



## **5. Preliminary Stormwater Design Report (TIR)**

## Stormwater Memorandum

**Date:** June 24, 2025  
**To:** City of Camas  
Community Development Department  
616 NE 4<sup>th</sup> Avenue  
Camas, WA 98607  
**From:** Colin Shackelford, P.E.

**AKS Job No.:** 11021

**RE:** Lacamas Village Preliminary Stormwater Report – PA24-13  
(Lots 1, 2, & 7 of the Urban Village Short Plat – SP20-02 & FP21-04)

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This memorandum serves to address the stormwater design and mitigation for the Lacamas Village Subdivision, as shown on the development plans in Appendix B. Proposed stormwater runoff from the development will be conveyed to facilities that have been designed under an approved Final Drainage Analysis report completed by Olson Engineering in 2020 for Tract A and Tract B of the Urban Village Short Plat (UVSP), (SP20-02 & FP21-04). The Lacamas Village Subdivision proposes to develop three lots (Lots 1, 2, and 7) within the UVSP in the City of Camas. The project is located within the Northeast  $\frac{1}{4}$  of Section 20 and 21, Township 2 North, Range 3 East, Willamette Meridian, Clark County (parent parcel numbers for UVSP are 986037-656 and 172559-000, see Appendix A for project vicinity map). The project consists of 12.70 acres.

A Final Drainage Analysis report, dated August 25<sup>th</sup>, 2020, was approved for the UVSP, prepared by Olson Engineering (MacKay Sposito). This final stormwater report summarizes the design of the combined detention and wetpool facilities with phosphorus treatment for Tract A and Tract B. Tract A is designed to provide adequate storage volume and treatment capacity for “catchments 5D, 6D, and 7aD”, an area approximately 22.17 acres in size. Tract B is designed to provide adequate storage volume and treatment capacity for “catchments 7bD and 8D” with an area of approximately 16.34 acres. These catchments and their areas are shown and summarized in Appendix C, the UVSP Developed Catchment Plan. The approved Final Drainage Analysis of UVSP addressed Minimum Requirements #1 – #9 for the entirety of the short plat development. These facilities will be completed prior to the Lacamas Village development connection.

The Lacamas Village project proposes to develop lots 1, 2, and 7 of the UVSP. Proposed improvements include residential attached and detached single-family homes, sidewalks, public and private streets, open spaces, and associated improvements. Stormwater facilities constructed with the Lacamas Village development will only include runoff collection and conveyance systems that will subsequently drain to the UVSP combined detention and wetpool facilities in Tracts A and B. These combined facilities have been designed to meet water quality and quantity standards as required by the City of Camas.

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The project proposes greater than 5,000 sf of new plus replaced hard surfaces and is required to meet minimum requirements #1 - #9. Minimum requirements #4 - #9 are met by connecting to the previously designed facilities in Tract A and Tract B. Minimum requirements #1 - #3 will be met with the construction approval of the proposed development, meeting the City of Camas requirements.

Revisions to the boundaries are proposed for catchments 7aD and 7bD. These revisions were required to match the assumptions used in the design for the UVSP stormwater facilities. These revisions are shown on the Revised Basin Plan in Appendix D and summarized below in Table 1.

**Table 1: Development Catchment Areas Summary**

Catchment Basin	Storm Facility	Green Mountain UVSP Land Use Description	Green Mountain UVSP Basin Area (ac)	Land Use Description with Lacamas Village	Basin Area with Lacamas Village (ac)
7aD	Tract A	Impervious (85%)	10.099	Impervious (84%)	10.010
		Pervious (15%)	1.782	Pervious (16%)	1.871
7bD	Tract B	Impervious (85%)	11.953	Impervious (84.5%)	11.883
		Pervious (15%)	2.110	Pervious (15.5%)	2.180

In summary, the boundary revisions proposed with the Lacamas Village project will meet the design assumptions made with the approved drainage report done by Olson Engineering in 2020 (SP20-02/FP21-04). All applicable minimum requirements are met with the proposed development per the 2024 Stormwater Management Manual for Western Washington and City of Camas requirements. A final areas analysis will be provided in the final technical information report and engineering plans, that addresses the proposed changes to the catchment basin boundaries.

Sincerely,



Colin J. Shackelford, P.E.

