APPENDIX C

Segment C: West of Erie Street to East of East Limit of Stratford, including Erie Street

Environmental Considerations Mapping: Preliminary Design Map for Recommended Plan and Close-up Maps of Crossing Road Intersection Treatment Alternatives

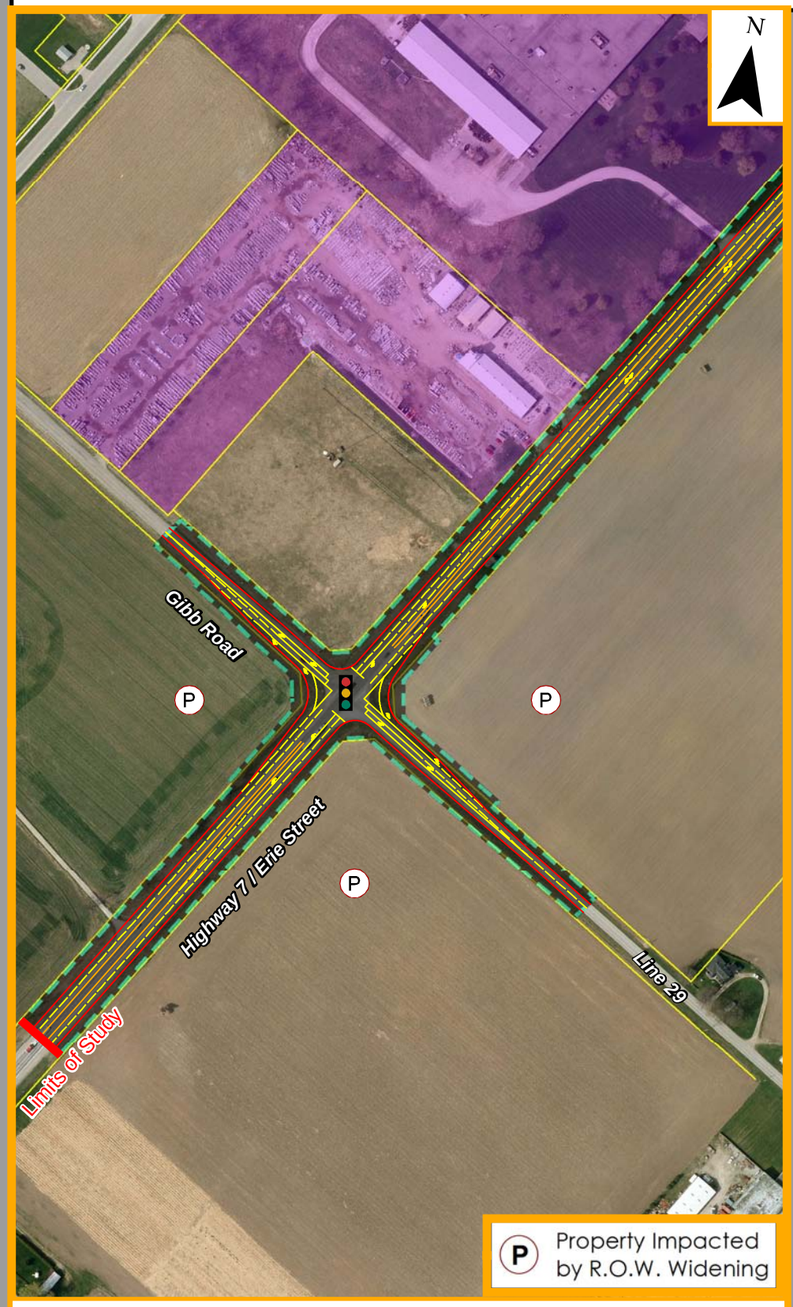
Preliminary Design Alternatives Assessment and Evaluation Table

Highway 7 & 8 Transportation Corridor Planning and Class EA Study - Preliminary Design Map of Segment C - Draft - July, 2013

Path: F:\60117929 Highway 7 and 8\GIS Data\Maps\Roll Plans for Display\60117929_Main_Line_SegC_20130718.mxd

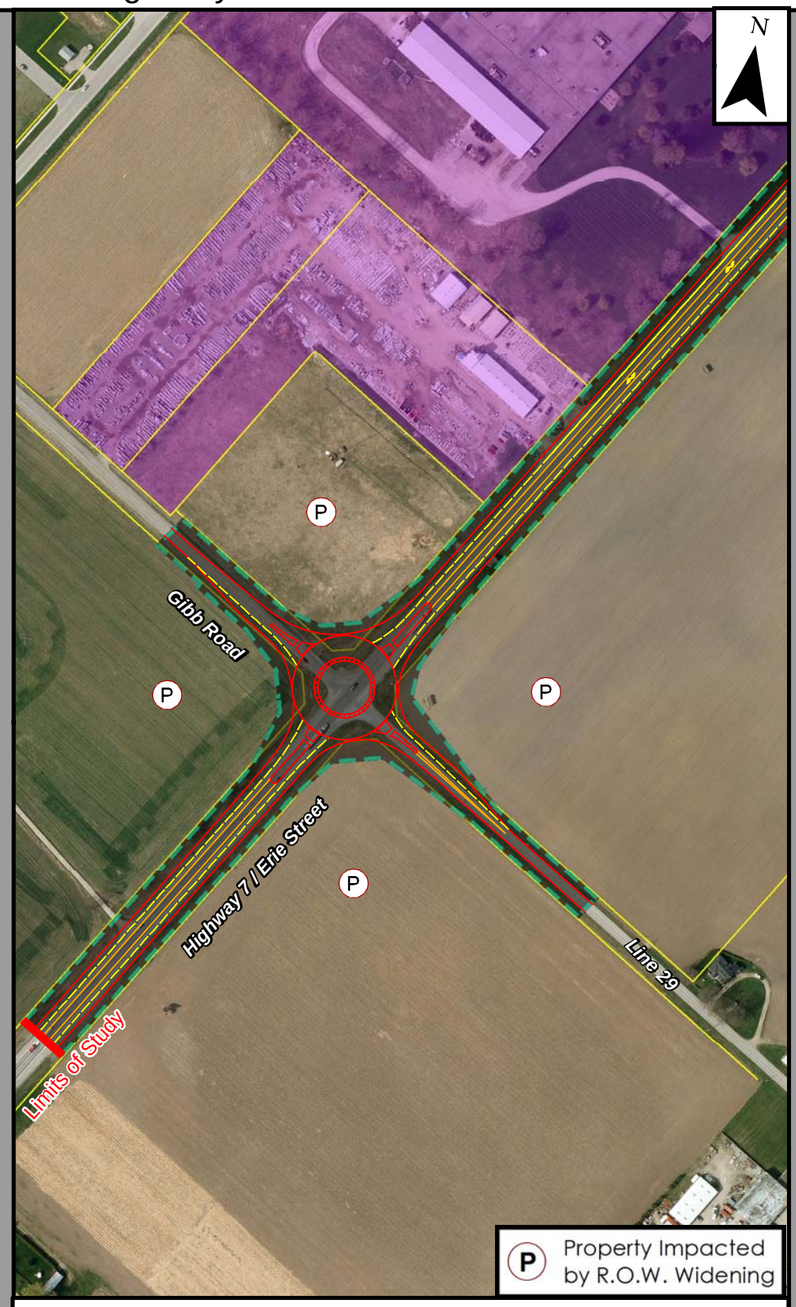
Highway 7 & 8 Corridor Planning and Class EA Study - Preliminary Design
Close-up Map of Connecting Road Intersection Treatment Alternatives for Segment C - 1 of 5 (July, 2013)

Highway 7 / Erie Street at Gibb Road



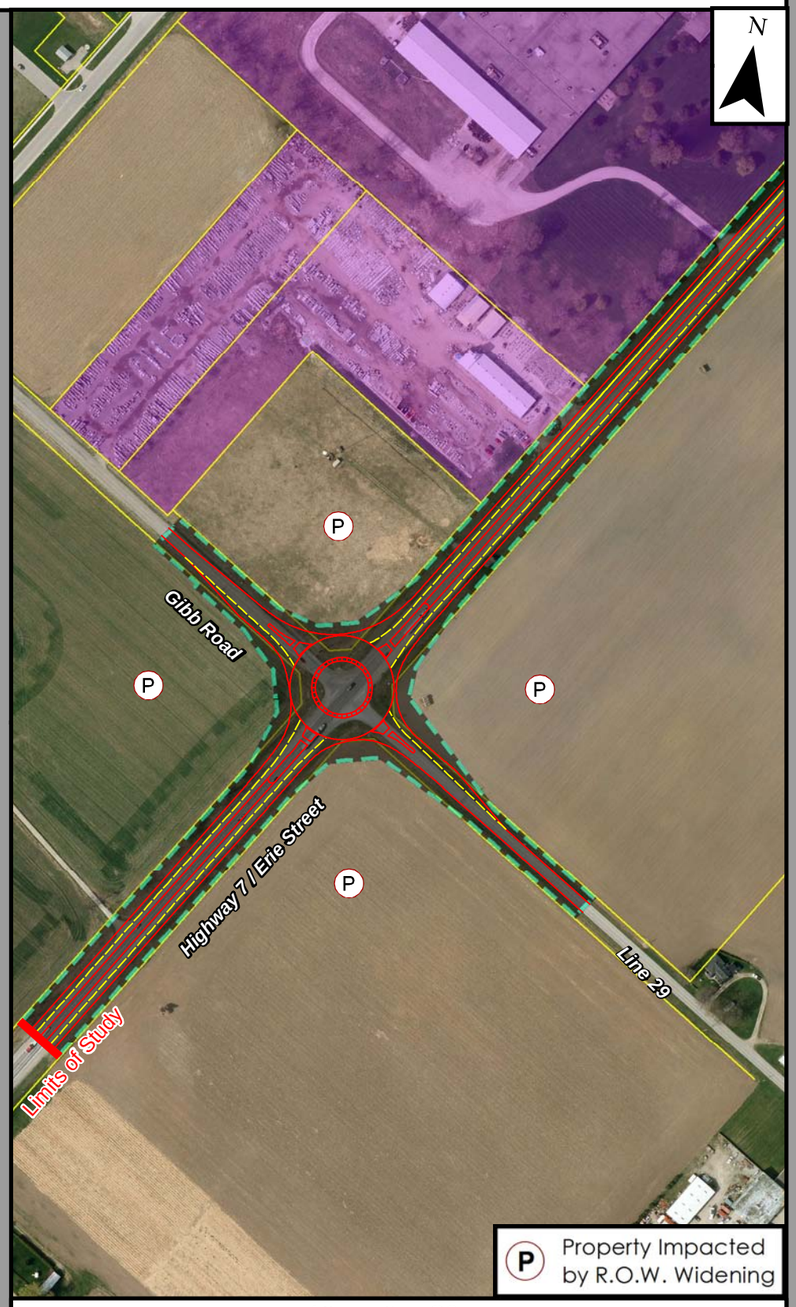
Selected Alternative C1
Signalized intersection with continuous two-way left turn lane

0 50 100 200 300
Metres



Alternative C2
2 Lane roundabout with continuous two-way left turn lane

0 50 100 200 300
Metres



Alternative C3
2-Lane roundabout with raised median

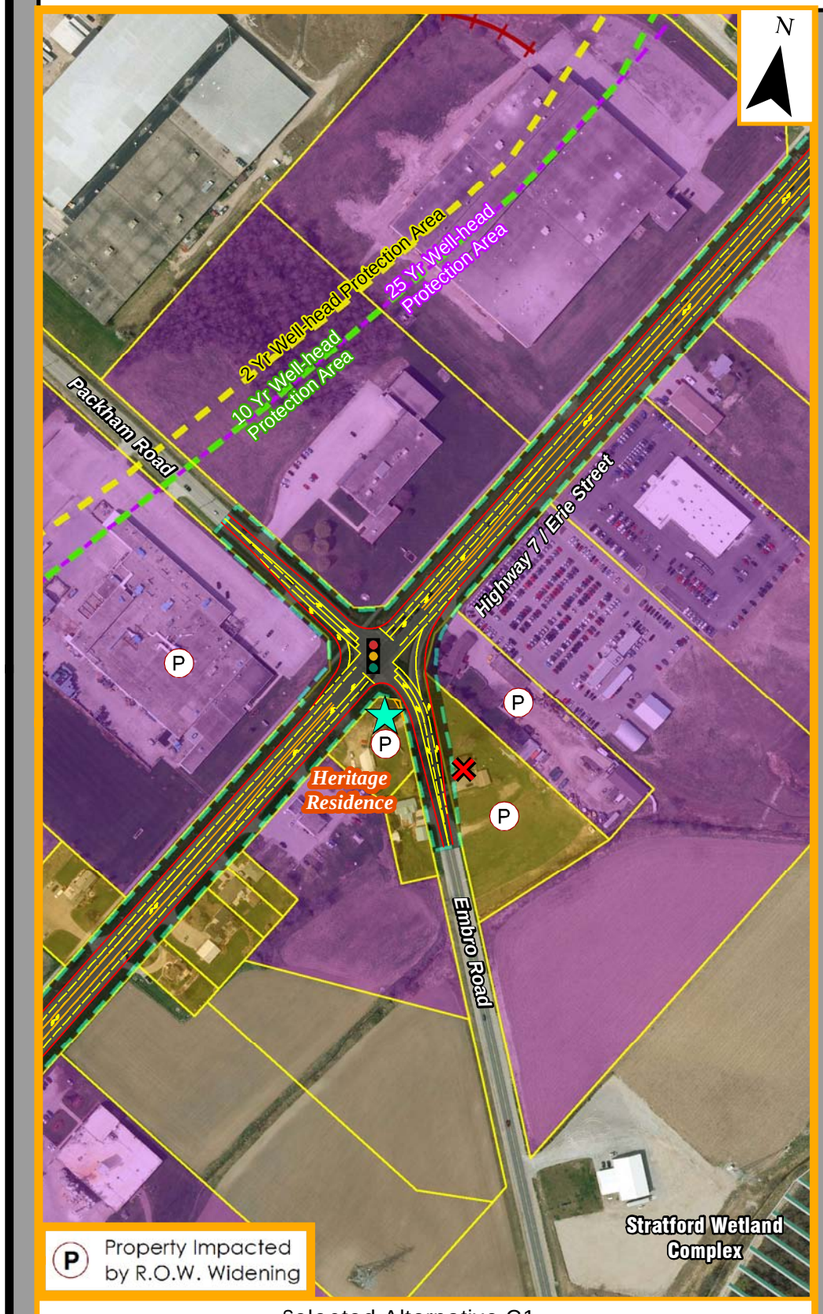
0 50 100 200 300
Metres

Path: F:\60117929 Highway 7 and 8\GIS Data\Maps\Road Treatments\60117929_SegC_Intersection_Group_Map_1_20130409.mxd

