Pathway for Tributary to Welland River (Site 53) First Tier Project Impacts Use of mobile industrial equipment	Changes in timing, duration, and frequency of flows	Placement of material or structures in water	Wastewater management	Structure removal	Excavation	Grading	× Use of industrial equipment	Vegetation clearing	Mitigation Measures Applied to Reduce First Tier Project Impacts Yes – (OM1, OM2, SS1)	Remaining Second or Third Tier Impacts Yes – bank stability and	Mitigation Measures Applied to Reduce Second/Third Tier Impacts Yes – (OM3, OM4,	Remaining Residual Effects	Serious Harm Determination
Ose of modific modifical equipment							^		(0.012, 0.012, 331)	exposed soils, resuspension and entrainment of sediment, oil, grease and fuel leaks from equipment	OM6, CSM2, CSM6, CSM7, SBRS7)	No	
Use of immobile industrial equipment							Х		Yes – (OM1, OM2)	Yes - oil, grease and fuel leaks	Yes – (OM6, CSM1, CSM2, CSM3, CSM4, CSM7, SBRS7)	No	Serious harm to fish is not anticipated. A DFO review is not
Use of industrial equipment								Х	See Use	of industrial equipment pathway			recommended
Use of herbicides								Х	Yes - (SBRS8)	No	N/A	No	
Alteration of riparian vegetation								Х	Yes – (SS2, SBRS1, SBRS2)	Yes – addition or removal of in stream organic structure, bank stability and exposed soils	Yes - (SBRS3, SBRS4, SBRS9, ESC1, SS3, TM7)	No	

Pathway for Tributary to Welland River (Site 54)	Changes in timing, duration, and frequency of flows	Placement of material or structures in water	Nastewater management	structure removal	:xcavation	Grading	Jse of industrial equipment	/egetation clearing	Mitigation Measures Applied to Reduce First Tier Project Impacts	Remaining Second or Third Tier Impacts	Mitigation Measures Applied to Reduce Second/Third Tier Impacts	Remaining Residual Effects	Serious Harm Determination
Dewatering	Х			,	_				Yes – (T2, T3, T4, T5, TM6, DP2, DP3)	No	N/A	No	
Bank erosion	Х								Yes – (T5, SS3, ESC1, SBRS1, SBRS2, SBRS4, SBRS5, SBRS6, OM2, OM3, OM4, TM5, I5, DP4)	No	N/A	No	-
Scouring of channel beds	Х								Yes – (T4, SS3, SBRS2, SBRS5, OM4, TM3, TM5, I5, I6, DP1, DP4, SB4)	No	N/A	No	
Change in water temperature	Х								Yes – (SBRS1, SBRS3, SBRS4, SBRS9, DP3)	No	N/A	No	
Change in contaminant concentrations	Х								Yes – (G4, T5, SS4, CSM1, CSM2, CSM3, CSM4, CSM5, CSM6, CSM7, CSM8, ESC1, SBRS4, SBRS7, OM5, OM6, I7, DP1, DP4, DP6)	No	N/A	No	
Change in nutrient concentrations	Х								Yes – (SBRS1, SBRS8, DP3, DP4)	No	N/A	No	1
Partial constriction of flow (e.g., rip-rap, piers, piles, fill)		Х							Yes – (TM1)	Yes – change in channel morphology or shoreline morphometry	Yes – (SBRS5)	No	
Complete constriction of flow (e.g., dams)		Х							See Changes in timi	ng, duration, and frequency of flov	vs pathway		
Thermal loading			Х						Yes – (I5, DP5)	No	N/A	No	
Nutrient loading			Х						Yes – (I5, DP5, SBRS8)	No	N/A	No	
Input of contaminants			Х						Yes – (G4, T5, CSM1, CSM2, CSM3, CSM4, CSM5, CSM6, CSM7, CSM8, ESC1, SBRS4, SBRS7, I5, I7, OM1, OM5, OM6, DP1, DP4, DP6)	No	N/A	No	Serious harm to fish is not anticipated. A DFO review is not
Pathogen, disease, vectors, exotics			Х						Yes – (G3, G4, G6, OM1)	No	N/A	No	recommended
Change in flow regime				Х					See Changes in timi	ng, duration, and frequency of flow	vs pathway		
Change in channel morphology or shoreline morphometry				Х					Yes – (T5, ESC1, OM2, OM3, OM4, DP1, DP2, DP3, DP4, DP5, DP6)	Yes - change in hydraulics, change in channel stability, change in substrate	Yes - (SS2, SS3, SBRS2, SBRS4, SBRS5, SBRS6, TM4, TM5)	No	
Resuspension and entrainment of sediment				Х					Yes - (ESC1, ESC2, SBRS2, SBRS4, TM1, TM2, TM3, I7, DP6)	No	N/A	No	
Alteration of groundwater flows to surface waters					Х				Yes - (DP3, DP5)	No	N/A	No	
Creation of pond, pit or trench					Х				Yes – (T4, T5, SS2, SS4)	Yes – dewatering of pit or trench, bank stability and exposed soils, change in slope or drainage	Yes - (ESC1, ESC2, SBRS4, SBRS5, SBRS6, DP1, DP4)	No	
Removal of top soil					Х				No	Yes – exposed soils, spoil material/stockpiles	Yes – (TM1, TM5, SBRS4, ESC1, ESC2, CSM8)	No	
Addition or removal of in stream organic structure						Х			Yes - (SBRS1, SBRS2, SBRS3, SBRS9, SS2)	No	N/A	No	
Bank stability and exposed soils						Х			Yes - (SBRS1, SBRS2, SBRS4, SBRS9, ESC1, SS3)	No	N/A	No	
Change in slope						Х			Yes - (SBRS5, SBRS6, TM4, TM5, TM7)	No	N/A	No	

Pathway for Tributary to Welland River (Site 54) First Tier Project Impacts	Changes in timing, duration, and frequency of flows	Placement of material or structures in water	Wastewater management	Structure removal	Excavation	Grading	Use of industrial equipment	Vegetation clearing	Mitigation Measures Applied to Reduce First Tier Project Impacts	Remaining Second or Third Tier Impacts	Mitigation Measures Applied to Reduce Second/Third Tier Impacts	Remaining Residual Effects	Serious Harm Determination
Use of mobile industrial equipment							Х		Yes – (OM1, OM2, SS1)	Yes – bank stability and exposed soils, resuspension	Yes – (OM3, OM4, OM6, CSM2, CSM6,	No	
										and entrainment of sediment, oil, grease and fuel leaks from equipment	CSM7, SBRS7)		
Use of immobile industrial equipment							Х		Yes – (OM1, OM2)	Yes - oil, grease and fuel leaks	Yes – (OM6, CSM1, CSM2, CSM3, CSM4, CSM7, SBRS7)	No	Serious harm to fish is not anticipated. A DFO review is not
Use of industrial equipment								Х	See Use	of industrial equipment pathway			recommended
Use of herbicides								Х	Yes - (SBRS8)	No	N/A	No	
Alteration of riparian vegetation								Х	Yes – (SS2, SBRS1, SBRS2)	Yes – addition or removal of in stream organic structure, bank	Yes - (SBRS3, SBRS4, SBRS9, ESC1, SS3,	No	
										stability and exposed soils	TM7)		

Pathway for Tributary to Welland River (Site 55)	Addition or removal of aquatic vegetation	Changes in timing, duration, and frequency of flows	Fish passage issues	Placement of material or structures in water	Wastewater management	Water extraction	Structure removal	Cleaning or maintenance of bridges or other structure	Excavation	Grading	Riparian Planting	Use of industrial equipment	Vegetation clearing	Mitigation Measures Applied to Reduce First Tier Project Impacts	Remaining Second or Third Tier Impacts	Mitigation Measures Applied to Reduce Second/Third Tier Impacts	Remaining Residual Effects	Serious Harm Determination
Change in light penetration	Х													Yes - (G3, G4, G6, SBRS8, SBRS10, OM1, OM2, OM3, OM4, OM5, TM3, TM4, TM5, TM6, DP3)	No	N/A	No	
Change in nutrient inputs	Х													Yes - (G3, G4, G6, SS2, ESC1, SBRS2, SBRS8, SBRS9, SBRS10)	No	N/A	No	
Resuspension and entrainment of sediment	Х													Yes - (G3, G4, ESC1, ESC2, SBRS1, SBRS2)	No	N/A	No	
Dewatering		Х												Yes – (T2, T3, T4, T5, TM6)	Yes – displacement or stranding of fish and change in migration/access to habitats	Yes – (FP2, FP3, 12, 13, 14, 15, DP2, DP3, DP5, SAR1, SAR2)	No	
Bank erosion		Х												Yes – (T5, SS2, SS3, ESC1, SBRS1, SBRS2, SBRS3, SBRS4, SBRS5, SBRS6, SBRS9, OM2 OM3, OM4, TM5, I5, DP4)	No	N/A	No	Serious harm to fish is not anticipated.
Scouring of channel beds		Х												Yes – (T4, SS3, SBRS2, SBRS5, OM4, TM3, TM5, I5, I6, DP1, DP4, SB4)	No	N/A	No	However, based on the potential
Change in water temperature		Х												Yes – (SBRS1, SBRS3, SBRS4, SBRS9, DP3)	No	N/A	No	presence of grass pickerel (i.e., SARA
Change in contaminant concentrations		Х												Yes – (G3, G4, T5, SS4, CSM1, CSM2, CSM3, CSM4, CSM5, CSM6, CSM7, CSM8, ESC1, SBRS4, SBRS7, OM5, OM6, I7, DP1, DP4, DP6, SB1)	No	N/A	No	listed species), additional field studies in spring 2016 will be conducted to
Change in nutrient concentrations		Х												Yes – (SS2, SBRS1, SBRS8, DP3, DP4)	No	N/A	No	assess whether
Obstruction (dam, instream structure)			Х											Yes – (G2, DP1, SB4)	Yes – downstream passage of fish, upstream passage of fish	Yes – (I2, I3, I4, T1, T2, T3, FP1, FP2, FP3, FP4, SAR1, SAR2)	No	serious harm to fish may occur. At that time, a recommendation will be made
Change in water chemistry			Х											Yes – (CSM5, ESC1, ESC2, SBRS1, SBRS2, SBRS3, SBRS4, SBRS9)	No	N/A	No	concerning the need for regulatory
Change in water temperature			Х											Yes – (SBRS1, SBRS2, SBRS3, SBRS4, DP3, DP5, DP6)	No	N/A	No	review pursuant to the Fisheries Act.
Flow alteration (timing, duration, intensity)			Х											Yes – (DP2, DP3, TM4, FP1)	No	N/A	No	
Diversion Channels			Х											Yes (DP5, G6)	No	N/A	No]
Partial constriction of flow (e.g., rip-rap, piers, piles, fill)				Х										Yes – (TM1, FP1)	Yes – change in channel morphology or shoreline morphometry	Yes – (SBRS5)	No	
Complete constriction of flow (e.g., dams)				Х										See Changes in timir	ng, duration, and frequency of f	lows pathway		1
Thermal loading					Х									Yes – (G2, I5, DP5)	No	N/A	No	1
Nutrient loading					Х									Yes – (G2, I5, DP5, SBRS8)	No	N/A	No	1

