



**1. Department / Function: Trails**

**Details of Project/Study: Transfer to Trails Reserve for Future Needs**

**2. Total Gross Cost of Proposed Capital Project/Study: \$0**

Construction	Consultant/Contractor	Equipment	Other (Specify)
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Transfer to Trails Reserve for future capital costs associated with culvert and bridge repairs or replacements.

**Cost of Proposed Capital Project/Study in 2016-2020 Program:**

	2016	2017	2018	2019	2020	Total
<b>Gross</b>	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000	<b>\$250,000</b>
<b>Net</b>	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000	<b>\$250,000</b>

**3. Estimated Useful Life: 50 plus years**

**4. Location of Project/Study (if applicable):**

Facility Name / Address	Municipality
various culverts along CP Rail Trail	

**5. Need or Benefit(s) of Project (including safety issues):**

The transfer of funds to the Trails Reserve will assist in offsetting some of the costs associated with the repair or replacement of the culverts and bridges along with CP Rail Trail that were identified in the 2011 culvert and bridge assessment completed by AECOM.

**6. Scheduling and Cost of Project/Study in 2015-2019 Capital Plan:**

	2015	2016	2017	2018	2019	Total
<b>Gross</b>	\$75,000	\$75,000	\$75,000	\$75,000	\$75,000	<b>\$375,000</b>
<b>Net</b>	\$75,000	\$75,000	\$75,000	\$75,000	\$75,000	<b>\$375,000</b>

**7. Consequences/Implications of Not Undertaking Project (including alternatives):**

If there are no transfers to reserve, the full costs associated with the culvert or bridge repair or replacement will need to come from taxation. This will also provide a consistent amount to take from the tax levy, rather than a fluctuating one on a year to year basis.

**8. Identify Sources and Amounts of Funding**

	To Reserve - Trails Reserve
2016	\$50,000
2017	\$50,000
2018	\$50,000
2019	\$50,000
2020	\$50,000
<b>Total</b>	<b>\$250,000</b>

**9. Compliance with Council objective/strategic plan (if applicable):**

In completing the capital projects of repair or replacement of the bridges and culverts along the CP Rail Trail, there is a commitment to lifecycle planning for long-term investment in county-owned capital assets. The trail projects are a vital link to trails in the area and will continue to promote Grey County as Ontario's recreational jewel. The transfer to reserve will also assist in offsetting future capital costs.

**10. Ongoing Financial/Staffing/Legal/IT Implications (if applicable):**

The transfer of funds to reserve in the years where capital costs are below the five year average will assist in offsetting the capital costs in the years where the capital costs are higher than the five year average.

**1. Department / Function: Trails**

**Details of Project/Study: Replacement of Culvert #9 on CP Rail Trail**

**2. Total Gross Cost of Proposed Capital Project/Study: \$47,250**

Construction	Consultant/Contractor	Equipment	Other (Specify)
\$47,250			

Replacement of Culvert#9 on CP Rail Trail 0.4km north of Grey Road 18 as identified in the 2011 Culvert and Bridge Inspection Report.

**Cost of Proposed Capital Project/Study in 2016-2020 Program:**

	2016	2017	2018	2019	2020	Total
<b>Gross</b>	\$0	\$0	\$0	\$0	\$0	<b>\$0</b>
<b>Net</b>	\$0	\$0	\$0	\$0	\$0	<b>\$0</b>

**3. Estimated Useful Life: 50 years**

**4. Location of Project/Study (if applicable):**

Facility Name / Address	Municipality
Culvert #9 on CP Rail Trail - 0.4km north of Grey Road 18	Municipality of Meaford

**5. Need or Benefit(s) of Project (including safety issues):**

As identified in the 2011 Culvert Inspection Report, the cast-in place concrete rigid frame culvert is in generally fair to poor condition with forward rotation of the west abutment wall causing loss of contact between the top of the abutment and the barrel soffit (see attached document). It was recommended that this structure be replaced.

**6. Scheduling and Cost of Project/Study in 2015-2019 Capital Plan:**

	2015	2016	2017	2018	2019	Total
<b>Gross</b>	\$164,000	\$0	\$0	\$0	\$0	<b>\$164,000</b>
<b>Net</b>	\$0	\$0	\$0	\$0	\$0	<b>\$0</b>

**7. Consequences/Implications of Not Undertaking Project (including alternatives):**

If this culvert is not replaced, trail user safety could be in jeopardy and this section of trail closed. The trail is used by many groups and is a vital corridor to local snowmobile, ATV, equestrian and cycling clubs to provide links to other trails within the area.

