

MEMORANDUM



TO: Erin Blaney, Regional District of Kitimat Stikine

FROM: Veronica Bartlett and
Eva Robertsson,
Morrison Hershfield

PROJECT No.: 190497600

RE: Options for Waste Management at New Facilities
or in New Service Areas to Consider for Inclusion
in the Solid Waste Management Plan - FINAL

DATE: May 20, 2020

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Under the Environmental Management Act, regional districts are required to have a solid waste management plan (SWMP), which must be developed following the solid waste management planning guidelines provided by the Ministry of Environment and Climate Change Strategy (the Ministry) for content and process.

The Regional District of Kitimat Stikine (RDKS) is in the process of developing a new SWMP. The planning process was initiated in 2017 and steps 1 and 2 of the planning process were completed in 2018, resulting in the formation of the Public and Technical Advisory Committee (PTAC), assessment of the current system, and development of the consultation plan and six technical memos covering specific topics. In November 2019, Morrison Hershfield (MH) was commissioned to provide consulting support to continue developing the SWMP for the RDKS.

This is MH's fourth technical memo in a series of five, each presenting potential management options on key solid waste-related topics:

- Summary of Reduce and Reuse
- Recycling and Composting
- Residual Waste Management at Existing Facilities
- **New Facilities and Service Areas for RDKS**
- Cost Recovery

The content of each memo will be presented to the PTAC. The feedback on these memos will be considered as MH develops a final memo outlining Preferred Options to be included in the new draft SWMP, which will be brought to the public for consultation.

This memo provides context with respect to waste management at either new RDKS facilities or in new service areas. Potential options are discussed from both practical and financial perspectives; however, additional financial detail on potential strategies will be presented in the last memo in this series, which focuses on Cost Recovery. The memo outlines a number of potential strategies and options the RDKS may want to pursue to improve solid waste management in the region.

CONTEXT

The RDKS consists of two solid waste management Service Areas: Terrace Service Area and Hazelton and Highway 37 North Service Area. The two Service Areas were established in July 2015 under

Bylaws 657¹ and 658². Figure 1 shows the RDKS's current service areas and facilities. The entire geography region does not get solid waste services from the RDKS; however, approximately 75% of the population is provided solid waste management services by the RDKS. The majority of the population not receiving solid waste management services by the RDKS reside in the District of Kitimat.

