



CAPITOL REGION WATERSHED DISTRICT

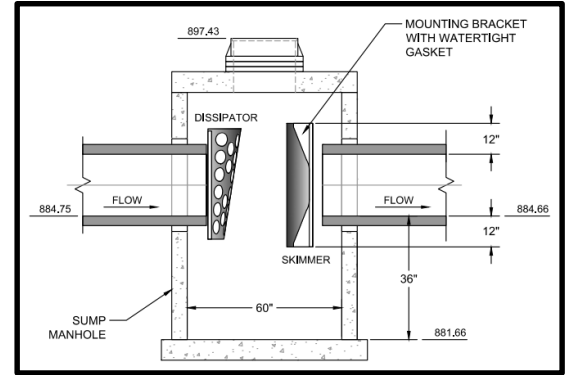
RAMSEY COUNTY, MINNESOTA
 PLANS FOR:



UPPER VILLA PARK INFILTRATION AND REUSE
 LAKE McCARRONS SUBWATERSHED BMP
 CLEAN WATER PARTNERSHIP PROJECT

Background:

- The Preserver was specified to provide pretreatment prior to discharge to an irrigation cistern.
- Drainage Area:
 - 242 total acres
 - 8 acre direct drainage area, residential
 - ~2.4 acres direct impervious area (30%, estimated)
 - Mature tree canopy
- Structure:
 - 5' diameter
 - 3' sump depth
 - Ø24" inlet, with dissipator
 - Ø24" outlet, with skimmer



Detail

2017 Year-End Performance:

- 2,768 lbs material captured, including:
 - 0.526 lbs phosphorus
 - Significant heavy metals
 - 1.91 specific gravity



Heavy leaf & debris loading

Observations:

- Mature trees and upstream stormwater pond contribute heavy organic loads, including large debris.
- Device functioned as intended; capturing & retaining material in the structure.
- Total captured material would likely be greater with more frequent cleaning. The sump was full approximately half way through the monitoring period.
- Low specific gravity of retained material likely indicates high organic content.

2017 Year-End Analysis of Material Retained in Structure

	Composite Sample, Laboratory Analysis	Total Dry Weight ¹ (lbs.)	
All Material	- Specific Gravity:	1.91	2,768
	- Gradation (microns):		
	< 75	2.7%	
	75 - 2000	93.9%	
	> 2000	3.4%	
Priority Pollutants²	- Pollutant Concentrations (mg/l):		
	Total Phosphorus	190	0.526
	Arsenic	7	0.018
	Copper	12	0.033
	Lead	13	0.036
	Zinc	61	0.169

1) Total weight retained in structure as of the material sampling date, 10/18/17.

2) Priority pollutant weights are a portion of the "All Material" total dry weight.

Preserver Performance - Villa Park

