



**Sturgeon County**  
**Meeting Agenda - Final**  
**Committee of the Whole**

9613-100 Street  
Morinville, Alberta  
T8R 1L9

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Tuesday, April 25, 2017

2:00 PM

Council Chambers

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**A. CALL TO ORDER**

**B. APPOINTMENTS**

**B.1** Operating and Capital Drainage File Update

**Attachments:**

[Briefing Note](#)  
[Presentation](#)

*Shane Hogan, Manager, Transportation Services, and Brian Hartman, Manager, Engineering Services*

**B.2** 2016 Shoulder Pulling Program Update

**Attachments:**

[Briefing Note](#)  
[Presentation](#)

*Shane Hogan, Manager, Transportation Services*

**B.3** Regional Economic Development Entity

**Attachments:**

[Information Insert](#)

*Trevor Duley, Senior Advisor, Intergovernmental Affairs*

**C. ADJOURNMENT**



# Sturgeon County

9613-100 Street  
Morinville, Alberta  
T8R 1L9

## Legislation Text

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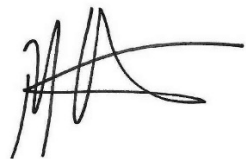
**File #:** PRS-131-16, **Version:** 1

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**Operating and Capital Drainage File Update**

## Briefing Note

<b>Title</b>	<b>Operating and Capital Drainage File Update</b>
<b>Issue</b>	Operating and Capital Drainage File Update
<b>Previous Council Direction</b>	<p>September 27, 2016 – Motion 319/16: That Council receive the Transportation Operating Report as information and refer challenges and lessons learned to the 2017 Budget process and discussion.</p> <p>September 8, 2015 – Motion 280/15: That County Council receives the 2015 Drainage Season Update as information.</p> <p>October 28, 2014 – Motion 336/14: That Council receives the 2014 Drainage Season update as information.</p>
<b>Report</b>	<p><u>Background Information</u></p> <ul style="list-style-type: none"><li>• The process of improving how drainage cases are handled has been an ongoing effort which has led to the instigation of a work flow that draws on synergies from both Engineering and Transportation Services departments.</li><li>• The April 25, 2017 presentation illustrates work flow from case reporting, through the site investigations process, to capital project determination, and identifies resident/customer communication contact points throughout the process.</li><li>• The internal efficiency tool applied and case prioritization model is also presented and explained to the effect that drainage crews and frontline staff readily have access to a tool to prioritize cases.</li><li>• The outlook of integrating the Drainage Program with other corporate actions (development planning and infrastructure planning) is also set out.</li><li>• Capital updates of five drainage projects are presented:<ul style="list-style-type: none"><li>○ Riverside Park</li><li>○ East and West Fairhaven</li><li>○ Estate Way</li><li>○ Lamoureux Drive</li><li>○ Riviere Qui Barre</li></ul></li></ul> <p><u>External Communication</u></p> <ul style="list-style-type: none"><li>• County Connections</li><li>• Ongoing media requests</li></ul>

<b>Implication</b>	<p><u>Strategic Alignment:</u></p> <ul style="list-style-type: none"> <li>• Strong Local Governance and Regional Leadership – Collaboration with the community.</li> <li>• Planned Growth – Positioning Transportation Services to serve the needs of the community in the face of continued and focused growth.</li> <li>• Maintaining and Enhancing Strong Communities – Focus on engaging residents for feedback on how Transportation Services delivers on community expectations.</li> <li>• Operational Excellence – Focus on improving Transportation service delivery to Sturgeon County.</li> </ul> <p><u>Organizational:</u></p> <p>Administration will continue to drive productivity improvements and execution within the current funding model.</p> <p><u>Financial:</u></p> <p>None.</p>
<b>Follow Up Action</b>	None.
<b>Attachment (s)</b>	1. Presentation
<b>Report Reviewed by:</b>	 Ian McKay, P. Eng., General Manager, Municipal Services   Stephane Labonne, General Manager, Integrated Growth   Rick Wojtkiw, Acting CAO