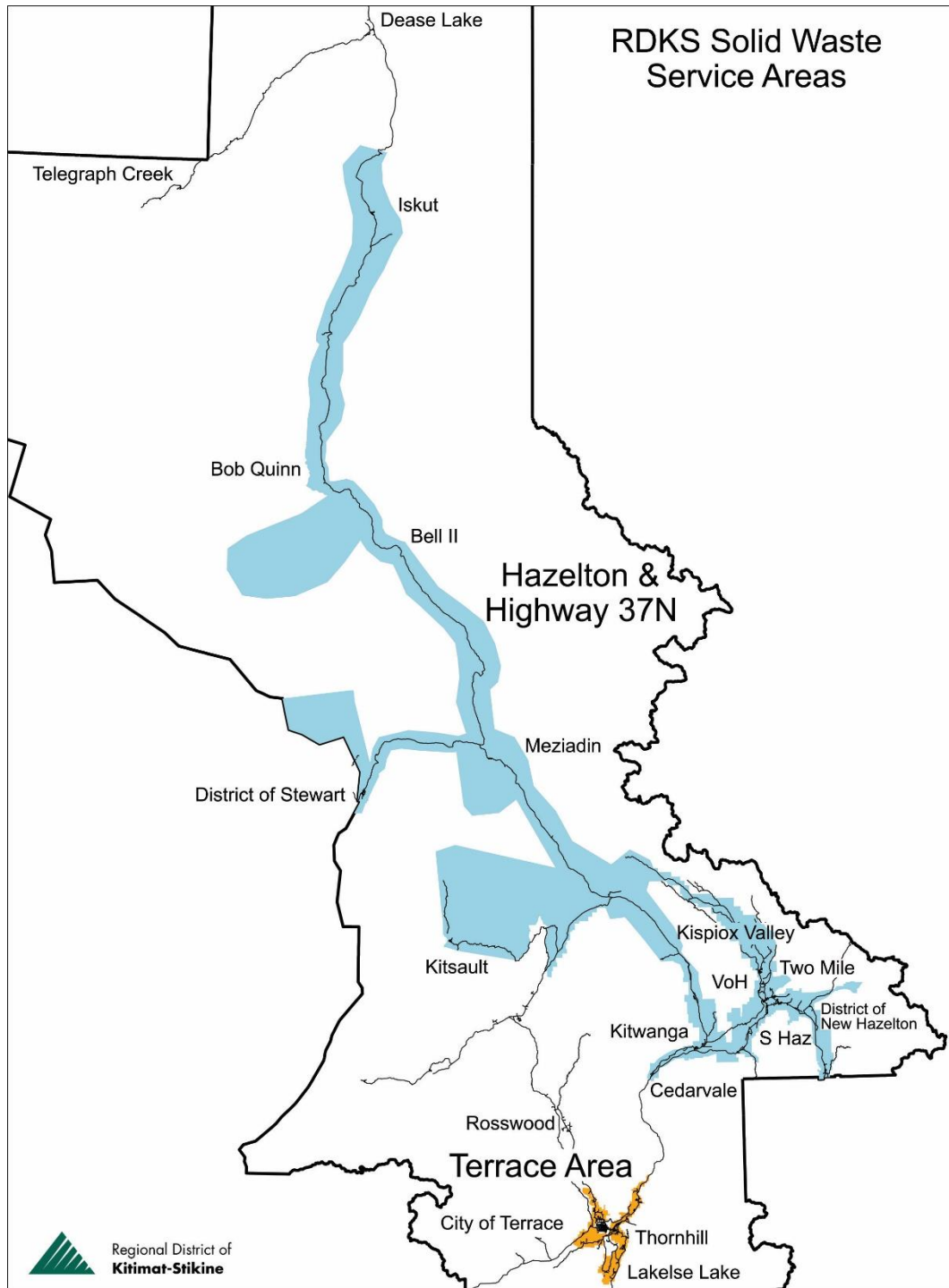


Figure 1. RDKS solid waste service areas and facilities.

¹ Kitimat-Stikine Hazeltons and Stewart Area Solid Waste and Recyclable Material Management Service Establishment Bylaw No. 657, 2015.

² Kitimat-Stikine Terrace Service Area Solid Waste and Recyclable Management Service Establishment Bylaw No. 658, 2015.

The following sections present potential strategies for expanding the current service areas and for establishing new solid waste facilities within these areas.

STRATEGY 1. DEVELOP NEW AGREEMENT BETWEEN THE DISTRICT OF KITIMAT, THE KITIMAT LANDFILL, AND THE RDKS

The District of Kitimat (Kitimat) is located approximately 60 km south of Terrace and is currently not included in either of the two RDKS Service Areas. Waste originating from Kitimat is therefore considered out-of-service-area waste and is subject to a surcharge if received at an RDKS solid waste management facility. There is currently no agreement between Kitimat and RDKS for waste to be accepted at RDKS facilities.

In 2019, Kitimat developed a Solid Waste Management Strategy and Action Plan with the objective of developing and selecting options to improve Kitimat's waste diversion and disposal system. Kitimat retained a consultant, Maura Walker & Associates (MWA), to assist with developing a strategy and recommended actions for implementation in 2020 and beyond. Significant actions scheduled for 2020 include the preparation of a landfill upgrade plan, as well as an assessment to evaluate the cost effectiveness of participating in the Terrace Service Area under the RDKS.

Kitimat owns the Kitimat Landfill, which is operated under contract. All residential and commercial residual waste generated and collected in Kitimat is disposed at the site. Waste is also accepted from Kitimaat Village (Haisla Nation). There is no scale at the landfill and volume based tipping fees apply on non-residential loads. There is no charge for disposal of self-hauled residential refuse.

