
Appendix I: Evaluation Tables

Appendix I-1: Central Section Evaluation

Traffic Operations	
Traffic Operations	<ul style="list-style-type: none"> Interchange configuration provides high traffic capacity and minimal traffic conflicts
Geometrics	<ul style="list-style-type: none"> Accommodates the highway exits on large radius ramps located in advance of the structure No left-turns from Laird Road are required—left turns are from the highway ramp exits only Exits from Laird Road to the highway are free-flow movements that are consistently to the right
Access	
Access to and from Highway 6	<ul style="list-style-type: none"> Provides access to and from Highway 6 via Laird Road Interchange Closes the existing at-grade intersections on Highway 6 at Clair Road and at Maltby Road Can accommodate a Southgate Drive Extension if required and initiated by the City of Guelph
Constructability	
Construction Issues	<ul style="list-style-type: none"> Uses conventional construction techniques that have long-term stability
Natural Environment	
Vegetation removal	<ul style="list-style-type: none"> No vegetation removal required
Effects on natural areas	<ul style="list-style-type: none"> No effects on natural areas
Social Environment	
Residents and Businesses Displaced	<ul style="list-style-type: none"> Displaces one residence on Laird Road, however, residence would be displaced with future expansion of Hanlon Creek Business Park This interchange configuration is compatible with the approved Draft Plan of Subdivision for the Hanlon Business Park located on the west side of the highway
Potential Noise Impacts	<ul style="list-style-type: none"> No major increases in noise levels are anticipated Noise increases can be mitigated through standard mitigation measures
Impacts on Community and Recreation Features, including Trails	<ul style="list-style-type: none"> Improves pedestrian and cyclist access across Hanlon Expressway via grade separation at Laird Road Impacts existing trail system east of Hanlon Expressway near Laird Road interchange Impacts proposed trail system west of Hanlon Expressway along Laird Road
Property requirements	<ul style="list-style-type: none"> Minor property requirements in northeast quadrant of Laird Road and Hanlon Expressway – Fairfield Inn Property impacts to vacant property in northwest quadrant of Laird Road and Hanlon Expressway Property impacts to vacant property and Ontario College Application Services (OCAS) in southeast quadrant of Laird Road and Hanlon Expressway Property requirements in southwest quadrant of Laird Road and Hanlon Expressway result in displacement of residence
Cultural Environment	
Impact on Existing Built Heritage or Cultural Features	<ul style="list-style-type: none"> Built heritage residence on McWilliams Road potentially affected by vibration and dust during construction
Potential Impact on Archaeological Resources	<ul style="list-style-type: none"> Area of archaeological potential on west side of Hanlon Expressway; to be confirmed through additional Stage 2 archaeological assessment; archaeological resources uncovered during construction would be mitigated through provisions of the <i>Ontario Heritage Act</i>
Applied Environment	
Waste Disposal Sites or Potentially Contaminated Sites	<ul style="list-style-type: none"> No impact on waste disposal sites or potentially contaminated sites
Cost	
Estimated Total Construction Cost	<ul style="list-style-type: none"> Second highest comparative cost

Traffic Operations	
Traffic Operations	<ul style="list-style-type: none"> Interchange configuration provides lower traffic capacity and minimal traffic conflicts
Geometrics	<ul style="list-style-type: none"> The highway exits require successive and closely spaced decision points to separate westbound and eastbound traffic Highway traffic exits the highway on a small radius loop, which reduces the capacity and safety of the interchange All highway traffic destined for Laird Road exit on a free-flow ramp (i.e. no stop is required at Laird Road) Drivers on Laird Road are required to share the entrance ramps, which increases the number of conflict points and reduces the capacity of the interchange Left-turn storage lanes are required on Laird Road
Access	
Access to and from Highway 6	<ul style="list-style-type: none"> Provides access to and from Highway 6 via Laird Road Interchange Closes the existing at-grade intersections on Highway 6 at Clair Road and at Maltby Road Can accommodate a Southgate Drive Extension if required and initiated by the City of Guelph
Constructability	
Construction Issues	<ul style="list-style-type: none"> Uses conventional construction techniques that have long-term stability
Natural Environment	
Vegetation removal	<ul style="list-style-type: none"> No vegetation removal required
Effects on natural areas	<ul style="list-style-type: none"> No effects on natural areas
Social Environment	
Residents and Businesses Displaced	<ul style="list-style-type: none"> Displaces one residence on Laird Road, however, residence would be displaced with future expansion of Hanlon Creek Business Park Displaces Fairfield Inn Interchange configuration is not compatible with the approved Draft Plan of Subdivision for the Hanlon Business Park located on the west side of the highway
Potential Noise Impacts	<ul style="list-style-type: none"> No major increases in noise levels are anticipated Noise increases can be mitigated through standard mitigation measures
Impacts on Community and Recreation Features, including Trails	<ul style="list-style-type: none"> Improves pedestrian and cyclist access across Hanlon Expressway via grade separation at Laird Road Impacts existing trail system east of Hanlon Expressway near Laird Road interchange Impacts proposed trail system west of Hanlon Expressway along Laird Road
Property Requirements	<ul style="list-style-type: none"> Property requirements in northeast quadrant of Laird Road and Hanlon Expressway result in displacement of Fairfield Inn Property impacts to vacant property in northwest quadrant of Laird Road and Hanlon Expressway Property impacts to vacant property and Ontario College Application Services (OCAS) in southeast quadrant of Laird Road and Hanlon Expressway Property requirements in southwest quadrant of Laird Road and Hanlon Expressway result in displacement of residence
Cultural Environment	
Impact on Existing Built Heritage or Cultural Features	<ul style="list-style-type: none"> Built heritage residence on McWilliams Road potentially affected by vibration and dust during construction
Potential Impact on Archaeological Resources	<ul style="list-style-type: none"> Area of archaeological potential on west side of Hanlon Expressway; to be confirmed through additional Stage 2 archaeological assessment; archaeological resources uncovered during construction would be mitigated through provisions of the <i>Ontario Heritage Act</i>
Applied Environment	
Waste Disposal Sites or Potentially Contaminated Sites	<ul style="list-style-type: none"> No impact on waste disposal sites or potentially contaminated sites
Cost	
Estimated Total Construction Cost	<ul style="list-style-type: none"> Highest comparative cost

Traffic Operations	
Traffic Operations	<ul style="list-style-type: none"> Interchange configuration provides lower traffic capacity Drivers on Laird Road are required to share the entrance ramps, which increases the number of conflicts points and reduces the capacity of the interchange
Geometrics	<ul style="list-style-type: none"> Accommodates the highway exits on large radius ramps located in advance of the structure Exits from Laird Road are simple and exit moves are in the same direction as the freeway destination direction All connections between Laird Road and the exit and entrance ramps must be accomplished as turning movements at intersections (i.e. no direct ramps) Left-turn storage lanes are required on Laird Road
Access	
Access to and from Highway 6	<ul style="list-style-type: none"> Provides access to and from Highway 6 via Laird Road Interchange Closes the existing at-grade intersections on Highway 6 at Clair Road and at Maltby Road Can accommodate a Southgate Drive Extension if required and initiated by the City of Guelph
Constructability	
Construction Issues	<ul style="list-style-type: none"> Uses conventional construction techniques that have long-term stability Requires the construction of a road extension through an environmentally sensitive area, including Hanlon Creek
Natural Environment	
Vegetation removal	<ul style="list-style-type: none"> No vegetation removal required
Effects on natural areas	<ul style="list-style-type: none"> No effects on natural areas
Social Environment	
Residents and Businesses Displaced	<ul style="list-style-type: none"> Displaces one residence on Laird Road, however, residence would be displaced with future expansion of Hanlon Creek Business Park Interchange configuration is not compatible with the approved Draft Plan of Subdivision for the Hanlon Business Park located on the west side of the highway Properties in the northeast quadrant are impacted by the ramp (i.e. Fairfield Inn)
Potential Noise Impacts	<ul style="list-style-type: none"> No major increases in noise levels are anticipated Noise increases can be mitigated through standard mitigation measures
Impacts on Community and Recreation Features, including Trails	<ul style="list-style-type: none"> Improves pedestrian and cyclist access across Hanlon Expressway via grade separation at Laird Road Impacts existing trail system east of Hanlon Expressway near Laird Road interchange Impacts proposed trail system west of Hanlon Expressway along Laird Road
Property Requirements	<ul style="list-style-type: none"> Minor property requirements in northeast quadrant of Laird Road and Hanlon Expressway – Fairfield Inn Property impacts to vacant property in northwest quadrant of Laird Road and Hanlon Expressway Property impacts to vacant property in southeast quadrant of Laird Road and Hanlon Expressway Property requirements in southwest quadrant of Laird Road and Hanlon Expressway result in displacement of residence
Cultural Environment	
Impact on Existing Built Heritage or Cultural Features	<ul style="list-style-type: none"> Built heritage residence on McWilliams Road potentially affected by vibration and dust during construction
Potential Impact on Archaeological Resources	<ul style="list-style-type: none"> Area of archaeological potential on west side of Hanlon Expressway; to be confirmed through additional Stage 2 archaeological assessment; archaeological resources uncovered during construction would be mitigated through provisions of the <i>Ontario Heritage Act</i>
Applied Environment	
Waste Disposal Sites or Potentially Contaminated Sites	<ul style="list-style-type: none"> No impact on waste disposal sites or potentially contaminated sites
Cost	
Estimated Total Construction Cost	<ul style="list-style-type: none"> Lowest comparative cost

Appendix I-2: North Section Evaluation

Traffic Operations	
Intersection Levels of Service	<ul style="list-style-type: none"> Provides good level of service at the ramp terminal intersections on Stone Road Provides good level of service at all adjacent municipal road intersections
Municipal Road Volumes	<p>Anticipated Changes in Traffic Volumes (peak hour):</p> <ul style="list-style-type: none"> Downey Road west of Niska Road = -7% Woodland Glen Drive = +4% College Avenue west of Highway 6 = +12% Scottsdale Drive between Kortright Avenue and Stone Road = +20% Scottsdale Drive between Stone Road and College Avenue = +5%
Geometrics	<ul style="list-style-type: none"> Interchange configuration provides high traffic capacity with direct exit ramps from Highway 6 All movements from Stone Road to Highway 6 are free-flow
Access	
Access to and from Highway 6	<ul style="list-style-type: none"> Provides direct access to and from Highway 6 via Stone Road Interchange Does not provide access to and from the south at Kortright Road Cannot accommodate a "service road" on the east side of Highway 6 between Kortright Road and Stone Road because of the interchange configuration at Stone Road Does not provide for a College Avenue Extension Can accommodate a Stone Road Extension if required and initiated by the City of Guelph Requires the most amount of additional out-of-way-travel
Constructability	
Construction Issues	<ul style="list-style-type: none"> Uses conventional construction techniques that have long-term stability
Natural Environment	
Vegetation removal	<ul style="list-style-type: none"> Minor vegetation removal required at John Gamble Park at Kortright Road Vegetation removal required at SE and SW quadrants at Stone Road and Hanlon Expressway; lands owned by the City of Guelph for future Hanlon Expressway improvements
Effects on natural areas	<ul style="list-style-type: none"> No effects on natural areas
Effects on Hanlon Creek	<ul style="list-style-type: none"> Does not impact the Hanlon Creek
Social Environment	
Residents and Businesses Displaced	<ul style="list-style-type: none"> Displacement of one residence on Downey Road Displacement of seven residences on Hanlon Road between Stone Road and Flanders Road Displacement of three residences on Stone Road
Potential Noise Impacts	<ul style="list-style-type: none"> No major increases in noise levels are anticipated Noise increases can be mitigated through standard mitigation measures
Impacts on Community and Recreation Features, including Trails	<ul style="list-style-type: none"> Removes Kortright Road access to John Gamble Park Direct access to YMCA/YWCA from the Hanlon Expressway is not provided Improves pedestrian and cyclist access across Hanlon Expressway via grade separations Some impacts to existing trail system east and west of Hanlon Expressway near Stone Road interchange Trail relocations required on east and west sides of Hanlon Expressway at College Avenue
Property Requirements	<ul style="list-style-type: none"> Lands in the SW, SE, and NE quadrants at Stone Road are owned by the City of Guelph for future Hanlon Expressway improvements Minor property impacts to Guelph Limestone Quarry in the NW quadrant of Hanlon Expressway and College Avenue
Cultural Environment	
Impact on Existing Built Heritage or Cultural Features	<ul style="list-style-type: none"> Built heritage farmhouse, located on College Avenue east of Hanlon Expressway, potentially affected by vibration and dust during construction
Potential Impact on Archaeological Resources	<ul style="list-style-type: none"> No impact on area of archaeological potential
Applied Environment	
Municipal Water Supply Wells	<ul style="list-style-type: none"> Proposed City of Guelph municipal water supply well in SE quadrant of intersection of Hanlon Expressway and Stone Road
Waste Disposal Sites or Potentially Contaminated Sites	<ul style="list-style-type: none"> No impact on waste disposal sites or potentially contaminated sites
Utility Impacts	<p>Impacts:</p> <ul style="list-style-type: none"> 800 m Union Gas line 250 m underground Guelph Hydro, 1800 m overhead Guelph Hydro, 800 m overhead Ontario Hydro 900 m watermain, 200 m storm sewer, 200 m sanitary sewer Union Gas Pumping Station
Cost	
Estimated Total Construction Cost	<ul style="list-style-type: none"> Second lowest comparative cost

