APPENDIX 11

DETAILED EVALUATIONS

Macdonell Bridge Evaluation

EVALUATION CRITERIA	1. Do Nothing		2. Rehabilitate Bridge		3. Rehabilitate + Widen Bridge to Accommodate AT on Both Sides		4. Replace Bridge for Vehicular Traffic Only		5. Replace + Widen Bridge to Accommodate AT on North Side	
Structural Performance, Stability and Safety	0	Structural issues not addressed. Bridge would continue to deteriorate.	0	Structural issues mostly addressed	0	Structural issues mostly addressed	4	Structural issues completely addressed	4	Structural issues completely addressed
Durability	0	Existing structure is in fair to poor condition, causing concern for durability. Additional increased maintenance will be required. Bridge will require replacement in 10 years.	0	Existing deck is in fair to poor condition, causing concern for durability. Additional maintenance may be required. Bridge will require replacement in 10 years.	0	Existing structure is in fair to poor condition, causing concern for durability. Rehabilitated portion of the bridge will requier replacement in 10 years.	4	No durability issues.	4	No durability issues.
Constructability		Not applicable.	0	Complex construction due to active corrosion and poor bridge condition. Cannot be rehabilitated.	0	Very complex construction due to active corrosion, poor bridge condition, and widening of deck. Rigid frame structures cannot be widened conventionally. Requires less adjustment/realignment of Macdonell St.	3	Complex bridge construction due to bridge replacement and in-water works. However, major realignment of bridge with Macdonell Street is avoided.	3	Very complex bridge construction due to bridge widening. Requires adjustment/relignment of Macdonell St.
Drainage & Stormwater Management		Not applicable.	0	SWM runof onto GJR tracks not addressed	0	SWM runof onto GJR tracks not addressed	4	Provides opportunity to mitigate bridge runoff drainaing onto GJR property	4	Provides opportunity to mitigate bridge runoff drainaing onto GJR property
TRAFFIC OPERATIONS & SAFETY	◔	No improvements to active transportation.	◔	No improvements to active transportation.	●	Accomodates active transportation facilities. Improves connectivity to Downtown and nearby trails. Improves safety.	◑	Minimal improvements to active transportation facilities. Improves safety.	●	Accomodates active transportation facilities, improves connectivity to Downtown and nearby trails, and improves safety.
Localized Vehicular Traffic Operations and Safety	2	Adequately accomodates existing and future vehicle operations with no improvements to safety.	2	Adequately accomodates existing and future vehicle operations with minor improvements to safety.	4	Adequately accomodates existing and future vehicle operations with improvements to safety.	4	Adequately accomodates existing and future vehicle operations with improvements to safety.	4	Adequately accomodates existing and future vehicle operations with improvements to safety.
Active Transportation Accommodation & Connectivity	0	No improvements to active transportation.Does not improve connectivitiy to Downtown or nearby trails.	0	No opportunity for improvements to active transportation facilities. Does not improve connectivitiy to Downtown or nearby trails.	3	Greater opportunity for improvements to active transportation facilities. Would improve connectivity to Downtown an nearby trails.	0	Some opportunity for improvements to active transportation failities. Sidewalks are widened to 2m. Does not improve connectivitiy to nearby trails.	3	MUP on north side presents some cyclist connectivity issues at east and west limits. Improves connectivity to nearby trails.
SOCIAL ENVIRONMENT	◕	No construction staging or traffic impacts. No improvements to AT connectivity to Downtown and trails.	◑	Complex construction staging and traffic impacts. Long construction duration.	◑	Requires up to 2.4m encroachment into property at NE quadrant. Long construction duration. Improves AT connectivity to Downtown and trails.	◑	Complex staging and traffic impacts during construction. Temporary encroachment into private property at NE quadrant.	◕	Potential for minor property encroachment and reconfiguration of driveway at NE quadrant depending on future intersection configuration. Improves AT connectivity to Downtown and trails.
Construction Staging & Traffic Impacts	4	No construction staging or traffic impacts.	2	Complex staging due to active corrosion and poor brige condition. Chloride extraction will take several months per vehicle lane	1	Very complex construction staging, higher traffic impacts, longer construction duration due to bridge widening. Complex staging due to active corrosion and poor brige condition. Chloride extraction will take several months per vehicle lane	3	Complex staging, traffic impacts due to full bridge replacement.	3	Very complex staging, greater traffic impacts due to full bridge replacement and widening.