Kitimat estimates there are less than three years of remaining capacity in Phase 2 of the Kitimat Landfill. However, a recent assessment of the landfill capacity shows that there may be some additional capacity in Phase 2 which can increase the estimated remaining life. MH understands that, based on a detailed landfill conformance assessment and comments from the Ministry, Kitimat will not have the authority to expand into Phase 3 without significant capital investment in design and operational improvements. Kitimat Landfill is operated as a natural attenuation site; however, a lateral expansion into Phase 3 would require construction of a landfill liner and a leachate collection and treatment system. The future of the Kitimat Landfill is currently undecided, as Kitimat is evaluating its long-term disposal options and related costs.

Kitimat currently provides curbside collection of garbage and yard waste to its residents and the current contract expires in June 2020. Kitimat recently voted to introduce a three-stream curbside collection program in 2021.

There are two main potential options for future waste management collaboration between Kitimat and the RDKS. These options are also discussed in the Technical Memorandum: Solid Waste Management Strategy and Action Plan presented to the District of Kitimat by MWA in February 2020. The potential options for collaboration are:

- Kitimat becomes a full participant in the Terrace Service Area's solid waste management services. This would include disposal and composting at the Forceman Ridge Waste Management Facility (WMF), the construction of a transfer station somewhere in Kitimat, waste hauling, and closure of the Kitimat Landfill. Kitimat may also be included in the Greater Terrace Area curbside collection service currently offered by the RDKS.
- Kitimat remains outside the RDKS Service Area and an agreement is established that provides Kitimat with a preapproved permit to access the services at the Forceman Ridge WMF. This

could include the use of all solid and liquid-waste management facilities or be limited to the landfill or composting facility. The permit could include annual disposal limits and applied tipping fees.

MWA also presented the option for Kitimat to become a full participant in the RDKS Greater Terrace curbside collection program without fully becoming a participant of the Terrace Service Area. This would potentially be beneficial to both parties through economies of scale and the expansion of an established service. Expansion of the RDKS's curbside organics collection program to include Kitimat could also benefit the composting facility at Forceman Ridge WMF, which is currently not receiving the quantities of organic waste anticipated when the facility was designed and constructed. The new three stream curbside collection program to be introduced in Kitimat in 2021 will be very similar to that provided by the RDKS. This will be beneficial should Kitimat become a full or partial participant of the Terrace Service Area.

The RDKS can choose to not make any changes to its current service area or develop an agreement with Kitimat. Kitimat then has the option to either expand the Kitimat Landfill in accordance with the 2016 Landfill Criteria or seek disposal capacity elsewhere and continue offering solid waste management services completely separate from the RDKS operations.

Potential benefits associated with a collaboration between the RDKS and Kitimat include:

- Cost savings for both parties through economies of scale and use of existing facilities and programs.
- Streamlined services and messaging to all residents in the regional district.
- Increased diversion
 - More efficient operation of the composting facility at the Forceman Ridge WMF due to increased quantities of feedstock.
 - Increased quantities and efficient handling of recyclables may increase access to markets and funding from stewardship programs (e.g. Recycle BC).
- Increased annual revenue for the RDKS through an expanded tax base, additional tipping fee revenue, and/or curbside service collection fees collected from an increased number of customers.

There are some potential risks to the RDKS, which include:

- The RDKS runs out of airspace at the landfill at Forceman Ridge WMF sooner than anticipated.
- The RDKS experiences an additional period of contamination of recyclables and organics as the residents and businesses in the new service area adjust to new rules and restrictions.
- The RDKS is burdened with unforeseen costs that exceed the additional revenue.

In addition to the benefits and risks stated above, the RDKS may want to consider some or all of the following questions when assessing and determining the preferred collaboration with Kitimat, if any:

- How would either of the options affect the projected life of the landfill at Forceman Ridge WMF?
- Does the composting facility have the capacity to take additional organics in the long term?
- Who would be responsible for outreach and education?
- How would the options impact staffing requirements at the District of Kitimat and RDKS?

