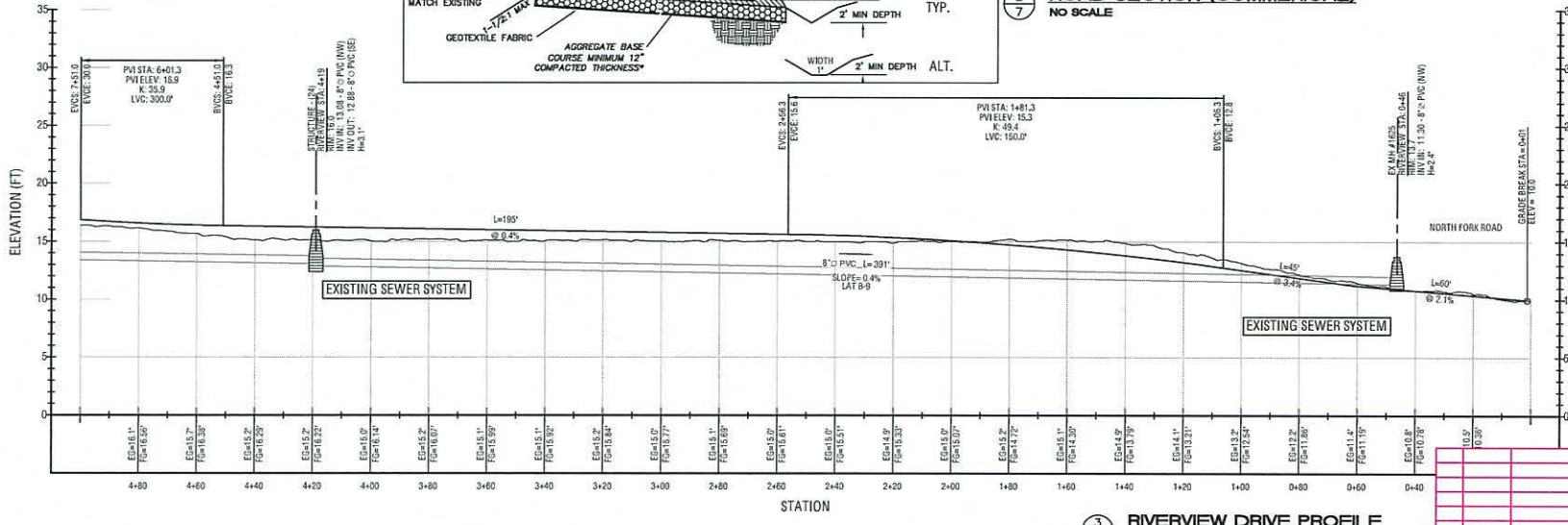
RETAINING WALLS WHERE SHOWN. H=4 FT MAX

EXISTING GRAVEL ROAD. UPDATE TO COUNTY STANDARDS AND PAVE.
NEW MAIN ENTRANCE TO DEVELOPMENT.

GRADE DRIVEWAYS TO MATCH ROAD WAY.



2/7 ROAD SECTION (COMMERICAL)
NO SCALE



3/7 RIVERVIEW DRIVE PROFILE
SCALE: 1"=20' VERT: 1"=5'

NO.	DATE	DESCRIPTION	BY

MORGAN CIVIL ENGINEERING, INC.
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• INSPECTION
• PLANNING
PO BOX 568
MANZANITA, OR 97130
(503) 801-4916
www.morgancivil.com

JOB NO. #19-10-RIV
DATE: JAN. 6, 2023

REGISTERED PROFESSIONAL ENGINEER 63055 OREGON JANUARY 13, 1978 JASON R. MORGAN
RENEWAL DATE: DECEMBER 31, 2024

RIVERVIEW MEADOWS DEVELOPMENT, LLC
RIVERVIEW MEADOWS PHASE 3
ENTRANCE ROAD
NEHALEM, MAP 3N 10W 23B

SHEET 7 OF -24-

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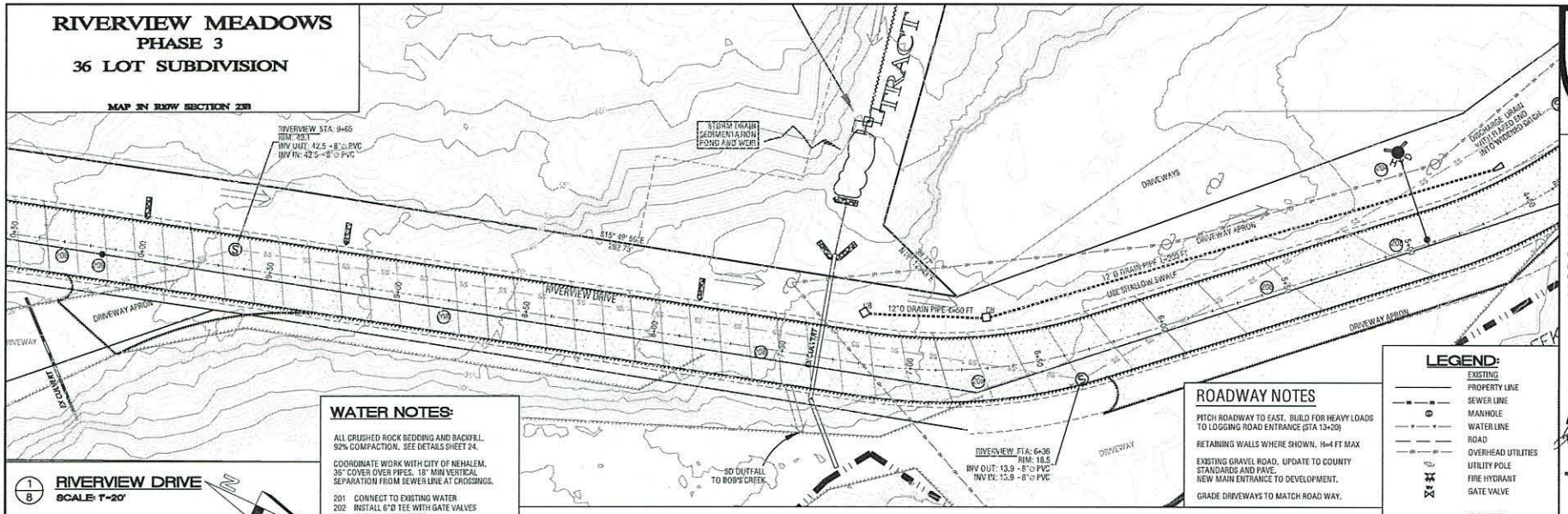
RIVERVIEW MEADOWS
PHASE 3
36 LOT SUBDIVISION

MAP 3N R10W SECTION 23B



RIVERVIEW DRIVE
SCALE: 1"=20'

GRAPHIC SCALE

(IN FEET)
1 inch = 20 ft.

WATER NOTES:

ALL CRUSHED ROCK BEDDING AND BACKFILL, 92% COMPACTION. SEE DETAILS SHEET 24.

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PITCH ROADWAY TO EAST. BUILD FOR HEAVY LOADS TO LOGGING ROAD ENTRANCE (STA 13+20)

RETAINING WALLS WHERE SHOWN. H=4 FT MAX

EXISTING GRAVEL ROAD. UPDATE TO COUNTY STANDARDS AND PAVE. NEW MAIN ENTRANCE TO DEVELOPMENT.

GRADE DRIVEWAYS TO MATCH ROAD WAY.

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- PROPERTY LINE
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- MANHOLE
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- ROAD
- OVERHEAD UTILITIES
- UTILITY POLE
- FIRE HYDRANT
- GATE VALVE

PROPOSED
- PROPERTY LINE
- EASEMENT
- SEWER MAIN
- SEWER MANHOLE/CO
- SEWER SERVICE
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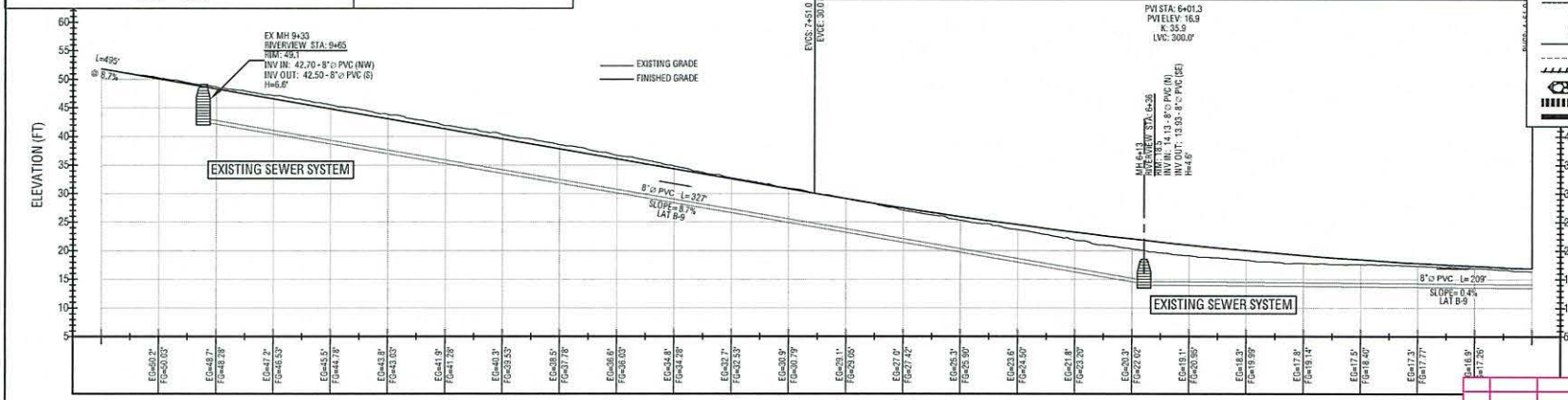

RIVERVIEW DRIVE PROFILE
SCALE: 1"=20' VERT: 1"=5'

NO.	DATE	DESCRIPTION	BY

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• CIVIL ENGINEERING
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• PLANNING
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www.morgancivil.com

JOB NO. #19-10-RIV
DATE: JAN. 6, 2023

REGISTERED PROFESSIONAL ENGINEER
63055
OREGON
JANUARY 13, 2015
JASON R. MORGAN
RENEWAL DATE: DECEMBER 31, 2024

RIVERVIEW MEADOWS DEVELOPMENT, LLC
RIVERVIEW MEADOWS PHASE 3
ENTRANCE ROAD-2
NEHALEM, MAP 3N 10W 23B

SHEET
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OF -24-

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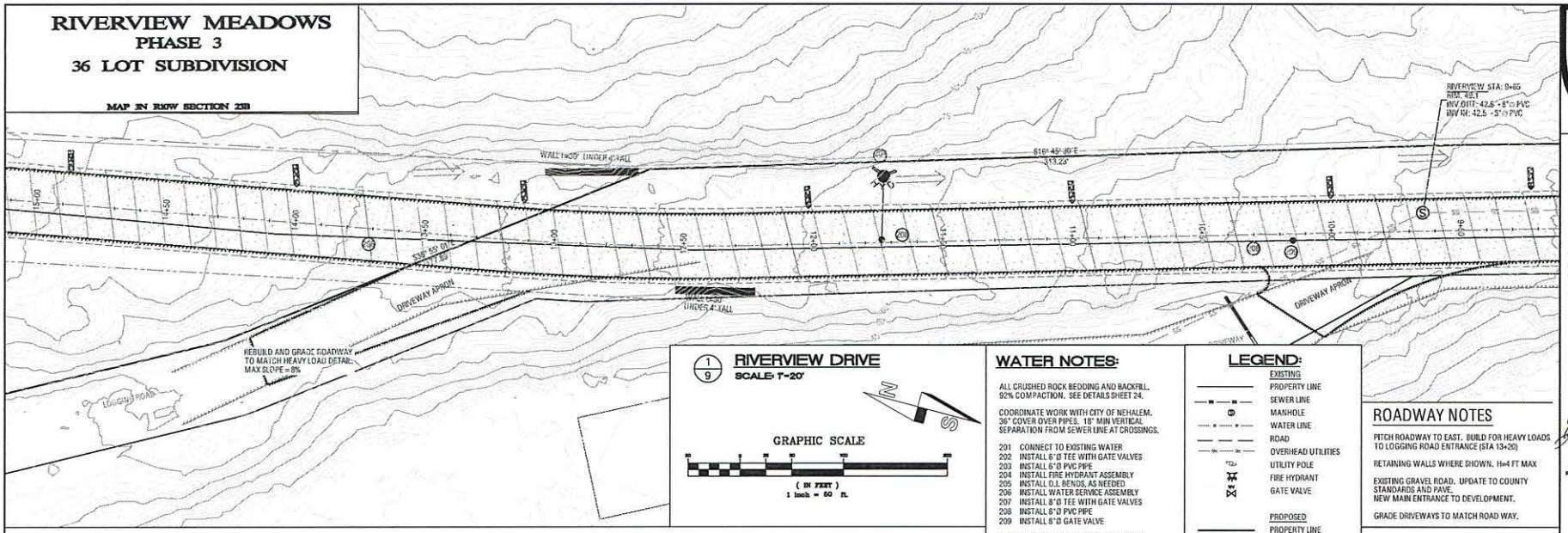
RIVERVIEW MEADOWS
PHASE 3
36 LOT SUBDIVISION

MAP 3N R10W SECTION 23B



1/9 **RIVERVIEW DRIVE**
SCALE: 1"=20'

GRAPHIC SCALE
(IN FEET)
1 inch = 50 ft.

WATER NOTES:

ALL CRUSHED ROCK BEDDING AND BACKFILL, 92% COMPACTION. SEE DETAILS SHEET 24.

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203 INSTALL 6"Ø PVC PIPE
204 INSTALL FIRE HYDRANT ASSEMBLY
205 INSTALL D.I. BENDS, AS NEEDED
206 INSTALL WATER SERVICE ASSEMBLY
207 INSTALL 8"Ø TEE WITH GATE VALVES
208 INSTALL 8"Ø PVC PIPE
209 INSTALL 8"Ø GATE VALVE

PRESSURE TESTING, AND BACTERIOLOGICAL TESTING REQUIRED.

LEGEND:

EXISTING
- PROPERTY LINE
- SEWER LINE
- MANHOLE
- WATER LINE
- ROAD
- OVERHEAD UTILITIES
- UTILITY POLE
- FIRE HYDRANT
- GATE VALVE

PROPOSED
- PROPERTY LINE
- EASEMENT
- SEWER MAIN
- SEWER MANHOLE/CO
- SEWER SERVICE
- WATER MAIN
- WATER FEEDER LINE
- WATER VALVE
- FIRE HYDRANT
- WATER SERVICE
- EDGE OF SHOULDER
- EDGE OF ASPHALT
- GRAVEL CHECK DAM
- DRAINAGE CULVERT
- RETAINING WALL

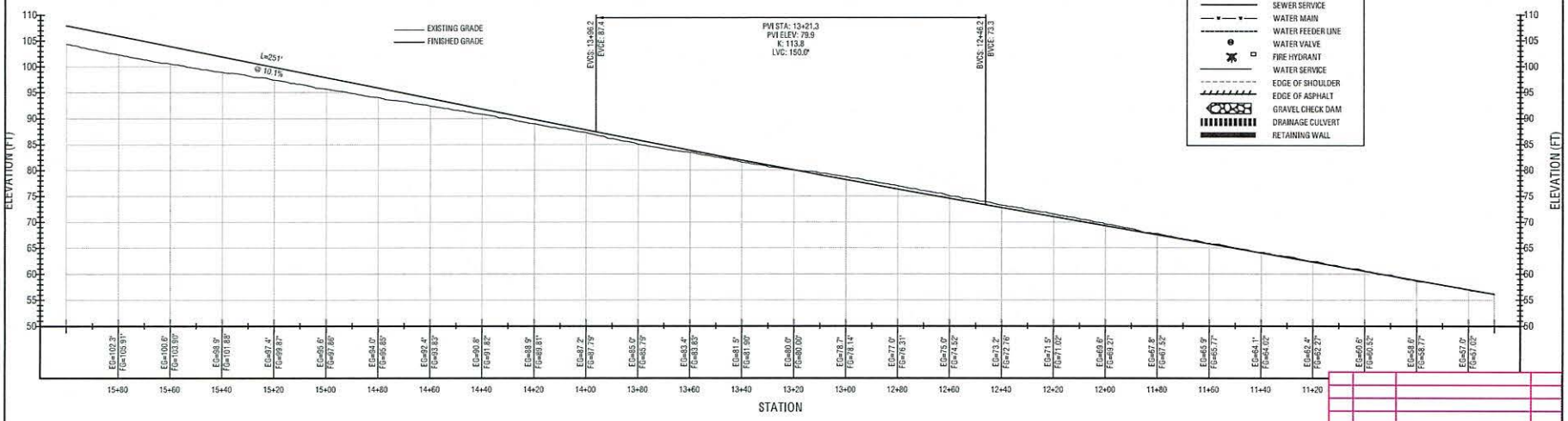
ROADWAY NOTES

PITCH ROADWAY TO EAST. BUILD FOR HEAVY LOADS TO LOGGING ROAD ENTRANCE (STA 13+20)

RETAINING WALLS WHERE SHOWN. H=4 FT MAX

EXISTING GRAVEL ROAD. UPDATE TO COUNTY STANDARDS AND PAVE.
NEW MAIN ENTRANCE TO DEVELOPMENT.

GRADE DRIVEWAYS TO MATCH ROAD WAY.



2/9 **RIVERVIEW DRIVE PROFILE**
SCALE: 1"=20' VERT: 1"=5'

NO.	DATE	DESCRIPTION	BY

MORGAN CIVIL ENGINEERING, INC.
• CIVIL ENGINEERING
• INSPECTION
• PLANNING
PO BOX 338
MANZANITA, OREGON 97130
(503) 991-4016
www.morgancivil.com

JOB NO.
#19-10-NV
DATE:
JAN. 6, 2023

REGISTERED PROFESSIONAL ENGINEER
63055
OREGON
JANUARY 15, 1982
JASON B. MORGAN
RENEWAL DATE: DECEMBER 31, 2024

RIVERVIEW MEADOWS DEVELOPMENT, LLC
RIVERVIEW MEADOWS PHASE 2
ENTRANCE ROAD-3
NEHALEM, MAP 3N, 10W 23B

SHEET
9
OF -24-

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RIVERVIEW MEADOWS
PHASE 3
36 LOT SUBDIVISION

MAP 3N R10W SECTION 23B

LEGEND:

EXISTING
- PROPERTY LINE
- SEWER LINE
- MANHOLE
- WATER LINE
- ROAD
- OVERHEAD UTILITIES
- UTILITY POLE
- FIRE HYDRANT
- GATE VALVE

PROPOSED
- PROPERTY LINE
- EASEMENT
- SEWER MAIN
- SEWER MANHOLE/CO
- SEWER SERVICE
- WATER MAIN
- WATER FEEDER LINE
- WATER VALVE
- FIRE HYDRANT
- WATER SERVICE
- EDGE OF SHOULDER
- EDGE OF ASPHALT
- GRAVEL CHECK DAM
- DRAINAGE CULVERT
- RETAINING WALL

PROFILE
- EXISTING GRADE
- FINISHED GRADE

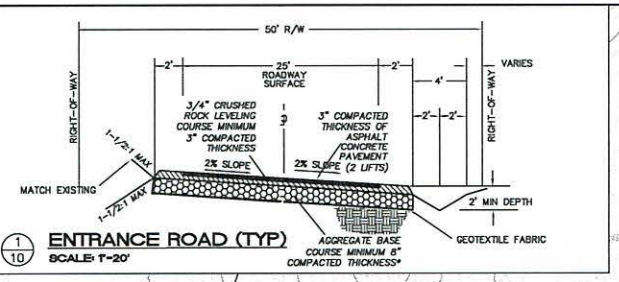
ROADWAY NOTES

PITCH ROADWAY TO EAST. BUILD FOR HEAVY LOADS TO LOGGING ROAD ENTRANCE (STA 13+20)

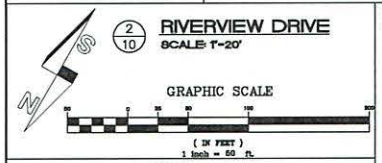
RETAINING WALLS WHERE SHOWN. H=4 FT MAX

EXISTING GRAVEL ROAD. UPDATE TO COUNTY STANDARDS AND PAVE.
NEW MAIN ENTRANCE TO DEVELOPMENT.

GRADE DRIVEWAYS TO MATCH ROAD WAY.



1/10 **ENTRANCE ROAD (TYP)**
SCALE: 1"=20'



2/10 **RIVERVIEW DRIVE**
SCALE: 1"=20'

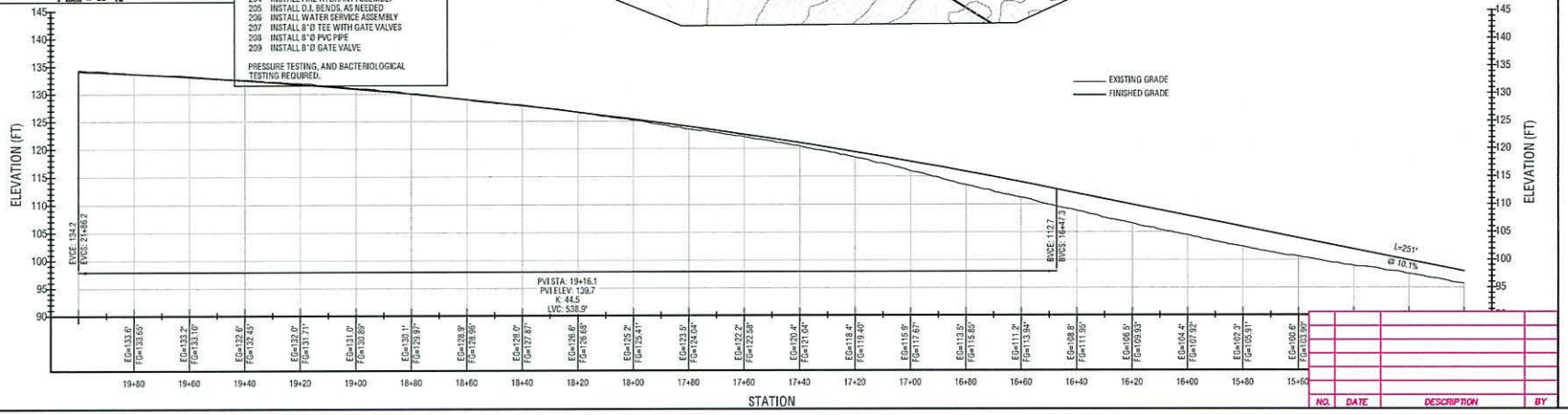
WATER NOTES:

ALL CRUSHED ROCK BEDDING AND BACKFILL. 92% COMPACTION. SEE DETAILS SHEET 24.

COORDINATE WORK WITH CITY OF NEHALEM. 36" COVER OVER PIPES. 18" MIN VERTICAL SEPARATION FROM SEWER LINE AT CROSSINGS.

201 CONNECT TO EXISTING WATER
202 INSTALL 6"Ø TEE WITH GATE VALVES
203 INSTALL 6"Ø PVC PIPE
204 INSTALL FIRE HYDRANT ASSEMBLY
205 INSTALL D.I. BENDS, AS NEEDED
206 INSTALL WATER SERVICE ASSEMBLY
207 INSTALL 8"Ø TEE WITH GATE VALVES
208 INSTALL 8"Ø PVC PIPE
209 INSTALL 8"Ø GATE VALVE

PRESSURE TESTING, AND BACTERIOLOGICAL TESTING REQUIRED.



2/10 **RIVERVIEW DRIVE PROFILE**
SCALE: 1"=20' VERT: 1"=5'

REBUILD AND TO MATCH HE MAX SLOPE =

MORGAN CIVIL ENGINEERING, INC.
P.O. BOX 338
MANZANITA, OR 97130
(503) 801-9016
www.morgancivil.com
• CIVIL ENGINEERING
• LAND SURVEYING
• PLANNING

JOB NO. #19-10-NV
DRAWN BY: JBM
DATE: APRIL 6, 2023

REGISTERED PROFESSIONAL ENGINEER
63055
OREGON
JANUARY 15, 1985
JASON B. MORGAN
RENEWAL DATE: DECEMBER 31, 2024

RIVERVIEW MEADOWS DEVELOPMENT, LLC
RIVERVIEW MEADOWS PHASE 3
ENTRANCE ROAD-4
NEHALEM, MAP 3N 10W 23B

NO.	DATE	DESCRIPTION	BY

SHEET
10
OF -24-

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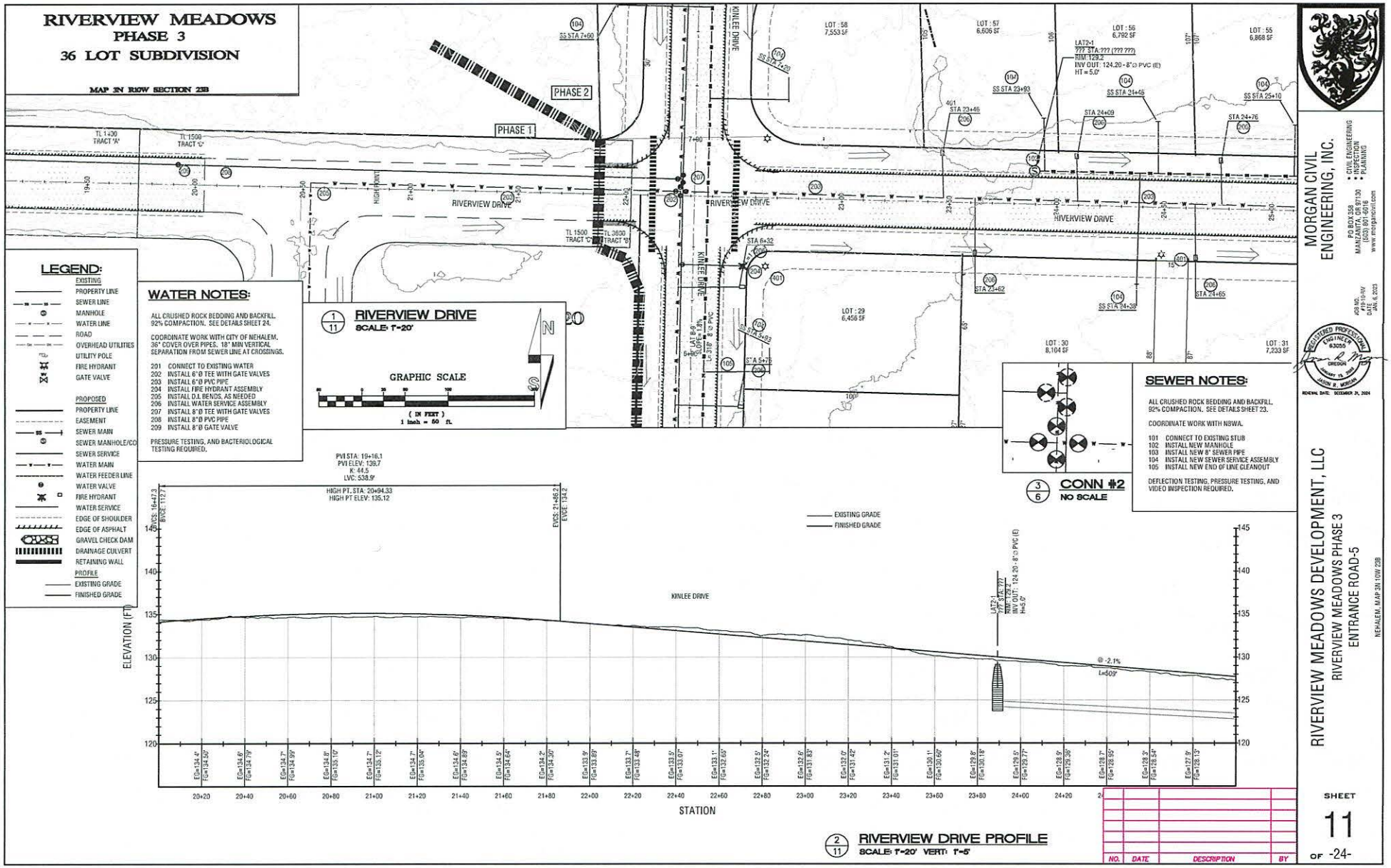
RIVERVIEW MEADOWS
PHASE 3
36 LOT SUBDIVISION

MAP 3N R10W SECTION 23B



LEGEND:

EXISTING
- PROPERTY LINE
- SEWER LINE
- MANHOLE
- WATER LINE
- ROAD
- OVERHEAD UTILITIES
- UTILITY POLE
- FIRE HYDRANT
- GATE VALVE

PROPOSED
- PROPERTY LINE
- EASEMENT
- SEWER MAIN
- SEWER MANHOLE/CO
- SEWER SERVICE
- WATER MAIN
- WATER FEEDER LINE
- WATER VALVE
- FIRE HYDRANT
- WATER SERVICE
- EDGE OF SHOULDER
- EDGE OF ASPHALT
- GRAVEL CHECK DAM
- DRAINAGE CULVERT
- RETAINING WALL

PROFILE
- EXISTING GRADE
- FINISHED GRADE

WATER NOTES:

ALL CRUSHED ROCK BEDDING AND BACKFILL. 92% COMPACTION. SEE DETAILS SHEET 24.

COORDINATE WORK WITH CITY OF NEHALEM. 36" COVER OVER PIPES. 18" MIN VERTICAL SEPARATION FROM SEWER LINE AT CROSSINGS.

201 CONNECT TO EXISTING WATER
202 INSTALL 6"Ø TEE WITH GATE VALVES
203 INSTALL 6"Ø PVC PIPE
204 INSTALL FIRE HYDRANT ASSEMBLY
205 INSTALL D.I. BENDS, AS NEEDED
206 INSTALL WATER SERVICE ASSEMBLY
207 INSTALL 8"Ø TEE WITH GATE VALVES
208 INSTALL 8"Ø PVC PIPE
209 INSTALL 8"Ø GATE VALVE

PRESSURE TESTING, AND BACTERIOLOGICAL TESTING REQUIRED.

1/11 RIVERVIEW DRIVE
SCALE: 1"=20'

GRAPHIC SCALE
(IN FEET)
1 inch = 50 ft.

SEWER NOTES:

ALL CRUSHED ROCK BEDDING AND BACKFILL. 92% COMPACTION. SEE DETAILS SHEET 23.

COORDINATE WORK WITH NBWA.

101 CONNECT TO EXISTING STUB
102 INSTALL NEW MANHOLE
103 INSTALL NEW 8" SEWER PIPE
104 INSTALL NEW SEWER SERVICE ASSEMBLY
105 INSTALL NEW END OF LINE CLEANOUT

DEFLECTION TESTING, PRESSURE TESTING, AND VIDEO INSPECTION REQUIRED.

3/6 CONN #2
NO SCALE

2/11 RIVERVIEW DRIVE PROFILE
SCALE: 1"=20' VERT: 1"=5'

NO.	DATE	DESCRIPTION	BY

MORGAN CIVIL ENGINEERING, INC.
• CIVIL ENGINEERING
• INSPECTION
• PLANNING
P.O. BOX 398
MANZANITA, OR 97130
(503) 901-6016
www.morgancivil.com

JOB NO. #19-10-NV
DATE: JAN. 6, 2023

REGISTERED PROFESSIONAL ENGINEER
63055
OREGON
JANUARY 15, 1988
JASON B. MORGAN
RENEWAL DATE: DECEMBER 31, 2024

RIVERVIEW MEADOWS DEVELOPMENT, LLC
RIVERVIEW MEADOWS PHASE 3
ENTRANCE ROAD-5
NEHALEM, MAP 3N 10W 23B

SHEET 11 OF -24-

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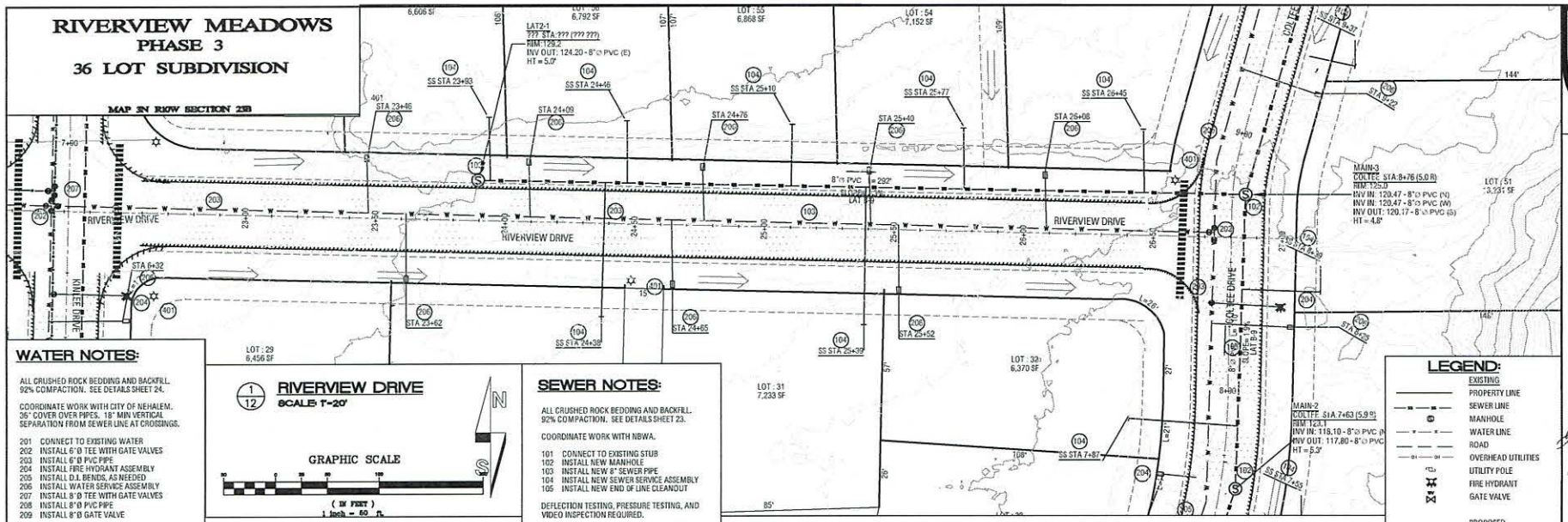
RIVERVIEW MEADOWS
PHASE 3
36 LOT SUBDIVISION



WATER NOTES:

ALL CRUSHED ROCK BEDDING AND BACKFILL. 92% COMPACTION. SEE DETAILS SHEET 24.

COORDINATE WORK WITH CITY OF NEHALEM. 36" COVER OVER PIPES. 18" MIN VERTICAL SEPARATION FROM SEWER LINE AT CROSSINGS.

201 CONNECT TO EXISTING WATER
202 INSTALL 6"Ø TEE WITH GATE VALVES
203 INSTALL 6"Ø PVC PIPE
204 INSTALL FIRE HYDRANT ASSEMBLY
205 INSTALL D.I. BENDS, AS NEEDED
206 INSTALL WATER SERVICE ASSEMBLY
207 INSTALL 8"Ø TEE WITH GATE VALVES
208 INSTALL 8"Ø PVC PIPE
209 INSTALL 8"Ø GATE VALVE

PRESSURE TESTING, AND BACTERIOLOGICAL TESTING REQUIRED.

1/12 RIVERVIEW DRIVE
SCALE: 1"=20'

GRAPHIC SCALE
(IN FEET)
1 inch = 60 ft.

SEWER NOTES:

ALL CRUSHED ROCK BEDDING AND BACKFILL. 92% COMPACTION. SEE DETAILS SHEET 23.

COORDINATE WORK WITH NBWA.

101 CONNECT TO EXISTING STUB
102 INSTALL NEW MANHOLE
103 INSTALL NEW 8" SEWER PIPE
104 INSTALL NEW SEWER SERVICE ASSEMBLY
105 INSTALL NEW END OF LINE CLEANOUT

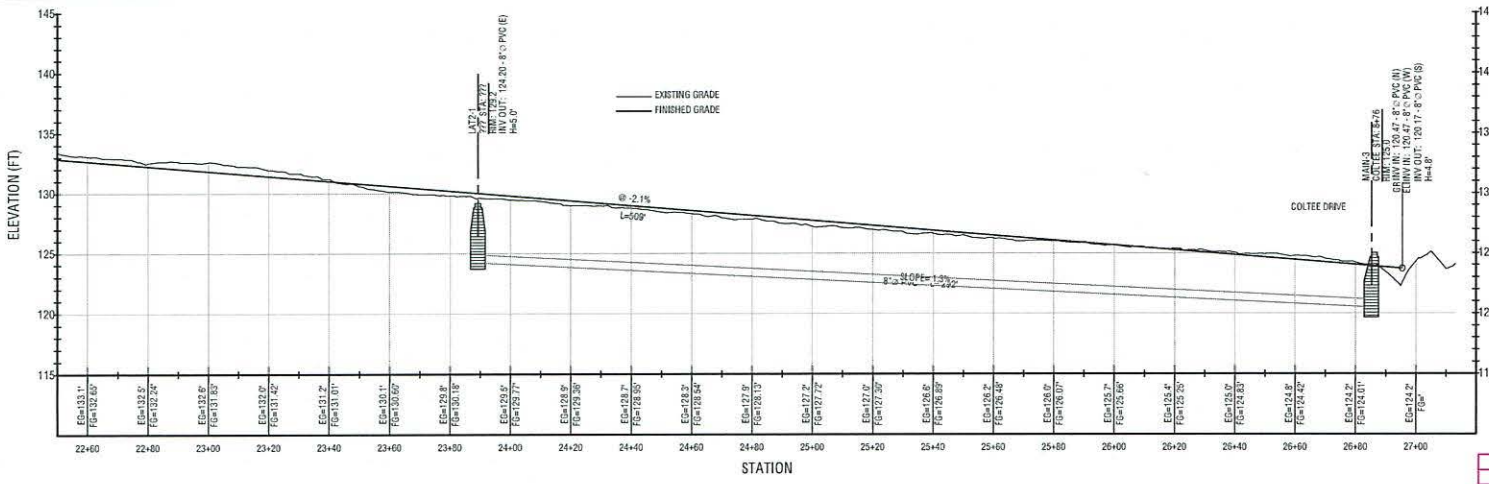
DEFLECTION TESTING, PRESSURE TESTING, AND VIDEO INSPECTION REQUIRED.

LEGEND:

EXISTING
- PROPERTY LINE
- SEWER LINE
- MANHOLE
- WATER LINE
- ROAD
- OVERHEAD UTILITIES
- UTILITY POLE
- FIRE HYDRANT
- GATE VALVE

PROPOSED
- PROPERTY LINE
- EASEMENT
- SEWER MAIN
- SEWER MANHOLE/CO
- SEWER SERVICE
- WATER MAIN
- WATER FEEDER LINE
- WATER VALVE
- FIRE HYDRANT
- WATER SERVICE
- EDGE OF SHOULDER
- EDGE OF ASPHALT
- GRAVEL CHECK DAM
- DRAINAGE CULVERT
- RETAINING WALL

PROFILE
- EXISTING GRADE
- FINISHED GRADE



2/12 RIVERVIEW DRIVE PROFILE
SCALE: 1"=20' VERT: 1"=5'

NO.	DATE	DESCRIPTION	BY

MORGAN CIVIL ENGINEERING, INC.
• CIVIL ENGINEERING
• SURVEYING
• PLANNING
PO BOX 358
MANZANITA, OR 97130
(503) 368-5010
www.morgancivil.com

JOB NO. #19-10-NV
DATE: MAR. 6, 2023

REGISTERED PROFESSIONAL ENGINEER
63055
OREGON
JANUARY 13, 2006
JASON B. MORGAN
RENEWAL DATE: DECEMBER 31, 2024

RIVERVIEW MEADOWS DEVELOPMENT, LLC
RIVERVIEW MEADOWS PHASE 3
ENTRANCE ROAD-6
NEHALEM: MAP 3N 10W 25B

SHEET
12
OF -24-

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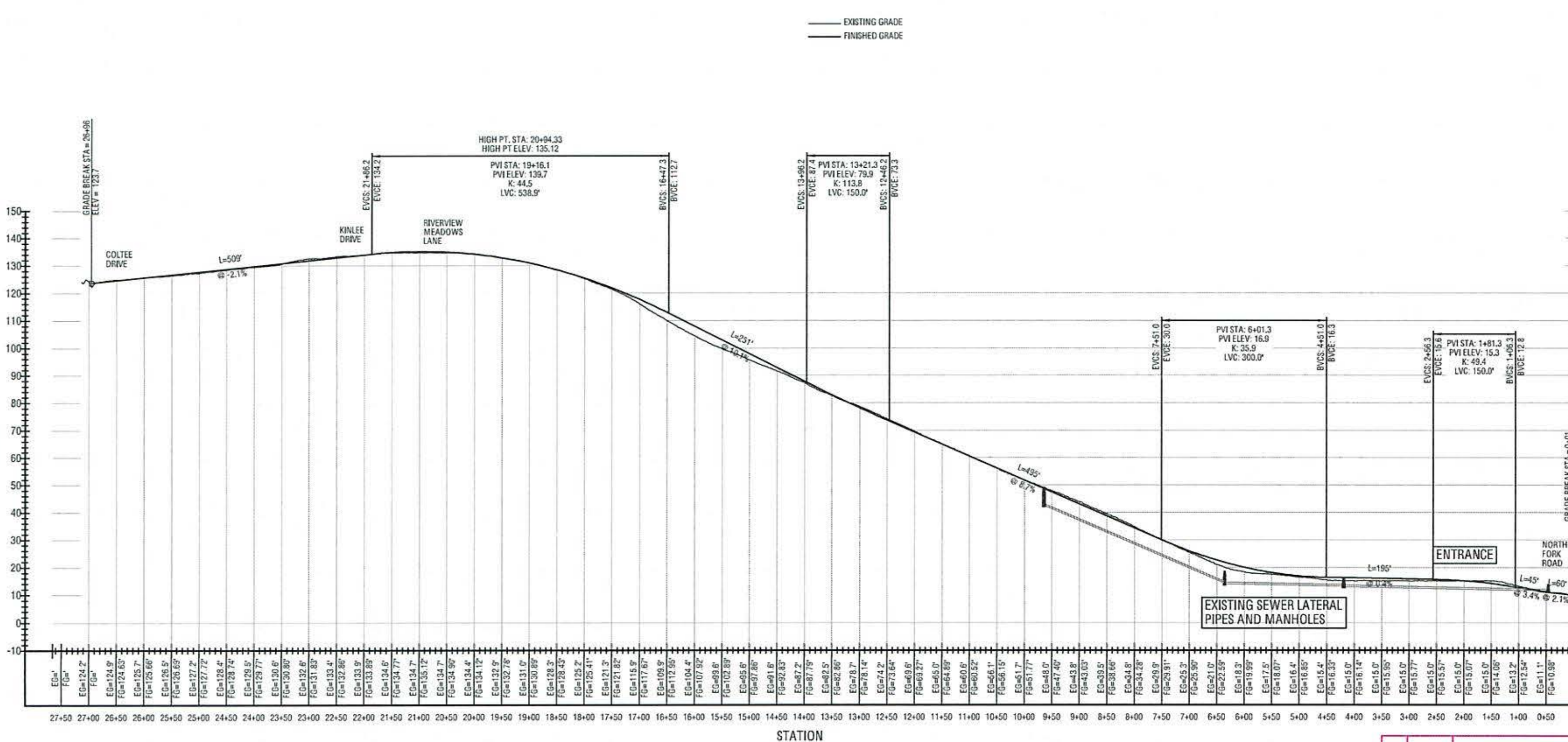
RIVERVIEW MEADOWS
PHASE 3
36 LOT SUBDIVISION

MAP 3N R10W SECTION 23B

ENTRANCE

1/13 SCALE: 1"=100' VERT: 1"=20' (5 X EXAGGERATION)



MORGAN CIVIL ENGINEERING, INC.

PO BOX 358
MANZANITA, OR 97130
(503) 801-6016
www.morgancivil.com

• CIVIL ENGINEERING
• INSPECTION
• PLANNING

JOB NO. #19-10-RIV
DATE JAN. 6, 2023

REGISTERED PROFESSIONAL ENGINEER 83055 OREGON JANUARY 19, 2023 JASON R. MORGAN

RENEWAL DATE: DECEMBER 31, 2024

RIVERVIEW MEADOWS DEVELOPMENT, LLC
RIVERVIEW MEADOWS PHASE 3
ENTRANCE ROAD PROFILE
NEHALEM, MAP 3N 10W 23B

NO.	DATE	DESCRIPTION	BY

SHEET 13 OF -24-

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LEGEND:

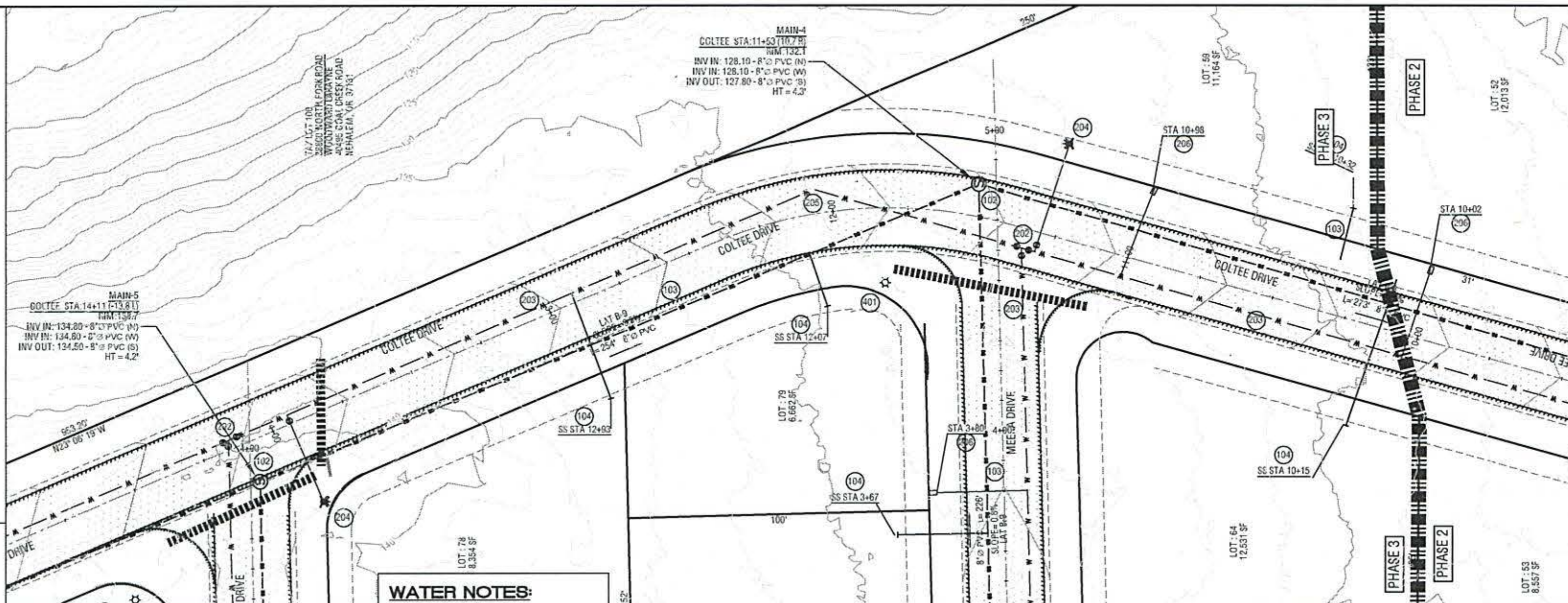
EXISTING
- PROPERTY LINE
- SEWER LINE
- MANHOLE
- WATER LINE
- ROAD
- OVERHEAD UTILITIES
- UTILITY POLE
- FIRE HYDRANT
- GATE VALVE

PROPOSED
- PROPERTY LINE
- EASEMENT
- SEWER MAIN
- SEWER MANHOLE/CO
- SEWER SERVICE
- WATER MAIN
- WATER FEEDER LINE
- WATER VALVE
- FIRE HYDRANT
- WATER SERVICE
- EDGE OF SHOULDER
- EDGE OF ASPHALT
- GRAVEL CHECK DAM
- DRAINAGE CULVERT
- RETAINING WALL

PROFILE
- EXISTING GRADE
- FINISHED GRADE

GRAPHIC SCALE

(IN FEET)
1 inch = 20 ft.



1/14 **COLTEE DRIVE**
SCALE: 1"=20'

WATER NOTES:

ALL CRUSHED ROCK BEDDING AND BACKFILL. 92% COMPACTION. SEE DETAILS SHEET 24.

COORDINATE WORK WITH CITY OF NEHALEM. 36" COVER OVER PIPES. 18" MIN VERTICAL SEPARATION FROM SEWER LINE AT CROSSINGS.

201 CONNECT TO EXISTING WATER
202 INSTALL 6"Ø TEE WITH GATE VALVES
203 INSTALL 6"Ø PVC PIPE
204 INSTALL FIRE HYDRANT ASSEMBLY
205 INSTALL D.I. BENDS, AS NEEDED
206 INSTALL WATER SERVICE ASSEMBLY
207 INSTALL 8"Ø TEE WITH GATE VALVES
208 INSTALL 8"Ø PVC PIPE
209 INSTALL 8"Ø GATE VALVE

PRESSURE TESTING, AND BACTERIOLOGICAL TESTING REQUIRED.

SEWER NOTES:

ALL CRUSHED ROCK BEDDING AND BACKFILL. 92% COMPACTION. SEE DETAILS SHEET 23.

COORDINATE WORK WITH NBWA.

101 CONNECT TO EXISTING STUB
102 INSTALL NEW MANHOLE
103 INSTALL NEW 8" SEWER PIPE
104 INSTALL NEW SEWER SERVICE ASSEMBLY
105 INSTALL NEW END OF LINE CLEANOUT

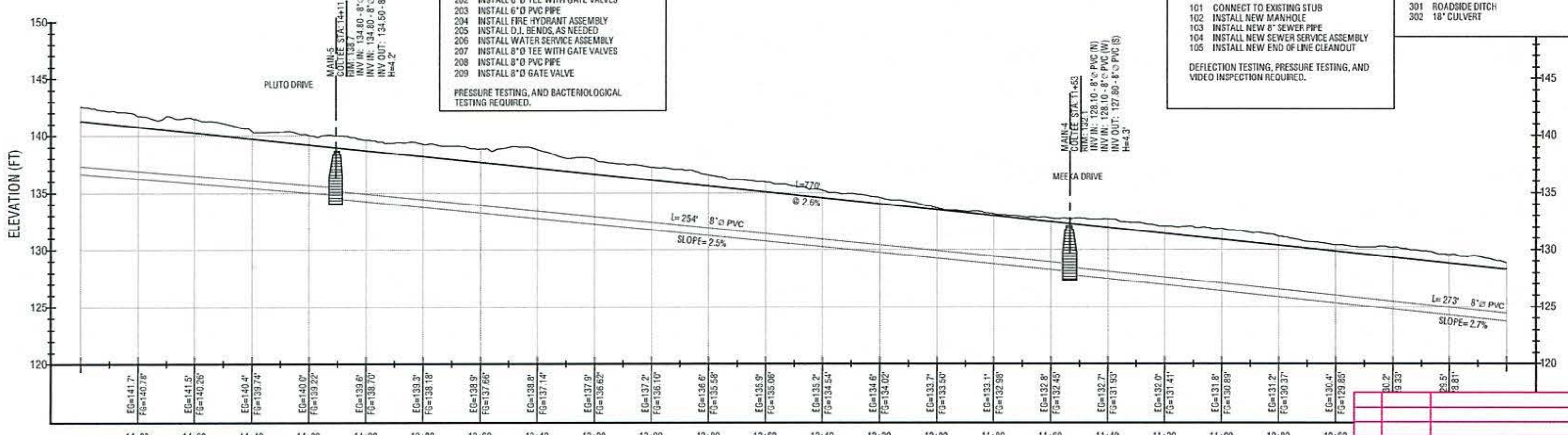
DEFLECTION TESTING, PRESSURE TESTING, AND VIDEO INSPECTION REQUIRED.

STORM NOTES:

ALL CRUSHED ROCK BEDDING AND BACKFILL. 92% COMPACTION.

COORDINATE WORK WITH COUNTY PUBLIC WORKS.

