District of Highlands

2024 Asset Management Plan

November 2024

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Summary

This review updates the 2021 District of Highlands Asset Management Plan to incorporate newly acquired drainage inventory data, current pavement management information, current replacement cost values and integrates with the District's long-term financial plan.

> *"ASSET MANAGEMENT • Maintain assets in an appropriate state of repair • Optimize capital investments to meet public and economic needs while achieving value for the investment."*

The approach used for this plan continues to be based on the Asset Management British Columbia Framework. This framework was developed by Asset Management BC and establishes a high-level, systematic approach that supports local governments in moving toward service, asset and financial sustainability through an asset management process. The framework reflects current leading practices and aligns with internationally accepted approaches such as the *International Infrastructure Management Manual* and the *ISO 55000 Standard for Asset Management*.

The District has integrated asset management with its long term financial plan and consolidated asset records with tangible capital asset records into a single spreadsheet database. This database is updated each year to be consistent with accounting reporting requirements by adding new assets, identifying asset renewals, replacements and any assets decommissioned. This update fulfills the requirement to regularly update the District's asset management with current replacement costs, condition assessments, useful life estimates and financing targets.

<u>The next asset management plan update is expected in 2027.</u>

Current State of Assets

The District maintains reasonable levels of asset condition information ranging from formal groundwater monitoring, bridge condition engineering assessments, annual road top field inspections and culvert assessments during maintenance activities; to an informal annual assessment of equipment, playground structures and buildings by staff. Fire vehicles and equipment are maintained and inspected by the Fire Department.

District of Highlands Infrastructure Report Card		
Asset Group	**Rating**	**Comments**
Land	**B**	Good condition. No funding needed. Replacement not anticipated
Groundwater Aquifer	**B**	Reasonable natural condition based on Golder and Associates (now WSP) monitoring. No funding needed.
Roads	**C**	Reasonable condition. Significant funding increases are needed over next ten years.
Drainage	**C**	Significant portion in good to fair condition with replacement needed and deferred maintenance required. Some funding from reserves is available.
Bridges	**C**	Fair to Good condition based on Herold Engineering Assessment. Maintenance recommended. Funding increase needed.
Facilities	**B**	Good condition. Capacity constraints and funding increase is needed for municipal and community facilities.
Park Improvements	**C**	Reasonable condition. Some increase in funding will maintain rating.
Vehicles and Equipment	**B**	Reasonable condition. Some increase in funding will maintain rating.
Overall	**C**	**Increased funding needed.**

The 2024 report card overall assessment of 'C' reflects the impact of a significant increase in replacement costs which far exceeded inflation and the previously planned increase in funding. Road top conditions have improved as work continues to implement Pavement Management System recommendations although failures in the Ross Durrance and Millstream Lake Roads areas have been experienced. Culverts, dry hydrants and tanks have now been individually identified and assessed, with many in poor condition. The level of annual funding needed has increased substantially and significant funding increases continue to be needed to reach this level, maintain assets in good overall condition and catch up on replacement.

Asset Management Strategy

The District is in reasonable financial position and has the staff capacity to undertake moderate asset management as an ongoing corporate function, supplemented with contract resources from time to time.

The District's infrastructure is in generally good condition overall and funding of a moderate proportion of average annual replacement needs is provided. Improved drainage information was gathered in 2023 and 2024, and the pavement management system was updated from field inspections. This new information has been incorporated in this Asset Management Plan with 2024 budget information and updated asset replacement cost valuations.

Asset	Estimated Asset Life	Replacement Value	Average Annual Replacement	Current Funding Level
Land	Indefinite	$ 149 Million	$ Not required	$ Not required
Groundwater Aquifer	Indefinite	$ 69 Million	$ Not required	$ Not required
Roads	15 to 80 Years	$ 87 Million	$ 707,000	$ 320,000
Drainage	35 years	$ 7 Million	$ 199,000	$ 105,000
Bridges	50 to 75 Years	$ 4 Million	$ 86,000	$ 15,000
Facilities	50 plus Years	$ 10 Million	$ 349,000	$ 185,000
Parks Improvements	25 to 75 Years	$ 1 Million	$ 26,000	$ 12,000
Vehicles & Equipment	Varies	$ 7 Million	$ 247,000	$ 184,000
Total		$ 334 Million	$ 1,614,000	$ 821,000

The District is currently funding 51% of average annual replacement needs from property tax revenues in 2024. This reduction from 75% in 2021 is due to the significant increase in asset replacement costs experienced over the last 4 years and the expected bulge in road paving costs in the near term.

Focus for the next Five Years

For the next five years the asset management program is recommended to focus on:

1. Increasing pavement management program funding toward the goal of $500,000 per year by 2033.
2. Establishing a ten year culvert replacement program and completing deferred maintenance.
3. Increasing drainage (culvert) replacement funding to $199,000 per year by 2033.
4. Increasing bridge replacement funding to $86,000 per year by 2033.
5. Increasing facility replacement funding for community and municipal buildings.
6. Facility space planning and major component replacement.
7. Planned Fire funding increases and the replacement of fire apparatus and equipment.

Roadmap to Sustainable Infrastructure Funding

The District's Long Term Financial Plan and Asset Management Policy currently project a continued annual increase in asset replacement funding of $26,000 which is equivalent to a minimum of 1% of property tax impact or $23 to the average homeowner in the District of Highlands.

However, Annual Asset Replacement Funding needs have increased from $821,000 to $1,614,000 per year. Given this rapid change in asset replacement cost the plan to increase asset replacement funding by a 1% average homeowner impact per year will no longer be able to sustain replacement.

