Comfort Lake-Forest Lake Watershed District
Watershed Management Plan Amendment
Proposed Replacement Pages

The proposed plan amendment is prepared in a format consistent with Minnesota Rules 8410.0140 (as revised). Draft and final amendments may be sent electronically. A receiving entity may request to receive an amendment in paper format.

Draft amendments show deleted text as stricken and new text as underlined. This amendment is presented in the form of replacement pages for the plan with each page renumbered as appropriate and each page including the anticipated effective date of the amendment.

EXECUTIVE SUMMARY

The Comfort Lake-Forest Lake Watershed District (CLFLWD or District) is a special purpose unit of local government, established under Minnesota Statutes 103D, which was created to restore local water resources to pre-settlement water quality conditions and manage flooding. The CLFLWD is governed by a five-member Board of Managers appointed by Chisago and Washington counties. The District includes portions of the City of Wyoming, Chisago City, Chisago Lake Township, Franconia Township, the City of Forest Lake and the City of Scandia. This Watershed Management Plan spans fiscal years 2022-2031 and is effective starting on the Board of Water and Soil Resources approval date of August 26, 2021, for a period of 10 years.

The Comfort Lake-Forest Lake Watershed District covers 49 square miles in southwestern Chisago County and northwestern Washington County (Figure ES-4, p.XXXIV). Surface water resources within the District include three major recreational lakes (Bone Lake, Forest Lake and Comfort Lake), the exceptionally high-quality Lake Keewahtin, as well as 19 other named lakes and several rivers/streams. The CLFLWD is the headwaters of the Sunrise River and ultimately drains to the St. Croix River, a federally protected wild and scenic riverway. The District includes 90 miles of watercourses, of which 31% are altered, and nearly 9,600 acres of wetlands. The land use is somewhat evenly distributed, with the most common land use of hay/pasture covering 25% of the total area and the least common land use of cropland covering 12% of the total area. Developed land use covers 14% of the District.

The mission of the District is to protect and enhance local ecosystems and natural water resources ~~protect and improve its water resources through adaptive management and education of local stakeholders~~ (Figure ES-1, p.XXVIII). In 2025 the District completed a Strategic Plan including a revised mission statement, vision statement, values, and priority initiatives. The Strategic Plan is available at www.clflwd.org.

The District's water resource management approach is based on a core framework of adaptive management, diagnostic monitoring, and cost-benefit analysis. Adaptive management is an iterative approach of resource assessment, problem identification, project implementation, progress evaluation, and course correction that reflects the dynamic nature of water resources, climate and the surrounding landscape. All District activities are guided by scientific methods and economic principles.

Between 2010 and 2021 the District collected a large amount of data to better understand the watershed and its resources. Two significant reports include the Six Lakes Total Maximum Daily Load (TMDL) Study and Implementation Plan in 2010, and the Sunrise River Water Quality & Flowage Engineer's Report in 2012 (in response to a petition by Chisago County). In 2016 the District began collecting paleolimnological lake sediment cores from the major lakes to determine pre-settlement conditions (see Lakes (5200) subsections under 4.6.2. Lake Management Districts). The unique pre-settlement condition of the major lakes is the basis for establishment of the District's long-term lake water quality goals which are more aggressive than state standards.

The District conducts adaptive management in an upstream to downstream approach within the District, beginning with Moody and Shields Lakes in the headwaters, moving downstream through Bone and Forest Lakes, and finishing with Little Comfort and Comfort Lakes. The District completed diagnostic monitoring and project feasibility studies for all major lakes as part of the previous 10-year plan, which formed the scientific basis for the 2022-2031 measurable goals and implementation plan. The District will utilize this same adaptive management approach during the 2022-2031 plan to reassess all major lakes and to develop a prioritized, targeted and measurable management approach for floodplain, stream, wetland and groundwater issues.

The District's diagnostic monitoring activities include tributary stream, wetland soil and lake sediment monitoring to identify pollutant hotspots. The District found that legacy loads which accumulated in wetlands and lakes in the past can also be a significant source of pollutants to water resources today. Past intensive human activities increased the rate of pollutant accumulation in wetlands and lakes and caused them to degrade. These activities include historic farming, livestock and development without sufficient stormwater treatment or nutrient management practices.

CLFLWD
WATERSHED DISTRICT

The mission of the Comfort Lake-Forest Lake Watershed District is to protect and enhance local ecosystems and natural water resources ~~protect and improve its water resources through adaptive management and education of local stakeholders.~~

Our Vision, Mission, and Values

Our **Vision Statement** describes the future we are striving to achieve; it is aspirational, forward-looking, and represents the ultimate goal of the organization. Our **Mission Statement** defines our purpose and what we do on a day-to-day basis to serve our stakeholders; it focuses on the present actions that drive us toward our vision. Our **Values** convey what is important to us and what we stand behind.

Vision

We see a future of continued collaboration with our citizens and communities that improves and sustains the quality of water resources.

