

## Riley Purgatory Bluff Creek Watershed District Permit Application Review

**Permit No:** 2023-045

**Considered at Board of Managers Meeting:** February 7, 2024

**Received complete:** December 26, 2023

**Applicant:** Level 7 Development LLC, Bahram Akradi

**Consultant:** Landform Professional Services, Steve Sabraski

**Project:** Avienda Rowhomes– the applicant proposes construction of phase 3 of the Avienda development, which involves construction of 53 row homes (three- and four-unit buildings) with driveways and patios, private roads, utilities, and stormwater management facilities. The stormwater management system includes 2 tree trenches, a bioretention basin, rainwater harvest and reuse system, a manufactured treatment device, along with modifications to two existing onsite stormwater facilities, all to provide runoff volume abstraction, water quality treatment, and rate control.

**Location:** SW corner of Powers and Lyman Boulevard Chanhassen, Minnesota

**Reviewer:** Scott Sobiech, PE, Barr Engineering

### Potential Board Variance Action

Manager \_\_\_\_\_ moved and Manager \_\_\_\_\_ seconded adoption of the following resolution based on the permit report that follows, the presentation of the matter at the February 7, 2024, meeting of the managers and the managers' findings, as well as the factual findings in the permit report that follows:

Resolved that the variance request for Permit 2023-045 from compliance with Rule B, subsection 3.2b is approved, based on the facts and analysis provided by the RPBCWD engineer below and placed in the record at the February 7, 2024 meeting of the managers, and the managers' findings in the record of the February 7 meeting, and subject to the following conditions: 1. [CONDITION(S)],

### Proposed Board Action

Manager \_\_\_\_\_ moved and Manager \_\_\_\_\_ seconded adoption of the following resolutions based on the permit report that follows and the presentation of the matter at the February 7, 2024 meeting of the managers:

Resolved that the application for Permit 2023-045 is approved, subject to the conditions and stipulations set forth in the Recommendations section of the attached report;

Resolved that on determination by the RPBCWD administrator that the conditions of approval of the permit have been affirmatively resolved, the RPBCWD president or administrator is authorized and directed to sign and deliver Permit 2023-045 to the applicant, on behalf of RPBCWD.

Upon vote, the resolutions were adopted, \_\_\_\_\_ [VOTE TALLY].

**Applicable Rule Conformance Summary**

Rule	Issue	Conforms to RBPCWD Rules?	Comments	
B	Floodplain Management and Drainage Alterations	No	See Rule K Variance discussion for compensatory storage not being provided within the floodplain of the same waterbody.	
C	Erosion Control Plan	See comment	See rule-specific permit condition C1 related to identifying erosion prevention on the erosion control plan.	
J	Stormwater Management	Rate	Yes	
		Volume	Yes	
		Water Quality	Yes	
		Low Floor Elev.	Yes	
		Maintenance	See comment	See rule-specific permit condition J1 related to recordation of stormwater facilities maintenance declaration.
		Chloride Management	See comment	See stipulation #3 related to providing an executed chloride management plan prior to permit close-out.
		Wetland Protection	Yes	
L	Permit Fee Deposit	Yes	\$3,000 deposit fee received August 17, 2023. The applicant must replenish the permit fee deposit to the original amount due before the permit will be issued. As of January 22, 2024, the amount due is \$9,827.	
M	Financial Assurance	See Comment	The financial assurance is calculated at \$844,355	

**Background**

The site is 43.3 acres at the southwest corners of Lyman Boulevard (County Road 18) and Powers Boulevard (County Road 17) north of U.S. Highway 212 in Chanhasen. The site was mass graded consistent with RPBCWD permit 2018-016 – Avienda and subsequent permit modification (May 4, 2022). The current proposed redevelopment of the site will include the construction of 53 row homes (three- and four-unit buildings) with driveways and patios, private roads, utilities, and stormwater management facilities. The stormwater management system includes 2 tree trenches, a bioretention basin, rainwater harvest and reuse system, a manufactured treatment device, and modifying two existing stormwater facilities to provide runoff volume abstraction, water quality treatment, and rate control.

There are no on-site Wetland Conservation Act-protected wetlands for which wetland buffers would be required because the local governmental unit administering the Wetland Conservation Act, City of Chanhasen, approved the filling of the four onsite wetlands as part of its approval of phase 1 of the

Avienda development. As discussed in more detail below, there are two downgradient wetlands that receive runoff from the site.

The project site information is summarized in the following table.

<b>Project site information</b>	
<b>Site Information</b>	<b>Project Area</b>
Total Site Area (acres)	43.37
Existing Site Impervious Area (acres)	0.46
Post Construction Site Impervious (acres)	4.19
New (increase) in Site Impervious Area (acres)	4.06
Percent increase in Impervious Surface	>100%
Disturbed Site Impervious Area (acres)	0.46
Percent Disturbance of Existing Impervious Surface	100%
Regulated impervious area (acres)	4.19
Total Disturbed Area (acres)	8.35

Exhibits:

1. Permit application dated July 24, 2023 (Notified applicant on August 11, 2023 and December 5, 2023 that submittal was incomplete, revised materials completing the application received December 26, 2023)
2. Stormwater Management Plan dated July 21, 2023 (revised November 21, 2023 and December 22, 2023)
3. Geotechnical Evaluation Report dated June 23, 2023
4. Double Ring Infiltrometer testing results dated October 8, 2021 (Braun Intertec)
5. Project Civil Plan and Landscape Plans dated July 24, 2023 (revised November 21, 2023, December 22, 2023, and January 12, 2024)
6. Existing and Proposed electronic HydroCAD Model received July 24, 2023 (revised November 21, 2023 and December 26, 2023)
7. Existing and Proposed MIDS Model results report received July 24, 2023 (proposed conditions model revised November 21, 2023 and December 26, 2023)
8. Review Responses dated November 21, 2023
9. Engineer’s Estimate of Probable Construction Cost spreadsheet received November 21, 2023 (revised January 12, 2024)
10. Review Responses dated November 26, 2023

**Rule Specific Permit Conditions**

**Rule B: Floodplain Management and Drainage Alterations**

Because the proposed redevelopment project involves the placement of 420 cubic yards of fill below the 100-year flood elevation (914.31 ft) of existing stormwater detention facility (28P) to reconfigure the facility and the placement of 3,357 cubic yards of fill below the 100-year flood elevation (916.67 ft) of the existing

filtration basin 47Pexto replace the basin with a subsurface stormwater facility, the project activities must conform to the RPBCWD’s Floodplain Management and Drainage Alterations rule (Rule B).

Because the applicant proposes new structures, the project must conform with low floor elevation requirements set forth by Rule B, Subsection 3.1 which references the low floor criteria in Rule J, subsection 3.6. All new buildings must be constructed such that the lowest floor is at least two feet above the 100-year high-water elevation or one foot above the natural overflow of a waterbody according to Rule J, Subsection 3.6a. In addition, a stormwater-management facility must be constructed at an elevation that ensures that no adjacent habitable building will be brought into noncompliance with this requirement according to Rule J, Subsection 3.6b. Low floor requirements were evaluated for 14 proposed structures adjacent stormwater facilities. The results demonstrate the provided freeboard is greater than the minimum required, thus complying with Rule B, Subsection 3.1.

Structure (Block – Lot)	Low Floor Elevation of Building (ft)	Stormwater Facility	100-year Event Flood Elevation of Stormwater Facility (ft)	Freeboard to 100-year Event (ft)
Building A	923.98	NW Tree Trench (8P)	920.87	3.11
Building B	924.93	Existing Detention Basin (28P)	914.37	10.56
Building C	924.58	Biofiltration Basin (13P)	917.19	7.39
Building D	925.28	Biofiltration Basin (13P)	917.19	8.09
Building E	925.98	Biofiltration Basin (13P)	917.19	8.79
Building F	925.73	SW Tree Trench (6P)	920.96	4.77
Building G	924.73	SW Tree Trench (6P)	920.96	3.77
Building H	923.53	SW Tree Trench (6P)	920.96	2.57
Building I	924.78	SW Tree Trench (6P)	920.96	3.82
Building J	925.33	SW Tree Trench (6P)	920.96	4.37
Building K	926.08	SW Tree Trench (6P)	920.96	5.12
Building L	925.78	NW Tree Trench (8P)	920.87	4.91
Building M	925.18	NW Tree Trench (8P)	920.87	4.31
Building N	924.53	NW Tree Trench (8P)	920.87	3.66

Placement of fill below the 100-year flood elevation is prohibited unless fully compensatory flood storage is provided within the same floodplain and at or below the same elevation for fill in the floodplain of a water basin (Rule B, Subsection 3.2b). The supporting materials summarized in the following table demonstrate, and the RPBCWD Engineer concurs, that an aggregate total of 3,777 cubic yards of fill will be placed in the two existing basins and 5,227 cubic yards of compensatory storage will be created by regrading stormwater detention facility 28P, constructing the underground stormwater facility 47P, and constructing the biofiltration basin 13P, thus providing a net increase in the floodplain storage. Because some of the compensatory storage for the fill in basin 47Pex will be provided by the proposed biofiltration basin, which is not within the floodplain of the same stormwater facility as the fill, the applicant as requested a variance from this requirement of Rule B, Subsection 3.2. See the Rule K discussion for additional information on the variance request.

