



TYPE III APPLICATION (QUASI-JUDICIAL REVIEW)

File #: SUB322-0001

TYPES – PLEASE CHECK ONE:

- Annexation
- Comprehensive Plan Amendment (site specific)
- Zoning Amendment (site specific)
- Historic Landmark Modification/alteration

- Conditional Use Permit
- Type III Major Modification
- Planned Unit Development
- Other: (Explain) Subdivision in stream corridor

APPLICANT INFORMATION:

APPLICANT: Scott Holden
 ADDRESS: 100 S. Garfield St., Newberg, OR 97132
 EMAIL ADDRESS: Scottholden2007@outlook.com
 PHONE: 503-502-8006 MOBILE: _____ FAX: _____
 OWNER (if different from above): _____ PHONE: _____
 ADDRESS: _____
 ENGINEER/SURVEYOR: Kelli Grover PHONE: 503-668-3737
 ADDRESS: 359 E Historic Columbia River Hwy, Troutdale, OR 97060

GENERAL INFORMATION:

PROJECT NAME: Garfield St. Partition PROJECT LOCATION: 100 S Garfield St., Newberg, OR 97132
 PROJECT DESCRIPTION/USE: Create a 12 lot subdivision with new residences on each property.
 MAP/TAX LOT NO. (i.e.3200AB-400): R3219DB 04690 ZONE: R-2 SITE SIZE: 1.95 SQ. FT. ACRE
 COMP PLAN DESIGNATION: _____ TOPOGRAPHY: _____
 CURRENT USE: The lot currently contains a duplex
 SURROUNDING USES:
 NORTH: Unoccupied/Stream SOUTH: Residential
 EAST: Business WEST: Residential/Stream

SPECIFIC PROJECT CRITERIA AND REQUIREMENTS ARE ATTACHED

General Checklist: Fees Public Notice Information Current Title Report Written Criteria Response Owner Signature

For detailed checklists, applicable criteria for the written criteria response, and number of copies per application type, turn to:

Annexationp. 15
Comprehensive Plan / Zoning Map Amendment (site specific)p. 19
Conditional Use Permitp. 21
Historic Landmark Modification/Alterationp. 23
Planned Unit Developmentp.26

The above statements and information herein contained are in all respects true, complete, and correct to the best of my knowledge and belief. Tentative plans must substantially conform to all standards, regulations, and procedures officially adopted by the City of Newberg. All owners must sign the application or submit letters of consent. Incomplete or missing information may delay the approval process.

Scott Holden Digitally signed by Scott Holden
Date: 2022.09.16 12:22:21 -07'00'
 Applicant Signature _____ Date _____

Scott Holden
 Print Name _____

Scott Holden Digitally signed by Scott Holden
Date: 2022.09.16 12:22:35 -07'00'
 Owner Signature _____ Date _____

Scott Holden
 Print Name _____

Type III Application Narrative

Project Name: **Garfield St. Newberg Partition**

Site Address: 100 S Garfield St., Newberg, OR 97132

Prepared By:



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

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I. Executive Summary

Location:

100 S Garfield St., Newberg, OR

Zoning:

R-2 Medium Density Residential

Site Size:

±1.95 acres

Legal Description:

3.2.19DB Tax Lot 4690

Applicant:

Scott Holden
100 S Garfield St., Newberg, OR 97132
Scottholden2007@outlook.com

Applicants Consultant:

Firwood Design Group LLC
359 E Historic Columbia River Hwy
Troutdale, OR 97060

Contact: Kelli Grover
Email: kg@firwooddesign.com
Phone: 503-668-3737

The applicant requests approval from the City of Newberg to divide the subject property into 12 lots with duplex residences. A preliminary plat and preliminary civil plans are provided that illustrate the proposed lot configurations, driveway approaches, utilities, stormwater management features, etc. The proposed improvements include extending S. Garfield Street with a full width section for 240 feet +/- and terminating in a modified cul-de-sac.

This written narrative includes responses to the approval criteria demonstrating the applicant's compliance with the applicable criteria. The narrative is supported by additional information provided with this application including preliminary plans, supporting studies and documentation. The information presented herein provides the City with the supporting documentation in request for approval of the application.

II. Site Description/ Setting :

The subject site for this proposed subdivision is located at 100 S Garfield St., Newberg, OR 97132. It is tax lot 4690 on assessors map T3.R2.Sectio19 DB and ±1.95 acres in total size. The lot is located north of E 8th St., east of S Garfield St., south and west of E 7th St.

The property includes an existing duplex, unpaved road and driveway, open grass area, mature trees, and a stream. There are mature trees and stream to the north, a residence directly to the west of the property, a business to the east, and residential properties to the south.

III. Applicable Review Criteria:

Below is a list of the criteria addressed followed by detailed sections.

NMC 15.100
NMC 15.235
NMC 15.342
NMC 15 400
NMC 15 410
NMC 15 420
NMC 15 500

Chapter 15.100 Land Use Processes and Procedures

15.100.050 Type III procedure – Quasi-judicial hearing

A. All Type III decisions shall be heard and decided by the planning commission. The planning commission's decision shall be final unless the decision is appealed or the decision is a recommendation to the city council.

B. Type III actions include, but are not limited to:

1. An appeal of a Type I or Type II decision: This action of the planning commission is a final decision unless appealed to the city council.
2. Conditional use permits: This action is a final decision unless appealed.
3. Planned unit developments: This action is a final decision unless appealed.
4. Substantial change to the exterior appearance of a historic landmark: This action is final unless appealed.

5. Establishment of a historic landmark: This is a final decision by the planning commission, unless appealed.
6. Establishment of a historic landmark subdistrict: This is a recommendation to the city council.
7. Comprehensive plan map amendments: This action is a recommendation to the city council.
8. Zoning map amendments and designation of subdistricts: This action is a recommendation to the city council.
9. Annexation: This action is a recommendation to the city council.
10. Subdivisions with certain conditions requiring them to be processed using the Type III process, pursuant to NMC 15.235.030(A).

C. Planning Commission Decisions and Recommendation Actions.

1. Planning Commission Decision. Development actions shall be decided by the planning commission for those land use actions that require a Type III procedure and do not require the adoption of an ordinance. The decision shall be made after public notice and a public hearing is held in accordance with the requirements of NMC 15.100.090 et seq. A Type III decision may be appealed to the city council by a Type III affected party in accordance with NMC 15.100.160 et seq.
2. Planning Commission Recommendation to City Council. Land use actions that would require the adoption of an ordinance shall be referred to the city council by the planning commission together with the record and a recommendation. The recommendation shall be made after public notice and a public hearing is held in accordance with the requirements of NMC 15.100.090 et seq.

D. City Council Action. If a recommendation to the city council is required, the matter shall be reviewed by the city council as a new hearing. The final decision on these actions is made by the city council.

E. The applicant shall provide notice pursuant to NMC 15.100.200 et seq.

F. The hearing body may attach certain conditions necessary to ensure compliance with this code.

G. If the application is approved, the director shall issue a building permit when the applicant has complied with all of the conditions and other requirements of this code.

H. If a Type III application is denied, or if the applicant wishes to make substantive modifications to an approved application, the applicant may modify the application after the planning commission hearing and request a new planning commission hearing to consider the application. An application so modified shall be considered a new application for purposes of the 120-day time limit for processing applications in accordance with NMC 15.100.100 and state statutes. The applicant shall acknowledge in writing that this is a new application for purposes of the 120-day rule. The city

council shall establish a fee for such a reconsideration or modification by resolution. Application of this provision is limited to three times during a continuous calendar year.

Response: This project falls under a Type III procedure due to the stream corridor overlay.

15.100.210 Mailed notice

B. Type II and Type III Actions. The applicant shall provide public notice to:

1. The owner of the site for which the application is made; and
2. Owners of property within 500 feet of the entire site for which the application is made. The list shall be compiled from the most recent property tax assessment roll. For purposes of review, this requirement shall be deemed met when the applicant can provide an affidavit or other certification that such notice was deposited in the mail or personally delivered.
3. To the owner of a public use airport, subject to the provisions of ORS 215.416 or 227.175.

C. The director may request that the applicant provide notice to people other than those required in this section if the director believes they are affected or otherwise represent an interest that may be affected by the proposed development. This includes, but is not limited to, neighborhood associations, other governmental agencies, or other parties the director believes may be affected by the decision.

Response: The applicant will mail notices upon notification of planning commission hearing date.

D. The director shall provide the applicant with the following information regarding the mailing of notice:

1. The latest date by which the notice must be mailed;
2. An affidavit of mailing (to be signed and returned) certifying that the notice was mailed, acknowledging that a failure to mail the notice in a timely manner constitutes an agreement by the applicant to defer the 120-day process limit and acknowledging that failure to mail will result in the automatic postponement of a decision on the application; and
3. A sample notice.

Response: Applicant acknowledges this process and will adhere to the requirements.

E. The notice of a Type II and Type III development application shall be reasonably calculated to give actual notice and shall:

1. Set forth the street address or other easily understood geographical reference to the subject property;

2. List, by commonly used citation, the applicable criteria for the decision;
3. Include the name and phone number of a local government contact person, the telephone number where additional information may be obtained and where information may be examined;
4. Explain the nature of the application and the proposed use or uses which could be authorized;
5. State that a copy of the application, all documents and evidence relied upon by the applicant and applicable criteria are available for inspection at no cost and will be provided at a reasonable cost.

Response: Not applicable

F. Prior to mailing or posting any notice required by this code, the applicant shall submit a copy of the notice to the director.

[...]

H. The applicant shall mail the notice for Type III actions at least 20 days before the first new hearing, or if two or more new hearings are allowed, 10 days before the first new hearing. The applicant shall file with the director an affidavit of mailing as identified in subsection (D) of this section within two business days after notice is mailed.

Response: Applicant acknowledges this process and will adhere to the requirements

I. All public notices shall be deemed to have been provided or received upon the date the notice is deposited in the mail or personally delivered, whichever occurs first. The failure of a property owner to receive notice shall not invalidate an action if a good faith attempt was made to notify all persons entitled to notice. An affidavit of mailing issued by the person conducting the mailing shall be conclusive evidence of a good faith attempt to contact all persons listed in the affidavit.

J. Failure to mail the notice and affirm that the mailing was completed in conformance with the code shall result in:

1. Postponement of a decision until the mailing requirements have been met; or
2. Postponement of the hearing to the next regularly scheduled meeting or to such other meeting as may be available for the hearing; or
3. The entire process being invalidated; or
4. Denial of the application.

Response: Applicant acknowledges this process and will adhere to the requirements

15.100.230 Additional notice procedures for Type III quasi-judicial hearing.

In addition to the requirements of NMC 15.100.210, mailed notice for Type III development actions shall also contain the following:

- A. State that an issue which may be the basis for an appeal to the Land Use Board of Appeals shall be raised not later than the close of the record at or following the final new hearing on the proposal before the city. Such issues shall be raised with sufficient specificity so as to afford the hearing body and the parties an adequate opportunity to respond to each issue;
- B. State the date, time and location of the hearing;
- C. State that the failure of an issue to be raised in a hearing, in person or by letter, or failure to provide sufficient specificity to afford the hearing body an opportunity to respond to the issue may preclude appeal to the Land Use Board of Appeals on that issue;
- D. State that a copy of the staff report will be available for inspection at no cost at least seven calendar days prior to the hearing and will be provided at reasonable cost;
- E. Include a general explanation of the requirements for submission of testimony and the procedure for conduct of hearings.

Response: Applicant acknowledges this process and will adhere to the requirements

Response:

Response:

15.100.270 Procedure for published notice on Type III and Type IV procedures.

- A. Notice shall be provided within a newspaper of general circulation within the city at least 10 days prior to the first public hearing on the action
- B. The notice shall reasonably describe:
 - 1. Type III Proceedings. The proposed development permit request, location, file number, the name and phone number of a local government contact person and the location where information may be examined.
- [...]
- C. The notice shall include a statement that all interested persons may appear and provide testimony and that only those persons who participate either orally or in writing in the hearing proceedings leading to the adoption of the action may appeal the decision.
- D. The notice shall state the place, date and time of the hearing.
- E. See NMC 15.100.240 for Type III notice for annexations.

Response: Applicant acknowledges this process and will adhere to the requirements

Chapter 15.235 Land Divisions

15.235.020 General requirements.

A. Subdivision and Partition Approval through a Two-Step Process. Applications for subdivision or partition approval shall be processed by means of a preliminary plat evaluation and a final plat evaluation, according to the following two steps:

1. The preliminary plat must be approved before the final plat can be submitted for approval consideration; and
2. The final plat must demonstrate compliance with all conditions of approval of the preliminary plat.

Response: Applicant acknowledges this process and will adhere to the requirements

[...]

C. Compliance with ORS Chapter 92. All subdivision and partition proposals shall conform to state regulations in ORS Chapter 92, Subdivisions and Partitions.

D. Adequate Utilities. All lots created through land division shall have adequate public utilities and facilities such as streets, water, wastewater, gas, and electrical systems, pursuant to Chapters 15.430 and 15.505 NMC.

E. Adequate Drainage. All subdivision and partition proposals shall have adequate surface water drainage facilities that reduce exposure to flood damage and improve water quality. Water quality or quantity control improvements may be required, pursuant to NMC 15.505.050.

F. Adequate Access. All lots created or reconfigured shall have adequate vehicle access and parking, as may be required, pursuant to Chapter 15.440 NMC and NMC 15.505.030.

Response:

15.235.050 Preliminary plat approval criteria.

A. Approval Criteria. By means of a Type II procedure for a partition, or a Type II or III procedure for a subdivision per NMC 15.235.030(A), the applicable review body shall approve, approve with conditions, or deny an application for a preliminary plat. The decision shall be based on findings of compliance with all of the following approval criteria:

1. The land division application shall conform to the requirements of this chapter;
2. All proposed lots, blocks, and proposed land uses shall conform to the applicable provisions of NMC Division 15.400, Development Standards;

Response: SEE DETAILED 15.400 CODE RESPONSES BELOW

3. Access to individual lots, and public improvements necessary to serve the development, including but not limited to water, wastewater, stormwater, and streets, shall conform to NMC Division 15.500, Public Improvement Standards;

Response: SEE DETAILED 15.500 CODE RESPONSES BELOW

4. The proposed plat name is not already recorded for another subdivision, and satisfies the provisions of ORS Chapter 92;

Response: A Plat name has not been decided upon at this time but will be provided for approval prior to final plat review.

5. The proposed streets, utilities, and stormwater facilities are adequate to serve the proposed development at adopted level of service standards, conform to city of Newberg adopted master plans and applicable Newberg public works design and construction standards, and allow for transitions to existing and potential future development on adjacent lands. The preliminary plat shall identify all proposed public improvements and dedications;

Response: The proposed streets, utilities and stormwater facilities are adequate and meet adopted level of service standards.

6. All proposed private common areas and improvements, if any, are identified on the preliminary plat and maintenance of such areas is assured through the appropriate legal instrument;

Response: Proposed common areas such as private access areas will have a maintenance agreement assured through recording and plat reference.

7. Evidence that any required state and federal permits, as applicable, have been obtained or can reasonably be obtained prior to development; and

Response: The applicant is not aware of any state or federal permits that apply to this application.

8. Evidence that improvements or conditions required by the city, road authority, Yamhill County, special districts, utilities, and/or other service providers, as applicable to the project, have been or can be met.

Response: All required approvals and permits from City or other agency or jurisdiction will be secured and approvals will be provided to the City as necessary.

15.235.070 Final plat submission requirements and approval criteria.

Final plats require review and approval by the director prior to recording with Yamhill County. The final plat submission requirements, approval criteria, and procedure are as follows:

A. Submission Requirements. The applicant shall submit the final plat within two years, or as otherwise provided for in NMC 15.235.030. The format of the plat shall conform to ORS Chapter 92. The final plat application shall include the following items:

1. One original and one identical copy of the final plat for signature. The plat copies shall be printed on mylar, and must meet the requirements of the county recorder and county surveyor. The plat must contain a signature block for approval by the city recorder and community development director, in addition to other required signature blocks for county approval. Preliminary paper copies of the plat are acceptable for review at the time of final plat application.
2. Written response to any conditions of approval assigned to the land division.
3. A title report for the property, current within six months of the final plat application date.
4. Copies of any required dedications, easements, or other documents.
5. Copies of all homeowner's agreements, codes, covenants, and restrictions, or other bylaws, as applicable. This shall include documentation of the formation of a homeowner's association, including but not limited to a draft homeowner's association agreement regarding the maintenance of planter strips adjacent to the rear yard of proposed through lots.
6. Copies of any required maintenance agreements for common property.
7. A bond, as approved by the city engineer, for public infrastructure improvements, if the improvements are not substantially complete prior to the final plat.
8. Any other item required by the city to meet the conditions of approval assigned to the land division.

Response: A final plat conforming to the aforementioned standards will be submitted for approval.

**Chapter 15.342 STREAM CORRIDOR OVERLAY (SC) SUBDISTRICT
15.342.090 Mitigation requirements for Type II activities.**

The following mitigation requirements apply to Type II activities. The plans required pursuant to NMC 15.342.080 shall be submitted indicating the following mitigation requirements will be met.

A. Disturbed areas, other than authorized improvements, shall be regraded and contoured to appear natural. All fill material shall be native soil. Native

soil may include soil associations commonly found within the vicinity, as identified from USDA Soil Conservation Service, Soil Survey of Yamhill Area, Oregon.

B. Replanting shall be required using a combination of trees, shrubs and grass. Species shall be selected from the Newberg native plant list. Planting shall be as follows:

1. At least eight species of plants shall be used.
2. At least two species must be trees and two species must be shrubs.
3. No more than 50 percent of any seed mix used can be grass.
4. A minimum of one tree and three shrubs shall be used for every 500 square feet of planting area.
5. Areas to be replanted must be completed at the time of final inspection or completion of the work, except as otherwise allowed by this code.
6. Existing vegetation that can be saved and replanted is encouraged, although not required.

RESPONSE: All disturbed areas for construction of proposed stormwater facilities will be replanted according to this criteria. See sheet 6, Mitigation and Replanting Plan in the preliminary plan set.

C. Removed trees over six inches in diameter, as measured at breast height, shall be replaced as follows:

1. Trees from six to 18 inches in diameter shall be replaced with a minimum of three new trees for every tree removed.
2. Trees over 18 inches but less than 30 inches shall be replaced with a minimum of five trees for every tree removed.
3. Trees over 30 inches shall be replaced with a minimum of eight trees for every tree removed.
4. All trees replaced pursuant to this section shall have an average caliper measurement of a minimum of one inch. Additional trees of any size caliper may be used to further enhance the mitigation site.

RESPONSE: The applicant will adhere to this criteria.

D. All disturbed areas, other than authorized improvements, shall be replanted to achieve 90 percent cover in one year. The director may require a bond or other form of security instrument to insure completion of the restoration plan. The director shall authorize the release of the bond or other security instrument when, after one year, the restoration site has achieved the purposes and standards of this section.

RESPONSE: See sheet 6, Mitigation and Replanting Plan in the preliminary plan set.

E. All disturbed areas shall be protected with erosion control devices prior to construction activity. The erosion control devices shall remain in place until 90 percent cover is achieved.

RESPONSE: The applicant will adhere to this criteria.

Division 15.400 Development Standards

Chapter 15.405 LOT REQUIREMENTS

15.405.010 Lot area – Lot areas per dwelling unit.

A. In the following districts, each lot or development site shall have an area as shown below except as otherwise permitted by this code:

1. In the R-1, R-2, R-3, R-P and AR districts, the following minimum lot area standards apply:

Zone	Minimum lot area for single family	Minimum lot area for duplex dwelling	Minimum lot area for triplex dwelling	Minimum lot area for quadplex dwelling	Minimum lot area for townhouse	Minimum lot area for cottage cluster	Minimum lot area per dwelling unit for multifamily
R-1	5,000 SF	5,000 SF	5,000 SF	7,000 SF	1,500 SF	7,000 SF	Per conditional use review
R-2	3,000 SF	3,000 SF	5,000 SF	7,000 SF	1,500 SF	7,000 SF	3,000 SF

Zone	Minimum lot area for single family	Minimum lot area for duplex dwelling	Minimum lot area for triplex dwelling	Minimum lot area for quadplex dwelling	Minimum lot area for townhouse	Minimum lot area for cottage cluster	Minimum lot area per dwelling unit for multifamily
R-3	2,500 SF	2,500 SF	4,500 SF	6,000 SF	1,500 SF	6,000 SF	1,500 SF
R-P	3,000 SF	3,000 SF	5,000 SF	7,000 SF	1,500 SF	7,000 SF	3,000 SF
AR	5,000 SF	5,000 SF	5,000 SF	7,000 SF	1,500 SF	7,000 SF	—

[...]

B. Maximum Lot or Development Site Area per Dwelling Unit.

[...]

2. In the R-2 and R-P districts, the average size of lots in a subdivision intended for single-family development shall not exceed 5,000 square feet.

3. In the R-2, AR and R-P districts, lots or development sites in excess of 15,000 square feet used for multiple single-family, duplex, triplex, quadplex, multifamily dwellings or cottage cluster projects shall be developed at a minimum of one dwelling per 5,000 square feet lot area.

[...]

C. In calculating lot area for this section, lot area does not include land within public or private streets. In calculating lot area for maximum lot area/minimum density requirements, lot area does not include land within stream corridors, land reserved for public parks or open spaces, commons buildings, land for preservation of natural, scenic, or historic resources, land on slopes exceeding 15 percent or for avoidance of identified natural hazards, land in shared access easements, public walkways, or entirely used for utilities, land held in reserve in accordance with a future development plan, or land for uses not appurtenant to the residence.

D. Lot size averaging is allowed for any subdivision. Some lots may be under the minimum lot size required in the zone where the subdivision is located, as long as the average size of all lots is at least the minimum lot size.

Response: The average lot size for the twelve lot subdivision is 3513.25, therefore this criteria is met.

15.405.030 Lot dimensions and frontage.

A. Width. Widths of lots shall conform to the standards of this code.

B. Depth to Width Ratio. Each lot and parcel shall have an average depth between the front and rear lines of not more than two and one-half times the average width between the side lines. Depths of lots shall conform to the standards of this code. Development

of lots under 15,000 square feet are exempt from the lot depth to width ratio requirement.

Response: The proposed lots are under 15,000 square feet therefore this criteria does not apply.

C. Area. Lot sizes shall conform to standards set forth in this code. Lot area calculations shall not include area contained in public or private streets as defined by this code.

D. Frontage.

1. No lot or development site shall have less than the following lot frontage standards:

a. Each lot or development site shall have either frontage on a public street for a distance of at least 25 feet or have access to a public street through an easement that is at least 25 feet wide. No new private streets, as defined in NMC 15.05.030, shall be created to provide frontage or access except as allowed by NMC 15.240.020(L)(2).

b. Each lot in R-2 zone shall have a minimum width of 25 feet at the front building line and R-3 zone shall have a minimum width of 30 feet at the front building line, except that duplex, triplex, quadplex and cottage cluster project lots in the R-3 zone shall have a minimum width of 25 feet at the front building line.

[...]

2. The above standards apply with the following exceptions:

[...]

b. Legally created lots of record in existence prior to the effective date of the ordinance codified in this code.

c. Lots or development sites which, as a process of their creation, were approved with sub-standard widths in accordance with provisions of this code.

d. Existing private streets may not be used for new dwelling units, except private streets that were created prior to March 1, 1999, including paving to fire access roads standards and installation of necessary utilities, and private streets allowed in the airport residential and airport industrial districts. However, existing single-family detached dwellings on existing private streets may be converted to duplex, triplex, or quadplex dwellings.

Response: Each lot has a minimum frontage either on a public street or a private access.

15.405.040 Lot coverage and parking coverage requirements.

A. Purpose. The lot coverage and parking coverage requirements below are intended to:

1. Limit the amount of impervious surface and storm drain runoff on residential lots.
2. Provide open space and recreational space on the same lot for occupants of that lot.
3. Limit the bulk of residential development to that appropriate in the applicable zone.

B. Residential uses in residential zones shall meet the following maximum lot coverage and parking coverage standards; however, cottage cluster projects shall be exempt from the standards. See the definitions in NMC 15.05.030 and Appendix A, Figure 4.

1. Maximum Lot Coverage.

[...]

- b. R-2 and RP: 60 percent.

[...]

2. Maximum Parking Coverage. R-1, R-2, R-3, and RP: 30 percent.

3. Combined Maximum Lot and Parking Coverage.

[...]

- b. R-2, R-3, RP and townhouse dwellings in R-1: 70 percent.

[...]

Response: The future structures will adhere to the lot coverage requirements, this criteria can be satisfied through condition.

Chapter 15.410 YARD SETBACK REQUIREMENTS

15.410.010 General yard regulations.

A. No yard or open space provided around any building for the purpose of complying with the provisions of this code shall be considered as providing a yard or open space for any other building.

B. No yard or open space on adjoining property shall be considered as providing required yard or open space for another lot or development site under the provisions of this code.

C. No front yards provided around any building for the purpose of complying with the regulations of this code shall be used for public or private parking areas or garages, or other accessory buildings, except as specifically provided elsewhere in this code.

D. When the common property line separating two or more contiguous lots is covered by a building or a permitted group of buildings with respect to such common property line or lines does not fully conform to the required yard spaces on each side of such common property line or lines, such lots shall constitute a single development site and the yards as required by this code shall then not apply to such common property lines.

E. Dwellings Where Permitted above Nonresidential Buildings. The front and interior yard requirements for residential uses shall not be applicable; provided, that all yard requirements for the district in which such building is located are complied with.

[...]

Response: The applicant will adhere to this standard, this criteria can be satisfied through condition of approval.

15.410.020 Front yard setback.

A. Residential (see Appendix A, Figure 10).

1. AR, R-1 and R-2 districts shall have a front yard of not less than 15 feet. Said yard shall be landscaped and maintained.

[...]

3. The entrance to a garage or carport, whether or not attached to a dwelling, shall be set back at least 20 feet from the nearest property line of the street to which access will be provided. However, the foregoing setback requirement shall not apply where the garage or carport will be provided with access to an alley only.

[...]

Response: The applicant will adhere to this standard, this criteria can be satisfied through condition of approval.

15.410.030 Interior yard setback

A. Residential.

1. All lots or development sites in the AR, R-1, R-2 and R-3 districts shall have interior yards of not less than five feet, except that where a utility easement is recorded adjacent to a side lot line, there shall be a side yard no less than the width of the easement.

[...]

Response: The applicant will adhere to this standard, this criteria can be satisfied through condition of approval.

Chapter 15.415 BUILDING AND SITE DESIGN STANDARDS

15.415.010 Main buildings and uses as accessory buildings.

A. Hereinafter, any building which is the only building on a lot is a main building.

B. In any residential district except RP, there shall be only one main use per lot or development site; provided, that home occupations shall be allowed where permitted.

C. In any residential district, there shall be no more than two accessory buildings on any lot or development site.

Response: The applicant will adhere to this standard, this criteria can be satisfied through condition of approval.

15.415.020 Building height limitation.

A. Residential.

[...]

2. In the R-2, AR, and RP districts, no main building shall exceed 35 feet in height.

[...]

4. Accessory buildings in the R-1, R-2, R-3, AR, and RP districts are limited to 16 feet in height, except as follows:

[...]

C. The maximum height of buildings and uses permitted conditionally shall be stated in the conditional use permits.

Response: The future building structure will adhere to this standard, this criteria can be satisfied through condition of approval.

15.415.040 Public access required.

No building or structure shall be erected or altered except on a lot fronting or abutting on a public street or having access to a public street over a private street or easement of record approved in accordance with provisions contained in this code.

Response: All proposed lots are fronting a public street except lots 1,2&3 which access a public street via a private access easement. This criteria is met.

Response:

Chapter 15.430 UNDERGROUND UTILITY INSTALLATION

A. All new utility lines, including but not limited to electric, communication, natural gas, and cable television transmission lines, shall be placed underground. This does not include surface-mounted transformers, connections boxes, meter cabinets, service cabinets, temporary facilities during construction, and high-capacity electric lines operating at 50,000 volts or above.

B. Existing utility lines shall be placed underground when they are relocated, or when an addition or remodel requiring a Type II design review is proposed, or when a developed area is annexed to the city.

C. The director may make exceptions to the requirement to underground utilities based on one or more of the following criteria:

1. The cost of undergrounding the utility is extraordinarily expensive.
2. There are physical factors that make undergrounding extraordinarily difficult.
3. Existing utility facilities in the area are primarily overhead and are unlikely to be changed.

Response: The applicant will adhere to this standard, this criteria can be satisfied through condition of approval.

Chapter 15.440 OFF-STREET PARKING, BICYCLE PARKING, AND PRIVATE WALKWAYS

15.440.010 Required off-street parking

A. Off-street parking shall be provided on the lot or development site for all R-1, C-1, M-1, M-2 and M-3 zones. In all other zones, the required parking shall be on the lot or development site or within 400 feet of the lot or development site which the parking is required to serve. All required parking must be under the same ownership as the lot or development site served except through special covenant agreements as approved by the city attorney, which bind the parking to the lot or development site.

1. In cases where the applicant is proposing off-street parking, refer to subsection (F) of this section for the maximum number of parking spaces.

[...]

F. Maximum Number of Off-Street Automobile Parking Spaces. The maximum number of off-street automobile parking spaces allowed per site equals the minimum number of required spaces, pursuant to NMC 15.440.030, multiplied by a factor of:

1. One and one-fifth spaces for uses fronting a street with adjacent on-street parking spaces; or
2. One and one-half spaces for uses fronting no street with adjacent on-street parking; or
3. A factor determined according to a parking analysis.

Response: Off-street parking is provided via one car in each garage and one car in each driveway. This criteria is satisfied.

15.440.030 Parking spaces required.

Use	Minimum Parking Spaces Required
Dwelling, duplex	1 for each dwelling unit
Dwelling, triplex	1 for each dwelling unit, Except that conversion of a detached single-family dwelling to a triplex dwelling shall not be subject to this requirement

Notes:

* “1-E” refers to fraternities, sororities, cooperatives and dormitories that require one parking space for each three occupants for whom sleeping facilities are provided.

** “3.-G(1)” refers to establishments or enterprises of a recreational or an entertainment nature (spectator type, e.g., auditoriums, assembly halls, theaters, stadiums, places of public assembly) that require one parking space for each four seats.

Response: Off-street parking is provided via one car in each garage and one car in each driveway. This criteria is satisfied

15.440.075 Residential garage standards.

- A. Single-car garages for residential uses shall have a minimum inside width of 10 feet by 20 feet.
- B. Two-car garages for residential uses shall have a minimum inside width of 20 feet by 20 feet.
- C. Three-car garages for residential uses shall have a minimum inside width of 30 feet by 20 feet.

Response: The future building structure will adhere to this standard, this criteria can be satisfied through condition of approval.

Chapter 15.505 PUBLIC IMPROVEMENTS STANDARDS

15.505.030 Street standards.

- A. Purpose. The purpose of this section is to:
 1. Provide for safe, efficient, and convenient multi-modal transportation within the City of Newberg.
 2. Provide adequate access to all proposed and anticipated developments in the City of Newberg. For purposes of this section, “adequate access” means direct routes of travel between destinations; such destinations may include residential neighborhoods, parks, schools, shopping areas, and employment centers.
 3. Provide adequate area in all public rights-of-way for sidewalks, wastewater and water lines, stormwater facilities, natural gas lines, power lines, and other utilities commonly and appropriately placed in such rights-of-way. For purposes of this section, “adequate area” means space sufficient to provide all required public services to standards defined in this code and in the Newberg public works design and construction standards.

B. Applicability. The provisions of this section apply to:

1. The creation, dedication, and/or construction of all public streets, bike facilities, or pedestrian facilities in all subdivisions, partitions, or other developments in the City of Newberg.
2. The extension or widening of existing public street rights-of-way, easements, or street improvements including those which may be proposed by an individual or the city, or which may be required by the city in association with other development approvals.
3. The construction or modification of any utilities, pedestrian facilities, or bike facilities in public rights-of-way or easements.
4. The designation of planter strips. Street trees are required subject to Chapter 15.420 NMC.

Response: The proposed project will extend Garfield Street therefore this section applies.

5. Developments outside the city that tie into or take access from city streets.

C. Layout of Streets, Alleys, Bikeways, and Walkways. Streets, alleys, bikeways, and walkways shall be laid out and constructed as shown in the Newberg transportation system plan. In areas where the transportation system plan or future street plans do not show specific transportation improvements, roads and streets shall be laid out so as to conform to previously approved subdivisions, partitions, and other developments for adjoining properties, unless it is found in the public interest to modify these patterns. Transportation improvements shall conform to the standards within the Newberg Municipal Code, the Newberg public works design and construction standards, the Newberg transportation system plan, and other adopted city plans.

D. Construction of New Streets. Where new streets are necessary to serve a new development, subdivision, or partition, right-of-way dedication and full street improvements shall be required. Three-quarter streets may be approved in lieu of full street improvements when the city finds it to be practical to require the completion of the other one-quarter street improvement when the adjoining property is developed; in such cases, three-quarter street improvements may be allowed by the city only where all of the following criteria are met:

1. The land abutting the opposite side of the new street is undeveloped and not part of the new development; and
2. The adjoining land abutting the opposite side of the street is within the city limits and the urban growth boundary.

Response: The proposed street improvements conform to the City standards with exception of the cul-de-sac which is constrained by platted right-of-way and the stream overlay. This criteria is satisfied.

[...]

G. Street Width and Design Standards.

1. Design Standards. All streets shall conform with the standards contained in Table 15.505.030(G). Where a range of values is listed, the director shall determine the width based on a consideration of the total street section width needed, existing street widths, and existing development patterns. Preference shall be given to the higher value. Where values may be modified by the director, the overall width shall be determined using the standards under subsections (G)(2) through (10) of this section.

Table 15.505.030(G) Street Design Standards

Type of <u>Street</u>	<u>Right-of-Way</u> Width	Curb-to-Curb Pavement Width	Motor Vehicle Travel Lanes	Median Type	Striped <u>Bike Lane</u> (Both Sides)	On-Street Parking
<u>Arterial Streets</u>						
<u>Major arterial</u>	95 – 100 feet	74 feet	4 lanes	TWLTL or median*	Yes	No*
<u>Minor arterial</u>	69 – 80 feet	48 feet	2 lanes	TWLTL or median*	Yes	No*
<u>Collectors</u>						
Major	57 – 80 feet	36 feet	2 lanes	None*	Yes	No*
Minor	61 – 65 feet	40 feet	2 lanes	None*	Yes*	Yes*
<u>Local Streets</u>						
Local residential	54 – 60 feet	32 feet	2 lanes	None	No	Yes
Limited residential, parking both sides	44 – 50 feet	28 feet	2 lanes	None	No	Yes
Limited residential, parking one side	40 – 46 feet	26 feet	2 lanes	None	No	One side

2. Motor Vehicle Travel Lanes. Collector and arterial streets shall have a minimum width of 12 feet.

a. Exception.

i. Minimum lane width of 11 feet along S River Street from E First Street to E Fourteenth Street.

Response: The proposed street improvements conform to the Local residential street design standards. This criteria is satisfied.

3. Bike Lanes. Striped bike lanes shall be a minimum of six feet wide. Bike lanes shall be provided where shown in the Newberg transportation system plan.

a. Exception.

i. Minimum striped bike lane width of six feet with a one-foot wide buffer along S River Street from E First Street to the bypass.

Response: this criteria is not applicable for a local residential street.

4. Parking Lanes. Where on-street parking is allowed on collector and arterial streets, the parking lane shall be a minimum of eight feet wide.

- a. Exception.
 - i. Minimum parking lane width of seven feet along S River Street from the bypass to E Fourteenth Street.

Response: Parking lanes on each side of the street improvements are proposed, this criteria is satisfied.

5. Center Turn Lanes. Where a center turn lane is provided, it shall be a minimum of 12 feet wide.

Response: this criteria is not applicable for a local residential street.

6. Limited Residential Streets. Limited residential streets shall be allowed only at the discretion of the review authority, and only in consideration of the following factors:

- a. The requirements of the fire chief shall be followed.
- b. The estimated traffic volume on the street is low, and in no case more than 600 average daily trips.
- c. Use for through streets or looped streets is preferred over cul-de-sac streets.
- d. Use for short blocks (under 400 feet) is preferred over longer blocks.
- e. The total number of residences or other uses accessing the street in that block is small, and in no case more than 30 residences.
- f. On-street parking usage is limited, such as by providing ample off-street parking, or by staggering driveways so there are few areas where parking is allowable on both sides.

Response: The street adheres to the short block criteria and falls under the limited residential street criteria. This standard can be satisfied through condition.

7. Sidewalks. Sidewalks shall be provided on both sides of all public streets. Minimum width is five feet.

- a. Exception.
 - i. Twelve-foot-wide sidewalks, inclusive of the curb, with tree wells along S River Street from the bypass to E Fourteenth Street.
 - ii. Twelve-foot-wide shared-use path and four-foot buffer, inclusive of the curb, with tree wells along the east side of S River Street from the bypass to E Fourteenth Street.

Response: 5ft sidewalks are proposed along the subject parcel frontage, this criteria is satisfied.

8. Planter Strips. Except where infeasible, a planter strip shall be provided between the sidewalk and the curb line, with a minimum width of five feet. This strip shall be landscaped in accordance with the standards in NMC 15.420.020. Curb-side sidewalks may be allowed on limited residential streets. Where curb-side sidewalks are allowed, the following shall be provided:

- a. Additional reinforcement is done to the sidewalk section at corners.
- b. Sidewalk width is six feet.

Response: 5.5ft planter strips are proposed along the subject parcel frontage, this criteria is satisfied.

9. Slope Easements. Slope easements shall be provided adjacent to the street where required to maintain the stability of the street.

Response: Not applicable

10. Intersections and Street Design. The street design standards in the Newberg public works design and construction standards shall apply to all public streets, alleys, bike facilities, and sidewalks in the city.

Response: The street design standards are adhered to, this criteria is satisfied.

11. The planning commission may approve modifications to street standards for the purpose of ingress or egress to a minimum of three and a maximum of six lots through a conditional use permit.

H. Modification of Street Right-of-Way and Improvement Width. The director, pursuant to the Type II review procedures of Chapter 15.220 NMC, may allow modification to the public street standards of subsection (G) of this section, when the criteria in both subsections (H)(1) and (2) of this section are satisfied:

1. The modification is necessary to provide design flexibility in instances where:
 - a. Unusual topographic conditions require a reduced width or grade separation of improved surfaces; or
 - b. Lot shape or configuration precludes accessing a proposed development with a street which meets the full standards of this section; or
 - c. A modification is necessary to preserve trees or other natural features determined by the city to be significant to the aesthetic character of the area; or
 - d. A planned unit development is proposed and the modification of street standards is necessary to provide greater privacy or aesthetic quality to the development.
2. Modification of the standards of this section shall only be approved if the director finds that the specific design proposed provides adequate vehicular access based on anticipated traffic volumes.

Response: A modification to the cul-de-sac standard may be required given topographical site constraints with the stream overlay and the existing right-of-way previously platted. This criteria can be satisfied through condition of approval.

I. Temporary Turnarounds. Where a street will be extended as part of a future phase of a development, or as part of development of an abutting property, the street may be terminated with a temporary turnaround in lieu of a standard street connection or circular cul-de-sac bulb. The director and fire chief shall approve the temporary turnaround. It shall have an all-weather surface and may include a hammerhead-type turnaround meeting fire apparatus access road standards, a paved or graveled circular turnaround, or a paved or graveled temporary access road. For streets extending less than 150 feet and/or with no significant access, the director may approve the street without a temporary turnaround. Easements or right-of-way may be required as necessary to preserve access to the turnaround.

Response: Not applicable.

J. Topography. The layout of streets shall give suitable recognition to surrounding topographical conditions in accordance with the purpose of this code.

Response: This criterial is adhered to.

K. Future Extension of Streets. All new streets required for a subdivision, partition, or a project requiring site design review shall be constructed to be “to and through”: through the development and to the edges of the project site to serve adjacent properties for future development.

Response: Not applicable.

L. Cul-de-Sacs.

1. Cul-de-sacs shall only be permitted when one or more of the circumstances listed in this section exist. When cul-de-sacs are justified, public walkway connections shall be provided wherever practical to connect with another street, walkway, school, or similar destination.

a. Physical or topographic conditions make a street connection impracticable. These conditions include but are not limited to controlled access streets, railroads, steep slopes, wetlands, or water bodies where a connection could not be reasonably made.

b. Buildings or other existing development on adjacent lands physically preclude a connection now or in the future, considering the potential for redevelopment.

c. Where streets or accessways would violate provisions of leases, easements, or similar restrictions.

d. Where the streets or accessways abut the urban growth boundary and rural resource land in farm or forest use, except where the adjoining land is designated as an urban reserve area.

2. Cul-de-sacs shall be no more than 400 feet long (measured from the centerline of the intersection to the radius point of the bulb).

3. Cul-de-sacs shall not serve more than 18 single-family dwellings.

Each cul-de-sac shall have a circular end with a minimum diameter of 96 feet, curb-to-curb, within a 109-foot minimum diameter right-of-way. For residential uses, a 35-foot radius may be allowed if the street has no parking, a mountable curb, curbside sidewalks, and sprinkler systems in every building along the street.

Response: A modification to the cul-de-sac standard may be required given topographical site constraints with the stream overlay and the existing right-of-way previously platted. This criteria can be satisfied through condition of approval.

M. Street Names and Street Signs. Streets that are in alignment with existing named streets shall bear the names of such existing streets. Names for new streets not in alignment with existing streets are subject to approval by the director and the fire chief and shall not unnecessarily duplicate or resemble the name of any existing or platted street in the city. It shall be the responsibility of the land divider to provide street signs.

Response: Not applicable

N. Platting Standards for Alleys.

1. An alley may be required to be dedicated and constructed to provide adequate access for a development, as deemed necessary by the director.

2. The right-of-way width and paving design for alleys shall be not less than 20 feet wide. Slope easements shall be dedicated in accordance with specifications adopted by the city council under NMC 15.505.010 et seq.

3. Where two alleys intersect, 10-foot corner cut-offs shall be provided.

4. Unless otherwise approved by the city engineer where topographical conditions will not reasonably permit, grades shall not exceed 12 percent on alleys, and centerline radii on curves shall be not less than 100 feet.

5. All provisions and requirements with respect to streets identified in this code shall apply to alleys the same in all respects as if the word "street" or "streets" therein appeared as the word "alley" or "alleys" respectively.

Response: Not applicable

O. Platting Standards for Blocks.

1. Purpose. Streets and walkways can provide convenient travel within a neighborhood and can serve to connect people and land uses. Large, uninterrupted blocks can serve as a barrier to travel, especially walking and biking. Large blocks also can divide rather than unite neighborhoods. To promote connected neighborhoods and to shorten travel distances, the following minimum standards for block lengths are established.

2. Maximum Block Length and Perimeter. The maximum length and perimeters of blocks in the zones listed below shall be according to the following table. The review body for a subdivision, partition, conditional use permit, or a Type II design review may require installation of streets or walkways as necessary to meet the standards below.

Zone(s)	Maximum <u>Block Length</u>	Maximum <u>Block</u> Perimeter
R-2	1,200 feet	3,000 feet

3. Exceptions.

a. If a public walkway is installed mid-block, the maximum block length and perimeter may be increased by 25 percent.

b. Where a proposed street divides a block, one of the resulting blocks may exceed the maximum block length and perimeter standards provided the average block length and perimeter of the two resulting blocks do not exceed these standards.

c. Blocks in excess of the above standards are allowed where access controlled streets, street access spacing standards, railroads, steep slopes, wetlands, water bodies, preexisting development, ownership patterns or similar circumstances restrict street and walkway location and design. In these cases, block length and perimeter shall be as small as practical. Where a street cannot be provided because of these circumstances but a public walkway is still feasible, a public walkway shall be provided.

d. Institutional campuses located in an R-1 zone may apply the standards for the institutional zone.

e. Where a block is in more than one zone, the standards of the majority of land in the proposed block shall apply.

f. Where a local street plan, concept master site development plan, or specific plan has been approved for an area, the block standards shall follow those approved in the plan. In approving such a plan, the review body shall follow the block standards listed above to the extent appropriate for the plan area.

4. Public Pedestrian Walkways and Bicycle Access. The approval authority in approving a land use application with conditions may require a developer to provide an access way where the creation of a street consistent with street spacing standards is infeasible and the creation of a cul-de-sac or dead-end street is unavoidable. A public walkway provides a connection through a block that is longer than established standards or connects the end of the street to another right-of-way or a public access easement. A public walkway shall be contained within a public right-of-way or public access easement, as required by the city. A public walkway shall be a minimum of 10 feet wide and shall provide a

minimum six-foot-wide paved surface or other all-weather surface approved by the city (see subsection (S) of this section for public walkway standards).

Design features should be considered that allow access to emergency vehicles but that restrict access to non-emergency motorized vehicles.

Response: Not applicable

[...]

R. Vehicular Access Standards.

1. Purpose. The purpose of these standards is to manage vehicle access to maintain traffic flow, safety, roadway capacity, and efficiency. They help to maintain an adequate level of service consistent with the functional classification of the street. Major roadways, including arterials and collectors, serve as the primary system for moving people and goods within and through the city. Access is limited and managed on these roads to promote efficient through movement. Local streets and alleys provide access to individual properties. Access is managed on these roads to maintain safe maneuvering of vehicles in and out of properties and to allow safe through movements. If vehicular access and circulation are not properly designed, these roadways will be unable to accommodate the needs of development and serve their transportation function.

2. Access Spacing Standards. Public street intersection and driveway spacing shall follow the standards in Table 15.505.R below. The Oregon Department of Transportation (ODOT) has jurisdiction of some roadways within the Newberg city limits, and ODOT access standards will apply on those roadways.

Table 15.505.R. Access Spacing Standards

<u>Roadway Functional Classification</u>	<u>Area</u> ¹	<u>Minimum Public Street Intersection Spacing (Feet)</u> ²	<u>Driveway Setback from Intersecting Street</u> ³
<u>Major arterial</u>	Urban CBD	Refer to <u>ODOT</u> Access Spacing Standards	
<u>Minor arterial</u>	Urban CBD	500 200	150 100
<u>Major collector</u>	All	400	150
<u>Minor collector</u>	All	300	100

¹ “Urban” refers to intersections inside the city urban growth boundary outside the central business district (C-3 zone).

“CBD” refers to intersections within the central business district (C-3 zone).

“All” refers to all intersections within the Newberg urban growth boundary.

² Measured centerline to centerline.

³ The setback is based on the higher classification of the intersecting streets. Measured from the curb line of the intersecting street to the beginning of the driveway, excluding flares. If the driveway setback listed above would preclude a lot from having at least one driveway, including shared driveways or driveways on adjoining streets, one driveway is allowed as far from the intersection as possible.

[...]

Response: Not applicable

4. Driveways. More than one driveway is permitted on a lot accessed from either a minor collector or local street as long as there is at least 40 feet of lot frontage separating each driveway approach. More than one driveway is permitted on a lot accessed from a major collector as long as there is at least 100 feet of lot frontage separating each driveway approach.

a. For a duplex, triplex or quadplex dwelling or a cottage cluster project, more than one driveway is permitted on a lot accessed from either a minor collector or local street as long as there is at least 22 feet of lot frontage separating each driveway approach.

Response: Only one driveway for each lot is proposed, criterial not applicable.

5. Alley Access. Where a property has frontage on an alley and the only other frontages are on collector or arterial streets, access shall be taken from the alley only. The review body may allow creation of an alley for access to lots that do not otherwise have frontage on a public street provided all of the following are met:

a. The review body finds that creating a public street frontage is not feasible.

b. The alley access is for no more than six dwellings and no more than six lots.

c. The alley has through access to streets on both ends.

d. One additional parking space over those otherwise required is provided for each dwelling. Where feasible, this shall be provided as a public use parking space adjacent to the alley.

Response: Not applicable

6. Closure of Existing Accesses. Existing accesses that are not used as part of development or redevelopment of a property shall be closed and replaced with curbing, sidewalks, and landscaping, as appropriate.

Response: Not applicable7. Shared Driveways.

a. The number of driveways onto arterial streets shall be minimized by the use of shared driveways with adjoining lots where feasible. The city shall require shared driveways as a condition of land division or site design review, as applicable, for traffic safety and access management purposes. Where there is an abutting developable property, a shared driveway shall be provided as appropriate. When shared driveways are required, they shall be stubbed to adjacent developable parcels to indicate future extension. "Stub" means that a driveway temporarily ends at the property line, but may be accessed or extended in the future as the adjacent parcel develops. "Developable" means that a parcel is

either vacant or it is likely to receive additional development (i.e., due to infill or redevelopment potential).

b. Access easements (i.e., for the benefit of affected properties) and maintenance agreements shall be recorded for all shared driveways, including pathways, at the time of final plat approval or as a condition of site development approval.

c. No more than four lots may access one shared driveway, with the exception of cottage dwellings on individual lots that are part of a cottage cluster.

d. Shared driveways shall be posted as no parking fire lanes where required by the fire marshal.

e. Where three or more lots share one driveway, one additional parking space over those otherwise required shall be provided for each dwelling. Where feasible, this shall be provided as a common use parking space adjacent to the driveway. However, duplex, triplex, quadplex, townhouse and cottage dwellings with shared driveways shall be exempt from this standard.

Response: Three lots are proposed to be accessed via a proposed access easement at the north end of the cul de sac and two lots are proposed to be accessed via a separate proposed access easement to the east. The proposed access adheres to this standard.

8. Frontage Streets and Alleys. The review body for a partition, subdivision, or design review may require construction of a frontage street to provide access to properties fronting an arterial or collector street.

Response: Not applicable, no frontage along an arterial or collector exists.

9. ODOT or Yamhill County Right-of-Way. Where a property abuts an ODOT or Yamhill County right-of-way, the applicant for any development project shall obtain an access permit from ODOT or Yamhill County.

10. Exceptions. The director may allow exceptions to the access standards above in any of the following circumstances:

a. Where existing and planned future development patterns or physical constraints, such as topography, parcel configuration, and similar conditions, prevent access in accordance with the above standards.

b. Where the proposal is to relocate an existing access for existing development, where the relocated access is closer to conformance with the standards above and does not increase the type or volume of access.

c. Where the proposed access results in safer access, less congestion, a better level of service, and more functional circulation, both on street and on site, than access otherwise allowed under these standards.

11. Where an exception is approved, the access shall be as safe and functional as practical in the particular circumstance. The director may require that the applicant submit a traffic study by a registered engineer to show the proposed access meets these criteria.

Response:

S. Public Walkways.

1. Projects subject to Type II design review, partition, or subdivision approval may be required to provide public walkways where necessary for public safety and convenience, or where necessary to meet the standards of this code. Public walkways are meant to connect cul-de-sacs to adjacent areas, to pass through oddly shaped or unusually long blocks, to provide for networks of public paths according to adopted plans, or to provide access to schools, parks or other community destinations or public areas. Where practical, public walkway easements and locations may also be used to accommodate public utilities.

2. Public walkways shall be located within a public access easement that is a minimum of 15 feet in width.

3. A walk strip, not less than 10 feet in width, shall be paved in the center of all public walkway easements. Such paving shall conform to specifications in the Newberg public works design and construction standards.

4. Public walkways shall be designed to meet the Americans with Disabilities Act requirements.

5. Public walkways connecting one right-of-way to another shall be designed to provide as short and straight of a route as practical.

6. The developer of the public walkway may be required to provide a homeowners' association or similar entity to maintain the public walkway and associated improvements.

7. Lighting may be required for public walkways in excess of 250 feet in length.

8. The review body may modify these requirements where it finds that topographic, preexisting development, or similar constraints exist.

Response: Not applicable

T. Street Trees. Street trees shall be provided for all projects subject to Type II design review, partition, or subdivision. Street trees shall be installed in accordance with the provisions of NMC 15.420.010(B)(4).

Response: Due to the small lots, cul-de-sac terminus and proximity of utilities only three street trees are proposed. This criteria can be satisfied through condition.

U. Street Lights. All developments shall include underground electric service, light standards, wiring and lamps for street lights according to the specifications and standards of the Newberg public works design and construction standards. The

developer shall install all such facilities and make the necessary arrangements with the serving electric utility as approved by the city. Upon the city's acceptance of the public improvements associated with the development, the street lighting system, exclusive of utility-owned service lines, shall be and become property of the city unless otherwise designated by the city through agreement with a private utility.

Response: The applicant proposed 3 new street lights in conformance with City of Newberg requirements. This can be satisfied through condition of approval.

V. Transit Improvements. Development proposals for sites that include or are adjacent to existing or planned transit facilities, as shown in the Newberg transportation system plan or adopted local or regional transit plan, shall be required to provide any of the following, as applicable and required by the review authority:

1. Reasonably direct pedestrian connections between the transit facility and building entrances of the site. For the purpose of this section, "reasonably direct" means a route that does not deviate unnecessarily from a straight line or a route that does not involve a significant amount of out-of-direction travel for users.
2. A transit passenger landing pad accessible to disabled persons.
3. An easement of dedication for a passenger shelter or bench if such facility is in an adopted plan.
4. Lighting at the transit facility.

Response: Not applicable.

15.505.040 Public utility standards.

A. Purpose. The purpose of this section is to provide adequate services and facilities appropriate to the scale and type of development.

B. Applicability. This section applies to all development where installation, extension or improvement of water, wastewater, or private utilities is required to serve the development or use of the subject property.

C. General Standards.

1. The design and construction of all improvements within existing and proposed rights-of-way and easements, all improvements to be maintained by the city, and all improvements for which city approval is required shall conform to the Newberg public works design and construction standards and require a public improvements permit.
2. The location, design, installation and maintenance of all utility lines and facilities shall be carried out with minimum feasible disturbances of soil and site. Installation of all proposed public and private utilities shall be coordinated by the developer and be approved by the city to ensure the orderly extension of such utilities within public right-of-way and easements.

D. Standards for Water Improvements. All development that has a need for water service shall install the facilities pursuant to the requirements of the city and all of the following standards. Installation of such facilities shall be coordinated with the extension or improvement of necessary wastewater and stormwater facilities, as applicable.

1. All developments shall be required to be linked to existing water facilities adequately sized to serve their intended area by the construction of water distribution lines, reservoirs and pumping stations which connect to such water service facilities. All necessary easements required for the construction of these facilities shall be obtained by the developer and granted to the city pursuant to the requirements of the city.
2. Specific location, size and capacity of such facilities will be subject to the approval of the director with reference to the applicable water master plan. All water facilities shall conform with city pressure zones and shall be looped where necessary to provide adequate pressure and fire flows during peak demand at every point within the system in the development to which the water facilities will be connected. Installation costs shall remain entirely the developer's responsibility.
3. The design of the water facilities shall take into account provisions for the future extension beyond the development to serve adjacent properties, which, in the judgment of the city, cannot be feasibly served otherwise.
4. Design, construction and material standards shall be as specified by the director for the construction of such public water facilities in the city.

Response: The proposed improvements include connecting to the existing 4-inch water line and extending it to the end of the cul-de-sac street. The proposed Lots 1-4 will be constructed with a sprinkler system and the analysis prepared by Western Fire suppression indicates that the 4-inch pipe has adequate capacity to service the needs of the proposed improvements. This standard can be satisfied through condition of approval.

E. Standards for Wastewater Improvements. All development that has a need for wastewater services shall install the facilities pursuant to the requirements of the city and all of the following standards. Installation of such facilities shall be coordinated with the extension or improvement of necessary water services and stormwater facilities, as applicable.

1. All septic tank systems and on-site sewage systems are prohibited. Existing septic systems must be abandoned or removed in accordance with Yamhill County standards.
2. All properties shall be provided with gravity service to the city wastewater system, except for lots that have unique topographic or other natural features that make gravity wastewater extension impractical as determined by the director. Where gravity service is impractical, the developer shall provide all necessary pumps/lift stations and other improvements, as determined by the director.
3. All developments shall be required to be linked to existing wastewater collection facilities adequately sized to serve their intended area by the construction of wastewater lines which connect to existing adequately sized wastewater facilities. All necessary easements required for the construction of

these facilities shall be obtained by the developer and granted to the city pursuant to the requirements of the city.

4. Specific location, size and capacity of wastewater facilities will be subject to the approval of the director with reference to the applicable wastewater master plan. All wastewater facilities shall be sized to provide adequate capacity during peak flows from the entire area potentially served by such facilities. Installation costs shall remain entirely the developer's responsibility.

5. Temporary wastewater service facilities, including pumping stations, will be permitted only if the director approves the temporary facilities, and the developer provides for all facilities that are necessary for transition to permanent facilities.

6. The design of the wastewater facilities shall take into account provisions for the future extension beyond the development to serve upstream properties, which, in the judgment of the city, cannot be feasibly served otherwise.

7. Design, construction and material standards shall be as specified by the director for the construction of such wastewater facilities in the city.

Response: A public sanitary sewer main line is in Garfield Street and runs through a portion of the subject property through proposed lots 7-9. A new public mainline is proposed to connect into the existing system and extend north to provide lateral service connections to lots 1-6. This standard can be satisfied through condition of approval.