**8. Identify Sources and Amounts of Funding**

	From Reserve - Trails Reserve
2016	\$0
2017	\$0
2018	\$0
2019	\$0
2020	\$0
<b>Total</b>	<b>\$0</b>

**9. Compliance with Council objective/strategic plan (if applicable):**

The completion of this project will allow the CP Rail Trail to continue to be used by many user groups and provide a vital link to other trails in the area continuing to secure Grey County as Ontario's recreation jewel. The replacement also shows a commitment to the lifecycle planning for long-term investment in county-owned capital assets.

**10. Ongoing Financial/Staffing/Legal/IT Implications (if applicable):**

Over the next 5 years, funds will be moved to and from the trails reserve in order to have a consistent levy increase rather than a fluctuating one. Once the replacement is complete, there will be general maintenance required on the culvert that would be completed through ongoing operating budgets. As the legal owner of this structure, it is necessary to ensure its safety for the trail users as the County is responsible for the entire trail including the structures.

**INSPECTION NOTES**

Culvert No.: 9

Culvert No. 9, CP Rail Trail, 0.40 km North of Grey Road 18, County of Grey:

- Structure is not posted with a load limit.
- 1.1 m+/- single span cast-in-place concrete rigid frame culvert with 1.0m +/- of earth fill and a gravel roadway.
- No traffic protection is provided over the structure or on the approaches.
- Gravel roadway over the structure and on the approaches is in generally good condition with minor wheel track rutting and vegetative growth.
- Vegetative roadway embankments are in generally good condition.
- Cast-in-place concrete rigid frame culvert is in generally fair to poor condition with forward rotation of the west abutment wall causing loss of contact between the top of the abutment and the barrel soffit. Light scaling was noted throughout the barrel, localized wide cracking of the barrel mid span at the east and the west abutment and narrow to wide cracking was noted on the culvert invert slab (2.0m<sup>2</sup>, poor). "Quantity to poor would be the entire length of the west abutment which is 8 m long and 1.0 m<sup>2</sup> total for the wide cracking throughout the barrel and invert slab and the abutment walls."
- Watercourse is unobstructed with no evidence of scour.
- Serious evidence of structural distress was noted.
- Should replace culvert. The culvert replacement could be deferred for 3-5 years.

**L. HISTORY/ GENERAL**

Culvert No.: 9





Comments: LOOKING WEST AT ROADWAY OVER CULVERT

Culvert No.: 9

Path: E:\WorkTech Data\Grey\2011 Photos\Rail Trail\P1330297.jpg



Comments: NORTH ELEVATION

Culvert No.: 9

Path: E:\WorkTech Data\Grey\2011 Photos\Rail Trail\P1330296.jpg





Comments: FORWARD ROTATION ON ABUTMENT WALL

Culvert No.: 9

Path: E:\WorkTech Data\Grey\2011 Photos\Rail Trail\P1330291.jpg



Comments: WIDE CRACK ON BARREL WALL

Culvert No.: 9

Path: E:\WorkTech Data\Grey\2011 Photos\Rail Trail\P1330293.jpg





Comments: FORWARD ROTATION OF ABUTMENT WALL

Culvert No.: 9

Path: E:\WorkTech Data\Grey\2011 Photos\Rail Trail\VP1330295.jpg

Comments:

Culvert No.: 9

Path:

**1. Department / Function: Trails**

**Details of Project/Study: Culvert/Bridge Assessment Update**

**2. Total Gross Cost of Proposed Capital Project/Study: \$40,000**

Construction	Consultant/Contractor	Equipment	Other (Specify)
	\$40,000		

**Cost of Proposed Capital Project/Study in 2016-2020 Program:**

	2016	2017	2018	2019	2020	Total
<b>Gross</b>	\$40,000	\$0	\$0	\$0	\$0	<b>\$40,000</b>
<b>Net</b>	\$0	\$0	\$0	\$0	\$0	<b>\$0</b>

**3. Estimated Useful Life: Updated every 5 years**

**4. Location of Project/Study (if applicable):**

Facility Name / Address	Municipality
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**5. Need or Benefit(s) of Project (including safety issues):**

An assessment of the bridges and culverts on the CP Rail Trail was conducted in 2011. It is important to update the assessment to capture the current condition of the structures, to update the construction/rehabilitation costs for the structure, and to prioritize the projects based on the condition. This information will assist with the preparation of the capital budgets and overall lifecycle planning.

**6. Scheduling and Cost of Project/Study in 2015-2019 Capital Plan:**

	2015	2016	2017	2018	2019	Total
<b>Gross</b>	\$0	\$75,000	\$0	\$0	\$0	<b>\$75,000</b>
<b>Net</b>	\$0	\$0	\$0	\$0	\$0	<b>\$0</b>

**7. Consequences/Implications of Not Undertaking Project (including alternatives):**

By not updating the culvert/bridge assessment, the cost estimates for the projects may not be accurate which can lead to budgeting issues. Updating the assessment will also ensure that the County is allocating resources for the highest priority projects based on updated condition assessments.

