

## **APPENDIX 'C'**

# **ENVIRONMENTAL SCREENING REPORT TABLE 6.3**

**Table 6.3 Environmental Effects Analysis Summary.**

<b>Environmental Effects</b>	<b>Assessment</b>	<b>Mitigation Measures</b>	<b>Residual Effect</b>	<b>Significance</b>
<b>Biophysical</b>				
<b>Air Quality</b>				
Increased SO <sub>2</sub> and NO <sub>x</sub> from vehicle and equipment emissions during construction	Minor	<ul style="list-style-type: none"> <li>• Optimize/balance use of equipment haul distance/routes</li> <li>• Use low sulphur fuels</li> <li>• Ensure high standard of maintenance</li> <li>• Minimize unnecessary idling</li> </ul>	Minor	Insignificant
Increased SO <sub>2</sub> and NO <sub>x</sub> from commercial trucks passenger vehicles during construction	Minor	<ul style="list-style-type: none"> <li>• Minimize traffic delays due to construction</li> <li>• Provide warning to truck drivers and motorists</li> <li>• Provide detour routes around construction area</li> </ul>	Minor	Insignificant
Increased VOC levels from fuel storage and dispensing during construction	Minor	<ul style="list-style-type: none"> <li>• Prevent fuel leaks and spills</li> <li>• Minimize fuel spillage</li> <li>• Store fuel in airtight containers</li> <li>• Recover spilled fuel to minimize evaporation using remediation equipment</li> <li>• Ensure high standard of maintenance</li> </ul>	Minor	Insignificant
Increased VOC levels from asphalt paving during construction	Minor	<ul style="list-style-type: none"> <li>• Monitor paving activities during high wind events</li> </ul>	Minor	Insignificant
Increased dust levels from materials handling during construction	Moderate	<ul style="list-style-type: none"> <li>• Limit dust causing activities</li> <li>• Use approved dust control agents</li> </ul>	Minor	Insignificant

<b>Environmental Effects</b>	<b>Assessment</b>	<b>Mitigation Measures</b>	<b>Residual Effect</b>	<b>Significance</b>
Increased dust levels from materials handling during construction (cont'd)	Moderate	<ul style="list-style-type: none"> <li>Suspend material handling activities during high wind events</li> </ul>	Minor	Insignificant
Increased dust levels from surface activities during construction	Moderate	<ul style="list-style-type: none"> <li>Limit dust causing activities</li> <li>Use approved dust control agents</li> <li>Haul on gravel rather than clay, if feasible</li> </ul>	Minor	Insignificant
Increased dust levels from vehicle and equipment use during construction	Minor	<ul style="list-style-type: none"> <li>Limit dust causing activities</li> <li>Use approved dust control agents</li> <li>Haul on gravel rather than clay, if feasible</li> </ul>	Minor	Insignificant
Decreased SO <sub>2</sub> and NO <sub>x</sub> from vehicle and equipment emissions during operation	Positive	<ul style="list-style-type: none"> <li>N/A</li> </ul>	Positive	Positive
Increased dust levels from road cleaning activities during operation	Minor	<ul style="list-style-type: none"> <li>Wet area with water prior to cleaning</li> </ul>	Minor	Insignificant
<b>Greenhouse Gases</b>				
Increased GHGs from vehicle and equipment emissions during construction	Minor	<ul style="list-style-type: none"> <li>Optimize/balance use and idling of vehicles and equipment</li> <li>Ensure high standard of maintenance</li> <li>Use fuel efficient equipment</li> <li>Limit unnecessary idling</li> </ul>	Minor	Insignificant