Pathway for Tributary to Welland River (Site 55) First Tier Project Impacts Input of contaminants	Addition or removal of aquatic vegetation	Changes in timing, duration, and frequency of flows	Placement of material or structures in water	× Wastewater management	Water extraction	Structure removal	Cleaning or maintenance of bridges or other structure	Excavation	Grading	Riparian Planting	Use of industrial equipment	Vegetation clearing	Mitigation Measures Applied to Reduce First Tier Project Impacts Yes – (G2, G3, G4, T5, CSM1, CSM2, CSM3, CSM4, CSM5, CSM6, CSM7, CSM8, ESC1, SBRS4, SBRS7, I5, I7, OM1, OM5, OM6,	Remaining Second or Third Tier Impacts No	Mitigation Measures Applied to Reduce Second/Third Tier Impacts N/A	Remaining Residual Effects No	Serious Harm Determination
Pathogen, disease, vectors, exotics				Х									DP1, DP4, DP6, SB1) Yes – (G2, G3, G4,G6, OM1)	No	N/A	No	
Placement of materials in water					Х								See Placement of r	material or structures in wate	r pathway		
Reduced flow					Х								See Changes in timing	, duration, and frequency of f	lows pathway		
Entrainment in pumps/machinery					Х								Yes – (SS4, FP1, FP2, FP4, I6, DP1, DP3)	No	N/A	No	
Use of heavy machinery					Х								See Use of	f industrial equipment pathw	ay		
Change in flow regime						Х							See Changes in timing	, duration, and frequency of f	lows pathway		
Change in channel morphology or shoreline morphometry						Х							Yes – (T5, SS1, ESC1, OM2, OM3, OM4, DP1, DP2, DP3, DP4. DP5, DP6)	Yes - change in hydraulics, change in channel stability, change in substrate	Yes - (SS2, SS3, SBRS2, SBRS4, SBRS5, SBRS6, TM4, TM5)	No	
Resuspension and entrainment of sediment						Х							Yes - (ESC1, ESC2, SBRS2, SBRS4, TM1, TM2, TM3, I7, DP6, SSM1)	No	N/A	No	Serious harm to fish is not
Washing, cleaning, sweeping, sandblasting, etc.							Х						Yes - (SB1, SB4)	No	N/A	No	anticipated. However, based on
Alteration of groundwater flows to surface waters								Х					Yes - (DP3, DP5)	No	N/A	No	the potential presence of grass pickerel (i.e., SARA
Creation of pond, pit or trench								Х					Yes – (T4, T5, SS2, SS4)	Yes – dewatering of pit or trench, bank stability and exposed soils, change in slope or drainage	Yes - (ESC1, ESC2, SBRS4, SBRS5, SBRS6, FP2, FP3, FP4, SSM1, DP1, DP4))	No	listed species), DFO review is recommended.
Removal of top soil								Х					No	Yes – exposed soils, spoil material/stockpiles	Yes – (TM1, TM5, SBRS4, ESC1, ESC2, CSM8)	No	
Addition or removal of in stream organic structure									Х				Yes - (SBRS1, SBRS2, SBRS3, SBRS9, SS2)	No	N/A	No	
Bank stability and exposed soils									Х				Yes - (SBRS1, SBRS2, SBRS4, SBRS9, ESC1, SS3)	No	N/A	No	
Change in slope									Х				Yes- (SBRS5, SBRS6, TM4, TM5, TM7)	No	N/A	No	
Site preparation										Х			Yes – (SBRS1)	Yes – bank stability and exposed soils, increased erosion potential, change in sediment concentrations	Yes – (SBRS1, SBRS2, SBRS4, SBRS9, ESC1, SS3)	No	
Use of fertilizers										Х			Yes- (SBRS8)	No	N/A	No	

Pathway for Tributary to Welland River (Site 55)	Addition or removal of aquatic vegetation	Changes in timing, duration, and frequency of flows	Fish passage issues	Placement of material or structures in water	Wastewater management	Water extraction	Structure removal	Cleaning or maintenance of bridges or other structure	Excavation	Grading	Riparian Planting	Use of industrial equipment	Vegetation clearing	Mitigation Measures Applied to Reduce First Tier Project Impacts	Remaining Second or Third Tier Impacts	Mitigation Measures Applied to Reduce Second/Third Tier Impacts	Remaining Residual Effects	Serious Harm Determination
Increase in riparian and bank vegetation											Х			Yes- (SBRS9, TM7)	No	N/A	No	
Change in vegetation species composition											Х			Yes- (SBRS9, SBRS10, TM7)	No	N/A	No	
Use of mobile industrial equipment												X		Yes – (OM1, OM2, SS1)	Yes – potential mortality of fish/eggs/ova from equipment, bank stability and exposed soils, resuspension and entrainment of sediment, oil, grease and fuel leaks from equipment	Yes – (OM3, OM4, OM6, CSM2, CSM6, CSM7, SBRS7)	No	Serious harm to fish is not anticipated. However, based on
Use of immobile industrial equipment												Х		Yes – (OM1, OM2, SS1)	Yes - oil, grease and fuel leaks	Yes – (OM6, CSM1, CSM2, CSM3, CSM4, CSM7, SBRS7)	No	the potential presence of grass pickerel (i.e., SARA listed species), DFO review is
Use of industrial equipment													Х	See Use o	f industrial equipment pathwa	ay		recommended.
Use of herbicides													Х	Yes- (SBRS8)	No	N/A	No	
Alteration of riparian vegetation													Х	Yes – (SS2, SBRS1, SBRS2)	Yes – addition or removal of in stream organic structure, bank stability and exposed soils, change in shade	Yes - (SBRS3, SBRS4, SBRS9, ESC1, SS3, TM7)	No	

Pathway for Tributary to Welland River (Site 56) First Tier Project Impacts	Addition or removal of aquatic vegetation	Changes in timing, duration, and frequency of flows	Fish passage issues	Placement of material or structures in water	Wastewater management	Water extraction	Structure removal	Cleaning or maintenance of bridges or other structure	Excavation	Grading	Riparian Planting	Use of industrial equipment	Vegetation clearing	Mitigation Measures Applied to Reduce First Tier Project Impacts	Remaining Second or Third Tier Impacts	Mitigation Measures Applied to Reduce Second/Third Tier Impacts	Remaining Residual Effects	Serious Harm Determination
Change in light penetration	Х													Yes - (G3, G4, G6, SBRS8, SBRS10, OM1, OM2, OM3, OM4, OM5, TM3, TM4, TM5, TM6, DP3)	No	N/A	No	
Change in nutrient inputs	Х													Yes - (G3, G4, G6, SS2, ESC1, SBRS2, SBRS8, SBRS9, SBRS10)	No	N/A	No	
Resuspension and entrainment of sediment	Х													Yes - (G3, G4, ESC1, ESC2, SBRS1, SBRS2)	No	N/A	No	
Dewatering		Х												Yes – (T2, T3, T4, T5, TM6)	Yes – displacement or stranding of fish and change in migration/access to habitats	Yes – (FP2, FP3, 12, 13, 14, 15, DP2, DP3, DP5, SAR1, SAR2)	No	
Bank erosion		Х												Yes – (T5, SS2, SS3, ESC1, SBRS1, SBRS2, SBRS3, SBRS4, SBRS5, SBRS6, SBRS9, OM2 OM3, OM4, TM5, I5, DP4)	No	N/A	No	Serious harm to fish is not anticipated.
Scouring of channel beds		Х												Yes – (T4, SS3, SBRS2, SBRS5, OM4, TM3, TM5, I5, I6, DP1, DP4, SB4)	No	N/A	No	However, based on the potential
Change in water temperature		Х												Yes – (SBRS1, SBRS3, SBRS4, SBRS9, DP3)	No	N/A	No	presence of grass pickerel (i.e., SARA
Change in contaminant concentrations		Х												Yes – (G3, G4, T5, SS4, CSM1, CSM2, CSM3, CSM4, CSM5, CSM6, CSM7, CSM8, ESC1, SBRS4, SBRS7, OM5, OM6, I7, DP1, DP4, DP6, SB1)	No	N/A	No	listed species), additional field studies in spring 2016 will be conducted to
Change in nutrient concentrations		Х												Yes – (SS2, SBRS1, SBRS8, DP3, DP4)	No	N/A	No	assess whether
Obstruction (dam, instream structure)			Х											Yes – (G2, DP1, SB4)	Yes – downstream passage of fish, upstream passage of fish	Yes – (I2, I3, I4, T1, T2, T3, FP1, FP2, FP3, FP4, SAR1, SAR2)	No	serious harm to fish may occur. At that time, a recommendation will be made
Change in water chemistry			Х											Yes – (CSM5, ESC1, ESC2, SBRS1, SBRS2, SBRS3, SBRS4, SBRS9)	No	N/A	No	concerning the need for regulatory
Change in water temperature			Х											Yes – (SBRS1, SBRS2, SBRS3, SBRS4, DP3, DP5, DP6)	No	N/A	No	review pursuant to the Fisheries Act.
Flow alteration (timing, duration, intensity)			Х											Yes – (DP2, DP3, TM4, FP1)	No	N/A	No	
Diversion Channels			Х											Yes (DP5, G6)	No	N/A	No	
Partial constriction of flow (e.g., rip-rap, piers, piles, fill)				Х										Yes – (TM1, FP1)	Yes – change in channel morphology or shoreline morphometry	Yes – (SBRS5)	No	
Complete constriction of flow (e.g., dams)				Х										See Changes in timi	ng, duration, and frequency of f	lows pathway		
Thermal loading					Х									Yes – (G2, I5, DP5)	No	N/A	No	
Nutrient loading					Х								1	Yes – (G2, I5, DP5, SBRS8)	No	N/A	No	

Pathway for Tributary to Welland River (Site 56)	Addition or removal of aquatic vegetation	Changes in timing, duration, and frequency of flows	ge is	Placement of material or structures in water		Water extraction	Structure removal	Cleaning or maintenance of bridges or other structure	Excavation	Grading	Riparian Planting	Use of industrial equipment	Vegetation clearing	Mitigation Measures Applied to Reduce First Tier Project Impacts	Remaining Second or Third Tier Impacts	Mitigation Measures Applied to Reduce Second/Third Tier Impacts	Remaining Residual Effects	Serious Harm Determination
Input of contaminants					X									Yes – (G2, G3, G4, T5, CSM1, CSM2, CSM3, CSM4, CSM5, CSM6, CSM7, CSM8, ESC1, SBRS4, SBRS7, I5, I7, OM1, OM5, OM6, DP1, DP4, DP6, SB1)	No	N/A	No	
Pathogen, disease, vectors, exotics					Х									Yes – (G2, G3, G4,G6, OM1)	No	N/A	No	
Placement of materials in water						Х								See Placement of	material or structures in wate	r pathway		
Reduced flow						Х								See Changes in timing	, duration, and frequency of f	lows pathway		
Entrainment in pumps/machinery						Х								Yes – (SS4, FP1, FP2, FP4, I6, DP1, DP3)	No	N/A	No	
Use of heavy machinery						Х								See Use o	f industrial equipment pathwa	ау		
Change in flow regime							Х							See Changes in timing	, duration, and frequency of f	lows pathway		
Change in channel morphology or shoreline morphometry							Х							Yes – (T5, SS1, ESC1, OM2, OM3, OM4, DP1, DP2, DP3, DP4. DP5, DP6)	Yes - change in hydraulics, change in channel stability, change in substrate	Yes - (SS2, SS3, SBRS2, SBRS4, SBRS5, SBRS6, TM4, TM5)	No	
Resuspension and entrainment of sediment							Х							Yes - (ESC1, ESC2, SBRS2, SBRS4, TM1, TM2, TM3, I7, DP6, SSM1)	No	N/A	No	Serious harm to fish is not anticipated.
Washing, cleaning, sweeping, sandblasting, etc.								Х						Yes - (SB1, SB4)	No	N/A	No	However, based on
Alteration of groundwater flows to surface waters									Х					Yes - (DP3, DP5)	No	N/A	No	the potential presence of grass pickerel (i.e., SARA
Creation of pond, pit or trench									Х					Yes – (T4, T5, SS2, SS4)	Yes – dewatering of pit or trench, bank stability and exposed soils, change in slope or drainage	Yes - (ESC1, ESC2, SBRS4, SBRS5, SBRS6, FP2, FP3, FP4, SSM1, DP1, DP4))	No	listed species), DFO review is recommended.
Removal of top soil									Х					No	Yes – exposed soils, spoil material/stockpiles	Yes – (TM1, TM5, SBRS4, ESC1, ESC2, CSM8)	No	
Addition or removal of in stream organic structure										Х				Yes - (SBRS1, SBRS2, SBRS3, SBRS9, SS2)	No	N/A	No	
Bank stability and exposed soils										Х				Yes - (SBRS1, SBRS2, SBRS4, SBRS9, ESC1, SS3)	No	N/A	No	
Change in slope										Х				Yes- (SBRS5, SBRS6, TM4, TM5, TM7)	No	N/A	No	
Site preparation											Х			Yes – (SBRS1)	Yes – bank stability and exposed soils, increased erosion potential, change in sediment concentrations	Yes – (SBRS1, SBRS2, SBRS4, SBRS9, ESC1, SS3)	No	
Use of fertilizers											Х			Yes- (SBRS8)	No	N/A	No	