Traffic Operations	
Intersection Levels of Service	<ul style="list-style-type: none"> Provides good level of service at the ramp terminal intersections on Stone Road Provides good level of service at the ramp terminal intersections on Kortright Road Provides good level of service at all adjacent municipal road intersections
Municipal Road Volumes	<p>Anticipated Changes in Traffic Volumes (peak hour):</p> <ul style="list-style-type: none"> Downey Road west of Niska Road = +1% Woodland Glen Drive = +12% College Avenue west of Highway 6 = +10% Scottsdale Drive between Kortright Avenue and Stone Road = no change Scottsdale Drive between Stone Road and College Avenue = +4%
Geometrics	<ul style="list-style-type: none"> Interchange configuration provides high traffic capacity with direct exit ramps from Highway 6 All movements from Stone Road to Highway 6 are free-flow Provides a non-standard (partial) interchange at Downey Road/Kortright Road A left-turn movement is required from Downey Road westbound to access Highway 6 southbound
Access	
Access to and from Highway 6	<ul style="list-style-type: none"> Provides direct access to and from Highway 6 via Stone Road Interchange Provides access to and from the south at Kortright Road Cannot accommodate a "service road" on the east side of Highway 6 between Kortright Road and Stone Road because of the interchange configuration at Stone Road Does not provide for a College Avenue Extension Can accommodate a Stone Road Extension if required and initiated by the City of Guelph Requires the second least amount of additional out-of-way-travel
Constructability	
Construction Issues	<ul style="list-style-type: none"> Uses conventional construction techniques that have long-term stability
Natural Environment	
Vegetation removal	<ul style="list-style-type: none"> Vegetation removal required at John Gamble Park at Kortright Road Vegetation removal required at SE and SW quadrants at Stone Road and Hanlon Expressway; lands owned by the City of Guelph for future Hanlon Expressway improvements
Effects on natural areas	<ul style="list-style-type: none"> No effects on natural areas
Effects on Hanlon Creek	<ul style="list-style-type: none"> Potential minor impacts to Hanlon Creek during construction
Social Environment	
Residents and Businesses Displaced	<ul style="list-style-type: none"> Displacement of one residence on Downey Road Displacement of seven residences on Hanlon Road between Stone Road and Flanders Road Displacement of three residences on Stone Road
Potential Noise Impacts	<ul style="list-style-type: none"> No major increases in noise levels are anticipated Noise increases can be mitigated through standard mitigation measures
Impacts on Community and Recreation Features, including Trails	<ul style="list-style-type: none"> Removes approximately 50% of John Gamble Park Removes Kortright Road access to John Gamble Park Direct access to YMCA/YWCA is provided to and from the south from the Hanlon Expressway Improves pedestrian and cyclist access across Hanlon Expressway via grade separations; users are required to cross through a partial interchange on Kortright Road Some impacts to existing trail system east and west of Hanlon Expressway near Stone Road interchange Trail relocations required on east and west sides of Hanlon Expressway at College Avenue
Property Requirements	<ul style="list-style-type: none"> Lands in the SW, SE, and NE quadrants at Stone Road are owned by the City of Guelph for future Hanlon Expressway improvements Minor property impacts to Guelph Limestone Quarry in the NW quadrant of Hanlon Expressway and College Avenue
Cultural Environment	
Impact on Existing Built Heritage or Cultural Features	<ul style="list-style-type: none"> Built heritage farmhouse, located on College Avenue east of Hanlon Expressway, potentially affected by vibration and dust during construction
Potential Impact on Archaeological Resources	<ul style="list-style-type: none"> Area of archaeological potential at SW quadrant of intersection at Downey Road and Hanlon Expressway; to be confirmed through additional Stage 2 archaeological assessment; archaeological resources uncovered during construction would be mitigated through provisions of the <i>Ontario Heritage Act</i>
Applied Environment	
Municipal Water Supply Wells	<ul style="list-style-type: none"> Proposed City of Guelph municipal water supply well in SE quadrant of intersection of Hanlon Expressway and Stone Road
Waste Disposal Sites or Potentially Contaminated Sites	<ul style="list-style-type: none"> No impact on waste disposal sites or potentially contaminated sites
Utility Impacts	<p>Impacts:</p> <ul style="list-style-type: none"> 800 m Union Gas line 250 m underground Guelph Hydro, 1800 m overhead Guelph Hydro, 800 m overhead Ontario Hydro 900 m watermain, 200 m storm sewer, 200 m sanitary sewer Union Gas Pumping Station
Cost	
Estimated Total Construction Cost	<ul style="list-style-type: none"> Second highest comparative cost

Traffic Operations	
Intersection Levels of Service	<ul style="list-style-type: none"> Provides good level of service at the ramp terminal intersections on Stone Road Provides good level of service at all adjacent municipal road intersections
Municipal Road Volumes	<p>Anticipated Changes in Traffic Volumes (peak hour):</p> <ul style="list-style-type: none"> Downey Road west of Niska Road = +13% Woodland Glen Drive = -74% College Avenue west of Highway 6 = +18% Scottsdale Drive between Kortright Avenue and Stone Road = -1% Scottsdale Drive between Stone Road and College Avenue = +3%
Geometrics	<ul style="list-style-type: none"> Interchange configuration provides high traffic capacity with direct exit ramps from Highway 6 All movements from Stone Road to Highway 6 are free-flow
Access	
Access to and from Highway 6	<ul style="list-style-type: none"> Provides direct access to and from Highway 6 via Stone Road Interchange Does not provide access to and from the south at Kortright Road Cannot accommodate a "service road" on the east side of Highway 6 between Kortright Road and Stone Road because of the interchange configuration at Stone Road Provides for a College Avenue Extension Can accommodate a Stone Road Extension if required and initiated by the City of Guelph Requires the second most amount of additional out-of-way-travel
Constructability	
Construction Issues	<ul style="list-style-type: none"> Uses conventional construction techniques that have long-term stability Requires the construction of a road extension through an environmentally sensitive area, including Hanlon Creek
Natural Environment	
Vegetation removal	<ul style="list-style-type: none"> Minor vegetation removal required at John Gamble Park at Kortright Road Vegetation removal required at SE and SW quadrants at Stone Road and Hanlon Expressway; lands owned by the City of Guelph for future Hanlon Expressway improvements
Effects on natural areas	<ul style="list-style-type: none"> Impacts Kortright Waterfowl Park and potential impacts to Speed River Wetland Complex associated with College Avenue Extension
Effects on Hanlon Creek	<ul style="list-style-type: none"> Does not impact the Hanlon Creek
Social Environment	
Residents and Businesses Displaced	<ul style="list-style-type: none"> Displacement of one residence on Downey Road Displacement of seven residences on Hanlon Road between Stone Road and Flanders Road Displacements of three residences on Stone Road
Potential Noise Impacts	<ul style="list-style-type: none"> No major increases in noise levels are anticipated Noise increases can be mitigated through standard mitigation measures
Impacts on Community and Recreation Features, including Trails	<ul style="list-style-type: none"> Removes Kortright Road access to John Gamble Park Direct access to YMCA/YWCA from the Hanlon Expressway is not provided Improves pedestrian and cyclist access across Hanlon Expressway via grade separations Some impacts to existing trail system east and west of Hanlon Expressway near Stone Road interchange Trail relocations required on east and west sides of Hanlon Expressway at College Avenue
Property Requirements	<ul style="list-style-type: none"> Lands in the SW, SE, and NE quadrants at Stone Road are owned by the City of Guelph for future Hanlon Expressway improvements Minor property impacts to Guelph Limestone Quarry in the NW quadrant of Hanlon Expressway and College Avenue
Cultural Environment	
Impact on Existing Built Heritage or Cultural Features	<ul style="list-style-type: none"> Built heritage farmhouse, located on College Avenue east of Hanlon Expressway, potentially affected by vibration and dust during construction
Potential Impact on Archaeological Resources	<ul style="list-style-type: none"> No impact on area of archaeological potential
Applied Environment	
Municipal Water Supply Wells	<ul style="list-style-type: none"> Proposed City of Guelph municipal water supply well in SE quadrant of intersection of Hanlon Expressway and Stone Road
Waste Disposal Sites or Potentially Contaminated Sites	<ul style="list-style-type: none"> No impact on waste disposal sites or potentially contaminated sites
Utility Impacts	<p>Impacts:</p> <ul style="list-style-type: none"> 800 m Union Gas line 250 m underground Guelph Hydro, 1800 m overhead Guelph Hydro, 800 m overhead Ontario Hydro 900 m watermain, 200 m storm sewer, 200 m sanitary sewer Union Gas Pumping Station
Cost	
Estimated Total Construction Cost	<ul style="list-style-type: none"> Fourth highest comparative cost
Other Considerations	
Municipal/Local Resident Input	<ul style="list-style-type: none"> College Avenue Extension not supported by the City of Guelph or local residents

Traffic Operations	
Intersection Levels of Service	<ul style="list-style-type: none"> Provides poor level of service at the ramp terminal intersections on Stone Road Provides good level of service at all adjacent municipal road intersections
Municipal Road Volumes	<p>Anticipated Changes in Traffic Volumes (peak hour):</p> <ul style="list-style-type: none"> Downey Road west of Niska Road = -1% Woodland Glen Drive = -19% College Avenue west of Highway 6 = +4% Scottsdale Drive between Kortright Avenue and Stone Road = -43% Scottsdale Drive between Stone Road and College Avenue = +6%
Geometrics	<ul style="list-style-type: none"> Interchange configuration provides lower traffic capacity with loop ramp exits from Highway 6 Movements from Stone Road to Highway 6 are not free-flow East ramp terminal intersection at Stone Road is close to intersection at Scottsdale Drive
Access	
Access to and from Highway 6	<ul style="list-style-type: none"> Provides direct access to and from Highway 6 via Stone Road Interchange Does not provide access to and from the south at Kortright Road Provides a "service road" on the east side of Highway 6 between Kortright Road and Stone Road Does not provide for a College Avenue Extension Can accommodate a Stone Road Extension if required and initiated by the City of Guelph Requires the third most amount of additional out-of-way-travel
Constructability	
Construction Issues	<ul style="list-style-type: none"> Uses conventional construction techniques that have long-term stability More complex traffic staging and detours would be required at Stone Road because of the new alignment
Natural Environment	
Vegetation removal	<ul style="list-style-type: none"> Minor vegetation removal required at John Gamble Park at Kortright Road Vegetation removal required at SE and SW quadrants at Stone Road and Hanlon Expressway; lands owned by the City of Guelph for future Hanlon Expressway improvements
Effects on natural areas	<ul style="list-style-type: none"> No effects on natural areas
Effects on Hanlon Creek	<ul style="list-style-type: none"> Does not impact the Hanlon Creek
Social Environment	
Residents and Businesses Displaced	<ul style="list-style-type: none"> Displacement of one residence on Downey Road Displacement of five residences in the SW quadrant of Hanlon Expressway at Stone Road, as well as minor property impacts to three residences Displacement of three residences on Stone Road Displacement of Priory Park Baptist Church and Holiday Inn
Potential Noise Impacts	<ul style="list-style-type: none"> No major increases in noise levels are anticipated Noise increases can be mitigated through standard mitigation measures
Impacts on Community and Recreation Features, including Trails	<ul style="list-style-type: none"> Removes Kortright Road access to John Gamble Park Direct access to YMCA/YWCA from the Hanlon Expressway is not provided Improves pedestrian and cyclist access across Hanlon Expressway via grade separations; users are required to cross through a new intersection with Hanlon Road on Kortright Road Some impacts to existing trail system east of Hanlon Expressway near Stone Road interchange Trail relocations required on east and west sides of Hanlon Expressway at College Avenue Loss of trail link along old Hanlon Road between Kortright Road and Stone Road
Property Requirements	<ul style="list-style-type: none"> Minor property impacts to Guelph Limestone Quarry in the NW quadrant of Hanlon Expressway and College Avenue
Cultural Environment	
Impact on Existing Built Heritage or Cultural Features	<ul style="list-style-type: none"> Built heritage farmhouse, located on College Avenue east of Hanlon Expressway, potentially affected by vibration and dust during construction
Potential Impact on Archaeological Resources	<ul style="list-style-type: none"> No impact on area of archaeological potential
Applied Environment	
Municipal Water Supply Wells	<ul style="list-style-type: none"> Proposed City of Guelph municipal water supply well in SE quadrant of intersection of Hanlon Expressway and Stone Road
Waste Disposal Sites or Potentially Contaminated Sites	<ul style="list-style-type: none"> No impact on waste disposal sites or potentially contaminated sites
Utility Impacts	<p>Impacts:</p> <ul style="list-style-type: none"> 500 m Union Gas line 250 m underground Guelph Hydro, 1500 m overhead Guelph Hydro, 400 m overhead Ontario Hydro 1300 m watermain, 600 m storm sewer, 400 m sanitary sewer Union Gas Pumping Station
Cost	
Estimated Total Construction Cost	<ul style="list-style-type: none"> Lowest comparative cost