**AKS ENGINEERING & FORESTRY, LLC**

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Vancouver, WA 98682

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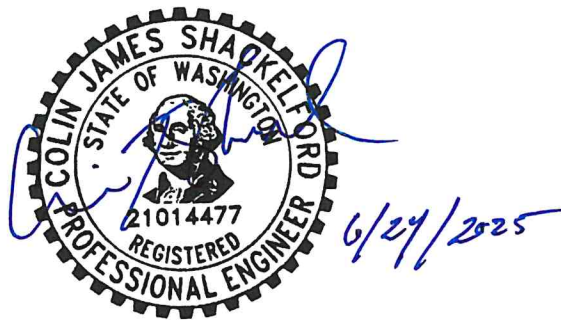
Enclosures:

- Certificate of the Engineer
- Appendix A: General Location Map
- Appendix B: Preliminary Development Plans
- Appendix C: GMUVP Developed Catchment Plan
- Appendix D: Revised Basin Plan

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**Certificate of the Engineer****Lacamas Village****Camas, Washington****Preliminary Stormwater Memorandum**

This Preliminary Stormwater Report and the data contained herein were prepared by the undersigned, whose seal, as a Professional Engineer licensed to practice as such, is affixed below. All information required by Camas Municipal Code (CMC) Chapter 14.02 is included in the proposed stormwater plan and the proposed facilities are feasible.





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## **Appendix A: Vicinity Maps**

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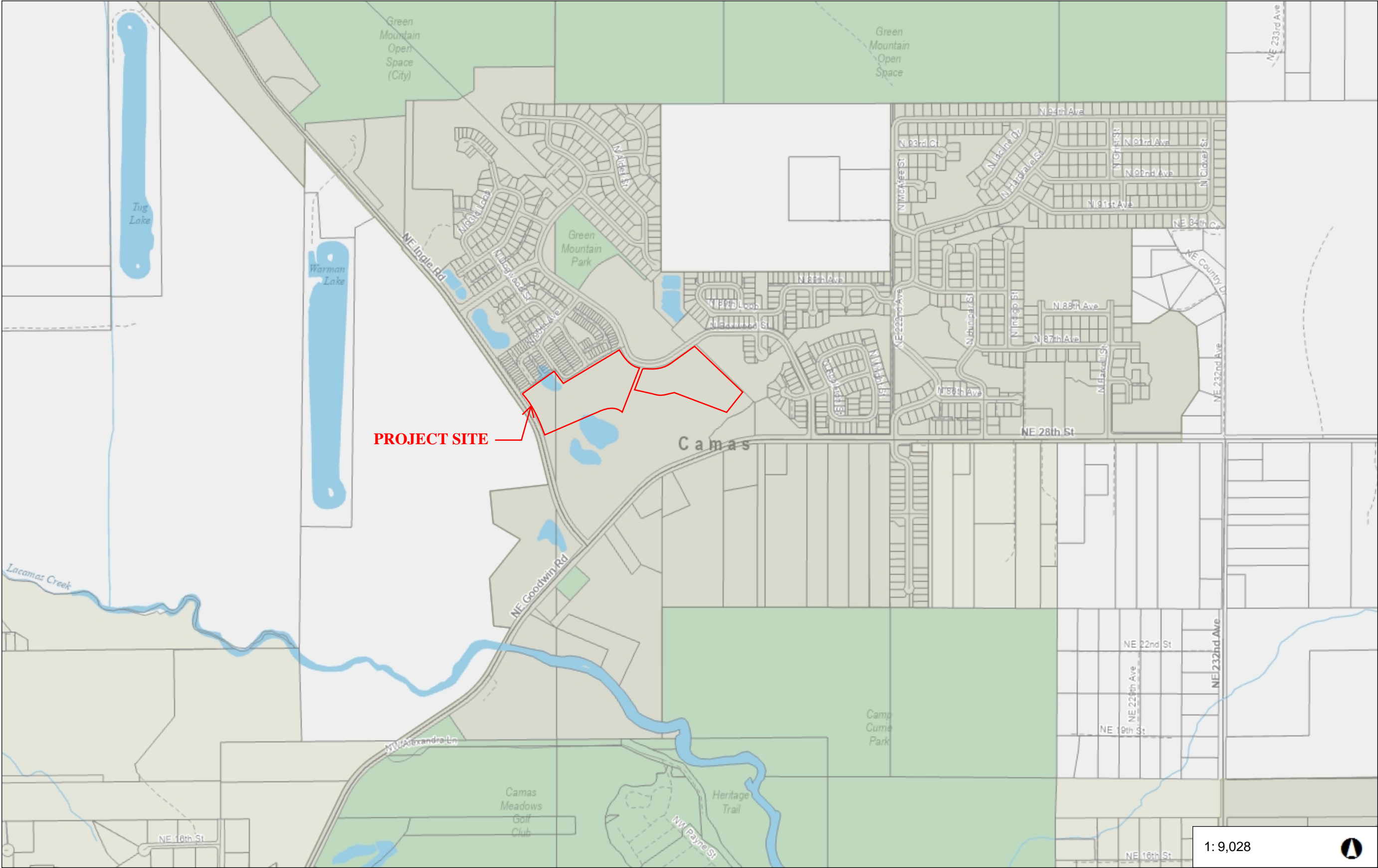


