

DEVELOPMENT REVIEW APPLICATION

For Office Use Only			
STAFF CONTACT	Chris Myers	PROJECT NO(S).	ELD-24-03
			PRE-APPLICATION NO.
NON-REFUNDABLE FEE(S)	\$4,900	REFUNDABLE DEPOSIT(S)	TOTAL \$4,900

Type of Review (Please check all that apply):

- | | | |
|--|---|--|
| <input type="checkbox"/> Annexation (ANX) | <input type="checkbox"/> Final Plat (FP) Related File# _____ | <input type="checkbox"/> Subdivision (SUB) |
| <input type="checkbox"/> Appeal (AP) | <input type="checkbox"/> Flood Management Area (FMA) | <input type="checkbox"/> Temporary Uses (MISC) |
| <input type="checkbox"/> CDC Amendment (CDC) | <input type="checkbox"/> Historic Review (HDR) | <input type="checkbox"/> Time Extension (EXT) |
| <input type="checkbox"/> Code Interpretation (MISC) | <input type="checkbox"/> Lot Line Adjustment (LLA) | <input type="checkbox"/> Right of Way Vacation (VAC) |
| <input type="checkbox"/> Conditional Use (CUP) | <input type="checkbox"/> Minor Partition (MIP) | <input type="checkbox"/> Variance (VAR) |
| <input type="checkbox"/> Design Review (DR) | <input type="checkbox"/> Modification of Approval (MOD) | <input type="checkbox"/> Water Resource Area Protection/Single Lot (WAP) |
| <input type="checkbox"/> Tree Easement Vacation (MISC) | <input type="checkbox"/> Non-Conforming Lots, Uses & Structures | <input type="checkbox"/> Water Resource Area Protection/Wetland (WAP) |
| <input checked="" type="checkbox"/> Expediated Land Division (ELD) | <input type="checkbox"/> Planned Unit Development (PUD) | <input type="checkbox"/> Willamette & Tualatin River Greenway (WRG) |
| <input type="checkbox"/> Extension of Approval (EXT) | <input type="checkbox"/> Street Vacation | <input type="checkbox"/> Zone Change (ZC) |

Pre-Application, Home Occupation, Sidewalk Use, Addressing, and Sign applications require different forms, available on the website.

Site Location/Address:	Assessor's Map No.: 31E02BB
1694 16th Street, West Linn, OR	Tax Lot(s): 04800
	Total Land Area: 11,589 square feet

Brief Description of Proposal:

Expedited Land Division application to divide the existing lot of record into two parcels. Each of the two parcels will be developed with a detached duplex unit.

Applicant Name*: Tieton Construction, LLC (Brent Donnerberg)	Phone: (503) 730-2410
Address: 1751 Buse St.	Email: bdonnerberg@gmail.com
City State Zip: West Linn, OR 97068	

Owner Name (required): Same as applicant.	Phone:
Address:	Email:
City State Zip:	

Consultant Name: Rick Givens, Planning Consultant	Phone: 503-351-8204
Address: 28615 SW Paris Ave., Unit 110	Email: rickgivens@gmail.com
City State Zip: Wilsonville, OR 97070	

1. Application fees are non-refundable (excluding deposit). Applications with deposits will be billed monthly for time and materials above the initial deposit. ***The applicant is financially responsible for all permit costs.**
2. The owner/applicant or their representative should attend all public hearings related to the propose land use.
3. A decision may be reversed on appeal. The decision will become effective once the appeal period has expired.
4. Submit this form, application narrative, and all supporting documents as a single PDF through the Submit a Land Use Application web page: <https://westlinnoregon.gov/planning/submit-land-use-application>

The undersigned property owner authorizes the application and grants city staff the **right of entry** onto the property to review the application. Applications with deposits will be billed monthly for time and materials incurred above the initial deposit. The applicant agrees to pay additional billable charges.


Applicant's signature

8/1/24
Date


Owner's signature (required)

8/1/24
Date

Expedited Land Division Narrative

1694 16th Street, West Linn

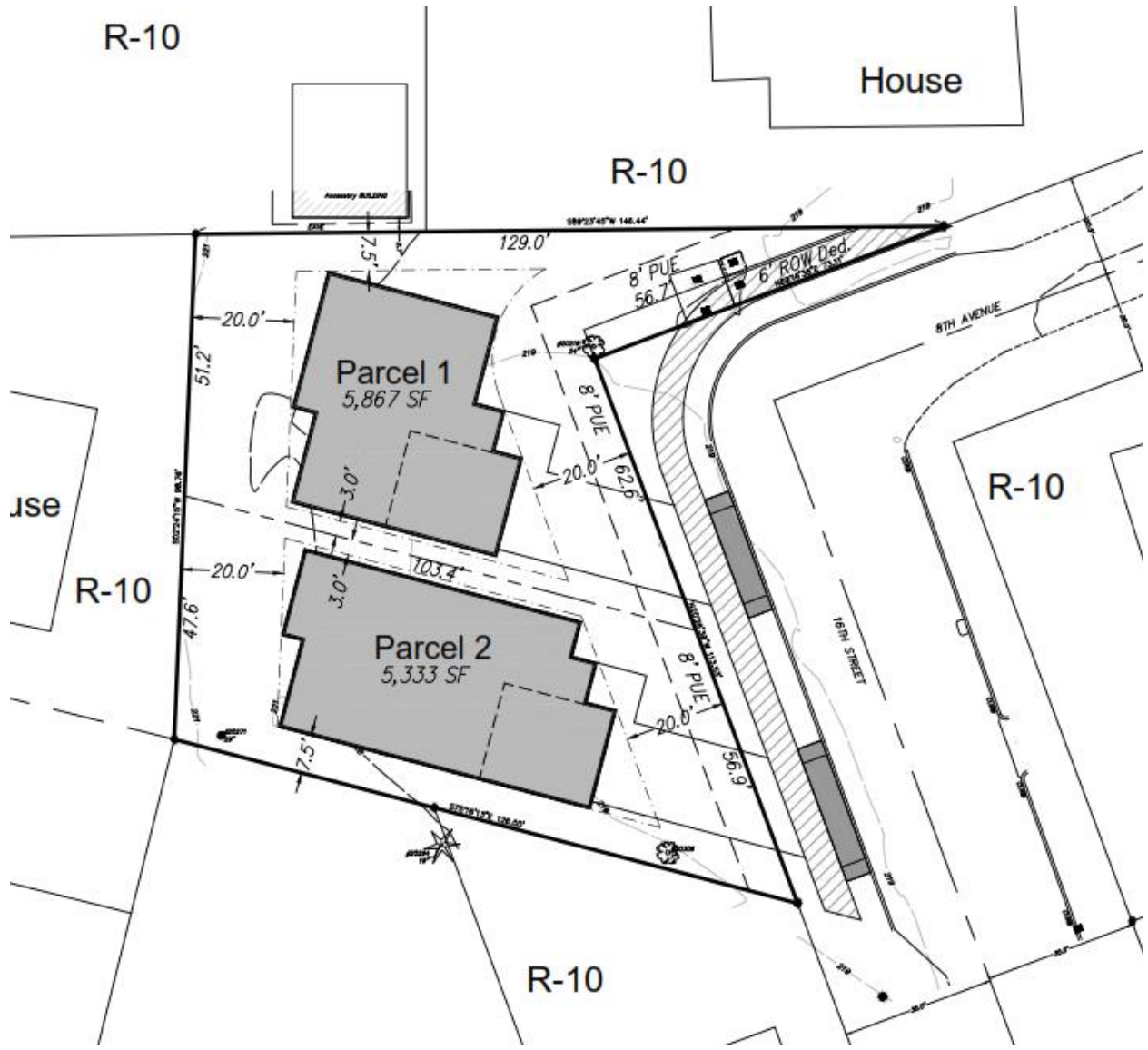
Tieton Construction, LLC

Proposal: This application requests approval of a middle housing Expedited Land Division (ELD) for an existing lot located at 1694 16th Street in West Linn. The property is described as Tax Lot 31E02BB04800. The property is vacant and is located at the intersection of 16th Street with 8th Avenue in the Willamette Area.

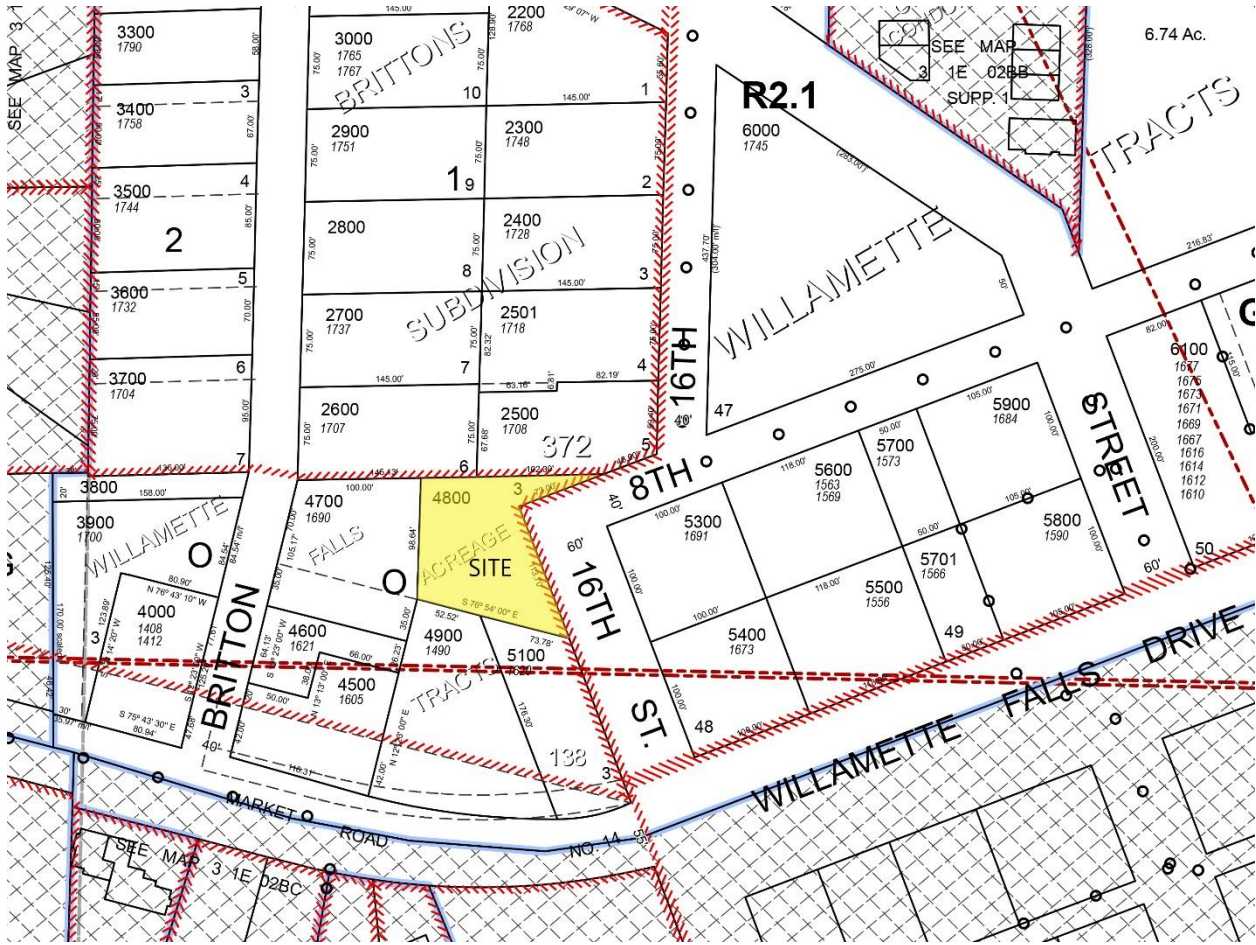


Vicinity Map

The proposed site plan is depicted on the map on the following page as well as on the Tentative Plan submitted with this application.