This policy approach is recommended to increase to a minimum of 2% impact ($46) or $52,000 per year to reach average annual replacement funding in fifteen years. The majority of this increase will be allocated to road pavement ($35,000) and culvert replacement ($10,000) with the balance between buildings and equipment. Canada Community Building, LGCAP and Growing Communities funding continues to be available to fund road and drainage works if approved by Council.

Spending, Reserves and Debt Forecasts

The District's asset management plan spending over the next five years will focus on road top, culvert, fire vehicles and equipment replacement.

Reserves are forecast to continue to slowly accumulate and will be supplemented from year to year as finances allow.

While it is unlikely that fully sustainable funding levels will be achieved in the near term, this means that if a major asset requires replacement the funding gap for that asset class will need to be supplemented either through the use of debt financing, provincial/federal grant assistance or a reallocation of other lesser priority reserves.

2024 to 2028 Reserves Scorecard

	Policy Target		Actual	Forecast	Forecast	Forecast	Forecast	Forecast	Status	Status
	Minimum	Preferred	2023	2024	2025	2026	2027	2028	2024	2028
WORKING CAPITAL										
Operating (Accumulated) Surplus	3 Month Revenue $970,000	6 Month Revenue $1,940,000	**$1,665,900**	**$1,732,500**	**$1,801,800**	**$1,873,900**	**$1,948,800**	**$2,026,800**	Good	Good
GENERAL FUND (Reserve Accounts)										
Financial Stabilization Reserve	1 Month Revenue $300,000	2 Month Revenue $625,000	646,000	637,800	693,300	636,000	606,500	575,700	Good	Good
Community Climate Resiliency	$100,000	$100,000	67,300	129,000	144,100	164,900	191,500	224,200	Good	Good
Winter Weather Contingency Reserve	Min $125,000	$175,000	132,400	137,700	158,200	179,600	186,800	194,200	Good	Good
West Shore Parks and Recreation Reserve	No Minimum	As Received	-	-	23,300	47,500	72,700	98,900	n/a	n/a
COVID19 Safe Restart	No Minimum	As Received	548,200	147,200	57,200	57,200	57,200	57,200	n/a	n/a
GENERAL FUND (Shared Reserves)										
West Shore Parks and Recreation Reserve(Society Share)	No Minimum	As Received	49,000	49,000	72,300	95,600	118,900	142,200	n/a	n/a
Library Major Asset Maintenance (GVPL)	No Minimum	As Received	19,500	22,500	25,500	28,500	31,500	34,500	n/a	n/a
RESERVE FUND (Statutory Reserves)										
Canada Community Building Fund	No Minimum	As Received	501,300	676,400	876,400	1,084,500	1,150,900	1,219,900	Good	Good
Growing Communities Fund	No Minimum	As Received	1,121,800	1,041,600	933,300	820,600	853,500	887,600	Good	Good
Fire Buildings, Vehicles and Equipment Replacement	Min $150,000	Per AMP	1,386,300	1,691,000	1,065,500	1,324,300	1,703,100	807,700	Good	Good
Municipal Buildings, Vehicles and Equipment Replacement	Min $150,000	Per AMP	355,700	379,900	405,100	431,300	460,600	492,000	Low	Low
Heritage Structures	No Minimum	Per AMP	55,900	69,100	82,900	98,200	115,200	134,800	Good	Good
Community Hall Replacement	Min $150,000	Per AMP	162,300	186,800	212,200	241,700	275,400	313,400	Low	Low
Park Facilities Replacement	Min $150,000	Per AMP	124,700	145,700	167,500	192,200	219,900	250,700	Low	Low
Road Replacement	Min $300,000	Per AMP	1,204,200	1,061,700	948,500	836,400	870,200	915,000	Good	Good
Bridge Replacement	Min $150,000	Per AMP	68,000	85,700	104,100	126,300	154,800	185,000	Low	Low
Groundwater and Drainage Replacement	Min $200,000	Per AMP	306,800	370,000	444,800	532,600	488,600	523,200	Low	Low
General Capital	Min $150,000	$300,000	296,400	328,200	331,400	364,600	401,200	439,200	Good	Good
Parkland Acquisition and Development	No Minimum	As Received	41,500	55,100	69,300	86,100	105,500	127,800	n/a	n/a
Land Sale	No Minimum	As Received	100	100	100	100	100	100	n/a	n/a
TOTAL RESERVES			**$7,087,400**	**$7,214,500**	**$6,815,000**	**$7,348,200**	**$8,064,100**	**$7,623,300**		

Natural Assets - Land

Component	Estimated Asset Life	Value at Current Replacement Cost	Average Annual Replacement Cost
Land	Indefinite	$ 149 Million	$ n/a

The District owns and maintains many parks, green spaces, roadways and civic lands for fire, municipal and community heritage purposes. The District owns over 46 kilometers of land under roads and 8 hectares (21 acres) of land under community facilities such as the Community Hall, East and West Fire Halls and the Municipal Hall. An additional 168 hectares (416 acres) of land is held as parks and trails.

Land assets do not usually need to be replaced or substantially repaired, assuming that they are well maintained. As a result, no infrastructure replacement costs related to land are contemplated in this Plan, however funds are spent each year on the maintenance of land, which is incorporated in the District's operating budget and supplemented by volunteer efforts from time to time.

Land Assets Detailed Rating		
Condition and Performance	B	**B**
Capacity vs. Need	A	
Funding vs. Need	A	

The current land inventory is in generally good natural condition, performs to community standards and is sufficient for community needs.