Vicinity Map



Legend  
Taxlots

Notes:



0.3 0 0.14 0.3 Miles

WGS\_1984\_Web\_Mercator\_Auxiliary\_Sphere  
Clark County, WA. GIS - <http://gis.clark.wa.gov>

This map was generated by Clark County's "MapsOnline" website. Clark County does not warrant the accuracy, reliability or timeliness of any information on this map, and shall not be held liable for losses caused by using this information. Taxlot (i.e., parcel) boundaries cannot be used to determine the location of property lines on the ground.



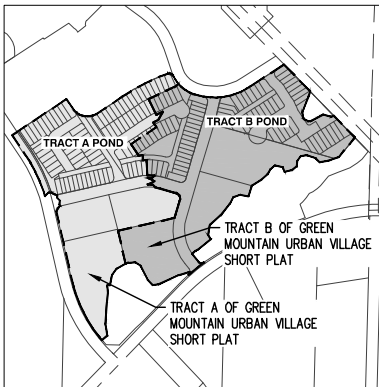
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## **Appendix B: Development Plans**

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GENERAL NOTES

1. CONTOUR INTERVAL IS 1 FOOT.
2. TREES ARE NOT SHOWN.
3. STORMWATER TREATMENT AND DETENTION FACILITIES FOR THIS DEVELOPMENT HAVE BEEN DESIGNED AND CONSTRUCTED WITH THE GREEN MOUNTAIN URBAN VILLAGE SHORT PLAT (SP20-02). EXISTING FACILITIES WILL BE OWNED AND MAINTAINED BY THE HOA.
4. ACCORDING TO CLARK COUNTY GIS, THE SITE IS NOT WITHIN OR ADJACENT TO A 100-YEAR FLOODPLAIN OR SHORELINE MANAGEMENT AREA.
5. THERE ARE NO KNOWN EXISTING ON-SITE STORMWATER FACILITIES.
6. EXISTING DRAINAGE FLOW ROUTES ARE TO THE SOUTH AND WEST TOWARDS EXISTING STORMWATER FACILITIES INSTALLED WITH THE URBAN VILLAGE SHOR PLAT.
7. PROPOSED DRAINAGE FLOW ROUTES TO FOLLOW EXISTING FLOW ROUTES TO EXTENT POSSIBLE, WITH STORMWATER DISCHARGED FROM STORMWATER FACILITIES INTO EXISTING DITCHES TO THE WEST ALONG NE GOODWIN ROAD
8. ROOF AREAS FOR ALL LOTS DRAIN TO A STORMWATER LATERAL.
9. PRELIMINARY STORM SIZING LISTED BELOW TO BE FINALIZED DURING FINAL ENGINEERING:  
STORM MAIN: 12" MIN. DIAMETER  
CATCH BASIN LEADS: 10" MIN. DIAMETER  
SINGLE-FAMILY STORM LATERALS: 6" DIAMETER

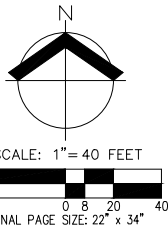


STORMWATER BASIN OVERVIEW MAP

N.T.S

LEGEND

- EXISTING GROUND CONTOUR (1 FT) — 352 —  
EXISTING GROUND CONTOUR (5 FT) — 350 —  
FINISHED GRADE CONTOUR (1 FT) — 352 —  
FINISHED GRADE CONTOUR (5 FT) — 350 —  
DRAINAGE FLOW DIRECTION →  
DISTURBED LIMITS - - - - -



PARCEL NO.  
986058-421

PRELIMINARY STORMWATER PLAN (WEST)