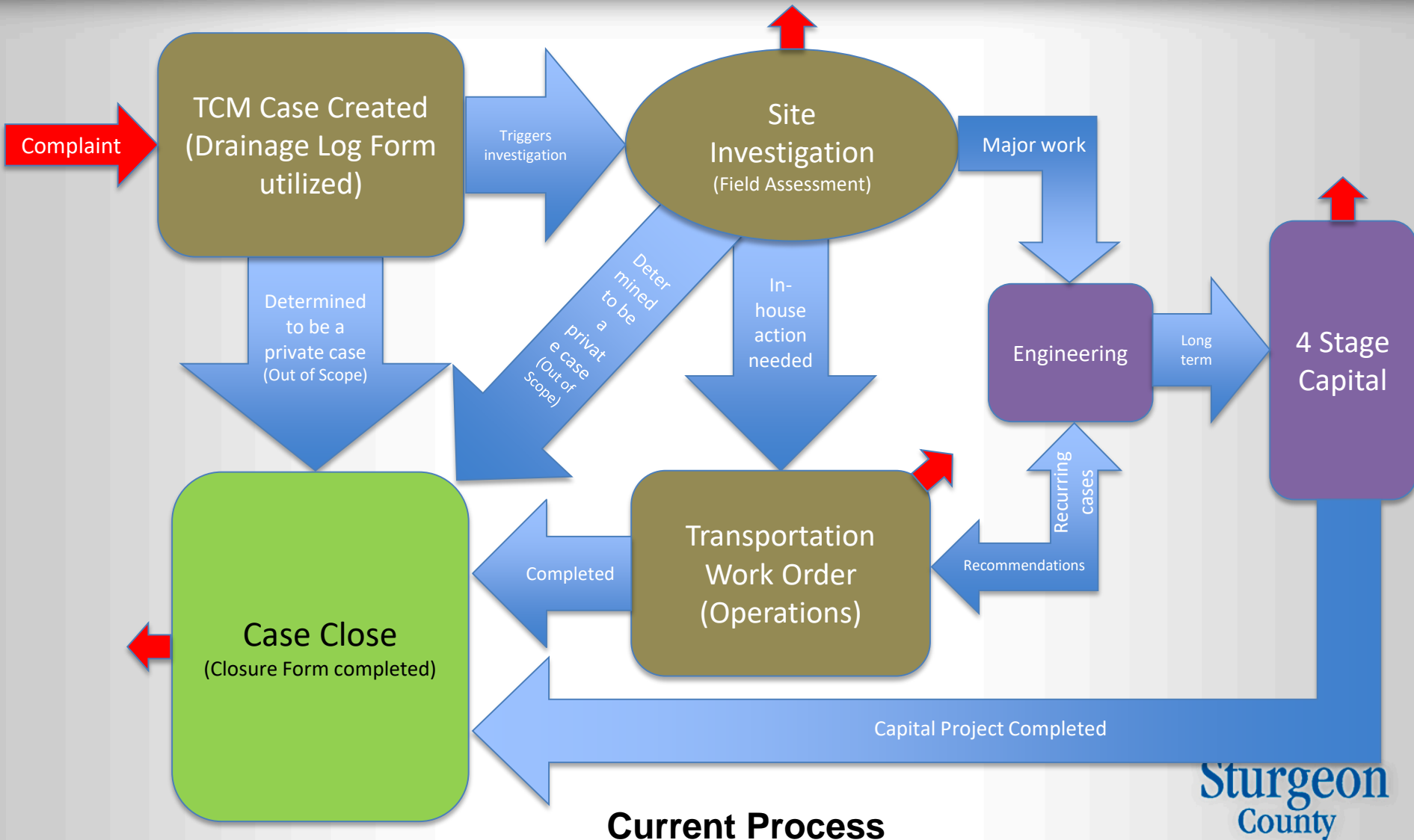


# Operating & Capital Drainage Update Committee of the Whole

April 25, 2017



# Drainage Operations – Update



Red arrows represent resident/customer communication points

## Drainage Operations – Update

### Status and Forecast

Service Metric	2014	2015	2016	2017 Forecast
Ditching (km)	7.9 km (est)	6.45 km (est)	56.08 km	5km
Culvert Replacements (#)	47	42	64	50
Culvert Maintenance (#)	78	96	132	130
Beaver Dams (#)	N/A	9	64	20
Capital Drainage Investigation (#)	N/A	N/A	12	12
Cases @ Year End (#)	249	232	24	20
Cases Closed (#)	136	237	303	TBD

2017 File Closure Target: 90% of all active cases



# Drainage Operations – Update

## **2016 Storm Sewer Flushing Recap (Council Approved Service Enhancement)**

- Asset management program (Year 1 completed)
  - Inventory all assets
  - Condition inspections complete
- Backlog of legacy drainage cases eliminated
- Moved to proactive asset management approach
- Year 1 information (2016) fed into Summerbrook Subdivision Rehab project
- Years 2-3 (2017-2018) will complete 100% of storm assets



## Drainage Operations – Update

### 2017 Open Cases

Status	Priority 1	Priority 2	Priority 3	Total
Under Review	5	5	2	<b>12</b>
Stage 1 Capital Plan	1	6	5	<b>12</b>
Total	6	11	7	<b>24</b>

Priority ranking based on Engineering assessment of individual drainage site.