**8. Identify Sources and Amounts of Funding**

	From Reserve - Trails Reserve
2016	\$40,000
2017	\$0
2018	\$0
2019	\$0
2020	\$0
<b>Total</b>	<b>\$40,000</b>

**9. Compliance with Council objective/strategic plan (if applicable):**

By updating the assessment of culverts/bridges on the CP Rail Trail, there is a commitment to lifecycle planning for long-term investment in county-owned capital assets (Action Item 1.6 of the Corporate Strategic Plan).

**10. Ongoing Financial/Staffing/Legal/IT Implications (if applicable):**

An updated assessment of bridges and culverts will provide updated costs estimates for future projects and also prioritize the projects that have the greatest need. It is proposed the the Culvert/Bridge Assessment for the CP Rail Trail will be conducted using the current contract that the Transportation Services Department has for assessing the culverts and bridges on County roads. It is estimated this will cost approximately \$40,000 based on the current contract cost per unit inspected which is \$35,000 less than the previously budgeted amount.

**1. Department / Function: Trails**

**Details of Project/Study: Replacement of Culvert #16 on CP Rail Trail**

**2. Total Gross Cost of Proposed Capital Project/Study: \$60,000**

Construction	Consultant/Contractor	Equipment	Other (Specify)
\$60,000			

Replacement of Culvert #16 on CP Rail Trail south of Massie Road as identified in the 2011 culvert and bridge inspection.

**Cost of Proposed Capital Project/Study in 2016-2020 Program:**

	2016	2017	2018	2019	2020	Total
<b>Gross</b>	\$60,000	\$0	\$0	\$0	\$0	<b>\$60,000</b>
<b>Net</b>	\$0	\$0	\$0	\$0	\$0	<b>\$0</b>

**3. Estimated Useful Life: 50 years**

**4. Location of Project/Study (if applicable):**

Facility Name / Address	Municipality
Culvert #16 1km south of Massie Road	Township of Chatsworth

**5. Need or Benefit(s) of Project (including safety issues):**

As identified in the 2011 culvert inspection the timber box culvert is generally in fair to poor condition. The west end of the culvert has collapsed. The east end of the structure is fully covered with vegetative growth. It was recommended that this structure be replaced.

**6. Scheduling and Cost of Project/Study in 2015-2019 Capital Plan:**

	2015	2016	2017	2018	2019	Total
<b>Gross</b>	\$0	\$229,000	\$0	\$0	\$0	<b>\$229,000</b>
<b>Net</b>	\$0	\$0	\$0	\$0	\$0	<b>\$0</b>

**7. Consequences/Implications of Not Undertaking Project (including alternatives):**

If this culvert is not replaced, trail user safety could be in jeopardy and this section of trail closed. The trail is used by many groups and is a vital corridor to local snowmobile, ATV, equestrian and cycling clubs to provide links to other trails within the area.

**8. Identify Sources and Amounts of Funding**

	From Reserve - Trails Reserve
2016	\$60,000
2017	\$0
2018	\$0
2019	\$0
2020	\$0
<b>Total</b>	<b>\$60,000</b>



**9. Compliance with Council objective/strategic plan (if applicable):**

The completion of this project will allow the CP Rail Trail to continue to be used by many user groups and provide a vital link to other trails in the area continuing to secure Grey County as Ontario's recreation jewel. The replacement also shows a commitment to the lifecycle planning for long-term investment in county-owned capital assets.

**10. Ongoing Financial/Staffing/Legal/IT Implications (if applicable):**

Over the next 5 years, funds will be moved to and from the trails reserve in order to have a consistent levy increase rather than a fluctuating one. Once the replacement is complete, there will be general maintenance required on the culvert that would be completed through ongoing operating budgets. As the legal owner of this structure, it is necessary to ensure its safety for the trail users as the County is responsible for the entire trail including the structures.

**INSPECTION NOTES**

Culvert No.: 16

Culvert No. 16, CP Rail Trail, 1.0 km South of Massie Road, County of Grey:

- Structure is not posted with a load limit.
- 1.8 m+/- single span timber box culvert with 0.6 m+/- of earth fill and a gravel roadway.
- No traffic protection has been provided.
- Gravel roadway over the structure and on the approaches is in generally good condition with minor wheel track rutting.
- Timber box culvert is generally in fair to poor condition. The west end of the culvert has collapsed. The east end of the structure is fully covered with vegetative growth.
- Vegetative roadway embankments are in generally condition with extensive vegetative growth.
- Watercourse is unable to pass through the barrel as it has collapse at the west end.
- No serious evidence of structural distress noted on the roadway above.
- Should replace culvert. The culvert replacement could be deferred for 3-5 years.