F. Easements. Easements for public and private utilities shall be provided as deemed necessary by the city, special districts, and utility companies. Easements for special purpose uses shall be of a width deemed appropriate by the responsible agency. Such easements shall be recorded on easement forms approved by the city and designated on the final plat of all subdivisions and partitions. Minimum required easement width and locations are as provided in the Newberg public works design and construction standards.

Response: Proposed and existing easements are illustrated on the preliminary plat. This standard can be satisfied through condition of approval.

15.505.050 Stormwater system standards.

A. Purpose. The purpose of this section is to provide for the drainage of surface water from all development; to minimize erosion; and to reduce degradation of water quality due to sediments and pollutants in stormwater runoff.

B. Applicability. The provisions of this section apply to all developments subject to site development review or land division review and to the reconstruction or expansion of such developments that increases the flow or changes the point of discharge to the city stormwater system. Additionally, the provisions of this section shall apply to all drainage facilities that impact any public storm drain system, public right-of-way or public easement, including but not limited to off-street parking and loading areas.

C. General Requirement. All stormwater runoff shall be conveyed to a public storm wastewater or natural drainage channel having adequate capacity to carry the flow without overflowing or otherwise causing damage to public and/or private property. The

developer shall pay all costs associated with designing and constructing the facilities necessary to meet this requirement.

D. Plan for Stormwater and Erosion Control. No construction of any facilities in a development included in subsection (B) of this section shall be permitted until an engineer registered in the State of Oregon prepares a stormwater report and erosion control plan for the project. This plan shall contain at a minimum:

1. The methods to be used to minimize the amount of runoff, sedimentation, and pollution created from the development both during and after construction.
2. Plans for the construction of stormwater facilities and any other facilities that depict line sizes, profiles, construction specifications, and other such information as is necessary for the city to review the adequacy of the stormwater plans.
3. Design calculations shall be submitted for all drainage facilities. These drainage calculations shall be included in the stormwater report and shall be stamped by a licensed professional engineer in the State of Oregon. Peak design discharges shall be computed based upon the design criteria outlined in the public works design and construction standards for the city.

E. Development Standards. Development subject to this section shall be planned, designed, constructed, and maintained in compliance with the Newberg public works design and construction standards.

Response: Public Stormwater runoff from the street is proposed to be managed through vegetated street planters and private stormwater will be managed via an underground detention system.

IV Conclusions:

The proposed application meets the criteria and or can be conditioned to conform to the standards.



Community Development Department

P.O. Box 970 • 414 E First Street • Newberg, Oregon 97132
503-537-1240. Fax 503-537-1272 www.newbergoregon.gov

NOTICE OF CITY COUNCIL HEARING ON A PLANNED SUBDIVISION

A property owner in your neighborhood submitted an application to the City of Newberg for a planned subdivision at 100 S Garfield St. The Newberg City Council will hold a hearing on *Date of Hearing* at 7pm at the Newberg Public Safety Building, 401 E. Third Street, Newberg, OR, to evaluate the proposal. You are invited to take part in the City's review of this project by sending in your written comments or testifying before the City Council. For more details about giving comments, please see the back of this sheet.

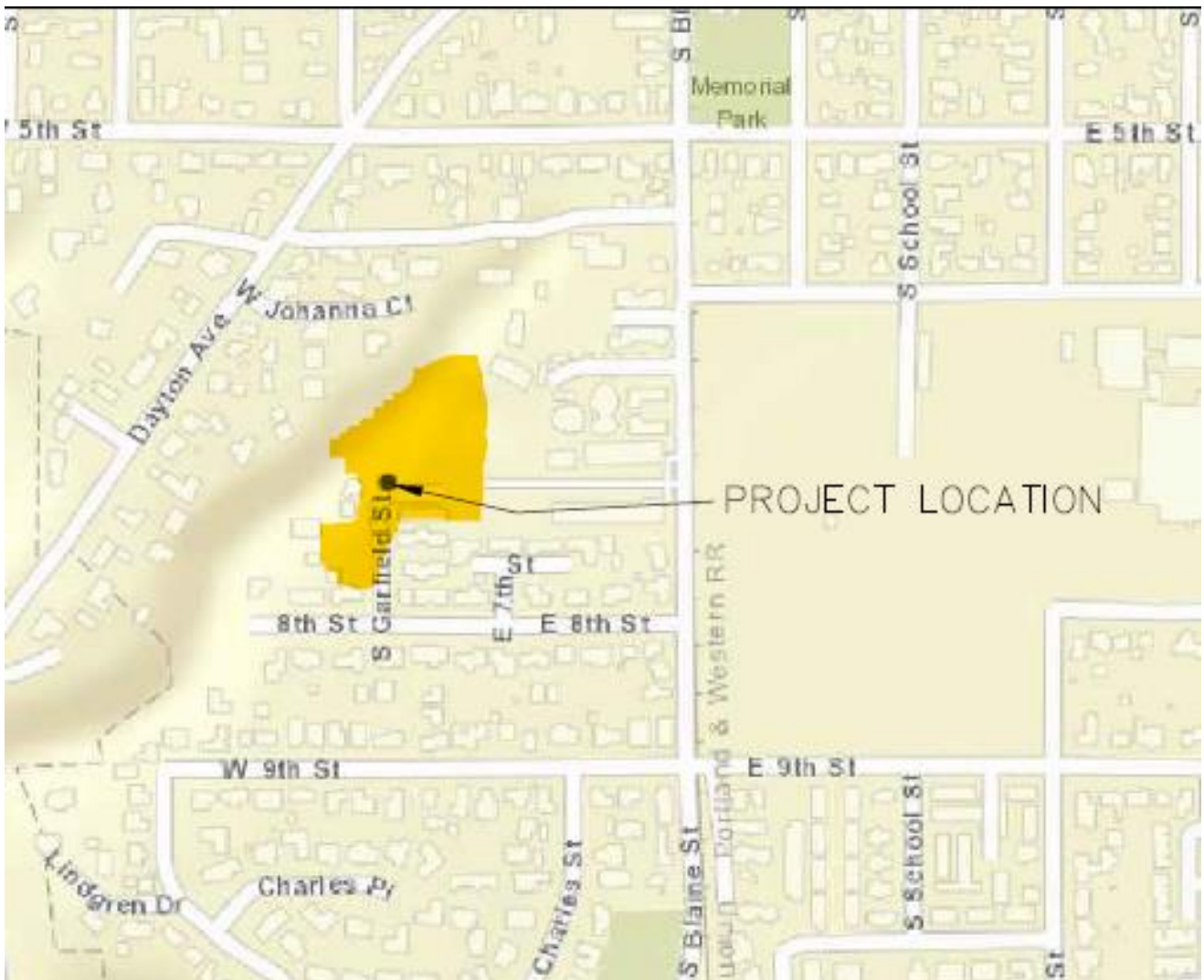
The application would create: (*Include the reason for application, proposed uses, history of the property or application, allowed uses, etc.*)

APPLICANT: *Scott Holden*
TELEPHONE: *503-502-8006*

PROPERTY OWNER: *Scott Holden*

LOCATION: *100 S Garfield St., Newberg, OR 97132*

TAX LOT NUMBER: *R3219DB 04690*



We are mailing you information about this project because you own land within 500 feet of the proposed comprehensive plan zone change. We invite you to participate in the land use hearing scheduled before the City Council. If you wish to participate in the hearing, you may do so in person or be represented by someone else. You also may submit written comments. Oral testimony is typically limited to five minutes per speaker.

If you mail your comments to the City, please put the following information on the outside of the envelope:

Written Comments: File No.XX

City of Newberg

Community Development Department

PO Box 970

Newberg, OR 97132

(City staff will give you the file number for your project at the time of application)

The City Council asks written testimony be submitted to the City Recorder before 5:00 p.m. on the preceding Thursday. Written testimony submitted after that will be brought before the Council on the night of the meeting for consideration and a vote to accept or not accept it into the record.

You can look over all the information about this project or drop comments off at Newberg City Hall, 414 E. First Street. You can also buy copies of the information for a cost of 25 cents a page. A staff report relating to the proposal will be available for inspection at no cost seven days prior to the public hearing. If you have any questions about the project, you can call the Newberg Community Development Division at 503-537-1240.

Any issue which might be raised in an appeal of this case to the Land Use Board of Appeals (LUBA) must be raised during the public hearing process. You must include enough detail to enable the decision maker an opportunity to respond. The applicable criteria used to make a decision on this application for a comprehensive plan map and zone change are found in Newberg Development Code Section 15.302.030(A) (3).

Prior to the conclusion of the initial evidentiary hearing, any participant may request an opportunity to present additional evidence, arguments or testimony regarding the application through a continuance or extension of the record. Failure of an issue to be raised in the hearing, in person or by letter, or failure to provide statements or evidence sufficient to afford the decision maker an opportunity to respond to the issue precludes appeal to the State Land Use Board of Appeals based on that issue.

The City Council will make a decision on the application at the end of the public hearing process. If you participate in the public hearing process, either by testifying at the public hearing, or by sending in written comments, you will be sent information about any decision made by the City relating to this project.

Date Mailed: *Date notice is mailed*

Land Use Notice

FILE #:

PROPOSAL: 12-lot subdivision for single-family residences, street, and associated utilities

FOR FURTHER INFORMATION, CONTACT:

City of Newberg
Community Development Department
414 E First Street
Phone: 503-537-1240



Property Detail Report

Prepared For:

Linda

Owner Name:

Holden Newberg Qozb LLC

Property Address:

*100 S Garfield St
Newberg OR 97132*

Tax Account #:

56478

Thank you for the opportunity to assist you!

Chad Cripe

Customer Service

503.581.1431

valleycs@amerititle.com

Mid-Willamette Valley Locations

Salem

320 Church St. NE
503.581.1431

South Salem

3240 Commercial St. SE, Ste. 140
971.701.2591

Silverton

105 N Water St.
503.873.7200

Albany

1393 Clay St. SE
541.928.3368

Corvallis

525 NW 2nd St. Ste. 2
541.752.3415

Lebanon

1475 S Main St
541.259.3736

Monmouth

283 N Pacific Hwy
503.838.2259



Yamhill County Parcel Detail

Site Address: 100 S Garfield St
Newberg OR 97132 - 2590

Parcel ID: 56478

Tax Lot: R3219DB04690

Owner: Holden Newberg Qozb LLC

Owner2:

Owner Address: 5652 NW Crady Ln
Portland OR 97229 - 2341

Parcel Size: 1.95 Acres (84,942 SqFt)

Neighborhood:

Subdivision:

Lot / Block:

Twn/Range/Section: 03S / 02W / 19 / SE

Legal See Metes & Bounds

Assessment and Taxes

Market Land Value:	\$1,000,145.00	Levy Code Area:	29.0	Annual Tax History
Market Improved Value:	\$229,850.00	Levy Rate:	15.9711	2021 : \$4,042.43
Market Total Value:	\$1,229,995.00	Tax Year:	2021	2020 : \$3,640.13
Assessed Value:	\$253,109.00	Exemption Desc:		2019 : \$3,591.06

Land Information

Land Use:	111 - Residential - Residential zone - Improved (typical of class)	School District:	29J - Newberg School District
Building Use:	22 - Duplex	Watershed:	Chehalem Creek-Willamette River
Zoning:	R-2 - Medium Density Residential	Longitude:	-122.978805
Primary School:	EDWARDS ELEMENTARY SCHOOL	Latitude:	45.294658
Middle School:	CHEHALEM VALLEY MIDDLE SCHOOL	Recreation:	
High School:	NEWBERG SENIOR HIGH SCHOOL		

Improvement Details

Year Built:	1970	Bed:	4	Garage:	576 SqFt
Stories:		Baths:	3	Exterior Walls:	Wood
Bldg SqFt:	2,004	Bsmt SqFt:		Roof Cover:	Shingle
Finished SqFt:	2,004	Attic SqFt:		Heat:	
Bldg Type:	MD0 - Duplex	Flr 1/ Flr 2 SqFt:	2,004 / 0	A/C:	

Transfer Information

Rec. Date:	08/26/2021	Sale Price:	\$887,763.00	Doc Num:	2021-17494	Doc Type:	Deed
Owner:	Holden Newberg Qozb LLC	Grantor:	SURVIVORS D & E S TRUST	Title Co:	FIRST AMERICAN		
Orig. Loan Amt:	\$621,434.00	Lender:	FIRST REPUBLIC BK				
Finance Type:	ADJ	Loan Type:	Conventional				

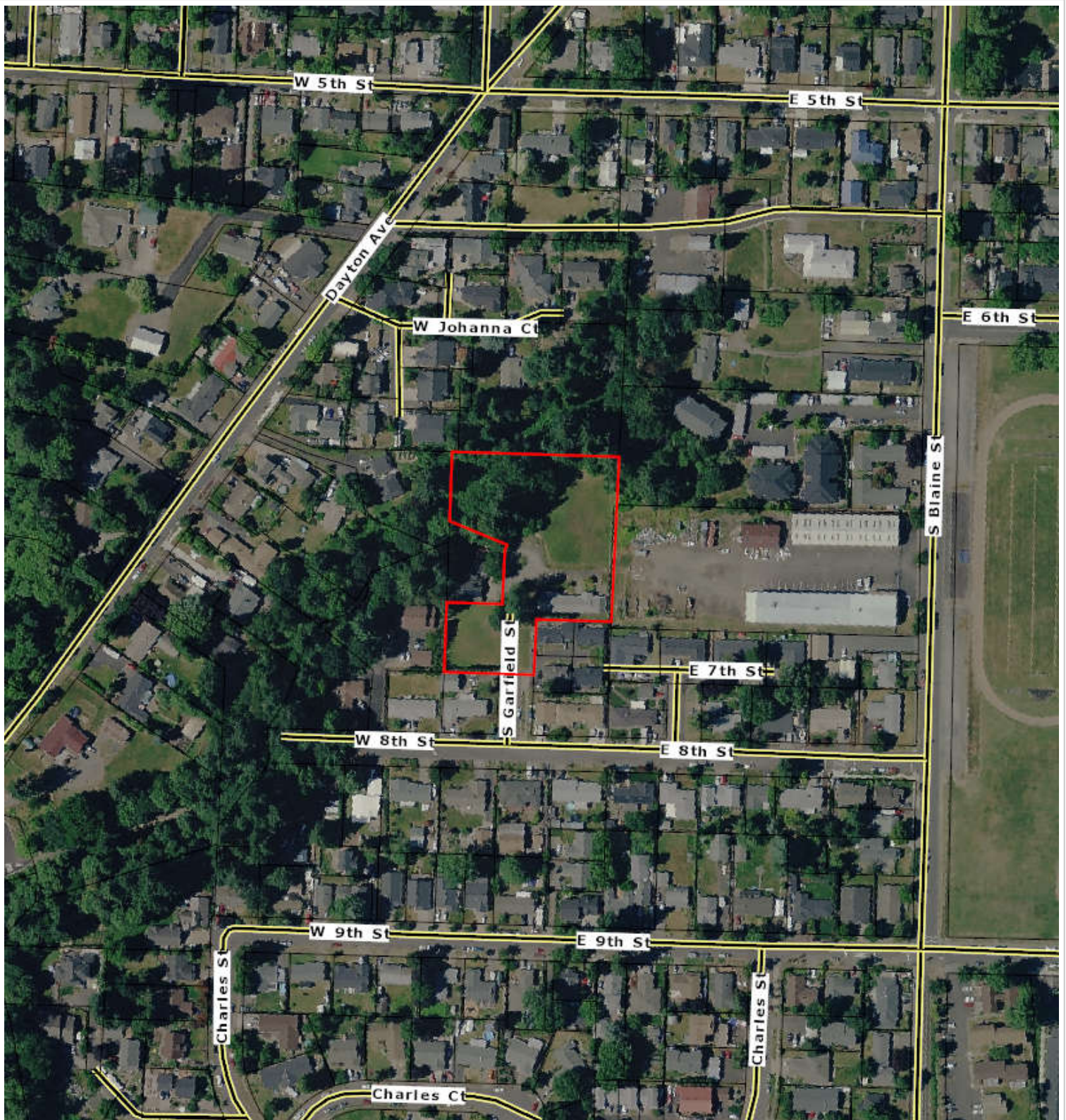
Sentry Dynamics, Inc. and its customers make no representations, warranties or conditions, express or implied, as to the accuracy or completeness of information contained in this report.



Parcel ID: 56478

Site Address: 100 S Garfield St

Sentry Dynamics, Inc. and its customers make no representations, warranties or conditions, express or implied, as to the accuracy or completeness of information contained in this report.

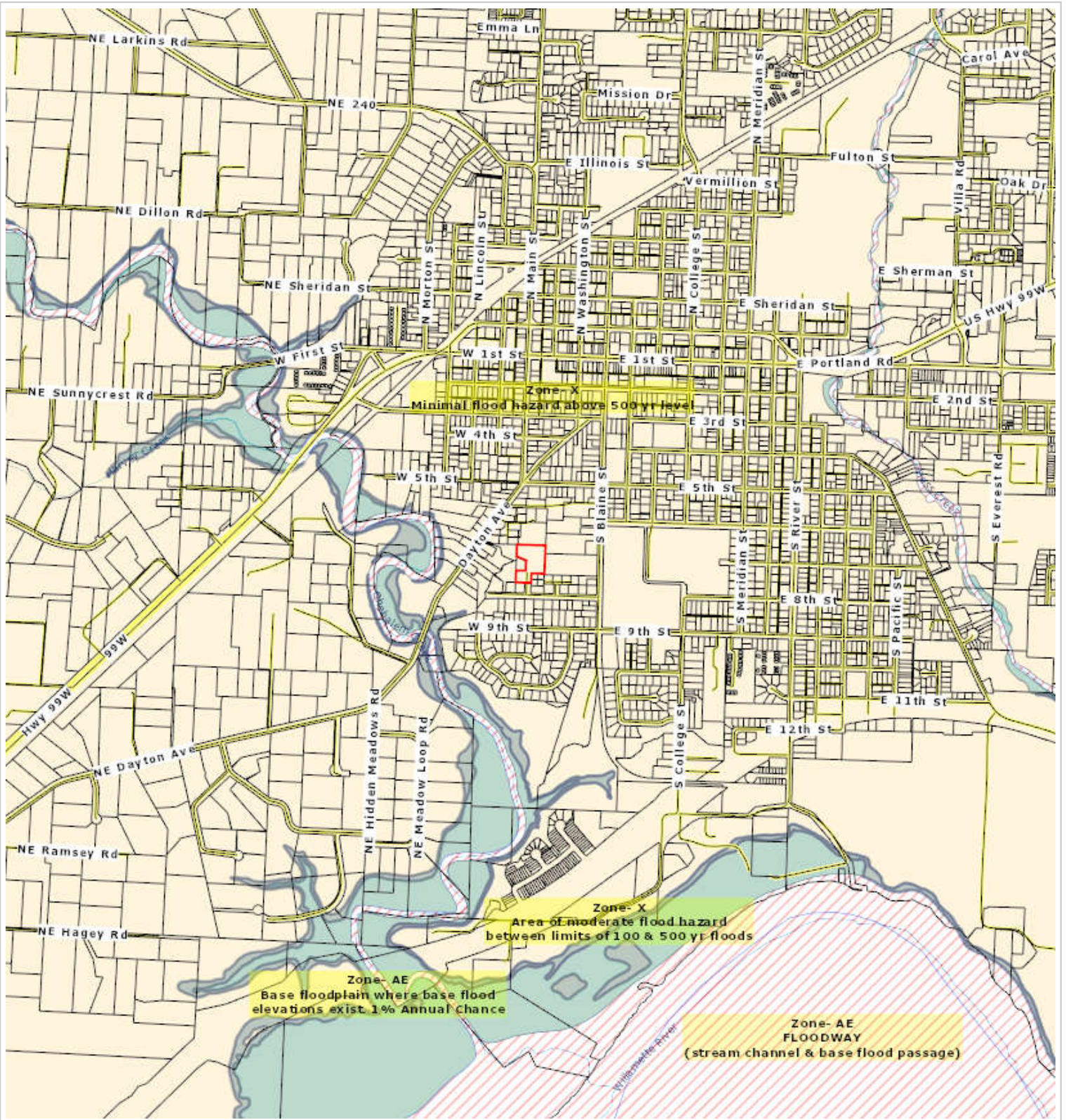


Parcel ID: 56478

Sentry Dynamics, Inc. and its customers make no representations, warranties or conditions, express or implied, as to the accuracy or completeness of information contained in this report.



Flood Map



Parcel ID: 56478

Sentry Dynamics, Inc. and its customers make no representations, warranties or conditions, express or implied, as to the accuracy or completeness of information contained in this report.



7/1/2021 to 6/30/2022 REAL PROPERTY TAX STATEMENT

YAMHILL COUNTY, OREGON 535 NE 5TH ST., ROOM 42, MCMINNVILLE, OR 97128 (503) 434-7521

PROPERTY LOCATION

100 S GARFIELD ST
NEWBERG, OR 97132

ALT NO: R3219DB 04690

Account Acres: 1.9500

ACCOUNT NO: 56478

Tax Code Area: 29.0

2021 - CURRENT TAX BY DISTRICT:

NEWBERG SD 29J	1,179.89
PORTLAND C C	71.58
WILLAMETTE REG ESD	75.10
EDUCATION TOTAL:	1,326.57

CHEHALEM PARK & REC NEWBERG	229.72 691.47
TUALATIN VALLEY F & R	386.04
TVF&R LOCAL OPTION	113.90
YAMHILL CO EXT SERVICE	11.36
YAMHILL CO SOIL & WATER	8.96
YAMHILL COUNTY	652.39
GENERAL GOVERNMENT TOTAL:	2,093.84

CHEHALEM PARK & REC BOND	101.85
NEWBERG SD 29J BOND	388.20
PORTLAND COMM COLEGE BOND	96.26
TUALATIN VALLEY F & R BOND	35.71
BONDS AND OTHER TOTAL:	622.02

2021 - 2022 TAX BEFORE DISCOUNT 4,042.43

VALUES:	LAST YEAR	THIS YEAR
REAL MARKET VALUES (RMV):		
LAND	905,750	1,000,145
STRUCTURES	200,223	229,850
RMV TOTAL	1,105,973	1,229,995
ASSESSED VALUE:	245,737	253,109
TOTAL TAXABLE	245,737	253,109
PROPERTY TAXES:	3,640.13	4,042.43

When a mortgage company requests your tax information this statement is yellow and for your records only.

Online or Telephone payment options available - for instructions and conditions go to: www.co.yamhill.or.us/assessor

TOTAL (after discount): 3,921.16
Delinquent tax amount is included in payment options listed below.

(See back of statement for instructions)

TAX PAYMENT OPTIONS

Payment Options	Date Due	Discount Allowed	Net Amount Due
FULL PAYMENT	Nov 15, 2021	121.27 3% Discount.....	\$3,921.16
2/3 PAYMENT	Nov 15, 2021	53.90 2% Discount.....	\$2,641.05
1/3 PAYMENT	Nov 15, 2021	No Discount.....	\$1,347.47

NO STATEMENTS ARE SENT FOR THE FEBRUARY 15 OR MAY 15 INSTALLMENT DATES IF PAYING THE 2/3 OR 1/3 OPTION.

↑ TEAR HERE PLEASE RETURN THIS PORTION WITH YOUR PAYMENT See back of statement for instructions TEAR HERE ↑

2021 - 2022 Property Tax Payment Yamhill County, Oregon
PROPERTY LOCATION: 100 S GARFIELD ST

ACCOUNT NO: 56478

Delinquent tax amount is included in payment options listed below

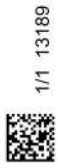
FULL PAYMENT	(Includes 3% Discount)	DUE Nov 15, 2021	\$3,921.16
2/3 PAYMENT	(Includes 2% Discount)	DUE Nov 15, 2021	\$2,641.05
1/3 PAYMENT	(No Discount offered)	DUE Nov 15, 2021	\$1,347.47

DISCOUNT IS LOST AND INTEREST APPLIES AFTER DUE DATE

Mailing address change on back

Enter Amount Paid

Please make payment to:
YAMHILL COUNTY TAX COLLECTOR
PO BOX 6369
PORTLAND, OR 97228-6369





After recording return to:
Holden Newberg QOZB LLC
5652 Northwest Crady Lane
Portland, OR 97229

Until a change is requested all tax
statements shall be sent to the
following address:
Holden Newberg QOZB LLC
5652 Northwest Crady Lane
Portland, OR 97229

File No.: 1032-3684350 (kd)
Date: August 26, 2021

THIS SPACE RESERVED FOR RECORDER'S USE

Yamhill County Official Records **202117494**
DMR-DDMR
Stn=3 SUTTONS **08/26/2021 02:02:01 PM**
3Pgs \$15.00 \$11.00 \$5.00 \$60.00 **\$91.00**

I, Brian Van Bergen, County Clerk for Yamhill County, Oregon, certify
that the instrument identified herein was recorded in the Clerk
records.

Brian Van Bergen - County Clerk

STATUTORY WARRANTY DEED

Elaine M. Streed and Rowena E. Shafer and Roman D. Streed, Co-Trustees or their successors in trust under The D & E Streed Survivor's Trust dated June 8, 1995, Grantor, conveys and warrants to Holden Newberg QOZB LLC, an Oregon limited liability company, Grantee, the following described real property free of liens and encumbrances, except as specifically set forth herein:

See Legal Description attached hereto as Exhibit A and by this reference incorporated herein.

Subject to:

1. Covenants, conditions, restrictions and/or easements, if any, affecting title, which may appear in the public record, including those shown on any recorded plat or survey.
2. The **2021-2022** Taxes, a lien not yet payable.

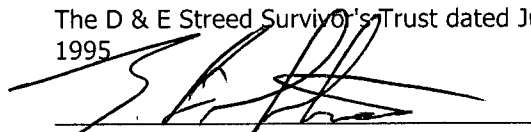
The true consideration for this conveyance is **\$887,763.00**. (Here comply with requirements of ORS 93.030)

FIRST AMERICAN 3684350

BEFORE SIGNING OR ACCEPTING THIS INSTRUMENT, THE PERSON TRANSFERRING FEE TITLE SHOULD INQUIRE ABOUT THE PERSON'S RIGHTS, IF ANY, UNDER ORS 195.300, 195.301 AND 195.305 TO 195.336 AND SECTIONS 5 TO 11, CHAPTER 424, OREGON LAWS 2007, SECTIONS 2 TO 9 AND 17, CHAPTER 855, OREGON LAWS 2009, AND SECTIONS 2 TO 7, CHAPTER 8, OREGON LAWS 2010. THIS INSTRUMENT DOES NOT ALLOW USE OF THE PROPERTY DESCRIBED IN THIS INSTRUMENT IN VIOLATION OF APPLICABLE LAND USE LAWS AND REGULATIONS. BEFORE SIGNING OR ACCEPTING THIS INSTRUMENT, THE PERSON ACQUIRING FEE TITLE TO THE PROPERTY SHOULD CHECK WITH THE APPROPRIATE CITY OR COUNTY PLANNING DEPARTMENT TO VERIFY THAT THE UNIT OF LAND BEING TRANSFERRED IS A LAWFULLY ESTABLISHED LOT OR PARCEL, AS DEFINED IN ORS 92.010 OR 215.010, TO VERIFY THE APPROVED USES OF THE LOT OR PARCEL, TO DETERMINE ANY LIMITS ON LAWSUITS AGAINST FARMING OR FOREST PRACTICES, AS DEFINED IN ORS 30.930, AND TO INQUIRE ABOUT THE RIGHTS OF NEIGHBORING PROPERTY OWNERS, IF ANY, UNDER ORS 195.300, 195.301 AND 195.305 TO 195.336 AND SECTIONS 5 TO 11, CHAPTER 424, OREGON LAWS 2007, SECTIONS 2 TO 9 AND 17, CHAPTER 855, OREGON LAWS 2009, AND SECTIONS 2 TO 7, CHAPTER 8, OREGON LAWS 2010.

Dated this 13 day of AUGUST, 2021.

The D & E Streed Survivor's Trust dated June 8, 1995


Gwain E. Streed, Trustee

STATE OF Oregon)
)ss.
County of Lincoln)

This instrument was acknowledged before me on this 13th day of August, 2021 by Gwain E. Streed as Trustee of The D & E Streed Survivor's Trust dated June 8, 1995, on behalf of the Trustee.



Notary Public for Oregon
My commission expires: 4/5/2024

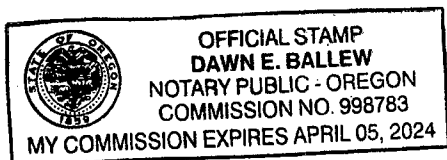


EXHIBIT A

LEGAL DESCRIPTION: Real property in the County of Yamhill, State of Oregon, described as follows:

Part of Joseph B. Rogers Donation Land Claim #55 in Township 3 South, Range 2 West of the Willamette Meridian in Yamhill County, Oregon, described as follows:

Beginning at a point where the center line of Ninth Street in the City of Newberg produced West intersects the West line of said Claim; thence East along the center line of said Street, 660 feet; thence North 462 feet to the Northeast corner of that tract conveyed to Lewis C. Hodgdon et ux. by deed recorded June 23, 1948 in Book 149, Page 216, Deed records; thence North along the East line of that certain most Easterly tract conveyed to W.R. Weatherly et ux. by deed recorded May 28, 1948 in Book 148, Page 774, Deed records; 95 feet to the true point of beginning; thence continuing North along said East line 284.5 feet, more or less to the Northeast corner of said Weatherly tract, thence West along the North line of said Weatherly tract 287 feet to the Northeast corner of that tract conveyed to E.F. Hubert by deed recorded January 3, 1902 in Book 41, Page 593, Deed records; thence South along the East line of said Hubert tract 379.5 feet to the North line of the aforesaid Hodgdon tract; thence East along the said North line 158.5 feet to a point; thence North parallel to the East line of the aforesaid Weatherly tract, 95 feet to a point; thence East parallel to the North line of said Hodgdon tract, 128.5 feet to the true place of beginning.

SAVE AND EXCEPT that portion conveyed to Gwain E. Streed and Laurie J Streed in Warranty Deed recorded March 6, 1987 in Film Volume 211, Page 1126.

WETLAND DELINEATION / DETERMINATION REPORT COVER FORM

A complete report and signed report cover form, along with [applicable review fee](#), are required before a report review timeline can be initiated by the Department of State Lands. All applicants will receive an emailed confirmation that includes the report's unique file number and other information.

Ways to submit report:

- ❖ **Under 50MB** - A single unlocked PDF can be emailed to: wetland.delineation@dsl.oregon.gov.
- ❖ **50MB or larger** - A single unlocked PDF can be uploaded to [DSL's Box.com](#) website. After upload notify DSL by email at: wetland.delineation@dsl.oregon.gov.
- ❖ **OR** a hard copy of the unbound report and signed cover form can be mailed to: Oregon Department of State Lands, 775 Summer Street NE, Suite 100, Salem, OR 97301-1279.

Ways to pay review fee:

- ❖ By credit card on [DSL's epayment portal](#) after receiving the unique file number from DSL's emailed confirmation.
- ❖ By check payable to the Oregon Department of State Lands attached to the unbound mailed hardcopy **OR** attached to the complete signed cover form if report submitted electronically.

Contact and Authorization Information	
<input type="checkbox"/> Applicant <input checked="" type="checkbox"/> Owner Name, Firm and Address: Scott Holden Newburg QOZB LLC 5652 NW Crady Lane Portland, OR 97229	Business phone # (503) 502-8006 Mobile phone # (optional) E-mail: ScottHolden2007@outlook.com
<input checked="" type="checkbox"/> Authorized Legal Agent, Name and Address (if different): Alex Sherman Environmental Science & Assessment 4831 NE Fremont Street, Suite 2B Portland, OR 97213	Business phone # (360) 979-8903 Mobile phone # (optional) E-mail: alex@esapdx.com
I either own the property described below or I have legal authority to allow access to the property. I authorize the Department to access the property for the purpose of confirming the information in the report, after prior notification to the primary contact.	
Typed/Printed Name: <u>Alex Sherman</u> Signature: <u><i>Alex Sherman</i></u> Date: <u>06/30/2022</u> Special instructions regarding site access: _____	
Project and Site Information	
Project Name: <u>100 S Garfield St</u>	Latitude: <u>45.294456</u> Longitude: <u>-122.978643</u> decimal degree - centroid of site or start & end points of linear project
Proposed Use: Subdivide parcel into 8 lots for duplex and triplex residential development	Tax Map # <u>3219DB</u> Tax Lot(s) <u>04690</u> Tax Map # _____ Tax Lot(s) _____
Project Street Address (or other descriptive location): <u>100 S Garfield St</u>	Township <u>3S</u> Range <u>2W</u> Section <u>19</u> <u>QQ</u> Use separate sheet for additional tax and location information
City: <u>Newburg</u> County: <u>Yamhill</u>	Waterway: _____ River Mile: _____
Wetland Delineation Information	
Wetland Consultant Name, Firm and Address: Alex Sherman Environmental Science & Assessment LLC 4831 NE Fremont St, Ste. 2B Portland, OR 97213	Phone # (360) 979-8903 Mobile phone # (if applicable) E-mail: alex@esapdx.com
The information and conclusions on this form and in the attached report are true and correct to the best of my knowledge.	
Consultant Signature: <u><i>Alex Sherman</i></u> Date: <u>06/30/2022</u>	
Primary Contact for report review and site access is <input checked="" type="checkbox"/> Consultant <input type="checkbox"/> Applicant/Owner <input type="checkbox"/> Authorized Agent	
Wetland/Waters Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Study Area size: <u>1.95</u> Total Wetland Acreage: <u>0.0062</u>	
Check Applicable Boxes Below	
<input type="checkbox"/> R-F permit application submitted <input type="checkbox"/> Mitigation bank site <input type="checkbox"/> EFSC/ODOE Proj. Mgr: _____ <input type="checkbox"/> Wetland restoration/enhancement project (not mitigation) <input type="checkbox"/> Previous delineation/application on parcel If known, previous DSL # _____	<input type="checkbox"/> Fee payment submitted \$ _____ <input type="checkbox"/> Resubmittal of rejected report (\$100) <input type="checkbox"/> Request for Reissuance. See eligibility criteria. (no fee) DSL # _____ Expiration date _____ <input type="checkbox"/> LWI shows wetlands or waters on parcel Wetland ID code _____
For Office Use Only	
DSL Reviewer: _____ Fee Paid Date: _____ / _____ / _____	DSL WD # _____
Date Delineation Received: ____ / ____ / ____	DSL App.# _____

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MAPPING METHOD 4
ADDITIONAL INFORMATION..... 4
RESULTS AND CONCLUSIONS 4
DISCLAIMER..... 5

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- APPENDIX C. SITE PHOTOGRAPHS**
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INTRODUCTION

Environmental Science & Assessment, LLC (ES&A) was contracted by Firwood Design Group to conduct a wetland delineation on a 1.95-acre site located at 100 S Garfield Street in Newberg, Yamhill County, Oregon (Figure 1). The study area includes one tax lot (TL 3219DB 4690) located in the northwest quarter and southeast quarter of Section 19, Township 3 South, Range 2 West on Yamhill County's assessor's map 3219DB (Figure 2).

LANDSCAPE SETTING AND LAND USE

The project site is bordered on the south by residential development and by an intermittent tributary to Chehalem Creek at its north and west boundaries. Residential development is present beyond the creek to the northwest. A sand and gravel stockpile yard with discarded heavy equipment and storage is located to the northwest of the property. Edwards Elementary School is located further east across S Blaine Street. Access to the site is via a cul-de-sac at the terminus of S Garfield St from the south side (Photo 1; Figure 5).

There is one residential structure present on tax lot 4690, which is located in the southeastern lot corner across the driveway at S Garfield Street (Photo 1). The structure is adjacent to offsite structures on tax lot 4691. There are no other structures except for a wooden treehouse in the riparian forest that borders the northwest part of the open field (Photo 2).

The south portion of the site is a mowed and maintained grassy field, which extends from the northeastern corner of the cul-de-sac to the eastern property boundary (Photo 1). The forested upland plant community is present in the northeast property corner, which transitions to forested riparian plant community as the landscape slopes in the direction of the unnamed tributary that borders the site from the north and west (Photo 3).

Site topography is relatively flat within the mowed and maintained grassy field. The field slopes upward slightly to the treeline and then sharply downwards toward the offsite creek, where it terraces in the southeast corner before it reaches the incised stream channel.

The plant community within the open field consists predominately of annual blue grass (*Poa annua*, FAC), velvet grass (*Holcus lanatus*, FAC), field meadow foxtail (*Alopecurus pratensis*, FAC), spreading bent (*Agrostis stolonifera*, FAC), with traces of ox eye daisy (*Leucanthemum vulgare*, FACU), common dandelion (*Taraxacum officinale*, FACU), Queen Anne's lace (*Daucus carota*, FACU), and English plantain (*Plantago lanceolata*, FACU) with about 10% cover throughout of white clover (*Trifolium repens*), and scattered populations of hairy cat's ear (*Hypochaeris radicata*).

The plant community surrounding the grassy field along at the top of the slope consists of upland tree canopy consisting of Douglas-fir (*Pseudotsuga menziesii*, FACU), big-leaf maple (*Acer macrophyllum*, FACU), and cherry plum (*Prunus cerasifera*, NL), an understory of beaked hazelnut (*Corylus cornuta*, FACU), English holly (*Ilex aquifolium*, FACU), Himalayan Blackberry (*Rubus armeniacus*, FAC), and a herbaceous stratum consisting of heavy cover of English ivy (*Hedera helix*, FACU) (VC-3).

Soils mapped on site are all rated non-hydric. Soils in the southeastern portion of the site are recorded as Aloha silt loam, 0 to 3 percent slopes (map unit 2300A, Hydric rating 3). The northwestern portion of the site that encompasses the area of the unnamed tributary is mapped as Woodburn silt loam, 20 to 55 percent slopes (map unit 2310F, Hydric rating 0) (NRCS Soil Survey, 2020).

SITE ALTERATIONS

Review of historic aerial photographs indicates that no major alterations have taken place on the site since at least 1994.

PRECIPITATION DATA AND ANALYSIS

Precipitation data collected during a field visit March 16th, 2022. Observed precipitation on the day of the field investigation totaled 0.07 inches. There were 4.21-inches of precipitation recorded in the two weeks prior to the March field visit. Water year-to-date (WYTD) total was 90% of normal during the March visit (Table 1). Observed data for the May field visit in Table 1 were recorded at CoCORaHS station NEWBURG 0.3 N, OR (1.3-miles to the north of the site). WTYD and WYTD normal value was collected at NWS station REX 1 S, OR (approximately 3-miles to the northeast).

According to the WETS table for NWS station REX 1 S, OR, observed precipitation in December 2021 was higher than normal. January and February 2022 were within normal range. (Table 2).

Table 1. Precipitation Data Prior to Field Observations

Field Date	Rainfall on Field Date	Rainfall Two Weeks Prior to Field Date	¹ Observed Rainfall for the Water Year-to-Date (WYTD)	¹ Percent Normal Water Year-to-Date
March 16, 2022	0.07	4.21	28.49	90

Source: Natural Resource Conservation Service (NRCS) Agricultural Climate Information System (AgCIS) for Washington County, CoCoRaHS station: NEWBURG 0.3 N, OR ¹WYTD and WYTD Normal is value from REX 1 S, OR station because closer stations for observed values have insufficient data for this product

Table 2. Monthly Observed Precipitation Preceding Three Field Dates of field observations

Prior Three Months	¹ Avg. Precip.	¹ 30% Chance Will Have		Observed Precip.	Within Normal Range?
		Less Than	More Than		
December 2021	7.24	5.18	8.57	8.78	No, higher
January 2022	6.30	4.31	7.52	5.55	Yes
February 2022	4.07	2.62	4.90	2.78	Yes

Source: Natural Resource Conservation Service (NRCS) Agricultural Climate Information System (AgCIS) for Washington County, WETS station: REX 1 S, OR. ¹Average and exceedance values based on years 2000-2021 to represent normal.

SITE SPECIFIC METHODOLOGY

All boundaries of wetlands and waterways were determined using the methodology provided in the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region* (USACE, 2010). Field data was collected in accordance with the Oregon Administrative Rules for Wetland Delineation Report Requirements and for Jurisdictional Determination for the Purpose of Regulating Fill and Removal within Waters of the State (OAR 141-90-0005-141-90-0055).

Two levels of investigation for the wetland delineation included a review of existing information and an on-site investigation of the study area. Prior to conducting the on-site investigation, ES&A reviewed available data pertaining to the wetland delineation.

Reviewed data included:

- Aerial Photographs: 1952-1994 (USGS Earth Explorer); 1994-2021 (Google Earth);
- Natural Resource Conservation Service (NRCS) *Soil Survey of Yamhill County Area, Oregon* (Web Soil Survey, 2020);
- Oregon Department of Geology and Mineral Industries (DOGAMI) Lidar Viewer;
- U.S. Fish and Wildlife Service (USFWS) National Wetland Inventory (NWI) Map Yamhill County, OR area (Wetlands Mapper, 2020);

ES&A wetland scientists Alex Sherman and Racine Robinson conducted the site investigation on March 16th, 2022. ES&A collected wetland delineation data at four (4) locations to define the wetland boundaries or to document a lack of wetland conditions, and collected vegetation data at three (3) data plots (Figure 6).

Wetland A was delineated mainly based on a break in vegetation between water parsley (*Oenanthe sarmentosa*, OBL) and English ivy. Soils in data plot 2 (DP-2) showed prominent redox indications starting at 5 inches of the soil profile, and gley matrix colors starting at 10 inches. Soils at data plot 1 (DP-1) had less prominent redox colors with most of the indications occurring at nine inches and beyond.

WETLANDS

One wetland was delineated onsite, totaling 272 square feet. An unnamed tributary runs adjacent to the northern property boundary and meanders towards the northwestern corner.

Wetland A

Wetland A (Photo 4) is a 272-square foot Riverine Emergent Nonpersistent (REM2), or Riverine Impounding (RI) class wetland that is terraced and expands from the Ordinary High Water Line (OHWL) of the tributary to Chehalem Creek to the toe of the slope; The wetland is located near the convergence of two tributaries that flow into Chehalem Creek (Photo 4).

The primary hydrology of wetland A appears to be upslope surface runoff and subsurface flow, both of which drain towards the adjacent stream from habitat similar to that of Photo 5 – forested slopes. The wetland is likely to experience flooding at least once every two (2) years (biennial flooding) and impound overbank flow that create conditions conducive to hydric soils and hydrophytic vegetation.

The plant community is mature canopy cover of mostly Douglas-fir (*Pseudotsuga menziesii*, FACU) and big leaf maple (*Acer macrophyllum*, FACU), and an understory dominated by Himalayan blackberry. The herbaceous stratum of the wetland is comprised of water parsley, cleavers (*Galium aparine*, FACU), and meadow foxtail (*Alopecurus pratensis*, FAC) (Photo 4).

The waters of Wetland A continue offsite to the west via the tributary to Chehalem Creek.

Tributary to Chehalem Creek

The tributary to Chehalem Creek is an unnamed tributary. It converges with another unnamed drainage north of the study area and then flows south offsite of the study area to the east (Photo 3). The tributary flows into Chehalem Creek. The average width based on the ordinary high water elevation is approximately 10 to 12 feet wide, with an incised channel narrowing the OHWL to approximately 8 feet in width (Photo 6)

DEVIATION FROM LWI OR NWI

The National Wetland Inventory does not map any wetlands or waters on the site. No Local Wetland Inventory is available for the study area.

MAPPING METHOD

Data plot locations, wetland boundary flags, and stream features were mapped utilizing a Trimble Catalyst GPS Receiver (Model: DA2), a piece of GPS hardware that connects to Trimble software on a cell phone called TerraFlex. Geographic features are mapped with an accuracy of 10 cm (0.1 m).

The GPS data is exported into a CSV file utilizing Trimble’s web-based Connect application and subsequently converted into a DXF file for mapping in Computer Assisted Design (CAD) software. The collected GPS data is superimposed onto a base topographic or existing conditions map in CAD.

The flagging was recorded and surveyed by CMT Surveying and Consulting LLC, who also provided the tax lot boundaries.

ADDITIONAL INFORMATION

Other areas along the stream were investigated to see if conditions matched those of Wetland A, as the habitat at the bottom of the ravine suggested probability of such. However, but there were no other areas that hosted hydrophytic vegetation as it was mostly English ivy and Himalayan blackberry. The south side of the unnamed tributary was mostly sloped habitat (Photo 6), which is not the type of topography to allow for depressions that impound overbank flooding, at least enough to create hydric soils.

RESULTS AND CONCLUSIONS

ES&A delineated one wetland and one unnamed tributary on-site (Table 3).

Table 3. Waters/Wetlands Summary

Feature	Area (acres/square feet)	HGM Class	Cowardin Class	Notes
Wetland A	272 square feet	Riverine Impounding	Riverine Emergent Nonpersistent	Offsite to the northwest.
Tributary to Chehalem Creek	N/A		N/A	Onsite within the western area of the property.

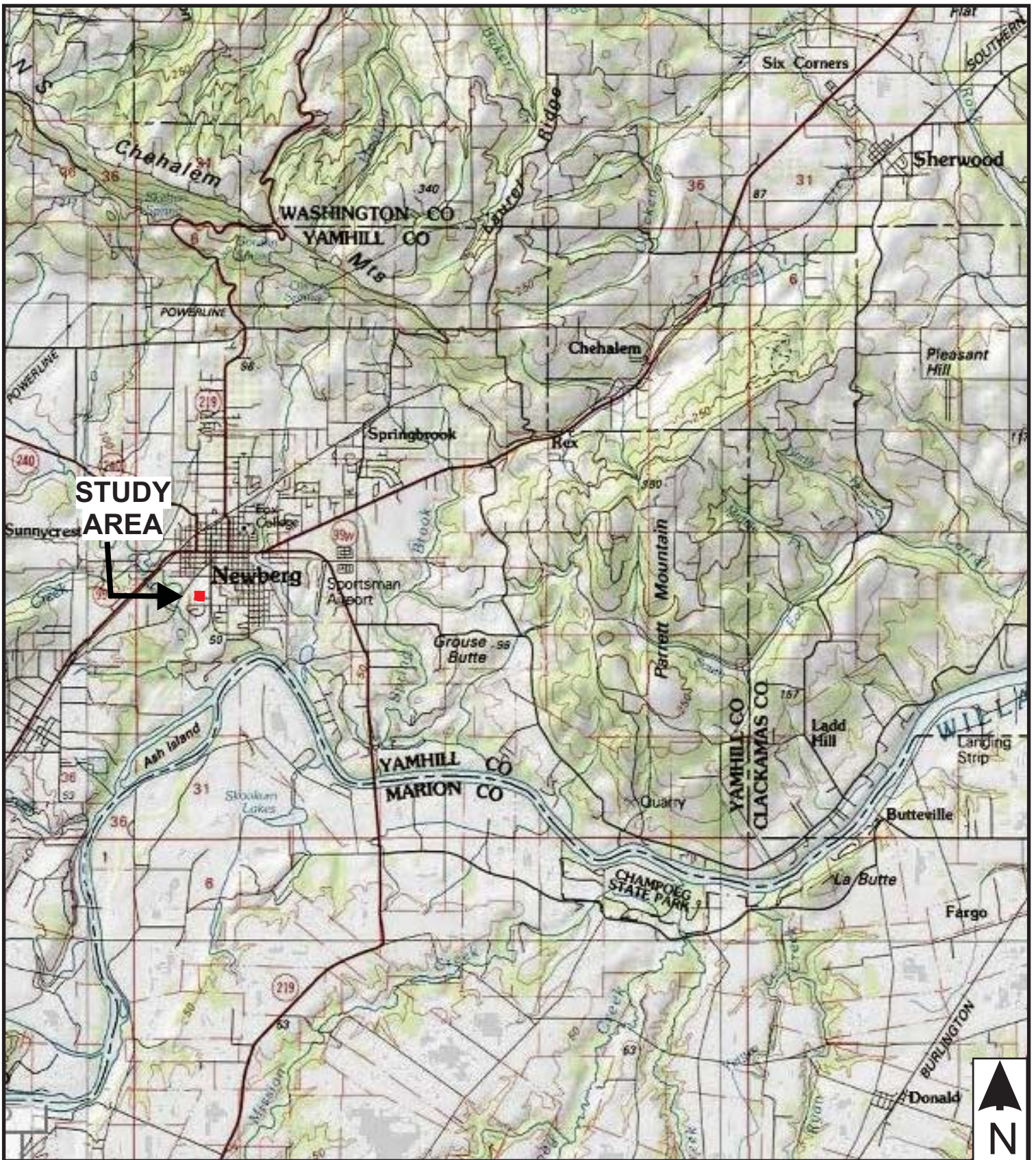
DISCLAIMER

As required by the Administrative Rules for Wetland Delineation Report Requirements and for Jurisdictional Determination for the Purpose of Regulating Fill and Removal within Waters of the State the following statement is made:

“This report documents the investigation, best professional judgment and conclusions of the investigator. It is correct and complete to the best of my knowledge. It should be considered a Preliminary Jurisdictional Determination of wetlands and other waters and used at your own risk unless it has been reviewed and approved in writing by the Oregon Department of State Lands in accordance with OAR 141-090-0005 through 141-090-0055.”

Wetlands are by definition transitional areas; wetland boundaries may change with time. All wetland delineations performed for this study, as well as the conclusions drawn in this report, should be reviewed by the appropriate regulatory agencies prior to any detailed site planning or construction activities. ES&A, therefore, recommends that this wetlands study be verified with the appropriate regulatory agencies as soon as practical. The results and conclusions of this report represent the authors' best professional judgment, based upon information provided by the project proponent in addition to that obtained during the course of this study. No other warranty, expressed or implied, is made by ES&A.

APPENDIX A. FIGURES



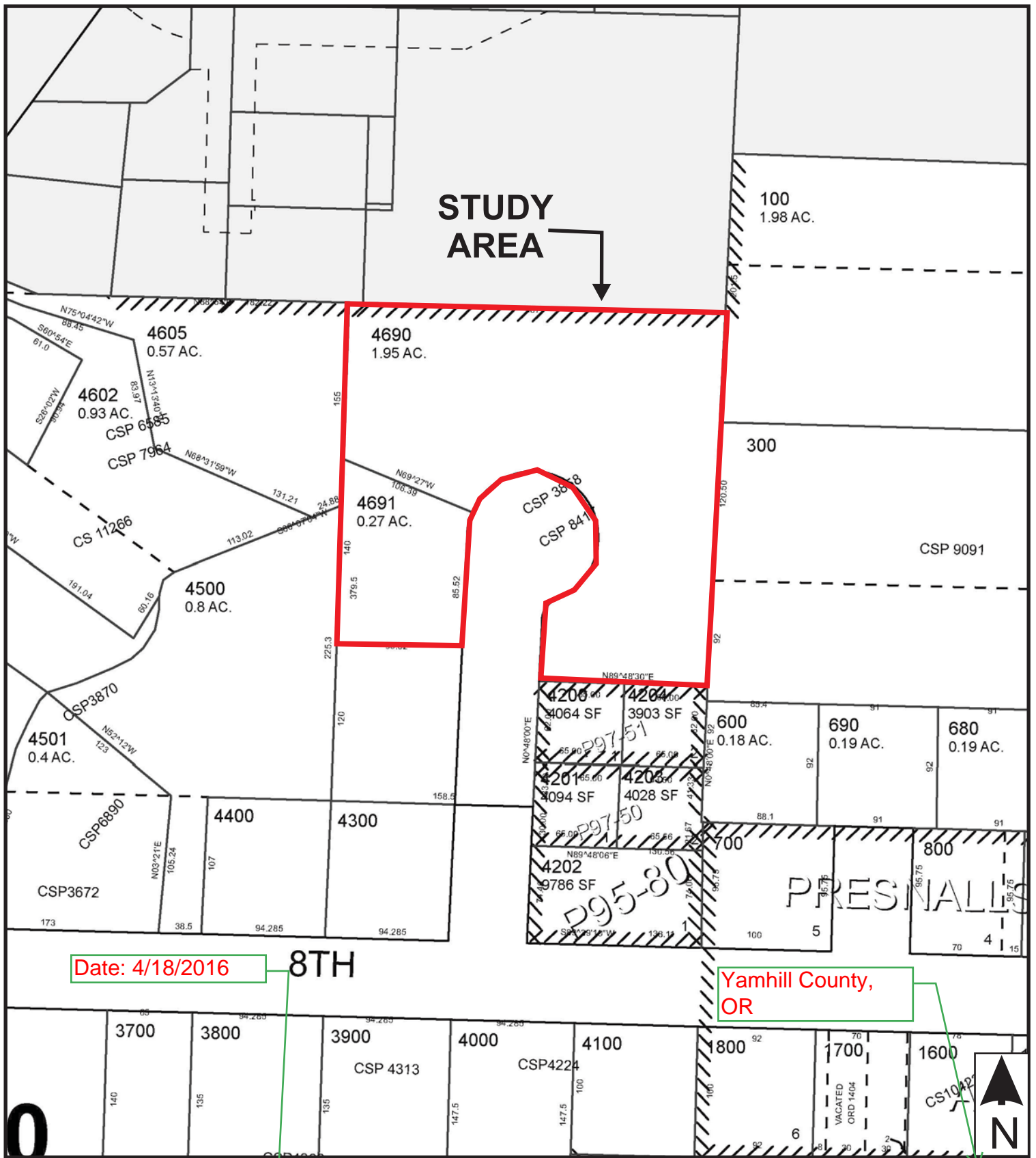
Source: Metro Data Resource Center. <http://gis.oregonmetro.gov/metromap/>

Environmental
Science &
Assessment, LLC

Vicinity Map
100 S Garfield Street
Newburg, Oregon

Figure 1

0 .625 1.25 mi



Source: www.ormap.net

Tax Map: 3 2 19DB

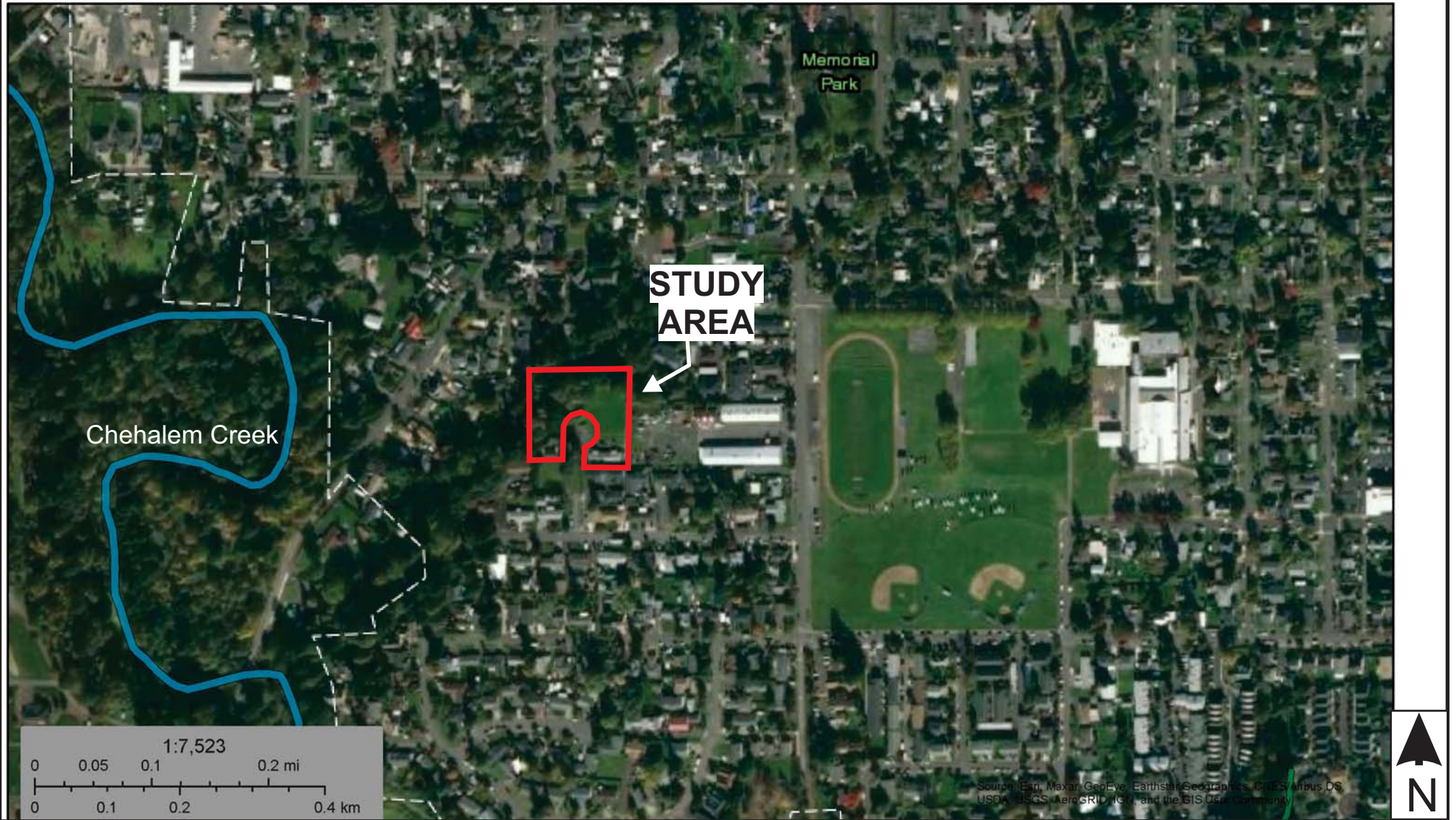
Environmental
Science &
Assessment, LLC



Tax Lot Map
100 S Garfield Street
Newburg, Oregon

Figure 2





Source: Metro Data Resource Center. <http://gis.oregonmetro.gov/metromap/>

Environmental
Science &
Assessment, LLC



National Wetland Inventory
100 S Garfield Street
Newburg, Oregon



Figure 3



Mapped Soils:

2300A - Aloha silt loam, 0 to 3 percent slopes Hydric Rating = 3
 2310F- Woodburn silt loam, 20 to 55 percent slopes Hydric Rating = 0



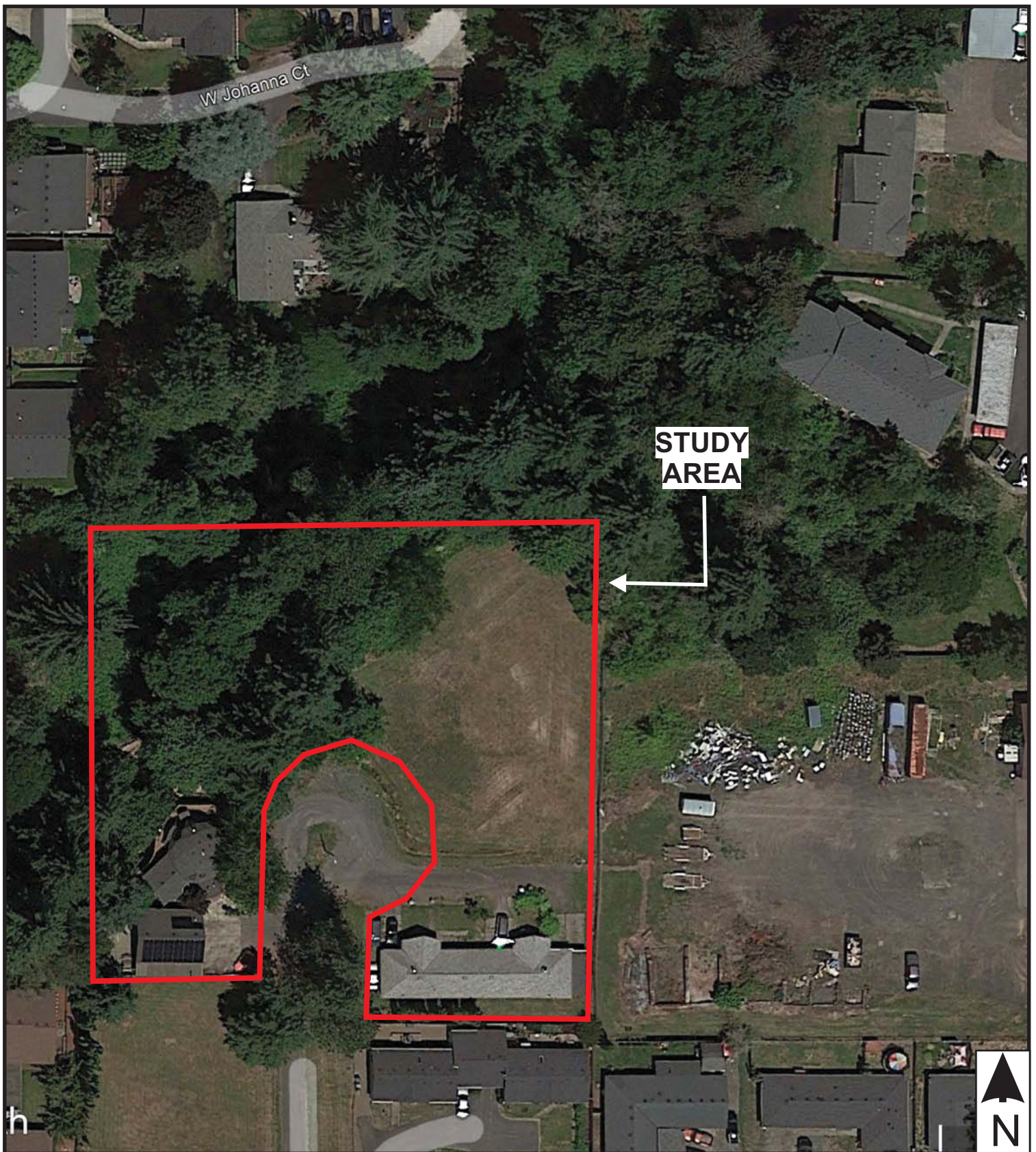
Source: Web Soil Survey, Yamhill County, Oregon <http://websoilsurvey.nrcs.usda.gov/app/>.