301 ROADSIDE DITCH
302 18" CULVERT



2/14 **COLTEE DRIVE PROFILE**
SCALE: 1"=20' VERT: 1"=5'

NO.	DATE	DESCRIPTION	BY

MORGAN CIVIL ENGINEERING, INC.
PO BOX 358
MANZANITA, OR 97130
(503) 801-6016
www.morgancivil.com
• CIVIL ENGINEERING
• INSPECTION
• PLANNING

JOB NO. #19-10-RIV
DATE JAN. 6, 2023

REGISTERED PROFESSIONAL ENGINEER 83055 OREGON JANUARY 15, 2008 JASON R. MORGAN
RENEWAL DATE: DECEMBER 31, 2024

RIVERVIEW MEADOWS DEVELOPMENT, LLC
RIVERVIEW MEADOWS PHASE 3
UTILITY LAYOUT - COLTEE DRIVE
NEHALEM, MAP 3N 10W 23B

SHEET
14
OF -24-

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SEWER NOTES:

ALL CRUSHED ROCK BEDDING AND BACKFILL. 92% COMPACTION. SEE DETAILS SHEET 23.

COORDINATE WORK WITH NSWA.

101 CONNECT TO EXISTING STUB
102 INSTALL NEW MANHOLE
103 INSTALL NEW 8" SEWER PIPE
104 INSTALL NEW SEWER SERVICE ASSEMBLY
105 INSTALL NEW END OF LINE CLEANOUT

DEFLECTION TESTING, PRESSURE TESTING, AND VIDEO INSPECTION REQUIRED.

WATER NOTES:

ALL CRUSHED ROCK BEDDING AND BACKFILL. 92% COMPACTION. SEE DETAILS SHEET 24.

COORDINATE WORK WITH CITY OF NEHALEM. 36" COVER OVER PIPES. 18" MIN VERTICAL SEPARATION FROM SEWER LINE AT CROSSINGS.

201 CONNECT TO EXISTING WATER
202 INSTALL 6"Ø TEE WITH GATE VALVES
203 INSTALL 6"Ø PVC PIPE
204 INSTALL FIRE HYDRANT ASSEMBLY
205 INSTALL D.I. BENDS, AS NEEDED
206 INSTALL WATER SERVICE ASSEMBLY
207 INSTALL 8"Ø TEE WITH GATE VALVES
208 INSTALL 8"Ø PVC PIPE
209 INSTALL 8"Ø GATE VALVE

PRESSURE TESTING, AND BACTERIOLOGICAL TESTING REQUIRED.

STORM NOTES:

ALL CRUSHED ROCK BEDDING AND BACKFILL. 92% COMPACTION.

COORDINATE WORK WITH COUNTY PUBLIC WORKS.

301 ROADSIDE DITCH
302 18" CULVERT

LEGEND:

EXISTING
- PROPERTY LINE
- SEWER LINE
- MANHOLE
- WATER LINE
- ROAD
- OVERHEAD UTILITIES
- UTILITY POLE
- FIRE HYDRANT
- GATE VALVE

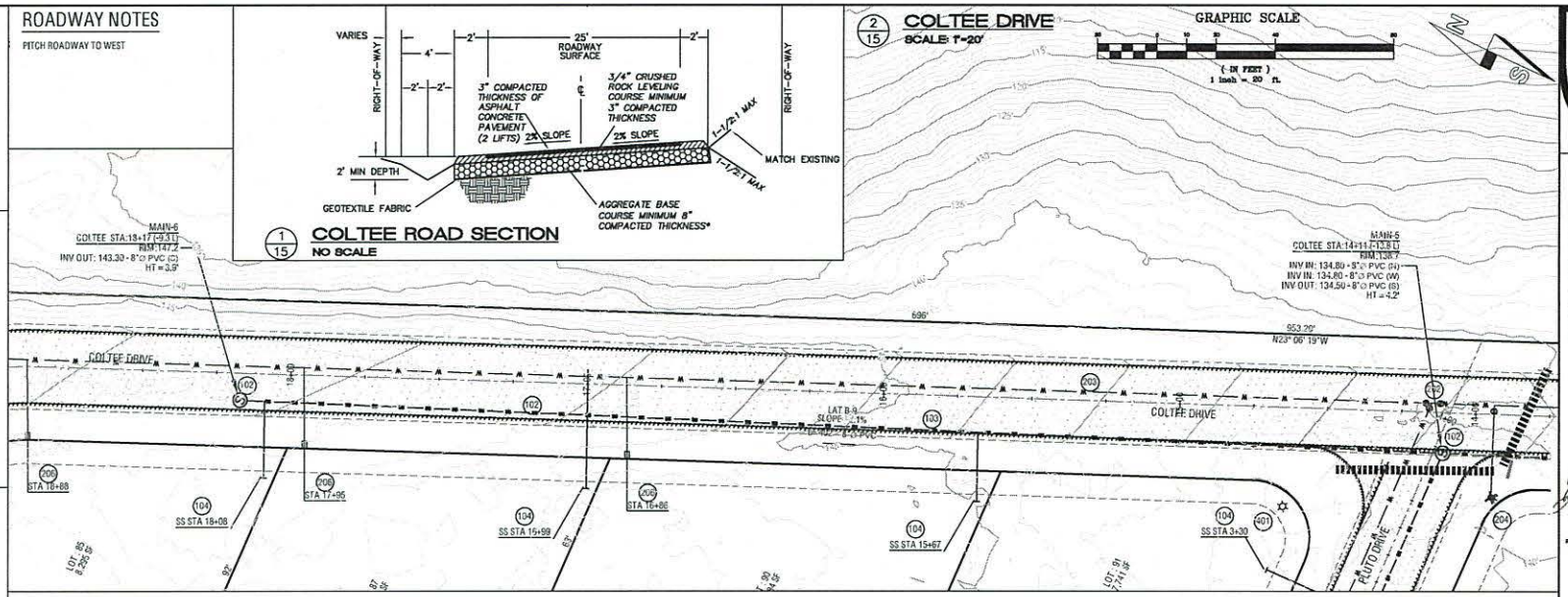
PROPOSED
- PROPERTY LINE
- EASEMENT
- SEWER MAIN
- SEWER MANHOLE/CO
- SEWER SERVICE
- WATER MAIN
- WATER FEEDER LINE
- WATER VALVE
- FIRE HYDRANT
- WATER SERVICE
- EDGE OF SHOULDER
- EDGE OF ASPHALT
- GRAVEL CHECK DAM
- DRAINAGE CULVERT
- RETAINING WALL

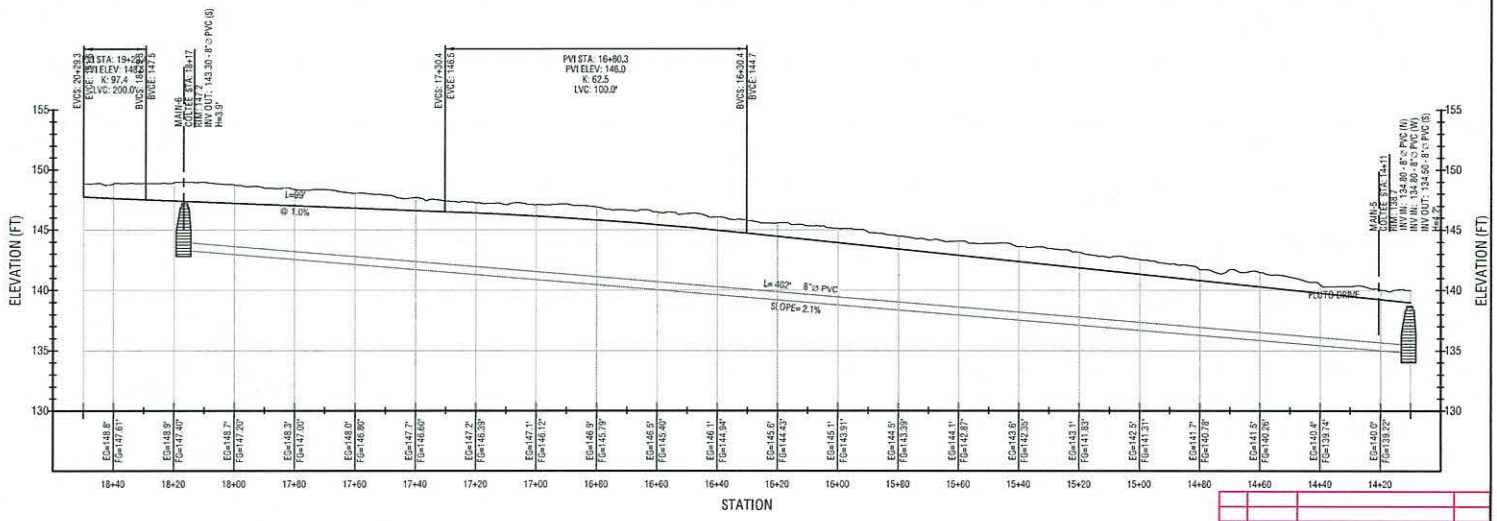
PROFILE
- EXISTING GRADE
- FINISHED GRADE

ROADWAY NOTES

PITCH ROADWAY TO WEST

1/15 COLTEE ROAD SECTION
NO SCALE





3/15 COLTEE DRIVE PROFILE
SCALE: 1"=20' VERT: 1"=5'

NO.	DATE	DESCRIPTION	BY

MORGAN CIVIL ENGINEERING, INC.
PO BOX 358
MANZANITA, OR 97130
(503) 801-6016
www.morgancivil.com
• CIVIL ENGINEERING
• INSPECTION
• PLANNING

JOB NO. #19-10-NV
DATE: JAN. 6, 2023

REGISTERED PROFESSIONAL ENGINEER
63055
OREGON
JANUARY 25, 1985
JASON B. MORGAN
RENEWAL DATE: DECEMBER 31, 2024

RIVERVIEW MEADOWS DEVELOPMENT, LLC
RIVERVIEW MEADOWS PHASE 3
UTILITY LAYOUT - COLTEE DRIVE
NEHALEM, MAP 3N 10W 23B

SHEET
15
OF -24-

V:\19-10-Rev Dwg Riverview Meadows-4.dwg, coltee-3, 1/8/2023 2:00:17 PM

SEWER NOTES:

ALL CRUSHED ROCK BEDDING AND BACKFILL. 92% COMPACTION. SEE DETAILS SHEET 23.

COORDINATE WORK WITH NBWA.

101 CONNECT TO EXISTING STUB
102 INSTALL NEW MANHOLE
103 INSTALL NEW 8" SEWER PIPE
104 INSTALL NEW SEWER SERVICE ASSEMBLY
105 INSTALL NEW END OF LINE CLEANOUT

DEFLECTION TESTING, PRESSURE TESTING, AND VIDEO INSPECTION REQUIRED.

WATER NOTES:

ALL CRUSHED ROCK BEDDING AND BACKFILL. 92% COMPACTION. SEE DETAILS SHEET 24.

COORDINATE WORK WITH CITY OF NEHALEM. 36" COVER OVER PIPES. 18" MIN VERTICAL SEPARATION FROM SEWER LINE AT CROSSINGS.

201 CONNECT TO EXISTING WATER
202 INSTALL 6"Ø TEE WITH GATE VALVES
203 INSTALL 6"Ø PVC PIPE
204 INSTALL FIRE HYDRANT ASSEMBLY
205 INSTALL D.I. BENDS, AS NEEDED
206 INSTALL WATER SERVICE ASSEMBLY
207 INSTALL 8"Ø TEE WITH GATE VALVES
208 INSTALL 8"Ø PVC PIPE
209 INSTALL 8"Ø GATE VALVE

PRESSURE TESTING, AND BACTERIOLOGICAL TESTING REQUIRED.

STORM NOTES:

ALL CRUSHED ROCK BEDDING AND BACKFILL. 92% COMPACTION.

COORDINATE WORK WITH COUNTY PUBLIC WORKS.

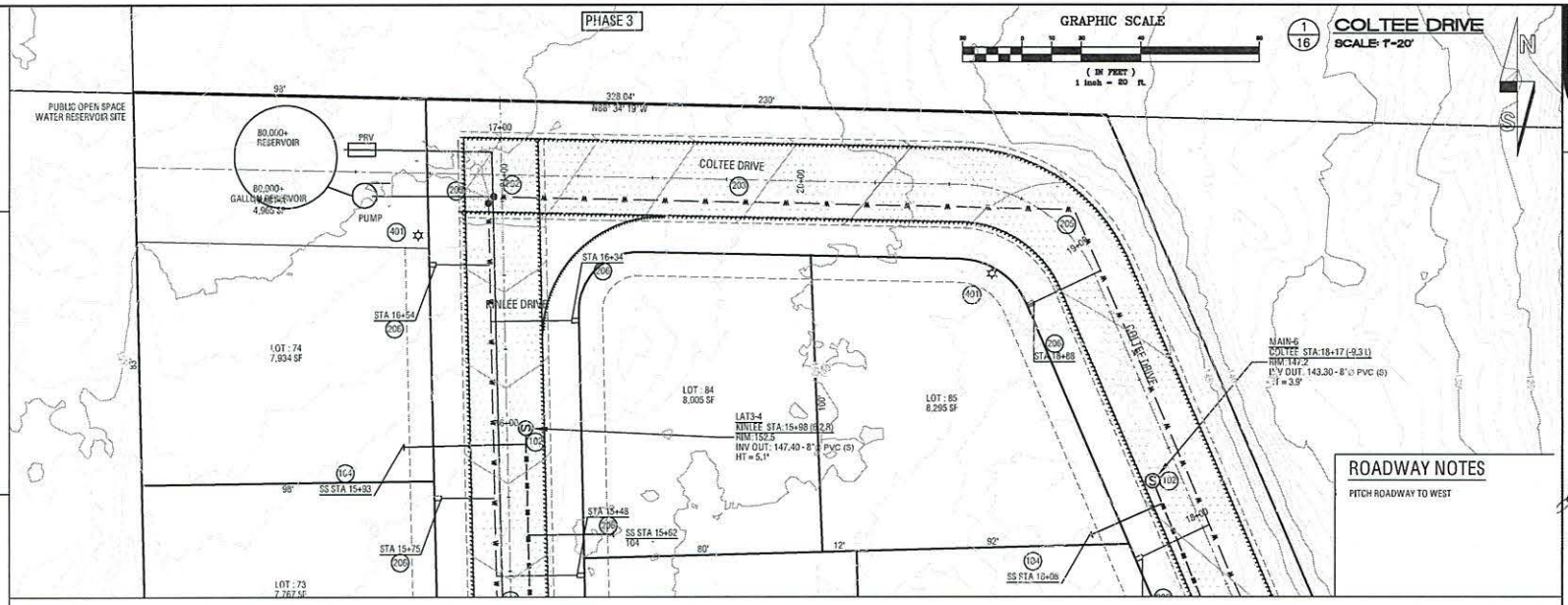
301 ROADSIDE DITCH
302 18" CULVERT

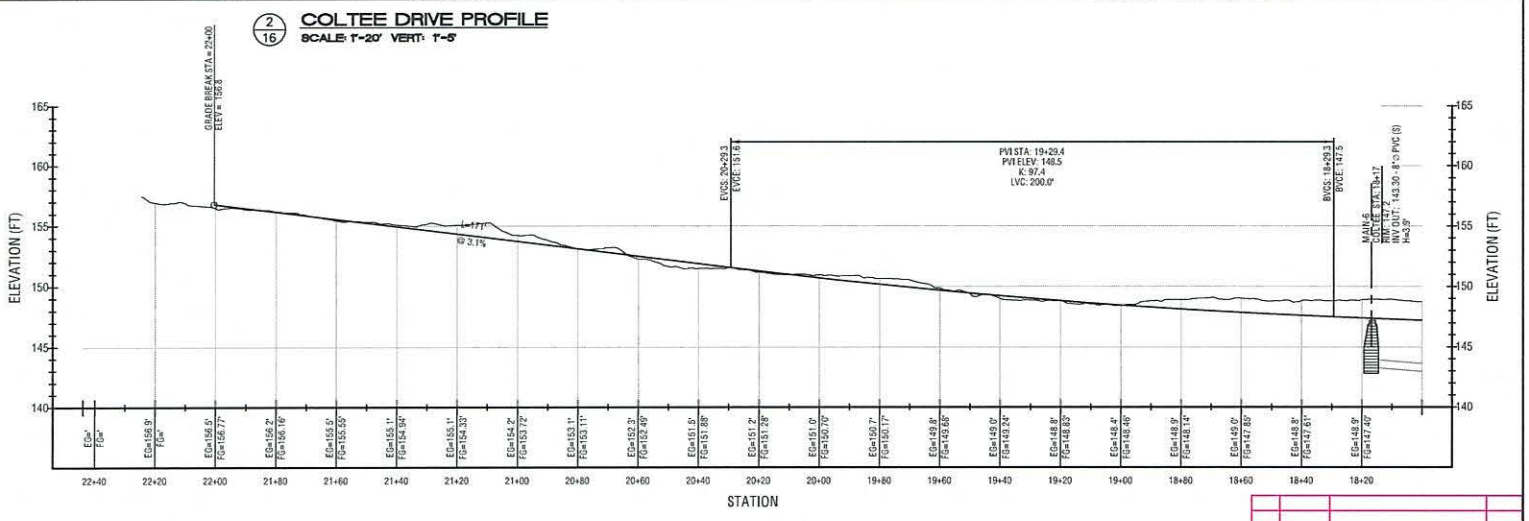
LEGEND:

EXISTING
- PROPERTY LINE
- SEWER LINE
- MANHOLE
- WATER LINE
- ROAD
- OVERHEAD UTILITIES
- UTILITY POLE
- FIRE HYDRANT
- GATE VALVE

PROPOSED
- PROPERTY LINE
- EASEMENT
- SEWER MAIN
- SEWER MANHOLE/CO
- SEWER SERVICE
- WATER MAIN
- WATER FEEDER LINE
- WATER VALVE
- FIRE HYDRANT
- WATER SERVICE
- EDGE OF SHOULDER
- EDGE OF ASPHALT
- GRAVEL CHECK DAM
- DRAINAGE CULVERT
- RETAINING WALL

PROFILE
- EXISTING GRADE
- FINISHED GRADE





NO.	DATE	DESCRIPTION	BY

MORGAN CIVIL ENGINEERING, INC.
• CIVIL ENGINEERING
• INSPECTION
• PLANNING
P.O. BOX 338
MANZANITA, OR 97130
(503) 801-4016
www.morgancivil.com

JOB NO. #19-10-NV
DATE: JAN. 6, 2023

REGISTERED PROFESSIONAL ENGINEER 63055 OREGON JANUARY 13, 1989 JASON B. MORGAN
RENEWAL DATE: DECEMBER 31, 2024

RIVERVIEW MEADOWS DEVELOPMENT, LLC
RIVERVIEW MEADOWS PHASE 3
UTILITY LAYOUT - COLTEE DRIVE

NEHALEM, MAP 3N 10W 23B

SHEET 16 OF -24-

SEWER NOTES:

ALL CRUSHED ROCK BEDDING AND BACKFILL. 92% COMPACTION. SEE DETAILS SHEET 23.

COORDINATE WORK WITH NSWA.

101 CONNECT TO EXISTING STUB
102 INSTALL NEW MANHOLE
103 INSTALL NEW 8" SEWER PIPE
104 INSTALL NEW SEWER SERVICE ASSEMBLY
105 INSTALL NEW END OF LINE CLEANOUT

DEFLECTION TESTING, PRESSURE TESTING, AND VIDEO INSPECTION REQUIRED.

WATER NOTES:

ALL CRUSHED ROCK BEDDING AND BACKFILL. 92% COMPACTION. SEE DETAILS SHEET 24.

COORDINATE WORK WITH CITY OF NEHALEM. 36" COVER OVER PIPES. 18" MIN VERTICAL SEPARATION FROM SEWER LINE AT CROSSINGS.

201 CONNECT TO EXISTING WATER
202 INSTALL 6"Ø TEE WITH GATE VALVES
203 INSTALL 6"Ø PVC PIPE
204 INSTALL FIRE HYDRANT ASSEMBLY
205 INSTALL D.I. BENDS, AS NEEDED
206 INSTALL WATER SERVICE ASSEMBLY
207 INSTALL 8"Ø TEE WITH GATE VALVES
208 INSTALL 8"Ø PVC PIPE
209 INSTALL 8"Ø GATE VALVE

PRESSURE TESTING, AND BACTERIOLOGICAL TESTING REQUIRED.

STORM NOTES:

ALL CRUSHED ROCK BEDDING AND BACKFILL. 92% COMPACTION.

COORDINATE WORK WITH COUNTY PUBLIC WORKS.

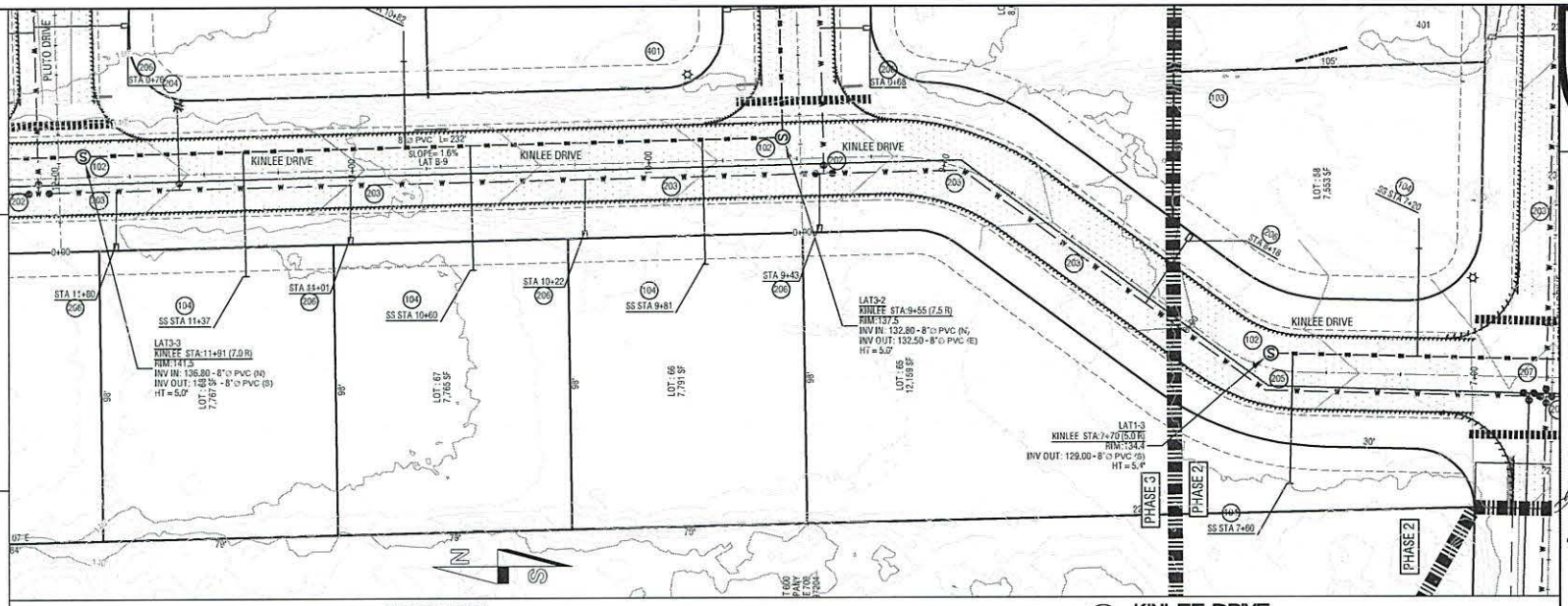
301 ROADSIDE DITCH
302 18" CULVERT

LEGEND:

EXISTING
- PROPERTY LINE
- SEWER LINE
- MANHOLE
- WATER LINE
- ROAD
- OVERHEAD UTILITIES
- UTILITY POLE
- FIRE HYDRANT
- GATE VALVE

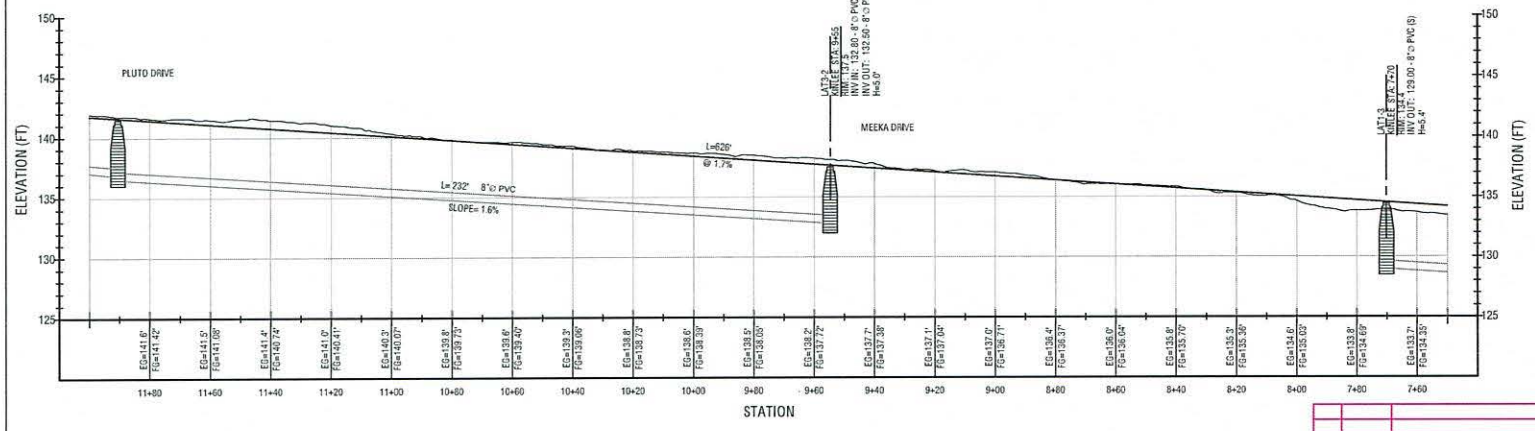
PROPOSED
- PROPERTY LINE
- EASEMENT
- SEWER MAIN
- SEWER MANHOLE/CO
- SEWER SERVICE
- WATER MAIN
- WATER FEEDER LINE
- WATER VALVE
- FIRE HYDRANT
- WATER SERVICE
- EDGE OF SHOULDER
- EDGE OF ASPHALT
- GRAVEL CHECK DAM
- DRAINAGE CULVERT
- RETAINING WALL

PROFILE
- EXISTING GRADE
- FINISHED GRADE



GRAPHIC SCALE
(IN FEET)
1 inch = 20 ft.

1/17 KINLEE DRIVE
SCALE: 1"=20'



2/17 KINLEE DRIVE PROFILE
SCALE: 1"=20' VERT: 1"=5'

NO.	DATE	DESCRIPTION	BY

MORGAN CIVIL ENGINEERING, INC.
PO BOX 358
MANZANITA, OR 97130
(503) 901-6016
www.morgancivil.com
• CIVIL ENGINEERING
• WATER SYSTEMS
• PLANNING

JOB NO. #19-10-WV
DATE: APRIL 6, 2023

REGISTERED PROFESSIONAL ENGINEER 83055 OREGON JANUARY 13, 1989 JASON R. MORGAN
RENEWAL DATE: DECEMBER 31, 2024

RIVERVIEW MEADOWS DEVELOPMENT, LLC
RIVERVIEW MEADOWS PHASE 3
UTILITY LAYOUT - KINLEE DRIVE
NEHALEM, MAP 3N 10W 23B

SHEET 17 OF -24-

V:\19-10-Rev\Dwg\Riverview Meadows-4.dwg, Kinlee-3, 1/8/2023 2:06:56 PM

SEWER NOTES:

ALL CRUSHED ROCK BEDDING AND BACKFILL, 92% COMPACTION. SEE DETAILS SHEET 23.

COORDINATE WORK WITH NBWA.

101 CONNECT TO EXISTING STUB
102 INSTALL NEW MANHOLE
103 INSTALL NEW 8" SEWER PIPE
104 INSTALL NEW SEWER SERVICE ASSEMBLY
105 INSTALL NEW END OF LINE CLEANOUT

DEFLECTION TESTING, PRESSURE TESTING, AND VIDEO INSPECTION REQUIRED.

WATER NOTES:

ALL CRUSHED ROCK BEDDING AND BACKFILL, 92% COMPACTION. SEE DETAILS SHEET 24.

COORDINATE WORK WITH CITY OF NEHALEM. 36" COVER OVER PIPES. 18" MIN VERTICAL SEPARATION FROM SEWER LINE AT CROSSINGS.

201 CONNECT TO EXISTING WATER
202 INSTALL 6"Ø TEE WITH GATE VALVES
203 INSTALL 6"Ø PVC PIPE
204 INSTALL FIRE HYDRANT ASSEMBLY
205 INSTALL D.I. BENDS, AS NEEDED
206 INSTALL WATER SERVICE ASSEMBLY
207 INSTALL 8"Ø TEE WITH GATE VALVES
208 INSTALL 8"Ø PVC PIPE
209 INSTALL 8"Ø GATE VALVE

PRESSURE TESTING, AND BACTERIOLOGICAL TESTING REQUIRED.

STORM NOTES:

ALL CRUSHED ROCK BEDDING AND BACKFILL, 92% COMPACTION.

COORDINATE WORK WITH COUNTY PUBLIC WORKS.

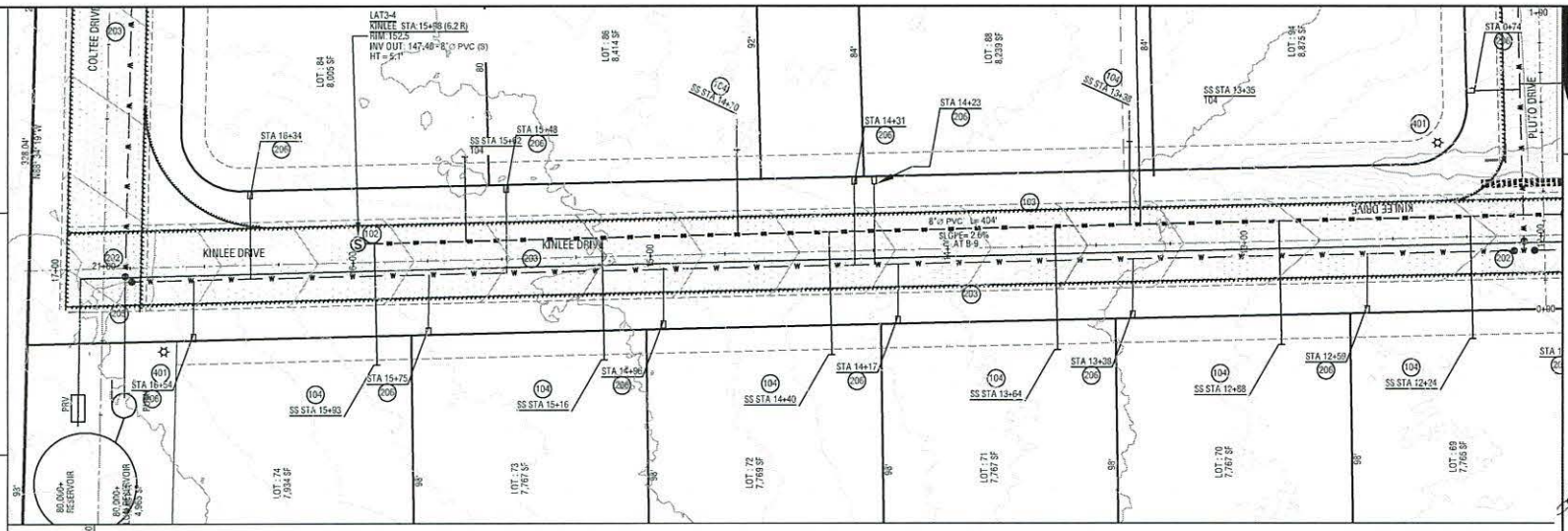
301 ROADSIDE DITCH
302 18" CULVERT

LEGEND:

EXISTING
- PROPERTY LINE
- SEWER LINE
- MANHOLE
- WATER LINE
- ROAD
- OVERHEAD UTILITIES
- UTILITY POLE
- FIRE HYDRANT
- GATE VALVE

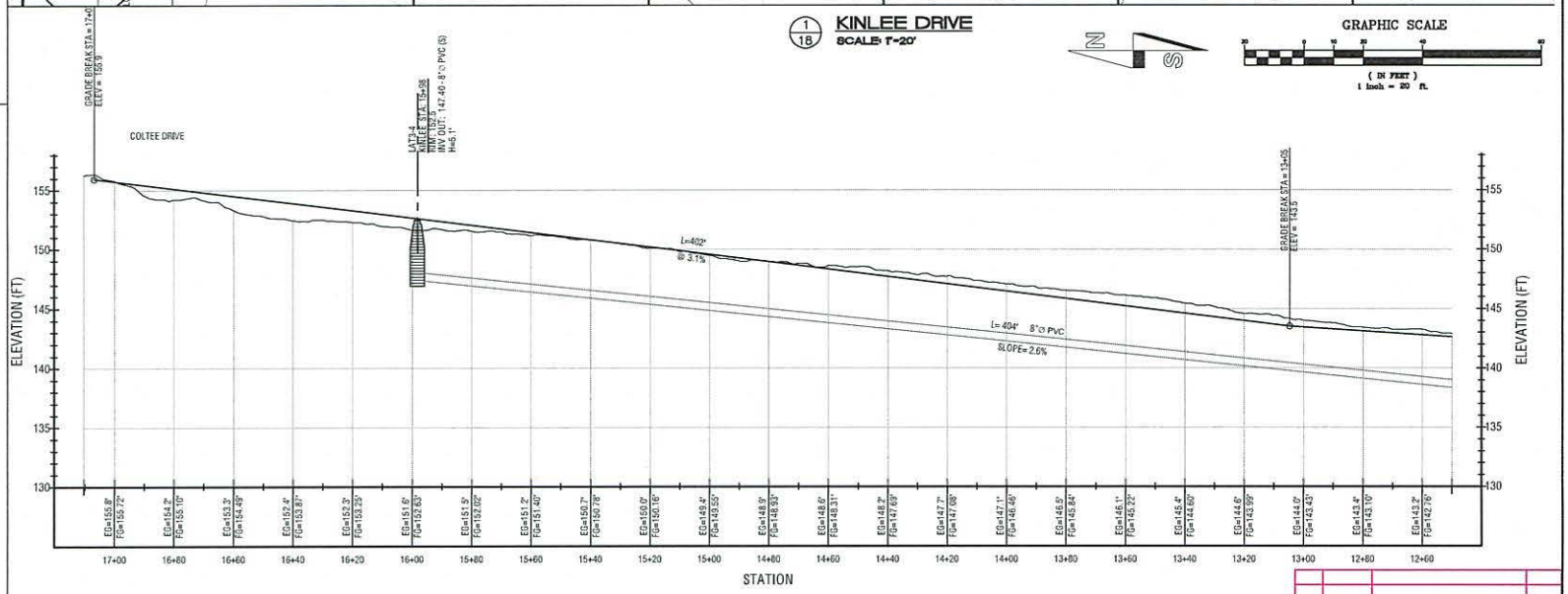
PROPOSED
- PROPERTY LINE
- EASEMENT
- SEWER MAIN
- SEWER MANHOLE/CO
- SEWER SERVICE
- WATER MAIN
- WATER FEEDER LINE
- WATER VALVE
- FIRE HYDRANT
- WATER SERVICE
- EDGE OF SHOULDER
- EDGE OF ASPHALT
- GRAVEL CHECK DAM
- DRAINAGE CULVERT
- RETAINING WALL

PROFILE
- EXISTING GRADE
- FINISHED GRADE



1/18 KINLEE DRIVE
SCALE: 1"=20'

GRAPHIC SCALE
(IN FEET)
1 inch = 20 ft.



2/18 KINLEE DRIVE PROFILE
SCALE: 1"=20' VERT: 1"=5'

NO.	DATE	DESCRIPTION	BY

MORGAN CIVIL ENGINEERING, INC.
• CIVIL ENGINEERING
• INSPECTION
• PLANNING
PO BOX 368
MANZANITA, OR 97130
(503) 801-4616
www.morgancivil.com

JOB NO. #19-10-RV
DATE: JAN. 6, 2023

REGISTERED PROFESSIONAL ENGINEER
63055
OREGON
JANUARY 13, 1995
JASON R. MORGAN
RENEWAL DATE: DECEMBER 31, 2024

RIVERVIEW MEADOWS DEVELOPMENT, LLC
RIVERVIEW MEADOWS PHASE 3
UTILITY LAYOUT - KINLEE DRIVE

NEHALEM, MAP 3N 10W 23B

SHEET
18
OF -24-

V:\19-10-Rev Dwg\Riverview Meadows-Laing Kistler-4, 1/6/2023 2:01:11 PM

SEWER NOTES:

ALL CRUSHED ROCK BEDDING AND BACKFILL. 92% COMPACTION. SEE DETAILS SHEET 23.

COORDINATE WORK WITH NSWA.

101 CONNECT TO EXISTING STUB
102 INSTALL NEW MANHOLE
103 INSTALL NEW 8" SEWER PIPE
104 INSTALL NEW SEWER SERVICE ASSEMBLY
105 INSTALL NEW END OF LINE CLEANOUT

DEFLECTION TESTING, PRESSURE TESTING, AND VIDEO INSPECTION REQUIRED.

WATER NOTES:

ALL CRUSHED ROCK BEDDING AND BACKFILL. 92% COMPACTION. SEE DETAILS SHEET 24.

COORDINATE WORK WITH CITY OF NEHALEM. 36" COVER OVER PIPES. 18" MIN VERTICAL SEPARATION FROM SEWER LINE AT CROSSINGS.

201 CONNECT TO EXISTING WATER
202 INSTALL 6"Ø TEE WITH GATE VALVES
203 INSTALL 6"Ø PVC PIPE
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206 INSTALL WATER SERVICE ASSEMBLY
207 INSTALL 8"Ø TEE WITH GATE VALVES
208 INSTALL 8"Ø PVC PIPE
209 INSTALL 8"Ø GATE VALVE

PRESSURE TESTING, AND BACTERIOLOGICAL TESTING REQUIRED.

STORM NOTES:

ALL CRUSHED ROCK BEDDING AND BACKFILL. 92% COMPACTION.

COORDINATE WORK WITH COUNTY PUBLIC WORKS.

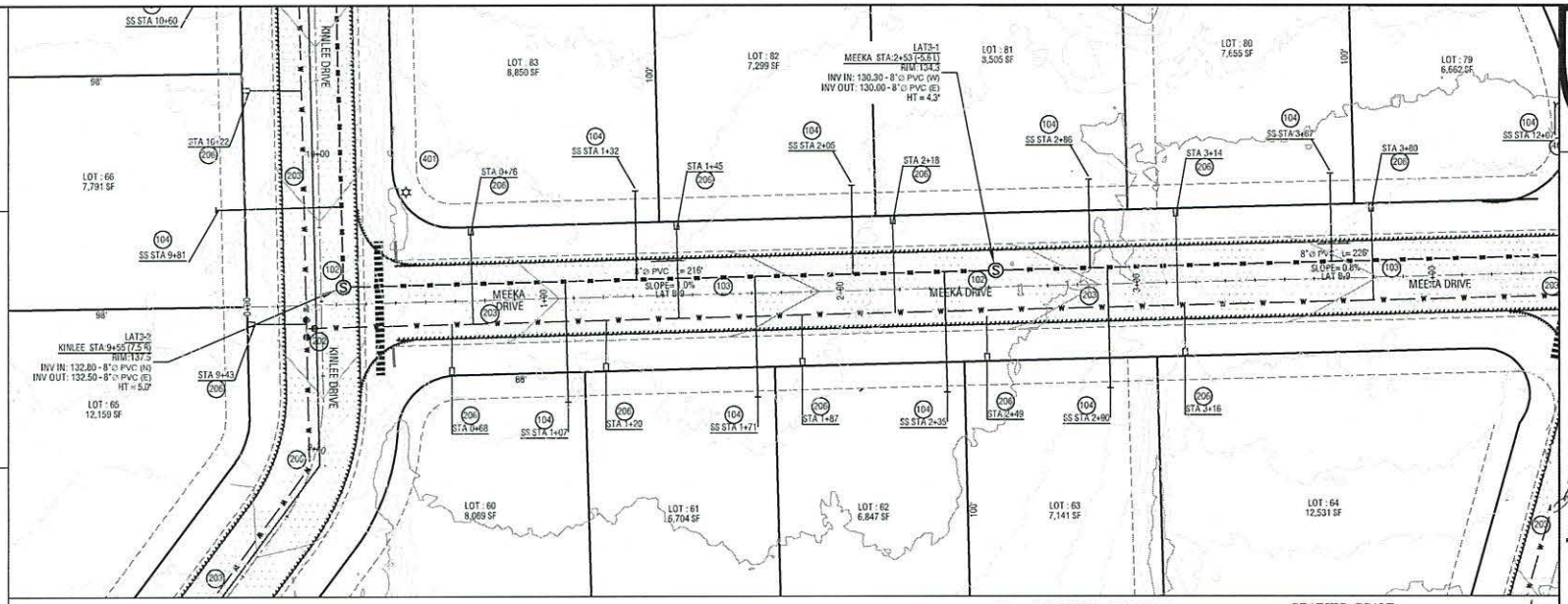
301 ROADSIDE DITCH
302 18" CULVERT

LEGEND:

EXISTING
- PROPERTY LINE
- SEWER LINE
- MANHOLE
- WATER LINE
- ROAD
- OVERHEAD UTILITIES
- UTILITY POLE
- FIRE HYDRANT
- GATE VALVE

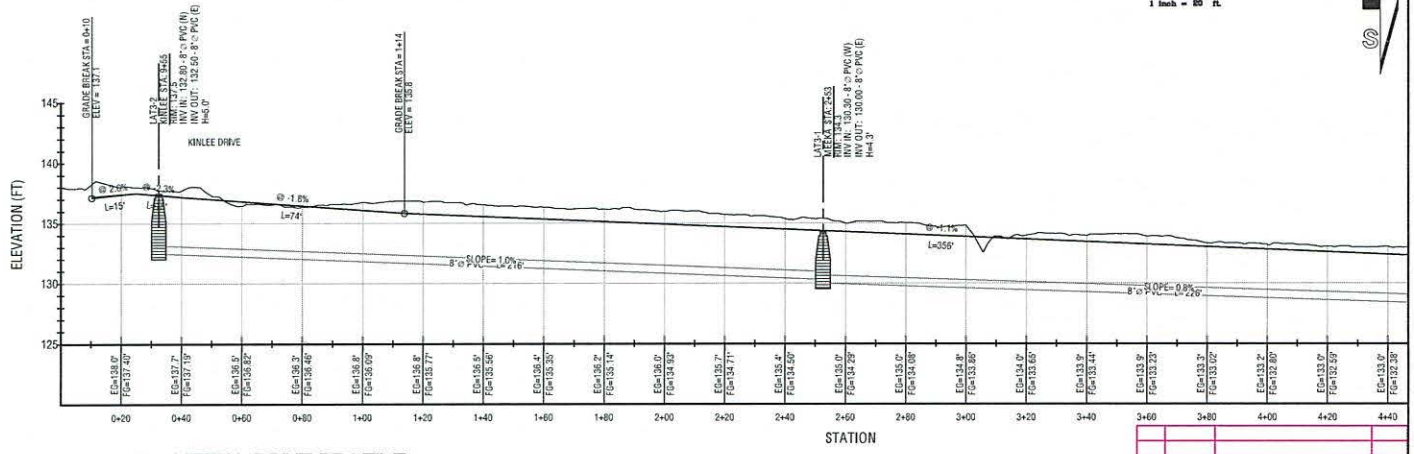
PROPOSED
- PROPERTY LINE
- EASEMENT
- SEWER MAIN
- SEWER MANHOLE/CO
- SEWER SERVICE
- WATER MAIN
- WATER FEEDER LINE
- WATER VALVE
- FIRE HYDRANT
- WATER SERVICE
- EDGE OF SHOULDER
- EDGE OF ASPHALT
- GRAVEL CHECK DAM
- DRAINAGE CULVERT
- RETAINING WALL

PROFILE
- EXISTING GRADE
- FINISHED GRADE



1/19 **MEEKA DRIVE**
SCALE: 1"=20'

GRAPHIC SCALE
(IN FEET)
1 inch = 20 ft.



2/19 **MEEKA DRIVE PROFILE**
SCALE: 1"=20' VERT: 1"=5'

NO.	DATE	DESCRIPTION	BY

MORGAN CIVIL ENGINEERING, INC.
• CIVIL ENGINEERING
• INSPECTION
• PLANNING
PO BOX 358
MANZANITA, OR 97130
(503) 801-6016
www.morgancivil.com

JOB NO. #19-10-NV
DATE: JAN. 6, 2023

REGISTERED PROFESSIONAL ENGINEER 63055 OREGON JANUARY 15, 1982 JASON B. MORGAN
RENEWAL DATE: DECEMBER 31, 2024

RIVERVIEW MEADOWS DEVELOPMENT, LLC
RIVERVIEW MEADOWS PHASE 3
UTILITY LAYOUT - MEEKA DRIVE

NEHALEM, MAP 3N 10W 23B

SHEET 19 OF -24-

V:\19-10-Rev\Dwg\Riverview Meadows-4.dwg, meeka, 1/19/2023 2:01:26 PM

SEWER NOTES:

ALL CRUSHED ROCK BEDDING AND BACKFILL. 92% COMPACTION. SEE DETAILS SHEET 23.

COORDINATE WORK WITH NSWA.

101 CONNECT TO EXISTING STUB
102 INSTALL NEW MANHOLE
103 INSTALL NEW 8" SEWER PIPE
104 INSTALL NEW SEWER SERVICE ASSEMBLY
105 INSTALL NEW END OF LINE CLEANOUT

DEFLECTION TESTING, PRESSURE TESTING, AND VIDEO INSPECTION REQUIRED.

WATER NOTES:

ALL CRUSHED ROCK BEDDING AND BACKFILL. 92% COMPACTION. SEE DETAILS SHEET 24.

COORDINATE WORK WITH CITY OF NEHALEM. 36" COVER OVER PIPES. 18" MIN VERTICAL SEPARATION FROM SEWER LINE AT CROSSINGS.

201 CONNECT TO EXISTING WATER
202 INSTALL 6"Ø TEE WITH GATE VALVES
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205 INSTALL D.I. BENDS, AS NEEDED
206 INSTALL WATER SERVICE ASSEMBLY
207 INSTALL 8"Ø TEE WITH GATE VALVES
208 INSTALL 8"Ø PVC PIPE
209 INSTALL 8"Ø GATE VALVE

PRESSURE TESTING, AND BACTERIOLOGICAL TESTING REQUIRED.

STORM NOTES:

ALL CRUSHED ROCK BEDDING AND BACKFILL. 92% COMPACTION.

COORDINATE WORK WITH COUNTY PUBLIC WORKS.

301 ROADSIDE DITCH
302 18" CULVERT

LEGEND:

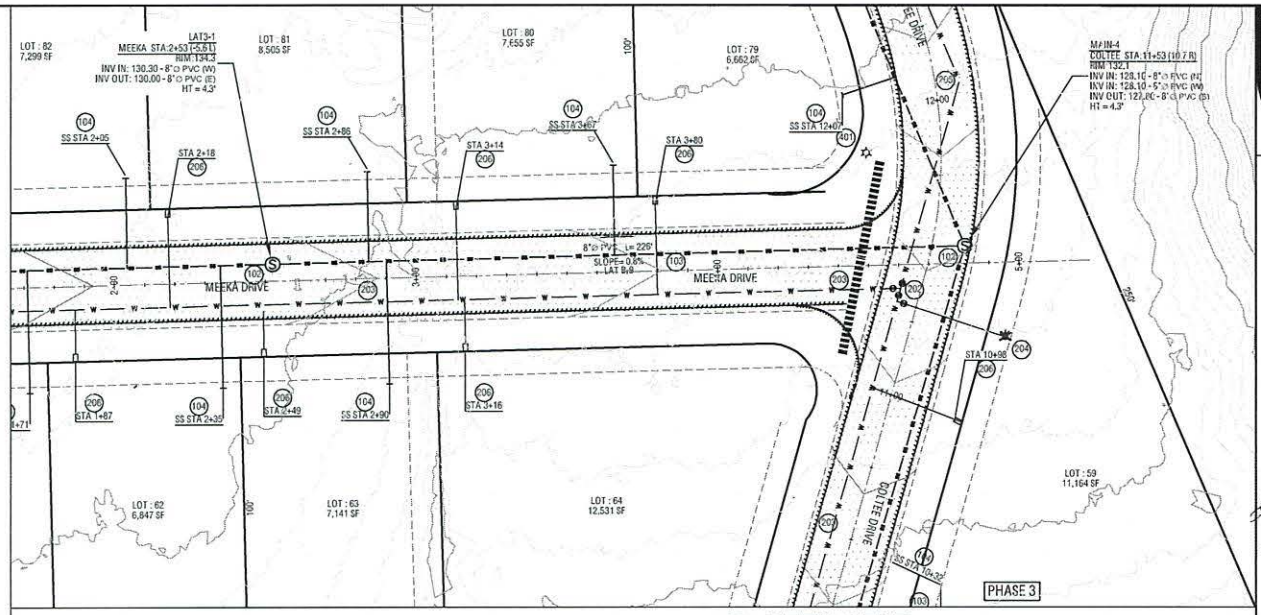
EXISTING
- PROPERTY LINE
- SEWER LINE
- MANHOLE
- WATER LINE
- ROAD
- OVERHEAD UTILITIES
- UTILITY POLE
- FIRE HYDRANT
- GATE VALVE

PROPOSED
- PROPERTY LINE
- EASEMENT
- SEWER MAIN
- SEWER MANHOLE/CO
- SEWER SERVICE
- WATER MAIN
- WATER FEEDER LINE
- WATER VALVE
- FIRE HYDRANT
- WATER SERVICE
- EDGE OF SHOULDER
- EDGE OF ASPHALT
- GRAVEL CHECK DAM
- DRAINAGE CULVERT
- RETAINING WALL

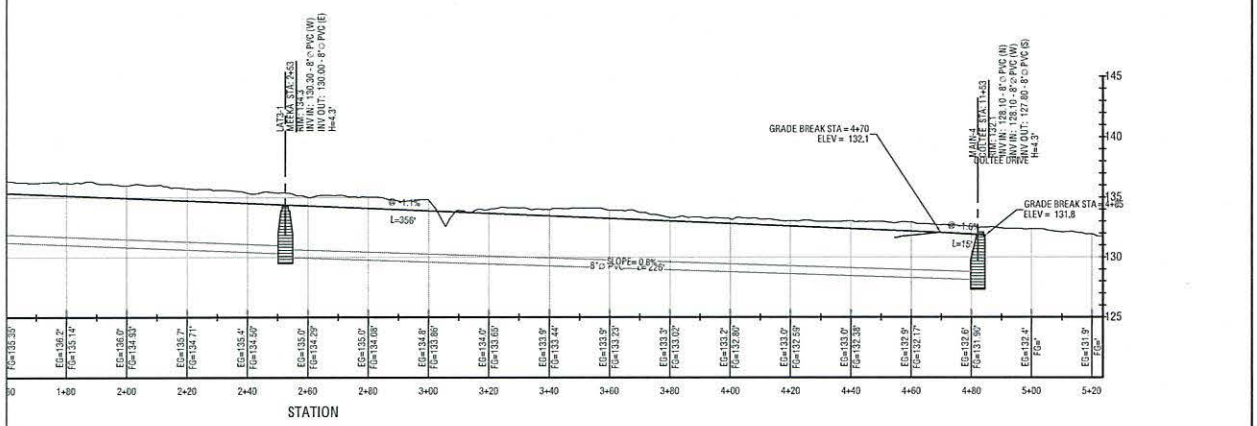
PROFILE
- EXISTING GRADE
- FINISHED GRADE

GRAPHIC SCALE

(IN FEET)
1 inch = 20 ft.