No land related contaminated site obligations or significant asset retirement obligations have been disclosed in the District's Audited Financial Statements in accordance with PSAAB Standard 3260 and 3280.

The District's primary municipal park is Twinflower Park, which has a tot lot playground, washrooms, a non-regulation size ball field, a bicycle jump and a horse-riding ring.

Eagles Lake Park features a small swimming beach and picnic area, and Hazlitt Creek Park is a 32 hectare (80 acre) nature park. Hazlitt Creek flows though the ravine and has some rough trails that provide access to the water. There is a wide easement trail that eventually leads to private property. The Park area is not maintained.

Bordered by private property and Gowland-Tod Provincial Park, Cal Revelle Nature Sanctuary is a 69 hectare (170 acre) natural area that abuts the Gowland-Tod Provincial Park to the west and northwest. Named after a former councilor of the Highlands, it includes Garry Oak, Douglas Fir, Arbutus and meadow lands. The area has old logging trails from the activity of early settlers. The Park area is not maintained other than occasional volunteer-based safety maintenance.

Caleb Pike Homestead is a 1 hectare (3 acre) heritage homestead site with several heritage buildings. Miscellaneous park maintenance is organized by the District through a management agreement with the Highland Heritage Park Society.

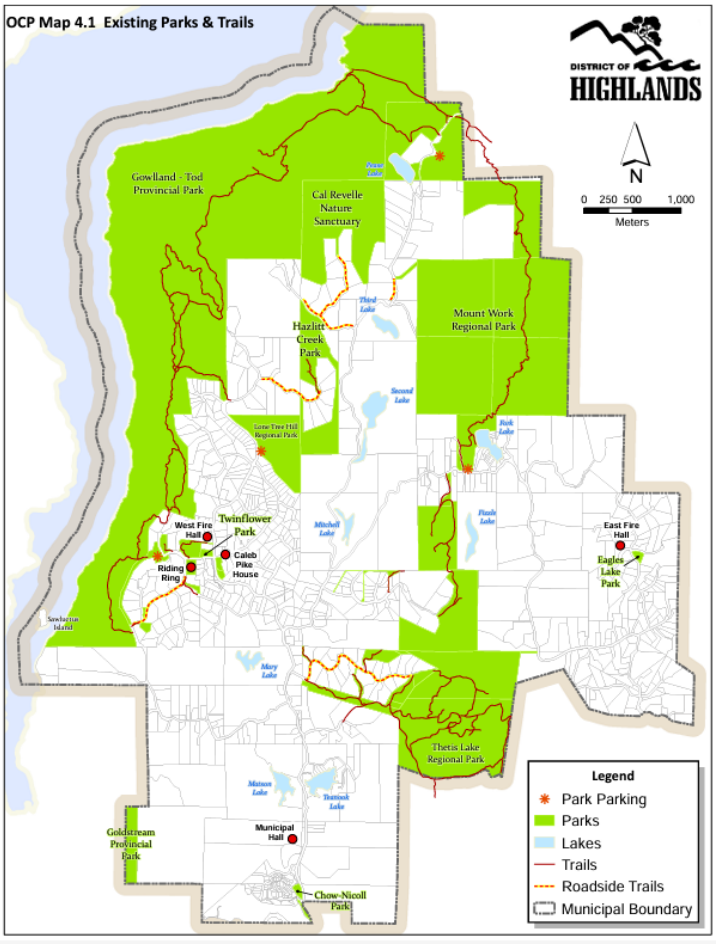
1150 Bear Mountain Parkway is a covenanted natural area and unformalized trail system. Adjacent to it is Chow Nicol Park. Together they comprise 23 hectares (56 acres).

An unnamed 8 hectare (21 acre) natural park area with trails is adjacent to Thetis Lake Park,

There are also a variety of other small park access points, trails, land holdings and neighborhood park areas.

The park lands and trails are generally in natural condition with no known significant defects. Most remain in a natural state with no formal maintenance work.

Additional land inventory is acquired from time to time as community priorities are identified and as modest development activities involve the dedication of road, trail or other land to the municipality.



In 2021 a trail at Mary's Place was constructed and 0.5 hectare or about 1 acre of land dedicated as Park.

Focus for next five years

Land assets generally do not require significant reinvestment. Park and community land replacement values have been broadly estimated for the purposes for this report using an average of $315,000 per acre.

Land under roads has not been valued due to the significant restrictions that are placed on the land as a public and utility right of way.

1. No specific reinvestment is required.
2. Continue volunteer-based maintenance focus.

Natural Assets - Groundwater Aquifer

Component	Estimated Asset Life	Value at current replacement cost	Average Annual Replacement Cost
Wark -Colquitz Aquifer	Indefinite	$ 69 Million	Not required if sustainably managed

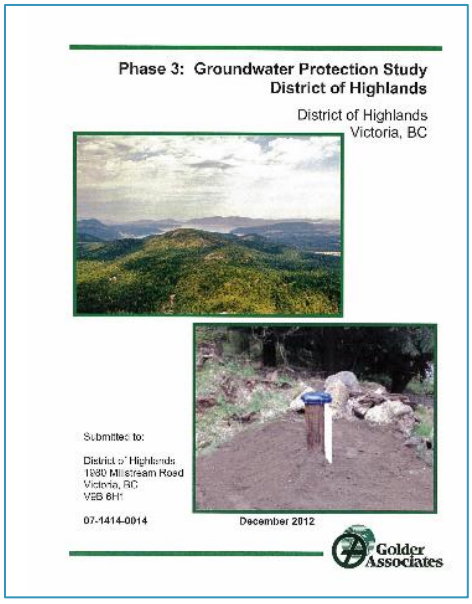
The District's domestic water is primarily dependent on privately owned drilled wells supplied by the Wark-Colquitz Aquifer. (Aquifer No 680 BC Ministry of Environment). This is a class IB Aquifer under the BC Aquifer system which indicates high demand relative to moderate aquifer productivity and moderate vulnerability of the aquifer to contamination from surface sources. (WSP 2023)

The majority of the residential population obtains domestic water from private, individual water wells. A small number of individual residences obtain potable water from local streams and lakes under surface water licenses. The Province of British Columbia has primary jurisdiction and regulates through the Water Sustainability Act, Water Sustainability Regulation and Groundwater Protection Regulation.