NRCS Soil Survey Map
 100 S Garfield Street
 Newburg, Oregon

Figure 4





Source: earth.google.com

Imagery Date: 06/17/2021

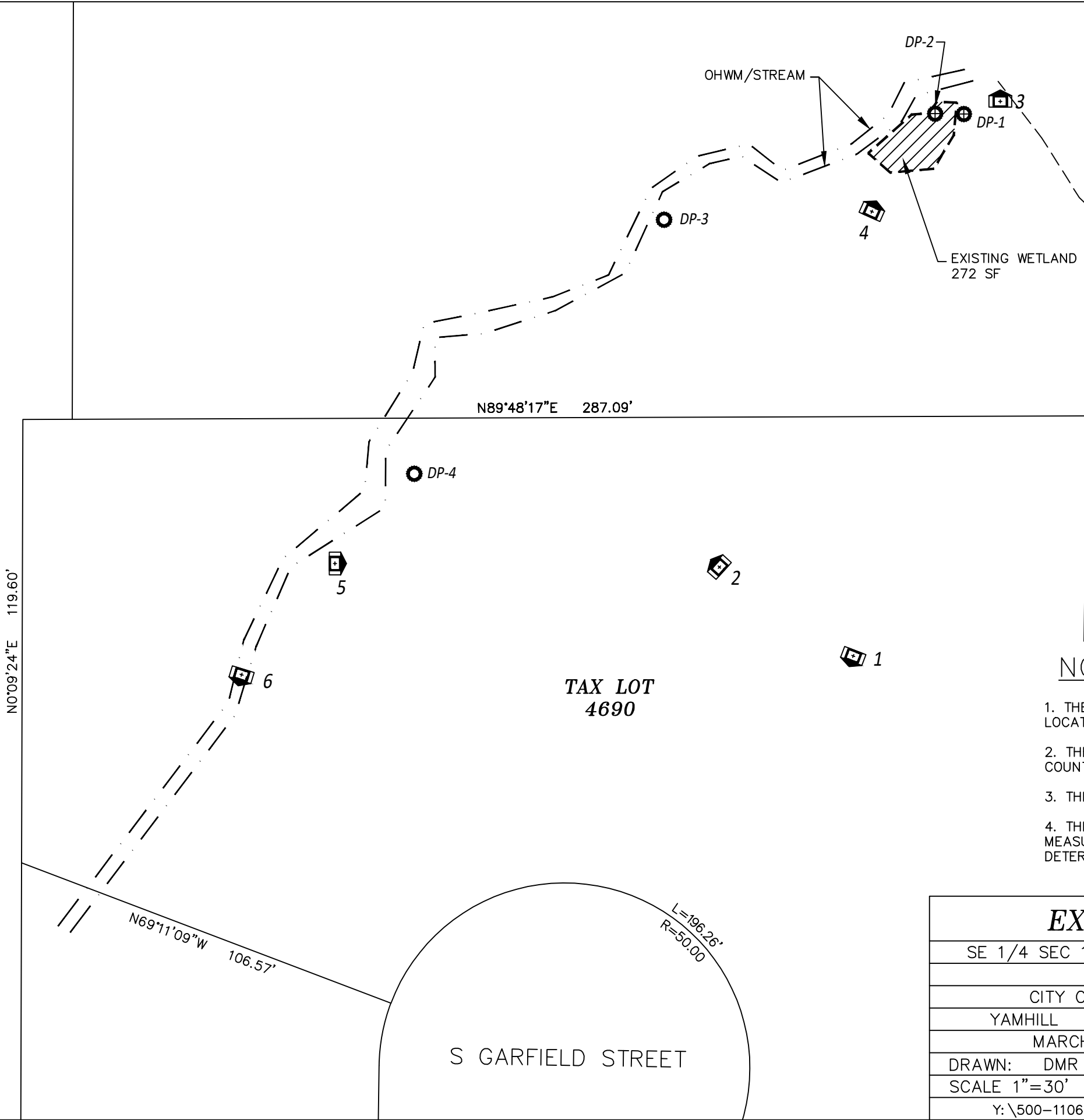
Environmental
Science &
Assessment, LLC



Aerial Photograph
100 S Garfield Street
Newburg, Oregon

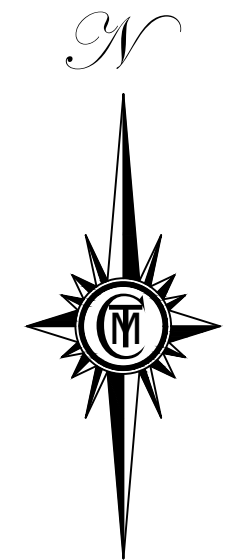
Figure 5





LEGEND

- EXISTING WETLAND LINE
- - - EXISTING OHML/STREAM
- DP-1 DATA POINT
- 📷 1 PHOTO POINT



SCALE 1" = 30'

**TAX LOT
100**

REGISTERED
PROFESSIONAL
LAND SURVEYOR

OREGON
SEPTEMBER 11, 2018
DAVID ROEGER
86811

EXPIRES DECEMBER 31, 2022

NOTES

1. THE PURPOSE OF THIS MAP WAS TO SHOW THE LOCATION OF WETLAND FLAGGING LOCATED AT 100 S. GARFIELD STREET.
2. THE BASIS OF BEARINGS WAS PER THE RECORD OF SURVEY NO. CSP-8417, YAMHILL COUNTY RECORDS.
3. THIS MAP WAS PREPARED FOR THE EXCLUSIVE USE OF HOLDEN NEWBERG Q02B LLC.
4. THIS MAP WAS PREPARED BY PLAT RECORDS, CALCULATED DATA, AND FIELD MEASUREMENTS, A RECORDED BOUNDARY SURVEY WILL BE FILED AT A DATE TO BE DETERMINED.

**TAX LOT
4690**

EXHIBIT

SE 1/4 SEC 19, T3S, R2W, W.M.
CITY OF NEWBERG
YAMHILL COUNTY, OREGON
MARCH 28, 2022
DRAWN: DMR CHECKED: SPF
SCALE 1"=30' ACCOUNT #500-1106
Y:\500-1106\DWG\5001106BASE

100 S GARFIELD ST



CMT SURVEYING AND CONSULTING

20330 SE HIGHWAY 212
DAMASCUS, OR 97089
PHONE (503) 850-4672 FAX (503) 850-4590

S GARFIELD STREET

APPENDIX B. DATA SHEETS

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Garfield Newburg City/County: Newburg / Yamhill County Sampling Date: 3/16/2022
 Applicant/Owner: Firwood Design State: OR Sampling Point: DP-1
 Investigator(s): Alex Yanez-Sherman, Racine Robinson Section, Township, Range: T3S R2W Sec 19
 Landform (hillslope, terrace, etc.): forested terrace Local relief (concave, convex, none): none Slope (%): 1
 Subregion (LRR): A-Northwest Forests and Coasts Lat: 45.3953228 Long: -122.978375 Datum: NAD 83
 Soil Map Unit Name: Woodburn silt loam, 20 to 55 percent slopes (2310F), Hydric rating = 0 NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
Hydric Soil Present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>			
Wetland Hydrology Present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>			
Remarks: At confluence of streams within the northwest property corner, plot long the wetland boundary of the wetland bench adjacent to stream.					

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30' diameter</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Acer macrophyllum</u>	<u>30</u>	<u>x</u>	<u>FACU</u>	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>4</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>25</u> (A/B)
2. <u>Pseudotsuga menziesii</u>	<u>20</u>	<u>x</u>	<u>FACU</u>	
3. _____				
4. _____				
	<u>50</u>	= Total Cover		Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
Sapling/Shrub Stratum (Plot size: <u>30' diameter</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Rubus armeniacus</u>	<u>95</u>	<u>x</u>	<u>FAC</u>	
2. <u>Polystichum munitum</u>	<u>5</u>			
3. _____				
4. _____				
5. _____				
	<u>100</u>	= Total Cover		
Herb Stratum (Plot size: <u>5' diameter</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> 5 - Wetland Non-Vascular Plants ¹ <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. <u>Oenanthe sarmentosa</u>	<u>3</u>		<u>OBL</u>	
2. _____			<u>OBL</u>	
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
8. _____				
9. _____				
10. _____				
11. _____				
	<u>3</u>	= Total Cover		
Woody Vine Stratum (Plot size: <u>5'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
1. <u>Hedera Helix</u>	<u>25</u>	<u>x</u>	<u>FACU</u>	
2. _____				
	<u>25</u>	= Total Cover		
% Bare Ground in Herb Stratum <u>5</u>				
Remarks:				

SOIL

Sampling Point: DP-1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-5	10YR 3/2	100					Silt clay loam	
5-9	10YR 3/2	98	7.5YR 3/3	2	C	M	Silt clay loam	
9-14	10YR 3/1	94	7.5YR 3/4	6	C	M	Silt clay loam	
14-16	10YR 3/1	92	10YR 4/4	8	C	M	Clay loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Loamy Mucky Mineral (F1) (**except MLRA 1**)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10)
- Red Parent Material (TF2)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- Surface Water (A1)
- High Water Table (A2)
- Saturation (A3)
- Water Marks (B1)
- Sediment Deposits (B2)
- Drift Deposits (B3)
- Algal Mat or Crust (B4)
- Iron Deposits (B5)
- Surface Soil Cracks (B6)
- Inundation Visible on Aerial Imagery (B7)
- Sparsely Vegetated Concave Surface (B8)

- Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A, and 4B**)
- Salt Crust (B11)
- Aquatic Invertebrates (B13)
- Hydrogen Sulfide Odor (C1)
- Oxidized Rhizospheres along Living Roots (C3)
- Presence of Reduced Iron (C4)
- Recent Iron Reduction in Tilled Soils (C6)
- Stunted or Stressed Plants (D1) (**LRR A**)
- Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- Water-Stained Leaves (B9) (**MLRA 1, 2, 4A, and 4B**)
- Drainage Patterns (B10)
- Dry-Season Water Table (C2)
- Saturation Visible on Aerial Imagery (C9)
- Geomorphic Position (D2)
- Shallow Aquitard (D3)
- FAC-Neutral Test (D5)
- Raised Ant Mounds (D6) (**LRR A**)
- Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes _____ No Depth (inches): _____
 Water Table Present? Yes No _____ Depth (inches): 13
 Saturation Present? Yes No _____ Depth (inches): 7
 (includes capillary fringe)

Wetland Hydrology Present? Yes X No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Data plot was on the border of the wetland boundary, so hydric indicators were identified via saturation but did not meet for soils or vegetation.

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Garfield Newburg City/County: Newburg / Yamhill County Sampling Date: 3/16/2022
 Applicant/Owner: Firwood Design State: OR Sampling Point: DP-2
 Investigator(s): Alex Yanez-Sherman, Racine Robinson Section, Township, Range: T3S R2W Sec 19
 Landform (hillslope, terrace, etc.): forested terrace Local relief (concave, convex, none): none Slope (%): 1
 Subregion (LRR): A-Northwest Forests and Coasts Lat: 45.295308 Long: -122.978484 Datum: NAD 83
 Soil Map Unit Name: Woodburn silt loam, 20 to 55 percent slopes (2310F), Hydric rating = 0 NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____ Hydric Soil Present? Yes <input checked="" type="checkbox"/> No _____ Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No _____
Remarks: <u>Opposite of DP-1 inside wetland.</u>	

VEGETATION – Use scientific names of plants.

<u>Tree Stratum</u> (Plot size: <u>30' diameter</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A)	
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata: <u>2</u> (B)	
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>67</u> (A/B)	
4. _____	_____	_____	_____	Prevalence Index worksheet:	
= Total Cover					Total % Cover of: _____ Multiply by: _____
<u>Sapling/Shrub Stratum</u> (Plot size: <u>30' diameter</u>)				OBL species _____ x 1 = _____	
1. <u>Rubus armeniacus</u>	<u>40</u>	<u>x</u>	<u>FAC</u>	FACW species _____ x 2 = _____	
2. _____	_____	_____	_____	FAC species _____ x 3 = _____	
3. _____	_____	_____	_____	FACU species _____ x 4 = _____	
4. _____	_____	_____	_____	UPL species _____ x 5 = _____	
5. _____	_____	_____	_____	Column Totals: _____ (A) _____ (B)	
= Total Cover				Prevalence Index = B/A = _____	
<u>Herb Stratum</u> (Plot size: <u>5' diameter</u>)				Hydrophytic Vegetation Indicators:	
1. _____	_____	_____	_____		<input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation
2. <u>Oenanthe sarmentosa</u>	<u>15</u>	<u>x</u>	<u>OBL</u>		<input checked="" type="checkbox"/> 2 - Dominance Test is >50%
3. <u>Galium aparine</u>	<u>5</u>	<u>x</u>	<u>FACU</u>		<input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹
4. <u>Alopecurus pratensis</u>	<u>3</u>	_____	<u>FAC</u>		<input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
5. _____	_____	_____	_____		<input type="checkbox"/> 5 - Wetland Non-Vascular Plants ¹
6. _____	_____	_____	_____		<input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
7. _____	_____	_____	_____		¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
8. _____	_____	_____	_____		
9. _____	_____	_____	_____		
10. _____	_____	_____	_____		
11. _____	_____	_____	_____		
= Total Cover					
<u>Woody Vine Stratum</u> (Plot size: _____)				Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____	
1. _____	_____	_____	<u>FACU</u>		
2. _____	_____	_____	_____		
= Total Cover					
% Bare Ground in Herb Stratum <u>30</u>					
Remarks: _____					

SOIL

Sampling Point: DP-2

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-5	10 YR 2/1	98	10 YR 3/6	2	C	M	clay loam	
5-10	7.5 YR 2.5/1	92	10 YR 3/6	8	C	M	clay loam	
10-15	N 3/1	92	10 YR 3/6	8	C	M	clay loam	
15-17	10 YR 2/1	90						
	10 YR 3/2	10						

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Loamy Mucky Mineral (F1) (**except MLRA 1**)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10)
- Red Parent Material (TF2)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- Surface Water (A1)
- High Water Table (A2)
- Saturation (A3)
- Water Marks (B1)
- Sediment Deposits (B2)
- Drift Deposits (B3)
- Algal Mat or Crust (B4)
- Iron Deposits (B5)
- Surface Soil Cracks (B6)
- Inundation Visible on Aerial Imagery (B7)
- Sparsely Vegetated Concave Surface (B8)

- Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A, and 4B**)
- Salt Crust (B11)
- Aquatic Invertebrates (B13)
- Hydrogen Sulfide Odor (C1)
- Oxidized Rhizospheres along Living Roots (C3)
- Presence of Reduced Iron (C4)
- Recent Iron Reduction in Tilled Soils (C6)
- Stunted or Stressed Plants (D1) (**LRR A**)
- Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- Water-Stained Leaves (B9) (**MLRA 1, 2, 4A, and 4B**)
- Drainage Patterns (B10)
- Dry-Season Water Table (C2)
- Saturation Visible on Aerial Imagery (C9)
- Geomorphic Position (D2)
- Shallow Aquitard (D3)
- FAC-Neutral Test (D5)
- Raised Ant Mounds (D6) (**LRR A**)
- Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes No Depth (inches): _____
 Water Table Present? Yes No Depth (inches): 11
 Saturation Present? Yes No Depth (inches): 2
 (includes capillary fringe)

Wetland Hydrology Present? Yes No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Garfield Newburg City/County: Newburg / Yamhill County Sampling Date: 3/16/2022
 Applicant/Owner: Firwood Design State: OR Sampling Point: DP-3
 Investigator(s): Alex Yanez-Sherman, Racine Robinson Section, Township, Range: T3S R2W Sec 19
 Landform (hillslope, terrace, etc.): forested terrace Local relief (concave, convex, none): none Slope (%): 1
 Subregion (LRR): A-Northwest Forests and Coasts Lat: 45.295234 Long: -122.978768 Datum: NAD 83
 Soil Map Unit Name: Woodburn silt loam, 20 to 55 percent slopes (2310F), Hydric rating = 0 NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
Hydric Soil Present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>			
Wetland Hydrology Present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>			
Remarks: Bench of bank adjacent to stream, between OHWL flags 13 and 15. Some saturation in soil but plot was determined as not within a wetland, saturation could come from seasonal rain and collect within animal paths.					

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30' diameter</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1. <u>Pseudotsuga menziesii</u>	30	x	FACU	Number of Dominant Species That Are OBL, FACW, or FAC:	1 (A)
2. <u>Acer macrophyllum</u>	20	x	FACU	Total Number of Dominant Species Across All Strata:	3 (B)
3. _____				Percent of Dominant Species That Are OBL, FACW, or FAC:	33 (A/B)
4. _____				Prevalence Index worksheet:	
	50	= Total Cover		Total % Cover of:	Multiply by:
Sapling/Shrub Stratum (Plot size: <u>30' diameter</u>)				OBL species	x 1 = _____
1. <u>Rubus armeniacus</u>	90	x	FAC	FACW species	x 2 = _____
2. <u>Corylus cornuta</u>	10		FACU	FAC species	x 3 = _____
3. <u>Omeleria cerasiformis</u>	T		FACU	FACU species	x 4 = _____
4. _____				UPL species	x 5 = _____
5. _____				Column Totals:	_____ (A) _____ (B)
	100	= Total Cover		Prevalence Index = B/A = _____	
Herb Stratum (Plot size: <u>5' diameter</u>)				Hydrophytic Vegetation Indicators:	
1. <u>Rubus ursinus</u>	T		FACU	<input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> 5 - Wetland Non-Vascular Plants ¹ <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)	
2. _____				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
3. _____				Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
4. _____					
5. _____					
6. _____					
7. _____					
8. _____					
9. _____					
10. _____					
11. _____					
	1	= Total Cover			
Woody Vine Stratum (Plot size: _____)					
1. _____					
2. _____					
	0	= Total Cover			
% Bare Ground in Herb Stratum <u>5</u>					
Remarks:					

SOIL

Sampling Point: DP-3

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-9	10YR 3/2	100					Silt clay loam	Small white roots in top four inches
9-11	10YR 3/2	98	7.5YR 3/3	2	C	M	Silt clay loam	
11-13	10YR 3/2	97	7.5YR 3/4	3	C	M	Silt clay loam	
13-17	10YR 3/1	95	7.5YR 4/4	5	C	M	Silt clay loam	
¹ Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ² Location: PL=Pore Lining, M=Matrix.								
Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)						Indicators for Problematic Hydric Soils³:		
<input type="checkbox"/> Histosol (A1)		<input type="checkbox"/> Sandy Redox (S5)		<input type="checkbox"/> 2 cm Muck (A10)				
<input type="checkbox"/> Histic Epipedon (A2)		<input type="checkbox"/> Stripped Matrix (S6)		<input type="checkbox"/> Red Parent Material (TF2)				
<input type="checkbox"/> Black Histic (A3)		<input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)		<input type="checkbox"/> Very Shallow Dark Surface (TF12)				
<input type="checkbox"/> Hydrogen Sulfide (A4)		<input type="checkbox"/> Loamy Gleyed Matrix (F2)		<input type="checkbox"/> Other (Explain in Remarks)				
<input type="checkbox"/> Depleted Below Dark Surface (A11)		<input type="checkbox"/> Depleted Matrix (F3)		³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.				
<input type="checkbox"/> Thick Dark Surface (A12)		<input type="checkbox"/> Redox Dark Surface (F6)						
<input type="checkbox"/> Sandy Mucky Mineral (S1)		<input type="checkbox"/> Depleted Dark Surface (F7)						
<input type="checkbox"/> Sandy Gleyed Matrix (S4)		<input type="checkbox"/> Redox Depressions (F8)						
Restrictive Layer (if present):								
Type: _____								
Depth (inches): _____						Hydric Soil Present? Yes _____ No <u>X</u>		
Remarks:								

HYDROLOGY

Wetland Hydrology Indicators:		
Primary Indicators (minimum of one required; check all that apply)	Secondary Indicators (2 or more required)	
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)	<input type="checkbox"/> Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A)	<input type="checkbox"/> Raised Ant Mounds (D6) (LRR A)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Frost-Heave Hummocks (D7)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)		
Field Observations:		
Surface Water Present? Yes _____ No _____	Depth (inches): _____	Wetland Hydrology Present? Yes <u>X</u> No _____
Water Table Present? Yes <u>✓</u> No _____	Depth (inches): <u>8</u>	
Saturation Present? (includes capillary fringe) Yes <u>✓</u> No _____	Depth (inches): <u>5</u>	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: Hydrological indicators likely due to water table of creek adjacent to bank.		

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Garfield Newburg City/County: Newburg / Yamhill County Sampling Date: 3/16/2022
 Applicant/Owner: Firwood Design State: OR Sampling Point: DP-4
 Investigator(s): Alex Yanez-Sherman, Racine Robinson Section, Township, Range: T3S R2W Sec 19
 Landform (hillslope, terrace, etc.): forested terrace Local relief (concave, convex, none): none Slope (%): 1
 Subregion (LRR): A-Northwest Forests and Coasts Lat: 45.294277 Long: -122.979136 Datum: NAD 83
 Soil Map Unit Name: Woodburn silt loam, 20 to 55 percent slopes (2310F), Hydric rating = 0 NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks: On bench from bank between OHWL flags 27-29.	

VEGETATION – Use scientific names of plants.

<u>Tree Stratum</u> (Plot size: <u>30' diameter</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1. <u>Acer macrophyllum</u>	65	x	FACU	Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A)	
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata: <u>5</u> (B)	
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A/B)	
4. _____	_____	_____	_____	Prevalence Index worksheet:	
	65 = Total Cover				Total % Cover of: _____ Multiply by: _____
<u>Sapling/Shrub Stratum</u> (Plot size: <u>30' diameter</u>)				OBL species _____ x 1 = _____	
1. <u>Omeleria cerasiformis</u>	30	x	FACU	FACW species _____ x 2 = _____	
2. <u>Ilex aquifolium</u>	20	x	FACU	FAC species _____ x 3 = _____	
3. <u>Symphoricarpos albus</u>	15	x	FACU	FACU species _____ x 4 = _____	
4. <u>Rubus armeniacus</u>	5		FAC	UPL species _____ x 5 = _____	
5. _____	_____	_____	_____	Column Totals: _____ (A) _____ (B)	
	70 = Total Cover			Prevalence Index = B/A = _____	
<u>Herb Stratum</u> (Plot size: <u>5' diameter</u>)				Hydrophytic Vegetation Indicators:	
1. _____	_____	_____	_____		<input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation
2. _____	_____	_____	_____		<input type="checkbox"/> 2 - Dominance Test is >50%
3. _____	_____	_____	_____		<input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹
4. _____	_____	_____	_____		<input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
5. _____	_____	_____	_____		<input type="checkbox"/> 5 - Wetland Non-Vascular Plants ¹
6. _____	_____	_____	_____		<input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
7. _____	_____	_____	_____		¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
8. _____	_____	_____	_____		
9. _____	_____	_____	_____		
10. _____	_____	_____	_____		
11. _____	_____	_____	_____		
	0 = Total Cover			Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
<u>Woody Vine Stratum</u> (Plot size: _____)					
1. <u>Hedera helix</u>	95	x	FACU		
2. _____	_____	_____	_____		
	95 = Total Cover				
% Bare Ground in Herb Stratum <u>5</u>					
Remarks:					

SOIL

Sampling Point: DP-4

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
6-10	10YR 3/2	100					Silt clay loam	
10-16	10YR 3/2	95	7.5YR 3/4	5	C	M	Silt clay loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- | | | |
|--|---|---|
| <input type="checkbox"/> Histosol (A1) | <input type="checkbox"/> Sandy Redox (S5) | <input type="checkbox"/> 2 cm Muck (A10) |
| <input type="checkbox"/> Histic Epipedon (A2) | <input type="checkbox"/> Stripped Matrix (S6) | <input type="checkbox"/> Red Parent Material (TF2) |
| <input type="checkbox"/> Black Histic (A3) | <input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1) | <input type="checkbox"/> Very Shallow Dark Surface (TF12) |
| <input type="checkbox"/> Hydrogen Sulfide (A4) | <input type="checkbox"/> Loamy Gleyed Matrix (F2) | <input type="checkbox"/> Other (Explain in Remarks) |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Depleted Matrix (F3) | |
| <input type="checkbox"/> Thick Dark Surface (A12) | <input type="checkbox"/> Redox Dark Surface (F6) | |
| <input type="checkbox"/> Sandy Mucky Mineral (S1) | <input type="checkbox"/> Depleted Dark Surface (F7) | |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4) | <input type="checkbox"/> Redox Depressions (F8) | |

Indicators for Problematic Hydric Soils³:

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):
 Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes _____ No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

- | Primary Indicators (minimum of one required; check all that apply) | | Secondary Indicators (2 or more required) |
|--|---|--|
| <input type="checkbox"/> Surface Water (A1) | <input type="checkbox"/> Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) | <input type="checkbox"/> Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) |
| <input type="checkbox"/> High Water Table (A2) | <input type="checkbox"/> Salt Crust (B11) | <input type="checkbox"/> Drainage Patterns (B10) |
| <input checked="" type="checkbox"/> Saturation (A3) | <input type="checkbox"/> Aquatic Invertebrates (B13) | <input type="checkbox"/> Dry-Season Water Table (C2) |
| <input type="checkbox"/> Water Marks (B1) | <input type="checkbox"/> Hydrogen Sulfide Odor (C1) | <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) |
| <input type="checkbox"/> Sediment Deposits (B2) | <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) | <input type="checkbox"/> Geomorphic Position (D2) |
| <input type="checkbox"/> Drift Deposits (B3) | <input type="checkbox"/> Presence of Reduced Iron (C4) | <input type="checkbox"/> Shallow Aquitard (D3) |
| <input type="checkbox"/> Algal Mat or Crust (B4) | <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) | <input type="checkbox"/> FAC-Neutral Test (D5) |
| <input type="checkbox"/> Iron Deposits (B5) | <input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A) | <input type="checkbox"/> Raised Ant Mounds (D6) (LRR A) |
| <input type="checkbox"/> Surface Soil Cracks (B6) | <input type="checkbox"/> Other (Explain in Remarks) | <input type="checkbox"/> Frost-Heave Hummocks (D7) |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) | | |
| <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) | | |

Field Observations:

Surface Water Present?	Yes _____ No _____	Depth (inches): _____	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____
Water Table Present?	Yes <input checked="" type="checkbox"/> No _____	Depth (inches): <u>13</u>	
Saturation Present? (includes capillary fringe)	Yes <input checked="" type="checkbox"/> No _____	Depth (inches): <u>11</u>	

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
 Watere table from adjacent creek was high along the bank, resulting in saturation coming in above a foot as a hydric indicator while the rest of the plot is upland.

APPENDIX C. SITE PHOTOGRAPHS



Photo 1: View southwest of open grass field in southeast portion of the study area.



Photo 2: View northeast of wooden structure onsite within tree dripline.



Photo 3: View north of confluence of unnamed tributaries to Chehalem Creek.



Photo 4: View north of wetland bench off of unnamed tributary after confluence.



Photo 5: View east of high incline slope and upland forest conditions near unnamed tributary.



Photo 6: View south of incised channel and upland plant community along banks of unnamed tributary.

APPENDIX D. REFERENCES

REFERENCES

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August 26, 2022

100 S Garfield St
Newberg, OR

RE: 4-inch Water Line

The property at 100 S Garfield St is proposed to be subdivided into 12 new lots for duplex residences. These new duplex residences will be protected with NFPA 13D fire sprinkler systems. The planning documents propose that the sprinkler systems and domestic water systems will be supplied by an existing 4" water line serving the property. The 4" line also serves one existing house and one existing four-plex that will remain. There are no hydrants on the existing line.

NFPA 13D, 2016 ed. section 6.5.2 states *"In common water supply connections serving more than one dwelling unit, 5 gpm shall be added to the sprinkler system demand to determine the size of common piping and the size of the total water supply requirements where no provision is made to prevent flow into the domestic water system upon operation of a sprinkler."* This existing 4" water line can be viewed as a common water supply for these 12 new duplex residences, the existing four-plex, and the existing house. Accounting for 5 gpm per new duplex, 10 gpm for the existing four-plex, and 5 gpm for the existing house, that yields a domestic water allowance of 75 gpm.

NFPA 13D system calculations require up to two fire sprinklers flowing up to 20 gpm apiece, depending on spacing. These systems can easily operate on system pressure 50 psi or less. In those calculations, one sprinkler is provided with the minimum flow and the second receives slightly more than the required flow rate. 5 gpm is a conservative estimate to account for that overflow. This yields a total estimated fire sprinkler system demand of 50 psi flowing 45 gpm.

The combined domestic and fire sprinkler demands will be approximately 50 psi flowing 120 gpm. Friction loss in approximately 350' of 4" ductile iron pipe is 1.07 psi when flowing 120 gpm. Rounding up, the 4" line will need 52 psi when flowing 120 gpm at the point of connection to the larger city main.

A hydrant flow test was performed on 8/25/22 at the intersection of Garfield and 8th where the 4" line connects to larger city main. The resulting curve shows that there will be 95.8 psi available when flowing 120 gpm. The flow test report is attached.

A 4" ductile iron water line will be adequate to serve the demands of the development.

Feel free to contact me with any questions.

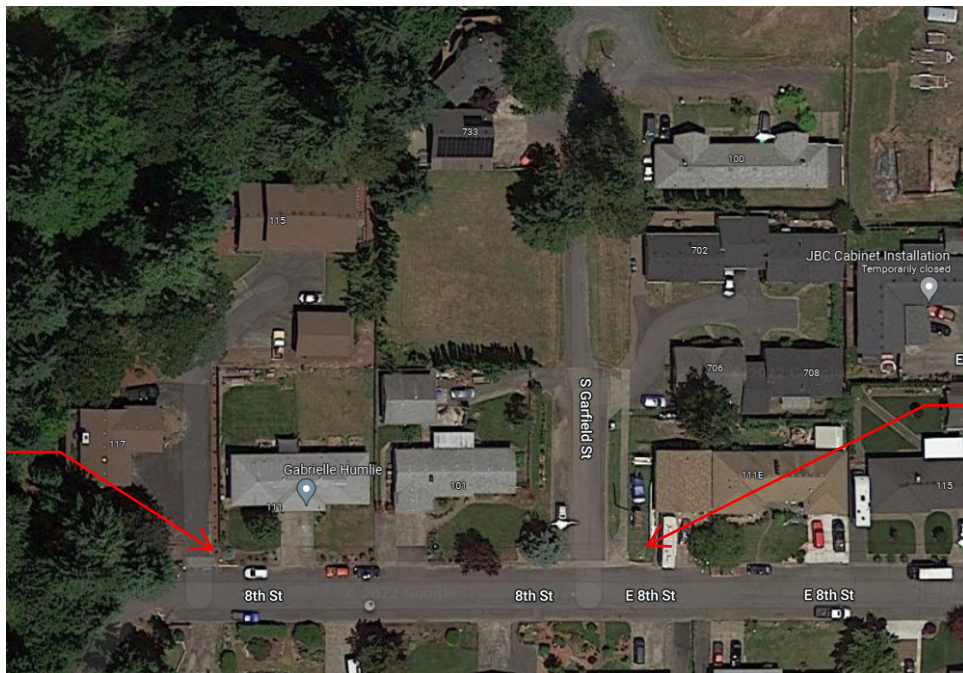
Sincerely,

Jared A. Hill
Fire Protection Engineer

HYDRANT FLOW TEST REPORT

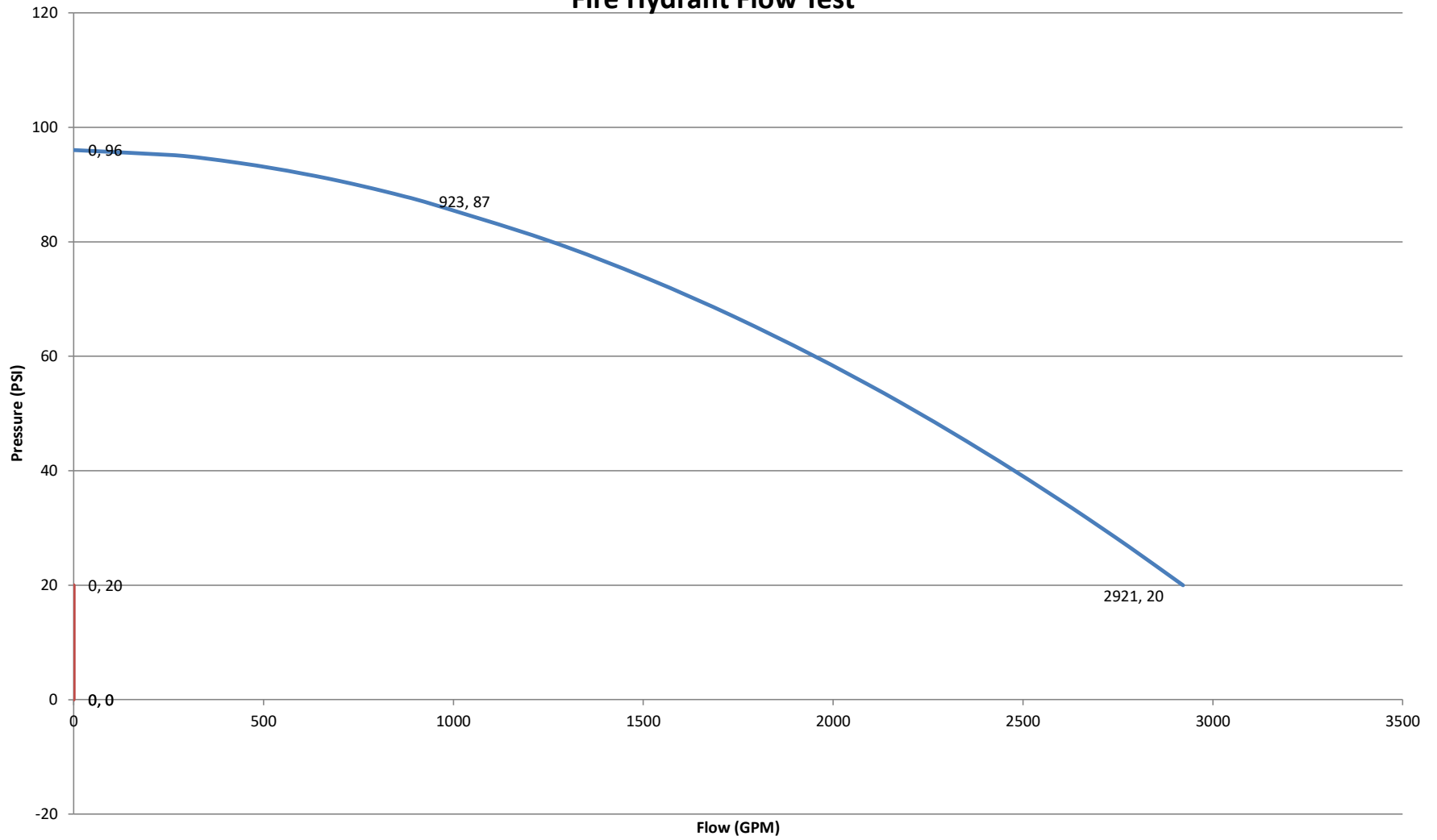
PROJECT: <u>Garfield Analysis</u>	JOB NO: _____
LOCATION: <u>100 S Garfield St.</u>	DATE: <u>08/25/22</u>
<u>Newberg, OR</u>	TIME: <u>8:15 AM</u>
MAJOR CROSS STREETS: <u>Garfield & 8th</u>	
JURISDICTION: <u>Newberg Water</u>	
TEST MADE BY: <u>Jared Hill</u>	
REPRESENTING: <u>Western States Fire Protection</u>	
WITNESSED BY: <u>Adam Clausen</u>	
REPRESENTING: <u>Newberg Water</u>	
PURPOSE OF TEST: <u>Water supply available for fire sprinkler system demand</u>	

FLOW HYDRANTS	A-1	A-2	A-3	B-2	C-1	C-2	
SIZE NOZZLE - 2.50 / 4.00	2.50						INCH
PITOT READING	35						PSI
DISCHARGE COEFFICIENT	-	-	-				
FLOW	923						GPM
ELEVATION							FEET
STATIC PRESSURE: <u>96</u> PSI	STATIC HYDRANT ELEVATION: _____						FEET
RESIDUAL PRESSURE: <u>87</u> PSI							
TOTAL FLOW: <u>923</u> GPM	FLOW @ 20 PSI: <u>2924</u>						GPM



REMARKS: Test conducted using a Little Hose Monster with 2" pitotless nozzle.

Fire Hydrant Flow Test



Scott Holden
503-502-8006
scottholden2007@outlook.com

31 August 2022

Re: Infiltration testing for 100 S Garfield Street, Newberg, OR

Dear Mr. Holden,

Field Investigation:

Rapid Soil Solutions (RSS) has attempted to performed one (1) infiltration tests. Figure 1 below shows the project site location. Soils found on site match those in by DOGMI. RSS found stiff fine grained flood deposits.

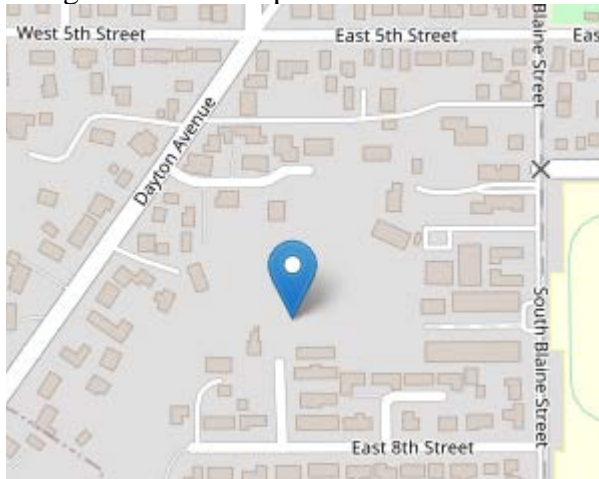


Figure 1

Infiltration Testing:

RSS perform an infiltration test per the Clean Water Services for Washington County. RSS excavated a 6ft deep holes into and started a pre-soak for four (4) hours then testing took place for three hours. The below table summarized the rates and depths. For soil details and locations please see the following infiltration testing sheets.

Location	rate (in/hr.)	Depth (ft)
HA#1	0.5	6
HA#2	2.0	6
HA#3	1.0	6

Groundwater

Based upon the three (3) well logs at are the closest to the site and of similar elevation ground water is 180-200 below the sites elevations.

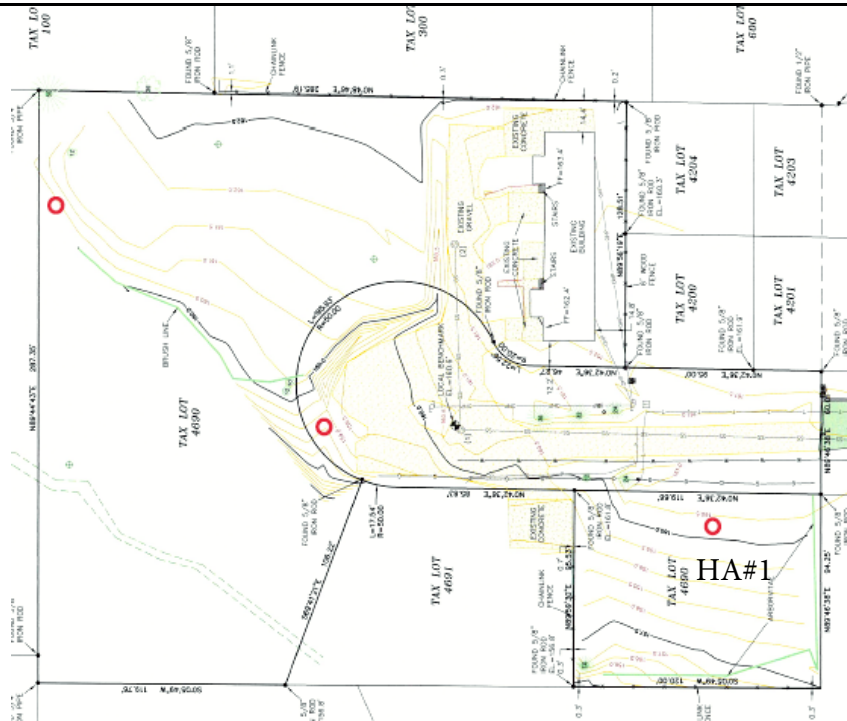
The analysis, conclusions and recommendations contained in this report are based on site conditions as they existed at the time of explorations. Any questions regarding this report please contact me at the below number or email.

Sincerely,



Mia Mahedy, PE GE.

Rapid Soil Solutions Infiltration Test Results



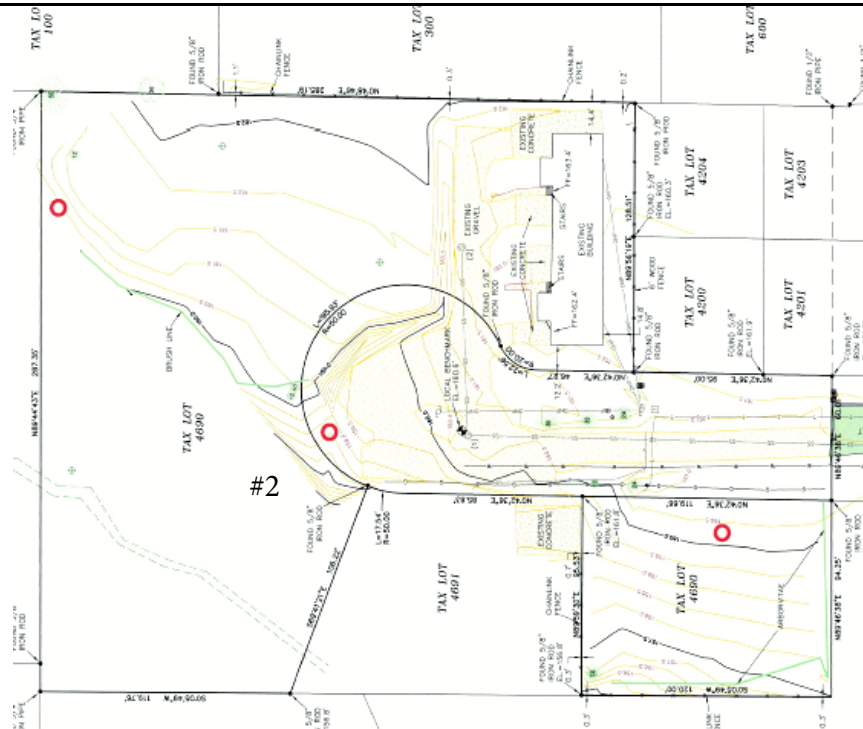
Preliminary Information

Location:	100 S Garfield St, Newberg OR.	Performed By: (Supervised by Mia Mahedy, PE, GE)	Rick Sands
Date & Time:	8-29-22, 8:45	Instrument Used:	3 inch hand auger
Weather:	Sunny, 65	Depth:	6 ft

HA #1

Soil	2-4ft damp light brown silty clay , medium stiffness , 4-6ft, damp, brown , medium stiffness		
Presoak	9:00, 16.25, 10:00, 15, fill 18.75, 11:00, 18, fill 19:50, 12:00, 19, fill 21.75, 1:00, 21, fill 23,		
Time	Measurement (inches)	Level Refilled To (inches)	Rate (inches/hour)
1:20	22.50		
1:40	22.50		
2:00	22.25	23.25	
2:20	24		
2:40	23.75		
3:00	23.50	25	
3:20	24.75		
3:40	24.75		
4:00	24.50		
Site Infiltration Rate (inches/hour)			0.50in/hr

Rapid Soil Solutions Infiltration Test Results



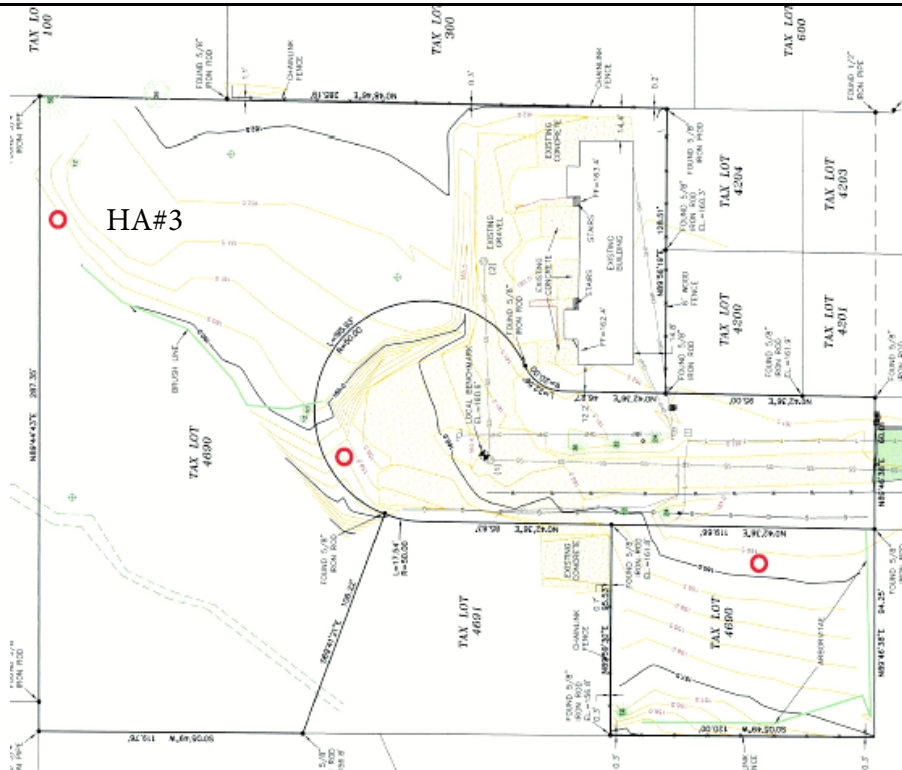
Preliminary Information

Location:	100 S Garfield St, Newberg OR.	Performed By: (Supervised by Mia Mahedy, PE, GE)	Rick Sands
Date & Time:	8-29-22, 8:45 am	Instrument Used:	3-inch hand auger
Weather:	Sunny, 65	Depth:	6 ft

HA # 2

Soil	2-4 ft, medium stiffness damp silty clay, brown , 4-6 ft, medium stiffness damp silty clay , brown		
Presoak	9:00, 15.25, 10:00, 12:25, fill 18.25, 11:00, 17, fill 18.50, 12:00, 16.50, fill 19, 1:00, 17, fill 19		
Time	Measurement (inches)	Level Refilled To (inches)	Rate (inches/hour)
1:20	18.25		
1:40	17.75		
2:00	17.25	19	
2:20	18.25		
2:40	17.25		
3:00	17	19.50	
3:20	18.50		
3:40	18		
4:00	17.50		
Site Infiltration Rate (inches/hour)			2in/hr.

Rapid Soil Solutions Infiltration Test Results



Preliminary Information

Location:	100 S Garfield St, Newberg OR.	Performed By: (Supervised by Mia Mahedy, PE, GE)	Rick Sands
Date & Time:	8-29-22, 8:45 am	Instrument Used:	3 inch hand auger
Weather:	Sunny, 65	Depth:	6 ft

HA # 3

Soil	2-4 ft light brown silty clay medium stiffness damp, 4-6 ft, damp, brown , medium stiffness, silty clay		
Presoak	9:00, 19.50, 10:00, 18.25, fill 20, 11:00, 18.50, fill 20.75, 12:00, 20.25, fill 22, 1:00, 20.50, fill 22.25		
Time	Measurement (inches)	Level Refilled To (inches)	Rate (inches/hour)
1:20	22		
1:40	21.25		
2:00	21.25	23.75	
2:20	23.25		
2:40	23		
3:00	22.75	24.25	
3:20	24		
3:40	23.50		
4:00	23.25'		
Site Infiltration Rate (inches/hour)			1in/hr.

NOTICE TO WATER WELL CONTRACTOR
The original and first copy of this report are to be filed with the

WATER RESOURCES DEPARTMENT,
SALEM, OREGON 97310
within 30 days from the date
of well completion.

WATER WELL REPORT

STATE OF OREGON
(Please type or print)

(Do not write above this line)

Yamhill
302

State Well No. 35/2W-19

State Permit No. _____

(1) OWNER:

Name Millard Wood
Address Rt 1 Box 333A
Newberg Ore

(2) TYPE OF WORK (check):

New Well Deepening Reconditioning Abandon
If abandonment, describe material and procedure in Item 12.

(3) TYPE OF WELL:

Rotary Driven
Cable Jetted
Dig Bored

(4) PROPOSED USE (check):

Domestic Industrial Municipal
Irrigation Test Well Other

(5) CASING INSTALLED:

Threaded Welded
6" Diam. from +14" to 49 ft. Gage 1/4" Yamhill
4" Diam. from 40 ft. to 80 ft. Gage 50g 26

(6) PERFORATIONS:

Perforated? Yes No.
Type of perforator used Drill
Size of perforations 3/8 in. dia.
100 perforations from 50 ft. to 80 ft.

(7) SCREENS:

Well screen installed? Yes No
Manufacturer's Name _____
Type _____ Model No. _____
Diam. _____ Slot size _____ Set from _____ ft. to _____ ft.
Diam. _____ Slot size _____ Set from _____ ft. to _____ ft.

(8) WELL TESTS:

Drawdown is amount water level is lowered below static level
Was a pump test made? Yes No If yes, by whom?
_____ gal./min. with _____ ft. drawdown after _____ hrs.
" " " " " "
" " " " " "
Bailer test 2 gal./min. with TOTAL ft. drawdown after 1 hrs.
Artesian flow _____ g.p.m.
Temperature of water _____ depth artesian flow encountered _____ ft.

(9) CONSTRUCTION:

Well seal—Material used Cement
Well sealed from land surface to 29 ft.
Diameter of well bore to bottom of seal 9 1/2 in.
Diameter of well bore below seal 6 in.
Number of sacks of cement used in well seal 12 sacks
How was cement grout placed? Pressure Grouted
Was a drive shoe used? Yes No Plugs _____ Size: location _____ ft.
Did any strata contain unusable water? Yes No
Type of water? _____ depth of strata _____
Method of sealing strata off _____
Was well gravel packed? Yes No Size of gravel: _____
Gravel placed from _____ ft. to _____ ft.

(10) LOCATION OF WELL:

County Yamhill Driller's well number _____
1/4 Section 19 T. 35 R. 2W W.M.
Bearing and distance from section or subdivision corner

(11) WATER LEVEL: Completed well.

Depth at which water was first found 50 ft.
Static level 18 ft. below land surface. Date 15 Feb
Artesian pressure _____ lbs. per square inch. Date _____

(12) WELL LOG:

Diameter of well below casing _____
Depth drilled 80 ft. Depth of completed well 79 ft.

Formation: Describe color, texture, grain size and structure of materials; and show thickness and nature of each stratum and aquifer penetrated, with at least one entry for each change of formation. Report each change in position of Static Water Level and indicate principal water-bearing strata.