Recreational and Socio-Cultural Value	1	No improvements to AT connectivity to Downtown Guelph and trails.	1	No improvements to AT connectivity to Downtown Guelph and trails.	4	Improves AT connectivity to Downtown Guelph and trails.	1	No improvements to AT connectivity to Downtown Guelph and trails.	4	Improves AT connectivity to Downtown Guelph and trails.
Direct & Indirect Property Impacts	4	No property impacts	4	No additional property required	1	Requires up to approximately 2.4m encroachment into private property at NE quadrant	3	Temporray encroachment during construction into private property at NE quadrant	2	Requires approximately up to 1m encroachment into private property at NE quadrant
NATURAL ENVIRONMENT & CLIMATE CHANGE	●	No anticipated impacts on the terrestrial or aquatic environment.	◕	Some minor and/or temporary anticipated impacts on the aquatic habitat and terrestrial environment.	◕	Some minor and/or temporary anticipated impacts on the aqautic habitat and terrestrial environment.	◕	Some minor and/or temporary anticipated impacts on the aquatic habitat and terrestrial environment.	◕	Some minor and/or temporary anticipated impacts on the aqautic habitat and terrestrial environment.
Conformance with City's Environmental Policies	1	Do nothing does not create any new impacts but does not support City of Guelph Official Plan policies for growth and downtown connectivity.	3	Generally conforms with the Guelph OP by improving connectivity to the downtown core.	3	Generally conforms with the Guelph OP by improving connectivity to the downtown core.	3	Generally conforms with the Guelph OP by improving connectivity to the downtown core once bridge is replaced.	3	Generally conforms with the Guelph OP by improving connectivity to the downtown core once bridge is replaced.
Terrestrial Wildlife and Habitat	4	No anticipated impacts on the terrestrial environment.	4	No anticipated impacts on the terrestrial environment.	3	Some minor anticipated impacts on the terrestrial environment from replacement and removal of old bridge materials and vegetation from widening of bridge deck.	3	Some minor anticipated impacts on the terrestrial environment from replacement and removal of old bridge materials.	3	Some minor anticipated impacts on the terrestrial environment from replacement and removal of old bridge materials and vegetation from widening of bridge.
Aquatic Species and Habitat	4	No impacts to aquatic species and habitat.	3	Minor temporary impacts to aquatic species and habitat.	2	Temporary impacts to aquatic species and habitat anticipated due to in-water works.	2	Temporary impacts on the aquatic species and habitat from the replacement and removal of old bridge materials. Depending on footprint of new bridge, permanent habitat impacts are possible.	1	Temporary impacts on the aquatic species and habitat from the replacement and removal of old bridge materials and in-water works. Depending on footprint of new bridge, permanent habitat impacts are possible.
Air Quality	4	No impacts or changes to existing air quality.	2	No impacts or changes to existing air quality. Congestion from lane reductions associated with rehabilitation may increase idling.	2	No impacts or changes to existing air quality. Congestion from lane reductions associated with rehabilitation / replacement may increase idling.	2	No impacts or changes to existing air quality. Temporary Congestion from lane reductions associated with replacement may increase idling.	2	No impacts or changes to existing air quality. Congestion from lane reductions associated with rehabilitation may increase idling.
Climate Change (Mitigation and Resilience)	4	No mitigation or resilience to climate change impacts	3	Slight increase in CO2 embodied carbon in new concrete used in rehabilitation.	2	Increase in CO2 embodied carbon in new concrete bridge.	2	Increase in CO2 embodied carbon in new concrete bridge.	2	Increase in CO2 embodied carbon in new concrete bridge.
Form and Function of River	4	No impacts to the form and function of the river.	4	No impacts to the form and function of the river.	4	No impacts to the form and function of the river.	4	No impacts to the form and function of the river.	4	No impacts to the form and function of the river.
HERITAGE / ARCHAEOLOGICAL / CULTURAL IMPACTS	●	No impacts to archaeological or cultural heritage resources.	●	No impacts to archaeological or cultural heritage resources.	◑	May impact areas with potential for archaeological resources in northwest corner. Potential for minor impacts to adjacent cultural heritage resources.	◕	No archaeological impacts anticipated, but potential for minor impacts to adjacent cultural heritage resources.	◕	May impact areas with potential for archaeological resources in northwest corner. Potential for minor impacts to adjacent cultural heritage resources.