Stormwater Facility	100-Year Elevation (feet)	Proposed Fill (CY)	Proposed Feature Providing Compensatory Storage	Proposed Compensatory Storage (CY)
Pond 28P	914.31	420	Pond 28P (reconstructed)	540
Basin 47Pex	916.67	3,357	Facility 47Ppro	1,272
			Biofiltration Basin	3,415
Total		3,777		5,227

Because filling in existing stormwater facilities (Pond 28P and basin 47Pex) to facilitate site development and providing alternative compensatory storage areas will alter the timing and duration of flows leaving the site, the applicant must demonstrate that the alterations will not have an adverse offsite impact and will not adversely affect flood risk, basin or channel stability, groundwater hydrology, stream baseflow, water quality, or aquatic or riparian habitat (Rule B subsection 3.3). The RPBCWD engineer concurs with the applicant’s use of Board of Water and Soil Resources’ Recommended Wetland Management Standards: Minnesota Routine Assessment Method for Evaluating Wetland Functions, Version 3.0 to demonstrate the change in hydrology will not adversely impact the downstream wetlands. These are the same criteria listed in Table J1 of the stormwater rule for wetland protection. The analysis presented under the Wetland Protection section of the Rule J analysis shows the project aligns with BWSR’s recommended wetland management standard and RPBCWD wetland protection criteria, thus the applicant has demonstrated the project will not adversely impact the downstream wetlands.

The applicant also provided pre- and post-project water quality modeling to demonstrate no adverse impact to water quality. The modeling results show the total suspended solids and total phosphorus load leaving the site after the development will be less than the existing load leaving the site (see Water Quality section of the Rule J analysis). In addition, the applicant’s modeling indicates the peak discharge rates leaving the site are less under proposed conditions than for existing conditions. These also support the engineer’s determination that the project is not reasonably likely to adversely affect flood risk, basin or channel stability, or stream baseflow, thus meeting the requirements of Rule B, subsection 3.3.

Because no watercourses exist on the site, Rule B, Subsection 3.4 does not impose requirements on the project. See Rule C analysis of the applicant’s submitted erosion control plan to demonstrate conformance with Rule B, Subsection 3.5. A note on the plans indicates that activities must be conducted to minimize the potential transfer of aquatic invasive species conforming to Rule B, Subsection 3.6.

With the exception of compensatory storage within the floodplain of the same waterbody (subsection 3.2), which is the subject of the applicant’s variance request, the proposed project conforms to the floodplain management and drainage alteration requirements of Rule B.

### **Rule C: Erosion Prevention and Sediment Control**

Because the applicant proposes to alter of 8.35 acres of land-surface area or vegetation, the project must conform to the erosion prevention and sediment control requirements established in Rule C.

The erosion control plan prepared by Landform Professional Services includes installation of perimeter control (silt fence or sediment control logs), a stabilized rock construction entrance, inlet protection, weekly inspection, staging areas, placement of a minimum of 6 inches of topsoil (at 5% organic matter), and decompaction of areas compacted during construction. To conform to RPBCWD Rule C requirements, the following revisions are needed:

- C1. The Applicant must provide the name and contact information of the individual responsible for erosion control at the site. RPBCWD must be notified if the responsible individual changes during the permit term.

### **Rule J: Stormwater Management**

Because the project will disturb 8.35 acres of land-surface area, the project must meet the criteria of RPBCWD's Stormwater Management rule (Rule J, Subsection 2.1). The criteria listed in Subsection 3.1 will apply to the entire project site because the site activity will disturb more than 50 percent of the existing impervious surface on the parcel (Rule J, Subsection 2.3).

The applicant is proposing construction 2 tree trenches, a bioretention basin, rainwater harvest and reuse system, a manufactured treatment device, and modifying two existing stormwater facilities to provide runoff volume abstraction, water quality treatment, and rate control. Pretreatment of runoff prior to entering filtration areas is provided by grass strips or sump manholes, thus the proposed project conforms with RPBCWD Rule J, Subsection 3.1b.1.

#### ***Rate Control***

To meet the rate control criteria listed in Subsection 3.1.a, the 2-, 10-, and 100-year post development peak runoff rates must be equal to or less than the existing discharge rates at all locations where stormwater leaves the site. The applicant used a HydroCAD hydrologic model to simulate runoff rates for existing and post-development conditions for the 2-, 10-, and 100-year frequency storm events using a nested rainfall distribution, and a 100-year frequency, 10-day snowmelt event. The existing and proposed 2-, 10-, and 100-year frequency discharges from the site are summarized in the table below. The proposed stormwater management plan will provide rate control in compliance with the RPBCWD requirements for the 2-, 10-, and 100-year events. Thus, the proposed project meets the rate control requirements in Rule J, Subsection 3.1a.

**Existing and Proposed Peak Runoff Rates**

Modeled Discharge Location	2-Year Discharge (cfs)		10-Year Discharge (cfs)		100-Year Discharge (cfs)		10-Day Snowmelt (cfs)	
	Ex	Prop	Ex	Prop	Ex	Prop	Ex	Prop
North (28P)	0.9	0.9	2.0	2.0	4.3	3.9	0.7	0.7
South (47P)	19.3	8.1	45.3	23.5	111.6	56.1	6.0	6.0
East (11.4P)	11.7	5.9	23.1	22.7	70.5	62.3	6.2	6.1

**Volume Abstraction**

Subsection 3.1.b of Rule J requires the abstraction onsite of 1.1 inches of runoff from the impervious surface of the parcel. An abstraction volume of 16,731 cubic feet is required from the 4.19 acres of regulated impervious area. Soil borings performed by Braun Intertec show that soils in the project area are predominately clay soils. Hydraulic conductivity testing by Bruan Intertec revealed infiltration rates of 0.0-0.02 in/hr beneath the proposed stormwater management features, indicating that infiltration is not feasible on this site. Because the engineer concurs that the soil boring information and infiltration testing support that the abstraction standard in subsection 3.1b of Rule J cannot practicably be met, the site is considered restricted and stormwater runoff volume must be managed in accordance with subsection 3.3 of Rule J.

For restricted sites, subsection 3.3 of Rule J requires rate control in accordance with subsection 3.1.a and that abstraction and water quality protection be provided in accordance with the following sequence:

- (a) Abstraction of 0.55 inches of runoff from site impervious surface determined in accordance with paragraphs 2.3, 3.1 or 3.2, as applicable, and treatment of all runoff to the standard in paragraph 3.1c; or
- (b) Abstraction of runoff onsite to the maximum extent practicable and treatment of all runoff to the standard in paragraph 3.1c; or
- (c) Off-site abstraction and treatment in the watershed to the standards in paragraph 3.1b and 3.1c.

Based on the measured hydraulic conductivity testing results, the applicant is proposing 2 tree trenches, a biofiltration basin, and rainwater harvesting and irrigation of available green space to provide volume abstraction. The abstraction volume provided by the irrigation is 6,500 cubic feet while the combined abstraction provided by the tree trenches and biofiltration basin is 2,063, thus complying with Rule J, Subsection 3.3.a. The designed abstraction performance for the project site is summarized in the table below.

**Volume Abstraction Summary**

Required Abstraction Depth (inches)	Required Abstraction Volume (cubic feet)	Provided Abstraction Depth (inches)	Provided Abstraction Volume (cubic feet)
0.55	8,358	0.56	8,563

Because the proposed stormwater reuse system requires consistent use at a specified rate (1.16 in/week) over the 3.63 acres of green space to meet District requirements, performance monitoring for the site will be required to ensure that the project provides the proposed volume abstraction.

**Water Quality Management**

Subsection 3.1.c of Rule J requires the Applicant to provide volume abstraction in accordance with 3.1b or least 60 percent annual removal efficiency for total phosphorus (TP), and at least 90 percent annual removal efficiency for total suspended solids (TSS) from site runoff, and no net increase in TSS or TP loading leaving the site from existing conditions. MIDS water quality models were developed to estimate the TP and TSS loading from the subwatersheds and the removal capacity of the proposed BMPs. The results of this modeling are summarized in the following tables. The results show the proposed project will remove sufficient TSS and TP to achieve an overall pollutant reduction in accordance with the required annual removals (Rule J, Subsection 3.2c).

