MEMO

Date: March 18, 2025

To: City of Puyallup

From: Peter Ralston, PE - Atwell

RE: McDonald's Puyallup

To Whom it May Concern,

Please allow this letter to serve as an overview of the items from the original East Town Crossing Stormwater Report Lower Basin Phase 1 that have been updated as part of the redesign of the site. The Final Stormwater Report, prepared by AHBL, Inc. on 10/30/2023, designed for the fully built out Lower Basin Phase 1, and this letter and following addendum items will provide confirmation that the storm drainage design and this updated drainage report are still in compliance when accounting for the final design of Lower Basin.

This stormwater memo includes the following items:

- **Stormwater Report Sections** – Includes updated area quantities for the area from Lower Basin Phase 1 tributary to the BioPod system and conveyance calculations for the new storm infrastructure.
- **Erosion Control Calculations** – Calculation for the onsite sediment trap during construction.
- **Originally Approved Basin Exhibit** – Exhibit showing the areas of the originally approved basin as it compares to the new proposed site boundary.
- **Developed Conditions Exhibit** – Updated exhibit showing the final design of the building and site layout.

If you have any questions regarding this verification letter, please do not hesitate to call me. I can be reached at (425) 250-7228. Thank you.

Sincerely,

Atwell, LLC
Peter Ralston, PE
Project Engineer

DEVELOPED CONDITIONS

The project site total area is roughly 0.80 acres with 0.52 acres of impervious and 0.28 acres of pervious area. An additional offsite area of 0.01 acres will be constructed with the project. The development area will be directed to an existing Biopod water quality treatment facility before being discharged to the existing r-tank system detention system.

PROJECT BASIN (EXCLUDING BYPASS & OFFSITE AREAS)

Impervious:	0.52 acres
Pervious Landscaping:	0.14 acres
Total Area:	**0.66 acres**

FLOW CONTROL ANALYSIS

The flow control systems for each phase of the larger development were preliminarily sized per the East Town Crossing Stormwater Report for compliance with City of Puyallup engineering standards. The development was sized per phase/drainage area to meet flow control and water quality elements. For Lower Basin Phase 1, an r-tank detention system and outlet structure are located on the northwestern portion of the development. The site basin has been designed to match the impervious percentage in the originally approved design from AHBL, Inc. Basin area takeoffs for the proposed condition and the originally approved condition are in the table below. See the following pages for the originally approved design developed conditions and the proposed developed conditions exhibits.

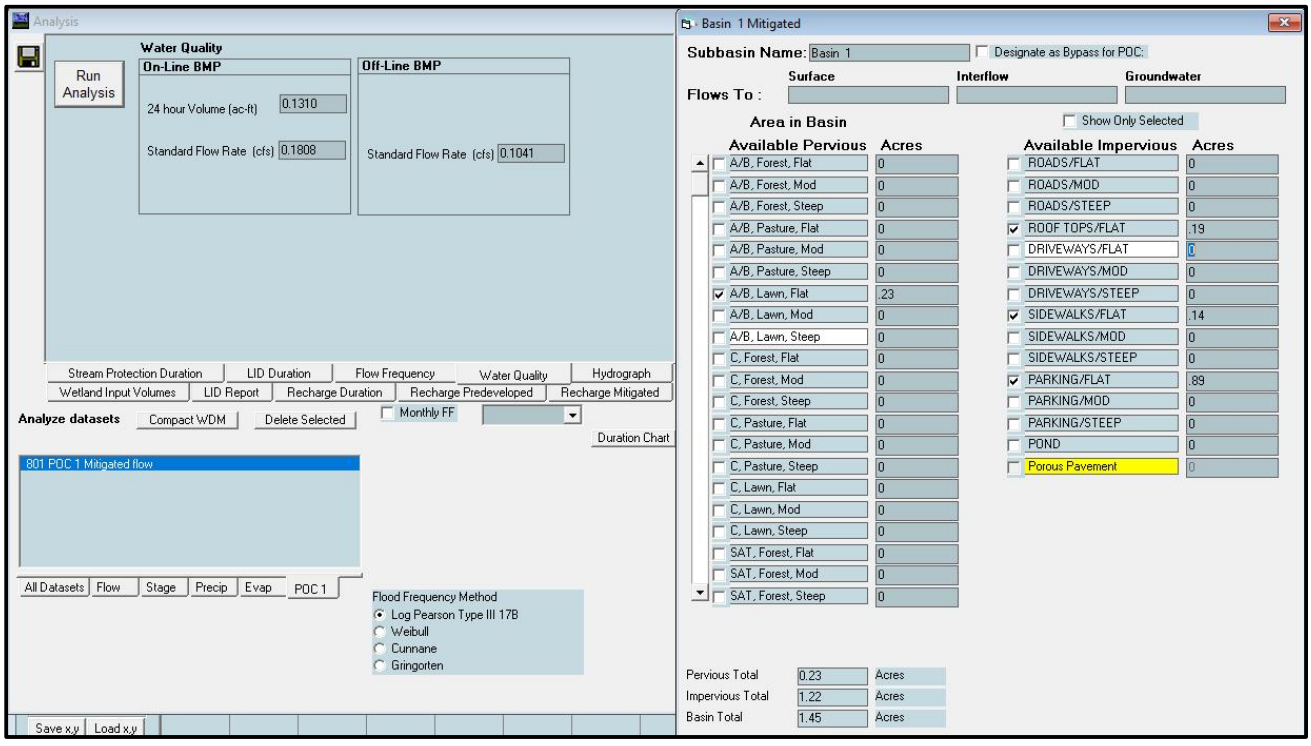
BASIN AREA COVERAGE		
	Originally Approved Basin	Proposed Bain
Impervious Area	0.52 AC (22,741 SF)	0.52 AC (22,831 SF)
Landscape Area	0.09 AC (4,047 SF)	0.10 AC (4,472 SF)
Pervious Sidewalk	0.05 AC (2,259 SF)	0.04 AC (1,770 SF)
Bypass – Impervious	0.008 AC (330 SF)	0 AC
Bypass – Pervious	0.135 AC (5,900 SF)	0.143 (6,230 SF)

