

# CANBY SOUTH

## PRELIMINARY STORMWATER REPORT

*VLMK Project Number: 20220551*

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February 2024*

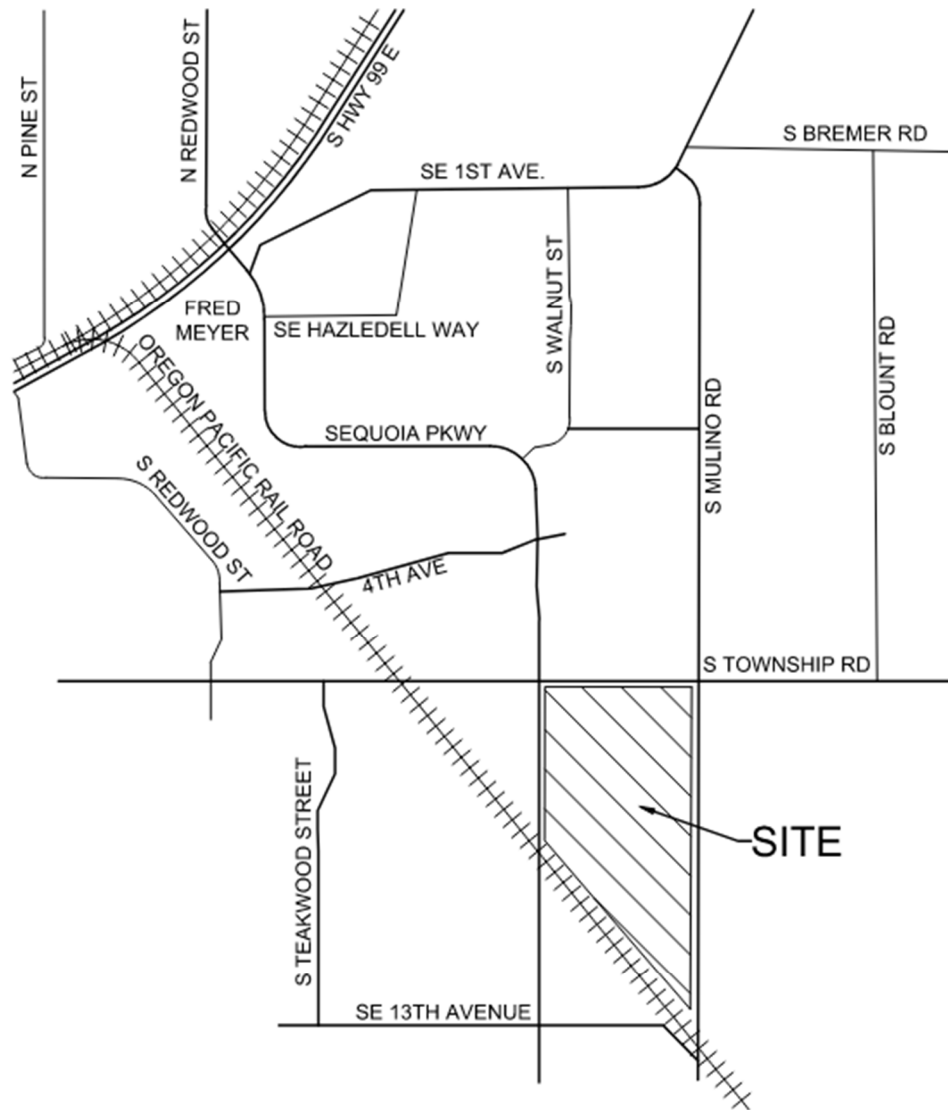
*Project:* Canby South  
*Project Address:* S. Township Rd between S. Sequoia  
Parkway and S. Mulino Rd

*Project Number:* 20220551

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### A. Site Vicinity Map



**VICINITY MAP**

## B. **Project Information**

The Canby South project proposes the construction of a 778,720 SF concrete tilt-up warehouse building. Proposed site work includes new passenger and trailer parking areas, truck loading docks, vehicle maneuvering areas, stormwater management facilities, and related infrastructure. This report analyzes the network of new stormwater management facilities designed to provide water quality treatment and water quantity control for on-site stormwater runoff.