**Annual TSS and TP removal summary**

Resource	Pollutant of Interest	Regulated Site Loading (lbs/yr)	Required Load Removal (lbs/yr)	Provided Load Reduction (lbs/yr)
Lake Susan	Total Suspended Solids (TSS)	4,174	3,757 (90%)	3,876 (92.9%)
	Total Phosphorus (TP)	23.0	13.8 (60%)	18.1(78.7%)
Bluff Creek	Total Suspended Solids (TSS)	723	651 (90%)	670 (92.6%)
	Total Phosphorus (TP)	4.0	2.4 (60%)	2.5 (63.3%)

**Summary of net change in TSS and TP leaving the site**

Resource	Pollutant of Interest	Existing Site Loading (lbs/yr)	Proposed Site Load after Treatment (lbs/yr)	Change (lbs/yr)
Lake Susan	Total Suspended Solids (TSS)	2,491	298	-2,193
	Total Phosphorus (TP)	13.7	9.2	-4.5
Bluff Creek	Total Suspended Solids (TSS)	1,360	53	-1,334
	Total Phosphorus (TP)	7.5	1.5	-6.0

**Low floor Elevation**

All new buildings must be constructed such that the lowest floor is at least two feet above the 100-year high water elevation or one foot above the emergency overflow of a stormwater-management facility according to Rule J, Subsection 3.6a. In addition, a stormwater-management facility must be constructed at an elevation that ensures that no adjacent habitable building will be brought into noncompliance with this requirement according to Rule J, Subsection 3.6b. The low floor elevation analysis presented above in the

Rule B, Floodplain Management analysis section of this report demonstrates the proposed project is in conformance with Rule J, Subsection 3.6a.

Because there are no existing structures adjacent to the proposed or modified stormwater management features, Rule J, Subsection 3.6b does not impose requirements on the project.

### ***Maintenance***

Subsection 3.7 of Rule J requires the submission of maintenance plan. All stormwater management structures and facilities must be designed for maintenance access and properly maintained in perpetuity to assure that they continue to function as designed. The following revisions are needed:

- J1. Permit applicant must submit a draft maintenance and inspection declaration to incorporate the facilities proposed under this application, including the appropriate permit number, pre-treatment facilities, reuse system, underground stormwater management facility, tree trenches, and biofiltration basin, proprietary stormwater device (a Jellyfish), and the modified existing stormwater facilities. Stormwater reuse rates and protection of greenspace to be irrigated must be included. A maintenance declaration template is available on the permits page of the RPBCWD website. (<http://www.rpbcwd.org/permits/>). A draft declaration must be provided for District review and approval prior to recording.

### ***Chloride Management***

Subsection 3.8 of Rule J requires the submission of chloride management plan that designates the individual authorized to implement the chloride management plan and the MPCA-certified salt applicator engaged in implementing the plan. To close out the permit and release the \$5,000 in financial assurance held for the purpose of chloride management, the permit applicant must provide a chloride management plan that designates the individual authorized to implement the chloride management plan and the MPCA-certified salt applicator engaged in implementing the plan at the site.

### ***Wetland Protection***

Because the proposed activities discharge to downstream wetlands and alter the discharge the wetlands receive from the site, the proposed activities must conform to RPBCWD wetland protection criteria (Rule J, subsection 3.10). The applicant provided and the Engineer concurs with the below analysis of potential wetland impacts based on Table J1 of RPBCWD Rule J.

Wetland WL4 and MNDOT M10, medium value wetlands, are located off but adjacent to the project site and receive direct runoff from the development. The following table summarizes the allowable change in bounce and inundation duration from Table J1 of RPBCWD Rule J. The information summarized in the following table also summarizes the applicant's analysis for wetland protection and the potential impacts on the wetlands. The project meets the Bounce and Inundation criterion and is in conformance with Rule J, subsection 3.10a.

Wetland	RPBCWD Wetland Value	Change in Bounce for, 10-Year Event (feet)	1-year change in Inundation Period (days)	2-year change in Inundation Period (days)	10-year change in Inundation Period (days)	Runout Control Elevation <sup>1</sup>
Rule J, Table J1 Criteria	Medium	Existing +/- 1.0 feet	Existing+2 days	Existing+2 days	Existing +14 days	0 to 1.0 ft above existing runout
Wetland WL4	Medium	-0.36	0.12	0.18	.018	No change
MNDOT M10	Medium	0.09	0	0	0	No change

Rule J, Subsection 3.10b requires that any discharge to a medium-value wetland be treated to the water quality treatment criteria in Rule J, subsection 3.1c. The applicant provided MID's modeling as summarized in the table below demonstrating the runoff from the disturbed areas tributary to wetlands will be treated in conformance with Rule J, Subsection 3.10b.

Wetland	Wetland Value	TSS Removal	TP Removal
Required		90.0%	60.0%
Wetland WL4	Medium	96.4%	66.8%
MNDOT M10	Medium	92.9%	78.7%

**Rule K: Variances and Exceptions**

Rule B subsection 3.2 requires compensatory flood storage within the floodplain of the same waterbody. The Applicant requested a variance from this provision of RPBCWD's Rule B – Floodplain Management and Drainage Alterations.

Rule K requires the Board of Managers to find that because of unique conditions inherent to the subject property the application of rule provisions will impose a practical difficulty on the Applicant. Assessment of practical difficulty is conducted against the following criteria:

1. how substantial the variation is from the rule provision;
2. the effect of the variance on government services;
3. whether the variance will substantially change the character of or cause material adverse effect to water resources, flood levels, drainage or the general welfare in the District, or be a substantial detriment to neighboring properties;
4. whether the practical difficulty can be alleviated by a technically and economically feasible method other than a variance. Economic hardship alone may not serve as grounds for issuing a variance if any reasonable use of the property exists under the terms of the District rules;
5. how the practical difficulty occurred, including whether the landowner, the landowner's agent or representative, or a contractor, created the need for the variance; and
6. in light of all of the above factors, whether allowing the variance will serve the interests of justice.

Rule B subsection 3.2 requires compensatory flood storage within the floodplain of the same waterbody. The Applicant requested variance from this provision of RPBCWD's Rule B – Floodplain Management and Drainage Alterations. Following is the RPBCWD engineer's assessment of information received relevant to the applicant's request for a variance from the requirement that the applicant provide compensatory flood storage within the floodplain of the same waterbody:

- Related to variance criterion 1 – The project will involve 3,357 cubic yards of fill in Basin 47Pex and only 1,272 cubic yards of compensatory storage in the proposed underground treatment facility within the same floodplain, a 62% shortfall from the requirement. This flood storage is also used for stormwater management on the site.

Stormwater Facility	100-Year Elevation (feet)	Proposed Fill (CY)	Proposed Feature Providing Compensatory Storage	Proposed Compensatory Storage (CY)	Shortfall
Basin 47Pex	916.67	3,357	Facility 47Ppro	1,272	62%
			Biofiltration Basin	3,415	NA
Total		3,357		4,687	

- With regard to variance criteria 2 and 3 – Because the proposed project will reduce the site discharge volume and rate leaving the site relative to existing conditions, as discussed in the Rule J analysis, the proposed project is not reasonably likely to cause off-site adverse impacts. Because the project involves a net increase of storage used for stormwater management and a reduction in peak discharge rate leaving the site, the proposed alterations are not likely to adversely affect offsite governmental services, water resources, flood levels, or neighboring properties. The proposed variance only impacts the applicant’s property.
- Technical measures incorporated into the project plan to alleviate the practical difficulty (variance criterion 4) include creation of compensatory flood storage volume in the proposed biofiltration basin to comply with RPBCWD regulatory requirements, but not within the same floodplain. The applicant also proposed to redirect runoff from 5.8 acres that is tributary to the existing filtration basin and to the proposed biofiltration basin to mitigate the impact of the reduced storage provided in the proposed underground facility resulting in roughly 56% less runoff being tributary to the proposed facility. The applicant’s proposed routing of developed site runoff to the proposed stormwater management facilities will allow the runoff to be stored in the facilities resulting in reduced site discharge as summarized in the rate control analysis of Rule J above.
- With regard to variance criterion 5, the applicant has created the circumstances leading to the variance by replacing the existing surface filtration basin with an underground stormwater facility.

Because the proposed project will change stormwater routing on the site, results in a net increase flood storage, and only impact the applicant property, the engineer finds there is an adequate technical basis for the managers to rely on to grant the requested variance.

**Rule L: Permit Fee**

The RPBCWD permit fee schedule adopted in February 2020 requires permit applicants to deposit \$3,000 to be held in escrow and applied to cover the \$10 permit-processing fee and reimburse RPBCWD for permit review and inspection-related costs and when a permit application is approved, the deposit must be replenished to the applicable deposit amount by the applicant before the permit will be issued to cover

actual costs incurred to monitor compliance with permit conditions and the RPBCWD Rules. A permit fee deposit of \$3,000 was received on August 17, 2023. The applicant has not provided the additional \$2,000 fee related to the variance request, which was submitted on December 26, 2023. The applicant must replenish the permit fee deposit to the original amount due before the permit will be issued. Subsequently, if the costs of review, administration, inspections and closeout-related or other regulatory activities exceed the fee deposit amount, the applicant will be required to replenish the deposit to the original amount or such lesser amount as the RPBCWD administrator deems sufficient within 30 days of receiving notice that such deposit is due. The administrator will close out the relevant application or permit and revoke prior approvals, if any, if the permit-fee deposit is not timely replenished.

