



AZURE | GREEN

CONSULTANTS

+feasibility +planning +engineering +surveying

phone: 253.770.3144
fax: 253.770.3142
409 East Pioneer, Suite A
Puyallup, WA 98372

March 28, 2025

City of Puyallup
333 S Meridian
Puyallup, WA 98371

PRRWF20250233

Subject: Bradley Heights – Vault 2 Building Permit Resubmittal
PRRWF20250233
AGC Job #3227

Please find attached our resubmittal of vault plan materials with revisions in response to recent review comments. This submittal consists of the following:

- Revised vault structural plans
- Revised vault design calculations
- Structural engineer response letter
- Revised applicable civil plan sheets

See attached letter for responses from structural engineer. Below are responses related to civil items:

Engineering Review

- The Engineering review on the retaining wall building permit for the stormwater vault cannot be approved until the civil permit PRCCP20240845 is approved first since the two plans must match. It is the applicant's responsibility to coordinate the next building permit submission with the approval of the civil permit to avoid redundant reviews and permit fees. [Yianni Charitou @ 03/05/2025 10:30 AM]

Acknowledged. Civil plans were recently resubmitted and have been coordinated with these structural plans.

Engineering Civil Review

Civil plans provide vague details for ladder installation. Show ladder and supports that conform to CoP Detail 06.01.04. [STRUCTURAL PLANS, Sheet S1.1]

Added callouts to vault plans to indicate ladders required at 24" accesses.

- Project shall conform to certain aspects of the city's vault detail.
 - o Show ladder and supports that conform to CoP Detail 06.01.04. Include this detail in the project civil plans and the STRUCTURAL PLANS.
 - On civil plans, added callouts for ladders, added detail 06.01.04 to sheet SD-22.*
 - o For public vaults Ladder Ups are required and for private vaults they are highly recommended. See CoP Detail 02.04.01.

On civil plans, added Ladder Up callouts for ladders at grated openings.

Provide openings in between cells sufficiently large enough for maintenance access between cells per BMP D.3 - Access Openings #7.

Per our e-mail discussion, the 24" diameter connections are adequate.

Ensure 5' x 10' removable panels are outside of travel lanes.

5x10 access for Vault #2 was moved from planter island to parking stall to accommodate required tree planting.

Assess whether or not these vaults are required to have ventilation pipes in each corner per BMP D.3 – Access Openings #10

With the 24" access openings and 5x10 grates, I believe adequate provision is made for ventilation without adding ventilation pipes.

- Confirm the outlet pipe is sized for the 100-year storm per Typical Detention Vault Detail.

The 100-year flow rate into vault #2 is 1.72 cfs. The outlet pipe is 12" diameter at $s=1.46\%$.

Manning's Equation shows maximum flow capacity in open channel for 12" pipe at 1.46% is 4.63 cfs at 0.93 feet of depth.

Provide calculations demonstrating that soil volume in parking lot landscaping islands will meet minimum of 1200 cubic feet

For the two islands over vault #2, the island area is 233 sf, meaning 5.15 feet of depth is needed to provide 1,200 cf of soil. The minimum depth of the vault in these islands is 6.4 feet. When the pavement section is subtracted, there is 5.9 feet of depth available. Therefore, the islands provide the minimum 1,200 cf of soil.

Please call or e-mail if you have any questions or need additional information to process.

Sincerely,



Robert A. Trivitt, PE
Project Manager