**L. HISTORY/ GENERAL**

Culvert No.: 16



Comments: LOOKING NORTH AT ROADWAY OVER CULVERT

Culvert No.: 16

Path: E:\WorkTech Data\Grey\2011 Photos\Rail Trail\P1330328.jpg



Comments: EAST ELEVATION

Culvert No.: 16

Path: E:\WorkTech Data\Grey\2011 Photos\Rail Trail\P1330326.jpg





Comments: WIDE SPLITTING ON TIMBER CULVERT

Culvert No.: 16

Path: E:\WorkTech Data\Grey\2011 Photos\Rail Trail\VP1330327.jpg

Comments:

Culvert No.: 16

Path:



**1. Department / Function: Trails**

**Details of Project/Study: Replacement of Culvert #74 on CP Rail Trail**

**2. Total Gross Cost of Proposed Capital Project/Study: \$75,000**

Construction	Consultant/Contractor	Equipment	Other (Specify)
\$75,000			

Replacement of Culvert #74 on CP Rail Trail - south of Southgate Road

**Cost of Proposed Capital Project/Study in 2016-2020 Program:**

	2016	2017	2018	2019	2020	Total
<b>Gross</b>	\$0	\$75,000	\$0	\$0	\$0	<b>\$75,000</b>
<b>Net</b>	\$0	\$0	\$0	\$0	\$0	<b>\$0</b>

**3. Estimated Useful Life: 50 years**

**4. Location of Project/Study (if applicable):**

Facility Name / Address	Municipality
Culvert #74 1.5km south of Southgate Road	Township of Southgate

**5. Need or Benefit(s) of Project (including safety issues):**

As identified in the 2011 culvert inspection the corrugated steel round pipe culverts are in poor condition with severe corrosion and perforations of the invert. It was recommended that the culvert be replaced.

**6. Scheduling and Cost of Project/Study in 2015-2019 Capital Plan:**

	2015	2016	2017	2018	2019	Total
<b>Gross</b>	\$0	\$0	\$294,000	\$0	\$0	<b>\$294,000</b>
<b>Net</b>	\$0	\$0	\$0	\$0	\$0	<b>\$0</b>

**7. Consequences/Implications of Not Undertaking Project (including alternatives):**

If this culvert is not replaced, trail user safety could be in jeopardy and this section of trail closed. The trail is used by many groups and is a vital corridor to local snowmobile, ATV, equestrian and cycling clubs to provide links to other trails within the area.

**8. Identify Sources and Amounts of Funding**

	From Reserve - Trails Reserve
2016	\$0
2017	\$75,000
2018	\$0
2019	\$0
2020	\$0
<b>Total</b>	<b>\$75,000</b>

**9. Compliance with Council objective/strategic plan (if applicable):**

The completion of this project will allow the CP Rail Trail to continue to be used by many user groups and provide a vital link to other trails in the area continuing to secure Grey County as Ontario's recreation jewel. The replacement also shows a commitment to the lifecycle planning for long-term investment in county-owned capital assets.

**10. Ongoing Financial/Staffing/Legal/IT Implications (if applicable):**

Over the next 5 years, funds will be moved to and from the trails reserve in order to have a consistent levy increase rather than a fluctuating one. Once the replacement is complete, there will be general maintenance required on the culvert that would be completed through ongoing operating budgets. As the legal owner of this structure, it is necessary to ensure its safety for the trail users as the County is responsible for the entire trail including the structures.

**INSPECTION NOTES**

Culvert No.: 74

Culvert No. 74, CP Rail Trail, 0.5 km South of Southgate Road, County of Grey:

- Structure is not posted with a load limit.
- Two span (0.8 m+/- each) corrugated steel plate round pipe culverts with 3.2 m+/- of earth fill and a gravel roadway.
- No traffic protection has been provided.
- Gravel roadway over the structure and on the approaches is in good condition.
- Corrugated steel round pipe culverts are in poor condition with severe corrosion and perforations of the invert.
- Vegetative roadway embankments are in generally good condition.
- No traffic protection is provided over the structure or the approaches.
- Watercourse is unobstructed with no evidence of scour.
- No serious evidence of structural distress.
- Structure does not require posting with a load limit.
- Should replace culvert. The culvert replacement could be deferred for 3-5 years.

**L. HISTORY/ GENERAL**

Culvert No.: 74



Comments: LOOKING SOUTH AT ROADWAY OVER CULVERT

Culvert No.: 74

Path: E:\WorkTech Data\Grey\2011 Photos\Rail Trail\P1330566.jpg



Comments: WEST ELEVATION

Culvert No.: 74

Path: E:\WorkTech Data\Grey\2011 Photos\Rail Trail\P1330568.jpg





Comments: PERFORATION AT EAST END OF NORTH BARREL INVERT

Culvert No.: 74

Path: E:\WorkTech Data\Grey\2011 Photos\Rail Trail\VP1330567.jpg

Comments:

Culvert No.: 74

Path:

**1. Department / Function: Trails**

**Details of Project/Study: Replacement of Culvert #23 on CP Rail Trail**

**2. Total Gross Cost of Proposed Capital Project/Study: \$70,000**

Construction	Consultant/Contractor	Equipment	Other (Specify)
\$70,000			

Replacement of Culvert #23 on CP Rail Trail-south of Elder Lane as identified in the 2011 culvert and bridge inspection.