Highway 7 & 8 Corridor Planning and Class EA Study - Preliminary Design

Close-up Map of Connecting Road Intersection Treatment Alternatives for Segment C - 2 of 5 (July 2013)

Highway 7 / Erie Street at Embro Road

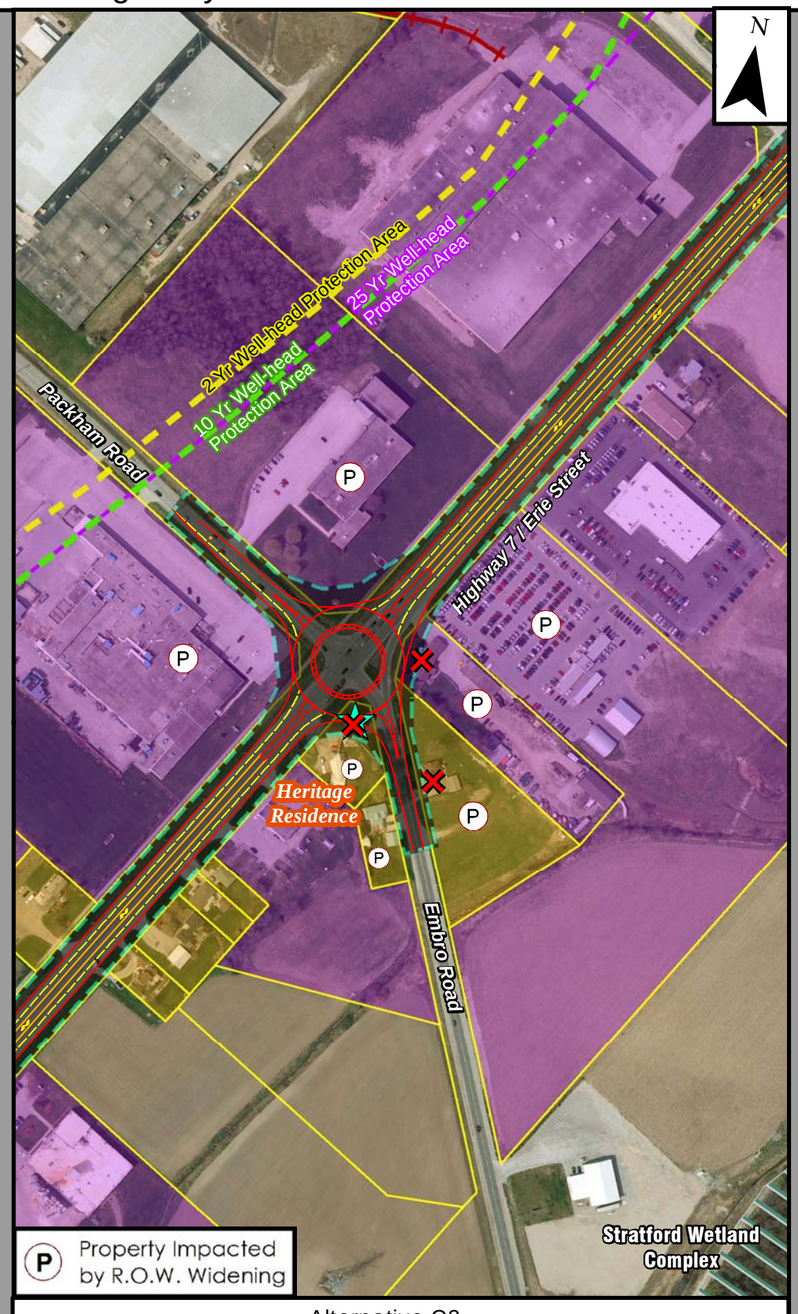


Selected Alternative C1

Signalized intersection with continuous two-way left turn lane

0 50 100 200 300

Metres

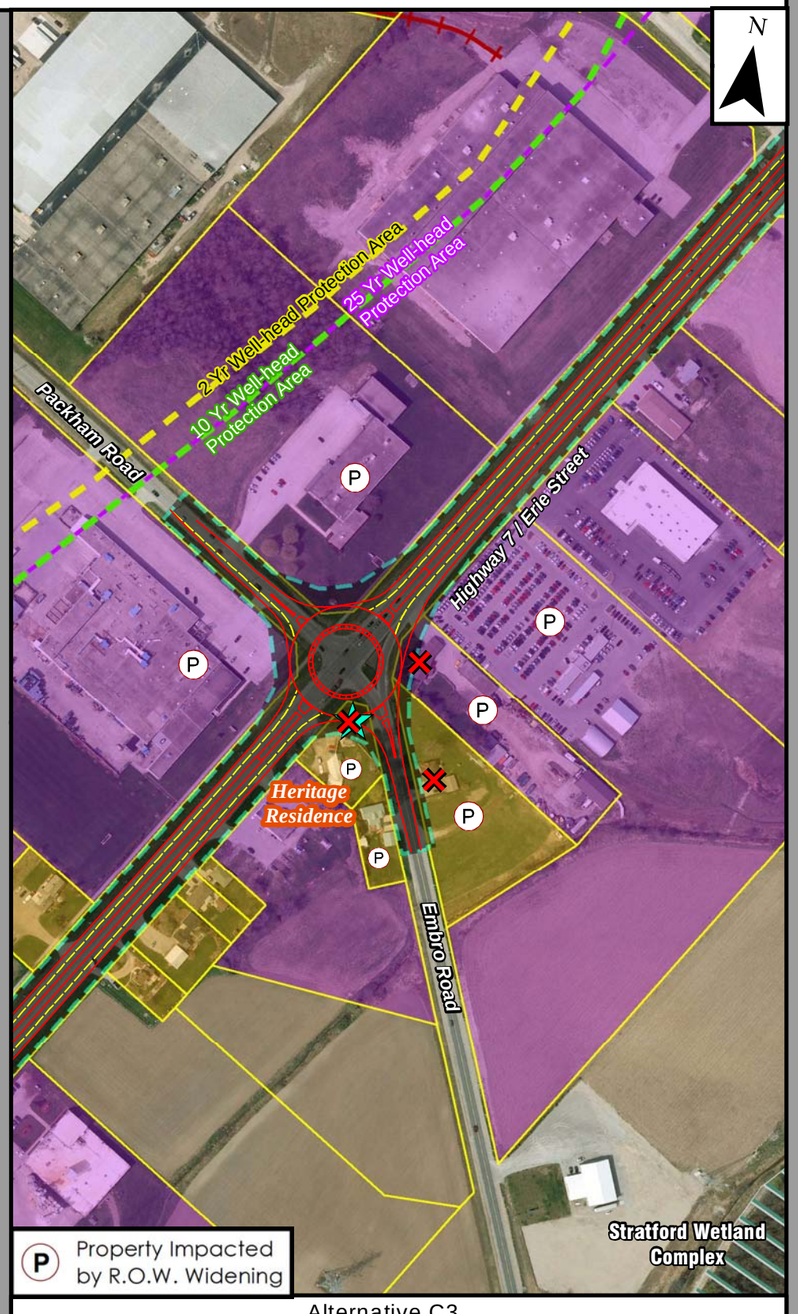


Alternative C2

2 Lane roundabout with continuous two-way left turn lane

0 50 100 200 300

Metres



Alternative C3

2-Lane roundabout with raised median

0 50 100 200 300

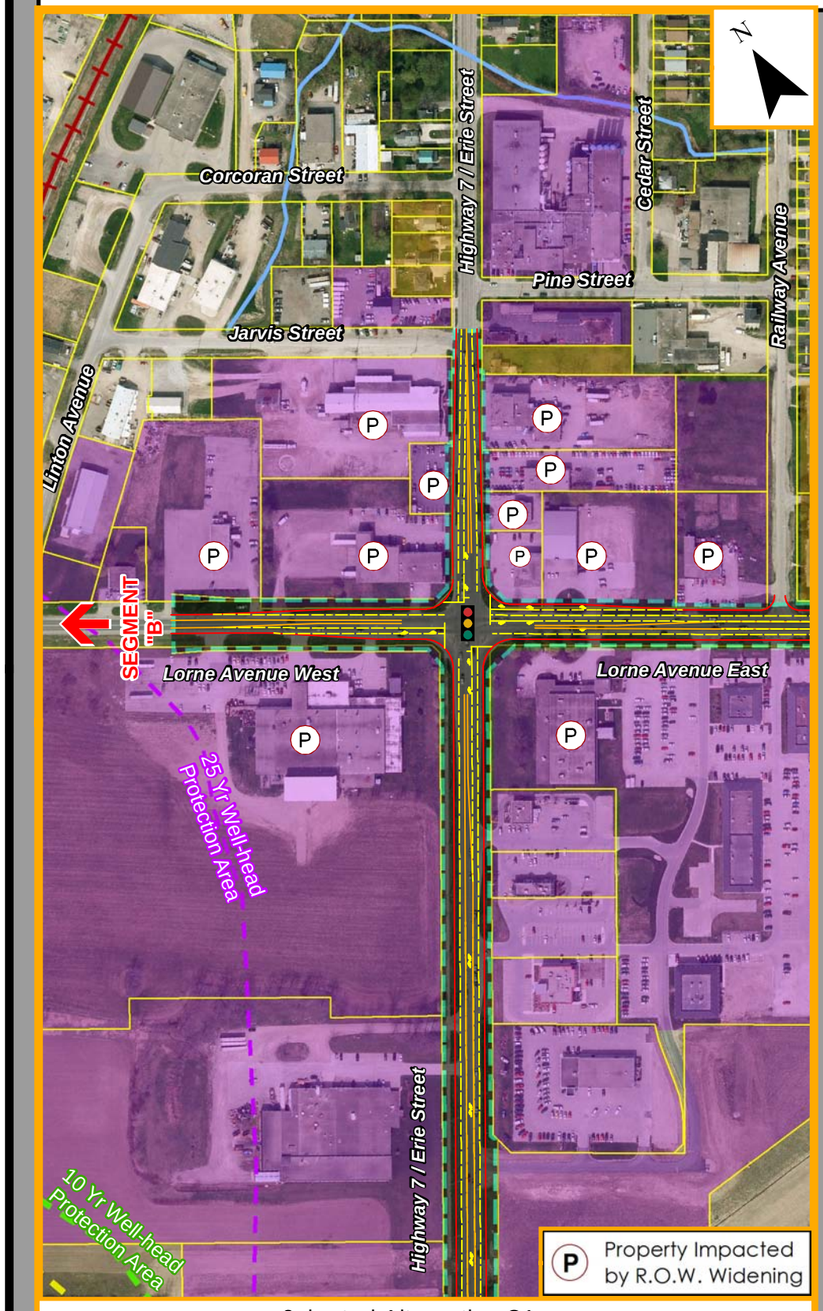
Metres

Path: F:\60117929 Highway 7 and 8\GIS Data\Maps\Road Treatments\60117929_SegC_Intersection_Group_Map_2_20130409.mxd

Highway 7 & 8 Corridor Planning and Class EA Study - Preliminary Design

Close-up Map of Connecting Road Intersection Treatment Alternatives for Segment C - 3 of 5 (July, 2013)