- L1. The applicant must replenish the permit fee deposit to the original amount due before the permit will be issued. As of January 22, 2024 the amount due is \$9,827.

**Rule M: Financial Assurance**

	Unit	Unit Cost	# of Units	Total
Rules C: Silt fence:	LF	\$2.50	4,062	\$10,155
Inlet protection	EA	\$100	88	\$8,800
Rock Entrance	EA	\$250	2	\$500
Restoration	Ac	\$2,500	8.35	\$20,875
Rules J: Chloride Management	LS	\$5,000	1	\$5,000
Rules J: Stormwater Management: 125% of engineer’s opinion of cost (\$581,813*1.25)	EA	125% OPC	1	\$727,266
Contingency (10%)		10%		\$767,596
<b>Total Financial Assurance</b>				<b>\$844,355</b>

**Applicable General Requirements:**

1. The RPBCWD Administrator and Engineer shall be notified at least three days prior to commencement of work.
2. Construction shall be consistent with the plans and specifications approved by the District as a part of the permitting process. The date of the approved plans and specifications is listed on the permit.
3. Construction must be consistent with the plans, specifications, and models that were submitted by the applicant that were the basis of permit approval. The date(s) of the approved plans, specifications, and modeling are listed on the permit. The grant of the permit does not in any way relieve the permittee, its engineer, or other professional consultants of responsibility for the permitted work.
4. The grant of the permit will not relieve the permittee of any responsibility to obtain approval of any other regulatory body with authority.
5. The issuance of this permit will not convey any rights to either real or personal property, or any exclusive privileges, nor will it authorize any injury to private property or any invasion of personal rights, nor any infringement of federal, state, or local laws or regulations.
6. In all cases where the doing by the permittee of anything authorized by this permit involves the taking, using or damaging of any property, rights or interests of any other person or persons, or of

any publicly owned lands or improvements or interests, the permittee, before proceeding therewith, must acquire all necessary property rights and interest.

7. RPBCWD's determination to approve the permit application was made in reliance on the information provided by the applicant. Any substantive change in the work affecting the nature and extent of applicability of RPBCWD regulatory requirements or substantive changes in the methods or means of compliance with RPBCWD regulatory requirements must be the subject of an application for a permit modification to the RPBCWD.
8. If the conditions herein are met and the permit is issued by RPBCWD, the applicant, by accepting the permit, grants access to the site of the work at all reasonable times during and after construction to authorized representatives of the RPBCWD for inspection of the work.

### **Findings**

1. The proposed project includes the information necessary, plan sheets and erosion control plan for review.
2. The proposed project conforms to Rule B except the applicant has requested a variance from compliance with the Rule B criteria related to compensatory storage within the same floodplain.
3. The proposed project will conform to Rules C and J if the Rule Specific Permit Conditions listed above are met.

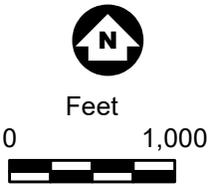
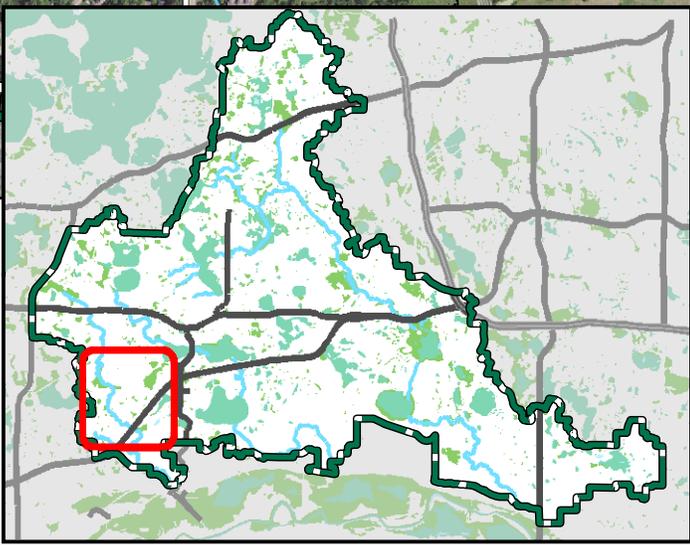
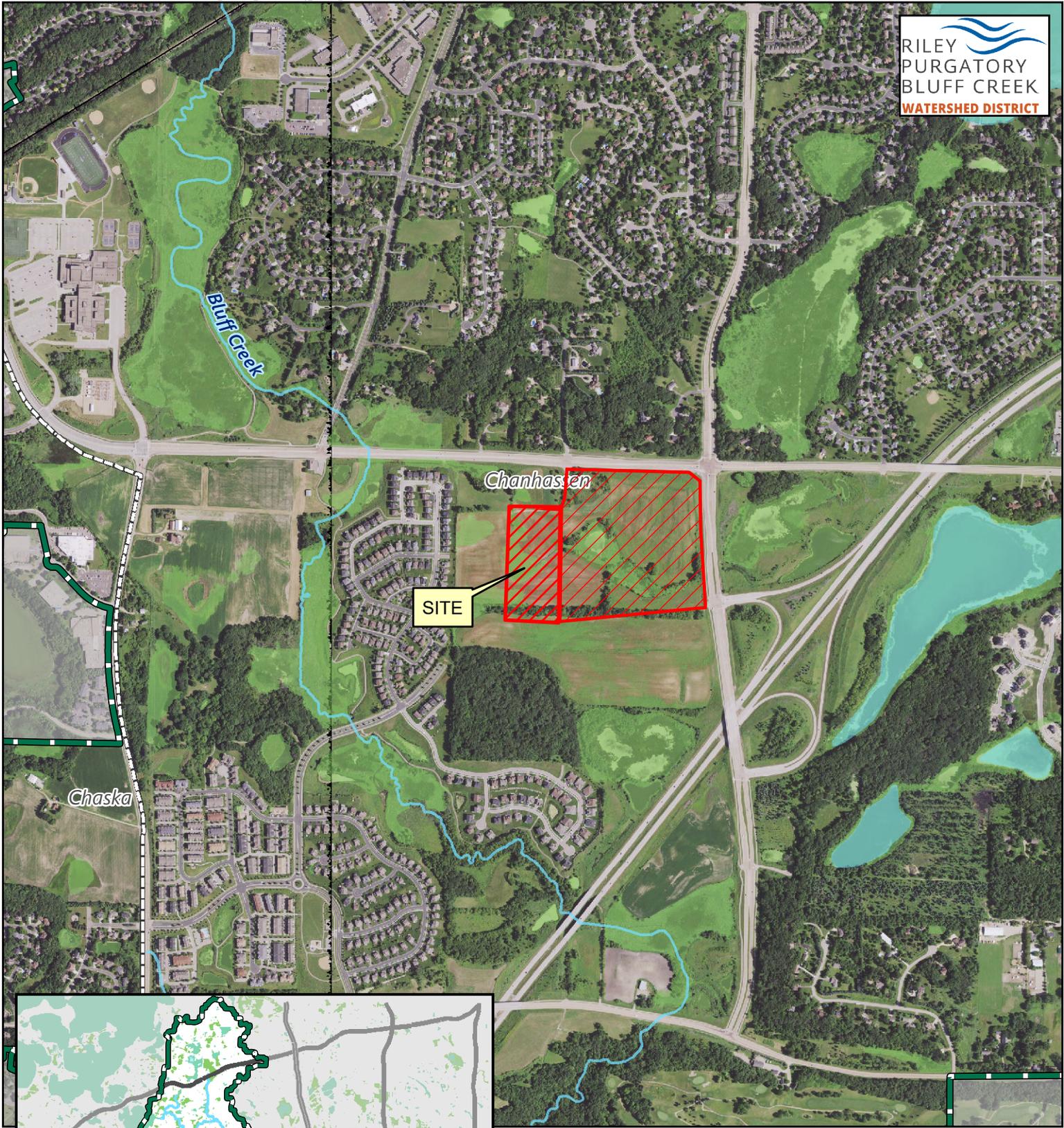
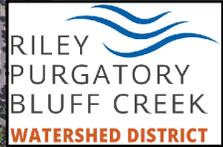
### **Recommendation:**

Approval of the permit contingent upon:

1. Financial Assurance in the amount of \$844,355.
2. Permit applicant must provide the name and contact information of the general contractor responsible for the site. RPBCWD must be notified if the responsible party changes during the permit term.
3. Permit applicant must submit a draft maintenance and inspection declaration to incorporate the facilities proposed under this application, including the appropriate permit number, pre-treatment facilities, 2 tree trenches, a bioretention basin, rainwater harvest and reuse system, a Jellyfish manufactured treatment device, and modifying two existing stormwater facilities. The agreement must also include a stormwater reuse monitoring and reporting plan that includes protection of the greenspace to be irrigated and metering of the volume of reuse, as well as maintenance specifics provided by the manufacturer(s) or installer(s) for the proprietary system and be consistent with the MPCA's manufactured treatment device maintenance provisions in the MN Stormwater Manual. The draft agreement must be reviewed and approved by RPBCWD prior to execution as a condition of issuance of the permit.
4. The applicant must replenish the permit fee deposit to the original amount due before the permit will be issued. The amount needed to replenish the permit fee deposit is \$9,827 as of January 22, 2024.