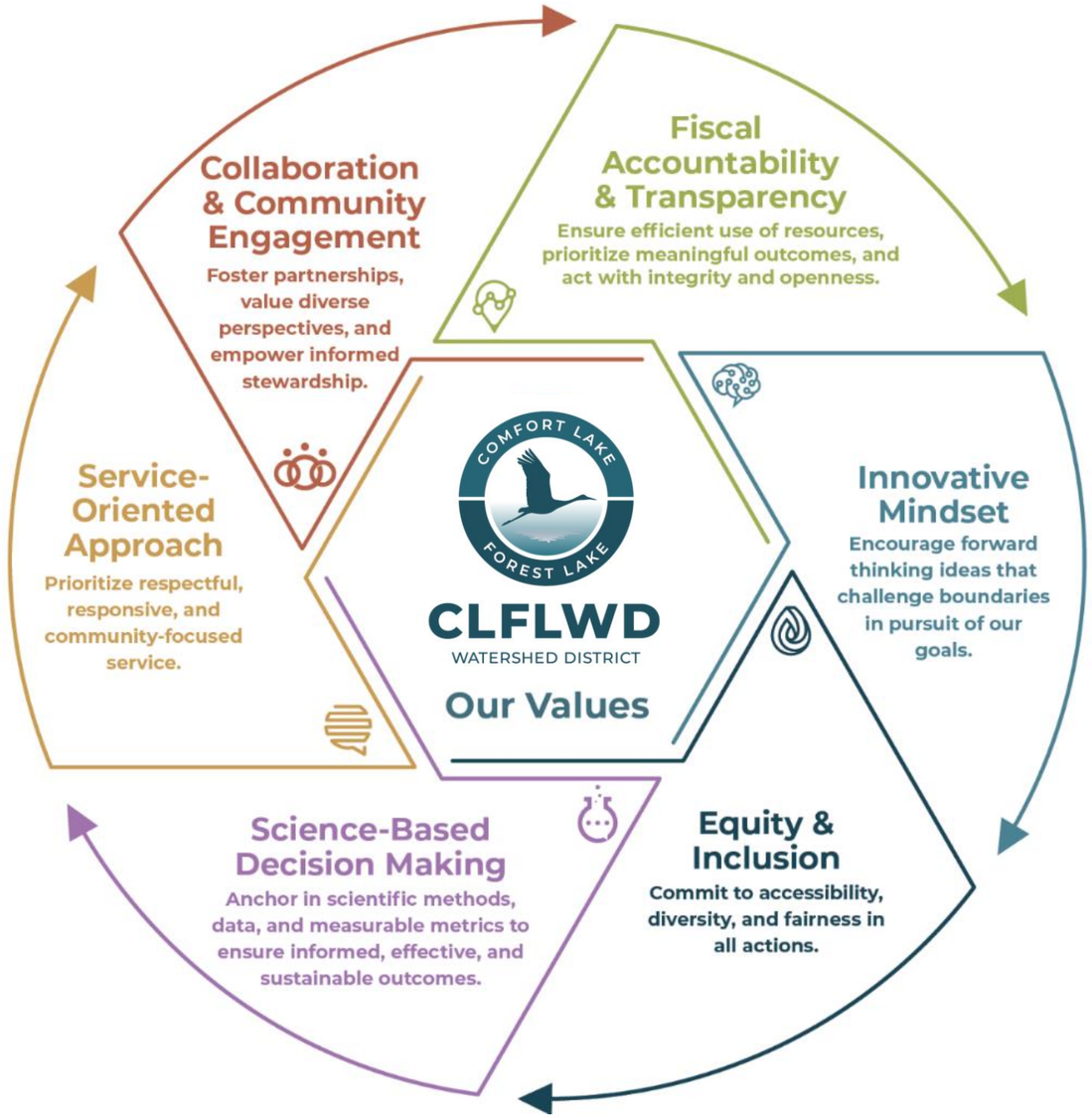
Mission

Our mission is to protect and enhance local ecosystems and natural water resources.

Innovative scientific approaches, outstanding outcomes.

Beach at Lakeside Memorial Park, Forest Lake

Values



INTRODUCTION

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Section 1 of this Plan introduces the Comfort Lake-Forest Lake Watershed District (CLFLWD or District) and summarizes the content and layout of this Watershed Management Plan.

1.1 WHAT IS THE CLFLWD?

The Comfort Lake-Forest Lake Watershed District (CLFLWD or District) is a special purpose unit of local government, established under Minnesota Statutes 103D, which was created to restore local water resources to pre-settlement water quality conditions and manage flooding. The Comfort Lake-Forest Lake Watershed District covers 49 square miles in southwestern Chisago County and northwestern Washington County. The District includes portions of the City of Wyoming, Chisago City, Chisago Lake Township, Franconia Township, the City of Forest Lake and the City of Scandia. Surface water resources within the District include three major recreational lakes (Bone Lake, Forest Lake and Comfort Lake), the exceptionally high-quality Keewahtin Lake, as well as other smaller lakes and streams. The CLFLWD is the headwaters of the Sunrise River and ultimately drains to the St. Croix River.

The mission of the Comfort Lake-Forest Lake Watershed District is to protect and enhance local ecosystems and natural water resources ~~protect and improve its water resources through adaptive management and education of local stakeholders.~~

The District emphasizes adaptive management principles supported by sound scientific technologies and methods to develop uniform, cost-efficient, fiscally responsible and integrated approaches to water management in an ongoing effort to protect and improve the District's water resources. In addition, the District stresses education and outreach to stakeholders, in order to increase awareness regarding water resource issues, and understand their role in protecting and improving the quality and recreational utility of our water resources.

5100 Project (5000-Level) Implementation

5120A. Volume Control Facility Implementation (CIP): The District Rules allow the use of banked volume credits in cases where volume control has been maximized on site, however no bank sites have been constructed at this time. The District will construct one or more volume control facilities to be used as a volume bank for properties that cannot provide volume control under District Rules due to unfavorable site conditions. Construction will be based on findings of the volume control feasibility study (5220A from the 2012-2021 Watershed Management Plan).

5120B. ~~Greenway Corridor~~ Greenbelt & Open Space Visioning & Assessment: A diversity of water resources (floodplains, wetlands, and drainageways) are concentrated along an existing corridor that runs through the District. This corridor begins in the Washington Judicial Ditch 6 (WJD-6) system (south of Forest Lake, East Basin), flows through Forest Lake proper, and then continues along the Sunrise River to Comfort Lake. This corridor is also adjacent to the Hardwood Creek Wildlife Management Area (WMA) in the south the two corridors could be integrated/connected as one continuous corridor. The city of Forest Lake is projected to be one of the fastest growing areas in Washington County over the next 20 years with a projected population growth of 33-45% from 2015 to 2040. While some subdivision and development have already occurred within this corridor, a significant portion of the land is still in large, undeveloped parcels, presenting an opportunity to define and protect this corridor before development occurs.

The first step for establishing a holistic, long-term vision for a ~~greenway~~ greenbelt and open space corridor in the District is a visioning exercise conducted at a high level to identify the character of ~~greenway~~ greenbelt options and determine support for concept(s). Outcomes from the ~~greenway~~ greenbelt visioning exercise include development of the size and location of a ~~greenway~~ greenbelt, potential benefits and public uses of the corridor, identification of partners and outside funding sources, and a road map for land acquisition and strategies to acquire land at reasonable costs.

Establishment of a ~~greenway~~ greenbelt and open space corridor will take years, if not decades, to reach the full vision, but with the benefit of building an ecological asset within the District for generations to come. Implementation of the greenway corridor will primarily occur through District programs, including Interagency Communication (3006) and Land Acquisition & Management (3012). Project implementation under other issue areas will also support establishment of a ~~greenway~~ greenbelt corridor, for example, Wetland Banking Implementation (5420B).