The site is located on S Township Rd between S Sequoia Parkway and S Mulino Rd. The Southern Pacific Railroad borders the site along the southwest. The property has historically been utilized for agricultural purposes. The terrain is generally flat with a slight draw in the southeast corner of the site that drains to the south. The tax lot is zoned as M-1, Light Industrial.

Topographic information for the site is based on survey provided by: Northwest Surveying Inc. (1815 NW 169<sup>th</sup> Place, Suite 2090. Beaverton, OR 97006 Phone: (503)848-2127).

Geotechnical investigation and testing is provided by: Columbia West Engineering (11917 NE 95<sup>th</sup> Street, Vancouver, Washington 986852 Phone: (360) 823-2900)

All stormwater facilities and conveyance systems for this development have been designed per the City of Canby Public Works Design Standards and the Clean Water Services R&O 19-22.

Software used in design:

- HydroCAD Stormwater Modeling Software
- Microsoft Excel
- AutoCAD Civil 3D 2024

### C. Stormwater Narrative

Onsite stormwater runoff will be collected at roof drains or catch basins located throughout the property. All stormwater runoff from pollution-generating surfaces (i.e. asphalt and concrete) will be treated using on-site stormwater filtration units. Runoff from roof areas will bypass water quality treatment as authorized by DEQ rule for Underground Injection Control (UIC). All site runoff will be routed to one of several sedimentation manholes for pretreatment prior to discharge into the respective underground infiltration facility. There will be three separate underground infiltration facilities, each consisting of StormTech Chambers, that will infiltrate the majority of the site's stormwater into native soils. A fourth facility consisting of a single dry well will manage a small area at the southeast corner of the site, also infiltrating stormwater into native soils. The infiltration systems will comply and be registered with DEQ UIC Rule Authorization requirements. Calculations for the water quality, infiltration and conveyance will be provided during permit submittal.

#### Water Quality Treatment

All runoff from on-site pollution generating hard surfaces (approx. 19.0 acres) will be treated using BayFilter treatment units by ADS. Per DEQ Underground Injection Control (UIC) regulations for 'Rule Authorized' injection systems, roof areas are not required to be treated prior to entering underground infiltration systems. City of Canby Public Works Design Standards section 4.310 requires water quality facilities to be sized per the Clean Water Services (CWS) Design Manual. The CWS water quality event used to size these facilities is 0.36" developed over 4 hours.

#### Storm Quantity Control (Complete Infiltration)

The stormwater quantity requirements will be achieved by infiltrating all runoff from storm events up to and including the 100-yr event in one of three infiltration systems consisting of MC-4500 StormTech chambers or a separate dry well system. Preliminary sizing calculations were completed using an approximate infiltration rate of 600 in/hr. and a factor of safety of 6, for a design rate of 100 in/hr. This is based on infiltration testing conducted on the site in 2021; additional infiltration testing will be performed to validate the design. The chambers (and dry well) will be installed at depths that engage native infiltration soil layers.

#### Conveyance

The proposed storm conveyance pipes will be sized to convey the peak flow from the 25-year design event (4.0" over 24 hours) as calculated using the Santa Barbara Unit Hydrograph (SBUH). The minimum time of concentration in the SBUH calculations is 5.0 minutes. A conservative Manning's coefficient (n) of 0.013 is used to size conveyance pipes. For the conveyance calculations, it is conservatively assumed that the entire site area is impervious.