Impacts areas of Archaeological Potential	4	No impacts to archealogical resources. ASI to confirm.	4	No impacts to archealogical resources.	3	May impact areas with potential for archaeological resources in northwest corner of bridge. Additional Stage 2 test pit survey will be required.	4	No impacts to archealogical resources.	3	May impact areas with potential for archaeological resources in northwest corner of bridge. Additional Stage 2 test pit survey will be required.
Impacts Cultural Heritage Resources	4	No impacts to built heritage resources and cultural heritage landscapes.	4	No impacts to built heritage resources and cultural heritage landscapes.	1	Potential to impact cultural heritage landscape (Speed River) due to in-water construction works. Potential to impact designted heritage properties during construction.	1	Potential to impact cultural heritage landscape (Speed River) due to in-water construction works. Potential to impact designted heritage properties during construction.	3	Potential to impact cultural heritage landscape (Speed River) due to in-water construction works. Potential to impact designted heritage properties during construction.
COST	○	Increased maintenance costs.	◑	$4M capital costs; $12.6M Lifecycle costs	◑	$6.4M capital costs; $13.1M Lifecycle Costs	◑	$8.3M Capital Cost; $9.5M lifecycle costs	◑	$8.8M Capital Cost; $10.3M lifecycle costs
Capital Costs	0	No capital costs	3	$4.04M	3	$6.4M	2	$8.3M	2	$8.8M
Lifecycle Costs (50 years)	0	$10.3M	0	$12.6M	0	$13.1M	2	$9.5M	1	$10.3M
OVERALL SCORE	12.0		12.0		13.0		12.0		15.0	
EVALUATION SUMMARY	Not Recommended		Not Recommended		Not Recommended		Not Recommended		Recommended to be Carried Forward	

Allan's Bridge Evaluation

EVALUATION CRITERIA	1. Do Nothing		2. Minor Rehabilitation of Bridge for Heritage Purposes Only		3.Rehabilitate Bridge for Pedestrians & Cyclists		4. Remove Bridge	
STRUCTURAL / TECHNICAL	○	Structural issues not addressed. Bridge would continue to deteriorate.	◔	Some structural issues addressed. Bridge may require additional maintenance in the future.	◕	Most structural issues addressed. Reduced concerns for durability and maintenance in the future.	●	No structural, durability or safety issues with the removal of bridge.
Structural Performance, Stability and Safety	0	Existing structure is in poor condition and not suitable for use. Note the bridge is currently closed due to safety concerns. Bridge will need to be replaced in 10 years.	0	Existing structure is in poor condition and minor rehab is unlikely to make significant improvement to the structural capacity or remove safety concerns of the bridge	3	Replacing bridge superstructure will greatly improve its structural capabilities.	4	Structure will be completely removed, thus mitigating stability and safety concerns.
Durability	0	Existing structure is in poor condition, causing concern for durability. Additional maintenance may be required.	0	Existing structure is in poor condition, causing concern for durability. Additional maintenance may be required.	3	New structure will have much less durability and maintenance concerns.	4	No durability concerns with bridge removal.
Constructability	0	Not applicable.	2	Complex constructability with staging and traffic impacts anticipated.	2	Simple constructability as bridge is currently closed to pedestrians and cyclists.	4	Easier to remove bridge.
TRAFFIC OPERATIONS & SAFETY	◑	No improvements.	◑	Relocation of active transportation users to alternative routes (Macdonell St. & Ward to Downtown pedestrian bridge)	◑	Improves active transportation facilities and connectivity to Downtown. Sightline issues with oncoming trains for peds & cyclists users.	◑	Relocation of active transportation users to alternative routes (Macdonell St. & Ward to Downtown pedestrian bridge)
Localized Operations and Safety	2	No impacts to traffic operations or safety.	3	Opportunites to improve signalized intersection geometry at Macdonell St. with Woolwich St. & Elizabeth St.	1	Sightline issues with oncoming trains for peds & cyclists users travelling east over bridge.	3	Opportunites to improve signalized intersection geometry at Macdonell St. with Woolwich St. & Elizabeth St.
Active Transportation Accommodation	1	No improvements to active transportation.	1	Active transportation users would be relocated to alternative routes, however Macdonell Bridge and Ward to Downtown Bridge adequately address needs.	3	Allows for active transportation facilities to be reopened.	1	Active transportation users would be relocated to alternative routes, however Macdonell Bridge and Ward to Downtown Bridge adequately address needs.