By accepting the permit, when issued, the applicant agrees to the following stipulations:

1. Continued compliance with General Requirements.
2. Per Rule J Subsection 4.5, upon completion of the site work, the permittee must submit as-built drawings demonstrating that at the time of final stabilization the stormwater management facilities conforms to design specifications and functions as intended and approved by the District. As-built/record drawings must be signed by a professional engineer licensed in Minnesota and include, but not limited to:
  - a) the surveyed bottom elevations, water levels, and general topography of all facilities;
  - b) the size, type, and surveyed invert elevations of all stormwater facility inlets and outlets;
  - c) the surveyed elevations of all emergency overflows including stormwater facility, street, and other;
  - d) other important features to show that the project was constructed as approved by the Managers and protects the public health, welfare, and safety.
3. To close out the permit and release the \$5,000 in financial assurance held for the purpose of the chloride management, the permit applicant must provide an executed chloride management plan that designates the individual authorized to implement the chloride management plan and the MPCA-certified salt applicator engaged in implementing the plan at the site.



Permit Location Map  
AVIENDA ROWHOMES  
**Permit 2023-045**  
Riley Purgatory Bluff Creek  
Watershed District













**DEVELOPER**  
**LEVEL 7 DEVELOPMENT, LLC**  
 4600 KINGS POINT RD  
 MINNETONKA, MN 55341

**MUNICIPALITY**

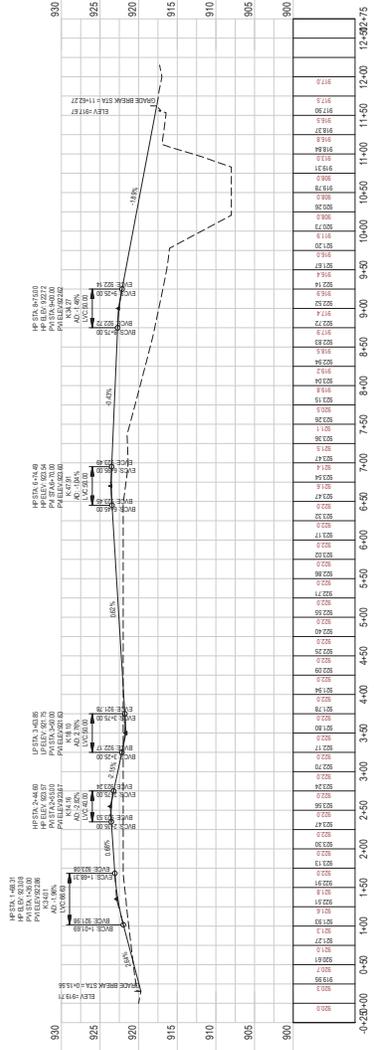


**PROJECT**  
**AVIENDA ROWHOMES**  
 CHANHASSEN, MN

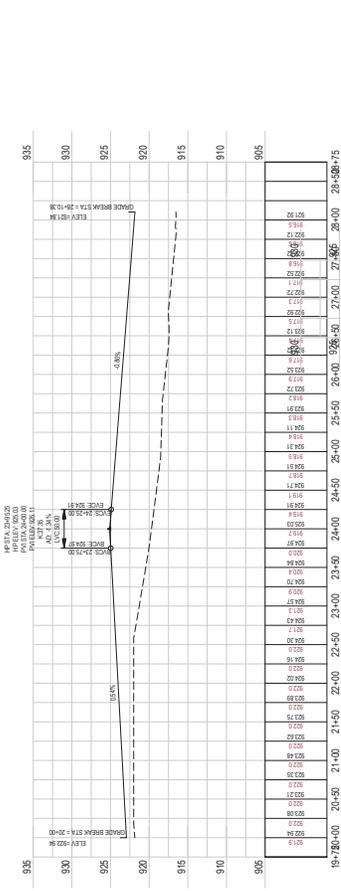
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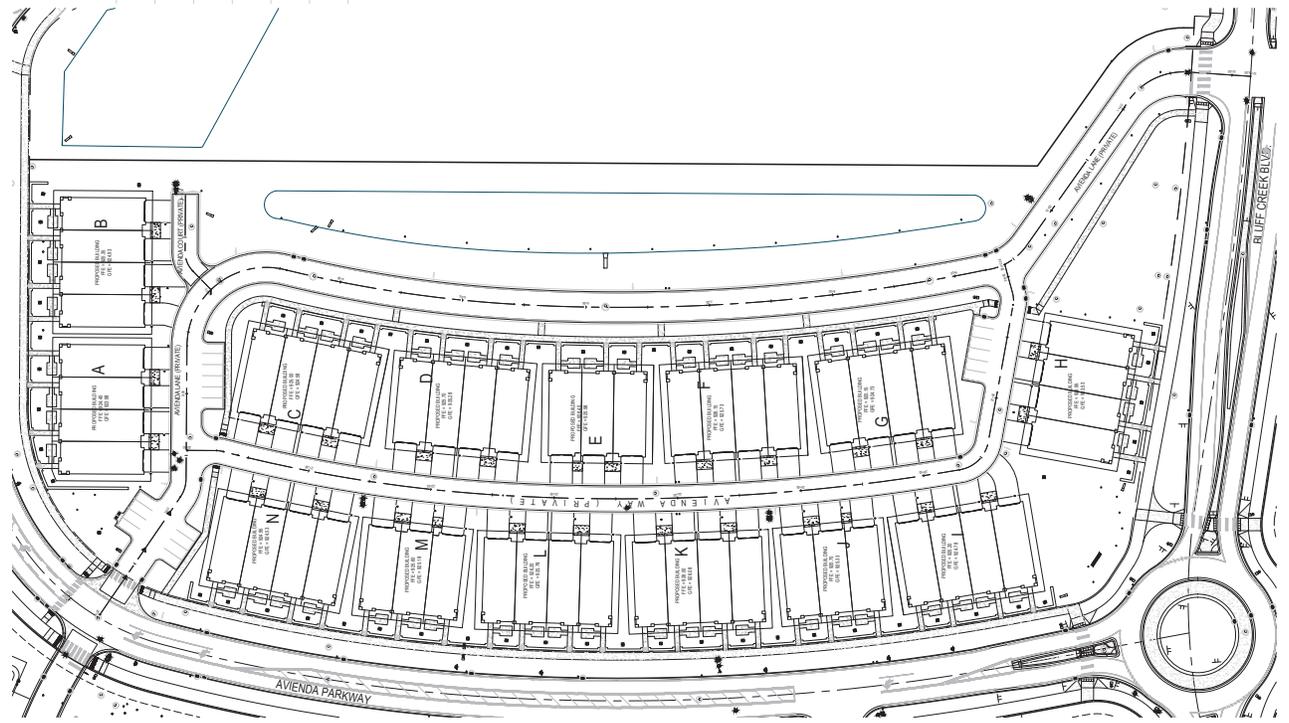
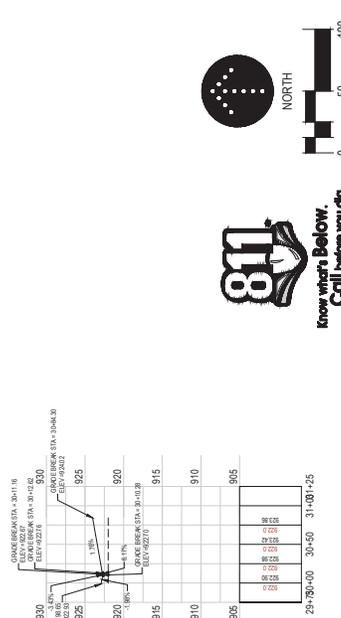
**AVIENDA LANE (PRIVATE)**



**AVIENDA WAY (PRIVATE)**



**AVIENDA COURT (PRIVATE)**



**CERTIFICATION**

I hereby certify that the information provided in this plan is true and correct to the best of my knowledge and belief, and that I am a duly Licensed Professional Engineer in the State of Minnesota.  
**DATE** 01/10/2024  
**PROJECT NO.** 2024001/LEVEL04

**WATERSHED RESUBMITTAL**  
 JANUARY 10, 2024

105 South Fifth Avenue  
 Suite 313  
 Minneapolis, MN 55401  
 Tel: 612-332-9070  
 Fax: 612-332-9077  
 Web: [www.landform.com](http://www.landform.com)  
 File Name: C23C0004  
 Project No: 2024001/LEVEL04



