

	No.	2024-03
R.M. of Leask No. 464 TITLE: Aggregate Management	COUNCIL APPROVAL DATE:	
	RESOLUTION NO.:	
	SUPERSEDES POLICY NO.:	
	NEXT REVIEW DATE:	December 2027
	LAST REVIEW DATE:	

1.0 Purpose

The Municipality of Leask No. 464 chooses to commit to a proactive program enabling the future management of aggregate mining and spreading practices within the municipality.

2. Management

Council, Administration and Superintendent of Public Works (SPW) are committed to the management of aggregate resources for the betterment of municipal roads infrastructure. They are committed to finding Strategic Gravel/Clay Best Practices for future resources. These actions will be undertaken by the following methods:

- Rural Gravel Planning and Management
- Opportunities and requirement of Exploration
- Management of Gravel Pits and Cost Management
- Innovative Road Maintenance Techniques
- Management of existing Gravel stocks Long-term gravel sourcing strategy
- Applying techniques, processes and practices in constructing and maintaining rural infrastructure

3. Factors

- 3.1 Availability of aggregate in the area
- 3.2 What types of material in the area
- 3.3 Who holds title to the property
- 3.4 Cost of Aggregate in the area
- 3.5 Competition for aggregate in the area;

- 3.6 Expertise, know-how and capabilities of the RM

4. Pit Longevity

4.1 Proper Planning

4.1.1 Planned and systematic usage of aggregate deposit inclusive of stripping, placement of stripping, work area management, reject material management, other factors that affect pit management.

4.2 Selection of Materials

4.2.1 Select material within pit for best suited purposes; subbase, and higher aggregate materials.

4.3 Surveying

4.3.1 Location planning for future mining; inclusive of pit boundaries, test holes, excavated areas, stripped areas and piles, oversize rock area, stockpiles, and surrounding topographic areas.

4.4 Reporting

4.4.1 Systematic reporting of materials removed and remaining aggregate inventory.

5. Roadway Design and Life Cycle Maintenance

5.1 Clay Capping

5.1.1 Placing a layer of clay material on existing road to stabilize the grade and improve the grade and improve the general ride quality of the road.

Geo-Textiles

5.2.1 Products that assist to stabilize poor quality soils, used in a variety of different construction activities, road construction and de-watering.

Gravel Blading

5.3.1 Introduction of blading techniques of gravelled surfaces that assist with extending the life of roads.

Road & Soil Stabilization

5.4.1 Stabilization by stripping the shoulders that have extended outwards, bringing it up and mixing different material, reclamation of aggregate resources that have fallen into the side road bed.

Graveling

- 5.5.1 Development of graveling practises, ie. spring gravel rather than fall gravel and risk blades off in fall/winter.
- 5.5.2 Construction Gravel, that aggregate be incorporated at time of construction and a latter application.
- 5.5.3 That Gravel Committee/Division Councillor/SPW work together to development best spread practices to decrease annual gravel spread.

6. Tendering

Multi Year Tendering

- 6.1.1 Consideration of multi year tendering creating a relation development process for both crushing and spreading.

Gravel Expectations

- 6.2.1 Sub Base Gravel
- 6.2.2 Base Gravel
- 6.2.3 Traffic Gravel
- 6.2.4 Clay

Tender Process

- 6.3.1 Tenders to consist of: pit location, crush yards required, competition date, price per yard, price per yard of reject, crush equipment, WCB and Liability Insurance, Bond or deposit and instructions of submission to office.
- 6.3.2 Tender opening shall be done is open meeting; deliberations can be facilitated in closed session. Tenders may be awarded based on prior contractor preference, lowest bid not necessarily accepted.
- 6.3.3 Award shall be made public following the opening of tender.

7. Aggregate Management Cycle

Road Way Management

- 7.1.1 This is dependent on longevity of gravel resources
- 7.1.2 Proactive in relationship building with local aggregate resource owners
- 7.2.3 What are future needs/goals

Planning and Budgeting

- 7.2.1 Understanding of the existing and planned road system
- 7.2.2 Understanding existing sources(s) or aggregate
- 7.2.3 Understanding of existing budget allocations to roads and general level of road maintenance service
- 7.2.4 Understanding of existing agreements in place on aggregate supply

7.2.5 Understanding short and long-term outlook for existing known aggregate sources.

Future Management

7.3.1 Complete inventory for future outlook of the municipality that provides a foundational plan for aggregate sourcing, road management and budgeting to establish a strong, long-term plan.