SOCIAL ENVIRONMENT	◑	No changes to existing aesthetics of the bridge. Does not improve recreational value as active transportation is not accommodated.	◑	No changes to existing aesthetics of the bridge. Does not improve recreational value as active transportation is not accommodated.	◔	3rd active transportation crossing within study limits not required.	◕	Removal of bridge will improve views of Speed River from Macdonell Bridge.
Recreational and Socio-Cultural Value	2	Cultural heritage value is preserved and kept in its original state. Does not improve recreational value as active transportation is not accommodated.	2	No changes to existing aesthetics of the bridge, thus retaining cultural heritage value. Does not improve recreational value as active transportation is not accommodated.	1	Will provide active transportation option, improving reacreation and trail connectivity in the area.	3	Removal of bridge would impact cultural heritage value. The structure could be celebrated in other ways. Removal of bridge will imrpove views of Speed River from Macdonell Bridge.
NATURAL ENVIRONMENT & CLMIATE CHANGE	◑	No anticipated impacts on the natural environment. No changes.	◑	No anticipated impacts on the natural environment. No changes.	◕	No anticipated impacts on the natural environment.	◕	Some minor anticipated impacts from bridge removal. Reduces overall footprint within Speed River.
Conformance with City's Environmental Policies	0	Does not support City of Guelph Official Plan policies for growth and downtown core connectivity.	0	Does not conform with the Guelph OP as closure to AT facilties eliminates connectivity to the downtown core through this existing path.	4	Generally conforms with the Guelph OP by improving connectivity to the downtown core.	4	Reduces overall Environmental fooprint within Speed River
Terrestrial Wildlife and Habitat	3	No anticipated impacts on terrestrial wildlife and habitat	3	No anticipated impacts on terrestrial wildlife and habitat. Any unforseen impacts to be mitigated.	3	No anticipated impacts on terrestrial wildlife and habitat. Any unforseen impacts to be mitigated.	2	Temporary minor impacts to adjacent terrestrial wildlife habitat can be mitigated.
Aquatic Species and Habitat	3	No impacts to aquatic species and habitat	2	Minor temporary impacts to aquatic habitat to be mitigated.	2	Minor temporary impacts to aquatic habitat to be mitigated.	2	Moderate temporary impacts to aquatic habitat to be mitigated.
Air Quality	3	No impacts or changes to existing air quality.	2	Temporary impacts to air quality during construction associated with machines.	2	Temporary impacts to air quality during construction associated with machines.	2	Temporary impacts to air quality during construction associated with machines and concrete deomlition.
Climate Change (Mitigation and Resilience)	3	No mitigation or resilience to climate change impacts	3	No mitigation or resilience to climate change impacts	3	No mitigation or resilience to climate change impacts	3	No mitigation or resilience to climate change impacts
HERITAGE / ARCHAEOLOGICAL / CULTURAL IMPACTS	◕	Continued deterioration of cultural heritage resource. Confirm archealogical.	◕	Minor impact to a Known Built Heritage Resource. Confirm archealogical.	◑	Significant impact to a Known Built Heritage Resource. Confirm archealogical.	◑	Removal of a Known Built Heritage Resource can be mitigated through comemorative strategy
Impacts areas of Archaeological Potential	4	No impacts to areas with archaeological potential.	4	No impacts to areas with archaeological potential.	4	No impacts to areas with archaeological potential.	4	No impacts to areas with archaeological potential.
Impacts Cultural Heritage Resources	1	No impacts to built heritage resources and cultural heritage landscapes. However, the Do Nothing option will result in the continued disuse and potential deterioration of this bridge, which will eventually result in its eventual removal for safety or structural reasons.	1	Original structure is preserved, thus retaining most of the cultural value of a Known Built Heritage Resource. Minor rehabilitation may impact some cultural heritage elements of bridge.	0	Significant impact to a Known Built Heritage Resource, as bridge rehabilitation would require alterations to the structure which could have a negative effect on identified heritage attributes.	0	Removal of a Known Built Heritage Resource will have a direct adverse impact to identified heritage attributes. Removal will improve view of Speed River and GJR Rail.