Pathway for Tributary to Welland River (Site 56)	Addition or removal of aquatic vegetation	Changes in timing, duration, and frequency of flows	Fish passage issues	Placement of material or structures in water	Wastewater management	Water extraction	Structure removal	Cleaning or maintenance of bridges or other structure	Excavation	Grading	Riparian Planting	Use of industrial equipment	Vegetation clearing	Mitigation Measures Applied to Reduce First Tier Project Impacts	Remaining Second or Third Tier Impacts	Mitigation Measures Applied to Reduce Second/Third Tier Impacts	Remaining Residual Effects	Serious Harm Determination
Increase in riparian and bank vegetation											Х			Yes- (SBRS9, TM7)	No	N/A	No	
Change in vegetation species composition											Х			Yes- (SBRS9, SBRS10, TM7)	No	N/A	No	
Use of mobile industrial equipment												х		Yes – (OM1, OM2, SS1)	Yes – potential mortality of fish/eggs/ova from equipment, bank stability and exposed soils, resuspension and entrainment of sediment, oil, grease and fuel leaks from equipment	Yes – (OM3, OM4, OM6, CSM2, CSM6, CSM7, SBRS7)	No	Serious harm to fish is not anticipated. However, based on
Use of immobile industrial equipment												X		Yes – (OM1, OM2, SS1)	Yes - oil, grease and fuel leaks	Yes – (OM6, CSM1, CSM2, CSM3, CSM4, CSM7, SBRS7)	No	the potential presence of grass pickerel (i.e., SARA listed species), DFO review is
Use of industrial equipment													Х	See Use o	f industrial equipment pathw	ay		recommended.
Use of herbicides													Х	Yes- (SBRS8)	No	N/A	No	
Alteration of riparian vegetation													Х	Yes – (SS2, SBRS1, SBRS2)	Yes – addition or removal of in stream organic structure, bank stability and exposed soils, change in shade	Yes - (SBRS3, SBRS4, SBRS9, ESC1, SS3, TM7)	No	

Pathway for Tributary to Welland River (Site 57)	Changes in timing, duration, and frequency of flows	Placement of material or structures in water	Vastewater management	tructure removal	Excavation	se of industrial equipment		egetation clearing	Mitigation Measures Applied to Reduce First Tier Project Impacts	Remaining Second or Third Tier Impacts	Mitigation Measures Applied to Reduce Second/Third Tier Impacts	Remaining Residual Effects	Serious Harm Determination
Dewatering	X	<u> </u>	>	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	ш		,	_>	Yes – (T2, T3, T4, T5, TM6, DP2, DP3)	No	N/A	No	
Bank erosion	Х								Yes – (T5, SS3, ESC1, SBRS1, SBRS2, SBRS4, SBRS5, SBRS6, OM2, OM3, OM4, TM5, I5, DP4)	No	N/A	No	
Scouring of channel beds	Х								Yes – (T4, SS3, SBRS2, SBRS5, OM4, TM3, TM5, I5, I6, DP1, DP4, SB4)	No	N/A	No	
Change in water temperature	Х								Yes – (SBRS1, SBRS3, SBRS4, SBRS9, DP3)	No	N/A	No	
Change in contaminant concentrations	Х								Yes – (G4, T5, SS4, CSM1, CSM2, CSM3, CSM4, CSM5, CSM6, CSM7, CSM8, ESC1, SBRS4, SBRS7, OM5, OM6, I7, DP1, DP4, DP6)	No	N/A	No	
Change in nutrient concentrations	Х								Yes – (SBRS1, SBRS8, DP3, DP4)	No	N/A	No	
Partial constriction of flow (e.g., rip-rap, piers, piles, fill)		Х							Yes – (TM1)	Yes – change in channel morphology or shoreline morphometry	Yes – (SBRS5)	No	
Complete constriction of flow (e.g., dams)		Х							See Changes in timi	ng, duration, and frequency of flow	rs pathway		
Thermal loading			Х						Yes – (I5, DP5)	No	N/A	No	
Nutrient loading			Х						Yes – (I5, DP5, SBRS8)	No	N/A	No	
Input of contaminants			Х						Yes – (G4, T5, CSM1, CSM2, CSM3, CSM4, CSM5, CSM6, CSM7, CSM8, ESC1, SBRS4, SBRS7, I5, I7, OM1, OM5, OM6, DP1, DP4, DP6)	No	N/A	No	Serious harm to fish is not anticipated. A DFO review is not
Pathogen, disease, vectors, exotics			Х						Yes – (G3, G4, G6, OM1)	No	N/A	No	recommended
Change in flow regime				Х					See Changes in timi	ng, duration, and frequency of flow	s pathway		
Change in channel morphology or shoreline morphometry				Х					Yes – (T5, ESC1, OM2, OM3, OM4, DP1, DP2, DP3, DP4, DP5, DP6)	Yes - change in hydraulics, change in channel stability, change in substrate	Yes - (SS2, SS3, SBRS2, SBRS4, SBRS5, SBRS6, TM4, TM5)	No	
Resuspension and entrainment of sediment				Х					Yes - (ESC1, ESC2, SBRS2, SBRS4, TM1, TM2, TM3, I7, DP6)	No	N/A	No	
Alteration of groundwater flows to surface waters					Х				Yes - (DP3, DP5)	No	N/A	No	
Creation of pond, pit or trench					X				Yes – (T4, T5, SS2, SS4)	Yes – dewatering of pit or trench, bank stability and exposed soils, change in slope or drainage	Yes - (ESC1, ESC2, SBRS4, SBRS5, SBRS6, DP1, DP4)	No	
Removal of top soil					Х				No	Yes – exposed soils, spoil material/stockpiles	Yes – (TM1, TM5, SBRS4, ESC1, ESC2, CSM8)	No	
Addition or removal of in stream organic structure					Х				Yes - (SBRS1, SBRS2, SBRS3, SBRS9, SS2)	No	N/A	No	
Bank stability and exposed soils					Х				Yes - (SBRS1, SBRS2, SBRS4, SBRS9, ESC1, SS3)	No	N/A	No	
Change in slope					Х				Yes - (SBRS5, SBRS6, TM4, TM5, TM7)	No	N/A	No	

Pathway for Tributary to Welland River (Site 57)	_	Placement of material or structures in water	Wastewater management	Structure removal	Excavation	Grading	Use of industrial equipment	Vegetation clearing	Mitigation Measures Applied to Reduce First Tier Project Impacts	Remaining Second or Third Tier Impacts	Mitigation Measures Applied to Reduce Second/Third Tier Impacts	Remaining Residual Effects	Serious Harm Determination
Use of mobile industrial equipment							Х		Yes – (OM1, OM2, SS1)	Yes – bank stability and exposed soils, resuspension and entrainment of sediment, oil, grease and fuel leaks from equipment	Yes – (OM3, OM4, OM6, CSM2, CSM6, CSM7, SBRS7)	No	
Use of immobile industrial equipment							Х		Yes – (OM1, OM2)	Yes - oil, grease and fuel leaks	Yes – (OM6, CSM1, CSM2, CSM3, CSM4, CSM7, SBRS7)	No	Serious harm to fish is not anticipated. A DFO review is not
Use of industrial equipment								Х	See Use	of industrial equipment pathway			recommended
Use of herbicides								Х	Yes - (SBRS8)	No	N/A	No	1
Alteration of riparian vegetation								Х	Yes – (SS2, SBRS1, SBRS2)	Yes – addition or removal of in stream organic structure, bank stability and exposed soils	Yes - (SBRS3, SBRS4, SBRS9, ESC1, SS3, TM7)	No	

Pathway for Tributary to Welland River (Site 58)	Changes in timing, duration, and frequency of flows	Placement of material or structures in water	Vastewater management	tructure removal	xcavation	rading	se of industrial equipment	egetation clearing	Mitigation Measures Applied to Reduce First Tier Project Impacts	Remaining Second or Third Tier Impacts	Mitigation Measures Applied to Reduce Second/Third Tier Impacts	Remaining Residual Effects	Serious Harm Determination
Dewatering	X	_	<u> </u>	, v	Ú .	5		>	Yes – (T2, T3, T4, T5, TM6, DP2, DP3)	No	N/A	No	Betermination
Bank erosion	Х								Yes – (T5, SS3, ESC1, SBRS1, SBRS2, SBRS4, SBRS5, SBRS6, OM2, OM3, OM4, TM5, I5, DP4)	No	N/A	No	
Scouring of channel beds	Х								Yes – (T4, SS3, SBRS2, SBRS5, OM4, TM3, TM5, I5, I6, DP1, DP4, SB4)	No	N/A	No	
Change in water temperature	Х								Yes – (SBRS1, SBRS3, SBRS4, SBRS9, DP3)	No	N/A	No	
Change in contaminant concentrations	Х								Yes – (G4, T5, SS4, CSM1, CSM2, CSM3, CSM4, CSM5, CSM6, CSM7, CSM8, ESC1, SBRS4, SBRS7, OM5, OM6, I7, DP1, DP4, DP6)	No	N/A	No	
Change in nutrient concentrations	Х								Yes – (SBRS1, SBRS8, DP3, DP4)	No	N/A	No	
Partial constriction of flow (e.g., rip-rap, piers, piles, fill)		Х							Yes – (TM1)	Yes – change in channel morphology or shoreline morphometry	Yes – (SBRS5)	No	-
Complete constriction of flow (e.g., dams)		Х							See Changes in timi	ng, duration, and frequency of flow	rs pathway		
Thermal loading			Х						Yes – (I5, DP5)	No	N/A	No	
Nutrient loading			Х						Yes – (I5, DP5, SBRS8)	No	N/A	No	
Input of contaminants			Х						Yes – (G4, T5, CSM1, CSM2, CSM3, CSM4, CSM5, CSM6, CSM7, CSM8, ESC1, SBRS4, SBRS7, I5, I7, OM1, OM5, OM6, DP1, DP4, DP6)	No	N/A	No	Serious harm to fish is not anticipated. A DFO review is not
Pathogen, disease, vectors, exotics			Х						Yes – (G3, G4, G6, OM1)	No	N/A	No	recommended
Change in flow regime				Х					See Changes in timi	ng, duration, and frequency of flow	s pathway		
Change in channel morphology or shoreline morphometry				Х					Yes – (T5, ESC1, OM2, OM3, OM4, DP1, DP2, DP3, DP4, DP5, DP6)	Yes - change in hydraulics, change in channel stability, change in substrate	Yes - (SS2, SS3, SBRS2, SBRS4, SBRS5, SBRS6, TM4, TM5)	No	
Resuspension and entrainment of sediment				Х					Yes - (ESC1, ESC2, SBRS2, SBRS4, TM1, TM2, TM3, I7, DP6)	No	N/A	No	
Alteration of groundwater flows to surface waters					Х				Yes - (DP3, DP5)	No	N/A	No	
Creation of pond, pit or trench					Х				Yes – (T4, T5, SS2, SS4)	Yes – dewatering of pit or trench, bank stability and exposed soils, change in slope or drainage	Yes - (ESC1, ESC2, SBRS4, SBRS5, SBRS6, DP1, DP4)	No	
Removal of top soil					Х				No	Yes – exposed soils, spoil material/stockpiles	Yes – (TM1, TM5, SBRS4, ESC1, ESC2, CSM8)	No	
Addition or removal of in stream organic structure						Х			Yes - (SBRS1, SBRS2, SBRS3, SBRS9, SS2)	No	N/A	No	
Bank stability and exposed soils						Х			Yes - (SBRS1, SBRS2, SBRS4, SBRS9, ESC1, SS3)	No	N/A	No	_
Change in slope						Х			Yes - (SBRS5, SBRS6, TM4, TM5, TM7)	No	N/A	No	

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Pathway for Tributary to Welland River (Site 58)	Changes in timing, duration, and frequency of flows	Placement of material or structures in water	Wastewater management	Structure removal	Excavation	Grading	Use of industrial equipment	Vegetation clearing	Mitigation Measures Applied to Reduce First Tier Project Impacts	Remaining Second or Third Tier Impacts	Mitigation Measures Applied to Reduce Second/Third Tier Impacts	Remaining Residual Effects	Serious Harm Determination
Use of mobile industrial equipment							Х		Yes – (OM1, OM2, SS1)	Yes – bank stability and exposed soils, resuspension and entrainment of sediment, oil, grease and fuel leaks from equipment	Yes – (OM3, OM4, OM6, CSM2, CSM6, CSM7, SBRS7)	No	
Use of immobile industrial equipment							Х		Yes – (OM1, OM2)	Yes - oil, grease and fuel leaks	Yes – (OM6, CSM1, CSM2, CSM3, CSM4, CSM7, SBRS7)	No	Serious harm to fish is not anticipated. A DFO review is not
Use of industrial equipment								Х	See Use	of industrial equipment pathway			recommended
Use of herbicides								Х	Yes - (SBRS8)	No	N/A	No]
Alteration of riparian vegetation								Х	Yes – (SS2, SBRS1, SBRS2)	Yes – addition or removal of in stream organic structure, bank stability and exposed soils	Yes - (SBRS3, SBRS4, SBRS9, ESC1, SS3, TM7)	No	