Traffic Operations	
Intersection Levels of Service	<ul style="list-style-type: none"> Provides poor level of service at the ramp terminal intersections on Stone Road and Kortright Road Provides good level of service at all adjacent municipal road intersections
Municipal Road Volumes	<p>Anticipated Changes in Traffic Volumes (peak hour):</p> <ul style="list-style-type: none"> Downey Road west of Niska Road = +3% Woodland Glen Drive = -20% College Avenue west of Highway 6 = +4% Scottsdale Drive between Kortright Avenue and Stone Road = -50% Scottsdale Drive between Stone Road and College Avenue = +4%
Geometrics	<ul style="list-style-type: none"> Interchange configuration provides lower traffic capacity with loop ramp exits from Highway 6 Movements from Stone Road to Highway 6 are not free-flow East ramp terminal intersection at Stone Road is close to intersection at Scottsdale Drive Provides a non-standard (partial) interchange at Downey Road/Kortright Road A left-turn movement is required from Downey Road westbound to access Highway 6 southbound
Access	
Access to and from Highway 6	<ul style="list-style-type: none"> Provides direct access to and from Highway 6 via Stone Road Interchange Provides access to and from the south at Kortright Road Provides a "service road" on the east side of Highway 6 between Kortright Road and Stone Road Does not provide for a College Avenue Extension Can accommodate a Stone Road Extension if required and initiated by the City of Guelph Requires the third least amount of additional out-of-way-travel
Constructability	
Construction Issues	<ul style="list-style-type: none"> Uses conventional construction techniques that have long-term stability More complex traffic staging and detours would be required at Stone Road because of the new alignment on
Natural Environment	
Vegetation removal	<ul style="list-style-type: none"> Vegetation removal required at John Gamble Park at Kortright Road Vegetation removal required at SE and SW quadrants at Stone Road and Hanlon Expressway; lands owned by the City of Guelph for future Hanlon Expressway improvements
Effects on natural areas	<ul style="list-style-type: none"> No effects on natural areas
Effects on Hanlon Creek	<ul style="list-style-type: none"> Potential minor impacts to Hanlon Creek during construction
Social Environment	
Residents and Businesses Displaced	<ul style="list-style-type: none"> Displacement of one residence on Downey Road Displacement of five residences in the SW quadrant of Hanlon Expressway at Stone Road, as well as minor property impacts to three residences Displacement of three residences on Stone Road Displacement of Priory Park Baptist Church and Holiday Inn
Potential Noise Impacts	<ul style="list-style-type: none"> No major increases in noise levels are anticipated Noise increases can be mitigated through standard mitigation measures
Impacts on Community and Recreation Features, including Trails	<ul style="list-style-type: none"> Minor impacts to John Gamble Park Removes Kortright Road access to John Gamble Park Direct access to YMCA/YWCA is provided to and from the south from the Hanlon Expressway Improves pedestrian and cyclist access across Hanlon Expressway via grade separations; users are required to cross through a partial interchange Some impacts to existing trail system east of Hanlon Expressway near Stone Road interchange Trail relocations required on east and west sides of Hanlon Expressway at College Avenue Loss of trail link along old Hanlon Road between Kortright Road and Stone Road
Property Requirements	<ul style="list-style-type: none"> Minor property impacts to Guelph Limestone Quarry in the NW quadrant of Hanlon Expressway and College Avenue
Cultural Environment	
Impact on Existing Built Heritage or Cultural Features	<ul style="list-style-type: none"> Built heritage farmhouse, located on College Avenue east of Hanlon Expressway, potentially affected by vibration and dust during construction
Potential Impact on Archaeological Resources	<ul style="list-style-type: none"> Area of archaeological potential at SW quadrant of intersection at Downey Road and Hanlon Expressway; to be confirmed through additional Stage 2 archaeological assessment; archaeological resources uncovered during construction would be mitigated through provisions of the <i>Ontario Heritage Act</i>
Applied Environment	
Municipal Water Supply Wells	<ul style="list-style-type: none"> Proposed City of Guelph municipal water supply well in SE quadrant of intersection of Hanlon Expressway and Stone Road
Waste Disposal Sites or Potentially Contaminated Sites	<ul style="list-style-type: none"> No impact on waste disposal sites or potentially contaminated sites
Utility Impacts	<p>Impacts:</p> <ul style="list-style-type: none"> 500 m Union Gas line 250 m underground Guelph Hydro, 1500 m overhead Guelph Hydro, 400 m overhead Ontario Hydro 1300 m watermain, 600 m storm sewer, 400 m sanitary sewer Union Gas Pumping Station
Cost	
Estimated Total Construction Cost	<ul style="list-style-type: none"> Third lowest comparative cost

Traffic Operations	
Intersection Levels of Service	<ul style="list-style-type: none"> Provides poor level of service at the ramp terminal intersections on Stone Road Provides good level of service at the ramp terminal intersections on Kortright Road Provides good level of service at all adjacent municipal road intersections
Municipal Road Volumes	<p>Anticipated Changes in Traffic Volumes (peak hour):</p> <ul style="list-style-type: none"> Downey Road west of Niska Road = -25% Woodland Glen Drive = -87% College Avenue west of Highway 6 = +8% Scottsdale Drive between Kortright Avenue and Stone Road = -53% Scottsdale Drive between Stone Road and College Avenue = +1%
Geometrics	<ul style="list-style-type: none"> Interchange configuration provides lower traffic capacity with loop ramp exits from Highway 6 Movements from Stone Road to Highway 6 are not free-flow East ramp terminal intersection at Stone Road is close to intersection at Scottsdale Drive Provides a non-standard (partial) interchange at Downey Road/Kortright Road A left-turn movement is required from Downey Road westbound to access Highway 6 southbound
Access	
Access to and from Highway 6	<ul style="list-style-type: none"> Provides direct access to and from Highway 6 via Stone Road Interchange Provides access to and from the south at Kortright Road Provides a "service road" on the east side of Highway 6 between Kortright Road and Stone Road Provides for a College Avenue Extension Can accommodate a Stone Road Extension if required and initiated by the City of Guelph Requires the least amount of additional out-of-way-travel
Constructability	
Construction Issues	<ul style="list-style-type: none"> Uses conventional construction techniques that have long-term stability Requires the construction of a road extension through an environmentally sensitive area, including Hanlon Creek More complex traffic staging and detours would be required at Stone Road because of the new alignment on existing road
Natural Environment	
Vegetation removal	<ul style="list-style-type: none"> Vegetation removal required at John Gamble Park at Kortright Road Vegetation removal required at SE and SW quadrants at Stone Road and Hanlon Expressway; lands owned by the City of Guelph for future Hanlon Expressway improvements
Effects on natural areas	<ul style="list-style-type: none"> Impacts Kortright Waterfowl Park and potential impacts to Speed River Wetland Complex associated with College Avenue Extension
Effects on Hanlon Creek	<ul style="list-style-type: none"> Potential minor impacts to Hanlon Creek during construction
Social Environment	
Residents and Businesses Displaced	<ul style="list-style-type: none"> Displacement of one residence on Downey Road Displacement of five residences in the SW quadrant of Hanlon Expressway at Stone Road, as well as minor property impacts to three residences Displacement of three residences on Stone Road Displacement of Priory Park Baptist Church and Holiday Inn
Potential Noise Impacts	<ul style="list-style-type: none"> No major increases in noise levels are anticipated Noise increases can be mitigated through standard mitigation measures
Impacts on Community and Recreation Features, including Trails	<ul style="list-style-type: none"> Minor impacts to John Gamble Park and removes access to the park from Kortright Road Direct access to YMCA/YWCA is provided to and from the south from the Hanlon Expressway Improves pedestrian and cyclist access across Hanlon Expressway via grade separations; users are required to cross through a partial interchange Some impacts to existing trail system east of Hanlon Expressway near Stone Road interchange Trail relocations required on east and west sides of Hanlon Expressway at College Avenue Loss of trail link along old Hanlon Road between Kortright Road and Stone Road
Property Requirements	<ul style="list-style-type: none"> Minor property impacts to Guelph Limestone Quarry in the NW quadrant of Hanlon Expressway and College Avenue
Cultural Environment	
Impact on Existing Built Heritage or Cultural Features	<ul style="list-style-type: none"> Built heritage farmhouse, located on College Avenue east of Hanlon Expressway, potentially affected by vibration and dust during construction
Potential Impact on Archaeological Resources	<ul style="list-style-type: none"> Area of archaeological potential at SW quadrant of intersection at Downey Road and Hanlon Expressway; to be confirmed through additional Stage 2 archaeological assessment; archaeological resources uncovered during construction would be mitigated through provisions of the <i>Ontario Heritage Act</i>
Applied Environment	
Municipal Water Supply Wells	<ul style="list-style-type: none"> Proposed City of Guelph municipal water supply well in SE quadrant of intersection of Hanlon Expressway and Stone Road
Waste Disposal Sites or Potentially Contaminated Sites	<ul style="list-style-type: none"> No impact on waste disposal sites or potentially contaminated sites
Utility Impacts	<p>Impacts:</p> <ul style="list-style-type: none"> 500 m Union Gas line 250 m underground Guelph Hydro, 1500 m overhead Guelph Hydro, 400 m overhead Ontario Hydro 1300 m watermain, 600 m storm sewer, 400 m sanitary sewer Union Gas Pumping Station
Cost	
Estimated Total Construction Cost	<ul style="list-style-type: none"> Third highest comparative cost
Other Considerations	
Municipal/Local Resident Input	<ul style="list-style-type: none"> College Avenue Extension not supported by the City of Guelph or local residents

Traffic Operations	
Intersection Levels of Service	<ul style="list-style-type: none"> Provides good level of service at the ramp terminal intersection on Stone Road Provides good level of service at the ramp terminal intersections on Kortright Road Provides good level of service at all adjacent municipal road intersections
Municipal Road Volumes	<p>Anticipated Changes in Traffic Volumes (peak hour):</p> <ul style="list-style-type: none"> Downey Road west of Niska Road = +1% Woodland Glen Drive = -33% College Avenue west of Highway 6 = +10% Scottsdale Drive between Kortright Avenue and Stone Road = -23% Scottsdale Drive between Stone Road and College Avenue = +4%
Geometrics	<ul style="list-style-type: none"> Interchange configuration provides high traffic capacity with direct exit ramps from Highway 6 All movements from Stone Road to Highway 6 are free-flow Provides a non-standard (partial) interchange at Downey Road/Kortright Road A left-turn movement is required from Downey Road westbound to access Highway 6 southbound Uncommon design that would require additional signing to accommodate the combined exit from Highway 6 northbound
Access	
Access to and from Highway 6	<ul style="list-style-type: none"> Provides direct access to and from Highway 6 via Stone Road Interchange Provides access to and from the south at Kortright Road Provides a "service road" on the east side of Highway 6 between Kortright Road and Stone Road by removing the northbound exit ramp at the Stone Road interchange Does not provide for a College Avenue Extension Can accommodate a Stone Road Extension if required and initiated by the City of Guelph Requires the fourth least amount of additional out-of-way-travel
Constructability	
Construction Issues	<ul style="list-style-type: none"> Uses conventional construction techniques that have long-term stability
Natural Environment	
Vegetation removal	<ul style="list-style-type: none"> Vegetation removal required at John Gamble Park at Kortright Road Vegetation removal required at SE and SW quadrants at Stone Road and Hanlon Expressway; lands owned by the City of Guelph for future Hanlon Expressway improvements
Effects on natural areas	<ul style="list-style-type: none"> No effects on natural areas
Effects on Hanlon Creek	<ul style="list-style-type: none"> Potential minor impacts to Hanlon Creek during construction
Social Environment	
Residents and Businesses Displaced	<ul style="list-style-type: none"> Displacement of one residence on Downey Road Displacement of seven residences on Hanlon Road between Stone Road and Flanders Road Displacement of three residences on Stone Road
Potential Noise Impacts	<ul style="list-style-type: none"> No major increases in noise levels are anticipated Noise increases can be mitigated through standard mitigation measures
Impacts on Community and Recreation Features, including Trails	<ul style="list-style-type: none"> Minor impacts to John Gamble Park Removes Kortright Road access to John Gamble Park Direct access to YMCA/YWCA is provided to and from the south from the Hanlon Expressway Improves pedestrian and cyclist access across Hanlon Expressway via grade separations; users are required to cross through a partial interchange on Kortright Road Some impacts to existing trail system east and west of Hanlon Expressway near Stone Road interchange Trail relocations required on east and west sides of Hanlon Expressway at College Avenue Loss of trail link along old Hanlon Road between Kortright Road and Stone Road
Property Requirements	<ul style="list-style-type: none"> Lands in the SW, SE, and NE quadrants at Stone Road are owned by the City of Guelph for future Hanlon Expressway improvements Minor property impacts to Guelph Limestone Quarry in the NW quadrant of Hanlon Expressway and College Avenue
Cultural Environment	
Impact on Existing Built Heritage or Cultural Features	<ul style="list-style-type: none"> Built heritage farmhouse, located on College Avenue east of Hanlon Expressway, potentially affected by vibration and dust during construction
Potential Impact on Archaeological Resources	<ul style="list-style-type: none"> Area of archaeological potential at SW quadrant of intersection at Downey Road and Hanlon Expressway; to be confirmed through additional Stage 2 archaeological assessment; archaeological resources uncovered during construction would be mitigated through provisions of the <i>Ontario Heritage Act</i>
Applied Environment	
Municipal Water Supply Wells	<ul style="list-style-type: none"> Proposed City of Guelph municipal water supply well in SE quadrant of intersection of Hanlon Expressway and Stone Road
Waste Disposal Sites or Potentially Contaminated Sites	<ul style="list-style-type: none"> No impact on waste disposal sites or potentially contaminated sites
Utility Impacts	<p>Impacts:</p> <ul style="list-style-type: none"> 800 m Union Gas line 250 m underground Guelph Hydro, 1800 m overhead Guelph Hydro, 800 m overhead Ontario Hydro 900 m watermain, 200 m storm sewer, 200 m sanitary sewer Union Gas Pumping Station
Cost	
Estimated Total Construction Cost	<ul style="list-style-type: none"> Highest comparative cost