Site Plan



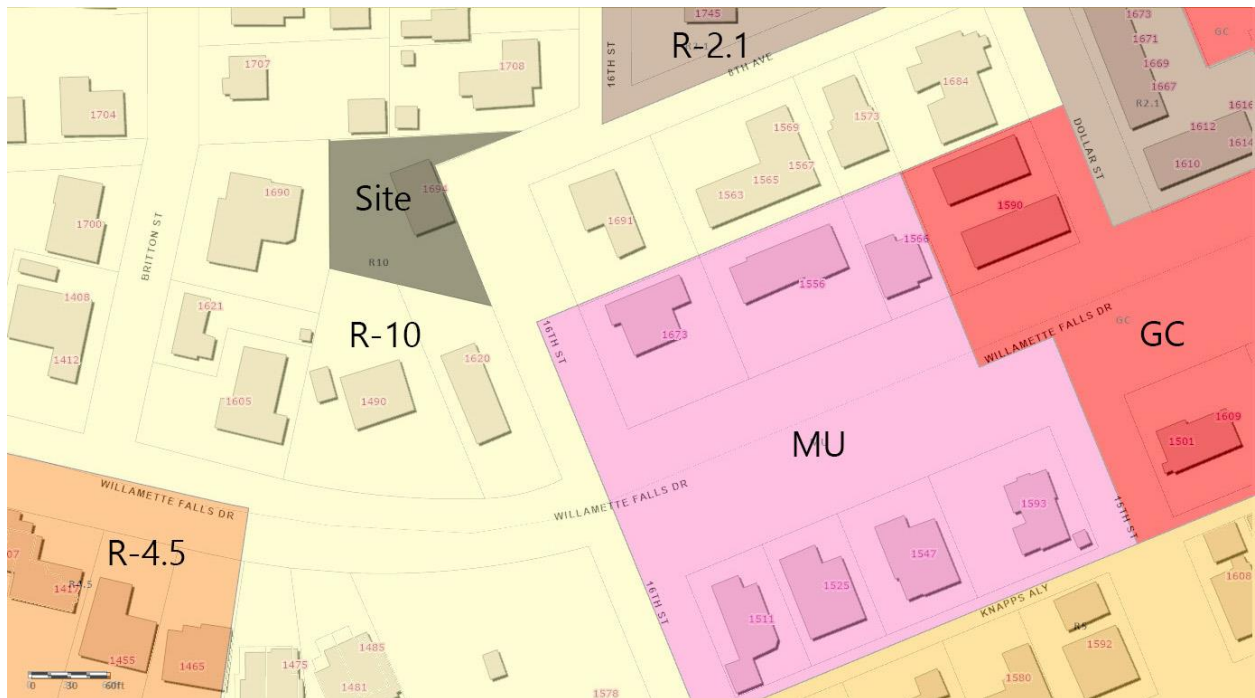
Crop from Assessor's Map
31E02BB

Existing Conditions

The subject property is shown outlined in yellow on the aerial photograph below. The subject property is vacant. The property is very level, with only 2-3 feet of fall from the western boundary to 16th Street. There are only two trees on the site, both of which are proposed to be removed to allow for the proposed construction. The required tree cutting permit will be obtained before removal. There are no other significant natural features on the property. It is located in an established residential area that is zoned R-10 for the subject property and the immediately adjacent lots, but includes a mix of MU, R-2.5 and R-4.5 in the nearby area, as shown on the zoning map on the following page.



Aerial Photograph of Existing Conditions



Zoning

Public Facilities

As shown on the Existing Conditions Map submitted with this application, an 8" City of West Linn water line is located in 16th Street along the project frontage to serve the proposed partition. Sanitary sewer presently ends approximately 100 feet to the northeast of the subject property in 8th Avenue and will need to be extended to service this project. Storm sewer is located on the other side of 16th Street. Half-street improvements will be required to bring streets to City standards. Please see the preliminary utility plan and storm report for the project prepared by Theta Engineering and are included with our application package

Compliance with Approval Criteria:

Consistent with the provisions of ORS 92.031, this proposed middle housing land division application will make use of the Expedited Land Division procedures set forth in ORS 197.360. The approval criteria relevant to this application are found in ORS 92.031.

(1) As used in this section, "middle housing land division" means a partition or subdivision of a lot or parcel on which the development of middle housing is allowed under ORS 197.758 (2) or (3).

Comment: This application involves detached duplex units, one of which will be located on each parcel. Duplex units are middle housing pursuant to the definitions in ORS 197.758(1). The subject lots are zoned R-10 and this zone allows for the development of middle housing under standards adopted by the City of West Linn.

ORS 197.360(1)(a)(C)(i) requires that ELD proposals *"not provide for dwellings or accessory buildings to be located on land that is specifically mapped and designated in the comprehensive plan and land use regulations for full or partial protection of natural features under the statewide planning goals that protect:*

- (i) Open spaces, scenic and historic areas and natural resources*
- (ii) The Willamette River Greenway;*
- (iii) Estuarine resources;*
- (iv) Coastal shorelands; and*
- (v) Beaches and dunes.*

Comment: The subject property does not contain any resource lands described under subsections (i) through (v).

(2) A city or county shall approve a tentative plan for a middle housing land division if the application includes:

(a) A proposal for development of middle housing in compliance with the Oregon residential specialty code and land use regulations applicable to the original lot or parcel allowed under ORS 197.758 (5);

Comment: The proposed parcels will be developed with detached duplex units, as shown on the attached Tentative Plan. Application for building permits will be submitted separately and they will demonstrate compliance with the Oregon residential specialty code.

ORS 197.758(5) states:

“Local governments may regulate siting and design of middle housing required to be permitted under this section, provided that the regulations do not, individually or cumulatively, discourage the development of all middle housing types permitted in the area through unreasonable costs or delay. Local governments may regulate middle housing to comply with protective measures adopted pursuant to statewide land use planning goals.”

Comment: The City of West Linn adopted Ordinance 1736 to provide for compliance with state requirements for middle housing. The new standards allow for middle housing in all residential districts, including the R-10 district applicable to the subject property. The only limitations provided in the updated standards are dimensional requirements that do not discourage development of middle housing. The applicable dimensional standards for the R-10 zone are found in CDC 13.070 and are shown in the table below:

<i>STANDARD</i>	<i>REQUIREMENT</i>	<i>ADDITIONAL NOTES</i>	<i>COMMENT</i>
<i>Minimum lot size</i>	<i>10,000 SF</i>	<i>For a single-family attached or detached unit.</i>	Not applicable to detached duplexes.
<i>Average min. Lot or Parcel size for a Townhouse Project</i>	<i>1,500 SF</i>		Not applicable to detached duplexes.
<i>Minimum lot width at front lot line</i>	<i>35 ft.</i>	<i>Does not apply to Townhouses or Cottage Clusters.</i>	The lot widths at the front lot line are: Parcel 1- 67', Parcel 2-46.5'.
<i>Average Minimum lot width</i>	<i>50 ft.</i>	<i>Does not apply to Townhouses or Cottage Clusters.</i>	Does not apply to detached duplexes.
<i>Minimum Yard Dimensions or Minimum building setbacks</i>		<i>Except as specified in CDC 25.070(C)(1) through (4) for the Willamette Historic District.</i> <i>Front, rear, and side yard setbacks for in a Cottage Cluster Project are 10 ft. There are no additional setbacks for</i>	Not applicable to the proposed project as it does not include a Cottage Cluster.

		<i>individual structures on individual lots, but minimum distance between structures shall follow applicable building code requirements.</i>	
<i>Front Yard</i>	<i>20 ft</i>	<i>Except for steeply sloped lots where the provisions of CDC 41.010 shall apply.</i>	The proposed minimum front yard setback is 20 feet.
<i>Interior Side Yard</i>	<i>7.5 ft</i>	<i>Townhouse common walls that are attached may have a 0 ft side setback.</i>	This standard is not applicable to duplex units along their common line. A 3' minimum setback is proposed on the common lot line. The perimeter side yards will maintain the required 7.5' setback.
<i>Street Side Yard</i>	<i>15 ft</i>		Not applicable as there are no street side yards abutting the site.
<i>Rear Yard</i>	<i>20 ft</i>		The minimum rear yards proposed will not exceed 20 feet.
<i>Maximum Building Height</i>	<i>35 ft</i>	<i>Except for steeply sloped lots in which case the provisions of Chapter 41 CDC shall apply.</i>	Homes to be built will comply with the maximum 35' height standard. Compliance with height standards will be reviewed with the building permit application.
<i>Maximum Lot Coverage</i>	<i>35%</i>	<p><i>Maximum lot cover does not apply to Cottage Clusters. However, the maximum building footprint for a Cottage Cluster is less than 900 sf per dwelling unit.</i></p> <ul style="list-style-type: none"> <i>This does not include detached garages, carports, or accessory structures.</i> <i>A developer may deduct up to 200 sf for an attached garage or carport.</i> 	Proposed maximum building envelopes for both parcels are shown on the site plan. The actual lot coverage will be less than the maximum building envelope and will comply with the 35% standard.
<i>Minimum Accessway Width to a lot which does not abut a street or a flag lot</i>	<i>15 ft</i>		Not applicable. Both parcels have direct frontage onto 16th St.
<i>Maximum Floor Area Ratio</i>	<i>0.45</i>	<i>Max FAR does not apply to cottage clusters.</i>	Not applicable to duplexes.
<i>Duplex, Triplex, and Quadplex</i>	<i>0.60</i>	<i>Type I and II lands shall not be counted toward lot area when determining allowable floor area ratio, except that a minimum floor area ratio of 0.30 shall be allowed regardless of the</i>	Compliance with floor area ratio standards will be reviewed at the time of building permit application.

		<p><i>classification of lands within the property. That 30 percent shall be based upon the entire property including Type I and II lands. Existing residences in excess of this standard may be replaced to their prior dimensions when damaged without the requirement that the homeowner obtain a non-conforming structures permit under Chapter 66 CDC.</i></p>	
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(b) Separate utilities for each dwelling unit;

Comment: Each unit of the detached duplexes will have separate utilities, as shown on the Utility Plan submitted with this application.

(c) Proposed easements necessary for each dwelling unit on the plan for:

(A) Locating, accessing, replacing and servicing all utilities;

Comment: Each unit is on a separate lot and all utilities serving the homes are either on the proposed lots or the street right-of-way fronting the lots. No Public Utility Easements other than the standard PUE along the street right-of-way are proposed.

(B) Pedestrian access from each dwelling unit to a private or public road;

Comment: Both of the lots front directly onto 16th Street. A new 6'-wide sidewalk will be installed along the frontage, as required by City standards.

(C) Any common use areas or shared building elements;

Comment: Not applicable. There will be no common use areas or shared building elements.

(D) Any dedicated driveways or parking; and

Comment: Each parcel will have a driveway providing for parking for one vehicle plus an attached garage providing an additional parking space.

(E) Any dedicated common area;

Comment: No dedicated common areas are proposed.

(d) Exactly one dwelling unit on each resulting lot or parcel, except for lots, parcels or tracts used as common areas; and

Comment: Each lot will be developed with exactly one dwelling unit.

(e) Evidence demonstrating how buildings or structures on a resulting lot or parcel will comply with applicable building codes provisions relating to new property lines and, notwithstanding the creation of new lots or parcels, how structures or buildings located on the newly created lots or parcels will comply with the Oregon residential specialty code.

Comment: The plans and other materials required to demonstrate compliance with this requirement will be provided with the building permit applications.

ORS 92.031(4) In reviewing an application for a middle housing land division, a city or county:

(b) May require street frontage improvements where a resulting lot or parcel abuts the street consistent with land use regulations implementing ORS 197.758 (Development of middle housing).

Comment: The property's frontage on 16th Street does not currently meet City of West Linn street standards. Required half-street improvements will be provided.

Grading and Utility Plans per CDC 85.170(C)-(E)

A Preliminary Utility Plan, prepared by Theta, LLC, is included with this application. This drawing shows all sewer, water and storm services required to serve the proposed lots. No site grading is proposed currently. Future grading for the foundations for the homes to be built on the lots will be submitted with the building permit applications prior to the commencement of home construction.



Vicinity Map

Owner/Applicant:
Tieton Construction, LLC
1751 Buse St.
West Linn, OR 97068
PH: (503) 730-2410

Engineer:
Theta Engineering
PO Box 1345
Lake Oswego, OR 97035
PH: (503) 481-8822

Legal: 31E02BB04800

Water: City of West Linn

Sewer: City of West Linn

Contours: Centerline Concepts, Inc.