- 1 – HIGH: Damage occurring or immediate threat to County Property / infrastructure and or to private property
- 2 – MEDIUM: Damage likely to occur to County property / infrastructure and or to private property
- 3 – LOW: Damage unlikely to County Infrastructure and or to private property, monitor for future changes

# Drainage Operations – Update

## How did we improve?

- Implemented culvert flushing program (proactive approach)
- Utilization of CRM application to ensure all cases are tracked from creation to completion
- Use of tablet technology in the field to record site assessments
- Developed assessment tools (Log form, Drainage Assessment form, and a Periodic Observation form) for supervisors to use to conduct root cause analysis when determining effective solutions
- Enhanced customer interaction and follow up:  
Included customers input to determine the field solution
- Utilized engineering services to conduct site assessments
- Implementation of lot grading policy

# Drainage Operations – Update

## The Future (Our Vision)

- Ditch management policy development
- County wide drainage master plan
- Coordinate drainage planning with development planning  
(ie area structure plans to align with a master drainage plan)
- Coordinate drainage planning with capital infrastructure planning  
(ie road construction project)
- Inclusion of asset management practices in flushing and culvert replacements
- Flood mitigation and response policy

# Drainage Operations – Update

## Summary

- Improved departmental approach to assess problems and program right solutions
- Progressively improving and getting results
- Moving from reactive to proactive approach
- We have a sustainable plan moving forward (address legacy issues and maintain assets)

# **CAPITAL UPDATE**

**(2% Council Approved Initiative to Address Legacy Drainage)**



# Riviere Qui Barre – 2016-2017

## Riviere Qui Barre Drainage

### Drainage Program

#### Drainage Issue

Due to development, installation of private culverts, existing shoulder grading, etc. there are problems that need to be addressed on a larger project rather than a spot repair basis. Additionally, the intersection of Porier Street and Flynn Avenue does not have a culvert to allow water across the road to the outfall west of the community, and due to building proximity and other development a ditch is not feasible. The drainage issues require further analysis to determine options.

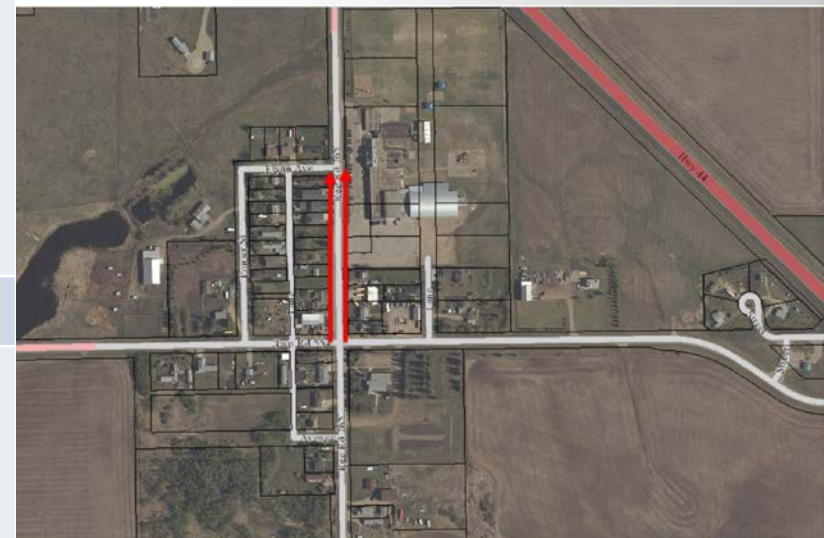
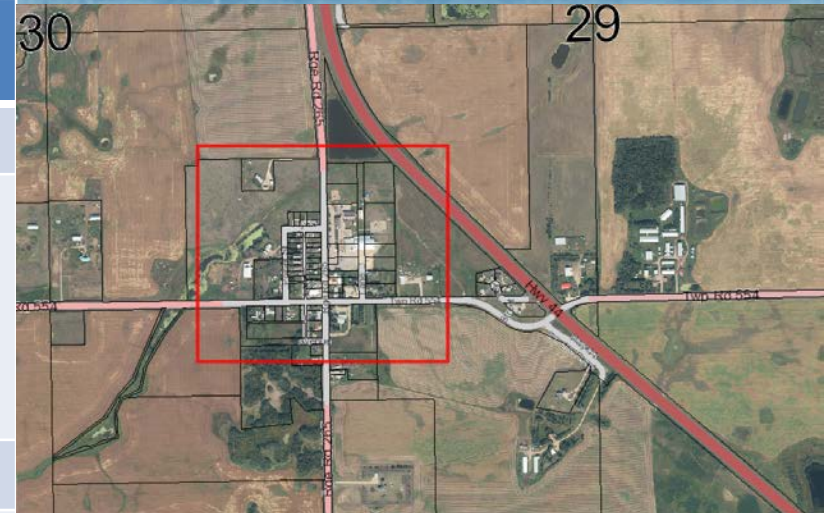
#### Current Status

- 400m of Sidewalk and concrete swale work on RR265 is currently tendered.
- Construction scheduled for July 2017.
- Awaiting COW where future drainage options will be presented to decide future programing and costs.
  - Drain to the north
  - Drain to the west
  - Develop storm pond