COST	◑	$2.9M Lifecycle costs	◑	$800K capital costs; $1.6M lifecycle costs	◔	$1.9M capital costs; $2.4M lifecycle costs	●	$740K capital costs
Capital Costs	4	0	3	$800K	1	$1.9M	3	$740K
Lifecycle Cost (50 Years)	0	$2.9M	1	$1.6M	0	$2.4M	4	$500K
OVERALL SCORE	11.0		11.0		9.0		14.0	
EVALUATION SUMMARY	Not Recommended		Not Recommended		Not Recommended		**Recommended to be Carried Forward**	

Allan's Dam Sluiceway and Spillway Evaluation

EVALUATION CRITERIA	1. Do Nothing		2.Rehabilitate Sluiceway and Spillway		3. Remove Sluiceway and Spillway		4. Remove Sluiceway and Spillway and Build a New Dam Upstream with an Active Transportation Underpass	
STRUCTURAL / TECHNICAL	◔	Continued degradation over time may lead to failure, impacting river levels.	◕	Addresses structural issues and maintains hydraulic function of the river.	◑	Impact on hydraulic function of the river.	◑	Impacts on hydraulic funciton of the river. Requires additional studies to quantify full impacts. External agency permitting is unlikely for a new dam.
Addresses Structural Issues	0	Does not address structural issues.	4	Addresses structural issues	4	Addresses structural issues.	4	Addresses structural issues.
Hydraulic Requirements	0		4	Maintains hydraulic function of the river	0	Nagatively Impacts hydraulic function of the river	2	Hydraulic function of the river would be modified
Active Transportation Accommodation	2	No improvements to active transportation.	2	No improvements to active transportation.	3	Potential to restore continuity of Speed River for recreational use.	1	Minor active transportation improvements only.
SOCIAL ENVIRONMENT	◑	Continued degradation over time may lead to failure, impacting river levels and enjoyment of property.	◕	Water levels maintained as is. Minimal to no impact to properties abutting Speed River or public recreation.	◔	Potential for impacts on property values and enjoyment of property by altering water levels. Major impacts to public recreation uses of river. Could allow for creation of a cycling underpass.	◔	Improved aesthetics but potential for impacts on property values and enjoyment of property by lowering water levels. Impacts public recreation uses of the river. Could allow for creation of a cycling underpass.
Compatibility with Adjacent Land use	0	Continued degradation over time may lead to failure, impacting river levels	3	Maintains water levels as is. No hydraulic impact	1	Potential for significant impacts on property values and enjoyment of property by altering watr levels	0	Potential for significant impacts on property values and enjoyment of property by lowering water levels
Recreational and Socio-Cultural Value	3	Negligable Impact	3	Negligable Impact. River is currently used for public recreational purposes	1	Major impacts to public recreation uses of the river. Could allow for creation of a cycling underpass.	2	Impacts public recreation uses of the river. Could allow for creation of cycling underpass.
Direct & Indirect Property Impacts	4	No property impacts	4	No property impacts	0	Impacts to properties upstream.	0	Impacts to properties upstream.
NATURAL ENVIRONMENT & CLMIATE CHANGE	◑	No anticipated impacts on the natural environment. Fails to mitigate future impacts associated with climate change.	◕	Some minor anticipated impacts on the aquatic environment from rehabilitation of the sluiceway and spillway.	◕	Removal will impact the aquatic and terrestrial environments. Provides opportunity for restoring NHS and significant valleylands.	◔	Impacts to the aquatic environment anticipated from removal of the sluiceway and spillway. Additional impacts when the new dam is built, provides no environmental benefit. Does not conforn with City's OP policy to remove barriers and refrain from impacting them further.
Conformance with City's Environmental Policies	1	Do nothing does not create new immediate impacts but does not support City of Guelph Official Plan policies for growth and downtown core connectivity, and climate change resilience and adaptation.	2	Rehabilitation option has minor impacts associated with the proposed works. Generally conforms with the Guelph OP by reducing impacts on Natural Areas (Significant Valleylands and areas of SWH), but does not provide any opportunities for restoration.	3	Fully removing the sluiceway and spillway will impact the aquatic and terretrial environments. Generally conforms with the Guelph OP by removing structural barriers to fish passage, restoring the NHS, restoring/naturalizing the significant valleylands. Reduces downstream flood control capability.	0	Replacing the sluiceway and spillway with a new dam does not conform with the Guelph OP policie. Replacing a fish barrier and fragmenting the NHS is not supported.
Terrestrial Wildlife and Habitat	4	No anticipated impacts on terrestrial wildlife and habitat.	4	No anticipated impacts on terrestrial wildlife and habitat.	3	Reduction of waterfowl winter concentration area in both wetted width and depth. Probable reduction in winter waterfowl foraging quality. Potential creation of turtle nesting habitat via exposed shorelines. Migration corridor connectivity restoration. Increase in littoral zone and wetland plants. Potential for colonization of exposed shorelines by invasive species (e.g. Phragmites Reed).	2	Potential for some restoration in new terrestrial habitat created by moving the dam upstream. Potential loss of terrestrial habitat upstream as a result of moving dam and water impoundment area. Potential increase in human-wildife conflict.