- Who would pay for the required site, design, and construction of the transfer station in Kitimat?
- Would Kitimat remain the owner of the Kitimat Landfill, including the responsibility for closure and post-closure costs, as well as landfill liability?
- How will changes to the current system affect other users of the Kitimat Landfill, such as the residents of Kitimaat Village?
- Considering existing users have paid for the development of the RDKS services, what actions are required to create a system fair to all users?

An analysis of the cost-benefit for all parties should be performed that takes into consideration associated costs and cost sharing while ensuring the fairness to the residents and businesses already included in the Terrace Service Area. MH's fifth memo on Cost Recovery presents further discussion around the cost implications of the potential collaboration between the RDKS and Kitimat.

Possible options to incorporate in the SWMP include:

- 1A. Assess the costs and benefits of including Kitimat in the RDKS Greater Terrace curbside collection program. Develop cost sharing between Kitimat and RDKS to create a system fair to all.
- 1B. Assess the costs and benefits of including Kitimat in the RDKS Terrace Service Area, building a transfer station in Kitimat, and hauling waste to Forceman Ridge WMF. Develop options for cost sharing and responsibilities related to the Kitimat Landfill and the new transfer station.
- 1C. Assess the costs and benefits of permitting Kitimat to access the landfill at Forceman Ridge WMF without joining the Terrace Service Area. If deemed the best option, develop an agreement between the two parties.

STRATEGY 2. INCREASE RDKS SERVICE AREA TO INCLUDE TELEGRAPH CREEK LANDFILL (AND TRANSFER STATION)

Telegraph Creek Landfill is owned by Telegraph Creek Band, which is part of the Tahltan Nation. The landfill is located about 100 km west of Dease Lake. Putrescible waste is no longer accepted for disposal at the Telegraph Creek Landfill. Putrescible waste is currently collected at a transfer station established at a different location in the community. The site has no infrastructure, with the exception of a few bins for collection of waste. Telegraph Creek is currently hauling one 40 cubic yard bin of waste to Dease Lake Landfill on a weekly basis. Dease Lake Landfill is owned by the Ministry of Transportation and Infrastructure (MOTI). MOTI has expressed an interest in handing landfill ownership and operation over to the RDKS; this is discussed in Strategy 3.

The RDKS contributes funding to the Telegraph Creek Band for facility use by Electoral Area D residents through a cost-sharing agreement. The RDKS has had limited input on long-term development of the site. All costs associated with the landfill are shared between the two parties based on the populations of the Tahltan Reserve and non-reserve users in the Service Area. It is MH's understanding that the decision to close the Telegraph Creek Landfill and design and construct a transfer station was made by the Telegraph Creek Band in collaboration with Crown-Indigenous Relations and Northern Affairs Canada (CIRNAC). The RDKS has had limited involvement to date and are open to increasing the level of involvement as per the agreement currently in place. The closure of the landfill, construction of a transfer station, and hauling of waste for disposal at the Dease Lake Landfill may affect the RDKS as some of its residents currently are using the Telegraph Creek Transfer



Station. The RDKS may also consider increased involvement of the operation of the Dease Lake Landfill to which waste from Telegraph Creek currently is hauled. Therefore, an amended agreement may be needed to ensure fair cost-sharing, especially if the RDKS's involvement with the Dease Lake Landfill operations increases.

Possible options to incorporate in the SWMP include:

- 2A. Increase the RDKS's involvement in the planning and decision-making process for the Telegraph Creek Landfill and transfer station. Review the current agreement and propose an amendment, if warranted.

STRATEGY 3. INCLUDE DEASE LAKE IN THE RDKS SERVICE AREA

The Dease Lake Landfill is owned by MOTI and operated by a local road maintenance contractor. The landfill receives approximately 100 tonnes of waste a year (2017 estimate) from the surrounding community; however, there is no scale to confirm accurate quantities. Waste is also accepted from Telegraph Creek. Telegraph Creek hauls a 40 cubic yard bin of waste to Dease Lake Landfill on a weekly basis, contributing to an additional estimated 75 to 100 tonnes per year. The Dease Lake facility is fenced and gated, but the landfill is not lined.