Pathway for Tributary to Welland River (Site 59) First Tier Project Impacts	Changes in timing, duration, and frequency of flows	Placement of material or structures in water	Nastewater management	structure removal	excavation	Grading	Jse of industrial equipment	/egetation clearing	Mitigation Measures Applied to Reduce First Tier Project Impacts	Remaining Second or Third Tier Impacts	Mitigation Measures Applied to Reduce Second/Third Tier Impacts	Remaining Residual Effects	Serious Harm Determination
Dewatering	Х			,					Yes – (T2, T3, T4, T5, TM6, DP2, DP3)	No	N/A	No	
Bank erosion	Х								Yes – (T5, SS3, ESC1, SBRS1, SBRS2, SBRS4, SBRS5, SBRS6, OM2, OM3, OM4, TM5, I5, DP4)	No	N/A	No	-
Scouring of channel beds	Х								Yes – (T4, SS3, SBRS2, SBRS5, OM4, TM3, TM5, I5, I6, DP1, DP4, SB4)	No	N/A	No	
Change in water temperature	Х								Yes – (SBRS1, SBRS3, SBRS4, SBRS9, DP3)	No	N/A	No	
Change in contaminant concentrations	Х								Yes – (G4, T5, SS4, CSM1, CSM2, CSM3, CSM4, CSM5, CSM6, CSM7, CSM8, ESC1, SBRS4, SBRS7, OM5, OM6, I7, DP1, DP4, DP6)	No	N/A	No	
Change in nutrient concentrations	Х								Yes – (SBRS1, SBRS8, DP3, DP4)	No	N/A	No	'
Partial constriction of flow (e.g., rip-rap, piers, piles, fill)		Х							Yes – (TM1)	Yes – change in channel morphology or shoreline morphometry	Yes – (SBRS5)	No	
Complete constriction of flow (e.g., dams)		Х							See Changes in timi	ng, duration, and frequency of flov	vs pathway		
Thermal loading			Х						Yes – (I5, DP5)	No	N/A	No	
Nutrient loading			Х						Yes – (I5, DP5, SBRS8)	No	N/A	No	
Input of contaminants			Х						Yes – (G4, T5, CSM1, CSM2, CSM3, CSM4, CSM5, CSM6, CSM7, CSM8, ESC1, SBRS4, SBRS7, I5, I7, OM1, OM5, OM6, DP1, DP4, DP6)	No	N/A	No	Serious harm to fish is not anticipated. A DFO review is not
Pathogen, disease, vectors, exotics			Х						Yes – (G3, G4, G6, OM1)	No	N/A	No	recommended
Change in flow regime				Х					See Changes in timi	ng, duration, and frequency of flow	vs pathway		
Change in channel morphology or shoreline morphometry				Х					Yes – (T5, ESC1, OM2, OM3, OM4, DP1, DP2, DP3, DP4, DP5, DP6)	Yes - change in hydraulics, change in channel stability, change in substrate	Yes - (SS2, SS3, SBRS2, SBRS4, SBRS5, SBRS6, TM4, TM5)	No	
Resuspension and entrainment of sediment				Х					Yes - (ESC1, ESC2, SBRS2, SBRS4, TM1, TM2, TM3, I7, DP6)	No	N/A	No	
Alteration of groundwater flows to surface waters					Х				Yes - (DP3, DP5)	No	N/A	No	
Creation of pond, pit or trench					Х				Yes – (T4, T5, SS2, SS4)	Yes – dewatering of pit or trench, bank stability and exposed soils, change in slope or drainage	Yes - (ESC1, ESC2, SBRS4, SBRS5, SBRS6, DP1, DP4)	No	
Removal of top soil					Х				No	Yes – exposed soils, spoil material/stockpiles	Yes – (TM1, TM5, SBRS4, ESC1, ESC2, CSM8)	No	
Addition or removal of in stream organic structure						Х			Yes - (SBRS1, SBRS2, SBRS3, SBRS9, SS2)	No	N/A	No	
Bank stability and exposed soils						Х			Yes - (SBRS1, SBRS2, SBRS4, SBRS9, ESC1, SS3)	No	N/A	No	
Change in slope						Х			Yes - (SBRS5, SBRS6, TM4, TM5, TM7)	No	N/A	No	

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Pathway for Tributary to Welland River (Site 59) First Tier Project Impacts Use of mobile industrial equipment	Changes in timing, duration, and frequency of flows	Placement of material or structures in water	Wastewater management	Structure removal	Excavation	Grading	X Use of industrial equipment	Vegetation clearing	Mitigation Measures Applied to Reduce First Tier Project Impacts Yes – (OM1, OM2, SS1)	Remaining Second or Third Tier Impacts Yes – bank stability and	Mitigation Measures Applied to Reduce Second/Third Tier Impacts Yes – (OM3, OM4,	Remaining Residual Effects	Serious Harm Determination
Ose of mount industrial equipment							^		(OWI, OWI2, 331)	exposed soils, resuspension and entrainment of sediment, oil, grease and fuel leaks from equipment	OM6, CSM2, CSM6, CSM7, SBRS7)	No	
Use of immobile industrial equipment							Х		Yes – (OM1, OM2)	Yes - oil, grease and fuel leaks	Yes – (OM6, CSM1, CSM2, CSM3, CSM4, CSM7, SBRS7)	No	Serious harm to fish is not anticipated. A DFO review is not
Use of industrial equipment								Х	See Use	of industrial equipment pathway			recommended
Use of herbicides								Х	Yes - (SBRS8)	No	N/A	No	
Alteration of riparian vegetation								Х	Yes – (SS2, SBRS1, SBRS2)	Yes – addition or removal of in stream organic structure, bank stability and exposed soils	Yes - (SBRS3, SBRS4, SBRS9, ESC1, SS3, TM7)	No	

Pathway for Tributary to Welland River (Site 60)	Changes in timing, duration, and frequency of flows	Placement of material or structures in water	Nastewater management	itructure removal	Excavation Grading	Jse of industrial equipment	egetation clearing	Mitigation Measures Applied to Reduce First Tier Project Impacts	Remaining Second or Third Tier Impacts	Mitigation Measures Applied to Reduce Second/Third Tier Impacts	Remaining Residual Effects	Serious Harm Determination
Dewatering	Х							Yes – (T2, T3, T4, T5, TM6, DP2, DP3)	No	N/A	No	
Bank erosion	Х							Yes – (T5, SS3, ESC1, SBRS1, SBRS2, SBRS4, SBRS5, SBRS6, OM2, OM3, OM4, TM5, I5, DP4)	No	N/A	No	
Scouring of channel beds	Х							Yes – (T4, SS3, SBRS2, SBRS5, OM4, TM3, TM5, I5, I6, DP1, DP4, SB4)	No	N/A	No	
Change in water temperature	Х							Yes – (SBRS1, SBRS3, SBRS4, SBRS9, DP3)	No	N/A	No	
Change in contaminant concentrations	Х							Yes – (G4, T5, SS4, CSM1, CSM2, CSM3, CSM4, CSM5, CSM6, CSM7, CSM8, ESC1, SBRS4, SBRS7, OM5, OM6, I7, DP1, DP4, DP6)	No	N/A	No	
Change in nutrient concentrations	Х							Yes – (SBRS1, SBRS8, DP3, DP4)	No	N/A	No	
Partial constriction of flow (e.g., rip-rap, piers, piles, fill)		Х						Yes – (TM1)	Yes – change in channel morphology or shoreline morphometry	Yes – (SBRS5)	No	
Complete constriction of flow (e.g., dams)		Х						See Changes in timi	ng, duration, and frequency of flow	s pathway		
Thermal loading			Х					Yes – (I5, DP5)	No	N/A	No	
Nutrient loading			Х					Yes – (I5, DP5, SBRS8)	No	N/A	No	
Input of contaminants			Х					Yes – (G4, T5, CSM1, CSM2, CSM3, CSM4, CSM5, CSM6, CSM7, CSM8, ESC1, SBRS4, SBRS7, I5, I7, OM1, OM5, OM6, DP1, DP4, DP6)	No	N/A	No	Serious harm to fish is not anticipated. A DFO review is not
Pathogen, disease, vectors, exotics			Х					Yes – (G3, G4, G6, OM1)	No	N/A	No	recommended
Change in flow regime				Х				See Changes in timi	ng, duration, and frequency of flow	s pathway		
Change in channel morphology or shoreline morphometry				Х				Yes – (T5, ESC1, OM2, OM3, OM4, DP1, DP2, DP3, DP4, DP5, DP6)	Yes - change in hydraulics, change in channel stability, change in substrate	Yes - (SS2, SS3, SBRS2, SBRS4, SBRS5, SBRS6, TM4, TM5)	No	
Resuspension and entrainment of sediment				X				Yes - (ESC1, ESC2, SBRS2, SBRS4, TM1, TM2, TM3, I7, DP6)	No	N/A	No	
Alteration of groundwater flows to surface waters					Х			Yes - (DP3, DP5)	No	N/A	No	
Creation of pond, pit or trench					X			Yes – (T4, T5, SS2, SS4)	Yes – dewatering of pit or trench, bank stability and exposed soils, change in slope or drainage	Yes - (ESC1, ESC2, SBRS4, SBRS5, SBRS6, DP1, DP4)	No	
Removal of top soil					Х			No	Yes – exposed soils, spoil material/stockpiles	Yes – (TM1, TM5, SBRS4, ESC1, ESC2, CSM8)	No	
Addition or removal of in stream organic structure					Х			Yes - (SBRS1, SBRS2, SBRS3, SBRS9, SS2)	No	N/A	No	
Bank stability and exposed soils					Х			Yes - (SBRS1, SBRS2, SBRS4, SBRS9, ESC1, SS3)	No	N/A	No	
Change in slope					Х			Yes - (SBRS5, SBRS6, TM4, TM5, TM7)	No	N/A	No	

Pathway for Tributary to Welland River (Site 60) First Tier Project Impacts Use of mobile industrial equipment	Changes in timing, duration, and frequency of flows	Placement of material or structures in water	Wastewater management	Structure removal	Excavation	Grading	Use of industrial equipment	Vegetation clearing	Mitigation Measures Applied to Reduce First Tier Project Impacts Yes – (OM1, OM2, SS1)	Remaining Second or Third Tier Impacts Yes – bank stability and exposed soils, resuspension and entrainment of sediment,	Mitigation Measures Applied to Reduce Second/Third Tier Impacts Yes – (OM3, OM4, OM6, CSM2, CSM6, CSM7, SBRS7)	Remaining Residual Effects No	Serious Harm Determination
Use of immobile industrial equipment							Х		Yes – (OM1, OM2)	oil, grease and fuel leaks from equipment Yes - oil, grease and fuel leaks	Yes – (OM6, CSM1,	No	Serious harm to fish is
											CSM2, CSM3, CSM4, CSM7, SBRS7)		not anticipated. A DFO review is not
Use of industrial equipment								Х	See Use	of industrial equipment pathway			recommended
Use of herbicides								Х	Yes - (SBRS8)	No	N/A	No	
Alteration of riparian vegetation								Х	Yes – (SS2, SBRS1, SBRS2)	Yes – addition or removal of in stream organic structure, bank stability and exposed soils	Yes - (SBRS3, SBRS4, SBRS9, ESC1, SS3, TM7)	No	

Pathway for Tributary to Welland River (Site 61)	Changes in timing, duration, and frequency of flows	Placement of material or structures in water	Vastewater management	tructure removal	Excavation	srading	Jse of industrial equipment	egetation clearing	Mitigation Measures Applied to Reduce First Tier Project Impacts	Remaining Second or Third Tier Impacts	Mitigation Measures Applied to Reduce Second/Third Tier Impacts	Remaining Residual Effects	Serious Harm Determination
Dewatering	Х								Yes – (T2, T3, T4, T5, TM6, DP2, DP3)	No	N/A	No	
Bank erosion	Х								Yes – (T5, SS3, ESC1, SBRS1, SBRS2, SBRS4, SBRS5, SBRS6, OM2, OM3, OM4, TM5, I5, DP4)	No	N/A	No	
Scouring of channel beds	Х								Yes – (T4, SS3, SBRS2, SBRS5, OM4, TM3, TM5, I5, I6, DP1, DP4, SB4)	No	N/A	No	
Change in water temperature	Х								Yes – (SBRS1, SBRS3, SBRS4, SBRS9, DP3)	No	N/A	No	1
Change in contaminant concentrations	Х								Yes – (G4, T5, SS4, CSM1, CSM2, CSM3, CSM4, CSM5, CSM6, CSM7, CSM8, ESC1, SBRS4, SBRS7, OM5, OM6, I7, DP1, DP4, DP6)	No	N/A	No	
Change in nutrient concentrations	Х								Yes – (SBRS1, SBRS8, DP3, DP4)	No	N/A	No	
Partial constriction of flow (e.g., rip-rap, piers, piles, fill)		Х							Yes – (TM1)	Yes – change in channel morphology or shoreline morphometry	Yes – (SBRS5)	No	
Complete constriction of flow (e.g., dams)		Х							See Changes in timi	ng, duration, and frequency of flow	s pathway]
Thermal loading			Х						Yes – (I5, DP5)	No	N/A	No	
Nutrient loading			Х						Yes – (I5, DP5, SBRS8)	No	N/A	No]
Input of contaminants			Х						Yes – (G4, T5, CSM1, CSM2, CSM3, CSM4, CSM5, CSM6, CSM7, CSM8, ESC1, SBRS4, SBRS7, I5, I7, OM1, OM5, OM6, DP1, DP4, DP6)	No	N/A	No	Serious harm to fish is not anticipated. A DFO review is not
Pathogen, disease, vectors, exotics			Х						Yes – (G3, G4, G6, OM1)	No	N/A	No	recommended
Change in flow regime				х					See Changes in timi	ng, duration, and frequency of flow	s pathway		
Change in channel morphology or shoreline morphometry				Х					Yes – (T5, ESC1, OM2, OM3, OM4, DP1, DP2, DP3, DP4, DP5, DP6)	Yes - change in hydraulics, change in channel stability, change in substrate	Yes - (SS2, SS3, SBRS2, SBRS4, SBRS5, SBRS6, TM4, TM5)	No	
Resuspension and entrainment of sediment				Х					Yes - (ESC1, ESC2, SBRS2, SBRS4, TM1, TM2, TM3, I7, DP6)	No	N/A	No	
Alteration of groundwater flows to surface waters					Х				Yes - (DP3, DP5)	No	N/A	No	_
Creation of pond, pit or trench					X				Yes – (T4, T5, SS2, SS4)	Yes – dewatering of pit or trench, bank stability and exposed soils, change in slope or drainage	Yes - (ESC1, ESC2, SBRS4, SBRS5, SBRS6, DP1, DP4)	No	
Removal of top soil					Х				No	Yes – exposed soils, spoil material/stockpiles	Yes – (TM1, TM5, SBRS4, ESC1, ESC2, CSM8)	No	
Addition or removal of in stream organic structure						Χ			Yes - (SBRS1, SBRS2, SBRS3, SBRS9, SS2)	No	N/A	No	_
Bank stability and exposed soils						Х			Yes - (SBRS1, SBRS2, SBRS4, SBRS9, ESC1, SS3)	No	N/A	No	_
Change in slope						Х			Yes - (SBRS5, SBRS6, TM4, TM5, TM7)	No	N/A	No	