MATERIAL	From	To	SWL
<u>Brown Sandy clay</u>	<u>0</u>	<u>23</u>	
<u>Grey clay</u>	<u>23</u>	<u>45</u>	
<u>Lt Brown Gritty clay</u>	<u>45</u>	<u>60</u>	
<u>Blue Grey "</u>	<u>60</u>	<u>70</u>	
<u>Grey Brown "</u>	<u>70</u>	<u>80</u>	<u>18</u>

RECEIVED
MAR 1 1980
WATER RESOURCES DEPT
SALEM, OREGON

Work started 13 Feb 1980 Completed 15 Feb 1980
Date well drilling machine moved off of well 15 Feb 1980

Drilling Machine Operator's Certification:

This well was constructed under my direct supervision. Materials used and information reported above are true to my best knowledge and belief.
[Signed] Stanley Acunt Date 18 Feb, 1980
(Drilling Machine Operator)
Drilling Machine Operator's License No. 216

Water Well Contractor's Certification:

This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.
Name AJ GAUNT & SON
(Person, firm or corporation) (Type or print)
Address Aloha Ore
[Signed] Stanley Acunt
(Water Well Contractor)
Contractor's License No. 602 Date 18 Feb 1980

STATE OF OREGON
WATER WELL REPORT
(as required by ORS 537.765)

RECEIVED

3s/2w/19

MAR - 8 1993

(START CARD) # 44144

(1) OWNER:

Name NSP Development/Brenneke
Address 2214 SW Hoffman
City Portland State OR Zip 97201

Well Number 796

WATER RESOURCES DEPT.
SALEMI, OR

(2) TYPE OF WORK:

New Well Deepen Recondition Abandon

(3) DRILL METHOD:

Rotary Air Rotary Mud Cable
 Other

(4) PROPOSED USE:

Domestic Community Industrial Irrigation
 Thermal Injection Other

(5) BORE HOLE CONSTRUCTION:

Special Construction approval Yes No Depth of Completed Well 240 ft.
Explosives used Yes No Type _____ Amount _____

HOLE Diameter	From To		Material	SEAL From To		Amount sacks or pounds
12 1/4"	0'	30	Cement	0'	35'	42 Sacks
10"	30	40				
8"	40	240				

How was seal placed: Method A B C D E
 Other

Backfill placed from _____ ft. to _____ ft. Material _____
Gravel placed from _____ ft. to _____ ft. Size of gravel _____

(6) CASING/LINER:

Diameter	From	To	Gauge	Material			
				Steel	Plastic	Welded	Threaded
Casing: 8"	+ 2	38'	.25	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Liner:				<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Final location of shoe(s) _____

(7) PERFORATIONS/SCREENS:

Perforations Method _____
 Screens Type _____ Material _____

From	To	Slot size	Number	Diameter	Tele/pipe size	Casing	Liner
						<input type="checkbox"/>	<input type="checkbox"/>
						<input type="checkbox"/>	<input type="checkbox"/>
						<input type="checkbox"/>	<input type="checkbox"/>
						<input type="checkbox"/>	<input type="checkbox"/>

(8) WELL TESTS: Minimum testing time is 1 hour

Pump Bailer Air Flowing Artesian

Yield gal/min	Drawdown	Drill stem at	Time
100 GPM		240'	1 hr.

Temperature of Water 57° Depth Artesian Flow Found _____
Was a water analysis done? Yes By whom _____
Did any strata contain water not suitable for intended use? Too little
 Salty Muddy Odor Colored Other _____
Depth of strata: _____

(9) LOCATION OF WELL by legal description:

County Yamhill Latitude _____ Longitude _____
Township 3-S N or S. Range 2-W E or W. WM.
Section 19/30 1/4 _____ 1/4 _____
Tax Lot _____ Lot _____ Block _____ Subdivision _____
Street Address of Well (or nearest address) Dayton Av, Newberg,
Or 97132

(10) STATIC WATER LEVEL:

80' ft. below land surface. Date 3/1/93
Artesian pressure _____ lb. per square inch. Date _____

(11) WATER BEARING ZONES:

Depth at which water was first found 190'

From	To	Estimated Flow Rate	SWL
190	220'	60 GPM	n/a

(12) WELL LOG:

Ground elevation _____

Material	From	To	SWL
Top Soil	0	3	
Brown Clay	3	25	
H. Brown Basalt	25	35	
H. Gray Basalt	35	55	
M.H. Brown Basalt	55	85	
H. Gray Basalt	85	105	
H. Gray Fractured Basalt	105	155	
H. Gray Frac./Broken Basalt	155	165	
Hard Gray Basalt	165	175	
Hard Brown Basalt	175	190	
Hard Severe Fractured Gray Bas	190	200	
H. Gray/Brown Porous Basalt	200	215	
Hard Gray Basalt	215	235	
Soft White Clay	235	240	

Date started 2/23/93 Completed 3/1/93

(unbonded) Water Well Constructor Certification:
I certify that the work I performed on the construction, alteration, or abandonment of this well is in compliance with Oregon well construction standards. Materials used and information reported above are true to my best knowledge and belief.
Signed _____ Date _____ WWC Number _____

(bonded) Water Well Constructor Certification:
I accept responsibility for the construction, alteration, or abandonment work performed on this well during the construction dates reported above. All work performed during this time is in compliance with Oregon well construction standards. This report is true to the best of my knowledge and belief.
Signed [Signature] WWC Number 645
Date 3/4/93

16

RECEIVED

3s/2w/19cb

STATE OF OREGON WATER WELL REPORT (as required by ORS 537.765)

JUL 13 1993

WATER RESOURCES DEPT. SALEM, OREGON

(START CARD) # 50236

YAMH 2837

(1) OWNER:

Name Tim & Robin Vachter
Address 24285 7ard Ln.
City Newberg State OR Zip 97132

(2) TYPE OF WORK:

New Well Deepen Recondition Abandon

(3) DRILL METHOD:

Rotary Air Rotary Mud Cable Other

(4) PROPOSED USE:

Domestic Community Industrial Irrigation
Thermal Injection Other

(5) BORE HOLE CONSTRUCTION:

Special Construction approval Yes No Depth of Completed Well 200 ft.
Explosives used Yes No Type Amount

Table with columns: HOLE Diameter, From, To, SEAL Material, From, To, Amount sacks or pounds. Includes entry for Cement seal from 0 to 39 ft.

How was seal placed: Method A B C D E

Backfill placed from ft. to ft. Material
Gravel placed from ft. to ft. Size of gravel

(6) CASING/LINER:

Table with columns: Diameter, From, To, Gauge, Steel, Plastic, Welded, Threaded. Includes entries for Casing and Liner.

Final location of shoe(s) 84.5

(7) PERFORATIONS/SCREENS:

Perforations Method skil saw
Screens Type Material

Table with columns: From, To, Slot size, Number, Diameter, Tele/pipe size, Casing, Liner. Includes entry for 6 inch slot size.

(8) WELL TESTS: Minimum testing time is 1 hour

Table with columns: Yield gal/min, Drawdown, Drill stem at, Time. Includes entries for bailer and pump tests.

Temperature of Water 51 Depth Artesian Flow Found
Was a water analysis done? Yes By whom WFR
Did any strata contain water not suitable for intended use? Too little
Salty Muddy Odor Colored Other

(9) LOCATION OF WELL by legal description:

County YAMHILL Latitude Longitude
Township 3S N or S. Range 2W E or W. WM.
Section 19 NW 1/4 SW 1/4
Tax Lot Lot Block Subdivision
Street Address of Well (or nearest address) SAME

(10) STATIC WATER LEVEL:

69 ft. below land surface. Date 6/23/93
Artesian pressure lb. per square inch. Date

(11) WATER BEARING ZONES:

Depth at which water was first found 132'

Table with columns: From, To, Estimated Flow Rate, SWL. Includes entry for 132 to 199 ft.

(12) WELL LOG:

Table with columns: Material, From, To, SWL. Includes entries for Topsoil, Clay Brwn, clay & decomposed rockGR, Clay Gray, Rock decomposed w/clay brwn, Rock decomposed, Rock fractured/decomposed, Rock fractured.

Date started 6/4/93 Completed 6/24/93

(unbonded) Water Well Constructor Certification:

I certify that the work I performed on the construction, alteration, or abandonment of this well is in compliance with Oregon well construction standards. Materials used and information reported above are true to my best knowledge and belief.

Signed Date WWC Number

(bonded) Water Well Constructor Certification:

I accept responsibility for the construction, alteration, or abandonment work performed on this well during the construction dates reported above. All work performed during this time is in compliance with Oregon well construction standards. This report is true to the best of my knowledge and belief.

Signed Tom Bryant WWC Number 703 Date 6/24/93

PRELIMINARY STORMWATER MANAGEMENT PLAN

S Garfield St 12-Lot Subdivision (PRE#22-0002)

Submitted: September 2022

Owner: Scott Holden
Scottholden2007@outlook.com
(503) 502-8006

Engineer: Firwood Design Group
Contact: Kelli Grover
kg@firwooddesign.com
359 E. Historic Columbia River Highway
Troutdale, OR 97060
(503) 668 - 3788

Site Location: 100 S Garfield St
Newberg, OR 97132

Table of Contents

1. Site Information
2. Stormwater Management Strategy
3. Design Methodology
4. Facility Selection & Design Results
5. Conveyance

Appendices

- APPENDIX A HydroCAD Report
- APPENDIX B Infiltration Testing Report

SITE INFORMATION

The project is located at 100 S Garfield St in Newberg, OR. The property is a split tax lot that totals 1.5 acres. The larger portion of the tax lot is at the north end of the Garfield St ROW and is encumbered by over 20,000 sf of un-developable area that contains wetlands and the City's Stream Corridor Overlay district. The smaller portion of the tax lot is to the south and is 11,400 sf. There is an existing duplex on the lot that will be removed as a part of this project. The vicinity map in Figure 1 illustrates the location of the subject site.

The site is generally flat with grades of ~5% that slope down to the northwest to the existing stream. There is no existing stormwater infrastructure on S Garfield St in the vicinity of the project.

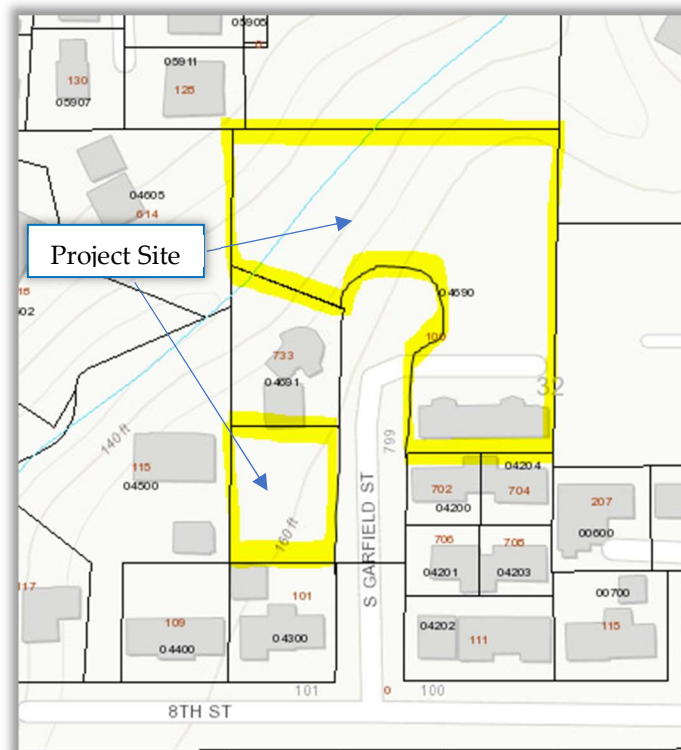


Figure 1 – Vicinity Map

The project proposes to subdivide the property into 12 lots ranging from 2,600 sf to 3,800 sf in size. All lots will be for future duplex development. Two tracts will be created in the subdivision; Tract A (1,864 sf) will be dedicated for stormwater management while tract B (22,495 sf) will

contain the wetlands and Stream Corridor Overlay area on site and is to be un-developed and remain as an environmental tract. Additionally, the project proposes to extend S Garfield St with full street improvements and construct a cul-de-sac turnaround. Public utilities will be extended into the cul-de-sac to service the future duplexes.

Proposed stormwater improvements as a part of this project will treat and detain area from both newly created public improvements and private roof and driveways. New impervious areas associated with these areas are shown in Table 1 below. Due to the proposed grading plan and existing site constraints, Lot 12 impervious area will drain to the south, away from the proposed stormwater improvements, to be collected in the existing catch basins at the intersection of 8th St and S Garfield St. Therefore, Lot 12 area is not accounted for in this design.

Table 1 – Proposed Impervious Areas

	Description	Impervious Area Created
S Garfield St	32' wide AC, 5' wide sidewalk (both sides), 12' wide driveway approaches	10,968 sf
Lots 1-11	Impervious area assumption of 50% of lot coverage	21,180 sf
TOTAL		32,148 sf

A geotechnical study and infiltration test was done for the site on August 31st, 2022 by Rapid Soil Solutions (See Appendix B). Infiltration testing was at three locations and found the field infiltration rate to be 0.5 to 2.0 in/hr. The study did not encounter groundwater in this area at the tested depths. The tested area #2 that produced a infiltration rate of 2.0 in/hr will be the locations for the proposed vegetated infiltration facilities. The underground detention facility will be located in Tract A near test location #1 that produced an infiltration rate of 0.5 in/hr. Infiltration is not proposed in this area. As mentioned previously, the site contains wetlands and the City's Stream Corridor Overlay boundary. The proposed stormwater management facilities will be located outside of both restricted areas. However, the outfall for the detention facility will be located within the Stream Corridor Overlay and will be mitigated for and re-planted in accordance with City standards.

STORMWATER MANAGEMENT STRATEGY

This project will utilize a combination of infiltration and detention to treat and detain all net new impervious area created, in accordance with the design flow chart in section 4.6 of the City's Stormwater Design Manual. All stormwater from surface impervious area (i.e. roads and driveways) will be directed to vegetated roadside planters for treatment. Lots 1-9 will have private stormwater laterals from the proposed stormwater main for connection of roof drains of the duplexes. This stormwater main will convey stormwater to an underground detention facility for detention of stormwater from the applicable design storms. Overflow from two of the roadside planters will also be directed to the detention facility. Peak flows from the post-developed site will match peak flows from the existing site for the design storms.

DSEIGN METHODOLOGY

The Santa Barbara Urban Hydrograph Method (calculated with HydroCAD with SCS Type 1A rainfall distribution) was used to create the hydrographs and to estimate the peak flows for the design storms. A curve number (CN) value of 98 was assigned to all impervious areas (road, driveway, sidewalk and roofs). A curve number value of 84 was assigned to the existing pervious basin area corresponding to grass cover in fair condition with HSG D soils.

The assumed void space in the growing medium and drain rock of the planters was assumed at 25% and 40%, respectively. The assumed exfiltration from the top of the growing medium through the facility was assumed at 1.0 in/hr, which accounts for a safety factor of 2 applied to the field infiltration rate of 2.0 in/hr.

Drainage conditions for impervious areas, when calculated, are generally less than the acceptable minimum 6-minute time of concentration. Therefore, the 6-minute minimum is applied.

Precipitation depths used for the design correlate to City of Newberg design storms and can be seen in Table 2 below.

Table 2 – Design Storm Volumes

<i>Recurrence Interval (yr.)</i>	<i>Total Precipitation Depth (In)</i>
2	2.50
5	3.00
10	3.50
25	4.00

FACILITY SELECTION & DESIGN RESULTS

The post-developed site is divided into four smaller sub-basins for stormwater management and are delineated in Table 3. Please reference the preliminary utility and grading plan submitted in this land use application for more detail.

Table 3 – Sub-Basin Areas

	Area Description	Facility	Impervious Area (sf)	Outflow
Basin 1	Public road and sidewalk, cul-de-sac, north	Planter 1, 40 LF	7,319 sf	Sheet Flow to Stream
Basin 2	Public road and sidewalk, east	Planter 2, 20 LF	1,860 sf	To Detention Facility
Basin 3	Public road and sidewalk, west, Lots 10-11	Planter 3, 25 LF	5,590 sf	To Detention Facility
Basin 4	Lots 1-9 Roof drains	60" Detention Pipe, 70 LF	17,379 sf	Outfall at Stream

Planters 1-3 will be constructed with a 1.5' gravel layer, 1.5' soil medium, and 1' ponding depth and will all have an open bottom to allow for exfiltration. Planter 1 will have an overflow notch to allow stormwater to sheet flow to the north when the facility is inundated. No outflow piping is proposed for Planter 1. Planters 2 and 3 will have a perforated pipe underdrain with a 1" flow control orifice and an overflow orifice set above the design ponding depth. Outflows from Planters 2 and 3 will be conveyed into the 12" storm main to the detention facility.

The 60" diameter underground detention pipe will be constructed with a flow control manhole with a 1.5" flow control orifice at the invert, a 2" upper orifice located 2.2' above the invert and a 12" overflow orifice 4' above the invert to allow sufficient freeboard during large storm events.

Collectively, all four facilities will detain stormwater such that peak flows exiting the site in the post-development condition or less than or equal to peak flows in the existing condition for the 2-, 5-, 10-, and 25-year design storms. Table 4 below shows the results of the design.

Table 4 – Site Peak Flows

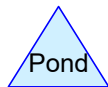
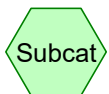
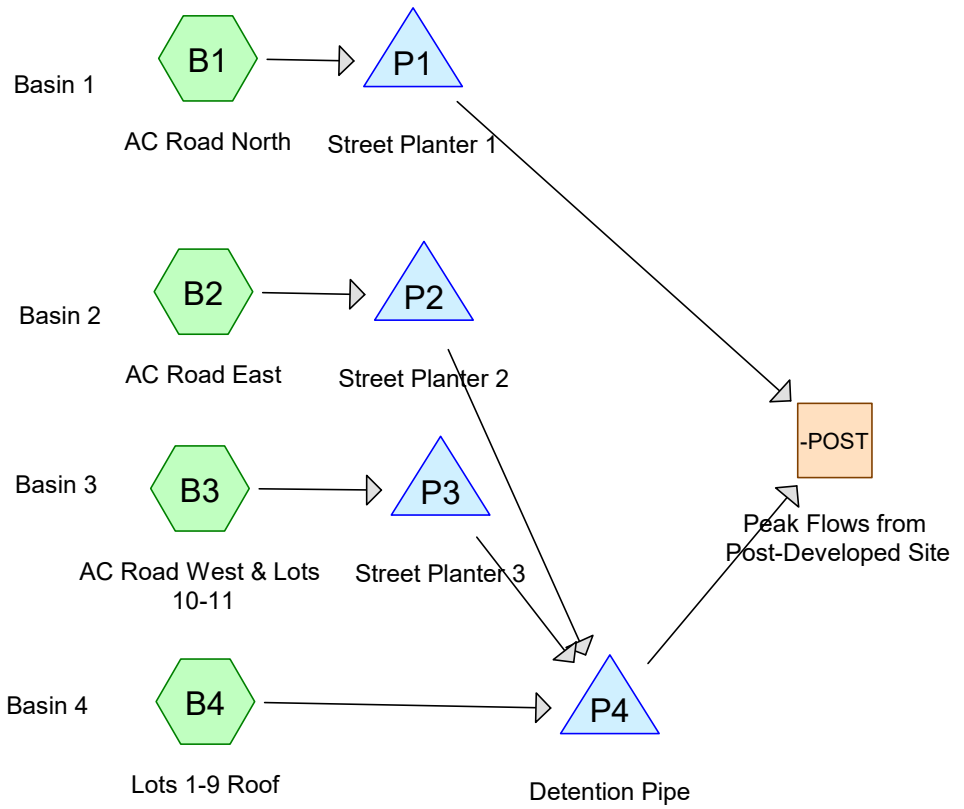
	Pre-Existing Peak Flows (cfs)	Post-Development Peak Flows (cfs)
2-Year	0.18	0.18
5-Year	0.26	0.26
10-Year	0.34	0.32
25-Year	0.43	0.37

To meet water quality and treatment standards, the three planters are designed to retain and infiltrate stormwater from surface impervious areas during the 1-inch water quality storm. The method of treatment is filtration through the vegetation and engineered soil medium.

See Appendix A for the HydroCAD report for more detail on the stormwater design.

CONVEYANCE

All on-site stormwater mains will be 12" diameter HDPE at a minimum slope of 0.5%. The capacity of this pipe when flowing full is 2.93 cfs, per Manning's equation. As demonstrated above, the peak flows existing the site during the 25-year design storm is 0.37 cfs. Therefore, all proposed stormwater pipe is of adequate capacity for the proposed design. Additionally, all roadside planters will be constructed with grated overflow inlets to allow for the safe conveyance of stormwater if the facilities were to be inundated, and to prevent negative impacts to public roads and downstream neighboring properties.



E21-049 Storm

Prepared by Firwood Design Group

HydroCAD® 10.10-7a s/n 04664 © 2021 HydroCAD Software Solutions LLC

Type IA 24-hr 2-YR Rainfall=2.50"

Printed 9/27/2022

Page 2

Summary for Subcatchment -PRE: Existing Site

Runoff = 0.18 cfs @ 8.00 hrs, Volume= 2,990 cf, Depth= 1.12"

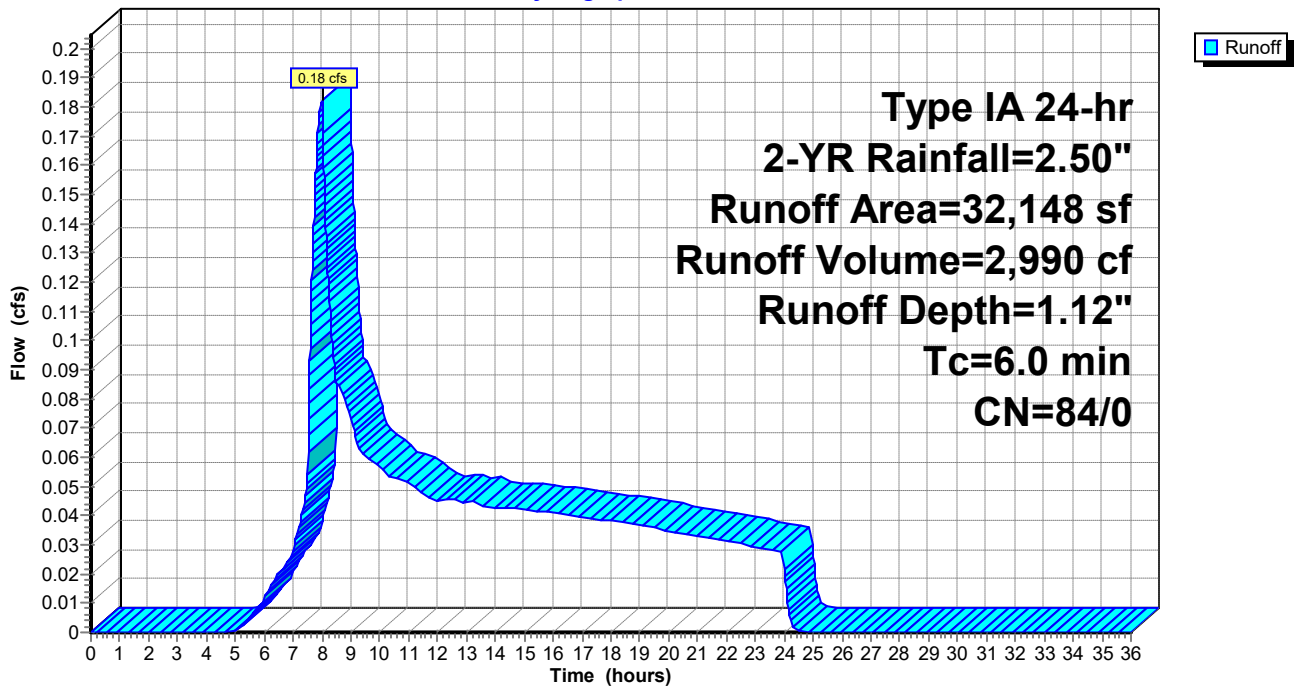
Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
Type IA 24-hr 2-YR Rainfall=2.50"

Area (sf)	CN	Description
32,148	84	50-75% Grass cover, Fair, HSG D
32,148	84	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, Minimum

Subcatchment -PRE: Existing Site

Hydrograph



E21-049 Storm

Prepared by Firwood Design Group

HydroCAD® 10.10-7a s/n 04664 © 2021 HydroCAD Software Solutions LLC

Type IA 24-hr 2-YR Rainfall=2.50"

Printed 9/27/2022

Page 3

Summary for Subcatchment B1: AC Road North

Runoff = 0.10 cfs @ 7.90 hrs, Volume= 1,385 cf, Depth= 2.27"

Routed to Pond P1 : Street Planter 1

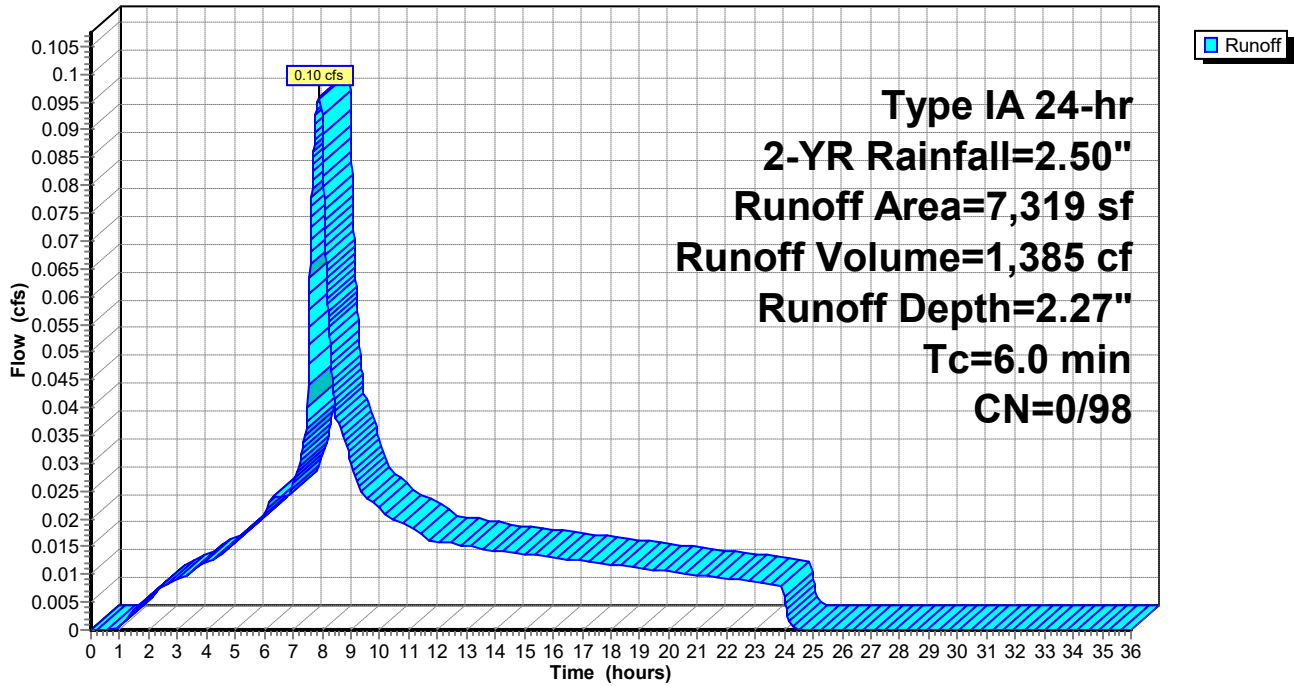
Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
Type IA 24-hr 2-YR Rainfall=2.50"

	Area (sf)	CN	Description
*	7,319	98	AC
	7,319	98	100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, Minimum

Subcatchment B1: AC Road North

Hydrograph



E21-049 Storm

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Type IA 24-hr 2-YR Rainfall=2.50"

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Page 4

Summary for Subcatchment B2: AC Road East

Runoff = 0.02 cfs @ 7.90 hrs, Volume= 352 cf, Depth= 2.27"

Routed to Pond P2 : Street Planter 2

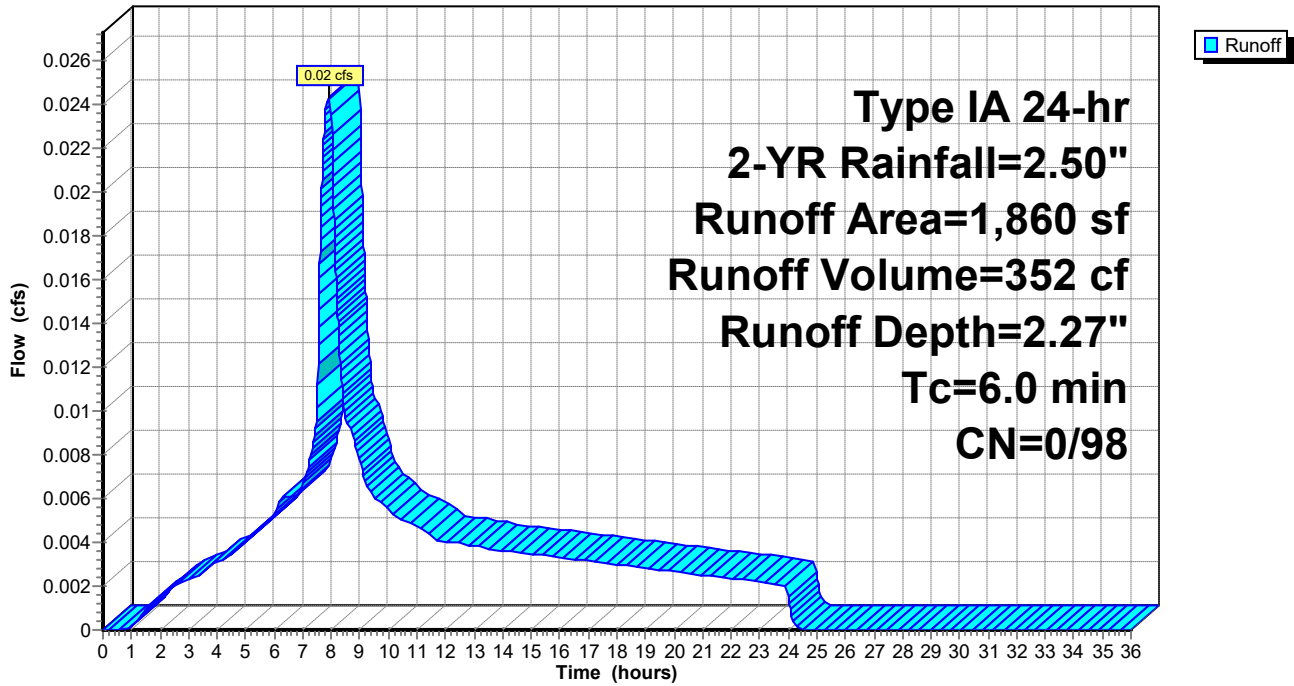
Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
Type IA 24-hr 2-YR Rainfall=2.50"

Area (sf)	CN	Description
* 1,860	98	Public Impervious
1,860	98	100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, Minimum

Subcatchment B2: AC Road East

Hydrograph



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Type IA 24-hr 2-YR Rainfall=2.50"

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Summary for Subcatchment B3: AC Road West & Lots 10-11

Runoff = 0.07 cfs @ 7.90 hrs, Volume= 1,058 cf, Depth= 2.27"

Routed to Pond P3 : Street Planter 3

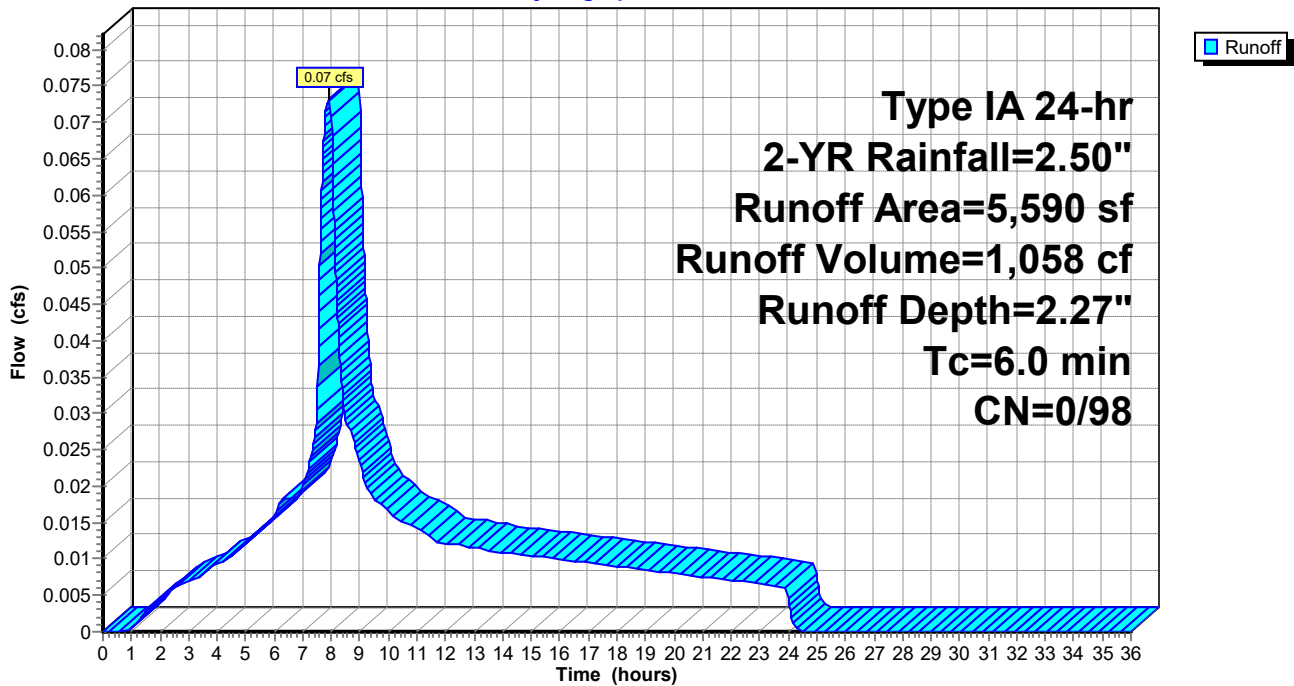
Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
Type IA 24-hr 2-YR Rainfall=2.50"

	Area (sf)	CN	Description
*	1,790	98	Public Impervious
*	3,800	98	Roof/Driveway Lot 10/11
	5,590	98	Weighted Average
	5,590	98	100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, Minimum

Subcatchment B3: AC Road West & Lots 10-11

Hydrograph



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Type IA 24-hr 2-YR Rainfall=2.50"

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Summary for Subcatchment B4: Lots 1-9 Roof

Runoff = 0.23 cfs @ 7.90 hrs, Volume= 3,289 cf, Depth= 2.27"

Routed to Pond P4 : Detention Pipe

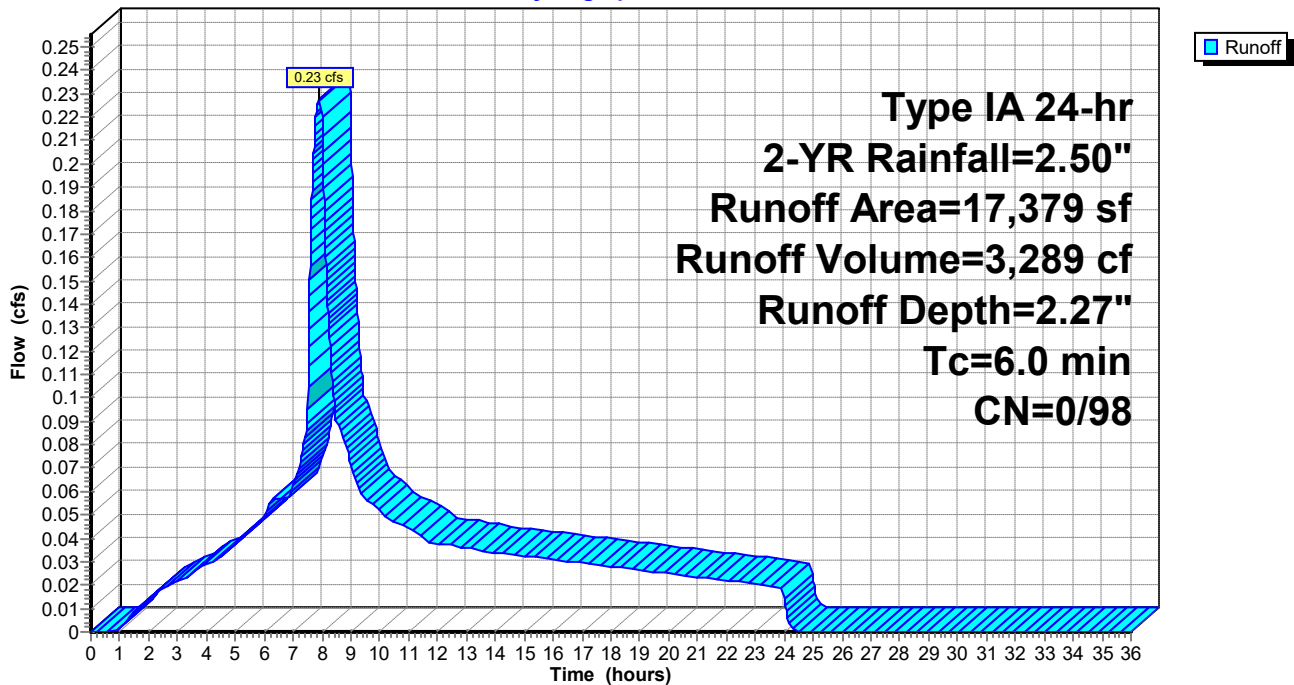
Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
Type IA 24-hr 2-YR Rainfall=2.50"

	Area (sf)	CN	Description
*	17,379	98	Roof Area
	17,379	98	100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, Minimum

Subcatchment B4: Lots 1-9 Roof

Hydrograph



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Type IA 24-hr 2-YR Rainfall=2.50"

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Summary for Reach -POST: Peak Flows from Post-Developed Site

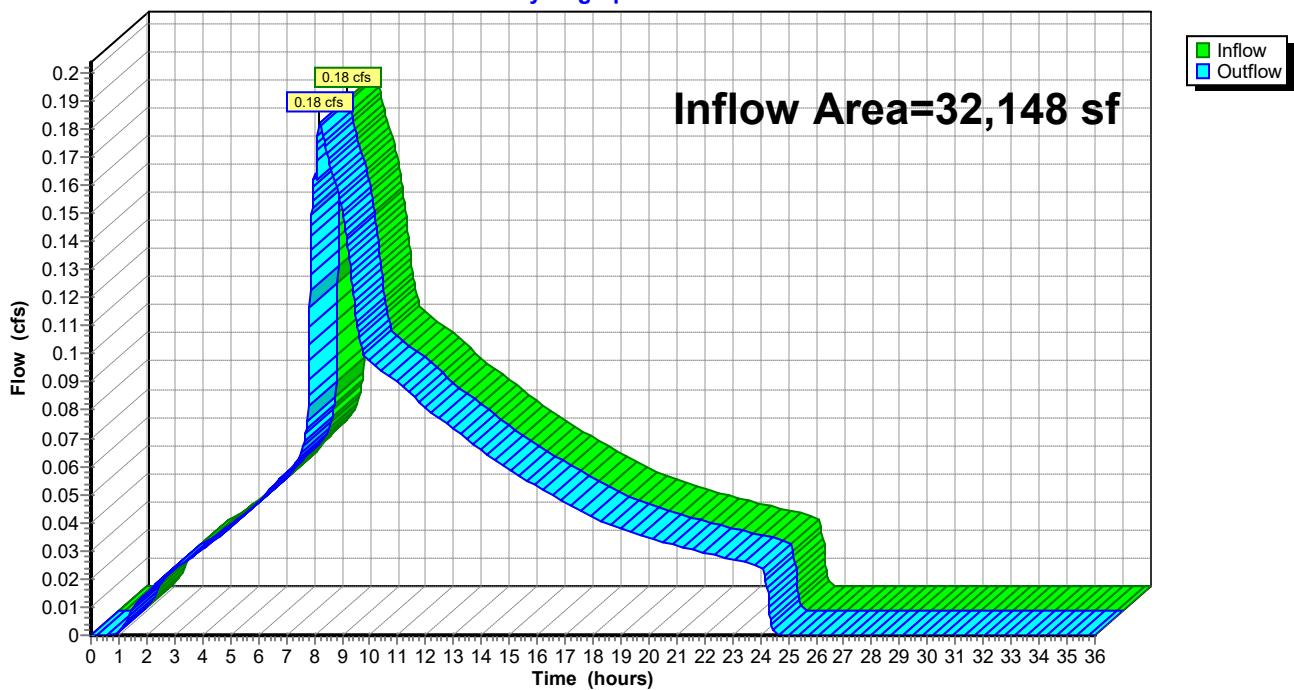
[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 32,148 sf, 100.00% Impervious, Inflow Depth = 1.73" for 2-YR event
Inflow = 0.18 cfs @ 8.21 hrs, Volume= 4,639 cf
Outflow = 0.18 cfs @ 8.21 hrs, Volume= 4,639 cf, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Reach -POST: Peak Flows from Post-Developed Site

Hydrograph



E21-049 Storm

Type IA 24-hr 2-YR Rainfall=2.50"

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Summary for Pond P1: Street Planter 1

Inflow Area = 7,319 sf, 100.00% Impervious, Inflow Depth = 2.27" for 2-YR event
 Inflow = 0.10 cfs @ 7.90 hrs, Volume= 1,385 cf
 Outflow = 0.09 cfs @ 8.01 hrs, Volume= 1,385 cf, Atten= 5%, Lag= 6.7 min
 Discarded = 0.01 cfs @ 7.00 hrs, Volume= 1,081 cf
 Primary = 0.08 cfs @ 8.01 hrs, Volume= 304 cf
 Routed to Reach -POST : Peak Flows from Post-Developed Site

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
 Peak Elev= 3.66' @ 8.01 hrs Surf.Area= 540 sf Storage= 295 cf

Plug-Flow detention time= 242.7 min calculated for 1,385 cf (100% of inflow)
 Center-of-Mass det. time= 242.8 min (916.4 - 673.6)

Volume	Invert	Avail.Storage	Storage Description
#1	0.00'	108 cf	4.50'W x 40.00'L x 1.50'H Rock 270 cf Overall x 40.0% Voids
#2	1.50'	68 cf	4.50'W x 40.00'L x 1.50'H Growing Medium 270 cf Overall x 25.0% Voids
#3	3.00'	180 cf	4.50'W x 40.00'L x 1.00'H Ponding
		356 cf	Total Available Storage

Device	Routing	Invert	Outlet Devices
#1	Discarded	0.00'	1.000 in/hr Exfiltration over Horizontal area
#2	Primary	3.50'	6.0" Vert. Overflow Orifice C= 0.600 Limited to weir flow at low heads

Discarded OutFlow Max=0.01 cfs @ 7.00 hrs HW=3.00' (Free Discharge)

↑1=**Exfiltration** (Exfiltration Controls 0.01 cfs)

Primary OutFlow Max=0.08 cfs @ 8.01 hrs HW=3.66' (Free Discharge)

↑2=**Overflow Orifice** (Orifice Controls 0.08 cfs @ 1.38 fps)

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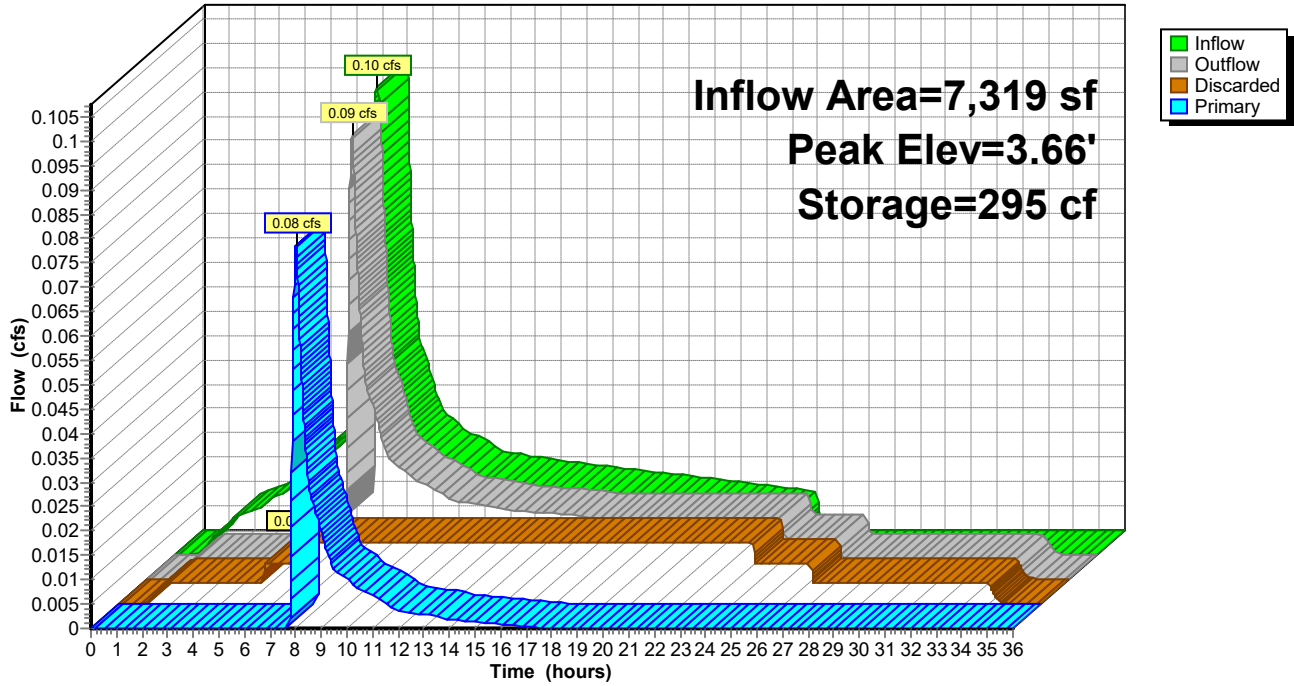
Type IA 24-hr 2-YR Rainfall=2.50"

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Pond P1: Street Planter 1

Hydrograph



E21-049 Storm

Type IA 24-hr 2-YR Rainfall=2.50"

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Summary for Pond P2: Street Planter 2

Inflow Area = 1,860 sf, 100.00% Impervious, Inflow Depth = 2.27" for 2-YR event
 Inflow = 0.02 cfs @ 7.90 hrs, Volume= 352 cf
 Outflow = 0.02 cfs @ 8.08 hrs, Volume= 352 cf, Atten= 22%, Lag= 11.0 min
 Discarded = 0.00 cfs @ 4.97 hrs, Volume= 141 cf
 Primary = 0.02 cfs @ 8.08 hrs, Volume= 211 cf
 Routed to Pond P4 : Detention Pipe

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
 Peak Elev= 4.46' @ 8.08 hrs Surf.Area= 90 sf Storage= 17 cf

Plug-Flow detention time= 7.6 min calculated for 352 cf (100% of inflow)
 Center-of-Mass det. time= 7.6 min (681.2 - 673.6)

Volume	Invert	Avail.Storage	Storage Description
#1	4.00'	54 cf	4.50'W x 20.00'L x 1.50'H Rock 135 cf Overall x 40.0% Voids
#2	5.50'	34 cf	4.50'W x 20.00'L x 1.50'H Growing Medium 135 cf Overall x 25.0% Voids
#3	7.00'	90 cf	4.50'W x 20.00'L x 1.00'H Ponding
		178 cf	Total Available Storage

Device	Routing	Invert	Outlet Devices
#1	Discarded	4.00'	1.000 in/hr Exfiltration over Horizontal area
#2	Primary	4.00'	1.0" Vert. Underdrain C= 0.600 Limited to weir flow at low heads
#3	Primary	7.50'	6.0" Horiz. Overflow Orifice C= 0.600 Limited to weir flow at low heads

Discarded OutFlow Max=0.00 cfs @ 4.97 hrs HW=4.04' (Free Discharge)
 ↑1=Exfiltration (Exfiltration Controls 0.00 cfs)

Primary OutFlow Max=0.02 cfs @ 8.08 hrs HW=4.46' (Free Discharge)
 ↑2=Underdrain (Orifice Controls 0.02 cfs @ 3.13 fps)
 ↑3=Overflow Orifice (Controls 0.00 cfs)

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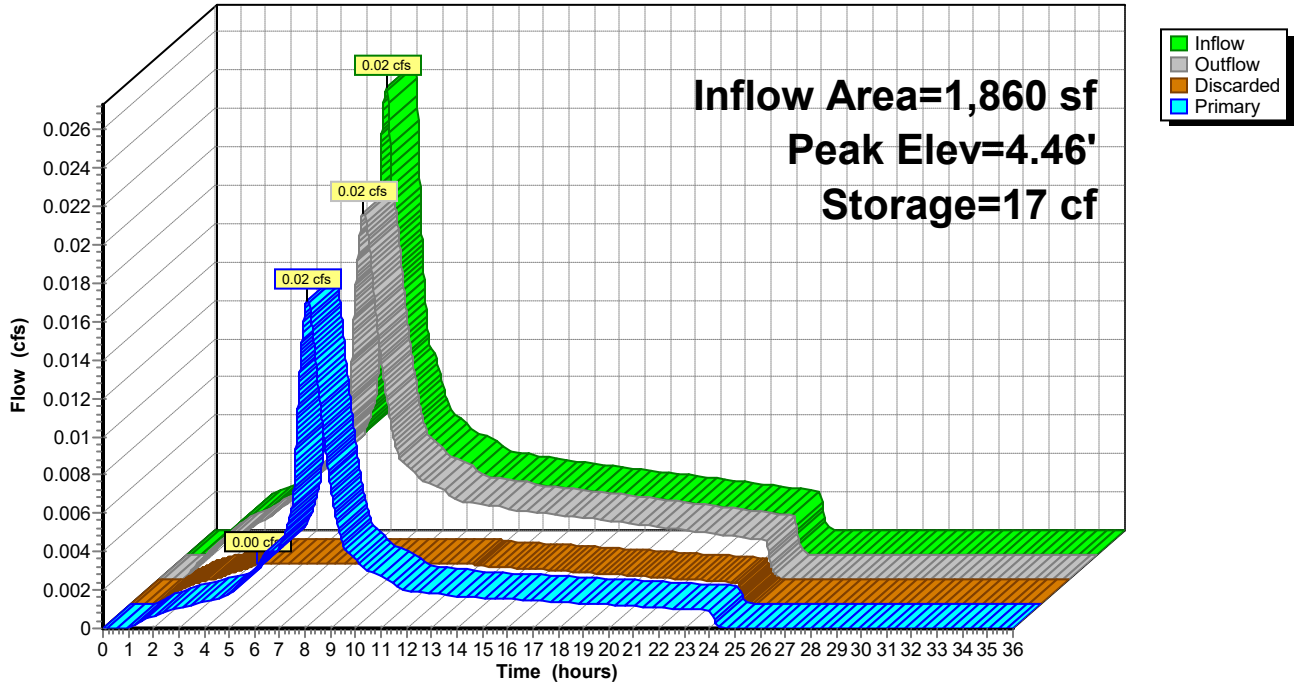
Type IA 24-hr 2-YR Rainfall=2.50"

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Pond P2: Street Planter 2

Hydrograph



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Type IA 24-hr 2-YR Rainfall=2.50"

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Summary for Pond P3: Street Planter 3

Inflow Area = 5,590 sf, 100.00% Impervious, Inflow Depth = 2.27" for 2-YR event
 Inflow = 0.07 cfs @ 7.90 hrs, Volume= 1,058 cf
 Outflow = 0.05 cfs @ 8.19 hrs, Volume= 1,058 cf, Atten= 38%, Lag= 17.7 min
 Discarded = 0.01 cfs @ 7.87 hrs, Volume= 223 cf
 Primary = 0.04 cfs @ 8.19 hrs, Volume= 835 cf
 Routed to Pond P4 : Detention Pipe

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
 Peak Elev= 6.35' @ 8.19 hrs Surf.Area= 225 sf Storage= 91 cf

Plug-Flow detention time= 16.3 min calculated for 1,057 cf (100% of inflow)
 Center-of-Mass det. time= 16.3 min (689.9 - 673.6)

Volume	Invert	Avail.Storage	Storage Description
#1	4.00'	68 cf	4.50'W x 25.00'L x 1.50'H Rock 169 cf Overall x 40.0% Voids
#2	5.50'	42 cf	4.50'W x 25.00'L x 1.50'H Growing Medium 169 cf Overall x 25.0% Voids
#3	7.00'	113 cf	4.50'W x 25.00'L x 1.00'H Ponding
		222 cf	Total Available Storage

Device	Routing	Invert	Outlet Devices
#1	Discarded	4.00'	1.000 in/hr Exfiltration over Horizontal area
#2	Primary	4.00'	1.0" Vert. Underdrain C= 0.600 Limited to weir flow at low heads
#3	Primary	7.50'	6.0" Horiz. Overflow Orifice C= 0.600 Limited to weir flow at low heads

Discarded OutFlow Max=0.01 cfs @ 7.87 hrs HW=5.50' (Free Discharge)
 ↑1=Exfiltration (Exfiltration Controls 0.01 cfs)

Primary OutFlow Max=0.04 cfs @ 8.19 hrs HW=6.35' (Free Discharge)
 ↑2=Underdrain (Orifice Controls 0.04 cfs @ 7.32 fps)
 ↑3=Overflow Orifice (Controls 0.00 cfs)

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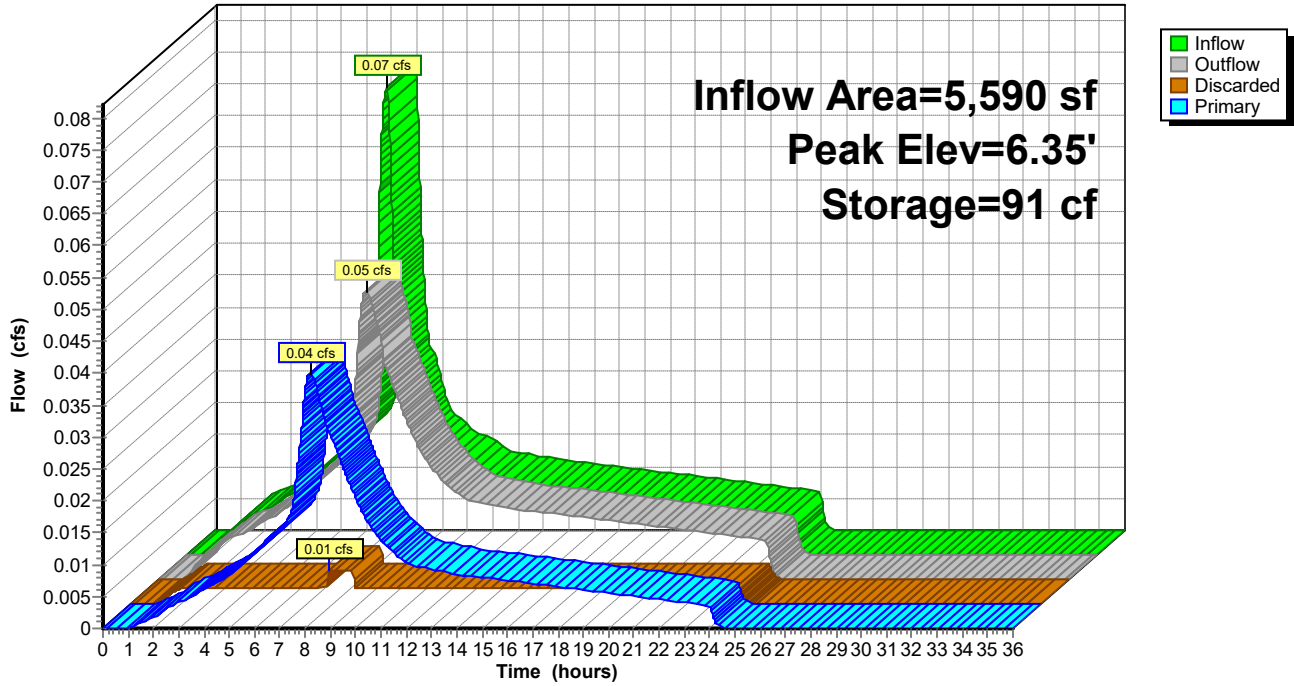
Type IA 24-hr 2-YR Rainfall=2.50"

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Pond P3: Street Planter 3

Hydrograph



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Type IA 24-hr 2-YR Rainfall=2.50"

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Summary for Pond P4: Detention Pipe

Inflow Area = 24,829 sf, 100.00% Impervious, Inflow Depth = 2.10" for 2-YR event
 Inflow = 0.28 cfs @ 7.95 hrs, Volume= 4,335 cf
 Outflow = 0.14 cfs @ 8.49 hrs, Volume= 4,335 cf, Atten= 50%, Lag= 32.6 min
 Primary = 0.14 cfs @ 8.49 hrs, Volume= 4,335 cf
 Routed to Reach -POST : Peak Flows from Post-Developed Site

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
 Peak Elev= 2.41' @ 8.49 hrs Surf.Area= 350 sf Storage= 656 cf

Plug-Flow detention time= 59.1 min calculated for 4,334 cf (100% of inflow)
 Center-of-Mass det. time= 59.1 min (730.4 - 671.3)

Volume	Invert	Avail.Storage	Storage Description
#1	0.00'	1,374 cf	60.0" Round Pipe Storage L= 70.0'

Device	Routing	Invert	Outlet Devices
#1	Primary	0.00'	1.5" Horiz. Control Orifice C= 0.600 Limited to weir flow at low heads
#2	Primary	2.20'	2.0" Horiz. Upper Orifice C= 0.600 Limited to weir flow at low heads
#3	Primary	4.00'	12.0" Vert. Overflow C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.14 cfs @ 8.49 hrs HW=2.41' (Free Discharge)

- 1=Control Orifice (Orifice Controls 0.09 cfs @ 7.48 fps)
- 2=Upper Orifice (Orifice Controls 0.05 cfs @ 2.21 fps)
- 3=Overflow (Controls 0.00 cfs)