As the amount of pervious and impervious match in the original and proposed conditions, the runoff will remain equal and, therefore, the flow control facility is adequately sized.

WATER QUALITY ANALYSIS

Compared to the originally approved design, the proposed design includes additional roadway and landscape, but less sidewalk and roof area. The water quality analysis was rerun, replacing the areas within the project boundary with the revised design areas. See the table and screenshot below.

BASIN AREAS – WATER QUALITY		
	Originally Approved Basin	Proposed Basin
Drive Aisle and Parking	0.39 AC (16,905 SF)	0.43 AC (18,618 SF)
Roof Area	0.13 AC (5,836 SF)	0.09 AC (3,853 SF)
Sidewalk Area	0.05 AC (2,259 SF)	0.05 (2,130 SF)
Landscape Area	0.09 AC (4,047 SF)	0.10 AC (4,472 SF)

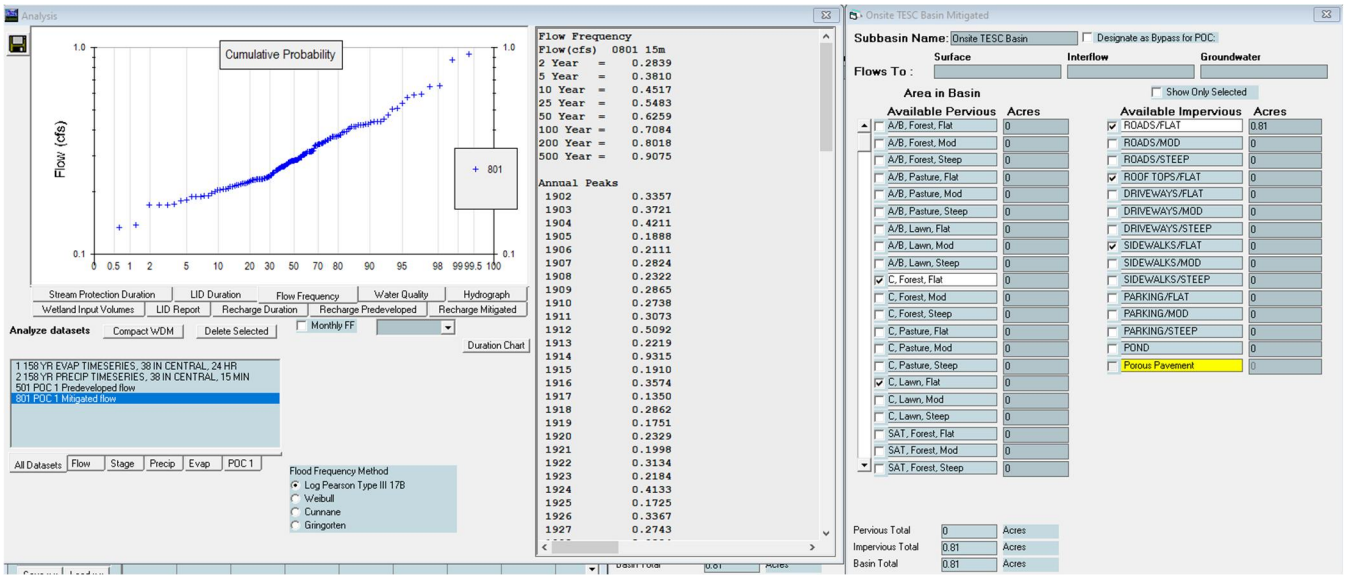


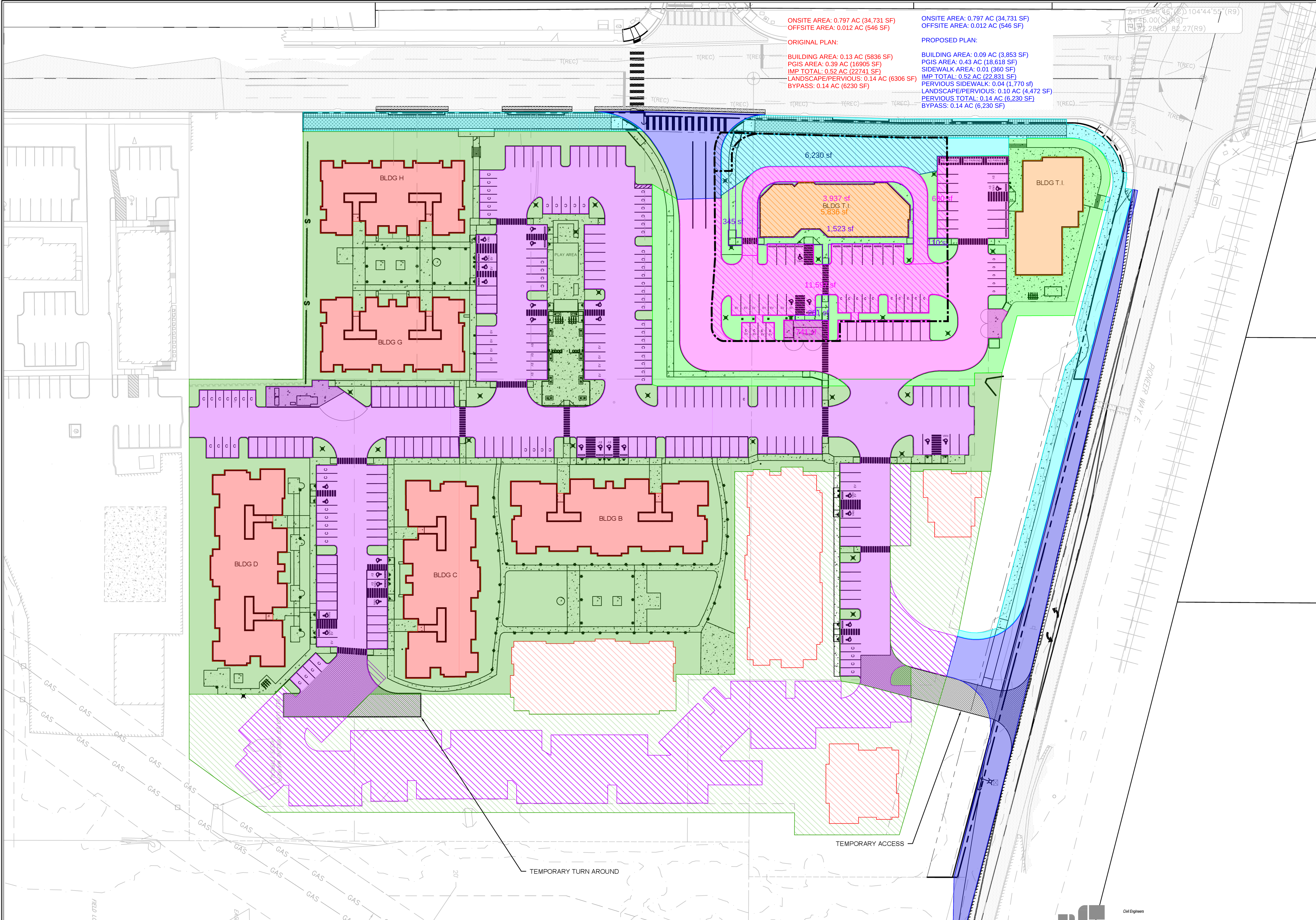
The original stormwater report has an offline flow rate of 0.1050 CFS. The new design has a resulting offline flow rate of 0.1041. The existing Biopod is sized for a flow rate of 0.128 CFS. Therefore, the water quality system is still adequately designed.