stability and exposed soils

TM7)

Application Submitted to the NEB Appendix 6.1 10 of 10 APPENDIX E – DFO SELF-ASSESSMENT

Pathway for Tributary to Welland River (Site 61) First Tier Project Impacts	Changes in timing, duration, and frequency of flows	Placement of material or structures in water	Wastewater management	Structure removal	Excavation	Grading	Use of industrial equipment	Vegetation clearing	Mitigation Measures Applied to Reduce First Tier Project Impacts	Remaining Second or Third Tier Impacts	Mitigation Measures Applied to Reduce Second/Third Tier Impacts	Remaining Residual Effects	Serious Harm Determination
Use of mobile industrial equipment							Х		Yes – (OM1, OM2, SS1)	Yes – bank stability and exposed soils, resuspension and entrainment of sediment, oil, grease and fuel leaks from equipment	Yes – (OM3, OM4, OM6, CSM2, CSM6, CSM7, SBRS7)	No	
Use of immobile industrial equipment							Х		Yes – (OM1, OM2)	Yes - oil, grease and fuel leaks	Yes – (OM6, CSM1, CSM2, CSM3, CSM4, CSM7, SBRS7)	No	Serious harm to fish is not anticipated. A DFO review is not
Use of industrial equipment								Х	See Use	of industrial equipment pathway			recommended
Use of herbicides								Х	Yes - (SBRS8)	No	N/A	No	
Alteration of riparian vegetation								Х	Yes – (SS2, SBRS1, SBRS2)	Yes – addition or removal of in stream organic structure, bank	Yes - (SBRS3, SBRS4, SBRS9, ESC1, SS3,	No	

Pathway for Tributary to Welland River (Site 62)	Changes in timing, duration, and frequency of flows	Placement of material or structures in water	Vastewater management	tructure removal	Excavation Grading	Jse of industrial equipment	egetation clearing	Mitigation Measures Applied to Reduce First Tier Project Impacts	Remaining Second or Third Tier Impacts	Mitigation Measures Applied to Reduce Second/Third Tier Impacts	Remaining Residual Effects	Serious Harm Determination
Dewatering	Х	<u> </u>		8				Yes – (T2, T3, T4, T5, TM6, DP2, DP3)	No	N/A	No	
Bank erosion	Х							Yes – (T5, SS3, ESC1, SBRS1, SBRS2, SBRS4, SBRS5, SBRS6, OM2, OM3, OM4, TM5, I5, DP4)	No	N/A	No	
Scouring of channel beds	Х							Yes – (T4, SS3, SBRS2, SBRS5, OM4, TM3, TM5, I5, I6, DP1, DP4, SB4)	No	N/A	No	
Change in water temperature	Х							Yes – (SBRS1, SBRS3, SBRS4, SBRS9, DP3)	No	N/A	No	
Change in contaminant concentrations	Х							Yes – (G4, T5, SS4, CSM1, CSM2, CSM3, CSM4, CSM5, CSM6, CSM7, CSM8, ESC1, SBRS4, SBRS7, OM5, OM6, I7, DP1, DP4, DP6)	No	N/A	No	
Change in nutrient concentrations	Х							Yes – (SBRS1, SBRS8, DP3, DP4)	No	N/A	No	
Partial constriction of flow (e.g., rip-rap, piers, piles, fill)		Х						Yes – (TM1)	Yes – change in channel morphology or shoreline morphometry	Yes – (SBRS5)	No	
Complete constriction of flow (e.g., dams)		Х						See Changes in timi	ng, duration, and frequency of flow	s pathway		
Thermal loading			Х					Yes – (I5, DP5)	No	N/A	No	
Nutrient loading			Х					Yes – (I5, DP5, SBRS8)	No	N/A	No	
Input of contaminants			Х					Yes – (G4, T5, CSM1, CSM2, CSM3, CSM4, CSM5, CSM6, CSM7, CSM8, ESC1, SBRS4, SBRS7, I5, I7, OM1, OM5, OM6, DP1, DP4, DP6)	No	N/A	No	Serious harm to fish is not anticipated. A DFO review is not
Pathogen, disease, vectors, exotics			Х					Yes – (G3, G4, G6, OM1)	No	N/A	No	recommended
Change in flow regime				Х				See Changes in timi	ng, duration, and frequency of flow	s pathway		
Change in channel morphology or shoreline morphometry				Х				Yes – (T5, ESC1, OM2, OM3, OM4, DP1, DP2, DP3, DP4, DP5, DP6)	Yes - change in hydraulics, change in channel stability, change in substrate	Yes - (SS2, SS3, SBRS2, SBRS4, SBRS5, SBRS6, TM4, TM5)	No	
Resuspension and entrainment of sediment				Х				Yes - (ESC1, ESC2, SBRS2, SBRS4, TM1, TM2, TM3, I7, DP6)	No	N/A	No	
Alteration of groundwater flows to surface waters					Х			Yes - (DP3, DP5)	No	N/A	No	
Creation of pond, pit or trench					X			Yes – (T4, T5, SS2, SS4)	Yes – dewatering of pit or trench, bank stability and exposed soils, change in slope or drainage	Yes - (ESC1, ESC2, SBRS4, SBRS5, SBRS6, DP1, DP4)	No	
Removal of top soil					Х			No	Yes – exposed soils, spoil material/stockpiles	Yes – (TM1, TM5, SBRS4, ESC1, ESC2, CSM8)	No	
Addition or removal of in stream organic structure					Х			Yes - (SBRS1, SBRS2, SBRS3, SBRS9, SS2)	No	N/A	No	_
Bank stability and exposed soils					Х			Yes - (SBRS1, SBRS2, SBRS4, SBRS9, ESC1, SS3)	No	N/A	No	_
Change in slope					Х			Yes - (SBRS5, SBRS6, TM4, TM5, TM7)	No	N/A	No	

Pathway for Tributary to Welland River (Site 62) First Tier Project Impacts Use of mobile industrial equipment	Changes in timing, duration, and frequency of flows	Placement of material or structures in water	Wastewater management	Structure removal	Excavation	Grading	× Use of industrial equipment	Vegetation clearing	Mitigation Measures Applied to Reduce First Tier Project Impacts Yes – (OM1, OM2, SS1)	Remaining Second or Third Tier Impacts Yes – bank stability and	Mitigation Measures Applied to Reduce Second/Third Tier Impacts Yes – (OM3, OM4,	Remaining Residual Effects No	Serious Harm Determination
										exposed soils, resuspension and entrainment of sediment, oil, grease and fuel leaks from equipment	OM6, CSM2, CSM6, CSM7, SBRS7)		
Use of immobile industrial equipment							Х		Yes – (OM1, OM2)	Yes - oil, grease and fuel leaks	Yes – (OM6, CSM1, CSM2, CSM3, CSM4, CSM7, SBRS7)	No	Serious harm to fish is not anticipated. A DFO review is not
Use of industrial equipment								Х	See Use	of industrial equipment pathway			recommended
Use of herbicides								Х	Yes - (SBRS8)	No	N/A	No]
Alteration of riparian vegetation								Х	Yes – (SS2, SBRS1, SBRS2)	Yes – addition or removal of in stream organic structure, bank stability and exposed soils	Yes - (SBRS3, SBRS4, SBRS9, ESC1, SS3, TM7)	No	

Pathway for Tributary to Welland River (Site 63)	Changes in timing, duration, and frequency of flows	Placement of material or structures in water	Vastewater management	tructure removal	Excavation	Jse of industrial equipment	egetation clearing	Mitigation Measures Applied to Reduce First Tier Project Impacts	Remaining Second or Third Tier Impacts	Mitigation Measures Applied to Reduce Second/Third Tier Impacts	Remaining Residual Effects	Serious Harm Determination
Dewatering	Х	<u> </u>						Yes – (T2, T3, T4, T5, TM6, DP2, DP3)	No	N/A	No	
Bank erosion	Х							Yes – (T5, SS3, ESC1, SBRS1, SBRS2, SBRS4, SBRS5, SBRS6, OM2, OM3, OM4, TM5, I5, DP4)	No	N/A	No	
Scouring of channel beds	Х							Yes – (T4, SS3, SBRS2, SBRS5, OM4, TM3, TM5, I5, I6, DP1, DP4, SB4)	No	N/A	No	
Change in water temperature	Х							Yes – (SBRS1, SBRS3, SBRS4, SBRS9, DP3)	No	N/A	No	1
Change in contaminant concentrations	Х							Yes – (G4, T5, SS4, CSM1, CSM2, CSM3, CSM4, CSM5, CSM6, CSM7, CSM8, ESC1, SBRS4, SBRS7, OM5, OM6, I7, DP1, DP4, DP6)	No	N/A	No	
Change in nutrient concentrations	Х							Yes – (SBRS1, SBRS8, DP3, DP4)	No	N/A	No	
Partial constriction of flow (e.g., rip-rap, piers, piles, fill)		Х						Yes – (TM1)	Yes – change in channel morphology or shoreline morphometry	Yes – (SBRS5)	No	
Complete constriction of flow (e.g., dams)		Х						See Changes in timi	ng, duration, and frequency of flow	s pathway		
Thermal loading			Х					Yes – (I5, DP5)	No	N/A	No	
Nutrient loading			Х					Yes – (I5, DP5, SBRS8)	No	N/A	No	1
Input of contaminants			Х					Yes – (G4, T5, CSM1, CSM2, CSM3, CSM4, CSM5, CSM6, CSM7, CSM8, ESC1, SBRS4, SBRS7, I5, I7, OM1, OM5, OM6, DP1, DP4, DP6)	No	N/A	No	Serious harm to fish is not anticipated. A DFO review is not
Pathogen, disease, vectors, exotics			Х					Yes – (G3, G4, G6, OM1)	No	N/A	No	recommended
Change in flow regime				Х				See Changes in timi	ng, duration, and frequency of flow	s pathway		
Change in channel morphology or shoreline morphometry				Х				Yes – (T5, ESC1, OM2, OM3, OM4, DP1, DP2, DP3, DP4, DP5, DP6)	Yes - change in hydraulics, change in channel stability, change in substrate	Yes - (SS2, SS3, SBRS2, SBRS4, SBRS5, SBRS6, TM4, TM5)	No	
Resuspension and entrainment of sediment				Х				Yes - (ESC1, ESC2, SBRS2, SBRS4, TM1, TM2, TM3, I7, DP6)	No	N/A	No	
Alteration of groundwater flows to surface waters					Х			Yes - (DP3, DP5)	No	N/A	No	
Creation of pond, pit or trench					Х			Yes – (T4, T5, SS2, SS4)	Yes – dewatering of pit or trench, bank stability and exposed soils, change in slope or drainage	Yes - (ESC1, ESC2, SBRS4, SBRS5, SBRS6, DP1, DP4)	No	
Removal of top soil					Х			No	Yes – exposed soils, spoil material/stockpiles	Yes – (TM1, TM5, SBRS4, ESC1, ESC2, CSM8)	No	
Addition or removal of in stream organic structure					Х			Yes - (SBRS1, SBRS2, SBRS3, SBRS9, SS2)	No	N/A	No	_
Bank stability and exposed soils					Х			Yes - (SBRS1, SBRS2, SBRS4, SBRS9, ESC1, SS3)	No	N/A	No	_
Change in slope					х			Yes - (SBRS5, SBRS6, TM4, TM5, TM7)	No	N/A	No	