8. Exploration and Securing Supply

Understanding Supply Opportunities

- 8.1.4 Private land owners
- 8.1.2 Minister of Agriculture lands
- 8.1.3 Owned Sources

Exploration

- 8.2.1 Continuously exploring potential exploration opportunities
- 8.2.2 Make use of new technology to confirm aggregate size and extent of source

Testing

- 8.3.1 To determine if sites contain aggregate
- 8.3.2 Upon site confirmation determine quantity and quality of aggregate
- 8.3.3 Site size of deposit

Securing Supply

- 8.4.1 Obtain surface control through agreement of contract
- 8.4.2 Damage Agreements with registered owner of property
- 8.4.3 Secure Memorandum of Agreements with registered owners
- 8.4.4 Secure entry agreements with registered owners

9. Pit Operations

Stripping and Extraction

- 9.1.1 Stripping overburden greater than 0.4 m in thickness should be reviewed further. Overburden is the material between the topsoil and the aggregate.
- 9.1.2 Have a short term and long-term plan; using a systematic approach to the use of an aggregate.
- 9.1.3 Management of overburden enabling reclamation processes

Processing

- 9.2.1 Processing includes the crushers primary, screens, conveyor belts, feeder resources, generators and other heavy equipment
- 9.2.2 Mitigate potential issues with community

Stockpiling

9.3.1 Stock piles should be located statistically within the pit to allow for future extraction activities

9.3.2 Many have many piles based on different materials and should be separated for ventilation

Traffic Planning

9.4.1 Ensure external movement of aggregate is considered prior to stockpile hitting the ground

9.4.2 Consideration to haul road routes, that they are managed well to offset surface damage

9.4.3 On and off-site traffic pattern planning (dust suppression)

Wall Embankment

9.5.1 Management of embankments to ensure water drainage and integrity of the embankment.

9.5.2 Manage aggregate efficiently as by-products form part of cost to excavate

Risk Management

9.6.1 Consideration to include emergency spill response, employee training, environmental risks and community relations

10. Reclamation

Extraction is Temporary

10.1.1 Agricultural lands should be reclaimed to topography similar to pre-extraction conditions

Plan End Use

10.1.2 Plan accordingly for the conclusion of Pit extraction (life of pit), these considerations will reduce end costs and ensure stakeholders have input on planning process

10.1.3 Account for pit uniqueness, location, grade, scale of operation, geometry of deposit, geometry of surface, grade distribution, surrounding area and other restrictions

Proper Failure Repair

10.2.1 Use of proper repair techniques, ensure adequate drainage, culvert integrity, access within the pit and haul traffic pattern,

10.2.2 Dust Control and stabilizer program in place

10.2.3 Routine maintenance and rehabilitation of Gravel Roads

10.2.4 Ensure quality of surface gravel

11. Housekeeping

Chain of Communication

11.1.1 All communication shall commence within the gravel committee in association with the landowner and SPW.

11.1.2 SPW shall be the primary communicator with the Crusher

Testing of Aggregate

11.2.1 Aggregate shall be tested by an engineering firm to ensure bid quality by mid-day of date of commencing crushing. The SPW at his discretion shall determine if future aggregate tests are required.

11.2.2 Aggregate shall meet tender specs

Pile Measurement

11.3.1 SPW shall ensure that upon completion of the crush contract that the pile is measured and information is submitted to the office. The municipality will incur all costs of this action.

Contractor Invoice

11.4.1 Contractor Invoice shall be paid upon Council resolution

Disbursements

11.5.1 The office shall ensure that the land owner is paid annually for aggregate removed from the pit

11.5.2 The office shall ensure payment annually of all extraction fees associated with the crush

Cost Components of Aggregate

11.6.1 Excavation costs

11.6.2 Crushing Costs

11.6.3 Hauling Costs

11.6.4 Gravel Extraction Fees

11.6.5 Road Maintenance Agreement Fees

11.6.7 Purchase cost of Aggregate

12. Gravel Maps

Division Maps

12.1.1 Annually (April/May) Division Councillors shall provide the SPW with their gravel map; roads and allocation amount

12.1.2 The SPW shall review/consult with Division Councillor to ensure gravel plans meet Road Management Plan determined by Council

Cost Summary

12.2.1 Varying costs of supply may vary within Divisions

12.2.2 Spread of aggregate shall be done within proximity of Pit location

12.2.3 There will be a variation of spread costs based on length of haul

12.2.4 Management of spread yards shall be an annual discussion at budget meeting

Rescind Resolution 96/2021