5120C. Floodplain Resiliency Implementation: In 2026 the District completed a Floodplain Resilience Action Plan Framework identifying flood risks and mitigation strategies. Some mitigation strategies will be implemented through the District's programs such as District Rules & Rulemaking (3001), Permitting (3002), Non-Point Source Pollution Abatement/Cost-Share Program (3004), Education & Outreach (3005), Interagency Communication (3006). Some mitigation strategies involve constructing capital improvement projects to provide additional flood volume storage.

The District will implement flood mitigation strategies as identified in the Floodplain Resilience Action Plan Framework. Projects may include flood volume storage basins and impoundments, installation of berms or weirs, wetland restorations, ditch reshaping/rerouting, underground storage facilities, stormwater pipe replacements and stormwater infrastructure upgrades.

The Floodplain Resilience Action Plan Framework incorporates feedback from local residents, municipalities, and other governmental partners, obtained through workshops and meetings with public partners, and through public meetings and outreach with residents in high flood vulnerability areas. Under the Plan, the District will coordinate closely with partners to develop flood mitigation projects.

4.6.1.2. Lakes (5200)

5200 Issue Description

Lakes are popular and valuable recreational assets in the District. In addition, lakes provide detention of flood waters, feeding grounds for wildlife, and habitat for fish and other aquatic organisms. Lakes can also provide a certain degree of pollutant settling, treatment through in-lake processes, and cooling of stormwater runoff while still maintaining good water quality. However, land use and land management practices have caused excessive discharge of pollutants, impacting the water quality and recreational use of a number of lakes within the District. Other lakes are at risk of impacts to water quality and recreational use due to invasive species, current land use practices or land use and land management changes. This changing backdrop requires adaptive management.

The primary lake issues addressed by this Plan include excess nutrients/eutrophication, chlorides and lake shoreline vegetation, described below:

Excess nutrients/eutrophication:

Comfort (2002), Bone (2004), Little Comfort (2012), Moody (2008), School (2008), Shields (2006), and Second (2012) lakes were listed as impaired for eutrophication due to excess nutrients by the State of Minnesota (the year the lake was added to the 303(d) list is included in parentheses after the lake name) and were included in a Total Maximum Daily Load (TMDL) study. All State water quality standards are based on growing season (June-September) averages.

- To be added to the impaired waters list, a lake must not meet the phosphorus standard and not meet either the chlorophyll-a or Secchi depth standard based on at least 8 samples collected from at least 2 years within the most recent 10-year period.

- To be removed from the impaired waters list, a lake must meet the phosphorus standard and the chlorophyll-a or Secchi depth standard based on at least 8 samples collected from at least 2 years within the most recent 10-year period. In addition, there must be an improving trend in total phosphorus (TP) or management activities in place to maintain improved chlorophyll-a or Secchi observations. The local entity must provide information that details how the response conditions will be met over time for a lake to be de-listed.

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District will also coordinate with the City of Wyoming and MN Department of Natural Resources to address floating bog issues on the Sunrise River.

5229E. CL7-CL8: Forest Lake Urban Retrofits (CIP): A total of 66 potential areas for treatment were identified to treat urbanized portions of the City of Forest Lake that were developed prior to full consideration for stormwater treatment (*2012 Sunrise River Water Quality and Flowage Engineer's Report*). Implementation will likely begin in the Forest Lake Market Area (Opportunity #8- 12), School Parking Lot and Reuse (Opportunity #60) and Raingarden Retrofits (Opportunities #2 & 3). The selection of urban retrofits will be based on diagnostic monitoring and cost-effectiveness.

5229F. CL1: Shoreline Restorations: Every 10 years the District will fully update its shoreland inventory of Comfort Lake to evaluate the amount of change that has occurred and to identify areas for improvements in shoreline buffers and lakescaping. Minor updates to areas of concern may be made in the intervening years. Past shoreland inventory studies were performed in 1998 and 2014 with a photo inventory was taken in 2016.

5229G. CL1: East Comfort Pond: Implement a stormwater management project within the direct drainage area of Comfort Lake. This project will enhance an existing stormwater pond on the east side of Comfort Lake. This project is estimated to reduce phosphorus by 2 to 4 pounds per year.

5229H. CL8: Broadway Avenue Iron Enhanced Sand Filter: Replace and upgrade the biofiltration filter media to increase the effectiveness of phosphorus removal. This biofiltration filter was constructed in 2015 under outdated design standards. The design does not meet today's standards per guidance from the University of Minnesota and MPCA's Minnesota Stormwater Manual. Reconstruct the filtration media to modern standards to achieve a more effective filtration system that will increase phosphorus removal and extend the filter's lifespan. Filter media replacement is estimated to reduce phosphorus loading by 27-29 pounds per year, which will improve water quality in the Sunrise River and downstream Comfort Lake.

Secondary Lakes (5299)

5299A. Lake Studies: Collect lake information and develop management plans for lakes in the District that have not been evaluated. Studies may entail bathymetric mapping, sediment composition mapping, fish and vegetation surveys, shoreland inventory, watershed assessment. If appropriate, a lake management plan will be developed based on lake water quality goals (developed as a part of the study through the public involvement process) and modeling of phosphorus-reduction scenarios. Ultimately, an implementation plan will identify specific activities, as well as appropriate responsible parties, necessary to meet the management objectives for the lake. These studies will incorporate available data and information acquired from past studies into the new investigations. In the Comfort Lake Management District, Ashton Lake will be studied. The District completed the 2016 Heims Lake Water Quality Study and Management Plan.

Rivers/Streams (5300)

Sunrise River (5340)

5341A. Sunrise River Stream Diagnostic Study Implementation: Implementation of projects identified from the District-Wide Stream Diagnostic Study along the Sunrise River in the Comfort Lake Management District.