LACAMAS VILLAGE  
WOLLAM & ASSOCIATES  
CAMAS, WASHINGTON

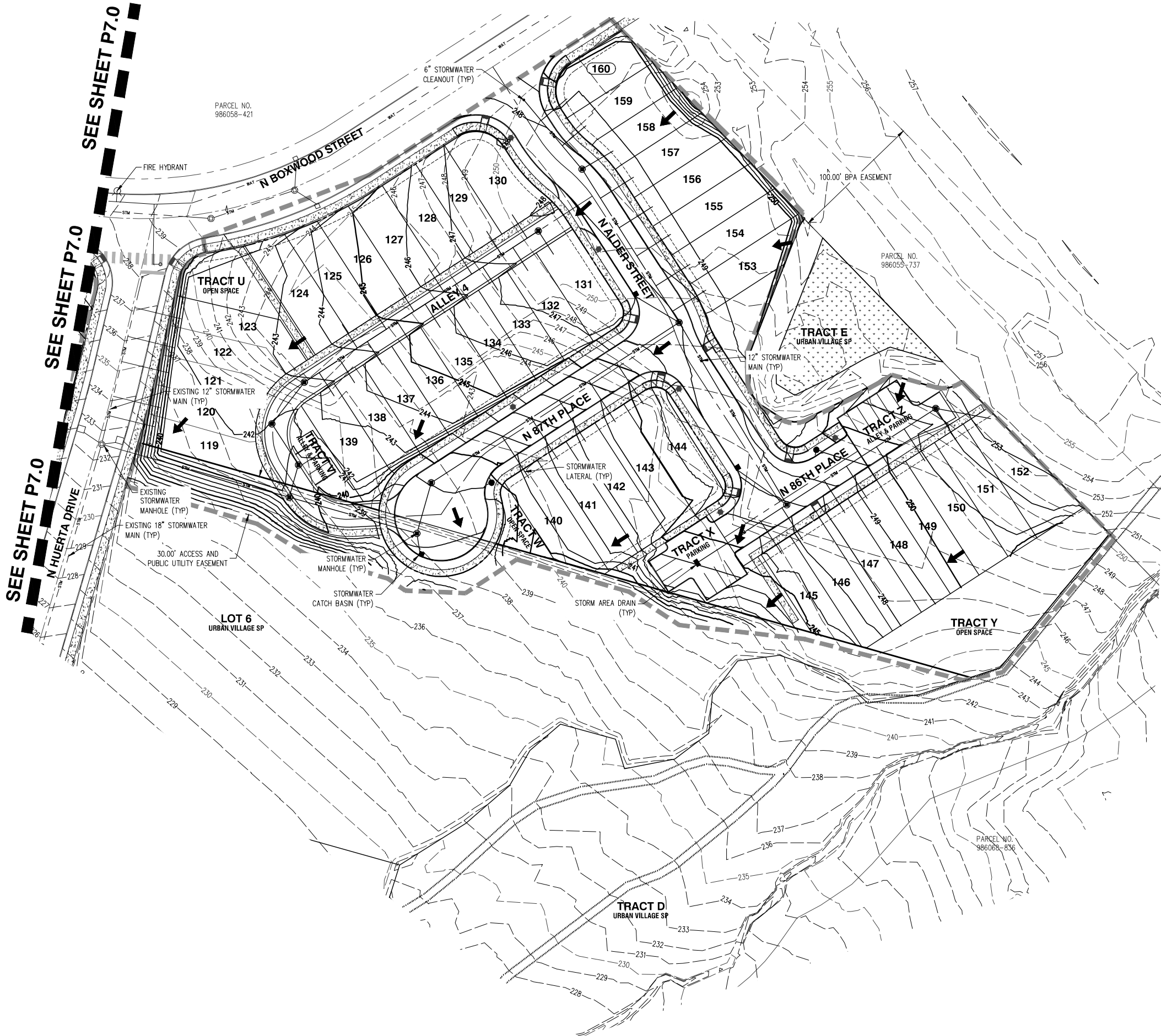


JOB NUMBER: 11021  
DATE: 6/24/2025  
DESIGNED BY: CJS  
DRAWN BY: LMP/ALL  
CHECKED BY: CJS

P7.0

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## **Appendix C: Pre-Developed Basin Map**

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## **Appendix D: Post-Developed Basin Map**

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**POST-DEVELOPED REVISED BASIN PLAN  
LACAMAS VILLAGE  
WOLLAM & ASSOCIATES  
CAMAS, WASHINGTON**

**PRELIMINARY  
NOT FOR  
CONSTRUCTION**

JOB NUMBER:	11021
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DESIGNED BY:	CJS
DRAWN BY:	LMP/ALL
CHECKED BY:	CJS

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CATCHMENT	STORM FACILITY	URBAN VILLAGE SP DESCRIPTION	URBAN VILLAGE SP AREA (AC)	PROPOSED DESCRIPTION W/ LACAMAS VILLAGE	PROPOSED AREA (AC) W/ LACAMAS VILLAGE	HATCH LEGEND
7aD	TRACT A	IMPERVIOUS (85%)	10.099	IMPERVIOUS (84%)	10.010	
		PERVIOUS (15%)	1.782	PERVIOUS (16%)	1.871	
7bD	TRACT B	IMPERVIOUS (85%)	11.953	IMPERVIOUS (84.5%)	11.883	
		PERVIOUS (15%)	2.110	PERVIOUS (15.5%)	2.180	