<b>Environmental Effects</b>	<b>Assessment</b>	<b>Mitigation Measures</b>	<b>Residual Effect</b>	<b>Significance</b>
Increased GHGs from passenger vehicles and commercial trucks emissions during construction	Minor	<ul style="list-style-type: none"> <li>• Provide detour routes around construction area</li> <li>• Provide warning to truck drivers and motorists</li> <li>• Minimize traffic delays due to construction</li> </ul>	Minor	Insignificant
Decreased GHGs from commercial trucks and passenger vehicles emissions during operation	Positive	<ul style="list-style-type: none"> <li>• N/A</li> </ul>	Positive	Positive
Increased GHGs from clearing of vegetation	Minor	<ul style="list-style-type: none"> <li>• Use previously disturbed or cleared areas</li> <li>• Limit clearing of vegetation</li> <li>• Limit clearing adjacent to treed areas</li> <li>• Landscape with grass, shrubs and trees</li> <li>• Plant additional trees to offset loss of trees</li> </ul>	Minor (Potentially positive)	Minor (Potentially positive)
Decreased GHGs from draining low-lying methane-producing areas	Positive	<ul style="list-style-type: none"> <li>• N/A</li> </ul>	Positive	Positive
<b>Geology &amp; Soils</b>				
Disturbance of surface soils during construction	Minor	<ul style="list-style-type: none"> <li>• Limit extent of construction activities</li> <li>• Plan work so construction activities on previously disturbed areas, where feasible</li> <li>• Remove and stockpile topsoil for landscaping</li> </ul>	Minor	Insignificant
Loss of surface soils due to erosion from surface water runoff during construction	Minor	<ul style="list-style-type: none"> <li>• Limit extent of construction activities</li> <li>• Plan work so construction activities on previously disturbed areas, where feasible</li> </ul>	Minor	Insignificant

<b>Environmental Effects</b>	<b>Assessment</b>	<b>Mitigation Measures</b>	<b>Residual Effect</b>	<b>Significance</b>
Loss of surface soils due to erosion from surface water runoff during construction (cont'd)	Minor	<ul style="list-style-type: none"> <li>• Contour construction area to control runoff</li> <li>• Provide adequate land drainage capability</li> <li>• Provide settling basins</li> <li>• Landscape exposed areas with grass</li> <li>• Provide erosion control as required</li> </ul>	Minor	Insignificant
Contamination of soil from accidental spills and releases during construction	Moderate	<ul style="list-style-type: none"> <li>• Prevent spills and releases</li> <li>• Limit on-site use and storage of hazardous substances</li> <li>• Use drip trays under stationary equipment</li> <li>• Provide double-walled fuel storage tanks with leak detection or use fuel trucks</li> <li>• Provide spill clean-up equipment</li> <li>• Prepare/implement emergency response plan</li> </ul>	Minor	Insignificant
Exposure of existing soil contamination	Moderate	<ul style="list-style-type: none"> <li>• Test for suspected contamination</li> <li>• Contact Manitoba Conservation if remediation criteria are exceeded</li> <li>• Prepare remedial action plan</li> <li>• Follow Manitoba guidelines for remediation of contaminated sites</li> </ul>	Minor	Insignificant
Soil contamination from asphalt paving activities	Minor	<ul style="list-style-type: none"> <li>• Limit asphalt paving during high precipitation events</li> </ul>	Minor	Insignificant

<b>Environmental Effects</b>	<b>Assessment</b>	<b>Mitigation Measures</b>	<b>Residual Effect</b>	<b>Significance</b>
Loss of surface soils due to erosion from surface water runoff during operation	Minor	<ul style="list-style-type: none"> <li>• Contour disturbed areas to control runoff</li> <li>• Provide adequate land drainage capability</li> <li>• Landscape exposed areas with grass, shrubs and trees</li> <li>• Provide erosion control as required</li> </ul>	Minor	Insignificant
Contamination of soil from accidental spills and releases during operation	Moderate	<ul style="list-style-type: none"> <li>• Prevent spills and releases</li> <li>• Limit on-site use of hazardous substances</li> <li>• Use drip trays under stationary equipment</li> <li>• Provide spill clean-up equipment</li> </ul>	Minor	Insignificant
Contamination of soil from salt use during operation	Moderate	<ul style="list-style-type: none"> <li>• Use alternatives to salt if practical</li> <li>• Limit amount of salt used</li> <li>• Remove snow when built up to approved snow disposal area</li> </ul>	Minor	Insignificant
<b>Surface Water</b>				
Modification of surface water drainage during construction	Moderate	<ul style="list-style-type: none"> <li>• Contour area to direct surface water towards drains</li> <li>• Install drains to receive surface water drainage</li> <li>• Connection to storm sewer system</li> </ul>	Minor	Insignificant
Increased suspended solids discharged to storm sewers during construction	Moderate	<ul style="list-style-type: none"> <li>• Contour area to direct surface water towards drains</li> <li>• Install silt curtains and erosion control mats</li> <li>• Provide settling ponds</li> <li>• Place rip rap</li> <li>• Landscape with grass</li> </ul>	Minor	Insignificant