1/20 MEEKA DRIVE
SCALE: 1"=20'



2/20 MEEKA DRIVE PROFILE
SCALE: 1"=20' VERT: 1"=5'

NO.	DATE	DESCRIPTION	BY

MORGAN CIVIL ENGINEERING, INC.
• CIVIL ENGINEERING
• INSPECTION
• PLANNING
PO BOX 338
MANZANITA, OR 97130
(503) 801-6016
www.morgancivil.com

JOB NO. #19-10-RV
DATE: JAN. 6, 2023

REGISTERED PROFESSIONAL ENGINEER 63055 OREGON JANUARY 15, 1982 JASON R. MORGAN
RENEWAL DATE: DECEMBER 31, 2024

RIVERVIEW MEADOWS DEVELOPMENT, LLC
RIVERVIEW MEADOWS PHASE 3
UTILITY LAYOUT - MEEKA DRIVE

NEHALEM, MAP 3N 10W 23B

SHEET 20 OF -24-

V:\19-10-Rv\Dwg\Riverview Meadows-4.dwg, meeka (2), 1/8/2023 2:01:41 PM

SEWER NOTES:

ALL CRUSHED ROCK BEDDING AND BACKFILL. 92% COMPACTION. SEE DETAILS SHEET 23.

COORDINATE WORK WITH NBWA.

101 CONNECT TO EXISTING STUB
102 INSTALL NEW MANHOLE
103 INSTALL NEW 8" SEWER PIPE
104 INSTALL NEW SEWER SERVICE ASSEMBLY
105 INSTALL NEW END OF LINE CLEANOUT

DEFLECTION TESTING, PRESSURE TESTING, AND VIDEO INSPECTION REQUIRED.

WATER NOTES:

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COORDINATE WORK WITH CITY OF NEHALEM. 36" COVER OVER PIPES. 18" MIN VERTICAL SEPARATION FROM SEWER LINE AT CROSSINGS.

201 CONNECT TO EXISTING WATER
202 INSTALL 6"Ø TEE WITH GATE VALVES
203 INSTALL 6"Ø PVC PIPE
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205 INSTALL D.I. BENDS, AS NEEDED
206 INSTALL WATER SERVICE ASSEMBLY
207 INSTALL 8"Ø TEE WITH GATE VALVES
208 INSTALL 8"Ø PVC PIPE
209 INSTALL 8"Ø GATE VALVE

PRESSURE TESTING, AND BACTERIOLOGICAL TESTING REQUIRED.

STORM NOTES:

ALL CRUSHED ROCK BEDDING AND BACKFILL. 92% COMPACTION.

COORDINATE WORK WITH COUNTY PUBLIC WORKS.

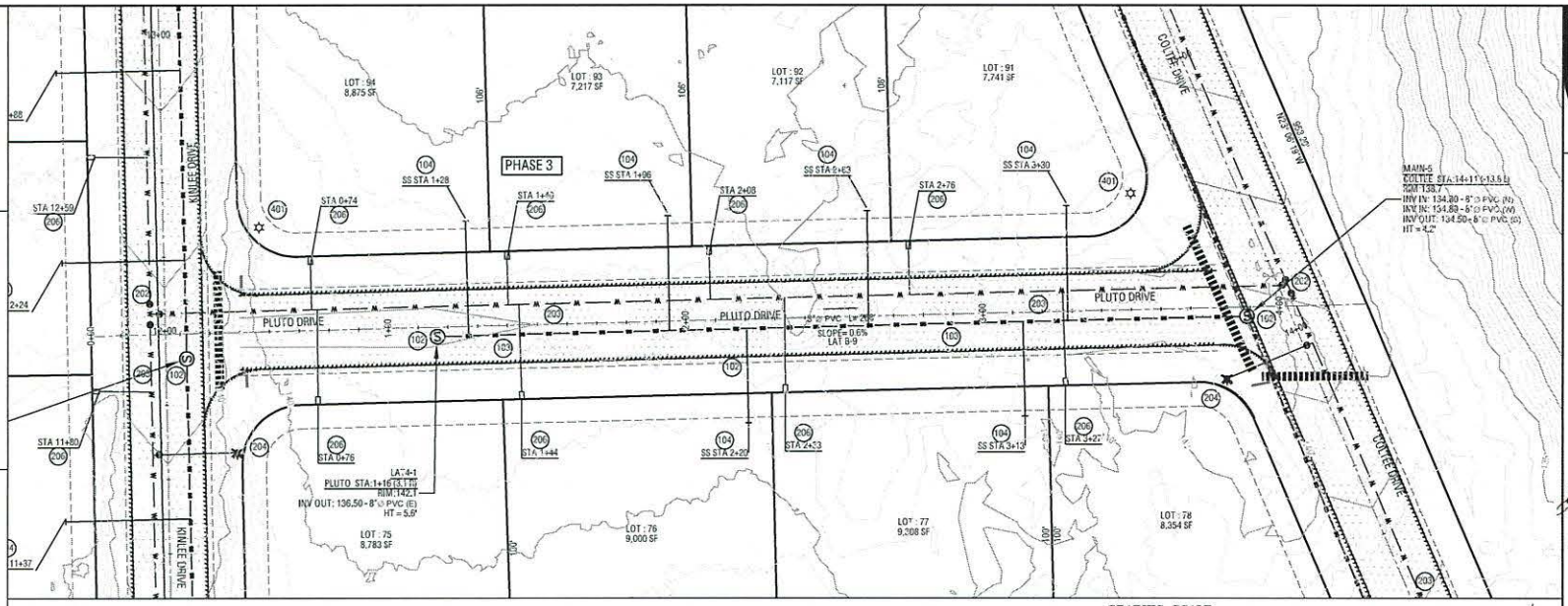
301 ROADSIDE DITCH
302 18" CULVERT

LEGEND:

EXISTING
- PROPERTY LINE
- SEWER LINE
- MANHOLE
- WATER LINE
- ROAD
- OVERHEAD UTILITIES
- UTILITY POLE
- FIRE HYDRANT
- GATE VALVE

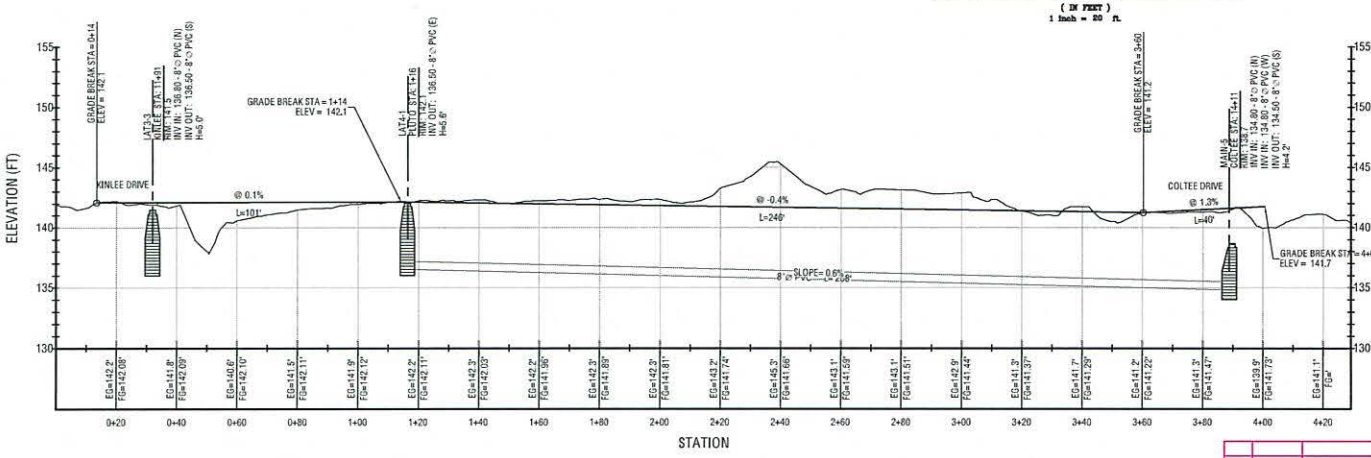
PROPOSED
- PROPERTY LINE
- EASEMENT
- SEWER MAIN
- SEWER MANHOLE/CO
- SEWER SERVICE
- WATER MAIN
- WATER FEEDER LINE
- WATER VALVE
- FIRE HYDRANT
- WATER SERVICE
- EDGE OF SHOULDER
- EDGE OF ASPHALT
- GRAVEL CHECK DAM
- DRAINAGE CULVERT
- RETAINING WALL

PROFILE
- EXISTING GRADE
- FINISHED GRADE



GRAPHIC SCALE
(IN FEET)
1 inch = 20 ft.

1/21 PLUTO DRIVE
SCALE: 1"=20'



2/21 PLUTO DRIVE PROFILE
SCALE: 1"=20' VERT: 1"=5'

NO.	DATE	DESCRIPTION	BY

MORGAN CIVIL ENGINEERING, INC.
PO BOX 338
MANZANITA, OR 97130
(503) 801-6016
www.morgancivil.com
• CIVIL ENGINEERING
• INSPECTION
• PLANNING

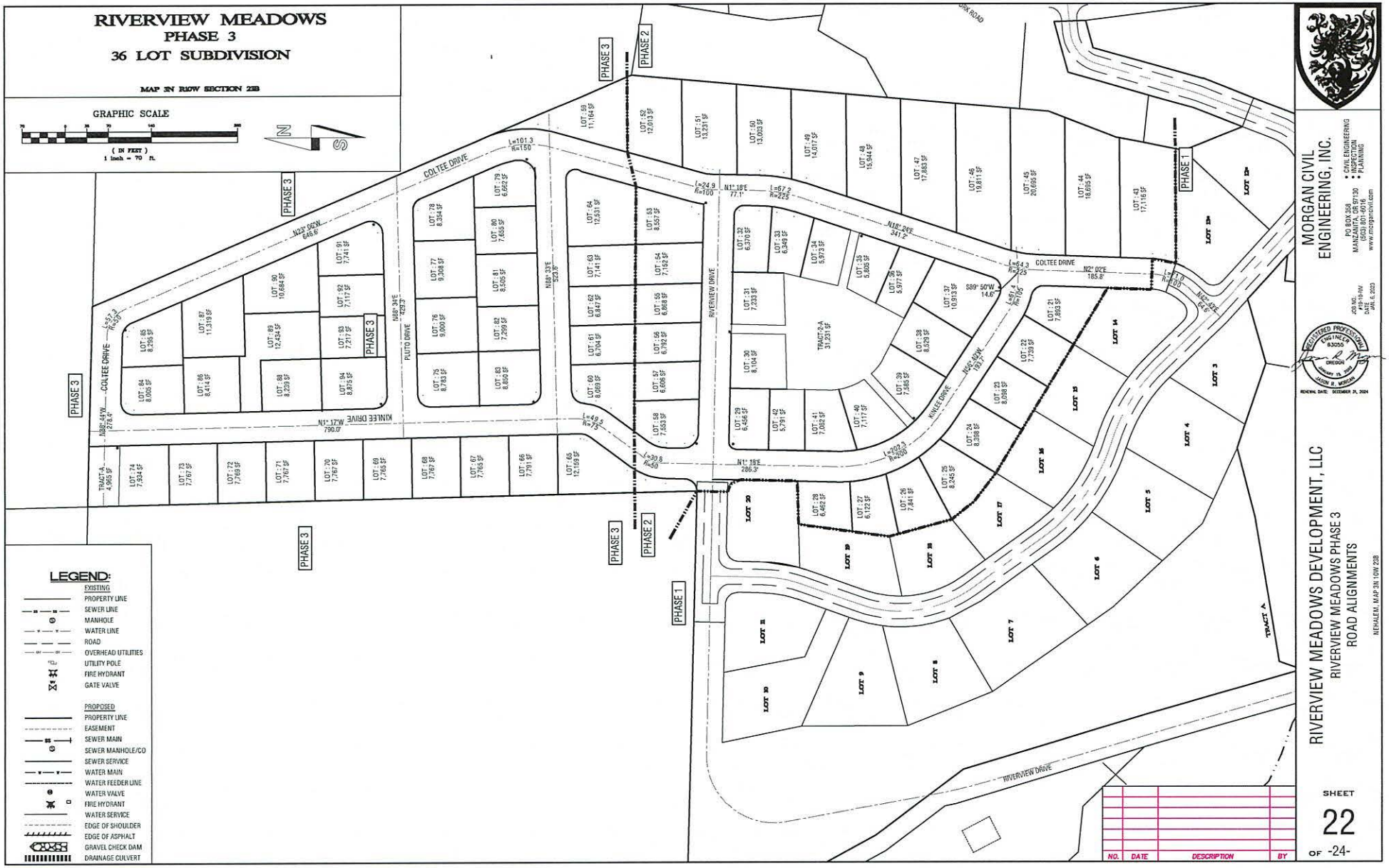
JOB NO. #19-10-NV
DATE: JAN. 6, 2023

REGISTERED PROFESSIONAL ENGINEER 63055 OREGON JANUARY 15, 1988 JASON B. MORGAN
RENEWAL DATE: DECEMBER 31, 2024

RIVERVIEW MEADOWS DEVELOPMENT, LLC
RIVERVIEW MEADOWS PHASE 3
UTILITY LAYOUT - PLUTO DRIVE
NEHALEM, MAP 3N 10W 23B

SHEET 21 OF -24-

V:\19-10-Nv\Dwg\Riverview Meadows-4.dwg, plots, 1/8/2023 2:01:56 PM



MORGAN CIVIL ENGINEERING, INC.
• CIVIL ENGINEERING
• INSPECTION
• PLANNING
PO BOX 356
MANZANITA, OR 97130
(503) 801-9016
www.morgancivil.com

JOB NO. #19-19-NV
DATE: JAN. 6, 2023

REGISTERED PROFESSIONAL ENGINEER 63055 OREGON JANUARY 13, 2006 JASON R. MORGAN
RENEWAL DATE: DECEMBER 31, 2024

RIVERVIEW MEADOWS DEVELOPMENT, LLC

RIVERVIEW MEADOWS PHASE 3

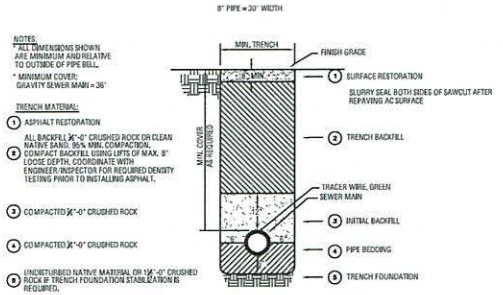
ROAD ALIGNMENTS

NEHALEM, MAP 3N 10W 23B

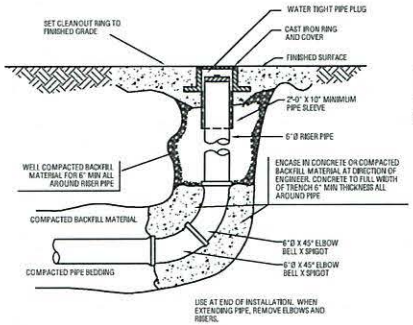
NO.	DATE	DESCRIPTION	BY

SHEET 22 OF -24-

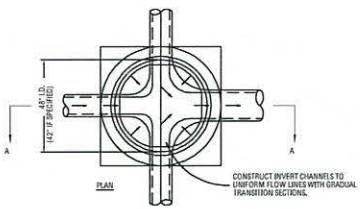
V:\19-10 Rio\Dwg\Riverview Meadows-4.dwg, alignments, 1/8/2023 2:02:07 PM



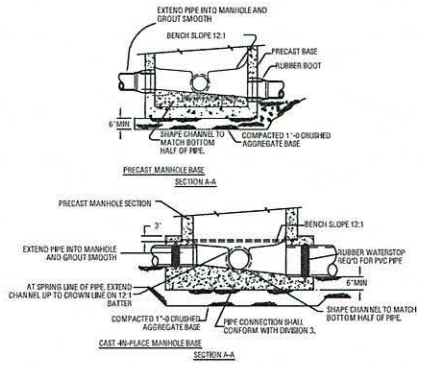
1/23 **SEWER MAIN TRENCH DETAIL**
NO SCALE



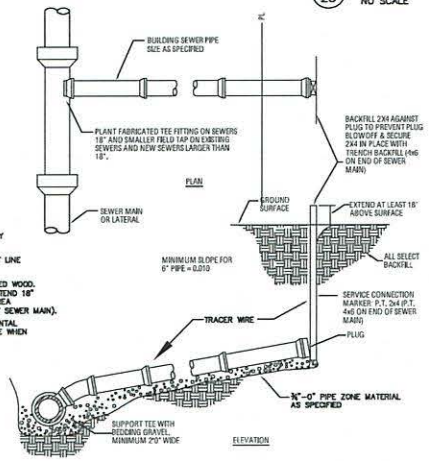
2/23 **END OF LINE CLEANOUT**
NO SCALE



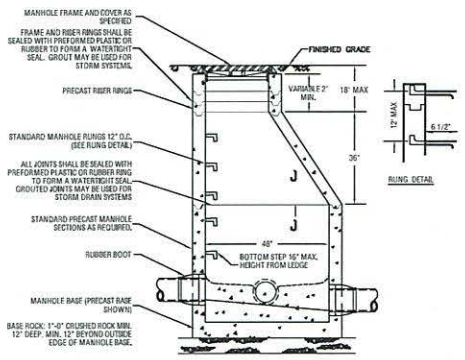
3/23 **MANHOLE BASE PLAN**
NO SCALE



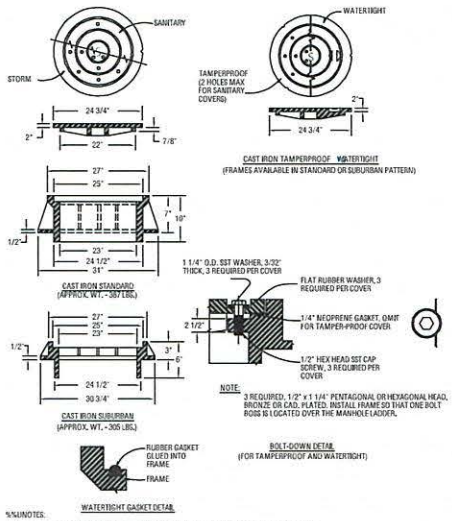
4/23 **MANHOLE BASE SECTION**
NO SCALE



5/23 **SANITARY SEWER SERVICE CONNECTION**
NO SCALE



6/23 **STANDARD SANITARY SEWER MANHOLE**
NO SCALE



%%UNOTES.
1. TAMPERPROOF COVERS REQ'D ON SANITARY OR STORM DRAIN MANHOLE WHERE LOCATED IN PEDESTRIAN WAYS OR EASEMENT AREAS. TAMPERPROOF COVERS FOR SANITARY MANHOLES SHALL HAVE 2 HOLES MAXIMUM.
2. WATERTIGHT COVERS REQUIRED IF LOCATED WHERE COVER MAY BE SUBMERGED.
3. FRAMES AND COVERS SHALL BE STAMPED WITH MANUFACTURER'S INITIALS, HEAT NUMBER AND POINT OF ORIGIN.

7/23 **MANHOLE COVER AND FRAME DETAIL**
NO SCALE

NO.	DATE	DESCRIPTION	BY

MORGAN CIVIL ENGINEERING, INC.
• CIVIL ENGINEERING
• SURVEYING
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JOB NO. #19-10-RV
DATE: APRIL 6, 2023

REGISTERED PROFESSIONAL ENGINEER 63055 OREGON JANUARY 13, 1995 JASON R. MORGAN
RENEWAL DATE: DECEMBER 31, 2024

RIVERVIEW MEADOWS DEVELOPMENT, LLC
RIVERVIEW MEADOWS PHASE 3
SEWER SYSTEM DETAILS
NEHALEM, MAP 3N 10W 23B

SHEET 23 OF -24-

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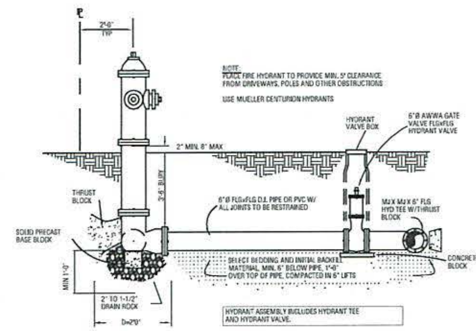
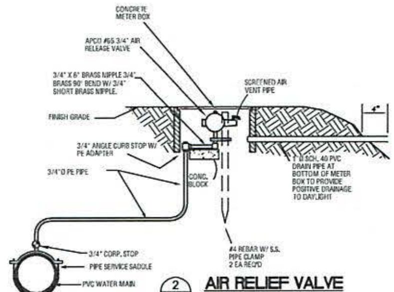
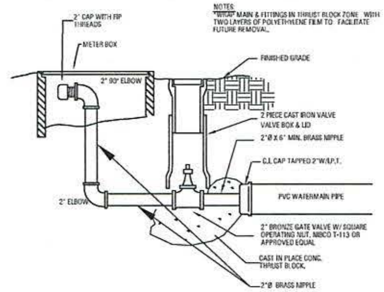


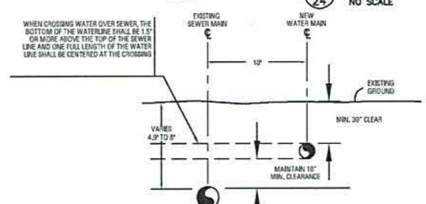
1/24 **FIRE HYDRANT ASSEMBLY**
NO SCALE



2/24 **AIR RELIEF VALVE**
NO SCALE



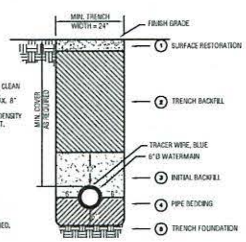
3/24 **WATER BLOWOFF DETAIL**
NO SCALE



4/24 **WATER LINE - SEWER LINE SEPARATION**
NO SCALE

NOTES:
* ALL DIMENSIONS SHOWN ARE MINIMUM AND RELATIVE TO OUTSIDE OF PIPE BELL.
* MINIMUM COVER: WATERMAIN = 36"
* WATERLINE TO BE CONSTRUCTED AS PER ELEVATIONS SHOWN ON PROFILE

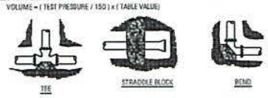
TRENCH MATERIAL:
1. ASPHALT RESTORATION.
2. ALL BACKFILL ¾"-0" CRUSHED ROCK OR CLEAN NATIVE SAND, 95% MIN. COMPACTION. COMPACT BACKFILL USING LIFTS OF MAX. 8" LOOSE DEPTH. COORDINATE WITH ENGINEER/INSPECTOR FOR REQUIRED DENSITY TESTING PRIOR TO INSTALLING ASPHALT.
3. COMPACTED ¾"-0" CRUSHED ROCK
4. COMPACTED ¾"-0" CRUSHED ROCK
5. UNDISTURBED NATIVE MATERIAL OR 1¼"-0" CRUSHED ROCK IF TRENCH FOUNDATION STABILIZATION IS REQUIRED.



5/24 **WATERMAIN TRENCH DETAIL**
NO SCALE

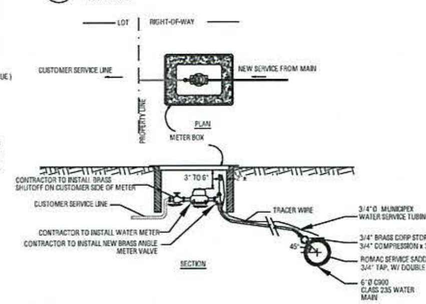
(HORIZONTAL) BEARING AREA OF THRUST BLOCKS IN SQUARE FEET								
FITTING SIZE	TEE, WYE, DEAD END AND HYDRANT	STRADDLE BLOCK	90° BEND PLUGGED CROSS	TEE PLUGGED ON RUN A-1	TEE PLUGGED ON RUN A-2	45° BEND	22-1/2" BEND	11-1/4" BEND
4	2.0	3.2	2.8	3.8	2.8	2.0	—	—
6	4.2	7.4	6.0	8.6	6.0	3.2	2.0	—

NOTES:
1. ABOVE BEARING AREAS BASED ON TEST PRESSURE OF 150 PSI AND AN ALLOWABLE SOIL BEARING STRESS OF 1000 POUNDS PER SQUARE FOOT. TO COMPUTE BEARING AREAS FOR DIFFERENT TEST PRESSURES AND SOIL BEARING STRESSES, USE THE FOLLOWING EQUATION:
BEARING AREA = (TEST PRESSURE / 150) x (1000 / SOIL BEARING STRESS) x (TABLE VALUE)
2. ABOVE VOLUMES BASED ON TEST PRESSURE OF 150 PSI AND THE WEIGHT OF CONCRETE = 4000 POUNDS PER CUBIC YARD. TO COMPUTE FOR DIFFERENT TEST PRESSURES, USE THE FOLLOWING EQUATION:
VOLUME = (TEST PRESSURE / 150) x (TABLE VALUE)



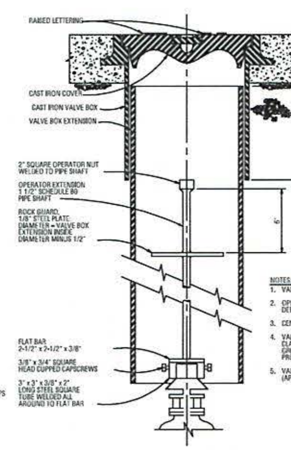
NOTES:
1. CONCRETE BLOCKING TO BE POURED AGAINST UNDISTURBED EARTH.
2. ALL CONCRETE TO BE CLASS 2400 MINIMUM.
3. INSTALL ISOLATION MATERIAL BETWEEN PIPE AND/OR FITTINGS BEFORE POURING CONCRETE BLOCKING.
4. CONCRETE SHALL BE KEPT CLEAR OF ALL JOINTS AND ACCESSORIES.
5. TIE RODS SHALL BE DEFORMED GALVANIZED COLD ROLLED STEEL, 40000 PSI TENSILE STRENGTH.

6/21 **THRUST BLOCKING**
NO SCALE

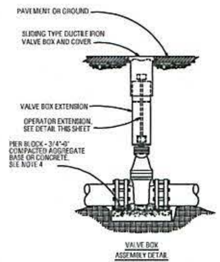


NOTES:
1. SUBSTITUTES FOR ANY MATERIALS SHOWN SHALL BE APPROVED BY ENGINEER AND/OR NEHALEM WATER DISTRICT, PRIOR TO ORDERING MATERIALS.
2. ALL PIPE AND STRUCTURE ZONES SHALL BE BACKFILLED USING 3/4"-0" CRUSHED ROCK AND COMPACTED TO 95% MAX. DENS. AS DETERMINED BY AASHTO T-180.

7/24 **WATER SERVICE DETAIL**
NO SCALE



VALVE BOX EXTENSION SECTION



NOTES:
1. VALVE BOX NOT TO REST ON OPERATING ASSEMBLY.
2. OPERATOR EXTENSION REQUIRED WHEN VALVE NUT IS DEEPER THAN 4 FEET FROM FINISH GRADE.
3. CENTER VALVE BOX ON AXIS OF OPERATOR NUT.
4. VALVES 12" AND SMALLER SHALL BE PROVIDED WITH CLASS B BASE ON UNDISTURBED GROUND. VALVES GREATER THAN 12" SHALL BE INSTALLED ON PRECAST CONCRETE PIER BLOCK.
5. VALVE BOX EXTENSION SHALL BE CAST IRON OR PVC (APWA CL 200).

8/24 **TYPICAL VALVE**
NO SCALE

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• INSPECTION
• PLANNING

JOB NO. #19-10-RIV
DATE JAN. 6, 2023

REGISTERED PROFESSIONAL ENGINEER 83055 OREGON JANUARY 15, 2009 JASON R. MORGAN
RENEWAL DATE: DECEMBER 31, 2024

RIVERVIEW MEADOWS DEVELOPMENT, LLC
RIVERVIEW MEADOWS PHASE 3
WATER SYSTEM DETAILS
NEHALEM, MAP 3N 10W 23B

NO.	DATE	DESCRIPTION	BY

SHEET 24 OF -24-

EXHIBIT D

R. Warren Krager, R.G., C.E.G.
Consulting Engineering Geologist
Oregon CEG #E957

November 21, 2022

Riverview Meadows Development LLC
In care of Morgan Civil Engineering, Inc.
Phone: 503-801-6016
Email: jason@morgancivil.com

Subject: **Engineering Geologic Hazard Report**
Tax Lot 3600 Map 3N 10 23B
Proposed Riverview Meadows Phase 3- 36 Lot Subdivision
Tillamook County, Oregon

Dear Mr. Reverman and Mr. Morgan:

As requested, I am pleased to submit my geologic hazard report for the proposed Riverview Meadows Phase 3 36-lot residential subdivision. This report has been prepared in general accordance with the Tillamook County Land Use Ordinance (TCLUO) Section 4.130, Development Requirements for Geologic Hazard Areas. The property is mapped in ancient landslide topography by the Oregon Department of Geology and Mineral Industries (DOGAMI).

R. Warren Krager, R.G., C.E.G. (Oregon Licensed Engineering Geologist E-957) conducted the initial site visit with Jason Morgan, P.E. on Friday February 14, 2020. I visited the property again on November 17, 2022. I walked over proposed roadway portions of the Phase 3 site. Approximately 1 hour was spent observing site conditions. It should be noted that geotechnical subsurface exploration was not conducted in proposed roadway or building lot locations.

In preparing this report, available geologic hazard maps and reports, tax lot maps, design concept sketches and available topographic date and aerial photographic images were reviewed for detailed information pertinent to the subject property and vicinity. The following geologic reports, maps, aerial photographs, and other information were reviewed and used in preparation this report:

- Tillamook County Land Use Ordinance, Article 4, Section 4.130 Development Requirements for Geologic Hazard Areas, adopted May 11, 2022.
- DOGAMI Open File Report O-20-13, Landslide Hazard and Risk Study of Tillamook County, Oregon.
- DOGAMI IMS 22, GIS Overview Map of Potential Rapidly Moving Landslide Hazards in Western Oregon, 2002.
- Environmental Geology of the Coastal Region of Tillamook and Clatsop Counties, Oregon, Oregon Department of Geology and Mineral Industries (DOGAMI), Bulletin 74, 1972.
- Online research of DOGAMI Statewide Landslide Inventory Database of Oregon, Interactive SLIDO maps, accessed online November 18, 2022.

- Geologic Map of the Tillamook Highlands Northwest Oregon Coast Range Tillamook 15 Minute Quadrangle, United States Geological Survey (USGS) Open File Report 94-21,1994.
- Oregon Department of Geology and Mineral Industries, DOGAMI LIDAR Viewer http://www.oregongeology.org/lidar/dataviewer/, accessed online November 18, 2022
- Google Earth Aerial photographs of the Nehalem area, photo dates: September 3, 1994, July 29, 2000, June 15, 2003, June 29, 2005, December 12, 2005, August 1, 2011, July 6, 2012, July 30, 2014, August 23, 2016, June 22, 2017, April 15, 2021.
- Topographic plan and Tentative Lot Plan, Riverview Meadows Phase 3 36 lot subdivision, Map 3N 10W 23B, prepared by Morgan Civil Engineering, Inc. for Riverview Meadows Development LLC, dated November 9, 2022.

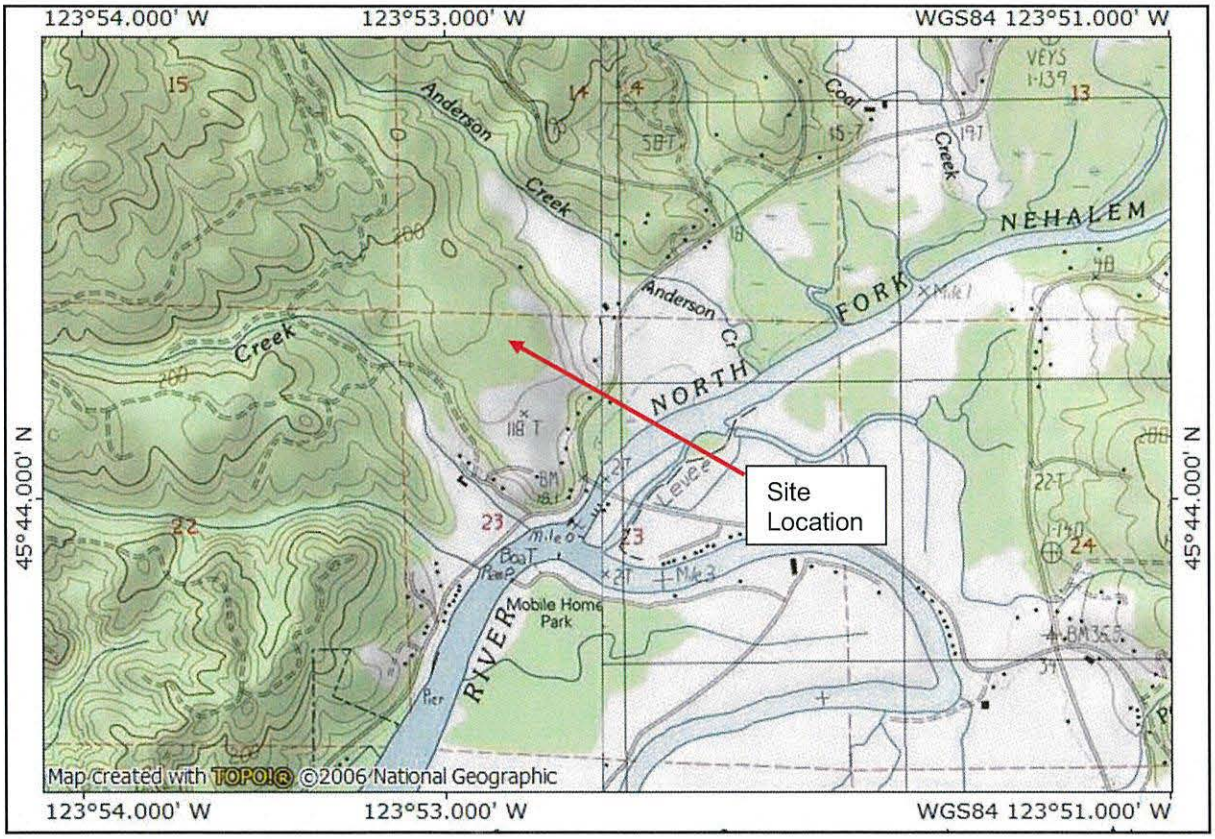


Figure 1- Site Location map.

Photo 1 – Google Earth aerial image dated April 15, 2021. The approximate area of Riverview Meadows Phase 3 Subdivision is outlined in red.

Site Location and Project Description

The general location of the subject property is north of the confluence of main stem of the Nehalem River and the North Fork of the Nehalem River, east of the town of Nehalem, in Tillamook County, Oregon. The general project location is shown in Figure 1. Photo 1 shows existing conditions and approximate outline of the proposed Riverview Meadows Phase 3 Subdivision. The subject property consists of a portion of Lot 3600, Tract B, of Tillamook County Tax Map 3N 10W 23B. Current site conditions consist of a nearly level foothill terrace vegetated with grass pastureland and timber. It is my understanding that the vacant, undeveloped parcel will be subdivided into 36 new single-family residential building lots ranging in size from 6,953 to 12,434 square feet in area, as shown in Figure 2. The proposed subdivision will include construction of new paved streets and underground utilities. Grading and earthwork are expected to be relatively minor, with most of the earthwork consisting of tree stump and root removal, underground utility installation and roadway grading.

Slope and Topography

The proposed Riverview Meadows Phase 3 subdivision parcel lies on a relatively level natural terrace at about 160 feet to 130 feet above mean sea level. The proposed development area slopes down to the south at less than 5 percent gradient. None of the proposed building lots or streets lie on steeply sloping ground. One of the proposed streets, Coltee Drive, along the eastern margin of the Phase 3 parcel, lies within a few feet of a break in slope, inclined down to the east. The adjacent property to the east of the Phase 3 parcel slopes downward to the east at approximately 30 percent to 40 percent, based on the DOGAMI light detection and ranging (Lidar) topography, shown in Figure 2. DOGAMI maps portions of the descending slope on the adjacent eastern property as landslide terrain. There are no landslide or debris flow prone slopes on the proposed Phase 3 parcel.

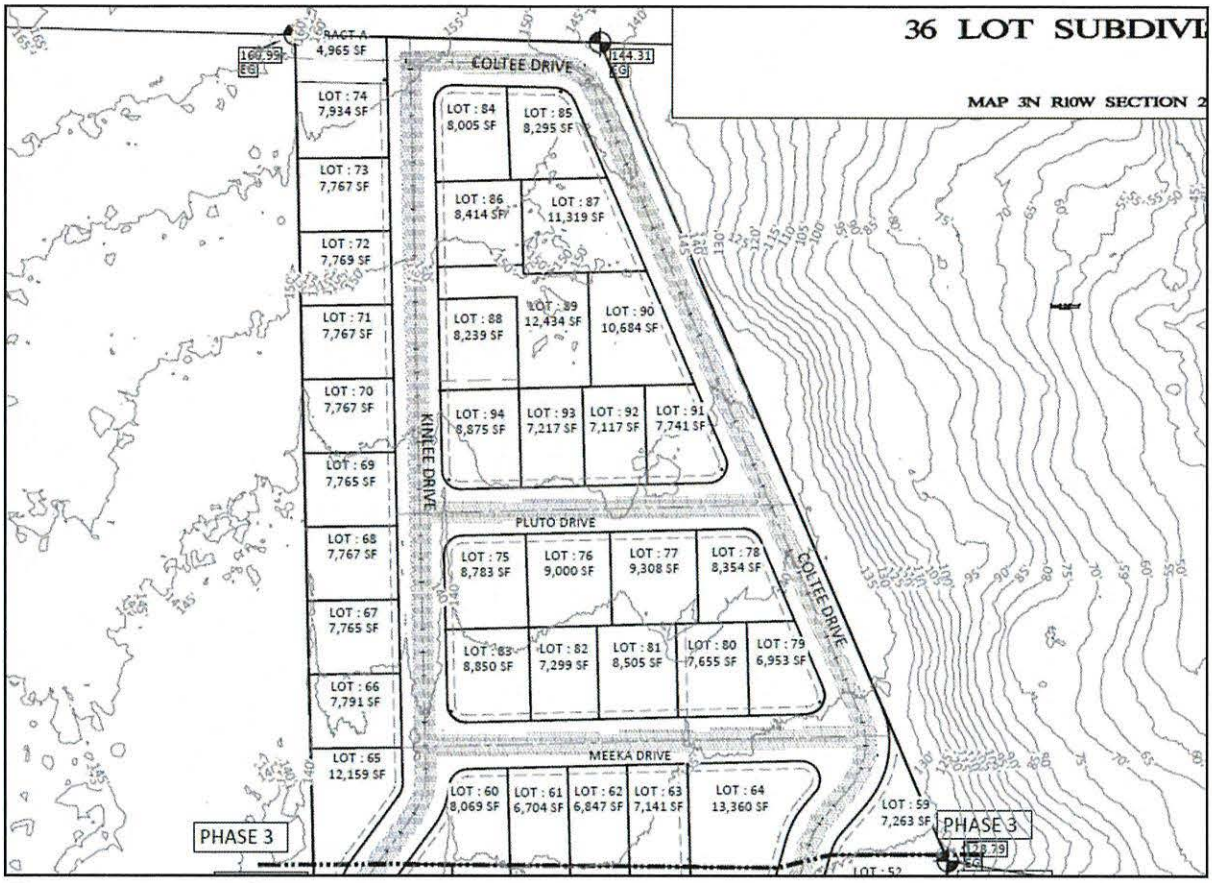


Figure 2- Portion of topographic plan and tentative lot plan, Riverview Meadows Phase 3, prepared by Morgan Civil Engineering, Inc.

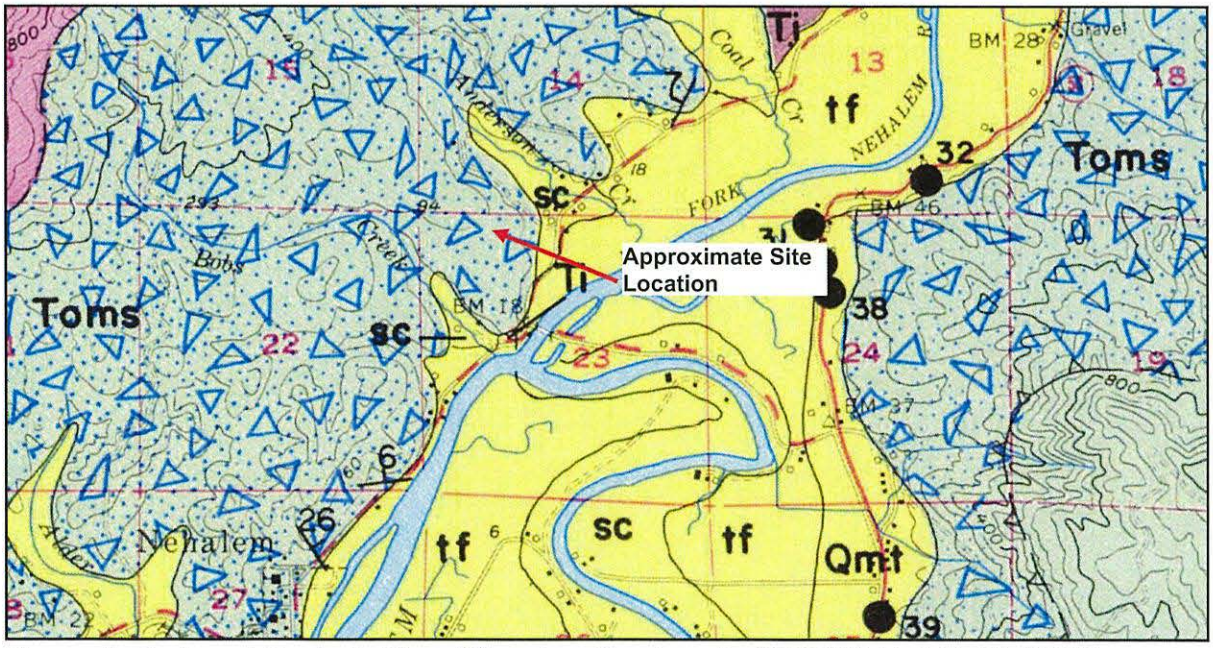


Figure 3- Portion of Geologic Map of Nehalem Quadrangle, DOGAMI Bulletin 74 (1972).

Soils and Geology

Surface soils in the project area are mapped by the USDA NRCS Web Soil Survey of Tillamook County, Oregon as Chitwood-Hebo complex, 0 to 5 percent slopes. This soil is derived from mixed alluvium and/or fluvio-marine deposits derived from sedimentary rock. The USDA describes the contact with underlaying bedrock at a depth of about 5 feet below the ground surface. Soil on the slope to the east of the subject property is mapped as Templeton-Ecola medial silt loams, 30 to 60 percent slopes. This soil is derived from slope colluvium and residuum of sedimentary rock.

DOGAMI geologic mapping in the 1970s, Figure 3, shows the subject property is located on uplands composed of Tertiary age sedimentary deposits of Tertiary, Oligocene to Miocene age siltstone, geologic map symbol **Toms**. The blue triangle and stippled overprint pattern on the **Toms** geologic map unit indicates ancient landslide topography. The **Toms** tuffaceous siltstone is typically highly weathered to completely decomposed. It has closely spaced joints and fractures from tectonic forces. Intact sedimentary bedding or bedrock dip angles are rarely observed. In the landslide terrain, it is unlikely that sedimentary bedding would be intact for any significant areal extent. Younger Quaternary fluvial silt and clay deposits (**SC**) are mapped in stream courses eroded in the older sedimentary rock at Bob's Creek, Anderson Creek, and other drainages in the lower Nehalem Valley.

USGS geologic mapping, Figure 4, the project site lies in an area of Tertiary Alsea Formation (**Tal**) tuffaceous siltstone of Lower Miocene to Oligocene age. The upper part of this unit is generally massive but has thin feldspathic sandstone interbeds. The USGS does not map the project area as landslide terrain, but the sedimentary strike and dip symbols shown on the geologic map vary substantially in orientation and dip angles, suggesting disturbance of the bedded marine sedimentary layers. As with the DOGAMI mapping, Nehalem River valley and tributary creeks are covered by younger Quaternary fluvial and estuarine (Qf) fine-grained sedimentary deposits.

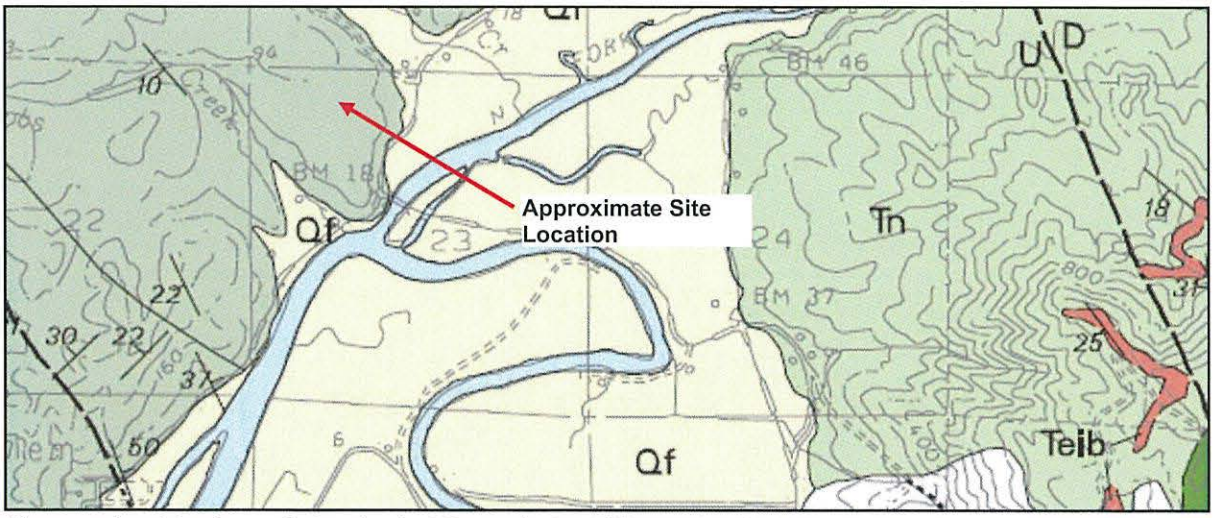


Figure 4 - Portion of Geologic Map of the Tillamook Highlands, Northwest Oregon Coast Range, USGS, Open File Report 94-21, 1994.

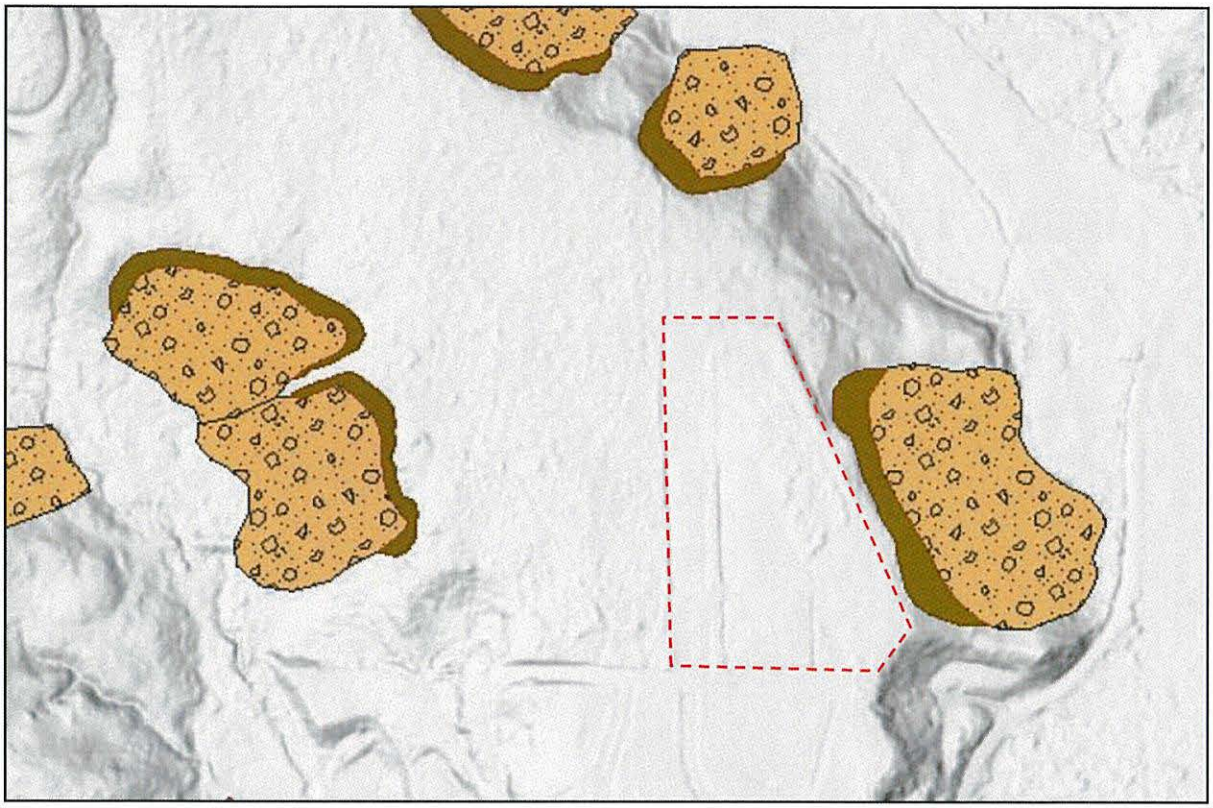


Figure 5 – Landslides mapped in DOGAMI Statewide Landslide Inventory Database of Oregon. Riverview Meadows Phase 3 approximate project boundary shown in dashed red outline.

Recent landslide mapping by DOGAMI in Figure 5 shows distinct landslides on the steep slope of the eastern adjacent property, and elsewhere on the margins of the Bobs Creek and Anderson Creek drainages.

Seismic Setting

The Cascadia Subduction Zone (CSZ) is an active tectonic plate boundary fault zone located approximately 50 miles to 60 miles off the Oregon coast. This active offshore thrust fault system has potential for earthquakes large enough to cause significant ground shaking throughout the Pacific Northwest region. Geologic research has shown that the CSZ fault system has repeatedly produced large earthquakes in the geologic past. CSZ earthquake recurrence intervals vary from about 200 to 700 years. Historic Japanese tsunami records along with dendrochronology (tree ring dating techniques) have established that the most recent strong CSZ earthquake occurred in January of 1700 AD. Based on the geologic record of CSZ earthquakes, the next CSZ earthquake is potentially overdue and may occur within future decades. In 2008 the United States Geologic Survey (USGS) estimated a 10% probability of occurrence that a magnitude 8-9 Cascadia Subduction Zone earthquake may occur within 30 years. Although scientists and engineers do not agree on the likely magnitude of the next CSZ earthquake, it is widely believed that earthquakes of moment magnitude (M_w) 8.5 to 9.5 are possible. The duration of strong ground shaking is estimated at greater than 4 to 5 minutes,

with minor shaking lasting several minutes longer. Possible aftershocks of magnitude 7 or greater may follow for hours or days after a major Cascadia Subduction Zone seismic rupture.

Other potential earthquake sources in this region include fault ruptures deep within the subducting oceanic plates and within the overlying continental crustal tectonic plate. However, the CSZ earthquake is considered the greatest seismic hazard to the region, and the seismic source that dictates building code design requirements for permitted structures.

Conclusions and Recommendations

The principal geologic hazard concern throughout western Oregon is an earthquake on the Cascadia Subduction Zone, CSZ. During a CSZ earthquake, the local area would experience a few minutes of very intense ground shaking. Steeper slopes on the eastern margin of the Phase 3 parcel may experience slope instability or landslide reactivation under seismic conditions. Static or seismically induced landslide risk to the Riverview Meadows Phase 3 parcel is considered low because of the mild slope. It is our interpretation that the landslide topography mapped by DOGAMI in Figure 3 likely formed many millennia ago. In my opinion, the Riverview Meadows Phase 3 subdivision site has no landslide or rapidly moving debris flow hazards.

Release of storm water runoff from impermeable surface should be carefully managed such that concentrated stormwater does not flow over the steep slope east of the Phase 3 parcel.

In my opinion, firm, undisturbed native soil or decomposed sedimentary bedrock is considered satisfactory for support of shallow spread foundations. Structure design according to prescriptive building code methods outlined in the adopted edition of the Oregon Structural Specialty Code (OSSC), Chapter 18 - Soils and Foundations is considered appropriate for homes on the Phase 3 building lots. Any organic debris, topsoil or manmade fill should be removed from foundation areas.

Grading recommendations in OSSC Appendix J- Grading are considered generally appropriate for excavation and earthwork construction on the Phase 3 lots building lots and roadways.