#### Potential Cost and Funding Source

Project Cost:  
\$1,300,000 (estimated)

Funding Source:  
2016 – \$???? – Taxes – Pre Engineering  
2017 – \$600,000 Taxes – Engineering and Construction



# East and West Fairhaven – 2017 to 2019

## East and West Fairhaven

### Drainage Program

#### Drainage Issue

East and West Fairhaven have legacy multi-lot drainage issues. Scope of work is as follows:

- 27,900m of major ditching improvements
- 3 New culvert installations

#### Current Status

2016- Land owner R/W and Councilor discussion re West Fairhaven, prelim survey work

2017- Preliminary engineering underway. (Stage 2)

2018 - Detailed Engineering (Stage 3)

2019 – Construction (Stage 4)

#### Potential Cost and Funding Source

##### Project Cost:

TBD

##### Funding Source:

2018 – \$150,000

2019 – \$1,500,000





# Estate Way Phase 2 and 3 (2016-2017)

## Estate Way Phase 2 and 3

### Drainage Program

#### Drainage Issue

The purpose of Estate Way Phase 2 and 3 was to address inadequate legacy ditch grades established by the developer in the Banks subdivision in 2004. This was a complex drainage issue due to the number of effected landowners.

Phase 2 - Project limits are from Lot 259 to Estate Way Ave.

Phase 3 - Project limits are from Lot 80 to Estate Way

#### Current Status

Phase 1 - Completed in 2014.

Phase 2 & 3 – Construction 85% Complete. Will be completed in 2017 (Stage 4)

#### Potential Cost and Funding Source

##### Budget:

Phase 2 & 3- \$350,000; (2016 YTD actual = \$100,981)

##### Funding Source:

Taxes



# Lamoureux Drive – 2017 to 2018

## Lamoureux Drive Culvert Assessment and Scour Repair

### Drainage Program

### Drainage Issue

Roadway culverts along Lamoureux Drive drain from west to east with the outfalls discharging on top of the banks of the North Saskatchewan River. Erosion and scouring of the river bank is occurring near the culvert outlets. As a result, deep gullies have formed at certain locations causing the culvert outlets to be hanging at those locations. One severe scour area south of the intersection with Range Rd 224 has resulted in the road being closed.

### Current Status

- Phase 1 – Detailed Design – Ongoing through all phases
- Phase 2 – Road Realignment and erosion mitigation – 2017
  - **Phase 2 has been tendered and contract awarded**
- Phase 3 – All other drainage improvements – 2018

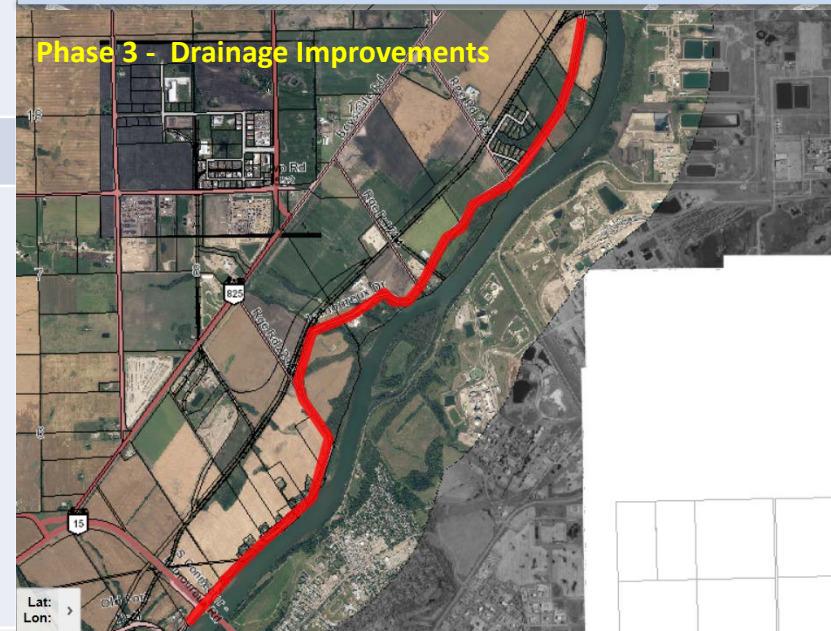
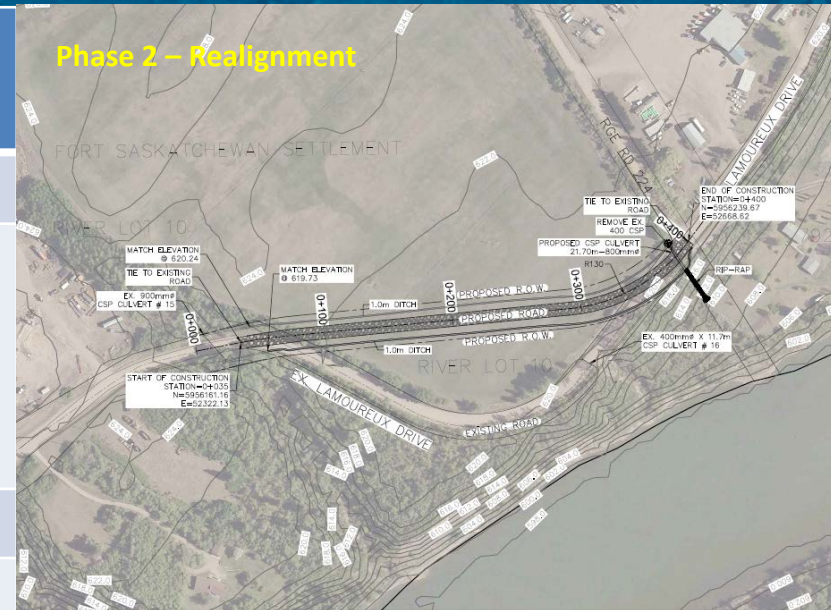
### Potential Cost and Funding Source