Table 5-1. Implementation Costs, Schedule and Capital Improvement Plan

Comments	High Priority		Implementation Initiatives	CIP	Summary of *Measurable Outcomes †Measurable Outputs	Potential Partners	Potential Additional Revenue Sources‡	Potential Additional Revenue‡	Annual Cost	One-Time/ Periodic Cost	Periodic Timeframe	COSTS 2021 Base	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	10-Year Total (2022-2031)
10-Year Sum Core/Crit. and High Priority	$40,908,969		***TOTAL COSTS***					**$11,839,085**	**$2,177,200**	**$11,007,852**		**$3,306,053**	**$5,652,973**	**$4,399,307**	**$4,222,280**	**$2,913,774**	**$3,789,327**	**$3,292,828**	**$4,616,925**	**$4,386,046**	**$4,756,333**	**$3,212,245**	**$41,242,039**
			Staff/Consultant Summaries (pulled out from budget below)									*$1,446,502*	*$1,553,755*	*$1,599,307*	*$1,647,286*	*$1,696,705*	*$1,759,198*	*$1,800,034*	*$1,854,035*	*$1,909,656*	*$1,966,946*	*$2,025,954*	*$17,812,875*
11.7 FTE (1 FTE estimated at ~$65,000/yr) (staff			*District Staff Wages/Benefits (Rolled in to each subcategory below)*						*$760,500*			*$699,502*	*$784,345*	*$806,814*	*$831,019*	*$855,949*	*$893,221*	*$908,077*	*$935,319*	*$963,379*	*$992,280*	*$1,022,048*	*$8,992,451*
core/crit scenario = 4.5 FTE)			*Engineering Costs (Rolled in to subcategories below)*						*$658,000*			*$658,000*	*$677,740*	*$698,072*	*$719,014*	*$740,585*	*$762,802*	*$785,686*	*$809,257*	*$833,535*	*$858,541*	*$884,297*	*$7,769,530*
			Legal Costs (Rolled in to subcategories below)						*$89,000*			*$89,000*	*$91,670*	*$94,420*	*$97,253*	*$100,170*	*$103,175*	*$106,271*	*$109,459*	*$112,743*	*$116,125*	*$119,609*	*$1,050,894*
			ADMINISTRATION					***$0***	***$423,000***	***$300,000***		***$388,391***	***$744,690***	***$448,761***	***$462,224***	***$476,090***	***$490,373***	***$505,084***	***$520,237***	***$535,844***	***$551,919***	***$568,477***	***$5,303,698***
		1000	**Administration**						**$423,000**	**$300,000**		**$388,391**	**$744,690**	**$448,761**	**$462,224**	**$476,090**	**$490,373**	**$505,084**	**$520,237**	**$535,844**	**$551,919**	**$568,477**	**$5,303,698**
	x	1001	Board Administration						$67,000			$67,000	$69,010	$71,080	$73,213	$75,409	$77,671	$80,002	$82,402	$84,874	$87,420	$90,042	$791,122
Added $300K for new office space in 2022	x	1002	General Office Expenses						$101,000	$300,000	2022	$101,250	$413,030	$107,151	$110,365	$113,676	$117,087	$120,599	$124,217	$127,944	$131,782	$135,736	$1,501,587
2.6 FTE annual cost (may reduce under core/crit)	x	1003	General Administration				Interest	$75,000	$169,000			$134,141	$174,070	$179,292	$184,671	$190,211	$195,917	$201,795	$207,849	$214,084	$220,507	$227,122	$1,995,517
	x	1004	Professional Services						$86,000			$86,000	$88,580	$91,237	$93,975	$96,794	$99,698	$102,688	$105,769	$108,942	$112,210	$115,577	$1,015,470
		PROGRAMS						***$3,296,424***	***$1,469,700***	***$911,000***		***$1,438,747***	***$1,686,144***	***$1,835,392***	***$1,613,266***	***$1,654,160***	***$1,773,342***	***$1,778,780***	***$1,807,546***	***$2,165,797***	***$1,982,864***	***$2,062,508***	***$18,359,799***
		3000	**General Program Development**					**$0**	**$14,500**	**$0**		**$68,732**	**$14,935**	**$15,383**	**$15,845**	**$16,320**	**$16,809**	**$17,314**	**$17,833**	**$18,368**	**$18,919**	**$19,487**	**$171,213**
0.1 FTE annual cost	x	3000-4100	Staff Management & Coordination						$6,500			$68,732	$6,695	$6,896	$7,103	$7,316	$7,535	$7,761	$7,994	$8,234	$8,481	$8,735	$76,751
	x	3000A	General Program Development						$8,000			$0	$8,240	$8,487	$8,742	$9,004	$9,274	$9,552	$9,839	$10,134	$10,438	$10,751	$94,462
		3001	**District Rules and Rulemaking**					**$0**	**$0**	**$30,000**		**$5,000**	**$20,600**	**$0**	**$0**	**$0**	**$11,593**	**$23,881**	**$0**	**$0**	**$0**	**$0**	**$56,074**
Less than 0.1 FTE	x	3001-4100	Staff Management & Coordination							$10,000	2026	$0	$0	$0	$0	$0	$11,593	$0	$0	$0	$0	$0	$11,593
	x	3001A	Ongoing Initiatives		†See Permitting Program							$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
	x	3001B	Rule Implementation Review		†Review					$20,000	2022, 2027	$5,000	$20,600	$0	$0	$0	$0	$23,881	$0	$0	$0	$0	$44,481
		3002	**Permitting**					**$1,168,972**	**$200,000**	**$0**		**$243,503**	**$206,000**	**$212,180**	**$218,545**	**$225,102**	**$231,855**	**$238,810**	**$245,975**	**$253,354**	**$260,955**	**$268,783**	**$2,361,559**
2.0 FTE annual cost	x	3002-4100	Staff Management & Coordination		†Pre-application mtgs, inspections, compliance rating, BMP annual reports		Permit Fees	$767,507	$130,000			$143,503	$133,900	$137,917	$142,055	$146,316	$150,706	$155,227	$159,884	$164,680	$169,621	$174,709	$1,535,013
	x	3002A	Ongoing Initiatives			Cities, counties, WDs	Permit Fees	$401,465	$68,000			$100,000	$70,040	$72,141	$74,305	$76,535	$78,831	$81,196	$83,631	$86,140	$88,725	$91,386	$802,930
Engineer/Legal Counsel Assistance	x	3002B	Volume Banking Program Oversight						$1,000			$0	$1,030	$1,061	$1,093	$1,126	$1,159	$1,194	$1,230	$1,267	$1,305	$1,344	$11,808
Engineer/Legal Counsel Assistance	x	3002C	Wetland Banking Program Oversight						$1,000			$0	$1,030	$1,061	$1,093	$1,126	$1,159	$1,194	$1,230	$1,267	$1,305	$1,344	$11,808
		3003	**Monitoring & Data Assessment**					**$0**	**$272,000**	**$0**		**$271,550**	**$280,160**	**$288,565**	**$297,222**	**$306,138**	**$315,323**	**$324,782**	**$334,526**	**$344,561**	**$354,898**	**$365,545**	**$3,211,720**