Groundwater Natural Asset Detailed Rating		
Condition and Performance	B	**B**
Capacity vs. Need	B	
Funding vs. Need	B	

The groundwater aquifer is in generally good condition, performs to community standards and is sufficient for current community needs based on the most recent WSP assessment.

The District is committed to the sustainable management of this natural resource and has established an effective monitoring and reporting regime. Awareness and education work continues. Highlands Bylaw 154 regulates the subdivision or development of land to reflect this commitment. WSP (previously Golder and Associates) has conducted groundwater level monitoring in the Highlands since 2009.



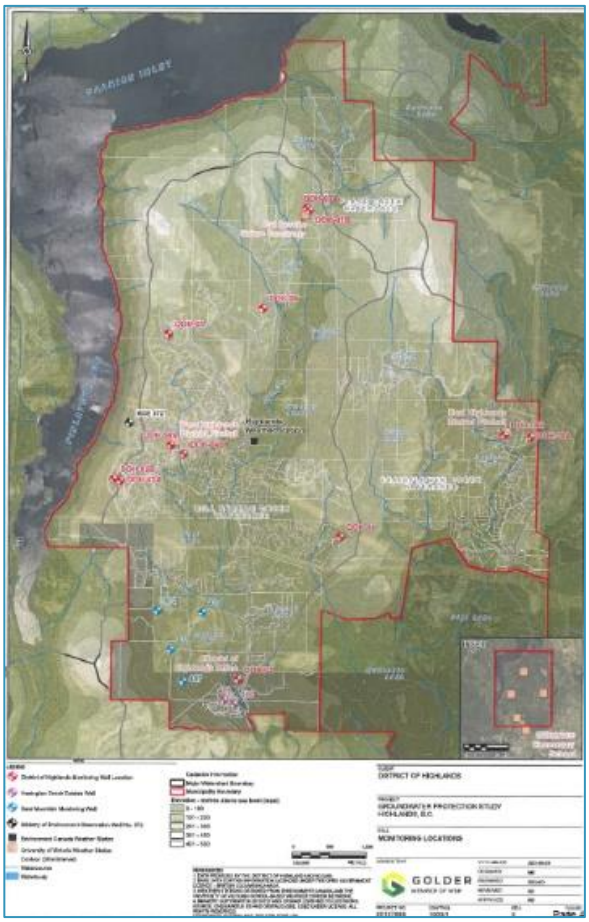
The most recent 2024 WSP Monitoring Report indicates that results from the 2022 groundwater monitoring program were again generally consistent with the seasonal patterns reported for previous years. In 2022, precipitation during the late summer to fall months (August through mid-October) was less than the precipitation observed for this period in previous years monitored; however, groundwater levels were observed to recover following onset of seasonal precipitation in the fall of 2022, similar to previous years.

WSP recommends that the groundwater monitoring program continue to assess seasonal patterns and long-term trends in groundwater levels across the Highlands and that additional transducers be deployed to improve monitoring.

The substitute cost used to value the aquifer for asset management purposes is the approximate cost of replacing the existing well system with a municipal piped water system using CRD Water, assumed to be supplied at Millstream Road at the south boundary of Highlands if the District's private onsite well system is rendered unsuitable for individual lot domestic use.

A 'new' community piped system is estimated to require a minimum of 2 pump stations, 5 pressure reducing stations, two reservoirs, and water supply/distribution mains on essentially all of the District's existing road system (46.5 km's), plus supply lines to the reservoir sites and , the land cost of the reservoirs sites. This does not include the individual personal cost to homeowners of installing water services on private property.

<u>Funding for replacement with a piped water system is not required if groundwater natural capacity is sustainably managed.</u>



Focus for the next five years

Monitoring, demand management and climate change adaptation are suggested as the keys to effective management of this natural asset and avoidance of the cost to replace it with an engineered system.

1. No specific reinvestment for replacement, modest investment in monitoring capacity.
2. Continue monitoring and assessment program with WSP.
3. Proactively manage demand and quality control through education, awareness, policy and regulation. Implement groundwater protection measures.
4. Report out on groundwater natural asset conditions via annual community reports.

Built Assets - Roads

Component	Kilometers	Estimated Asset Life	Value at current replacement cost	Average Annual Replacement Cost
Local	27.4	25 - 30 Years	$ 13 Million	
Collector	7.7	20 - 25 Years	$ 6 Million	
Major	11.2	15 – 20 Years	$ 10 Million	$707,000
Road Base		75 Years	$ 58 Million	$Nominal
Total	46.3		$ 87 Million	$707,000
Percent of Sustainable Target Funded Annually			46%	$320,000

The District's road system is comprised of 46 kilometers of major, collector and local level roads in a rural environment valued at a current replacement cost of $87.3 million dollars for road base and road top. Millstream Lake Road and Ross-Durrance Road were added to the District's Heritage Register in 2013 as a 6.7 kilometer Transportation Act Section 42 road of heritage significance.