#### Costs

- Phase 1 - \$162,000 (Engineering of all 3 Phases)
- Phase 2 - \$460,000 (Realignment construction and land acquisition)
- Phase 3 - \$600,000- \$800,000 (Other drainage works construction only)

#### Funding Source:

- 2016 - \$440,238 – Taxes (carryover)
- 2017 - \$409,525 - Taxes
- 2018 - \$800,000 - Taxes
- Sturgeon County has applied for the Alberta Community Resilience Program Grant.





# Riverside Park – 2017 and 2018

## Riverside Park Drainage

### Drainage Program

### Drainage Issue

Riverside Park is an multi-lot legacy drainage issue. The subdivision was not designed to handle the existing flows from outside the subdivision when spring flooding occurs. Scope of work required.

- Culvert Cleaning
- Culvert replacement
- Ditching improvements

### Current Status

Drainage study completed in 2016. Drainage work will be contracted with rehabilitation road work scheduled for 2018.

2016 Preliminary Engineering Completed (Phase 2)

2017 Detailed Engineering (with Riverside Park Road) (Phase 3)

2018 Construction (Phase 4)

### Potential Cost and Funding Source

#### Project Cost:

\$450,000

#### Funding Source:

- 2017 – \$50,000 - Taxes
- 2018 – \$400,000 – Taxes



# Drainage Potentials

Drainage potentials list is under evaluation for 2019-2022 Capital program planning. To be presented to Council June 2017

Notes and observations from 2017 spring flooding under evaluation by Transportation and Engineering.



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## Legislation Text

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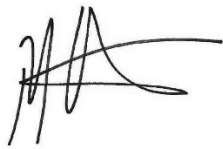
**File #:** PRS-015-17, **Version:** 1

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**2016 Shoulder Pulling Program Update**

## Briefing Note

<b>Title</b>	<b>2016 Shoulder Pulling Program Update</b>
<b>Issue</b>	Shoulder Pull Program Update
<b>Previous Council Direction</b>	April 28, 2015 (Committee of the Whole): Presentation on Enhanced Road Maintenance Update.
<b>Report</b>	<p><u>Background Information</u></p> <ul style="list-style-type: none"> <li>• Presentation lays out rationale for conducting the Shoulder Pull program as a means to: improve drainage, re-establish crown, driveability and road stability, reduce maintenance costs, and increase road life span.</li> <li>• 2016 successes and learnings which pivot around resident expectations and feedback is utilized in establishing new criteria for selecting road maintenance candidates (which includes shoulder pull candidates).</li> <li>• Collaboration with Engineering in identifying road maintenance techniques based on unique road conditions and Engineering's involvement in road maintenance and reconstruction selection criteria is a contributing success factor.</li> <li>• Future outlook for road maintenance is to have all roads classified to a program: Gravel Road Improvement Program, Road Repair Program (Shoulder Pull, Maintenance), Road Reconstruction Program (SRIS Option, Capital).</li> </ul> <p><u>External Communication</u></p> <ul style="list-style-type: none"> <li>• County Connections</li> <li>• Ongoing media requests</li> </ul>
<b>Implication</b>	<p><u>Strategic Alignment:</u></p> <ul style="list-style-type: none"> <li>• Strong Local Governance and Regional Leadership – Collaboration with the community.</li> <li>• Planned Growth – Positioning Transportation Services to serve the needs of the community in the face of continued and focused growth.</li> </ul>

	<ul style="list-style-type: none"> <li>• Maintaining and Enhancing Strong Communities – Focus on engaging residents for feedback on how Transportation Services delivers on community expectations.</li> <li>• Operational Excellence – Focus on improving Transportation service delivery to Sturgeon County.</li> </ul> <p><u>Organizational:</u></p> <p>Administration will continue to drive productivity improvements and execution within the current funding model.</p> <p><u>Financial:</u></p> <p>None.</p>
<b>Follow Up Action</b>	None.
<b>Attachment (s)</b>	1. Presentation
<b>Report Reviewed by:</b>	 <p>Max Adu-Safo, Programs Supervisor, Transportation Services</p>  <p>Ian McKay, P.Eng. GM Municipal Services</p>  <p>Rick Wojtkiw, Acting CAO</p>