1.0 FTE annual cost	x	3003-4100	Staff Management & Coordination						$65,000			$62,821	$66,950	$68,959	$71,027	$73,158	$75,353	$77,613	$79,942	$82,340	$84,810	$87,355	$767,507
Planning & reporting, equipment	x	3003A	Ongoing Initiatives		†Annually perform water monitoring in accordance with the Comprehensive Monitoring Plan				$10,000			$208,729	$10,300	$10,609	$10,927	$11,255	$11,593	$11,941	$12,299	$12,668	$13,048	$13,439	$118,078
Long-term, Diagn, Effect.; Assumes Contracted	x	3003B	Stream Monitoring						$120,000				$123,600	$127,308	$131,127	$135,061	$139,113	$143,286	$147,585	$152,012	$156,573	$161,270	$1,416,935
Assumes Contracted, plus CAMP	x	3003C	Lake Monitoring						$60,000				$61,800	$63,654	$65,564	$67,531	$69,556	$71,643	$73,792	$76,006	$78,286	$80,635	$708,468
Assumes Contracted (levels & veg)	x	3003D	Wetland Monitoring						$10,000				$10,300	$10,609	$10,927	$11,255	$11,593	$11,941	$12,299	$12,668	$13,048	$13,439	$118,078
Assumes Contracted		3003E	Groundwater Monitoring						$7,000	$0			$7,210	$7,426	$7,649	$7,879	$8,115	$8,358	$8,609	$8,867	$9,133	$9,407	$82,655
		3004	**Non-Point Source Pollution Abatement Program**					**$0**	**$123,000**	**$0**		**$64,624**	**$126,690**	**$130,491**	**$134,405**	**$138,438**	**$142,591**	**$146,868**	**$151,274**	**$155,813**	**$160,487**	**$165,302**	**$1,452,359**
0.2 FTE annual cost	x	3004-4100	Staff Management & Coordination						$13,000			$12,124	$13,390	$13,792	$14,205	$14,632	$15,071	$15,523	$15,988	$16,468	$16,962	$17,471	$153,501
Regular shoreline inventories, ACPF, tech assist	x	3004A	Ongoing Initiatives						$10,000			$10,000	$10,300	$10,609	$10,927	$11,255	$11,593	$11,941	$12,299	$12,668	$13,048	$13,439	$118,078
Shoreline restorations and raingardens	x	3004B	Residential Landowner Grant		†Phosphorus/TSS/volume reductions, restored shorelines				$10,000			$7,500	$10,300	$10,609	$10,927	$11,255	$11,593	$11,941	$12,299	$12,668	$13,048	$13,439	$118,078
	x	3004C	Agricultural and Rural Land Management Incentives			MN Dept. of Agriculture	CREP, EQIP, MAWQCP		$30,000			$20,000	$30,900	$31,827	$32,782	$33,765	$34,778	$35,822	$36,896	$38,003	$39,143	$40,317	$354,234
	x	3004D	Commercial/Community Grant						$10,000			$15,000	$10,300	$10,609	$10,927	$11,255	$11,593	$11,941	$12,299	$12,668	$13,048	$13,439	$118,078
May overlap with 5200 urban retrofits	x	3004E	Municipal Stormwater Remediation Grant	YES			CWF, 319		$50,000			$0	$51,500	$53,045	$54,636	$56,275	$57,964	$59,703	$61,494	$63,339	$65,239	$67,196	$590,390
		3005	**Education and Outreach**					**$0**	**$118,500**	**$30,000**		**$120,275**	**$128,922**	**$132,789**	**$136,773**	**$133,373**	**$137,374**	**$141,495**	**$145,740**	**$150,112**	**$167,663**	**$159,254**	**$1,433,496**
1.0 FTE annual cost	x	3005-4100	Staff Management & Coordination		*Behavior change: reduce dumping, reduce rule noncompliance, increase native vegetation	EMWREP, CAC, WDs/WMOs, SWCDs, local schools			$65,000			$51,775	$66,950	$68,959	$71,027	$73,158	$75,353	$77,613	$79,942	$82,340	$84,810	$87,355	$767,507
EMWREP, other expenses	x	3005A	Ongoing Initiatives						$50,000			$50,000	$51,500	$53,045	$54,636	$56,275	$57,964	$59,703	$61,494	$63,339	$65,239	$67,196	$590,390
	x	3005B	Standard Project Signage							$30,000	2021-2023, 2030	$15,000	$6,867	$7,073	$7,285	$0	$0	$0	$0	$0	$13,048	$0	$34,272
	x	3005C	Local Student Engagement				Foundations		$3,500			$3,500	$3,605	$3,713	$3,825	$3,939	$4,057	$4,179	$4,305	$4,434	$4,567	$4,704	$41,327
		3006	**Interagency Communication**					**$0**	**$56,000**	**$75,000**		**$164,255**	**$134,930**	**$59,410**	**$61,193**	**$63,028**	**$64,919**	**$66,867**	**$68,873**	**$70,939**	**$73,067**	**$108,857**	**$772,084**
0.6 FTE annual cost	x	3006-4100	Staff Management & Coordination						$39,000			$38,055	$40,170	$41,375	$42,616	$43,895	$45,212	$46,568	$47,965	$49,404	$50,886	$52,413	$460,504
Engineer interag. Comm.	x	3006A	Ongoing Initiatives						$5,000			$0	$5,150	$5,305	$5,464	$5,628	$5,796	$5,970	$6,149	$6,334	$6,524	$6,720	$59,039
Forest LMD update, misc. model scenarios	x	3006B	Modeling		†Cost-efficiency, timely reaction, address TMDLs, participate in LSC 1W1P	Agencies/ municipalities/ other WDs and WMOs			$5,000	$75,000	2022	$75,000	$82,400	$5,305	$5,464	$5,628	$5,796	$5,970	$6,149	$6,334	$6,524	$6,720	$136,289
	x	3006C	Geographic Information Systems (GIS)				Esri Cons. Grant	[built into cost]	$2,000			$1,200	$2,060	$2,122	$2,185	$2,251	$2,319	$2,388	$2,460	$2,534	$2,610	$2,688	$23,616
	x	3006D	District Web Mapper						$5,000			$50,000	$5,150	$5,305	$5,464	$5,628	$5,796	$5,970	$6,149	$6,334	$6,524	$6,720	$59,039
In 2021, occurring under H&H Model Update		3006E	Boundary Review							$25,000	2021, 2031											$33,598	$33,598
		3007	**Research**					**$16,958**	**$16,500**	**$50,000**		**$97,335**	**$68,495**	**$17,505**	**$18,030**	**$18,571**	**$19,128**	**$19,702**	**$20,293**	**$20,902**	**$21,529**	**$22,175**	**$246,329**
0.1 FTE annual cost	x	3007-4100	Staff Management & Coordination		†One initiative per year, four updates to board/yr				$6,500			$7,335	$6,695	$6,896	$7,103	$7,316	$7,535	$7,761	$7,994	$8,234	$8,481	$8,735	$76,751
Half of L. Comfort/FL paleo cores in 2022	x	3007A	Ongoing Initiatives				Partners	$16,958	$10,000	$50,000	2022	$90,000	$61,800	$10,609	$10,927	$11,255	$11,593	$11,941	$12,299	$12,668	$13,048	$13,439	$169,578