EVALUATION OF ALTERNATIVES
Highway 6 (Hanlon Expressway) Improvements
GWP 3002-05-00

NORTH SECTION

Alternatives	Relative Criteria Weight	Traffic Operations	Access	Constructability	Natural Environment	Social Environment	Cultural Environment	Applied Environment	Cost	Weighted Score	RANK
		5	5	1	3	3	1	1	2		
Score for each criterion											
1		8.1	7.7	10.0	10.0	10.0	10.0	10.0	9.6	8.95	2
2		8.7	9.9	10.0	8.2	8.1	9.0	10.0	9.0	8.99	1
3		8.4	8.1	9.0	7.6	7.5	10.0	10.0	9.3	8.37	4
4		6.0	8.3	9.0	10.0	5.0	10.0	10.0	10.0	7.88	6
5		6.5	9.7	9.0	8.2	5.0	9.0	10.0	9.4	7.99	5
6		6.3	10.0	8.0	5.9	2.5	9.0	10.0	9.1	7.23	7
7		8.5	9.5	10.0	8.2	7.5	9.0	10.0	9.0	8.78	3

EVALUATION DATA SHEET

Highway 6 (Hanlon Expressway) Improvements
GWP 3002-05-00

Evaluation Factor: HIGHWAY 6 (NORTH SECTION) - TRAFFIC OPERATIONS

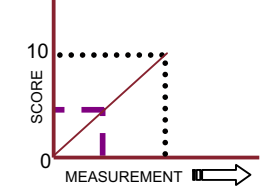
What Represents the Best Improvement Alternative?

The Best Alternative.

- Accommodates projected traffic demands
- Supports and enhances provincial highway function
- Reduces the number of collisions
- Provides overall design standards consistent with *Geometric Standards for Ontario Highways, Interchanges, and Connecting Roads*

Unit of Measure: Combined Weighted Measurement

Score: Highest measurement = 10



Alternative	A	B	C	Average Score	Rank
1	7.42	6.83	10.00	8.08	4
2	8.23	9.00	8.85	8.68	1
3	7.30	8.00	10.00	8.42	3
4	3.80	9.50	4.62	5.97	7
5	6.13	10.00	3.46	6.52	5
6	5.78	9.67	3.46	6.30	6
7	7.41	9.33	8.85	8.52	2

EVALUATION DATA SHEET
Highway 6 (Hanlon Expressway) Improvements
GWP 3002-05-00

Evaluation Factor:	HIGHWAY 6 (NORTH SECTION) - TRAFFIC OPERATIONS (A)			
The Best Alternative:	What Represents the Best Improvement Alternative?			
Unit of Measure:	Accommodates projected traffic demand			
Level of Service	Level of Service at intersections - Ramp Terminal Intersections - Municipal Intersections			
Score:	Level of Service	Score	Average taken for total of ramp terminal intersections and municipal road intersections	
	A	10		
	B	8		
	C	6		
	D	4		
	E	2		
	F	0		
Alternative	Ramp Intersections 70%	Municipal Intersections 30%	Total Score (A)	Rank
1	7.0	8.4	7.42	2
2	8.5	7.6	8.23	1
3	7.0	8.0	7.30	4
4	2.0	8.0	3.80	7
5	5.5	7.6	6.13	5
6	5.0	7.6	5.78	6
7	7.3	7.6	7.41	3

- Municipal Intersections used for analysis:
- Downey Drive at Woodland Glen Drive
 - Kortright Avenue at Ironwood Road
 - Kortright Avenue at Scottsdale Drive
 - Stone Road at Woodland Glen Drive
 - Stone Road at Scottsdale Drive

	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6	Alt 7
Ramp Intersections							
Kortright S-E/W		B			B	B	C
Kortright E/W-S		A			A	A	A
Stone S-E/W	C	B	C	E	E	E	
Stone N-E/W	B	B	B	E	E	F	C
Municipal Intersections							
Downey Drive at Woodland Glen Drive	A	B	A	A	B	B	B
Kortright Avenue at Ironwood Road	B	B	B	B	B	B	B
Kortright Avenue at Scottsdale Drive	A	B	B	B	B	B	B
Stone Road at Woodland Glen Drive	B	B	B	B	B	B	B
Stone Road at Scottsdale Drive	C	C	C	C	C	C	C

EVALUATION DATA SHEET										
Highway 6 (Hanlon Expressway) Improvements										
GWP 3002-05-00										
Evaluation Factor:	HIGHWAY 6 (NORTH SECTION) - TRAFFIC OPERATIONS (B)									
What Represents the Best Improvement Alternative?										
The Best Alternative:										
<ul style="list-style-type: none"> Accommodates projected traffic demand 										
Unit of Measure:	<ul style="list-style-type: none"> Volumes on Municipal Roads (increase/decrease) Municipal Road Classifications 									
Score:	% change		Score							
	less than 5%		10							
	5-10%		8							
	10-15%		6							
	15-20%		4							
20-25%		2								
25% or over		0								
Road Classification			Arterial	3						
			Collector	2						
			Local	1						
Raw Score = (% change score * road classification score)										
Volumes on Municipal Roads							Road Classification	Raw Score	Total Score (B)	Rank
Alternative	Road	Existing Volume	Projected Volume	% increase	Score	Score				
1	Downey Road	1080	1002	-7	10	3	82	6.83	7	
	Woodland Glen Drive	425	444	4	10	1				
	College Avenue	650	728	12	6	2				
	Scottsdale Drive ¹	650	782	20	2	3				
	Scottsdale Drive ²	780	820	5	8	3				
2	Downey Road	1080	1088	1	10	3	108	9.00	5	
	Woodland Glen Drive	425	478	12	6	1				
	College Avenue	650	715	10	6	2				
	Scottsdale Drive ¹	650	647	0	10	3				
	Scottsdale Drive ²	780	809	4	10	3				
3	Downey Road	1080	1218	13	6	3	96	8.00	6	
	Woodland Glen Drive	425	112	-74	10	1				
	College Avenue	650	769	18	4	2				
	Scottsdale Drive ¹	650	644	-1	10	3				
	Scottsdale Drive ²	780	803	3	10	3				
4	Downey Road	1080	1072	-1	10	3	114	9.50	3	
	Woodland Glen Drive	425	345	-19	10	1				
	College Avenue	650	675	4	10	2				
	Scottsdale Drive ¹	650	372	-43	10	3				
	Scottsdale Drive ²	780	827	6	8	3				
5	Downey Road	1080	1113	3	10	3	120	10.00	1	
	Woodland Glen Drive	425	341	-20	10	1				
	College Avenue	650	676	4	10	2				
	Scottsdale Drive ¹	650	323	-50	10	3				
	Scottsdale Drive ²	780	808	4	10	3				

	Volumes on Municipal Roads					Road Classification			
6	Downey Road	1080	814	-25	10	3	116	9.67	2
	Woodland Glen Drive	425	56	-87	10	1			
	College Avenue	650	700	8	8	2			
	Scottsdale Drive ¹	650	307	-53	10	3			
	Scottsdale Drive ²	780	785	1	10	3			
7	Downey Road	1080	1088	1	10	3	112	9.33	4
	Woodland Glen Drive	425	285	-33	10	1			
	College Avenue	650	715	10	6	2			
	Scottsdale Drive ¹	650	498	-23	10	3			
	Scottsdale Drive ²	780	809	4	10	3			

¹ Between Kortright Avenue and Stone Road

² Between Stone Road and College Avenue

Projected Volumes taken from Feasibility Report (Appendix A, Figure B11)

EVALUATION DATA SHEET
Highway 6 (Hanlon Expressway) Improvements
GWP 3002-05-00

Evaluation Factor: **HIGHWAY 6 (NORTH SECTION) - TRAFFIC OPERATIONS (C)**

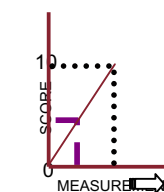
What Represents the Best Improvement Alternative?

The Best Alternative.

- Provides overall design standards consistent with Geometric Standards for Ontario Highways, Interchanges, and
- Provides for safe movement of vehicles

Unit of Measure: Qualitative
 No Change = 10
 Each negative change = -1
 Each positive change = +1

Score: Highest Score = 10



Alternative	Rationale	Measurement	Score	Rank	
1	Highway 6 exits are located in advance of structures	(+1.0)	13	10.0	1
	Interchange configuration provides high traffic capacity with direct exit ramps from Highway 6	(+1.0)			
	All movement from Stone Road to Highway 6 are free-flow	(+1.0)			
2	Highway 6 exits are located in advance of structures	(+1.0)	12	8.8	3
	Provides a non-standard interchange (partial) at Downey Road/Kortright Road	(-1.0)			
	Interchange configuration provides high traffic capacity with direct exit ramps from Highway 6	(+1.0)			
	All movement from Stone Road to Highway 6 are free-flow	(+1.0)			
	A left-turn movement is required from Downey Road westbound to access Highway 6 southbound	(-0.5)			
3	Highway 6 exits are located in advance of structures	(+1.0)	13	10.0	1
	Interchange configuration provides high traffic capacity with direct exit ramps from Highway 6	(+1.0)			
	All movement from Stone Road to Highway 6 are free-flow	(+1.0)			
4	Highway 6 exits are located beyond the structure	(-1.0)	6	4.6	5
	Interchange configuration provides lower traffic capacity with loop ramp exits from Highway 6	(-1.0)			
	Movements from Stone Road to Highway 6 are not free-flow	(-1.0)			
	East ramp terminal intersection at Stone Road is close to the intersection at Scottsdale Drive	(-1.0)			

5	Highway 6 exits are located beyond the structure	(-1.0)	5	3.5	6
	Provides a non-standard interchange (partial) at Downey Road/Kortright Road	(-1.0)			
	Interchange configuration provides lower traffic capacity with loop ramp exits from Highway 6	(-1.0)			
	Movements from Stone Road to Highway 6 are not free-flow	(-1.0)			
	A left-turn movement is required from Downey Road westbound to access Highway 6 southbound	(-0.5)			
	East ramp terminal intersection at Stone Road is close to the intersection at Scottsdale Drive	(-1.0)			
6	Highway 6 exits are located beyond the structure	(-1.0)	5	3.5	6
	Provides a non-standard interchange (partial) at Downey Road/Kortright Road	(-1.0)			
	Interchange configuration provides lower traffic capacity with loop ramp exits from Highway 6	(-1.0)			
	Movements from Stone Road to Highway 6 are not free-flow	(-1.0)			
	A left-turn movement is required from Downey Road westbound to access Highway 6 southbound	(-0.5)			
	East ramp terminal intersection at Stone Road is close to the intersection at Scottsdale Drive	(-1.0)			
7	Highway 6 exits are located in advance of structures	(+1.0)	12	8.8	3
	Provides a non-standard interchange (partial) at Downey Road/Kortright Road	(-1.0)			
	Interchange configuration provides high traffic capacity with direct exit ramps from Highway 6	(+1.0)			
	All movement from Stone Road to Highway 6 are free-flow	(+1.0)			
	A left-turn movement is required from Downey Road westbound to access Highway 6 southbound	(-0.5)			
	Provides for a combined exit from Highway 6 Northbound - reducing the number of exits	(+1.0)			
	Uncommon design that would require additional signing to accommodate common exit from Highway 6 Northbound	(-1.0)			