It is recommended that the Civil Engineer or Engineering Geologist be requested to observe and document roadway soil subgrade and aggregate base fill placement and compaction, structure foundation subgrade, and installation of drainage improvements.

Limitations

The engineering geologic reconnaissance and geologic hazard review performed for the proposed residential subdivision have been conducted with that level of care and skill ordinarily exercised by members of the profession currently practicing in this discipline and area under similar budget and time constraints. No warranty, expressed or implied, is made regarding the interpretations and conclusions of this report.

This report may be used only by the client and their authorized agents for the purposes stated, within a reasonable time from its issuance. Land use, site conditions (both on- and off-site), or

other factors may change over time and could materially affect our findings. Therefore, this report should not be relied upon after 24 months from its date of issue. If the project is delayed by more than 24 months from the date of this report, I would be happy to review site conditions and project design plans and revise this report if appropriate.

If you have any questions regarding the information presented in this report, please do not hesitate to contact me at 360-903-4861 or warrenkrager@gmail.com.
Sincerely,

R. Warren Krager, R.G., C.E.G.
Oregon Licensed Engineering Geologist E-957

EXHIBIT

E

MORGAN CIVIL ENGINEERING, INC.

PO Box 358, Manzanita, OR 97130
ph: 503-801-6016
www.morgancivil.com

December 15, 2022

Riverview Meadows, LLC
Carey Sheldon careysheldon17@yahoo.com

RE: Engineering Portion of Geologic Hazard Report for Road and Utility Development of the northern portion of Tax Lot 3600, Map 03N 10W 23B, Nehalem, Tillamook County, Oregon (Riverview Meadows, Phase 3)
Project #19-10-Riv

Dear Mr. Sheldon:

At your request, we have completed the investigation for construction on the subject property, referenced above. Available maps and previous reports of nearby properties were utilized in this investigation. This investigation also included an inspection of the property. Warren Krager, Certified Engineering Geologist, has investigated the site and addressed the geologic conditions of the site in his report. Morgan Civil Engineering, Inc. (MCE) has then developed the engineering recommendations related to construction on the site. These recommendations are prepared for use in the construction of the roadways and underground utilities on the property. The standards set forth herein should be incorporated into the development plans for that project.

These reports are intended to address the overall adequacy of the site for residential development, as well as the construction of the required infrastructure (i.e., roads, utilities, etc.). The standards set forth herein should be incorporated into the final road and utility development plans. Recommendations for construction on the individual lots are also included.

Site elevations noted in this report are based on the topographic information obtained from the Oregon Department of Geology and Mineral Industries (DOGAMI) LiDAR project. The LiDAR elevations are based on the NAVD88 datum, which is roughly sea level.

Plans

Preliminary parcel and road layout plans have been completed for this site. The preliminary site grading and lot layout plans have been reviewed as part of this report.

At the time of individual lot construction, a Plot Plan and Foundation Plan should be developed for each property. The plans should be reviewed for compliance with this report and current construction requirements. For construction within 30 feet of a steep slope (over 20 percent), an individual site-specific geologic hazard report should be prepared.

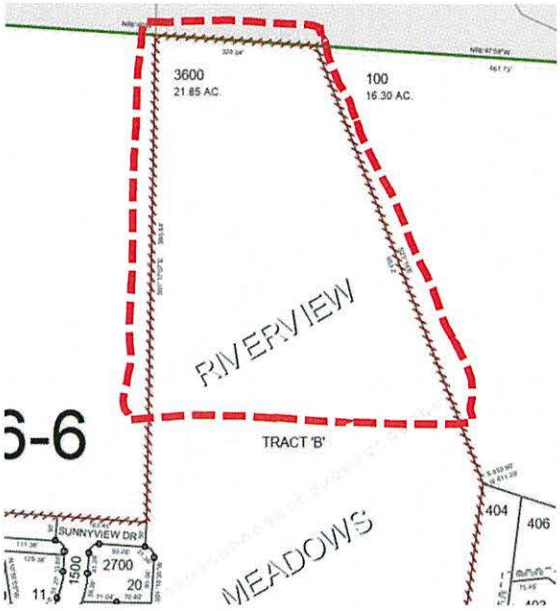
Recommendations for the development of individual lots are included in this report.

SITE CONDITIONS

The site and its geologic conditions are generally as described by the geologist in his report. Mr. Krager's 8-page report, dated November 21, 2022, is attached for your use.

The approximately 33-acre parcel is located on a plateau to the east of the incorporated City of Nehalem, but inside of the Urban Growth Boundary. Phase 3 will incorporate the northern portion of the property. The property is located to the north of the North Fork Road. The area to be developed borders residential properties to the east, and undeveloped land to the south (Phase 2). The property to the west is classified as forestry land. The area to the north is zoned as farm land.

The overall area to be developed is trapezoidal in shape, narrowing to the north, and measures about 300 feet east to west, and 400 feet north to south. See the attached portion of the assessor's map for property orientation and dimensions.



The property will be accessed from two new roads in Phase 2: Coltee Drive and Kinlee Drive. These are served from the existing roadways Sunnyview Drive and Vern's Place. (These roads are to be renamed.) Utilities are to be installed in each of the new roadways also.

Elevations in the building area vary from about 130 feet above sea level, at the southeastern corner, to about 160 feet, near the northwestern corner of the parcel. The property slopes gently to the southeast, with slopes varying from nearly flat to about 5 percent. Ditches have been constructed in order to direct drainage off the site to the east. The eastern edge of the development slopes down steeply to the east, at roughly 50 percent.

Vegetation on the property is generally grass that is regularly maintained. Evergreen trees are located along the east edge of the property and in the northeastern section. The eastern slope is heavily vegetated with blackberries, ferns, trees, and other species typical of a coastal forest.

The site is in a 135 miles per hour basic wind gust speed zone, setback from the ocean and bay winds (Exposure 'C' as per the 2021 State of Oregon Residential Specialty Code (ORSC)). Therefore, all buildings must be designed in order to withstand the minimum required lateral wind gust loads. In general, one- and two-story wood frame construction designed in order to withstand 135 miles per hour Exposure 'C' wind loading also will withstand even moderate earthquake loads.

FINDINGS AND HAZARDS ANALYSIS

The primary relevant geologic hazards on this site relate to: 1) steep eastern bank; 2) drainage control; 3) compressible surface soils, and; 4) regional seismicity.

Mitigation of these hazards is discussed in the Development Standards, addressed herein.

The North Oregon Coast is defined by the 2021 ORSC as lying within a D_2 Seismic Design Category. As such, structures built in this area must, at a minimum, comply with the structural requirements for the D_2 Seismic Design Category. Strong seismic acceleration will likely result in widespread landsliding. No slope can be considered immune from failure during these conditions.

LOCALIZED SLOPE INSTABILITY

The slope down to the east of the property will be subject to continued erosion. Construction should be avoided near this slope. The moderate and steep slopes in these areas will be subject to ongoing soil creep. Extra consideration should be taken when constructing in these areas.

In Phase 3, this will likely only affect one lot, Lot 59. Otherwise, the roadway is closest to the slope.

SITE GRADING PLAN

The plans call for the final grading and construction of the existing roadways on the property. The flat property requires minimal grading for road construction or homes.

COMPRESSIBLE SOILS

The topsoil on the property consists of 1 to 2 feet of dark gray to black humic soils. This topsoil is compressible and should not be built upon. This organic topsoil is not acceptable for backfill in engineered fills for the roadways nor is it acceptable for backfill behind retaining walls. This topsoil should be disposed of by hauling it off the site or using it on other portions of the property. The topsoil may be stockpiled temporarily and used for future landscaping.

Similarly, when constructing buildings on the individual parcels, this topsoil should be removed. The building footprint and driveway should have all organic soils excavated and removed before the foundation or road construction begins. Each homesite should be inspected by an engineer, or geologist, in order to ensure that adequate bearing soil is exposed for construction. Documentation of the inspection should be provided to the building official.

MANDATORY DEVELOPMENT STANDARDS

In addition to the required standards of Section 4.130 (2) of the Tillamook County Land Use Ordinance, the following site-specific standards should also be required:

A. Development Density – This property should be developed for uses consistent with current zoning (outright or conditional uses). All development should take place in conformance with all other requirements of the Tillamook County Land Use Ordinance or approved variances, as applicable.

The property is zoned as NH-RT, Residential Trailer. See Section 157.110 of the City Zoning Ordinance for more information.

B. Road Location and Road Base Support - Site access is proposed to take place from Sunnyview Drive (to be called Riverview Drive), and through Phase 2. This is an acceptable layout.

The roadbed should rest on firm, silty clay soil. Any soft soils or clays will need to be excavated from the road or building area, and be replaced with engineered fill material. Use a loaded dump truck to conduct a proof-roll of the soil during road construction. Remove all soft soil that is found.

C. Land Grading Practices - All excavations for road and utility construction should be done during reasonably dry weather (while it is not actually raining). All cut slopes should be retained using permanent means of stabilization. All excess excavated material should be used as non-structural fill by using it on flat areas, or disposed of by hauling it off the site. Native material will not be acceptable for use in engineered fills.

The site is flat so minimal grading for roads and homes is expected. Retaining walls will not be needed. No grading of the site, beyond that required for construction, should take place.

D. Vegetation Removal and Revegetation - Existing vegetation should remain on all areas of the property that are not required for immediate construction purposes. Clearing of vegetation for home sites may be completed but grubbing should be limited to areas necessary for road development. Cleared areas should also be monitored for surface erosion and repaired, as needed. Avoid removing organic soil and vegetation roots until construction is ready in that area.

All areas that are disturbed by construction should be promptly revegetated in order to reduce the potential for erosion. The recommended revegetation program, from the USDA SCS Interagency Seeding Guide, for sites such as these is as follows:

Seed disturbed areas with the following grass mixture. Application rate is 12 to 14 pounds per acre.

Species	***Percentage of Mixture***
Annual Ryegrass	26%
Potomac Orchardgrass	25%
New Zealand White Clover	20%
Perennial Ryegrass	15%
Annual Crimson Clover	14%

Use a 16-20-0 fertilizer in order to speed the establishment of the cover material. In order to further contribute to the stability of the disturbed areas, jute matting, straw cover, or other stabilization product such as SoilGuard®, should be placed over the soil in order to help protect against erosion, before the seeds can germinate. In addition, planting shrubs and trees, such as salal, red elderberry, barberry, escallonia, cistus, ceanothus, etc., will contribute to the long-term stability of the site.

E. Construction of Underground Utility Trenches – The trenching for the proposed underground utilities will disturb portions of the site. All trenching for utilities located within the road right-of-way should use 100 percent crushed rock for all trench bedding and backfill, compacted to 95 percent of optimum density.

Where the utility trenches are located outside of the right-of-way, suitable native material may be used for trench backfill materials. In all such areas where native ground surfaces remain after construction of the utilities is complete, disturbed areas should be revegetated in accordance with Section D above.

Only the waterline and sewer main are expected to be constructed in the roadway. Power and other utilities are expected to be outside of the right-of-way.

F. Driveway Location and Design – All driveways and roadways should be constructed such that the roadbed is entirely on cut or engineered fill material. Access should be from the existing roadway stubs and through Phase 2. Access road design standards should include a minimum of a 9-inch thick layer of pit run base rock, a 3-inch thick layer of 3/4"-minus crushed rock surfacing, and a 3-inch thick layer of asphalt concrete.

The roadway design presented on the grading plan meets these requirements.

G. Stormwater Management, Runoff, and Drainage - All surface drainage should be collected and directed into the existing drainage system. Roadside ditches are in place and should be improved upon and used. Use ditches in order to collect water from the roadway and divert the water to existing drainage channels or Bob's Creek.

Due to the large property and the work being completed away from the edges, off-site run-off of sediment will not be a concern. The drainage culverts that convey water off the site should be protected from sediment.

For localized drainage areas, such as houses and driveways, install a drywell with the overflow discharging into the roadside ditch. All water should be disposed of at least 10 feet away from any structures.

H. Foundations for Future Home Sites – It is required that all structures be constructed within each proposed homesite, per City setback requirements.

The foundations of the individual homes should consist of a continuous, reinforced concrete perimeter system, using reinforced, concrete foundation walls, where required. The bottom of all footings and pads should be excavated to below any compressible organic material and previously placed fill material. The foundations should rest at least 12 inches into the native rocky clayey silt soil on the site. The depth to this material is expected to be about 1 to 2 feet below the ground surface.

When excavation takes place, it is recommended that a representative of MCE, or an equivalent engineer or a geologist, be consulted in order to determine whether the appropriate materials have been exposed for house foundations.

The construction of a concrete slab on grade is acceptable on a prepared pad. The area to support the slab should consist entirely of cut material and be covered with at least 6 inches of compacted crushed rock.

Below any concrete slab, I recommend the use of a capillary break in order to prevent moisture directly under the slab. Below the slab, use a layer of plastic sheeting, clean 3/4-inch crushed rock (no fines), or a combination of both options.

Where the native material is likely to be exposed to rain before the future house footings are poured, over-excavate the foundation and place 4 inches of 3/4"- crushed rock over the soil. Mechanically compact the crushed rock before the footings are constructed.

Soil bearing pressures at the bottom of all footings should not exceed 1500 pounds per square foot on approved clayey silt soil. All footings must be at least 18 inches in width.

Any retaining walls should be designed according to the following criteria:

Allowable Soil Bearing Pressure, psf (on approved soil)	1,500
Lateral Soil Bearing Pressure on Unrestrained retaining walls with level backfill, pcf/ft of depth, equivalent fluid weight (Active pressure excluding surcharge effects)	29
Lateral Soil Bearing Pressure on Restrained retaining walls with level backfill, pcf/ft of depth, equivalent fluid weight (Active pressure excluding surcharge effects)	39
Lateral Soil Bearing Pressure (Passive), pcf/ft of depth	504
Friction Angle, degrees	38°
Maximum unit weight, pcf	120
Coefficient of Friction	0.35

Backfill behind all retaining walls should be clean, well-drained, imported, select granular backfill. Native material for backfill behind retaining walls is not acceptable. All retaining walls require foundation drains.

Foundation drains should be installed on the uphill side of all retaining walls and foundation footings. The use of a fabric covered, perforated drainage pipe, such as ADS DrainGuard®, or an equivalent , is recommended. The backfill around and above the foundation drains should be clean, washed, drain rock or angular ballast rock in order, to ensure good drainage. All drains should discharge toward the lowest point along the wall. All roof and surface area drainage piping should be separate from the foundation drainage.

SUMMARY FINDINGS AND CONCLUSIONS

1. The proposed use is infrastructure construction for future single-family residential lots. There are no immediate adverse effects on adjacent properties from future house construction. Future development may result in increased stormwater runoff or decreased runoff quality on adjacent properties.

2. Hazards to life, public and private property, and the natural environment, which may be caused by the proposed use, are discussed herein and addressed in each of the Development Standards.

3. The methods for protecting the surrounding area from the adverse effects of the proposed development are set forth in each of the Development Standards.

4. Temporary and permanent stabilization programs and maintenance of new and existing vegetation are discussed in Development Standards "C' and "D".

5. The proposed development of this property according to the Mandatory Standards set out herein will result in the new parcels and future developments being adequately protected from the above described reasonably foreseeable ordinary hazards, although not necessarily from major earthquake, the possibility of which is discussed herein.

6. The proposed development of this property, according to the recommended standards, is designed to minimize the adverse environmental effects.

LIMITATION

This engineering report is based on site inspections of the property and vicinity and a review of the site topography. The engineering conclusions and recommendations in this engineering portion of the report are based upon the geologic conclusions presented in the geologic report prepared by Mr. Krager. The engineering conclusions and recommendations presented herein are believed to represent the site and are offered as professional opinions derived according to current standards of professional practice for a report of this nature. No warranty is expressed or implied.

Should you have any questions regarding my recommendations or this report, please contact me.

Sincerely,

MORGAN CIVIL ENGINEERING, INC.

Jason R. Morgan, PE
Professional Engineer

RENEWAL DATE: DECEMBER 31, 2022

cc: Project File #19-10-Riv

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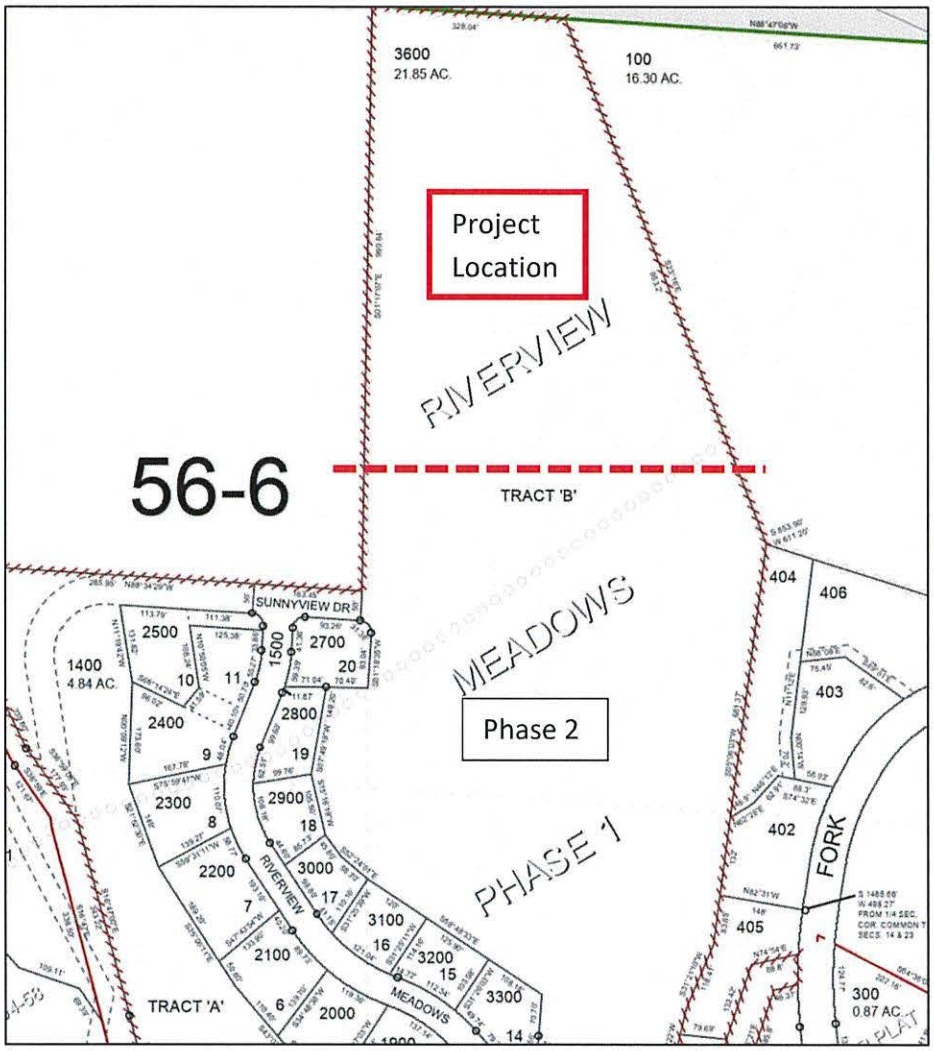

Tax Lot 3600, Map 03N 10W 23B
Nehalem, Tillamook County, Oregon
(Riverview Meadows, Phase 3)

EXHIBIT F

MORGAN CIVIL ENGINEERING, INC.

PO Box 358, Manzanita, OR 97130
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Drainage Calculations for

Riverview Meadows Phase 3
Tax Lot 3600, Map 3N 10W 23B
Nehalem, Tillamook County, Oregon
Project #19-10-Riv

January 6, 2023

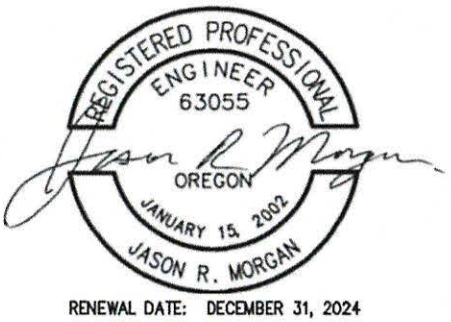

Table of Contents

Design Criteria

Drainage Run-off – Rational Method

Intensity

Rainfall Intensity-Duration-Recurrence Interval Curves
ODOT Hydraulics Manual, Zone 2

Rational Method - Run-off Coefficients

Meadow	0.25
Residential (Normal – 4.8 units/acre)	0.50

Manning's Equation - Coefficients

n – (HDPE pipe)	0.012
n – (rock lined ditch, jagged)	0.035

Narrative of Engineering Analysis

These calculations have been prepared to address the stormwater run-off from the proposed development on the subject property. This property slopes gently to the southeast and is undeveloped other than a few drainage ditches and a rough roadway loop. Phase 1 of the development has been developed and most of the twenty lots are developed with homes. The tentative plat for Phase 2 has been approved by the Tillamook County Planning Commission.

These calculations determine the rate of stormwater run-off from the site. Since water from Phase 3 will flow through Phase 2, Phase 2 run-off is included in these calculations. The collected water will also combine with water from Phase 1. Water run-off from Phase 1 currently flows through culverts and a settlement pond, and into Bob's Creek, at the base of the slope to the west. Bob's Creek flows into the Nehalem River to the east.

Phase 3 of the proposed development will consist of 36 new single-family homes and roadways to serve them. The average development density is 0.28 units per acre. The property slopes down to the southeast at roughly 2 percent. The calculations show that the planned drainage system can safely convey the run-off from a 100-year storm event.

The property consists of a layer of organic topsoil over dense silty clay. There are currently vegetated ditches on the property that direct water to the south and east, off of the property.

The attached drawings show the current drainage routes.

By directing the water southward, along the separate roads, the flow in the ditches is partially balanced, preventing higher flows in the eastern ditches, along Coltee Drive. Larger ditches will only be needed at the southern entrance of Phase 2, currently Vern's Place, when the water combines.

s

Phase 1 Drainage – Existing

The collected stormwater from Phase 1 of Riverview Meadows flows into roadside ditches and southward to a culvert system behind Lot 3. Water from the homes is discharged into the roadside ditches. Most use a drywell system with an overflow to the ditch in order to slow water run-off. The water runs in the culverts to the base of the hill to the west. At that point, there is an energy dissipater and a sediment pond with a weir. The water then flows through culverts under the gravel roadway and into Bob's Creek.

Phase 2 Drainage Area - Planned

Most of the water from the southern portion of the property (Phase 2) currently flows southward through roadside ditches and through planned Lot 46, and eastward down to the North Fork Road. The remainder of the water, from the western portion of the property, flows in ditches to Lot 13 and combines with the water from Phase 1.

The stormwater from Phase 2 will be directed with ditches and culverts to Lot 13 in order to combine with the run-off from Phase 1 and be piped to Bob's Creek. Several of these ditches are in place along with the rough graded roadways.

The roadside ditches will be standard V-shaped ditches that are 4 feet wide and 2 feet deep.

Water on Kinlee Drive will continue south on Kinlee Drive. Water on other roads will flow east, and then south on Coltee Drive. Divide is roughly one-third on Kinlee, two-thirds on Coltee. The drainage path on Coltee is longer, reducing peak flows rates.

Phase 3 Drainage Area - Planned

The existing ditches in the northeastern portion of the property currently flow south and east to a ditch that continues east, down the slope (through planned Lot 51) towards Tax Lot 404 and to the North Fork Road.

The water run-off from Phase 3 will be conveyed with ditches and culverts through Phase 2 in order to combine with the water run-off from Phase 1, and discharge into Bob's Creek.

Entrance (Riverview Drive) – Planned

The high point of Riverview Drive is located near the center of the existing asphalt hammerhead. The water to the east of the high point flows eastward, towards Lot 51. The area to the west flows down the existing gravel roadway to the west and into the existing vegetation at the northwestern corner of Tract A. The run-off from the remainder of the gravel entrance road is uncontrolled and flows off to the west at multiple locations.

The roadway is currently gravel and about 16 feet wide. It will be widened and paved. Due to the curve and driveways, most of the roadway will be pitched to the uphill side in order to restrict the drainage. The only water on the new paved entrance road will be from the roadway. Culverts will also be installed under driveways as needed. These culverts will also help prevent erosion in steep areas. Crushed rock check dams will be used in order to slow the water flow and prevent erosion.

The attached calculations show the run-off from the planned developments and Phase 1, and the capacities of the pipes down to Bob's Creek. The Manning Equation was used to verify that the existing pipes are adequate for the total proposed flow.

The attached calculations show the expected rate of flow and the capacity of the ditch. As shown, a ditch with a 2 percent slope is generally adequate for the run-off. Larger ditches will be used near the southern entrance of Phase 2. The existing gravel roadway in the easement behind Lot 3 has a slope of percent, so the culvert is adequate to handle the increased run-off.9

Stormwater Treatment

The water that flows through the culvert at Lot 3 flows through an existing energy dissipater and sedimentation pond before entering Bob's Creek.

Water that flows down the entrance road will continue to follow the roadway. To control the flow, the roadway will be pitched to the uphill side. The upper portion will continue to discharge into the vegetation at the northwest corner of the property, Tract A.

Check dams will be placed in the ditch to reduce flow velocity and cause settlement. Near North Fork Road, additional treatment can be included between the roadway and Bob's Creek, if needed. Treatment will be coordinated with the County and state agencies, as needed.
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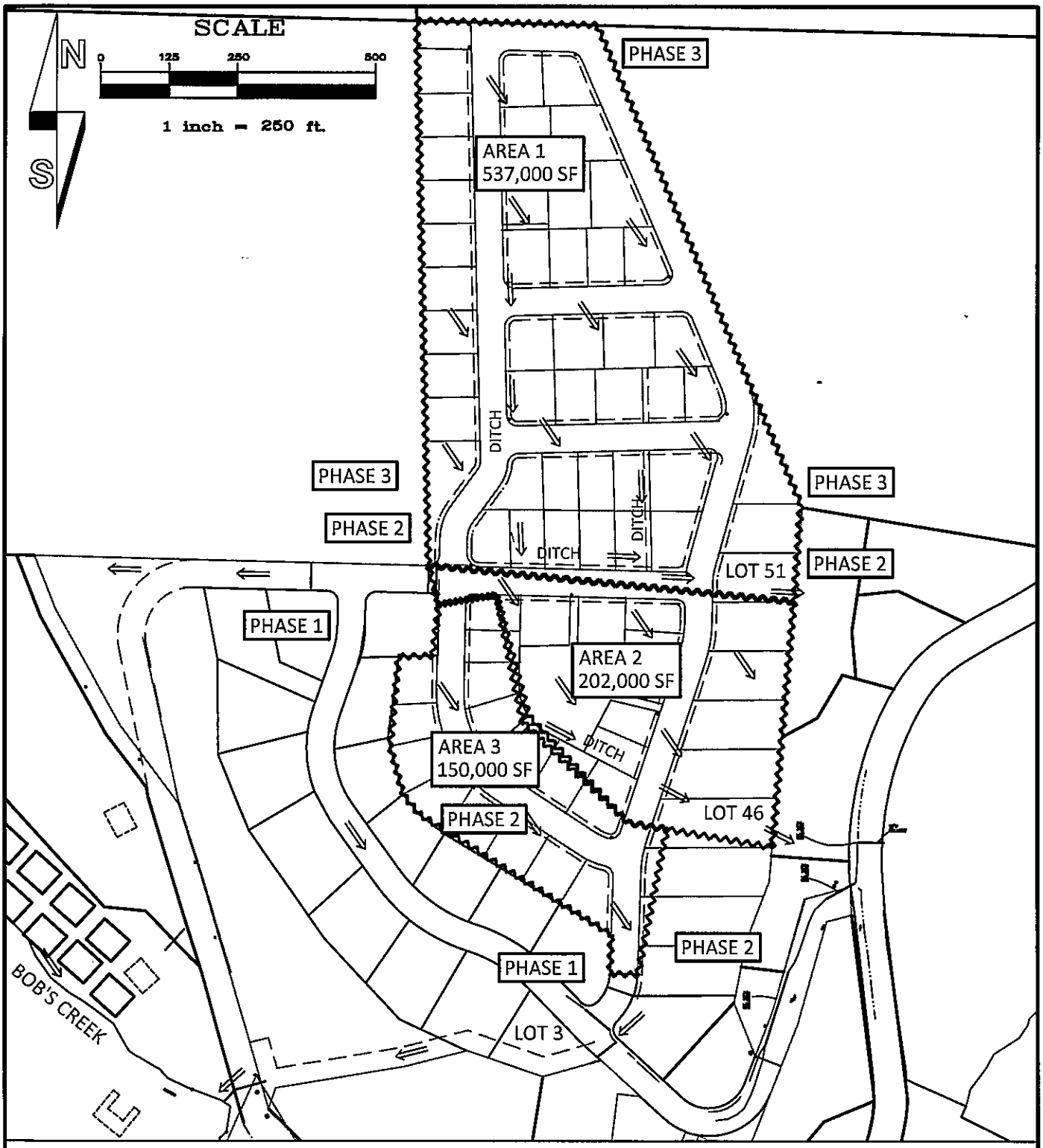

JAN. 6, 2023

RIVERVIEW MEADOWS

SITE LAYOUT
DRAINAGE PLAN
EXISTING DRAINAGE

NEHALEM

MORGAN CIVIL ENGINEERING, INC.

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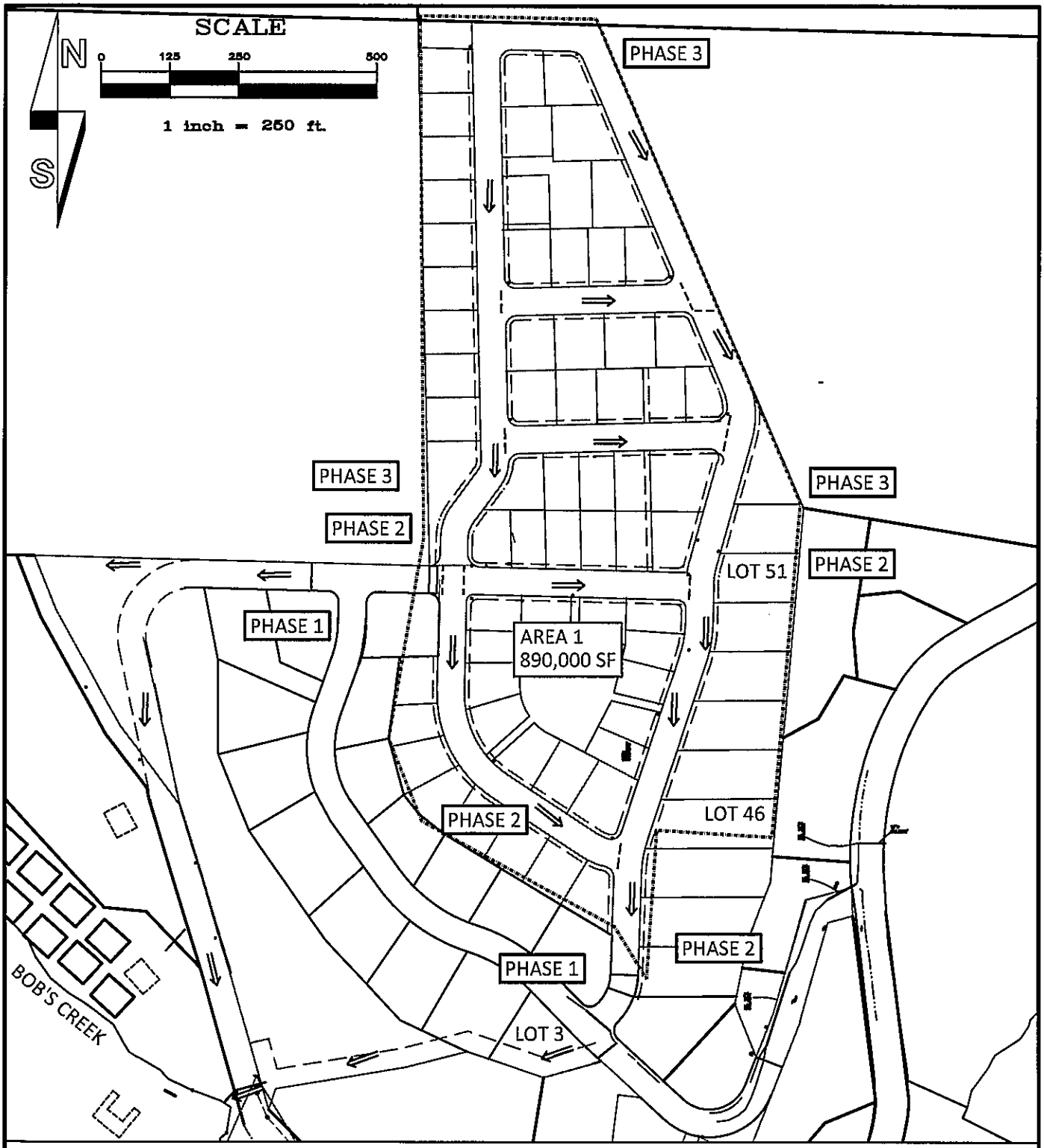
- INSPECTION
- PLANNING



JAN. 6, 2023

RIVERVIEW MEADOWS

SITE LAYOUT
DRAINAGE PLAN
FINAL DRAINAGE

NEHALEM

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Riverview Meadows Phase 2 & 3							
Drainage System							
6-Jan-23							
		Area 1	Area 2	Area 3			
		Phase 3	**Phase 2**	**Phase 2**	**Phase 1**		
		Drains to Lot 51	**Drains to Lot 45**	**Drains to South**	**Phase 1**		
		Drains to ditch	Drains to ditch	Drains to culvert	drains to culvert		
AREA	sf	224,000	86,000	570,000	310,000		
	acres	5.14	1.97	13.09	7.12		
Drainage Route							
Length	ft	1266	1266	2050	1070		
Fall	ft	21	21	42	24		
Slope	%	1.66%	1.66%	2.05%	2.24%		
ZONE 2, Tillamook							
Time of Concentration	minutes	5	5	5	5	Kirpich Chart	
100-year storm intensity	in/hr	3.9	3.9	3.9	3.9		
Development Density	units/acre	(NORMAL RESIDENTIAL - table 1)			4.8		
C=		0.5	0.5	0.5	0.5		
Rational Method, run-off							
Q=CiA	**cfs**	**10.0**	**3.8**	**25.5**	**13.9**		
TOTAL					**53.3**		

Riverview Calcs
drainage system

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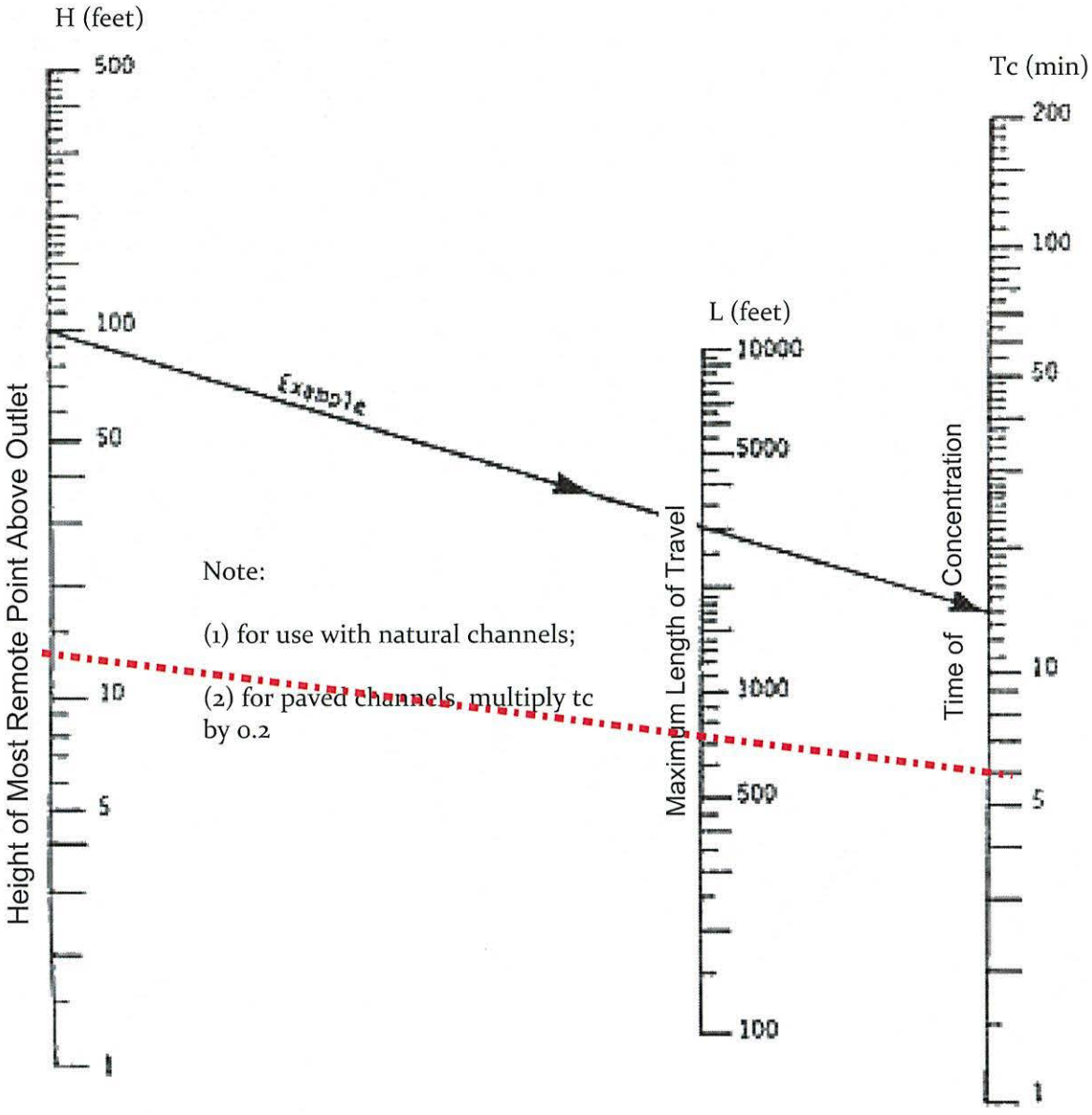
Ditch sizing	King county Surface Water Design Manual						
manning, N	rock lined, jagged and irregular, page 4-62						
	N	0.035	0.035	0.035	0.035		
Q=V/A							
Ditch Velocity							
	Fall	Distance	Slope, S	Coefficent	V=(1.49/n)(Rh^0.66)(S^.5)	area	Flow
trapezoid	feet	feet			Velocity, V	sf	CFS
Ditch flow-triangle (0 base	42	2050	2.05%	0.035	4.85	4.00	19.4
Ditch flow-trapezoid (1' base)					5.62	5.00	28.1
Ditch flow-trapezoid (1' base, 3' deep)					5.62	7.50	42.1
Run-off		0.67					
Phase 3	10.0	6.7	cfs		in Phase 3 - use standard 2' deep ditch		
Phase 2	29.4	19.7	cfs		in Phase 2 - use standard 2' deep ditch		
Phase 2 & 3	39.4	26.4	cfs		At south entrance - use 3' deep trench-1' wide at base		
Phase 1	13.9						
TOTAL	53.3	cfs					
Pipe Flow							
		Across RVM Lane	Across RV Drive	Down slope behind Lot 3			
Pipe Size	inch	16	16	12			
Length		80	80	570			
Fall	ft	13	13	70			
Slope	%	0.16	0.16	0.12			
X-section Area	sf	1.40	1.40	0.79			
Rh (full)		4.00	4.00	3.00			
Manning, n		0.01	0.01	0.01			
Velocity=	ft/sec	125	125	90			
Flow, Q=	**cfs**	**175**	**175**	**71**			
Run-off rate		53.3	53.3	53.3			
		OK	OK	OK			

Morgan Civil Engineering, Inc.
503-801-6016

TRAVEL TIME FOR CHANNEL FLOW
(Kirpich Chart)



Time of Concentration of Small Drainage Basins

Table 1 Runoff Coefficients for the Rational Method

	FLAT	ROLLING	HILLY
Pavement & Roofs	**0.90**	**0.90**	**0.90**
Earth Shoulders	0.50	0.50	0.50
Drives & Walks	0.75	0.80	**0.85**
Gravel Pavement	**0.85**	**0.85**	**0.85**
City Business Areas	0.80	**0.85**	**0.85**
Apartment Dwelling Areas	0.50	0.60	0.70
Light Residential: 1 to 3 units/acre	0.35	0.40	0.45
Normal Residential: 3 to 6 units/acre	0.50	0.55	0.60
Dense Residential: 6 to 15 units/acre	0.70	0.75	0.80
Lawns	0.17	0.22	0.35
Grass Shoulders	0.25	0.25	0.25
Side Slopes, Earth	0.60	0.60	0.60
Side Slopes, Turf	0.30	0.30	0.30
Median Areas, Turf	0.25	0.30	0.30
Cultivated Land, Clay & Loam	0.50	0.55	0.60
Cultivated Land, Sand & Gravel	0.25	0.30	0.35
Industrial Areas, Light	0.50	0.70	0.80
Industrial Areas, Heavy	0.60	0.80	**0.90**
Parks & Cemeteries	0.10	0.15	0.25
Playgrounds	0.20	0.25	0.30
Woodland & Forests	0.10	0.15	0.20
Meadows & Pasture Land	0.25	0.30	0.35
Unimproved Areas	0.10	0.20	0.30

Note:

- ***Impervious surfaces in bold***
- *Rolling = ground slope between 2 percent to 10 percent*
- *Hilly = ground slope greater than 10 percent*

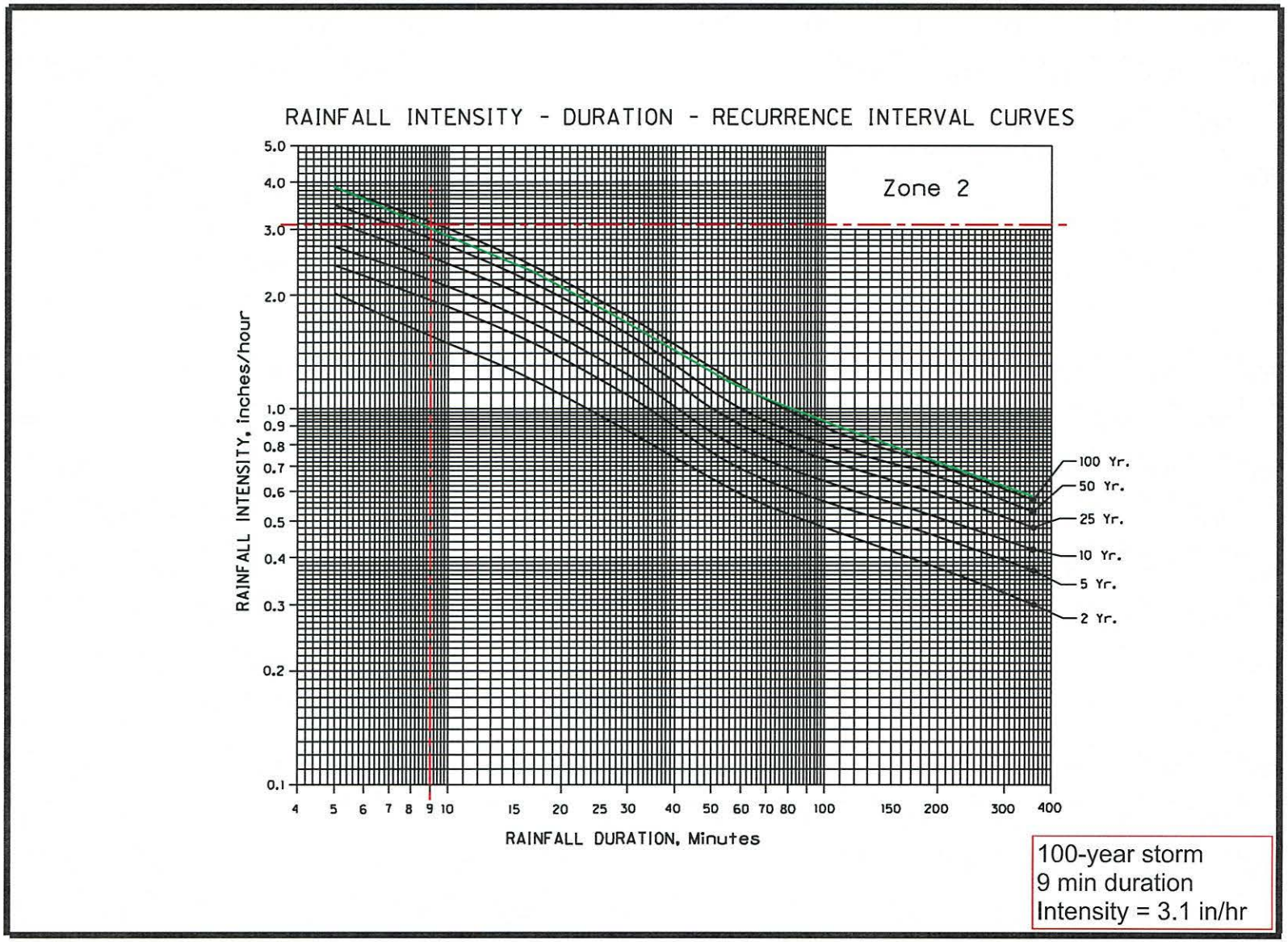

RAINFALL INTENSITY - DURATION - RECURRENCE INTERVAL CURVES
Zone 2
RAINFALL INTENSITY, inches/hour
5.0
4.0
3.0
2.0
1.0
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
100 Yr.
50 Yr.
25 Yr.
10 Yr.
5 Yr.
2 Yr.
4 5 6 7 8 9 10 15 20 25 30 40 50 60 70 80 100 150 200 300 400
RAINFALL DURATION, Minutes
100-year storm
9 min duration
Intensity = 3.1 in/hr

EXHIBIT G

MORGAN CIVIL ENGINEERING, INC.

PO Box 358, Manzanita, OR 97130
ph: 503-801-6016
www.morgancivil.com

November 7, 2022

Riverview Meadows Development, LLC
Carey Sheldon
PO Box 883
Fairview, OR 97024 careysheldon17@yahoo.com

RE: Water System Improvements for Tax Lot 3600, Map 03N 10W 23B, Nehalem, Tillamook County, Oregon (Riverview Meadows, Phase 3)
Project #19-10-Riv

Dear Mr. Sheldon:

At your request, I have prepared a preliminary design for the water distribution system to serve the proposed subdivision of Riverview Meadows Phase 3, as well as Phase 2.

Storage

As discussed in the application for Phase 2 of the subdivision, we propose to install a new water storage tank at the northwestern corner of the new development (currently Tax Lot 3600), with a ground elevation of about 160 feet. The City tank is at an elevation of 220 feet, so the new tank can be supplied by gravity.

The proposed tank will include 60,000 gallons of water storage for fire-fighting (1000 gpm for 60 minutes) and about 20,000 for domestic use (240 gallons per house for 90 homes). The average City residential usage is 141 gallons per day. The total tank size will be about 80,000 gallons.

The new tank will be filled with treated water from the City System, with a dedicated feed line. An elevation actuating valve (PRV) will be installed at the tank in order to prevent overflowing.

Distribution

Water from the new reservoir will be pumped to a pressure of about 60 psi (140 ft gauge pressure/300 feet total pressure). The water will then be distributed in a looped system in order to serve the residents of Phases 2 and 3 of the subdivision.

Lot 75 is located at elevation 155 feet. Lot 21 is at elevation of 120 feet. Therefore, the service pressure will be between roughly 60 psi and 85 psi.

This system will provide adequate service to homes on the planned properties.

If you have any questions, please contact me at jason@morgancivil.com or 503-801-6016.

Sincerely,

MORGAN CIVIL ENGINEERING, INC.

Jason R. Morgan, PE
Professional Engineer

RENEWAL DATE: DECEMBER 31, 2022

cc: Project File #19-10-Riv

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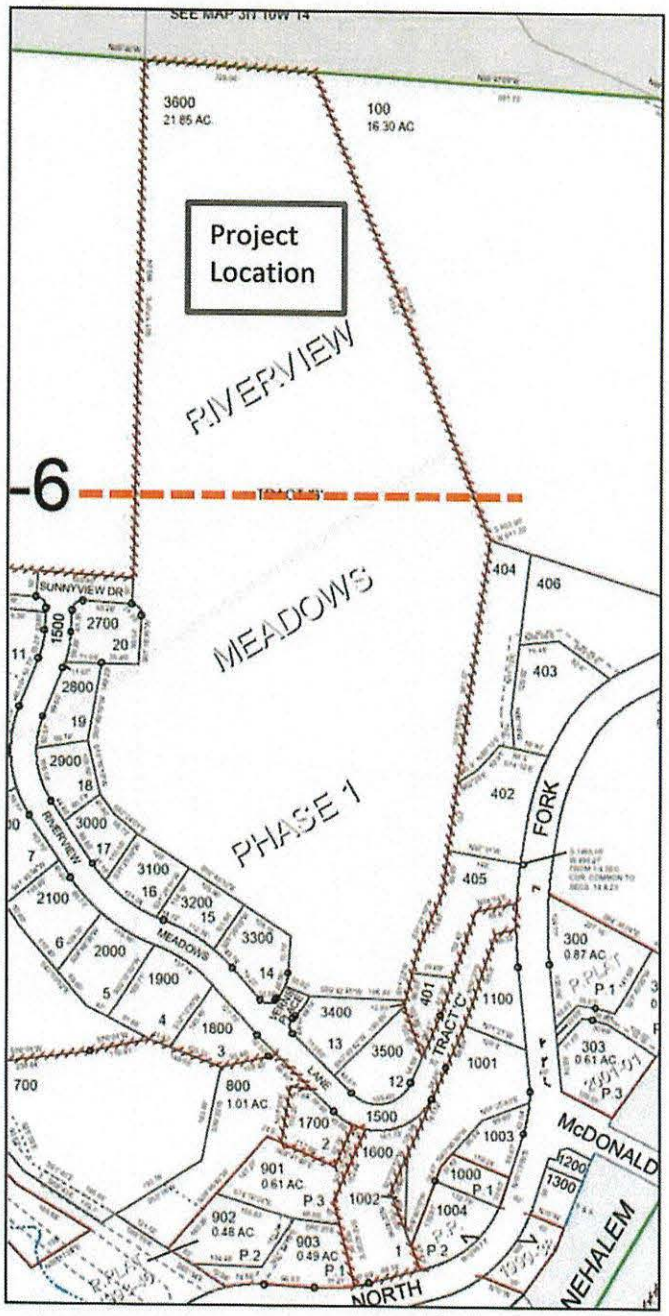


Tax Lot 3600, Map 3N 10W 23B
RIVERVIEW MEADOWS PHASE 3
Nehalem, Tillamook County Oregon

EXHIBIT H

RIVERVIEW MEADOWS
TRAFFIC IMPACT STUDY

TILLAMOOK COUNTY, OREGON

PREPARED FOR:
Riverview Meadows, LLC

PREPARED BY:
Michael Ard, PE
Ard Engineering

DATE:
October 7, 2022

21370 SW Langer Farms Parkway, Suite 142, Sherwood, OR 97140 - (503)862-6960

TABLE OF CONTENTS

EXECUTIVE SUMMARY

1. A residential development is proposed on the west side of Nehalem River Road near McDonald Road in Tillamook County, Oregon. The previously approved phase 1 development within the site consists of 20 homes on the subject property. This analysis addresses the potential transportation impacts resulting from adding 74 additional single-family homes in phases 2 and 3 of the development. The subject property currently takes access via River View Meadows Lane. With the proposed expansion, a second access is proposed which will intersect McDonald Road at an existing access driveway located approximately 900 feet south of McDonald Road.

2. Upon completion of proposed development, the subject property is projected to generate 52 new site trips during the morning peak hour, 70 trips during the evening peak hour, and 698 new daily site trips.

3. Based on the operational analysis, the study intersections currently operate acceptably and are projected to continue to operate acceptably under year 2025 traffic conditions either with or without the addition of site trips from the proposed development.

4. The most recent five years of crash history on Northfork Road showed no crashes at the study intersections. No significant safety hazards are evident based on the crash history.

5. Based on the detailed warrant analysis, no new traffic signals or turn lanes are recommended in conjunction with the proposed development.