Table 5-1. Implementation Costs, Schedule and Capital Improvement Plan Continued

Comments	High Priority	Implementation Initiatives	CIP	Summary of *Measurable Outcomes †Measurable Outputs	Potential Partners	Potential Additional Revenue Sources‡	Potential Additional Revenue‡	Annual Cost	One-Time/ Periodic Cost	Periodic Timeframe	COSTS 2021 Base	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	10-Year Total (2022-2031)
		PROJECTS					***$8,542,661***	***$284,500***	***$9,796,852***		***$1,478,915***	***$3,222,139***	***$2,115,154***	***$2,146,791***	***$783,524***	***$1,525,613***	***$1,008,964***	***$2,289,143***	***$1,684,405***	***$2,221,550***	***$581,260***	***$17,578,543***
		5000	**General Project Development**				**$0**	**$92,500**	**$1,425,000**		**$106,108**	**$245,275**	**$248,133**	**$251,077**	**$254,110**	**$257,233**	**$260,450**	**$263,763**	**$267,176**	**$270,692**	**$199,312**	**$2,517,221**
0.5 FTE annual cost	x	5000-4100	Staff Management & Coordination					$32,500			$31,108	$33,475	$34,479	$35,514	$36,579	$37,676	$38,807	$39,971	$41,170	$42,405	$43,677	$383,753
	x	5000A	General Project Development					$60,000				$61,800	$63,654	$65,564	$67,531	$69,556	$71,643	$73,792	$76,006	$78,286	$80,635	$708,468
First payment scheduled for 12/15/21	x	5000B	Loan Repayment						$1,425,000		$75,000	$150,000	$150,000	$150,000	$150,000	$150,000	$150,000	$150,000	$150,000	$150,000	$75,000	$1,425,000
		5100	**Floodplain**				**$500,000**	**$94,500**	**$50,000**		**$130,000**	**$97,335**	**$100,255**	**$103,263**	**$106,361**	**$159,551**	**$242,838**	**$266,223**	**$1,169,710**	**$773,301**	**$177,000**	**$3,195,837**
0.3 FTE annual cost	x	5100-4100	Staff Management & Coordination					$19,500			$0	$20,085	$20,688	$21,308	$21,947	$22,606	$23,284	$23,983	$24,702	$25,443	$26,206	$230,252
Vol. bank (3002B) & water storage goals	x	5120A	Volume Control Facility Implementation	YES	*99 AF vol, TBD ton/yr TSS	Cities, counties, WDs/WMOs	$500,000	$75,000			$80,000	$77,250	$79,568	$81,955	$84,413	$86,946	$89,554	$92,241	$95,008	$97,858	$100,794	$885,585
Implementation will occur in multiple categories	x	5120B	Greenway Corridor Visioning & Assessment		†Report				$50,000	2021	$50,000	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
	x	5120C	Floodplain Resiliency Implementation	YES	Up to 72 AF volume storage		State & Federal Grants									$50,000	$130,000	$150,000	$1,050,000	$650,000	$50,000	$2,080,000
		5200	**Lakes**				**$4,978,821**	**$58,500**	**$6,989,727**		**$1,135,818**	**$2,583,103**	**$1,617,533**	**$895,686**	**$266,608**	**$136,198**	**$351,644**	**$727,292**	**$134,777**	**$82,853**	**$85,339**	**$6,881,032**
0.9 FTE annual cost	x	5200-4100	Staff Management & Coordination					$58,500			$49,618	$60,255	$62,063	$63,925	$65,842	$67,818	$69,852	$71,948	$74,106	$76,329	$78,619	$690,756
169 lb/yr remaining to achieve 2031 goal	x	5221A	(Moody) Diagnostic Study Update		†Report				$15,000	2021, 27		$0	$0	$0	$0	$0	$17,911	$0	$0	$0	$0	$17,911
	x	5221B	(Moody) Diagnostic Study Update Implementation	YES							$5,000	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
69 lb/yr	x	5221C	(Moody) BL4: Wetland C Outlet Pond Treatment		*69 lb/yr phosphorus				$25,000	2022		$25,750	$0	$0	$0	$0	$0	$0	$0	$0	$0	$25,750
76 lb/yr	x	5221D	(Moody) BL3: Lofton Pond Treatment		*76 lb/yr phosphorus		CWF, 319	$43,709	$50,000	2024		$0	$0	$54,636	$0	$0	$0	$0	$0	$0	$0	$54,636
24 lb/yr	x	5221E	(Moody) SWA Implementation		*24 lb/yr phosphorus		FY19 CWF (split)	$72,000	$72,000	2021-2022		$37,080	$0	$0	$0	$0	$0	$0	$0	$0	$0	$37,080
Alum re-application in 2028-2029	x	5221F	(Moody) BL2: Internal Load Management		†Sediment core analysis	Chisago Lk Twp			$5,000	2028		$0	$0	$0	$0	$0	$0	$6,149	$0	$0	$0	$6,149
50 lb/yr remaining to achieve 2031 goal	x	5222A	(Bone) Diagnostic Study Update		†Report				$15,000	2021, 27		$0	$0	$0	$0	$0	$17,911	$0	$0	$0	$0	$17,911
	x	5222B	(Bone) Diagnostic Study Implementation	YES								$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
15 lb/yr	x	5222C	(Bone) BL9: NE Legacy Wetland Restoration	YES	*15 lb/yr phosphorus		CWF application	$171,200	$214,000	2021	$37,500	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
90 lb/yr	x	5222D	(Bone) SWA Implementation		*90 lb/yr phosphorus		FY19 CWF (split)	$72,000	$108,000	2021-2022	$10,000	$55,620	$0	$0	$0	$0	$0	$0	$0	$0	$0	$55,620