<b>Environmental Effects</b>	<b>Assessment</b>	<b>Mitigation Measures</b>	<b>Residual Effect</b>	<b>Significance</b>
Contamination of surface water from accidental spills and releases during construction	Moderate	<ul style="list-style-type: none"> <li>• Prevent spills and releases</li> <li>• Limit on-site use of hazardous substances</li> <li>• Use drip trays under stationary equipment</li> <li>• Provide double-walled fuel storage tanks with leak detection or use fuel trucks</li> <li>• Provide spill clean-up equipment</li> <li>• Prepare/implement emergency response plan</li> </ul>	Minor	Insignificant
Accumulation of surface water drainage during operation	Moderate	<ul style="list-style-type: none"> <li>• Contour area to direct surface runoff to drains</li> <li>• Provide adequate drainage</li> <li>• Install pumps to excavate stormwater in underpass</li> </ul>	Minor	Insignificant
Increased suspended solids discharged to storm sewers during operation	Moderate	<ul style="list-style-type: none"> <li>• Contour area to direct surface water towards drains</li> <li>• Provide additional controls such as rip rap in erosion prone areas</li> <li>• Landscape with sod, shrubs and trees</li> </ul>	Minor	Insignificant
<b>Groundwater</b>				
Modified shallow groundwater regime during construction	Minor	<ul style="list-style-type: none"> <li>• Limit extent of excavation and trenching</li> <li>• Minimize surface disturbance activities</li> <li>• Provide drainage around underpass structure</li> </ul>	Minor	Insignificant

	<b>Assessment</b>	<b>Mitigation Measures</b>	<b>Residual Effect</b>	<b>Significance</b>
Modified shallow groundwater regime during construction (cont'd)	Minor	<ul style="list-style-type: none"> <li>• Fill and compact excavated areas</li> </ul>	Minor	Insignificant
Groundwater contamination from accidental spills and releases during construction	Major	<ul style="list-style-type: none"> <li>• Prevent accidental spills and releases</li> <li>• Limit on-site use of hazardous substances</li> <li>• Use drip trays under stationary equipment</li> <li>• Provide double-walled fuel storage tanks with spill prevention and leak detection or use fuel trucks</li> <li>• Prepare/implement emergency response plan</li> </ul>	Minor	Insignificant
Contamination of groundwater from existing soil contamination	Moderate	<ul style="list-style-type: none"> <li>• Test for suspected contamination</li> <li>• Contact Manitoba Conservation if remediation criteria are exceeded</li> <li>• Prepare remedial action plan</li> <li>• Follow Manitoba guidelines for remediation of contaminated sites</li> </ul>	Minor	Insignificant
Groundwater contamination from asphalt paving activities	Minor	<ul style="list-style-type: none"> <li>• Limit asphalt paving during high precipitation events</li> </ul>	Minor	Insignificant
Groundwater contamination from accidental spills and releases during operation	Major	<ul style="list-style-type: none"> <li>• Prevent accidental spills and releases</li> <li>• Limit on-site use of hazardous substances</li> <li>• Use drip trays under stationary equipment</li> </ul>	Minor	Insignificant