Previously, the community of Dease Lake was able to drop off recyclables at the landfill (Figure 2), but this service was disrupted in June 2019 when the recyclables processor in Smithers burned down. The service resumed in January 2020 after Do Your Part Recycling in Terrace started accepting the materials.



Figure 2. Dease Lake Recycling Drop-Off.

MOTI is actively looking for options to have the RDKS operate the landfill. MOTI has asked whether the RDKS is willing to take over responsibility of the landfill and operate the landfill as part of the regional solid waste management network. The RDKS may want to negotiate with MOTI and develop an agreement where RDKS is responsible for operations of the landfill while ownership and landfill liability remain with MOTI.

If the RDKS takes over operational responsibility of the Dease Lake Landfill, the landfill would become a facility under the Hazelton and Highway 37 North Service Area. The RDKS would need to consider



how to pay for both the capital and operating costs of the site. Bylaws 657 and 688 would need to be amended to include Electoral Area F (Dease Lake) and the Dease Lake Landfill. The cost-sharing agreement between the RDKS and Telegraph Creek Band for the Telegraph Creek Landfill would likely also be affected.

There are existing environmental impact liability issues with this site. In 2019, MOTI commissioned a Design, Operations and Closure Plan (DOCP) for the site, which includes a filling plan. However, the final DOCP has not been issued.

If the RDKS takes over operational responsibility of Dease Lake Landfill, two options would need to be considered; either continuing the landfill operations or assist MOTI with the landfill closure and the establishment of a transfer station. The RDKS would operate the transfer station and be responsible for hauling of waste to a disposal site (most likely to Meziadin Landfill). Landfill ownership and liability would remain with MOTI.

Possible options to incorporate in the SWMP include:

- 3A. Develop an agreement with MOTI where RDKS is responsible for operations of the landfill and any future transfer station, while landfill liability remains with MOTI.

IMPACTS OF POTENTIAL STRATEGIES FOR NEW FACILITIES AND SERVICE AREAS

Table 1 provides an overview of the anticipated financial impacts of the strategies if implemented in the region. The table is followed by Table 2, which shows which stakeholder groups are affected by the strategies outlined in this memo.



Table 1. Anticipated financial impact related to the identified strategies for waste management at potential new facilities or service areas.

#	Strategy	Operational costs	Capital Costs	Comments
1	Develop new agreement between the District of Kitimat, the Kitimat Landfill, and the RDKS	Low-High	Low-High	A cost-benefit analysis of potential options for the RDKS should be performed to avoid increased costs to the RDKS and the Terrace Service Area.
2	Increase RDKS service area to include Telegraph Creek Landfill (and transfer station)	Low-Medium	Low-Medium	
3	Include Dease Lake in the RDKS Service Area	Low-High	Low-High	The cost will depend on the agreement reached with the MOTI, if any, and the sharing of operational costs.

Table 2. Stakeholder groups impacted by the identified strategies for waste management at potential new facilities and service areas.

#	Strategy	Terrace Service Area	Hazelton and Highway 37 North Service Area	District of Kitimat	MOTI	CIRNAC	Kitimaat Village (Haisla Nation)	Tahtan / Telegraph Creek Band	Comments
1	Develop new agreement between the District of Kitimat, the Kitimat Landfill, and the RDKS								Residents, local contractors and other users (e.g. Kitimaat Village - Haisla Nation) and service provider groups within the two areas would also be impacted and would have to be consulted.
2	Increase RDKS service area to include Telegraph Creek Landfill (and transfer station)								Increased RDKS involvement would be beneficial to the RDKS and the Electoral users that are represented.
3	Include Dease Lake in the RDKS Service Area								Involvement of the Ministry of Environment and Climate Action will also be required.