Natural Hazards	4	No impacts to natural hazards and no increase in risk associated with natural hazards.	4	No impacts to natural hazards and no increase in risk associated with natural hazards.	3	Increases the area of valleylands. Supports passive recreational activities in valleylands.	3	No impacts to natural hazards and no increase in risk associated with natural hazards.
Designated Natural Areas	4	No anticipated impacts to designated natural areas.	4	No anticipated impacts to designated natural areas.	3	Potential to restore natural floodplain function of the river and increase the valleyland feature area.	0	Impacts to the floodplain of the river and the valleyland feature. Construction of a new dam would be difficult to receive approvals.
Aquatic Species and Habitat	2	No impacts to aquatic species and habitat.	2	Minor impacts to aquatic species and habitat from rehabilitation. Impacts to be mitigated.	3	Temporary, extensive impacts to aquatic species and habitat from removal of sluiceway. Loss of lower quality impounded pool habitat. Increase in higher quality riffle/run habitat and associated aquatic species. Long term improved water quality and restored connectivity to habitats.	0	Temporary, extensive impacts to aquatic species and habitat from removal of sluiceway/spillway. Replacing dam will continue to restrict fish passage and habitat connectivity in the river.
Air Quality	2	No impacts or changes to existing air quality.	2	Temporary impacts to air quality during construction associated with machines.	2	Temporary impacts to air quality during construction associated with machines and concrete deomlition.	2	Temporary impacts to air quality during construction associated with machines and concrete deomlition.
Climate Change (Mitigation and Resilience)	1	No mitigation or resilience to climate change impacts. No adaptation potential.	1	Slight increase in CO_2 embodied carbon in new concrete used in rehabilitation.	3	Potential to increase carbon sequestering with restoration plantings in the new terrestrial areas. Restoration of floodplain function and natural sediment transport. Provide and enhance wetland and surface water functions. Improved thermal regime by removing flow impoundment.	0	Increase in CO_2 embodied carbon in new concrete dam. Maintains impounded flow, thermal regime, warming of the river.
Connectivity and Ecological Linkages	2	No changes to connectivity and ecological linkages.	2	No changes to connectivity and ecological linkages.	4	Restoration of the NHS, aquatic linkage, wildlife movement corridor.	2	No changes to connectivity and ecological linkages.
Form and Function of River Guelph OP	2	No impacts to the form and function of the river.	2	No impacts to the form and function of the river.	3	The river morphology will change from impounded pool habitat upstream, to flowing riffle/run/pool habitat. Sediment and nutrient transfer will be restored. Potential for natural floodplain function. Improved thermal regime by removing the flow impoundment.	0	The river morphology will change from impounded pool habitat upstream, to flowing riffle/run/pool habitat between the new dam and existing spillway. The new dam will maintain impounded water upstream. Potential alterations further upstream.
HERITAGE / ARCHAEOLOGICAL / CULTURAL IMPACTS	◕	Continued deterioration of cultural heritage resource.	●	Minor impact to two Known Built Heritage Resource. Positive impacts are also identified through retention and rehabilitation of the structures.	◑	Removal of two Known Built Heritage Resources. Changes to Speed River, which is an important CHL to Indigenous Peoples. Confirm archaeological.	◑	Removal of two Known Built Heritage Resources. Impacts to Speed River, which is an important CHL to Indigenous Peoples.Confirm archaeological.
Impacts areas of Archaeological Potential	3	No anticipated impacts to archealogical resources.	4	No anticipated impacts to archealogical resources. ASI to confirm.	4	No anticipated impacts to archealogical resources. ASI to confirm.	4	No anticipated impacts to archealogical resources. ASI to confirm.
Impacts Cultural Heritage Resources	2	No direct impacts to built heritage resources and cultural heritage landscapes. However, the Do Nothing option may eventually lead to the deterioration and failure of the spillway and sluiceway, which are identified built heritage resources.	3	Minor impact to two Known Built Heritage Resource, as rehabilitation may require alterations to the structures which could have a negative effect on identified heritage attributes. Positive impacts are also identified through retention and rehabilitation of the structures.	0	Removal of two Known Built Heritage Resources will have a direct adverse impact to identified heritage attributes. Opportunities to implement features of the sluiceway and spillway into the Allan's Mill complex. Impacts to Speed River, which is an important CHL to Indigenous Peoples.	0	Removal of two Known Built Heritage Resources will have a direct adverse impact to identified heritage attributes. Opportunities to implement features of the sluiceway and spillway into the Allan's Mill complex. Impacts to Speed River, which is an important CHL to Indigenous Peoples.
