

City of Windsor

SEWER AND COASTAL FLOOD PROTECTION MASTER PLAN



Riverside Drive East (Ford Blvd To East City Limits) Landform Barrier Preliminary Preferred Solution Summary

February 2020



Presented by:



Purpose of this Information Package

- To describe the preliminary evaluation of alternatives considered to reduce the risk of inland flooding due to coastal (Detroit River and Lake St. Clair) high water events.
- Technical work identified low-lying areas within East Windsor and developed flood protection solutions for 3 areas. This booklet includes:
 - Alternative options to reduce the potential for coastal flooding that were considered (referred to as Alternative Solutions).
 - A table highlighting which alternative is preferred based on a set of evaluation criteria.
 - A brief explanation on the problem being addressed, the key differences between the alternatives and any key assumptions made.
- Your input on this information can be provided by email: info@weatheringthestorm.ca.
- The City will review and incorporate the input received, where appropriate, in the Master Plan recommendations. The Master Plan will be available for review in summer of 2020.
- For more information about this project visit weatheringthestorm.ca
- This material should be reviewed in conjunction with the Public Information Centre No. 2 displays available on weatheringthestorm.ca.

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Landform Barrier: Ford Blvd. to St. Rose Ave. – Evaluation of Alternatives

What are these Alternative Solutions Addressing?:

- Reduce potential for inland flooding due to coastal high water levels.
- **Objective:** During high water events, coastal waters are prevented from migrating inland and flooding lower lying areas of the City.

Summary of Evaluation:

- Both alternatives meet the flood risk reduction objective, but Alternative 2 has a greater flood resiliency under severe climate change events.
- Alternative 2 has significantly more impact to existing lands. **Alternative 1** is less intrusive to existing properties and is less expensive.

Assumptions:

- Where feasible, existing property grading that meets or exceeds the target elevation were utilized to limit required berm construction.
- Some property acquisition or easements may be required to facilitate construction and maintenance of the berm.
- New drainage system(s) may be required between the berm and existing homes to prevent stormwater ponding on/near private property.

Evaluation Criteria	Alternative 1	Alternative 2
Description	Landform Barrier Constructed to 176.50 m	Landform Barrier Constructed to 176.80 m
Meets Flood Mitigation Objectives	✓	✓
Resiliency to Climate Change		✓
Protects Storm Sewers and Drainage Systems	✓	✓
Management of Overland Drainage	✓	✓
Ease of Construction	✓	
Impacts to Potential Inland Development	✓	✓
Impacts to Existing Properties (Trees, Landscape, Structures)	✓	
Property Acquisition Impacts	✓	
Cost	✓	
PREFERRED		

Landform Barrier: St. Rose Ave. to Riverdale Ave. – Evaluation of Alternatives

What are these Alternative Solutions Addressing?:

- Reduce potential for inland flooding due to coastal high water levels.
- **Objective:** During high water events, coastal waters are prevented from migrating inland and flooding lower lying areas of the City.

Summary of Evaluation:

- Both alternatives meet the flood risk reduction objective, but Alternative 2 has a greater flood resiliency under severe climate change events.
- Alternative 2 has significantly more impact to existing lands. **Alternative 1** is less intrusive to existing properties and is less expensive.

Assumptions:

- A portion of berm improvements meeting the **Alternative 1** elevation was already completed during Riverside Vista Phase 1 in 2018.
- Property acquisition or easements will be required to facilitate construction and maintenance of the berm.
- New drainage system(s) may be required between the berm and existing homes to prevent stormwater ponding on/near private property.

Evaluation Criteria	Alternative 1	Alternative 2
Description	Landform Barrier Constructed to 176.50 m	Landform Barrier Constructed to 176.80 m
Meets Flood Mitigation Objectives	✓	✓
Resiliency to Climate Change		✓
Protects Storm Sewers and Drainage Systems	✓	✓
Management of Overland Drainage	✓	✓
Ease of Construction	✓	
Impacts to Potential Inland Development	✓	✓
Impacts to Properties (Trees, Landscape, Structures)	✓	
Property Acquisition Impacts	✓	
Cost	✓	
	PREFERRED	

Landform Barrier: Riverdale Ave. to East City Limits – Evaluation of Alternatives

What are these Alternative Solutions Addressing?:

- Reduce potential for inland flooding due to coastal high water levels.
- **Objective:** During high water events, coastal waters are prevented from migrating inland and flooding lower lying areas of the City.

Summary of Evaluation:

- Both alternatives meet the flood risk reduction objective, but Alternative 2 has a greater flood resiliency under severe climate change events.
- Alternative 2 has significantly more impact to existing lands. **Alternative 1** is less intrusive to existing properties and is less expensive.

Assumptions:

- The majority of the existing Ganatchio Trail already meets the **Alternative 1** target elevation.
- Localized improvements/grade alteration are required for areas of the trail and road crossings.
- Improvements will be required to prevent standing water from entering existing roadway storm and sanitary sewers and migrating inland.

Evaluation Criteria	Alternative 1	Alternative 2
Description	Landform Barrier Constructed to 176.50 m	Landform Barrier Constructed to 176.80 m
Meets Flood Mitigation Objectives	✓	✓
Resiliency to Climate Change		✓
Protects Storm Sewers and Drainage Systems	✓	✓
Management of Overland Drainage	✓	✓
Ease of Construction	✓	
Impacts to Potential Inland Development	✓	✓
Impacts to Properties (Trees, Landscape, Structures)	✓	
Property Acquisition Impacts	✓	
Cost	✓	
PREFERRED		