EROSION CONTROL CALCULATION

A temporary sediment trap will be utilized for the onsite disturbed area. The sediment trap sizing can be found in the SWPPP (under separate cover). The pump rate is determined by calculating the runoff rate of the unmitigated 2-year return period storm event using WWHM.

The area tributary to the temporary sediment will include approximately 0.81 acres. The 2-year developed flow rate for the onsite basin is 0.284 cfs per WWHM2012 modeling. See screenshot below:





ONSITE AREA: 0.797 AC (34,731 SF)
OFFSITE AREA: 0.012 AC (546 SF)

ORIGINAL PLAN:

BUILDING AREA: 0.13 AC (5836 SF)
PGIS AREA: 0.39 AC (16905 SF)
IMP TOTAL: 0.52 AC (22741 SF)
LANDSCAPE/PERVIOUS: 0.14 AC (6306 SF)
BYPASS: 0.14 AC (6230 SF)

ONSITE AREA: 0.797 AC (34,731 SF)
OFFSITE AREA: 0.012 AC (546 SF)

PROPOSED PLAN:

BUILDING AREA: 0.09 AC (3,853 SF)
PGIS AREA: 0.43 AC (18,618 SF)
SIDEWALK AREA: 0.01 (360 SF)
IMP TOTAL: 0.52 AC (22,831 SF)
PERVIOUS SIDEWALK: 0.04 (1,770 sf)
LANDSCAPE/PERVIOUS: 0.10 AC (4,472 SF)
PERVIOUS TOTAL: 0.14 AC (6,230 SF)
BYPASS: 0.14 AC (6,230 SF)

SURFACE AREA BREAKDOWN:

UPPER BASIN:
PHASE 1:
ROAD: 1.90 AC
ROOF: 1.05 AC
LAWN: 2.20 AC

PHASE 2:
ROAD: 0.90 AC
ROOF: 0.65 AC
LAWN: 1.00 AC
TOTAL:
ROAD: 2.80 AC
ROOF: 1.70 AC
LAWN: 3.20 AC

BASIN TOTAL: 7.7 AC
FACTOR OF SAFETY FOR CALCULATIONS: +0.3 AC
CALCULATED BASIN: 8.0 AC

LOWER BASIN:
PHASE 1:
ROAD: 0.83 AC
ROOF: 0.25 AC
LAWN: 0.62 AC

BASIN TOTAL: 1.7 AC
FACTOR OF SAFETY FOR CALCULATIONS: +0.3 AC
CALCULATED BASIN: 2.0 AC

BYPASS
PHASE 2:
ROAD: 0.40 AC
ROOF: 0.00 AC
LAWN: 0.55 AC

BASIN TOTAL: 0.95 AC

NOTE: F.S. TO ENSURE ANY ADDITIONAL RUNOFF NOT BOUNDED BY BASIN OUTLINES TO THE LEFT IS CAPTURED AND DOES NOT COMPROMISE THE SYSTEM.

NOTE: TEMPORARY ACCESS AND TURNAROUND IS NOT INCLUDED IN THESE VALUES

Civil Engineers
Structural Engineers
Landscape Architects
Community Planners
Land Surveyors
Neighbors