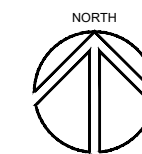
Site Area: 11,589 square feet

Zoning: R-10

Surveyor:
Centerline Concepts, Inc.
19376 Molalla Ave Suite 120
Oregon City, OR 97045
PH: (503) 650-0188



Conceptual Building Footprint



Scale: 1" = 30'

DESIGNED:	R.E.G.			
DRAWN:	R.E.G.			
SCALE:	1" = 30'			
DATE:	7-29-2024			
FILE:	24-DON-100	DATE	NO.	REVISION

Richard E. Givens, Planning Consultant
28615 SW Paris Ave., Unit 110
Wilsonville, OR 97070
PH: (503) 351-8204

APPLICANT: Tieton Construction, LLC
1751 Buse St.
West Linn, OR 97068
PH: (503) 730-2410

1694 16th Street Partition
ELD Tentative Plan

SHEET:
1/1

**FIRE CODE / LAND USE / BUILDING REVIEW
APPLICATION**



North Operating Center
11945 SW 70th Avenue
Tigard, OR 97223
Phone: 503-649-8577

South Operating Center
8445 SW Elligsen Rd
Wilsonville, OR 97070
Phone: 503-649-8577

REV 6-30-20

Project Information

Applicant Name: Brent Donnerberg
Address: 1751 Buse St.
Phone: (503) 730-2410
Email: bdonnerberg@gmail.com
Site Address: 1694 16th St.
City: West Linn
Map & Tax Lot #: 31E02BB TL 4800
Business Name: Tieton Construction, LLC
Land Use/Building Jurisdiction: West Linn
Land Use/ Building Permit # ELD-24-01

Choose from: Beaverton, Tigard, Newberg, Tualatin, North Plains, West Linn, Wilsonville, Sherwood, Rivergrove, Durham, King City, Washington County, Clackamas County, Multnomah County, Yamhill County

Project Description

The project is a two-lot middle housing Expedited Land Division (partition). The property is vacant. Two homes will be built on the property.

Permit/Review Type (check one):

- XLand Use / Building Review - Service Provider Permit
- Emergency Radio Responder Coverage Install/Test
 - LPG Tank (Greater than 2,000 gallons)
 - Flammable or Combustible Liquid Tank Installation (Greater than 1,000 gallons)
 - * Exception: Underground Storage Tanks (UST) are deferred to DEQ for regulation.
 - Explosives Blasting (Blasting plan is required)
 - Exterior Toxic, Pyrophoric or Corrosive Gas Installation (in excess of 810 cu.ft.)
 - Tents or Temporary Membrane Structures (in excess of 10,000 square feet)
 - Temporary Haunted House or similar
 - OLCC Cannabis Extraction License Review
 - Ceremonial Fire or Bonfire (For gathering, ceremony or other assembly)

For Fire Marshal's Office Use Only

TVFR Permit # 2024-0103
Permit Type: SPP - West Linn
Submittal Date: 2-30-24
Assigned To: DFM Arn
Due Date: NA
Fees Due: Ø
Fees Paid: Ø

**Approval/Inspection Conditions
(For Fire Marshal's Office Use Only)**

This section is for application approval only

[Signature] 8-1-24
Fire Marshal or Designee Date

Conditions:

See approved plan.

See Attached Conditions: Yes No

Site Inspection Required: Yes No

This section used when site inspection is required

Inspection Comments:

Final TVFR Approval Signature & Emp ID _____ Date _____

**FIRE CODE / LAND USE / BUILDING REVIEW
APPLICATION**



North Operating Center
11945 SW 70th Avenue
Tigard, OR 97223
Phone: 503-649-8577

South Operating Center
8445 SW Elligsen Rd
Wilsonville, OR 97070
Phone: 503-649-8577

REV 6-30-20

Project Information

Applicant Name: Brent Donnerberg
Address: 1751 Buse St.
Phone: (503) 730-2410
Email: bdonnerberg@gmail.com
Site Address: 1694 16th St.
City: West Linn
Map & Tax Lot #: 31E02BB TL 4800
Business Name: Tieton Construction, LLC
Land Use/Building Jurisdiction: West Linn
Land Use/ Building Permit # ELD-24-01

Choose from: Beaverton, Tigard, Newberg, Tualatin, North Plains, West Linn, Wilsonville, Sherwood, Rivergrove, Durham, King City, Washington County, Clackamas County, Multnomah County, Yamhill County

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(For Fire Marshal's Office Use Only)**

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Fire Marshal or Designee Date

Conditions:

See approved plan.

See Attached Conditions: Yes No

Site Inspection Required: Yes No

This section used when site inspection is required

Inspection Comments:

Final TVFR Approval Signature & Emp ID _____ Date _____

EXISTING CONDITIONS MAP

LOCATED IN THE
N.W. 1/4 SECTION 2, T.3S., R.1E., W.M.
CITY OF WEST LINN, CLACKAMAS COUNTY, OREGON
JULY 16, 2024 SCALE 1"=10'

SURVEY NOTES:

THE DATUM FOR THIS SURVEY IS BASED UPON A STATIC GPS OBSERVATION OF LOCAL CONTROL POINTS, PROCESSED THROUGH OPUS. DATUM IS NAVD 88.
THE BASIS OF BEARINGS FOR THIS SURVEY IS PER MONUMENTS FOUND AND HELD PER RECORD OF SURVEY RECORDED UNDER PRIVATE SURVEY NUMBER 2021-154, RECORDS OF CLACKAMAS COUNTY.
NO WARRANTIES ARE MADE AS TO MATTERS OF UNWRITTEN TITLE, SUCH AS ADVERSE POSSESSION, ESTOPPEL, ACQUIESCENCE, ETC.
NO TITLE REPORT WAS SUPPLIED OR USED IN THE PREPARATION OF THIS MAP.

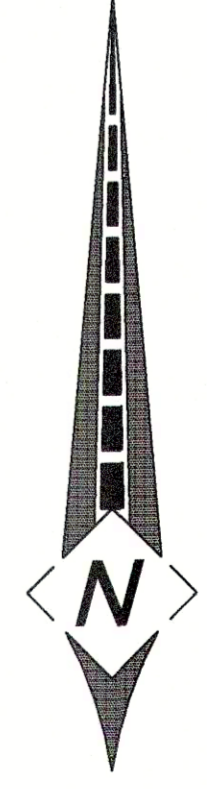
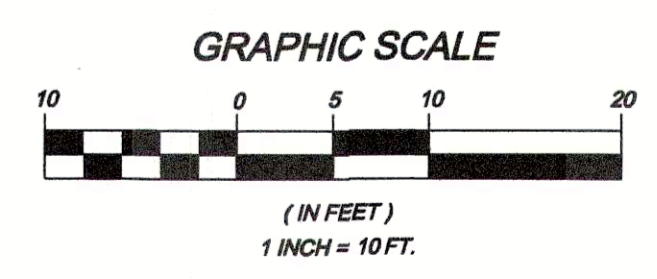
UTILITY NOTES:

THE UNDERGROUND UTILITIES AS SHOWN ON THIS MAP ARE SHOWN BASED ON A COMBINATION OF INFORMATION, INCLUDING VISIBLE ABOVE GROUND STRUCTURES, AVAILABLE AS BUILT AND GIS MAPPING FROM LOCAL JURISDICTIONS, AS WELL AS SURFACE MARKINGS BY ONE CALL TICKET NUMBER 24129854 DATED MAY 25, 2024.
THE SURVEYOR MAKES NO GUARANTEE THAT THE UNDERGROUND UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED.
THE SURVEYOR FURTHER DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES ARE IN THE EXACT LOCATION INDICATED, ALTHOUGH HE DOES CERTIFY THAT THEY ARE LOCATED AS ACCURATELY AS POSSIBLE FROM INFORMATION AVAILABLE.
THE SURVEYOR HAS NOT PHYSICALLY LOCATED THE UNDERGROUND UTILITIES. SUBSURFACE AND ENVIRONMENTAL CONDITIONS WERE NOT EXAMINED OR CONSIDERED AS A PART OF THIS SURVEY. NO STATEMENT IS MADE CONCERNING THE EXISTENCE OF UNDERGROUND OR OVERHEAD CONTAINERS OR FACILITIES THAT MAY AFFECT THE USE OR DEVELOPMENT OF THIS TRACT. THIS SURVEY DOES NOT CONSTITUTE A TITLE SEARCH BY SURVEYOR.
INVERT ELEVATIONS AND PIPE SIZES SHOWN ARE APPROXIMATE ONLY, BASED ON FIELD OBSERVATIONS AS WELL AS AVAILABLE AS-BUILT DATA. ALL PIPE SIZES SHALL BE FIELD VERIFIED BY THE OWNER, ENGINEER, CONTRACTOR, AND GOVERNING AGENCY PRIOR TO ANY CONSTRUCTION ACTIVITY. SURVEYOR DOES NOT WARRANT THE ACCURACY OF ANY PIPE SIZES SHOWN ON THIS SURVEY.

LEGEND:

Some Symbols shown may not be used on map

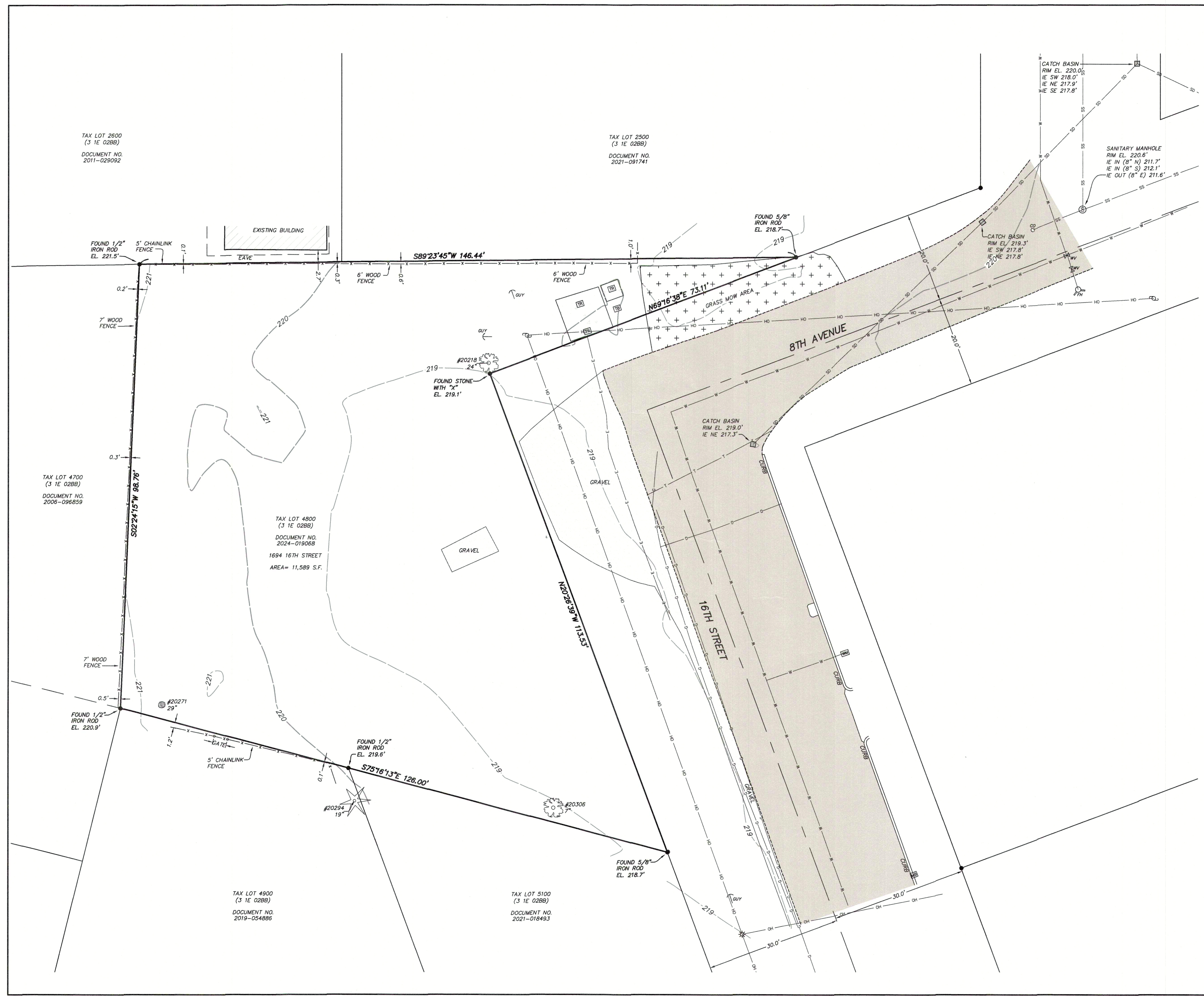
- | | |
|--|-------------------------|
| 12" DECIDUOUS TREE | STP TRAFFIC SIGNAL POLE |
| 24" EVERGREEN TREE | UTILITY POLE |
| DEAD TREE | LIGHT POLE |
| STORM SEWER MANHOLE | GUY WIRE |
| CATCH BASIN | ELECTRIC BOX |
| CURB INLET | ELECTRIC METER |
| AREA DRAIN | TRANSFORMER |
| DITCH INLET | ELECTRIC RISER |
| SANITARY SEWER CLEANOUT | HEAT PUMP |
| SANITARY SEWER MANHOLE | GATE POST |
| FIRE HYDRANT | CABLE TV BOX |
| WATER MANHOLE | CABLE TV RISER |
| WATER METER | OVERHEAD LINE |
| WATER VALVE | GAS LINE |
| HOSE BIB | ELECTRICAL LINE |
| IRRIGATION CONTROL VALVE | COMMUNICATIONS LINE |
| GAS VALVE | SANITARY SEWER LINE |
| GAS METER | STORM DRAIN LINE |
| MAILBOX | WATER LINE |
| UTILITY RISER | FENCE LINE |
| UTILITY BOX | HANDRAIL |
| TELEPHONE MANHOLE | ARBORVITAE ROW |
| TELEPHONE RISER | CONCRETE SURFACE |
| STORM OUTFALL | ASPHALT SURFACE |
| SIGN | |
| BOLLARD | |
| FOUND MONUMENT | |
| DOWN SPOUT TO STORM SYSTEM | |
| DOWN SPOUT TO SPLASH GUARD OR GROUND W/ PIPE DIRECTION | |
| COLUMN | |