Road base generally does not require replacement. Road base renewal usually occurs when other underground works or development improvements are being built. The optimal replacement frequency of road top is managed through a Pavement Management Plan supplemented by regular field inspections. Road top generally has a service life of 25 years for local roads.

The road system has an overall C rating. Road top is generally in good condition with some minor defects and deterioration present in specific locations. However, with the increased cost to replace road top and the bulge in replacement expected in the near term the rating for road top has changed from a 'B' to 'C' level of funding and this has impacted on the overall rating.

Road Base Detailed Rating		
Condition and Performance	B	**C**
Capacity vs. Need	B	
Funding vs. Need	C	

Road base is in good condition with the exception of an area of Ross Durrance and Millstream Lake Roads where road base information is minimal. Significantly Increased funding is needed for pavement management to continue protecting the base indefinitely. Shoulders have begun to need higher levels of maintenance due to an increase in traffic and storm damage caused by excessive water from storm intensity on the roadways.

Since 2016 two slope failures have occurred in the Ross Durrance/Millstream Lake Road area of corduroy road construction, indicating a possible deterioration in the road base. The most recent was discovered in 2024 and estimated to cost between $150,000 and $200,000 to repair in 2025. Proactively rebuilding of road base in this area is not practical or financially feasible for a municipality of the District's size.

Repairs will be made reactively as conditions require or as failures occur. This will impact on the level of funding available for paving in the year that repairs occur.

Road Top Detailed Rating		
Condition and Performance	B	**C**
Capacity vs. Need	B	
Funding vs. Need	D	

The District established a Pavement Management System in 2018. At that time, the District's pavement was evaluated in good condition with an overall PCI of 88. This is now updated by annual field inspections to assess road top condition.

Through a combination of crack sealing, pothole patching, shouldering and paving, the District can maintain the majority of this road base without significant replacement cost on an indefinite basis. This is a sound reinvestment strategy.

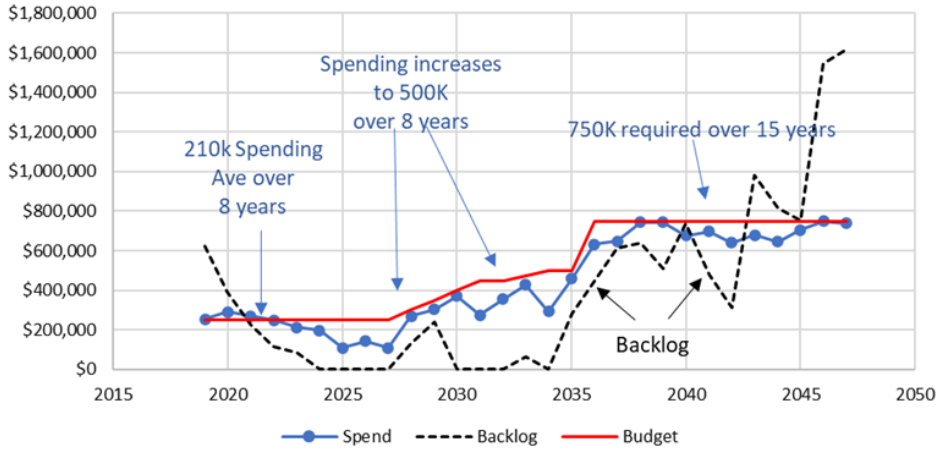
The District has focused on recent maintenance work on Millstream Road, Munn Road, Bukin Road East, Lorimer Road, Raven Heights and Finlayson Arm Road.

Between 1998 and 2002, almost 50% (23 of 46 kilometers) of the District's roads were paved or overlaid with hot machine asphalt concrete. This included all the collector and local class A roads.

This means a significant 'bulge' in repaving and surfacing costs can be expected as this group of pavements ages out over the next fifteen year period.

With this in mind, the Pavement Management Plan recommends a continued increase in ongoing annual pavement maintenance from $320,000 to $500,000 by 2033 with a further increase to $700,000 per year during the height of the road top replacement cycle.

Figure One
District of Highlands - Pavement Managment Program
Recommended Budget Envelope



The Pavement Management Plan also notes that some of the existing roads do not have any ditches or storm drainage such as curbs or catch basins.

In most cases, road drainage infiltrates areas adjacent to the road surfaces, however there are many sections, particularly on the upstream side of roads with long sustained gradients, where no ditches have been provided, where the road drainage is trapped and travels along the road for a considerable distance. This often erodes and/or undermines the shoulder and road base, resulting in uneven shoulders and threatening the integrity of the road surface.

A higher level of shouldering maintenance work was implemented since 2022 to help maintain road shoulders in good condition and protect the road base.

Focus for the next five years

1. Maintain adequate operational funding for cracksealing, pothole repairs, shouldering and drainage maintenance and focus on the next areas recommended in the Pavement Management Plan. Sections of Ross Durrance Road, Highlands Park Terrace, Millstream Road, Caleb Pike Road, Lorimer Road, Munn Road and White Pine Terrace.
2. Increase property tax funded paving program from $320,000 toward goal of $500,000 per year by 2033.
3. Monitor and repair slope failures in Ross Durrance and Millstream Lake Road areas as they occur.
4. Continue to update the Pavement Management Plan with field inspections annually.
5. Update Pavement Management Plan PCI ratings in 2029

Built Assets - Drainage

Component	Estimated Asset Life	Value at current replacement cost	Average Annual Replacement
Culverts	25 to 50 Years	$ 7 Million	$ 199,000 needed
Percent of Sustainable Target Funded Annually		75%	$ 105,000

The District's has 252 culverts at various road locations throughout the municipality with a replacement cost of $6.6 million dollars. The culverts are constructed from corrugated steel pipe, plastic or concrete, range in size from 200mm to 2000mm and are installed between 1 and 4.5 meters deep. The year of construction, condition and remaining service life for each culvert has now been estimated.