**811**  
 Know what's Below.  
 Call before you dig.

**STREET ALIGNMENTS AND PROFILES**  
**C2.3**









**DEVELOPER**

**LEVEL 7 DEVELOPMENT, LLC**  
4600 KINGS POINT RD  
MINNETONKA, MN 55341

**MUNICIPALITY**



**PROJECT**

**AVIENDA  
CHANHASSEN, MN**

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**SURFACE WATER BUFFERS**

1. Buffer Buffers Surface Water Buffers shall be installed as follows:

**TEMPORARY SEDIMENTATION BASINS**

1. The project shall provide temporary sedimentation basins to capture sediment from the site during construction. The basins shall be designed to meet the following criteria:

**INSPECTIONS AND MAINTENANCE**

1. Inspections shall be conducted at the following intervals:

**POST CONSTRUCTION PERMANENT BARRIERS**

1. The design and construction of permanent barriers shall be as follows:

**EROSION PREVENTION AND SEDIMENT CONTROL**

1. Sediment Control Measures shall be installed as follows:

**WATERS WITHIN ONE MILE OF SITE**

1. The project shall identify and protect waters within one mile of the site.

**ENVIRONMENTAL ENDEANGERED SPECIES & ARCHAEOLOGICAL RESOURCES**

1. The project shall identify and protect environmental resources.

**WATER QUALITY AND WATER QUALITY IMPROVEMENT MEASURES**

1. The project shall implement water quality improvement measures.

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**GENERAL NOTES**

1. For construction utility and surveying work contact Landform at 612-252-9070.
2. Plot Maps: Refer to the City of Chanhassen Specifications.
3. Contact City Public Works for details of all existing utilities in the project area.
4. Coordinate with City Engineer regarding all utility work to be performed by the contractor.
5. Coordinate with City Engineer regarding all utility work to be performed by the contractor.
6. Provide manhole risers to connect adjacent property lines through utility riser risers.
7. Pipe lengths shown within manhole to center of manhole unless otherwise noted.
8. Install manhole risers to connect adjacent property lines through utility riser risers.
9. Connect to City of Chanhassen in accordance with City of Chanhassen standards.
10. All manhole risers shall be installed in accordance with City of Chanhassen standards.
11. Minimum 2' clear of manhole.
12. Offset manhole risers to match existing riser risers.
13. Catch basins shown with water level marked below the gutter grade (to be set on Sheet C1).
14. Coordinate with public utility to provide electric, natural gas, and communication services.
15. See City of Chanhassen specifications for details.
16. Coordinate with City Engineer regarding all utility work to be performed by the contractor.
17. Coordinate with City Engineer regarding all utility work to be performed by the contractor.

**UTILITY NOTES**

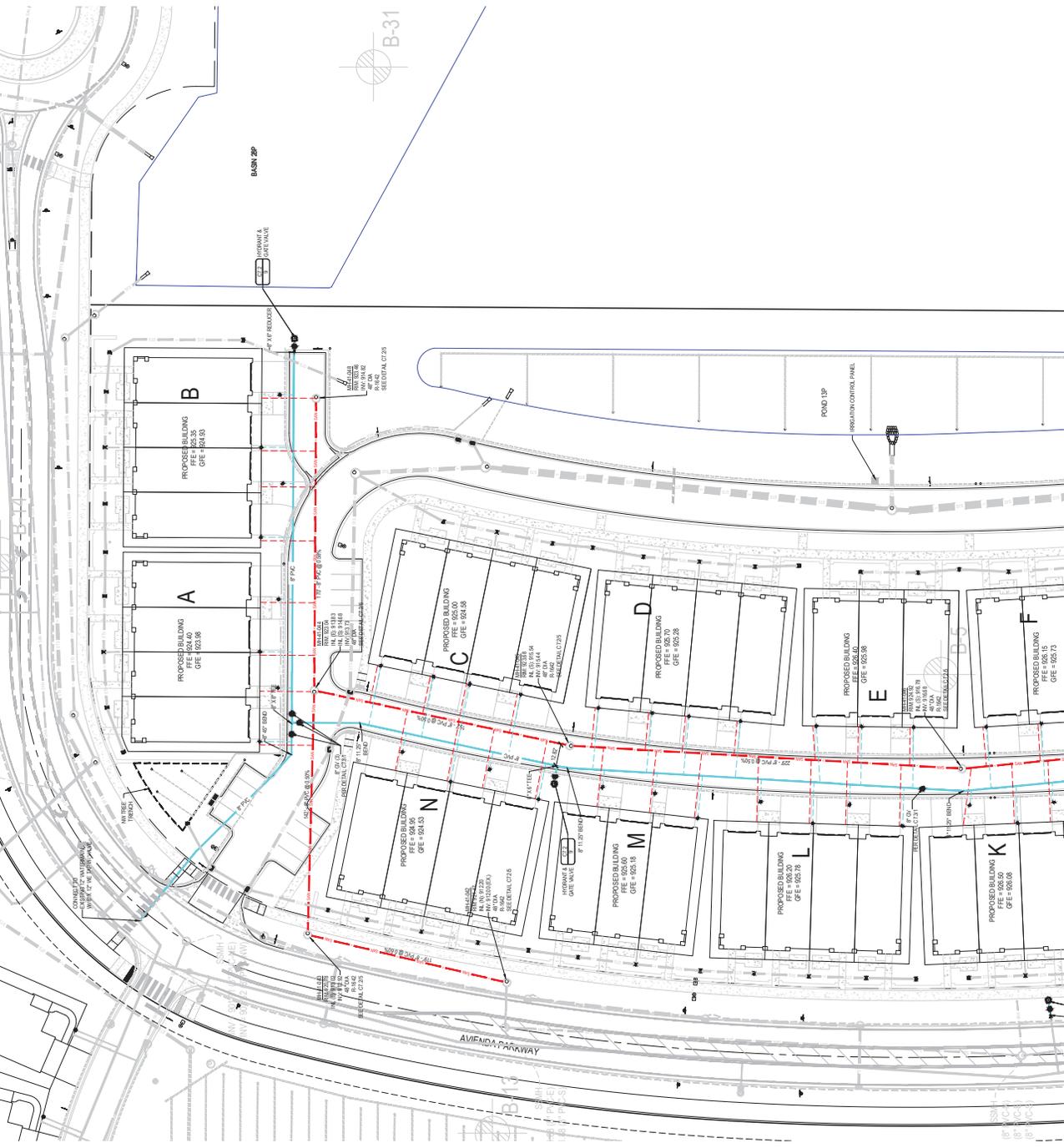
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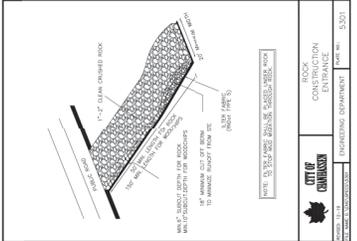




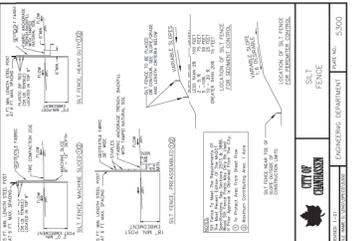




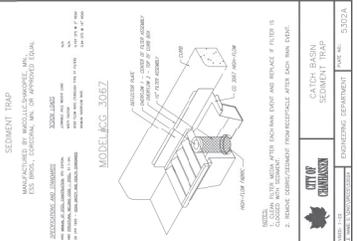




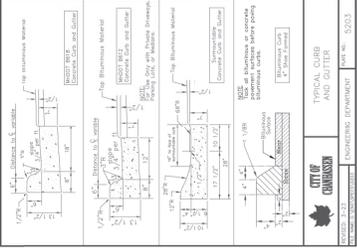
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**ROCK CONSTRUCTION ENTRANCE**



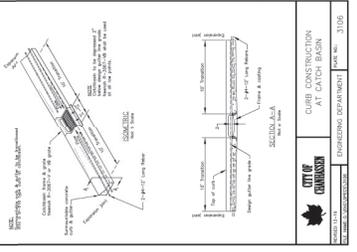
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**SILT FENCE**



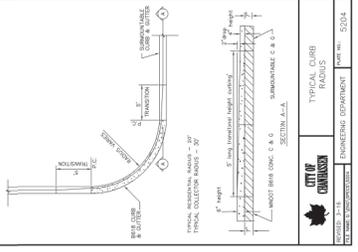
**3** NO SCALE  
**CATCH BASIN SEDIMENT TRAP**



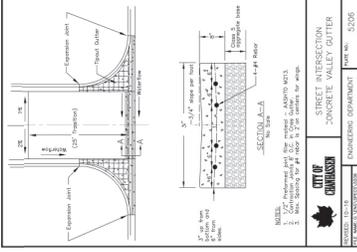
**4** NO SCALE  
**TYPICAL CURB & GUTTER**