SIGNED ON: 17 July 24
REGISTERED PROFESSIONAL LAND SURVEYOR
OREGON
JULY 13, 2004
TOBY G. BOLDEN
60377LS
RENEWS: DECEMBER 31, 2025

CENTERLINE CONCEPTS
LAND SURVEYING, INC.
19376 MOLALLA AVE., SUITE 120
OREGON CITY, OREGON 97045
PHONE 503.650.0188 FAX 503.650.0189

PLOTTED: M:\PROJECTS\TJETON -16TH ST-1694\DWG\ECM-C3D.dwg



TAX LOT 2600
(3 1E 028B)
DOCUMENT NO.
2011-029092

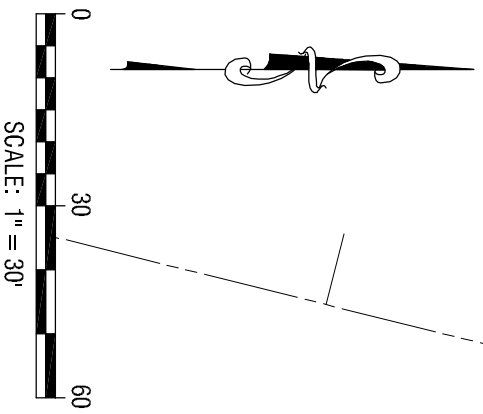
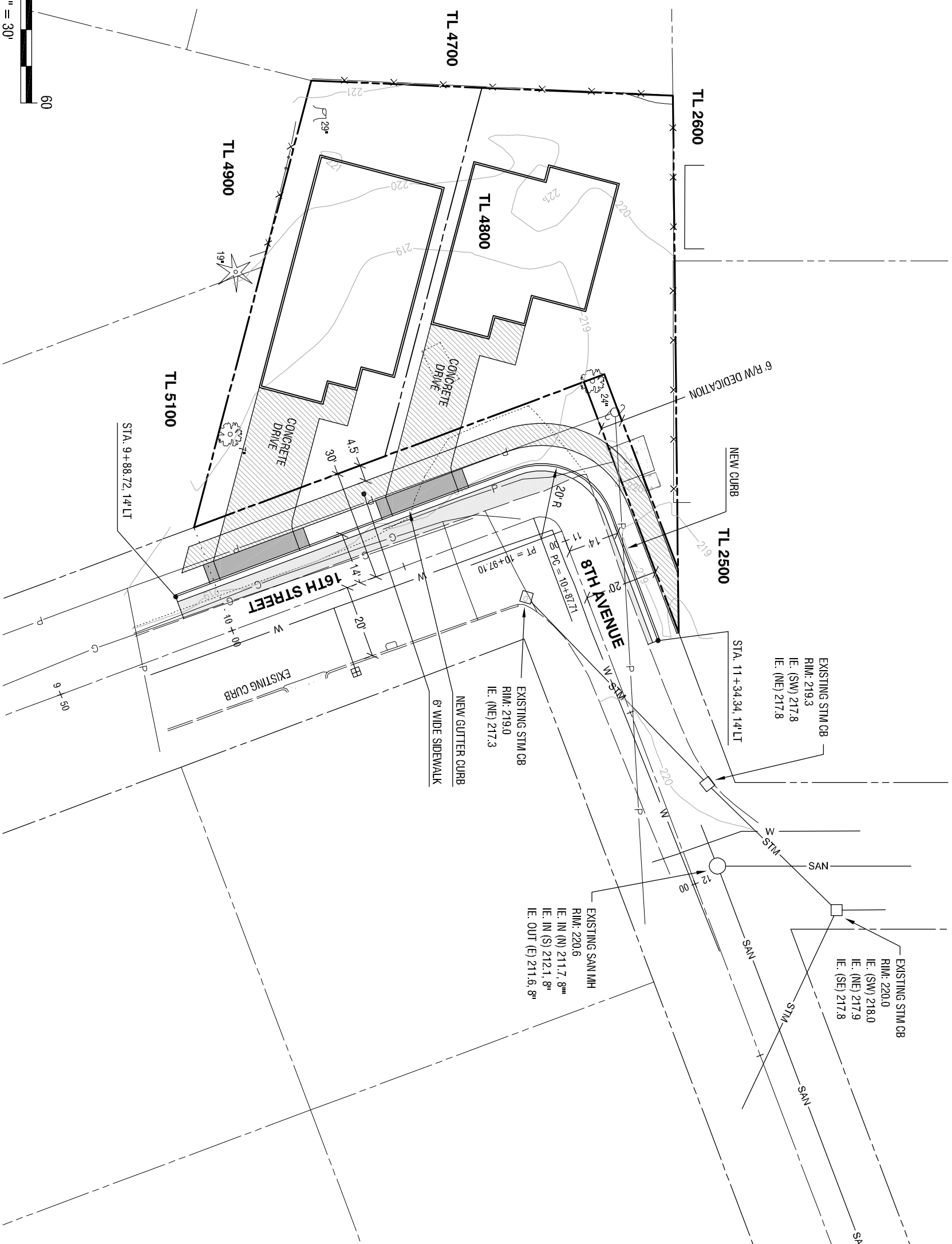
TAX LOT 2500
(3 1E 028B)
DOCUMENT NO.
2021-091741

TAX LOT 4700
(3 1E 028B)
DOCUMENT NO.
2006-096859

TAX LOT 4800
(3 1E 028B)
DOCUMENT NO.
2024-019068
1694 16TH STREET
AREA = 11,589 S.F.

TAX LOT 4900
(3 1E 028B)
DOCUMENT NO.
2019-054886

TAX LOT 5100
(3 1E 028B)
DOCUMENT NO.
2021-018493



2024-486

DESIGNED:	BDG
DRAWN:	BJS
SCALE:	1" = 30'
DATE:	August, 2024
FILE:	16th 486 Street1

Theta
ENGINEERING - SURVEYING - PLANNING
PO Box 1345
Lake Oswego, Oregon 97035
503/481-8822
email: thetaeng@comcast.net

Tieton Construction, LLC
1751 Buse Street
West Linn, Oregon 97068

1694 16th Street
West Linn, Oregon 97068

PRELIMINARY STREET PLAN

EXPIRES: 06/30/2025
SIGNATURE DATE: 08/02/2024





PRELIMINARY STORM ANALYSIS

1694 16TH STREET

WEST LINN, OREGON

Narrative:

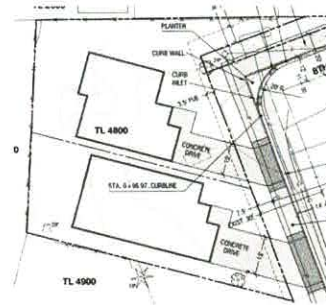
This is a vacant lot that is being redeveloped of this 0.27 acre tract through middle housing (31E02BB04800). An infiltration test was conducted August 2, 2024 at 36-inches. Three one hour each inch tests were made with the final test showing 1.125 inches per hour. The property is generally flat (less than 2%). The of the planter has been increased by 25% from the PAC report, as required by the Code, for both the individual houses and public street. A control structure with an orifice will be provided. This is a preliminary analysis to show feasibility and a final report will be prepared for the houses at time of building permit and the street will the street improvement plans

Approach:

The drainage basin with underdrain (PDX Presumptive design approach) standard detail SW - 241

References:

1. Icon Construction
2. Centerline Concepts
3. West Linn Storm Water design standards
4. Portland Stormwater manual
 - a. Presumptive Approach Calculator



Design Guidelines

The City of West Linn Public Works Design Standards Section 3.0013. specifies all Water Quality facilities shall meet the design requirements of the current Portland Stormwater Manual for both quantity and quality.

The results of the Presumptive Calculator have been increased by 25% due to rainfall patterns.

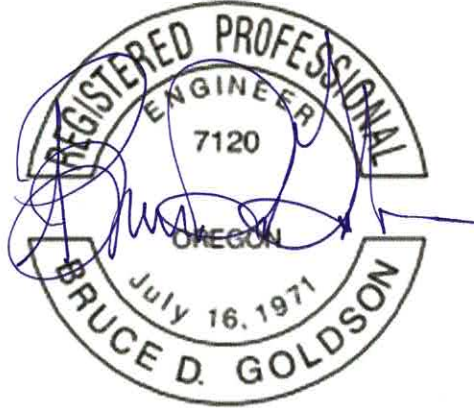
Infiltration:

1.125 inches per hour makes an infiltration facility feasible.

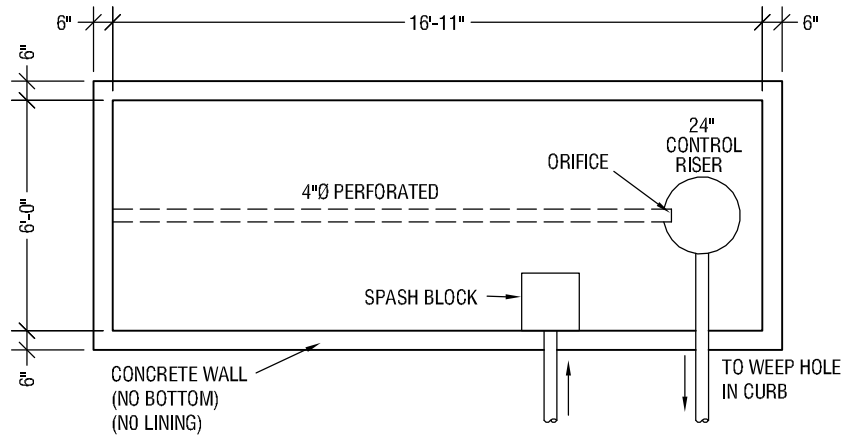
Calculations:

See attached

Prepared by:
Bruce D. Goldson, PE
Theta, LLC
September 6, 2024
2024-486

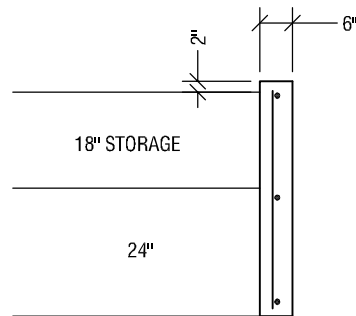


EXPIRES: 06/30/2025
SIGNATURE DATE: 9/6/24



STORM PLANTER

SCALE: 1" = 5'



STORM PLANTER SECTION

SCALE: 1" = 3'

NOTE:

1. SIZED AT 1.25% OF PAC.
2. FINAL DESIGN TO BE DETERMINED AT TIM OF BUILDING PERMIT.

2024-486

PRELIMINARY STORM REPORT (PRIVATE)