Culverts Detailed Rating		
Condition and Performance	C	**B**
Capacity vs. Need	B	
Funding vs. Need	B	

Half (46%) of the culverts are in very good condition, a small number are in fair condition but 50% are in very poor condition. Replacement of 110 of these culverts is very likely over the next five to ten years.

Given the number of existing culverts that are significantly through their service life and in poor condition a robust replacement program to replace them all, worst first, over the next ten years is required.

Proactively replacing them prior to failure reduces the chance of replacement on an emergency basis, which can add significantly to the cost and inconvenience the public with unscheduled road closures.

The new replacement culverts will last 50 years on average with modest maintenance; once the initial replacement program is completed the annual cost can be significantly reduced to keep the replacement program sustainable.

Culverts will be assessed from a climate perspective each time a replacement is planned and will continue to be upsized as required by the Province of British Columbia.

Rusted steel culvert removed from existing creek bed and replaced with new concrete box culverts. 2023

Focus for the next five years

1. Establish a ten year culvert replacement program funded from Canada Community Building Fund, LGCAP and Growing Communities Fund Reserves.
2. Increase property tax funding for culvert replacement to a minimum of $199,000 per year.
3. Complete the deferred maintenance program.
4. Continue to field assess culverts annually.

Concrete box culvert installation @ Twin Flower Park. 2023

Built Assets - Bridges

Component	Estimated Asset Life	Value at current replacement cost	Average Annual Replacement
Bridges	75 Years	$ 4 Million	$86,000 needed
Percent of Sustainable Target Funded Annually		21%	$15,000 in place

The District operates four small bridges (Bellamy, Corry, Edwards and Hanington) valued at a current replacement cost of $3.7 million with an average annual investment of approximately $86,000 required to replace them on a lifecycle basis.

Bridge Assets Detailed Rating		
Condition and Performance	B	**C**
Capacity vs. Need	A	
Funding vs. Need	D	

Bridges are in good to fair condition based on the 2024 Herold Engineering assessment, apart from Hanington Bridge which is in fair to poor condition due to sealant deterioration and mortar debonding and Corry Bridge due to significant undermining of abutment footings. No significant structural deficiencies of immediate concern were noted during the assessment.

Replacement of the first of the bridges is at least fifty years into the future, leaving significant time to accumulate funding.

Expansion of the structures in the interim is not expected.

They are approximately 35% through service life.

Focus for the next five years

1. Complete the structural and maintenance repairs recommended by Herold Engineering in 2025.
2. Increase annual asset replacement funding to $86,000 per year over the next five years.
3. Continue to assess bridges on a bi-annual basis as required for safety and insurance purposes.

Built Assets - Facilities

Component	Estimated Asset Life	Value at current replacement cost	Average Annual Replacement Cost
Municipal	70 years	$ <1 Million	$ 32,000
Fire Rescue	70 years	$ 6 Million	$ 197,000
Heritage	Undefined	$ <1 Million	$ 12,000
Community	70 years	$ 3 Million	$ 108,000
Total		$ 10 Million	$ 349,000
Percent of Sustainable Target Funded Annually		53%	$ 185,000 in place

The District's facilities support local government business, fire rescue operations, heritage and community activities. They serve as a base for fire rescue response, storage for records, historic documents, and specialized vehicles/equipment. They provide for recreation, community-based activities and a regional cultural identity:

- Municipal (District Office).
- Fire Rescue (East and West Fire Halls).
- Heritage (Caleb Pike Dairy, Schoolhouse, Teacherage, Museum, Caretakers Residence).
- Community Users (Community Hall and Garden).

Facilities are broadly valued at a current replacement cost of $10.3 million based on the most recent insurance valuation and local construction and comparative cost information. Given the community commitment to volunteerism, heritage buildings are assumed to be replaced with a combination of contracted resources and community volunteer effort and modest replacement funding is identified.

No facilities have been added since the last plan update. Major building repair and maintenance is managed on an ad hoc basis through the operating budget. An insurance policy is maintained to assist with the cost to repair/replace in the event of accidental damage.

Facilities - Detailed Rating		
Condition and Performance	B	B
Capacity vs. Need	B	
Funding vs. Need	C	

Buildings have an overall B rating. This is a combined rating reflective of the mixture of individual building conditions, the unique nature of the uses and modest funding approach.

The District Office was built in 2000 and is in good general condition. Major component maintenance is required. The need for additional space capacity has been identified and a space planning exercise is under way.

The West Fire Hall is twenty years old and in good condition. The East Fire Hall was constructed in 2015 and is in good condition. A funding plan is in place for both replacements.

The Caleb Pike Homestead site is in good condition given its vintage.

The structures continue to be maintained in a manner respectful of their heritage nature.

The Community Hall was constructed in 2014 and is in good condition.

Major component replacement is needed over the next five years. Modest funding for replacement has been identified.

Building maintenance and repair funding is required to ensure that full building lifecycles are achieved. A modest General Capital Reserve contribution of $20,000 per year is used to fund building major component replacements such as plumbing, HVAC and siding.

Fire buildings are fully funded. Additional funding for community and municipal buildings is needed.