# 2016 Shoulder Pulling Update

COW

April 25, 2017



# Shoulder Pull Operations – Update

## Why do we Shoulder Pull?

- Improve drainage
- Improve or re-establish crown
- Improve driveability and road stability
- Reduce maintenance costs
- Increase road life span



## Shoulder Pull Operations – Update



Driving surface  
> 8 m

Shoulders Absent

Loose with ruts

Wide road  
Flat, no shoulders  
No Crown  
No drainage

## Shoulder Pull Operations – Update

**A gravel road shoulder pulled that is 7.4 meters wide can accommodate 2 passing trucks**





# Shoulder Pull Operations – Update

## Status and Forecast

Service Metric	2014	2015	2016	2017 Forecast
Shoulder Pull (km)*	12.2 km	12.8 km	26km	0km
Enhanced Road Maintenance (ERM)	0	49.6 km	30.4 km	To be Determined

## 2016 Successes

- Positive feedback on improved resident communication
- Positive feedback from residents on shoulder cleanup
- QA/QC process developed to ensure all steps were completed and data recorded for future reference (final width and slope adherence)
- ERM (Modified shoulder pull) completed with Floater and Division Grader Operators

# Shoulder Pull Operations – Update

## 2016 Shoulder Pull Data

Road	Range	Solid Shoulder Achieved
RR 233	From Township Road 552 to Township Road 554	YES
RR 262	From Hwy 642 to Township Road 554	NO
RR 263	From Hwy 633 to Township Road 544	YES
RR 264	From Hwy 642 to Township Road 562	YES
Twp Rd 552	From Hwy 2 to Range Road 255	YES
Twp Rd 552	From Hwy 44 (Range Road 264) to Range Road 270	YES
Twp Rd 572	From Hwy 38 to Range Road 214	YES
Twp Rd 572	From Hwy 38 to Range Road 220	YES
Twp Rd 572	From Range Road 230 to Range Road 231	NO
Twp Rd 580	From Hwy 2 to Range Road 255	YES
Total # of Cases		10

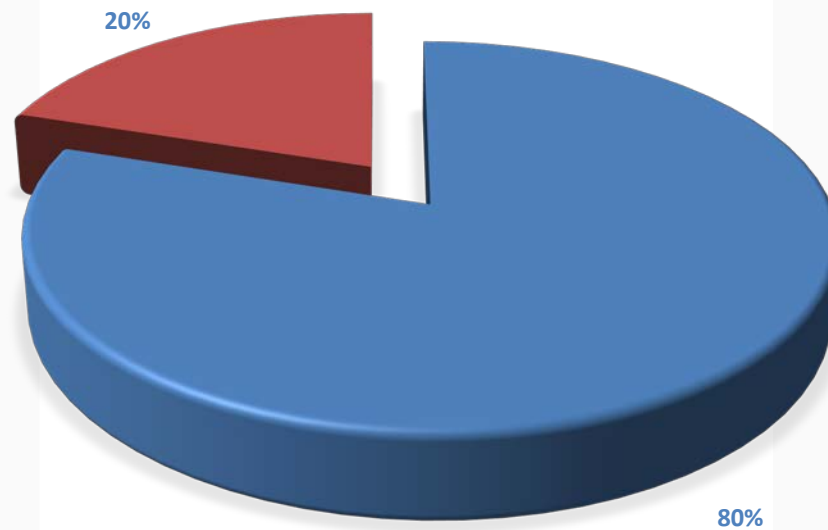
Testing Procedure: Proof Roll

## 2017 Actions

- RR 262 From Hwy 642 to Township Road 554  
Replace south end culvert, repack shoulders, widen
- Twp Rd 572 From Range Road 230 to Range Road 231  
Enhance shoulders and pack gravel
- 2<sup>nd</sup> Lift of gravel on all roads, retest shoulders with proof roll

## Shoulder Pull Operations – Update

SOLID SHOULDERS





# Shoulder Pull Operations – Update

## 2016 Shoulder Pull Width Data

Road	Range	Engr Recommended		Attained Width min/max
		Width	Range	
RR 233	From Township Road 552 to Township Road 554	7.0	8.0	6.9 / 7.9
RR 262	From Hwy 642 to Township Road 554	7.0	8.0	6.8 / 7.9
RR 263	From Hwy 633 to Township Road 544	7.0	8.0	6.0 / 8.7
RR 264	From Hwy 642 to Township Road 562	7.0	8.0	7.0 / 8.0
Twp Rd 552	From Hwy 2 to Range Road 255	7.0	8.0	6.5 / 8.9
Twp Rd 552	From Hwy 44 (Range Road 264) to Range Road 270	7.0	8.0	6.1 / 8.0
Twp Rd 572	From Hwy 38 to Range Road 214	7.0	8.0	6.8 / 7.8
Twp Rd 572	From Hwy 38 to Range Road 220	7.0	8.0	7.0 / 8.0
Twp Rd 572	From Range Road 230 to Range Road 231	7.0	8.0	7.3 / 8.0
Twp Rd 580	From Hwy 2 to Range Road 255	7.0	8.0	6.5 / 9.0
Overall Average				7.4
Narrow sections result of aprons, oiled sections, bridges				