Theta, llc

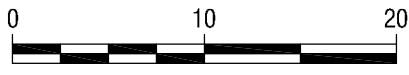
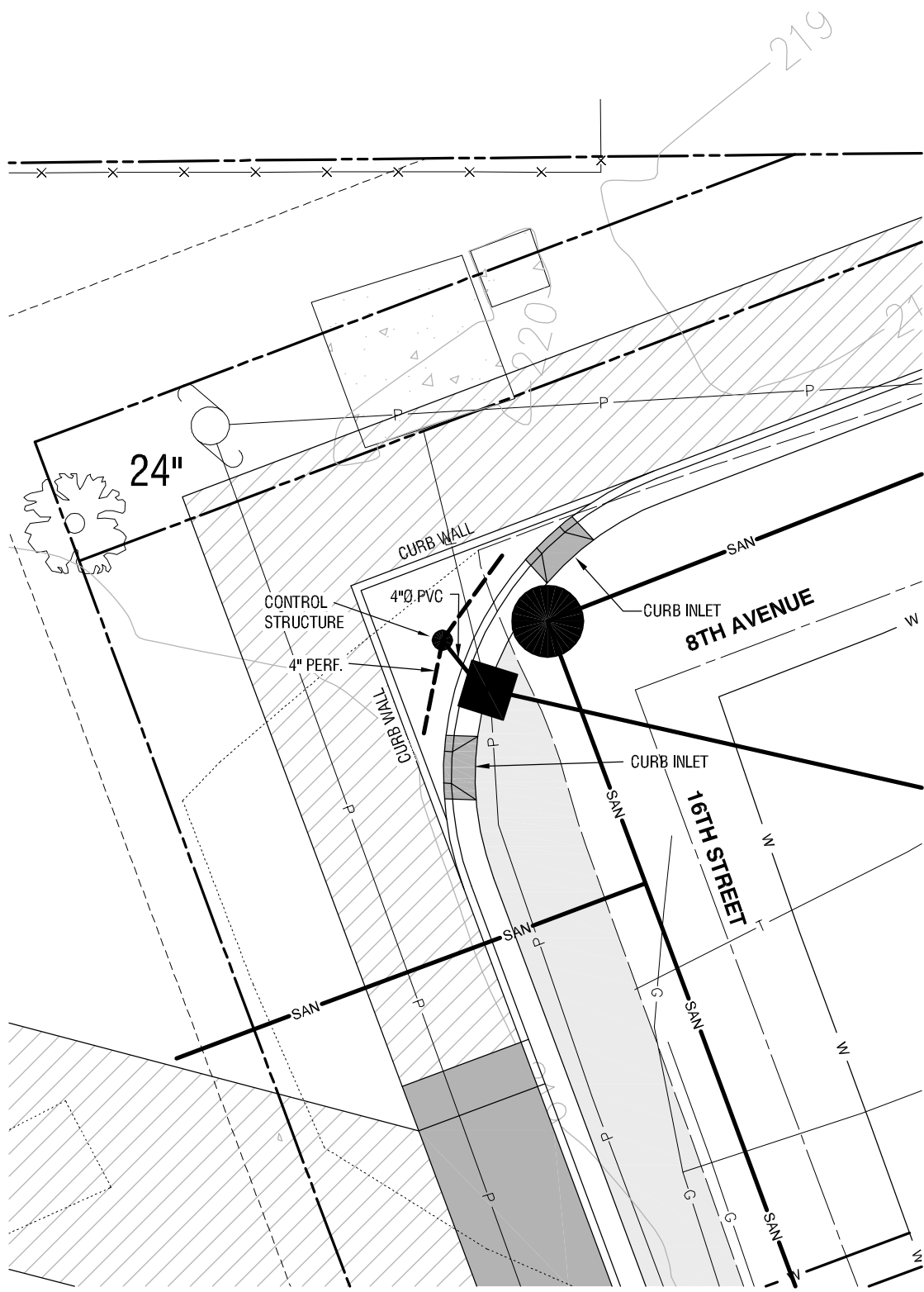
ENGINEERING - SURVEYING - PLANNING

PO Box 1345
Lake Oswego, Oregon 97035

503-481-8822
email: thetaeng@comcast.net

1694 16th Street
West Linn, Oregon 97068

1
2



SCALE: 1" = 10'

2024-486

**PUBLIC SYSTEM
PRELIMINARY 16TH & 18TH STREET FACILITY**

Theta, llc

ENGINEERING - SURVEYING - PLANNING
 PO Box 1345
 Lake Oswego, Oregon 97035
 503-481-8822
 email: thetaeng@comcast.net

1694 16th Street
 West Linn, Oregon 97068

PAC Report

Project Details

Project Name	Permit No	Created
16th street		9/4/2024 9:05:48 PM
Project Address	Designer	Last Modified
1694 16th		9/4/2024 9:23:44 PM
	Company	Report Generated
		9/5/2024 10:39:20 PM

Project Summary

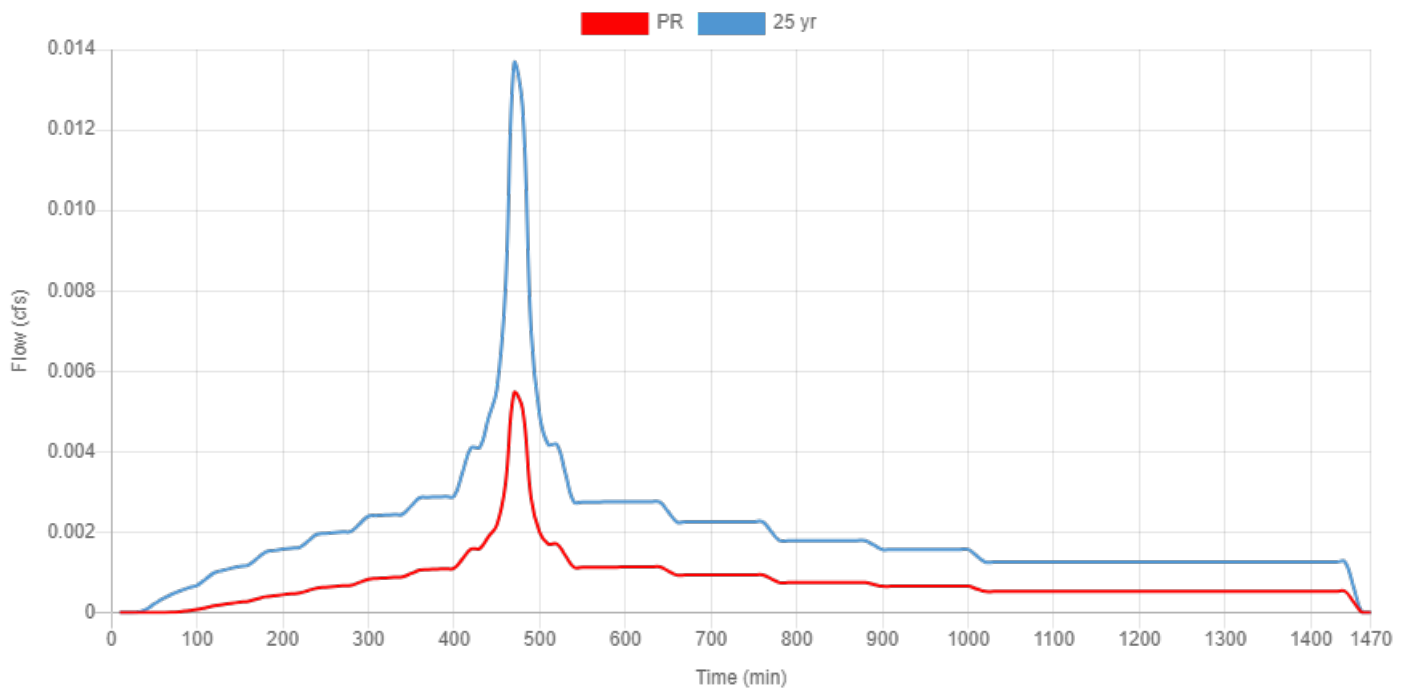
Catchment Name	Imper-vious Area (sq ft)	Native Soil Design Infiltration Rate (in/hr)	Level	Category	Config	Facility Area (excl. free board) (sq ft)	Facility Sizing Ratio (%)	PR Results	Infiltration Results	Flow Control Results
green street	597	0.565	2B	FlatPlanter	C	38.00	6.37	Pass	NA	Pass

green street

Site Soils & Infiltration Testing	Infiltration Testing Procedure OpenPit Tested Native Soil Infiltration Rate 1.13 in/hr
Correction Factor	CF test 2
Design Infiltration Rates	Native Soil 0.565 in/hr Imported Blended Soil 6 in/hr
Catchment Information	Hierarchy Level 2B Hierarchy Description Discharge to an overland storm drainage system, including streams, drainageways, and ditches, or to a storm-only pipe system that discharges to an overland storm drainage system. Pollution Reduction Requirement Filter the post-development stormwater runoff from the water quality storm event through the blended soil. Infiltration Requirement N/A Flow Control Requirement Limit the ½ the 2-yr, the 5-yr, and the 10-yr post-development peak flows to their respective pre-development peak flows. Unless the facility is a public facility (i.e., in the public right-of-way), also limit the 25-yr post-development peak flow to the 25-year pre-development peak flow. Impervious Area 597 sq ft 0.014 acre Pre-Development Time of Concentration (T_{c pre}) 5 min Post-Development Time of Concentration (T_{c post}) 5 min Pre-Development Curve Number (CN_{pre}) 86 Post-Development Curve Number (CN_{post}) 98

SBUH Results

Post-Development Runoff



	Pre - Development Rate and Volume		Post - Development Rate and Volume	
	Peak Rate (cfs)	Total Volume (cf)	Peak Rate (cfs)	Total Volume (cf)
PR	0.0017	28.2	0.0055	69.1
25-Year	0.0089	117.7	0.0136	177.4

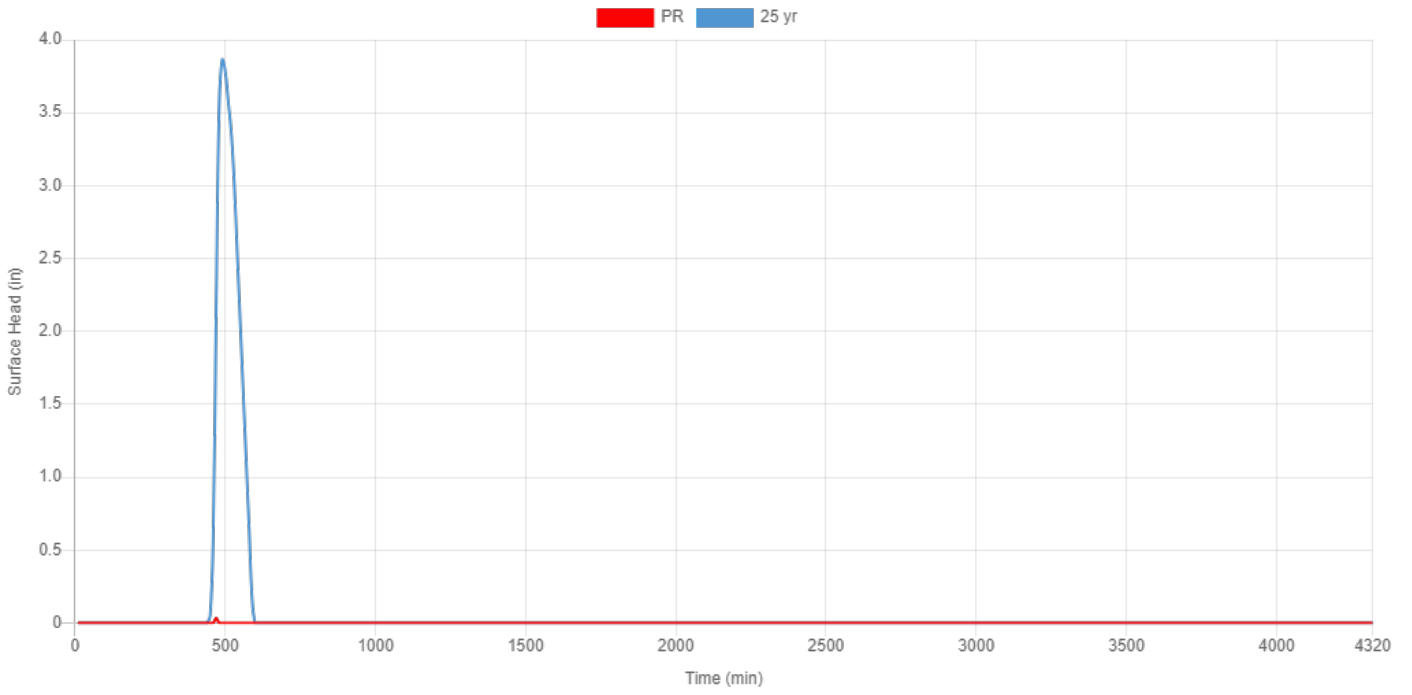
	Overflow		Underdrain Outflow		Infiltration	
	Peak Rate (cfs)	Total Volume (cf)	Peak Rate (cfs)	Total Volume (cf)	Peak Rate (cfs)	Total Volume (cf)
PR	0	0	0.004	30.2	0	38.9
25-Year	0	0	0.005	135.6	0	41.8