COST	◑	Increased maintenance and future reconstruction costs.	◕	~$415K Capital Cost	◑	~$2M Capital Cost	◔	~ $15M Capital Cost (based on similar examples)
Construction Cost	3	Reconstruction cost pushed to the future	3	$$ ($415K)	1	$$$($2M)	0	$$$$ ($650K + ~$15M)
Maintenance Cost	0	Increased maintenance costs associated with deteriorating infrastructure.	2	Standard maintenance costs anticipated	3	Reduced Maintenance costs.	2	Standard maintenance costs anticipated
OVERALL SCORE	**9.0**		**13.0**		**8.0**		**5.0**	
EVALUATION SUMMARY	**Not Recommended**		**Recommended to be Carried Forward**		**Not Recommended**		**Not Recommended**	

Ward to Downtown Pedestrian Bridge Evaluation

EVALUATION CRITERIA		1. Do Nothing		2. Construct 2023 Tendered Bridge		3. Construct a Modified Structure on South Side of GJR Rail Bridge		4. Construct a Modified Structure on on North Side of GJR Rail Bridge
STRUCTURAL / TECHNICAL	●	No constructability or hydraulic concerns.	◑	Excessive impacts at east abutment due to excavation requirements and PTE requirements.	●	Excavation issues and PTE requirements mitigated through modified design and use of Micro (Helical) Piles.	◕	Construction complexities due to lack of space along west side of river, north of rail.
Constructability	4	No constructability concerns.	0	Excessive impacts at east abutment due to excavation requirements and PTE requirements	3	Excavation requirements and PTE requirements mitigated through simplified design and use of Helical Piles	1	Little room for construction along west side of river
Hydraulic Requirements	4	Satisfies hydraulic requirements	4	Satisfies hydraulic requirements	4	Satisfies hydraulic requirements	4	Satisfies hydraulic requirements
TRAFFIC OPERATIONS & SAFETY	◔	Saftey concerns not addressed as pedestrians may continue using GJR railway bridge to cross the Speed River as a shortcut instead of using Macdonell or Allan's bridges.	●	Improves safety as pedestrians and cyclists will use the bridge to cross Speed River and avoid using the GJR railway bridge.	●	Improves safety as pedestrians and cyclists will use the bridge to cross Speed River and avoid using the GJR railway bridge.	◑	Improves safety but introduces accessibility issues due to elevation/stairs required at west end.
Localized Operations and Safety	0	Does not improve safety as pedestrians may continue using GJR railway bridge to cross the Speed River as a shortcut instead of using Macdonell or Allan's bridges.	4	Improves safety as pedestrians and cyclists will use the bridge to cross Speed River and avoid using the GJR railway bridge.	4	Improves safety as pedestrians and cyclists will use the bridge to cross Speed River and avoid using the GJR railway bridge.	4	Improves safety as pedestrians and cyclists will use the bridge to cross Speed River and avoid using the GJR railway bridge.
Active Transportation Accommodation	2	Does not improve active transportation facilities and does not support Guelph's OP policies for growth and downtown connectivity. Active transportation accommodation would be required on alternate crossings	4	Improves active transportation opportunities for pedestrians and cyclists. Increases the number of crossings over Speed River, therefore, improving connectivity within Downtown Guelph. Supports Guelph's OP policies for growth and downtown connectivity.	4	Improves active transportation opportunities for pedestrians and cyclists. Increases the number of crossings over Speed River, therefore, improving connectivity within Downtown Guelph. Supports Guelph's OP policies for growth and downtown connectivity.	0	Accesibility concerns as it requirs a staircase and path over the railway to reach north side from existing trail
SOCIAL ENVIRONMENT	◑	Does not improve connectivity to Downtown Guelph and trails.	◑	Provides recreational benefit by improving connectivity to Downtown Guelph and trails. Impacts private / heritage property at east side.	●	Provides recreational benefit by improving connectivity to Downtown Guelph and trails, without impacting property.	●	Provides recreational benefit by improving connectivity to Downtown Guelph and trails, without impacting property.