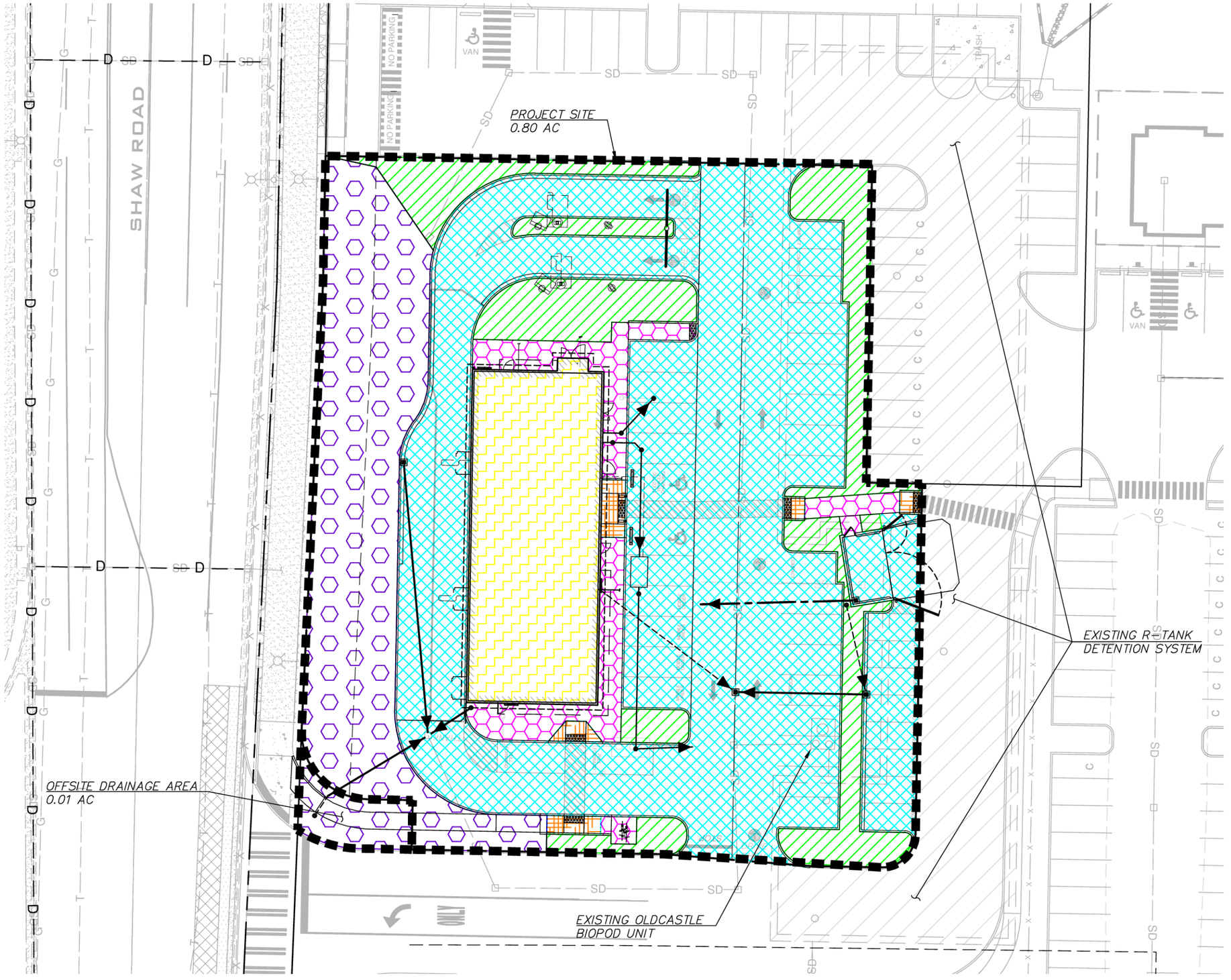
AHBL
TACOMA · SEATTLE
2215 North 30th Street, Suite 300, Tacoma, WA 98403 253.383.2422 TEL
316 Occidental Avenue South, Suite 320, Seattle, WA 98104 206.267.2425 TEL

DEVELOPED CONDITIONS BASIN MAP

EAST TOWN CROSSING

A-3a

DEVELOPED CONDITIONS EXHIBIT



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SCALE: 1" = 30'

0 7.5 15 30

ATWELL
25 CENTRAL WAY, SUITE 400
KIRKLAND, WA 98033
P: 425.216.4051 F: 425.216.4052
WWW.ATWELL-GROUP.COM

DEVELOPED CONDITIONS EXHIBIT
McDONALD'S PUYALLUP
STORMWATER MEMO

SCALE	AS NOTED
PROJECT MANAGER	JON KOEPFGEN, PE
DESIGNED BY	PETER RALSTON, PE
DRAWN BY	DRAWER
PLOT DATE	March 19, 2025

JOB NUMBER: 24006004

FIGURE: DC

Mar 19, 2025 – 1:23pm – User pralston
E:\Projects\24006004\DWG\Exhibits\Drainage\2024-11-11 24006004 DC.dwg