Flat Planter

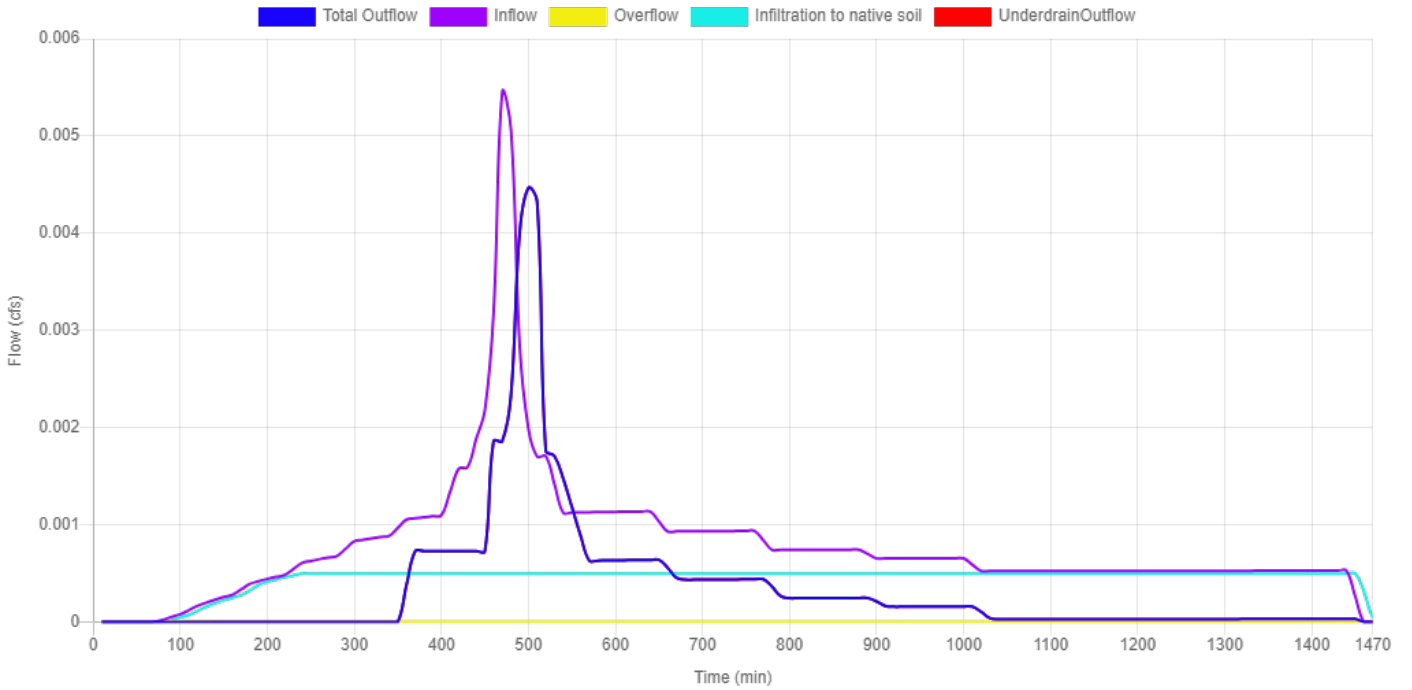
Site Soils & Infiltration Testing	Category
	Flat Planter
	Shape
	Null
	Location
	Public Right-of-Way
	Configuration
	C: Infiltration with RS & UnderDrain[Ud]
	Above Grade Storage Data
	Bottom Area
	38 sq ft
	Bottom Width
	5.00 ft
	Overflow Height
	9.0 in
	Total Depth of Blended Soil plus Rock
	24 in
	Surface Storage Capacity at Overflow
	28.5 cu ft
	Design Infiltration Rate to Soil Underlying the Facility
	4.970e-004 cfs
Design Infiltration Rate for Imported Blended Soil in the Facility	
0.005 cfs	
Below Grade Storage Data	
Catchment is too small for flow control?	
Yes	
Rock Area	
5.70 sq ft	
Rock Width	
3.00 ft	
Rock Storage Depth	
12.0 in	
Rock Porosity	
0.3	
Underdrain Height	

	<p>4 in</p> <p>Percent of Facility Base that Allows Infiltration</p> <p>100 %</p> <p>Orifice (Y/N)?</p> <p>Yes</p> <p>Orifice Diameter</p> <p>0.500 in</p>
Facility Facts	<p>Total Facility Area (excluding freeboard)</p> <p>38.00 sq ft</p> <p>Sizing Ratio</p> <p>6.37 %</p>
Pollution Reduction Results	<p>Pollution Reduction Score</p> <p>Pass</p> <p>Overflow Volume</p> <p>0.00 cf</p> <p>Surface Capacity Used</p> <p>0.37 %</p>
Flow Control Results	<p>Flow Control Score</p> <p>Pass</p> <p>Overflow Volume</p> <p>0.00 cf</p> <p>Surface Capacity Used</p> <p>42.93 %</p>

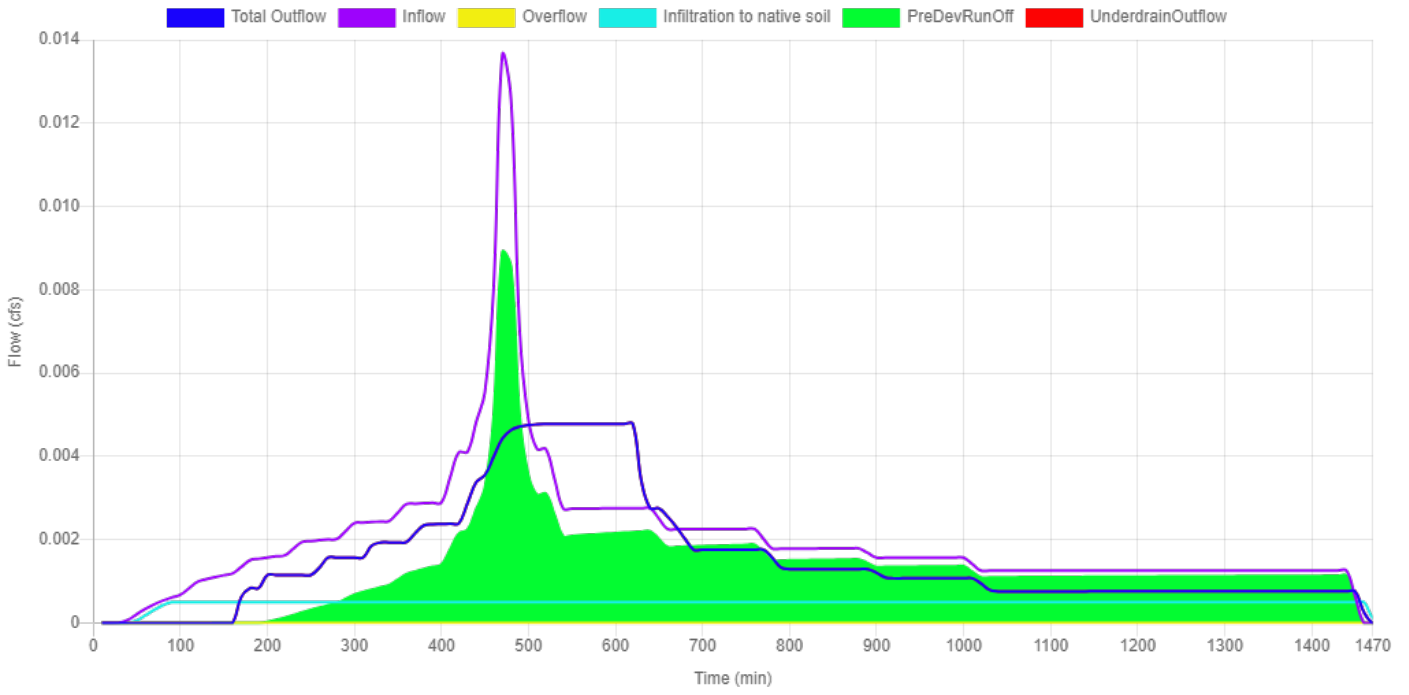
Surface Head



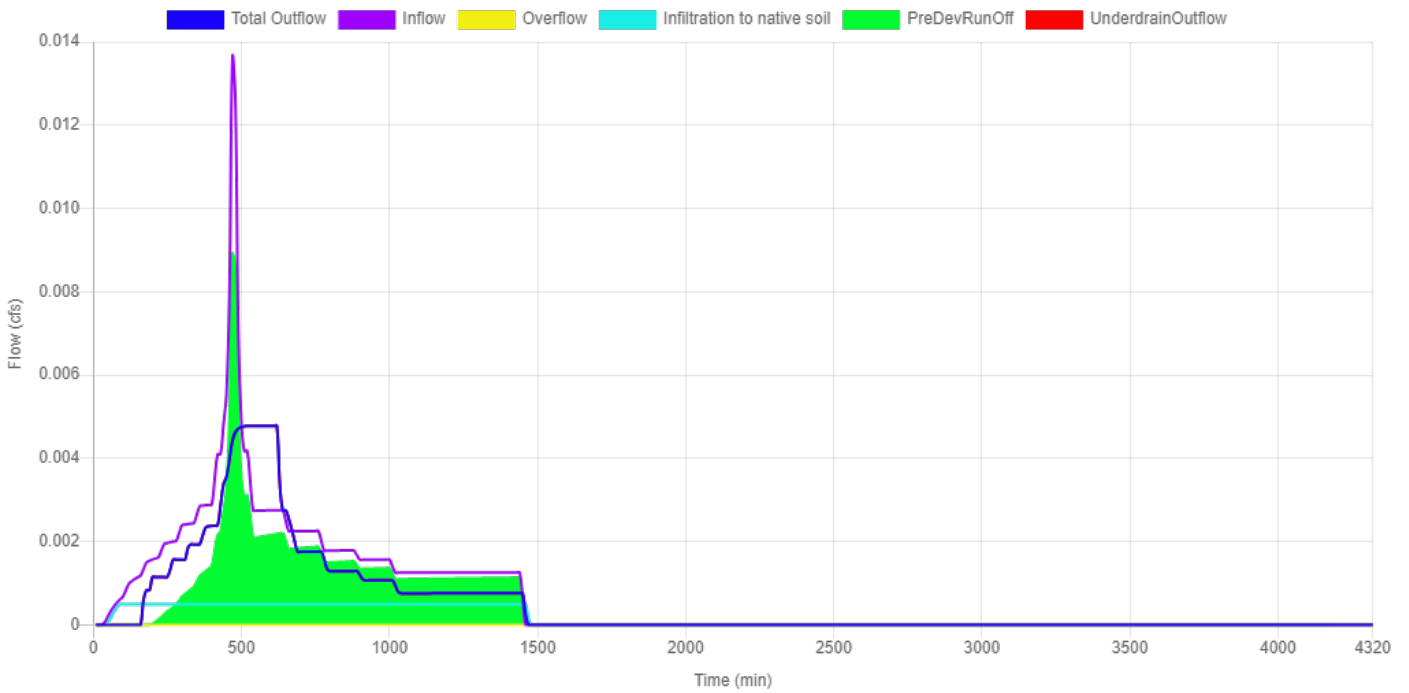
Water Quality



25-Year



25-Year



PAC Report

Project Details

Project Name	Permit No	Created
16th partition		8/20/2024 5:56:20 PM
Project Address	Designer	Last Modified
1694 16th		8/20/2024 5:56:20 PM
	Company	Report Generated
		8/20/2024 11:36:17 AM