EVALUATION DATA SHEET Highway 6 (Hanlon Expressway) Improvements GWP 3002-05-00								
Evaluation Factor:	HIGHWAY 6 (NORTH SECTION) - ACCESS							
What Represents the Best Alternative?								
The Best Alternative								
<ul style="list-style-type: none"> Supports existing and future growth and development Supports the municipal road network Complements future municipal road improvements 								
Quantitative: Travel distance from neighbourhoods to Highway 6 Unit of Measure: <ul style="list-style-type: none"> A - Downey Road at Ptarmigan Drive B - Woodland Glen Drive at Kingswood Gate C - College Avenue at Dovercliffe Road D - Ironwood Crescent at Hilldale Crescent E - Scottsdale Drive at Ironwood Crescent F - Scottsdale Drive at Wilsonview Avenue 								
Score:	Shortest travel distance = 10							
Alternative	From	To	Traffic Volume	Distance (km)	Weighted Distance	Score	Rank	
1	A	Highway 6 Northbound	268	2.8	5,455	7.7	7	
		Highway 6 Southbound	78	3.0				
	B	Highway 6 Northbound	53	0.9				
		Highway 6 Southbound	29	0.7				
	C	Highway 6 Northbound	189	1.1				
		Highway 6 Southbound	53	0.9				
	D	Highway 6 Northbound	87	1.9				
		Highway 6 Southbound	92	2.1				
	E	Highway 6 Northbound	202	0.6				
		Highway 6 Southbound	195	0.8				
	F	Highway 6 Northbound	202	0.8				
		Highway 6 Southbound	107	1.0				
	A	Highway 6 Northbound	A	355				2.8
		Highway 6 Southbound	A	130				2.1
	B	Highway 6 Northbound	B	66				3.2
		Highway 6 Southbound	B	28				0.8
	C	Highway 6 Northbound	C	189				1.4
		Highway 6 Southbound	C	32				1.0
D	Highway 6 Northbound	D	106	2.0				
	Highway 6 Southbound	D	87	2.2				
E	Highway 6 Northbound	E	320	0.7				
	Highway 6 Southbound	E	299	1.0				
F	Highway 6 Northbound	F	321	1.0				
	Highway 6 Southbound	F	165	1.2				
2	A	Highway 6 Northbound	268	2.8	4,254	9.9	2	
		Highway 6 Southbound	78	0.8				
	B	Highway 6 Northbound	53	0.9				
		Highway 6 Southbound	29	0.8				
	C	Highway 6 Northbound	189	1.1				
		Highway 6 Southbound	53	0.9				
	D	Highway 6 Northbound	87	1.9				
		Highway 6 Southbound	92	0.9				
	E	Highway 6 Northbound	202	0.6				
		Highway 6 Southbound	195	0.8				
	F	Highway 6 Northbound	202	0.8				
		Highway 6 Southbound	107	1.0				
	A	Highway 6 Northbound	A	355				1.0
		Highway 6 Southbound	A	130				2.1
	B	Highway 6 Northbound	B	66				1.0
		Highway 6 Southbound	B	28				0.8
	C	Highway 6 Northbound	C	189				1.4
		Highway 6 Southbound	C	32				1.0
D	Highway 6 Northbound	D	106	0.7				
	Highway 6 Southbound	D	87	2.2				
E	Highway 6 Northbound	E	320	0.7				
	Highway 6 Southbound	E	299	1.0				
F	Highway 6 Northbound	F	321	1.0				
	Highway 6 Southbound	F	165	1.2				

3	A	Highway 6 Northbound	268	2.4	5,159	8.1	6
		Highway 6 Southbound	78	2.1			
	B	Highway 6 Northbound	53	0.9			
		Highway 6 Southbound	29	0.7			
	C	Highway 6 Northbound	189	1.1			
		Highway 6 Southbound	53	0.9			
	D	Highway 6 Northbound	87	1.9			
		Highway 6 Southbound	92	2.1			
	E	Highway 6 Northbound	202	0.6			
		Highway 6 Southbound	195	0.8			
	F	Highway 6 Northbound	202	0.8			
		Highway 6 Southbound	107	1.0			
	Highway 6 Northbound	A	355	2.8			
	Highway 6 Southbound		130	2.2			
	Highway 6 Northbound	B	66	1.2			
	Highway 6 Southbound		28	0.8			
	Highway 6 Northbound	C	189	1.4			
	Highway 6 Southbound		32	1.0			
	Highway 6 Northbound	D	106	2.0			
	Highway 6 Southbound		87	2.2			
Highway 6 Northbound	E	320	0.7				
Highway 6 Southbound		299	1.0				
Highway 6 Northbound	F	321	1.0				
Highway 6 Southbound		165	1.2				
4	A	Highway 6 Northbound	268	2.1	5,053	8.3	5
		Highway 6 Southbound	78	3.2			
	B	Highway 6 Northbound	53	1.3			
		Highway 6 Southbound	29	0.8			
	C	Highway 6 Northbound	189	1.5			
		Highway 6 Southbound	53	1.0			
	D	Highway 6 Northbound	87	1.9			
		Highway 6 Southbound	92	2.3			
	E	Highway 6 Northbound	202	0.6			
		Highway 6 Southbound	195	1.1			
	F	Highway 6 Northbound	202	0.8			
		Highway 6 Southbound	107	1.3			
	Highway 6 Northbound	A	355	2.1			
	Highway 6 Southbound		130	2.3			
	Highway 6 Northbound	B	66	1.3			
	Highway 6 Southbound		28	0.9			
	Highway 6 Northbound	C	189	1.5			
	Highway 6 Southbound		32	1.1			
	Highway 6 Northbound	D	106	1.9			
	Highway 6 Southbound		87	2.2			
Highway 6 Northbound	E	320	0.6				
Highway 6 Southbound		299	0.9				
Highway 6 Northbound	F	321	0.9				
Highway 6 Southbound		165	1.1				
5	A	Highway 6 Northbound	268	2.1	4,316	9.7	3
		Highway 6 Southbound	78	0.8			
	B	Highway 6 Northbound	53	1.3			
		Highway 6 Southbound	29	0.8			
	C	Highway 6 Northbound	189	1.5			
		Highway 6 Southbound	53	1.0			
	D	Highway 6 Northbound	87	1.9			
		Highway 6 Southbound	92	0.9			
	E	Highway 6 Northbound	202	0.6			
		Highway 6 Southbound	195	1.1			
	F	Highway 6 Northbound	202	0.8			
		Highway 6 Southbound	107	1.3			
	Highway 6 Northbound	A	355	1.0			
	Highway 6 Southbound		130	3.2			
	Highway 6 Northbound	B	66	1.0			
	Highway 6 Southbound		28	0.9			
	Highway 6 Northbound	C	189	1.5			
	Highway 6 Southbound		32	1.1			
	Highway 6 Northbound	D	106	0.7			
	Highway 6 Southbound		87	2.2			
Highway 6 Northbound	E	320	0.6				
Highway 6 Southbound		299	0.9				
Highway 6 Northbound	F	321	0.9				
Highway 6 Southbound		165	1.1				

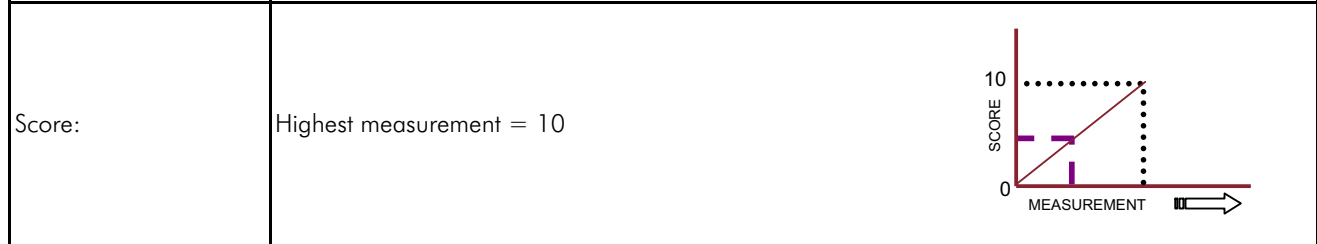
6	A	Highway 6 Northbound	268	2.1	4,199	10.0	1
		Highway 6 Southbound	78	0.8			
	B	Highway 6 Northbound	53	1.3			
		Highway 6 Southbound	29	0.8			
	C	Highway 6 Northbound	189	1.5			
		Highway 6 Southbound	53	1.0			
	D	Highway 6 Northbound	87	1.9			
		Highway 6 Southbound	92	0.9			
	E	Highway 6 Northbound	202	0.6			
		Highway 6 Southbound	195	1.1			
	F	Highway 6 Northbound	202	0.8			
		Highway 6 Southbound	107	1.3			
	Highway 6 Northbound	A	355	1.0			
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	Highway 6 Southbound		87	2.2			
Highway 6 Northbound	E	320	0.6				
Highway 6 Southbound		299	0.9				
Highway 6 Northbound	F	321	0.9				
Highway 6 Southbound		165	1.1				
7	A	Highway 6 Northbound	268	2.0	4,420	9.5	4
		Highway 6 Southbound	78	0.8			
	B	Highway 6 Northbound	53	0.9			
		Highway 6 Southbound	29	0.8			
	C	Highway 6 Northbound	189	1.1			
		Highway 6 Southbound	53	0.9			
	D	Highway 6 Northbound	87	1.9			
		Highway 6 Southbound	92	0.9			
	E	Highway 6 Northbound	202	0.6			
		Highway 6 Southbound	195	0.8			
	F	Highway 6 Northbound	202	0.8			
		Highway 6 Southbound	107	1.0			
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	Highway 6 Northbound	B	66	0.9			
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	Highway 6 Northbound	C	189	2.3			
	Highway 6 Southbound		32	1.0			
	Highway 6 Northbound	D	106	0.7			
	Highway 6 Southbound		87	2.2			
Highway 6 Northbound	E	320	0.7				
Highway 6 Southbound		299	1.0				
Highway 6 Northbound	F	321	2.0				
Highway 6 Southbound		165	1.2				

EVALUATION DATA SHEET
Highway 6 (Hanlon Expressway) Improvements
GWP 3002-05-00

Evaluation Factor: **HIGHWAY 6 (NORTH SECTION) - CONSTRUCTABILITY**
 What Represents the Best Alternative?

The Best Alternative
 ▪ Accommodates existing traffic flow and operations during construction
 ▪ Uses conventional construction techniques

Unit of Measure: Qualitative:
 No major constructability issues = 10
 Each negative construction issue = -1
 Each positive construction issue = +1



Alternative	Rationale	Measurement	Score	Rank
1	Uses conventional construction techniques that have long-term stability	-	10	1
2	Uses conventional construction techniques that have long-term stability		10	1
3	Uses conventional construction techniques that have long-term stability Requires the construction of a road extension through an environmentally sensitive area, including Hanlon Creek	(-1)	9	4
4	Uses conventional construction techniques that have long-term stability Traffic issues at Stone Road because of the new alignment on existing road	(-1)	9	4
5	Uses conventional construction techniques that have long-term stability Traffic issues at Stone Road because of the new alignment on existing road	(-1)	9	4
6	Uses conventional construction techniques that have long-term stability Requires the construction of a road extension through an environmentally sensitive area, including Hanlon Creek Traffic issues at Stone Road because of the new alignment on existing road	(-1) (-1)	8	7
7	Uses conventional construction techniques that have long-term stability		10	1

EVALUATION DATA SHEET
Highway 6 (Hanlon Expressway) Improvements
GWP 3002-05-00

Evaluation Factor: **HIGHWAY 6 (NORTH SECTION) - NATURAL ENVIRONMENT**

What Represents the Best Alternative?
 The Best Alternative

- Has the least impact on ecological features including wetlands, greenbelts, watercourses, wildlife habitat, surface water and

Unit of Measure: Combined Weighted Measurement

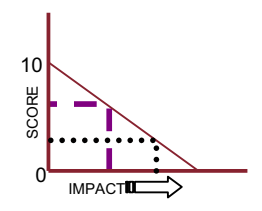


Alternative	Rationale	Measurement	Score	Rank	
1	Minor vegetation removal at John Gamble Park	(-0.5)	8.5	10.0	1
	Vegetation removal at Stone Road (SE and SW quadrants)	(-1.0)			
2	Vegetation removal at John Gamble Park	(-1.0)	7.0	8.2	3
	Potential minor impacts during construction at Hanlon Creek	(-1.0)			
	Vegetation removal at Stone Road (SE and SW quadrants)	(-1.0)			
3	Minor vegetation removal at John Gamble Park	(-0.5)	6.5	7.6	6
	Vegetation removal at Stone Road (SE and SW quadrants)	(-1.0)			
	Impacts Kortright Waterfowl Park and Speed River Wetland Complex	(-2.0)			
4	Minor vegetation removal at John Gamble Park	(-0.5)	8.5	10.0	1
	Vegetation removal at Stone Road (SE and SW quadrants)	(-1.0)			
5	Vegetation removal at John Gamble Park	(-1.0)	7.0	8.2	2
	Vegetation removal at Stone Road (SE and SW quadrants)	(-1.0)			
	Potential minor impacts during construction at Hanlon Creek	(-1.0)			
6	Vegetation removal at John Gamble Park	(-1.0)	5.0	5.9	3
	Vegetation removal at Stone Road (SE and SW quadrants)	(-1.0)			
	Impacts Kortright Waterfowl Park and Speed River Wetland Complex	(-2.0)			
	Potential minor impacts during construction at Hanlon Creek	(-1.0)			
7	Vegetation removal at John Gamble Park	(-1.0)	7.0	8.2	2
	Vegetation removal at Stone Road (SE and SW quadrants)	(-1.0)			
	Potential minor impacts during construction at Hanlon Creek	(-1.0)			

EVALUATION DATA SHEET Highway 6 (Hanlon Expressway) Improvements GWP 3002-05-00					
Evaluation Factor:	HIGHWAY 6 (NORTH SECTION) - SOCIAL ENVIRONMENT				
What Represents the Best Alternative?					
The Best Alternative					
<ul style="list-style-type: none"> Has the least number of residents and businesses displaced or impacted Has the least amount of property required Is compatible with the City of Guelph and Country of Wellington Official Plans Minimizes impacts to adjacent dwellers and views of the highway Minimizes noise and air quality impacts Minimizes impacts to community and recreational facilities, including trails 					
Unit of Measure:	Qualitative				
Score:	Highest total score = 10				
Alternative	Rationale	Measurement	Score	Rank	
1	Displacement of 8 residences	(-4.0)	8.0	10.0	1
	Direct access from Hanlon Expressway to YMCA/YWCA not provided	(-2.0)			
	Impacts to trail system at Stone Road on east and west side of Hanlon Expressway	(-1.0)			
2	Displacement of 8 residences	(-4.0)	6.5	8.1	2
	Direct access from Hanlon Expressway to YMCA/YWCA only to and from the south	(-1.0)			
	Removes approximately 50% of John Gamble Park	(-1.0)			
	Significant change in character of Hanlon Road affecting the backyards of several residences on Shadybrook Crescent	(-1.0)			
	Pedestrians and cyclists must cross through a partial interchange on Kortright Road	(-0.5)			
	Impacts to trail system at Stone Road on east and west side of Hanlon Expressway	(-1.0)			
3	Displacement of 8 residences	(-4.0)	6.0	7.5	3
	Direct access from Hanlon Expressway to YMCA/YWCA not provided	(-2.0)			
	Impacts to trail system at Stone Road on east and west side of Hanlon Expressway	(-1.0)			
	College Avenue Extension not supported by City of Guelph or local residents	(-2.0)			