Lorne Avenue at Highway 7 / Erie Street

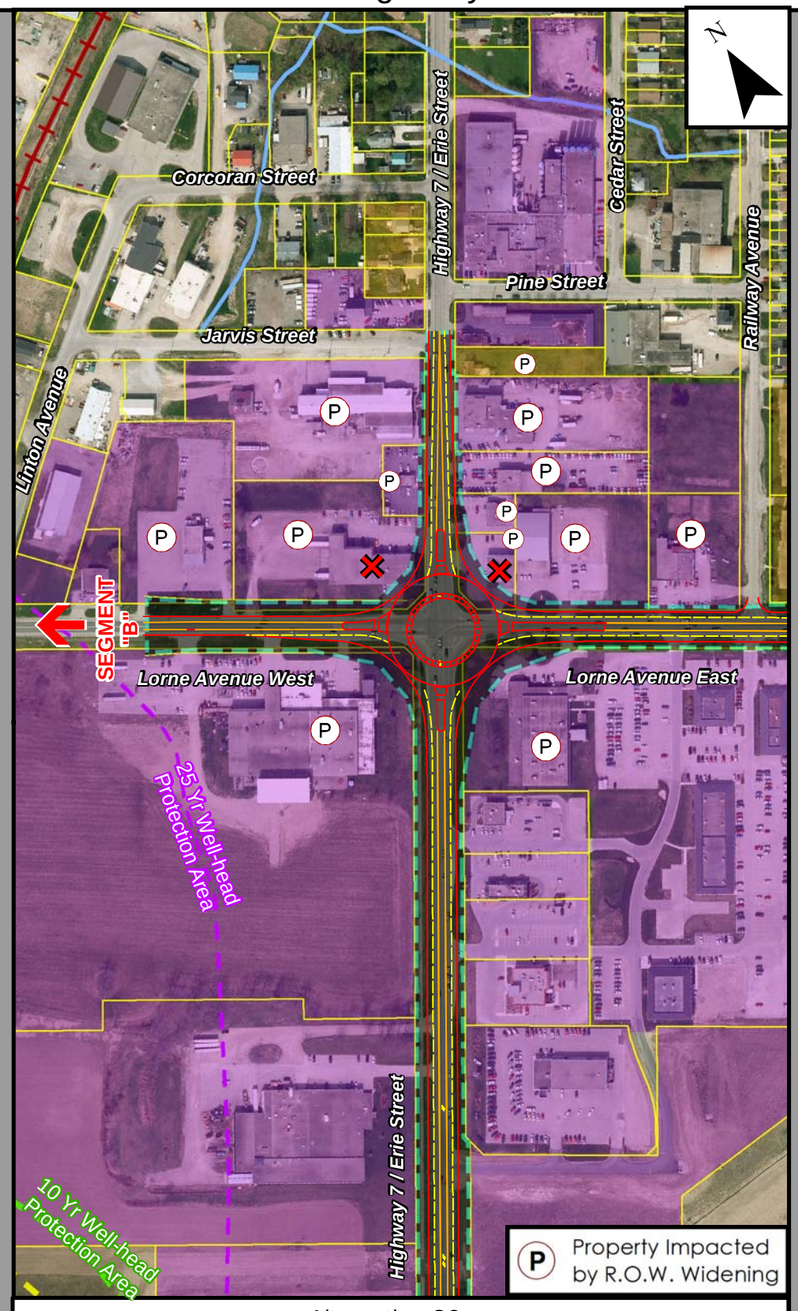


Selected Alternative C1

Signalized intersection with continuous two-way left turn lane

0 50 100 200 300

Metres

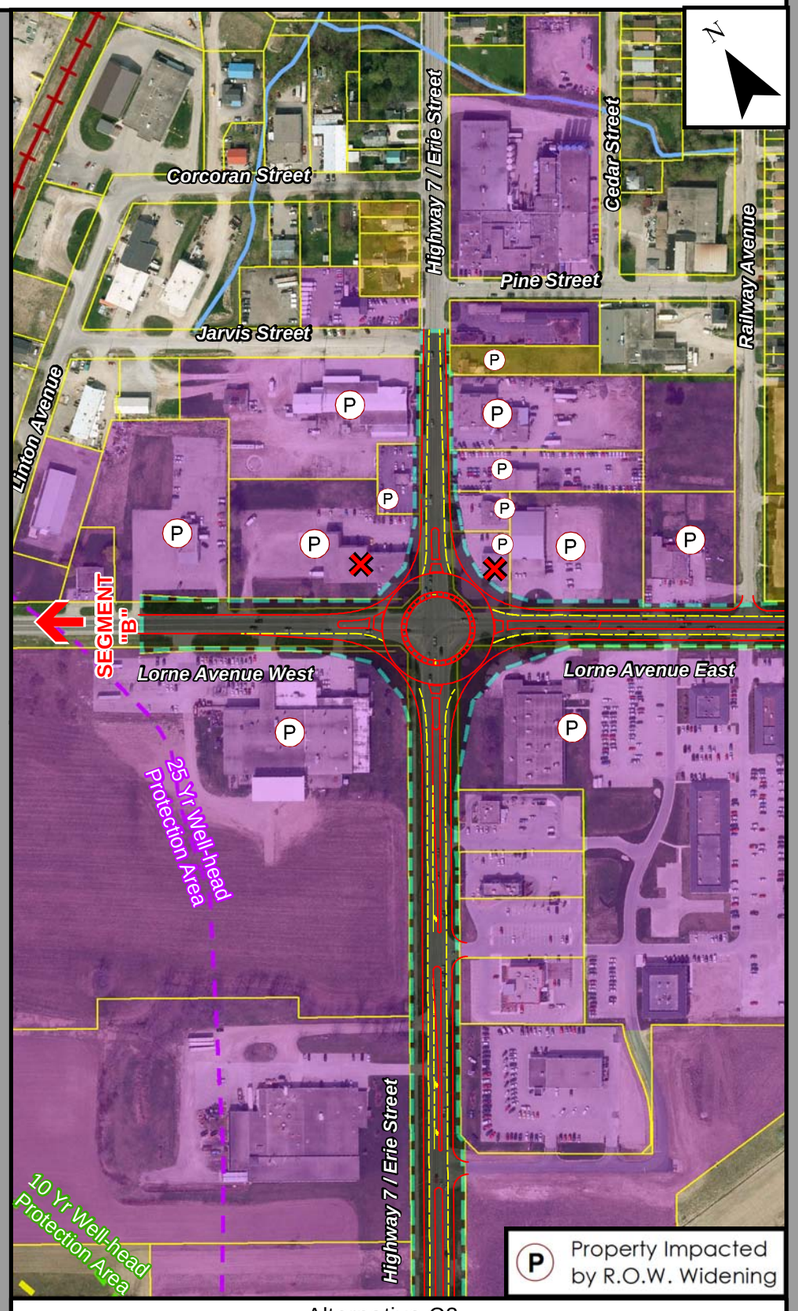


Alternative C2

2-Lane roundabout with continuous two-way left turn lane

0 50 100 200 300

Metres



Alternative C3

2-Lane roundabout with raised median

0 50 100 200 300

Metres

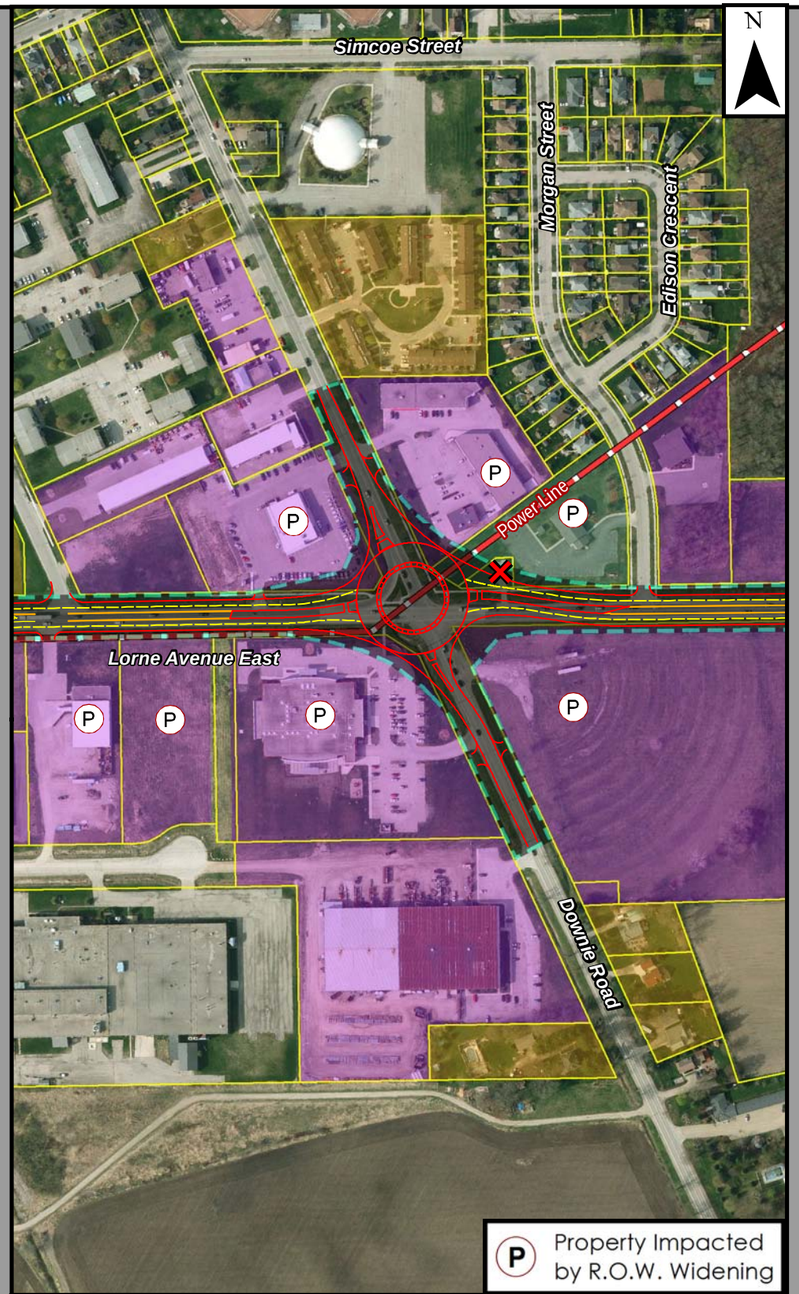
Path: F:\60117929 Highway 7 and 8\GIS Data\Maps\Road Treatments\60117929_SegC_Intersection_Group_Map_3_20130409.mxd

Highway 7 & 8 Corridor Planning and Class EA Study - Preliminary Design
Close-up Map of Connecting Road Intersection Treatment Alternatives for Segment C - 4 of 5 (July 2013)

Lorne Avenue East at Downie Road

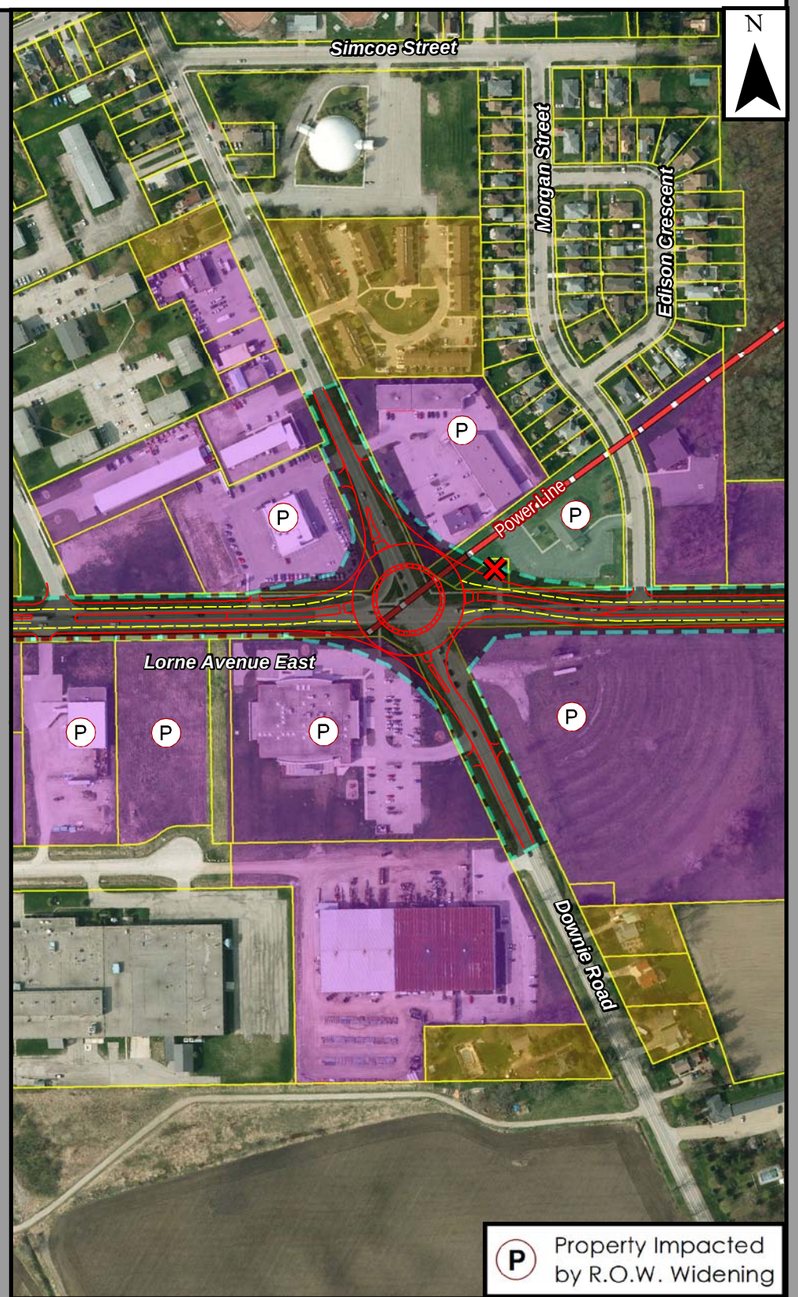
Selected Alternative C1
Signalized intersection with continuous two-way left turn lane