Project Summary

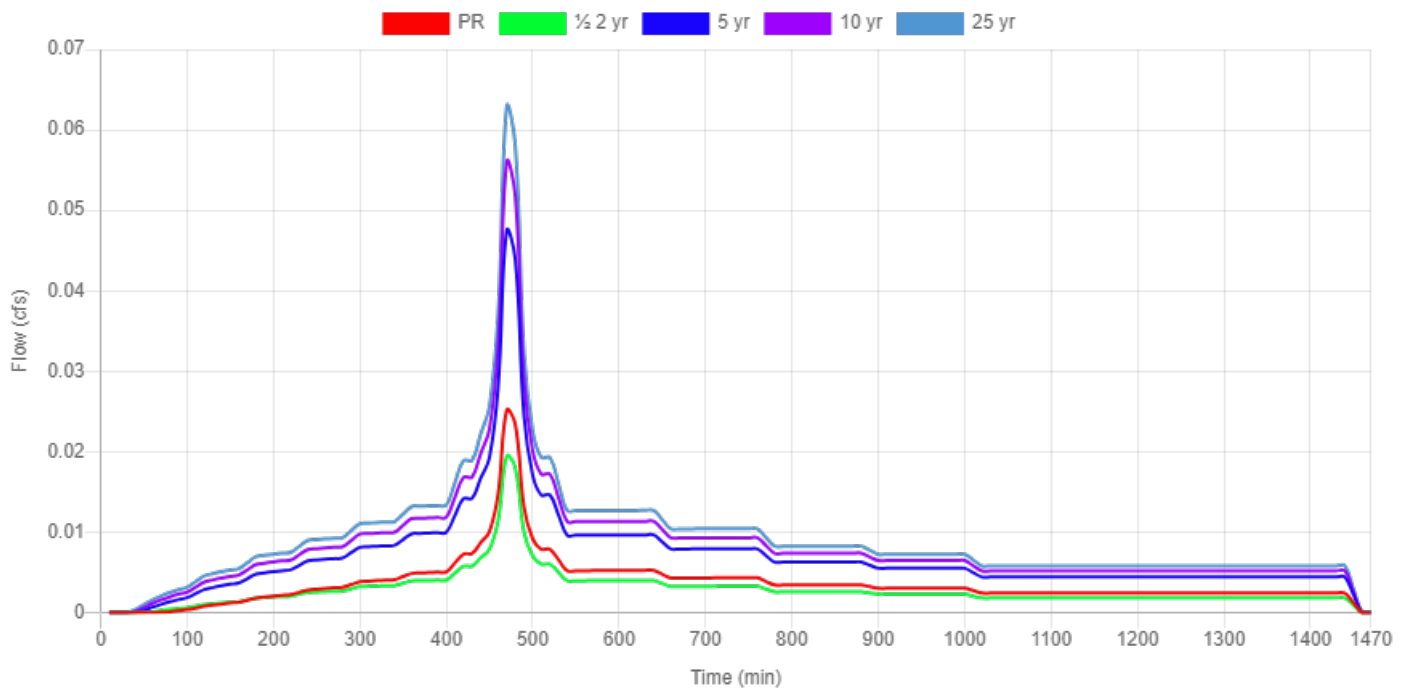
Catchment Name	Imper-vious Area (sq ft)	Native Soil Design Infiltration Rate (in/hr)	Level	Category	Config	Facility Area (excl. free board) (sq ft)	Facility Sizing Ratio (%)	PR Results	Infiltration Results	Flow Control Results
south	2754	0.565	2B	FlatPlanter	C	81.00	2.94	Pass	NA	Pass

south

Site Soils & Infiltration Testing	Infiltration Testing Procedure OpenPit Tested Native Soil Infiltration Rate 1.13 in/hr
Correction Factor	CF test 2
Design Infiltration Rates	Native Soil 0.565 in/hr Imported Blended Soil 6 in/hr
Catchment Information	Hierarchy Level 2B Hierarchy Description Discharge to an overland storm drainage system, including streams, drainageways, and ditches, or to a storm-only pipe system that discharges to an overland storm drainage system. Pollution Reduction Requirement Filter the post-development stormwater runoff from the water quality storm event through the blended soil. Infiltration Requirement N/A Flow Control Requirement Limit the ½ the 2-yr, the 5-yr, and the 10-yr post-development peak flows to their respective pre-development peak flows. Unless the facility is a public facility (i.e., in the public right-of-way), also limit the 25-yr post-development peak flow to the 25-year pre-development peak flow. Impervious Area 2754 sq ft 0.063 acre Pre-Development Time of Concentration (T_{c pre}) 5 min Post-Development Time of Concentration (T_{c post}) 5 min Pre-Development Curve Number (CN_{pre}) 86 Post-Development Curve Number (CN_{post}) 98

SBUH Results

Post-Development Runoff



	Pre - Development Rate and Volume		Post - Development Rate and Volume	
	Peak Rate (cfs)	Total Volume (cf)	Peak Rate (cfs)	Total Volume (cf)
PR	0.0076	130	0.0252	318.7
1/2 2-Year	0.0091	133.4	0.0194	249.2
5-Year	0.0261	362	0.0475	612.5
10-Year	0.0343	461.3	0.0561	726.8
25-Year	0.041	543	0.0629	818.3

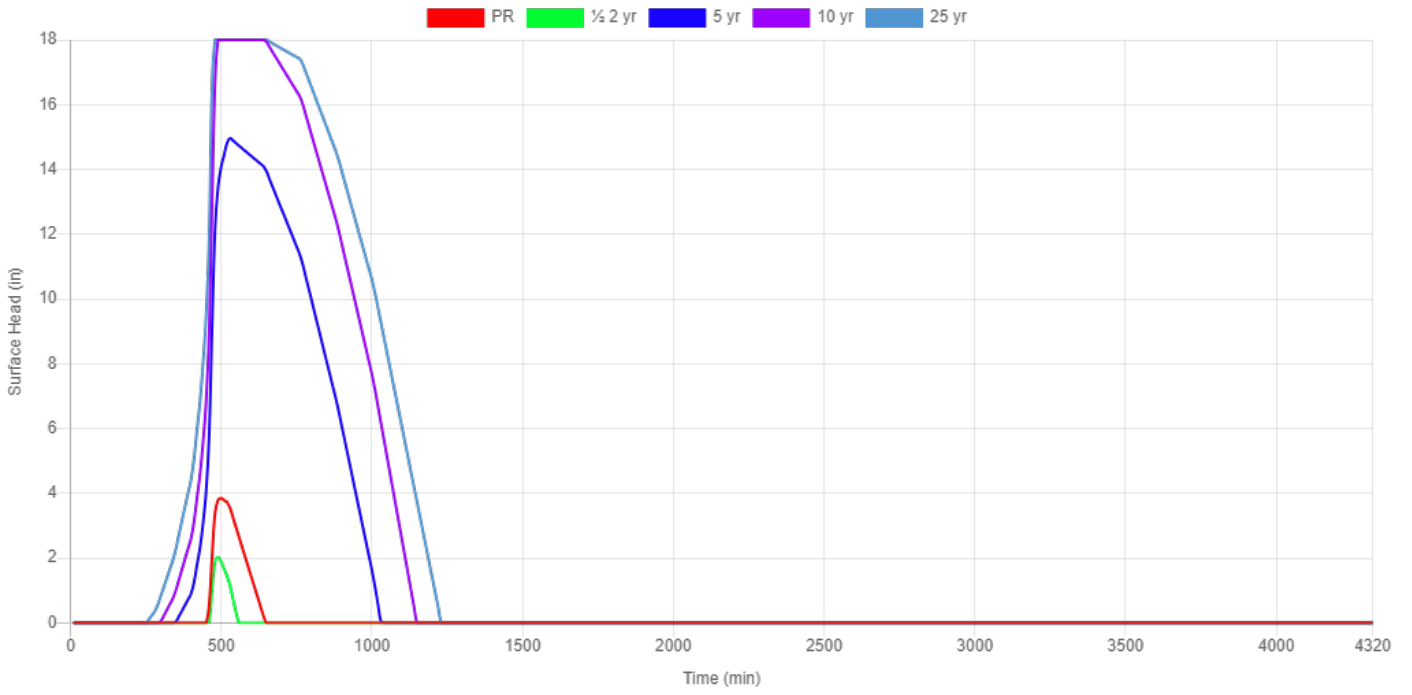
	Overflow		Underdrain Outflow		Infiltration	
	Peak Rate (cfs)	Total Volume (cf)	Peak Rate (cfs)	Total Volume (cf)	Peak Rate (cfs)	Total Volume (cf)
PR	0	0	0.008	233	0.001	85.7
1/2 2-Year	0	0	0.007	162.4	0.001	86.8
5-Year	0	0	0.009	523.4	0.001	89
10-Year	0.009	19.2	0.01	617.9	0.001	89.7
25-Year	0.031	62.7	0.01	665.6	0.001	90

Flat Planter

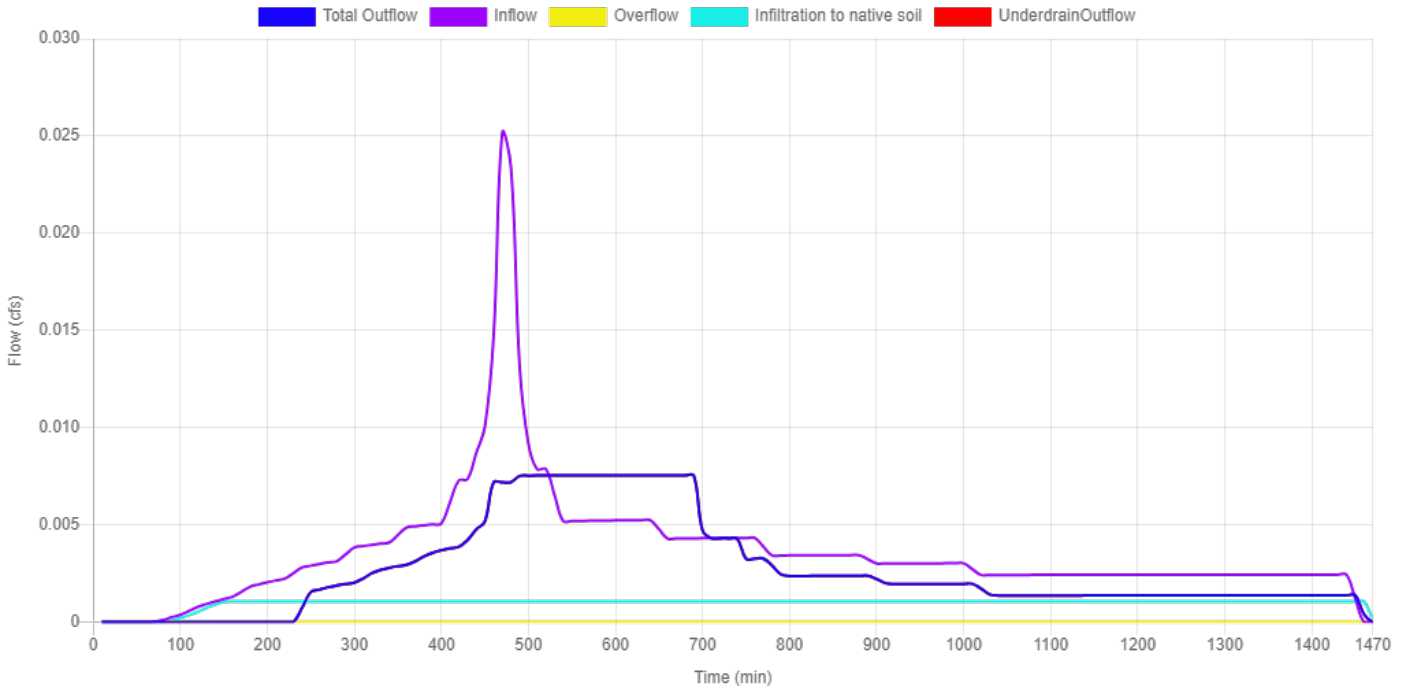
Site Soils & Infiltration Testing	Category
	Flat Planter
	Shape
	Null
	Location
	Parcel
	Configuration
	C: Infiltration with RS & UnderDrain[Ud]
	Above Grade Storage Data
	Bottom Area
	81 sq ft
	Bottom Width
	9.00 ft
	Overflow Height
	18.0 in
	Total Depth of Blended Soil plus Rock
	24 in
	Surface Storage Capacity at Overflow
	121.5 cu ft
	Design Infiltration Rate to Soil Underlying the Facility
	0.001 cfs
Design Infiltration Rate for Imported Blended Soil in the Facility	
0.011 cfs	
Below Grade Storage Data	
Catchment is too small for flow control?	
No	
Rock Area	
6.75 sq ft	
Rock Width	
3.00 ft	
Rock Storage Depth	
12.0 in	
Rock Porosity	
0.3	
Underdrain Height	