Targeting for non-phosphorus focus in 3004A		5222E	(Bone) BL1: Shoreline Restoration						$0			$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
323 lb/yr remaining to achieve 2031 goal	x	5223A	(Birch) LC4: Agricultural BMP Implementation				CREP, EQIP, 319	$4,120	$10,000	2021-2022		$5,150	$0	$0	$0	$0	$0	$0	$0	$0	$0	$5,150
0 lb/yr remaining to achieve 2031 goal	x	5224A	(School) LC3: Agricultural BMP Implementation				CREP, EQIP, 319	$30,900	$50,000	2021-2022		$38,625	$0	$0	$0	$0	$0	$0	$0	$0	$0	$38,625
366 lb/yr remaining to achieve 2031 goal	x	5225A	(Little Comfort) Diagnostic Study Update		†Report		CWF, 319	$27,932	$15,000	2023, 29		$0	$15,914	$0	$0	$0	$0	$0	$19,002	$0	$0	$34,915
	x	5225B	(Little Comfort) LC1/LC2: Diagnostic Study Implementation	YES								$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
168 lb/yr	x	5225C	(Little Comfort) LC2: Heath Ave Outlet Stormwater Mgmt.	YES	*168 lb/yr phosphorus		FY21 CWF application	$274,600	$1,000,000	2021-2023	$62,500	$515,000	$265,225	$0	$0	$0	$0	$0	$0	$0	$0	$780,225
391 lb/yr	x	5225D	(Little Comfort) LC1: Internal Load Management		*391 lb/yr phosphorus	Chisago City	FY21 CWF application	$80,000	$120,000	2022		$123,600	$0	$0	$0	$0	$0	$0	$0	$0	$0	$123,600
0 lb/yr remaining to achieve 2031 goal	x	5226A	(Shields) Diagnostic Study Update		†Report				$15,000	2022, 28		$15,450	$0	$0	$0	$0	$0	$0	$18,448	$0	$0	$33,898
	x	5226B	(Shields) FL9: Diagnostic Study Update Implementation	YES							$35,000	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Alum re-application in 2029-2030	x	5226C	(Shields) FL9: Internal Load Management		†Sediment core analysis				$5,000	2029		$0	$0	$0	$0	$0	$0	$0	$6,334	$0	$0	$6,334
Targeting for non-phosphorus focus in 3004A		5226D	(Shields) FL9: Shoreline Restoration									$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
0 lb/yr remaining to achieve 2031 goal	x	5227A	(Keewahtin) Diagnostic Study Update		†Report				$5,000	2022, 28		$5,150	$0	$0	$0	$0	$0	$0	$6,149	$0	$0	$11,299
	x	5227B	(Keewahtin) FL13: Diagnostic Study Implementation	YES								$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Targeting for non-phosphorus focus in 3004A		5227C	(Keewahtin) FL13: Shoreline Restoration									$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
155 lb/yr remaining to achieve 2031 goal	x	5228A	(Forest) Diagnostic Study Update		†Report				$15,000	2022, 28		$15,450	$0	$0	$0	$0	$0	$0	$18,448	$0	$0	$33,898
	x	5228B	(Forest) Diagnostic Study Update Implementation	YES							$81,200	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
85 lb/yr	x	5228C	(Forest) FL11: CR-50 Iron Enhanced Sand Filter	YES	*85 lb/yr phosphorus		FY20 CWF	$747,400	$934,250	2021-2022	$550,000	$721,708	$0	$0	$0	$0	$0	$0	$0	$0	$0	$721,708
40 lb/yr (estimate)	x	5228D	(Forest) FL10: WJD-6 Implementation	YES	*40 lb/yr phosphorus		CWF, 319, WBIF	$632,832	$750,000	2022-2023	$50,000	$154,500	$636,540	$0	$0	$0	$0	$0	$0	$0	$0	$791,040
46 lb/yr (incltop P/TSS reducing shoreline restos	x	5228E	(Forest) FL1-FL7: Direct Drainage Retrofit Implementation	YES	*46 lb/yr phosphorus	City of Forest Lake	CWF, 319, WBIF	$242,725	$381,208	2021-2024		$98,161	$101,106	$104,139	$0	$0	$0	$0	$0	$0	$0	$303,406
42 lb/yr (estimate)	x	5228F	(Forest) FL1-FL3: Internal Load Management		*42+ lb/yr phosphorus	City of Forest Lake	CWF, 319, WBIF	$430,725	$500,000	2023-2024		$0	$265,225	$273,182	$0	$0	$0	$0	$0	$0	$0	$538,407
Targeting for non-phosphorus focus in 3004A		5228G	(Forest) FL1-FL3: Shoreline Restoration			City of Forest Lake						$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
193 lb/yr remaining to achieve 2031 goal	x	5229A	(Comfort) Diagnostic Study Update		†Report				$15,000	2023, 29		$0	$15,914	$0	$0	$0	$0	$0	$19,002	$0	$0	$34,915
*2031 goal can be met thru L. Comfort 2031 goal	x	5229B	(Comfort) Diagnostic Study Update Implementation	YES							$5,000	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
87 lb/yr	x	5229C	(Comfort) CL4: Tax Forfeit Wetland Restoration	YES	*87 lb/yr phosphorus		FY20 CWF	$492,000	$615,000	2021-2022	$250,000	$527,875	$0	$0	$0	$0	$0	$0	$0	$0	$0	$527,875
*may not be needed to meet 2031 WQ goals	x	5229D	(Comfort) CL3: Shallow Pond Restoration	YES	*46 tons/yr TSS		CWF, 319, WBIF	$216,954	$250,000	2023-2024		$0	$66,306	$204,886	$0	$0	$0	$0	$0	$0	$0	$271,193