0 50 100 200 300
Metres



Alternative C2
2-Lane roundabout with continuous two-way left turn lane

0 50 100 200 300
Metres



Alternative C3
2-Lane roundabout with raised median

0 50 100 200 300
Metres

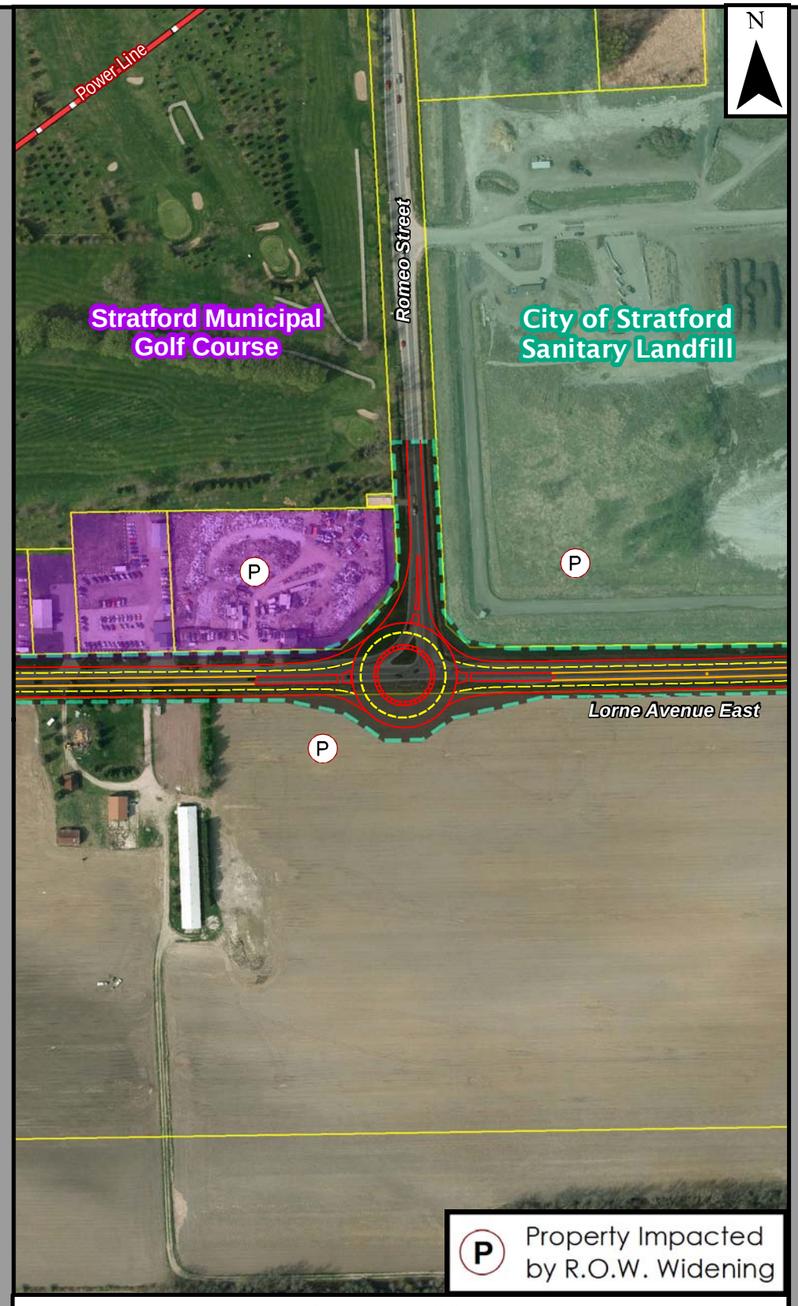
Path: F:\60117929 Highway 7 and 8\GIS Data\Maps\Road Treatments\60117929_SegC_Intersection_Group_Map_4_20130409.mxd

Highway 7 & 8 Corridor Planning and Class EA Study - Preliminary Design
Close-up Map of Connecting Road Intersection Treatment Alternatives for Segment C - 5 of 5 (July, 2013)

Lorne Avenue East at Romeo Street

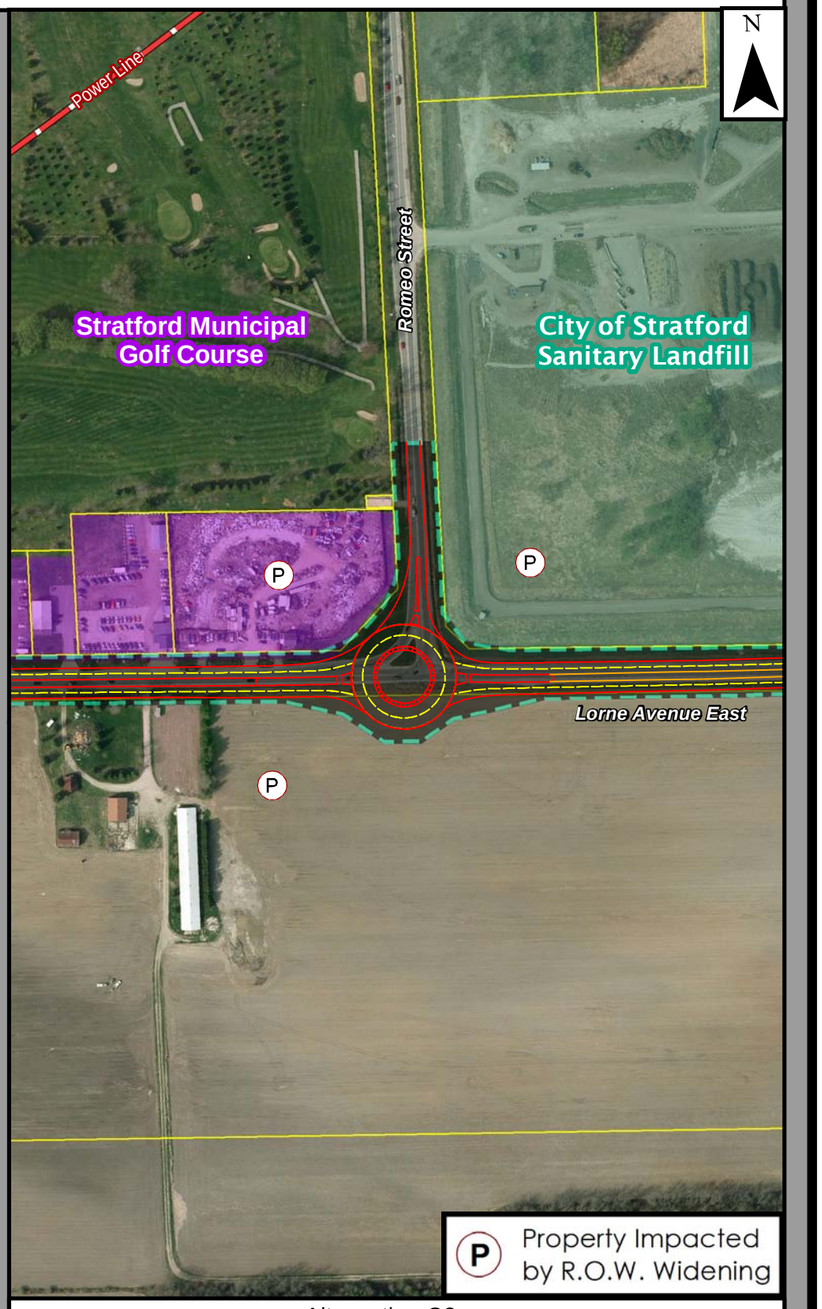
Selected Alternative C1
Signalized intersection with continuous two-way left turn lane

0 50 100 200 300
Metres



Alternative C2
2-Lane roundabout with continuous two-way left turn lane

0 50 100 200 300
Metres



Alternative C3
2-Lane roundabout with raised median

0 50 100 200 300
Metres

Path: F:\60117929 Highway 7 and 8\GIS Data\Maps\Road Treatments\60117929_SegC_Intersection_Group_Map_5_20130409.mxd

Highway 7&8 Transportation Corridor Planning and Class EA Study
EVALUATION OF PRELIMINARY DESIGN ALTERNATIVES

Note: The evaluation is based on a qualitative assessment of each alternative (high, medium or low). Relevant and site-specific information for each criterion/cell is provided to justify the high, medium or low assessment.

SEGMENT C – West of Erie Street to East of East Limit of Stratford, including Erie Street

Segment C Alternatives		**Alternative C1 - Recommended**	**Alternative C2**	**Alternative C3**
	Cross Section	4-lanes with continuous centre left turn lane	4-lanes with continuous centre left turn lane	4-lanes with raised median
	Crossing Road Treatments	Erie Street / Lorne Avenue – Signalized Dunlop Place – Cul-de-sac Scott Street – Cul-de-sac Downie Street / Lorne Avenue – Signalized Romeo Street / Lorne Avenue – Signalized Embro Road / Erie Street – Signalized Line 29 / Erie Street – Signalized	Erie Street / Lorne Avenue – 2-lane roundabout Dunlop Place – Cul-de-sac Scott Street – Cul-de-sac Downie Street / Lorne Avenue – 2-lane roundabout Romeo Street / Lorne Avenue – 2-lane roundabout Embro Road / Erie Street – 2-lane roundabout Line 29 / Erie Street – 2-lane roundabout	Erie Street / Lorne Avenue – 2-lane roundabout Dunlop Place – Cul-de-sac Scott Street – Cul-de-sac Downie Street / Lorne Avenue – 2-lane roundabout Romeo Street / Lorne Avenue – 2-lane roundabout Embro Road / Erie Street – 2-lane roundabout Line 29 / Erie Street – 2-lane roundabout
Factor / Sub-Factor	**Criteria**			
1. Natural Environmental Factors				
1.1 Fisheries and Aquatic Ecosystems	1.1.1 Fish Habitat	**Moderate** potential to affect fish and fish habitat • 1 watercourse crossing (warmwater) - Lowe Drain • No SAR recorded in any crossing	**Moderate** potential to affect fish and fish habitat • 1 watercourse crossing (warmwater) - Lowe Drain • No SAR recorded in any crossing	**Moderate** potential to affect fish and fish habitat • 1 watercourse crossing (warmwater) - Lowe Drain • No SAR recorded in any crossing
	1.1.2 Fish Community			
1.2 Terrestrial Ecosystems	1.2.1 Wildlife	**Low** potential to affect wildlife and their habitat • 1 species of special concern (MNR S-Rank 3) in close proximity / within the alternative • 98 breeding bird species in the study area • Area sensitive bird species recorded in close proximity / within the alternative • MNR area sensitive bird species in close proximity / within the alternative	**Low** potential to affect wildlife and their habitat • 1 species of special concern (MNR S-Rank 3) in close proximity / within the alternative • 98 breeding bird species in the study area • Area sensitive bird species recorded in close proximity / within the alternative • MNR area sensitive bird species in close proximity / within the alternative	**Low** potential to affect wildlife and their habitat • 1 species of special concern (MNR S-Rank 3) in close proximity / within the alternative • 98 breeding bird species in the study area • Area sensitive bird species recorded in close proximity / within the alternative • MNR area sensitive bird species in close proximity / within the alternative
	1.2.2 Wetlands	**No** potential to affect wetlands • No wetlands impacted	**No** potential to affect wetlands • No wetlands impacted	**No** potential to affect wetlands • No wetlands impacted
	1.2.3 Forests (e.g. woodlands [forest stands, woodlots and interior forest habitat] and significant valley lands [valley and stream corridors])	**Low** potential to affect forested areas • No forested areas impacted	**Low** potential to affect forested areas • No forested areas impacted	**Low** potential to affect forested areas • No forested areas impacted
	1.2.4 Vegetation Species At Risk	**Low** potential to affect vegetation • 1 vegetation SAR (Showy Goldenrod, S-Rank 1) in close proximity • 1 vegetation SAR (Harbinger of Spring, S-Rank 3) in close proximity	**Low** potential to affect vegetation • 1 vegetation SAR (Showy Goldenrod, S-Rank 1) in close proximity	**Low** potential to affect vegetation • 1 vegetation SAR (Showy Goldenrod, S-Rank 1) in close proximity
	1.2.5 Designated/Special Areas (such as world biosphere reserves, heritage rivers, ESAs, ESPAs, ANSIs, environmental plan areas, conservation reserves; and the designated special areas of national parks, provincial parks, conservation areas, etc)	**No** potential to affect designated special areas • No designated areas impacted	**No** potential to affect designated special areas • No designated areas impacted	**No** potential to affect designated special areas • No designated areas impacted

Highway 7&8 Transportation Corridor Planning and Class EA Study
EVALUATION OF PRELIMINARY DESIGN ALTERNATIVES

Note: The evaluation is based on a qualitative assessment of each alternative (high, medium or low). Relevant and site-specific information for each criterion/cell is provided to justify the high, medium or low assessment.