Focus for the next five years

1. Assess space capacity needs
2. Continue to increase replacement funding for community and municipal buildings toward sustainable level.
3. Complete major component replacements over next five years

Built Assets - Park Improvements

Component	Estimated Asset Life	Value at current replacement cost	Average Annual Replacement Cost
Sport Fields	25 years	$ 0.6 Million	$ 18,000
Playgrounds	30 Years	$ 0.1 Million	$ 1,000
Washrooms	75 years	$ 0.1 Million	$ 2,000
Parking Areas and Other	50 years	$ 0.3 Million	$ 4,000
Trails	TBD	$ 0.1 Million	$ 1,000
Total		$ 1.2 Million	$ 26,000
Percent of Sustainable Target Funded Annually		46%	$ 12,000 in place

Parks improvements are valued at a current replacement cost of $1.2 million with an average annual investment of approximately $26,000 required to support renewal by volunteer groups.

The District's primary active municipal park is Twinflower Park, which has a tot-lot, playground, washrooms and a pumphouse, a non-regulation size ball field, a bicycle jump and a horse-riding ring.

The other primary active recreation park is Eagles Lake which features a small swimming beach and picnic area. One of the unique features of the lake is a cob washroom with a composting toilet which was built by volunteers. The washrooms feature the building techniques used in cob construction and a living roof.

Park Improvements - Detailed Rating		
Condition and Performance	B	**C**
Capacity vs. Need	B	
Funding vs. Need	D	

Park improvements are in good and/or natural state condition and require little priority work. Replacement of some ageing amenities and access will improve condition ratings over time. Significant community volunteer effort has contributed to the development of many park improvements, and this is assumed to continue.

- The Twinflower sport field is in good condition. For purposes of this plan, field maintenance work is assumed to be provided by community volunteer effort.
- The Twinflower Park tot lot playground, bicycle jump, and riding ring are in reasonable condition.
- The Twinflower Park washroom and cob washroom at Eagle Lake are both in good condition.
- Parking areas are in good general condition.
- Most trails are in natural state condition. No significant trail maintenance is funded. Trail work, if any, is community based.

Focus for the next five years

1. Twinflower riding ring base and park septic field will need to be assessed.
2. Continue to increase replacement funding toward target of $26,000 per year.

Built Assets - Vehicles and Equipment

Component	Estimated Asset Life	Value at current replacement cost	Average Annual Replacement Cost
Fire Vehicles	20-25 Years	$ 5 Million	$ 180,000
General Vehicles	15 years	$ >1 Million	$ 7,000
Fire Equipment	Varies	$ 2 Million	$ 44,000
General Equipment	Varies	$ >1 Million	$ 16,000
Total		$ 7 Million	$ 247,000
Percent of Sustainable Target Funded Annually		74%	$ 184,000 in place

The District operates fire apparatus for public safety use and a pickup truck for general administrative use. A variety of fire turn out gear, self-contained breathing apparatus and hose equipment is also maintained. Furniture, technology and other small equipment is used in several locations. Access gates, dry hydrants, storage tanks and signs are included in this category.

Vehicles and Equipment have an overall B rating reflective of the condition mixture of vehicle fleet, information technology and other equipment. Replacement of the Fire Fleet has been modified in 2024 to reflect a change in firefighting philosophy that requires smaller more flexible vehicles for response.

Detailed Rating		
Condition and Performance	B	B
Capacity vs. Need	B	
Funding vs. Need	C	

Fleet vehicles are in reasonable condition and a full funding plan is in place for the existing Fire fleet and the equipment located on the vehicles.

75% are rated in good or very good condition and 23% rated in fair condition. Fire Turnout Gear, SCBA and Hose is replaced on a regular cycle with funding from the fire operations and capital budgets. Information technology, furniture and access gates are replaced on an as needed basis as funding allows. The cost to replace fire vehicles and equipment has substantially increased since 2021.

Individual dry hydrants and storage tanks were identified, assessed and valued at $1.2 million in 2024. The dry hydrants vary in replacement cost between $35,000 and $60,000 and storage tanks range between $7,500 and $80,000. Several have reached end of service life and will be considered for replacement as they begin to leak or fail. The first of these is the double tank on Munn Road.

Focus for the next five years

1. Replace Fire fleet and equipment as planned.
2. Begin replacement of dry hydrants and storage tanks starting with Munn Road double tank.
3. Continue to refine inventory data, replacement values, useful life and condition assessments each year.

Appendices

Appendix 1 - Constraints, Limitations and Assumptions

1. Cost Estimates:
   - The District's Tangible Capital Assets Inventory has been used as the base for this plan. This inventory was assumed to be materially complete.
   - The District's replacement cost estimates and useful life estimates have been used. These are assumed to be substantially current for the purposes of this plan.
   - The District's replacement cost estimates have been supplemented with insurance valuation information, engineering bridge replacement estimates and local comparative road paving, road base and culvert cost information where available.
   - Water infrastructure construction cost escalation factor of 40% used for increase since 2021.
   - A general inflationary factor of 2% has been used to forecast post 2024 future replacement costs.

2. Replacement of existing capital only:
   This report does not model anticipated growth in infrastructure requirements. Forecasts are based on the replacement of existing municipal infrastructure only.

3. District-owned assets only:
   This report examined capital owned by the District only. It does not consider the replacement of capital owned by other organizations, even in the case where the District contributed funding for construction.

4. Degree of accuracy:
   Many variables can significantly change forecasted values, including:
   - degree of actual cost escalation experienced,
   - local conditions that impact useful life,
   - current and future Council tolerance for risk and preferred capital service levels,
   - data errors,
   - future economic events and conditions,
   - new senior government regulation, and
   - changing community expectations.