*may not be needed to meet 2031 WQ goals	x	5229E	(Comfort) CL7-CL8: Forest Lake Urban Retrofits	YES	*9.3 tons/yr TSS	City of Forest Lake	CWF, 319, WBIF	$614,923	$891,889	2021-2025		$183,729	$189,241	$194,918	$200,766	$0	$0	$0	$0	$0	$0	$768,654
Targeting for non-phosphorus focus in 3004A		5229F	(Comfort) CL1: Shoreline Restoration									$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
	x	5229G	(Comfort) CL1: East Comfort Pond	YES	2-4 lb/yr phosphorus	City of Wyoming	CWF, 319	$225,800	$248,380	2026-2027						$48,380	$200,000					$248,380
	x	5229H	(Comfort) CL8: Broadway Ave Iron Enhanced Sand Filter	YES	27-29 lb/yr phosphorus	City of Forest Lake	CWF, 319	$599,000	$660,000	2026-2029						$20,000	$40,000	$600,000	$10,000			$670,000
District-staff led		5299A	Secondary Lakes Water Quality Studies		†Reports				$5,000	2027-2031		$0	$0	$0	$0	$0	$5,970	$6,149	$6,334	$6,524	$6,720	$31,697
		5300	**Streams**				**$243,841**	**$19,500**	**$328,125**		**$6,036**	**$91,970**	**$117,937**	**$39,520**	**$134,498**	**$80,570**	**$23,284**	**$23,983**	**$24,702**	**$25,443**	**$26,206**	**$588,113**
0.3 FTE annual cost	x	5300-4100	Staff Management & Coordination					$19,500			$1,036	$20,085	$20,688	$21,308	$21,947	$22,606	$23,284	$23,983	$24,702	$25,443	$26,206	$230,252
Sediment, Habitat, Buffers	x	5320A	(District-wide) Stream Diagnostic Study		†Report				$50,000	2022-2024	$5,000	$17,167	$17,682	$18,212	$0	$0	$0	$0	$0	$0	$0	$53,060
	x	5340A	(Sunrise River) Diagnostic Study Implementation	YES	*0-19 tons/yr TSS		CWF, 319, WBIF, CPL	$90,041	$100,000	2025		$0	$0	$0	$112,551	$0	$0	$0	$0	$0	$0	$112,551
Includes School Lake outlet	x	5341A	(BBSLC Tributary) Diagnostic Study Implementation	YES	*10 tons/yr TSS, 60 lb/yr TP		CWF, 319, WBIF, CPL	$43,775	$53,125	2022		$54,719	$0	$0	$0	$0	$0	$0	$0	$0	$0	$54,719
From the WJD-6 Feasibility Study	x	5342A	(WJD-6) Diagnostic Study Implementation	YES	TBD		CWF, 319, WBIF, CPL	$63,654	$75,000	2023		$0	$79,568	$0	$0	$0	$0	$0	$0	$0	$0	$79,568
	x	5343A	(Meadowbrook Tributary) Diagnostic Study Implementation	YES	TBD		CWF, 319, WBIF, CPL	$46,371	$50,000	2026		$0	$0	$0	$0	$57,964	$0	$0	$0	$0	$0	$57,964
		5400	**Wetlands**				**$2,820,000**	**$13,000**	**$900,000**		**$75,435**	**$116,390**	**$13,792**	**$833,751**	**$14,632**	**$884,526**	**$122,987**	**$999,887**	**$79,807**	**$1,060,781**	**$84,667**	**$4,211,219**
0.2 FTE annual cost	x	5400-4100	Staff Management & Coordination					$13,000			$9,061	$13,390	$13,792	$14,205	$14,632	$15,071	$15,523	$15,988	$16,468	$16,962	$17,471	$153,501
Includes an update in 2027	x	5420A	Comprehensive Wetland Inventory		†Report				$100,000	2022, 2027		$103,000	$0	$0	$0	$0	$47,762	$0	$0	$0	$0	$150,762
94 acres of high priority restorations (4 sites)	x	5420B	Wetland Bank Implementation	YES	†94 acres (4 sites)		Banking credits	$2,820,000	$750,000	2024-2031		$0	$0	$819,545	$0	$869,456	$0	$922,405	$0	$978,580	$0	$3,589,986
Restos likely less intensive than past projects	x	5420C	Wetland Enhancements	YES	†680 acres				$50,000	2027-2031	$66,374	$0	$0	$0	$0	$0	$59,703	$61,494	$63,339	$65,239	$67,196	$316,969
		5500	**Upland Resources**				**$0**	**$0**	**$71,000**		**$5,000**	**$73,130**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$73,130**
0.01 FTE in one year		5500-4100	Staff Management & Coordination						$1,000	2022		$1,030	$0	$0	$0	$0	$0	$0	$0	$0	$0	$1,030
An add-on to the wetland inventory		5520A	Natural Resources Inventory and Prioritization		†Report				$70,000	2022	$5,000	$72,100	$0	$0	$0	$0	$0	$0	$0	$0	$0	$72,100
		5600	**Groundwater**				**$0**	**$6,500**	**$33,000**		**$20,518**	**$14,935**	**$17,505**	**$23,494**	**$7,316**	**$7,535**	**$7,761**	**$7,994**	**$8,234**	**$8,481**	**$8,735**	**$111,991**
0.1 FTE annual cost		5600-4100	Staff Management & Coordination					$6,500			$518	$6,695	$6,896	$7,103	$7,316	$7,535	$7,761	$7,994	$8,234	$8,481	$8,735	$76,751
		5620A	GW-Dependent Natural Resource Inventory and Review		†Report				$8,000	2022	$20,000	$8,240	$0	$0	$0	$0	$0	$0	$0	$0	$0	$8,240
		5620B	GW-Dependent Natural Resource Action Plan		†Report				$15,000	2024		$0	$0	$16,391	$0	$0	$0	$0	$0	$0	$0	$16,391
		5620C	Lake Groundwater-Surface Water Interaction Study		†Report				$10,000	2023		$0	$10,609	$0	$0	$0	$0	$0	$0	$0	$0	$10,609

‡Line items without potential additional revenues and revenue sources listed are expected to be funded by the District's ad valorem tax levy.