4	Displacement of 6 residences	(-3.0)	4.0	5.0	5
	Minor property impacts to 3 residential properties	(-1.0)			
	Displacement of Priory Park Church and Holiday Inn	(-2.0)			
	Direct access from Hanlon Expressway to YMCA/YWCA not provided	(-2.0)			
	Pedestrians and cyclists must cross through an intersection on Kortright Road	(-0.5)			
	Impacts to trail system at Stone Road on east side of Hanlon Expressway	(-0.5)			
	Significant change in character of Hanlon Road affecting the backyards of several residences on Cole Road	(-1.0)			
	Loss of trail link on old Hanlon Road between Kortright Road and Stone Road	(-1.0)			
5	Displacement of 6 residences	(-3.0)	4.0	5.0	5
	Minor property impacts to 3 residential properties	(-1.0)			
	Displacement of Priory Park Church and Holiday Inn	(-2.0)			
	Direct access from Hanlon Expressway to YMCA/YWCA only to and from the south	(-1.0)			
	Minor impacts to John Gamble Park	(-0.5)			
	Change in character of Hanlon Road affecting the backyards of several residences on Shadybrook Crescent	(-0.5)			
	Pedestrians and cyclists must cross through a partial interchange on Kortright Road	(-0.5)			
	Impacts to trail system at Stone Road on east side of Hanlon Expressway	(-0.5)			
Significant change in character of Hanlon Road affecting the backyards of several residences on Cole Road	(-1.0)				
Loss of trail link on old Hanlon Road between Kortright Road and Stone Road	(-1.0)				

6	Displacement of 6 residences	(-3.0)	2.0	2.5	7
	Minor property impacts to 3 residential properties	(-1.0)			
	Displacement of Priory Park Church and Holiday Inn	(-2.0)			
	Direct access from Hanlon Expressway to YMCA/YWCA only to and from the south	(-1.0)			
	Minor impacts to John Gamble Park	(-0.5)			
	Change in character of Hanlon Road affecting the backyards of several residences on Shadybrook Crescent	(-0.5)			
	Pedestrians and cyclists must cross through a partial interchange on Kortright Road	(-0.5)			
	Impacts to trail system at Stone Road on east side of Hanlon Expressway	(-0.5)			
	Loss of trail link on old Hanlon Road between Kortright Road and Stone Road	(-1.0)			
	Significant change in character of Hanlon Road affecting the backyards of several residences on Cole Road	(-1.0)			
College Avenue Extension not supported by City of Guelph or local residents	(-2.0)				
7	Displacement of 8 residences	(-4.0)	6.0	7.5	3
	Direct access from Hanlon Expressway to YMCA/YWCA only to and from the south	(-1.0)			
	Service Road on east side of Highway 6 enhances access to YMCA/YWCA	(+0.5)			
	Minor impacts to John Gamble Park	(-0.5)			
	Change in character of Hanlon Road affecting the backyards of several residences on Shadybrook Crescent	(-0.5)			
	Pedestrians and cyclists must cross through a partial interchange on Kortright Road	(-0.5)			
	Impacts to trail system at Stone Road on east and west side of Hanlon Expressway	(-1.0)			
	Significant change in character of Hanlon Road affecting the backyards of several residences on Cole Road	(-1.0)			
Loss of trail link on old Hanlon Road between Kortright Road and Stone Road	(-1.0)				

EVALUATION DATA SHEET Highway 6 (Hanlon Expressway) Improvements GWP 3002-05-00				
Evaluation Factor:	HIGHWAY 6 (NORTH SECTION) - CULTURAL ENVIRONMENT			
What Represents the Best Alternative?				
The Best Alternative				
<ul style="list-style-type: none"> Has the least impact to registered and identified Built Heritage and Cultural Landscape Sites Minimizes impacts to archaeological resources 				
Unit of Measure:	Quantitative: N = number of sites			
Score:	No impact = 10 Impacts one site = -1 			
Alternative	Rationale		Score	Rank
1	No built heritage, cultural, or archaeological resources affected	-	10.0	1
2	Area of archaeological potential affected in SW quadrant at intersection with Downey Road	(-1)	9.0	4
3	No built heritage, cultural, or archaeological resources affected	-	10.0	1
4	No built heritage, cultural, or archaeological resources affected	-	10.0	1
5	Area of archaeological potential affected in SW quadrant at intersection with Downey Road	(-1)	9.0	4
6	Area of archaeological potential affected in SW quadrant at intersection with Downey Road	(-1)	9.0	4
7	Area of archaeological potential affected in SW quadrant at intersection with Downey Road	(-1)	9.0	4

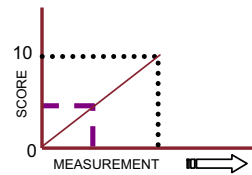
EVALUATION DATA SHEET
Highway 6 (Hanlon Expressway) Improvements
GWP 3002-05-00

Evaluation Factor: **HIGHWAY 6 (NORTH SECTION) - APPLIED ENVIRONMENT**
 What Represents the Best Alternative?

The Best Alternative
 • Effects of municipal water supply wells
 • Effects on waste disposal sites or potentially contaminated sites
 • Utility Impacts

Unit of Measure: Qualitative:
 No change = 10
 Each impacts = -1

Score: Highest measurement = 10



Alternative	Rationale	Measurement	Score	Rank
1	Potential impacts to new municipal water supply well in SE quadrant at Stone Road	(-1) 9	10.0	1
2	Potential impacts to new municipal water supply well in SE quadrant at Stone Road	(-1) 9	10.0	1
3	Potential impacts to new municipal water supply well in SE quadrant at Stone Road	(-1) 9	10.0	1
4	Potential impacts to new municipal water supply well in SE quadrant at Stone Road	(-1) 9	10.0	1
5	Potential impacts to new municipal water supply well in SE quadrant at Stone Road	(-1) 9	10.0	1
6	Potential impacts to new municipal water supply well in SE quadrant at Stone Road	(-1) 9	10.0	1
7	Potential impacts to new municipal water supply well in SE quadrant at Stone Road	(-1) 9	10.0	1

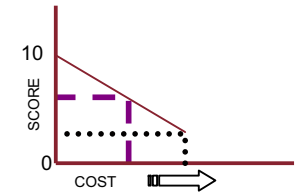
EVALUATION DATA SHEET
Highway 6 (Hanlon Expressway) Improvements
GWP 3002-05-00

Evaluation Factor: **HIGHWAY 6 (NORTH SECTION) - COST**
 What Represents the Best Alternative?

The Best Alternative
 • Minimizes the total cost including construction, utility relocations and property

Unit of Measure: Quantitative:
 Cost (\$)

Score: Lowest cost = 10



Alternative	Rationale	Measurement	Score	Rank
1		\$ 29,100,000	9.6	2
2		\$ 31,000,000	9.0	6
3		\$ 30,000,000	9.3	4
4		\$ 27,900,000	10.0	1
5		\$ 29,600,000	9.4	3
6		\$ 30,500,000	9.1	5
7		\$ 31,000,000	9.0	6

EVALUATION OF ALTERNATIVES
Highway 6 (Hanon Expressway) Improvements
GWP 3002-05-00

NORTH SECTION - Community Workshop Weighting

Alternatives	Traffic Operations	Access	Constructability	Natural Environment	Social Environment	Cultural Environment	Applied Environment	Cost	Weighted Score	RANK
Relative Criteria Weight	17	19	6	18	20	7	6	7		
Score for each criterion										
1a	9.5	10.0	9.1	8.6	8.8	9.5	7.8	9.1	9.14	4
1b	9.5	9.8	9.1	7.4	8.5	9.0	7.8	8.6	8.75	6
2a	10.0	9.8	9.1	9.7	10.0	9.5	10.0	9.6	9.79	1
3a	9.6	9.8	9.1	8.0	9.7	9.5	10.0	9.6	9.36	3
4a	9.0	10.0	5.5	6.9	9.1	10.0	10.0	6.9	8.59	7
5a	10.0	9.9	10.0	9.4	9.1	9.5	7.8	9.3	9.49	2
6a	9.1	9.6	10.0	10.0	6.2	9.5	10.0	10.0	8.96	5

EVALUATION OF ALTERNATIVES
Highway 6 (Hanon Expressway) Improvements
GWP 3002-05-00

NORTH SECTION - Original Weighting

Alternatives	Traffic Operations	Access	Constructability	Natural Environment	Social Environment	Cultural Environment	Applied Environment	Cost	Weighted Score	RANK
Relative Criteria Weight	22	22	4	13	17	9	4	9		
Score for each criterion										
1a	9.5	10.0	9.1	8.6	8.8	9.5	7.8	9.1	9.26	4
1b	9.5	9.8	9.1	7.4	8.5	9.0	7.8	8.6	8.91	6
2a	10.0	9.8	9.1	9.7	10.0	9.5	10.0	9.6	9.80	1
3a	9.6	9.8	9.1	8.0	9.7	9.5	10.0	9.6	9.45	3
4a	9.0	10.0	5.5	6.9	9.1	10.0	10.0	6.9	8.75	7
5a	10.0	9.9	10.0	9.4	9.1	9.5	7.8	9.3	9.56	2
6a	9.1	9.6	10.0	10.0	6.2	9.5	10.0	10.0	9.00	5

EVALUATION DATA SHEET
Highway 6 (Hanon Expressway) Improvements
GWP 3002-05-00

Evaluation Factor: HIGHWAY 6 (NORTH SECTION) - TRAFFIC OPERATIONS

What Represents the Best Improvement Alternative?

The Best Alternative.

- Accommodates projected traffic demands
- Supports and enhances provincial highway function
- Reduces the number of collisions
- Provides overall design standards consistent with *Geometric Standards for Ontario Highways, Interchanges, and Connecting Roads*

Unit of Measure: Combined Weighted Measurement

Scoring:
Average Score = Average of Scores A, B, and C (from next set of data sheets)
Normalized Score = The normalized score provides a ranking of the project alternatives based on the "best" alternative for this criterion. The "best" alternative (highest average score) receives a normalized score of 10.00. The remaining alternative scores are divided by the highest score then multiplied by 10 to determine the normalized score, which provides a relative comparison between the alternatives.
Rank: Based on Normalized Score

Alternative	A	B	C	Average Score	Normalized Score	Rank
1a	9.31	10.00	8.00	9.09	9.51	4
1b	9.52	9.70	8.00	9.06	9.47	5
2a	10.00	9.10	9.50	9.52	9.96	2
3a	10.00	9.10	8.50	9.19	9.61	3
4a	8.79	10.00	7.00	8.59	8.98	7
5a	9.83	9.40	9.50	9.57	10.00	1
6a	10.00	6.00	10.00	8.66	9.05	6

EVALUATION DATA SHEET Highway 6 (Hanlon Expressway) Improvements GWP 3002-05-00															
Evaluation Factor:	HIGHWAY 6 (NORTH SECTION) - TRAFFIC OPERATIONS (A) What Represents the Best Improvement Alternative?														
The Best Alternative:														
Unit of Measure:	Accommodates projected traffic demand to 2031 - Ramp Terminal Intersections - Municipal Intersections														
Score:	<table border="1"> <thead> <tr> <th>Level of Service</th> <th>Measurement</th> </tr> </thead> <tbody> <tr> <td>A</td> <td>10</td> </tr> <tr> <td>B</td> <td>9</td> </tr> <tr> <td>C</td> <td>7</td> </tr> <tr> <td>D</td> <td>5</td> </tr> <tr> <td>E</td> <td>3</td> </tr> <tr> <td>F</td> <td>1</td> </tr> </tbody> </table> <p>Average taken for total of ramp terminal intersections and municipal road intersections</p>	Level of Service	Measurement	A	10	B	9	C	7	D	5	E	3	F	1
Level of Service	Measurement														
A	10														
B	9														
C	7														
D	5														
E	3														
F	1														
Average Measurement	9.00														
Normalized Score (A)	9.31														
Rank	6														
Alternative	1a														
Average Measurement	9.20														
Normalized Score (A)	9.52														
Rank	5														
Alternative	2a														
Average Measurement	9.67														
Normalized Score (A)	10.00														
Rank	1														
Alternative	3a														
Average Measurement	9.67														
Normalized Score (A)	10.00														
Rank	1														
Alternative	4a														
Average Measurement	8.50														
Normalized Score (A)	8.79														
Rank	7														
Alternative	5a														
Average Measurement	9.50														
Normalized Score (A)	9.83														
Rank	4														
Alternative	6a														
Average Measurement	9.67														
Normalized Score (A)	10.00														
Rank	1														

Municipal Intersections used for analysis:

- Downey Drive at Woodland Glen Drive
- Stone Road at Scottsdale Drive

Ramp Intersections	Alt 1a	Alt 1b	Alt 2a	Alt 3a	Alt 4a	Alt 5a	Alt 6a	Preferred Plan
Kortright S-E/W	B	B	A	A	C	A	A	
Kortright E/W-S	B	A	A	A	C	A	A	
Stone S-E/W	B	B	A	A	B	B	A	
Stone N-E/W	B	B	B	B	B	B	B	
Municipal Intersections								
Downey Drive at Woodland Glen Drive	*	*	A	A	A	A	A	
Stone Road at Scottsdale Drive	B	B	B	B	B	B	B	

* The operation of this intersection was not included since the E/W-S ramp terminal has been combined with this intersection and is already considered.