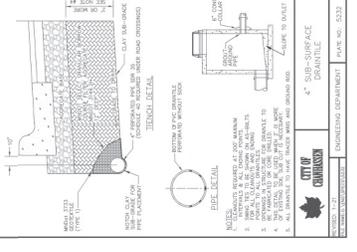
**5** NO SCALE  
**CURB CONSTRUCTION AT CATCH BASIN**



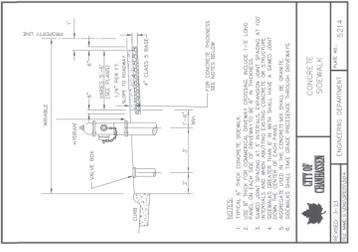
**6** NO SCALE  
**TYPICAL CURB RADIUS**



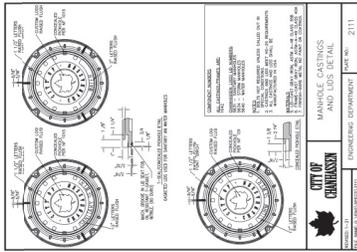
**7** NO SCALE  
**STREET INTERSECTION CONCRETE VALLEY GUTTER**



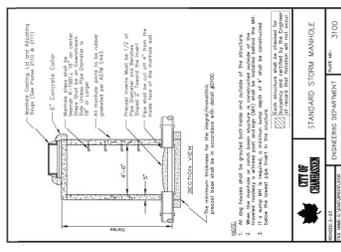
**8** NO SCALE  
**PAVEMENT DRAIN TILE**



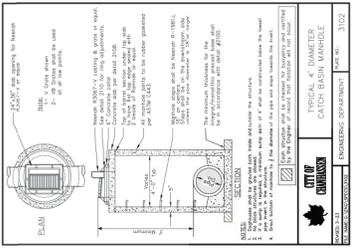
**9** NO SCALE  
**CONCRETE SIDEWALK**



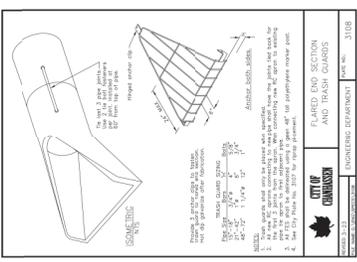
**1** NO SCALE  
**MANHOLE CASTINGS & LIDS DETAIL**



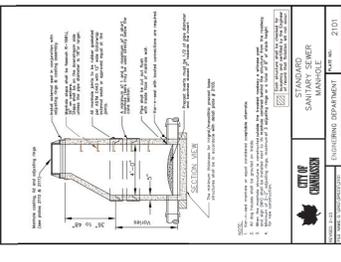
**2** NO SCALE  
**STANDARD STORM MANHOLE**



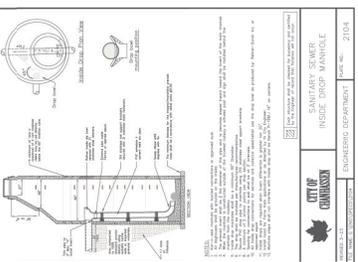
**3** NO SCALE  
**TYPICAL 4' DIAMETER CATCH BASIN MANHOLE**



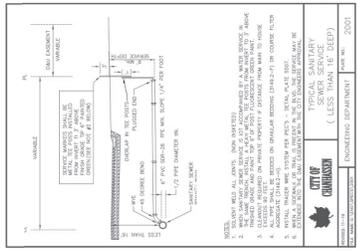
**4** NO SCALE  
**FLARED END SECTION & TRASH GUARD**



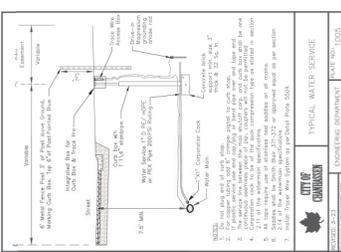
**5** NO SCALE  
**STANDARD SANITARY SEWER MANHOLE**



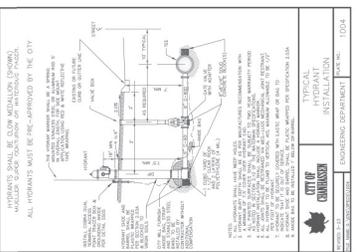
**6** NO SCALE  
**SANITARY SEWER INSIDE DROP MANHOLE**



**7** NO SCALE  
**TYPICAL SANITARY SEWER SERVICE (LESS THAN 16' DEEP)**



**8** NO SCALE  
**TYPICAL WATER SERVICE**



**9** NO SCALE  
**TYPICAL HYDRANT INSTALLATION**



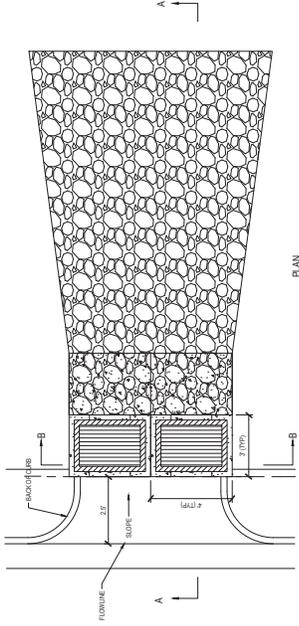


**ISSUE / REVISION HISTORY**

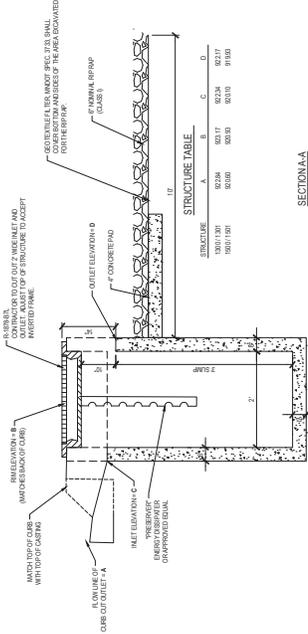
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003	01/10/24	ISSUE FOR PERMITTING	JK
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008	01/10/24	ISSUE FOR PERMITTING	JK
009	01/10/24	ISSUE FOR PERMITTING	JK
010	01/10/24	ISSUE FOR PERMITTING	JK

I, the undersigned, hereby certify that the plans and specifications herein were prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer in the State of Minnesota.  
**DATE** 01/10/24  
**PROJECT NO.** 2024001/LEVEL 04

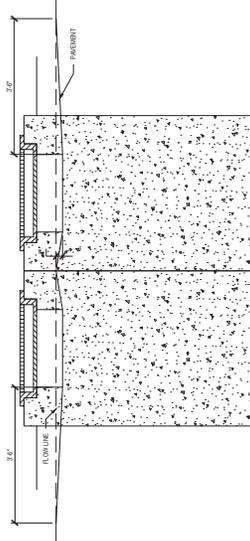
**WATERSHED RESUBMITTAL**  
 JANUARY 10, 2024



**PLAN**



**SECTION A-A**



**SECTION B-B**

**2'X3' STORM SEWER CATCH BASIN WITH PRESERVER**  
 NO SCALE

**JELLYFISH JF4 FILTER**

**STANDARD DETAIL**  
 OFFLINE CONFIGURATION

**CONTECH**  
 10000 W. 100TH AVE., SUITE 100  
 BURNSVILLE, MN 55337  
 TEL: 612-891-1000  
 WWW.CONTECHCORP.COM

**SECTION A-A**  
 Jellyfish Filter  
 10000 W. 100TH AVE., SUITE 100  
 BURNSVILLE, MN 55337  
 TEL: 612-891-1000  
 WWW.CONTECHCORP.COM

**PLAN VIEW**

**SECTION A-A**

**FRAME AND COVER**  
 (CONCRETE OR CAST IRON)  
 N.T.S.

**HATCH**  
 (GROUP 1) (SEE TABLE)  
 N.T.S.

**INSTALLATION REQUIREMENTS**  
 (SEE FOUNDATION OF MANHOLE)

**INSTALLATION NOTES**

1. THE FILTER SHALL BE INSTALLED IN THE MANHOLE AS SHOWN IN THE PLAN VIEW AND SECTION A-A.
2. THE FILTER SHALL BE INSTALLED IN THE MANHOLE AS SHOWN IN THE PLAN VIEW AND SECTION A-A.
3. THE FILTER SHALL BE INSTALLED IN THE MANHOLE AS SHOWN IN THE PLAN VIEW AND SECTION A-A.
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9. THE FILTER SHALL BE INSTALLED IN THE MANHOLE AS SHOWN IN THE PLAN VIEW AND SECTION A-A.
10. THE FILTER SHALL BE INSTALLED IN THE MANHOLE AS SHOWN IN THE PLAN VIEW AND SECTION A-A.