SEGMENT C – West of Erie Street to East of East Limit of Stratford, including Erie Street

Segment C Alternatives		Alternative C1 - Recommended	Alternative C2	Alternative C3
	Cross Section	4-lanes with continuous centre left turn lane	4-lanes with continuous centre left turn lane	4-lanes with raised median
	Crossing Road Treatments	Erie Street / Lorne Avenue – Signalized Dunlop Place – Cul-de-sac Scott Street – Cul-de-sac Downie Street / Lorne Avenue – Signalized Romeo Street / Lorne Avenue – Signalized Embro Road / Erie Street – Signalized Line 29 / Erie Street – Signalized	Erie Street / Lorne Avenue – 2-lane roundabout Dunlop Place – Cul-de-sac Scott Street – Cul-de-sac Downie Street / Lorne Avenue – 2-lane roundabout Romeo Street / Lorne Avenue – 2-lane roundabout Embro Road / Erie Street – 2-lane roundabout Line 29 / Erie Street – 2-lane roundabout	Erie Street / Lorne Avenue – 2-lane roundabout Dunlop Place – Cul-de-sac Scott Street – Cul-de-sac Downie Street / Lorne Avenue – 2-lane roundabout Romeo Street / Lorne Avenue – 2-lane roundabout Embro Road / Erie Street – 2-lane roundabout Line 29 / Erie Street – 2-lane roundabout
Factor / Sub-Factor	**Criteria**			
1.3 Groundwater	1.3.1 Areas of Groundwater Recharge and Discharge 1.3.2 Groundwater Source Areas and Wellhead Protection Areas	**Low** potential to affect areas of groundwater recharge / discharge areas / wellhead protection areas • 1 recharge areas / municipal wellhead protection areas impacted - Stratford Municipal Well – Steady State capture zone, 9 hectares impacted (0.66 % of the total WPA) • No temporary or long term change to groundwater recharge / discharge areas • Some surface runoff is expected to exceed infiltration for the majority of the route given the relatively impermeable nature of the surrounding soils	**Low** potential to affect areas of groundwater recharge / discharge areas / wellhead protection areas • 1 recharge areas / municipal wellhead protection areas impacted - Stratford Municipal Well – Steady State capture zone, 9 hectares impacted (0.66 % of the total WPA) • No temporary or long term change to groundwater recharge / discharge areas • Some surface runoff is expected to exceed infiltration for the majority of the route given the relatively impermeable nature of the surrounding soils	**Low** potential to affect areas of groundwater recharge / discharge areas / wellhead protection areas • 1 recharge areas / municipal wellhead protection areas impacted - Stratford Municipal Well – Steady State capture zone, 9 hectares impacted (0.66 % of the total WPA) • No temporary or long term change to groundwater recharge / discharge areas • Some surface runoff is expected to exceed infiltration for the majority of the route given the relatively impermeable nature of the surrounding soils
	1.3.3 Large Volume Wells	**Low** potential to affect large volume wells • No large volume wells impacted	**Low** potential to large volume wells • No large volume wells impacted	**Low** potential to affect large volume wells • No large volume wells impacted
	1.3.4 Private Wells	**Moderate** potential to affect private well use • No private wells displaced • 23 shallow dug wells in close proximity (<150 m) - Sensitive to surface contamination; potential short and long term impacts • 3 deep bedrock aquifer wells in close proximity (<150 m) - May require decommissioning and replacement	**Moderate** potential to affect private well use • No private wells displaced • 23 shallow dug wells in close proximity (<150 m) - Sensitive to surface contamination; potential short and long term impacts • 3 deep bedrock aquifer wells in close proximity (<150 m) - May require decommissioning and replacement	**Moderate** potential to affect private well use • No private wells displaced • 23 shallow dug wells in close proximity (<150 m) - Sensitive to surface contamination; potential short and long term impacts • 3 deep bedrock aquifer wells in close proximity (<150 m) - May require decommissioning and replacement
	1.3.5 Groundwater-Sensitive Ecosystems (e.g. groundwater fed wetlands, coldwater streams)	**Low** potential to affect groundwater sensitive ecosystems • No groundwater sensitive ecosystems impacted • Low potential for short and long term change to groundwater quantity / quality - Potential for long-term effects to groundwater quality due to increased road salt use and road run-off. - Potential for temporary effects to groundwater quantity if construction dewatering is required.	**Low** potential to affect groundwater sensitive ecosystems • No groundwater sensitive ecosystems impacted • Low potential for short and long term change to groundwater quantity / quality - Potential for long-term effects to groundwater quality due to increased road salt use and road run-off. - Potential for temporary effects to groundwater quantity if construction dewatering is required.	**Low** potential to affect groundwater sensitive ecosystems • No groundwater sensitive ecosystems impacted • Low potential for short and long term change to groundwater quantity / quality - Potential for long-term effects to groundwater quality due to increased road salt use and road run-off. - Potential for temporary effects to groundwater quantity if construction dewatering is required.
1.4 Surface Water	1.4.1 Watershed / Sub-Watershed Drainage Features / Patterns 1.4.2 Surface Water Quality and Quantity	**Low** potential to affect drainage features / patterns and surface water quality / quantity • 1 crossing of Lowe Drain	**Low** potential to affect drainage features / patterns and surface water quality / quantity • 1 crossing of Lowe Drain	**Low** potential to affect drainage features / patterns and surface water quality / quantity • 1 crossing of Lowe Drain
NATURAL ENVIRONMENT SUMMARY		**For all alternatives, potential impacts to features of the natural environment are comparable with no discernible differences.**		

Highway 7&8 Transportation Corridor Planning and Class EA Study
EVALUATION OF PRELIMINARY DESIGN ALTERNATIVES

Note: The evaluation is based on a qualitative assessment of each alternative (high, medium or low). Relevant and site-specific information for each criterion/cell is provided to justify the high, medium or low assessment.

SEGMENT C – West of Erie Street to East of East Limit of Stratford, including Erie Street

Segment C Alternatives		**Alternative C1 - Recommended**	**Alternative C2**	**Alternative C3**
	Cross Section	4-lanes with continuous centre left turn lane	4-lanes with continuous centre left turn lane	4-lanes with raised median
	Crossing Road Treatments	Erie Street / Lorne Avenue – Signalized Dunlop Place – Cul-de-sac Scott Street – Cul-de-sac Downie Street / Lorne Avenue – Signalized Romeo Street / Lorne Avenue – Signalized Embro Road / Erie Street – Signalized Line 29 / Erie Street – Signalized	Erie Street / Lorne Avenue – 2-lane roundabout Dunlop Place – Cul-de-sac Scott Street – Cul-de-sac Downie Street / Lorne Avenue – 2-lane roundabout Romeo Street / Lorne Avenue – 2-lane roundabout Embro Road / Erie Street – 2-lane roundabout Line 29 / Erie Street – 2-lane roundabout	Erie Street / Lorne Avenue – 2-lane roundabout Dunlop Place – Cul-de-sac Scott Street – Cul-de-sac Downie Street / Lorne Avenue – 2-lane roundabout Romeo Street / Lorne Avenue – 2-lane roundabout Embro Road / Erie Street – 2-lane roundabout Line 29 / Erie Street – 2-lane roundabout
Factor / Sub-Factor	**Criteria**			
2. Land Use / Socio-Economic Environmental Factors				
2.1 Land Use Planning Policies, Goals, Objectives	2.1.1 First Nations Land Claims	**No** potential to affect First Nations Land Claims • No First Nations Land Claims impacted - 5 First Nations Land Claims filed in the study area	**No** potential to affect First Nations Land Claims • No First Nations Land Claims impacted - 5 First Nations Land Claims filed in the study area	**No** potential to affect First Nations Land Claims • No First Nations Land Claims impacted - 5 First Nations Land Claims filed in the study area
	2.1.2 Provincial/Federal land use planning policies/goals/objectives	*Previously addressed through the detailed planning phase.*		
	2.1.3 Municipal (regional and local) land use planning policies/ goals/objectives (Official Plans)	*Previously addressed through the detailed planning phase.*		
	2.1.4 Development Objectives of Private Property Owners	*Previously addressed through the detailed planning phase.*		
2.2 Land Use / Community	2.2.1 First Nation Reserves	**No** potential to affect First Nations Reserves • No First Nations Reserves in the study area	**No** potential to affect First Nations Reserves • No First Nations Reserves in the study area	**No** potential to affect First Nations Reserves • No First Nations Reserves in the study area
	2.2.2 First Nations' Sacred Grounds	**Low** potential to affect First Nations Sacred Grounds • No known First Nations Sacred Grounds in the study area	**Low** potential to affect First Nations Sacred Grounds • No known First Nations Sacred Grounds in the study area	**Low** potential to affect First Nations Sacred Grounds • No known First Nations Sacred Grounds in the study area
	2.2.3 Urban and Rural Residential	**Moderate** potential for impacts to urban and rural residential areas • 9 residential properties impacted - 4 residential property loses frontage - Homes are displaced on 5 of these residential properties - 5 residential properties are completely displaced - No residential property severed • Low impact on character and use of residential property because change is limited to a few individual rural residential properties • Low interference with residential community cohesion given the alternative does not pass through built up residential areas and access / travel, to and along highway is improved for adjacent residential users with introduction of left turn lanes and continuous centre left turn lanes	**Moderate** potential for impacts to urban and rural residential areas • 9 residential properties impacted - 4 residential property loses frontage - Homes are displaced on 5 of these residential properties - 5 residential properties are completely displaced - No residential property severed • Low impact on character and use of residential property because change is limited to a few individual rural residential properties • Low interference with residential community cohesion given the alternative does not pass through built up residential areas and access / travel, to and along highway is improved for adjacent residential users with introduction continuous centre left turn lanes	**Moderate** potential for impacts to urban and rural residential areas • 9 residential properties impacted - 4 residential property loses frontage - Homes are displaced on 5 of these residential properties - 5 residential properties are completely displaced - No residential property severed • Low impact on character and use of residential property because change is limited to a few individual rural residential properties • Moderate interference with residential community cohesion as though the alternative does not pass directly through built up residential areas, additional traffic and conversion of existing roads will result in increased traffic conflicts and disruption for residential properties adjacent to the right-of-way and raised median results in out of way travel for these uses

Highway 7&8 Transportation Corridor Planning and Class EA Study
EVALUATION OF PRELIMINARY DESIGN ALTERNATIVES

Note: The evaluation is based on a qualitative assessment of each alternative (high, medium or low). Relevant and site-specific information for each criterion/cell is provided to justify the high, medium or low assessment.

SEGMENT C – West of Erie Street to East of East Limit of Stratford, including Erie Street

Segment C Alternatives		**Alternative C1 - Recommended**	**Alternative C2**	**Alternative C3**
	Cross Section	4-lanes with continuous centre left turn lane	4-lanes with continuous centre left turn lane	4-lanes with raised median
	Crossing Road Treatments	Erie Street / Lorne Avenue – Signalized Dunlop Place – Cul-de-sac Scott Street – Cul-de-sac Downie Street / Lorne Avenue – Signalized Romeo Street / Lorne Avenue – Signalized Embro Road / Erie Street – Signalized Line 29 / Erie Street – Signalized	Erie Street / Lorne Avenue – 2-lane roundabout Dunlop Place – Cul-de-sac Scott Street – Cul-de-sac Downie Street / Lorne Avenue – 2-lane roundabout Romeo Street / Lorne Avenue – 2-lane roundabout Embro Road / Erie Street – 2-lane roundabout Line 29 / Erie Street – 2-lane roundabout	Erie Street / Lorne Avenue – 2-lane roundabout Dunlop Place – Cul-de-sac Scott Street – Cul-de-sac Downie Street / Lorne Avenue – 2-lane roundabout Romeo Street / Lorne Avenue – 2-lane roundabout Embro Road / Erie Street – 2-lane roundabout Line 29 / Erie Street – 2-lane roundabout
Factor / Sub-Factor	**Criteria**			
	2.2.4 Commercial/Industrial	**Low** potential for impacts to commercial and industrial areas • 19 commercial / industrial properties impacted - 19 commercial / industrial properties lose frontage - No commercial / industrial building displaced • Low interference with commercial / industrial community cohesion given the alternative does not pass through commercial / industrial areas and access / travel, to and along highway is improved for commercial / industrial users with the introduction of left turn lanes and continuous centre left turn lanes	**Low** potential for impacts to commercial and industrial areas • 24 commercial / industrial properties impacted - 24 commercial / industrial properties lose frontage - No commercial / industrial building displaced • Low interference with commercial / industrial community cohesion given the alternative does not pass through commercial / industrial areas and access / travel, to and along highway is improved for commercial / industrial users with the introduction of continuous centre left turn lanes	**Low** potential for impacts to commercial and industrial areas • 24 commercial / industrial properties impacted - 24 commercial / industrial properties lose frontage - No commercial / industrial building displaced • High interference with commercial / industrial community cohesion given the alternative passes through commercial / industrial areas and while travel along the highway is improved for commercial / industrial users, the introduction of a raised median creates some interference for commercial / industrial users accessing lands adjacent to the right-of-way
	2.2.5 Tourist Areas and Attractions (e.g. museums, theatres, etc.)	**No** potential for impacts to tourist areas and attractions • No tourist areas / attractions impacted • No impacts on use, character and cohesion of tourist areas / attractions	**No** potential for impacts to tourist areas and attractions • No tourist areas / attractions impacted • No impacts on use, character and cohesion of tourist areas / attractions	**No** potential for impacts to tourist areas and attractions • No tourist areas / attractions impacted • No impacts on use, character and cohesion of tourist areas / attractions
	2.2.6 Community Facilities / Institutions (e.g. hospitals, schools, places of worship, unique community features, municipal parks, public spaces, golf courses, trails, greenways and open space linkages)	**Low** potential for impacts to community facilities and institutions • 1 community facilities / institutions encroachment(s), which results in low impact on character and use of commercial / industrial areas - Veterans Meeting Hall	**Low** potential for impacts to community facilities and institutions • 2 community facilities / institutions encroachment(s), which results in low impact on character and use of commercial / industrial areas - Veterans Meeting Hall - Optimist Recreational Park	**Low** potential for impacts to community facilities and institutions • 2 community facilities / institutions encroachment(s), which results in low impact on character and use of commercial / industrial areas - Veterans Meeting Hall - Optimist Recreational Park
	2.2.7 Municipal Infrastructure and Public Service Facilities (e.g. sewage and water services, police/emergency services, local utilities)	**Moderate** potential to affect Municipal Infrastructure and Public Service Facilities • 1 municipal infrastructure / public service facility impacted • Major trunk utility services located within corridor; relocations will be required	**High** potential to affect Municipal Infrastructure and Public Service Facilities • 1 municipal infrastructure / public service facility displaced • 2 municipal infrastructure / public service facilities impacted • Major trunk utility services located within corridor; relocations will be required	**High** potential to affect Municipal Infrastructure and Public Service Facilities • 1 municipal infrastructure / public service facility displaced • 2 municipal infrastructure / public service facilities impacted • Major trunk utility services located within corridor; relocations will be required
	2.2.8 Downtown Historic Crossroads Function	**No** potential to affect Downtown or Historic Crossroads • No historic downtown cross roads in this segment	**No** potential to affect Downtown or Historic Crossroads • No historic downtown cross roads in this segment	**No** potential to affect Downtown or Historic Crossroads • No historic downtown cross roads in this segment