<b>Environmental Effects</b>	<b>Assessment</b>	<b>Mitigation Measures</b>	<b>Residual Effect</b>	<b>Significance</b>
Contamination of groundwater from salt use during operation	Moderate	<ul style="list-style-type: none"> <li>• Use alternatives to salt if practical</li> <li>• Limit amount of salt used</li> <li>• Remove snow build up</li> </ul>	Minor	Insignificant
<b>Vegetation</b>				
Loss of vegetation from clearing and construction activities	Moderate	<ul style="list-style-type: none"> <li>• Limit construction to previously disturbed areas, where applicable</li> <li>• Avoid damage to adjacent vegetated areas</li> <li>• Re-vegetate to obtain net gain in vegetation cover</li> </ul>	Minor	Insignificant
Physical damage to trees during construction	Minor	<ul style="list-style-type: none"> <li>• Limit construction activities to previously disturbed areas</li> <li>• Prohibit off-site use by construction vehicles</li> </ul>	Minor	Insignificant
Physical damage to tree root systems	Minor	<ul style="list-style-type: none"> <li>• Prevent damage to roots of adjacent trees</li> <li>• Provide buffer around adjacent natural areas</li> <li>• Use of designated stockpile areas</li> </ul>	Minor	Insignificant

<b>Environmental Effects</b>	<b>Assessment</b>	<b>Mitigation Measures</b>	<b>Residual Effect</b>	<b>Significance</b>
Damage to vegetation from salt use during operation	Moderate	<ul style="list-style-type: none"> <li>• Use alternatives to salt if practical</li> <li>• Limit amount of salt used</li> <li>• Remove snow build up by plowing</li> </ul>	Minor	Insignificant
<b>Mammals</b>				
Loss of mammal habitat/displacement of mammals	Minor	<ul style="list-style-type: none"> <li>• Limit extent of clearing</li> <li>• Use previously disturbed areas</li> <li>• Re-vegetate disturbed areas with deer deterrent species</li> <li>• Enhance previously disturbed areas</li> </ul>	Minor	Insignificant
Disturbance to mammals due to increased noise from construction activities	Minor	<ul style="list-style-type: none"> <li>• N/A</li> </ul>	Minor	Insignificant
Increased problem mammals due to waste handling and disposal activities during construction	Minor	<ul style="list-style-type: none"> <li>• Use animal-proof garbage containers</li> <li>• Prevent access to garbage containers</li> <li>• Remove garbage regularly</li> <li>• Dispose of garbage in approved waste disposal grounds</li> </ul>	Minor	Insignificant
Attraction of mammals to re-vegetated road medians and shoulders during operation	Moderate	<ul style="list-style-type: none"> <li>• Limit palatable grass planting on medians and shoulders</li> <li>• Limit mammal habitat adjacent to roadways</li> <li>• Erect fences to restrict deer movement</li> <li>• Post signage to warn motorists</li> <li>• Use deterrents</li> </ul>	Minor	Insignificant

<b>Environmental Effects</b>	<b>Assessment</b>	<b>Mitigation Measures</b>	<b>Residual Effect</b>	<b>Significance</b>
Increased mammal kills due to vehicles and equipment during construction	Moderate	<ul style="list-style-type: none"> <li>• Post signage to warn construction workers and motorists</li> <li>• Use deterrents</li> </ul>	Minor	Insignificant
Attraction of mammals to roadways due to salt used to melt ice during operation	Moderate	<ul style="list-style-type: none"> <li>• Use alternatives to salt if practical</li> <li>• Limit amount of salt used</li> <li>• Remove snow build up</li> </ul>	Minor	Insignificant
Increased mammal kills from passenger vehicles and commercial trucks during operation	Minor	<ul style="list-style-type: none"> <li>• Post signage to warn motorists</li> <li>• Use deterrents</li> </ul>	Minor	Insignificant
<b>Birds</b>				
Loss of bird habitat/ displacement of birds	Minor	<ul style="list-style-type: none"> <li>• Limit extent of clearing</li> <li>• Use previously disturbed areas</li> <li>• Re-vegetate disturbed areas</li> <li>• Enhance previously disturbed areas</li> </ul>	Minor	Insignificant
Disturbance to birds due to increased noise from construction activities	Minor	<ul style="list-style-type: none"> <li>• N/A</li> </ul>	Minor	Insignificant