5. Capital grants:
   Forecasts do not include any potential conditional grants awarded by senior levels of government. Historically, senior governments have not offered many capital grants for the replacement of existing infrastructure. However, forecasts do include ongoing unconditional Canada Community Build payments.

6. Play structure components:
   Twinflower park contains several components. Each component has a different useful life and condition. Play structure replacement was simplified by thumbnailing useful lives and forecasted replacement years.

7. Building components:
   The cost to replace building components and the timing of replacement is based on rule of thumb projections using current building cost information and comparative buildings. Detailed individual building component condition assessments have not been conducted for the purposes of this forecast.

8. Parkland assessed values:
   Parkland is assessed and valued using a broad average value of $315,000 per acre which is a conservative average value derived from assessment records.

9. Culvert forecasts**:**
   The District has recently refined the inventory and assessed culverts. Dates of construction and remaining service life estimates have been made based on available data and field inspections.

10. Infrastructure replacement standards:
    Forecasts are prepared on the assumption that infrastructure will be replaced at the same standard that it currently exists.

11. Council decision making:
    The variable with the most impact on financial modelling contained in this report is Council decision making. Council determines funding levels, infrastructure replacement pace, and capital service levels.

Appendix 2 - Sources of Information

The following sources of information were used to construct the Plan:

- Highlands Tangible Capital Asset Inventory (working database)
- Highlands Pavement Management Plan Update, field assessments and cost estimates
- Highlands Culvert field inspection assessment notes and cost estimates
- Fire Department internal buildings and equipment replacement plan
- Engineering consultants field inspection records and condition assessments
- Herold Engineering bridge assessment report
- WSP and Associates groundwater level monitoring reports
- Asset Management for Sustainable Service Delivery, Asset Management BC, 2019
- District of Highlands Asset Management Policy, Reserves Policy, Taxation Policy

Appendix 3 – Basis for Condition Assessment

Since it is unrealistic to scientifically rate every asset for a high-level Infrastructure Condition Report, a modified American Society of Civil Engineers (ASCE) alphanumeric system was employed for each asset component grouping based on the method originally developed by the City of Hamilton. Assets are evaluated on a simplified component-by-component basis. Although every rating system is subjective, this process improves accuracy since it incorporated the anecdotal knowledge of the employees with respect to the assets.

The approach we use is a combined assessment of 'Condition and Performance,' 'Capacity versus Need' and 'Funding versus Need'. For example an asset could be rated highly for condition but if there is insufficient funding to replace it the rating could be reduced to reflect that. The assets (by individual components) are rated using a three-step process to ensure consistency, focus, and detail:

1. The first step is a rating of the current condition, in order to start understanding the makeup of the overall rating and identifying what the potential problems the managers were facing: Condition and Performance, Capacity versus Need and Funding versus Need.

   Condition and Performance: This first criterion characterizes the current physical condition of infrastructure. The condition index scale below is a general guideline for grading under this category:

   A = Excellent: No noticeable defects. Some aging or wear may be visible.
   B = Good: Only minor deterioration or defects are evident.
   C = Fair: Some deterioration or defects evident, but function not significantly affected.
   D = Poor: Serious deterioration in at least some portions of the structure. Function is inadequate.
   F = Failed: No longer functional. A general failure or complete failure of a major structural component.

   Capacity versus Need: For most infrastructure categories, this second criterion relates to the demand on a system, such as volume or use, versus its design capacity. This is a critical evaluation criterion for municipalities that are facing ongoing population and community growth. It is also important because an asset may be in excellent condition and performing well, but it is simply too small to meet the needs. A grading scale in 10-percent increments is suggested as a guideline for purposes of intuitive assessment as follows:

   A = systems that can support > 100% of demand
   B = systems that can support 90 - 99% of demand
   C = systems that can support 80 - 89% of demand
   D = systems that can support 70 - 79% of demand
   F = systems that can support less than 70% of demand

Funding versus Need: The third evaluation criterion reflects the status of funding dedicated to maintaining, replacing and improving the current condition of existing infrastructure.

Infrastructure systems need funding that is dedicated, indexed, long-term, and most importantly sustainable. The primary measure is the amount of funding provided versus the estimated funds needed to meet or maintain the community's desired quality or performance standard. Maintenance and construction costs also need to be considered in the evaluation of funding. Steady funding provides for maintenance that extends the life of infrastructure.

Again, a grading scale in 10 percent increments is used as a guideline for purposes of intuitive assessment as follows:

A = 90 to 100% of need
B = 80 to 89% of need
C = 70 to 79% of need
D = 41 to 69% of need
F = under 40% of need

Qualitative information collected through the review process can also be incorporated into the grading process.

2. The second step is to combine the detailed rating into a single blended rating that represented the overall score of that component, and then totaled into an overall score for the asset class for purposes of the Report Card.

3. The last step is a Report Card Rating which is then assigned to each asset category based on a consolidation of Condition and Performance, Capacity vs. Need and Funding vs. Need criteria.

Appendix 4 – Condition and Performance Proportions

Condition	Very Good	Good	Fair	Poor	Very Poor
Land	0%	100%	0%	0%	0%
Buildings	0%	100%	0%	0%	0%
Equipment	16%	58%	25%	2%	0%
Park Improvements	0%	23%	70%	0%	7%
Bridges	0%	89%	11%	0%	0%
Road Top	21%	3%	18%	59%	0%
Road Base	0%	98%	1%	0%	1%
Culverts	46%	0%	4%	50%	0%
Aquifer	0%	100%	0%	0%	0%
Total	2%	93%	2%	3%	0%