6. Although intersection sight distances are limited by horizontal curves in the vicinity of the site access locations, a detailed analysis shows that the available sight distances are adequate to ensure safe operation of the area intersections, and the delays to through traffic that slows to avoid conflicts will be negligible. Accordingly, no sight distance improvements are necessary or recommended in conjunction with the proposed development.

7. Based on the analysis of River View Meadows Lane's road width and geometry, large vehicles may have difficulty navigating the roadway and require both travel lanes to negotiate the curves in the vicinity of Northfork Road. Very large trucks may also trailer off the roadway surface. However, the road width is sufficient to approximately 1,000 passenger vehicles per day despite the narrow width, similar to the capacity of a residential queuing street. The projected future traffic volumes on this roadway are within this effective roadway capacity. Planned monumentation and improvements to the new south site access roadway may help further reduce traffic volumes on River View Meadows Lane. It is recommended that large trucks be directed to use the new south site access roadway.

PROJECT DESCRIPTION & LOCATION

INTRODUCTION

A residential development is proposed on the west side of Nehalem River Road near McDonald Road in Tillamook County, Oregon.

The previously approved phase 1 development within the site consists of 20 homes on the subject property. Under the current proposal, 74 additional single-family homes would be constructed as part of phases 2 and 3 of the development.

The subject property currently takes access via River View Meadows Lane. With the proposed expansion, a second access is proposed which will intersect McDonald Road at an existing access driveway located approximately 900 feet south of McDonald Road.

This report addresses the impacts of the proposed development on the surrounding street system. The purpose of this analysis is to determine whether the surrounding transportation system is capable of safely and efficiently supporting the proposed use and to identify any necessary improvements and mitigations.

SITE LOCATION AND STUDY AREA DESCRIPTION

The subject property is surrounded by existing residential and agricultural land uses. Phase 1 development is currently underway within the site and will conclude with completion of the 20 previously approved homes within the phase limits.

Northfork Nehalem River Road has a two-lane cross-section with one through lane in each direction. It has a posted speed limit of 45 mph in the site vicinity; however, curve warning signs are also posted in the vicinity with recommended speeds of 25 to 30 mph for the curves.

McDonald Dike Road also has a two-lane cross-section with one through lane in each direction. It has a posted speed limit of 35 mph in the vicinity of Nehalem River Road.

River View Meadows Lane is a local street which provides access to the subject property and some surrounding parcels. It has a paved width of 18 feet in the vicinity of Nehalem River Road. The roadway is subject to Oregon's statutory residential speed limit of 25 mph.

EXISTING CONDITIONS

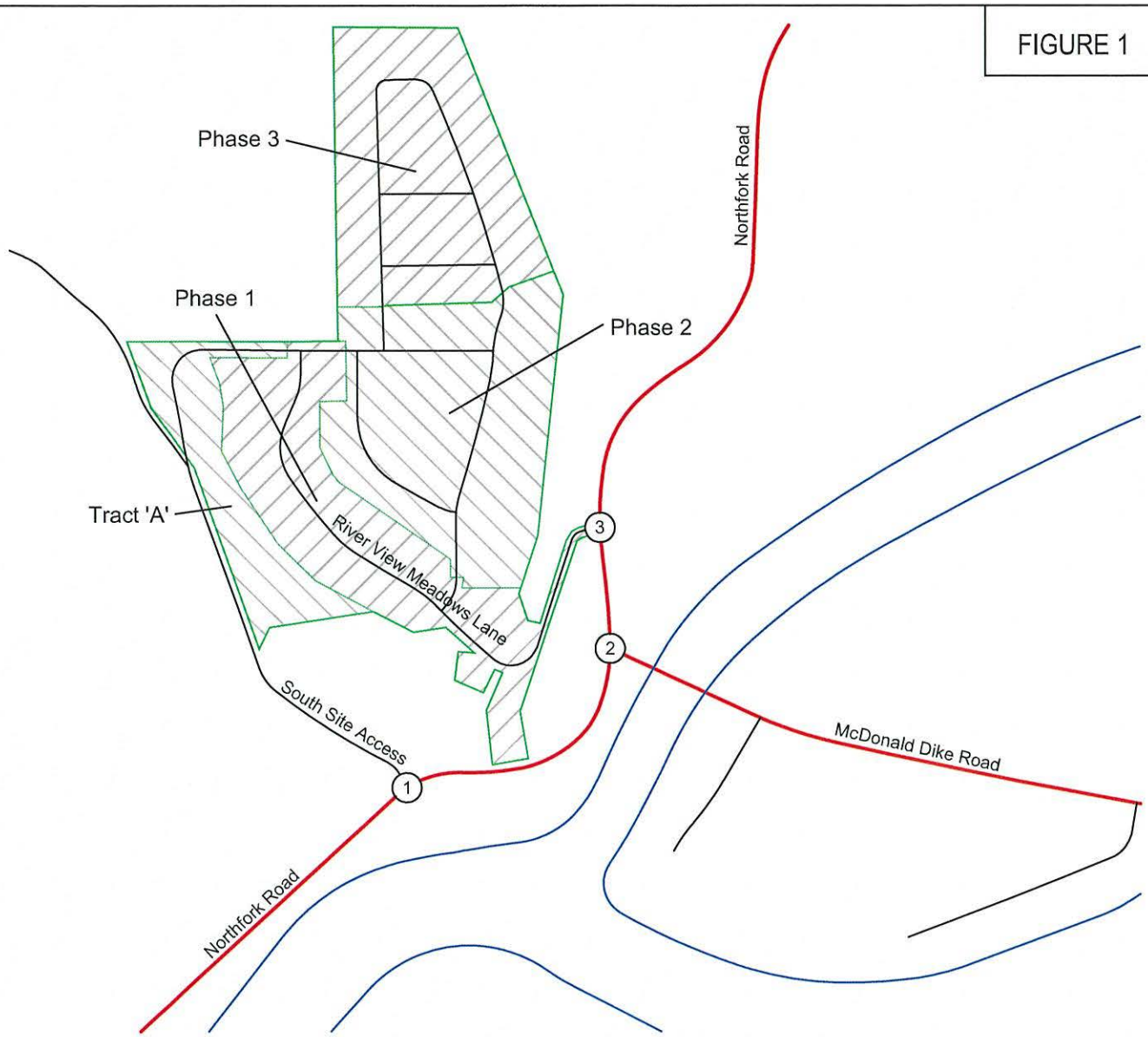
The intersection of Northfork Nehalem River Road at River View Meadows Lane is a T-intersection controlled by a stop sign on the eastbound River View Meadows Lane approach. Each approach has a single, shared lane for all turning movements. Through traffic traveling along Northfork Road does not stop.

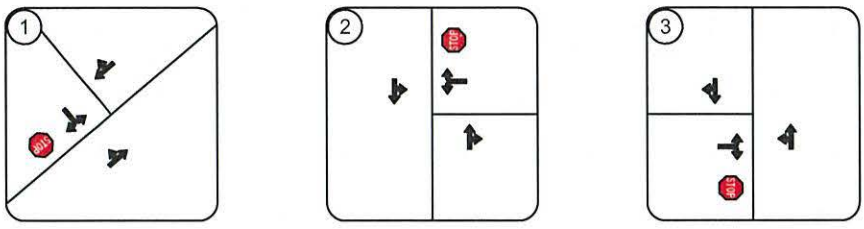
The intersection of Northfork Nehalem River Road at McDonald Dike Road is also a T-intersection. It is controlled by a stop sign on the westbound McDonald Road approach. Again, through traffic traveling along Northfork Road does not stop, and each approach has a single, shared lane for all turning movements.

The intersection of Northfork Nehalem River Road at the proposed south site access is a T-intersection controlled by a stop sign on the eastbound approach to Northfork Road. Through traffic on Northfork Road does not stop.

A vicinity map displaying the project site, vicinity streets, and the study intersections including lane configurations is provided in Figure 1 on page 6.

FIGURE 1





LEGEND

(#) Study Intersection #

STOP Stop Sign

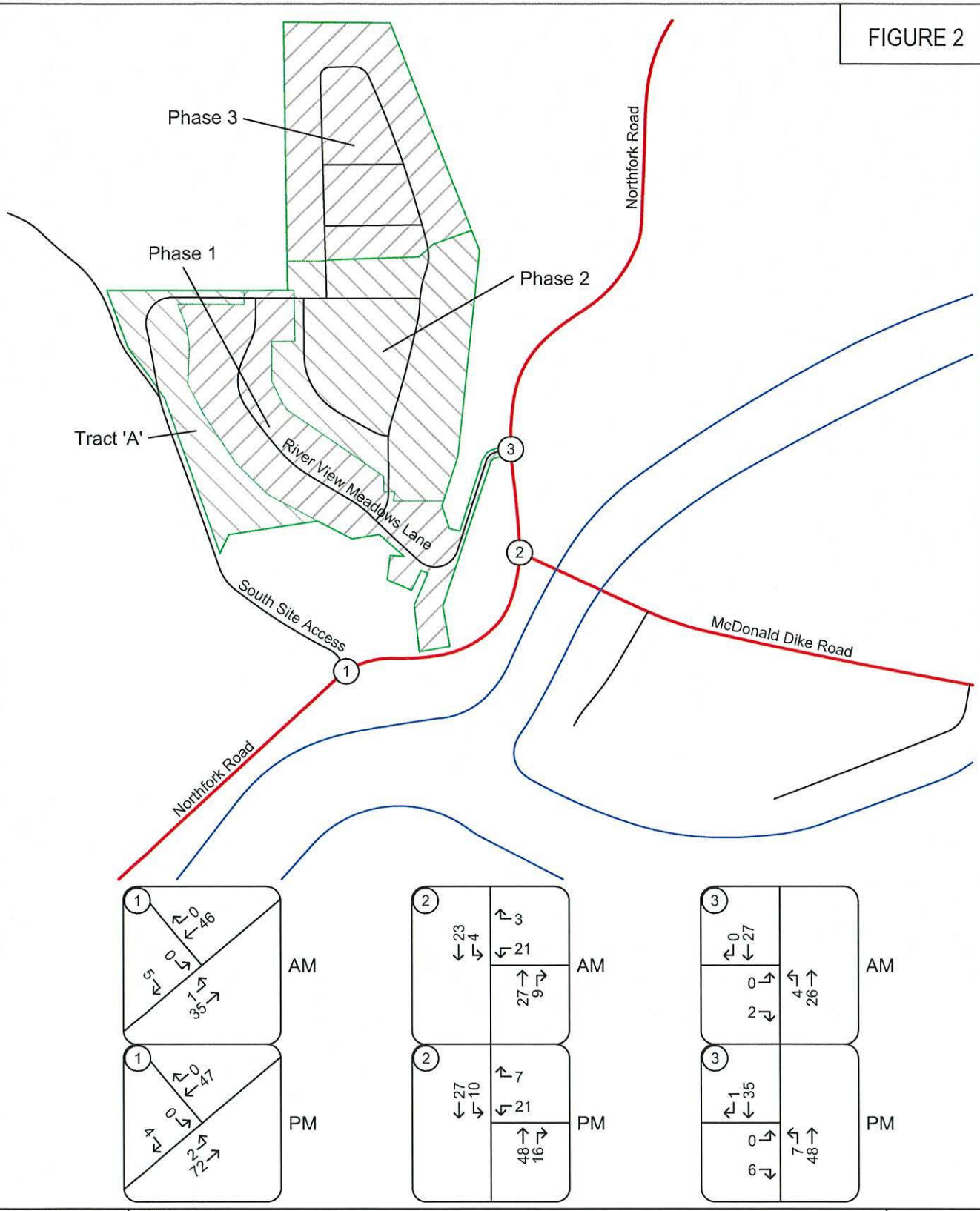
VICINITY MAP
Study Intersections
Lane Configurations and Traffic Control

TRAFFIC COUNT DATA

Turning movement counts were conducted at the three study intersections from 4:00 to 6:00 PM on Tuesday August 9, 2022, and from 7:00 to 9:00 AM on Wednesday August 10, 2022. These count periods correspond to the typical morning and evening peak commute periods and are therefore used to represent traffic conditions typical of the study intersections.

Figure 2 on page 8 shows the existing year 2022 traffic volumes for the morning and evening peak hours at the study intersections.

FIGURE 2



TURNING MOVEMENT VOLUMES
2022 Existing Conditions
Morning and Evening Peak Hours

OPERATIONAL ANALYSIS

An operational analysis was conducted for the study intersections using Synchro 10 software, with outputs calculated based on the *HIGHWAY CAPACITY MANUAL, 6th Edition.* The analysis was conducted for the weekday morning and evening peak hours.

The purpose of the existing conditions analysis is to establish how the study area intersections operate currently and allow for calibration of the operational analysis if required.

The results of the operational analysis are reported based on delay, Level of Service (LOS), and volume-to-capacity ratio (v/c). Delays are reported in seconds. Level of service is reported as a letter grade and can range from A to F, with level of service A representing nearly free-flow conditions and level of service F representing high delays and severe congestion. A report of level of service D generally indicates moderately high but tolerable delays, and typically occurs prior to reaching intersection capacity. For unsignalized intersections, the v/c represents the portion of the available intersection capacity that is being utilized on the worst intersection approach. A v/c ratio of 1.0 would indicate that the approach is operating at capacity.

A summary of the existing conditions operational analysis is provided in Table 1 below. The reported delays and levels-of-service represent the approach lane which experiences the highest delays, while the reported v/c ratios represent the highest ratio for the major-street and minor-street movements.

Based on the analysis, the study intersections are currently operating acceptably. Detailed capacity analysis worksheets are provided in the technical appendix.

Table 1 - Operational Analysis Summary: 2022 Existing Peak Hour Conditions

Intersection	AM Peak Hour			PM Peak Hour		
	Delay	LOS	v/c	Delay	LOS	v/c
Northfork Rd at West Site Access	8.9	A	0.01	8.6	A	0.01
Northfork Rd at McDonald Dike Rd	9.1	A	0.03	9.1	A	0.03
Northfork Rd at Riverview Meadows Ln	8.7	A	0.01	8.5	A	0.01

SITE TRIPS

Proposed Development

The proposed new development will consist of 74 additional single-family homes. To estimate the number of trips that will be generated by the proposed development, trip rates from the *TRIP GENERATION MANUAL, 10th EDITION* were used. Data from land-use code 210, *Single-Family Detached Housing*, were used. The trip estimates are based on the number of dwelling units.

A summary of the trip generation calculations is provided in Table 2 below. A detailed trip generation worksheet is also included in the technical appendix.

Table 2 - Proposed Development Trip Generation Summary

	AM Peak Hour			PM Peak Hour			Daily
	In	Out	Total	In	Out	Total	Total
74 Single-Family Homes	14	38	52	44	26	70	698

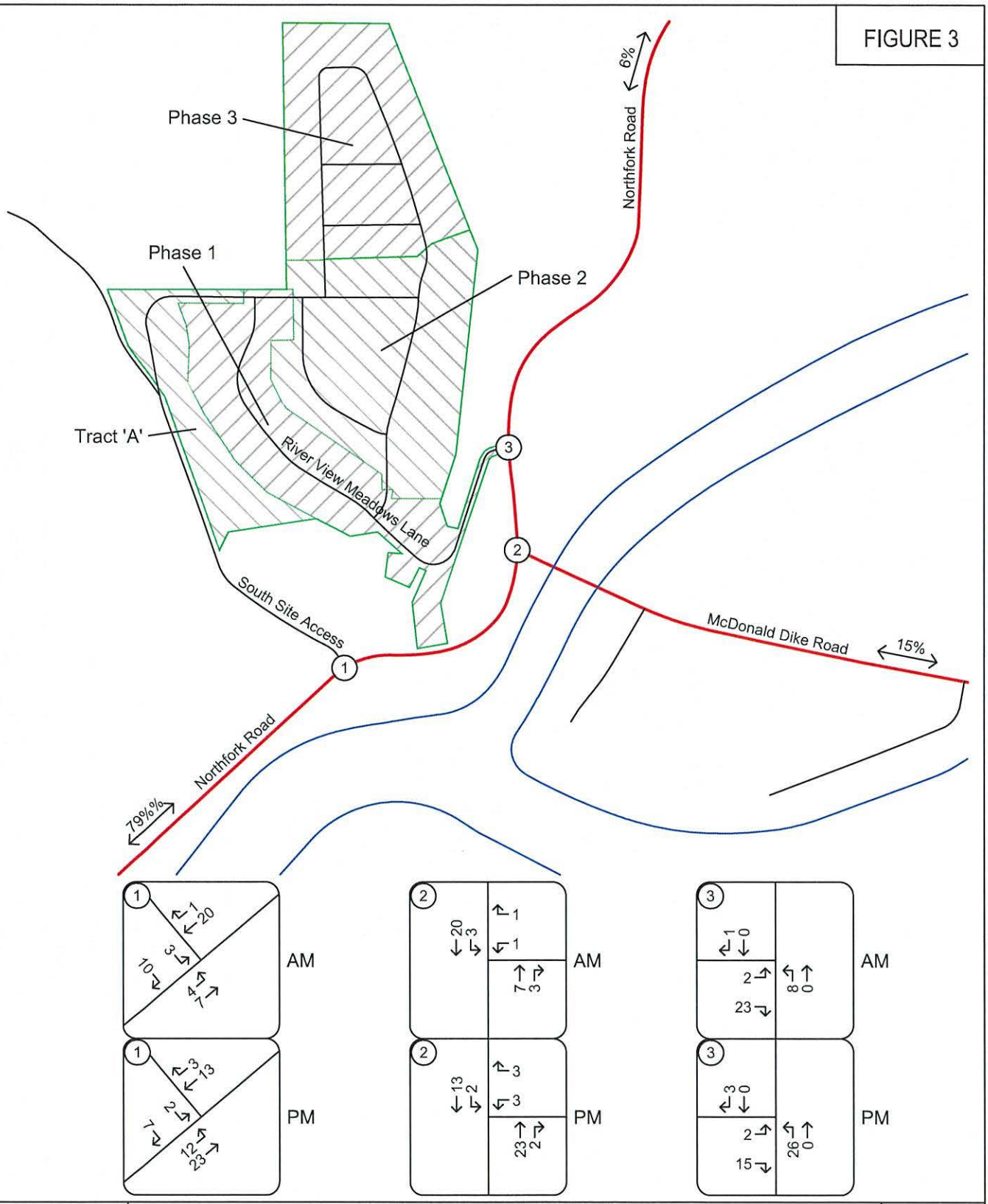
TRIP DISTRIBUTION

The directional distribution of site trips to and from the project site was estimated based the existing travel patterns in the site vicinity, as well as the locations of likely trip destinations and major transportation routes. Overall, 79 percent of the anticipated site trips are projected to travel to and from the south on Northfork Nehalem River Road, 15 percent are projected to travel to and from the east on McDonald Dike Road, and 6 percent are projected to travel to and from the north on Northfork Nehalem River Road.

Based on the layout of the site and the alignments of the respective access roads, it is expected that approximately two thirds of future site trips will utilize the existing River View Meadows Lane alignment to access the site. A more detailed discussion of traffic volumes and operations on this access roadway is provided in the safety analysis section of this report on page 19.

The trip distribution percentages and trip assignment for the proposed development are shown in Figure 3 on page 11.

FIGURE 3



TURNING MOVEMENT VOLUMES
Proposed Development - Site Trips
Morning and Evening Peak Hours

FUTURE CONDITIONS ANALYSIS

BACKGROUND VOLUMES

In order to determine the expected impact of site trips on the study area intersections, it is necessary to compare traffic conditions both with and without the addition of the projected traffic from the proposed development. Since the proposed use cannot be constructed and occupied immediately, the comparison is made for future traffic conditions at the time of project completion. It is anticipated that the proposed use will be completed and occupied by 2025. Accordingly, the analysis was conducted for year 2025 traffic conditions.

Some general traffic growth is expected to occur in the vicinity as a result of development outside the project area that nevertheless travels through the site vicinity while moving to and from farther destinations. To account for this background growth, the observed year 2022 traffic volumes were increased by 2 percent per year over a period of three years to estimate the year 2025 traffic volumes.

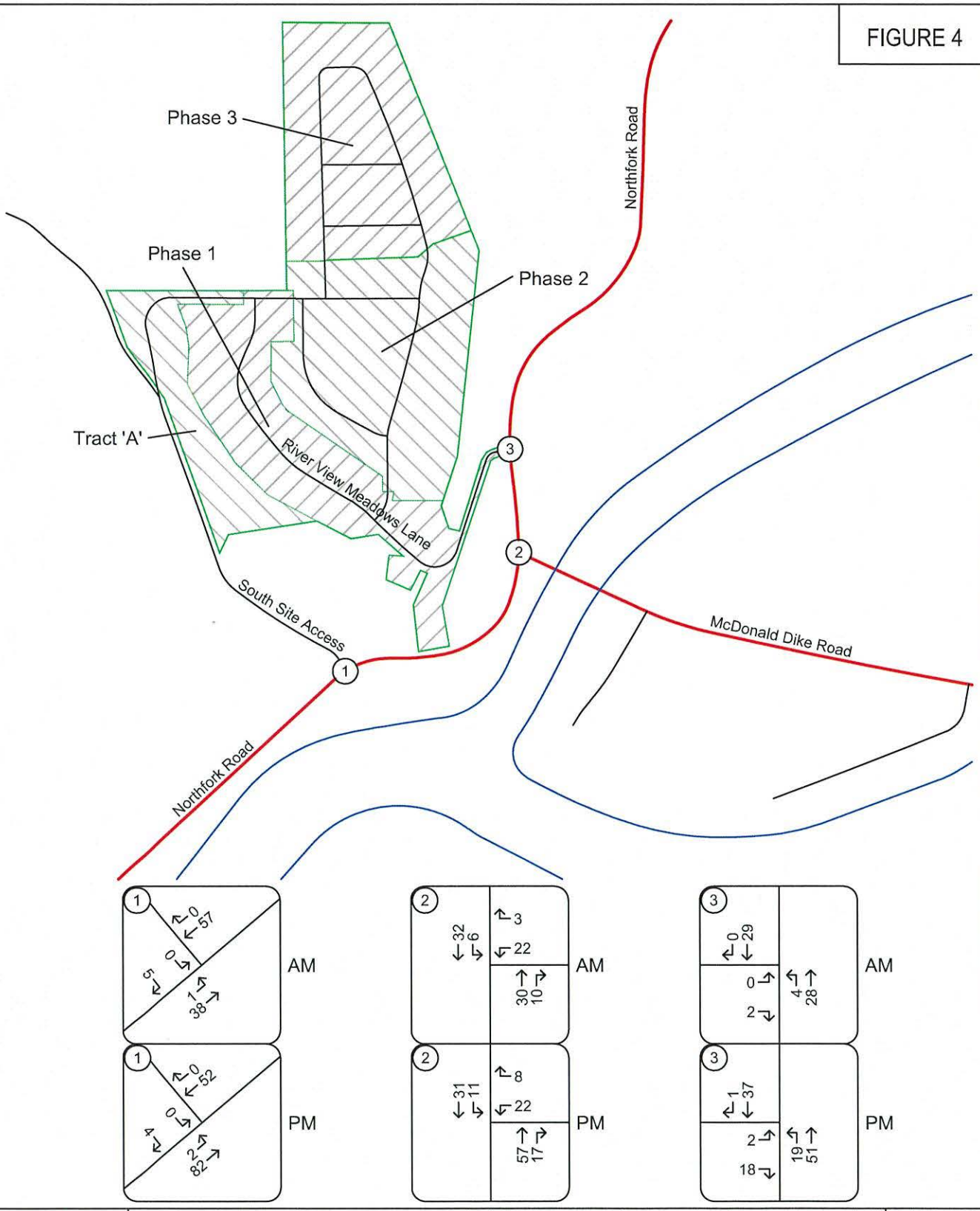
In addition to anticipated growth in the area, it was noted that the phase 1 development is not yet complete within the existing approved subdivision. Accordingly, the expected future site trips associated with completion of the current subdivision were also added to the background traffic volumes. These added "in-process" trips are shown in Figure 6 in the attached technical appendix.

Figure 4 on page 13 shows the projected year 2025 background traffic volumes at the study intersections during the morning and evening peak hours.

BACKGROUND VOLUMES PLUS SITE TRIPS

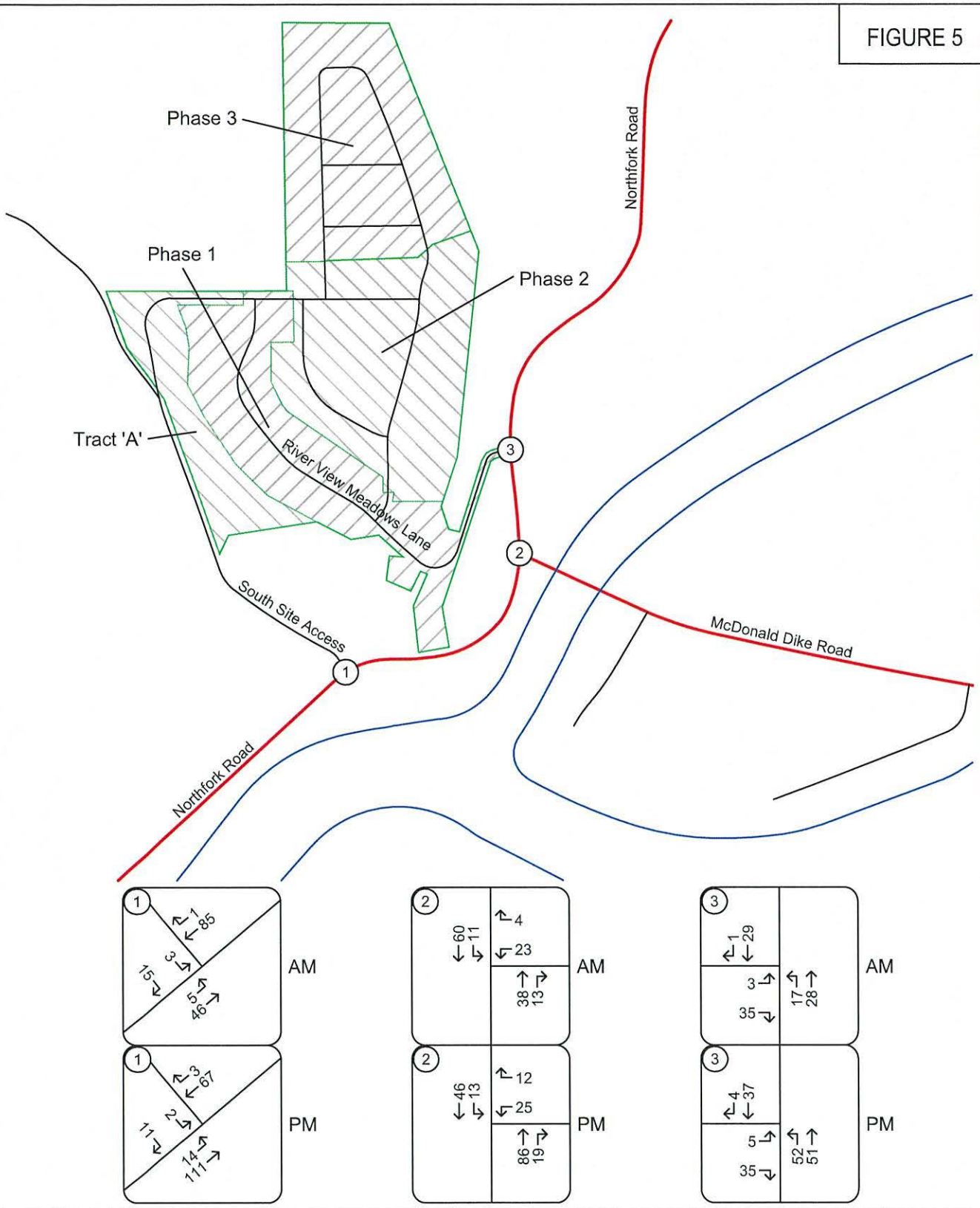
Peak hour trips calculated to be generated by the proposed development were added to the projected year 2023 background traffic volumes to obtain the year 2023 total traffic volumes following completion of the proposed residential development. The resulting total traffic volumes are shown in figure 5 on page 14.

FIGURE 4



TURNING MOVEMENT VOLUMES
2025 Background Traffic Volumes
Morning and Evening Peak Hours

FIGURE 5



TURNING MOVEMENT VOLUMES
2025 Background plus Site Trips
Morning and Evening Peak Hours

OPERATIONAL ANALYSIS

The operational analysis for future traffic conditions was again conducted using Synchro analysis software, with outputs based on the analysis methodologies contained in the *HIGHWAY CAPACITY MANUAL, 6th Edition*. The analysis was prepared for the intersections' morning and evening peak hours.

The results of the operational analysis are summarized in Table 3 below. Detailed analysis worksheets are also included in the technical appendix.

Table 3 - Operational Analysis Summary: Year 2023 Future Conditions

Intersection	AM Peak Hour			PM Peak Hour		
	Delay	LOS	v/c	Delay	LOS	v/c
Northfork Rd at South Site Access						
2025 Background Conditions	8.9	A	0.01	8.6	A	0.01
2025 Background plus Site	9.3	A	0.02	8.9	A	0.02
Northfork Rd at McDonald Dike Rd						
2025 Background Conditions	9.2	A	0.03	9.2	A	0.04
2025 Background Plus Site	9.5	A	0.04	9.5	A	0.05
Northfork Rd at Riverview Meadows Ln						
2025 Background Conditions	8.7	A	0.01	8.7	A	0.03
2025 Background plus Site	8.9	A	0.05	8.9	A	0.05

Based on the results of the operational analysis, the study intersections are projected to operate acceptably either with or without the addition of site trips from the proposed development. No operational mitigations are necessary or recommended in conjunction with the proposed development.

SAFETY ANALYSIS

CRASH DATA ANALYSIS

Using data obtained from the Oregon Department of Transportation, a review of the five most recent years of available crash history (from January 2016 through December 2020) was performed. The crash data showed a total of five crashes along Northfork Road during the five-year analysis period. These included four fixed-object (run-off-road) collisions and one animal collision. None of the reported crashes were intersection-related, and none occurred at the study area intersections.

Based on the crash data, no significant existing safety hazards were identified in the site vicinity.

WARRANT ANALYSIS

Traffic signal and turn-lane warrants were examined for the study intersections.

Based on the projected side-street traffic volumes, traffic signal warrants are not projected to be met at any of the unsignalized study intersections under any of the analysis scenarios. Additionally, the intersections are projected to operate at level of service "A" through project completion while retaining the existing stop control. Accordingly, no new traffic signals are recommended in conjunction with the proposed development.

Left-turn lane warrants were examined for the major-street approaches to the unsignalized study intersections. Left-turn lane warrants are intended to evaluate whether a meaningful safety benefit may be expected if the turning vehicles are provided with turn lane within the street, allowing left-turning drivers to move out of the through travel lane so that following vehicles may pass without conflicts. The left-turn lane warrant analysis methodology utilizes the number of travel lanes in conjunction with the volume of advancing and opposing traffic to determine the minimum number of left-turning vehicles which would result in a meaningful safety benefit.

Based on the analysis, even when conservatively using the posted 45 mph speed limit for design rather than the lower actual traffic speeds which are limited by horizontal curves in the site vicinity, the projected turning movement volumes at the time of project completion are too low to warrant installation of left-turn lanes at the study area intersections.

Right-turn lane warrants were also examined for the major-street approaches to the unsignalized study intersections. Right-turn lanes reduce the likelihood of rear-end collisions as vehicles slow or stop to turn right from a free-flowing through travel lane.

Again, based on the analysis and conservatively using the posted 45 mph speed limit for design, the projected turning movement volumes at the time of project completion are too low to warrant installation of dedicated right-turn lanes at the study area intersections.

Based on the detailed warrant analysis, no new traffic signals or turn lanes are recommended in conjunction with the proposed development.

INTERSECTION SIGHT DISTANCE

Based on the posted speed limit of 45 mph on Northfork Nehalem River Road, a minimum of 500 feet of intersection sight distance is generally desired in each direction for each point of access. However, horizontal curves in the site vicinity limit both the available sight lines and the approach speeds of vehicles at the limits of sight distance. Because sight lines are generally less than 500 feet, a detailed discussion and analysis of actual approach speeds and sight distances is appropriate.

In accordance with the procedures described in *A Policy on Geometric Design of Highways and Streets*, published by the American Association of State Highway and Transportation Officials, intersection sight distance was measured from a driver's eye position within the minor street approach 14.5 feet behind the edge of the traveled way and 3.5 feet above the driveway surface. The available intersection sight distances in each direction were measured to the oncoming driver's eye position within the oncoming travel lane 3.5 feet above the roadway surface.

At the proposed south site access location on Northfork Road, intersection sight distance was measured to be well in excess of 500 feet to the south and 451 feet to the north. The available intersection sight distance to the north was limited by vegetation and an embankment within the inside of a horizontal curve.

Speed data was collected for vehicles approaching the proposed south site access location along Northfork Road to determine an appropriate design speed. Typically, the 85th percentile speed is used for design. This is the speed at or below which 85 percent of drivers were travelling. It is generally assumed that 85 percent of drivers travel at a "reasonable and prudent" speed, and that enforcement should be used to encourage better driving habits among the 15 percent of fastest drivers. For this location, the 85th percentile speed was determined to be 39 mph, resulting in a desired intersection sight distance of 430 feet. Since the available intersection sight distance is in excess of this minimum, the proposed south site access is projected to operate safely and efficiently.

For the existing site access on River View Meadows Lane, the available intersection sight distance was measured to be 428 feet to the north and 378 feet to the south. Again, these distances were less than the 500 feet of sight distance desired for a design speed of 45 mph, and again speed data was collected to determine an appropriate design speed.

For the southbound Northfork Road approach to River View Meadows Lane, the 85th percentile speed was determined to be 41 mph. Based on this design speed, the desired intersection sight distance was calculated to be 452 feet. In this instance, the available intersection sight distance was less than the desired intersection sight distance.

For the northbound Northfork Road approach to River View Meadows Lane, the 85th percentile speed was determined to be 40 mph. Based on this design speed, the desired intersection sight distance was calculated to be 441 feet. Again, the available intersection sight distance was less than the desired intersection sight distance.

Since sight lines at the existing site access on River View Meadows Lane are less than the full desired sight lines, a detailed operational and safety analysis was undertaken to determine what impacts might be expected as a result of the limited sight lines at the intersection.

According to "*A Policy on Geometric Design of Highways and Streets*" published by the American Association of State Highway and Transportation Officials,

> "*Stopping sight distance is providing continuously along each roadway so that drivers have a view of the roadway ahead that is sufficient to allow drivers to stop. The provision of stopping sight distance at all locations along each roadway, including intersection approaches, is fundamental to intersection operation.*" (p. 9-35)

It further states,

> "*If the available sight distance for an entering or crossing vehicle is at least equal to the appropriate stopping sight distance for the major road, then drivers have sufficient sight distance to anticipate and avoid collisions. However, in some cases, a major-road vehicle may need to slow or stop to accommodate the maneuver by a minor-road vehicle. To enhance traffic operations, intersection sight distances that exceed stopping sight distances are desirable along the major road.*" (p. 9-35)

Since the minimum intersection sight distance needed for safety is based on stopping sight distance, the measured design speeds were used to calculate the required stopping sight distance for each approach direction. For southbound traffic approaching River View Meadows Lane, the 41-mph 85th percentile design speed requires a minimum of 315 feet of stopping sight distance. Since the actual intersection sight distance available is 428 feet to the north, the available sight distance is adequate for safe operation of the intersection. Similarly, for northbound traffic approaching River View Meadows Lane, the 40-mph 85th percentile design speed requires a minimum of 305 feet of stopping sight distance. Since the actual intersection sight distance available is 378 feet to the north, the available sight distance is again adequate for safe operation of the intersection.

Having determined that the intersection can operate safely, albeit with some potential for interruptions to the flow of through traffic along Northfork Road, it is appropriate to determine the likely impacts on operation if the intersection continues to operate with limited sight distances in each direction.

Induced delays to through traffic would occur when a driver turns from River View Meadows Lane onto Northfork Road while an approaching vehicle is closer than the desired intersection stopping sight distance, but farther than the available sight distance. The amount of delay to through traffic can be calculated as the time required to traverse the distance between the desired intersection sight distance and the actual location of the approaching vehicle. Since the maximum such distance is 63 feet traversed at a speed of 40 mph, the maximum induced delay would be 1.07 seconds per vehicle when a conflict occurs.

Based on the volume of traffic entering Northfork Road from River View Meadows Lane as well as the traffic volumes on Northfork Road, the expected total induced delay per day would be approximately 3 seconds per day. The total induced delays are very low because the amount of induced delay per vehicle is low (between 0.0 and 1.07 seconds) and because the odds of a conflict occurring with a vehicle just beyond the limits of the available sight distance are also low

(approximately 1.5 percent of exiting vehicles would be expected to turn onto Northfork Road while a vehicle is approaching and may be subject to delay.

Based on the negligible calculated induced delays of 3 seconds per day, any requirement for mitigation for the limited sight distance would be expected to result in costs exceeding the resulting benefits. Accordingly, the available intersection sight distance is adequate for the River View Meadows Lane approach to Northfork Road and no operational or safety mitigations are recommended.

River View Meadows Lane - Roadway Geometry

In addition to examination of sight distance for the intersection of Northfork Nehalem River Road at River View Meadows Lane, the roadway geometry was evaluated to determine how the narrow cross-section and steep grades may impact operation and capacity of the roadway and intersection.

River View Meadows Lane has an initial width of approximately 20 feet in the immediate vicinity of Northfork Road; however, it narrows to a width of approximately 18 feet as it extends up the hill. Roadway grades on River View Meadows Lane were measured to be up to 17 percent in the immediate vicinity of the intersection.

A 20-foot width is commonly used as a minimum width for roadways, primarily in response to fire code requirements. Although a roadway can function with lesser width, the carrying capacity of the roadway is reduced both for passenger cars and for larger vehicles.

In particular, tractor-trailer vehicles and large trucks may have difficulty navigating the roadway and are likely to need to cross the roadway centerline on curves. Based on an AutoTurn analysis, large interstate trucks (WB-67) would not be expected to be able to stay within the paved roadway width even when taking both travel lanes. These vehicles would be expected to trailer outside the road surface, crossing through the area where a stop sign is located. Evidence that such trailering has previously occurred was present at the intersection upon our site visit, since the stop sign post was snapped off and a temporary stop sign on an A-frame stand was deployed at the intersection.

An analysis of other vehicle types also demonstrated that:

1) WB-40 tractor-trailer trucks, SU-40 single-unit trucks, garbage trucks and fire apparatus can stay within the paved road surface area, but require the full width of River View Meadows Lane for maneuvering in the vicinity of Northfork Road;
2) The roadway width can accommodate continuous two-way travel of passenger vehicles provided that the drivers pull to the side and drive slowly.

Diagrams showing the swept path of these vehicles are included in the technical appendix.

It should be noted that due to the narrow width of the roadway, it is expected to function in a manner similar to a residential queuing street. These streets generally have a width of up to 28 feet but are narrowed by on-street parking on one or both sides. Where drivers must pass parked vehicles, the roadway only has sufficient width for one travel direction at a time, so drivers must proceed with caution and yield to oncoming traffic. Although passenger vehicles can continuously travel in both

directions, the narrow width of this roadway may require similar slowing and yielding behavior at times. Accordingly, the carrying capacity of this roadway is expected to be similar to that of a residential queuing street, at approximately 1,000 vehicles per day. With completion of the proposed development, it is projected that the roadway will carry approximately 870 vehicles per day, which is within the capacity of the roadway.

It is anticipated that the new south access roadway will be constructed in a manner intended to attract site trips in lieu of River View Meadows Lane through the use of monumentation signage and a wider, more accommodating road design. This may reduce the traffic levels on River View Meadows Lane. Regardless, larger trucks should be directed to use the new south site access roadway.

CONCLUSIONS

Based on the operational analysis, the study intersections currently operate acceptably and are projected to continue to operate acceptably under year 2025 traffic conditions either with or without the addition of site trips from the proposed development.

The most recent five years of crash history on Northfork Road showed no crashes at the study intersections. No significant safety hazards are evident based on the crash history.

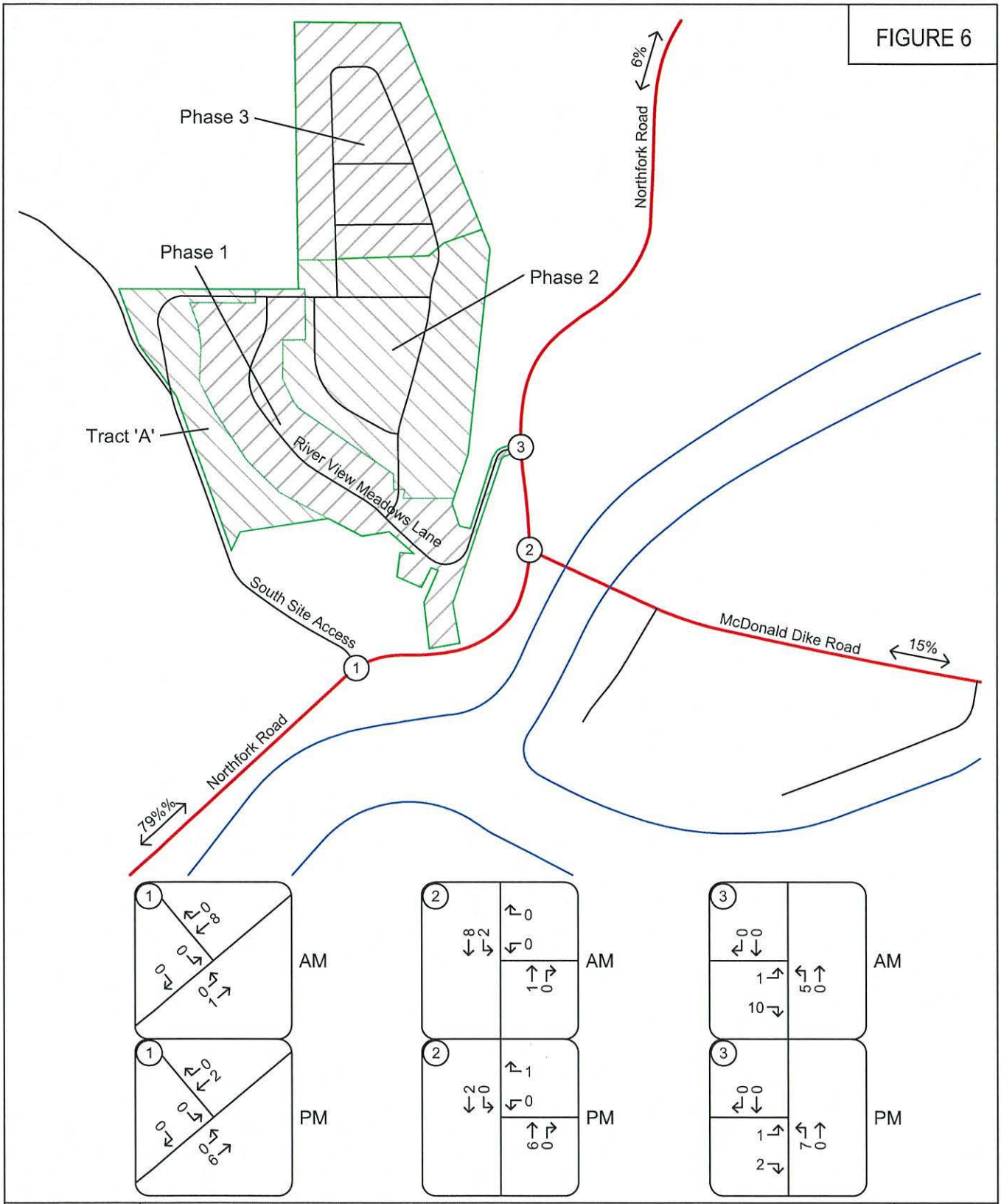
Based on the detailed warrant analysis, no new traffic signals or turn lanes are recommended in conjunction with the proposed development.

Although intersection sight distances are limited by horizontal curves in the vicinity of the site access locations, a detailed analysis shows that the available sight distances are adequate to ensure safe operation of the area intersections, and the delays to through traffic that slows to avoid conflicts will be negligible. Accordingly, no sight distance improvements are necessary or recommended in conjunction with the proposed development.

Based on the analysis of River View Meadows Lane's road width and geometry, large vehicles may have difficulty navigating the roadway and require both travel lanes to negotiate the curves in the vicinity of Northfork Road. Very large trucks may also trailer off the roadway surface. However, the road width is sufficient to approximately 1,000 passenger vehicles per day despite the narrow width, similar to the capacity of a residential queuing street. The projected future traffic volumes on this roadway are within this effective roadway capacity. Planned monumentation and improvements to the new south site access roadway may help further reduce traffic volumes on River View Meadows Lane. It is recommended that large trucks be directed to use the new south site access roadway.

APPENDIX

FIGURE 6



TRAFFIC VOLUMES
In-Process Trips
Morning and Evening Peak Hours

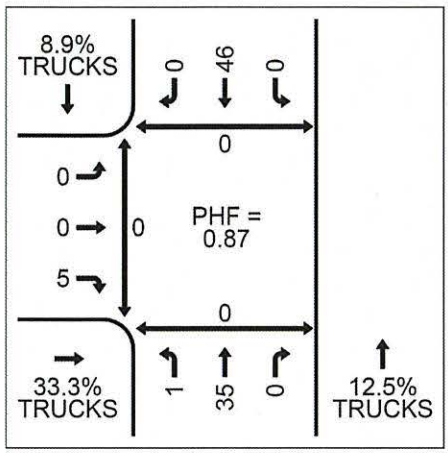
PAGE
APP1

Intersection Count Summary (2-Hour Count)
Ard Engineering, LLC

Intersection: Nehalem River Road at Proposed South Access

Date: 8/10/2022 Time: 7:00 AM to 9:00 AM

Weather: Overcast



PEAK HOUR DIAGRAM: 8:00 - 9:00 AM

Count Data: 5-Minute Intervals

Start Time	Northbound Nehalem River Rd				Southbound Nehalem River Rd				Eastbound South Site Access				Westbound South Site Access				Interval Total	Pedestrian Crossings			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:05 AM	1	1	0	0	0	2	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0
7:10 AM	0	1	0	0	0	2	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0
7:15 AM	0	1	0	0	0	2	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0
7:20 AM	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0
7:25 AM	1	2	0	0	0	11	0	0	0	0	0	0	0	0	0	0	14	0	0	0	0
7:30 AM	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0
7:35 AM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
7:40 AM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
7:45 AM	0	3	0	0	0	4	0	0	0	0	0	0	0	0	0	0	7	0	0	0	0
7:50 AM	1	5	0	0	0	2	0	0	0	0	0	0	0	0	0	0	8	0	0	0	0
7:55 AM	0	2	0	0	0	3	1	0	1	0	0	0	0	0	0	0	7	0	0	0	0
8:00 AM	0	8	0	0	0	2	0	0	0	0	0	0	0	0	0	0	10	0	0	0	0
8:05 AM	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	0	7	0	0	0	0
8:10 AM	0	2	0	0	0	4	0	0	0	0	0	0	0	0	0	0	6	0	0	0	0
8:15 AM	0	4	0	0	0	1	0	0	0	0	0	0	0	0	0	0	5	0	0	0	0
8:20 AM	0	0	0	0	0	4	0	0	0	0	2	0	0	0	0	0	6	0	0	0	0
8:25 AM	0	3	0	0	0	3	0	0	0	0	0	0	0	0	0	0	6	0	0	0	0
8:30 AM	0	2	0	0	0	5	0	0	0	0	0	0	0	0	0	0	7	0	0	0	0
8:35 AM	1	3	0	0	0	4	0	0	0	0	1	0	0	0	0	0	9	0	0	0	0
8:40 AM	0	3	0	0	0	2	0	0	0	0	1	0	0	0	0	0	6	0	0	0	0
8:45 AM	0	2	0	0	0	4	0	0	0	0	0	0	0	0	0	0	6	0	0	0	0
8:50 AM	0	6	0	0	0	5	0	0	0	0	1	0	0	0	0	0	12	0	0	0	0
8:55 AM	0	2	0	0	0	5	0	0	0	0	0	0	0	0	0	0	7	0	0	0	0
Total	4	52	0	0	0	78	1	0	1	0	5	0	0	0	0	0	141	0	0	0	0

Peak Hour Summary: 8:00-9:00 AM PHF = 0.87

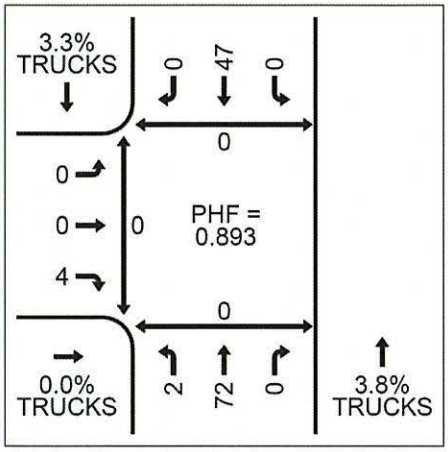
	Northbound Nehalem River Rd				Southbound Nehalem River Rd				Eastbound South Site Access				Westbound South Site Access				Interval Total	Pedestrians			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
Peak Hour	1	35	0	0	0	46	0	0	0	0	5	0	0	0	0	0	87	0	0	0	0
% Trucks	12.5%				8.9%				33.3%				#DIV/0!								

Intersection Count Summary (2-Hour Count)
Ard Engineering, LLC

Intersection: Nehalem River Road at Proposed South Access

Date: 8/9/2022 Time: 4:00 PM to 6:00 PM

Weather: Clear and Dry



PEAK HOUR DIAGRAM: 4:25 - 5:25 PM

Count Data: 5-Minute Intervals

Start Time	Northbound Nehalem River Rd				Southbound Nehalem River Rd				Eastbound South Site Access				Westbound South Site Access				Interval Total	Pedestrian Crossings			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
4:00 PM	0	4	0	0	0	4	0	0	0	0	0	0	0	0	0	0	8	0	0	0	0
4:05 PM	0	4	0	0	0	2	0	0	0	0	0	0	0	0	0	0	6	0	0	0	0
4:10 PM	1	3	0	0	0	2	0	0	0	0	0	0	0	0	0	0	6	0	0	0	0
4:15 PM	0	1	0	0	0	5	0	0	0	0	0	0	0	0	0	0	6	0	0	0	0
4:20 PM	0	5	0	0	0	5	0	0	0	0	0	0	0	0	0	0	10	0	0	0	0
4:25 PM	0	10	0	0	0	5	0	0	0	0	1	0	0	0	0	0	16	0	0	0	0
4:30 PM	0	5	0	0	0	2	0	0	0	0	0	0	0	0	0	0	7	0	0	0	0
4:35 PM	0	2	0	0	0	6	0	0	0	0	0	0	0	0	0	0	8	0	0	0	0
4:40 PM	0	8	0	0	0	7	0	0	0	0	1	0	0	0	0	0	16	0	0	0	0
4:45 PM	0	5	0	0	0	3	0	0	0	0	0	0	0	0	0	0	8	0	0	0	0
4:50 PM	0	3	0	0	0	5	0	0	0	0	0	0	0	0	0	0	8	0	0	0	0
4:55 PM	0	2	0	0	0	3	0	1	0	0	0	0	0	0	0	0	5	0	0	0	0
5:00 PM	0	7	0	0	0	4	0	0	0	0	0	0	0	0	0	0	11	0	0	0	0
5:05 PM	1	8	0	0	0	2	0	0	0	0	0	0	0	0	0	0	11	0	0	0	0
5:10 PM	1	7	0	0	0	2	0	0	0	0	0	0	0	0	0	0	10	0	0	0	0
5:15 PM	0	7	0	0	0	4	0	0	0	0	1	0	0	0	0	0	12	0	0	0	0
5:20 PM	0	8	0	0	0	4	0	0	0	0	1	0	0	0	0	0	13	0	0	0	0
5:25 PM	0	7	0	0	0	3	0	0	0	0	0	0	0	0	0	0	10	0	0	0	0
5:30 PM	0	1	0	0	0	6	0	0	0	0	0	0	0	0	0	0	7	0	0	0	0
5:35 PM	0	6	0	0	0	4	0	0	0	0	1	0	0	0	0	0	11	0	0	0	0
5:40 PM	0	6	0	0	0	3	0	0	0	0	0	0	0	0	0	0	9	0	0	0	0
5:45 PM	1	9	0	0	0	5	0	0	0	0	0	0	0	0	0	0	15	0	0	0	0
5:50 PM	0	6	0	0	0	3	0	0	0	0	0	0	0	0	0	0	9	0	0	0	0
5:55 PM	0	3	0	0	0	2	0	0	0	0	0	0	0	0	0	0	5	0	0	0	0
Total	4	127	0	0	0	91	0	1	0	0	5	0	0	0	0	0	227	0	0	0	0

Peak Hour Summary: 4:25-5:25 PM PHF = 0.893

	Northbound Nehalem River Rd				Southbound Nehalem River Rd				Eastbound South Site Access				Westbound South Site Access				Interval Total	Pedestrians			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
Peak Hour	2	72	0	0	0	47	0	1	0	0	4	0	0	0	0	0	125	0	0	0	0
% Trucks	3.8%				3.3%				0.0%				#DIV/0!								