Highway 7&8 Transportation Corridor Planning and Class EA Study EVALUATION OF PRELIMINARY DESIGN ALTERNATIVES Note: The evaluation is based on a qualitative assessment of each alternative (high, medium or low). Relevant and site-specific information for each criterion/cell is provided to justify the high, medium or low assessment.				
SEGMENT C – West of Erie Street to East of East Limit of Stratford, including Erie Street				
Segment C Alternatives		**Alternative C1 - Recommended**	**Alternative C2**	**Alternative C3**
	Cross Section	4-lanes with continuous centre left turn lane	4-lanes with continuous centre left turn lane	4-lanes with raised median
	Crossing Road Treatments	Erie Street / Lorne Avenue – Signalized Dunlop Place – Cul-de-sac Scott Street – Cul-de-sac Downie Street / Lorne Avenue – Signalized Romeo Street / Lorne Avenue – Signalized Embro Road / Erie Street – Signalized Line 29 / Erie Street – Signalized	Erie Street / Lorne Avenue – 2-lane roundabout Dunlop Place – Cul-de-sac Scott Street – Cul-de-sac Downie Street / Lorne Avenue – 2-lane roundabout Romeo Street / Lorne Avenue – 2-lane roundabout Embro Road / Erie Street – 2-lane roundabout Line 29 / Erie Street – 2-lane roundabout	Erie Street / Lorne Avenue – 2-lane roundabout Dunlop Place – Cul-de-sac Scott Street – Cul-de-sac Downie Street / Lorne Avenue – 2-lane roundabout Romeo Street / Lorne Avenue – 2-lane roundabout Embro Road / Erie Street – 2-lane roundabout Line 29 / Erie Street – 2-lane roundabout
Factor / Sub-Factor	**Criteria**			
	2.2.9 Out of Way Travel for Access to / from local land uses	**Low** potential to affect Out of Way Travel • 2 crossing roads where crossing road treatment introduces out-of-way travel - Cul-de-sac proposed at Dunlop Place - Cul-de-sac proposed at Scott Street	**Low** potential to affect Out of Way Travel • 2 crossing roads where crossing road treatment introduces out-of-way travel - Cul-de-sac proposed at Dunlop Place - Cul-de-sac proposed at Scott Street	**Moderate** potential to affect Out of Way Travel • 2 crossing roads where crossing road treatment introduces out-of-way travel - Cul-de-sac proposed at Dunlop Place - Cul-de-sac proposed at Scott Street - Right-in, right-out proposed at Railway avenue • Raised median results in increased out of way travel for local users with accesses / driveways within Segment C
2.3 Noise Sensitive Areas (NSAs) (residential areas and sensitive institutional uses)	2.3.1 Highway Noise	**Low** potential for highway noise impacts. • Noise levels are anticipated to increase based on additional traffic volumes using the corridor. • Design alternatives presented result in no discernible differences in noise levels for receptors adjacent to or in close proximity to the corridor.	**Low** potential for highway noise impacts. • Noise levels are anticipated to increase based on additional traffic volumes using the corridor. • Design alternatives presented result in no discernible differences in noise levels for receptors adjacent to or in close proximity to the corridor.	**Low** potential for highway noise impacts. • Noise levels are anticipated to increase based on additional traffic volumes using the corridor. • Design alternatives presented result in no discernible differences in noise levels for receptors adjacent to or in close proximity to the corridor.
	2.3.2 Construction Noise	**Moderate** potential for construction noise impacts • For all alternatives, construction activities will vary temporally and spatially as the project progresses. • Noise levels from construction at a given receptor location will also vary over time as different activities take place, and as those activities change location. • At this time, detailed construction plans are not available. Construction noise mitigation in the form of a construction Code of Practice will be written into the contract documentation for the contractor.	**Moderate** potential for construction noise impacts • For all alternatives, construction activities will vary temporally and spatially as the project progresses. • Noise levels from construction at a given receptor location will also vary over time as different activities take place, and as those activities change location. • At this time, detailed construction plans are not available. Construction noise mitigation in the form of a construction Code of Practice will be written into the contract documentation for the contractor.	**Moderate** potential for construction noise impacts • For all alternatives, construction activities will vary temporally and spatially as the project progresses. • Noise levels from construction at a given receptor location will also vary over time as different activities take place, and as those activities change location. • At this time, detailed construction plans are not available. Construction noise mitigation in the form of a construction Code of Practice will be written into the contract documentation for the contractor.
2.4 Agriculture	2.4.1 Agriculture - Canada Land Inventory Class 1,2,3 Land	**Low** potential for impacts to CLI Class 1,2, 3 lands • Potentially displaces 0.8 hectares of agricultural land from a total of 4 agricultural properties	**Moderate** potential for impacts to CLI Class 1,2, 3 lands • Potentially displaces 1.9 hectares of agricultural land from a total of 4 agricultural properties	**Moderate** potential for impacts to CLI Class 1,2, 3 lands • Potentially displaces 1.9 hectares of agricultural land from a total of 6 agricultural properties
	2.4.2 Agricultural - Farm Infrastructure	**Low** potential for impacts to farm infrastructure • 1 farm buildings (excluding houses) displaced • 4 farm properties with tile drainage / irrigation systems impacted (assume all impacted agricultural properties are tile drained)	**Low** potential for impacts to farm infrastructure • 1 farm buildings (excluding houses) displaced • 5 farm properties with tile drainage / irrigation systems impacted (assume all impacted agricultural properties are tile drained)	**Low** potential for impacts to farm infrastructure • 1 farm buildings (excluding houses) displaced • 6 farm properties with tile drainage / irrigation systems impacted (assume all impacted agricultural properties are tile drained)
	2.4.3 Agriculture – Operations on Individual Farms	**Low** potential for impacts to operations on individual farms • 4 agricultural properties impacted - No agricultural properties are severed and no parcels are potentially landlocked - 4 agricultural properties lose frontage	**Low** potential for impacts to operations on individual farms • 4 agricultural properties impacted - No agricultural properties are severed and no parcels are potentially landlocked - 4 agricultural properties lose frontage	**Low** potential for impacts to operations on individual farms • 6 agricultural properties impacted - No agricultural properties are severed and no parcels are potentially landlocked - 6 agricultural properties lose frontage

Highway 7&8 Transportation Corridor Planning and Class EA Study EVALUATION OF PRELIMINARY DESIGN ALTERNATIVES Note: The evaluation is based on a qualitative assessment of each alternative (high, medium or low). Relevant and site-specific information for each criterion/cell is provided to justify the high, medium or low assessment.				
SEGMENT C – West of Erie Street to East of East Limit of Stratford, including Erie Street				
Segment C Alternatives		**Alternative C1 - Recommended**	**Alternative C2**	**Alternative C3**
	Cross Section	4-lanes with continuous centre left turn lane	4-lanes with continuous centre left turn lane	4-lanes with raised median
	Crossing Road Treatments	Erie Street / Lorne Avenue – Signalized Dunlop Place – Cul-de-sac Scott Street – Cul-de-sac Downie Street / Lorne Avenue – Signalized Romeo Street / Lorne Avenue – Signalized Embro Road / Erie Street – Signalized Line 29 / Erie Street – Signalized	Erie Street / Lorne Avenue – 2-lane roundabout Dunlop Place – Cul-de-sac Scott Street – Cul-de-sac Downie Street / Lorne Avenue – 2-lane roundabout Romeo Street / Lorne Avenue – 2-lane roundabout Embro Road / Erie Street – 2-lane roundabout Line 29 / Erie Street – 2-lane roundabout	Erie Street / Lorne Avenue – 2-lane roundabout Dunlop Place – Cul-de-sac Scott Street – Cul-de-sac Downie Street / Lorne Avenue – 2-lane roundabout Romeo Street / Lorne Avenue – 2-lane roundabout Embro Road / Erie Street – 2-lane roundabout Line 29 / Erie Street – 2-lane roundabout
Factor / Sub-Factor	**Criteria**			
	2.4.4 Agriculture – Transportation Linkages between Integrated Agricultural Business Units	**Low** potential for impacts to transportation linkages between integrated agricultural business units • 2 crossing roads where crossing road restricts access to the highway however limited impacts to agricultural transportation routes given the crossing roads are located within the urban area - Cul-de-sac proposed at Dunlop Place - Cul-de-sac proposed at Scott Street • Existing road maintained as highway use with additional traffic causing limited disruption to agricultural linkage route (Lorne Avenue / Erie Street)	**Low** potential for impacts to transportation linkages between integrated agricultural business units • 2 crossing roads where crossing road restricts access to the highway however limited impacts to agricultural transportation routes given the crossing roads are located within the urban area - Cul-de-sac proposed at Dunlop Place - Cul-de-sac proposed at Scott Street • Existing road maintained as highway use with additional traffic causing limited disruption to agricultural linkage route (Lorne Avenue / Erie Street)	**Low** potential for impacts to transportation linkages between integrated agricultural business units • 2 crossing roads where crossing road restricts access to the highway however limited impacts to agricultural transportation routes given the crossing roads are located within the urban area - Cul-de-sac proposed at Dunlop Place - Cul-de-sac proposed at Scott Street • Existing road maintained as highway use with additional traffic causing limited disruption to agricultural linkage route (Lorne Avenue / Erie Street)
2.5 Land Use / Resources	2.5.1 First Nations People's Treaty Rights or Use of Land and Resources for Traditional Purposes (e.g. hunting, fishing, harvesting of country foods, harvesting of medicinal plants)	**Low** potential to affect First Nations People's Treaty Rights or Use of Land and Resources for Traditional Purposes • All alternatives result in similar potential to affect First Nations People's Treaty Rights of Use of Land / Resources	**Low** potential to affect First Nations People's Treaty Rights or Use of Land and Resources for Traditional Purposes • All alternatives result in similar potential to affect First Nations People's Treaty Rights of Use of Land / Resources	**Low** potential to affect First Nations People's Treaty Rights or Use of Land and Resources for Traditional Purposes • All alternatives result in similar potential to affect First Nations People's Treaty Rights of Use of Land / Resources
	2.5.2 Parks and Recreational Areas (e.g. national/provincial parks, conservation areas)	**No** potential to affect parks and recreational areas • No parks or conservation areas impacted	**No** potential to affect parks and recreational areas • No parks or conservation areas impacted	**No** potential to affect parks and recreational areas • No parks or conservation areas impacted
	2.5.3 Aggregates, Mineral Resources	**No** potential to affect aggregate / mineral resources • No aggregate / mineral resources impacted	**No** potential to affect aggregate / mineral resources • No aggregate / mineral resources impacted	**No** potential to affect aggregate / mineral resources • No aggregate / mineral resources impacted
2.6 Major Utility Transmission Corridors (e.g. railroads, hydro, gas, oil)		**High** potential to affect major utility corridors • 3 crossings of hydro corridor	**High** potential to affect major utility corridors • 3 crossings of hydro corridor	**High** potential to affect major utility corridors • 3 crossings of hydro corridor
2.7 Contaminated Property and Waste Management (e.g. Landfills, Hazardous Waste Sites, "Brownfield" Areas, other known contaminated sites, and high-risk contamination areas)		**Moderate** potential to affect contaminated property / waste management sites • No properties impacted with known potential contamination concerns • 1 waste management site immediately adjacent to the right-of-way (City of Stratford Sanitary Landfill)	**High** potential to affect contaminated property / waste management sites • 1 waste management site impacted (City of Stratford Sanitary Landfill)	**High** potential to affect contaminated property / waste management sites • 1 waste management site impacted (City of Stratford Sanitary Landfill)

Highway 7&8 Transportation Corridor Planning and Class EA Study
EVALUATION OF PRELIMINARY DESIGN ALTERNATIVES

Note: The evaluation is based on a qualitative assessment of each alternative (high, medium or low). Relevant and site-specific information for each criterion/cell is provided to justify the high, medium or low assessment.