**Cost of Proposed Capital Project/Study in 2016-2020 Program:**

	2016	2017	2018	2019	2020	Total
<b>Gross</b>	\$0	\$0	\$70,000	\$0	\$0	<b>\$70,000</b>
<b>Net</b>	\$0	\$0	\$0	\$0	\$0	<b>\$0</b>

**3. Estimated Useful Life: 50 years**

**4. Location of Project/Study (if applicable):**

Facility Name / Address	Municipality
0.75 km south of Elder Lane	Township of Chatsworth

**5. Need or Benefit(s) of Project (including safety issues):**

This culvert was identified as a priority for repair/replacement in the 2011 culvert/bridge inspection. The masonry rigid frame culvert is in poor condition with minor loss of mortar along the barrel walls and soffit. There is an extremely wide crack along the barrel soffit which has been reinforced in the past by steel shoring. There is also minor loss of mortar and minor cracking in the headwalls and wingwalls. It was recommended that the culvert be replaced.

**6. Scheduling and Cost of Project/Study in 2015-2019 Capital Plan:**

	2015	2016	2017	2018	2019	Total
<b>Gross</b>	\$0	\$0	\$0	\$262,000	\$0	<b>\$262,000</b>
<b>Net</b>	\$0	\$0	\$0	\$0	\$0	<b>\$0</b>

**7. Consequences/Implications of Not Undertaking Project (including alternatives):**

If this culvert is not replaced, trail user safety could be in jeopardy and this section of trail closed. The trail is used by many groups and is a vital corridor to local snowmobile, ATV, equestrian and cycling clubs to provide links to other trails within the area.

**8. Identify Sources and Amounts of Funding**

	From Reserve - Federal Gas Tax	From Reserve - Trails Reserve
2016	\$0	\$0
2017	\$0	\$0
2018	\$0	\$70,000
2019	\$0	\$0
2020	\$0	\$0
<b>Total</b>	<b>\$0</b>	<b>\$70,000</b>

**9. Compliance with Council objective/strategic plan (if applicable):**

The completion of this project will allow the CP Rail Trail to continue to be used by many user groups and provide a vital link to other trails in the area continuing to secure Grey County as Ontario's recreation jewel. The replacement also shows a commitment to the lifecycle planning for long-term investment in county-owned capital assets.

**10. Ongoing Financial/Staffing/Legal/IT Implications (if applicable):**

Over the next 5 years, funds will be moved to and from the trails reserve in order to have a consistent levy increase rather than a fluctuating one. Once the replacement is complete, there will be general maintenance required on the culvert that would be completed through ongoing operating budgets. As the legal owner of this structure, it is necessary to ensure its safety for the trail users as the County is responsible for the entire trail including the structures.





Comments: LOOKING SOUTH AT ROADWAY OVER CULVERT

Culvert No.: 23

Path: E:\WorkTech Data\Grey\2011 Photos\Rail Trail\P1330374.jpg



Comments: EAST ELEVATION

Culvert No.: 23

Path: E:\WorkTech Data\Grey\2011 Photos\Rail Trail\P1330362.jpg





Comments: STEEL SHORING AT BARREL MIDSPAN

Culvert No.: 23

Path: E:\WorkTech Data\Grey\2011 Photos\Rail Trail\P1330363.jpg



Comments: WIDE CRACK ON BARREL SOFFIT

Culvert No.: 23

Path: E:\WorkTech Data\Grey\2011 Photos\Rail Trail\P1330364.jpg



Comments: LOSS OF MORTAR ON WINGWALL

Culvert No.: 23

Path: E:\WorkTech Data\Grey\2011 Photos\Rail Trail\VP1330365.jpg

Comments:

Culvert No.: 23

Path:



**1. Department / Function: Trails**

Details of Project/Study: **Replacement of Bridge#63 on CP Rail Trail**

**2. Total Gross Cost of Proposed Capital Project/Study: \$193,000**

Construction	Consultant/Contractor	Equipment	Other (Specify)
	\$193,000		

**Cost of Proposed Capital Project/Study in 2016-2020 Program:**

	2016	2017	2018	2019	2020	Total
<b>Gross</b>	\$0	\$0	\$0	\$193,000	\$0	<b>\$193,000</b>
<b>Net</b>	\$0	\$0	\$0	\$0	\$0	<b>\$0</b>

**3. Estimated Useful Life: 50 years**

**4. Location of Project/Study (if applicable):**

Facility Name / Address	Municipality
0.5 km south of Road 170 on the CP Rail Trail	Municipality of Grey Highlands

**5. Need or Benefit(s) of Project (including safety issues):**

This bridge was identified as a priority for replacement in the 2011 culvert/bridge inspection. The concrete abutments are in poor condition with extensive wide horizontal and vertical cracks, severe scaling at the high water mark and light to severe spalling. Concrete wingwalls are in fair to generally good condition with localized severe scaling and minor outward rotation. It is recommended that the structure be replaced.