Pathway for Tributary to Welland River (Site 63) First Tier Project Impacts Use of mobile industrial equipment	Changes in timing, duration, and frequency of flows	Placement of material or structures in water	Wastewater management	Structure removal	Excavation	Grading	X Use of industrial equipment	Vegetation clearing	Mitigation Measures Applied to Reduce First Tier Project Impacts Yes – (OM1, OM2, SS1)	Remaining Second or Third Tier Impacts Yes – bank stability and exposed soils, resuspension and entrainment of sediment,	Mitigation Measures Applied to Reduce Second/Third Tier Impacts Yes – (OM3, OM4, OM6, CSM2, CSM6, CSM7, SBRS7)	Remaining Residual Effects No	Serious Harm Determination
										oil, grease and fuel leaks from equipment	CSIVI7, 3BI(37)		
Use of immobile industrial equipment							Х		Yes – (OM1, OM2)	Yes - oil, grease and fuel leaks	Yes – (OM6, CSM1, CSM2, CSM3, CSM4, CSM7, SBRS7)	No	Serious harm to fish is not anticipated. A DFO review is not
Use of industrial equipment								Х	See Use	of industrial equipment pathway			recommended
Use of herbicides								Х	Yes - (SBRS8)	No	N/A	No]
Alteration of riparian vegetation								Х	Yes – (SS2, SBRS1, SBRS2)	Yes – addition or removal of in stream organic structure, bank stability and exposed soils	Yes - (SBRS3, SBRS4, SBRS9, ESC1, SS3, TM7)	No	

Pathway for Tributary to Welland River (Site 64)	Changes in timing, duration, and requency of flows	Placement of material or structures in water	Vastewater management	structure removal	xcavation	rading	se of industrial equipment	egetation clearing	Mitigation Measures Applied to Reduce First Tier Project Impacts	Remaining Second or Third Tier Impacts	Mitigation Measures Applied to Reduce Second/Third Tier Impacts	Remaining Residual Effects	Serious Harm Determination
Dewatering	X X	_ ≥	<u> </u>	N.	ú	9	<u> </u>	>	Yes – (T2, T3, T4, T5, TM6, DP2, DP3)	No	N/A	No	Determination
Bank erosion	Х								Yes – (T5, SS3, ESC1, SBRS1, SBRS2, SBRS4, SBRS5, SBRS6, OM2, OM3, OM4, TM5, I5, DP4)	No	N/A	No	
Scouring of channel beds	Х								Yes – (T4, SS3, SBRS2, SBRS5, OM4, TM3, TM5, I5, I6, DP1, DP4, SB4)	No	N/A	No	
Change in water temperature	Х								Yes – (SBRS1, SBRS3, SBRS4, SBRS9, DP3)	No	N/A	No	
Change in contaminant concentrations	Х								Yes – (G4, T5, SS4, CSM1, CSM2, CSM3, CSM4, CSM5, CSM6, CSM7, CSM8, ESC1, SBRS4, SBRS7, OM5, OM6, I7, DP1, DP4, DP6)	No	N/A	No	
Change in nutrient concentrations	Х								Yes – (SBRS1, SBRS8, DP3, DP4)	No	N/A	No	
Partial constriction of flow (e.g., rip-rap, piers, piles, fill)		Х							Yes – (TM1)	Yes – change in channel morphology or shoreline morphometry	Yes – (SBRS5)	No	
Complete constriction of flow (e.g., dams)		Х							See Changes in tim	ing, duration, and frequency of flow	s pathway		1
Thermal loading			Х						Yes – (I5, DP5)	No	N/A	No	
Nutrient loading			Х						Yes – (I5, DP5, SBRS8)	No	N/A	No	1
Input of contaminants			Х						Yes – (G4, T5, CSM1, CSM2, CSM3, CSM4, CSM5, CSM6, CSM7, CSM8, ESC1, SBRS4, SBRS7, I5, I7, OM1, OM5, OM6, DP1, DP4, DP6)	No	N/A	No	Serious harm to fish is not anticipated. A DFO review is not
Pathogen, disease, vectors, exotics			Х						Yes – (G3, G4, G6, OM1)	No	N/A	No	recommended
Change in flow regime				Х					See Changes in tim	ing, duration, and frequency of flow	s pathway		
Change in channel morphology or shoreline morphometry				Х					Yes – (T5, ESC1, OM2, OM3, OM4, DP1, DP2, DP3, DP4, DP5, DP6)	Yes - change in hydraulics, change in channel stability, change in substrate	Yes - (SS2, SS3, SBRS2, SBRS4, SBRS5, SBRS6, TM4, TM5)	No	
Resuspension and entrainment of sediment				Х					Yes - (ESC1, ESC2, SBRS2, SBRS4, TM1, TM2, TM3, I7, DP6)	No	N/A	No	
Alteration of groundwater flows to surface waters					Х				Yes - (DP3, DP5)	No	N/A	No	
Creation of pond, pit or trench					Х				Yes – (T4, T5, SS2, SS4)	Yes – dewatering of pit or trench, bank stability and exposed soils, change in slope or drainage	Yes - (ESC1, ESC2, SBRS4, SBRS5, SBRS6, DP1, DP4)	No	
Removal of top soil					Х				No	Yes – exposed soils, spoil material/stockpiles	Yes – (TM1, TM5, SBRS4, ESC1, ESC2, CSM8)	No	
Addition or removal of in stream organic structure						Х			Yes - (SBRS1, SBRS2, SBRS3, SBRS9, SS2)	No	N/A	No	
Bank stability and exposed soils					_	Х			Yes - (SBRS1, SBRS2, SBRS4, SBRS9, ESC1, SS3)	No	N/A	No	
Change in slope						Х			Yes - (SBRS5, SBRS6, TM4, TM5, TM7)	No	N/A	No	

Pathway for Tributary to Welland River (Site 64)	Changes in timing, duration, and frequency of flows	Placement of material or structures in water	Wastewater management	Structure removal	Excavation	Grading	Use of industrial equipment	Vegetation clearing	Mitigation Measures Applied to Reduce First Tier Project Impacts	Remaining Second or Third Tier Impacts	Mitigation Measures Applied to Reduce Second/Third Tier Impacts	Remaining Residual Effects	Serious Harm Determination
Use of mobile industrial equipment							Х		Yes – (OM1, OM2, SS1)	Yes – bank stability and exposed soils, resuspension and entrainment of sediment, oil, grease and fuel leaks from equipment	Yes – (OM3, OM4, OM6, CSM2, CSM6, CSM7, SBRS7)	No	
Use of immobile industrial equipment							Х		Yes – (OM1, OM2)	Yes - oil, grease and fuel leaks	Yes – (OM6, CSM1, CSM2, CSM3, CSM4, CSM7, SBRS7)	No	Serious harm to fish is not anticipated. A DFO review is not
Use of industrial equipment								Х	See Use	of industrial equipment pathway			recommended
Use of herbicides								Х	Yes - (SBRS8)	No	N/A	No]
Alteration of riparian vegetation								Х	Yes – (SS2, SBRS1, SBRS2)	Yes – addition or removal of in stream organic structure, bank stability and exposed soils	Yes - (SBRS3, SBRS4, SBRS9, ESC1, SS3, TM7)	No	

Pathway for Tributary to Welland River (Site 65)	Changes in timing, duration, and requency of flows	Placement of material or structures in water	Vastewater management	structure removal	xcavation	rading	se of industrial equipment	egetation clearing	Mitigation Measures Applied to Reduce First Tier Project Impacts	Remaining Second or Third Tier Impacts	Mitigation Measures Applied to Reduce Second/Third Tier Impacts	Remaining Residual Effects	Serious Harm Determination
Dewatering	X X	_ ₹	<u> </u>	Ň	ú	9	<u> </u>	>	Yes – (T2, T3, T4, T5, TM6, DP2, DP3)	No	N/A	No	Determination
Bank erosion	Х								Yes – (T5, SS3, ESC1, SBRS1, SBRS2, SBRS4, SBRS5, SBRS6, OM2, OM3, OM4, TM5, I5, DP4)	No	N/A	No	
Scouring of channel beds	Х								Yes – (T4, SS3, SBRS2, SBRS5, OM4, TM3, TM5, I5, I6, DP1, DP4, SB4)	No	N/A	No	
Change in water temperature	Х								Yes – (SBRS1, SBRS3, SBRS4, SBRS9, DP3)	No	N/A	No	
Change in contaminant concentrations	Х								Yes – (G4, T5, SS4, CSM1, CSM2, CSM3, CSM4, CSM5, CSM6, CSM7, CSM8, ESC1, SBRS4, SBRS7, OM5, OM6, I7, DP1, DP4, DP6)	No	N/A	No	
Change in nutrient concentrations	Х								Yes – (SBRS1, SBRS8, DP3, DP4)	No	N/A	No	
Partial constriction of flow (e.g., rip-rap, piers, piles, fill)		Х							Yes – (TM1)	Yes – change in channel morphology or shoreline morphometry	Yes – (SBRS5)	No	
Complete constriction of flow (e.g., dams)		Х							See Changes in tim	ing, duration, and frequency of flow	s pathway		
Thermal loading			Х						Yes – (I5, DP5)	No	N/A	No	
Nutrient loading			Х						Yes – (I5, DP5, SBRS8)	No	N/A	No	1
Input of contaminants			Х						Yes – (G4, T5, CSM1, CSM2, CSM3, CSM4, CSM5, CSM6, CSM7, CSM8, ESC1, SBRS4, SBRS7, I5, I7, OM1, OM5, OM6, DP1, DP4, DP6)	No	N/A	No	Serious harm to fish is not anticipated. A DFO review is not
Pathogen, disease, vectors, exotics			Х						Yes – (G3, G4, G6, OM1)	No	N/A	No	recommended
Change in flow regime				Х					See Changes in tim	ing, duration, and frequency of flow	s pathway		
Change in channel morphology or shoreline morphometry				х					Yes – (T5, ESC1, OM2, OM3, OM4, DP1, DP2, DP3, DP4, DP5, DP6)	Yes - change in hydraulics, change in channel stability, change in substrate	Yes - (SS2, SS3, SBRS2, SBRS4, SBRS5, SBRS6, TM4, TM5)	No	
Resuspension and entrainment of sediment				Х					Yes - (ESC1, ESC2, SBRS2, SBRS4, TM1, TM2, TM3, I7, DP6)	No	N/A	No	
Alteration of groundwater flows to surface waters					Х				Yes - (DP3, DP5)	No	N/A	No	
Creation of pond, pit or trench					Х				Yes – (T4, T5, SS2, SS4)	Yes – dewatering of pit or trench, bank stability and exposed soils, change in slope or drainage	Yes - (ESC1, ESC2, SBRS4, SBRS5, SBRS6, DP1, DP4)	No	
Removal of top soil					Х				No	Yes – exposed soils, spoil material/stockpiles	Yes – (TM1, TM5, SBRS4, ESC1, ESC2, CSM8)	No	
Addition or removal of in stream organic structure						Х			Yes - (SBRS1, SBRS2, SBRS3, SBRS9, SS2)	No	N/A	No	
Bank stability and exposed soils					_	Х			Yes - (SBRS1, SBRS2, SBRS4, SBRS9, ESC1, SS3)	No	N/A	No	_
Change in slope						Х			Yes - (SBRS5, SBRS6, TM4, TM5, TM7)	No	N/A	No	

Pathway for Tributary to Welland River (Site 65) First Tier Project Impacts Use of mobile industrial equipment	Changes in timing, duration, and frequency of flows	Placement of material or structures in water	Wastewater management	Structure removal	Excavation	Grading	Use of industrial equipment	Vegetation clearing	Mitigation Measures Applied to Reduce First Tier Project Impacts Yes – (OM1, OM2, SS1)	Remaining Second or Third Tier Impacts Yes – bank stability and exposed soils, resuspension and entrainment of sediment, oil, grease and fuel leaks from equipment	Mitigation Measures Applied to Reduce Second/Third Tier Impacts Yes – (OM3, OM4, OM6, CSM2, CSM6, CSM7, SBRS7)	Remaining Residual Effects No	Serious Harm Determination
Use of immobile industrial equipment							Х		Yes – (OM1, OM2)	Yes - oil, grease and fuel leaks	Yes – (OM6, CSM1, CSM2, CSM3, CSM4, CSM7, SBRS7)	No	Serious harm to fish is not anticipated. A DFO review is not
Use of industrial equipment								Х	See Use	of industrial equipment pathway			recommended
Use of herbicides								Х	Yes - (SBRS8)	No	N/A	No	
Alteration of riparian vegetation								Х	Yes – (SS2, SBRS1, SBRS2)	Yes – addition or removal of in stream organic structure, bank stability and exposed soils	Yes - (SBRS3, SBRS4, SBRS9, ESC1, SS3, TM7)	No	