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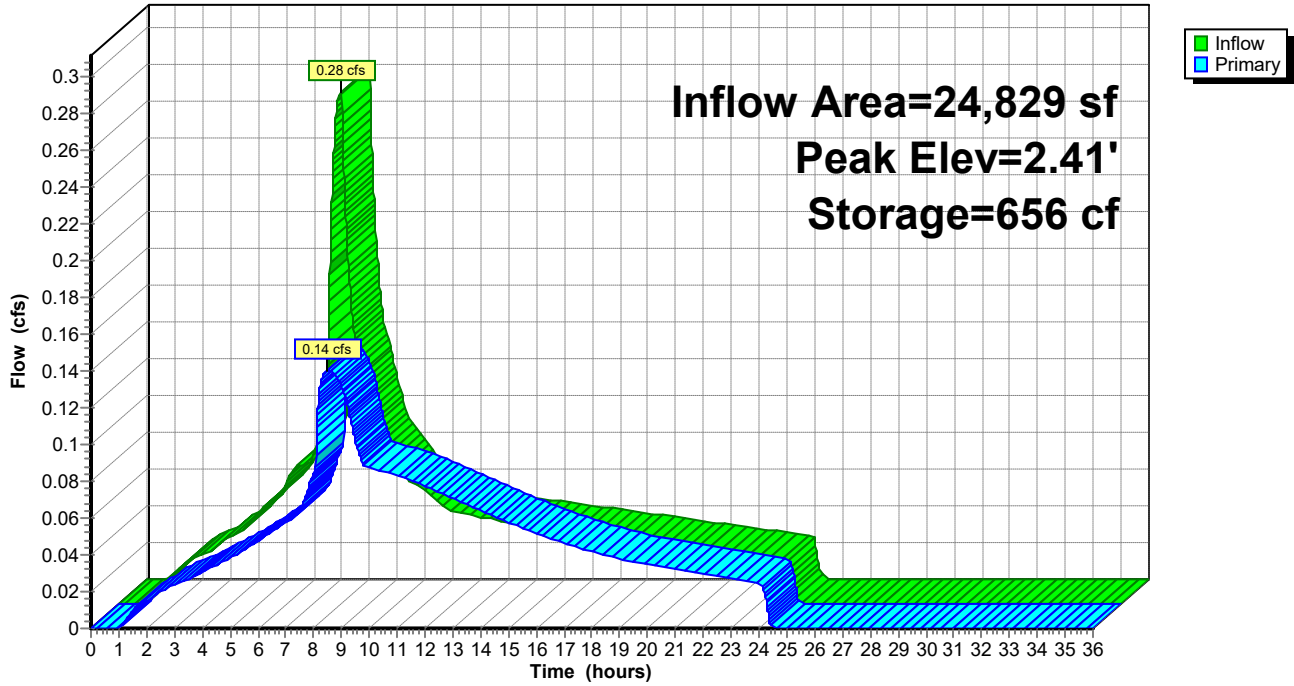
Type IA 24-hr 2-YR Rainfall=2.50"

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Pond P4: Detention Pipe

Hydrograph



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Type IA 24-hr 5-YR Rainfall=3.00"

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Summary for Subcatchment -PRE: Existing Site

Runoff = 0.26 cfs @ 7.99 hrs, Volume= 4,062 cf, Depth= 1.52"

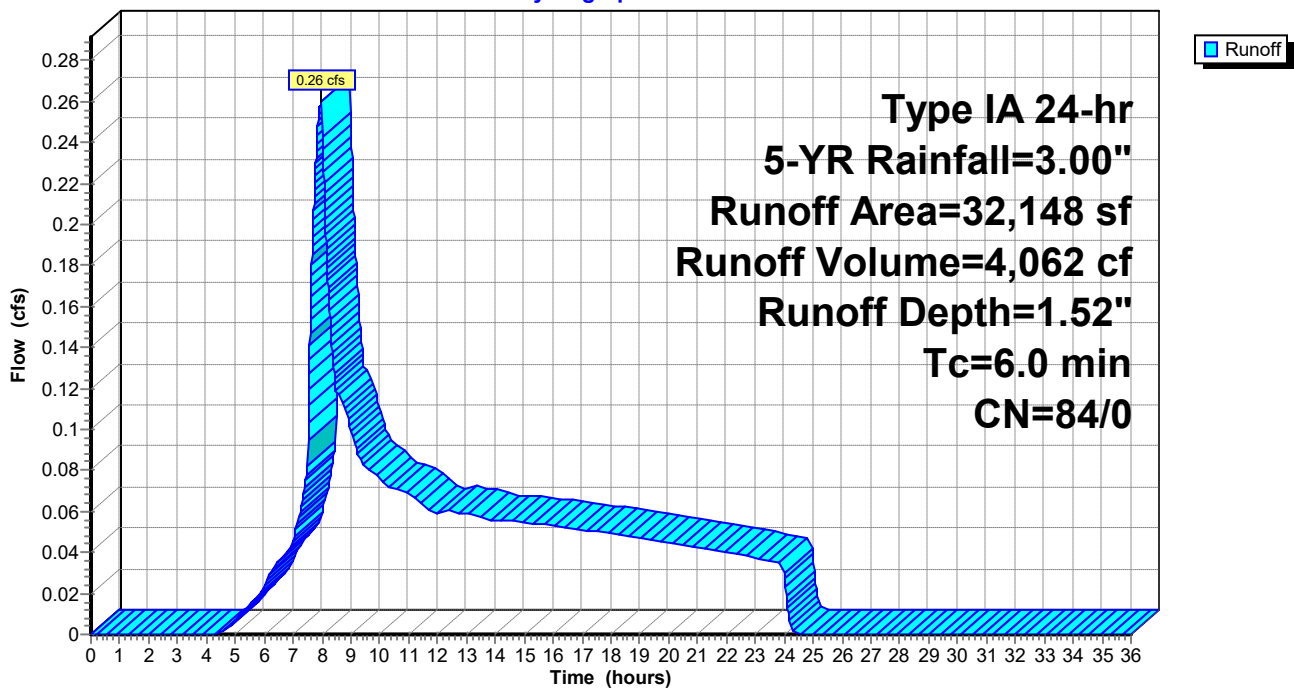
Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
Type IA 24-hr 5-YR Rainfall=3.00"

Area (sf)	CN	Description
32,148	84	50-75% Grass cover, Fair, HSG D
32,148	84	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, Minimum

Subcatchment -PRE: Existing Site

Hydrograph



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Type IA 24-hr 5-YR Rainfall=3.00"

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Summary for Subcatchment B1: AC Road North

Runoff = 0.12 cfs @ 7.90 hrs, Volume= 1,688 cf, Depth= 2.77"
Routed to Pond P1 : Street Planter 1

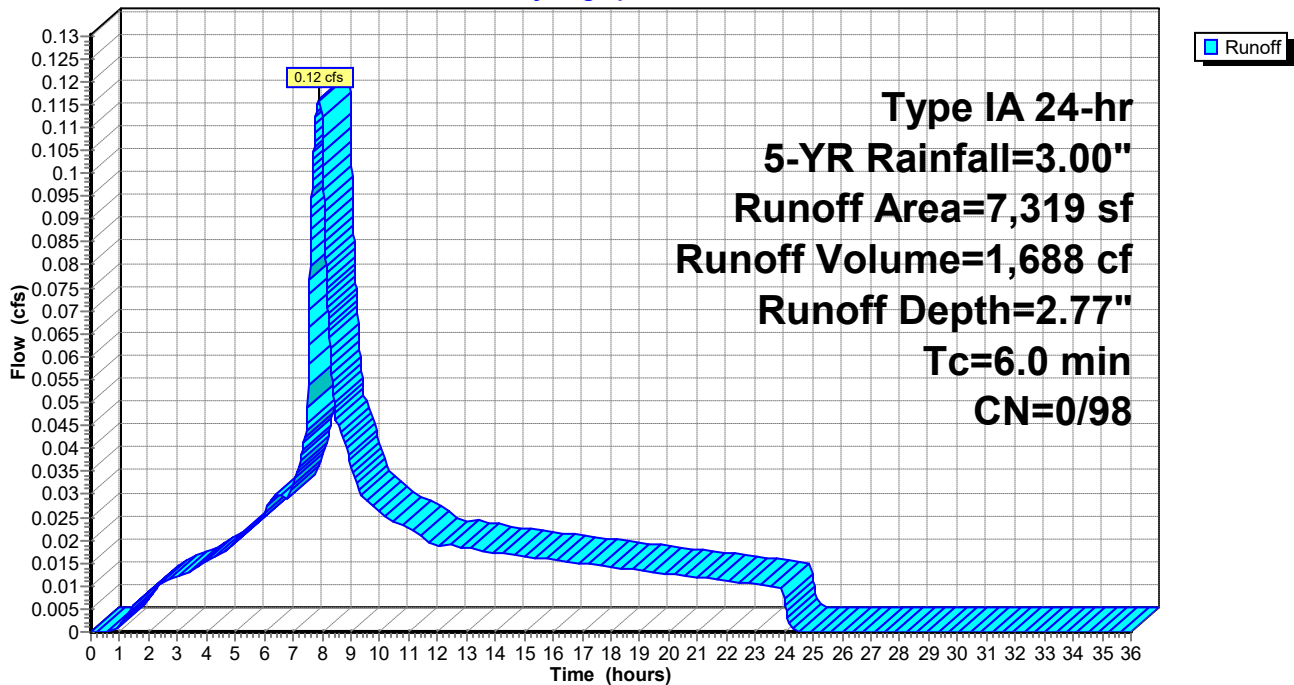
Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
Type IA 24-hr 5-YR Rainfall=3.00"

Area (sf)	CN	Description
* 7,319	98	AC
7,319	98	100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, Minimum

Subcatchment B1: AC Road North

Hydrograph



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Type IA 24-hr 5-YR Rainfall=3.00"

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Summary for Subcatchment B2: AC Road East

Runoff = 0.03 cfs @ 7.90 hrs, Volume= 429 cf, Depth= 2.77"
Routed to Pond P2 : Street Planter 2

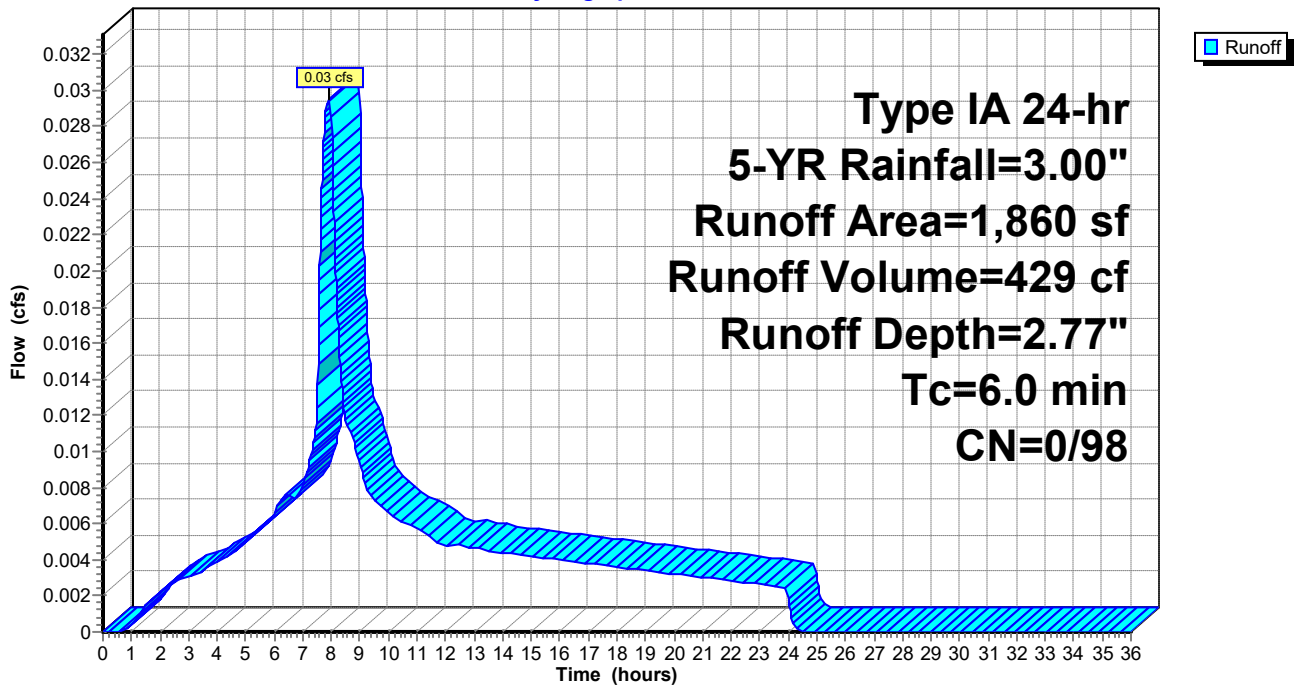
Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
Type IA 24-hr 5-YR Rainfall=3.00"

Area (sf)	CN	Description
* 1,860	98	Public Impervious
1,860	98	100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, Minimum

Subcatchment B2: AC Road East

Hydrograph



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Type IA 24-hr 5-YR Rainfall=3.00"

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Summary for Subcatchment B3: AC Road West & Lots 10-11

Runoff = 0.09 cfs @ 7.90 hrs, Volume= 1,290 cf, Depth= 2.77"
Routed to Pond P3 : Street Planter 3

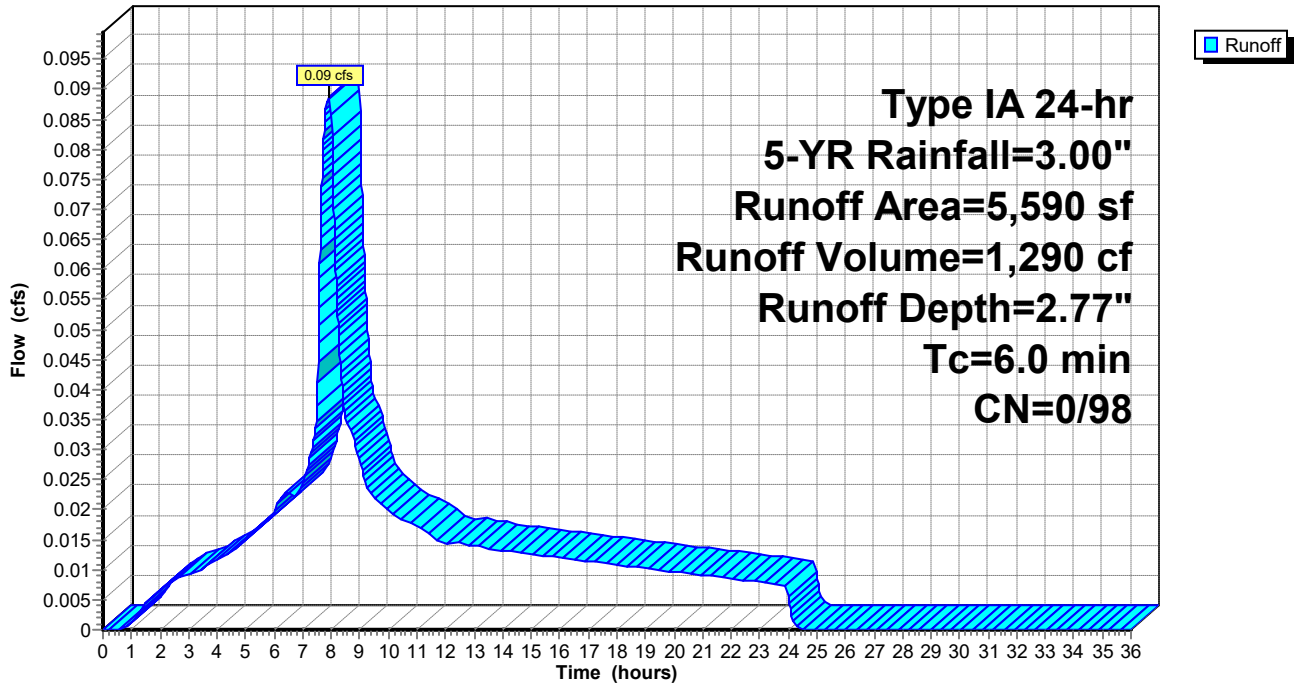
Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
Type IA 24-hr 5-YR Rainfall=3.00"

	Area (sf)	CN	Description
*	1,790	98	Public Impervious
*	3,800	98	Roof/Driveway Lot 10/11
	5,590	98	Weighted Average
	5,590	98	100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, Minimum

Subcatchment B3: AC Road West & Lots 10-11

Hydrograph



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Type IA 24-hr 5-YR Rainfall=3.00"

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Summary for Subcatchment B4: Lots 1-9 Roof

Runoff = 0.28 cfs @ 7.90 hrs, Volume= 4,009 cf, Depth= 2.77"
Routed to Pond P4 : Detention Pipe

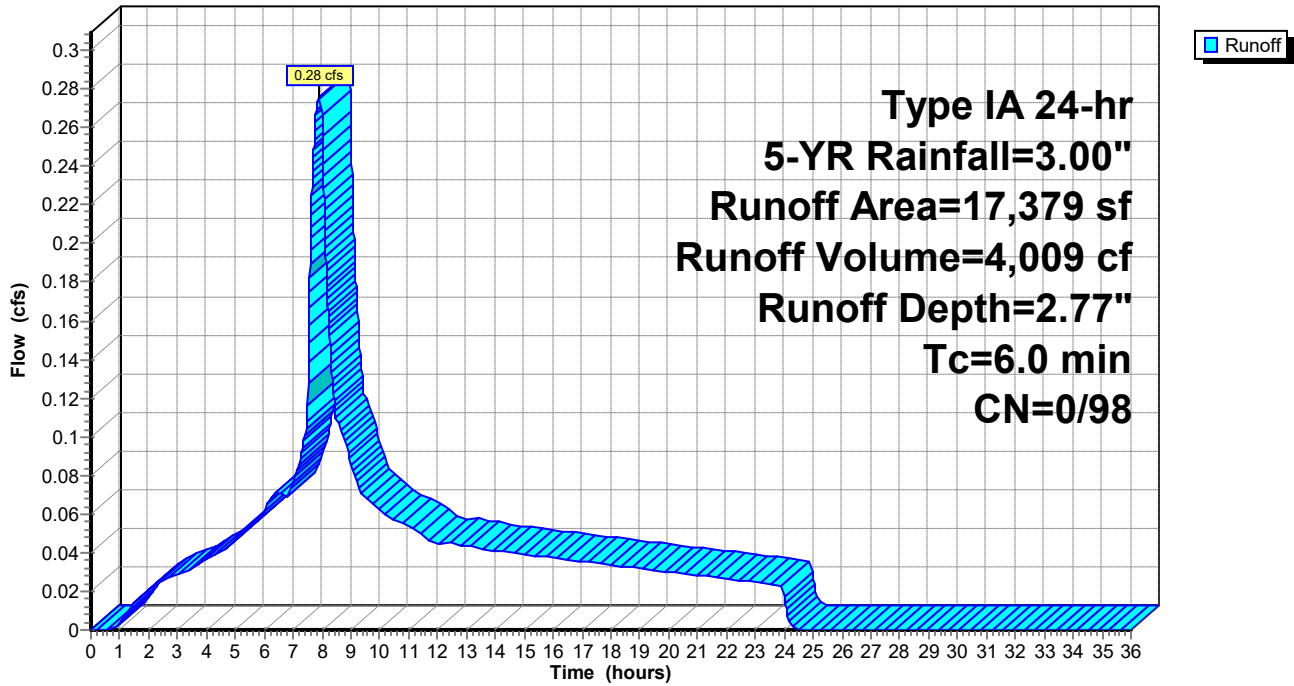
Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
Type IA 24-hr 5-YR Rainfall=3.00"

Area (sf)	CN	Description
* 17,379	98	Roof Area
17,379	98	100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, Minimum

Subcatchment B4: Lots 1-9 Roof

Hydrograph



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Type IA 24-hr 5-YR Rainfall=3.00"

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Summary for Reach -POST: Peak Flows from Post-Developed Site

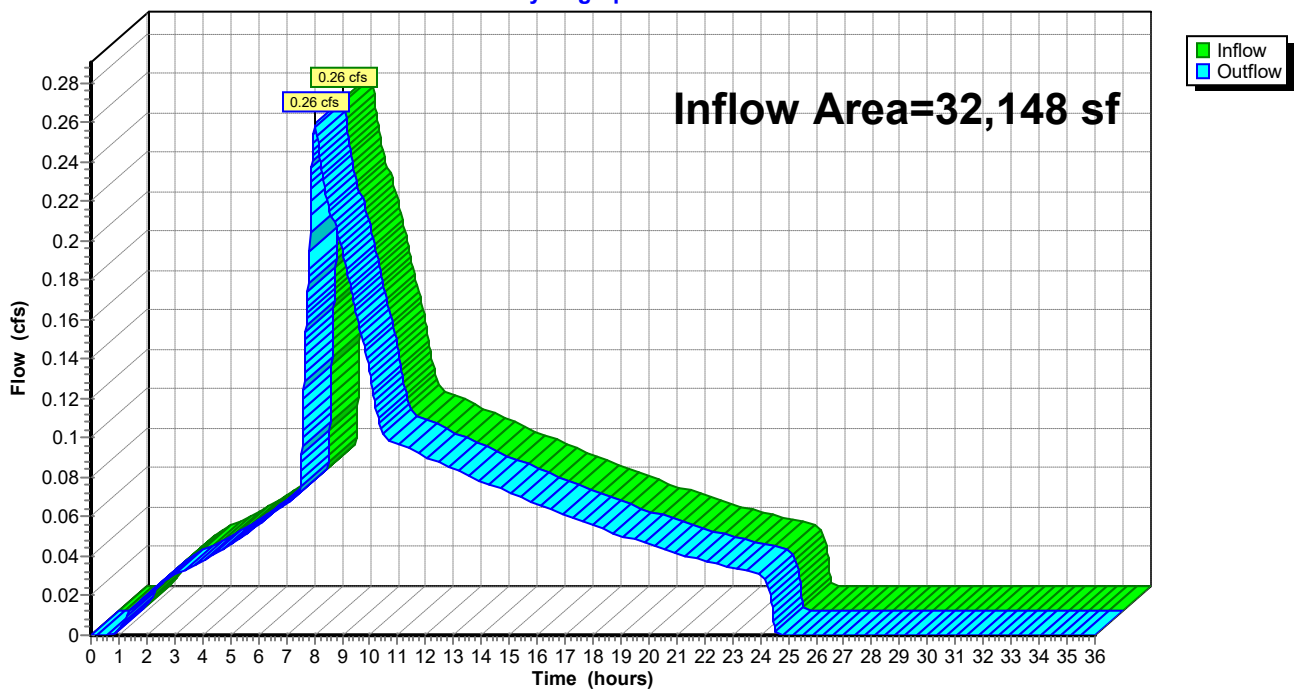
[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 32,148 sf, 100.00% Impervious, Inflow Depth = 2.20" for 5-YR event
Inflow = 0.26 cfs @ 8.03 hrs, Volume= 5,881 cf
Outflow = 0.26 cfs @ 8.03 hrs, Volume= 5,881 cf, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Reach -POST: Peak Flows from Post-Developed Site

Hydrograph



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Type IA 24-hr 5-YR Rainfall=3.00"

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Summary for Pond P1: Street Planter 1

Inflow Area = 7,319 sf, 100.00% Impervious, Inflow Depth = 2.77" for 5-YR event
 Inflow = 0.12 cfs @ 7.90 hrs, Volume= 1,688 cf
 Outflow = 0.12 cfs @ 7.95 hrs, Volume= 1,688 cf, Atten= 1%, Lag= 3.2 min
 Discarded = 0.01 cfs @ 6.20 hrs, Volume= 1,145 cf
 Primary = 0.10 cfs @ 7.95 hrs, Volume= 543 cf
 Routed to Reach -POST : Peak Flows from Post-Developed Site

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
 Peak Elev= 3.69' @ 7.95 hrs Surf.Area= 540 sf Storage= 300 cf

Plug-Flow detention time= 217.9 min calculated for 1,688 cf (100% of inflow)
 Center-of-Mass det. time= 218.0 min (886.0 - 668.0)

Volume	Invert	Avail.Storage	Storage Description
#1	0.00'	108 cf	4.50'W x 40.00'L x 1.50'H Rock 270 cf Overall x 40.0% Voids
#2	1.50'	68 cf	4.50'W x 40.00'L x 1.50'H Growing Medium 270 cf Overall x 25.0% Voids
#3	3.00'	180 cf	4.50'W x 40.00'L x 1.00'H Ponding
		356 cf	Total Available Storage

Device	Routing	Invert	Outlet Devices
#1	Discarded	0.00'	1.000 in/hr Exfiltration over Horizontal area
#2	Primary	3.50'	6.0" Vert. Overflow Orifice C= 0.600 Limited to weir flow at low heads

Discarded OutFlow Max=0.01 cfs @ 6.20 hrs HW=3.00' (Free Discharge)
 ↑1=Exfiltration (Exfiltration Controls 0.01 cfs)

Primary OutFlow Max=0.10 cfs @ 7.95 hrs HW=3.69' (Free Discharge)
 ↑2=Overflow Orifice (Orifice Controls 0.10 cfs @ 1.49 fps)

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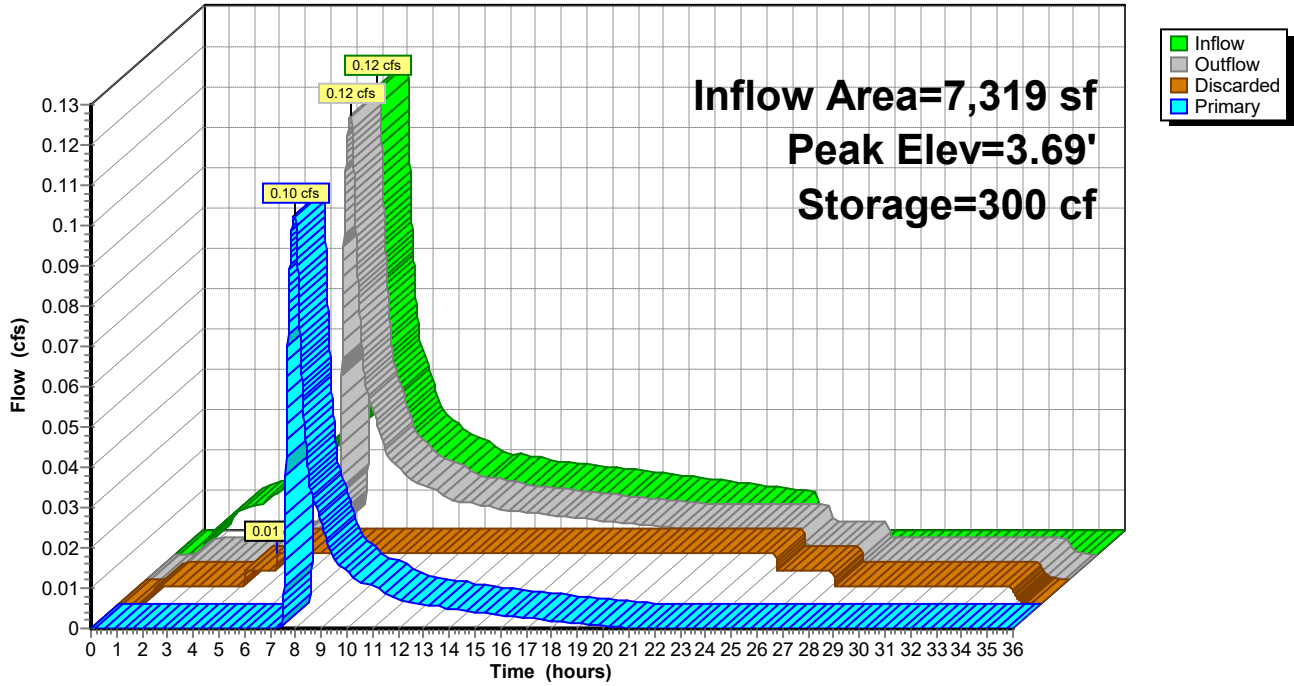
Type IA 24-hr 5-YR Rainfall=3.00"

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Pond P1: Street Planter 1

Hydrograph



E21-049 Storm

Type IA 24-hr 5-YR Rainfall=3.00"

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Summary for Pond P2: Street Planter 2

Inflow Area = 1,860 sf, 100.00% Impervious, Inflow Depth = 2.77" for 5-YR event
 Inflow = 0.03 cfs @ 7.90 hrs, Volume= 429 cf
 Outflow = 0.02 cfs @ 8.10 hrs, Volume= 429 cf, Atten= 25%, Lag= 12.2 min
 Discarded = 0.00 cfs @ 3.99 hrs, Volume= 155 cf
 Primary = 0.02 cfs @ 8.10 hrs, Volume= 274 cf
 Routed to Pond P4 : Detention Pipe

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
 Peak Elev= 4.63' @ 8.10 hrs Surf.Area= 90 sf Storage= 23 cf

Plug-Flow detention time= 8.1 min calculated for 429 cf (100% of inflow)
 Center-of-Mass det. time= 8.1 min (676.2 - 668.0)

Volume	Invert	Avail.Storage	Storage Description
#1	4.00'	54 cf	4.50'W x 20.00'L x 1.50'H Rock 135 cf Overall x 40.0% Voids
#2	5.50'	34 cf	4.50'W x 20.00'L x 1.50'H Growing Medium 135 cf Overall x 25.0% Voids
#3	7.00'	90 cf	4.50'W x 20.00'L x 1.00'H Ponding
		178 cf	Total Available Storage

Device	Routing	Invert	Outlet Devices
#1	Discarded	4.00'	1.000 in/hr Exfiltration over Horizontal area
#2	Primary	4.00'	1.0" Vert. Underdrain C= 0.600 Limited to weir flow at low heads
#3	Primary	7.50'	6.0" Horiz. Overflow Orifice C= 0.600 Limited to weir flow at low heads

Discarded OutFlow Max=0.00 cfs @ 3.99 hrs HW=4.04' (Free Discharge)
 ↑1=Exfiltration (Exfiltration Controls 0.00 cfs)

Primary OutFlow Max=0.02 cfs @ 8.10 hrs HW=4.63' (Free Discharge)
 ↑2=Underdrain (Orifice Controls 0.02 cfs @ 3.68 fps)
 ↑3=Overflow Orifice (Controls 0.00 cfs)

E21-049 Storm

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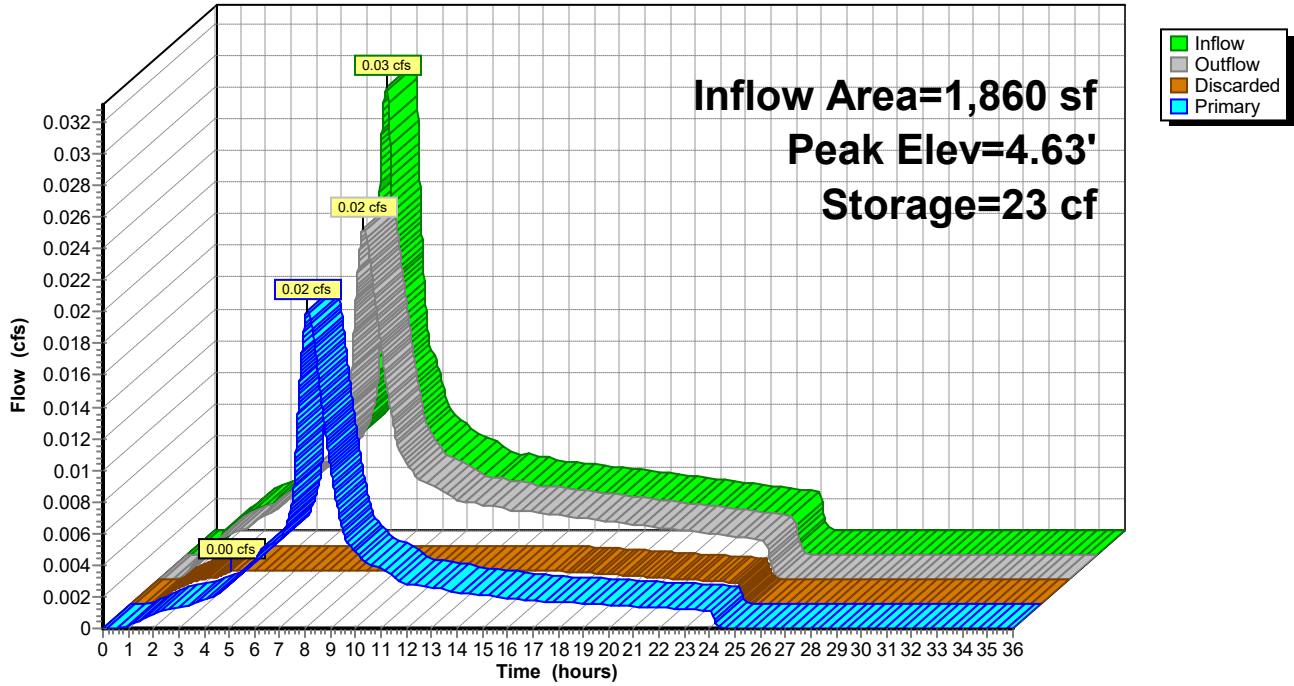
Type IA 24-hr 5-YR Rainfall=3.00"

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Pond P2: Street Planter 2

Hydrograph



E21-049 Storm

Type IA 24-hr 5-YR Rainfall=3.00"

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Summary for Pond P3: Street Planter 3

Inflow Area = 5,590 sf, 100.00% Impervious, Inflow Depth = 2.77" for 5-YR event
 Inflow = 0.09 cfs @ 7.90 hrs, Volume= 1,290 cf
 Outflow = 0.05 cfs @ 8.21 hrs, Volume= 1,290 cf, Atten= 40%, Lag= 18.4 min
 Discarded = 0.01 cfs @ 8.03 hrs, Volume= 235 cf
 Primary = 0.05 cfs @ 8.21 hrs, Volume= 1,055 cf
 Routed to Pond P4 : Detention Pipe

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
 Peak Elev= 7.07' @ 8.21 hrs Surf.Area= 338 sf Storage= 118 cf

Plug-Flow detention time= 18.6 min calculated for 1,289 cf (100% of inflow)
 Center-of-Mass det. time= 18.6 min (686.6 - 668.0)

Volume	Invert	Avail.Storage	Storage Description
#1	4.00'	68 cf	4.50'W x 25.00'L x 1.50'H Rock 169 cf Overall x 40.0% Voids
#2	5.50'	42 cf	4.50'W x 25.00'L x 1.50'H Growing Medium 169 cf Overall x 25.0% Voids
#3	7.00'	113 cf	4.50'W x 25.00'L x 1.00'H Ponding
		222 cf	Total Available Storage

Device	Routing	Invert	Outlet Devices
#1	Discarded	4.00'	1.000 in/hr Exfiltration over Horizontal area
#2	Primary	4.00'	1.0" Vert. Underdrain C= 0.600 Limited to weir flow at low heads
#3	Primary	7.50'	6.0" Horiz. Overflow Orifice C= 0.600 Limited to weir flow at low heads

Discarded OutFlow Max=0.01 cfs @ 8.03 hrs HW=7.01' (Free Discharge)
 ↑1=Exfiltration (Exfiltration Controls 0.01 cfs)

Primary OutFlow Max=0.05 cfs @ 8.21 hrs HW=7.07' (Free Discharge)
 ↑2=Underdrain (Orifice Controls 0.05 cfs @ 8.38 fps)
 ↑3=Overflow Orifice (Controls 0.00 cfs)

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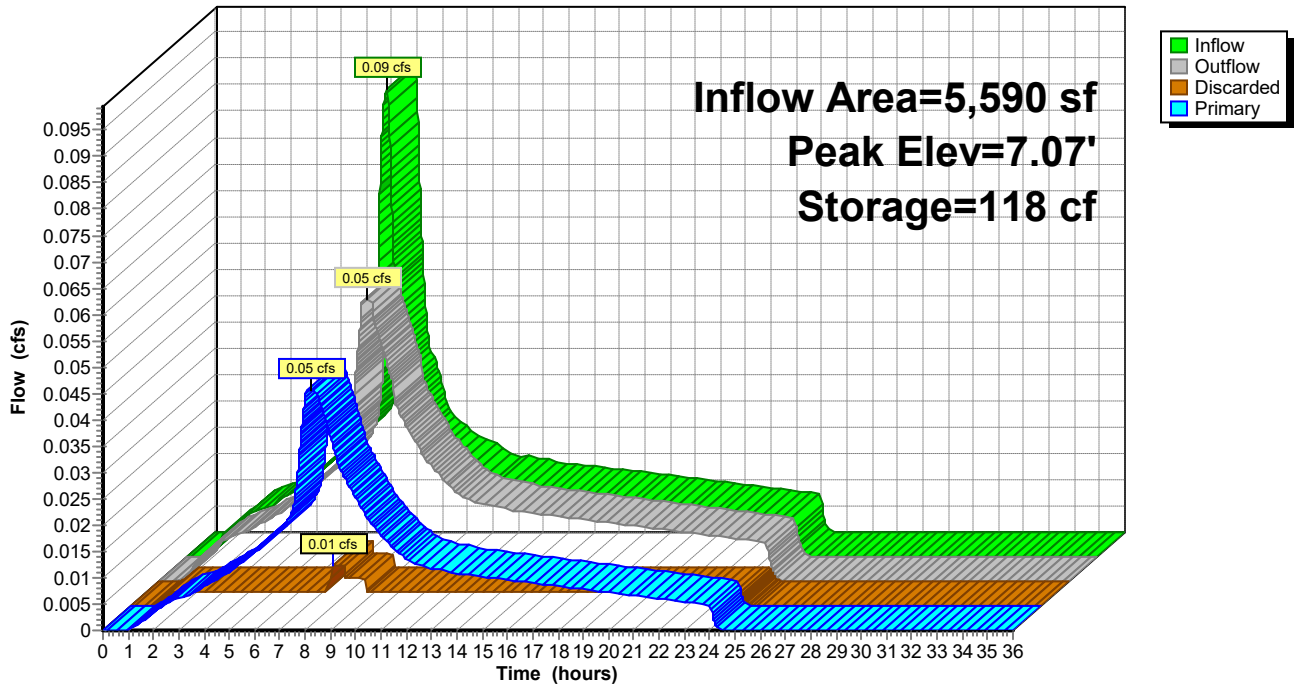
Type IA 24-hr 5-YR Rainfall=3.00"

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Pond P3: Street Planter 3

Hydrograph



E21-049 Storm

Type IA 24-hr 5-YR Rainfall=3.00"

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Summary for Pond P4: Detention Pipe

Inflow Area = 24,829 sf, 100.00% Impervious, Inflow Depth = 2.58" for 5-YR event
 Inflow = 0.34 cfs @ 7.94 hrs, Volume= 5,338 cf
 Outflow = 0.18 cfs @ 8.42 hrs, Volume= 5,338 cf, Atten= 46%, Lag= 28.7 min
 Primary = 0.18 cfs @ 8.42 hrs, Volume= 5,338 cf
 Routed to Reach -POST : Peak Flows from Post-Developed Site

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
 Peak Elev= 2.81' @ 8.42 hrs Surf.Area= 347 sf Storage= 796 cf

Plug-Flow detention time= 64.8 min calculated for 5,338 cf (100% of inflow)
 Center-of-Mass det. time= 64.8 min (732.0 - 667.2)

Volume	Invert	Avail.Storage	Storage Description
#1	0.00'	1,374 cf	60.0" Round Pipe Storage L= 70.0'

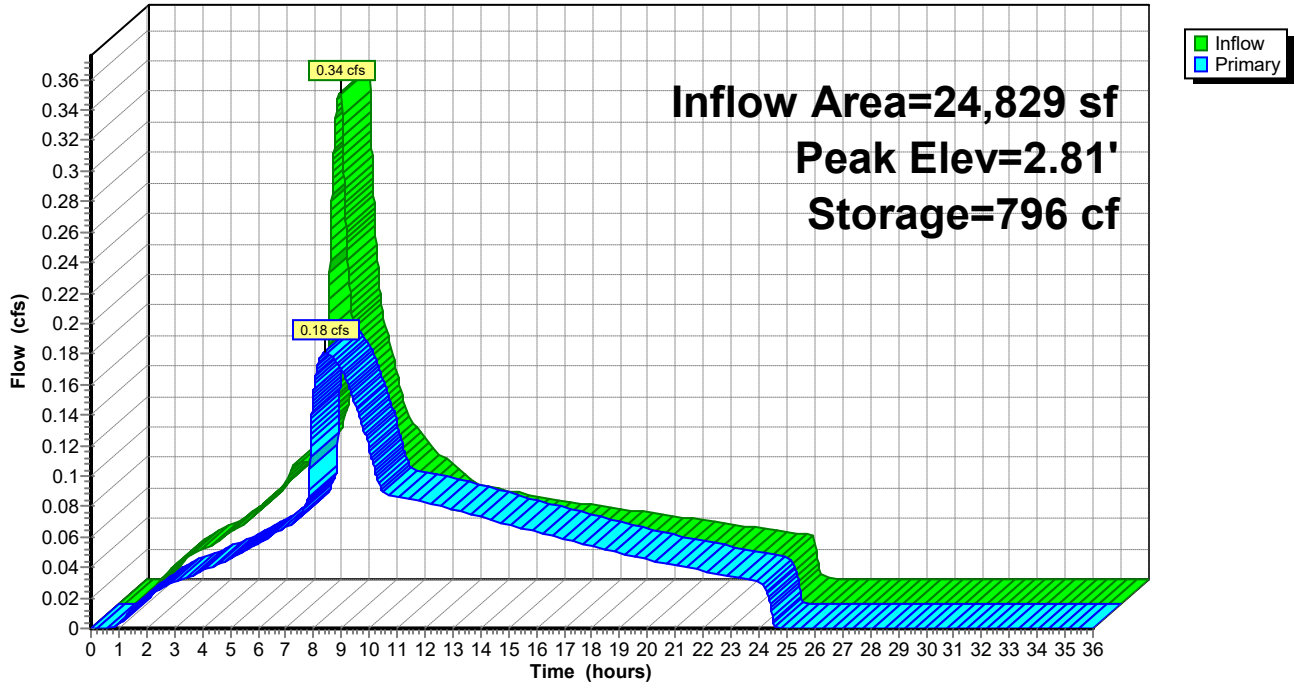
Device	Routing	Invert	Outlet Devices
#1	Primary	0.00'	1.5" Horiz. Control Orifice C= 0.600 Limited to weir flow at low heads
#2	Primary	2.20'	2.0" Horiz. Upper Orifice C= 0.600 Limited to weir flow at low heads
#3	Primary	4.00'	12.0" Vert. Overflow C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.18 cfs @ 8.42 hrs HW=2.81' (Free Discharge)

- 1=Control Orifice (Orifice Controls 0.10 cfs @ 8.07 fps)
- 2=Upper Orifice (Orifice Controls 0.08 cfs @ 3.76 fps)
- 3=Overflow (Controls 0.00 cfs)

Pond P4: Detention Pipe

Hydrograph



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Type IA 24-hr 10-YR Rainfall=3.50"

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Summary for Subcatchment -PRE: Existing Site

Runoff = 0.34 cfs @ 7.97 hrs, Volume= 5,188 cf, Depth= 1.94"

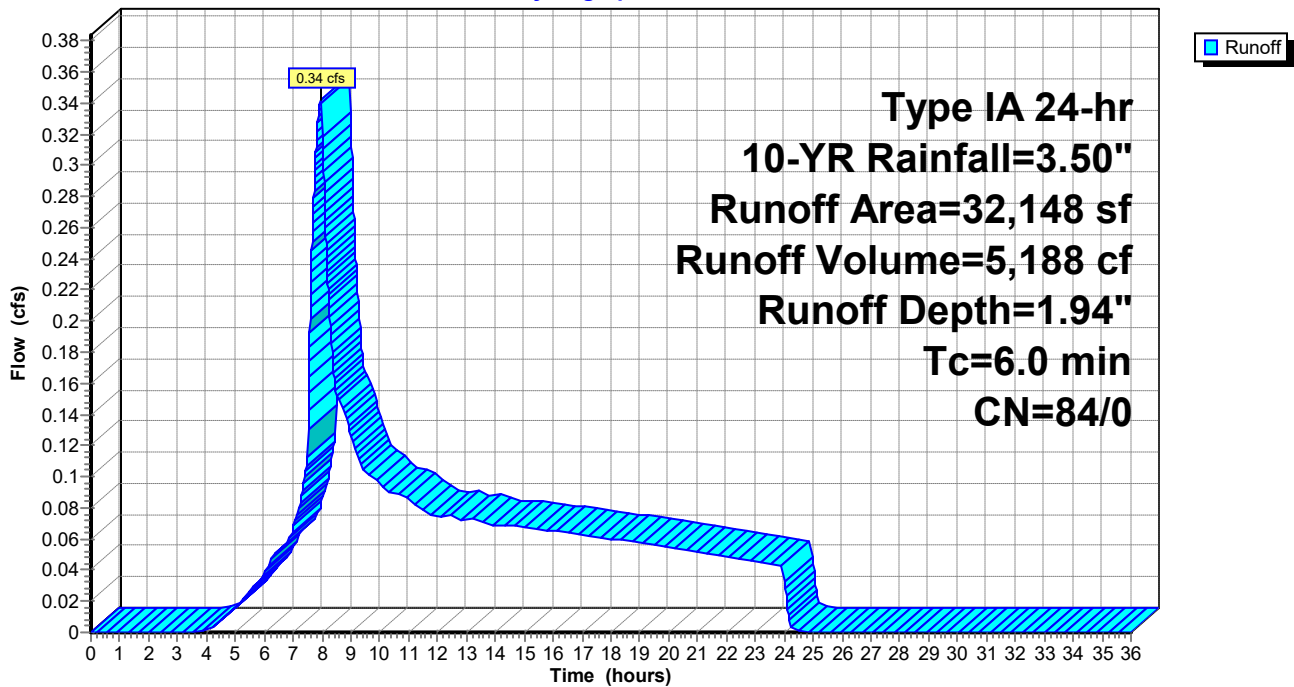
Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
Type IA 24-hr 10-YR Rainfall=3.50"

Area (sf)	CN	Description
32,148	84	50-75% Grass cover, Fair, HSG D
32,148	84	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, Minimum

Subcatchment -PRE: Existing Site

Hydrograph



E21-049 Storm

Type IA 24-hr 10-YR Rainfall=3.50"

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Summary for Subcatchment B1: AC Road North

Runoff = 0.14 cfs @ 7.90 hrs, Volume= 1,992 cf, Depth= 3.27"

Routed to Pond P1 : Street Planter 1

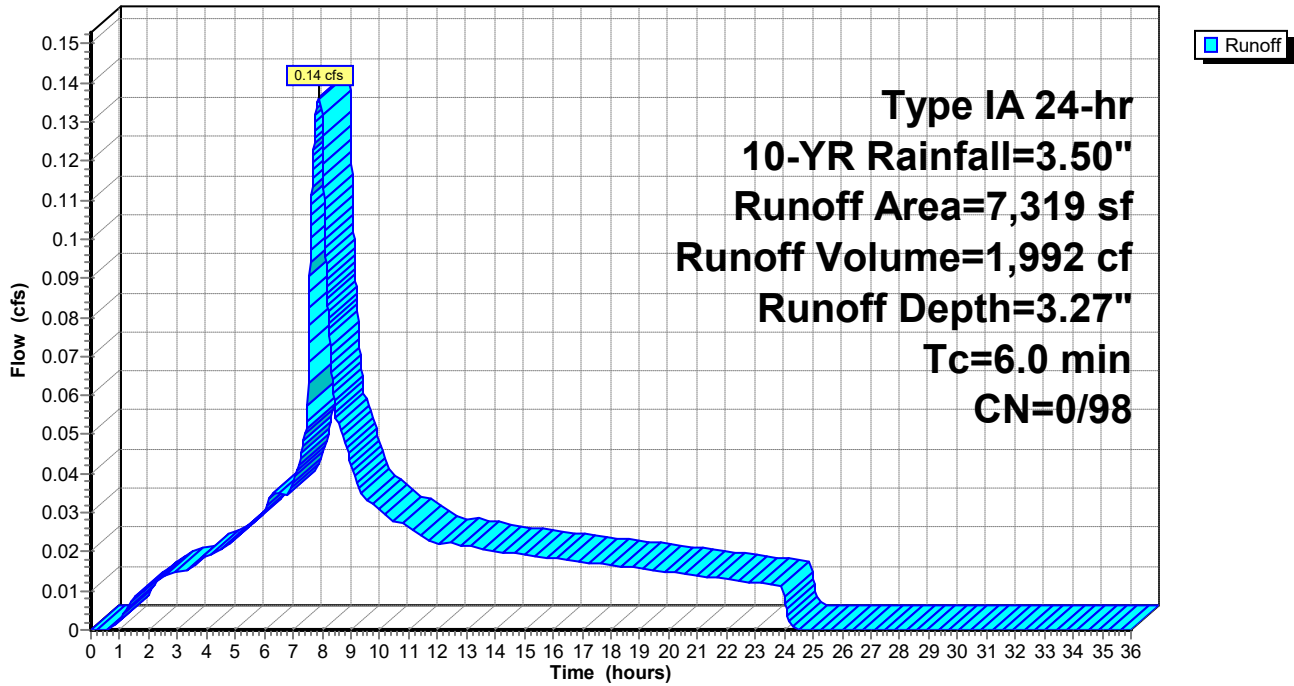
Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
Type IA 24-hr 10-YR Rainfall=3.50"

	Area (sf)	CN	Description
*	7,319	98	AC
	7,319	98	100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, Minimum

Subcatchment B1: AC Road North

Hydrograph



E21-049 Storm

Type IA 24-hr 10-YR Rainfall=3.50"

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Summary for Subcatchment B2: AC Road East

Runoff = 0.03 cfs @ 7.90 hrs, Volume= 506 cf, Depth= 3.27"
Routed to Pond P2 : Street Planter 2

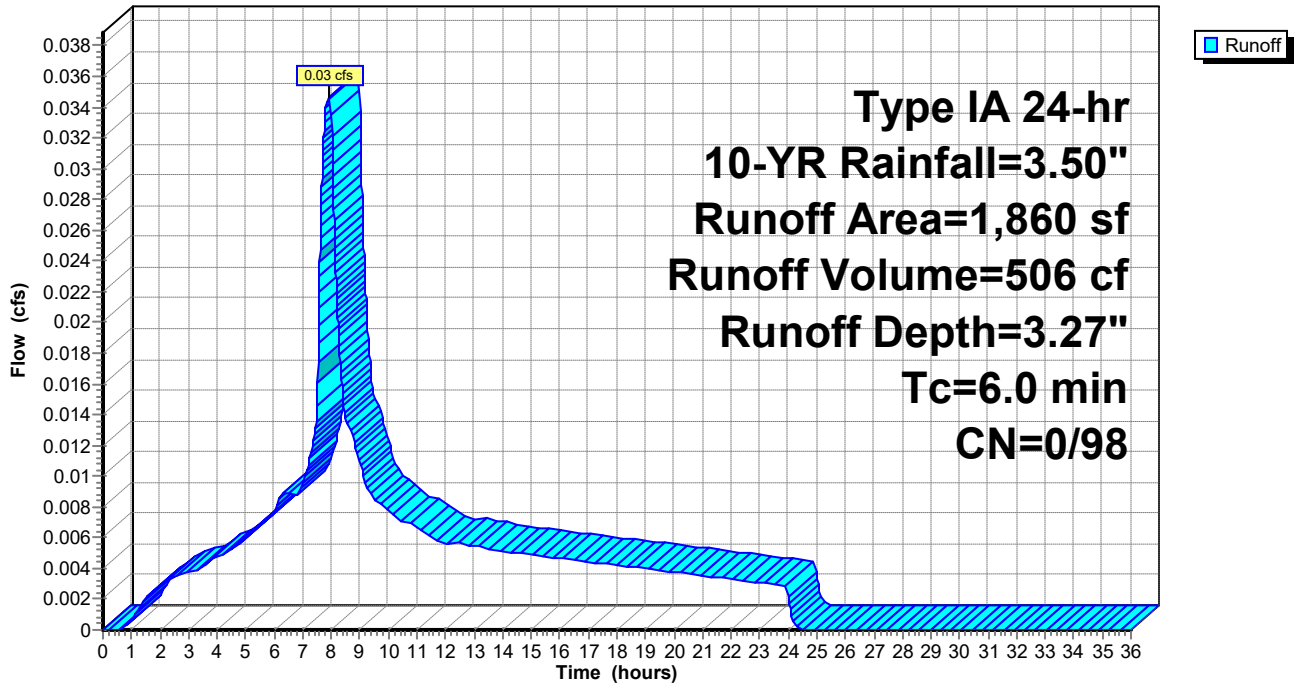
Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
Type IA 24-hr 10-YR Rainfall=3.50"

Area (sf)	CN	Description
* 1,860	98	Public Impervious
1,860	98	100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, Minimum

Subcatchment B2: AC Road East

Hydrograph



E21-049 Storm

Type IA 24-hr 10-YR Rainfall=3.50"

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Summary for Subcatchment B3: AC Road West & Lots 10-11

Runoff = 0.10 cfs @ 7.90 hrs, Volume= 1,522 cf, Depth= 3.27"
Routed to Pond P3 : Street Planter 3

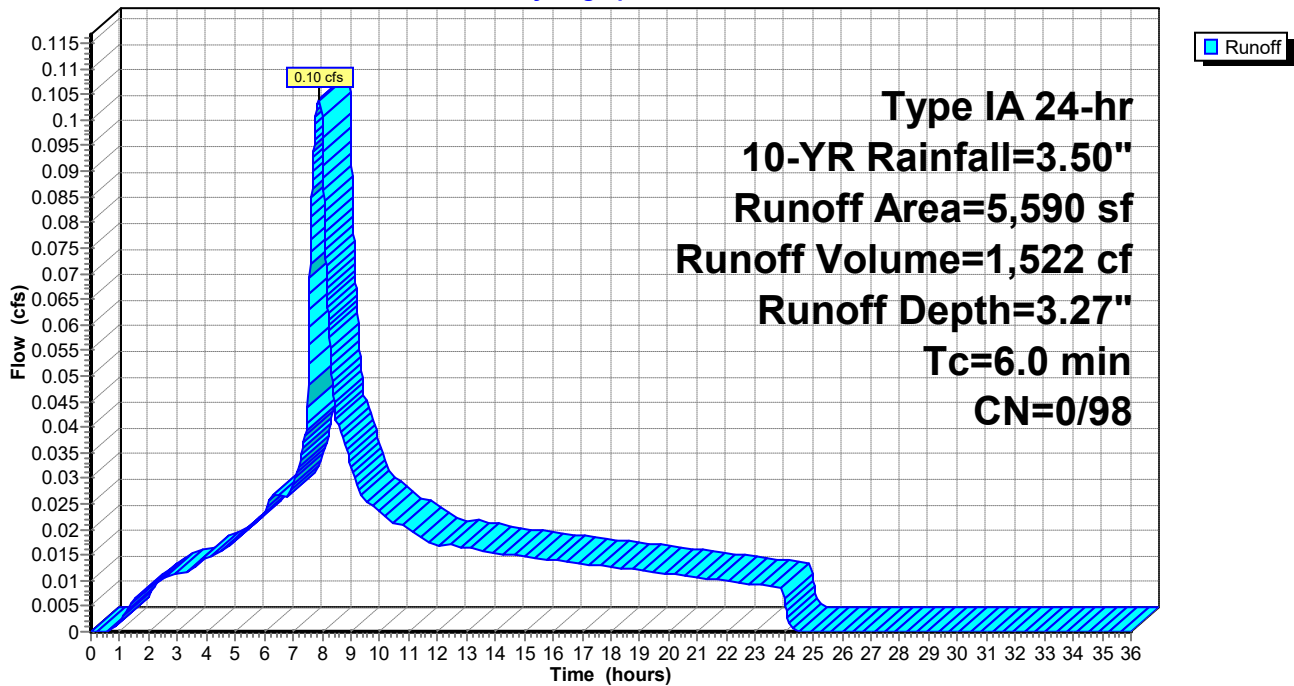
Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
Type IA 24-hr 10-YR Rainfall=3.50"

	Area (sf)	CN	Description
*	1,790	98	Public Impervious
*	3,800	98	Roof/Driveway Lot 10/11
	5,590	98	Weighted Average
	5,590	98	100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, Minimum

Subcatchment B3: AC Road West & Lots 10-11

Hydrograph



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Type IA 24-hr 10-YR Rainfall=3.50"

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Summary for Subcatchment B4: Lots 1-9 Roof

Runoff = 0.32 cfs @ 7.90 hrs, Volume= 4,731 cf, Depth= 3.27"