**6. Scheduling and Cost of Project/Study in 2015-2019 Capital Plan:**

	2015	2016	2017	2018	2019	Total
<b>Gross</b>	\$0	\$0	\$0	\$0	\$193,000	<b>\$193,000</b>
<b>Net</b>	\$0	\$0	\$0	\$0	\$0	<b>\$0</b>

**7. Consequences/Implications of Not Undertaking Project (including alternatives):**

If this bridge is not replaced, trail user safety could be jeopardized and this section of trail closed. The trail is used by many groups and is a vital corridor to local snowmobile, ATV, equestrian and cycling clubs to provide links to other trails within the area.

**8. Identify Sources and Amounts of Funding**

	From Reserve - Trails Reserve
2016	\$0
2017	\$0
2018	\$0
2019	\$193,000
2020	\$0
<b>Total</b>	<b>\$193,000</b>

**9. Compliance with Council objective/strategic plan (if applicable):**

The completion of this project will allow the CP Rail Trail to continue to be used by many user groups and provide a vital link to other trails in the area continuing to secure Grey County as Ontario's recreation jewel. The replacement also shows a commitment to the lifecycle planning for long-term investment in county-owned capital assets.

**10. Ongoing Financial/Staffing/Legal/IT Implications (if applicable):**

Over the next five years, funds will be moved to and from the Trails Reserve in order to have a consistent levy increase rather than a fluctuating one. Once the replacement is complete, there will be general maintenance required on the bridge that would be completed through ongoing operating budgets. As the legal owner of this structure, it is necessary to ensure the structure is safe for the trail users.



**INSPECTION NOTES**

Bridge No.: 63

Bridge No. 63, CP Rail Trail, 0.5 km South of Road 170, County of Grey:

- Structure is not posted with a load limit.
- 1.2 m+/- single span concrete cast-in-place solid slab structure with 0.3m +/- of earth fill and a gravel roadway surface.
- Gravel roadway over the structure and on the approaches is in generally good condition with minor vegetative growth.
- Vegetative roadway embankments are in generally good condition.
- Concrete soffit is in generally good condition with light scaling, wide cracks noted at the barrel end and narrow stained map cracking (1m<sup>2</sup>, poor).
- Concrete abutments are in poor condition with extensive wide horizontal and vertical cracks, severe scaling at the high water mark and light to severe spalling (12m<sup>2</sup>, poor).
- Concrete wingwalls are in fair to generally good condition with localized severe scaling and minor outward rotation (2m<sup>2</sup>, poor).
- No traffic protection is provided over the structure or the approaches.
- Watercourse is unobstructed with no evidence of scour.
- Structure does not require posting with a load limit.
- Should replace structure.

**L. HISTORY/ GENERAL**

Bridge No.: 63



Comments: LOOKING NORTH AT BRIDGE

Bridge No.: 63

Path: E:\WorkTech Data\Grey\2011 Photos\Rail Trail\P1330512.jpg



Comments: TYPICAL SOFFIT

Bridge No.: 63

Path: E:\WorkTech Data\Grey\2011 Photos\Rail Trail\P1330524.jpg





Comments: SEVERE SCALING OF WINGWALL

Bridge No.: 63

Path: E:\WorkTech Data\Grey\2011 Photos\Rail Trail\P1330513.jpg



Comments: WIDE CRACK ON SOFFIT

Bridge No.: 63

Path: E:\WorkTech Data\Grey\2011 Photos\Rail Trail\P1330514.jpg





Comments: NORTH ABUTMENT

Bridge No.: 63

Path: E:\WorkTech Data\Grey\2011 Photos\Rail Trail\P1330515.jpg



Comments: SOUTH ABUTMENT

Bridge No.: 63

Path: E:\WorkTech Data\Grey\2011 Photos\Rail Trail\P1330516.jpg



**1. Department / Function: Trails**

**Details of Project/Study: Replacement of Culvert #75 on CP Rail Trail**

**2. Total Gross Cost of Proposed Capital Project/Study: \$50,000**

Construction	Consultant/Contractor	Equipment	Other (Specify)
\$50,000			

Replacement of Culvert #75 on CP Rail Trail 0.5km South of Southgate Road 24

**Cost of Proposed Capital Project/Study in 2016-2020 Program:**

	2016	2017	2018	2019	2020	Total
<b>Gross</b>	\$0	\$0	\$0	\$0	\$50,000	<b>\$50,000</b>
<b>Net</b>	\$0	\$0	\$0	\$0	\$0	<b>\$0</b>

**3. Estimated Useful Life: 50 years**

**4. Location of Project/Study (if applicable):**

Facility Name / Address	Municipality
Culvert #75 0.5km south of Southgate Road 24	Township of Southgate

**5. Need or Benefit(s) of Project (including safety issues):**

As identified in the 2011 culvert inspection report the precast concrete round pipe units are in poor condition and have displaced. The concrete headwalls are in generally good to fair condition with a section missing at the culvert inlet. It was recommended that this structure be replaced.