	<p>4 in</p> <p>Percent of Facility Base that Allows Infiltration</p> <p>100 %</p> <p>Orifice (Y/N)?</p> <p>Yes</p> <p>Orifice Diameter</p> <p>0.500 in</p>																				
Facility Facts	<p>Total Facility Area (excluding freeboard)</p> <p>81.00 sq ft</p> <p>Sizing Ratio</p> <p>2.94 %</p>																				
Pollution Reduction Results	<p>Pollution Reduction Score</p> <p>Pass</p> <p>Overflow Volume</p> <p>0.00 cf</p> <p>Surface Capacity Used</p> <p>21.39 %</p>																				
Flow Control Results	<p>Flow Control Score</p> <p>Pass</p> <table border="1"> <thead> <tr> <th></th> <th>STORMWATER FACILITY OUTFLOW (CFS)</th> <th></th> <th>PRE-DEVELOPMENT RUNOFF (CFS)</th> </tr> </thead> <tbody> <tr> <td>½ the 2 year</td> <td>0.0075</td> <td><=</td> <td>0.0091</td> </tr> <tr> <td>5 year</td> <td>0.0095</td> <td><=</td> <td>0.0261</td> </tr> <tr> <td>10 year</td> <td>0.0191</td> <td><=</td> <td>0.0343</td> </tr> <tr> <td>25 year</td> <td>0.0409</td> <td><=</td> <td>0.0410</td> </tr> </tbody> </table>		STORMWATER FACILITY OUTFLOW (CFS)		PRE-DEVELOPMENT RUNOFF (CFS)	½ the 2 year	0.0075	<=	0.0091	5 year	0.0095	<=	0.0261	10 year	0.0191	<=	0.0343	25 year	0.0409	<=	0.0410
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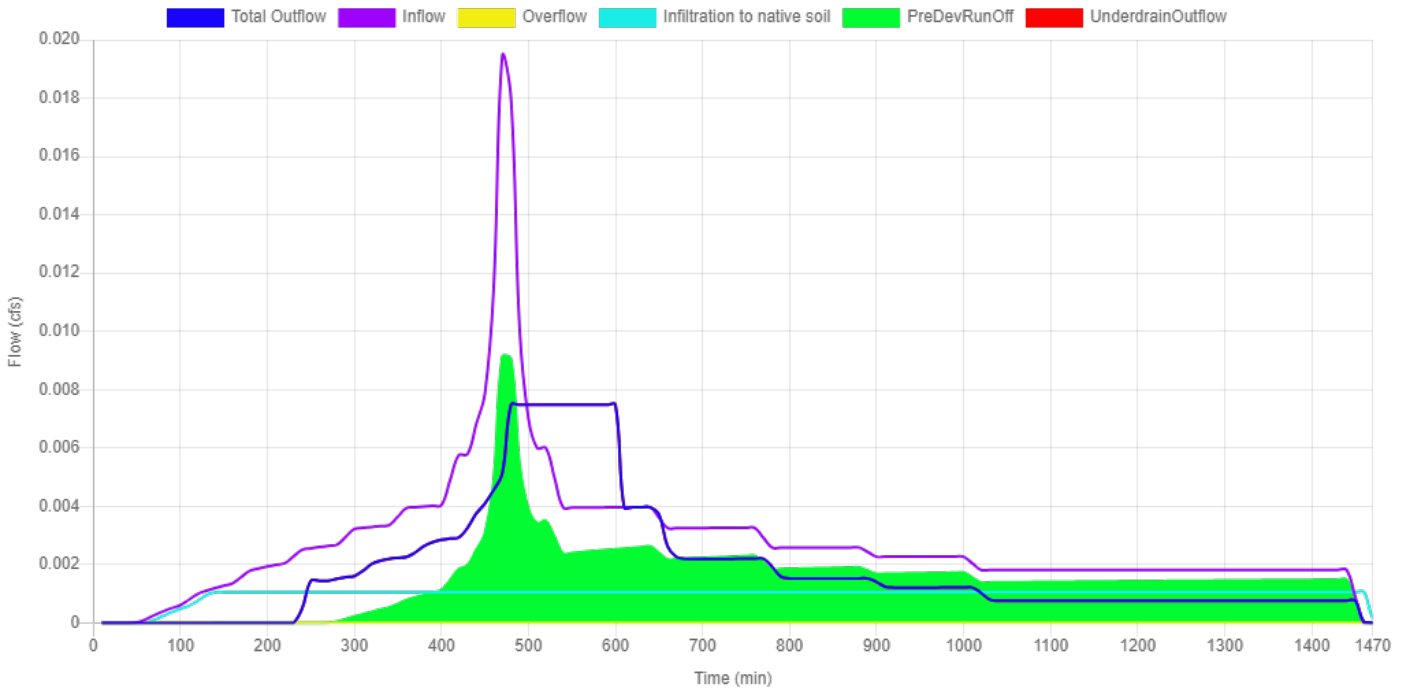
Surface Head



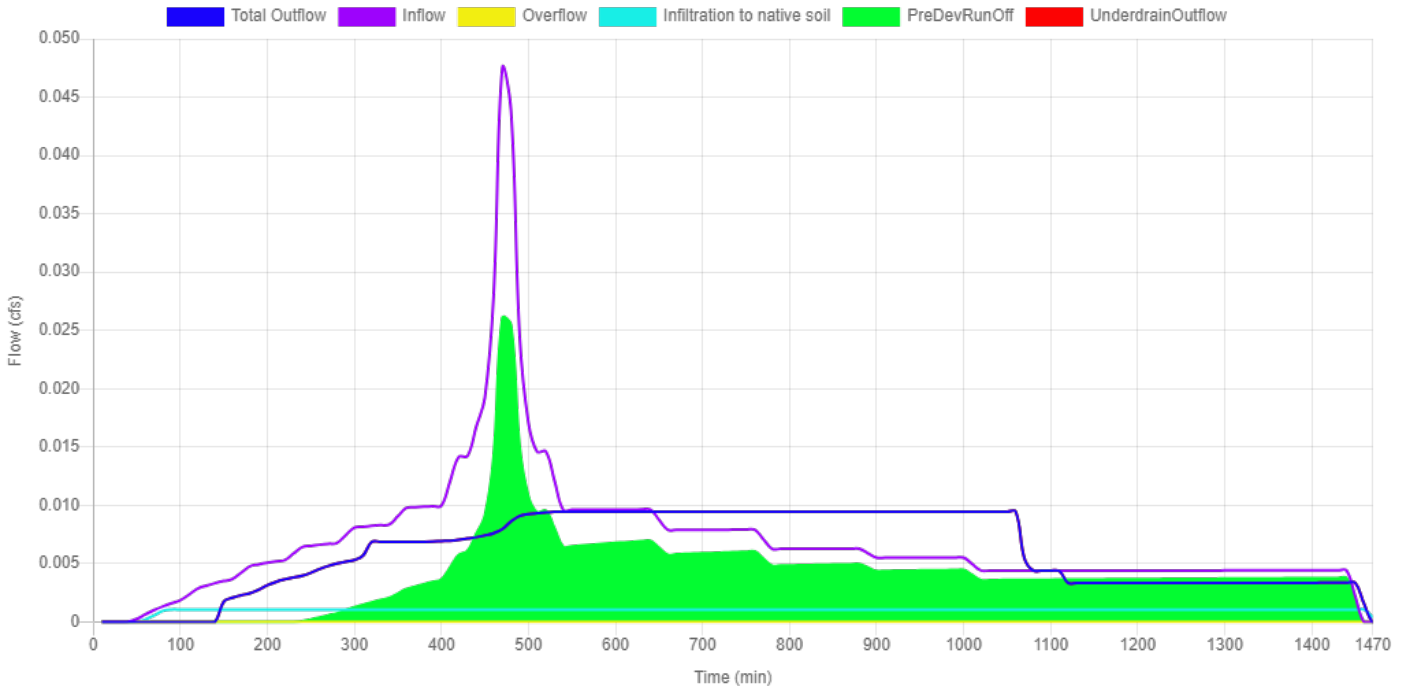
Water Quality



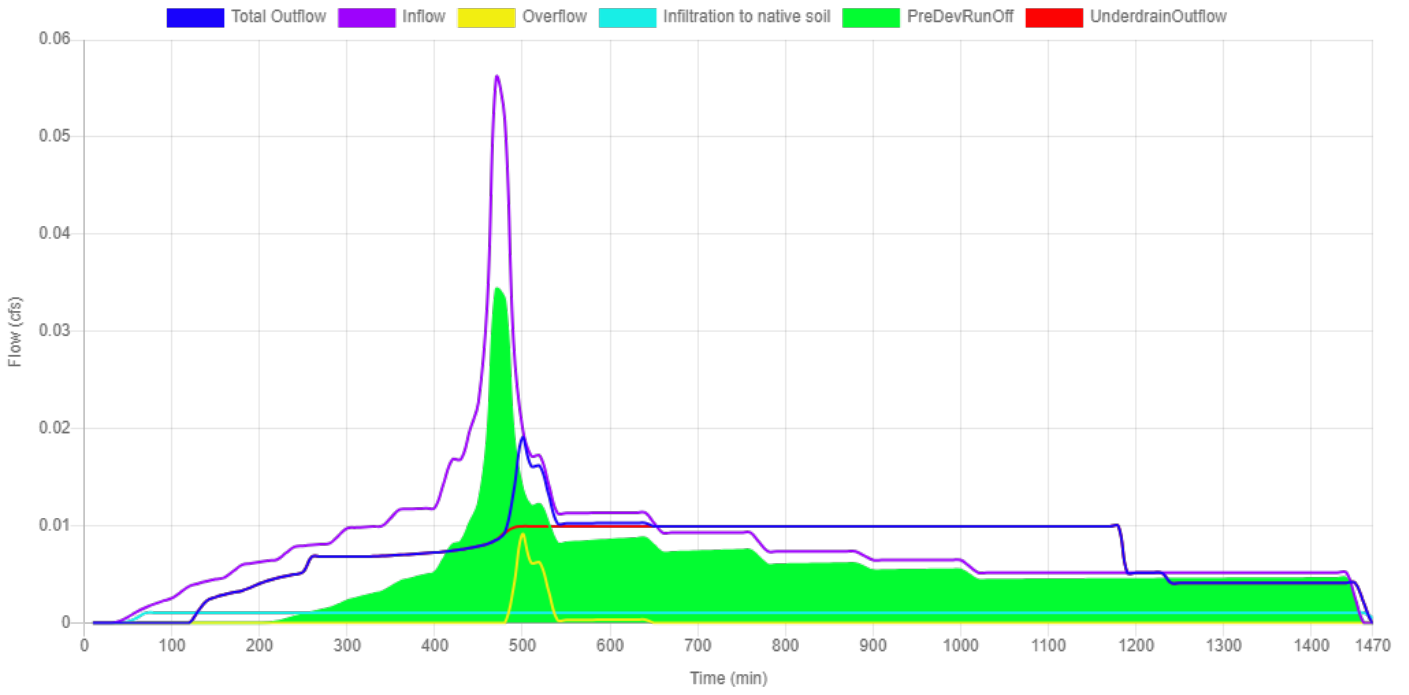
1/2 2-Year



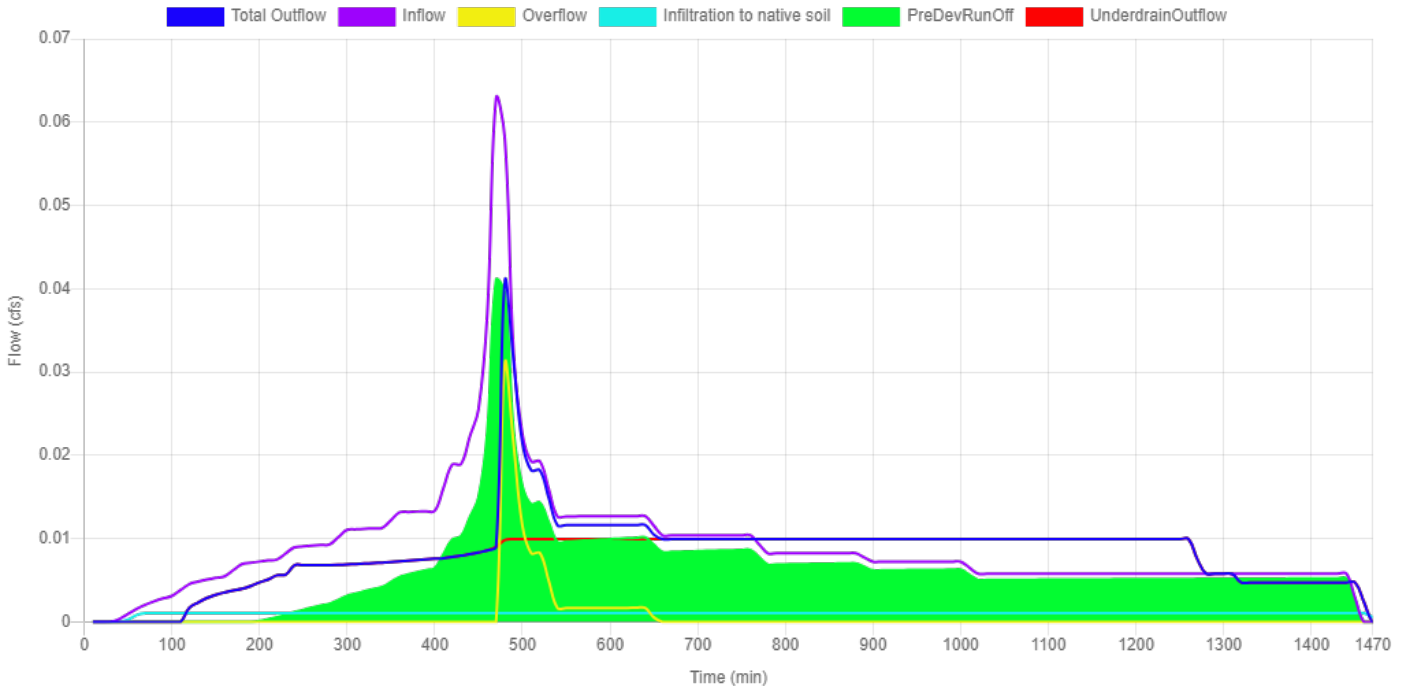
5-Year



10-Year



25-Year



25-Year