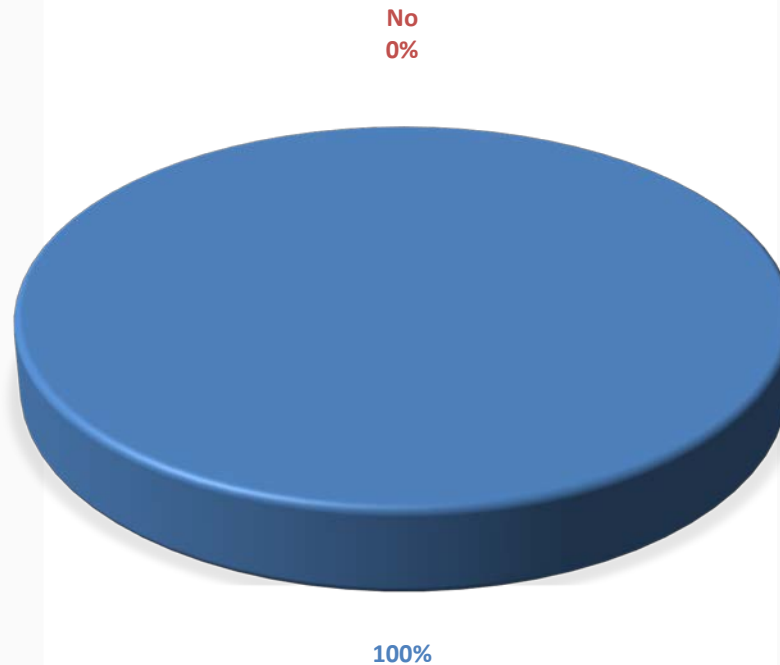
## Shoulder Pull Operations – Update

### 2016 Shoulder Pull Crown Data

Road	Range	4% Crown Achieved
RR 233	From Township Road 552 to Township Road 554	YES
RR 262	From Hwy 642 to Township Road 554	YES
RR 263	From Hwy 633 to Township Road 544	YES
RR 264	From Hwy 642 to Township Road 562	YES
Twp Rd 552	From Hwy 2 to Range Road 255	YES
Twp Rd 552	From Hwy 44 (Range Road 264) to Range Road 270	YES
Twp Rd 572	From Hwy 38 to Range Road 214	YES
Twp Rd 572	From Hwy 38 to Range Road 220	YES
Twp Rd 572	From Range Road 230 to Range Road 231	YES
Twp Rd 580	From Hwy 2 to Range Road 255	YES
Total # of Cases		10

## Shoulder Pull Operations – Update

**4% CROWN ACHIEVED  
AS A RESULT OF SHOULDER PULL**



# Shoulder Pull Operations – Update

## 2016 Recap

- Improved drainage on 26 km of road
- Including ERM 56km of roads were greatly improved (4% of our gravel roads)
- Improved or re-establish crown - goal is to have an end state crown percentage of 4 %
- Improve driveability/stability – improve roadbase by exposing material for the appropriate drying duration then laid out, shaped and packed with correct crown
- Projecting reduced maintenance costs and move to maintaining 4% crown
- Increased life span of 8 to 10 years at an average cost of \$40,000 per km by pulling in clay and gravel to increase the road base and clay depth subsequently increasing stability

# Shoulder Pull Operations – Update

## **Challenges**

- Resident concerns with final road width:
  - Many roads originally built to a 5-6 m width (widened with soft dirt from ditches to 7-8m)
- Material not available to construct an 8.0 m wide road
- Right of way not available to construct optimized drainage/geometry

## **Lessons Learned**

- Development of process to prioritize roads for shoulder pull or reconstruction based on achievable width and geometry/land restrictions
- Continued improvement on resident communication
- Continued improvement of QA/QC Process

# Shoulder Pull Operations – Update

## **2017 Actions from 2016**

- \$500K to Enhanced Road Maintenance (ERM) in 2017 (Part of the Let's Talk Road Action Plan presented March 14, 2017 COW)
- RR 262 - replace south end culvert and repack shoulders
- Twp Rd 572 - widen shoulders and pack gravel loss on soft base
- 2<sup>nd</sup> Lift of gravel and retest shoulders with proof roll