Compatibility with Adjacent Land use	2	Lack of AT connectivity does not fully support planned development along east side of Speed River	4	Will provide better access to Spring Mil Distillery, adjacent to the bridge.	4	Will provide better access to Spring Mil Distillery, adjacent to the bridge.	4	Will provide better access to Spring Mil Distillery, adjacent to the bridge.
Recreational and Socio-Cultural Value	1	Does not improve recreational and socio-cultural environment in the area.	4	Provides recreational benefit by improving connectivity to Downtown Guelph and trails.	4	Provides recreational benefit by improving connectivity to Downtown Guelph and trails.	4	Provides recreational benefit by improving connectivity to Downtown Guelph and trails.
Direct & Indirect Property Impacts	4	No property impacts.	0	Excessive impacts to adjacent property at east abutment	4	Can be implemented with no anticipated impacts to adjacent property	4	Can be implemented with no anticipated impacts to adjacent property
NATURAL ENVIRONMENT & CLIMATE CHANGE	◕	No anticipated impacts on the natural environment. No changes.	◕	No anticipated impacts on the natural environment.	◕	No anticipated impacts on the natural environment.	◕	No anticipated impacts on the natural environment.
Conformance with City's Environmental Policies	1	Does not fully support City of Guelph Official Plan policies for growth and downtown core connectivity.	3	Generally conforms with the Guelph OP by improving connectivity to the downtown core.	3	Generally conforms with the Guelph OP by improving connectivity to the downtown core.	3	Generally conforms with the Guelph OP by improving connectivity to the downtown core.
Terrestrial Wildlife and Habitat	3	No anticipated impacts on terrestrial wildlife and habitat	3	No naturalized vegetation is anticipated to require removal.	3	No naturalized vegetation is anticipated to require removal.	3	No naturalized vegetation is anticipated to require removal.
Aquatic Species and Habitat	3	No impacts to aquatic species and habitat	3	No impact to channel processes or fish movement potential.	3	No impact to channel processes or fish movement potential.	3	No impact to channel processes or fish movement potential.
Climate Change (Mitigation and Resilience)	3	No mitigation or resilience to climate change impacts	3	Adequate hydraulic clearance to be provided	3	Adequate hydraulic clearance to be provided	3	Adequate hydraulic clearance to be provided
Form and Function of River Guelph OP	3	No impacts to the form and function of the river.	2	Minor impact due to construction of abutments (already disturbed).	2	Minor impact due to construction of abutments (already disturbed).	2	Minor impact due to construction of abutments (already disturbed).
HERITAGE / ARCHAEOLOGICAL / CULTURAL IMPACTS	●	No impacts to archaeological or cultural heritage resources.	◑	Obstructs views to the Wellington Street Rail Bridge from the south. Construction acitivites have significant potential to impact Known Built Heritage Resource (Spring Mill Distillery).	◕	Obstructs views to the Wellington Street Rail Bridge from the south. Significantly reduces potential to impact Known Built Heritage Resource (Spring Mill Distillery).	●	No obstruction of views to Rail Bridge . Significantly reduces potential to impact Known Built Heritage Resources due to location.
Impacts areas of Archaeological Potential	4	No impacts anticipated.	4	No impacts anticipated.	4	No impacts anticipated.	4	No impacts anticipated.
Impacts Cultural Heritage Resources	4	No impacts to cultural heritage resources.	0	Obstructs views to the Wellington Street Rail Bridge from the south. Construction acitivites have significant potential to impact Known Built Heritage Resource (Spring Mill Distillery).	2	Obstructs views to the Wellington Street Rail Bridge from the south. Significantly reduces potential to impact Known Built Heritage Resource (Spring Mill Distillery).	3	Significantly reduces potential to impact Known Built Heritage Resources due to location.
COST	●	No costs	◑	Approx. $5M Capital Cost	◕	Approx $3.3M Capital Cost (Lower construction costs due to simpified structure)	◑	Approx $4.5M Capital Cost (Higher construction costs, mainly due to elevation requirements)
Construction Cost	4	No construction costs.	0	$5.2M	3	$3.3M	1	$4.5M
Maintenance Cost	4	No maintenance costs.	3	Standard maintenance costs anticipated	3	Standard maintenance costs anticipated	2	Some additional miantenece costs due to elevation/stairway at west side
OVERALL SCORE	**14.0**		**10.0**		**17.0**		**15.0**	
EVALUATION SUMMARY	**Not Recommended**		**Not Recommended**		**Recommended to be Carried Forward**		**Not Recommended**	