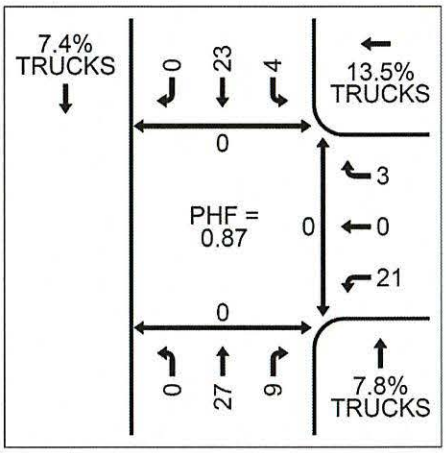
Intersection Count Summary (2-Hour Count)

Ard Engineering, LLC

Intersection: Nehalem River Road at McDonald Road

Date: 8/10/2022 Time: 7:00 AM to 9:00 AM

Weather: Overcast



PEAK HOUR DIAGRAM: 8:00 - 9:00 AM

Count Data: 5-Minute Intervals

Start Time	Northbound Nehalem River Rd				Southbound Nehalem River Rd				Eastbound McDonald Road				Westbound McDonald Road				Interval Total	Pedestrian Crossings			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:05 AM	0	1	0	0	0	1	0	0	0	0	0	0	0	0	2	0	4	0	0	0	0
7:10 AM	0	0	1	0	0	0	0	0	0	0	0	0	2	0	0	0	3	0	0	0	0
7:15 AM	0	1	0	0	1	2	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0
7:20 AM	0	2	0	0	1	1	0	0	0	0	0	0	0	0	1	0	5	0	0	0	0
7:25 AM	0	1	0	0	0	10	0	0	0	0	0	0	1	0	0	0	12	0	0	0	0
7:30 AM	0	0	0	0	0	3	0	0	0	0	0	0	2	0	0	0	5	0	0	0	0
7:35 AM	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0
7:40 AM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0
7:45 AM	0	2	1	0	0	3	0	0	0	0	0	0	1	0	0	0	7	0	0	0	0
7:50 AM	0	3	0	0	0	1	0	0	0	0	0	0	2	0	0	0	6	0	0	0	0
7:55 AM	0	2	0	0	0	3	0	0	0	0	0	0	1	0	0	0	6	0	0	0	0
8:00 AM	0	4	1	0	1	1	0	0	0	0	0	0	2	0	0	0	9	0	0	0	0
8:05 AM	0	3	0	0	0	2	0	0	0	0	0	0	6	0	0	0	11	0	0	0	0
8:10 AM	0	1	0	0	0	1	0	0	0	0	0	0	1	0	1	0	4	0	0	0	0
8:15 AM	0	5	1	0	0	0	0	0	0	0	0	0	1	0	0	0	7	0	0	0	0
8:20 AM	0	0	0	0	0	2	0	0	0	0	0	0	2	0	0	0	4	0	0	0	0
8:25 AM	0	2	1	0	1	2	0	0	0	0	0	0	1	0	0	0	7	0	0	0	0
8:30 AM	0	1	1	0	1	3	0	0	0	0	0	0	2	0	0	0	8	0	0	0	0
8:35 AM	0	2	1	0	0	3	0	0	0	0	0	0	1	0	0	0	7	0	0	0	0
8:40 AM	0	2	1	0	0	1	0	0	0	0	0	0	1	0	0	0	5	0	0	0	0
8:45 AM	0	1	0	0	0	1	0	0	0	0	0	0	2	0	1	0	5	0	0	0	0
8:50 AM	0	5	2	0	0	4	0	0	0	0	0	0	2	0	0	0	13	0	0	0	0
8:55 AM	0	1	1	0	1	3	0	0	0	0	0	0	0	0	1	0	7	0	0	0	0
Total	0	39	12	0	7	47	0	0	0	0	0	0	31	0	6	0	142	0	0	0	0

Peak Hour Summary: 8:00-9:00 AM PHF = 0.87

	Northbound Nehalem River Rd				Southbound Nehalem River Rd				Eastbound McDonald Road				Westbound McDonald Road				Interval Total	Pedestrians			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
Peak Hour	0	27	9	0	4	23	0	0	0	0	0	0	21	0	3	0	87	0	0	0	0
% Trucks	7.8%				7.4%				#DIV/0!				13.5%								

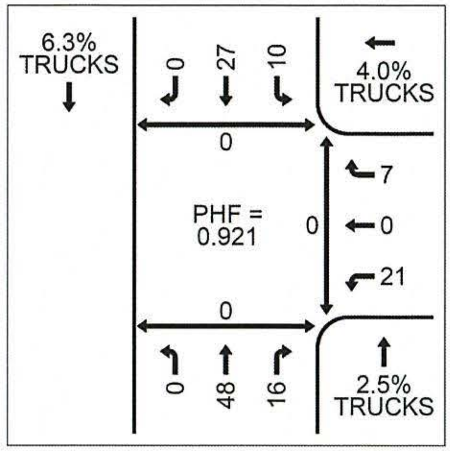
Intersection Count Summary (2-Hour Count)

Ard Engineering, LLC

Intersection: Nehalem River Road at McDonald Road

Date: 8/9/2022 Time: 4:00 PM to 6:00 PM

Weather: Clear and Dry



PEAK HOUR DIAGRAM: 4:20 - 5:20 PM

Count Data: 5-Minute Intervals

Start Time	Northbound Nehalem River Rd				Southbound Nehalem River Rd				Eastbound McDonald Road				Westbound McDonald Road				Interval Total	Pedestrian Crossings			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
4:00 PM	0	1	2	0	0	1	0	0	0	0	0	0	2	0	1	0	7	0	0	0	0
4:05 PM	0	1	4	0	1	1	0	0	0	0	0	0	0	0	1	0	8	0	0	0	0
4:10 PM	0	2	1	0	0	1	0	0	0	0	0	0	1	0	0	0	5	0	0	0	0
4:15 PM	0	1	0	0	0	2	0	0	0	0	0	0	4	0	1	0	8	0	0	0	0
4:20 PM	0	4	1	0	1	4	0	0	0	0	0	0	3	0	1	0	14	0	0	0	0
4:25 PM	0	5	2	0	1	1	0	0	0	0	0	0	3	0	0	0	12	0	0	0	0
4:30 PM	0	3	1	0	0	1	0	0	0	0	0	0	1	0	1	0	7	0	0	0	0
4:35 PM	0	2	0	0	0	1	0	0	0	0	0	0	4	0	1	0	8	0	0	0	0
4:40 PM	0	4	3	0	1	4	0	0	0	0	0	0	3	0	1	0	16	0	0	0	0
4:45 PM	0	3	1	0	1	1	0	0	0	0	0	0	2	0	0	0	8	0	0	0	0
4:50 PM	0	4	1	0	2	1	0	0	0	0	0	0	1	0	2	0	11	0	0	0	0
4:55 PM	0	1	0	0	1	3	0	1	0	0	0	0	0	0	1	0	6	0	0	0	0
5:00 PM	0	6	1	0	2	3	0	0	0	0	0	0	1	0	0	0	13	0	0	0	0
5:05 PM	0	5	2	0	0	1	0	0	0	0	0	0	1	0	0	0	9	0	0	0	0
5:10 PM	0	4	4	0	1	2	0	0	0	0	0	0	0	0	0	0	11	0	0	0	0
5:15 PM	0	7	0	0	0	5	0	0	0	0	0	0	2	0	0	0	14	0	0	0	0
5:20 PM	0	5	1	0	1	3	0	0	0	0	0	0	0	0	0	0	10	0	0	0	0
5:25 PM	0	6	2	0	0	2	0	0	0	0	0	0	1	0	1	0	12	0	0	0	0
5:30 PM	0	1	0	0	1	5	0	0	0	0	0	0	1	0	0	0	8	0	0	0	0
5:35 PM	0	3	1	0	1	0	0	0	0	0	0	0	1	0	1	0	7	0	0	0	0
5:40 PM	0	2	3	0	0	2	0	0	0	0	0	0	2	0	1	0	10	0	0	0	0
5:45 PM	0	4	4	0	0	1	0	0	0	0	0	0	3	0	0	0	12	0	0	0	0
5:50 PM	0	3	4	0	1	4	0	0	0	0	0	0	0	0	0	0	12	0	0	0	0
5:55 PM	0	1	2	0	0	0	0	0	0	0	0	0	1	0	0	0	4	0	0	0	0
Total	0	78	40	0	15	49	0	1	0	0	0	0	37	0	13	0	232	0	0	0	0

Peak Hour Summary: 4:20-5:20 PM PHF = 0.921

	Northbound Nehalem River Rd				Southbound Nehalem River Rd				Eastbound McDonald Road				Westbound McDonald Road				Interval Total	Pedestrians			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
Peak Hour	0	48	16	0	10	27	0	1	0	0	0	0	21	0	7	0	129	0	0	0	0
% Trucks	2.5%				6.3%				0.0%				4.0%								

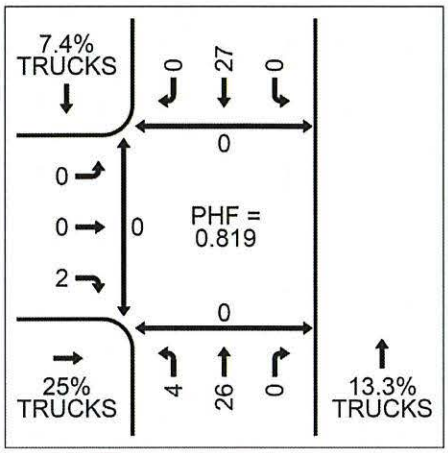
Intersection Count Summary (2-Hour Count)

Ard Engineering, LLC

Intersection: Nehalem River Road at River View Meadows Lane

Date: 8/10/2022 Time: 7:00 AM to 9:00 AM

Weather: Overcast



PEAK HOUR DIAGRAM: 8:00 - 9:00 AM

Count Data: 5-Minute Intervals

Start Time	Northbound Nehalem River Rd				Southbound Nehalem River Rd				Eastbound River View Meadows Ln				Westbound River View Meadows Ln				Interval Total	Pedestrian Crossings			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:05 AM	1	2	0	0	0	1	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0
7:10 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	1	0	0	0	0	3	0	0	1	0	0	0	0	0	0	0	5	0	0	0	0
7:20 AM	0	3	0	0	0	2	0	0	0	0	0	0	0	0	0	0	5	0	0	0	0
7:25 AM	0	1	0	0	0	10	0	0	0	0	1	0	0	0	0	0	12	0	0	0	0
7:30 AM	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0
7:35 AM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
7:40 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	2	0	0	0	3	0	0	0	0	0	0	0	0	0	0	5	0	0	0	0
7:50 AM	0	3	0	0	0	1	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0
7:55 AM	2	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	5	0	0	0	0
8:00 AM	0	4	0	0	0	2	0	0	0	0	0	0	0	0	0	0	6	0	0	0	0
8:05 AM	1	2	0	0	0	2	0	0	0	0	1	0	0	0	0	0	6	0	0	0	0
8:10 AM	0	2	0	0	0	1	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0
8:15 AM	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0	0	0	0
8:20 AM	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0
8:25 AM	1	1	0	0	0	3	0	0	0	0	0	0	0	0	0	0	5	0	0	0	0
8:30 AM	0	1	0	0	0	4	0	0	0	0	0	0	0	0	0	0	5	0	0	0	0
8:35 AM	0	2	0	0	0	3	0	0	0	0	1	0	0	0	0	0	6	0	0	0	0
8:40 AM	0	2	0	0	0	1	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0
8:45 AM	1	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0
8:50 AM	1	4	0	0	0	4	0	0	0	0	0	0	0	0	0	0	9	0	0	0	0
8:55 AM	0	2	0	0	0	4	0	0	0	0	0	0	0	0	0	0	6	0	0	0	0
Total	8	37	0	0	0	54	0	0	1	0	3	0	0	0	0	0	103	0	0	0	0

Peak Hour Summary: 8:00-9:00 AM PHF = 0.819

	Northbound Nehalem River Rd				Southbound Nehalem River Rd				Eastbound River View Meadows Ln				Westbound River View Meadows				Interval Total	Pedestrians			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
Peak Hour	4	26	0	0	0	27	0	0	0	0	2	0	0	0	0	0	59	0	0	0	0
% Trucks	13.3%				7.4%				25.0%				#DIV/0!								

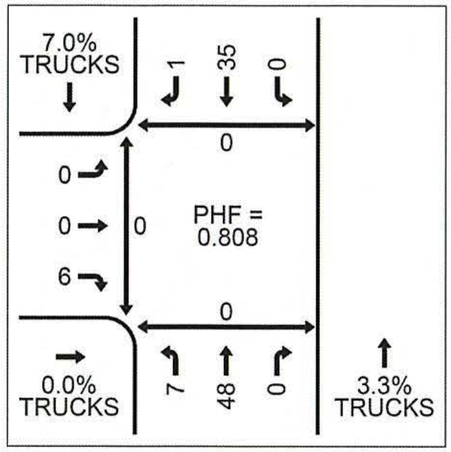
Intersection Count Summary (2-Hour Count)

Ard Engineering, LLC

Intersection: Nehalem River Road at River View Meadows Lane

Date: 8/9/2022 Time: 4:00 PM to 6:00 PM

Weather: Clear and Dry



PEAK HOUR DIAGRAM: 4:40 - 5:40 PM

Count Data: 5-Minute Intervals

Start Time	Northbound Nehalem River Rd				Southbound Nehalem River Rd				Eastbound RiverView Meadows Ln				Westbound RiverView Meadows Ln				Interval Total
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	
4:00 PM	0	2	0	0	0	0	0	0	0	0	2	0	0	0	0	0	4
4:05 PM	0	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	4
4:10 PM	0	2	0	0	0	1	0	0	0	0	0	0	0	0	0	0	3
4:15 PM	1	1	0	0	0	2	0	0	0	0	0	0	0	0	0	0	4
4:20 PM	0	5	0	0	0	5	0	0	0	0	0	0	0	0	0	0	10
4:25 PM	1	4	0	0	0	2	0	0	0	0	0	0	0	0	0	0	7
4:30 PM	2	2	0	0	0	1	0	0	0	0	0	0	0	0	0	0	5
4:35 PM	1	2	0	0	0	1	0	0	0	0	0	0	0	0	0	0	4
4:40 PM	0	5	0	0	0	5	0	0	0	0	0	0	0	0	0	0	10
4:45 PM	1	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	5
4:50 PM	1	5	0	0	0	3	0	0	0	0	0	0	0	0	0	0	9
4:55 PM	0	2	0	0	0	4	1	1	0	0	0	0	0	0	0	0	7
5:00 PM	1	5	0	0	0	2	0	0	0	0	3	0	0	0	0	0	11
5:05 PM	0	5	0	0	0	1	0	0	0	0	0	0	0	0	0	0	6
5:10 PM	0	4	0	0	0	2	0	0	0	0	1	0	0	0	0	0	7
5:15 PM	1	6	0	0	0	5	0	0	0	0	0	0	0	0	0	0	12
5:20 PM	1	4	0	0	0	4	0	0	0	0	0	0	0	0	0	0	9
5:25 PM	1	6	0	0	0	2	0	0	0	0	0	0	0	0	0	0	9
5:30 PM	0	1	0	0	0	4	0	0	0	0	2	0	0	0	0	0	7
5:35 PM	1	3	0	0	0	1	0	0	0	0	0	0	0	0	0	0	5
5:40 PM	0	3	0	0	0	2	0	0	0	0	0	0	0	0	0	0	5
5:45 PM	0	4	0	0	0	1	0	0	0	0	0	0	0	0	0	0	5
5:50 PM	0	3	0	0	0	4	0	0	0	0	1	0	0	0	0	0	8
5:55 PM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Total	12	79	0	0	0	56	1	1	0	0	9	0	0	0	0	0	157

Start Time	Pedestrian Crossings			
	North	South	East	West
4:00 PM	0	0	0	0
4:05 PM	0	0	0	0
4:10 PM	0	0	0	0
4:15 PM	0	0	0	0
4:20 PM	0	0	0	0
4:25 PM	0	0	0	0
4:30 PM	0	0	0	0
4:35 PM	0	0	0	0
4:40 PM	0	0	0	0
4:45 PM	0	0	0	0
4:50 PM	0	0	0	0
4:55 PM	0	0	0	0
5:00 PM	0	0	0	0
5:05 PM	0	0	0	0
5:10 PM	0	0	0	0
5:15 PM	0	0	0	0
5:20 PM	0	0	0	0
5:25 PM	0	0	0	0
5:30 PM	0	0	0	0
5:35 PM	0	0	0	0
5:40 PM	0	0	0	0
5:45 PM	0	0	0	0
5:50 PM	0	0	0	0
5:55 PM	0	0	0	0
Total	0	0	0	0

Peak Hour Summary: 4:40-5:40 PM PHF = 0.808

	Northbound Nehalem River Rd				Southbound Nehalem River Rd				Eastbound RiverView Meadows Ln				Westbound RiverView Meadows Ln				Interval
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	Total
Peak Hour	7	48	0	0	0	35	1	1	0	0	6	0	0	0	0	0	93
% Trucks	3.3%				7.0%				0.0%				#DIV/0!				

Pedestrians			
North	South	East	West
0	0	0	0

Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	5	1	35	46	0
Future Vol, veh/h	0	5	1	35	46	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	33	33	13	13	9	9
Mvmt Flow	0	6	1	40	53	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	95	53	53	0	-	0
Stage 1	53	-	-	-	-	-
Stage 2	42	-	-	-	-	-
Critical Hdwy	6.73	6.53	4.23	-	-	-
Critical Hdwy Stg 1	5.73	-	-	-	-	-
Critical Hdwy Stg 2	5.73	-	-	-	-	-
Follow-up Hdwy	3.797	3.597	2.317	-	-	-
Pot Cap-1 Maneuver	834	933	1485	-	-	-
Stage 1	896	-	-	-	-	-
Stage 2	907	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	833	933	1485	-	-	-
Mov Cap-2 Maneuver	833	-	-	-	-	-
Stage 1	895	-	-	-	-	-
Stage 2	907	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.9	0.2	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1485	-	933	-	-
HCM Lane V/C Ratio	0.001	-	0.006	-	-
HCM Control Delay (s)	7.4	0	8.9	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Intersection	
Int Delay, s/veh	2.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	21	3	27	9	4	23
Future Vol, veh/h	21	3	27	9	4	23
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	14	14	8	8	7	7
Mvmt Flow	24	3	31	10	5	26

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	72	36	0	0	41	0
Stage 1	36	-	-	-	-	-
Stage 2	36	-	-	-	-	-
Critical Hdwy	6.54	6.34	-	-	4.17	-
Critical Hdwy Stg 1	5.54	-	-	-	-	-
Critical Hdwy Stg 2	5.54	-	-	-	-	-
Follow-up Hdwy	3.626	3.426	-	-	2.263	-
Pot Cap-1 Maneuver	903	1003	-	-	1537	-
Stage 1	956	-	-	-	-	-
Stage 2	956	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	900	1003	-	-	1537	-
Mov Cap-2 Maneuver	900	-	-	-	-	-
Stage 1	956	-	-	-	-	-
Stage 2	953	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.1	0	1.1
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	912	1537	-
HCM Lane V/C Ratio	-	-	0.03	0.003	-
HCM Control Delay (s)	-	-	9.1	7.3	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0	-

Intersection	
Int Delay, s/veh	0.8

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	2	4	26	27	0
Future Vol, veh/h	0	2	4	26	27	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	82	82	82	82	82	82
Heavy Vehicles, %	25	25	13	13	7	7
Mvmt Flow	0	2	5	32	33	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	75	33	33	0	-	0
Stage 1	33	-	-	-	-	-
Stage 2	42	-	-	-	-	-
Critical Hdwy	6.65	6.45	4.23	-	-	-
Critical Hdwy Stg 1	5.65	-	-	-	-	-
Critical Hdwy Stg 2	5.65	-	-	-	-	-
Follow-up Hdwy	3.725	3.525	2.317	-	-	-
Pot Cap-1 Maneuver	874	978	1511	-	-	-
Stage 1	933	-	-	-	-	-
Stage 2	925	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	871	978	1511	-	-	-
Mov Cap-2 Maneuver	871	-	-	-	-	-
Stage 1	930	-	-	-	-	-
Stage 2	925	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.7	1	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1511	-	978	-	-
HCM Lane V/C Ratio	0.003	-	0.002	-	-
HCM Control Delay (s)	7.4	0	8.7	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	4	2	72	47	0
Future Vol, veh/h	0	4	2	72	47	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	2	2	4	4	3	3
Mvmt Flow	0	4	2	81	53	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	138	53	53	0	-	0
Stage 1	53	-	-	-	-	-
Stage 2	85	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.14	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.236	-	-	-
Pot Cap-1 Maneuver	855	1014	1540	-	-	-
Stage 1	970	-	-	-	-	-
Stage 2	938	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	854	1014	1540	-	-	-
Mov Cap-2 Maneuver	854	-	-	-	-	-
Stage 1	969	-	-	-	-	-
Stage 2	938	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.6	0.2	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1540	-	1014	-	-
HCM Lane V/C Ratio	0.001	-	0.004	-	-
HCM Control Delay (s)	7.3	0	8.6	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Intersection	
Int Delay, s/veh	2.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	21	7	48	16	10	27
Future Vol, veh/h	21	7	48	16	10	27
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
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, %	4	4	3	3	6	6
Mvmt Flow	23	8	52	17	11	29

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	112	61	0	0	69	0
Stage 1	61	-	-	-	-	-
Stage 2	51	-	-	-	-	-
Critical Hdwy	6.44	6.24	-	-	4.16	-
Critical Hdwy Stg 1	5.44	-	-	-	-	-
Critical Hdwy Stg 2	5.44	-	-	-	-	-
Follow-up Hdwy	3.536	3.336	-	-	2.254	-
Pot Cap-1 Maneuver	880	999	-	-	1507	-
Stage 1	957	-	-	-	-	-
Stage 2	966	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	874	999	-	-	1507	-
Mov Cap-2 Maneuver	874	-	-	-	-	-
Stage 1	957	-	-	-	-	-
Stage 2	959	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.1	0	2
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	902	1507	-
HCM Lane V/C Ratio	-	-	0.034	0.007	-
HCM Control Delay (s)	-	-	9.1	7.4	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0	-

Intersection	
Int Delay, s/veh	1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	6	7	48	35	1
Future Vol, veh/h	0	6	7	48	35	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	81	81	81	81	81	81
Heavy Vehicles, %	2	2	3	3	7	7
Mvmt Flow	0	7	9	59	43	1

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	121	44	44	0	-	0
Stage 1	44	-	-	-	-	-
Stage 2	77	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.13	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.227	-	-	-
Pot Cap-1 Maneuver	874	1026	1558	-	-	-
Stage 1	978	-	-	-	-	-
Stage 2	946	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	869	1026	1558	-	-	-
Mov Cap-2 Maneuver	869	-	-	-	-	-
Stage 1	972	-	-	-	-	-
Stage 2	946	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.5	0.9	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1558	-	1026	-	-
HCM Lane V/C Ratio	0.006	-	0.007	-	-
HCM Control Delay (s)	7.3	0	8.5	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Trip Generation Calculation Worksheet

Land Use Description: Single-Family Detached Housing
ITE Land Use Code: 210
Independent Variable: Dwelling Units
Quantity: 74 Dwelling Units
Setting: General Urban/Suburban and Rural

Summary of ITE Trip Generation Data

AM Peak Hour of Adjacent Street Traffic
Trip Rate: 0.70 trips per dwelling unit
Directional Distribution: 26% Entering 74% Exiting

PM Peak Hour of Adjacent Street Traffic
Trip Rate: 0.94 trips per dwelling unit
Directional Distribution: 63% Entering 37% Exiting

Total Weekday Traffic
Trip Rate: 9.43 trips per dwelling unit
Directional Distribution: 50% Entering 50% Exiting

Site Trip Generation Calculations

74 Dwelling Units

	Entering	Exiting	Total
AM Peak Hour	14	38	52
PM Peak Hour	44	26	70
Weekday	349	349	698

Data Source: *Trip Generation Manual, 11th Edition* , Institute of Transportation Engineers, 2021

Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	5	1	38	57	0
Future Vol, veh/h	0	5	1	38	57	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	33	33	13	13	9	9
Mvmt Flow	0	6	1	44	66	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	112	66	66	0	-	0
Stage 1	66	-	-	-	-	-
Stage 2	46	-	-	-	-	-
Critical Hdwy	6.73	6.53	4.23	-	-	-
Critical Hdwy Stg 1	5.73	-	-	-	-	-
Critical Hdwy Stg 2	5.73	-	-	-	-	-
Follow-up Hdwy	3.797	3.597	2.317	-	-	-
Pot Cap-1 Maneuver	815	918	1469	-	-	-
Stage 1	884	-	-	-	-	-
Stage 2	903	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	814	918	1469	-	-	-
Mov Cap-2 Maneuver	814	-	-	-	-	-
Stage 1	883	-	-	-	-	-
Stage 2	903	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.9	0.2	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1469	-	918	-	-
HCM Lane V/C Ratio	0.001	-	0.006	-	-
HCM Control Delay (s)	7.5	0	8.9	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Intersection	
Int Delay, s/veh	2.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	22	3	30	10	6	32
Future Vol, veh/h	22	3	30	10	6	32
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	14	14	8	8	7	7
Mvmt Flow	25	3	34	11	7	37

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	91	40	0	0	45	0
Stage 1	40	-	-	-	-	-
Stage 2	51	-	-	-	-	-
Critical Hdwy	6.54	6.34	-	-	4.17	-
Critical Hdwy Stg 1	5.54	-	-	-	-	-
Critical Hdwy Stg 2	5.54	-	-	-	-	-
Follow-up Hdwy	3.626	3.426	-	-	2.263	-
Pot Cap-1 Maneuver	881	998	-	-	1531	-
Stage 1	952	-	-	-	-	-
Stage 2	942	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	877	998	-	-	1531	-
Mov Cap-2 Maneuver	877	-	-	-	-	-
Stage 1	952	-	-	-	-	-
Stage 2	937	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.2	0	1.2
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	890	1531	-
HCM Lane V/C Ratio	-	-	0.032	0.005	-
HCM Control Delay (s)	-	-	9.2	7.4	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0	-

Intersection	
Int Delay, s/veh	0.7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	2	4	28	29	0
Future Vol, veh/h	0	2	4	28	29	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	82	82	82	82	82	82
Heavy Vehicles, %	25	25	13	13	7	7
Mvmt Flow	0	2	5	34	35	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	79	35	35	0	-	0
Stage 1	35	-	-	-	-	-
Stage 2	44	-	-	-	-	-
Critical Hdwy	6.65	6.45	4.23	-	-	-
Critical Hdwy Stg 1	5.65	-	-	-	-	-
Critical Hdwy Stg 2	5.65	-	-	-	-	-
Follow-up Hdwy	3.725	3.525	2.317	-	-	-
Pot Cap-1 Maneuver	870	976	1508	-	-	-
Stage 1	931	-	-	-	-	-
Stage 2	923	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	867	976	1508	-	-	-
Mov Cap-2 Maneuver	867	-	-	-	-	-
Stage 1	928	-	-	-	-	-
Stage 2	923	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.7	0.9	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1508	-	976	-	-
HCM Lane V/C Ratio	0.003	-	0.002	-	-
HCM Control Delay (s)	7.4	0	8.7	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	4	2	82	52	0
Future Vol, veh/h	0	4	2	82	52	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	2	2	4	4	3	3
Mvmt Flow	0	4	2	92	58	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	154	58	58	0	-	0
Stage 1	58	-	-	-	-	-
Stage 2	96	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.14	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.236	-	-	-
Pot Cap-1 Maneuver	838	1008	1533	-	-	-
Stage 1	965	-	-	-	-	-
Stage 2	928	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	837	1008	1533	-	-	-
Mov Cap-2 Maneuver	837	-	-	-	-	-
Stage 1	964	-	-	-	-	-
Stage 2	928	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.6	0.2	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1533	-	1008	-	-
HCM Lane V/C Ratio	0.001	-	0.004	-	-
HCM Control Delay (s)	7.4	0	8.6	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Intersection	
Int Delay, s/veh	2.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	22	8	57	17	11	31
Future Vol, veh/h	22	8	57	17	11	31
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
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, %	4	4	3	3	6	6
Mvmt Flow	24	9	62	18	12	34

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	129	71	0	0	80	0
Stage 1	71	-	-	-	-	-
Stage 2	58	-	-	-	-	-
Critical Hdwy	6.44	6.24	-	-	4.16	-
Critical Hdwy Stg 1	5.44	-	-	-	-	-
Critical Hdwy Stg 2	5.44	-	-	-	-	-
Follow-up Hdwy	3.536	3.336	-	-	2.254	-
Pot Cap-1 Maneuver	861	986	-	-	1493	-
Stage 1	947	-	-	-	-	-
Stage 2	959	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	854	986	-	-	1493	-
Mov Cap-2 Maneuver	854	-	-	-	-	-
Stage 1	947	-	-	-	-	-
Stage 2	951	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.2	0	1.9
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	886	1493	-
HCM Lane V/C Ratio	-	-	0.037	0.008	-
HCM Control Delay (s)	-	-	9.2	7.4	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0	-

Intersection	
Int Delay, s/veh	2.5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	2	18	19	51	37	1
Future Vol, veh/h	2	18	19	51	37	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	81	81	81	81	81	81
Heavy Vehicles, %	2	2	3	3	7	7
Mvmt Flow	2	22	23	63	46	1

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	156	47	47	0	-	0
Stage 1	47	-	-	-	-	-
Stage 2	109	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.13	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.227	-	-	-
Pot Cap-1 Maneuver	835	1022	1554	-	-	-
Stage 1	975	-	-	-	-	-
Stage 2	916	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	822	1022	1554	-	-	-
Mov Cap-2 Maneuver	822	-	-	-	-	-
Stage 1	960	-	-	-	-	-
Stage 2	916	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.7	2	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1554	-	998	-	-
HCM Lane V/C Ratio	0.015	-	0.025	-	-
HCM Control Delay (s)	7.4	0	8.7	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Intersection	
Int Delay, s/veh	1.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	3	15	5	46	85	1
Future Vol, veh/h	3	15	5	46	85	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	33	33	13	13	9	9
Mvmt Flow	3	17	6	53	98	1

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	164	99	99	0	-	0
Stage 1	99	-	-	-	-	-
Stage 2	65	-	-	-	-	-
Critical Hdwy	6.73	6.53	4.23	-	-	-
Critical Hdwy Stg 1	5.73	-	-	-	-	-
Critical Hdwy Stg 2	5.73	-	-	-	-	-
Follow-up Hdwy	3.797	3.597	2.317	-	-	-
Pot Cap-1 Maneuver	760	878	1428	-	-	-
Stage 1	853	-	-	-	-	-
Stage 2	885	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	757	878	1428	-	-	-
Mov Cap-2 Maneuver	757	-	-	-	-	-
Stage 1	850	-	-	-	-	-
Stage 2	885	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.3	0.7	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1428	-	855	-	-
HCM Lane V/C Ratio	0.004	-	0.024	-	-
HCM Control Delay (s)	7.5	0	9.3	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Intersection	
Int Delay, s/veh	2.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	23	4	38	13	11	60
Future Vol, veh/h	23	4	38	13	11	60
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	14	14	8	8	7	7
Mvmt Flow	26	5	44	15	13	69

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	147	52	0	0	59	0
Stage 1	52	-	-	-	-	-
Stage 2	95	-	-	-	-	-
Critical Hdwy	6.54	6.34	-	-	4.17	-
Critical Hdwy Stg 1	5.54	-	-	-	-	-
Critical Hdwy Stg 2	5.54	-	-	-	-	-
Follow-up Hdwy	3.626	3.426	-	-	2.263	-
Pot Cap-1 Maneuver	818	983	-	-	1513	-
Stage 1	941	-	-	-	-	-
Stage 2	899	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	811	983	-	-	1513	-
Mov Cap-2 Maneuver	811	-	-	-	-	-
Stage 1	941	-	-	-	-	-
Stage 2	891	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.5	0	1.1
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	833	1513	-
HCM Lane V/C Ratio	-	-	0.037	0.008	-
HCM Control Delay (s)	-	-	9.5	7.4	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0	-

Intersection	
Int Delay, s/veh	4.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	3	35	17	28	29	1
Future Vol, veh/h	3	35	17	28	29	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	82	82	82	82	82	82
Heavy Vehicles, %	25	25	13	13	7	7
Mvmt Flow	4	43	21	34	35	1

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	112	36	36	0	-	0
Stage 1	36	-	-	-	-	-
Stage 2	76	-	-	-	-	-
Critical Hdwy	6.65	6.45	4.23	-	-	-
Critical Hdwy Stg 1	5.65	-	-	-	-	-
Critical Hdwy Stg 2	5.65	-	-	-	-	-
Follow-up Hdwy	3.725	3.525	2.317	-	-	-
Pot Cap-1 Maneuver	832	974	1507	-	-	-
Stage 1	930	-	-	-	-	-
Stage 2	892	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	820	974	1507	-	-	-
Mov Cap-2 Maneuver	820	-	-	-	-	-
Stage 1	917	-	-	-	-	-
Stage 2	892	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.9	2.8	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1507	-	960	-	-
HCM Lane V/C Ratio	0.014	-	0.048	-	-
HCM Control Delay (s)	7.4	0	8.9	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0.2	-	-

Intersection	
Int Delay, s/veh	1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	2	11	14	111	67	3
Future Vol, veh/h	2	11	14	111	67	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	2	2	4	4	3	3
Mvmt Flow	2	12	16	125	75	3

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	234	77	78	0	-	0
Stage 1	77	-	-	-	-	-
Stage 2	157	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.14	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.236	-	-	-
Pot Cap-1 Maneuver	754	984	1508	-	-	-
Stage 1	946	-	-	-	-	-
Stage 2	871	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	746	984	1508	-	-	-
Mov Cap-2 Maneuver	746	-	-	-	-	-
Stage 1	936	-	-	-	-	-
Stage 2	871	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.9	0.8	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1508	-	938	-	-
HCM Lane V/C Ratio	0.01	-	0.016	-	-
HCM Control Delay (s)	7.4	0	8.9	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Intersection	
Int Delay, s/veh	2.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	25	12	86	19	13	46
Future Vol, veh/h	25	12	86	19	13	46
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
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, %	4	4	3	3	6	6
Mvmt Flow	27	13	93	21	14	50

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	182	104	0	0	114	0
Stage 1	104	-	-	-	-	-
Stage 2	78	-	-	-	-	-
Critical Hdwy	6.44	6.24	-	-	4.16	-
Critical Hdwy Stg 1	5.44	-	-	-	-	-
Critical Hdwy Stg 2	5.44	-	-	-	-	-
Follow-up Hdwy	3.536	3.336	-	-	2.254	-
Pot Cap-1 Maneuver	803	945	-	-	1451	-
Stage 1	915	-	-	-	-	-
Stage 2	940	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	795	945	-	-	1451	-
Mov Cap-2 Maneuver	795	-	-	-	-	-
Stage 1	915	-	-	-	-	-
Stage 2	931	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.5	0	1.7
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	838	1451	-
HCM Lane V/C Ratio	-	-	0.048	0.01	-
HCM Control Delay (s)	-	-	9.5	7.5	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.2	0	-

Intersection	
Int Delay, s/veh	4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	5	35	52	51	37	4
Future Vol, veh/h	5	35	52	51	37	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	81	81	81	81	81	81
Heavy Vehicles, %	2	2	3	3	7	7
Mvmt Flow	6	43	64	63	46	5

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	240	49	51	0	-	0
Stage 1	49	-	-	-	-	-
Stage 2	191	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.13	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.227	-	-	-
Pot Cap-1 Maneuver	748	1020	1549	-	-	-
Stage 1	973	-	-	-	-	-
Stage 2	841	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	716	1020	1549	-	-	-
Mov Cap-2 Maneuver	716	-	-	-	-	-
Stage 1	931	-	-	-	-	-
Stage 2	841	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.9	3.7	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1549	-	969	-	-
HCM Lane V/C Ratio	0.041	-	0.051	-	-
HCM Control Delay (s)	7.4	0	8.9	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0.1	-	0.2	-	-

OREGON.. DEPARTMENT OF TRANSPORTATION - TRANSPORTATION DEVELOPMENT DIVISION
TRANSPORTATION DATA SECTION - CRASH ANAYLYSIS AND REPORTING UNIT
COUNTY ROAD CRASH LISTING
NORTH FORK NEHLM RD, MP -999.99 to 999.99, 01/01/2016 to 12/31/2020
1 - 5 of 5 Crash records shown.

SER# / INVEST / RD DPT / UNLOC?	S P E D C	D R A L S	M J U G V	S I N H L	W C O R K	DATE / DAY / TIME / LAT	MILEPNT / DIST FROM / INTERSECT / LONG	COUNTY ROADS / FIRST STREET / SECOND STREET / LRS	RD CHAR / DIRECT / LOCTH	INT-TYPE (MEDIAN) / (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	SPCL USE / TRLR QTY / V# / TYPE / OWNER	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	A G E	S E X	LICNS / RES	PED LOC	ERROR	ACT	EVENT	CAUSE
00050	N	N	N			02/20/2020	0.32	NORTH FORK NEHLM RD	STRGHT		N	N	CLR	ANIMAL	01 NONE 9	STRGHT										035	12
COUNTY						TH			UN	(NONE)	NONE	N	DRY	OTH	N/A	E -W									000		00
N						10A			03			N	DAY	PDO	PSNGR CAR		01	DRVR	NONE	00	Unk	UNK		000	000		00
N						45 43 23.18	-123 53 28.22			(02)													UNK				
00110	N	N	N	N	N	04/17/2019	1.44	NORTH FORK NEHLM RD	CURVE		N	Y	RAIN	FIX OBJ	01 NONE 9	STRGHT										045,091	10
COUNTY						WE			UN	(NONE)	NONE	N	WET	FIX	N/A	S -N									000		00
Y						10A			06			N	DAY	PDO	PSNGR CAR		01	DRVR	NONE	00	Unk	UNK		000	000		00
N						45 44 1.16	-123 52 38.33			(02)													UNK				
00183	N	Y	N	N	N	06/20/2018	1.66	NORTH FORK NEHLM RD	CURVE		N	Y	CLR	FIX OBJ	01 NONE 0	STRGHT										035,079,091	32
COUNTY						WE			UN	(NONE)	NONE	N	DRY	FIX	PRVTE	N -S									007	079,091	00
Y						2A			07			N	DARK	INJ	PSNGR CAR		01	DRVR	INJB	28	F	N-VAL		052,080,081	088		32
N						45 44 11.32	-123 52 34.03			(02)													OR<25				
00136	Y	N	N	N	N	05/11/2019	2.90	NORTH FORK NEHLM RD	CURVE		N	Y	UNK	FIX OBJ	01 NONE 0	STRGHT										058,010	01
COUNTY						SA			UN	(NONE)	CURVE	N	DRY	FIX	PRVTE	UN-UN									000	058,010	00
Y						12A			07			N	DARK	INJ	PSNGR CAR		01	DRVR	INJC	20	F	OR-Y		047,080,081	017		01
N						45 44 53.16	-123 51 26.61			(02)													OR<25				
00055	N	N	N	N	N	03/07/2018	3.47	NORTH FORK NEHLM RD	CURVE		N	Y	CLR	FIX OBJ	01 NONE 0	STRGHT										092,079,010	26
COUNTY						WE			UN	(NONE)	NONE	N	DRY	FIX	PRVTE	S -N									007	092,079,010	26
Y						4P			01			N	DAY	INJ	PSNGR CAR		01	DRVR	INJC	48	M	OR-Y		080,081	000		00
N						45 45 8.15	-123 50 56.15			(02)													OR>25				

Preliminary Traffic Signal Warrant Analysis

Project Name: Riverview Meadows
Intersection: Northfork Road at South Site Access
Scenario: 2025 Background Plus Site Trips
Number of Major Street Lanes: 1 PM Peak Hour Volume 195 (sum of both approaches)
Number of Minor Street Lanes 1 PM Peak Hour Volume 10 (highest-volume approach)[a]
Posted or 85th percentile speed > 40 mph: Yes
Isolated Population Less than 10,000: Yes

Warrant 1, Eight-Hour Vehicular Volume

Condition A - Minimum Vehicular Volume

Number of lanes for moving traffic on each approach		Vehicles per hour on major street (total of both approaches)				Vehicles per hour on minor street (total of both approaches)			
Major Street	Minor Street	100%	80%	70%	56%	100%	80%	70%	56%
1	1	500	400	350	280	150	120	105	84
2 or more	1	600	480	420	336	150	120	105	84
2 or more	2 or more	600	480	420	336	200	160	140	112
1	2 or more	500	400	350	280	200	160	140	112

Condition B - Interruption of Continuous Traffic

Number of lanes for moving traffic on each approach		Vehicles per hour on major street (total of both approaches)				Vehicles per hour on minor street (total of both approaches)			
Major Street	Minor Street	100%	80%	70%	56%	100%	80%	70%	56%
1	1	750	600	525	420	75	60	53	42
2 or more	1	900	720	630	504	75	60	53	42
2 or more	2 or more	900	720	630	504	100	80	70	56
1	2 or more	750	600	525	420	100	80	70	56

Warrant Anaylsis Calculations	8th Highest Hour[b]	Minimum Volume	Warrant Satisfied?
Condition A - Minimum Vehicular Volume			
Major Street Volume	110	350	
Minor Street Volume	6	105	**No**
Condition B - Interruption of Continuous Traffic			
Major Street Volume	110	525	
Minor Street Volume	6	53	**No**
Combination Warrant[c]			
Major Street Volume	110	420	
Minor Street Volume	6	84	**No**

[a] Minor-Street right turn volumes are reduced to account for the impact of right-turns on red.

[b] Eighth-highest hour volumes are calculated as 5.65 percent of the expected daily traffic volume.

[c] This warrant should be used only after adequate trial of other alternatives has failed to solve traffic problems.

Preliminary Traffic Signal Warrant Analysis

Project Name: Riverview Meadows
Intersection: Northfork Road at McDonald Dike Road
Scenario: 2025 Background Plus Site Trips
Number of Major Street Lanes: 1 PM Peak Hour Volume 164 (sum of both approaches)
Number of Minor Street Lanes 1 PM Peak Hour Volume 34 (highest-volume approach)[a]
Posted or 85th percentile speed > 40 mph: Yes
Isolated Population Less than 10,000: Yes

Warrant 1, Eight-Hour Vehicular Volume

Condition A - Minimum Vehicular Volume

Number of lanes for moving traffic on each approach		Vehicles per hour on major street (total of both approaches)				Vehicles per hour on minor street (total of both approaches)			
Major Street	Minor Street	100%	80%	70%	56%	100%	80%	70%	56%
1	1	500	400	350	280	150	120	105	84
2 or more	1	600	480	420	336	150	120	105	84
2 or more	2 or more	600	480	420	336	200	160	140	112
1	2 or more	500	400	350	280	200	160	140	112

Condition B - Interruption of Continuous Traffic

Number of lanes for moving traffic on each approach		Vehicles per hour on major street (total of both approaches)				Vehicles per hour on minor street (total of both approaches)			
Major Street	Minor Street	100%	80%	70%	56%	100%	80%	70%	56%
1	1	750	600	525	420	75	60	53	42
2 or more	1	900	720	630	504	75	60	53	42
2 or more	2 or more	900	720	630	504	100	80	70	56
1	2 or more	750	600	525	420	100	80	70	56

Warrant Anaylsis Calculations	8th Highest Hour[b]	Minimum Volume	Warrant Satisfied?
Condition A - Minimum Vehicular Volume			
Major Street Volume	93	350	
Minor Street Volume	19	105	**No**
Condition B - Interruption of Continuous Traffic			
Major Street Volume	93	525	
Minor Street Volume	19	53	**No**
Combination Warrant[c]			
Major Street Volume	93	420	
Minor Street Volume	19	84	**No**

[a] Minor-Street right turn volumes are reduced to account for the impact of right-turns on red.

[b] Eighth-highest hour volumes are calculated as 5.65 percent of the expected daily traffic volume.

[c] This warrant should be used only after adequate trial of other alternatives has failed to solve traffic problems.

Preliminary Traffic Signal Warrant Analysis

Project Name: Riverview Meadows
Intersection: Northfork Road at River View Meadows Lane
Scenario: 2025 Background Plus Site Trips
Number of Major Street Lanes: 1 PM Peak Hour Volume 144 (sum of both approaches)
Number of Minor Street Lanes 1 PM Peak Hour Volume 31 (highest-volume approach)[a]
Posted or 85th percentile speed > 40 mph: Yes
Isolated Population Less than 10,000: Yes

Warrant 1, Eight-Hour Vehicular Volume

Condition A - Minimum Vehicular Volume

Number of lanes for moving traffic on each approach		Vehicles per hour on major street (total of both approaches)				Vehicles per hour on minor street (total of both approaches)			
Major Street	Minor Street	100%	80%	70%	56%	100%	80%	70%	56%
1	1	500	400	350	280	150	120	105	84
2 or more	1	600	480	420	336	150	120	105	84
2 or more	2 or more	600	480	420	336	200	160	140	112
1	2 or more	500	400	350	280	200	160	140	112

Condition B - Interruption of Continuous Traffic

Number of lanes for moving traffic on each approach		Vehicles per hour on major street (total of both approaches)				Vehicles per hour on minor street (total of both approaches)			
Major Street	Minor Street	100%	80%	70%	56%	100%	80%	70%	56%
1	1	750	600	525	420	75	60	53	42
2 or more	1	900	720	630	504	75	60	53	42
2 or more	2 or more	900	720	630	504	100	80	70	56
1	2 or more	750	600	525	420	100	80	70	56

Warrant Anaylsis Calculations	8th Highest Hour[b]	Minimum Volume	Warrant Satisfied?
Condition A - Minimum Vehicular Volume			
Major Street Volume	81	350	
Minor Street Volume	18	105	**No**
Condition B - Interruption of Continuous Traffic			
Major Street Volume	81	525	
Minor Street Volume	18	53	**No**
Combination Warrant[c]			
Major Street Volume	81	420	
Minor Street Volume	18	84	**No**

[a] Minor-Street right turn volumes are reduced to account for the impact of right-turns on red.

[b] Eighth-highest hour volumes are calculated as 5.65 percent of the expected daily traffic volume.

[c] This warrant should be used only after adequate trial of other alternatives has failed to solve traffic problems.