SEGMENT C – West of Erie Street to East of East Limit of Stratford, including Erie Street

Segment C Alternatives		**Alternative C1 - Recommended**	**Alternative C2**	**Alternative C3**
Cross Section		4-lanes with continuous centre left turn lane	4-lanes with continuous centre left turn lane	4-lanes with raised median
Crossing Road Treatments		Erie Street / Lorne Avenue – Signalized Dunlop Place – Cul-de-sac Scott Street – Cul-de-sac Downie Street / Lorne Avenue – Signalized Romeo Street / Lorne Avenue – Signalized Embro Road / Erie Street – Signalized Line 29 / Erie Street – Signalized	Erie Street / Lorne Avenue – 2-lane roundabout Dunlop Place – Cul-de-sac Scott Street – Cul-de-sac Downie Street / Lorne Avenue – 2-lane roundabout Romeo Street / Lorne Avenue – 2-lane roundabout Embro Road / Erie Street – 2-lane roundabout Line 29 / Erie Street – 2-lane roundabout	Erie Street / Lorne Avenue – 2-lane roundabout Dunlop Place – Cul-de-sac Scott Street – Cul-de-sac Downie Street / Lorne Avenue – 2-lane roundabout Romeo Street / Lorne Avenue – 2-lane roundabout Embro Road / Erie Street – 2-lane roundabout Line 29 / Erie Street – 2-lane roundabout
Factor / Sub-Factor	**Criteria**			
2.8 Landscape Composition	2.8.1 Scenic Composition (total aesthetic value of landscape components)	**Low** potential to affect scenic composition / aesthetic value • Low impacts to aesthetic value for a majority of route given route is on existing roads	**Low** potential to affect scenic composition / aesthetic value • Low impacts to aesthetic value for a majority of route given route is on existing roads	**Low** potential to affect scenic composition / aesthetic value • Low impacts to aesthetic value for a majority of route given route is on existing roads
	2.8.2 Sensitive Viewer Groups	**Low** potential to affect sensitive viewer groups • No sensitive viewer groups adjacent to this alternative where vistas / outlooks will be impacted	**Low** potential to affect sensitive viewer groups • No sensitive viewer groups adjacent to this alternative where vistas / outlooks will be impacted	**Low** potential to affect sensitive viewer groups • No sensitive viewer groups adjacent to this alternative where vistas / outlooks will be impacted
	2.8.3 Scenic value of views/vistas from the transportation facility	**Low** potential to affect views / vistas from the facility • All alternatives result in similar alteration of the vistas / outlooks for users of the transportation facility	**Low** potential to affect views / vistas from the facility • All alternatives result in similar alteration of the vistas / outlooks for users of the transportation facility	**Low** potential to affect views / vistas from the facility • All alternatives result in similar alteration of the vistas / outlooks for users of the transportation facility
	2.8.4 Specimen Trees	**Moderate** potential to affect specimen trees	**Moderate** potential to affect specimen trees	**Moderate** potential to affect specimen trees
2.9 Air Quality	2.9.1 Regional Air Quality and Total Contaminant and Greenhouse Gas Emissions	*Previously considered during the detailed planning phase.*		
	2.9.2 Local Air Quality and Sensitive Receptors to Air Pollutants	**Low** potential to affect air quality for sensitive receptors • Design alternatives presented result in no discernible differences in air quality levels for sensitive receptors adjacent to or in close proximity to the corridor.	**Low** potential to affect air quality for sensitive receptors • Design alternatives presented result in no discernible differences in air quality levels for sensitive receptors adjacent to or in close proximity to the corridor.	**Low** potential to affect air quality for sensitive receptors • Design alternatives presented result in no discernible differences in air quality levels for sensitive receptors adjacent to or in close proximity to the corridor.
SOCIO-ECONOMIC SUMMARY		**From a socio-economic environment perspective, alternative C1 is preferred as it results in the least direct impacts to residential, commercial and agricultural land uses. In addition, Alterative C1 results in no impacts to the City of Stratford landfill and provides the greatest opportunity to address concerns and conflicts between local users of the road and inter-regional traffic.**		
3. Cultural Environmental Factors				
3.1 Cultural Heritage – Built Heritage and Cultural Landscapes	3.1.1 Buildings or "Standing" Sites of Architectural or Heritage Significance or Ontario Heritage Foundation Easement Properties	**No** potential for impacts to buildings or "standing" sites of architectural or heritage significance • No sites of architectural or heritage significance impacted	**Low** potential for impacts to buildings or "standing" sites of architectural or heritage significance • 1 site of architectural or heritage significance impacted - Corner Residence, Embro Road / Erie Street • 2 properties with heritage structures impacted - Heritage residence at Lorne Avenue and Dufferin Street - Heritage structure on Lorne Avenue at the eastern City / Township municipal boundary	**Low** potential for impacts to buildings or "standing" sites of architectural or heritage significance • 1 site of architectural or heritage significance impacted - Corner Residence, Embro Road / Erie Street • 2 properties with heritage structures impacted - Heritage residence at Lorne Avenue and Dufferin Street - Heritage structure on Lorne Avenue at the eastern City / Township municipal boundary
	3.1.2 Heritage Bridges	**No** potential for impacts to heritage bridges • No heritage bridges displaced	**No** potential for impacts to heritage bridges • No heritage bridges displaced	**No** potential for impacts to heritage bridges • No heritage bridges displaced
	3.1.3 Areas of Historic 19th Century Settlement	**No** potential for impacts to areas of historic 19th century settlement • No intrusion into 19th century settlement areas	**No** potential for impacts to areas of historic 19th century settlement • No intrusion into 19th century settlement areas	**No** potential for impacts to areas of historic 19th century settlement • No intrusion into 19th century settlement areas

Highway 7&8 Transportation Corridor Planning and Class EA Study
EVALUATION OF PRELIMINARY DESIGN ALTERNATIVES

Note: The evaluation is based on a qualitative assessment of each alternative (high, medium or low). Relevant and site-specific information for each criterion/cell is provided to justify the high, medium or low assessment.

SEGMENT C – West of Erie Street to East of East Limit of Stratford, including Erie Street

Segment C Alternatives		Alternative C1 - Recommended	Alternative C2	Alternative C3
Cross Section		4-lanes with continuous centre left turn lane	4-lanes with continuous centre left turn lane	4-lanes with raised median
Crossing Road Treatments		Erie Street / Lorne Avenue – Signalized Dunlop Place – Cul-de-sac Scott Street – Cul-de-sac Downie Street / Lorne Avenue – Signalized Romeo Street / Lorne Avenue – Signalized Embro Road / Erie Street – Signalized Line 29 / Erie Street – Signalized	Erie Street / Lorne Avenue – 2-lane roundabout Dunlop Place – Cul-de-sac Scott Street – Cul-de-sac Downie Street / Lorne Avenue – 2-lane roundabout Romeo Street / Lorne Avenue – 2-lane roundabout Embro Road / Erie Street – 2-lane roundabout Line 29 / Erie Street – 2-lane roundabout	Erie Street / Lorne Avenue – 2-lane roundabout Dunlop Place – Cul-de-sac Scott Street – Cul-de-sac Downie Street / Lorne Avenue – 2-lane roundabout Romeo Street / Lorne Avenue – 2-lane roundabout Embro Road / Erie Street – 2-lane roundabout Line 29 / Erie Street – 2-lane roundabout
Factor / Sub-Factor	**Criteria**			
	3.1.4 Cultural Heritage Landscapes (collection of individual man-made features modifying pristine landscape)	**No** potential for impacts to cultural landscapes • No cultural landscapes identified	**No** potential for impacts to cultural landscapes • No cultural landscapes identified	**No** potential for impacts to cultural landscapes • No cultural landscapes identified
	3.1.5 First Nations' Burial Sites	**No** potential for impacts to First Nations burial sites • No known / reported First Nation burial sites in the study area	**No** potential for impacts to First Nations burial sites • No known / reported First Nation burial sites in the study area	**No** potential for impacts to First Nations burial sites • No known / reported First Nation burial sites in the study area
	3.1.6 Cemeteries	**No** potential for impacts to cemeteries • No known cemeteries impacted	**No** potential for impacts to cemeteries • No known cemeteries impacted	**No** potential for impacts to cemeteries • No known cemeteries impacted
3.2 Cultural Heritage – Archaeology	3.2.1 Pre-Historic and Historic First Nations Sites 3.2.2 Historic Euro-Canadian Archaeological Sites	**Low** potential for destruction or disturbance of documented or undocumented archaeological sites • General concentration of registered archaeological sites in vicinity of existing roads • Some potential for previously undocumented archaeological sites within new areas of right-of-way	**Low** potential for destruction or disturbance of documented or undocumented archaeological sites • General concentration of registered archaeological sites in vicinity of existing roads • Some potential for previously undocumented archaeological sites within new areas of right-of-way	**Low** potential for destruction or disturbance of documented or undocumented archaeological sites • General concentration of registered archaeological sites in vicinity of existing roads • Some potential for previously undocumented archaeological sites within new areas of right-of-way
CULTURAL ENVIRONMENT SUMMARY		**From a cultural environment perspective, Alternative C1 is preferred as it results in the least impacts.**		
4. Area Economy	Previously Addressed During the Needs Assessment Phase			
5. Transportation Factors				
5.1 Area Transportation System Capacity and Efficiency	5.1 Federal/Provincial/Municipal transportation planning policies/goals/objectives	*Previously addressed during Needs Assessment Phase*	Highway 7&8 is a regionally significant part of the overall provincial highway network. It plays a key role in linking communities in south-western Ontario and supports economic prosperity across Ontario.	
	5.2 Efficient movement of people	**Moderate** potential to support efficient movement of people • Route utilizes existing roadway corridor (Lorne Avenue / Erie Street), with reduced level of service given number of private driveways • Direct route	**Moderate** potential to support efficient movement of people • Route utilizes existing roadway corridor (Lorne Avenue / Erie Street), with reduced level of service given number of private driveways • Direct route	**Moderate** potential to support efficient movement of people • Route utilizes existing roadway corridor (Lorne Avenue / Erie Street), with reduced level of service given number of private driveways • Direct route
	5.3 Efficient movement of goods	**Moderate** potential to support efficient movement of goods • Route utilizes existing roadway corridors (Lorne Avenue / Erie Street), with reduced level of service given number of private driveways • Direct route	**Moderate** potential to support efficient movement of goods • Route utilizes existing roadway corridors (Lorne Avenue / Erie Street), with reduced level of service given number of private driveways • Direct route	**Moderate** potential to support efficient movement of goods • Route utilizes existing roadway corridors (Lorne Avenue / Erie Street), with reduced level of service given number of private driveways • Direct route