EVALUATION DATA SHEET Highway 6 (Hanlon Expressway) Improvements GWP 3002-05-00																																																																																																																																																																																																																												
Evaluation Factor:	HIGHWAY 6 (NORTH SECTION) - TRAFFIC OPERATIONS (B)																																																																																																																																																																																																																											
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Unit of Measure:	<ul style="list-style-type: none"> Volumes on Municipal Roads (increase/decrease) Municipal Road Classifications 																																																																																																																																																																																																																											
Measurement:	<table border="1"> <thead> <tr> <th>% change</th> <th>Measurement</th> </tr> </thead> <tbody> <tr> <td>0% or less (negative)</td> <td>10</td> </tr> <tr> <td>less than 10%</td> <td>9</td> </tr> <tr> <td>10-20%</td> <td>7</td> </tr> <tr> <td>20-30%</td> <td>5</td> </tr> <tr> <td>30-40%</td> <td>3</td> </tr> <tr> <td>40-50%</td> <td>1</td> </tr> <tr> <td>50% or over</td> <td>0</td> </tr> </tbody> </table> <table border="1"> <thead> <tr> <th>Road Classification</th> <th>Factor</th> </tr> </thead> <tbody> <tr> <td>Arterial</td> <td>3</td> </tr> <tr> <td>Collector</td> <td>2</td> </tr> <tr> <td>Local</td> <td>1</td> </tr> </tbody> </table>									% change	Measurement	0% or less (negative)	10	less than 10%	9	10-20%	7	20-30%	5	30-40%	3	40-50%	1	50% or over	0	Road Classification	Factor	Arterial	3	Collector	2	Local	1																																																																																																																																																																																											
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(B)	Rank	Existing Conditions ²	Projected Volume	% increase	Measurement	Factor	1a	Downey Road	1100	1000	-9	10	3	100	10.00	1	Kortright Avenue	800	800	0	10	3	Woodland Glen Drive	150	100	-33	10	1	Scottsdale Drive ¹	350	350	0	10	3	1b	Downey Road	1100	1000	-9	10	3	97	9.70	3	Kortright Avenue	800	825	3	9	3	Woodland Glen Drive	150	150	0	10	1	Scottsdale Drive ¹	350	350	0	10	3	2a	Downey Road	1100	1000	-9	10	3	91	9.10	5	Kortright Avenue	800	650	-19	10	3	Woodland Glen Drive	150	100	-33	10	1	Scottsdale Drive ¹	350	400	14	7	3	3a	Downey Road	1100	1000	-9	10	3	91	9.10	5	Kortright Avenue	800	650	-19	10	3	Woodland Glen Drive	150	100	-33	10	1	Scottsdale Drive ¹	350	400	14	7	3	4a	Downey Road	1100	1000	-9	10	3	100	10.00	1	Kortright Avenue	800	750	-6	10	3	Woodland Glen Drive	150	150	0	10	1	Scottsdale Drive ¹	350	350	0	10	3	5a	Downey Road	1100	900	-18	10	3	94	9.40	4	Kortright Avenue	800	875	9	9	3	Woodland Glen Drive	150	175	17	7	1	Scottsdale Drive ¹	350	350	0	10	3	6a	Downey 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¹ Between Kortright Avenue and Stone Road

² Estimated volumes from model (2031 Do Nothing) - includes Highway 7 improvements, Highway 6 Freelon-Guelph By-Pass, Highway 6 improvements north of Wellington Street, no Laird Road interchange

Projected Volumes taken from City of Guelph TransCAD modelling (August 2008)

EVALUATION DATA SHEET Highway 6 (Hanlon Expressway) Improvements GWP 3002-05-00					
Evaluation Factor:	HIGHWAY 6 (NORTH SECTION) - TRAFFIC OPERATIONS (C)				
What Represents the Best Improvement Alternative?					
The Best Alternative					
<ul style="list-style-type: none"> Provides overall design standards consistent with Geometric Standards for Ontario Highways, Interchanges, and Provides for safe movement of vehicles 					
Unit of Measure:	Qualitative No Change = 10 Each negative feature = -1 Each positive feature = +1				
Scoring:	Measurement = Base Score of 10 plus/minus scores for alternative features Normalized Score = The normalized score provides a ranking of the project alternatives based on the "best" alternative for this criterion. The "best" alternative (highest measurement) receives a normalized score of 10.00. The remaining alternative measurements are divided by the highest measurement then multiplied by 10 to determine the normalized score, which provides a relative comparison between the alternatives. Rank: Based on Normalized Score				
Alternative	Rationale	Measurement	Normalized Score	Rank	
1a	Highway 6 exits are located in advance of structures	(+1.0)	8	8.0	5
	Combines the intersections of E/W-S Ramp on Kortright with Woodland Glen	(+1.0)			
	Provides one-way service roads - which can lead to driver confusion and impact safety	(-1.0)			
	Service roads are located in close proximity to Highway 6 (maintenance, safety)	(-1.0)			
	Requires the merge of the east side service road and the S-E/W ramp at Stone Road	(-1.0)			
1b	Highway 6 exits are located in advance of structures	(+1.0)	8	8.0	5
	Combines the intersections of E/W-S Ramp on Kortright with Woodland Glen	(+1.0)			
	Provides one-way service roads - which can lead to driver confusion and impact safety	(-1.0)			
	Service roads are located in close proximity to Highway 6 (maintenance, safety)	(-1.0)			
	Requires a non-conventional loop for the service road	(-1.0)			
2a	Highway 6 exits are located in advance of structures	(+1.0)	10	9.5	2
	Service roads are located in close proximity to Highway 6 (maintenance, safety)	(-1.0)			
	Requires 3 closely spaced signalized intersections on Downey Road/Kortright Road	(-0.5)			
3a	Highway 6 exits are located in advance of structures	(+1.0)	9	8.5	4
	Service roads are located in close proximity to Highway 6 (maintenance, safety)	(-1.0)			
	Requires 3 closely spaced signalized intersections on Downey Road/Kortright Road	(-0.5)			
4a	Highway 6 exits are located in advance of structures	(+1.0)	7	7.0	7
	Provides one-way service roads - which can lead to driver confusion and impact safety	(-1.0)			
	Service roads are located in close proximity to Highway 6 (maintenance, safety)	(-1.0)			
	Requires a roundabout - a non-conventional traffic control design	(-1.0)			
5a	Highway 6 exits are located in advance of structures	(+1.0)	10	9.5	2
	Requires a combined northbound exit (Kortright Avenue and Stone Road)	(-1.0)			
	Requires 3 closely spaced signalized intersections on Downey Road/Kortright Road	(-0.5)			
6a	Highway 6 exits are located in advance of structures	(+1.0)	10	10.0	1
	Requires 3 closely spaced signalized intersections on Downey Road/Kortright Road	(-1.0)			

EVALUATION DATA SHEET Highway 6 (Hanlon Expressway) Improvements GWP 3002-05-00								
Evaluation Factor:	HIGHWAY 6 (NORTH SECTION) - ACCESS							
What Represents the Best Alternative?								
The Best Alternative								
<ul style="list-style-type: none"> Supports existing and future growth and development Supports the municipal road network Complements future municipal road improvements 								
Unit of Measure:	Quantitative: Travel distance between neighbourhoods and Highway 6 A - Downey Road at Hazelwood Drive B - Woodland Glen Drive at Old Colony Trail C - College Avenue at Dovercliffe Road D - Ironwood Crescent at Hilldale Crescent E - Scottsdale Drive at Ironwood Crescent F - Scottsdale Drive at Wilsonview Avenue Highway 6 Northbound - Station 11+000 Highway 6 Southbound - Station 17+000							
Scoring:	Weighted Distance = Sum of Traffic Volume * Distance for each alternative Normalized Score = The normalized score provides a ranking of the project alternatives based on the "best" alternative for this criterion. The "best" alternative (lowest weighted distance) receives a normalized score of 10.00. The lowest weighted distance is divided by the other weighted distances then multiplied by 10 to determine the normalized score, which provides a relative comparison between the alternatives. Rank: Based on Normalized Score							
Alternative	From	To	Traffic Volume	Distance (km)	Weighted Distance	Normalized Score	Rank	
1a	A	Highway 6 Northbound	268	2.72	8,560	10.0	1	
		Highway 6 Southbound	78	1.73				
	B	Highway 6 Northbound	53	2.41				
		Highway 6 Southbound	29	1.71				
	C	Highway 6 Northbound	189	2.20				
		Highway 6 Southbound	53	3.51				
	D	Highway 6 Northbound	87	2.64				
		Highway 6 Southbound	92	2.19				
	E	Highway 6 Northbound	202	1.78				
		Highway 6 Southbound	195	2.50				
	F	Highway 6 Northbound	202	1.78				
		Highway 6 Southbound	107	3.48				
	1b	A	Highway 6 Northbound	355				1.83
			Highway 6 Southbound	130				2.44
		B	Highway 6 Northbound	66				1.88
			Highway 6 Southbound	28				1.74
		C	Highway 6 Northbound	189				3.45
			Highway 6 Southbound	32				2.01
		D	Highway 6 Northbound	106				1.82
			Highway 6 Southbound	87				2.90
		E	Highway 6 Northbound	320				2.13
			Highway 6 Southbound	299				2.05
		F	Highway 6 Northbound	321				3.03
			Highway 6 Southbound	165				2.05

2a	A	Highway 6 Northbound	268	2.63	8,710	9.8	4	
		Highway 6 Southbound	78	1.76				
	B	Highway 6 Northbound	53	2.41				
		Highway 6 Southbound	29	1.74				
	C	Highway 6 Northbound	189	2.20				
		Highway 6 Southbound	53	3.51				
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		Highway 6 Southbound	195	2.32				
	F	Highway 6 Northbound	202	3.03				
		Highway 6 Southbound	107	2.05				
	Highway 6 Northbound	A		355				1.83
				130				2.44
	Highway 6 Southbound	B		66				1.88
				28				2.22
	Highway 6 Northbound	C		189				3.45
				32				2.01
	Highway 6 Southbound	D		106				1.82
				87				2.90
Highway 6 Northbound	E		320	2.13				
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		Highway 6 Southbound	195	2.50				
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		Highway 6 Southbound	107	3.48				
	Highway 6 Northbound	A		355				1.83
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			299	2.05				
Highway 6 Southbound	F		321	3.03				
			165	2.05				

EVALUATION DATA SHEET Highway 6 (Hanlon Expressway) Improvements GWP 3002-05-00					
Evaluation Factor:	HIGHWAY 6 (NORTH SECTION) - CONSTRUCTABILITY				
What Represents the Best Alternative?					
The Best Alternative					
<ul style="list-style-type: none"> Accommodates existing traffic flow and operations during construction Uses conventional construction techniques 					
Unit of Measure:	Qualitative: No major constructability issues = 10 Each negative construction issue = -1 Each positive construction issue = +1				
Scoring:	Measurement = Base Score of 10 plus/minus scores for alternative issues Normalized Score = The normalized score provides a ranking of the project alternatives based on the "best" alternative for this criterion. The "best" alternative (highest measurement) receives a normalized score of 10.00. The remaining alternative measurements are divided by the highest measurement then multiplied by 10 to determine the normalized score, which provides a relative comparison between the alternatives. Rank: Based on Normalized Score				
Alternative	Rationale	Measurement	Score	Rank	
1a	Uses conventional construction techniques	(+1)	10	9.1	3
	Requires the construction of the west side service road adjacent to Highway 6	(-1)			
1b	Uses conventional construction techniques	(+1)	10	9.1	3
	Requires the construction of the west side service road adjacent to Highway 6	(-1)			
2a	Uses conventional construction techniques	(+1)	10	9.1	3
	Requires the construction of the west side service road adjacent to Highway 6	(-1)			
3a	Uses conventional construction techniques	(+1)	10	9.1	3
	Requires the construction of the west side service road adjacent to Highway 6	(-1)			
4a	Uses conventional construction techniques	(+1)	6	5.5	7
	Requires the construction of the west side and east side service roads adjacent to Highway 6	(-2)			
	Requires raising Highway 6 to accommodate the roundabout which would require significant staging and detours	(-2)			
	Requires the construction of two very long structures	(-1)			
5a	Uses conventional construction techniques	(+1)	11	10.0	1
6a	Uses conventional construction techniques	(+1)	11	10.0	1