Routed to Pond P4 : Detention Pipe

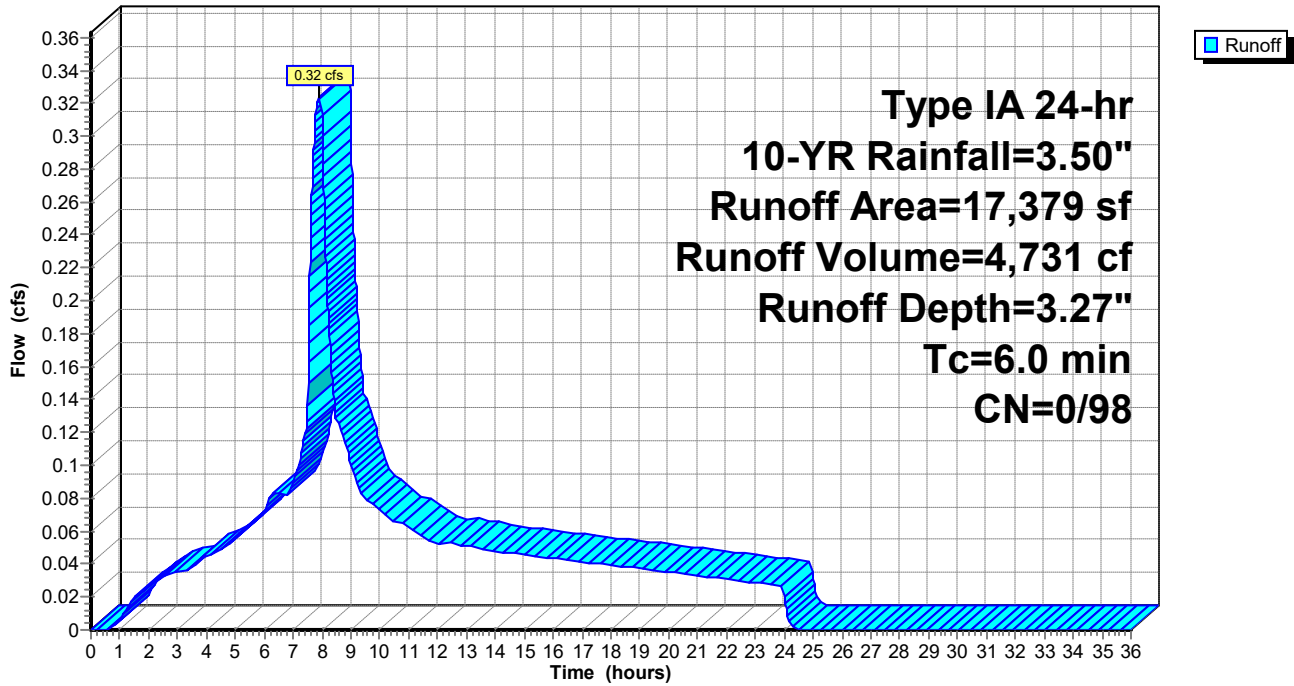
Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
Type IA 24-hr 10-YR Rainfall=3.50"

	Area (sf)	CN	Description
*	17,379	98	Roof Area
	17,379	98	100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, Minimum

Subcatchment B4: Lots 1-9 Roof

Hydrograph



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Type IA 24-hr 10-YR Rainfall=3.50"

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Summary for Reach -POST: Peak Flows from Post-Developed Site

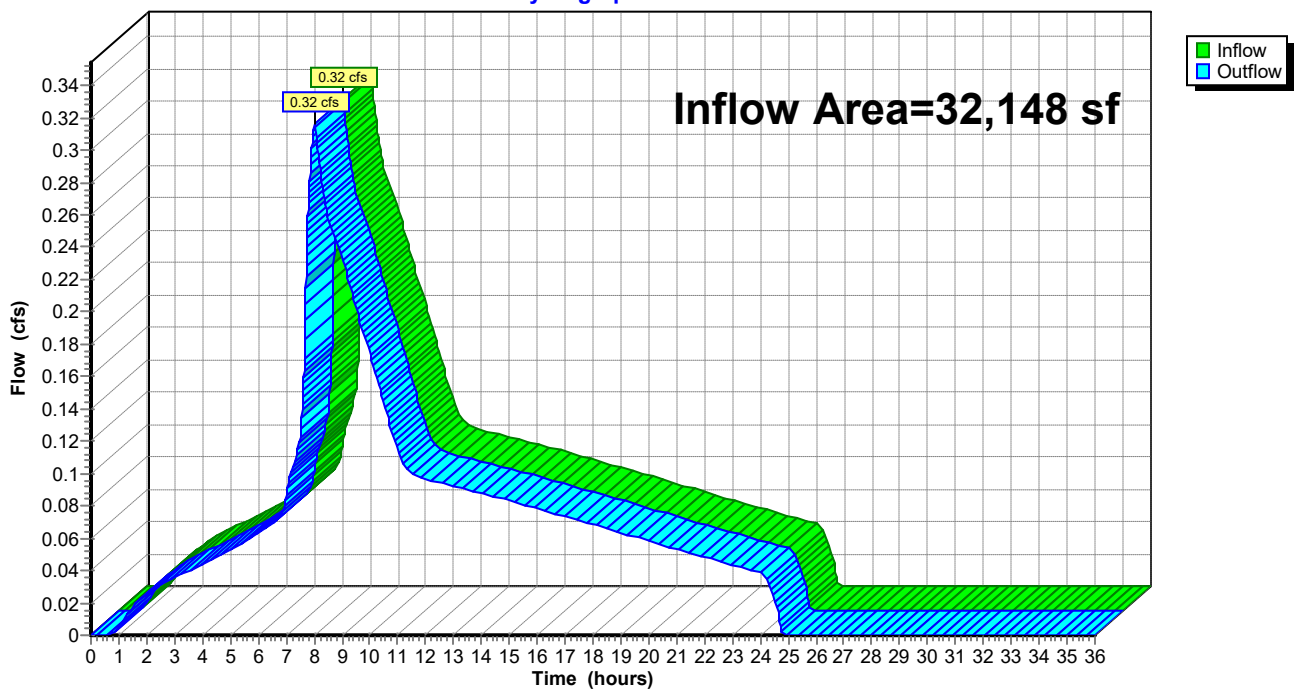
[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 32,148 sf, 100.00% Impervious, Inflow Depth = 2.67" for 10-YR event
Inflow = 0.32 cfs @ 8.02 hrs, Volume= 7,154 cf
Outflow = 0.32 cfs @ 8.02 hrs, Volume= 7,154 cf, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Reach -POST: Peak Flows from Post-Developed Site

Hydrograph



E21-049 Storm

Type IA 24-hr 10-YR Rainfall=3.50"

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Summary for Pond P1: Street Planter 1

Inflow Area = 7,319 sf, 100.00% Impervious, Inflow Depth = 3.27" for 10-YR event
 Inflow = 0.14 cfs @ 7.90 hrs, Volume= 1,992 cf
 Outflow = 0.14 cfs @ 7.95 hrs, Volume= 1,992 cf, Atten= 1%, Lag= 3.1 min
 Discarded = 0.01 cfs @ 5.56 hrs, Volume= 1,184 cf
 Primary = 0.12 cfs @ 7.95 hrs, Volume= 809 cf
 Routed to Reach -POST : Peak Flows from Post-Developed Site

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
 Peak Elev= 3.71' @ 7.95 hrs Surf.Area= 540 sf Storage= 303 cf

Plug-Flow detention time= 194.2 min calculated for 1,992 cf (100% of inflow)
 Center-of-Mass det. time= 194.3 min (858.2 - 663.8)

Volume	Invert	Avail.Storage	Storage Description
#1	0.00'	108 cf	4.50'W x 40.00'L x 1.50'H Rock 270 cf Overall x 40.0% Voids
#2	1.50'	68 cf	4.50'W x 40.00'L x 1.50'H Growing Medium 270 cf Overall x 25.0% Voids
#3	3.00'	180 cf	4.50'W x 40.00'L x 1.00'H Ponding
		356 cf	Total Available Storage

Device	Routing	Invert	Outlet Devices
#1	Discarded	0.00'	1.000 in/hr Exfiltration over Horizontal area
#2	Primary	3.50'	6.0" Vert. Overflow Orifice C= 0.600 Limited to weir flow at low heads

Discarded OutFlow Max=0.01 cfs @ 5.56 hrs HW=3.00' (Free Discharge)
 ↑1=Exfiltration (Exfiltration Controls 0.01 cfs)

Primary OutFlow Max=0.12 cfs @ 7.95 hrs HW=3.71' (Free Discharge)
 ↑2=Overflow Orifice (Orifice Controls 0.12 cfs @ 1.56 fps)

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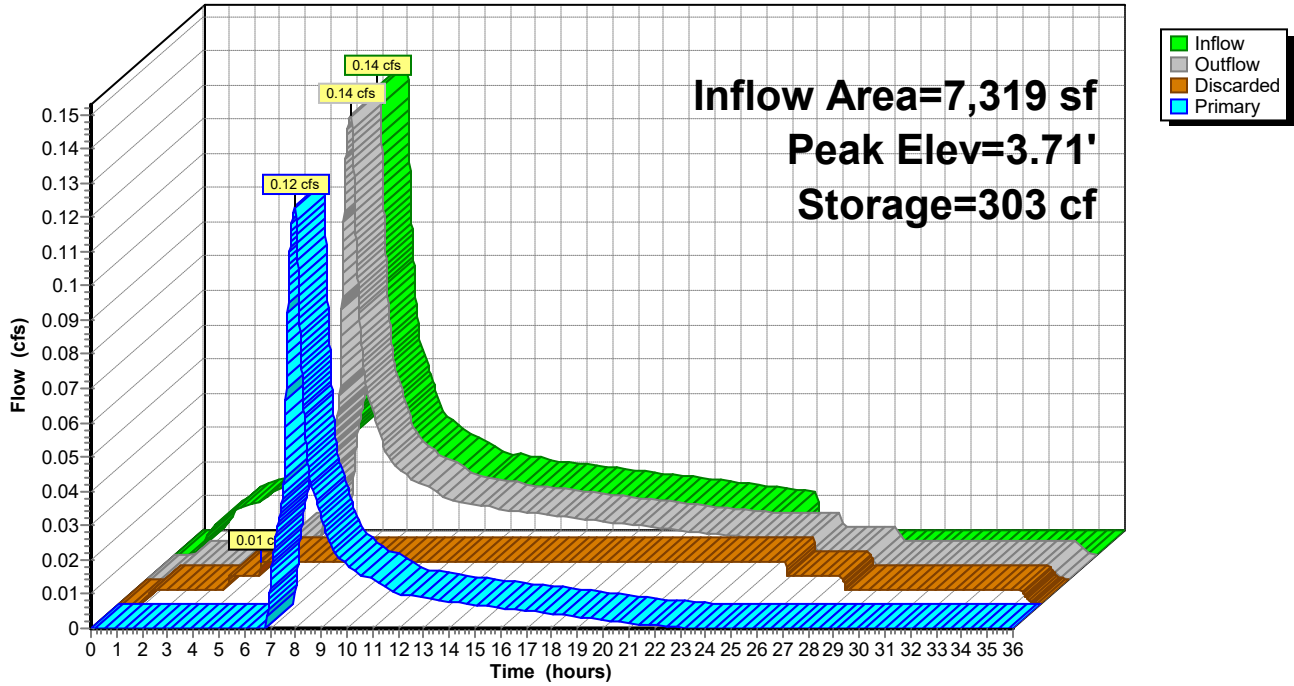
Type IA 24-hr 10-YR Rainfall=3.50"

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Pond P1: Street Planter 1

Hydrograph



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Type IA 24-hr 10-YR Rainfall=3.50"

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Summary for Pond P2: Street Planter 2

Inflow Area = 1,860 sf, 100.00% Impervious, Inflow Depth = 3.27" for 10-YR event
 Inflow = 0.03 cfs @ 7.90 hrs, Volume= 506 cf
 Outflow = 0.02 cfs @ 8.12 hrs, Volume= 506 cf, Atten= 28%, Lag= 13.3 min
 Discarded = 0.00 cfs @ 3.33 hrs, Volume= 164 cf
 Primary = 0.02 cfs @ 8.12 hrs, Volume= 342 cf
 Routed to Pond P4 : Detention Pipe

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
 Peak Elev= 4.80' @ 8.12 hrs Surf.Area= 90 sf Storage= 29 cf

Plug-Flow detention time= 8.8 min calculated for 506 cf (100% of inflow)
 Center-of-Mass det. time= 8.8 min (672.6 - 663.8)

Volume	Invert	Avail.Storage	Storage Description
#1	4.00'	54 cf	4.50'W x 20.00'L x 1.50'H Rock 135 cf Overall x 40.0% Voids
#2	5.50'	34 cf	4.50'W x 20.00'L x 1.50'H Growing Medium 135 cf Overall x 25.0% Voids
#3	7.00'	90 cf	4.50'W x 20.00'L x 1.00'H Ponding
		178 cf	Total Available Storage

Device	Routing	Invert	Outlet Devices
#1	Discarded	4.00'	1.000 in/hr Exfiltration over Horizontal area
#2	Primary	4.00'	1.0" Vert. Underdrain C= 0.600 Limited to weir flow at low heads
#3	Primary	7.50'	6.0" Horiz. Overflow Orifice C= 0.600 Limited to weir flow at low heads

Discarded OutFlow Max=0.00 cfs @ 3.33 hrs HW=4.04' (Free Discharge)
 ↑1=Exfiltration (Exfiltration Controls 0.00 cfs)

Primary OutFlow Max=0.02 cfs @ 8.12 hrs HW=4.80' (Free Discharge)
 ↑2=Underdrain (Orifice Controls 0.02 cfs @ 4.20 fps)
 ↑3=Overflow Orifice (Controls 0.00 cfs)

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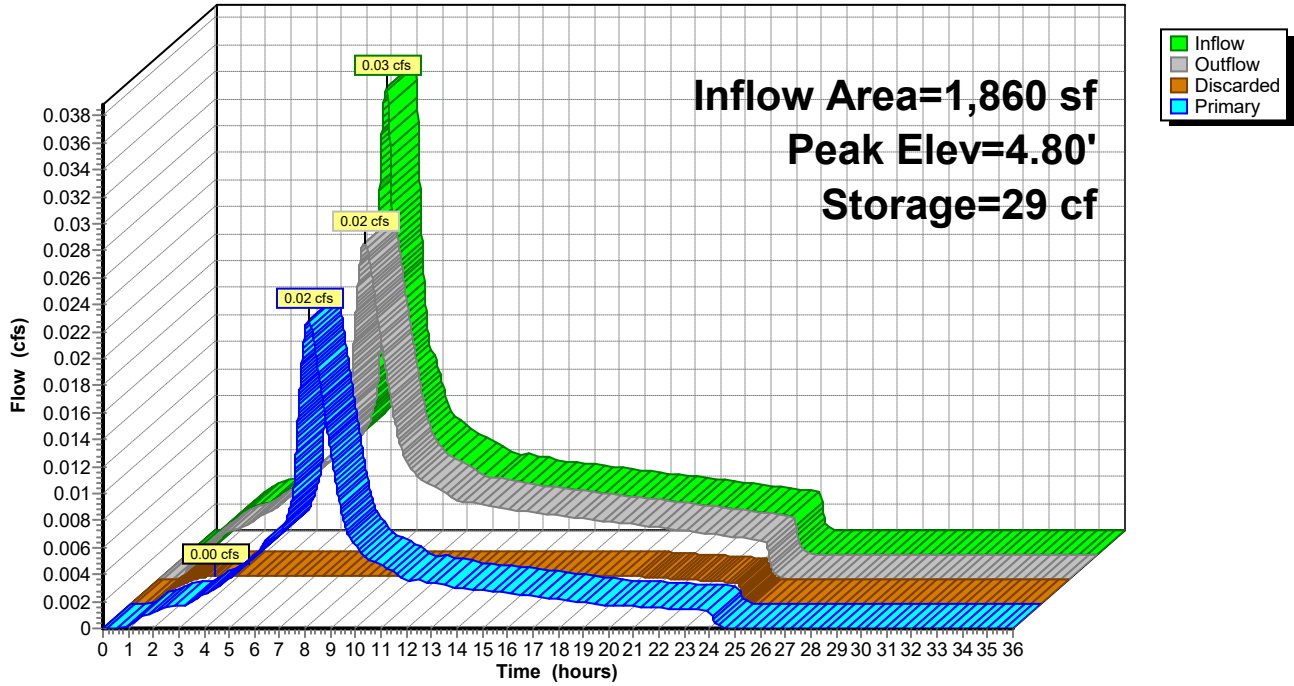
Type IA 24-hr 10-YR Rainfall=3.50"

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Pond P2: Street Planter 2

Hydrograph



E21-049 Storm

Type IA 24-hr 10-YR Rainfall=3.50"

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Summary for Pond P3: Street Planter 3

Inflow Area = 5,590 sf, 100.00% Impervious, Inflow Depth = 3.27" for 10-YR event
 Inflow = 0.10 cfs @ 7.90 hrs, Volume= 1,522 cf
 Outflow = 0.06 cfs @ 8.27 hrs, Volume= 1,522 cf, Atten= 47%, Lag= 22.6 min
 Discarded = 0.01 cfs @ 7.88 hrs, Volume= 249 cf
 Primary = 0.05 cfs @ 8.27 hrs, Volume= 1,273 cf
 Routed to Pond P4 : Detention Pipe

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
 Peak Elev= 7.37' @ 8.27 hrs Surf.Area= 338 sf Storage= 151 cf

Plug-Flow detention time= 21.5 min calculated for 1,522 cf (100% of inflow)
 Center-of-Mass det. time= 21.5 min (685.3 - 663.8)

Volume	Invert	Avail.Storage	Storage Description
#1	4.00'	68 cf	4.50'W x 25.00'L x 1.50'H Rock 169 cf Overall x 40.0% Voids
#2	5.50'	42 cf	4.50'W x 25.00'L x 1.50'H Growing Medium 169 cf Overall x 25.0% Voids
#3	7.00'	113 cf	4.50'W x 25.00'L x 1.00'H Ponding
		222 cf	Total Available Storage

Device	Routing	Invert	Outlet Devices
#1	Discarded	4.00'	1.000 in/hr Exfiltration over Horizontal area
#2	Primary	4.00'	1.0" Vert. Underdrain C= 0.600 Limited to weir flow at low heads
#3	Primary	7.50'	6.0" Horiz. Overflow Orifice C= 0.600 Limited to weir flow at low heads

Discarded OutFlow Max=0.01 cfs @ 7.88 hrs HW=7.01' (Free Discharge)
 ↑1=Exfiltration (Exfiltration Controls 0.01 cfs)

Primary OutFlow Max=0.05 cfs @ 8.27 hrs HW=7.37' (Free Discharge)
 ↑2=Underdrain (Orifice Controls 0.05 cfs @ 8.78 fps)
 ↑3=Overflow Orifice (Controls 0.00 cfs)

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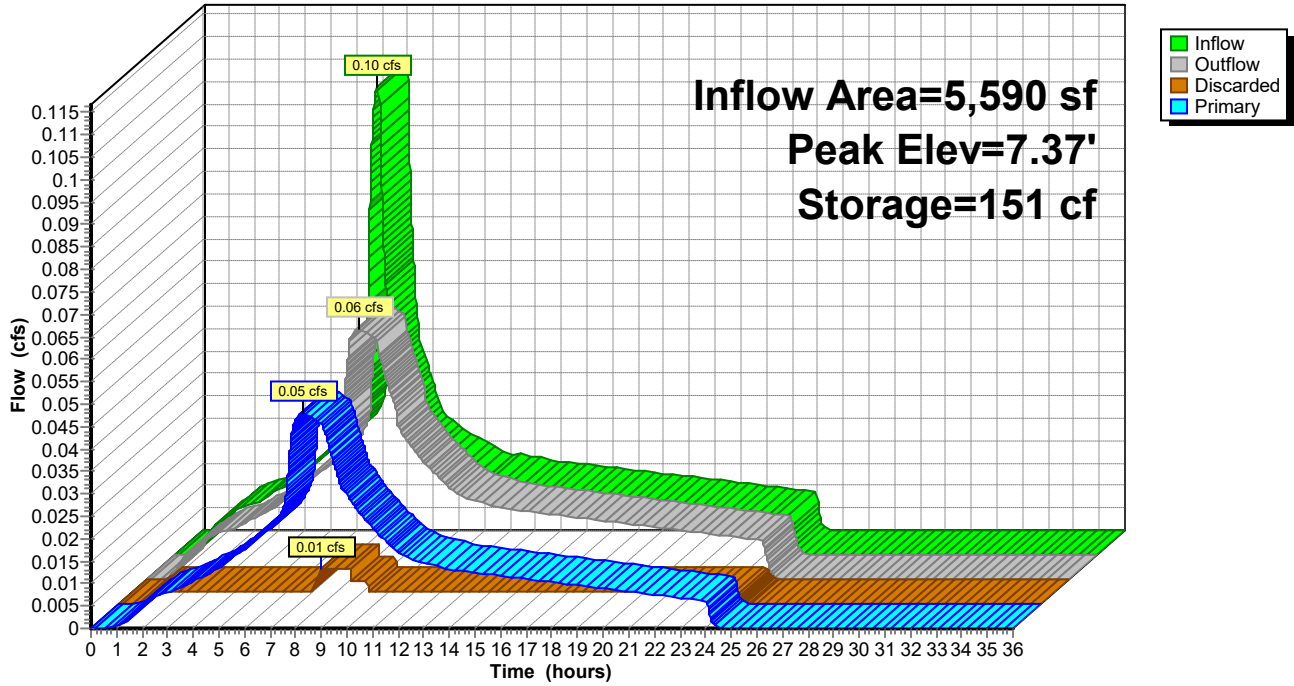
Type IA 24-hr 10-YR Rainfall=3.50"

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Pond P3: Street Planter 3

Hydrograph



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Type IA 24-hr 10-YR Rainfall=3.50"

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Summary for Pond P4: Detention Pipe

Inflow Area = 24,829 sf, 100.00% Impervious, Inflow Depth = 3.07" for 10-YR event
 Inflow = 0.39 cfs @ 7.92 hrs, Volume= 6,345 cf
 Outflow = 0.21 cfs @ 8.39 hrs, Volume= 6,345 cf, Atten= 45%, Lag= 28.2 min
 Primary = 0.21 cfs @ 8.39 hrs, Volume= 6,345 cf
 Routed to Reach -POST : Peak Flows from Post-Developed Site

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
 Peak Elev= 3.25' @ 8.39 hrs Surf.Area= 334 sf Storage= 945 cf

Plug-Flow detention time= 70.5 min calculated for 6,344 cf (100% of inflow)
 Center-of-Mass det. time= 70.5 min (734.9 - 664.4)

Volume	Invert	Avail.Storage	Storage Description
#1	0.00'	1,374 cf	60.0" Round Pipe Storage L= 70.0'

Device	Routing	Invert	Outlet Devices
#1	Primary	0.00'	1.5" Horiz. Control Orifice C= 0.600 Limited to weir flow at low heads
#2	Primary	2.20'	2.0" Horiz. Upper Orifice C= 0.600 Limited to weir flow at low heads
#3	Primary	4.00'	12.0" Vert. Overflow C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.21 cfs @ 8.39 hrs HW=3.25' (Free Discharge)

- 1=Control Orifice (Orifice Controls 0.11 cfs @ 8.68 fps)
- 2=Upper Orifice (Orifice Controls 0.11 cfs @ 4.93 fps)
- 3=Overflow (Controls 0.00 cfs)

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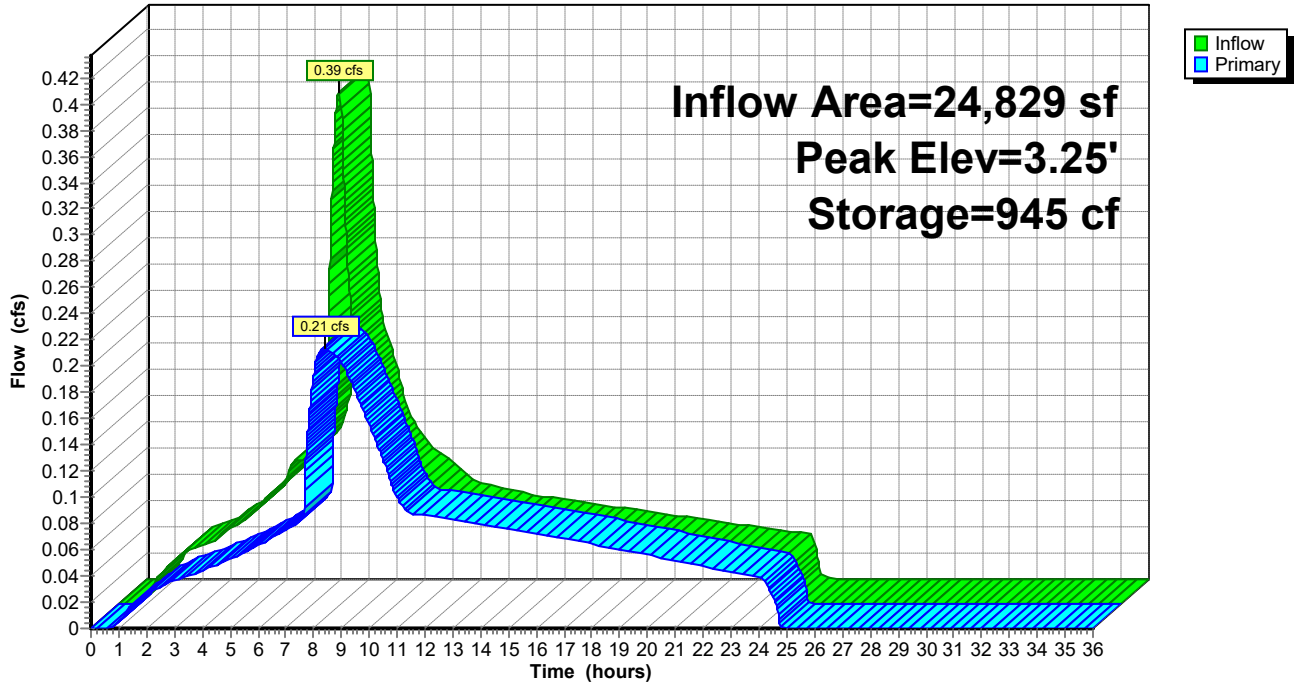
Type IA 24-hr 10-YR Rainfall=3.50"

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Pond P4: Detention Pipe

Hydrograph



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Type IA 24-hr 25-YR Rainfall=4.00"

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Summary for Subcatchment -PRE: Existing Site

Runoff = 0.43 cfs @ 7.96 hrs, Volume= 6,352 cf, Depth= 2.37"

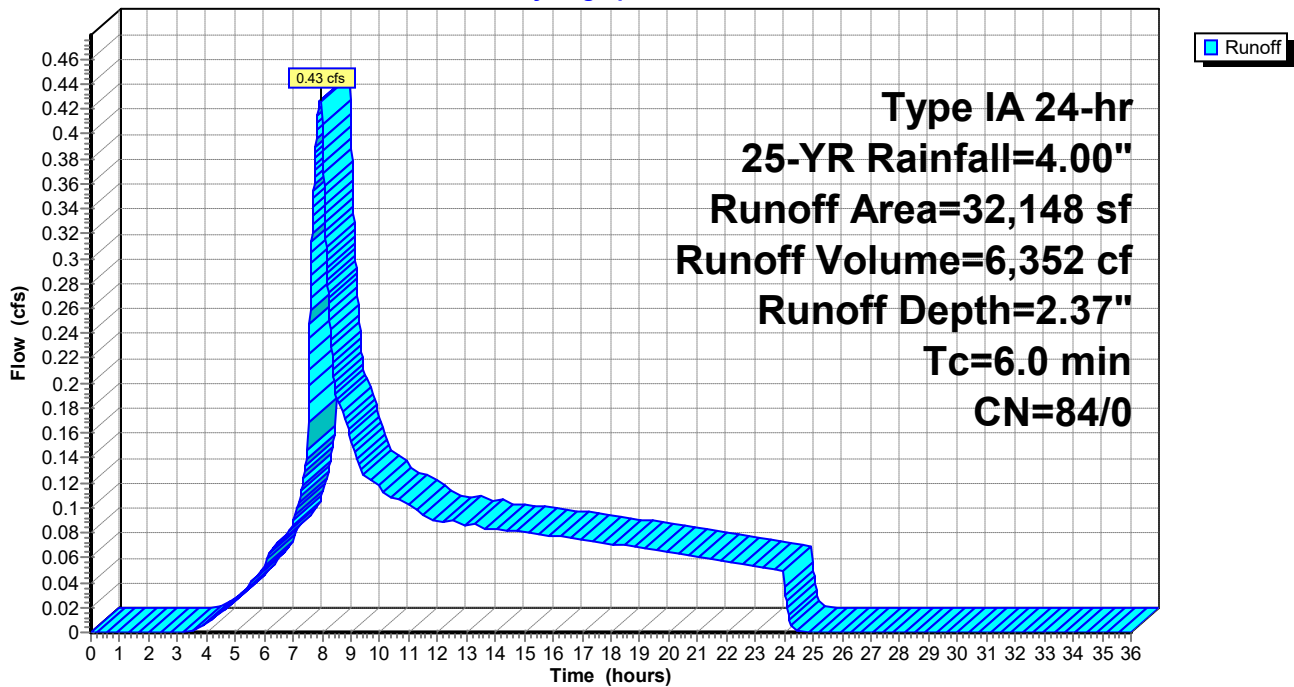
Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
Type IA 24-hr 25-YR Rainfall=4.00"

Area (sf)	CN	Description
32,148	84	50-75% Grass cover, Fair, HSG D
32,148	84	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, Minimum

Subcatchment -PRE: Existing Site

Hydrograph



E21-049 Storm

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Type IA 24-hr 25-YR Rainfall=4.00"

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Summary for Subcatchment B1: AC Road North

Runoff = 0.16 cfs @ 7.90 hrs, Volume= 2,296 cf, Depth= 3.77"
Routed to Pond P1 : Street Planter 1

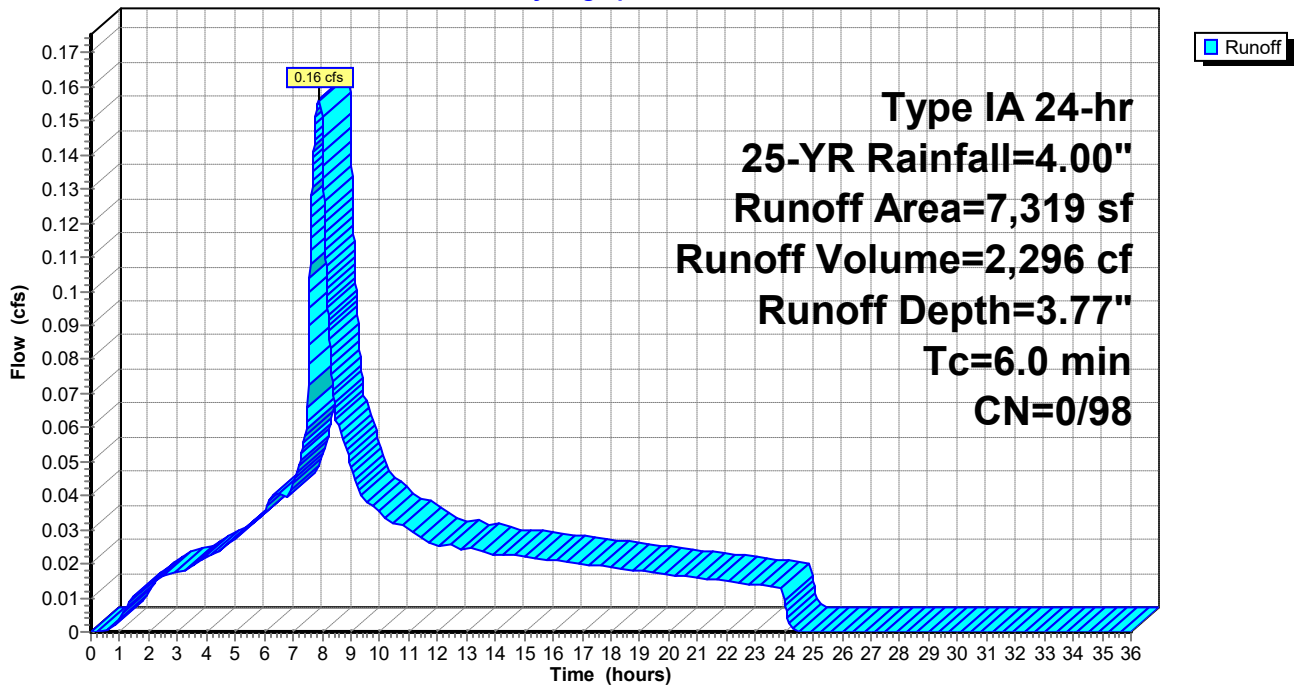
Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
Type IA 24-hr 25-YR Rainfall=4.00"

	Area (sf)	CN	Description
*	7,319	98	AC
	7,319	98	100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, Minimum

Subcatchment B1: AC Road North

Hydrograph



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Type IA 24-hr 25-YR Rainfall=4.00"

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Summary for Subcatchment B2: AC Road East

Runoff = 0.04 cfs @ 7.90 hrs, Volume= 584 cf, Depth= 3.77"
Routed to Pond P2 : Street Planter 2

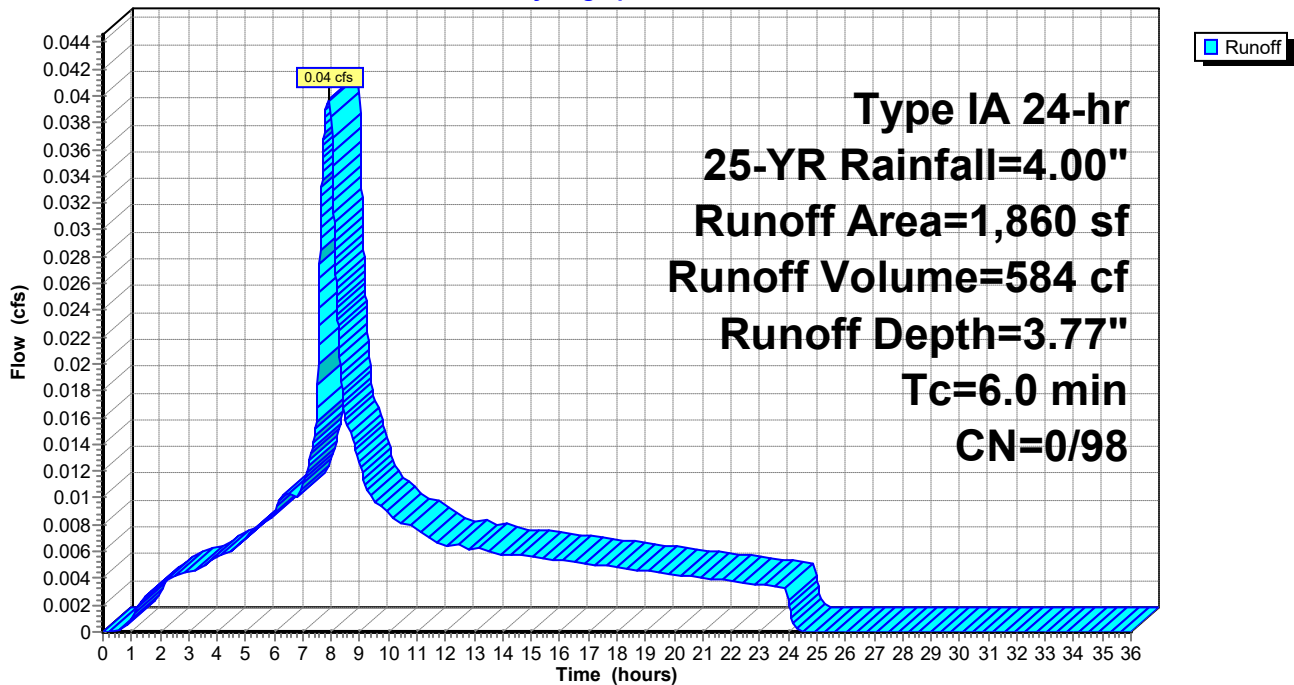
Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
Type IA 24-hr 25-YR Rainfall=4.00"

Area (sf)	CN	Description
* 1,860	98	Public Impervious
1,860	98	100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, Minimum

Subcatchment B2: AC Road East

Hydrograph



E21-049 Storm

Type IA 24-hr 25-YR Rainfall=4.00"

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Summary for Subcatchment B3: AC Road West & Lots 10-11

Runoff = 0.12 cfs @ 7.90 hrs, Volume= 1,754 cf, Depth= 3.77"
 Routed to Pond P3 : Street Planter 3

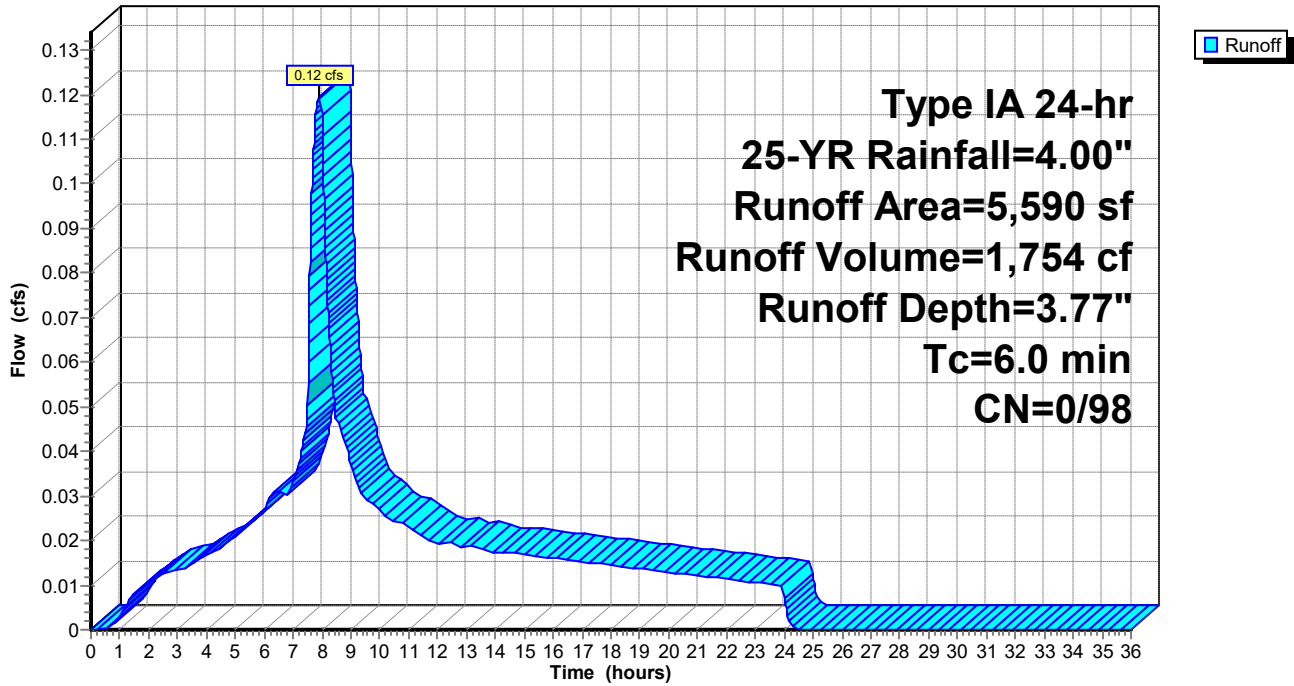
Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
 Type IA 24-hr 25-YR Rainfall=4.00"

	Area (sf)	CN	Description
*	1,790	98	Public Impervious
*	3,800	98	Roof/Driveway Lot 10/11
	5,590	98	Weighted Average
	5,590	98	100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, Minimum

Subcatchment B3: AC Road West & Lots 10-11

Hydrograph



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Type IA 24-hr 25-YR Rainfall=4.00"

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Summary for Subcatchment B4: Lots 1-9 Roof

Runoff = 0.37 cfs @ 7.90 hrs, Volume= 5,453 cf, Depth= 3.77"

Routed to Pond P4 : Detention Pipe

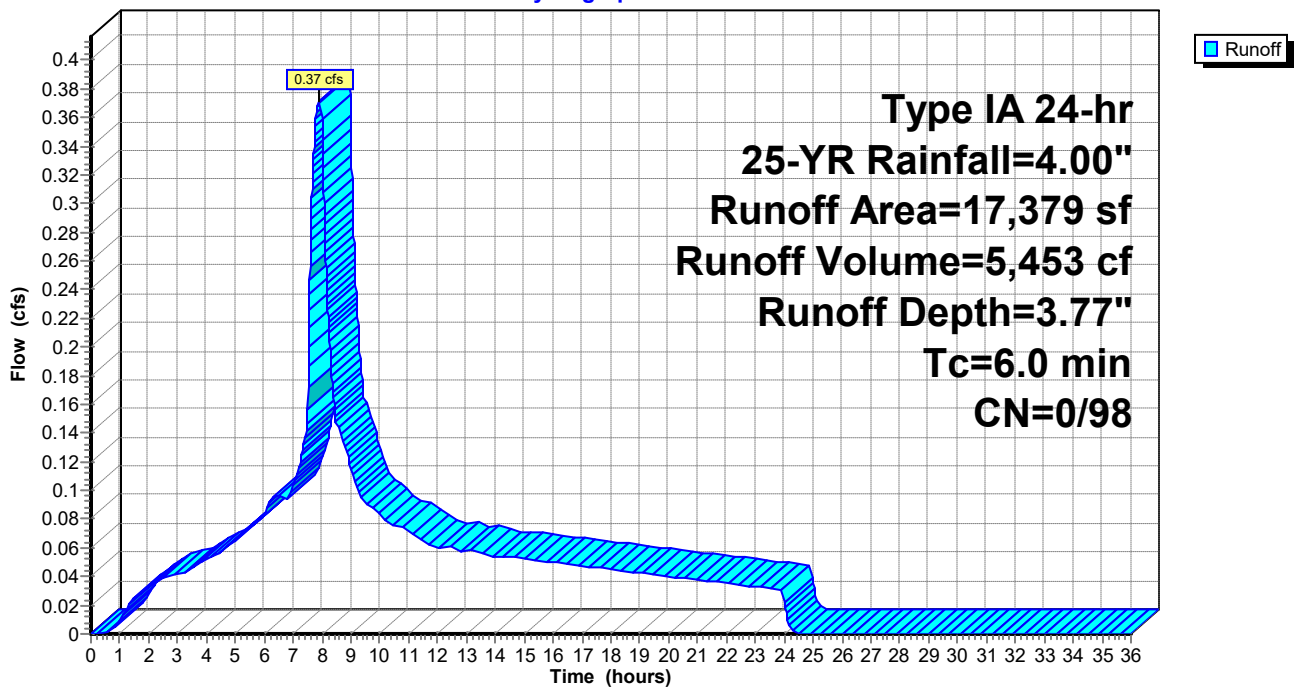
Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
Type IA 24-hr 25-YR Rainfall=4.00"

	Area (sf)	CN	Description
*	17,379	98	Roof Area
	17,379	98	100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, Minimum

Subcatchment B4: Lots 1-9 Roof

Hydrograph



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Type IA 24-hr 25-YR Rainfall=4.00"

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Summary for Reach -POST: Peak Flows from Post-Developed Site

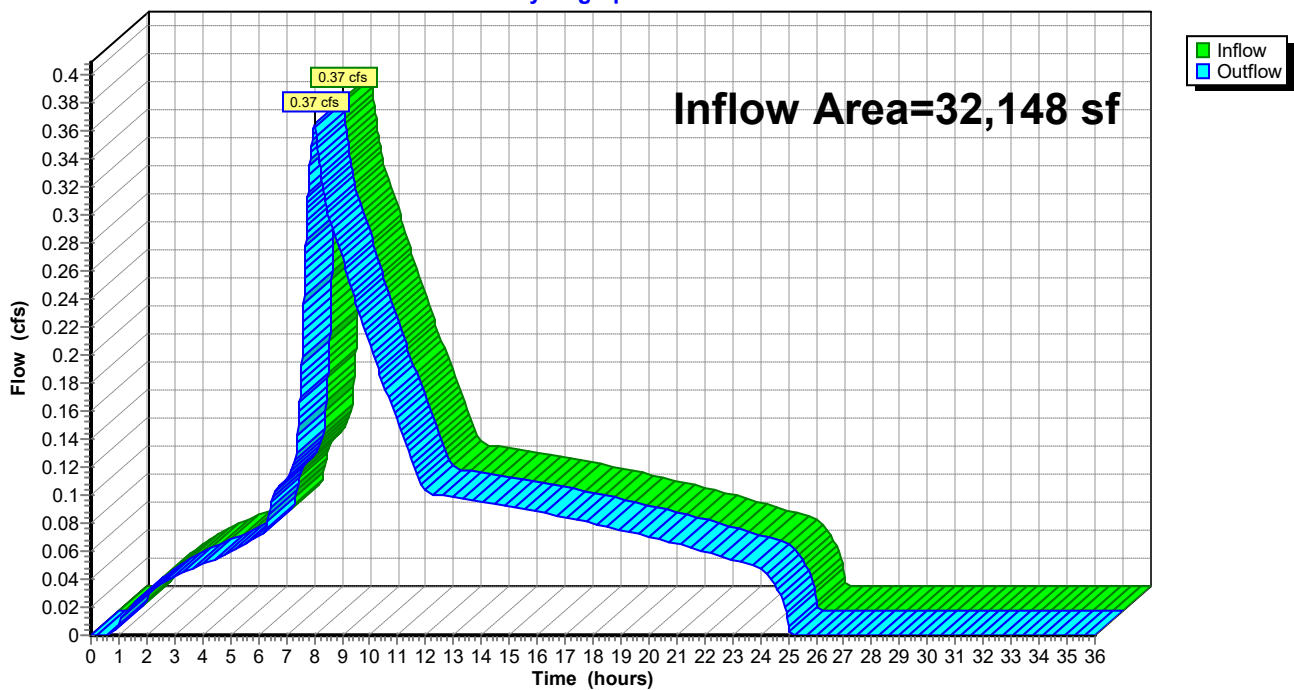
[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 32,148 sf, 100.00% Impervious, Inflow Depth = 3.15" for 25-YR event
Inflow = 0.37 cfs @ 8.02 hrs, Volume= 8,452 cf
Outflow = 0.37 cfs @ 8.02 hrs, Volume= 8,452 cf, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Reach -POST: Peak Flows from Post-Developed Site

Hydrograph



E21-049 Storm

Type IA 24-hr 25-YR Rainfall=4.00"

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Summary for Pond P1: Street Planter 1

Inflow Area = 7,319 sf, 100.00% Impervious, Inflow Depth = 3.77" for 25-YR event
 Inflow = 0.16 cfs @ 7.90 hrs, Volume= 2,296 cf
 Outflow = 0.16 cfs @ 7.94 hrs, Volume= 2,296 cf, Atten= 1%, Lag= 2.8 min
 Discarded = 0.01 cfs @ 5.02 hrs, Volume= 1,206 cf
 Primary = 0.14 cfs @ 7.94 hrs, Volume= 1,090 cf
 Routed to Reach -POST : Peak Flows from Post-Developed Site

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
 Peak Elev= 3.73' @ 7.94 hrs Surf.Area= 540 sf Storage= 307 cf

Plug-Flow detention time= 173.7 min calculated for 2,296 cf (100% of inflow)
 Center-of-Mass det. time= 173.8 min (834.4 - 660.5)

Volume	Invert	Avail.Storage	Storage Description
#1	0.00'	108 cf	4.50'W x 40.00'L x 1.50'H Rock 270 cf Overall x 40.0% Voids
#2	1.50'	68 cf	4.50'W x 40.00'L x 1.50'H Growing Medium 270 cf Overall x 25.0% Voids
#3	3.00'	180 cf	4.50'W x 40.00'L x 1.00'H Ponding
		356 cf	Total Available Storage

Device	Routing	Invert	Outlet Devices
#1	Discarded	0.00'	1.000 in/hr Exfiltration over Horizontal area
#2	Primary	3.50'	6.0" Vert. Overflow Orifice C= 0.600 Limited to weir flow at low heads

Discarded OutFlow Max=0.01 cfs @ 5.02 hrs HW=3.00' (Free Discharge)
 ↑1=Exfiltration (Exfiltration Controls 0.01 cfs)

Primary OutFlow Max=0.14 cfs @ 7.94 hrs HW=3.73' (Free Discharge)
 ↑2=Overflow Orifice (Orifice Controls 0.14 cfs @ 1.63 fps)

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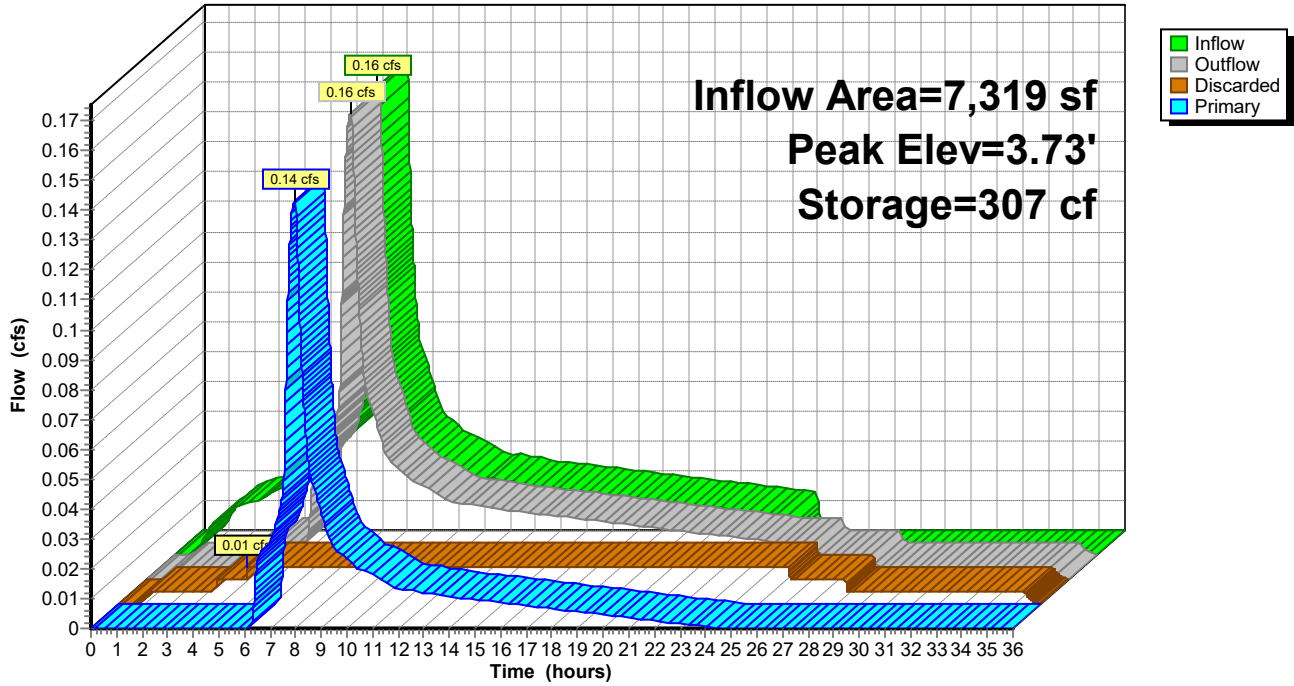
Type IA 24-hr 25-YR Rainfall=4.00"

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Pond P1: Street Planter 1

Hydrograph



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Type IA 24-hr 25-YR Rainfall=4.00"

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Summary for Pond P2: Street Planter 2

Inflow Area = 1,860 sf, 100.00% Impervious, Inflow Depth = 3.77" for 25-YR event
 Inflow = 0.04 cfs @ 7.90 hrs, Volume= 584 cf
 Outflow = 0.03 cfs @ 8.13 hrs, Volume= 584 cf, Atten= 30%, Lag= 14.3 min
 Discarded = 0.00 cfs @ 2.33 hrs, Volume= 169 cf
 Primary = 0.03 cfs @ 8.13 hrs, Volume= 414 cf
 Routed to Pond P4 : Detention Pipe

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
 Peak Elev= 4.99' @ 8.13 hrs Surf.Area= 90 sf Storage= 36 cf

Plug-Flow detention time= 9.4 min calculated for 583 cf (100% of inflow)
 Center-of-Mass det. time= 9.4 min (670.0 - 660.5)

Volume	Invert	Avail.Storage	Storage Description
#1	4.00'	54 cf	4.50'W x 20.00'L x 1.50'H Rock 135 cf Overall x 40.0% Voids
#2	5.50'	34 cf	4.50'W x 20.00'L x 1.50'H Growing Medium 135 cf Overall x 25.0% Voids
#3	7.00'	90 cf	4.50'W x 20.00'L x 1.00'H Ponding
		178 cf	Total Available Storage

Device	Routing	Invert	Outlet Devices
#1	Discarded	4.00'	1.000 in/hr Exfiltration over Horizontal area
#2	Primary	4.00'	1.0" Vert. Underdrain C= 0.600 Limited to weir flow at low heads
#3	Primary	7.50'	6.0" Horiz. Overflow Orifice C= 0.600 Limited to weir flow at low heads

Discarded OutFlow Max=0.00 cfs @ 2.33 hrs HW=4.04' (Free Discharge)
 ↑**1=Exfiltration** (Exfiltration Controls 0.00 cfs)

Primary OutFlow Max=0.03 cfs @ 8.13 hrs HW=4.99' (Free Discharge)
 ↑**2=Underdrain** (Orifice Controls 0.03 cfs @ 4.69 fps)
 ↑**3=Overflow Orifice** (Controls 0.00 cfs)

E21-049 Storm

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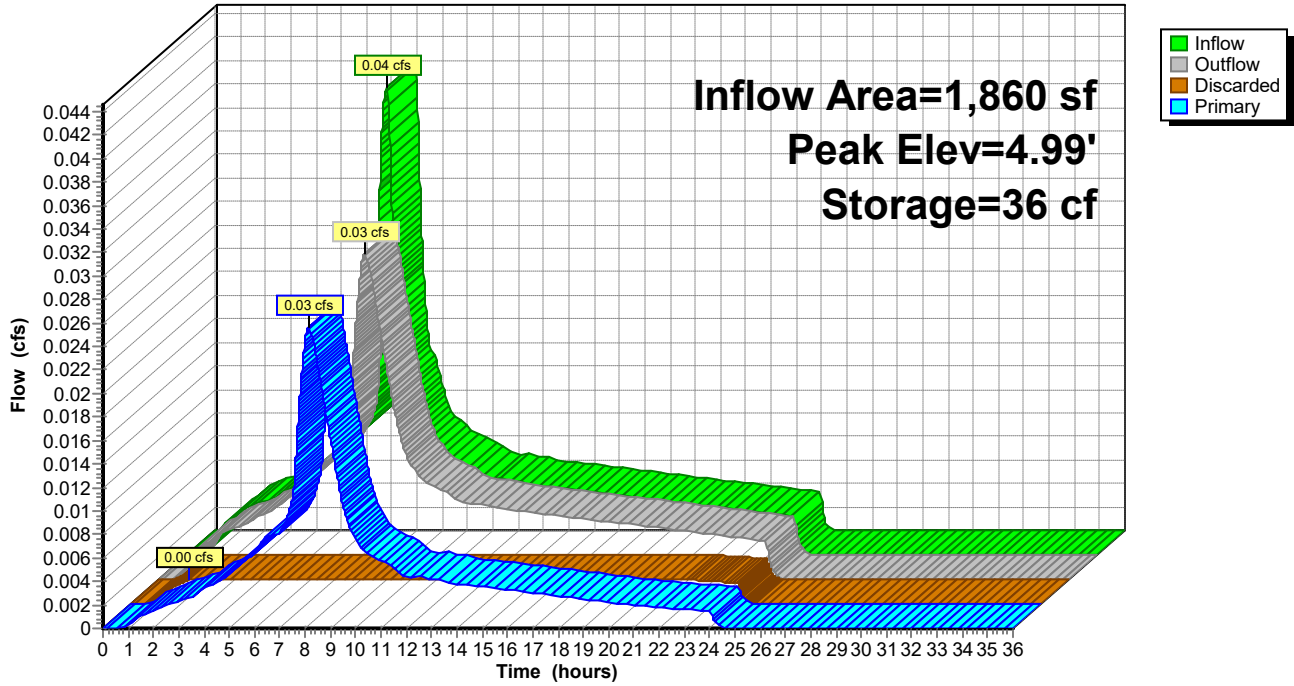
Type IA 24-hr 25-YR Rainfall=4.00"

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Pond P2: Street Planter 2

Hydrograph



E21-049 Storm

Type IA 24-hr 25-YR Rainfall=4.00"

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Summary for Pond P3: Street Planter 3

Inflow Area = 5,590 sf, 100.00% Impervious, Inflow Depth = 3.77" for 25-YR event
 Inflow = 0.12 cfs @ 7.90 hrs, Volume= 1,754 cf
 Outflow = 0.09 cfs @ 8.08 hrs, Volume= 1,754 cf, Atten= 21%, Lag= 11.0 min
 Discarded = 0.01 cfs @ 7.78 hrs, Volume= 259 cf
 Primary = 0.09 cfs @ 8.08 hrs, Volume= 1,495 cf
 Routed to Pond P4 : Detention Pipe