**6. Scheduling and Cost of Project/Study in 2015-2019 Capital Plan:**

	2015	2016	2017	2018	2019	Total
<b>Gross</b>	\$0	\$0	\$0	\$0	\$0	<b>\$0</b>
<b>Net</b>	\$0	\$0	\$0	\$0	\$0	<b>\$0</b>

**7. Consequences/Implications of Not Undertaking Project (including alternatives):**

If this culvert is not replaced, trail user safety could be in jeopardy and this section of trail could be closed as a result. The trail is used by many groups and is a vital corridor to local snowmobile, ATV, equestrian and cycling clubs to provide links to other trails within the area.

**8. Identify Sources and Amounts of Funding**

	From Reserve - Trails Reserve
2016	\$0
2017	\$0
2018	\$0
2019	\$0
2020	\$50,000
<b>Total</b>	<b>\$50,000</b>

**9. Compliance with Council objective/strategic plan (if applicable):**

The completion of this project will allow the CP Rail Trail to continue to be used by many user groups and provide a vital link to other trails in the area continuing to secure Grey County as Ontario's recreation jewel. The replacement also shows a commitment to the lifecycle planning for long-term investment in county-owned capital assets.

**10. Ongoing Financial/Staffing/Legal/IT Implications (if applicable):**

Over the next 5 years, funds will be moved to and from the trails reserve in order to have a consistent levy increase rather than a fluctuating one. Once the replacement is complete, there will be general maintenance required on the culvert that would be completed through ongoing operating budgets. As the legal owner of this structure, it is necessary to ensure its safety for the trail users as the County is responsible for the entire trail including the structures.

# MUNICIPAL CULVERT APPRAISAL

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## A. IDENTIFICATION

Culvert Name:		Culvert No.:	75
Road Name:	CP RAIL TRAIL	Road Section No.	
Location:	0.50 KM S OF SOUTHGATE ROAD 24	MTO Site No.:	
Roadside Env.:	R	Posting Sign:	t t t
Posting:	t t t	Low Clearnc Sign:	Narrow Structure Sign:
Bylaw No.:		Easting:	17 0545119
Bylaw Exp. Date:		Northing:	4892162
		Crossing Type:	O-WAT, Over Water
		Federal Nav. Waterway:	Unknown
		Culvert Value:	\$214,000
		Old ID:	

## B. RAILWAY OVERPASS/UNDERPASS

Railway Level Crossing Number:		Original Board Order Number:	
Railway Company:		Date:	
Railway Subdivision:		Current Board Order Number:	
Subdivision Mileage:		Date:	
Transport Canada Crossing No.:		Seniority:	
Number of Tracks:			

## C. JURISDICTION

Owner:	47000	Special Designation:		<b>Local / Area Municipality (Upper Tier Only)</b>
Owner Share:	100.00 %	Designation 2		MunicA 47101
<input type="checkbox"/> Shared?		Adjacent Culvert No.:		MunicB 00000
Shared With:				Patrol: Even Year
Heritage Status:	R			

## D. EXISTING CONDITIONS

Year Construted:	1908	Cell/Span Wdth/Dia.:	0.9 m	End Treatment:	<b>A B C D</b>
Year Extended:		Total Width/Dia:	2.3 m	Upstream:	H
Material/ Type:	CST - PR	Max Height:	0.9 m	Downstream:	H
Crossing Skew:	00 °	Length:	9.6 m	Soil Condition:	U
No of Cells/Spans:	1	Type/Depth of Fill: E	1.4 m	Foundation Type:	UN - Unknown
		Culvert Floor:	SC		
----- ROAD OVER CULVERT -----					
Existing Road Class:	100	Platform Width:	3.1 m	Safety Curb/	(A) N / E 0.0 m
Operational Status:	2W - CVT	Surface Width:	2.6 m	Sidewalk and Curb	(B) N / W 0.0 m
Surface Type:	G	No. of Lanes:	1.0	Roadside Safety:	(A) E NO
					(B) W NO
----- ROAD THROUGH CULVERT -----					
Existing Road Class:		No. of Lanes:		Traffic Barrier:	
Operational Status:	-	Median Type/Width:		Min Vertical Clearance:	m
Opening Width:	m	Safety Curb/	/ m		
Surface Width:	m	Sidewalk and Curb	/ m		