<b>Environmental Effects</b>	<b>Assessment</b>	<b>Mitigation Measures</b>	<b>Residual Effect</b>	<b>Significance</b>
Increased problem birds during waste handling and disposal activities during construction	Minor	<ul style="list-style-type: none"> <li>• Dispose of construction wastes in containers</li> <li>• Use animal-proof garbage containers for foodstuffs</li> <li>• Regular garbage pick-up/disposal</li> <li>• Use licenced waste disposal grounds</li> </ul>	Minor	Insignificant
Increased bird kills due to vehicles and equipment during construction	Moderate	<ul style="list-style-type: none"> <li>• Use deterrents</li> <li>• Types of plantings</li> </ul>	Minor	Insignificant
Attraction of birds to re-vegetated road medians and shoulders during operation	Moderate	<ul style="list-style-type: none"> <li>• Limit palatable grass planting on medians and shoulders</li> <li>• Limit bird habitat adjacent to roadways</li> <li>• Use deterrents</li> </ul>	Minor	Insignificant
Increased bird kills from passenger vehicles and commercial trucks during operation	Minor	<ul style="list-style-type: none"> <li>• Use deterrents</li> </ul>	Minor	Insignificant

Environmental Effects	Assessment	Mitigation Measures	Residual Effect	Significance
<b>Socio-Economic Environment</b>				
Increased noise/ vibration due to vehicles and equipment during construction	Moderate	<ul style="list-style-type: none"> <li>• Limit construction activities to normal working hours near residences</li> <li>• Muffle heavy equipment</li> <li>• Provide hearing protection</li> <li>• Limit long-term idling of construction vehicles</li> </ul>	Minor	Insignificant
Increased noise/ vibration due to trains during construction	Moderate	<ul style="list-style-type: none"> <li>• Limit speeds through detour</li> <li>• Maintain City of Winnipeg no-whistle policy</li> </ul>	Minor	Insignificant
Increased noise/ vibration due to trains during construction (cont'd)	Moderate	<ul style="list-style-type: none"> <li>• Limit delays, if possible</li> </ul>	Minor	Insignificant
Increased noise/ vibration due to vehicles during operation	Moderate	<ul style="list-style-type: none"> <li>• Design underpass and parkway to limit noise to adjacent residences</li> <li>• Install noise barrier fence along parkway</li> <li>• Plant trees for additional noise dampening</li> </ul>	Minor	Insignificant
Risk to worker safety during construction	Moderate	<ul style="list-style-type: none"> <li>• Comply with workplace safety and health legislation</li> <li>• Provide worker orientation</li> <li>• Conduct safety briefings</li> <li>• Prepare/implement safety and health plan</li> </ul>	Minor	Insignificant

<b>Environmental Effects</b>	<b>Assessment</b>	<b>Mitigation Measures</b>	<b>Residual Effect</b>	<b>Significance</b>
Risk to worker safety during construction (cont'd)	Moderate		Minor	Insignificant
Risk to worker health during construction	Moderate	<ul style="list-style-type: none"> <li>• Comply with workplace safety and health legislation</li> <li>• Provide worker orientation</li> <li>• Control dust levels and provide dust masks</li> <li>• Minimizing noise and vibration</li> <li>• Provide hearing protection</li> <li>• Manage hazardous substances</li> <li>• Prepare/implement safety and health plan</li> </ul>	Minor	Insignificant
Risk to public safety during construction	Moderate	<ul style="list-style-type: none"> <li>• Provide project information to adjacent property owners and residents</li> <li>• Comply with public safety legislation</li> <li>• Provide information to adjacent property owners and residents</li> <li>• Limit/enforce vehicle speeds through construction areas</li> <li>• Provide warning signage</li> <li>• Maintain safe pedestrian passage procedures</li> </ul>	Minor	Insignificant
Risk to public health during construction	Moderate	<ul style="list-style-type: none"> <li>• Provide information to adjacent property owners and residents</li> <li>• Comply with public health legislation</li> <li>• Provide information to property owners and residents</li> <li>• Control noise/vibration levels</li> <li>• Control dust levels</li> <li>• Manage hazardous substances</li> </ul>	Minor	Insignificant