Highway 7&8 Transportation Corridor Planning and Class EA Study EVALUATION OF PRELIMINARY DESIGN ALTERNATIVES Note: The evaluation is based on a qualitative assessment of each alternative (high, medium or low). Relevant and site-specific information for each criterion/cell is provided to justify the high, medium or low assessment.				
SEGMENT C – West of Erie Street to East of East Limit of Stratford, including Erie Street				
Segment C Alternatives		**Alternative C1 - Recommended**	**Alternative C2**	**Alternative C3**
	Cross Section	4-lanes with continuous centre left turn lane	4-lanes with continuous centre left turn lane	4-lanes with raised median
	Crossing Road Treatments	Erie Street / Lorne Avenue – Signalized Dunlop Place – Cul-de-sac Scott Street – Cul-de-sac Downie Street / Lorne Avenue – Signalized Romeo Street / Lorne Avenue – Signalized Embro Road / Erie Street – Signalized Line 29 / Erie Street – Signalized	Erie Street / Lorne Avenue – 2-lane roundabout Dunlop Place – Cul-de-sac Scott Street – Cul-de-sac Downie Street / Lorne Avenue – 2-lane roundabout Romeo Street / Lorne Avenue – 2-lane roundabout Embro Road / Erie Street – 2-lane roundabout Line 29 / Erie Street – 2-lane roundabout	Erie Street / Lorne Avenue – 2-lane roundabout Dunlop Place – Cul-de-sac Scott Street – Cul-de-sac Downie Street / Lorne Avenue – 2-lane roundabout Romeo Street / Lorne Avenue – 2-lane roundabout Embro Road / Erie Street – 2-lane roundabout Line 29 / Erie Street – 2-lane roundabout
Factor / Sub-Factor	**Criteria**			
5.2 System reliability / redundancy		**Low** potential to support system reliability and redundancy • Route uses existing roadway corridors, which does not provide an alternate route to accommodate travel during adverse conditions; however, parallel municipal roads do currently serve this function	**Low** potential to support system reliability and redundancy • Route uses existing roadway corridors, which does not provide an alternate route to accommodate travel during adverse conditions; however, parallel municipal roads do currently serve this function	**Low** potential to support system reliability and redundancy • Route uses existing roadway corridors, which does not provide an alternate route to accommodate travel during adverse conditions; however, parallel municipal roads do currently serve this function
5.3 Safety	5.3.1 Traffic Safety	**High** potential to improve traffic safety • Route uses existing roadway corridor with direct access points associated with private entrances • Five lane cross section provides for good passing opportunity • Centre left turn lane would accommodate safer left turns along the highway to private entrances	**High** potential to improve traffic safety • Route uses existing roadway corridor with direct access points associated with private entrances • Five lane cross section provides for good passing opportunity • Centre left turn lane would accommodate safer left turns along the highway to private entrances • Reduced collision potential with roundabouts	**High** potential to improve traffic safety • Route uses existing roadway corridor with direct access points associated with private entrances • Four lane cross section provides for good passing opportunity • Raised median eliminates left turn movements at private entrances • Reduced collision potential with roundabouts
	5.3.2 Emergency Access	**High** potential to support emergency access to/from route • Full moves connection provided at all sideroads	**High** potential to support emergency access to/from route • Full moves connection provided at all sideroads	**Moderate** potential to support emergency access to/from route • Full moves connection provided at all sideroads but raised median restricts turning movements to adjacent development
	5.3.3 Pedestrian, Cyclist and Snowmobile Safety within the highway right-of-way	**High** potential to improve pedestrian, cyclist and snowmobile safety • Pedestrian and cyclist movements within right-of-way can be accommodated via sidewalks • Pedestrian, cyclist and snowmobile movements across right-of-way can be provided at intersection locations and/or designated crossing locations	**Moderate** potential to improve pedestrian, cyclist and snowmobile safety • Pedestrian and cyclist movements within right-of-way can be accommodated via sidewalks • Pedestrian, cyclist and snowmobile movements across right-of-way can be provided at intersection locations (more challenging given roundabout treatment) and/or designated crossing locations	**Moderate** potential to improve pedestrian, cyclist and snowmobile safety • Pedestrian and cyclist movements within right-of-way can be accommodated via sidewalks • Pedestrian, cyclist and snowmobile movements across right-of-way can be provided at intersection locations (more challenging given roundabout treatment) and/or designated crossing locations
5.4 Mobility and Access	5.4.1 Modal integration, balance and efficiency	**Moderate** potential to improve modal integration, balance and efficiency • Transit service is potentially constrained by bypass of downtown Stratford, but is supported by direct connection to development along Lorne Avenue and Erie Street • Use of existing roadways would constrain transit travel performance	**Moderate** potential to improve modal integration, balance and efficiency • Transit service is potentially constrained by bypass of downtown Stratford, but is supported by direct connection to development along Lorne Avenue and Erie Street • Use of existing roadways would constrain transit travel performance	**Moderate** potential to improve modal integration, balance and efficiency • Transit service is potentially constrained by bypass of downtown Stratford, but is supported by direct connection to development along Lorne Avenue and Erie Street • Use of existing roadways would constrain transit travel performance
	5.4.2 Linkages to Population and Employment Centres	**High** potential to improve linkages to population and employment centres • Improved linkage to Stratford area to/from the east via 4-lane facility	**High** potential to improve linkages to population and employment centres • Improved linkage to Stratford area to/from the east via 4-lane facility	**High** potential to improve linkages to population and employment centres • Improved linkage to Stratford area to/from the east via 4-lane facility
	5.4.3 Recreation and Tourism Travel	**Moderate** potential to support recreation and tourism travel • Stratford tourist area is bypassed, but tourist travel through the analysis area is facilitated	**Moderate** potential to support recreation and tourism travel • Stratford tourist area is bypassed, but tourist travel through the analysis area is facilitated	**Moderate** potential to support recreation and tourism travel • Stratford tourist area is bypassed, but tourist travel through the analysis area is facilitated

Highway 7&8 Transportation Corridor Planning and Class EA Study EVALUATION OF PRELIMINARY DESIGN ALTERNATIVES Note: The evaluation is based on a qualitative assessment of each alternative (high, medium or low). Relevant and site-specific information for each criterion/cell is provided to justify the high, medium or low assessment.				
SEGMENT C – West of Erie Street to East of East Limit of Stratford, including Erie Street				
Segment C Alternatives		**Alternative C1 - Recommended**	**Alternative C2**	**Alternative C3**
	Cross Section	4-lanes with continuous centre left turn lane	4-lanes with continuous centre left turn lane	4-lanes with raised median
	Crossing Road Treatments	Erie Street / Lorne Avenue – Signalized Dunlop Place – Cul-de-sac Scott Street – Cul-de-sac Downie Street / Lorne Avenue – Signalized Romeo Street / Lorne Avenue – Signalized Embro Road / Erie Street – Signalized Line 29 / Erie Street – Signalized	Erie Street / Lorne Avenue – 2-lane roundabout Dunlop Place – Cul-de-sac Scott Street – Cul-de-sac Downie Street / Lorne Avenue – 2-lane roundabout Romeo Street / Lorne Avenue – 2-lane roundabout Embro Road / Erie Street – 2-lane roundabout Line 29 / Erie Street – 2-lane roundabout	Erie Street / Lorne Avenue – 2-lane roundabout Dunlop Place – Cul-de-sac Scott Street – Cul-de-sac Downie Street / Lorne Avenue – 2-lane roundabout Romeo Street / Lorne Avenue – 2-lane roundabout Embro Road / Erie Street – 2-lane roundabout Line 29 / Erie Street – 2-lane roundabout
Factor / Sub-Factor	**Criteria**			
	5.4.4 Accommodate mobility of pedestrians, cyclists and snowmobiles	**High** potential to accommodate mobility of pedestrians, cyclists and snowmobiles • Pedestrian and cyclist movements within right-of-way can be accommodated via sidewalks • Pedestrian and cyclist movements across right-of-way can be provided at intersection locations and/or designated crossing locations	**Moderate** potential to accommodate mobility of pedestrians, cyclists and snowmobiles • Pedestrian and cyclist movements within right-of-way can be accommodated via sidewalks • Pedestrian and cyclist movements across right-of-way can be provided at intersection locations (more challenging given roundabout treatment) and/or designated crossing locations	**Moderate** potential to accommodate mobility of pedestrians, cyclists and snowmobiles • Pedestrian and cyclist movements within right-of-way can be accommodated via sidewalks • Pedestrian and cyclist movements across right-of-way can be provided at intersection locations (more challenging given roundabout treatment) and/or designated crossing locations
5.5 Network Compatibility	5.5.1 Network Connectivity	**High** potential to improve transportation system connectivity • Provides improved linkage between Stratford and New Hamburg	**High** potential to improve transportation system connectivity • Provides improved linkage between Stratford and New Hamburg	**High** potential to improve transportation system connectivity • Provides improved linkage between Stratford and New Hamburg
	5.5.2 Flexibility for Future Expansion	**Low** potential for future expansion • Route uses existing alignments; existing right-of-way width of Lorne Avenue and Erie Street cannot readily accommodate further expansion beyond the 5-lane section	**Low** potential for future expansion • Route uses existing alignments; existing right-of-way width of Lorne Avenue and Erie Street cannot readily accommodate further expansion beyond the 5-lane section	**Low** potential for future expansion • Route uses existing alignments; existing right-of-way width of Lorne Avenue and Erie Street cannot readily accommodate further expansion beyond the 4-lane section with raised median
5.6 Engineering	5.6.1 Constructability	**High** potential for constructability issues • Uses existing roadway corridors (Lorne Avenue, Erie Street) requiring more complex traffic staging during construction • Major utilities to be relocated within Lorne Avenue corridor	**High** potential for constructability issues • Uses existing roadway corridors (Lorne Avenue, Erie Street) requiring more complex traffic staging during construction • Major utilities to be relocated within Lorne Avenue corridor	**High** potential for constructability issues • Uses existing roadway corridors (Lorne Avenue, Erie Street) requiring more complex traffic staging during construction • Major utilities to be relocated within Lorne Avenue corridor
	5.6.2 Compliance with Design Criteria	**High** conformity to safety and design standards • Supports use of better than minimum horizontal and vertical alignment elements • Can accommodate standard lane and shoulder widths **High** conformity to control private entrances and road connections onto highway • Strict access control resulting in highway that functions safely and efficiently for its useful life • Highway Access Management Plan would be developed for managing entrances onto the corridor: - spacing between existing/proposed intersections along highway - density of proposed entrances along highway - offset spacing from highway to first intersection / entrance on public crossing road - location of existing and proposed inter-regional and municipal transit routes and facilities - traffic impact study(s), to support existing and future land use planning decisions for above	**High** conformity to safety and design standards • Supports use of better than minimum horizontal and vertical alignment elements • Can accommodate standard lane and shoulder widths **High** conformity to control private entrances and road connections onto highway • Strict access control resulting in highway that functions safely and efficiently for its useful life • Highway Access Management Plan would be developed for managing entrances onto the corridor: - spacing between existing/proposed intersections along highway - density of proposed entrances along highway - offset spacing from highway to first intersection / entrance on public crossing road - location of existing and proposed inter-regional and municipal transit routes and facilities - traffic impact study(s), to support existing and future land use planning decisions for above	**High** conformity to safety and design standards • Supports use of better than minimum horizontal and vertical alignment elements • Can accommodate standard lane and shoulder widths **High** conformity to control private entrances and road connections onto highway • Strict access control resulting in highway that functions safely and efficiently for its useful life • Highway Access Management Plan would be developed for managing entrances onto the corridor: - spacing between existing/proposed intersections along highway - density of proposed entrances along highway - offset spacing from highway to first intersection / entrance on public crossing road - location of existing and proposed inter-regional and municipal transit routes and facilities - traffic impact study(s), to support existing and future land use planning decisions for above

Highway 7&8 Transportation Corridor Planning and Class EA Study EVALUATION OF PRELIMINARY DESIGN ALTERNATIVES Note: The evaluation is based on a qualitative assessment of each alternative (high, medium or low). Relevant and site-specific information for each criterion/cell is provided to justify the high, medium or low assessment.				
SEGMENT C – West of Erie Street to East of East Limit of Stratford, including Erie Street				
Segment C Alternatives		**Alternative C1 - Recommended**	**Alternative C2**	**Alternative C3**
Cross Section		4-lanes with continuous centre left turn lane	4-lanes with continuous centre left turn lane	4-lanes with raised median
Crossing Road Treatments		Erie Street / Lorne Avenue – Signalized Dunlop Place – Cul-de-sac Scott Street – Cul-de-sac Downie Street / Lorne Avenue – Signalized Romeo Street / Lorne Avenue – Signalized Embro Road / Erie Street – Signalized Line 29 / Erie Street – Signalized	Erie Street / Lorne Avenue – 2-lane roundabout Dunlop Place – Cul-de-sac Scott Street – Cul-de-sac Downie Street / Lorne Avenue – 2-lane roundabout Romeo Street / Lorne Avenue – 2-lane roundabout Embro Road / Erie Street – 2-lane roundabout Line 29 / Erie Street – 2-lane roundabout	Erie Street / Lorne Avenue – 2-lane roundabout Dunlop Place – Cul-de-sac Scott Street – Cul-de-sac Downie Street / Lorne Avenue – 2-lane roundabout Romeo Street / Lorne Avenue – 2-lane roundabout Embro Road / Erie Street – 2-lane roundabout Line 29 / Erie Street – 2-lane roundabout
Factor / Sub-Factor	**Criteria**			
5.7 Traffic Operations		**Moderate** potential for negative impact on traffic operations • Route uses existing roadway alignments, with multiple private entrances • Continuous two-way left turn lane would separate left turns from through movement • 5 major at-grade intersections (5 signalized) • Signalized treatment does not result in undue delay to highway traffic given significantly higher traffic flows on highway relative to low volumes at majority of sideroads	**High** potential for negative impact on traffic operations • Route uses existing roadway alignments, with multiple private entrances • Continuous two-way left turn lane would separate left turns from through movement • 5 major at-grade intersections (5 roundabouts) • Roundabout treatment results in undue delay to highway traffic given significantly higher traffic flows on highway relative to low volumes at majority of sideroads	**High** potential for negative impact on traffic operations • Route uses existing roadway alignments, with multiple private entrances • Raised medians restricts access to adjacent developments requiring more out of way travel • 5 major at-grade intersections (5 roundabouts) • Roundabout treatment results in undue delay to highway traffic given significantly higher traffic flows on highway relative to low volumes at majority of sideroads
5.8 Construction Cost (excludes property costs and engineering costs)		**Moderate Relative Cost** $32.0 M	**Moderate Relative Cost** $34.7 M	**Moderate Relative Cost** $31.0 M
TRANSPORTATION SUMMARY		**Alternative C1 is preferred from a transportation perspective as it has lower potential for negative impact on traffic operations and higher potential to improve pedestrian, cyclist and snowmobile safety relative to the other alternatives.**		
RECOMMENDATION		**Alternative C1 is recommended.** **For all alternatives, potential impacts to features of the natural and cultural environments are comparable with no discernible differences.** **From a socio-economic environment perspective, Alternative C1 is preferred as it results in the least direct impacts to residential, commercial and agricultural land uses. In addition, Alterative C1 results in no impacts to the City of Stratford landfill and provides the greatest opportunity to address concerns and conflicts between local users of the road and inter-regional traffic.** **Alternative C1 is preferred from a transportation perspective as it has lower potential for negative impact on traffic operations and higher potential to improve pedestrian, cyclist and snowmobile safety relative to the other alternatives.**		