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
 Peak Elev= 7.54' @ 8.08 hrs Surf.Area= 338 sf Storage= 170 cf

Plug-Flow detention time= 23.6 min calculated for 1,753 cf (100% of inflow)
 Center-of-Mass det. time= 23.6 min (684.1 - 660.5)

Volume	Invert	Avail.Storage	Storage Description
#1	4.00'	68 cf	4.50'W x 25.00'L x 1.50'H Rock 169 cf Overall x 40.0% Voids
#2	5.50'	42 cf	4.50'W x 25.00'L x 1.50'H Growing Medium 169 cf Overall x 25.0% Voids
#3	7.00'	113 cf	4.50'W x 25.00'L x 1.00'H Ponding
		222 cf	Total Available Storage

Device	Routing	Invert	Outlet Devices
#1	Discarded	4.00'	1.000 in/hr Exfiltration over Horizontal area
#2	Primary	4.00'	1.0" Vert. Underdrain C= 0.600 Limited to weir flow at low heads
#3	Primary	7.50'	6.0" Horiz. Overflow Orifice C= 0.600 Limited to weir flow at low heads

Discarded OutFlow Max=0.01 cfs @ 7.78 hrs HW=7.01' (Free Discharge)
 ↑1=Exfiltration (Exfiltration Controls 0.01 cfs)

Primary OutFlow Max=0.08 cfs @ 8.08 hrs HW=7.54' (Free Discharge)
 ↑2=Underdrain (Orifice Controls 0.05 cfs @ 9.00 fps)
 ↑3=Overflow Orifice (Weir Controls 0.03 cfs @ 0.61 fps)

E21-049 Storm

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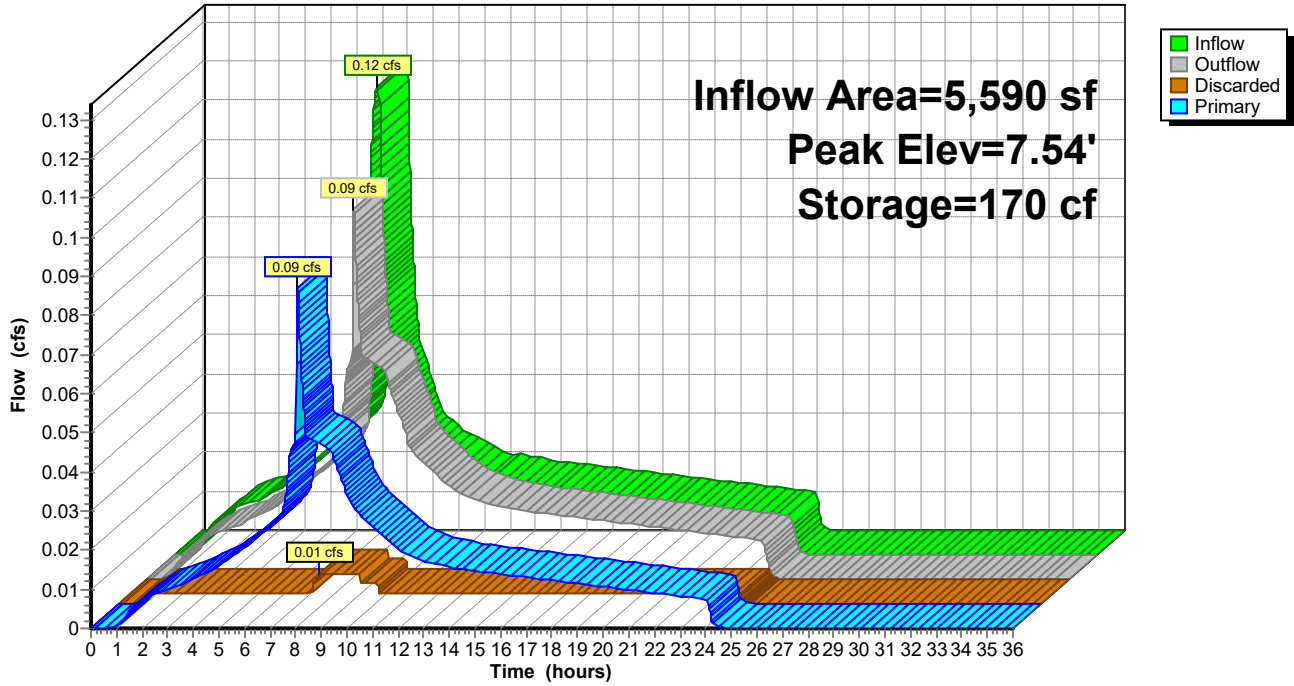
Type IA 24-hr 25-YR Rainfall=4.00"

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Pond P3: Street Planter 3

Hydrograph



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Type IA 24-hr 25-YR Rainfall=4.00"

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Summary for Pond P4: Detention Pipe

Inflow Area = 24,829 sf, 100.00% Impervious, Inflow Depth = 3.56" for 25-YR event
 Inflow = 0.44 cfs @ 7.92 hrs, Volume= 7,362 cf
 Outflow = 0.25 cfs @ 8.37 hrs, Volume= 7,362 cf, Atten= 44%, Lag= 27.0 min
 Primary = 0.25 cfs @ 8.37 hrs, Volume= 7,362 cf
 Routed to Reach -POST : Peak Flows from Post-Developed Site

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
 Peak Elev= 3.78' @ 8.37 hrs Surf.Area= 301 sf Storage= 1,114 cf

Plug-Flow detention time= 75.7 min calculated for 7,360 cf (100% of inflow)
 Center-of-Mass det. time= 75.7 min (738.0 - 662.3)

Volume	Invert	Avail.Storage	Storage Description
#1	0.00'	1,374 cf	60.0" Round Pipe Storage L= 70.0'

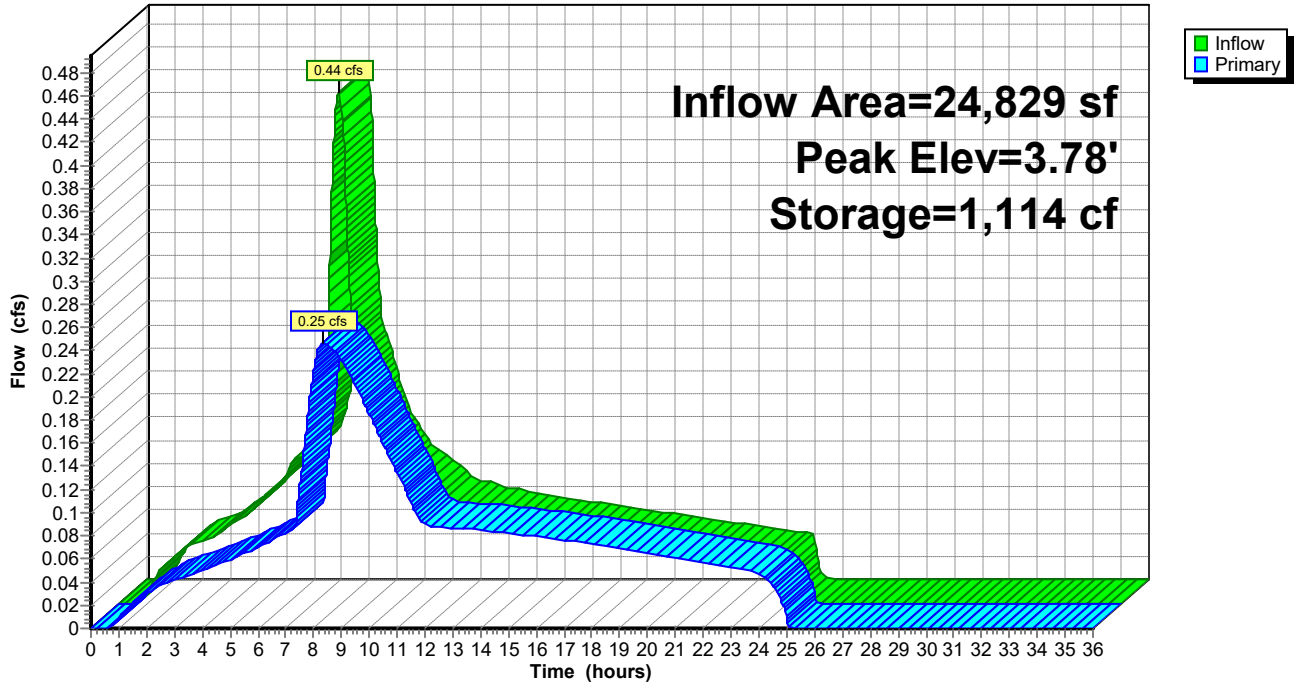
Device	Routing	Invert	Outlet Devices
#1	Primary	0.00'	1.5" Horiz. Control Orifice C= 0.600 Limited to weir flow at low heads
#2	Primary	2.20'	2.0" Horiz. Upper Orifice C= 0.600 Limited to weir flow at low heads
#3	Primary	4.00'	12.0" Vert. Overflow C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.25 cfs @ 8.37 hrs HW=3.78' (Free Discharge)

- 1=Control Orifice (Orifice Controls 0.11 cfs @ 9.36 fps)
- 2=Upper Orifice (Orifice Controls 0.13 cfs @ 6.05 fps)
- 3=Overflow (Controls 0.00 cfs)

Pond P4: Detention Pipe

Hydrograph



E21-049 Storm

Type IA 24-hr WQ Rainfall=1.00"

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Page 1

Summary for Pond P1: Street Planter 1

Inflow Area = 7,319 sf, 100.00% Impervious, Inflow Depth = 0.79" for WQ event
 Inflow = 0.03 cfs @ 7.92 hrs, Volume= 482 cf
 Outflow = 0.01 cfs @ 8.63 hrs, Volume= 482 cf, Atten= 76%, Lag= 42.7 min
 Discarded = 0.01 cfs @ 8.63 hrs, Volume= 482 cf
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf

Routed to Reach -POST : Peak Flows from Post-Developed Site

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
 Peak Elev= 1.69' @ 9.91 hrs Surf.Area= 360 sf Storage= 117 cf

Plug-Flow detention time= 261.3 min calculated for 482 cf (100% of inflow)
 Center-of-Mass det. time= 261.3 min (974.9 - 713.6)

Volume	Invert	Avail.Storage	Storage Description
#1	0.00'	108 cf	4.50'W x 40.00'L x 1.50'H Rock 270 cf Overall x 40.0% Voids
#2	1.50'	68 cf	4.50'W x 40.00'L x 1.50'H Growing Medium 270 cf Overall x 25.0% Voids
#3	3.00'	180 cf	4.50'W x 40.00'L x 1.00'H Ponding
		356 cf	Total Available Storage

Device	Routing	Invert	Outlet Devices
#1	Discarded	0.00'	1.000 in/hr Exfiltration over Horizontal area
#2	Primary	3.50'	6.0" Vert. Overflow Orifice C= 0.600 Limited to weir flow at low heads

Discarded OutFlow Max=0.01 cfs @ 8.63 hrs HW=1.50' (Free Discharge)↑1=**Exfiltration** (Exfiltration Controls 0.01 cfs)**Primary OutFlow** Max=0.00 cfs @ 0.00 hrs HW=0.00' (Free Discharge)↑2=**Overflow Orifice** (Controls 0.00 cfs)

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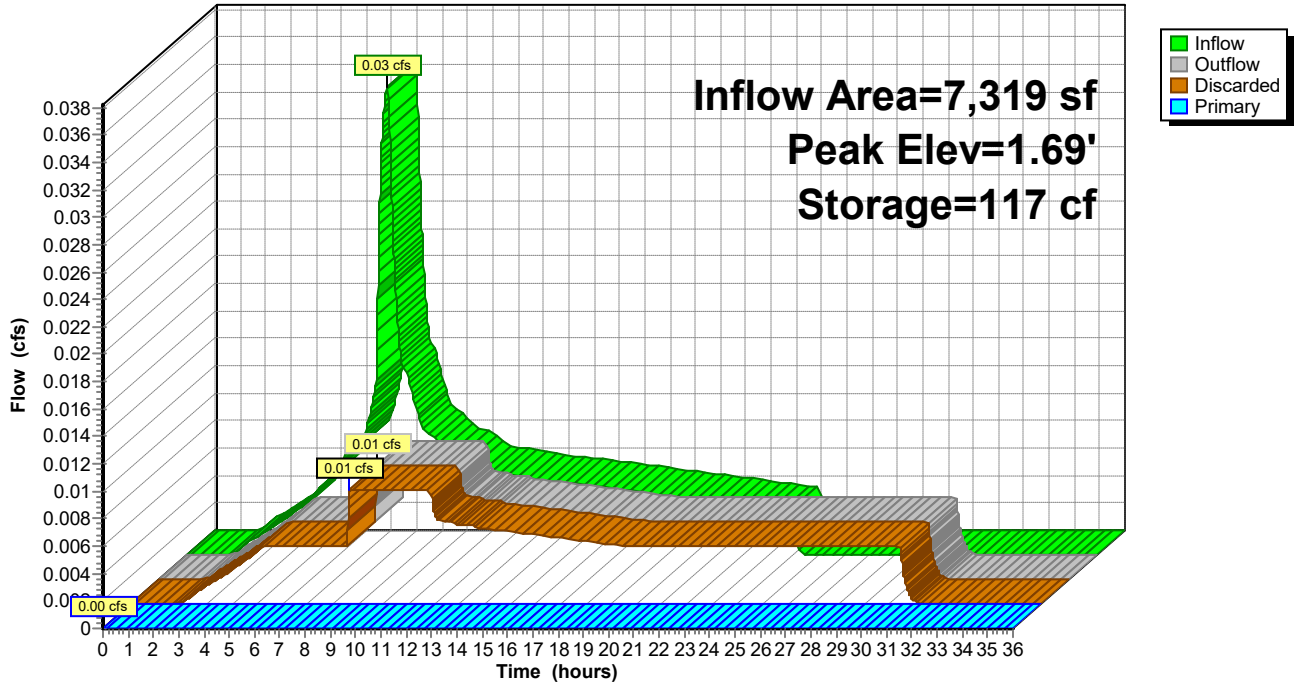
Type IA 24-hr WQ Rainfall=1.00"

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Page 2

Pond P1: Street Planter 1

Hydrograph



E21-049 Storm

Type IA 24-hr WQ Rainfall=1.00"

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Page 3

Summary for Pond P2: Street Planter 2

Inflow Area = 1,860 sf, 100.00% Impervious, Inflow Depth = 0.79" for WQ event
 Inflow = 0.01 cfs @ 7.92 hrs, Volume= 123 cf
 Outflow = 0.01 cfs @ 8.02 hrs, Volume= 123 cf, Atten= 6%, Lag= 6.1 min
 Discarded = 0.00 cfs @ 7.59 hrs, Volume= 62 cf
 Primary = 0.01 cfs @ 8.02 hrs, Volume= 61 cf
 Routed to Pond P4 : Detention Pipe

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
 Peak Elev= 4.10' @ 8.02 hrs Surf.Area= 90 sf Storage= 3 cf

Plug-Flow detention time= 6.3 min calculated for 123 cf (100% of inflow)
 Center-of-Mass det. time= 6.3 min (720.0 - 713.6)

Volume	Invert	Avail.Storage	Storage Description
#1	4.00'	54 cf	4.50'W x 20.00'L x 1.50'H Rock 135 cf Overall x 40.0% Voids
#2	5.50'	34 cf	4.50'W x 20.00'L x 1.50'H Growing Medium 135 cf Overall x 25.0% Voids
#3	7.00'	90 cf	4.50'W x 20.00'L x 1.00'H Ponding
		178 cf	Total Available Storage

Device	Routing	Invert	Outlet Devices
#1	Discarded	4.00'	1.000 in/hr Exfiltration over Horizontal area
#2	Primary	4.00'	1.0" Vert. Underdrain C= 0.600 Limited to weir flow at low heads
#3	Primary	7.50'	6.0" Horiz. Overflow Orifice C= 0.600 Limited to weir flow at low heads

Discarded OutFlow Max=0.00 cfs @ 7.59 hrs HW=4.04' (Free Discharge)
 ↑1=Exfiltration (Exfiltration Controls 0.00 cfs)

Primary OutFlow Max=0.01 cfs @ 8.02 hrs HW=4.10' (Free Discharge)
 ↑2=Underdrain (Orifice Controls 0.01 cfs @ 1.12 fps)
 ↑3=Overflow Orifice (Controls 0.00 cfs)

E21-049 Storm

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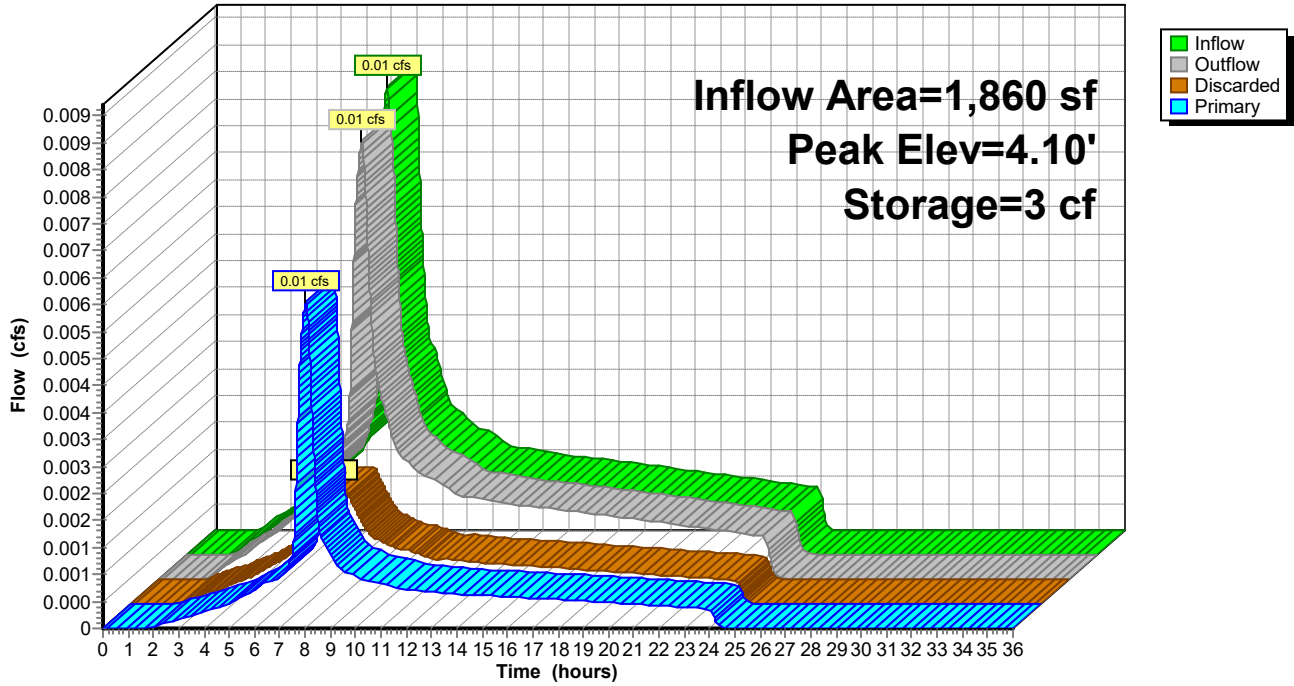
Type IA 24-hr WQ Rainfall=1.00"

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Page 4

Pond P2: Street Planter 2

Hydrograph



E21-049 Storm

Type IA 24-hr WQ Rainfall=1.00"

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Page 5

Summary for Pond P3: Street Planter 3

Inflow Area = 5,590 sf, 100.00% Impervious, Inflow Depth = 0.79" for WQ event
 Inflow = 0.03 cfs @ 7.92 hrs, Volume= 368 cf
 Outflow = 0.02 cfs @ 8.11 hrs, Volume= 368 cf, Atten= 26%, Lag= 11.7 min
 Discarded = 0.00 cfs @ 5.88 hrs, Volume= 166 cf
 Primary = 0.02 cfs @ 8.11 hrs, Volume= 203 cf
 Routed to Pond P4 : Detention Pipe

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
 Peak Elev= 4.44' @ 8.11 hrs Surf.Area= 113 sf Storage= 20 cf

Plug-Flow detention time= 8.7 min calculated for 368 cf (100% of inflow)
 Center-of-Mass det. time= 8.7 min (722.4 - 713.6)

Volume	Invert	Avail.Storage	Storage Description
#1	4.00'	68 cf	4.50'W x 25.00'L x 1.50'H Rock 169 cf Overall x 40.0% Voids
#2	5.50'	42 cf	4.50'W x 25.00'L x 1.50'H Growing Medium 169 cf Overall x 25.0% Voids
#3	7.00'	113 cf	4.50'W x 25.00'L x 1.00'H Ponding
		222 cf	Total Available Storage

Device	Routing	Invert	Outlet Devices
#1	Discarded	4.00'	1.000 in/hr Exfiltration over Horizontal area
#2	Primary	4.00'	1.0" Vert. Underdrain C= 0.600 Limited to weir flow at low heads
#3	Primary	7.50'	6.0" Horiz. Overflow Orifice C= 0.600 Limited to weir flow at low heads

Discarded OutFlow Max=0.00 cfs @ 5.88 hrs HW=4.04' (Free Discharge)
 ↑1=Exfiltration (Exfiltration Controls 0.00 cfs)

Primary OutFlow Max=0.02 cfs @ 8.11 hrs HW=4.44' (Free Discharge)
 ↑2=Underdrain (Orifice Controls 0.02 cfs @ 3.06 fps)
 ↑3=Overflow Orifice (Controls 0.00 cfs)

E21-049 Storm

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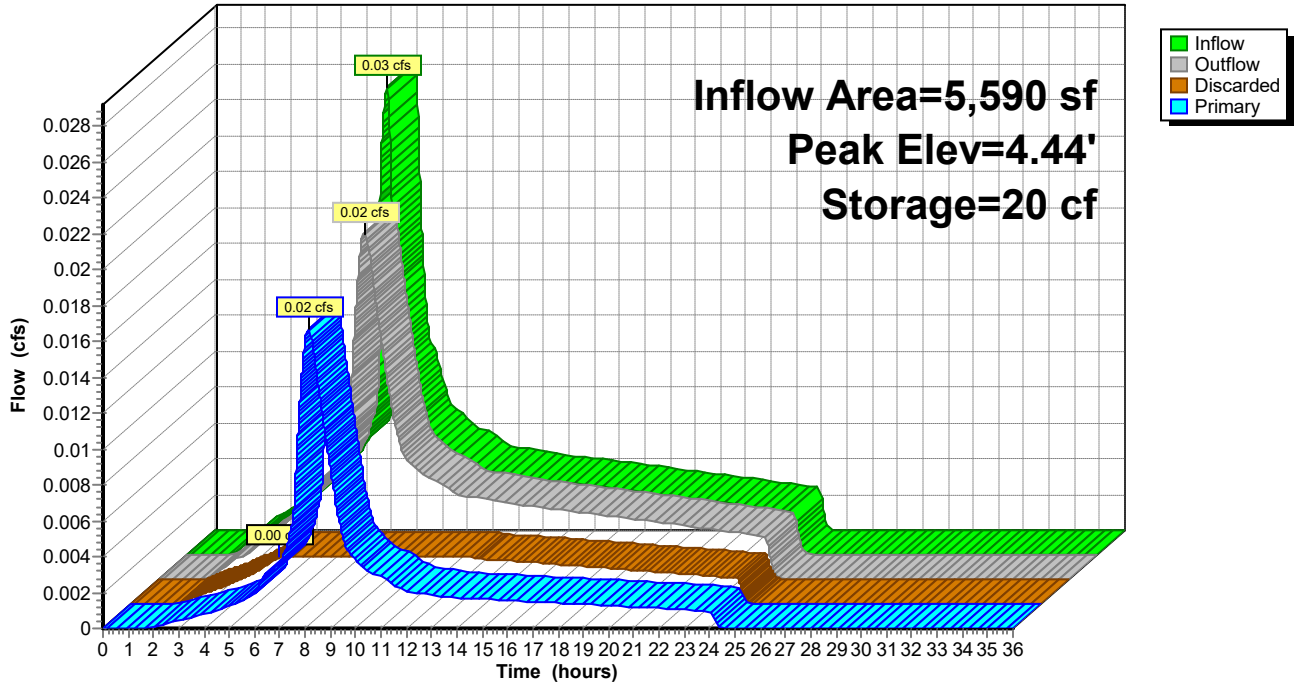
Type IA 24-hr WQ Rainfall=1.00"

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Page 6

Pond P3: Street Planter 3

Hydrograph



Scott Holden
503-502-8006
scottholden2007@outlook.com

31 August 2022

Re: Infiltration testing for 100 S Garfield Street, Newberg, OR

Dear Mr. Holden,

Field Investigation:

Rapid Soil Solutions (RSS) has attempted to performed one (1) infiltration tests. Figure 1 below shows the project site location. Soils found on site match those in by DOGMI. RSS found stiff fine grained flood deposits.

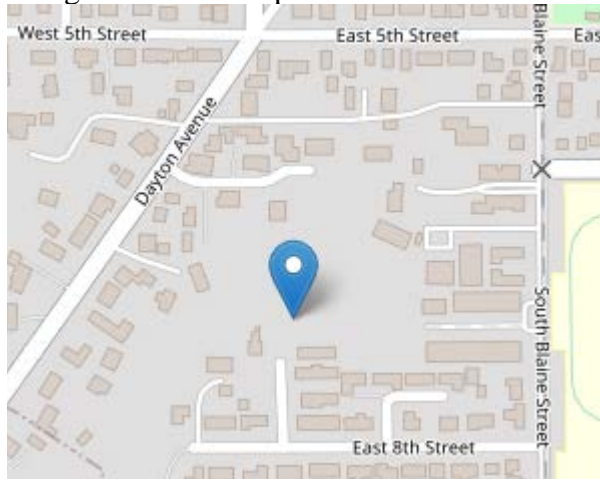


Figure 1

Infiltration Testing:

RSS perform an infiltration test per the Clean Water Services for Washington County. RSS excavated a 6ft deep holes into and started a pre-soak for four (4) hours then testing took place for three hours. The below table summarized the rates and depths. For soil details and locations please see the following infiltration testing sheets.

Location	rate (in/hr.)	Depth (ft)
HA#1	0.5	6
HA#2	2.0	6
HA#3	1.0	6

Groundwater

Based upon the three (3) well logs at are the closest to the site and of similar elevation ground water is 180-200 below the sites elevations.

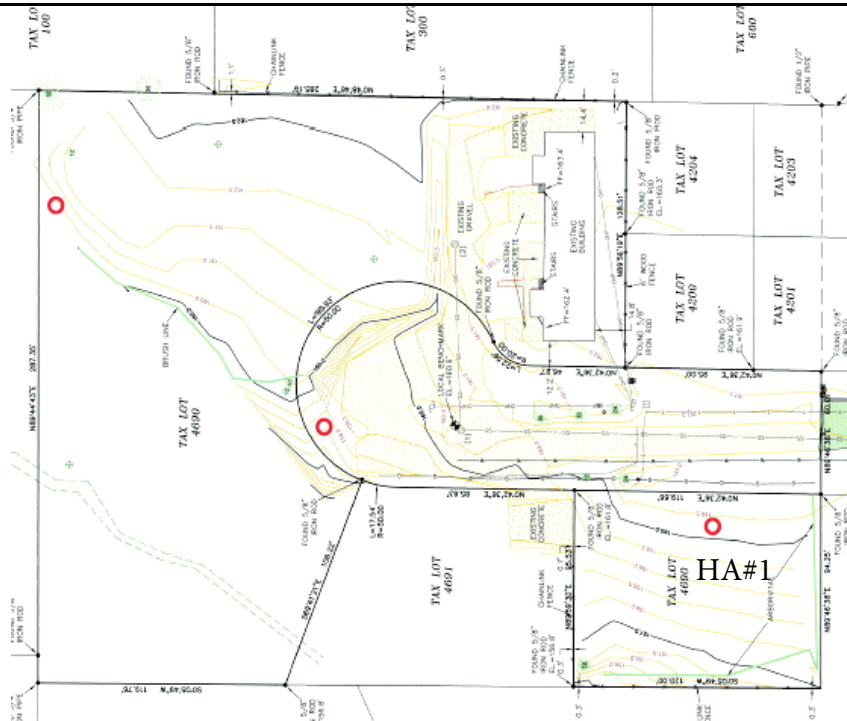
The analysis, conclusions and recommendations contained in this report are based on site conditions as they existed at the time of explorations. Any questions regarding this report please contact me at the below number or email.

Sincerely,



Mia Mahedy, PE GE.

Rapid Soil Solutions Infiltration Test Results



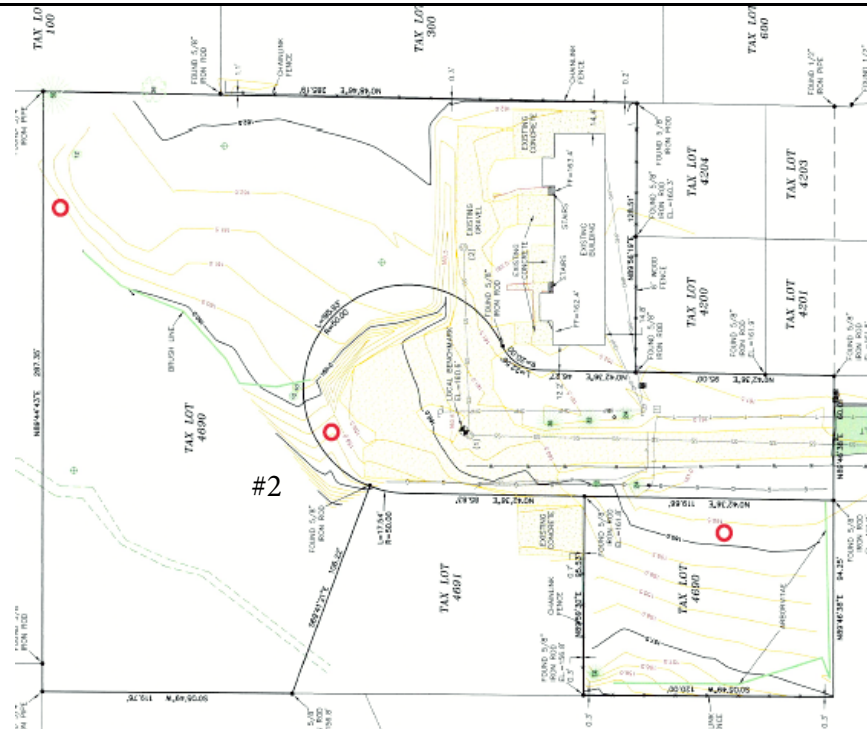
Preliminary Information

Location:	100 S Garfield St, Newberg OR.	Performed By: (Supervised by Mia Mahedy, PE, GE)	Rick Sands
Date & Time:	8-29-22, 8:45	Instrument Used:	3 inch hand auger
Weather:	Sunny, 65	Depth:	6 ft

HA #1

Soil	2-4ft damp light brown silty clay , medium stiffness , 4-6ft, damp, brown , medium stiffness		
Presoak	9:00, 16.25, 10:00, 15, fill 18.75, 11:00, 18, fill 19:50, 12:00, 19, fill 21.75, 1:00, 21, fill 23,		
Time	Measurement (inches)	Level Refilled To (inches)	Rate (inches/hour)
1:20	22.50		
1:40	22.50		
2:00	22.25	23.25	
2:20	24		
2:40	23.75		
3:00	23.50	25	
3:20	24.75		
3:40	24.75		
4:00	24.50		
Site Infiltration Rate (inches/hour)			0.50in/hr

Rapid Soil Solutions Infiltration Test Results



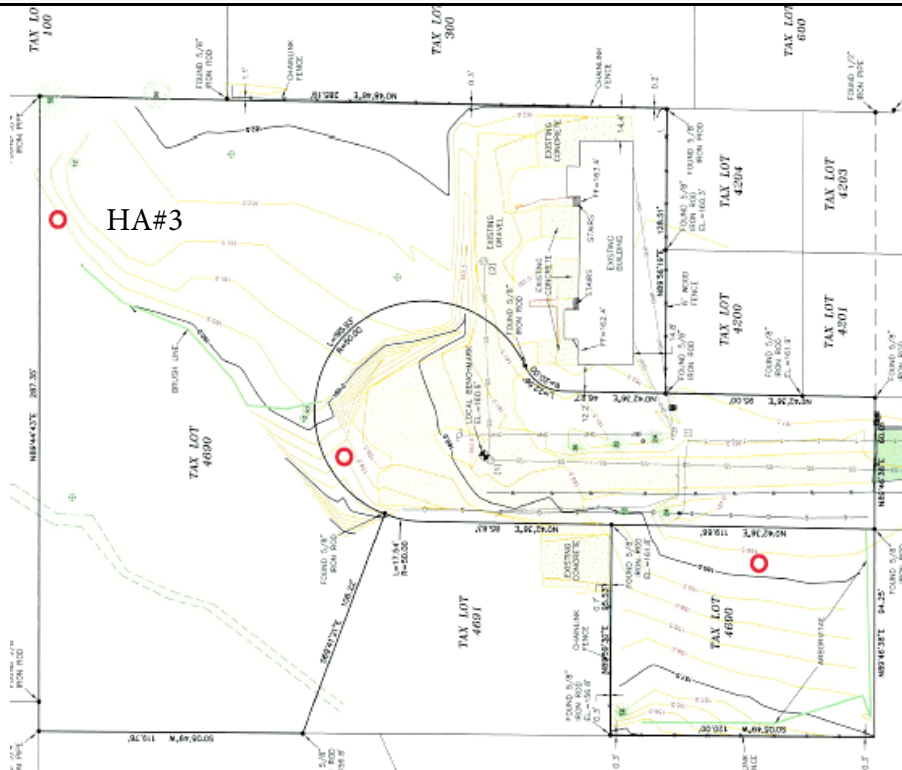
Preliminary Information

Location:	100 S Garfield St, Newberg OR.	Performed By: (Supervised by Mia Mahedy, PE, GE)	Rick Sands
Date & Time:	8-29-22, 8:45 am	Instrument Used:	3-inch hand auger
Weather:	Sunny, 65	Depth:	6 ft

HA # 2

Soil	2-4 ft, medium stiffness damp silty clay, brown , 4-6 ft, medium stiffness damp silty clay , brown		
Presoak	9:00, 15.25, 10:00, 12:25, fill 18.25, 11:00, 17, fill 18.50, 12:00, 16.50, fill 19, 1:00, 17, fill 19		
Time	Measurement (inches)	Level Refilled To (inches)	Rate (inches/hour)
1:20	18.25		
1:40	17.75		
2:00	17.25	19	
2:20	18.25		
2:40	17.25		
3:00	17	19.50	
3:20	18.50		
3:40	18		
4:00	17.50		
Site Infiltration Rate (inches/hour)			2in/hr.

Rapid Soil Solutions Infiltration Test Results



Preliminary Information

Location:	100 S Garfield St, Newberg OR.	Performed By: (Supervised by Mia Mahedy, PE, GE)	Rick Sands
Date & Time:	8-29-22, 8:45 am	Instrument Used:	3 inch hand auger
Weather:	Sunny, 65	Depth:	6 ft

HA # 3

Soil	2-4 ft light brown silty clay medium stiffness damp, 4-6 ft, damp, brown , medium stiffness, silty clay		
Presoak	9:00, 19.50, 10:00, 18.25, fill 20, 11:00, 18.50, fill 20.75, 12:00, 20.25, fill 22, 1:00, 20.50, fill 22.25		
Time	Measurement (inches)	Level Refilled To (inches)	Rate (inches/hour)
1:20	22		
1:40	21.25		
2:00	21.25	23.75	
2:20	23.25		
2:40	23		
3:00	22.75	24.25	
3:20	24		
3:40	23.50		
4:00	23.25'		
Site Infiltration Rate (inches/hour)			1in/hr.

STATE OF OREGON
WATER WELL REPORT
 (as required by ORS 537.765)

RECEIVED

MAR - 8 1993

3s/2w/19

(START CARD) # 44144

(1) OWNER:

Name NSP Development/Brenneke
 Address 2214 SW Hoffman
 City Portland State OR Zip 97201

Well Number 796
 WATER RESOURCES DEPT. SALEMI

(2) TYPE OF WORK:

New Well Deepen Recondition Abandon

(3) DRILL METHOD:

Rotary Air Rotary Mud Cable
 Other

(4) PROPOSED USE:

Domestic Community Industrial Irrigation
 Thermal Injection Other

(5) BORE HOLE CONSTRUCTION:

Special Construction approval Yes No Depth of Completed Well 240 ft.
 Explosives used Yes No Type _____ Amount _____

HOLE Diameter	From To		Material	SEAL From To		Amount sacks or pounds
12 1/4"	0'	30	Cement	0'	35'	42 Sacks
10"	30	40				
8"	40	240				

How was seal placed: Method A B C D E
 Other

Backfill placed from _____ ft. to _____ ft. Material _____
 Gravel placed from _____ ft. to _____ ft. Size of gravel _____

(6) CASING/LINER:

Diameter	From	To	Gauge	Material			
				Steel	Plastic	Welded	Threaded
Casing: 8"	+ 2	38'	.25	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Liner:				<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Final location of shoe(s) _____

(7) PERFORATIONS/SCREENS:

Perforations Method _____
 Screens Type _____ Material _____

From	To	Slot size	Number	Diameter	Tele/pipe size	Casing	Liner
						<input type="checkbox"/>	<input type="checkbox"/>
						<input type="checkbox"/>	<input type="checkbox"/>
						<input type="checkbox"/>	<input type="checkbox"/>
						<input type="checkbox"/>	<input type="checkbox"/>

(8) WELL TESTS: Minimum testing time is 1 hour

Pump Bailer Air Flowing Artesian

Yield gal/min	Drawdown	Drill stem at	Time
100 GPM		240'	1 hr.

Temperature of Water 57° Depth Artesian Flow Found _____
 Was a water analysis done? Yes By whom _____
 Did any strata contain water not suitable for intended use? Too little
 Salty Muddy Odor Colored Other _____
 Depth of strata: _____

(9) LOCATION OF WELL by legal description:

County Yamhill Latitude _____ Longitude _____
 Township 3-S N or S. Range 2-W E or W. WM.
 Section 19/30 1/4 _____ 1/4 _____
 Tax Lot _____ Lot _____ Block _____ Subdivision _____
 Street Address of Well (or nearest address) Dayton Av, Newberg,
Or 97132

(10) STATIC WATER LEVEL:

80' ft. below land surface. Date 3/1/93
 Artesian pressure _____ lb. per square inch. Date _____

(11) WATER BEARING ZONES:

Depth at which water was first found 190'

From	To	Estimated Flow Rate	SWL
190	220'	60 GPM	n/a

(12) WELL LOG:

Ground elevation _____

Material	From	To	SWL
Top Soil	0	3	
Brown Clay	3	25	
H. Brown Basalt	25	35	
H. Gray Basalt	35	55	
M.H. Brown Basalt	55	85	
H. Gray Basalt	85	105	
H. Gray Fractured Basalt	105	155	
H. Gray Frac./Broken Basalt	155	165	
Hard Gray Basalt	165	175	
Hard Brown Basalt	175	190	
Hard Severe Fractured Gray Bas	190	200	
H. Gray/Brown Porous Basalt	200	215	
Hard Gray Basalt	215	235	
Soft White Clay	235	240	

Date started 2/23/93 Completed 3/1/93

(unbonded) Water Well Constructor Certification:

I certify that the work I performed on the construction, alteration, or abandonment of this well is in compliance with Oregon well construction standards. Materials used and information reported above are true to my best knowledge and belief.

WWC Number _____
 Signed _____ Date _____

(bonded) Water Well Constructor Certification:

I accept responsibility for the construction, alteration, or abandonment work performed on this well during the construction dates reported above. All work performed during this time is in compliance with Oregon well construction standards. This report is true to the best of my knowledge and belief.

WWC Number 645
 Signed [Signature] Date 3/4/93

16

RECEIVED

3s/2w/19cb

STATE OF OREGON WATER WELL REPORT (as required by ORS 537.765)

JUL 13 1993

WATER RESOURCES DEPT. SALEM, OREGON

(START CARD) # 50236

YAMH 2837

(1) OWNER:

Name Tim & Robin Vachter
Address 24285 7ard Ln.
City Newberg State OR Zip 97132

(2) TYPE OF WORK:

New Well Deepen Recondition Abandon

(3) DRILL METHOD:

Rotary Air Rotary Mud Cable Other

(4) PROPOSED USE:

Domestic Community Industrial Irrigation
Thermal Injection Other

(5) BORE HOLE CONSTRUCTION:

Special Construction approval Yes No Depth of Completed Well 200 ft.
Explosives used Yes No Type Amount

Table with columns: HOLE Diameter, From, To, SEAL Material, From, To, Amount sacks or pounds

How was seal placed: Method A B C D E

Backfill placed from ft. to ft. Material
Gravel placed from ft. to ft. Size of gravel

(6) CASING/LINER:

Table with columns: Diameter, From, To, Gauge, Steel, Plastic, Welded, Threaded

Final location of shoe(s) 84.5

(7) PERFORATIONS/SCREENS:

Perforations Method skil saw
Screens Type Material

Table with columns: From, To, Slot size, Number, Diameter, Tele/pipe size, Casing, Liner

(8) WELL TESTS: Minimum testing time is 1 hour

Table with columns: Yield gal/min, Drawdown, Drill stem at, Time

Temperature of Water 51 Depth Artesian Flow Found
Was a water analysis done? Yes By whom WFR
Did any strata contain water not suitable for intended use? Too little
Salty Muddy Odor Colored Other

(9) LOCATION OF WELL by legal description:

County YAMHILL Latitude Longitude
Township 3S N or S. Range 2W E or W. WM.
Section 19 NW 1/4 SW 1/4
Tax Lot Lot Block Subdivision
Street Address of Well (or nearest address) SAME

(10) STATIC WATER LEVEL:

69 ft. below land surface. Date 6/23/93
Artesian pressure lb. per square inch. Date

(11) WATER BEARING ZONES:

Depth at which water was first found 132'

Table with columns: From, To, Estimated Flow Rate, SWL

(12) WELL LOG:

Table with columns: Material, From, To, SWL

Date started 6/4/93 Completed 6/24/93

(unbonded) Water Well Constructor Certification:

I certify that the work I performed on the construction, alteration, or abandonment of this well is in compliance with Oregon well construction standards. Materials used and information reported above are true to my best knowledge and belief.

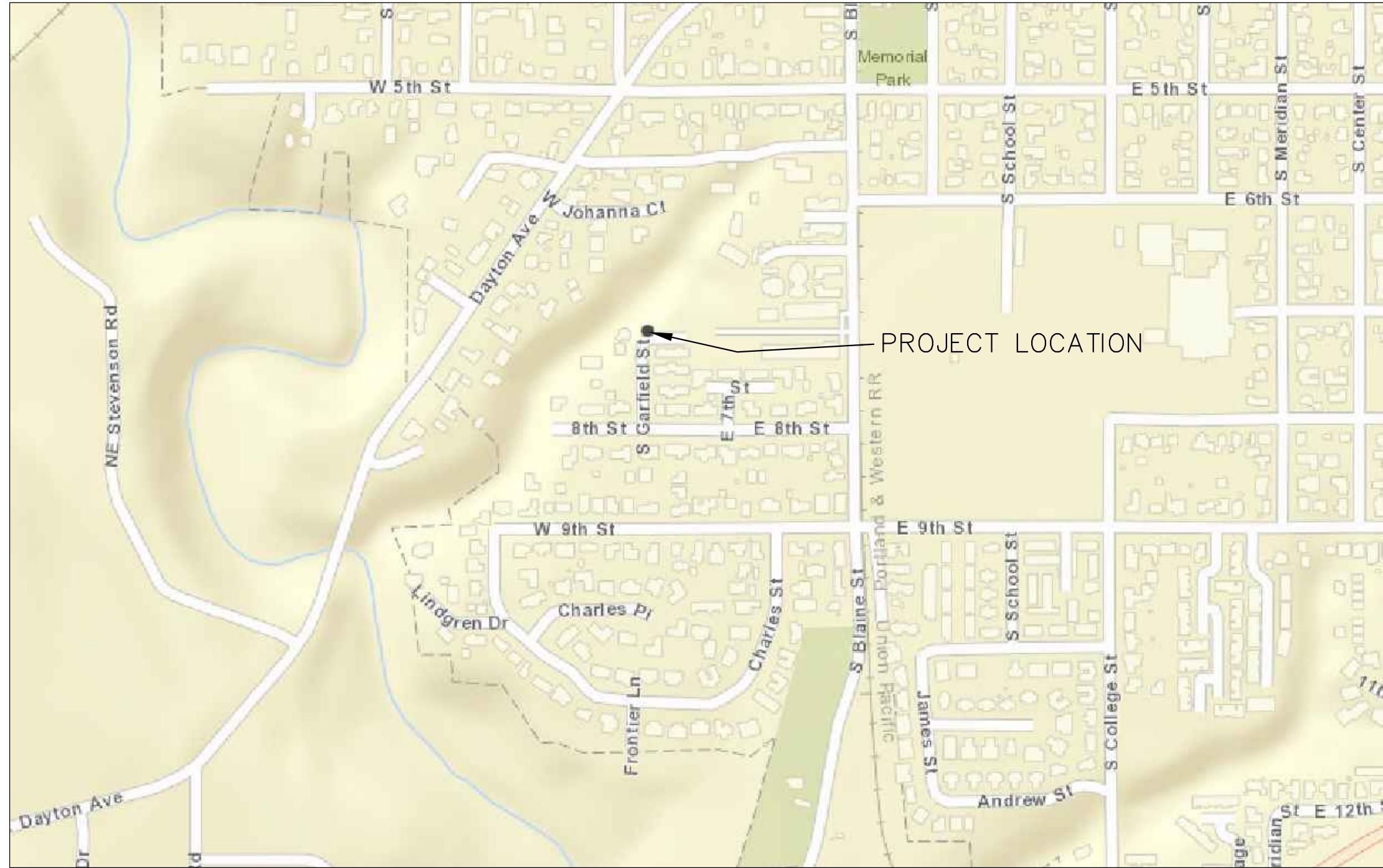
Signed Date WWC Number

(bonded) Water Well Constructor Certification:

I accept responsibility for the construction, alteration, or abandonment work performed on this well during the construction dates reported above. All work performed during this time is in compliance with Oregon well construction standards. This report is true to the best of my knowledge and belief.

Signed Tom Bryant WWC Number 703 Date 6/24/93

**GARFIELD ST 12-LOT SUBDIVISION
TYPE III SITE IMPROVEMENTS
LAND USE APPLICATION
100 S GARFIELD ST, NEWBERG, OR 97132**



VICINITY MAP
SCALE: 1"=400'

PROPOSED LEGEND

PROPERTY LINE	———
EASEMENT	- - - - -
ROAD CENTERLINE	———
STANDARD 6" CURB	▬▬▬▬▬
PAVEMENT SAWCUT	- - - - -
AC PAVEMENT	▬▬▬▬▬
CONCRETE SIDEWALK	▬▬▬▬▬
PLANTER STRIP	▬▬▬▬▬
VEGETATED STORMWATER PLANTER	▬▬▬▬▬
WATER LINE	———
WATER SERVICE & METER	⊠
DEAD-END BLOWOFF	⊗
VALVE	⊙
SANITARY SEWER LINE	———
SANITARY MANHOLE	⊙
SANITARY CLEANOUT	○
STORM DRAIN PIPE	▬▬▬▬▬
CURB INLET	▬▬▬▬▬
STORM DRAIN MANHOLE	⊙
MAJOR CONTOUR	——— 100 ——
MINOR CONTOUR	——— 101 ——
STREET TREE	⊕
STREET LIGHT	⊠

SHEET INDEX

- 1 - COVER SHEET
- 2 - EXISTING CONDITIONS & DEMO PLAN
- 3 - PRELIMINARY PLAT
- 4 - PRELIMINARY SITE & UTILITY PLAN
- 5 - PRELIMINARY GRADING & ESC PLAN
- 6 - MITIGATION & RE-PLANTING PLAN
- 7 - ESC DETAILS & NOTES

OWNER

SCOTT HOLDEN
100 S GARFIELD ST
NEWBERG, OR 97132
PHONE: (503) 502-8006
EMAIL: scottholden2007@outlook.com

PROJECT ENGINEER

KELLI A. GROVER, P.E.
FIRWOOD DESIGN GROUP, LLC
359 E. HISTORIC COLUMBIA RIVER HWY.
TROUTDALE, OR 97060
PHONE: (503) 668-3737
EMAIL: kg@firwooddesign.com

PROJECT SURVEYOR

DAVE ROEGER, PLS
CMT SURVEYING & CONSULTING
20330 SE HIGHWAY 212
DAMASCUS, OR 97089
PHONE: (503) 850-4672
EMAIL: dave@cmtsc.net

LEGAL DESCRIPTION:

TAX LOT 4690
MAP # R3219DB
YAMHILL COUNTY, OREGON



EXPIRES: 06/30/23
SIGNATURE DATE: _____

DATE:	NO.	REVISION

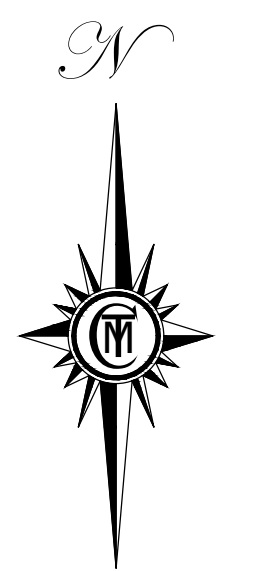
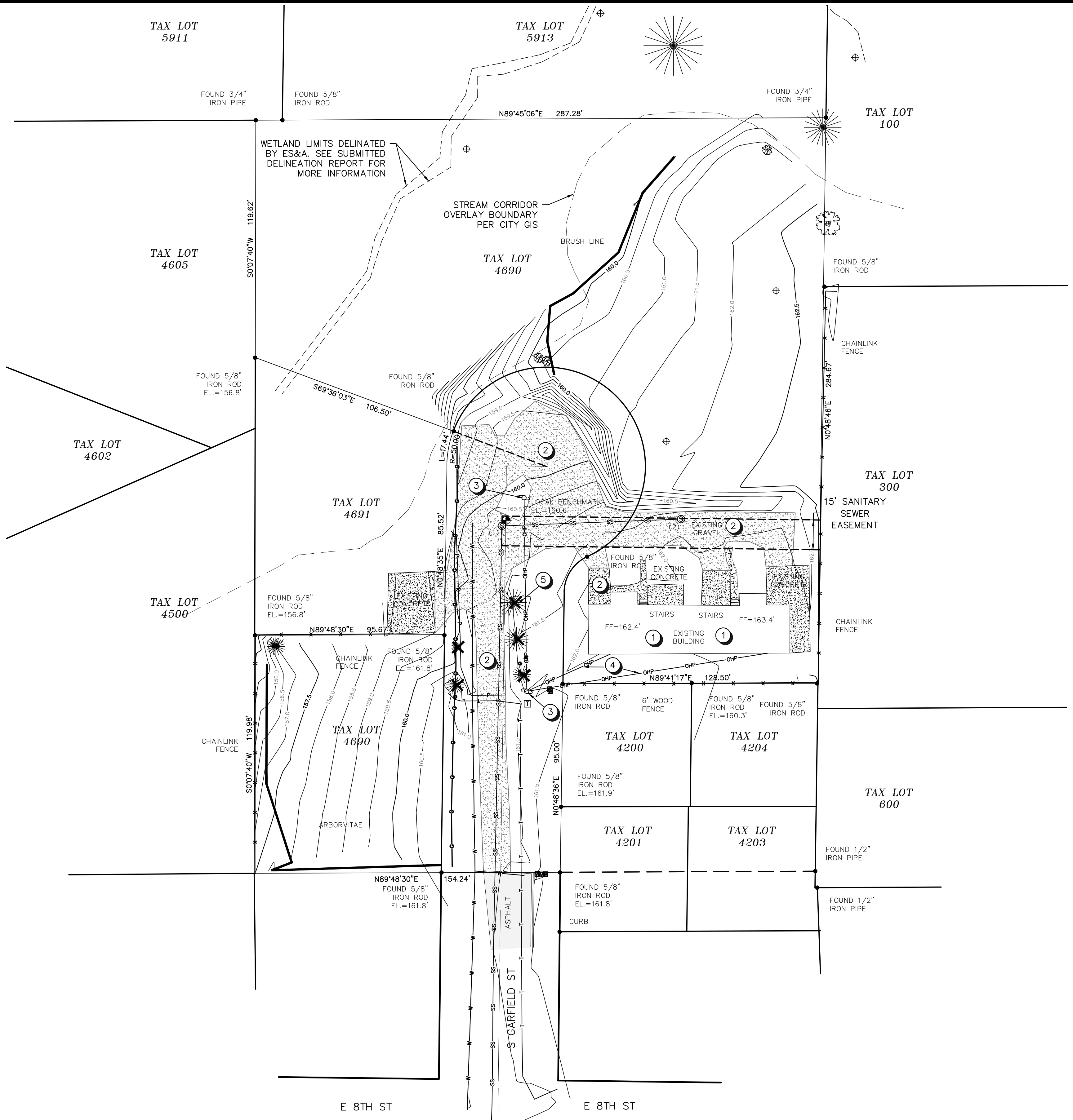
DRAWN:	DESIGNED:	CHECKED:
SCALE: AS SHOWN	DATE: SEPTEMBER 2022	
PROJECT NO. E21-049		



359 EAST HISTORIC COLUMBIA RIVER HIGHWAY
TROUTDALE, OREGON 97060
BUS: (503) 668-3737 + FAX: (503) 668-3788

SCOTT HOLDEN
100 S GARFIELD ST
NEWBERG, OR 97132

COVER SHEET
12-LOT SUBDIVISION



SCALE 1" = 30'

KEY NOTES

- ① DEMO EXISTING DUPLEX IN ACCORDANCE WITH ALL LOCAL, STATE, AND FEDERAL REQUIREMENTS.
- ② REMOVE ALL EXISTING CONCRETE AND GRAVEL ROAD / DRIVEWAYS AS NECESSARY FOR NEW ROAD CONSTRUCTION.
- ③ RELOCATE EXISTING POWER POLES
- ④ ABANDON EXISTING OVERHEAD POWER LINES
- ⑤ REMOVE TREES WITHIN CONSTRUCTION AREA (TYP)

SANITARY STRUCTRES

- (1) SSMH
RIM EL.=160.6'
I.E. IN EAST=154.7'
I.E. OUT SOUTH=154.4'
- (2) SSMH
RIM EL.=161.8'
I.E. IN EAST=155.9'
I.E. OUT WEST=155.8'

NOTES

- 1. THE PURPOSE OF THIS MAP WAS TO SHOW THE EXISTING CONDITIONS FOR 100 S GARFIELD STREET.
- 2. THE BASIS OF BEARINGS WAS PER RECORD OF SURVEY NO. CSP-8417 YAMHILL COUNTY RECORDS.
- 3. LOCAL DATUM WAS ESTABLISHED BY GPS OBSERVATION, NAVD88.
- 4. THIS MAP WAS PREPARED FOR THE EXCLUSIVE USE OF HOLDEN NEWBERG QOZB LLC.
- 5. THIS MAP WAS PREPARED BY PLAT RECORDS, CALCULATED DATA, AND FIELD MEASUREMENTS, A RECORDED BOUNDARY SURVEY WILL BE FILED AT A DATE TO BE DETERMINED.
- 6. ALL UTILITY LOCATIONS ARE SHOWN BY ABOVE GROUND FEATURES AND LOCATION OF PAINT MARKS SUPPLIED BY THE LOCAL UTILITY COMPANIES. CMT TAKES NO RESPONSIBILITY OF UNDERGROUND LOCATION. PLEASE NOTIFY THE UTILITY NOTIFICATION CENTER BEFORE ANY DIGGING 1-800-332-2344.