# Shoulder Pull Operations – Update

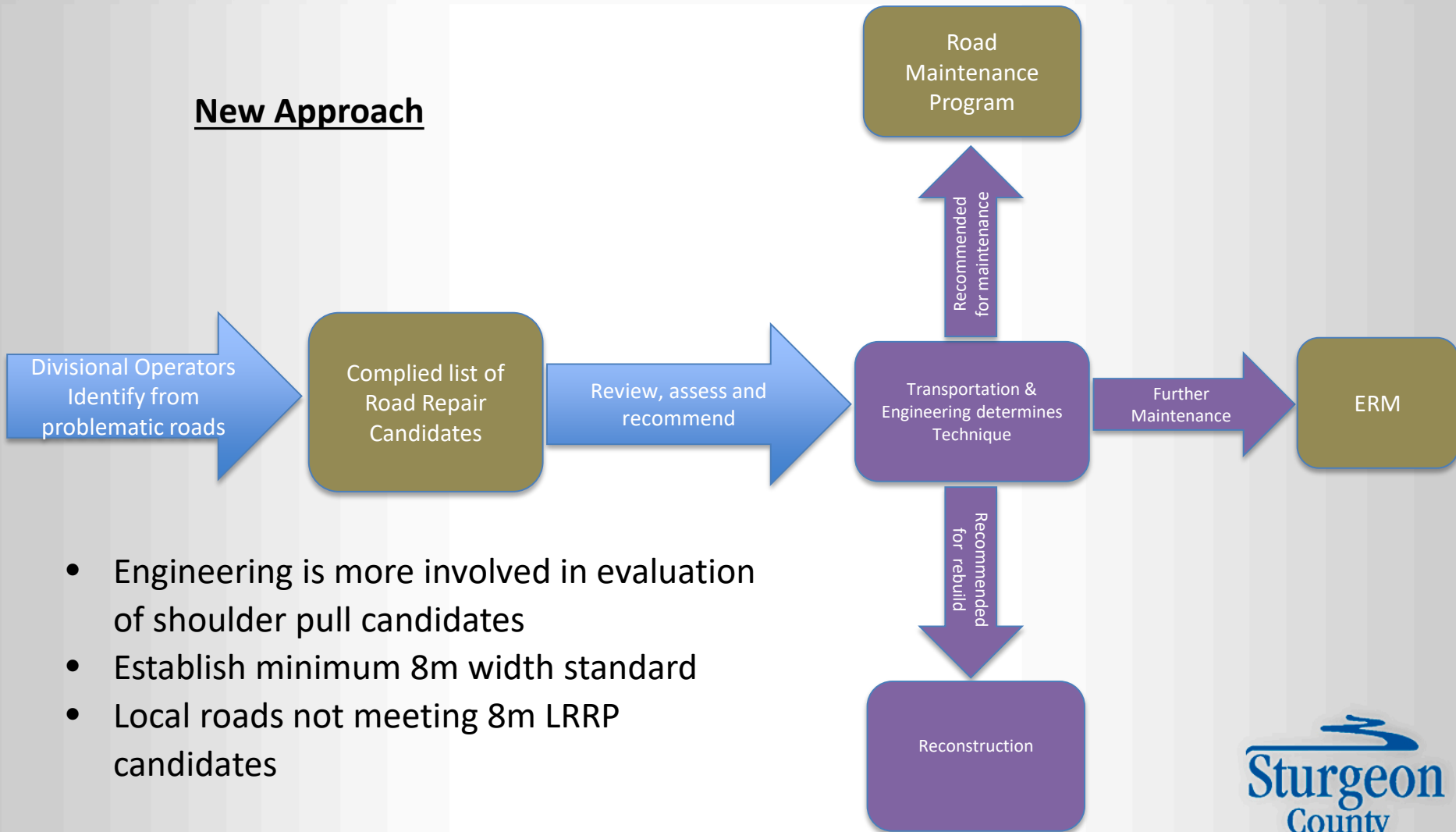
## Historic Approach





# Shoulder Pull Operations – Update

## New Approach



- Engineering is more involved in evaluation of shoulder pull candidates
- Establish minimum 8m width standard
- Local roads not meeting 8m LRRP candidates

# Shoulder Pull Operations – Update

## **2018 Plan**

The future of road shoulder program;

- i. Road repair candidates meet 8meter or > width criteria
- ii. As per new approach, all roads will be classified to a program;
  - Road Maintenance Program
  - Gravel Road Improvement Program (ERM, modified or full shoulder pull)
  - Road Reconstruction Program (LRRP, SRIS Options)

# Questions?



# Sturgeon County

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## Legislation Text

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**File #:** INF-120-17, **Version:** 1

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Regional Economic Development Entity



**Agenda Item:**

**B.3**

Committee of the Whole Meeting:

April 25, 2017

Item:

Regional Economic Development Entity

**Materials to be distributed at the meeting.**