Pathway for Tributary to Welland River (Site 66)	Changes in timing, duration, and frequency of flows	Placement of material or structures in water	Nastewater management	tructure removal	Excavation	- C: 3-	egetation clearing	Mitigation Measures Applied to Reduce First Tier Project Impacts	Remaining Second or Third Tier Impacts	Mitigation Measures Applied to Reduce Second/Third Tier Impacts	Remaining Residual Effects	Serious Harm Determination
Dewatering	Х			0,		<u> </u>		Yes – (T2, T3, T4, T5, TM6, DP2, DP3)	No	N/A	No	
Bank erosion	Х							Yes – (T5, SS3, ESC1, SBRS1, SBRS2, SBRS4, SBRS5, SBRS6, OM2, OM3, OM4, TM5, I5, DP4)	No	N/A	No	
Scouring of channel beds	Х							Yes – (T4, SS3, SBRS2, SBRS5, OM4, TM3, TM5, I5, I6, DP1, DP4, SB4)	No	N/A	No	
Change in water temperature	Х							Yes – (SBRS1, SBRS3, SBRS4, SBRS9, DP3)	No	N/A	No	1
Change in contaminant concentrations	Х							Yes – (G4, T5, SS4, CSM1, CSM2, CSM3, CSM4, CSM5, CSM6, CSM7, CSM8, ESC1, SBRS4, SBRS7, OM5, OM6, I7, DP1, DP4, DP6)	No	N/A	No	
Change in nutrient concentrations	Х							Yes – (SBRS1, SBRS8, DP3, DP4)	No	N/A	No	
Partial constriction of flow (e.g., rip-rap, piers, piles, fill)		Х						Yes – (TM1)	Yes – change in channel morphology or shoreline morphometry	Yes – (SBRS5)	No	
Complete constriction of flow (e.g., dams)		Х						See Changes in timi	ng, duration, and frequency of flow	s pathway		
Thermal loading			Х					Yes – (I5, DP5)	No	N/A	No	
Nutrient loading			Х					Yes – (I5, DP5, SBRS8)	No	N/A	No	1
Input of contaminants			Х					Yes – (G4, T5, CSM1, CSM2, CSM3, CSM4, CSM5, CSM6, CSM7, CSM8, ESC1, SBRS4, SBRS7, I5, I7, OM1, OM5, OM6, DP1, DP4, DP6)	No	N/A	No	Serious harm to fish is not anticipated. A DFO review is not
Pathogen, disease, vectors, exotics			Х					Yes – (G3, G4, G6, OM1)	No	N/A	No	recommended
Change in flow regime				Х				See Changes in timi	ng, duration, and frequency of flow	rs pathway		1
Change in channel morphology or shoreline morphometry				Х				Yes – (T5, ESC1, OM2, OM3, OM4, DP1, DP2, DP3, DP4, DP5, DP6)	Yes - change in hydraulics, change in channel stability, change in substrate	Yes - (SS2, SS3, SBRS2, SBRS4, SBRS5, SBRS6, TM4, TM5)	No	
Resuspension and entrainment of sediment				Х				Yes - (ESC1, ESC2, SBRS2, SBRS4, TM1, TM2, TM3, I7, DP6)	No	N/A	No	
Alteration of groundwater flows to surface waters					Х			Yes - (DP3, DP5)	No	N/A	No	
Creation of pond, pit or trench					Х			Yes – (T4, T5, SS2, SS4)	Yes – dewatering of pit or trench, bank stability and exposed soils, change in slope or drainage	Yes - (ESC1, ESC2, SBRS4, SBRS5, SBRS6, DP1, DP4)	No	
Removal of top soil					Х			No	Yes – exposed soils, spoil material/stockpiles	Yes – (TM1, TM5, SBRS4, ESC1, ESC2, CSM8)	No	
Addition or removal of in stream organic structure					Х			Yes - (SBRS1, SBRS2, SBRS3, SBRS9, SS2)	No	N/A	No	_
Bank stability and exposed soils					Х			Yes - (SBRS1, SBRS2, SBRS4, SBRS9, ESC1, SS3)	No	N/A	No	_
Change in slope					Х			Yes - (SBRS5, SBRS6, TM4, TM5, TM7)	No	N/A	No	

Pathway for Tributary to Welland River (Site 66) First Tier Project Impacts Use of mobile industrial equipment	Changes in timing, duration, and frequency of flows	Placement of material or structures in water	Wastewater management	Structure removal	Excavation	Grading	X Use of industrial equipment	Vegetation clearing	Mitigation Measures Applied to Reduce First Tier Project Impacts Yes – (OM1, OM2, SS1)	Remaining Second or Third Tier Impacts Yes – bank stability and exposed soils, resuspension and entrainment of sediment,	Mitigation Measures Applied to Reduce Second/Third Tier Impacts Yes – (OM3, OM4, OM6, CSM2, CSM6, CSM7, SBRS7)	Remaining Residual Effects No	Serious Harm Determination
										oil, grease and fuel leaks from equipment	CSIVI7, SBNS7)		
Use of immobile industrial equipment							Х		Yes – (OM1, OM2)	Yes - oil, grease and fuel leaks	Yes – (OM6, CSM1, CSM2, CSM3, CSM4, CSM7, SBRS7)	No	Serious harm to fish is not anticipated. A DFO review is not
Use of industrial equipment								Х	See Use	of industrial equipment pathway			recommended
Use of herbicides								Х	Yes - (SBRS8)	No	N/A	No]
Alteration of riparian vegetation								Х	Yes – (SS2, SBRS1, SBRS2)	Yes – addition or removal of in stream organic structure, bank stability and exposed soils	Yes - (SBRS3, SBRS4, SBRS9, ESC1, SS3, TM7)	No	

APPENDIX E – DFO SELF-ASSESSMENT

Pathway for Tributary to Twenty Mile Creek (Site 67) First Tier Project Impacts	Changes in timing, duration, and frequency of flows	Placement of material or structures in water	Wastewater management	Structure removal	Excavation	Grading	Use of industrial equipment	Mitigation Measures Applied to Reduce First Tier Project Impacts	Remaining Second or Third Tier Impacts	Mitigation Measures Applied to Reduce Second/Third Tier Impacts	Remaining Residual Effects	Serious Harm Determination
Dewatering	Х							Yes – (T2, T3, T4, T5, TM6, DP2, DP3)	No	N/A	No	
Bank erosion	Х							Yes – (T5, SS3, ESC1, SBRS1, SBRS2, SBRS4, SBRS5, SBRS6, OM2, OM3, OM4, TM5, I5, DP4)	No	N/A	No	
Scouring of channel beds	Х							Yes – (T4, SS3, SBRS2, SBRS5, OM4, TM3, TM5, I5, I6, DP1, DP4, SB4)	No	N/A	No	
Change in water temperature	Х							Yes – (SBRS1, SBRS3, SBRS4, SBRS9, DP3)	No	N/A	No	
Change in contaminant concentrations	Х							Yes – (G4, T5, SS4, CSM1, CSM2, CSM3, CSM4, CSM5, CSM6, CSM7, CSM8, ESC1, SBRS4, SBRS7, OM5, OM6, I7, DP1, DP4, DP6)	No	N/A	No	
Change in nutrient concentrations	Х							Yes – (SBRS1, SBRS8, DP3, DP4)	No	N/A	No	
Partial constriction of flow (e.g., rip-rap, piers, piles, fill)		Х						Yes – (TM1)	Yes – change in channel morphology or shoreline morphometry	Yes – (SBRS5)	No	
Complete constriction of flow (e.g., dams)		Х						See Changes in tim	ing, duration, and frequency of flow	s pathway		
Thermal loading			Х					Yes – (I5, DP5)	No	N/A	No	
Nutrient loading			Х					Yes – (I5, DP5, SBRS8)	No	N/A	No	
Input of contaminants			Х					Yes – (G4, T5, CSM1, CSM2, CSM3, CSM4, CSM5, CSM6, CSM7, CSM8, ESC1, SBRS4, SBRS7, I5, I7, OM1, OM5, OM6, DP1, DP4, DP6)	No	N/A	No	Serious harm to fish is not anticipated. A DFO review is not
Pathogen, disease, vectors, exotics			Х					Yes – (G3, G4, G6, OM1)	No	N/A	No	recommended
Change in flow regime				Х				See Changes in tim	ing, duration, and frequency of flow	s pathway		1
Change in channel morphology or shoreline morphometry				Х				Yes – (T5, ESC1, OM2, OM3, OM4, DP1, DP2, DP3, DP4, DP5, DP6)	Yes - change in hydraulics, change in channel stability, change in substrate	Yes - (SS2, SS3, SBRS2, SBRS4, SBRS5, SBRS6, TM4, TM5)	No	
Resuspension and entrainment of sediment				Х				Yes - (ESC1, ESC2, SBRS2, SBRS4, TM1, TM2, TM3, I7, DP6)	No	N/A	No	
Alteration of groundwater flows to surface waters					Х			Yes - (DP3, DP5)	No	N/A	No	
Creation of pond, pit or trench					Х			Yes – (T4, T5, SS2, SS4)	Yes – dewatering of pit or trench, bank stability and exposed soils, change in slope or drainage	Yes - (ESC1, ESC2, SBRS4, SBRS5, SBRS6, DP1, DP4)	No	
Removal of top soil					Х			No	Yes – exposed soils, spoil material/stockpiles	Yes – (TM1, TM5, SBRS4, ESC1, ESC2, CSM8)	No	
Addition or removal of in stream organic structure						Х		Yes - (SBRS1, SBRS2, SBRS3, SBRS9, SS2)	No	N/A	No	
Bank stability and exposed soils						Х		Yes - (SBRS1, SBRS2, SBRS4, SBRS9, ESC1, SS3)	No	N/A	No	
Change in slope						Х		Yes - (SBRS5, SBRS6, TM4, TM5, TM7)	No	N/A	No	

Pathway for Tributary to Twenty Mile Creek (Site 67) First Tier Project Impacts	and	Placement of material or structures in water	Wastewater management	Structure removal	Excavation	Grading	Use of industrial equipment	Vegetation clearing	Mitigation Measures Applied to Reduce First Tier Project Impacts	Remaining Second or Third Tier Impacts	Mitigation Measures Applied to Reduce Second/Third Tier Impacts	Remaining Residual Effects	Serious Harm Determination
Use of mobile industrial equipment					_		X		Yes – (OM1, OM2, SS1)	Yes – bank stability and exposed soils, resuspension and entrainment of sediment, oil, grease and fuel leaks from equipment	Yes – (OM3, OM4, OM6, CSM2, CSM6, CSM7, SBRS7)	No	
Use of immobile industrial equipment							Х		Yes – (OM1, OM2)	Yes - oil, grease and fuel leaks	Yes – (OM6, CSM1, CSM2, CSM3, CSM4, CSM7, SBRS7)	No	Serious harm to fish is not anticipated. A DFO review is not
Use of industrial equipment								Х	See Use	of industrial equipment pathway			recommended
Use of herbicides								Х	Yes - (SBRS8)	No	N/A	No]
Alteration of riparian vegetation								Х	Yes – (SS2, SBRS1, SBRS2)	Yes – addition or removal of in stream organic structure, bank stability and exposed soils	Yes - (SBRS3, SBRS4, SBRS9, ESC1, SS3, TM7)	No	