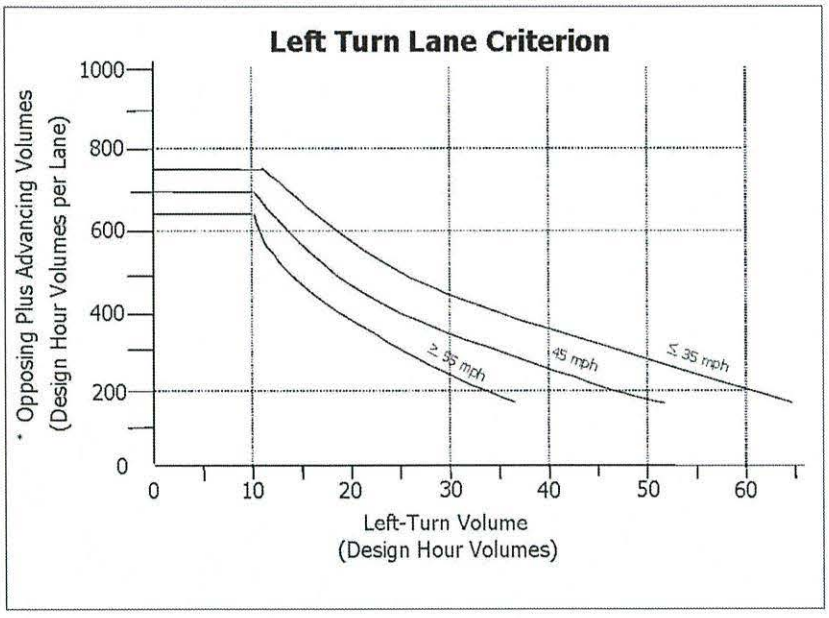
Left-Turn Lane Warrant Analysis (ODOT Methodology)

Project Name: Riverview Meadows
Approach: Northbound Northfork Road at South Site Access
Scenario: 2025 Background Plus Site Trips

Number of Advancing Lanes: 1
Number of Opposing Lanes: 1
Major-Street Design Speed: 45 mph

	AM Volume	PM Volume
Advancing Volume for Design Hour:	51	125
Opposing Volume for Design Hour:	86	70
Design Hour Volume Per Lane:	137	195
Number of Left Turns per Hour:	5	14
Left-turn lane warrants satisfied?	**NO**	**NO**

Exhibit 7-1 Left Turn Lane Criterion (TTI)



*(Advancing Volume/Number of Advancing Through Lanes) + (Opposing Volume/Number of Opposing Through Lanes)

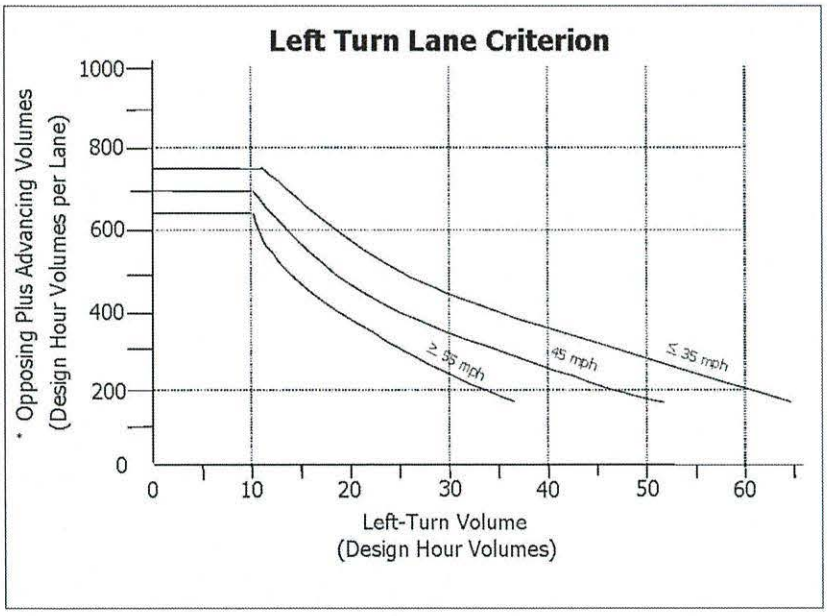
Left-Turn Lane Warrant Analysis (ODOT Methodology)

Project Name: Riverview Meadows
Approach: Sourthbound Northfork Road at McDonald Dike Road
Scenario: 2025 Background Plus Site Trips

Number of Advancing Lanes: 1
Number of Opposing Lanes: 1
Major-Street Design Speed: 45 mph

	AM Volume	PM Volume
Advancing Volume for Design Hour:	71	59
Opposing Volume for Design Hour:	51	105
Design Hour Volume Per Lane:	122	164
Number of Left Turns per Hour:	11	13
Left-turn lane warrants satisfied?	**NO**	**NO**

Exhibit 7-1 Left Turn Lane Criterion (TTI)



*(Advancing Volume/Number of Advancing Through Lanes) + (Opposing Volume/Number of Opposing Through Lanes)

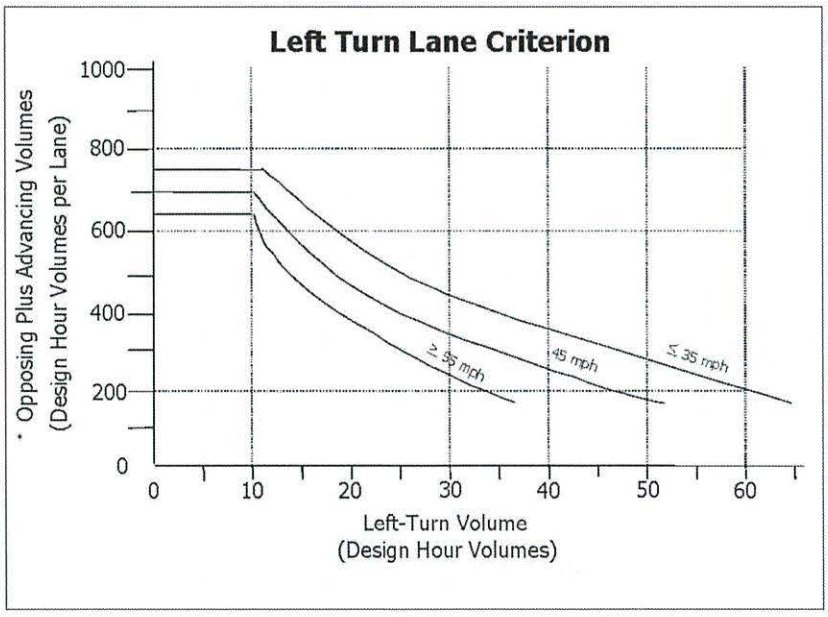
Left-Turn Lane Warrant Analysis (ODOT Methodology)

Project Name: Riverview Meadows
Approach: Northbound Northfork Road at River View Meadows Lane
Scenario: 2025 Background Plus Site Trips

Number of Advancing Lanes: 1
Number of Opposing Lanes: 1
Major-Street Design Speed: 45 mph

	AM Volume	PM Volume
Advancing Volume for Design Hour:	45	103
Opposing Volume for Design Hour:	30	41
Design Hour Volume Per Lane:	75	144
Number of Left Turns per Hour:	17	52
Left-turn lane warrants satisfied?	**NO**	**NO**

Exhibit 7-1 Left Turn Lane Criterion (TTI)



*(Advancing Volume/Number of Advancing Through Lanes) + (Opposing Volume/Number of Opposing Through Lanes)

Right-Turn Lane Warrant Analysis (ODOT Methodology)

Project Name: Riverview Meadows
Approach: Southbound Northfork Road at South Site Access
Scenario: 2025 Background plus Site Trips

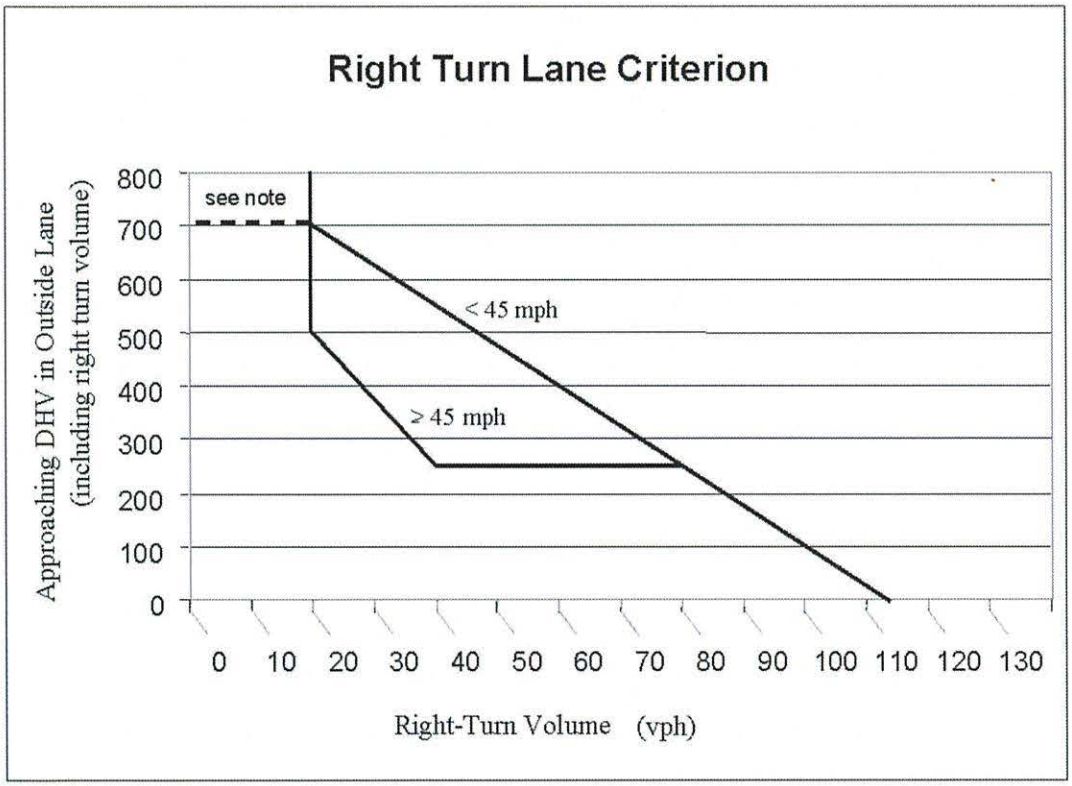
Major-Street Design Speed: 45 mph

	AM Volume	PM Volume
Number of Right Turns per Hour:	1	3
Approaching DVH in Outside Lane:	86	70
Calculated Turn Volume Threshold:	102	104
Right Turn Volume Exceeds Threshold?	**NO**	**NO**

Criterion 1: Vehicular Volume

The vehicular volume criterion is intended for application where the volume of intersecting traffic is the principal reason for considering installation of a right turn lane. The vehicular volume criteria are determined using the curve in Exhibit 7-2.

Exhibit 7-2 Right Turn Lane Criterion



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.

Right-Turn Lane Warrant Analysis (ODOT Methodology)

Project Name: Riverview Meadows
Approach: Northbound Northfork Road at McDonald Dike Road
Scenario: 2025 Background plus Site Trips

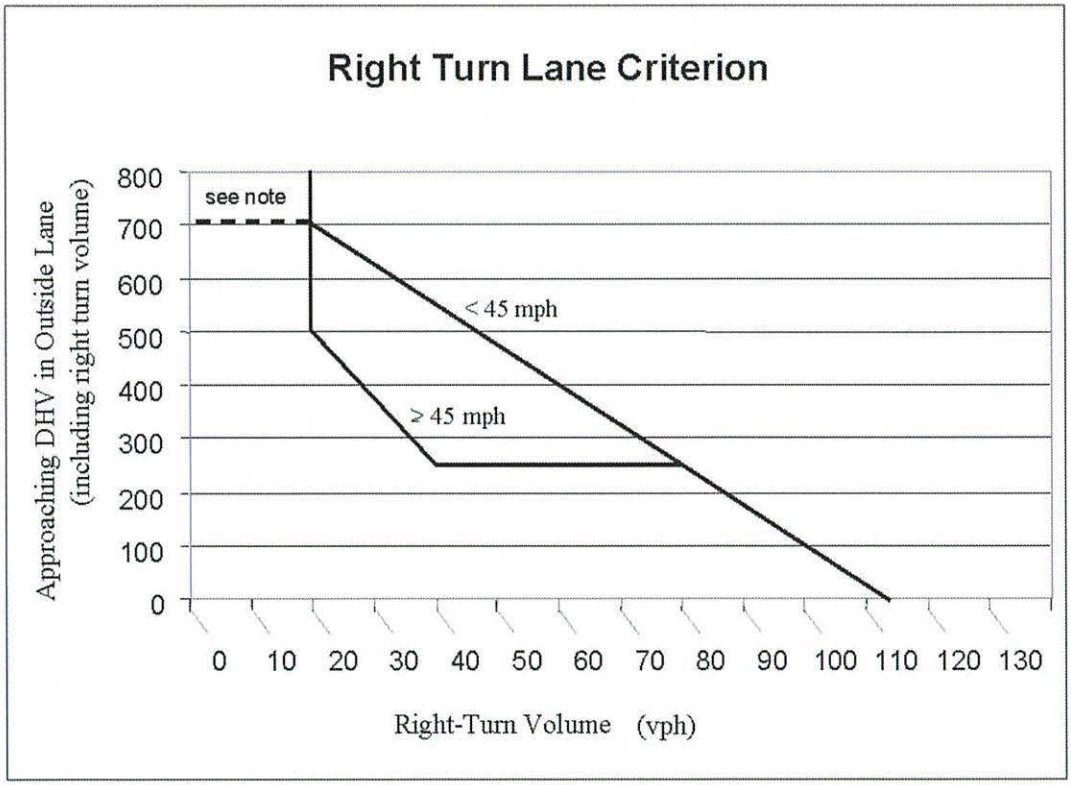
Major-Street Design Speed: 45 mph

	AM Volume	PM Volume
Number of Right Turns per Hour:	13	19
Approaching DVH in Outside Lane:	51	105
Calculated Turn Volume Threshold:	106	99
Right Turn Volume Exceeds Threshold?	**NO**	**NO**

Criterion 1: Vehicular Volume

The vehicular volume criterion is intended for application where the volume of intersecting traffic is the principal reason for considering installation of a right turn lane. The vehicular volume criteria are determined using the curve in Exhibit 7-2.

Exhibit 7-2 Right Turn Lane Criterion



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.

Right-Turn Lane Warrant Analysis (ODOT Methodology)

Project Name: Riverview Meadows
Approach: Southbound Northfork Road at River View Meadows Lane
Scenario: 2025 Background plus Site Trips

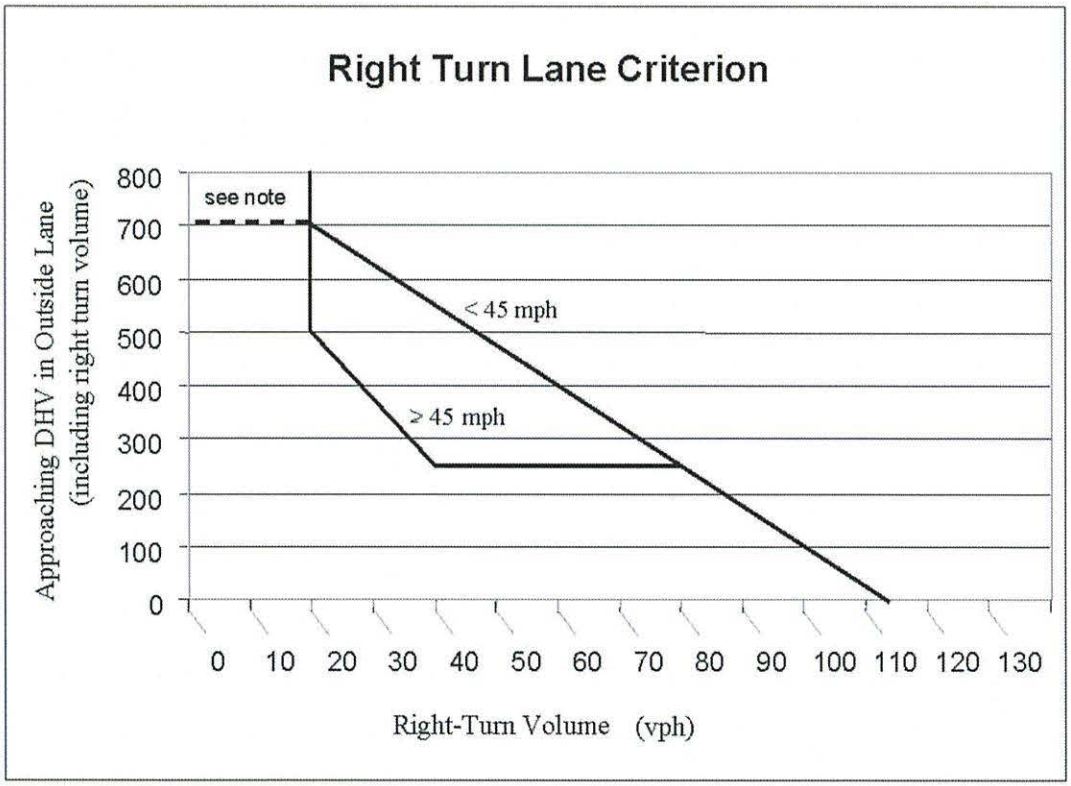
Major-Street Design Speed: 45 mph

	AM Volume	PM Volume
Number of Right Turns per Hour:	1	4
Approaching DVH in Outside Lane:	30	41
Calculated Turn Volume Threshold:	109	108
Right Turn Volume Exceeds Threshold?	**NO**	**NO**

Criterion 1: Vehicular Volume

The vehicular volume criterion is intended for application where the volume of intersecting traffic is the principal reason for considering installation of a right turn lane. The vehicular volume criteria are determined using the curve in Exhibit 7-2.

Exhibit 7-2 Right Turn Lane Criterion



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.

Speed Study Summary - Radar Data

Location: Northfork Nehalem River Road at South Site Access
Direction: Southbound
Date: August 10, 2022
Time: 7:00 AM
Weather: Overcast
Notes: None

85th Percentile Speed **39 mph**
Average Speed: 34 mph

Recorded Speeds:*

1 mph ------- 0	26 mph ------- 0	51 mph ------- 0
2 mph ------- 0	27 mph ------- 2	52 mph ------- 0
3 mph ------- 0	28 mph ------- 0	53 mph ------- 0
4 mph ------- 0	29 mph ------- 1	54 mph ------- 0
5 mph ------- 0	30 mph ------- 2	55 mph ------- 0
6 mph ------- 0	31 mph ------- 4	56 mph ------- 0
7 mph ------- 0	32 mph ------- 8	57 mph ------- 0
8 mph ------- 0	33 mph ------- 10	58 mph ------- 0
9 mph ------- 0	34 mph ------- 10	59 mph ------- 0
10 mph ------- 0	35 mph ------- 7	60 mph ------- 0
11 mph ------- 0	36 mph ------- 14	61 mph ------- 0
12 mph ------- 0	37 mph ------- 4	62 mph ------- 0
13 mph ------- 0	38 mph ------- 2	63 mph ------- 0
14 mph ------- 0	39 mph ------- 2	64 mph ------- 0
15 mph ------- 0	40 mph ------- 1	65 mph ------- 0
16 mph ------- 0	41 mph ------- 1	66 mph ------- 0
17 mph ------- 0	42 mph ------- 0	67 mph ------- 0
18 mph ------- 0	43 mph ------- 6	68 mph ------- 0
19 mph ------- 2	44 mph ------- 0	69 mph ------- 0
20 mph ------- 0	45 mph ------- 0	70 mph ------- 0
21 mph ------- 0	46 mph ------- 2	71 mph ------- 0
22 mph ------- 0	47 mph ------- 0	72 mph ------- 0
23 mph ------- 2	48 mph ------- 0	73 mph ------- 0
24 mph ------- 0	49 mph ------- 0	74 mph ------- 0
25 mph ------- 0	50 mph ------- 0	75+ mph ------- 0

* Speed data observations include free-flowing traffic only (i.e. no following vehicles)

Speed Study Summary - Radar Data

Location: Northfork Road at River View Meadows Lane
Direction: Southbound
Date: August 9, 2022
Time: 4:00 PM
Weather: Clear/Dry
Notes: None

85th Percentile Speed **41 mph**
Average Speed: 36 mph

Recorded Speeds:*

1 mph ------- 0	26 mph ------- 2	51 mph ------- 0
2 mph ------- 0	27 mph ------- 0	52 mph ------- 0
3 mph ------- 0	28 mph ------- 1	53 mph ------- 0
4 mph ------- 0	29 mph ------- 0	54 mph ------- 0
5 mph ------- 0	30 mph ------- 4	55 mph ------- 0
6 mph ------- 0	31 mph ------- 0	56 mph ------- 0
7 mph ------- 0	32 mph ------- 1	57 mph ------- 0
8 mph ------- 0	33 mph ------- 4	58 mph ------- 0
9 mph ------- 0	34 mph ------- 10	59 mph ------- 0
10 mph ------- 0	35 mph ------- 10	60 mph ------- 0
11 mph ------- 0	36 mph ------- 12	61 mph ------- 0
12 mph ------- 0	37 mph ------- 3	62 mph ------- 0
13 mph ------- 0	38 mph ------- 4	63 mph ------- 0
14 mph ------- 0	39 mph ------- 8	64 mph ------- 0
15 mph ------- 0	40 mph ------- 2	65 mph ------- 0
16 mph ------- 0	41 mph ------- 8	66 mph ------- 0
17 mph ------- 0	42 mph ------- 2	67 mph ------- 0
18 mph ------- 0	43 mph ------- 3	68 mph ------- 0
19 mph ------- 0	44 mph ------- 1	69 mph ------- 0
20 mph ------- 0	45 mph ------- 2	70 mph ------- 0
21 mph ------- 0	46 mph ------- 0	71 mph ------- 0
22 mph ------- 0	47 mph ------- 0	72 mph ------- 0
23 mph ------- 0	48 mph ------- 0	73 mph ------- 0
24 mph ------- 3	49 mph ------- 0	74 mph ------- 0
25 mph ------- 0	50 mph ------- 0	75+ mph ------- 0

* Speed data observations include free-flowing traffic only (i.e. no following vehicles)

Speed Study Summary - Radar Data

Location: Northfork Road at River View Meadows Lane
Direction: Northbound
Date: August 9, 2022
Time: 4:00 PM
Weather: Clear/Dry
Notes: None

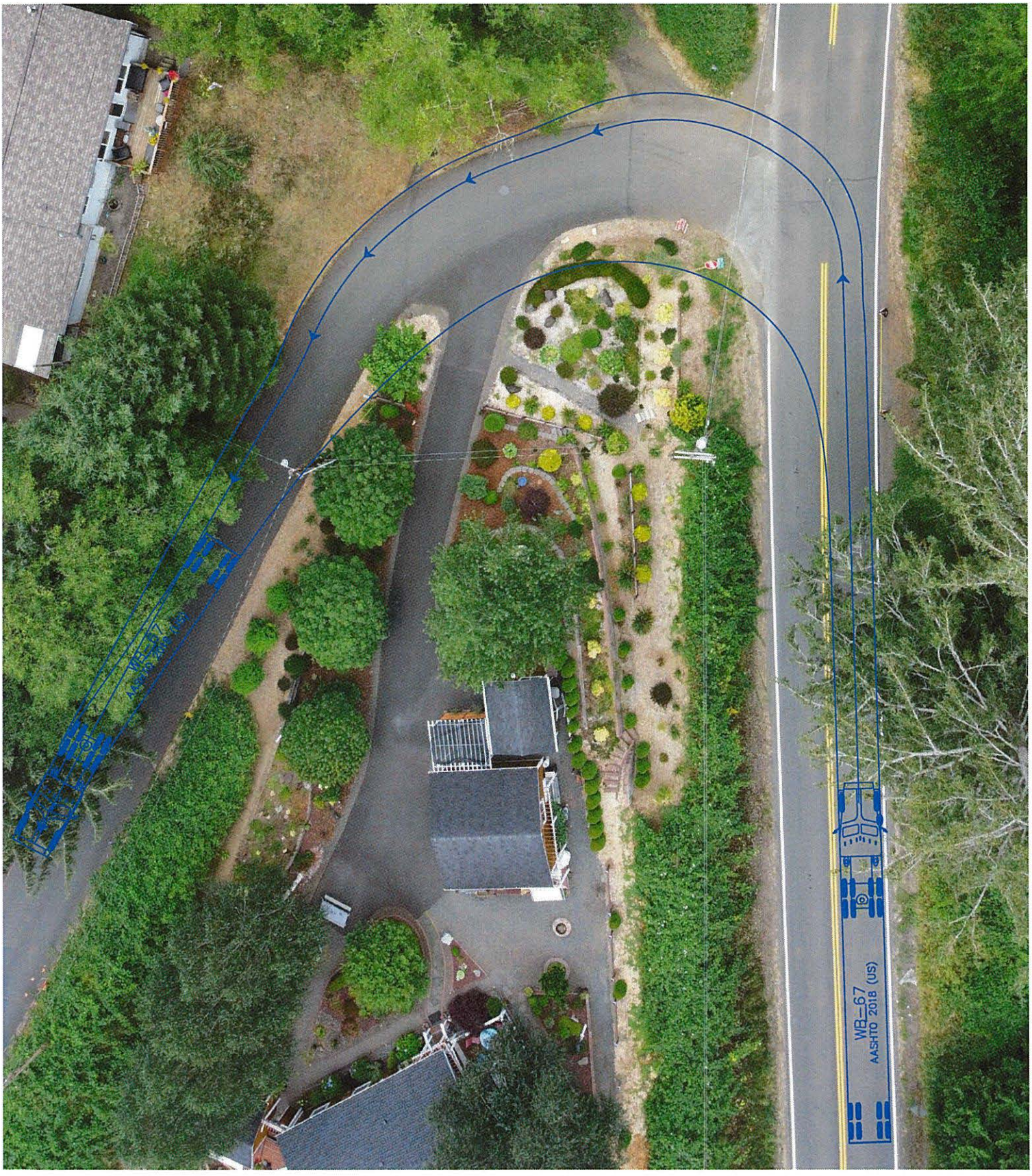
85th Percentile Speed **40 mph**
Average Speed: 35 mph

Recorded Speeds:*

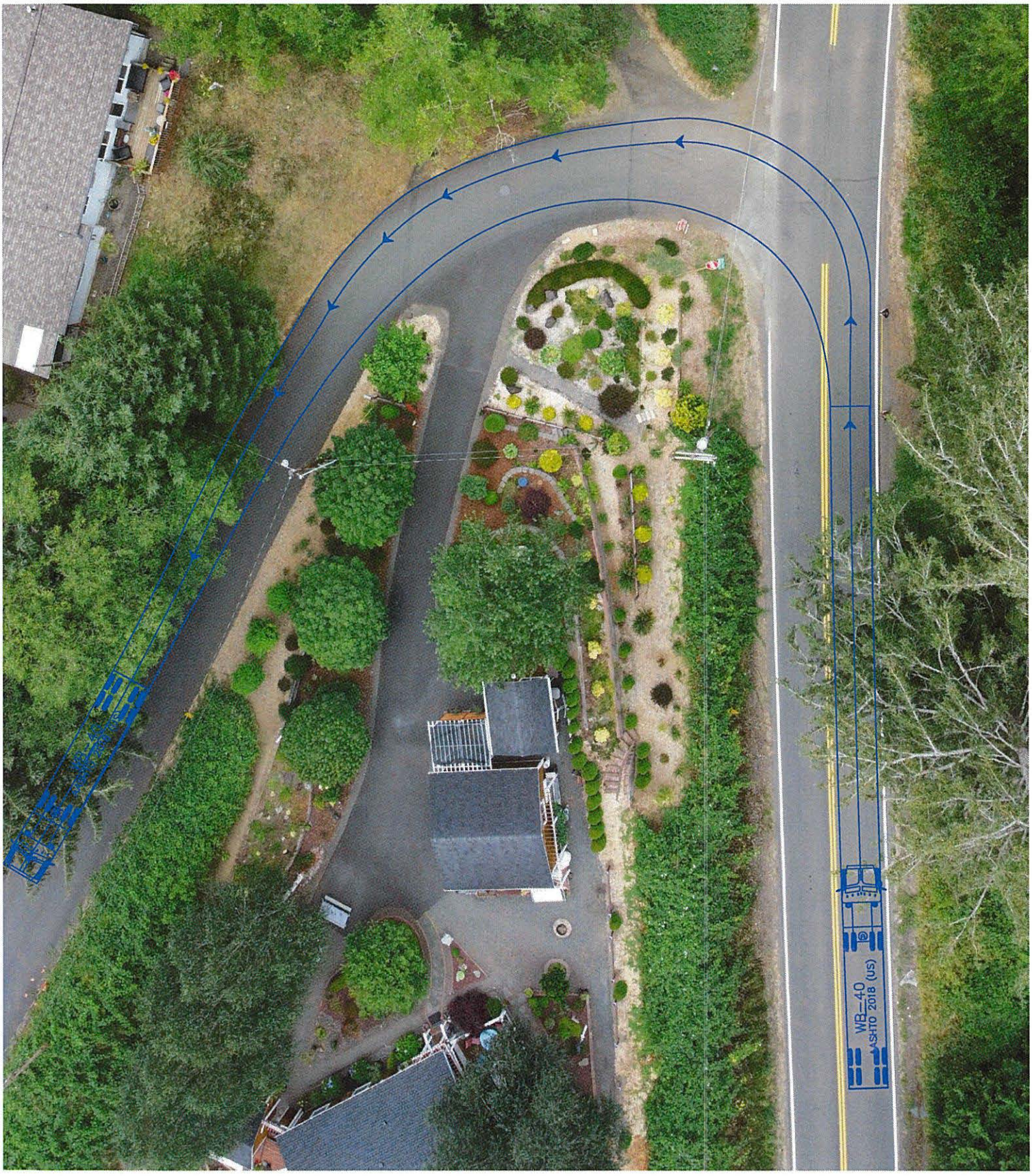
1 mph ------- 0	26 mph ------- 1	51 mph ------- 0
2 mph ------- 0	27 mph ------- 0	52 mph ------- 0
3 mph ------- 0	28 mph ------- 1	53 mph ------- 0
4 mph ------- 0	29 mph ------- 3	54 mph ------- 0
5 mph ------- 0	30 mph ------- 8	55 mph ------- 0
6 mph ------- 0	31 mph ------- 7	56 mph ------- 0
7 mph ------- 0	32 mph ------- 7	57 mph ------- 0
8 mph ------- 0	33 mph ------- 6	58 mph ------- 0
9 mph ------- 0	34 mph ------- 10	59 mph ------- 0
10 mph ------- 0	35 mph ------- 6	60 mph ------- 0
11 mph ------- 0	36 mph ------- 3	61 mph ------- 0
12 mph ------- 0	37 mph ------- 0	62 mph ------- 0
13 mph ------- 0	38 mph ------- 5	63 mph ------- 0
14 mph ------- 0	39 mph ------- 7	64 mph ------- 0
15 mph ------- 0	40 mph ------- 4	65 mph ------- 0
16 mph ------- 0	41 mph ------- 2	66 mph ------- 0
17 mph ------- 0	42 mph ------- 2	67 mph ------- 0
18 mph ------- 0	43 mph ------- 2	68 mph ------- 0
19 mph ------- 0	44 mph ------- 1	69 mph ------- 0
20 mph ------- 0	45 mph ------- 0	70 mph ------- 0
21 mph ------- 0	46 mph ------- 0	71 mph ------- 0
22 mph ------- 0	47 mph ------- 4	72 mph ------- 0
23 mph ------- 1	48 mph ------- 0	73 mph ------- 0
24 mph ------- 0	49 mph ------- 0	74 mph ------- 0
25 mph ------- 0	50 mph ------- 0	75+ mph ------- 0

* Speed data observations include free-flowing traffic only (i.e. no following vehicles)

WB-67 Interstate Truck Offtracking (Uphill)

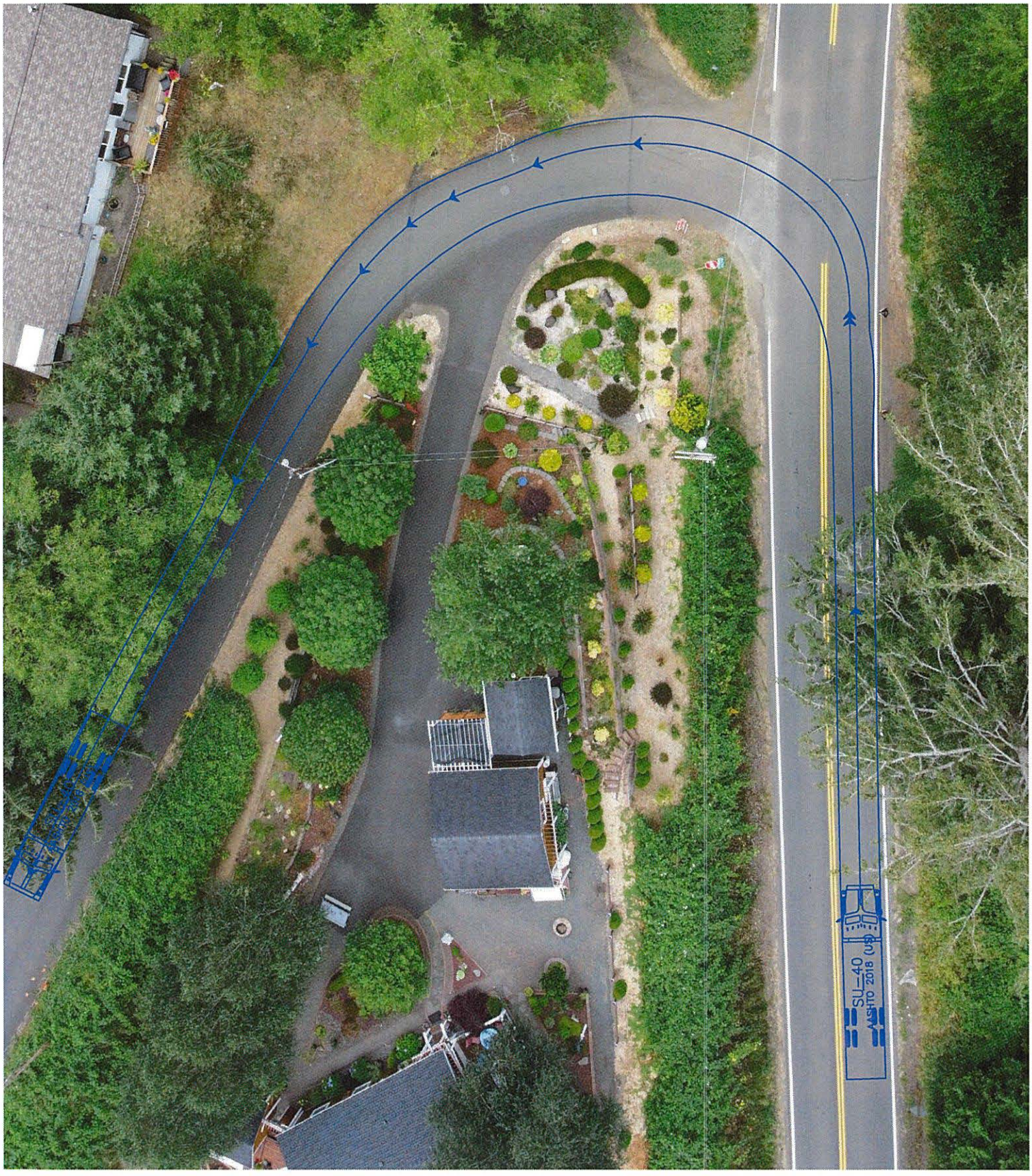


WB-40 Tractor Trailer Using Both Travel Lanes (Uphill)

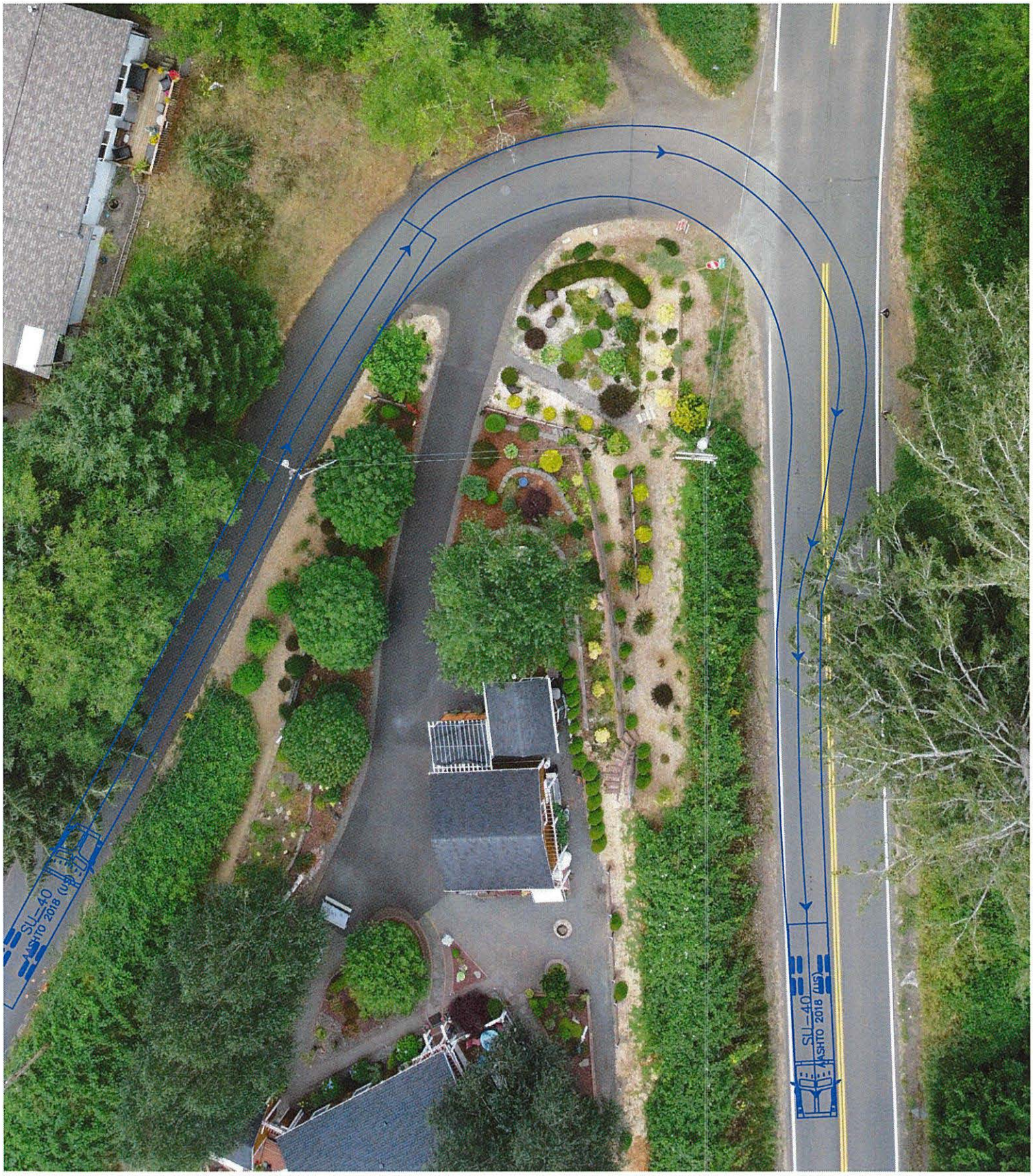


WB-40 Tractor Trailer Using Both Lanes (Downhill)

SU-40 Single-Unit Truck Using Both Lanes (Uphill)



SU-40 Single-Unit Truck Using Both Lanes (Downhill)



Fire Apparatus Using Both Lanes (Uphill)

Fire Apparatus Using Both Lanes (Downhill)

Passenger Cars with Two-Way Traffic

EXHIBIT

I

Tillamook County, Oregon 2022-006423
10/19/2022 03:54:50 PM
DEED-ESMAT
$25.00 $11.00 $61.00 $10.00 - Total =$107.00

00230618202200084230050056

I hereby certify that the within instrument was received for record and recorded in the County of Tillamook, State of Oregon.

Tassi O'Neil, Tillamook County Clerk

AFTER RECORDING RETURN TO:

Riverview Meadows Development LLC
23765 SE Highway 212
Damascus, OR 97089

SEND TAX STATEMENT TO:

NO CHANGE

SPACE ABOVE RESERVED FOR RECORDING LABEL

EASEMENT

Know by all persons present, that Vern Scovell ("Grantor"), for consideration of the mutual promises exchanged herein and other good and valuable consideration exchanged with Riverview Meadows Development LLC, ("Grantee"), does hereby grant a non-exclusive easement for public access over, under and across the real property described herein, for the benefit of the real property as described herein, all being more particularly described herein.

EASEMENT RECITALS

A. Grantor is the owner of the real property ("Parcel 1") being legally described, and pictorially described, in the attached **Exhibit A**.

B. Grantee is the owner of the real property ("Parcel 2") being legally described as follows:

> **Tract B, RIVERVIEW MEADOWS PHASE I, situated in the Northwest quarter of Section 23, Township 3 North, Range 10 West, Willamette Meridian, County of Tillamook, State of Oregon, recorded July 26, 2010 as Instrument No. 2010-004288, Tillamook County Records.**

C. Parcel 1 and Parcel 2 are in close proximity to each other and are, or will be, connected by way of an additional public easement.

D. It is the intent of the parties herein named to create a non-exclusive, public access, and permanent right to enter, re-enter, and use Parcel 1, subject to conditions as set forth herein, for the benefit of Grantee's Parcel 2, and the general public.

E. The non-exclusive easement will be used for public and private ingress and egress purposes by the general public, by Grantee, and by Grantee's successors in ownership of Grantee's Parcel 2.

 Consideration Ø Zero

F. Additionally, the non-exclusive easement for public access and public and/or private utilities, shall also include the right to lay, construct, and maintain streets, water mains, sewer mains, storm drainage lines, and all related appurtenances, to be constructed and located on, across, under or over Parcel 1.

G. The parties agree that any unknown defect in the above Easement Area due to inaccuracy will not hinder the intent of the parties.

IT IS FURTHER UNDERSTOOD and AGREED:

1. The foregoing Easement Recitals paragraphs are contractual and not merely recitals, and are incorporated by this reference.

2. The rights and obligations of all the easements herein shall run with and be appurtenant to those parcels of land as described, and shall not be personal to any person, except that the obligation to pay for the costs and expenses (for costs and expenses incurred while a person was an owner) shall be personal to the owners of the described parcels, as well as run with the described parcels.

3. Grantee, and the general public shall have a non-exclusive, public access, and permanent right to enter, re-enter, and use Parcel 1 being legally described, and pictorially described, in the attached **Exhibit A**, subject to conditions as set forth herein, for the benefit of Grantee's Parcel 2. The easement shall include the right of the Grantor or Grantee to reasonably improve the surface of the easement area herein described; costs of any improvements to the easement area shall be borne by Grantee, their successors and assigns. Any improvement to the easement area shall be in compliance with all applicable local, state, and federal law.

4. Grantee shall have a non-exclusive easement for public access and public and/or private utilities, to include the right to lay, construct, and maintain streets, water mains, sewer mains, storm drainage lines, and all related appurtenances, to be constructed and located on, across, under or over Parcel 1.

5. Grantor agrees that the consideration recited herein is just compensation for the property rights herein granted.

6. Grantor represents and warrants that Grantor has the authority to grant the easement and that the easement area is free from all liens and encumbrances that would materially affect the easement grant, and that they will defend this easement grant against all lawful claims and demands of all persons whomsoever with respect to any liens or encumbrances that would materially affect the easement grant.

[SIGNATURE PAGE FOLLOWS]

The parties above named have hereunto set their hands this 19 day of October, 2022.

GRANTOR:

Vern Scovell

GRANTEE:
Riverview Meadows Development LLC

Vern Scovell, Member

Carey Sheldon, President of
Sheldon Development Inc., Member

STATE OF OREGON
County of Tillamook

This instrument was acknowledged before me on October 19th, 2022, by Vern Scovell, the above-named Grantor, and Member of Grantee.

OFFICIAL SEAL
KERI RUANE SCOTT
NOTARY PUBLIC - OREGON
COMMISSION NO. 1009445
MY COMMISSION EXPIRES MARCH 7, 2025

Notary Public for Oregon
My Commission expires: March 7, 2025

STATE OF ~~OREGON~~ Washington
County of Clark

This instrument was acknowledged before me on October 18, 2022, by Carey Sheldon, President of Sheldon Development Inc., Member of the above-named Grantee.

Notary Public
State of Washington
SHAUNA NELSON
COMM. # 147372
MY COMM. EXP. 10/02/2024

Notary Public for ~~Oregon~~ Washington
My Commission expires: 10/2/2024

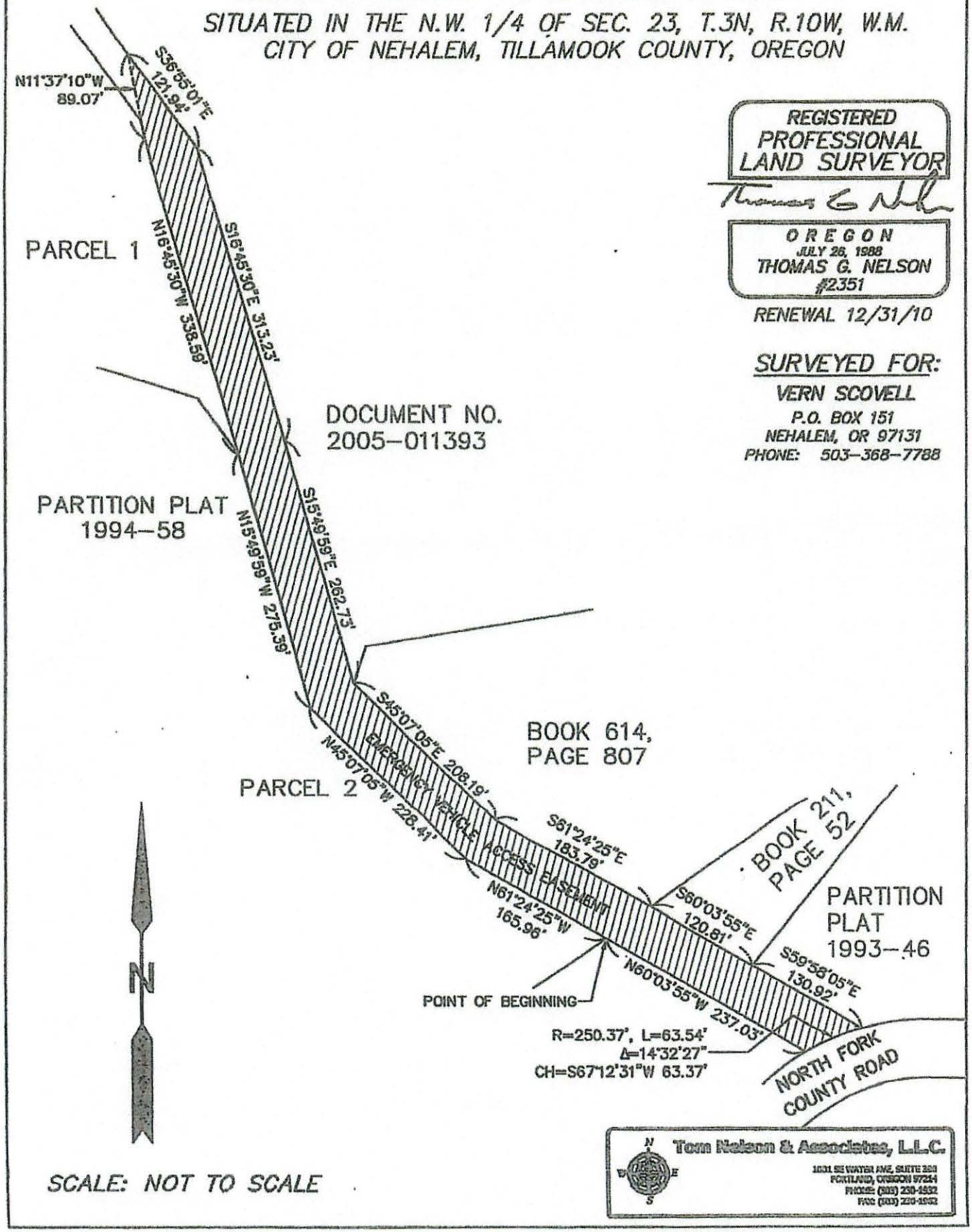
EXHIBIT A

EASEMENT SITUATED IN THE NORTHWEST ONE-QUARTER OF SECTION 23, TOWNSHIP 3 NORTH, RANGE 10 WEST, OF THE WILLAMETTE MERIDIAN, CITY OF NEHALEM, TILLAMOOK COUNTY, OREGON;

BEGINNING AT THE MOST EASTERLY SOUTHEAST CORNER OF PARCEL 2, PARTITION PLAT NO. 1994-58, TILLAMOOK COUNTY PLAT RECORDS; THENCE NORTH 61°24'25" WEST ALONG THE EAST LINE OF SAID PARTITION PLAT NO. 1994-58, A DISTANCE OF 165.96 FEET; THENCE NORTH 45°07'05" WEST CONTINUING ALONG SAID EAST LINE, A DISTANCE OF 228.41 FEET; THENCE NORTH 15°49'59" WEST CONTINUING ALONG SAID EAST LINE, A DISTANCE OF 275.39 FEET; THENCE NORTH 16°45'30" WEST CONTINUING ALONG SAID EAST LINE, A DISTANCE OF 338.59 FEET; THENCE NORTH 11°37'10" WEST CONTINUING ALONG A PORTION OF SAID EAST LINE, A DISTANCE OF 89.07 FEET TO THE WEST LINE OF THAT PROPERTY DESCRIBED IN DOCUMENT NO. 2005-011393, TILLAMOOK COUNTY DEED RECORDS; THENCE SOUTH 36°55'01" EAST ALONG THE WEST LINE OF SAID DOCUMENT NO. 2005-011393, A DISTANCE OF 121.94 FEET; THENCE SOUTH 16°45'30" EAST ALONG SAID WEST LINE OF DOCUMENT NO. 2005-011393, A DISTANCE OF 313.23 FEET; THENCE SOUTH 15°49'59" EAST ALONG SAID WEST LINE OF DOCUMENT NO. 2005-011393, A DISTANCE OF 262.73 FEET TO THE MOST WESTERLY CORNER OF THAT PROPERTY DESCRIBED IN BOOK 614, PAGE 807, TILLAMOOK COUNTY DEED RECORDS; THENCE SOUTH 45°07'05" EAST ALONG THE SOUTHWESTERLY LINE OF SAID PROPERTY DESCRIBED IN BOOK 614, PAGE 807, A DISTANCE OF 208.19 FEET; THENCE SOUTH 61°24'25" EAST CONTINUING ALONG SAID SOUTHWESTERLY LINE OF PROPERTY DESCRIBED IN BOOK 614, PAGE 807, A DISTANCE OF 183.79 FEET TO THE MOST SOUTHWESTERLY CORNER OF THAT PROPERTY DESCRIBED IN BOOK 211, PAGE 52, TILLAMOOK COUNTY DEED RECORDS; THENCE SOUTH 60°03'55" EAST ALONG THE SOUTHWESTERLY LINE OF SAID PROPERTY DESCRIBED IN BOOK 211, PAGE 52, A DISTANCE OF 120.81 FEET TO THE MOST WESTERLY CORNER OF PARTITION PLAT NO. 1993-46, TILLAMOOK COUNTY PLAT RECORDS; THENCE SOUTH 59°58'05" EAST ALONG THE SOUTHERLY LINE OF SAID PARTITION PLAT NO. 1993-46, A DISTANCE OF 130.92 FEET TO THE WEST RIGHT-OF-WAY LINE FOR NORTH FORK COUNTY ROAD; THENCE ALONG 250.37 FOOT RADIUS NON-TANGENT CURVE TO THE LEFT, THROUGH A CENTRAL ANGLE OF 14°32'27", A LENGTH OF 63.54 FEET, THE LONG CHORD OF WHICH BEARS SOUTH 67°12'31" WEST 63.37 FEET; THENCE NORTH 60°03'55" WEST, A DISTANCE OF 237.03 FEET TO THE POINT OF BEGINNING

EMERGENCY VEHICLE ACCESS EASEMENT EXHIBIT

SITUATED IN THE N.W. 1/4 OF SEC. 23, T.3N, R.10W, W.M.
CITY OF NEHALEM, TILLAMOOK COUNTY, OREGON



REGISTERED
PROFESSIONAL
LAND SURVEYOR

OREGON
JULY 26, 1988
THOMAS G. NELSON
#2351

RENEWAL 12/31/10

SURVEYED FOR:
VERN SCOVELL
P.O. BOX 151
NEHALEM, OR 97131
PHONE: 503-368-7788

SCALE: NOT TO SCALE

Tom Nelson & Associates, L.L.C.
1631 SE WATER AVE, SUITE 200
PORTLAND, OREGON 97214
PHONE: (503) 230-1932
FAX: (503) 230-1952

AFTER RECORDING RETURN TO:

Riverview Meadows Development LLC
23765 SE Highway 212
Damascus, OR 97089

Tillamook County, Oregon
10/20/2022 02:40:51 PM **2022-006452**
DEED-ESMAT
$30.00 $11.00 $61.00 $10.00 - Total =$112.00

00230655202200064520060068

I hereby certify that the within instrument was received for record and recorded in the County of Tillamook, State of Oregon.

Tassi O'Neil, Tillamook County Clerk

SEND TAX STATEMENT TO:

NO CHANGE

SPACE ABOVE RESERVED FOR RECORDING LABEL

EASEMENT

Know by all persons present, that Donald E. Dillard ("Grantor"), for consideration of the mutual promises exchanged herein and other good and valuable consideration exchanged with Riverview Meadows Development LLC, ("Grantee"), which Grantor hereby acknowledges, does hereby grant a non-exclusive easement for public access over, under and across the real property described herein, and for public and/or private utilities, for the benefit of the real property as described herein, all being more particularly described herein.

EASEMENT RECITALS

A. Grantor is the owner of the real property ("Parcel 1") being legally described as:

Tract A, RIVERVIEW MEADOWS PHASE I, in the County of Tillamook, State of Oregon, recorded July 26, 2010 in Plat Cabinet B1142-0, Tillamook County Records.

B. Grantee is the owner of the real property ("Parcel 2") being legally described as follows:

Tract B, RIVERVIEW MEADOWS PHASE I, situated in the Northwest quarter of Section 23, Township 3 North, Range 10 West, Willamette Meridian, County of Tillamook, State of Oregon, recorded July 26, 2010 as Instrument No. 2010-004288, Tillamook County Records.

C. Parcel 1 and Parcel 2 are adjacent to each other.

D. It is the intent of the parties herein named to create a non-exclusive, public access, and permanent right to enter, re-enter, and use Parcel 1, subject to conditions as set forth herein, for the benefit of Grantee's Parcel 2, and the general public.

Consideration up to 50,000.00

E. The non-exclusive easement will be used for public and private ingress and egress purposes by the general public, by Grantee, and by Grantee's successors in ownership of Grantee's Parcel 2.

F. Additionally, the non-exclusive easement for public access and public and/or private utilities, shall also include the right to lay, construct, widen and maintain streets, water mains, sewer mains, storm drainage lines, and all related appurtenances, to be constructed and located on, across, under or over Parcel 1.

G. The parties agree that any unknown defect in the above Easement Area due to inaccuracy will not hinder the intent of the parties.

IT IS FURTHER UNDERSTOOD and AGREED:

1. The foregoing Easement Recitals paragraphs are contractual and not merely recitals, and are incorporated by this reference.

2. The rights and obligations of all the easements herein shall run with and be appurtenant to those parcels of land as described, and shall not be personal to any person, except that the obligation to pay for the costs and expenses (for costs and expenses incurred while a person was an owner) shall be personal to the owners of the described parcels, as well as run with the described parcels.

3. Grantee and the general public shall have a non-exclusive, public access, and permanent right to enter, re-enter, and use a portion of Parcel 1 being legally described in the attached **EXHIBIT "A"**, and pictorially described in the attached **EXHIBIT "B"**, subject to conditions as set forth herein, for the benefit of Grantee's Parcel 2 and the general public. The easement shall include the right of the Grantor or Grantee to reasonably improve the surface of the easement area herein described; costs of any improvements to the easement area shall be borne by Grantee, their successors and assigns. Any improvement to the easement area shall be in compliance with all applicable local, state, and federal law. In the event such applicable local, state, and federal law shall require broader access to Parcel 1 for the purposes set forth herein, then the portion of Parcel 1 being legally described in the attached **EXHIBIT "A"**, and pictorially described in the attached **EXHIBIT "B"**, shall increase in scope, and shall be geographically or otherwise broadened to meet such applicable local, state, and federal law without affecting the validity of the easement granted herein.

4. Grantee shall have a non-exclusive easement for public access and public and/or private utilities, to include the right to lay, construct, and maintain streets, water mains, sewer mains, storm drainage lines, and all related appurtenances, to be constructed and located on, across, under or over Parcel 1. Any improvement to the easement area shall be in compliance with all applicable local, state, and federal law.

5. Grantor agrees that the consideration recited herein is just compensation for the property rights herein granted. Specifically, Grantor has granted this easement in consideration of an Easement Agreement dated September 20, 2022 wherein Grantee agrees to pay Grantor the sum of $25,000.00 upon execution of this Agreement, and Grantee agrees, if practicable, to install two access gates for security purposes. If it is not practicable to install the access gates, Grantee shall pay Grantor an additional sum of $25,000.00.