**D. APPENDIX**

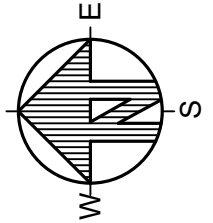
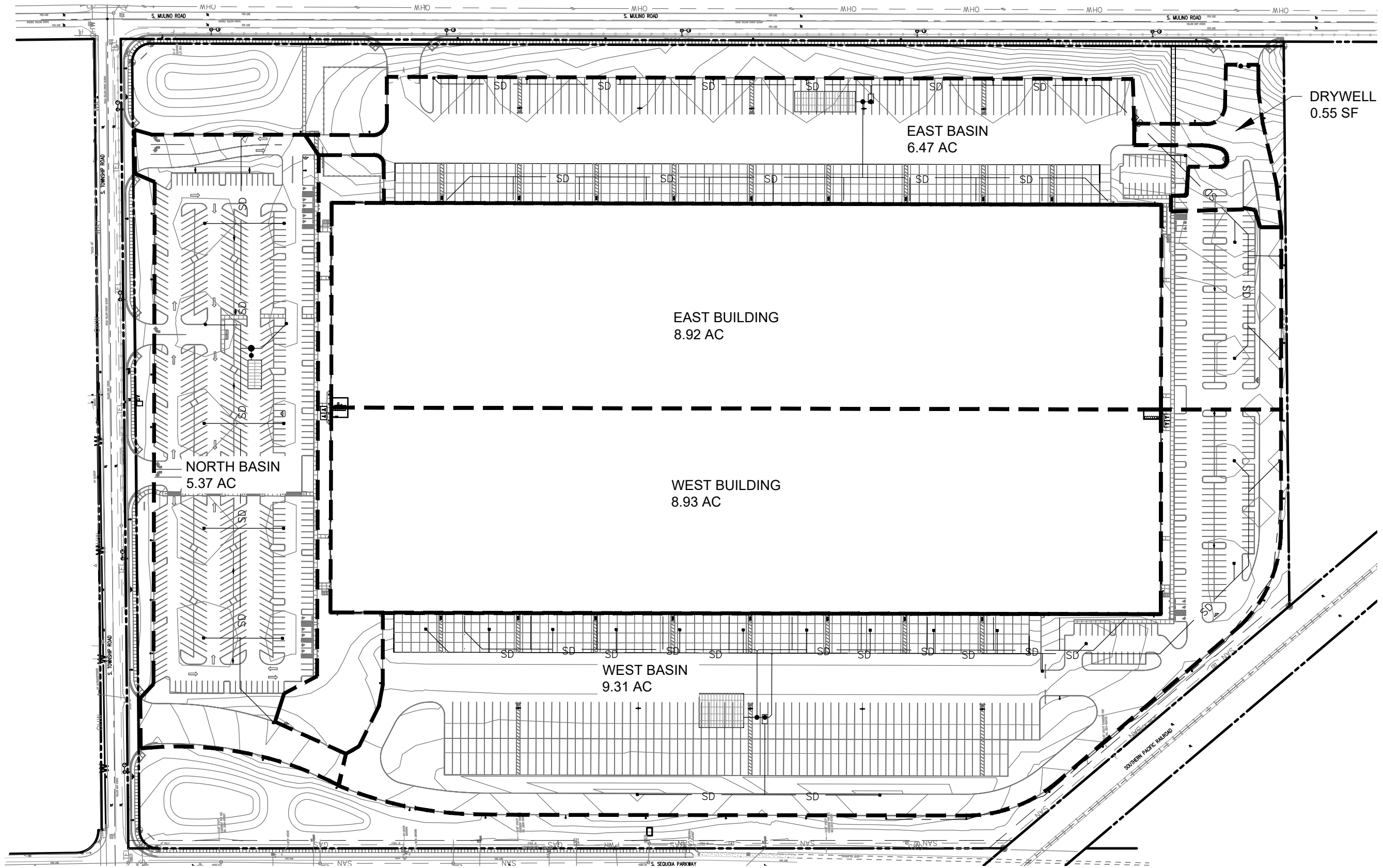
Preliminary Site Drawings & Basin Maps







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**CANBY SOUTH**  
 S TOWNSHIP RD BETWEEN SEQUOIA PARKWAY AND S MULINO RD  
 STORMWATER BASIN MAPS

DATE: FEB 2024  
 SCALE: AS NOTED  
 PROJ. NO.: 20220551  
 DRAWN:  
 CHECKED:

**VLMK**  
 ENGINEERING + DESIGN

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