<b>Environmental Effects</b>	<b>Assessment</b>	<b>Mitigation Measures</b>	<b>Residual Effect</b>	<b>Significance</b>
Risk to public health during construction (cont'd)	Moderate	<ul style="list-style-type: none"> <li>• Minimize noise and vibration</li> </ul>	Minor	Insignificant
Impaired human well-being during construction	Moderate	<ul style="list-style-type: none"> <li>• Provide information to adjacent property owners and residents</li> <li>• Conduct public communication sessions</li> <li>• Responding effectively to public concerns</li> <li>• Managing construction noise</li> <li>• Limiting atmospheric emissions</li> <li>• Controlling dust</li> </ul>	Minor	Insignificant
Impaired human well-being during operation	Moderate	<ul style="list-style-type: none"> <li>• Responding effectively to public concerns</li> <li>• Managing operational noise</li> <li>• Enhancing aesthetic values</li> <li>• Provide landscaping to address public aesthetics concern</li> </ul>	Minor	Insignificant
Impaired aesthetic values during construction	Minor	<ul style="list-style-type: none"> <li>• Provide project information to neighbours</li> <li>• Project design to address aesthetic values</li> <li>• Provide greenspace</li> <li>• Designate construction staging areas</li> <li>• Erect barrier fences if deemed necessary</li> <li>• Control dust as required</li> <li>• Manage noise</li> </ul>	Minor	Insignificant

<b>Environmental Effects</b>	<b>Assessment</b>	<b>Mitigation Measures</b>	<b>Residual Effect</b>	<b>Significance</b>
Impaired aesthetic values during construction (cont'd)	Minor	<ul style="list-style-type: none"> <li>• Re-vegetate disturbed areas as completion to each phase</li> <li>• Landscape boulevards and medians</li> <li>• Discourage/clean-up graffiti</li> </ul>	Minor	Insignificant
Impaired aesthetic values during operation	Positive	<ul style="list-style-type: none"> <li>• Maintain condition of facilities – underpass, fences, etc.</li> <li>• Maintain greenspace</li> <li>• Maintain landscaping – trees, shrubs, grass, etc.</li> <li>• Manage noise</li> <li>• Discourage/clean-up graffiti</li> </ul>	Minor	Insignificant
Loss/damage to archaeological resources during construction	Minor	<ul style="list-style-type: none"> <li>• Notify Heritage Resources prior to excavation</li> <li>• Provide instructions to contractors</li> <li>• Contact Heritage Resources if artefacts are found</li> </ul>	Minor	Insignificant
Improved recreational facilities – pedestrian and bicycle paths	Positive	<ul style="list-style-type: none"> <li>• Provide greenspace along paths</li> <li>• Pave paths</li> <li>• Provide safety/use signage along paths</li> <li>• Provide linkages to adjacent path networks</li> </ul>	Positive	Positive
Improved economic conditions due to construction and operation	Positive	<ul style="list-style-type: none"> <li>• None</li> </ul>	Positive	Positive
Increased employment due to construction	Positive	<ul style="list-style-type: none"> <li>• None</li> </ul>	Positive	Positive
Increased business opportunities due to construction and operation	Positive	<ul style="list-style-type: none"> <li>• None</li> </ul>	Positive	Positive