6. Grantor represents and warrants that Grantor has the authority to grant the easement and that the easement area is free from all liens and encumbrances that would materially affect the easement grant, and that they will defend this easement grant against all lawful claims and demands of all persons whomsoever with respect to any liens or encumbrances that would materially affect the easement grant.

[SIGNATURE PAGE FOLLOWS]

The parties above named have hereunto set their hands this 19 day of October, 2022.

GRANTOR:

Donald E. Dillard

GRANTEE:
Riverview Meadows Development LLC

Carey Sheldon, President of
Sheldon Development Inc., Member

STATE OF OREGON
County of TILLAMOOK

This instrument was acknowledged before me on OCTOBER 19, 2022, by Donald E. Dillard, the above-named Grantor.

OFFICIAL STAMP
HILARY ANNE HOWELL
NOTARY PUBLIC - OREGON
COMMISSION NO. 1003646
MY COMMISSION EXPIRES SEPTEMBER 09, 2024

Notary Public for Oregon
My Commission expires: 09/09/2024

STATE OF ~~OREGON~~ Washington
County of Clark

This instrument was acknowledged before me on October 18, 2022, by Carey Sheldon, President of Sheldon Development Inc., Member of the above-named Grantee.

Notary Public
State of Washington
SHAUNA NELSON
COMM. # 147372
MY COMM. EXP. 10/02/2024

Notary Public for ~~Oregon~~ Washington
My Commission expires: 10/02/2024

All County Surveyors & Planners, Inc.

PO Box 955 • Sandy, Oregon 97055 • Phone: 503-668-3151 • Fax: 503- 668-4730

EXHIBIT "A"

Legal Description over a portion of Tract 'A', "Riverview Meadows Phase 1"

A TRACT OF LAND SITUATED IN THE NW 1/4 OF SECTION 23, TOWNSHIP 3 NORTH, RANGE 10 WEST, W.M., SHOWN AS AN "EMERGENCY VEHICLE ACCESS EASEMENT" IN "RIVERVIEW MEADOWS PHASE 1", RECORDED AS DOCUMENT NUMBER 2010-4288, TILLAMOOK COUNTY PLAT RECORDS, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

Commencing at the Northwest corner of Tract 'A' of "Riverview Meadows Phase 1"; thence South 88°34'29" East, along the North line of said Tract 'A' of said "Riverview Meadows Phase 1", a distance of 531.12 feet, to the most Northeasterly corner of said Tract 'A' of said "Riverview Meadows Phase 1", said point also being the most Northwesterly corner of the right of way of Sunnyview Drive, as dedicated in said "Riverview Meadows Phase 1", said point also being the **True Point of Beginning;** thence South 01°25'31" West, along the West line of the said right of way of said Sunnyview Drive, a distance of 50.00 feet, to the Southwesterly corner of the said right of way of said Sunnyview Drive, said point also being on the North line of Lot 11 of said "Riverview Meadows Phase 1"; thence North 88°34'29" West, along the North line of said Lot 11 and the North line of Lot 10 of said "Riverview Meadows Phase 1" and the westerly extension thereof, a distance of 245.17 feet, to a point of curvature, said point is the beginning of a curve that will be referred to as Curve 1 from hereon; thence along said Curve 1, an 86.29 foot radius tangent curve to the left, an arc distance of 155.19 feet through a central angle of 103°02'41" (chord bears South 39°54'11" West 135.10 feet) to a point of tangency, said point is the beginning of a line that will be referred to as Line 1 from hereon; thence along said Line 1, South 11°37'10" East, a distance of 272.73 feet, to an angle point; thence leaving said Line 1, South 16°45'30" East, a distance of 23.52 feet more or less, to a point on the West line of said Tract 'A' of said "Riverview Meadows Phase 1", said point being marked with a 5/8" iron rod with a yellow plastic cap marked "PLS 2351"; thence North 36°55'01" West, along the said West line of said Tract 'A' of said "Riverview Meadows Phase 1", a distance of 121.86 feet more or less, to a point that is 50 feet from, when measured at right angles to, the previously described Line 1; thence leaving the said West line of said Tract 'A' of said "Riverview Meadows Phase 1", 50 feet from and parallel with said Line 1, North 11°37'10" West, a distance of 185.81 feet to a point of curvature; thence along a 136.29 foot radius tangent curve to the right, 50 feet from and parallel with said Curve 1, an arc distance of 245.11 feet through a central angle of 103°02'36" (long chord bears North 39°54'08" East 213.39 feet), to a point on the said North line of said Tract 'A' of said "Riverview Meadows Phase 1"; thence South 88°34'29" East, along the said North line of said Tract 'A' of said "Riverview Meadows Phase 1", a distance of 245.17 feet, to the **True Point of Beginning.**
Containing 32,711 square feet, more or less.

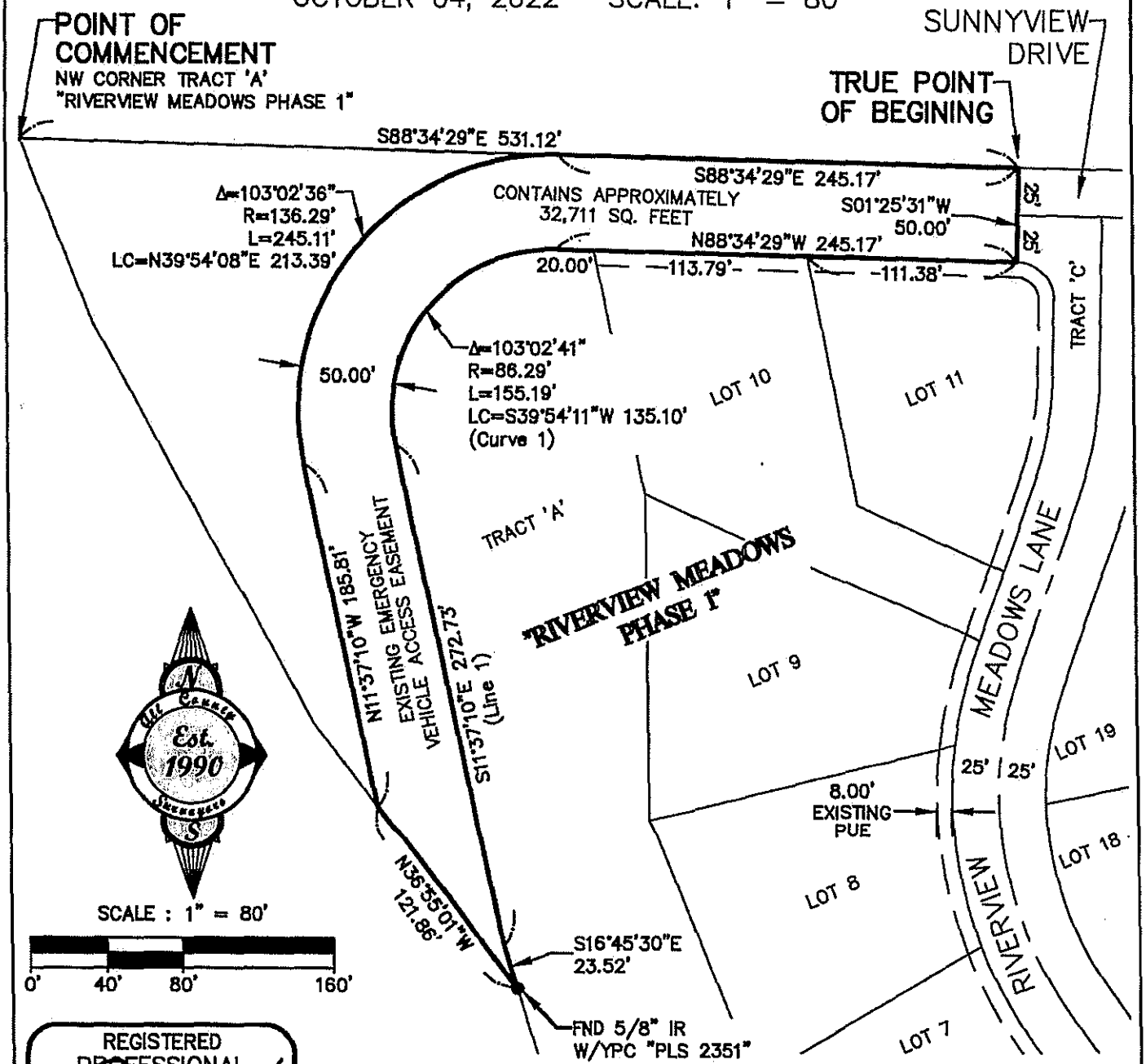
Basis of bearings for this description is from Document Number 2010-4288, Tillamook County Plat Records.

RENEWS 07/01/23

EXHIBIT "B"

SITUATED IN THE N.W. 1/4 OF SECTION 23, TOWNSHIP 3 NORTH, RANGE 10 WEST, W.M., CITY OF NEHALEM, TILLAMOOK COUNTY OREGON

OCTOBER 04, 2022 SCALE: 1" = 80'



SCALE : 1" = 80'

0' 40' 80' 160'

REGISTERED PROFESSIONAL LAND SURVEYOR

OREGON
JANUARY 23, 1990
DALE L. HULT
2427

RENEWS 07/01/23

DATE OF PLOT: 10-04-22
DRAWING NO.: 22-181.dwg

LEGEND

●	FOUND MONUMENT AS NOTED HEREON
W/YPC	INDICATES WITH YELLOW PLASTIC CAP, MARKED
IR	INDICATES IRON ROD, OUTER DIAMETER

EXHIBIT J

Tillamook County, Oregon
01/21/2010 09:53:19 AM 2010-000375
DEED-CCR
$40.00 $11.00 $16.00 $10.00 - Total = $77.00

00092375201000003750080086

. hereby certify that the within instrument was received for record and recorded in the County of Tillamook, State of Oregon.
Tassi O'Neil, Tillamook County Clerk

After Recording Please Return To:
Vern Scovell
P.O. Box 151
Nehalem, OR 97131

DECLARATIONS OF CONDITIONS AND RESTRICTIONS AFFECTING LAND LOCATED IN TILLAMOOK COUNTY, OREGON

The undersigned (hereafter "Declarants") being the owners in fee simple of that real property located in Tillamook County, Oregon, described in the attached Exhibit A(hereafter referred to as "Riverview Meadows Phase 1") incorporated herein by reference, do hereby make the following declaration of conditions, covenants, and restrictions (hereafter "CCR's") covering the above described property, specifying that this declaration shall constitute covenants to run with all of the land and shall be binding on all persons claiming under and through them and these conditions and restrictions shall be for the benefit of and limitations upon all future owners of said real property;

Where used herein, the term "Declarants" unless specified otherwise, shall mean the undersigned, their successors, heirs and assigns. Where used herein the term "lot" shall mean one of the lots 1 through 20 of Riverview Meadows Phase 1. Where used herein the term "owner" shall mean the owner of a lot within Riverview Meadows Phase 1 whether that owner be one or more persons, trust(s), corporation(s), limited liability company(ies), similar entity, or group or combination of entities.

1. USE OF LOT. No lot shall be used except for single-family residential purposes, or except for the placement of an accessory storage structure to benefit an adjoining lot in common ownership.

2. HEIGHT RESTRICTIONS. Notwithstanding paragraph 17 below, Declarants expressly reserve solely to themselves the right to impose building height restrictions on any lot within Riverview Meadows Phase 1, and or such further property annexed pursuant to paragraph 14 below, for so long as Declarants, or either of them, are an owner of a lot therein. For purposes of the foregoing sentence, Declarants shall not include their heirs, successors, or assigns. Such restrictions shall be imposed by recorded declaration in the Tillamook County Clerk's office in deed records and shall specifically reference these CCR's and the Declarants' right reserved by this paragraph. For purposes of these CCR's, " height" shall mean the vertical distance of a building measured from grade to the highest point of the roof; and "grade" shall mean the average elevation of the existing ground at the centers of all walls of a building.

3. SQUARE FOOTAGE. The minimum square footage of any residence on any lot shall be no less than 1200 square feet for a single level residence and no less than 1600 square feet for a multi-level residence. These square footage restrictions shall not apply to accessory structures, nor shall the square footage of any accessory structure be counted in determining the square footage of a residence.

4. TYPES OF STRUCTURES. Mobile homes, trailers, metal sheds, and pole buildings shall not be placed nor constructed on any lot. Pre-built modular and manufactured homes, as those terms are commonly used, shall be permitted. No structure erected on a lot shall possess aluminum or other metal siding. Roofing may be of wood, tile, metal, or composite material.

5. TIME FOR COMPLETION OF CONSTRUCTION. The construction of any residential structure shall, insofar as the exterior thereof is concerned, be completed within one (1) year from the date construction commences. All landscaping shall be completed within six months of substantial completion of any residential structure erected upon a lot.

6. TEMPORARY STRUCTURES. No temporary structure, excepting a recreational vehicle, shall be erected or placed upon the premises, except that a temporary structure shall be permitted on a lot during the period of construction of a single family dwelling, but such temporary structure shall be removed within thirty (30) days of completion of said dwelling house or within eighteen (18) months after the date said temporary structure was erected, whichever period expires first.

7. ANIMALS. No animals, livestock or poultry of any kind shall be raised, bred or kept on any lot excepting any dog, cat or household pets may be kept provided that they are not kept, bred or maintained for commercial purposes.

8. BUSINESS ACTIVITY. No business, trade or manufacture of any sort shall be conducted upon any of the above described property save and except for a home businesses wherein no signs, structures or other indicia of the business are apparent from outside any dwelling and such business does not result in any traffic to and from the property in excess of ordinary residential traffic. However, this paragraph shall not prohibit an owner from renting a dwelling to a third party, but under no circumstances shall such rental be for a rental term of less than 30 days. No signs shall be erected or maintained on any lot, save and except that one "for sale" or "for rent" sign not more than 24 inches high and 36 inches wide may be placed on a property on a temporary basis. The foregoing sign restrictions shall not apply to Declarants advertising lots for sale.

9. UPKEEP OF LOT. Each lot shall be maintained in a good and clean condition and free of hazards to the adjacent property and to the occupants thereof. All weeds and brush including but not limited to tansy, ragwort and blackberries shall be cut, poisoned or otherwise controlled and kept down. All garbage and other waste and debris shall be kept in appropriate sanitary containers for proper disposal and out of public view. Yard raking and dirt resulting from landscaping work shall not be dumped onto streets, roads, or other owner's lots. No noxious or offensive activity shall be carried on upon any lot, nor shall anything be done, grown or placed upon any lot which interferes with or jeopardizes the enjoyment of other lot owners within the property affected by these CCR's.

10. FENCES. No fence or wall shall be erected or placed on any lot in the above

described subdivision exceeding four (4) feet in height. However, chain-link fences or similar fencing which does not completely obscure a view may be a maximum of six (6) feet in height.

11. UTILITIES. No outdoor overhead wire or service drop for the distribution of electric energy or for telecommunication purposes, nor any pole, tower or other structure supporting said overhead wire shall be erected within the property affected by these CCR's. All owners shall use underground wires to connect their residences and any accessory structures built upon any lots to power, television, and any other utilities.

12. VEHICLES. No owner shall permit any vehicle which is in a state of visible disrepair to be abandoned or to remain parked upon any lot or parcel or on any street for a period in excess of forty-eight (48) hours. All boats, trailers, motor homes, motorcycles, trucks, truck campers and like equipment shall be kept in an enclosed garage when not in actual use. Each lot shall contain parking area for at least three vehicles. Garage or accessory structure bays shall be counted fo the purposes of meeting this requirement.

13. MAINTENANCE AND IMPROVEMENT OF ACCESS ROAD. Access to the lots affected by these CCR's is served by private paved roads owned by Declarants over which owners have rights of ingress and egress. As a part of these conditions, covenants and restrictions, and notwithstanding the location of individual lots nor the use made by the respective owners of any lots, owners of property affected by these CCR's shall in the cost of routine maintenance and repair of said roadway and paving. Further, upon the unanimous decision of 75% of the owners of lots within the property affected by these CCR's improvements may be made to said roads, and each owner will likewise share an equal responsibility and liability for the costs of such improvement. Each owner's percentage share of the cost of maintenance, repair, and improvement, if applicable, shall be equal to the ratio which the number of lots owned by an owner bears to the total number of lots affected by these CCR's.

14. DRIVEWAYS. All driveways serving a residence on any property subject to this declaration shall be paved with asphalt, concrete, or stone no later than the date of completion of the construction of a residence on a lot, and the owner thereof shall keep any such driveway in good and workmanlike repair. Said driveway shall at a minimum reach from the property line of a lot to the paved edge of the road providing access to a lot and shall be a minimum of thirty (30) feet in width where it connects to the pavement on the access road, and a minimum of twenty-two (22) feet elsewhere. All driveways shall incorporate a minimum eighteen (18) inch culvert for drainage.

15. ANNEXATION. If, within 20 years of the recording of these CCR's, Declarants, their successors and assigns, shall develop additional land within the vicinity of the real property affected by these CCR's, such additional land may be annexed by Declarant, its successors and assigns, to the real property by filing a plat of the property(ies) to be annexed and adopting all declarations of the protective restrictions affecting Riverview Meadows Phase 1 in effect at the time and thereby making the same applicable to the annexed properties. There is no limitation on the number of additional lots, Phases, tracts, private tracts or common properties which may

be created or annexed to the real property under this paragraph by Declarant, its successors or assigns.

16. SEVERABILITY. Invalidation of any of these covenants shall in no way affect any of the other provisions, which shall remain in full force and effect.

17. DURATION/AMENDMENT/REVOCATION. All of the conditions, covenants, restrictions and reservations set forth in this declaration are imposed upon the property covered hereby for the direct benefit thereof and of the owners thereof. Such conditions and restrictions shall run with the land and shall be binding upon any person who shall acquire any interest in the property covered hereby. Said conditions, covenants, restrictions and reservations shall remain in effect for a period of thirty (30) years from the date of this declaration. These conditions, covenants and restrictions may be amended or revoked by written document signed by the owners of seventy-five percent (75%) of the lots within the subdivision, but in no event may they be amended or revoked without the written consent of Declarants so long as Declarants, or either one of them, own a lot or lots affected by these CCR's. For purposes of the foregoing sentence, Declarants shall not include their heirs, successors, or assigns.

18. BREACH AS NUISANCE. The result of every act of omission or commission or the violation hereof, whether such condition, covenant, restriction or reservation is violated in whole or in part, is hereby declared to be and to constitute a nuisance, which may prohibited and enjoined by an injunction. Such remedy shall be deemed cumulative and not exclusive of any and every other remedy allowed by law or equity against such a nuisance, whether public or private.

19. INUREMENT OF BENEFIT. The provisions contained in this declaration shall inure to the benefit of and be enforceable by any owner or the owners of any portion of the property covered hereby, and each of their legal representatives, heirs, successors and assigns. Failure by any property owner or their legal representatives, heirs, successors or assigns to enforce any of said conditions, covenants or restrictions herein contained shall in no event be deemed a waiver or failure of the right to do so thereafter.

20. ENFORCEMENT. Should suit or action be instituted to enforce any of the foregoing restrictions or covenants after written demand for the discontinuance of a violation thereof and failure to comply, then, whether said suit be reduced to judgment or decree or not, the owners seeking to enforce or to restrain any such violation shall be entitled to have and recover from such defendants in addition to the costs and disbursements allowed by law, such sum as the court may adjudge reasonable as attorney fees in such suit or action. In the event of any appeal, such parties shall be entitled to recover from the defendants on such appeal, such further sum as the court shall adjudge reasonable attorney fees.

21. EFFECT OF BREACH. The breach of any of the foregoing shall not defeat or render invalid, the lien of any mortgage or deed of trust made in good faith for value as to any of the said lots, provided, however, that the breach of any of the said conditions or restrictions may

be enjoined, abated or redressed by appropriate proceedings against any owner of the premises to which such violation applies, whether such ownership is acquired by purchase, foreclosure, devise, inheritance or in any other manner.

IN WITNESS WHEREOF, Declarants have executed this instrument this 20 day of January, 2010.

RIVERVIEW MEADOWS, LLC
an Oregon Limited Liability Company.

By: Vern Scovell, Member
DECARANT

VERN SCOVELL
DECLARANT

STATE OF OREGON)
) ss.
County of Tillamook)

January 20, 2010 Personally appeared the above named Vern Scovell, Member of Riverview Meadows, LLC, an Oregon Limited Liability Company, and acknowledged the foregoing instrument to be his voluntary act and deed. Before me:

Notary Public for Oregon

OFFICIAL SEAL
JANET L LEASE
NOTARY PUBLIC-OREGON
COMMISSION NO. 437751
MY COMMISSION EXPIRES MAY 25, 2013

STATE OF OREGON)
) ss.
County of Tillamook)

January 20, 2010. Personally appeared the above named Vern Scovell, individually, and acknowledged the foregoing instrument to be his voluntary act and deed. Before me:

Notary Public for Oregon

OFFICIAL SEAL
JANET L LEASE
NOTARY PUBLIC-OREGON
COMMISSION NO. 437751
MY COMMISSION EXPIRES MAY 25, 2013

EXHIBIT A

Riverview Meadows Phase 1 subdivision located in Tillamook County, Oregon, described as follows:

COMMENCING AT A FOUND THREE INCH BRASS DISC COMMON TO SECTIONS 14, 15, 22 AND 23, TOWNSHIP 3 NORTH, RANGE 10 WEST OF THE WILLAMETTE MERIDIAN; THENCE, SOUTH 01°03'16" EAST ALONG THE WEST LINE OF SAID NORTHWEST ONE-QUARTER OF SECTION 23 ALSO THE WEST LINE OF THAT TRACT OF LAND FOUND IN BOOK 203, PAGE 253, TILLAMOOK COUNTY DEED RECORDS, A DISTANCE OF 990.70 FEET TO A FOUND 5/8 INCH IRON ROD AT THE SOUTHWEST CORNER OF SAID TRACT OF LAND FOUND IN BOOK 203, PAGE 253; THENCE, SOUTH 88°34'29" EAST ALONG THE SOUTH LINE OF SAID TRACT OF LAND FOUND IN BOOK 203, PAGE 253, A DISTANCE OF 605.46 FEET TO A FOUND 5/8 INCH IRON ROD WITH A YELLOW PLASTIC CAP STAMPED "PLS 2351", SAID POINT BEING THE INITIAL POINT AND THE POINT OF BEGINNING; THENCE, SOUTH 21°14'48" EAST, A DISTANCE OF 104.78 FEET TO A FOUND 5/8 INCH IRON ROD WITH A YELLOW PLASTIC CAP STAMPED "PLS 2351"; THENCE SOUTH 28°36'50" EAST, A DISTANCE OF 239.81 FEET TO A FOUND 5/8 INCH IRON ROD WITH A YELLOW PLASTIC CAP STAMPED "PLS 2351"; THENCE SOUTH 36°55'01" EAST, A DISTANCE OF 177.89 FEET TO A FOUND 5/8 INCH IRON ROD WITH A YELLOW PLASTIC CAP STAMPED "PLS 2351"; THENCE, SOUTH 16°45'30" EAST, A DISTANCE OF 313.23 FEET TO A FOUND 5/8 INCH IRON ROD WITH A YELLOW PLASTIC CAP STAMPED "PLS 2351"; THENCE, SOUTH 15°49'59" EAST, A DISTANCE OF 262.73 FEET TO A FOUND 5/8 INCH IRON ROD WITH A YELLOW PLASTIC CAP STAMPED "PLS 2351" AT THE MOST WESTERLY CORNER OF THAT TRACT OF LAND FOUND IN BOOK 614, PAGE 807, TILLAMOOK COUNTY DEED RECORDS; THENCE, NORTH 19°12'43" EAST ALONG THE NORTH LINE OF SAID BOOK 614, PAGE 807, A DISTANCE OF 39.77 FEET TO A FOUND 3/4 INCH IRON PIPE; THENCE, NORTH 80°3404" EAST ALONG SAID NORTH LINE, A DISTANCE OF 238.43 FEET TO A FOUND 5/8 INCH IRON ROD WITH A YELLOW PLASTIC CAP STAMPED "PLS 2351"; THENCE, NORTH 75°38'04" EAST ALONG SAID NORTH LINE A DISTANCE OF 116.76 FEET TO A FOUND 1/2 INCH IRON PIPE; THENCE, SOUTH 71°12'17" EAST ALONG SAID NORTH LINE, A DISTANCE OF 146.57 FEET TO A FOUND 1/2 INCH IRON PIPE AT THE NORTHEAST CORNER OF SAID BOOK 614, PAGE 807, ALSO THE NORTHWEST CORNER OF A TRACT OF LAND FOUND IN BOOK 356, PAGE 435, TILLAMOOK COUNTY DEED RECORDS; THENCE, NORTH 74°16'15" EAST ALONG THE NORTH LINE OF SAID BOOK 356, PAGE 435, A DISTANCE OF 93.46 FEET TO A FOUND 1/2 INCH IRON PIPE; THENCE, NORTH 74°25'07" EAST ALONG SAID NORTH LINE, A DISTANCE OF 15.95 FEET TO A FOUND 5/8 INCH IRON ROD WITH YELLOW PLASTIC CAP STAMPED "HLB INC"; THENCE, SOUTH 47°28'10" EAST ALONG SAID NORTH LINE, A DISTANCE OF 44.90 FEET TO A FOUND 1/2 INCH IRON PIPE; THENCE, SOUTH 47°28'10" EAST ALONG SAID NORTH LINE, A DISTANCE OF 51.70 FEET TO A FOUND

5/8 INCH IRON ROD WITH AN ILLEGIBLE YELLOW PLASTIC CAP; THENCE, NORTH 83°25'29" WEST ALONG SAID NORTH LINE, A DISTANCE OF 41.96 FEET TO A FOUND 5/8 INCH IRON ROD; THENCE, SOUTH 07°04'58" WEST ALONG SAID NORTH LINE, A DISTANCE OF 110.20 FEET TO A FOUND 5/8 INCH IRON ROD WITH YELLOW PLASTIC CAP STAMPED "PLS 2351" ON THE NORTH LINE OF PARCEL 3, PARTITION PLAT 1993-46, TILLAMOOK COUNTY PLAT RECORDS; THENCE, SOUTH 68°36'58" EAST ALONG SAID NORTH LINE, A DISTANCE OF 112.89 FEET TO A FOUND 5/8 INCH IRON ROD WITH YELLOW PLASTIC CAP STAMPED "HLB INC"; THENCE, NORTH 21°36'13" EAST ALONG SAID NORTH LINE, A DISTANCE OF 88.16 FEET TO A NON-TANGENT 120.00 FOOT RADIUS CURVE TO THE LEFT; THENCE, 25.27 FEET ALONG SAID NON-TANGENT CURVE, THROUGH AN INTERNAL ANGLE OF 12°03'52", THE CHORD OF WHICH BEARS SOUTH 75°24'03" EAST 25.22 FEET; THENCE, SOUTH 21°37'18" WEST ALONG THE EAST LINE OF SAID PARTITION PLAT, A DISTANCE OF 152.44 FEET TO A FOUND 5/8 INCH IRON ROD WITH A YELLOW PLASTIC CAP STAMPED "HLB INC"; THENCE, SOUTH 16°35'20" EAST ALONG SAID EAST LINE, A DISTANCE OF 165.14 FEET TO THE NORTH LINE OF NORTH FORK COUNTY ROAD AND THE SOUTHEAST CORNER OF PARCEL 1 OF SAID PARTITION PLAT; THENCE, ALONG A 328.10 FOOT RADIUS NON-TANGENT CURVE TO THE LEFT, THROUGH AN INTERNAL ANGLE OF 4°52'13", THE LONG CHORD OF WHICH BEARS NORTH 75°40'49" EAST 27.88 FEET, A LENGTH OF 27.89 FEET ALONG THE NORTH LINE OF SAID NORTH FORK COUNTY ROAD; THENCE, NORTH 73°14'42" EAST ALONG SAID NORTH LINE OF NORTH FORK COUNTY ROAD, A DISTANCE OF 98.34 FEET TO A FOUND 5/8 INCH IRON ROD WITH A YELLOW PLASTIC CAP STAMPED "PLS 2351" AT THE SOUTH CORNER OF PARCEL 2 OF PARTITION PLAT 1999-38, TILLAMOOK COUNTY PLAT RECORDS; THENCE, NORTH 18°47'00" WEST ALONG THE WEST LINE OF SAID PARCEL 2, A DISTANCE OF 47.50 FEET TO A FOUND 1/2 INCH IRON PIPE; THENCE, NORTH 23°21'56" WEST ALONG THE WEST LINE OF THAT TRACT OF LAND FOUND IN BOOK 140, PAGE 98, TILLAMOOK COUNTY DEED RECORDS, A DISTANCE OF 110.08 FEET TO A FOUND 5/8 INCH IRON ROD WITH A YELLOW PLASTIC CAP STAMPED "PLS 2351"; THENCE, NORTH 21°32'12" EAST ALONG SAID WEST LINE, A DISTANCE OF 262.71 FEET TO A FOUND 3/4 INCH IRON PIPE; THENCE, NORTH 21°22'37" EAST ALONG SAID WEST LINE, A DISTANCE OF 88.69 FEET TO A FOUND 1/2 INCH IRON PIPE AT THE NORTHWEST CORNER OF SAID TRACT OF LAND FOUND IN BOOK 140, PAGE 98, ALSO THE SOUTHWEST CORNER OF THAT TRACT OF LAND FOUND IN BOOK 383, PAGE 513, TILLAMOOK COUNTY DEED RECORDS; THENCE, NORTH 15°53'25" EAST ALONG THE WEST LINE OF SAID BOOK 383, PAGE 513, A DISTANCE OF 185.86 FEET TO A FOUND 5/8 INCH IRON ROD WITH A YELLOW PLASTIC STAMPED "PLS 2351"; THENCE, NORTH 74°50'00" EAST ALONG SAID WEST LINE, A DISTANCE OF 46.37 FEET TO A FOUND 5/8 INCH IRON PIPE WITH A YELLOW PLASTIC CAP STAMPED "PLS 2351" ON THE WEST LINE OF SAID NORTH FORK COUNTY ROAD AND AN 848.51 FOOT RADIUS CURVE; THENCE, 51.28 FEET ALONG SAID CURVE TO THE RIGHT, WITH AN INTERNAL ANGLE OF 3°27'46", THE CHORD OF WHICH BEARS NORTH 02°22'26" WEST 51.27 FEET TO A FOUND 5/8 INCH IRON ROD WITH A YELLOW PLASTIC CAP STAMPED "PLS 2351"; THENCE, SOUTH 74°50'00" WEST, A DISTANCE OF 85.98 FEET TO A FOUND 5/8 INCH IRON ROD WITH A YELLOW PLASTIC CAP

STAMPED "PLS 2351"; THENCE, SOUTH 15°53'25" WEST ALONG THE EAST LINE OF THAT TRACT OF LAND FOUND IN BOOK 345, PAGE 264, TILLAMOOK COUNTY DEED RECORDS, A DISTANCE OF 211.72 FEET TO A FOUND 5/8 INCH IRON ROD WITH A YELLOW PLASTIC CAP STAMPED "PLS 2351"; THENCE, SOUTH 21°22'37" WEST ALONG SAID EAST LINE, A DISTANCE OF 86.45 FEET TO A 5/8 INCH IRON ROD WITH A YELLOW PLASTIC CAP STAMPED "PLS 1205"; THENCE, NORTH 21°54'58" WEST ALONG THE WEST LINE OF SAID TRACT OF LAND FOUND IN BOOK 345, PAGE 264, A DISTANCE OF 103.87 FEET TO A FOUND 5/8 INCH IRON ROD WITH A YELLOW PLASTIC CAP STAMPED "PLS 2351"; THENCE, NORTH 11°34'37" EAST ALONG SAID WEST LINE, A DISTANCE OF 66.30 FEET TO A FOUND 5/8 INCH IRON ROD WITH A YELLOW PLASTIC CAP STAMPED "PLS 1205"; THENCE, NORTH 10°27'18" EAST ALONG SAID WEST LINE, A DISTANCE OF 45.08 FEET TO A FOUND 5/8 INCH IRON ROD WITH A YELLOW PLASTIC CAP STAMPED "PLS 1205"; THENCE, NORTH 21°10'46" EAST ALONG SAID WEST LINE, A DISTANCE OF 118.36 FEET TO A FOUND 5/8 INCH IRON ROD WITH A YELLOW PLASTIC CAP STAMPED "PLS 1205"; THENCE, NORTH 05°06'03" EAST ALONG THE WEST LINE OF THOSE TRACTS OF LAND FOUND IN BOOK 359, PAGE 431, TILLAMOOK COUNTY DEED RECORDS, AND BOOK 369, PAGE 459, TILLAMOOK COUNTY DEED RECORDS, A DISTANCE OF 681.37 FEET TO A FOUND 5/8 INCH IRON ROD WITH A YELLOW PLASTIC CAP STAMPED "PLS 2351"; THENCE, NORTH 23°06'19" WEST ALONG THE WEST LINE OF THAT TRACT OF LAND FOUND IN INSTRUMENT NUMBER 2000-388797, TILLAMOOK COUNTY DEED RECORDS, A DISTANCE OF 953.20 FEET TO A FOUND 5/8" IRON ROD WITH A YELLOW PLASTIC CAP STAMPED "PLS 2351"; THENCE, NORTH 88°34'19" WEST ALONG THE SOUTH LINE OF SAID INSTRUMENT, ALSO BEING THE NORTH LINE OF SAID SECTION 23, A DISTANCE OF 328.04 FEET TO A 5/8 INCH IRON ROD WITH A YELLOW PLASTIC CAP STAMPED "HLB INC"; THENCE SOUTH 01°17'07" EAST ALONG THE EAST LINE OF THAT TRACT OF LAND FOUND IN BOOK 203, PAGE 253, TILLAMOOK COUNTY DEED RECORDS, A DISTANCE OF 990.84 FEET TO A 5/8 INCH IRON ROD WITH AN ILLEGIBLE YELLOW PLASTIC CAP; THENCE, NORTH 88°34'29" WEST ALONG THE SOUTH LINE OF SAID TRACT OF LAND FOUND IN BOOK 203, PAGE 253, A DISTANCE OF 714.57 FEET TO THE INITIAL POINT AND THE POINT OF BEGINNING.

EXHIBIT K

Nehalem Bay Wastewater Agency
SEWER AVAILABILITY

Date: November 7, 2022
To: Tillamook County Building Department (Fax#503-842-1819)

From: Nehalem Bay Wastewater Agency
RE: Sewer Availability

As an Agent of Nehalem Bay Wastewater Agency, I confirm that sewer is available to the following lot within our service area boundary:

3N 10 23B TL3600

Owner of Record: Riverview Meadows Development LLC
Project Information: Phase III Riverview Meadows

This letter shall not create a liability on the part of Nehalem Bay Wastewater Agency, or by an agent, or employee thereof, for the services described above.

Keri Scott, Executive Assistant
Nehalem Bay Wastewater Agency

Tillamook People's Utility District

A Customer-Owned Electric Utility

Office: 503.842.2535 • Toll-free: 800.422.2535 • Fax: 503.842.4161

www.tpud.org

Directors
David L. Burt
Valerie S. Folkema
Harry E. Hewitt
Douglas S. Olson
Barbara A. Trout

Todd Simmons
GENERAL MANAGER

November 8, 2022

Riverview Meadows Development, LLC
23765 SE HWY 212
Damascus, OR 97089

RE: Work Order No. 151514
Property Located at Riverview Meadows Subdivision, Phases 1, 2 and 3

Dear Representative:

This letter is to certify that the Tillamook People's Utility District will extend electrical service to the above referenced facility in accordance with PUD Policy 4-2 which is in effect at the time service is extended.

Sincerely,

TILLAMOOK PEOPLE'S UTILITY DISTRICT

Zachary Hudspeth
Engineering Supervisor, Distribution
503-815-8629

ZH:ja

Enclosure

Nehalem Bay Fire & Rescue District
Building Review & Approval Form

36375 Hwy 101 N.
Nehalem, OR 97131
Office 503-368-7592
Fax 503-368-7580

This form must be completed and signed by the Fire District prior to applying for a Building Permit or Manufactured Dwelling Placement Permit.

Township	Range	Section	1/4 Sect	1/16 Sect	Tax Lot# (00500)	Property Address:
3N	10	23	B		3600	Tract B of Riverview Meadows Subdivisi

Legal Property Owner(s): Riverview Meadows Development, LLC.

Property Owner's(s') Mailing Address: 23765 SE Hwy 212 Damascus, OR 970

Form Requested by: Prini Lee McCord

Requestor's Relationship to Property: Junior Partner

Requestor's phone # and email: 971.808.7611 / PriniLee@JPLinvestme

Proposed Develpment/Construction: Residential

Water Source: Water District

Water District: Nehalem

---Fire District to Complete Information Below---

1. Does access road comply with Tillamook County Fire Defense Board Access Guidelines?

- [x] Yes, it complies.
- [ ] No, it does not comply. See comments section below

2. Is there a hydrant within 1000' of the property?

- [ ] Yes, approximate GPM Hydrant #
- [x] No, Fire District water shuttle operation is needed

Comments: 1.The current fire access road will become the new primary access and meets the TCFDB Guidelines. All roads created within the development must comply with these guidelines as they are improved. A copy of the guidelines has been provided to developers

3. Action Taken:

- [x] I have reviewed the information regarding the poperty listed above and approve.
- [ ] I have reviewed the information regarding the property listed above and **do not** approve for the following reason(s):

Printed Name: Captain Frank Knight III

Signature: Frank Knight III Date: 12/7/22

CITY OF NEHALEM

Date: 11/08/2022

To: TILLAMOOK COUNTY BUILDING DEPARTMENT

Re: WATER SERVICE AVAILABILITY

Attn: Building Department

I confirm that the property listed below is within the City's water service area, and may be served water through the City's Water System under the Terms and Conditions governed by the latest version of the City's Water Ordinance. Please note: This Water Service Availability letter does not certify, approve or acknowledge any specific development plans, water or other utility installations that may be necessary for the subject property to actually physically connect to the City's water system to receive service. This letter only certifies that the subject property may receive (or may already receive) water from the City's Water System.

TOWNSHIP 3N **RANGE** 10 **SECTION** 23B **TAX LOT(S)** 03600

SITUS ADDRESS: Tract B of Riverview Meadows Subdivision Phase 1

NAME: Riverview Meadows Development, LLC **PHONE:** 503.453.5599

MAILING ADDRESS: 23765 SE Hwy 212

Damascus, OR 97089

Single Family ☐ **Duplex/Multi-Family** ☐ **Other** ☑

Comments: For proposed Phase 3, 36-lot subdivision. Subject to City's conditions of approval set forth in County's tentative plat approval for Phase 2, #851-21-000415-PLNG

Signed: Melissa Thompson Kuj City Manager

Name **Title**

EXHIBIT L

Gmail PriniLee K. McCord <prinilee@trevallygroup.us>

Riverview Meadows 2
4 messages

Wendie Kellington <wk@klgpc.com> Sun, Oct 9, 2022 at 3:11 PM
To: Sarah Absher <sabsher@co.tillamook.or.us>
Cc: Carey Sheldon <careysheldon17@yahoo.com>, PriniLee McCord <prinilee@trevallygroup.us>

Hi Sarah,

As you know, we represent Sheldon Development and Carey Sheldon (SD) in their effort to receive approval of the next phases of the residential subdivision known as Riverview Meadows(RVM) – a housing development proposal on land in the UGB zoned for residential use in which residences are uses permitted outright. Please include this email and its attachment in the record of that RVM2 matter. As you know, because we are talking about the development of housing, only clear and objective approval standards may be applied and the standards have to be clear and objective on their face. ORS 215.416(4)(b) and (8)(b). To the extent that commentors wish to have subjective value laden or ambiguous standards be applied, that is inappropriate as you know. *Nieto v. City of Talent*, ___ Or LUBA ___ (LUBA No. 2020-100, March 10, 2021); *Walter v. City of Eugene*, 73 Or LUBA 356, 360-64 (2016). Also, as you know, the standards that are applied to the subdivision must be codified in the county (or city's as appropriate) code. ORS 215.416(8)(a); *Waveseer v. Deschutes County*, 308 Or App 494 (2021); *Nehmzow v. Deschutes County*, 308 Or App 533 (2021); *Jones v. Clackamas County*, 307 Or App 502, 514 (2020).

RVM2, composed of 38 residential lots, is currently pending before the county for approval, with a planning commission hearing next week. SD intends to submit the application for RVM3 (36 more residential lots) following approval of RVM2. In total, there will ultimately be 74 lots in the combined RVM2 and 3 residential subdivision developments. But for now, pending before the county is an application for a 38-lot residential subdivision for RVM2.

There have been some issues raised, that would benefit from response. Because ORS 197.522(2) requires the county to approve the application if it meets all clear and objective standards for approval, and ORS 197.522(3) authorizes the applicant to submit proposed conditions of approval as needed to demonstrate such compliance, the following is a suggested conditions of approval that ensure the proposal (RVM2) complies with relevant standards, addresses concerns and so can be approved.

The suggested condition regards water service. The City of Nehalem has raised concerns about whether the water system for the proposed subdivision will provide adequate water to ensure that fire flow of 1000 gmp in an hour and 20psi is maintained. As explained in the attached correspondence between project engineer Ray Moore and city engineer Kyle Ayers (please also include those attachments in the record), the water system that is proposed for RVM2 (and ultimately RVM3 as well), ensures that water delivery provide 1000 gpm fire flow over an hour and 20 psi. Earlier, transmitted to you was the water distribution plan appended to an August 9, 2022 letter from engineer Jason Moore (also attached), which is what Mr. Moore discusses and proves up on, in the attached correspondence with the city's engineer.

As you know, its been a process to show the city that the proposed water system for RVM2 and ultimately RVM3, meets all standards that can be applied to RVM2. For a long time, as you know, the city demanded not only that RVM2 meet all water standards that applied to that subdivision, but also demanded that RVM's owner solve other problems in the city's water distribution infrastructure elsewhere, which of course sought an unconstitutional condition lacking any connection to a relevant approval standard for RVM2 and lacking any rough proportionality between the impacts of RVM2 and the wished for exaction. As you know both federal authorities and state authorities have unequivocally held that any local standard that itself requires or is interpreted to require exactions that do not meet the "*Nollan*" test of an essential nexus to a relevant approval standard and the "*Dolan*" requirement for rough proportionality, simply cannot be applied. *Hill v. City of Portland*, 293 Or App 283 (2018) has a good explanation of these principles. Further, the city made resolution of its city-wide solution and unlawful exaction demand challenging for SD, because the city refused to share its city-wide water model so RVM's owner had no way to even understand the city's larger concern.

However, SD persevered and the city is now satisfied that the water delivery system for RVM2 meets relevant standards (1000 gpm per 1 hour fire flow and 20 psi) and, at least so far as we know, the city's concerns are resolved as outlined in Mr. Moore's attached confirming email to the city engineer. We understand that the city has now abandoned its demand for unconstitutional conditions/exactions and is satisfied with the proposed water delivery system. However, because of that controversy, SD wishes the approval of RVM2 and ultimately RVM3 to provide assurance to the city that those subdivisions will meet the applicable approval standards. Therefore, the following condition is requested and will ensure that the RV2 (and ultimately the RV3 subdivision, if and when it is approved), will meet all relevant standards:

1. Applicant shall install a water distribution system to serve RVM2 that substantially complies with the narrative dated August 9, 2022 and its attached plan entitled "Riverview Meadows Phase 2 Tentative Plan" dated May 12, 2022 and updated "7/24/22 Add WL Feeder, Tank, Pump, PRVS" (called in this condition for simplicity "Water Plan"), authored by engineer, Jason Morgan. No certificates of occupancy for RVM2 shall be issued until that infrastructure shown on the Water Plan is installed in substantial conformity with that Water Plan. The water system shown on the Water Plan shall also serve RVM3 substantially as it is shown on the Water Plan if and when RVM3 is approved and developed and, similarly, no certificates of occupancy for RVM3 shall issue unless and until that infrastructure shown on the Water Plan is installed in substantial conformity with the Water Plan. This condition does not imply that RVM3 must be approved. Such implication cannot be drawn because no application for RVM3 has been submitted. Rather, this condition is designed to respond to, and assuage, city concerns that a water distribution system substantially complying with the Water Plan will be installed for RVM 2 and ultimately 3 and so provide the agreed-upon adequate water service capacity to serve the entire 74-lot subdivision that is contemplated for the RVM 2 and 3 property.

There was also a concern raised about access. As you know, RVM1 abuts the subject property and is approved for 20 lots and largely is developed with houses. RVM1 has existing public access that serves it and can serve proposed RVM2. A traffic study (TIA) was prepared by Ard Engineering, Mike Ard, to analyze traffic impacts of the proposed development which abuts RVM1 and then some – specifically the project's TIA evaluates traffic impacts from a total of 74 lots for RVM phases 2 and 3. The conclusion is that the LOS resulting from the proposal's addition to the transportation system maintains a LOS A – the best there is.

The Ard TIA estimates and, in fact nearly doubles and overestimates, the traffic impacts from RVM2's 38 lots. As such there can be no dispute that the Ard TIA is adequate to estimate the impacts of the RVM2 38-lot subdivision.

The Ard TIA assumes, but does not require, a full public secondary access being developed from a driveway that intersects to the south with McDonald Rd. His TIA makes reasonably clear that the secondary full public access is a "nice to have" and not a "need to have" under any standard. In that regard, to clarify matters, Mr. Ard is writing a supplemental letter for the record, explaining that no applicable traffic standard requires a secondary full public access in fact, that the existing full public access and emergency access to be provided via the existing emergency access easement is adequate to meet all applicable standards. While the public works director in his July 25, 2022 comments asked for a secondary access, the basis for the same was a citation to "(LDO Section 160(4): Street Improvements, Dead End Streets", however, that provision does not require a full public secondary access and we are unaware of any standard that does. Regardless, please know that SD is working to obtain an easement for a full public access at the secondary access location – the south McDonald Driveway because SD believes if it can be obtained, it improves the subdivision. Toward that end, SD has offered $50,000 to the grantor for the privilege of converting that existing emergency access easement to a full public access easement and understands that the grantor (the Dillard's - the mayor of Nehalem's family) will be willing to expand that existing easement from emergency, to full public, access. But SD cannot control whether the Dillard's are in fact willing to do so. And should the Dillard's decline to allow the existing emergency access easement to be converted to a full public access easement, such cannot be a basis to deny the proposal. Because, again, the proposal can only be denied if it does not meet clear and objective standards that are codified in the applicable code and, at least so far as we can tell, there is no such standard requiring a second full public access. If you aware of a standard otherwise, please do let us know.

Thank you, Sarah for your time and courtesies. Please feel free to email ro call to discuss any of these concerns/suggestions. All the best, Wendie

KELLINGTON
LAW GROUP

Wendie L. KellingtonlAttorney at Law.
Please note our firm's NEW MAILING ADDRESS:

P.O. Box 2209

Lake Oswego, OR 97035

Please note our firms new PHYSICAL ADDRESS

4500 Kruse Way, #340

Lake Oswego Or 97035

(503) 636-0069 office
(503) 636-0102 fax
wk@klgpc.com
www.wkellington.com

EXHIBIT M

Subject: RE: Water Model - Meeting

raym@allcountysurveyors.com <raym@allcountysurveyors.com>
to Kyle Ayers, Jason Morgan

Hi Kyle, thanks for meeting with Jason and I yesterday. I have put together the attached exhibit documenting the results of our modeling.

As you can see the new 80,000 gallon reservoir and piping will increase the fire flow that is available at node 22, from 560 gpm to 1,500 gpm. I see this project as a win win for the City ar

With the new reservoir and booster pump, the Riverview Meadows phase 1 (38 lots) and the future phases (74 lots) can be developed to meet the City standards and should not be part o

Please let me know if you have any questions. Thanks again for your help. Have a good weekend.

Thanks,

Ray Moore, PE, PLS.
All County Surveyors & Planners, Inc.
PO Box 955, Sandy, OR 97055
Phone: 503-668-3151
email: raym@allcountysurveyors.com

From: raym@allcountysurveyors.com <raym@allcountysurveyors.com>
Sent: Wednesday, October 5, 2022 11:33 AM
To: 'Kyle Ayers' <kyle@nccivil.com>; 'Jason Morgan' <jason@morgancivil.com>
Subject: RE: Water Model - Meeting

Why do you need to strip out anything in the model? If you are not going to share the model, then just build onto the one you have.

You will have a much better feel for how the new reservoir will interact with the existing system. It will be important to see how the fire flow will affect all of the nodes in the City with the pr

Ray Moore, PE, PLS.
All County Surveyors & Planners, Inc.
PO Box 955, Sandy, OR 97055
Phone: 503-668-3151
email: raym@allcountysurveyors.com

From: Kyle Ayers <kyle@nccivil.com>
Sent: Wednesday, October 5, 2022 11:26 AM
To: raym@allcountysurveyors.com; 'Jason Morgan' <jason@morgancivil.com>
Subject: RE: Water Model - Meeting

Correct, we're not using the NC Civil model. As mentioned in the last meeting, it's quicker to start a new model than strip out the other water systems.

Also, with attorneys involved, this is the only path forward.

Thank you,
Kyle Ayers

KYLE AYERS, PE *Principal-in-Charge*
North Coast Civil Design, LLC

503.812.3732 503.440.1088
kyle@nccivil.com www.nccivil.com

35240 Tohl Ave, Nehalem, OR 97131

From: raym@allcountysurveyors.com <raym@allcountysurveyors.com>
Sent: Wednesday, October 5, 2022 11:20 AM
To: Kyle Ayers <kyle@nccivil.com>; 'Jason Morgan' <jason@morgancivil.com>
Subject: RE: Water Model - Meeting

So, we are not going to use the model you have already started?

Why not just build on to the existing model?

Ray Moore, PE, PLS.
All County Surveyors & Planners, Inc.
PO Box 955, Sandy, OR 97055
Phone: 503-668-3151

From: Kyle Ayers <kyle@nccivil.com>
Sent: Wednesday, October 5, 2022 11:18 AM
To: raym@allcountysurveyors.com; 'Jason Morgan' <jason@morgancivil.com>
Subject: RE: Water Model - Meeting

The purpose of tomorrow's meeting is to assemble the water model. We will start with a blank model and I'll have the water system drawing inserted as the background, to scale.

Thank you,
Kyle Ayers

KYLE AYERS, PE *Principal-in-Charge*
North Coast Civil Design, LLC

503.812.3732 503.440.1088
kyle@nccivil.com www.nccivil.com

35240 Tohl Ave, Nehalem, OR 97131

From: raym@allcountysurveyors.com <raym@allcountysurveyors.com>
Sent: Wednesday, October 5, 2022 11:09 AM
To: 'Jason Morgan' <jason@morgancivil.com>; Kyle Ayers <kyle@nccivil.com>
Subject: RE: Water Model - Meeting

Hi Kyle, can you please send me the model now and I can update it with the proposed reservoir. Then we can discuss the results at our meeting tomorrow.

Thanks,

Ray Moore, PE, PLS.
All County Surveyors & Planners, Inc.
PO Box 955, Sandy, OR 97055
Phone: 503-668-3151
email: raym@allcountysurveyors.com

From: Jason Morgan <jason@morgancivil.com>
Sent: Monday, October 3, 2022 11:51 AM
To: Kyle Ayers <kyle@nccivil.com>; Ray <raym@allcountysurveyors.com>
Subject: RE: Water Model - Meeting

Wednesday does not work for me at all.
Late Thursday is okay, like 1pm.

Friday, I am open during those times.

Jason Morgan, PE
Morgan Civil Engineering, inc.
503-801-6016

From: Kyle Ayers <kyle@nccivil.com>
Sent: Monday, October 3, 2022 11:47 AM
To: Jason Morgan <jason@morgancivil.com>; Ray <raym@allcountysurveyors.com>
Subject: Water Model - Meeting

Gentlemen,
Is there a time that will work for the both of you to sit down and assemble the water model for RVM? We likely don't need to more than 1 or 2 hours to start it and then we can meet again

This week, I have the following availability:

- Wednesday 1pm – 4pm
- Thursday 10am – 2pm
- Friday 10am – 1pm

Please let me know your availability.

Thank you,
Kyle

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