LEGEND

- EXISTING DECIDUOUS TREE W/ TRUNK DIAMETER (INCHES)(CL=CLUSTER)
- EXISTING CONIFEROUS TREE W/ TRUNK DIAMETER (INCHES)(CL=CLUSTER)
- EXISTING UNDERGROUND TELEPHONE
- EXISTING POWER POLE
- EXISTING UNDERGROUND POWER LINES
- EXISTING OVERHEAD POWER LINES
- EXISTING WATER METER
- EXISTING UNDERGROUND WATER
- EXISTING UNDERGROUND GAS LINE
- EXISTING SANITARY MANHOLE
- EXISTING SANITARY SEWER LINE
- EXISTING UTILITY RISER
- EXISTING FENCE
- FOUND MONUMENTS
- LOCAL BENCHMARK ESTABLISHED
- EXISTING WETLAND DATA POINT
- EXISTING WETLAND LIMITS
- EXISTING GRAVEL
- EXISTING CONCRETE
- EXISTING ASPHALT

REGISTERED
PROFESSIONAL
LAND SURVEYOR

OREGON
SEPTEMBER 11, 2018
DAVID ROEGER
86811

EXPIRES DECEMBER 31, 2022

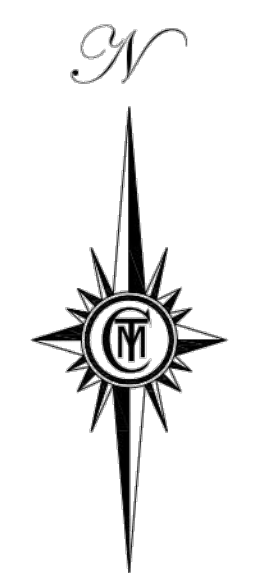
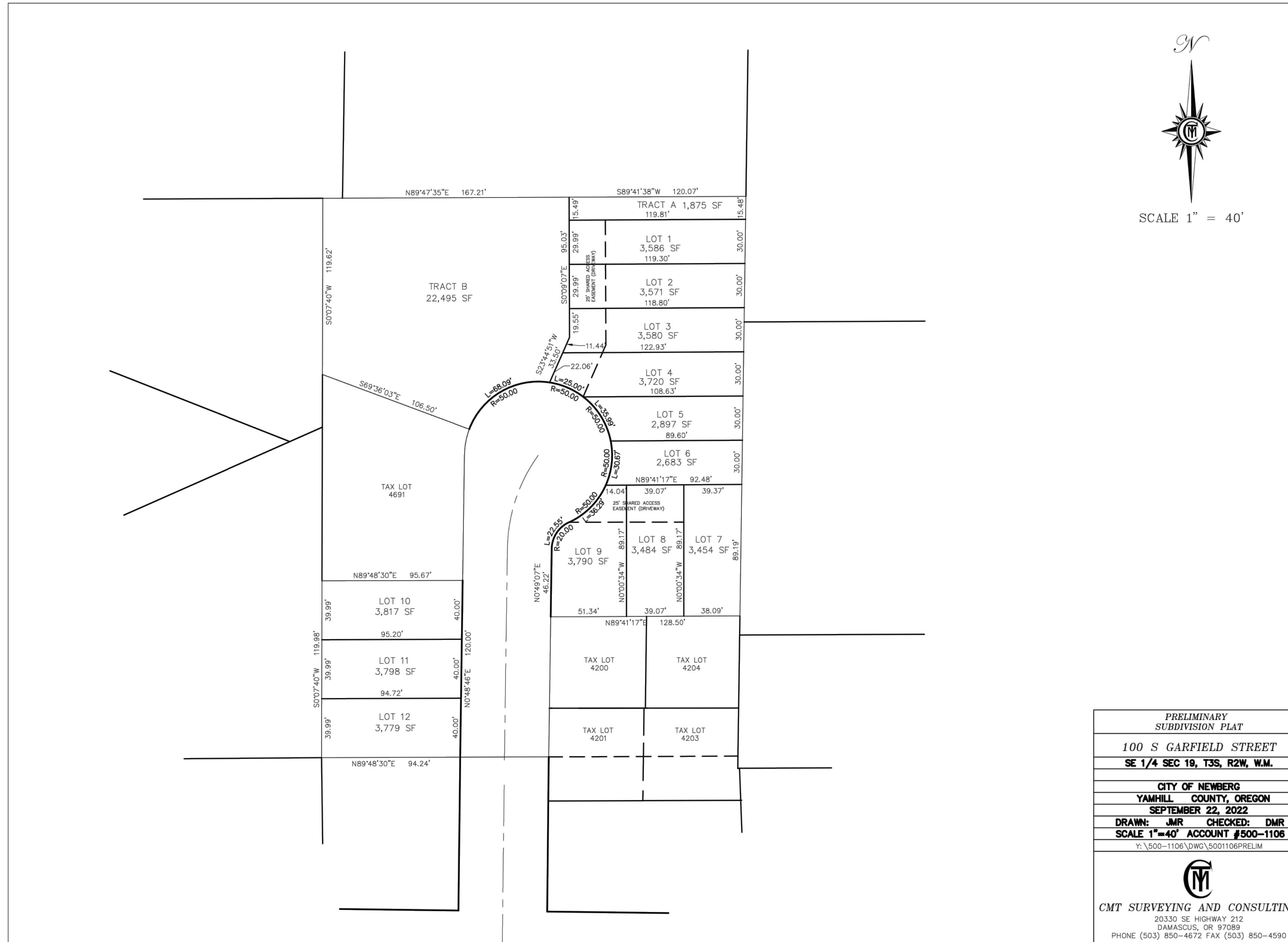
DATE:	NO.	REVISION	DRAWN:	DESIGNED:	CHECKED:
			SCALE: AS SHOWN	DATE: SEPTEMBER 2022	
			PROJECT NO. E21-049		




359 EAST HISTORIC COLUMBIA RIVER HIGHWAY
TROUTDALE, OREGON 97060
BUS: (503) 668-3737 ♦ FAX: (503) 668-3788

SCOTT HOLDEN
100 S GARFIELD ST
NEWBERG, OR 97132

EXISTING CONDITIONS & DEMO PLAN
12-LOT SUBDIVISION



SCALE 1" = 40'

PRELIMINARY
SUBDIVISION PLAT
100 S GARFIELD STREET
SE 1/4 SEC 19, T3S, R2W, W.M.
CITY OF NEWBERG
YAMHILL COUNTY, OREGON
SEPTEMBER 22, 2022
DRAWN: JMR CHECKED: DMR
SCALE 1"=40' ACCOUNT #500-1106
Y:\500-1106\DWG\5001106PRELIM

CMT SURVEYING AND CONSULTING
20330 SE HIGHWAY 212
DAMASCUS, OR 97089
PHONE (503) 850-4672 FAX (503) 850-4590

DATE:	NO.	REVISION

DRAWN:	DESIGNED:	CHECKED:
SCALE: AS SHOWN	DATE: SEPTEMBER 2022	
PROJECT NO. E21-049		

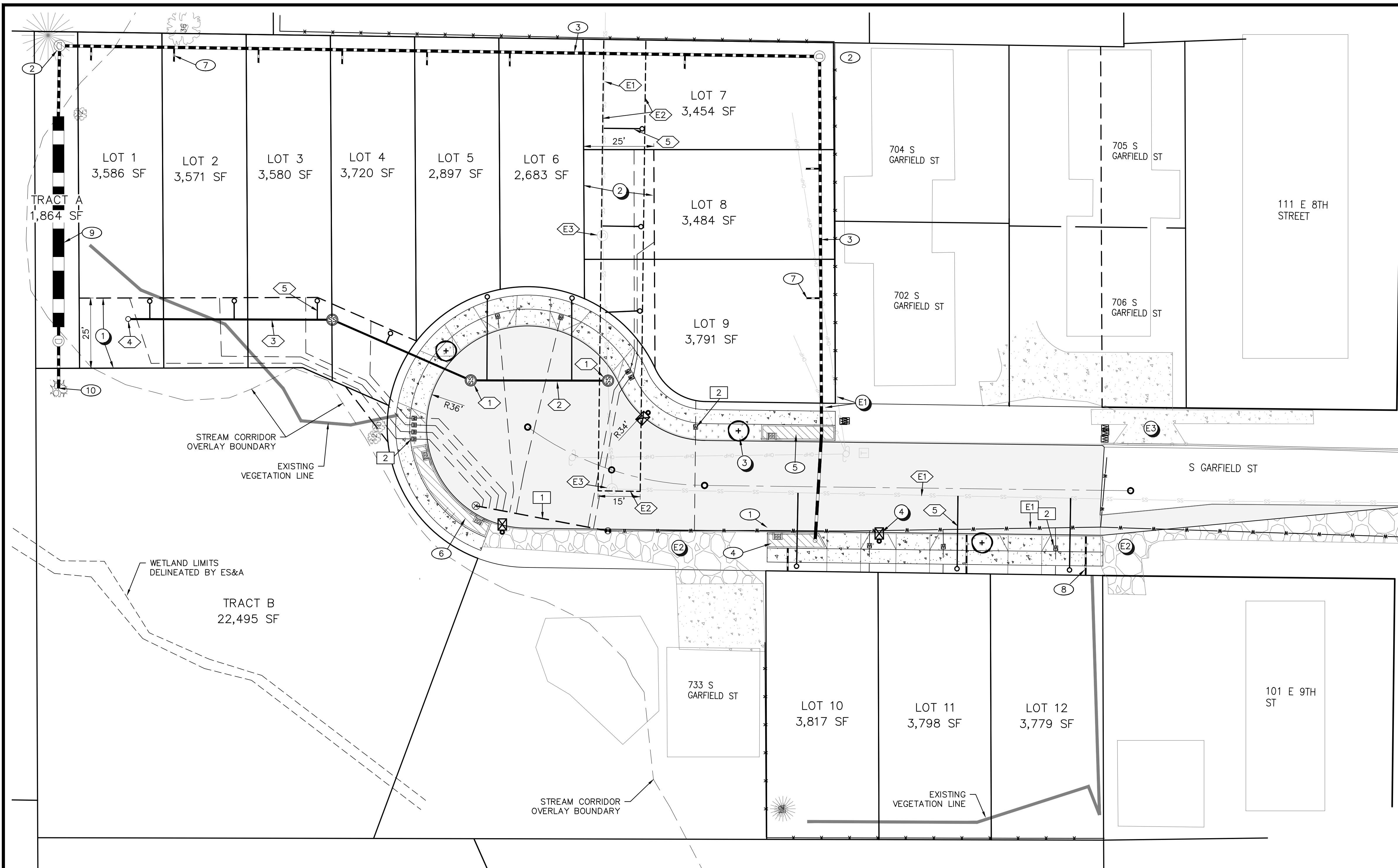


359 EAST HISTORIC COLUMBIA RIVER HIGHWAY
TROUTDALE, OREGON 97060
BUS: (503) 668-3737 ♦ FAX: (503) 668-3788

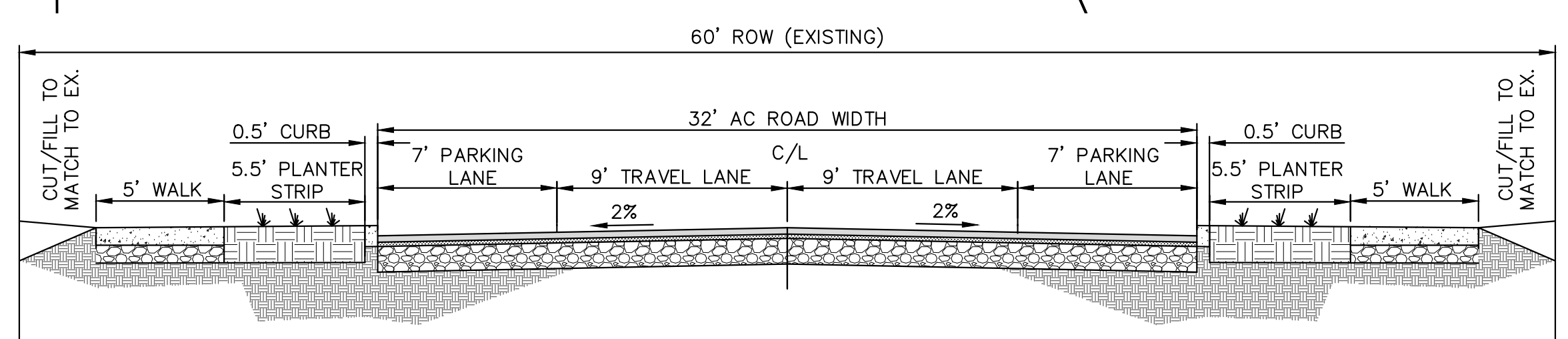
SCOTT HOLDEN
100 S GARFIELD ST
NEWBERG, OR 97132

PRELIMINARY PLAT
12-LOT SUBDIVISION

3
7



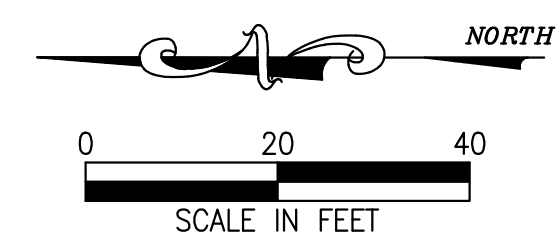
- SITE NOTES:**
- (E1) EXISTING OVERHEAD TO BE UNDERGROUNDED (BY OTHERS).
 - (E2) EXISTING GRAVEL TO REMAIN
 - (E3) EXISTING CONCRETE APPROACH TO REMAIN
 - (1) NEW 25' UTILITY AND ACCESS EASEMENT FOR LOTS 1-4
 - (2) NEW 25' UTILITY AND ACCESS EASEMENT FOR LOTS 7-9
 - (3) NEW STREET TREE (TYP).
 - (4) NEW STREET LIGHT (TYP), SEE NOTE 3 THIS SHEET.
- WATER NOTES:**
- (E1) EXISTING PUBLIC 4" DUCTILE IRON WATER MAIN. SEE NOTE 8 THIS SHEET.
 - (1) EXTEND PUBLIC 4" WATER MAIN AND CONSTRUCT BLOWOFF ASSEMBLY AT TERMINUS.
 - (2) NEW 3/4" WATER SERVICE & METER (TYP, ALL LOTS). WATER METER TO BE PLACED IN PLANTER STRIP.
- STORM NOTES:**
- (1) NEW CURB INLET (TYP, 4 TOTAL)
 - (2) NEW PRIVATE STORM DRAIN MANHOLE (TYP, 2 TOTAL)
 - (3) NEW PRIVATE 12" HDPE STORM MAIN
 - (4) NEW PUBLIC 20' LONG VEGETATED STORM PLANTER, CONSTRUCTED WITH BEEHIVE GRATE WITH OVERFLOW TO PRIVATE STORM MAIN.
 - (5) NEW PUBLIC 25' LONG VEGETATED STORM PLANTER, CONSTRUCTED WITH BEEHIVE GRATE WITH OVERFLOW TO PRIVATE STORM MAIN.
 - (6) NEW PUBLIC 45' LONG VEGETATED STORM PLANTER, CONSTRUCTED WITH OVERFLOW NOTCH TO SHEET FLOW TO THE NORTH INTO STREAM CORRIDOR.
 - (7) NEW 4" STORM DRAIN LATERAL FOR LOTS 1-9 ROOF DRAINS (TYP)
 - (8) LOTS 10-12 TO BE CONSTRUCTED WITH WEEP HOLE IN CURB FOR ROOF DRAINS.
 - (9) NEW PRIVATE 60" DIAMETER, 70 LF CMP FOR UNDERGROUND DETENTION, CONSTRUCT WITH FLOW CONTROL MANHOLE.
 - (10) NEW 12" OUTFALL INTO STREAM CORRIDOR WITH RIP-RAP EROSION CONTROL PROTECTION. 12" IE = 593.8'. DISTURBED AREA TO BE MITIGATED PER MITIGATION PLAN (BY OTHERS)
- SANITARY NOTES:**
- (E1) EXISTING PUBLIC 8" SANITARY MAIN
 - (E2) EXISTING 15' SANITARY EASEMENT
 - (E3) EXISTING SANITARY MANHOLE
 - (1) NEW SANITARY SEWER MANHOLE (TYP, 3 TOTAL)
 - (2) NEW PUBLIC 6" PVC SANITARY MAIN
 - (3) NEW PRIVATE 6" PVC SANITARY MAIN CONTAINED WITHIN EASEMENT
 - (4) NEW PRIVATE MAINLINE CLEANOUT
 - (5) NEW 4" SANITARY SEWER SERVICE AND CLEANOUT (TYP, ALL LOTS)



S GARFIELD ST TYPICAL SECTION
SCALE: N.T.S.

- NOTES:**
1. DEVELOPER / CONTRACTOR RESPONSIBLE FOR COORDINATION OF INSTALLATION OF OTHER UTILITIES NOT SHOWN ON THESE PLANS, INCLUDING GAS, ELECTRICITY, AND COMMUNICATIONS.
 2. ALL STORMWATER MANAGEMENT FACILITIES AS A PART OF THIS PROJECT ARE PROPOSED TO MANAGE BOTH NEWLY CREATED PUBLIC IMPERVIOUS AREA AND STORMWATER FROM FUTURE IMPERVIOUS AREA ON EACH OF THE LOTS. SEE SUBMITTED STORMWATER REPORT FOR MORE INFORMATION. NEWLY CREATED TRACT A WILL BE DEDICATED TO STORMWATER MANAGEMENT FOR LOTS 1-9 AND PUBLIC OVERFLOW STORMWATER.
 3. STREET LIGHTING TO BE INSTALLED ALONG NEW STREET AS NECESSARY TO COMPLY WITH NEWBERG PUBLIC WORKS DESIGN AND CONSTRUCTION STANDARDS. STREET LIGHTS SHOWN CONCEPTUALLY ON THIS PLAN. FINAL STREET LIGHTING & PHOTOMETRIC PLAN TO BE PROVIDED WITH CONSTRUCTION PLAN SET.
 4. 12' WIDE STANDARD DRIVEWAYS SHOWN CONCEPTUALLY FOR EACH LOT PER CITY OF NEWBERG STANDARD DETAIL 508.

- NOTES (CONT.):**
5. NEW S GARFIELD ST FULL ROAD SECTION TO BE CENTERED ON THE EXISTING ROW. NO ROW DEDICATION IS PROPOSED. SEE TYPICAL ROAD SECTION THIS SHEET. NO FRONTAGE IMPROVEMENTS WILL BE CONSTRUCTED ALONG NEIGHBORING LOTS (SIDEWALK & PLANTER STRIP)
 6. A REDUCED RADIUS CUL-DE-SAC (36') IS PROPOSED DUE TO THE EXISTING ROW WIDTH. AS A RESULT, THE BUILDINGS ON LOTS 1-9 WILL ALL BE SPRINKLERED, IN ACCORDANCE WITH FIRE ACCESS STANDARDS
 7. PUE = PUBLIC UTILITY EASEMENT WITH THE CITY OF NEWBERG
10' PUE TO BE CREATED ON ALL PROPERTY FRONTAGES
 8. THE EXISTING 4" WATER MAIN IN S GARFIELD ST IS UNDERSIZED PER CITY STANDARDS. HOWEVER, A WATER SYSTEM ANALYSIS WAS PERFORMED BY WESTERN STATES FIRE PROTECTION TO VERIFY THE MAIN IS OF ADEQUATE SIZE TO SERVICE THE NEW SUBDIVISION. A COPY OF THIS ANALYSIS REPORT IS SUBMITTED WITH THE LAND USE APPLICATION TO THE CITY.



EXPIRES: 06/30/23
SIGNATURE DATE: _____

DATE:	NO.	REVISION

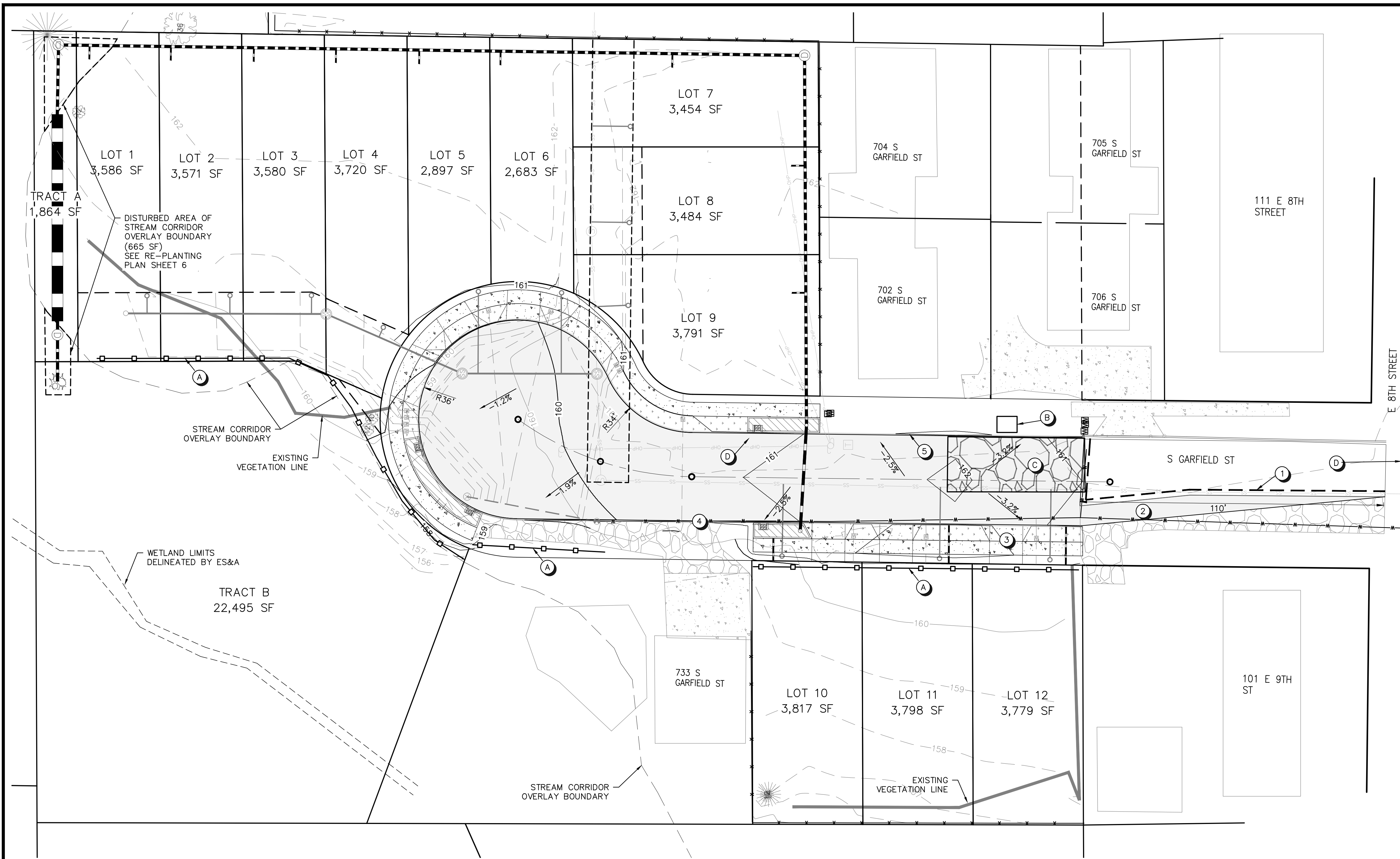
DRAWN:	DESIGNED:	CHECKED:
SCALE: AS SHOWN	DATE: SEPTEMBER 2022	
PROJECT NO. E21-049		



359 EAST HISTORIC COLUMBIA RIVER HIGHWAY
TROUTDALE, OREGON 97060
BUS: (503) 668-3737 • FAX: (503) 668-3788

SCOTT HOLDEN
100 S GARFIELD ST
NEWBERG, OR 97132

PRELIMINARY SITE & UTILITY PLAN
12-LOT SUBDIVISION



- STREET NOTES:**
- ① SAWCUT LINE, MIN. 2' INTO EXISTING ASPHALT
 - ② 110' ASPHALT TAPER TO EXISTING ROAD EDGE, PER AASTHO GREEN BOOK CHAPTER 5C-2, BASED ON 25 MPH DESIGN SPEED AND 11' ROAD WIDTH LOSS.
 - ③ NEW 12' DRIVEWAY APPROACH FOR EACH LOT (TYP)
 - ④ 12' CURB CUT FOR EXISTING HOME AT 733 S GARFIELD ST
 - ⑤ NEW 6" EXPOSURE STANDARD CUTB AND GUTTER ALONG NEW S GARFIELD ST

- ESC NOTES:**
- Ⓐ INSTALL SEDIMENT FENCE DOWNHILL OF ALL GRADING ACTIVITIES
 - Ⓑ CONCRETE WASH OUT
 - Ⓒ GRAVEL CONSTRUCTION ENTRANCE
 - Ⓓ INSTALL INLET PROTECTION ON ALL EXISTING AND PROPOSED STORM DRAIN INLETS WITHIN 200' DOWNSTREAM OF THE PROJECT SITE.

ESTIMATED SITE DATA:

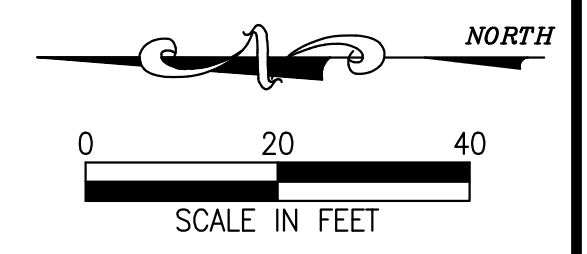
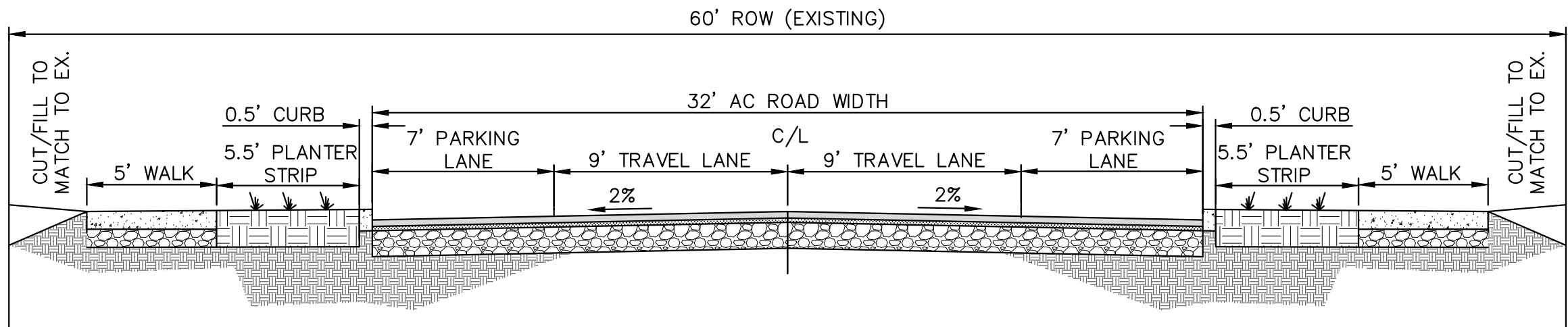
AREA OF DISTURBANCE: 60,550 SF [1.4 ACRES] (INCLUDE ALL OF LOTS 1-12 AND TRACT A, AND DISTURBED AREA OF TRACT B)

NEW ASPHALT ROAD: 10,410 SF

NEW CONCRETE SIDEWALK: 2,520 SF

PROPOSED FINISH GRADE TO EXISTING GRADE
 CUT: 135 CY
 FILL: 205 CY

ENGINEER'S ESTIMATE IS APPROXIMATE AND PROVIDED FOR REFERENCE ONLY. CONTRACTOR RESPONSIBLE FOR TAKEOFFS USED IN BIDDING AND ACTUAL QUANTITIES OF IMPORTED/EXPORTED MATERIAL AS NEEDED FOR CONSTRUCTION



DATE:	NO.	REVISION

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SCALE: AS SHOWN	DATE: SEPTEMBER 2022	
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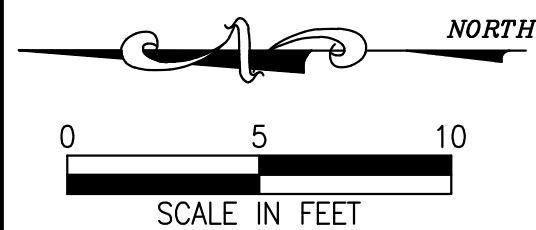
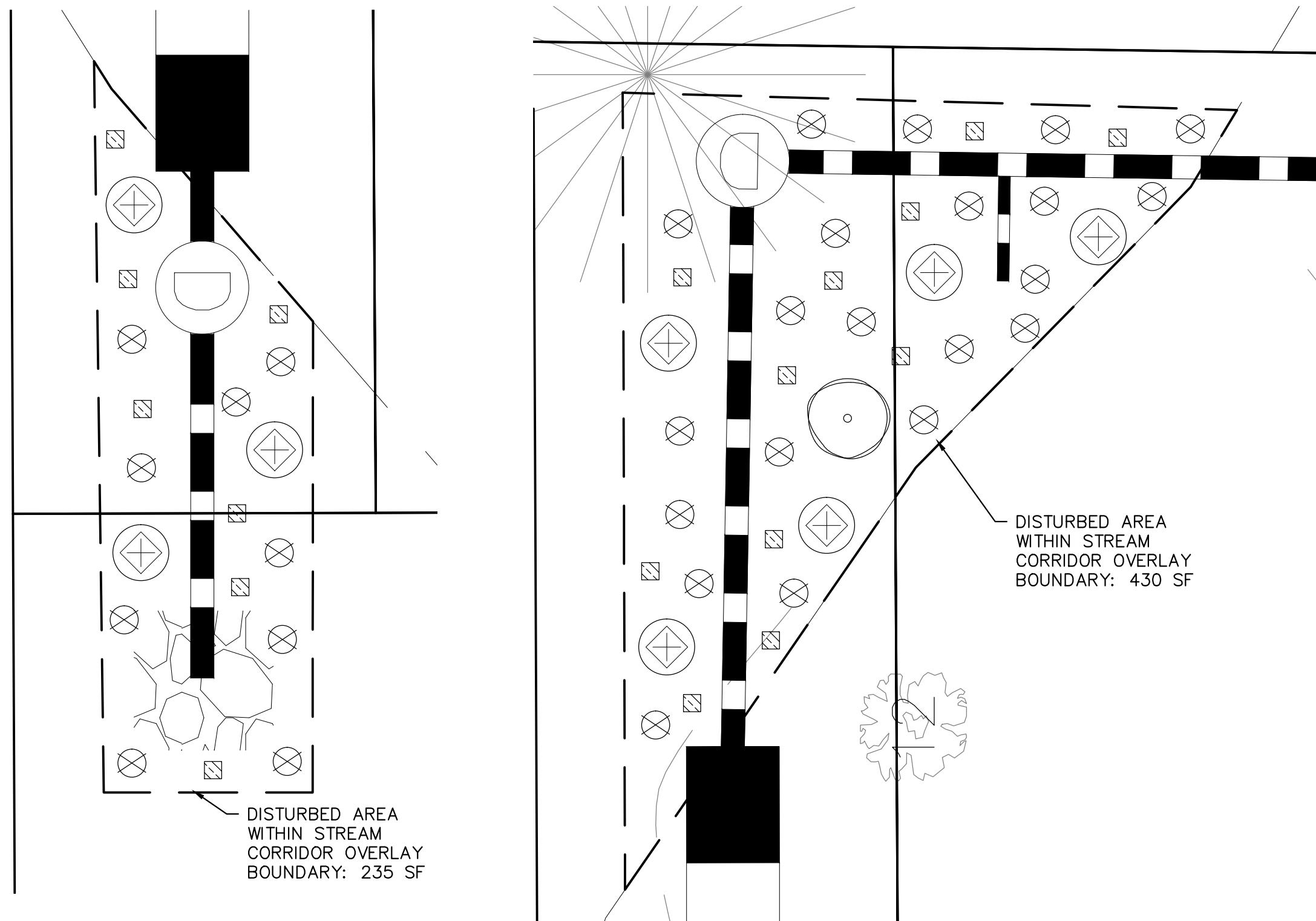


359 EAST HISTORIC COLUMBIA RIVER HIGHWAY
 TROUTDALE, OREGON 97060
 BUS: (503) 668-3737 + FAX: (503) 668-3788

SCOTT HOLDEN
 100 S GARFIELD ST
 NEWBERG, OR 97132

PRELIMINARY GRADING & ESC PLAN
 12-LOT SUBDIVISION

5
7



MITIGATION REPLANTING DETAIL
SCALE: 1"=5'

- LEGEND**
- TREE
 - LARGE SHRUB
 - SMALL SHRUB
 - GRASSES, GROUNDCOVER

MITIGATION NOTES:

- ALL DISTURBED AREAS SHALL BE REGRADED AND CONTOURED TO APPEAR NATURAL.
- ALL FILL MATERIAL SHALL BE NATIVE SOIL
- REPLANTING SHALL BE REQUIRED USING A COMBINATION OF TREES, SHRUBS AND GRASS
- AREAS TO BE REPLANTED MUST BE COMPLETED AT THE TIME OF FINAL INSPECTION OR COMPLETION OF THE WORK
- EXISTING VEGETATION THAT CAN BE SAVED AND REPLANTED IS ENCOURAGED, ALTHOUGH NOT REQUIRED
- ALL DISTURBED AREAS SHALL BE REPLANTED TO ACHIEVE 90 PERCENT COVER IN ONE YEAR.
- ALL DISTURBED AREAS SHALL BE PROTECTED WITH EROSION CONTROL DEVICES PRIOR TO CONSTRUCTION ACTIVITY. THESE DEVICES SHALL REMAIN IN PLACE UNTIL 90 PERCENT COVER IS ACHIEVED.

PLANTING NOTES:

1. ALL PLANTS AND PLANTINGS SHALL CONFORM TO CITY OF NEWBERG STANDARDS.
2. CONTRACTOR IS RESPONSIBLE FOR VERIFYING PLANT QUANTITIES. IF DISCREPANCIES OCCUR, DESIGN INTENT PREVAILS OVER QUANTITIES LISTED.
3. SOIL PREPARATION: GROWING MEDIUM SHALL MEET CITY OF NEWBERG AND YAMHILL COUNTY STANDARDS FOR NATIVE SOIL MIXES.
4. PLANTING SYMBOLS ARE MEANT TO CONVEY GENERAL PLANT LOCATION. PLANT COVERAGE, SPACING, AND LAYOUT SHALL BE CONSISTENT WITH THE SPACING LISTED IN THE PLANT LEGEND FOR FULL COVERAGE. ADJUST AS NECESSARY TO AVOID CONFLICTS WITH UTILITIES, LIGHTS, EXISTING VEGETATION, ETC.

PLANTING SCHEDULE

TYPE	QTY	BOTANICAL NAME	COMMON NAME	SIZE/HEIGHT	SPACING/WIDTH
	1	RHAMNUS PURHSIANA	CASCARA	30'	20'
	4	AMELANCHIER ALNIFOLIA	WESTERN SERVICEBERRY	6'	10'
	4	SAMBUCUS RACEMOSA	RED ELDERBERRY	8'	6'
	10	SYMPHORICARPOS ALBUS	COMMON SNOWBERRY	3'	2'
	10	RIBES LOBBI	GUMMY GOOSEBERRY	4'	4'
	10	ROSA GYMNOCARPA	BALDHIP ROSE	5'	2'
	AS NECESSARY	JUNCUS ENSIFOLIUS	DAGGER-LEAF RUSH	1'	1'
	AS NECESSARY	ATHYRIUM FILIX-FEMINA	LADY FERN	4'	2'



EXPIRES: 06/30/23
SIGNATURE DATE: _____

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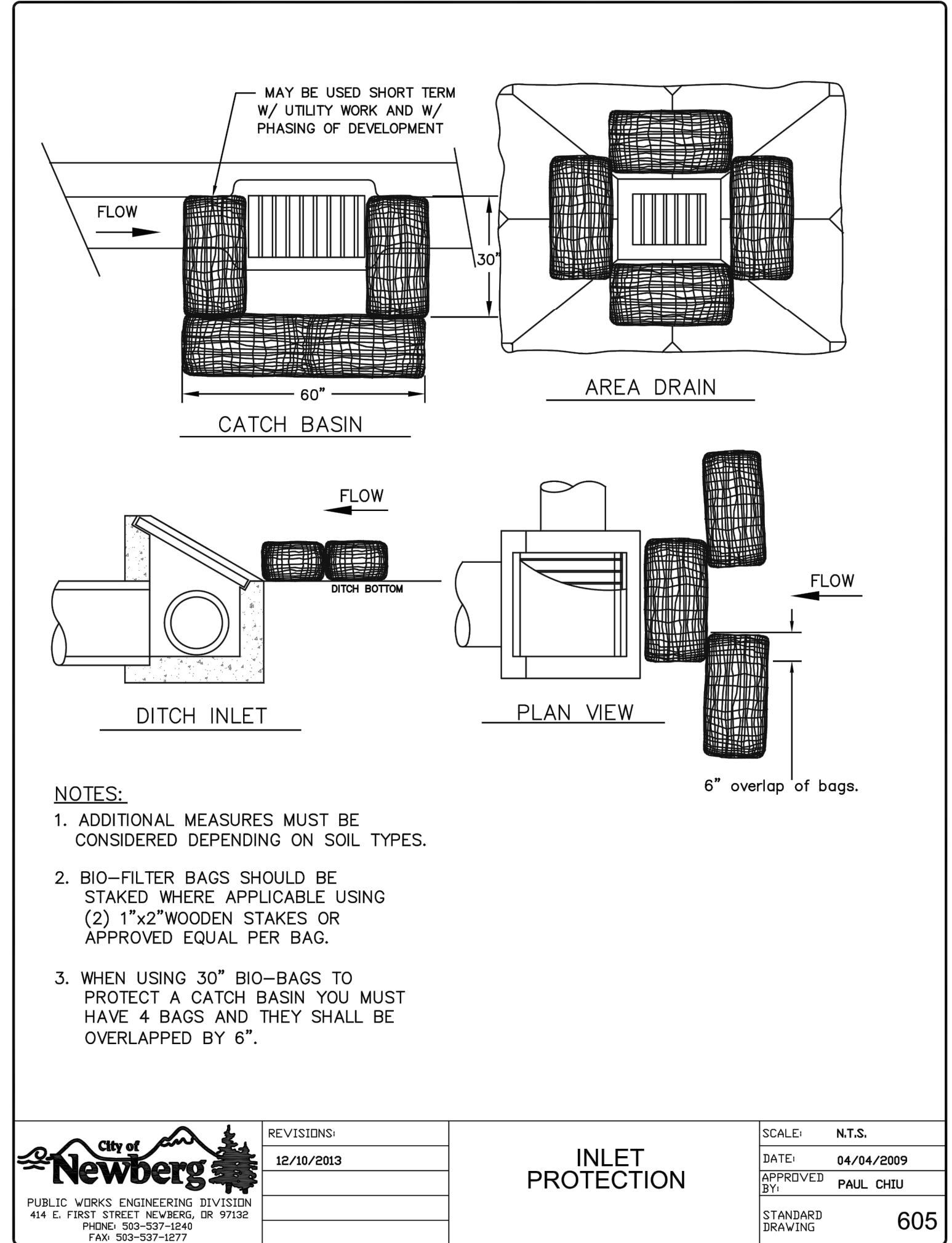
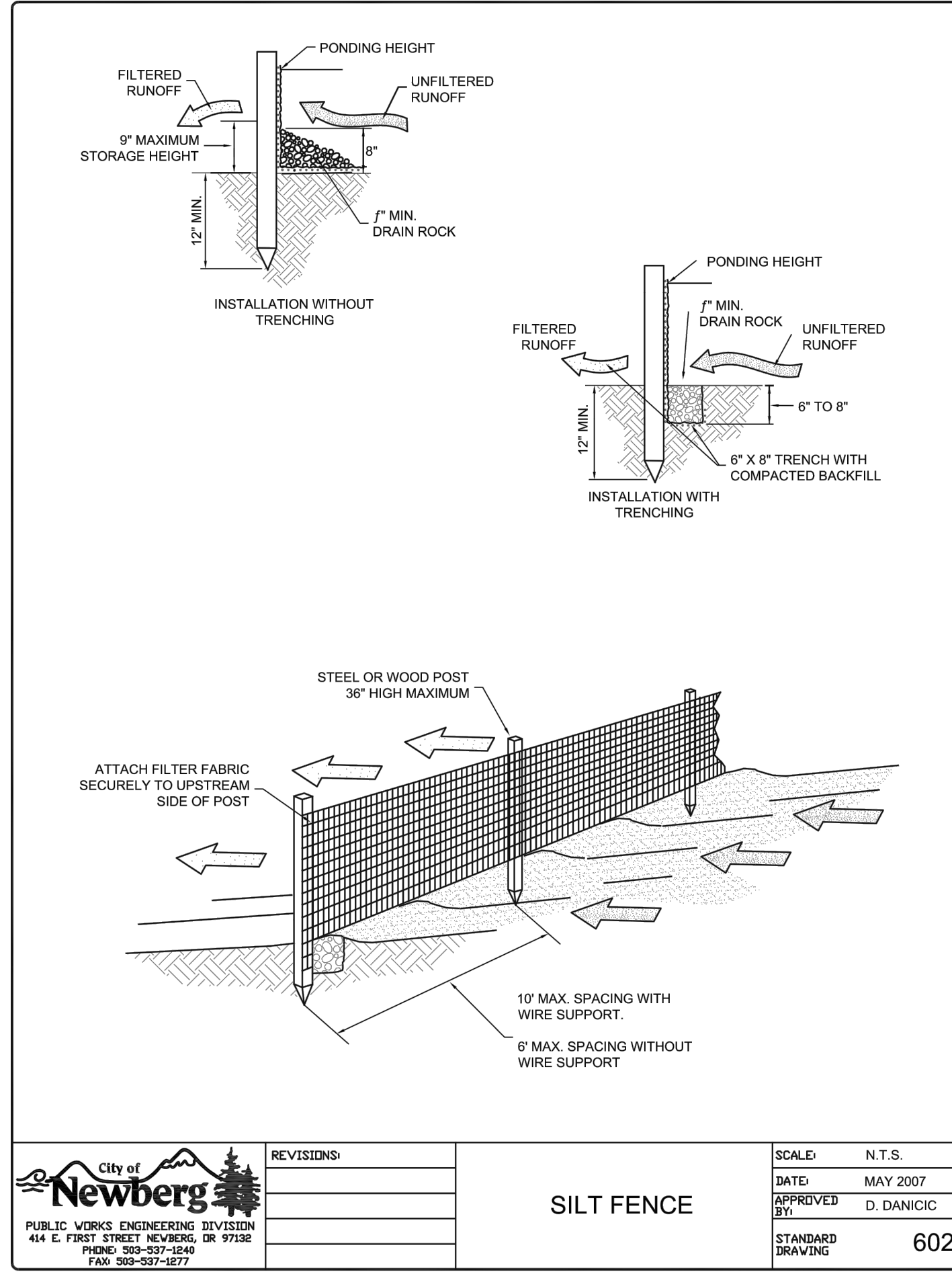
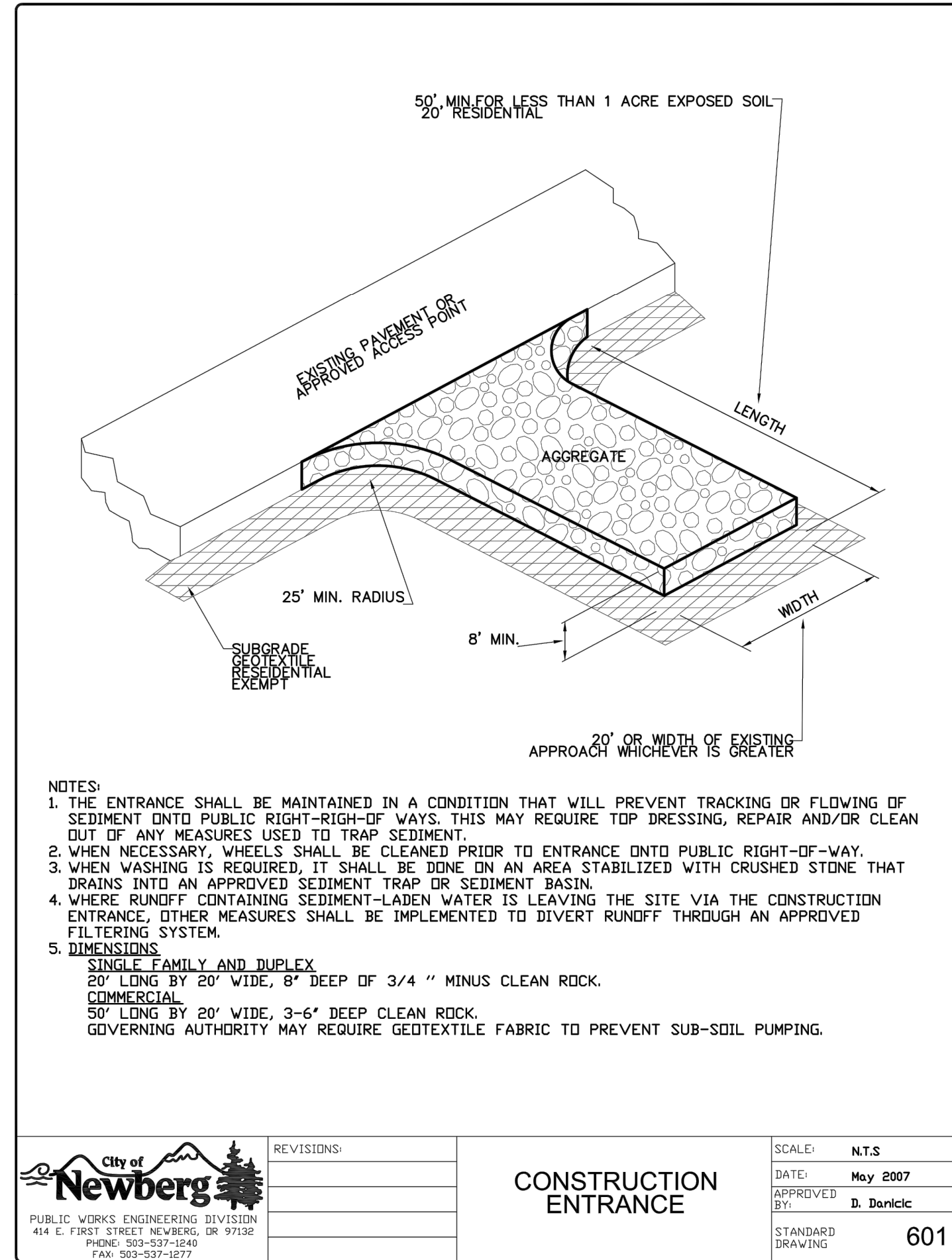
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MITIGATION & RE-PLANTING PLAN
12-LOT SUBDIVISION

6
7

CITY OF NEWBERG EROSION CONTROL GENERAL NOTES

1. THE IMPLEMENTATION OF THIS ESC PLAN AND THE CONSTRUCTION, MAINTENANCE, REPLACEMENT, AND UPGRADING OF THE ESC FACILITIES IS THE RESPONSIBILITY OF THE APPLICANT/CONTRACTOR UNTIL ALL CONSTRUCTION IS COMPLETED, APPROVED AND VEGETATION/LANDSCAPING IS ESTABLISHED.
2. THE ESC PLAN, ANY REVISIONS, AND INSPECTION LOGS SHALL BE KEPT ONSITE AT ALL TIMES.
3. THE ESC MEASURES SHOWN ON THE PLAN ARE THE MINIMUM REQUIREMENTS FOR THE PROJECT SITE AND SHALL BE UPGRADED AS NEEDED TO MAINTAIN COMPLIANCE WITH ALL REGULATIONS.
4. ALL ESC MEASURES SHALL BE APPROVED, IN PLACE, AND FUNCTIONAL PRIOR TO ANY GROUND DISTURBANCE OF THE SITE. CONTRACTOR SHALL MAINTAIN ALL ESC MEASURES THROUGHOUT CONSTRUCTION.
5. CLEARING LIMITS, CRITICAL RIPARIAN AREAS, BUFFER ZONES, AND PRESERVED VEGETATION (INCLUDING IMPORTANT TREES AND ASSOCIATED CRITICAL ROOT ZONES) SHALL HAVE HIGH VISIBILITY FENCE INSTALLED BEFORE GRADING OR CONSTRUCTION TO IDENTIFY, MARK, AND PROTECT THE AREAS.
6. CONSTRUCTION ACTIVITIES WILL AVOID OR MINIMIZE ANY EXCAVATION OR OTHER SOIL DESTABILIZATION FROM OCTOBER 1ST TO MAY 31ST OF THE FOLLOWING YEAR.
7. TEMPORARY SITE STABILIZATION MEASURES WILL BE INSTALLED AT THE END OF THE SHIFT BEFORE A HOLIDAY OR WEEKEND OR AT THE END OF EACH WORKDAY IF RAIN IS FORECAST IN THE NEXT 24 HOURS.
8. SEDIMENT CONTROLS MUST BE INSTALLED AND MAINTAINED ALONG THE SITE PERIMETER ON ALL DOWN-GRADIENT SIDES OF THE CONSTRUCTION SITE AND AT ALL ACTIVE AND OPERATIONAL INTERNAL STORMDRAINS AT ALL TIMES DURING CONSTRUCTION.
9. DRY METHODS MUST BE USED TO REMOVE SEDIMENT AND CONCRETE SWEEPINGS FROM AREAS WHERE DISCHARGE IS LIKELY TO THE STORM DRAINS, STREETS, WATERCOURSES, OR SENSITIVE AREAS.
10. ALL DIRT AND DEBRIS TRACKED ONTO STREETS MUST BE REMOVED IMMEDIATELY IF IT CAN BE SPREAD BY TRAFFIC OR OTHERWISE REACH STORM DRAINS, WATERCOURSES, OR SENSITIVE AREAS.
11. SEDIMENT DISCHARGED OFFSITE MUST BE PLACED BACK ONSITE WITHIN 24 HOURS AND STABILIZED. IN-STREAM WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE PROCEDURES AND TIMEFRAMES OF THE OREGON DEPARTMENT OF STATE LANDS.
12. NO SEDIMENT-LADEN WATER MAY BE PUMPED, DIVERTED, OR OTHERWISE DISCHARGED OFFSITE UNLESS APPROVED BY THE ESC PLAN.
13. SEDIMENT MUST BE REMOVED WHEN IT HAS REACHED THE LEVEL SPECIFIED IN THE STANDARD DETAIL.
14. SEDIMENT MUST BE REMOVED FROM SUMPED STRUCTURES WHEN THE SEDIMENT RETENTION CAPACITY HAS BEEN REDUCED BY 1/3RD AND WITHIN 30 DAYS OF PROJECT COMPLETION.
15. WHEN REMOVING SATURATED SOILS FROM THE SITE, EITHER WATERTIGHT TRUCKS MUST BE USED OR LOADS MUST BE DRAINED ONSITE UNTIL DRIPPING HAS BEEN REDUCED TO MINIMIZE SPILLAGE.
16. EROSION CONTROL MEASURES WILL BE INSPECTED ON ACTIVE SITES AT LEAST WEEKLY OR AFTER PRECIPITATION IN EXCESS OF 0.5 INCHES IN 24 HOURS. IF A SITE WILL BE INACTIVE MORE THANFOURTEEN (14) DAYS, EROSION CONTROL MEASURES WILL BE INSPECTED PRIOR TO THE INACTIVE PERIOD AND EVERY TWO (2) WEEKS DURING THE INACTIVE PERIOD.
17. ALL CONSTRUCTION SITES MUST FOLLOW PROPER STORAGE, APPLICATION, AND DISPOSAL PROCEDURES OF CONSTRUCTION MATERIALS. NO DUMPING OR DISPOSAL OF CONSTRUCTION DEBRIS, WASTE, OR SPOIL MATERIAL WILL OCCUR IN ANY STREAM, STORMWATER SYSTEM, WETLANDS, SURFACE WATERS, OR OTHER WATERCOURSES OR SENSITIVE AREAS.
18. WRITTEN SPILL PREVENTION AND RESPONSE PROCEDURES ARE REQUIRED FOR ALL SITES.
19. TOXIC AND HAZARDOUS MATERIALS MUST HAVE COVER AND SECONDARY CONTAINMENT.
20. CONCRETE TRUCKS SHALL NOT DISCHARGE WASHWATER WHERE IT IS LIKELY TO FLOW INTO STORM DRAINS, STREETS, WATERCOURSES, OR SENSITIVE AREAS.
21. PAVING ACTIVITIES SHALL BE MINIMIZED BETWEEN OCTOBER 1ST AND MAY 31ST OF THE FOLLOWING YEAR TO AVOID POTENTIAL DISCHARGE OF PAVING CHEMICALS INTO THE STORM DRAINS, STREETS, WATERCOURSES, OR SENSITIVE AREAS.
22. ALL ESC MEASURES SHALL BE REMOVED FROM THE SITE 30 DAYS AFTER CONSTRUCTION IS COMPLETED AND APPROVED BY THE CITY.



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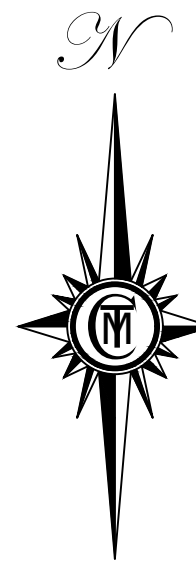


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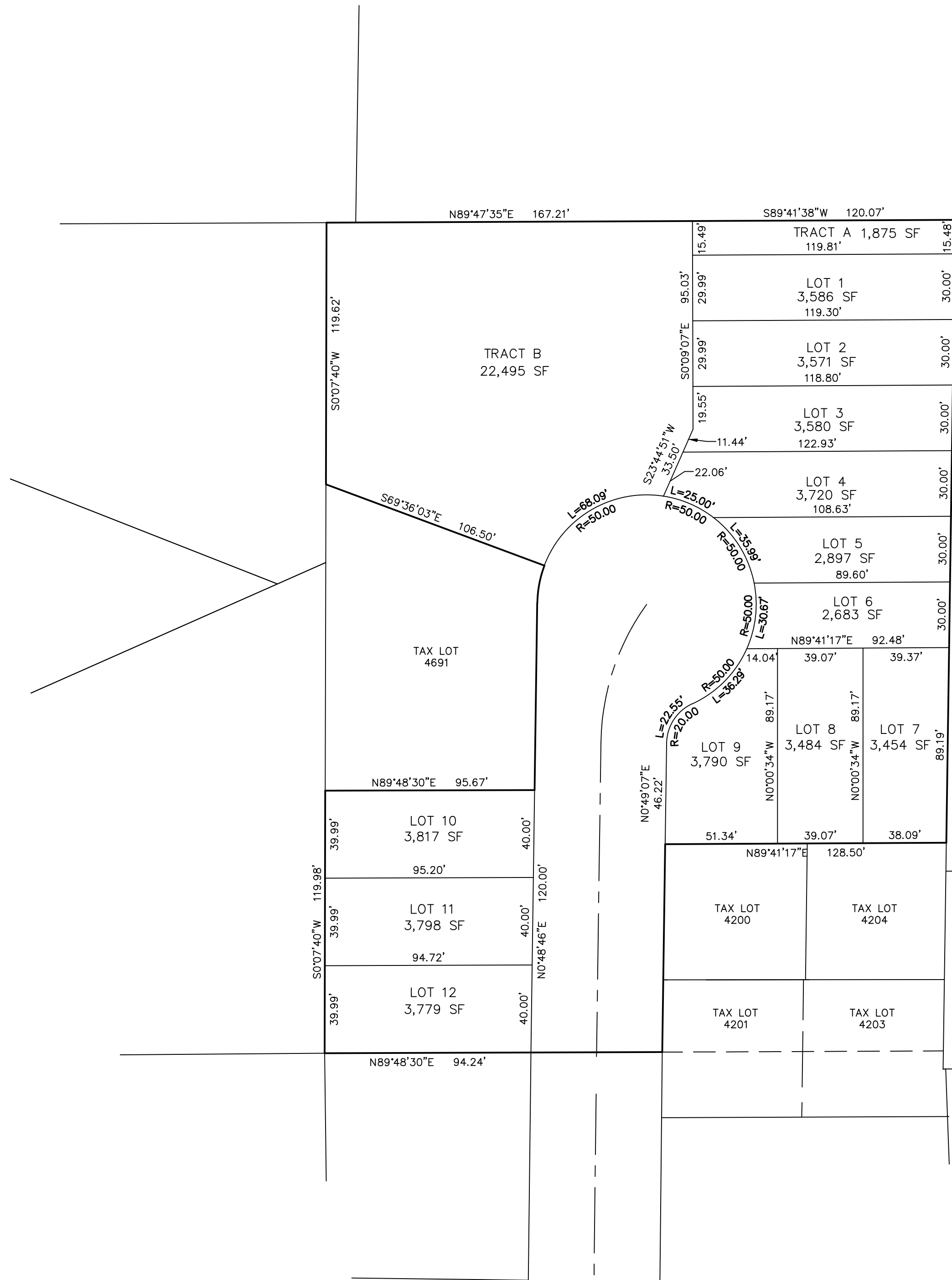
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NEWBERG, OR 97132

ESC DETAILS & NOTES
12-LOT SUBDIVISION

7
7



SCALE 1" = 40'



**PRELIMINARY
SUBDIVISION PLAT**

100 S GARFIELD STREET

SE 1/4 SEC 19, T3S, R2W, W.M.

CITY OF NEWBERG

YAMHILL COUNTY, OREGON

SEPTEMBER 22, 2022

DRAWN: JMR CHECKED: DMR

SCALE 1"=40' ACCOUNT #500-1106

Y:\500-1106\DWG\5001106PRELIM



CMT SURVEYING AND CONSULTING

20330 SE HIGHWAY 212

DAMASCUS, OR 97089

PHONE (503) 850-4672 FAX (503) 850-4590