<b>Environmental Effects</b>	<b>Assessment</b>	<b>Mitigation Measures</b>	<b>Residual Effect</b>	<b>Significance</b>
Decreased property values due to construction and operation	Moderate	<ul style="list-style-type: none"> <li>• Provide project information to property owners</li> <li>• Consult with property owners</li> <li>• Evaluate property owner concerns/ complaints</li> </ul>	Minor	Insignificant
Increased property values due to operation	Positive	<ul style="list-style-type: none"> <li>• None</li> </ul>	Positive	Positive
<b>Accidents &amp; Malfunctions</b>				
Risk of fires and explosions during construction and operation	Major	<ul style="list-style-type: none"> <li>• Adhere to National Fire Code</li> <li>• Conduct fire potential audit</li> <li>• Provide fire suppression equipment on-site</li> <li>• Prepare emergency response plan - include fires and explosions</li> </ul>	Minor	Insignificant
Risk of road transportation accidents during construction and operation	Major	<ul style="list-style-type: none"> <li>• Provide signs for driver awareness during construction</li> <li>• Provide warning signage for conditions</li> <li>• Limit vehicle speeds when workers present</li> <li>• Minimize risk of transportation accident</li> <li>• Prepare emergency response plan - include transportation accidents</li> </ul>	Minor	Insignificant
Risk of rail transportation accidents during construction and operation	Major	<ul style="list-style-type: none"> <li>• Provide warning signage</li> <li>• Minimize risk of transportation accident</li> <li>• Limit train speeds to conditions – CN</li> <li>• Provide crossing signals and gates, where applicable</li> <li>• CN to provide emergency response plan – include transportation accidents</li> </ul>	Minor	Insignificant
Risk of petroleum product spills during underpass/road construction and operation	Moderate	<ul style="list-style-type: none"> <li>• Limit on-site storage of petroleum products</li> <li>• Store fuel in approved storage tanks/ containers</li> <li>• Provide barriers around petroleum products</li> <li>• Underpass to include emergency shut off valves for control of hazardous substances</li> <li>• Prepare emergency response plan – include petroleum spills</li> </ul>	Minor	Insignificant

Environmental Effects	Assessment	Mitigation Measures	Residual Effect	Significance
Risk of hazardous substance release during underpass/road construction and operation	Moderate	<ul style="list-style-type: none"> <li>• Limit on-site storage of hazardous substances</li> <li>• Store hazardous substances in approved containers</li> <li>• Remove hazardous substances using licenced contractors</li> <li>• Underpass to include emergency shut off valves for control of hazardous substances</li> <li>• Prepare emergency response plan – include hazardous substance release</li> </ul>	Minor	Insignificant
Risk of petroleum project spills or hazardous substance release during rail construction and operation	Major	<ul style="list-style-type: none"> <li>• CN to provide emergency response plan – include petroleum and hazardous substance release</li> <li>• Keep CN ditch separate from underpass project</li> </ul>		Insignificant

Environmental Effects	Assessment	Mitigation Measures	Residual Effect	Significance
<b>Effects of the Environment on the Project</b>				
Risk of severe weather conditions	Moderate	<ul style="list-style-type: none"> <li>• Provide adequate drainage and storage capacity in project area</li> <li>• Provide adequate pumping capacity in underpass to handle extreme precipitation events</li> <li>• Protect against soil erosion from extreme precipitation events</li> <li>• Design fences to withstand high winds</li> <li>• Protect new trees from blow-down by staking</li> <li>• Prepare emergency response plan - include procedures for severe weather conditions</li> </ul>	Minor	Insignificant
Climate Change	Minor	<ul style="list-style-type: none"> <li>• Project design to address implications of climate change such as warmer temperatures, increased precipitation, increased variability</li> </ul>	Minor	Insignificant
Risk of overland flooding	Minor	<ul style="list-style-type: none"> <li>• Prepare emergency response plan - include risk of flooding</li> <li>• City of Winnipeg Emergency Response Plan in place.</li> </ul>	Minor	Insignificant