Pathway for Tributary to Twenty Mile Creek (Site 68)	Changes in timing, duration, and requency of flows	Placement of material or structures n water	Nastewater management	tructure removal	xcavation	orading	Jse of industrial equipment	egetation clearing	Mitigation Measures Applied to Reduce First Tier Project Impacts	Remaining Second or Third Tier Impacts	Mitigation Measures Applied to Reduce Second/Third Tier Impacts	Remaining Residual Effects	Serious Harm Determination
Dewatering	X	<u></u>		- S	ш				Yes – (T2, T3, T4, T5, TM6, DP2, DP3)	No	N/A	No	
Bank erosion	Х								Yes – (T5, SS3, ESC1, SBRS1, SBRS2, SBRS4, SBRS5, SBRS6, OM2, OM3, OM4, TM5, I5, DP4)	No	N/A	No	
Scouring of channel beds	Х								Yes – (T4, SS3, SBRS2, SBRS5, OM4, TM3, TM5, I5, I6, DP1, DP4, SB4)	No	N/A	No	
Change in water temperature	Х								Yes – (SBRS1, SBRS3, SBRS4, SBRS9, DP3)	No	N/A	No	
Change in contaminant concentrations	х								Yes – (G4, T5, SS4, CSM1, CSM2, CSM3, CSM4, CSM5, CSM6, CSM7, CSM8, ESC1, SBRS4, SBRS7, OM5, OM6, I7, DP1, DP4, DP6)	No	N/A	No	
Change in nutrient concentrations	Х								Yes – (SBRS1, SBRS8, DP3, DP4)	No	N/A	No	1
Partial constriction of flow (e.g., rip-rap, piers, piles, fill)		Х							Yes – (TM1)	Yes – change in channel morphology or shoreline morphometry	Yes – (SBRSS)	No	
Complete constriction of flow (e.g., dams)		Х							See Changes in tim	ing, duration, and frequency of flow	vs pathway]
Thermal loading			Х						Yes – (I5, DP5)	No	N/A	No	
Nutrient loading			Х						Yes – (I5, DP5, SBRS8)	No	N/A	No	
Input of contaminants			Х						Yes – (G4, T5, CSM1, CSM2, CSM3, CSM4, CSM5, CSM6, CSM7, CSM8, ESC1, SBRS4, SBRS7, I5, I7, OM1, OM5, OM6, DP1, DP4, DP6)	No	N/A	No	Serious harm to fish is not anticipated. A DFO review is not
Pathogen, disease, vectors, exotics			Х						Yes – (G3, G4, G6, OM1)	No	N/A	No	recommended
Change in flow regime				Х					See Changes in tim	ing, duration, and frequency of flov	vs pathway		
Change in channel morphology or shoreline morphometry				Х					Yes – (T5, ESC1, OM2, OM3, OM4, DP1, DP2, DP3, DP4, DP5, DP6)	Yes - change in hydraulics, change in channel stability, change in substrate	Yes - (SS2, SS3, SBRS2, SBRS4, SBRS5, SBRS6, TM4, TM5)	No	
Resuspension and entrainment of sediment				Х					Yes - (ESC1, ESC2, SBRS2, SBRS4, TM1, TM2, TM3, I7, DP6)	No	N/A	No	
Alteration of groundwater flows to surface waters					Х				Yes - (DP3, DP5)	No	N/A	No]
Creation of pond, pit or trench					х				Yes – (T4, T5, SS2, SS4)	Yes – dewatering of pit or trench, bank stability and exposed soils, change in slope or drainage	Yes - (ESC1, ESC2, SBRS4, SBRS5, SBRS6, DP1, DP4)	No	
Removal of top soil					Х				No	Yes – exposed soils, spoil material/stockpiles	Yes – (TM1, TM5, SBRS4, ESC1, ESC2, CSM8)	No	
Addition or removal of in stream organic structure						Х			Yes - (SBRS1, SBRS2, SBRS3, SBRS9, SS2)	No	N/A	No	
Bank stability and exposed soils						Х			Yes - (SBRS1, SBRS2, SBRS4, SBRS9, ESC1, SS3)	No	N/A	No	
Change in slope						Х			Yes - (SBRS5, SBRS6, TM4, TM5, TM7)	No	N/A	No	

Pathway for Tributary to Twenty Mile Creek (Site 68) First Tier Project Impacts	and	Placement of material or structures in water	Wastewater management	Structure removal	Excavation	Grading	Use of industrial equipment	Vegetation clearing	Mitigation Measures Applied to Reduce First Tier Project Impacts	Remaining Second or Third Tier Impacts	Mitigation Measures Applied to Reduce Second/Third Tier Impacts	Remaining Residual Effects	Serious Harm Determination
Use of mobile industrial equipment							Х		Yes – (OM1, OM2, SS1)	Yes – bank stability and exposed soils, resuspension and entrainment of sediment, oil, grease and fuel leaks from equipment	Yes – (OM3, OM4, OM6, CSM2, CSM6, CSM7, SBRS7)	No	
Use of immobile industrial equipment							Х		Yes – (OM1, OM2)	Yes - oil, grease and fuel leaks	Yes – (OM6, CSM1, CSM2, CSM3, CSM4, CSM7, SBRS7)	No	Serious harm to fish is not anticipated. A DFO review is not
Use of industrial equipment								Х	See Use	of industrial equipment pathway			recommended.
Use of herbicides								Х	Yes - (SBRS8)	No	N/A	No	
Alteration of riparian vegetation								Х	Yes – (SS2, SBRS1, SBRS2)	Yes – addition or removal of in stream organic structure, bank stability and exposed soils	Yes - (SBRS3, SBRS4, SBRS9, ESC1, SS3, TM7)	No	

Pathway for Tributary to Twenty Mile Creek (Site 69)	aquatic	on, and		structures	ı,		of bridges					
First Tier Project Impacts	Addition or removal of a	Changes in timing, duration, frequency of flows	Fish passage issues	Placement of material or in water	Wastewater management	Structure removal	S S		Remaining Second or Third Tier Impacts	Mitigation Measures Applied to Reduce Second/Third Tier Impacts	Remaining Residual Effects	Serious Harm Determination
Dewatering	Х							Yes – (T2, T3, T4, T5, TM6, DP2, DP3)	No	N/A	No	
Bank erosion	Х							Yes – (T5, SS3, ESC1, SBRS1, SBRS2, SBRS4, SBRS5, SBRS6, OM2, OM3, OM4, TM5, I5, DP4)	No	N/A	No	
Scouring of channel beds	Х							Yes – (T4, SS3, SBRS2, SBRS5, OM4, TM3, TM5, I5, I6, DP1, DP4, SB4)	No	N/A	No	
Change in water temperature	Х							Yes – (SBRS1, SBRS3, SBRS4, SBRS9, DP3)	No	N/A	No	
Change in contaminant concentrations	Х							Yes – (G4, T5, SS4, CSM1, CSM2, CSM3, CSM4, CSM5, CSM6, CSM7, CSM8, ESC1, SBRS4, SBRS7, OM5, OM6, I7, DP1, DP4, DP6)	No	N/A	No	
Change in nutrient concentrations	Х							Yes – (SBRS1, SBRS8, DP3, DP4)	No	N/A	No	
Partial constriction of flow (e.g., rip-rap, piers, piles, fill)		Х						Yes – (TM1)	Yes – change in channel morphology or shoreline morphometry	Yes – (SBRS5)	No	
Complete constriction of flow (e.g., dams)		Х						See Changes in timi	ng, duration, and frequency of flow	vs pathway		
Thermal loading			Х					Yes – (I5, DP5)	No	N/A	No	
Nutrient loading			Х					Yes – (I5, DP5, SBRS8)	No	N/A	No	_
Input of contaminants			Х					Yes – (G4, T5, CSM1, CSM2, CSM3, CSM4, CSM5, CSM6, CSM7, CSM8, ESC1, SBRS4, SBRS7, I5, I7, OM1, OM5, OM6, DP1, DP4, DP6)	No	N/A	No	Serious harm to fish is not anticipated. A DFO review is not
Pathogen, disease, vectors, exotics			Х					Yes – (G3, G4, G6, OM1)	No	N/A	No	recommended
Change in flow regime				Х				See Changes in timi	ng, duration, and frequency of flow	vs pathway		1
Change in channel morphology or shoreline morphometry				Х				Yes – (T5, ESC1, OM2, OM3, OM4, DP1, DP2, DP3, DP4, DP5, DP6)	Yes - change in hydraulics, change in channel stability, change in substrate	Yes - (SS2, SS3, SBRS2, SBRS4, SBRS5, SBRS6, TM4, TM5)	No	-
Resuspension and entrainment of sediment				Х				Yes - (ESC1, ESC2, SBRS2, SBRS4, TM1, TM2, TM3, I7, DP6)	No	N/A	No	
Alteration of groundwater flows to surface waters					Х			Yes - (DP3, DP5)	No	N/A	No	
Creation of pond, pit or trench					Х			Yes – (T4, T5, SS2, SS4)	Yes – dewatering of pit or trench, bank stability and exposed soils, change in slope or drainage	Yes - (ESC1, ESC2, SBRS4, SBRS5, SBRS6, DP1, DP4)	No	
Removal of top soil					Х			No	Yes – exposed soils, spoil material/stockpiles	Yes – (TM1, TM5, SBRS4, ESC1, ESC2, CSM8)	No	
Addition or removal of in stream organic structure					Х			Yes - (SBRS1, SBRS2, SBRS3, SBRS9, SS2)	No	N/A	No	
Bank stability and exposed soils					Х			Yes - (SBRS1, SBRS2, SBRS4, SBRS9, ESC1, SS3)	No	N/A	No	
Change in slope				Ţ	Х			Yes - (SBRS5, SBRS6, TM4, TM5, TM7)	No	N/A	No	

Pathway for Tributary to Twenty Mile Creek (Site 69)	. <u>:</u>	Changes in timing, duration, and frequency of flows	Fish passage issues	Placement of material or structures in water	Wastewater management	Water extraction	Structure removal	Cleaning or maintenance of bridges or other structure	Mitigation Measures Applied to Reduce First Tier Project Impacts	Remaining Second or Third Tier Impacts	Mitigation Measures Applied to Reduce Second/Third Tier Impacts	Remaining Residual Effects	Serious Harm Determination
Use of mobile industrial equipment							Х		Yes – (OM1, OM2, SS1)	Yes – bank stability and exposed soils, resuspension and entrainment of sediment, oil, grease and fuel leaks from equipment	Yes – (OM3, OM4, OM6, CSM2, CSM6, CSM7, SBRS7)	No	
Use of immobile industrial equipment							Х		Yes – (OM1, OM2)	Yes - oil, grease and fuel leaks	Yes – (OM6, CSM1, CSM2, CSM3, CSM4, CSM7, SBRS7)	No	Serious harm to fish is not anticipated. A DFO review is not
Use of industrial equipment								Х	See Use	of industrial equipment pathway			recommended.
Use of herbicides								Х	Yes - (SBRS8)	No	N/A	No	
Alteration of riparian vegetation								Х	Yes – (SS2, SBRS1, SBRS2)	Yes – addition or removal of in stream organic structure, bank stability and exposed soils	Yes - (SBRS3, SBRS4, SBRS9, ESC1, SS3, TM7)	No	

Pathway for Sheffield-Rockton wetland complex First Tier Project Impacts	Jastewater management	kcavation	Grading	se of industrial equipment	egetation clearing	Mitigation Measures Applied to Reduce First Tier Project Impacts	Remaining Second or Third Tier Impacts	Mitigation Measures Applied to Reduce Second/Third Tier Impacts	Remaining Residual Effects	Serious Harm Determination
Thermal loading	X	ü	G		>	Yes – (TL3, TL4, TL5, TL6)	No	N/A	No No	Determination
Nutrient loading	Х					Yes – (TL3, TL4, TL5, TL6)	No	N/A	No	
Input of contaminants	Х					Yes – (CSM1, CSM2, CSM4, CSM5, CSM7, CSM8, ESC1, ESC2, TL3, TL5, TL6)	No	N/A	No	
Pathogen, disease, vectors, exotics	Х					Yes – (G3, G4, G6, OM1)	No	N/A	No	
Alteration of groundwater flows to surface waters		Х				Yes - (TL1, TL2, TL5)	No	N/A	No	
Creation of pond, pit or trench		Х				Yes – (TL1, TL2)	Yes –bank stability and exposed soils, change in slope or drainage	Yes - (TL5, TL6, ESC1, ESC2, SBRS4)	No	
Removal of top soil		Х				Yes – (TL1, TL5)	No	N/A	No	Serious harm to fish is
Addition or removal of in stream organic structure			Х			Yes – (TL1, TL5)	No	N/A	No	not anticipated. A DFO review is not
Bank stability and exposed soils			Х			Yes – (TL1, TL5)	No	N/A	No	recommended
Change in slope			Х			Yes – (TL1, TL5)	No	N/A	No	
Use of mobile industrial equipment				Х		Yes – (TL1, TL5, OM1, OM2, OM5, OM6, SS1, CSM7, SBRS7)	No	N/A	No	
Use of immobile industrial equipment				Х		Yes – (TL1, TL5, OM1, OM2, OM5, OM6, SS1, CSM7, SBRS7)	No	N/A	No	
Use of industrial equipment					Х	See Us	e of industrial equipment pathway			
Use of herbicides					Х	Yes - (SBRS8)	No	N/A	No	
Alteration of riparian vegetation					Х	Yes – (TL1, TL5, TL6)	No	N/A	No	