**JELLYFISH JF4**  
 STANDARD DETAIL  
 OFFLINE CONFIGURATION

**JELLYFISH JF4 FILTER**  
 NO SCALE







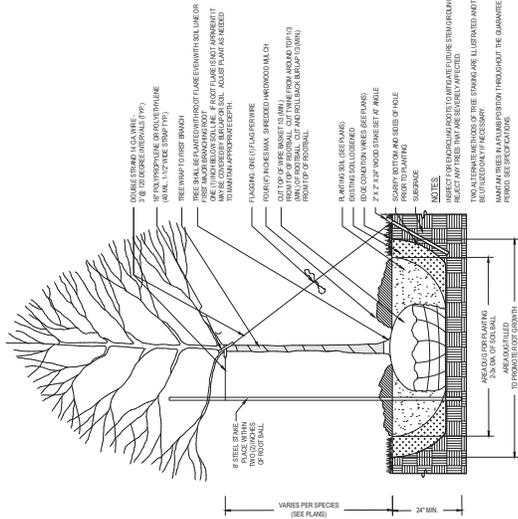




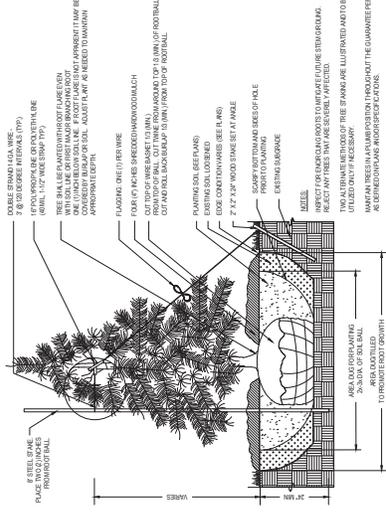


**ISSUE / REVISION HISTORY**

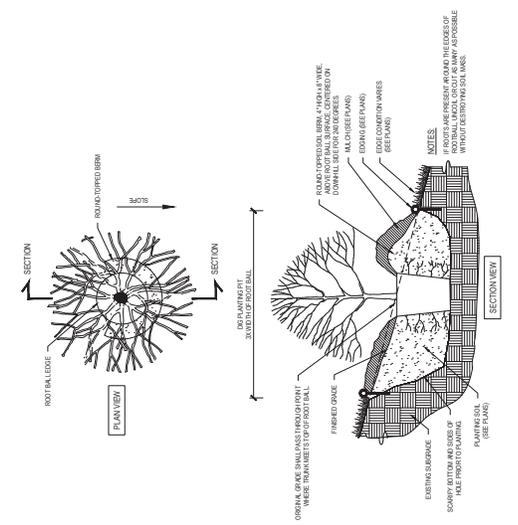
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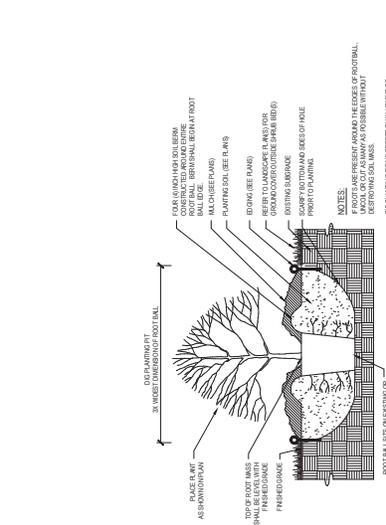
**1** **DECIDUOUS TREE PLANTING** NO SCALE



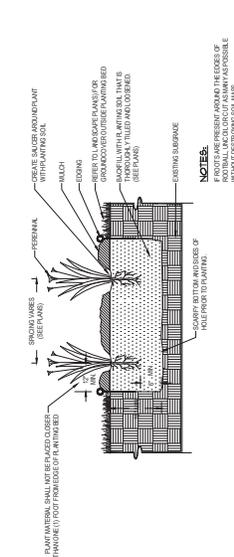
**2** **CONIFEROUS TREE PLANTING** NO SCALE



**3** **STEEP SLOPE PLANTING** NO SCALE



**4** **SHRUB PLANTING** NO SCALE



**5** **PERENNIAL PLANTING** NO SCALE





From Site to Finish

## Avienda Row Homes

# Watershed Variance Request Narrative

Prepared for:

Level 7 Development, LLC

December 26, 2023



PREPARED FOR  
Level 7 Development, LLC  
4600 Kings Point Rd  
Minnetrista, MN 55331



PREPARED BY  
Landform Professional Services, LLC  
105 5<sup>th</sup> Ave S, Suite 513  
Minneapolis, MN 55401

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## Introduction

On behalf of Level 7 Development, LLC, Landform is pleased to submit this application for two variances from Riley Purgatory Bluff Creek Watershed District (RPBCWD) Rule B, Subsection 2.1. Approval of the variance will allow the development to proceed in accordance with preliminary plat and PUD approvals granted by the City of Chanhassen. We are excited about the improvements proposed for this site.

## Variance

### Variance Request #1

We are requesting Watershed approval for a variance from Rule B, Subsection 2.1 which requires the project to provide compensatory storage within +/- one foot of the fill. This requirement cannot be practicably met within each increment of elevation for this site. The Avienda Row Homes project will provide a cumulative compensatory storage which greatly exceeds the total existing storage for this phase. Refer to Table 17 in the Stormwater Management Plan for additional information regarding the compensatory storage. The requested variance meets the standards outlined in the rules as follows:

#### 1.1 *How substantial the variation is from the rule provision*

The variation from the rule provision is insignificant. Specifically, the storage volume exceeds the existing total storage for both Phases 1 and 2. The intent of the rule is met for compensatory storage as shown in Table 17.

#### 1.2 *The effect of the variance on government services*

There will be no effect of the variance on government services. The site conditions provide adequate compensatory storage on site and will be managed by the developer.

#### 1.3 *Whether the variance will substantially change the character of or cause material adverse effect to water resources, flood levels, drainage or the general welfare in the District, or be a substantial detriment to neighboring properties.*

There will be no material adverse effect to water resources, flood levels, drainage or general welfare in the District nor any substantial detriment to neighboring properties. As noted in Table 17, the cumulative compensatory storage greatly exceeds the existing storage for this phase.

#### 1.4 *Whether the practical difficulty can be alleviated by a technically and economically feasible method other than a variance. Economic hardship alone may not serve as grounds for issuing a variance if any reasonable use of the property exists under the terms of the District rules*

There is no technically or economically feasible alternative to the variance.

#### 1.5 *How the practical difficulty occurred, including whether the landowner, the landowner's agent or representative, or a contractor, created the need for the variance*

The practical difficulty is not created by the landowner or their agent but is a result of the conflicts between the watershed rules and other agency requirements.

#### 1.6 *In light of all the above factors, whether allowing the variance will serve the interests of justice*

Allowing the variance will serve the interests of justice by allowing the project to proceed forward as approved by the City of Chanhassen and providing compensatory storage that exceeds the total existing storage for both Phases 1 and 2.

### Variance Request #2

We are requesting Watershed approval for a variance from Rule B, Subsection 2.1 which requires the project to provide compensatory storage within the same waterbody. The waterbodies as defined by the RPBCWD consist of

stormwater management basins approved by the watershed in Phases 1 and 2. Providing compensatory storage within these waterbodies is not possible. The requested variance meets the standards outlined in the rules as follows:

*1.1 How substantial the variation is from the rule provision*

The variation from the rule provision is insignificant. The waterbodies in question are stormwater management basins approved by the watershed in Phases 1 and 2. The revised/added basins will provide similar or better flood protection and therefore this is a minimal change.

*1.2 The effect of the variance on government services*

There will be no effect of the variance on government services.

*1.3 Whether the variance will substantially change the character of or cause material adverse effect to water resources, flood levels, drainage or the general welfare in the District, or be a substantial detriment to neighboring properties.*

There will be no material adverse effect to water resources, flood levels, drainage or general welfare in the District nor any substantial detriment to neighboring properties. As noted in Table 17, the cumulative compensatory storage greatly exceeds the existing storage for this phase of development and will be provided on site.

*1.4 Whether the practical difficulty can be alleviated by a technically and economically feasible method other than a variance. Economic hardship alone may not serve as grounds for issuing a variance if any reasonable use of the property exists under the terms of the District rules*

There is no technically or economically feasible alternative to the variance. The preliminary plat and PUD has been approved by the municipality and it is not technically possible to comply with the rule.

*1.5 How the practical difficulty occurred, including whether the landowner, the landowner's agent or representative, or a contractor, created the need for the variance*

The practical difficulty is not created by the landowner or their agent.

*1.6 In light of all the above factors, whether allowing the variance will serve the interests of justice*

Allowing the variance will serve the interests of justice by allowing the project to proceed forward as approved by the City of Chanhassen. The compensatory storage will be provided on site in compliance with all other watershed rules.

## Summary

We respectfully request approval of the two variances to allow construction of the Avienda Row Homes at the northeast corner of the intersection of Bluff Creek Boulevard and Avienda Parkway in Chanhassen.

## Contact Information

This document was prepared by:

Steve Sabraski  
Landform  
105 South Fifth Avenue, Suite 513  
Minneapolis, MN 55401

Any additional questions regarding this application can be directed to Steve Sabraski at [ssabraski@landform.net](mailto:ssabraski@landform.net) or 612.638.0243.