EVALUATION DATA SHEET Highway 6 (Hanlon Expressway) Improvements GWP 3002-05-00					
Evaluation Factor:	HIGHWAY 6 (NORTH SECTION) - NATURAL ENVIRONMENT				
What Represents the Best Alternative?					
The Best Alternative					
<ul style="list-style-type: none"> Has the least impact on ecological features including wetlands, greenbelts, watercourses, wildlife habitat, surface water and groundwater 					
Unit of Measure:	Qualitative: No impact = 0 Minor impact = -0.5 Moderate impact = -1.0 Major Impacts = -2.0				
Scoring:	Measurement = Base Score of 10 plus/minus scores for alternative impacts Normalized Score = The normalized score provides a ranking of the project alternatives based on the "best" alternative for this criterion. The "best" alternative (highest measurement) receives a normalized score of 10.00. The remaining alternative measurements are divided by the highest measurement then multiplied by 10 to determine the normalized score, which provides a relative comparison between the alternatives. Rank: Based on Normalized Score				
Alternative	Rationale	Measurement	Normalized Score	Rank	
1a	Potential minor impacts during construction at the Highway 6 Hanlon Creek culvert	(-0.5)	7.5	8.6	4
	Minor vegetation removal at John Gamble Park	(-0.5)			
	Vegetation removal between Highway 6 and Old Colony Trail	(-0.5)			
	Vegetation removal between Highway 6 and Cole Road	(-0.5)			
	Intrusion into Hanlon Creek Floodplain	(-0.5)			
1b	Minor encroachment into Hanlon Creek PSW for service road connection to Woodland Glen and southbound Highway 6 ramp	(-0.5)	6.5	7.4	6
	Potential minor impacts during construction at the Highway 6 Hanlon Creek culvert	(-0.5)			
	Minor vegetation removal at John Gamble Park	(-0.5)			
	Vegetation removal between Highway 6 and Old Colony Trail	(-0.5)			
	Vegetation removal between Highway 6 and Cole Road	(-0.5)			
	Intrusion into Hanlon Creek Floodplain	(-1.0)			

2a	Potential minor impacts during construction at Hanlon Creek	(-0.5)	8.5	9.7	2
	Minor vegetation removal at John Gamble Park	(-0.5)			
	Tree removal between Highway 6 and Old Colony Trail	(-0.5)			
3a	Impacts Hanlon Creek PSW (culvert extension to east)	(-1.5)	7.0	8.0	5
	Potential minor impacts during construction at Hanlon Creek	(-0.5)			
	Minor vegetation removal at John Gamble Park	(-0.5)			
	Vegetation removal between Highway 6 and Old Colony Trail	(-0.5)			
4a	Potential minor impacts during construction at Hanlon Creek	(-0.5)	6.0	6.9	7
	Impacts Hanlon Creek PSW (culvert extension to west and east)	(-2.5)			
	Minor vegetation removal at John Gamble Park	(-0.5)			
	Vegetation removal between Highway 6 and Old Colony Trail	(-0.5)			
5a	Potential minor impacts during construction at Hanlon Creek	(-0.5)	8.25	9.4	3
	Minor vegetation removal at John Gamble Park	(-0.5)			
	Vegetation removal between Highway 6 and Cole Road	(-0.5)			
	Minor vegetation removal between Highway 6 and Old Colony Trail	-0.25			
6a	Potential minor impacts during construction at Hanlon Creek	(-0.5)	8.75	10.0	1
	Minor vegetation removal at John Gamble Park	(-0.5)			
	Minor vegetation removal between Highway 6 and Old Colony Trail	-0.25			

EVALUATION DATA SHEET Highway 6 (Hanlon Expressway) Improvements GWP 3002-05-00					
Evaluation Factor:	HIGHWAY 6 (NORTH SECTION) - SOCIAL ENVIRONMENT				
What Represents the Best Alternative?					
The Best Alternative					
<ul style="list-style-type: none"> Has the least number of residents and businesses displaced or impacted Has the least amount of property required Is compatible with the City of Guelph and Country of Wellington Official Plans Minimizes impacts to adjacent dwellers and views of the highway Minimizes noise and air quality impacts Minimizes impacts to community and recreational facilities, including trails 					
Unit of Measure:	Qualitative: No impact = 0 Minor impact = -0.5 Moderate impact = -1.0 Major Impacts = -2.0				
Scoring:	Measurement = Base Score of 15 plus/minus scores for alternative impacts Normalized Score = The normalized score provides a ranking of the project alternatives based on the "best" alternative for this criterion. The "best" alternative (highest measurement) receives a normalized score of 10.00. The remaining alternative measurements are divided by the highest measurement then multiplied by 10 to determine the normalized score, which provides a relative comparison between the alternatives. Rank: Based on Normalized Score				
Alternative	Rationale	Measurement	Normalized Score	Rank	
1a	Displacement of 8 residences	(-4.0)	7.50	8.8	5
	Property requirements	(-0.5)			
	Access from YMCA/YWCA provided via two one-way service roads	(-0.5)			
	One-way service roads east and west of the highway impact the character of the backyards of 60 properties (38 duplexes at Cole Road and 22 properties at Old Colony Trail)	(-2.0)			
	Two-way service road on west side of Highway 6 impacts the character of an additional 5 properties at the west end of Woodland Glen	-0.25			
Removes Old Hanlon Road connection to Kortright Road	(-0.3)				

1b	Displacement of 8 residences	(-4.0)	7.3	8.5	6
	Property requirements	(-0.5)			
	Access from YMCA/YWCA provided via two one-way service roads	(-0.5)			
	One-way service roads east and west of the highway impact the character of the backyards of 60 properties (38 duplexes at Cole Road and 22 properties at Old Colony Trail)	(-2.0)			
	Removes Old Hanlon Road connection to Kortright Road	(-0.3)			
	Minor increase in traffic on Kortright Road	(-0.5)			
2a	Displacement of 8 residences	(-4.0)	8.50	10.0	1
	Property requirements	(-0.5)			
	Access from YMCA/YWCA provided via two-way service road on west side of Highway 6	-			
	Two-way service road west of the highway has potential to impact the character of the backyards of 22 properties at Old Colony Trail	(-1.0)			
	Two-way service road on west side of Highway 6 impacts the character of an additional 5 properties at the west end of Woodland Glen	-0.25			
	Removes Old Hanlon Road connection to Kortright Road	(-0.3)			
3a	Displacement of 8 residences	(-4.0)	8.25	9.7	2
	Property requirements	(-0.5)			
	Access from YMCA/YWCA provided via two-way service road on west side of Highway 6	-			
	Two-way service road west of the highway has potential to impact the character of the backyards of 22 properties at Old Colony Trail	(-1.0)			
	Two-way service road on west side of Highway 6 impacts the character of an additional 5 properties at the west end of Woodland Glen	-0.25			
	Minor increase in traffic on Scottsdale Drive	(-0.5)			
Impacts parking area adjacent to Old Hanlon Road	(-0.5)				

4a	Displacement of 8 residences	(-4.0)	7.8	9.1	3
	Property requirements	-			
	Access from YMCA/YWCA provided via two one-way service roads	(-0.5)			
	One-way service roads east and west of the highway have potential to impact the character of the backyards of 60 properties (38 duplexes at Cole Road and 22 properties at Old Colony Trail)	(-1.5)			
	Removes Old Hanlon Road connection to Kortright Road	(-0.3)			
	Roundabout impacts pedestrian / cyclist comfort for access across Highway 6 at Kortright Road	(-1.0)			
5a	Displacement of 8 residences	(-4.0)	7.8	9.1	3
	Property requirements	(-0.5)			
	Access to YMCA/YWCA provided via two-way service road on the east side of Highway 6	(-0.5)			
	Two-way service road east of the highway impacts the character of the backyards of 38 duplexes at Cole Road	(-1.0)			
	Removes Old Hanlon Road connection to Kortright Road	(-0.3)			
	Minor increase in traffic on Woodland Glen and Kortright Road	(-1.0)			
6a	Displacement of 8 residences	(-4.0)	5.3	6.2	7
	Property requirements	(-0.5)			
	Direct access from Hanlon Expressway to YMCA/YWCA only to and from the south	(-1.0)			
	Significant increase in traffic on Woodland Glen	(-2.0)			
	Significant increase in traffic on Scottsdale Drive	(-2.0)			
	Removes Old Hanlon Road connection to Kortright Road	(-0.3)			

EVALUATION DATA SHEET Highway 6 (Hanlon Expressway) Improvements GWP 3002-05-00					
Evaluation Factor:	HIGHWAY 6 (NORTH SECTION) - CULTURAL ENVIRONMENT				
What Represents the Best Alternative?					
The Best Alternative					
<ul style="list-style-type: none"> Has the least impact to registered and identified Built Heritage and Cultural Landscape Sites Minimizes impacts to archaeological resources 					
Unit of Measure:	Qualitative: No impact = 0 Minor impact = -0.5 Moderate impact = -1.0 Major Impacts = -2.0				
Scoring:	Measurement = Base Score of 10 plus/minus scores for alternative impacts Normalized Score = The normalized score provides a ranking of the project alternatives based on the "best" alternative for this criterion. The "best" alternative (highest measurement) receives a normalized score of 10.00. The remaining alternative measurements are divided by the highest measurement then multiplied by 10 to determine the normalized score, which provides a relative comparison between the alternatives. Rank: Based on Normalized Score				
Alternative	Rationale	Measurement	Normalized Score	Rank	
1a	Area of archaeological potential affected in SW quadrant at intersection with Downey Road	-0.5	9.5	9.5 2	
1b	Area of archaeological potential affected in SW quadrant at intersection with Downey Road	-1.0	9	9.0 7	
2a	Area of archaeological potential affected in SW quadrant at intersection with Downey Road	-0.5	9.5	9.5 2	
3a	Area of archaeological potential affected in SW quadrant at intersection with Downey Road	-0.5	9.5	9.5 2	
4a	Area of archaeological potential affected in SW quadrant at intersection with Downey Road	-	10	10.0 1	
5a	Area of archaeological potential affected in SW quadrant at intersection with Downey Road	-0.5	9.5	9.5 2	
6a	Area of archaeological potential affected in SW quadrant at intersection with Downey Road	-0.5	9.5	9.5 2	

EVALUATION DATA SHEET Highway 6 (Hanlon Expressway) Improvements GWP 3002-05-00					
Evaluation Factor:	HIGHWAY 6 (NORTH SECTION) - APPLIED ENVIRONMENT				
What Represents the Best Alternative?					
The Best Alternative					
<ul style="list-style-type: none"> Effects of municipal water supply wells Effects on waste disposal sites or potentially contaminated sites Utility Impacts 					
Unit of Measure:	Qualitative: No impact = 0 Minor impact = -0.5 Moderate impact = -1.0 Major Impacts = -2.0				
Scoring:	Measurement = Base Score of 10 plus/minus scores for alternative impacts Normalized Score = The normalized score provides a ranking of the project alternatives based on the "best" alternative for this criterion. The "best" alternative (highest measurement) receives a normalized score of 10.00. The remaining alternative measurements are divided by the highest measurement then multiplied by 10 to determine the normalized score, which provides a relative comparison between the alternatives. Rank: Based on Normalized Score				
Alternative	Rationale	Measurement	Normalized Score	Rank	
1a	Potential impacts to Union Gas facility in SE quadrant at Stone Road	(-1)	7	7.8	5
	Potential impacts to two hydro towers for east service road	(-1)			
	Impacts to City of Guelph watermain for east service road	(-1)			
1b	Potential impacts to Union Gas facility in SE quadrant at Stone Road	(-1)	7	7.8	5
	Potential impacts to two hydro towers for east service road	(-1)			
	Impacts to City of Guelph watermain for east service road	(-1)			
2a	Potential impacts to Union Gas facility in SE quadrant at Stone Road	(-1)	9	10.0	1
3a	Potential impacts to Union Gas facility in SE quadrant at Stone Road	(-1)	9	10.0	1
4a	Potential impacts to Union Gas facility in SE quadrant at Stone Road	(-1)	9	10.0	1
5a	Potential impacts to Union Gas facility in SE quadrant at Stone Road	(-1)	7	7.8	5
	Potential impacts to two hydro towers for east service road	(-1)			
	Impacts to City of Guelph watermain for east service road	(-1)			
6a	Potential impacts to Union Gas facility in SE quadrant at Stone Road	(-1)	9	10.0	1

EVALUATION DATA SHEET
Highway 6 (Hanlon Expressway) Improvements
GWP 3002-05-00

Evaluation Factor: **HIGHWAY 6 (NORTH SECTION) - COST**

What Represents the Best Alternative?

The Best Alternative

- Minimizes the total cost including construction, utility relocations and property

Unit of Measure: Quantitative:
Cost (\$)

Scoring: **Measurement** = Total Preliminary Cost Estimate
Normalized Score = The normalized score provides a ranking of the project alternatives based on the "best" alternative for this criterion. The "best" alternative (lowest measurement) receives a normalized score of 10.00. The measurement is divided by the other measurements then multiplied by 10 to determine the normalized score, which provides a relative comparison between the alternatives.
Rank: Based on Normalized Score

Alternative	Rationale	Measurement	Normalized Score	Rank
1a		\$ 54,400,000	9.1	5
1b		\$ 58,000,000	8.6	6
2a		\$ 51,500,000	9.6	2
3a		\$ 51,800,000	9.6	3
4a		\$ 72,200,000	6.9	7
5a		\$ 53,200,000	9.3	4
6a		\$ 49,600,000	10.0	1