## E. TRAFFIC DATA

Legal Speed Limit:		<u>Traffic Count</u>		<u>10 Year Traffic Forecast</u>	
Route Designations		Year:	0	Year:	10
<input type="checkbox"/> Bus <input type="checkbox"/> Truck Route		AADT:		AADT:	
<input type="checkbox"/> School <input type="checkbox"/> Bicycle		DHV Factor:	%	DHV Factor:	%
		DHV:	vph	DHV:	vph
		Trucks:	%	Trucks:	%
<b>Source:</b>		Peak Directional Split:	%	Capacity:	0 vph
Culvert 75 Asset Master		10 Year Growth Factor:		20 Year AADT:	0

## F. INSPECTIONS

Date:	7/28/2011	Inspected By:	Dane Kelly	Approved By:	D. Baxter, P.Eng.
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Municipality: County of Grey

Culvert No.: 75

# MUNICIPAL CULVERT APPRAISAL

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## G. CULVERT NEEDS

Field	MCR	PCR	TON	Comments
Barrel	4	3	1-5	
Foundations	3	3	1-5	
Guiderail/Barrier	0	0	ADEQ	
Inlet Component	4	4	1-5	
Outlet Component	5	5	6-10	
Streams/Waterways	6	6	ADEQ	

## H. FUNCTIONAL NEEDS

Field	Existing	Min Tolerable	Time of Need	Comments
RO-Platform Width	3.1	3.0	ADEQ	Road Class: 100, Safety Curb: 0
RO-Level of Service	A	E	ADEQ	
RO-Roadside Safety	2.3	3	ADEQ	

## Recommended Needs

Impr.Class	Improvement	Description	Time of Need	Year	Base/Const Cost	Eng/Cont	Total
Const	cREC	Remove existing culvert	NOW	0	30,000	9,000	39,000
Const	cRSL	Replace culvert, same location	NOW	0	50,000	15,000	65,000
			Const	Subtotal:	80,000	24,000	104,000
Const Extra	ccAPP	Approaches	NOW	0	40,000	12,000	52,000
Const Extra	ccENV	Environmnetal Study	NOW	0	20,000	0	20,000
			Const Extra	Subtotal:	60,000	12,000	72,000

## I. ENGINEERING RECOMMENDATIONS

Culvert Drawings:  
Estimated Posting: t  
Evaluated Posting: t t t  
Closure Date/Type:  
Closure Type:  
Monitoring:  
Monitoring Component:

## J. DESIGN PARAMETERS

Design Class: RLLU  
Design Platform Width: 3.1  
Material/Type: CPS - PR  
Width/Diameter: 1.2  
Maximum Height: 1.2  
Culvert Length: 10.0  
No. of Culverts: 1  
Depth of Fill: 1.4

## K. IMPROVEMENT COSTS

Total Construction/Rehab 176,000  
Total Inspection 0  
TOTAL 176,000  
47000 share @ 100% 176,000



# MUNICIPAL CULVERT APPRAISAL

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## INSPECTION NOTES

Culvert No.: 75

Culvert No. 75, CP Rail Trail, 0.5 km South of Southgate Road 24, County of Grey:

- Structure is not posted with a load limit.
- 0.9 m+/- single span corrugated steel plate round pipe culvert with a precast concrete round pipe culvert extension with 1.4 m+/- of earth fill and a gravel roadway.
- Gravel roadway over the structure and on the approaches is in good condition.
- No traffic protection is provided over the structure or the approaches.
- Vegetative roadway embankments are in good condition.
- Corrugated steel plate round culvert is in generally good condition with light corrosion.
- Precast concrete round pipe units are in poor condition and have displaced.
- Concrete headwalls are in generally good to fair condition with a section missing at the culvert inlet.
- Watercourse is unobstructed with no evidence of scour.
- No serious evidence of structural distress.
- Structure does not require posting with a load limit.
- Should replace culvert. The culvert replacement could be deferred for 3-5 years.

## L. HISTORY/ GENERAL

Culvert No.: 75



Comments: LOOKING SOUTH AT ROADWAY OVER CULVERT

Culvert No.: 75

Path: E:\WorkTech Data\Grey\2011 Photos\Rail Trail\P1330575.jpg



Comments: WEST ELEVATION

Culvert No.: 75

Path: E:\WorkTech Data\Grey\2011 Photos\Rail Trail\P1330569.jpg





Comments: LIGHT CORROSION OF BARREL AT HIGH WATER LEVEL

Culvert No.: 75

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Comments: MISSING SECTION OF INLET HEADWALL

Culvert No.: 75

Path: E:\WorkTech Data\Grey\2011 Photos\Rail Trail\PI330573.jpg



Comments: SEPARATION OF PRECAST CONCRETE UNITS

Culvert No.: 75

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Comments:

Culvert No.: 75

Path: