Appendix - Phase 1 Fish Passage Assessment Data and Photos

Location and Stream Data	•	**Crossing Characteristics**	**–**
Date	2024-09-07	Crossing Sub Type	Round Culvert
PSCIS ID	125180	Diameter (m)	2.4
External ID	–	Length (m)	16
Crew	LS AI	Embedded	Yes
UTM Zone	10	Depth Embedded (m)	0.2
Easting	569665	Resemble Channel	Yes
Northing	6053047	Backwatered	No
Stream	Tributary to Missinka River	Percent Backwatered	–
Road	Chuchinka-Missinka FSR	Fill Depth (m)	1
Road Tenure	Winton R01821 51A	Outlet Drop (m)	0
Channel Width (m)	4.1	Outlet Pool Depth (m)	0
Stream Slope (%)	4	Inlet Drop	Yes
Beaver Activity	No	Slope (%)	2
Habitat Value	Medium	Valley Fill	Deep Fill
Final score	19	Barrier Result	Potential
Fix type	Replace with New Open Bottom Structure	Fix Span / Diameter	15
Comments: Two pipes each at 1.2m in diameter, with one showing an inlet drop. Both pipes are embedded, except for 1 m at the inlet of one pipe, allowing them to function as embedded culverts, resulting in a low priority for replacement. The habitat is high quality, featuring deep pools and gravels. Rainbow trout ranging from 40-140 mm were captured during sampling.. 12:26:48			
Photos: PSCIS ID 125180. From top left clockwise: Road/Site Card, Barrel, Outlet, Downstream, Upstream, Inlet.			

Location and Stream Data	•	Crossing Characteristics	–

Location and Stream Data	•	Crossing Characteristics	–
Date	2024-09-07	Crossing Sub Type	Round Culvert
PSCIS ID	125186	Diameter (m)	2.4
External ID	–	Length (m)	18
Crew	LS AI	Embedded	No
UTM Zone	10	Depth Embedded (m)	–
Easting	565424	Resemble Channel	No
Northing	6052679	Backwatered	No
Stream	Tributary to Missinka River	Percent Backwatered	–
Road	Chuchinka-Missinka FSR	Fill Depth (m)	1.5
Road Tenure	Winton R01821 51A	Outlet Drop (m)	0.34
Channel Width (m)	2.8	Outlet Pool Depth (m)	0.85
Stream Slope (%)	5	Inlet Drop	No
Beaver Activity	No	Slope (%)	4
Habitat Value	Medium	Valley Fill	Deep Fill
Final score	36	Barrier Result	Barrier
Fix type	Replace with New Open Bottom Structure	Fix Span / Diameter	15
Comments: Two 1.2 m diameter pipes are present, with a significant outlet drop and a deep outlet pool. The habitat was good and consisted of cobbles, boulders, and woody debris, providing complexity and cover for fish.The stream flows into the inlet from the east but goes subsurface approximately 10 m upstream, with occasional small, shallow pools. The well-defined stream channel suggests it often carries higher flows. A wetland area to the east of the inlet likely contributes flow to the stream. An ~8 m wide area directly in front of the inlet was dry at the time of assessment but showed evidence of flowing water during higher flows.. 13:14:10			
Photos: PSCIS ID 125186. From top left clockwise: Road/Site Card, Barrel, Outlet, Downstream, Upstream, Inlet.			

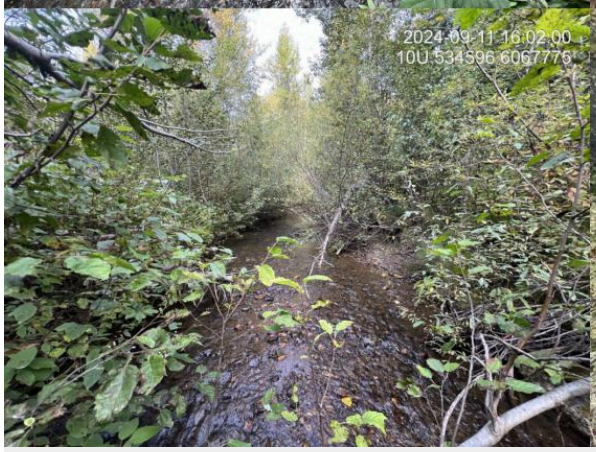
Location and Stream Data	•	Crossing Characteristics	–

Location and Stream Data	•	Crossing Characteristics	–
Date	2024-09-10	Crossing Sub Type	Bridge
PSCIS ID	125231	Diameter (m)	12.2
External ID	–	Length (m)	5
Crew	AI LS	Embedded	–
UTM Zone	10	Depth Embedded (m)	–
Easting	549973	Resemble Channel	–
Northing	6065136	Backwatered	–
Stream	Tributary to Table River	Percent Backwatered	–
Road	Chuchinka-Table FSR	Fill Depth (m)	–
Road Tenure	Canfor R09333 UZ6_16	Outlet Drop (m)	–
Channel Width (m)	–	Outlet Pool Depth (m)	–
Stream Slope (%)	–	Inlet Drop	–
Beaver Activity	No	Slope (%)	–
Habitat Value	–	Valley Fill	–
Final score	0	Barrier Result	Passable
Fix type	–	Fix Span / Diameter	–
Comments: Culvert replaced with Bridge by Canfor in the summer of 2024 with environmental oversight and engineering from DWB. Very nicely designed structure that fits the stream channel well. Minimal rock placement within areas likely to be within the natural channel with not constricting the channel. It is recommended that future projects incorporate vegetated riprap and reinstall the vegetation removed from the construction footprint within the same area.. 15:35:51			
Photos: PSCIS ID 125231. From top left clockwise: Road/Site Card, Barrel, Outlet, Downstream, Upstream, Inlet.			

Location and Stream Data	•	Crossing Characteristics	–

Location and Stream Data	•	Crossing Characteristics	–
Date	2024-09-11	Crossing Sub Type	Round Culvert
PSCIS ID	125261	Diameter (m)	2.15
External ID	–	Length (m)	12
Crew	AI	Embedded	No
UTM Zone	10	Depth Embedded (m)	–
Easting	534595	Resemble Channel	No
Northing	6067775	Backwatered	No
Stream	Fern Creek	Percent Backwatered	–
Road	Chuchinka-Table FSR	Fill Depth (m)	0.5
Road Tenure	MoF	Outlet Drop (m)	0.23
Channel Width (m)	5	Outlet Pool Depth (m)	0.15
Stream Slope (%)	1.5	Inlet Drop	No
Beaver Activity	Yes	Slope (%)	2
Habitat Value	High	Valley Fill	Deep Fill
Final score	26	Barrier Result	Barrier
Fix type	Replace with New Open Bottom Structure	Fix Span / Diameter	15
Comments: Reassessed as part of a baseline assessment before hopeful future replacement. Fish sampling was conducted in a 75-meter stretch downstream and a 50-meter stretch upstream of the culvert, and fish 60 mm or greater were tagged with PIT tags. There are baffles made of metal in the culvert and ¬æ of the pipe is embedded with streambed material. The outlet of the pipe sits on a large pile of rip rap creating a 30 cm cascade that occurs approximately a meter after the outlet of the pipe. There are two overflow pipes each at 0.9 m in diameter. . 15:58:48			
Photos: PSCIS ID 125261. From top left clockwise: Road/Site Card, Barrel, Outlet, Downstream, Upstream, Inlet.			

Location and Stream Data	•	Crossing Characteristics	–



Location and Stream Data	•	**Crossing Characteristics**	–
Date	2024-09-04	Crossing Sub Type	Round Culvert
PSCIS ID	199662	Diameter (m)	0.45
External ID	24755467	Length (m)	12
Crew	AI	Embedded	No
UTM Zone	10	Depth Embedded (m)	–
Easting	525498	Resemble Channel	No
Northing	6105456	Backwatered	No
Stream	Tributary to Colbourne Creek	Percent Backwatered	–
Road	Chuchinka-Colbourne FSR	Fill Depth (m)	1.8
Road Tenure	MoF	Outlet Drop (m)	0
Channel Width (m)	1	Outlet Pool Depth (m)	0.2
Stream Slope (%)	4	Inlet Drop	No
Beaver Activity	No	Slope (%)	4
Habitat Value	Low	Valley Fill	Deep Fill
Final score	26	Barrier Result	Barrier
Fix type	Replace Structure with Streambed Simulation CBS	Fix Span / Diameter	3
Comments: Small stream system with low habitat value. Limited flow volume and minimal channel structure, with sparse instream features such as large woody debris, pools, or gravels. Riparian vegetation consists of grasses, ferns, and small shrubs, providing minimal shading and bank stability. Slope estimated visually. . 16:12:04			
Photos: PSCIS ID 24755467. From top left clockwise: Road/Site Card, Barrel, Outlet, Downstream, Upstream, Inlet.			

Location and Stream Data	•	Crossing Characteristics	–

Location and Stream Data	•	Crossing Characteristics	–
Date	2024-09-04	Crossing Sub Type	Round Culvert
PSCIS ID	199663	Diameter (m)	1.2
External ID	16602610	Length (m)	13
Crew	AI LS	Embedded	No
UTM Zone	10	Depth Embedded (m)	–
Easting	515397	Resemble Channel	No
Northing	6094977	Backwatered	No
Stream	Tributary to Colbourne Creek	Percent Backwatered	–
Road	CHCO 11000 FSR	Fill Depth (m)	0.5
Road Tenure	BCTS	Outlet Drop (m)	0.6
Channel Width (m)	2.5	Outlet Pool Depth (m)	0.4
Stream Slope (%)	1	Inlet Drop	No
Beaver Activity	Yes	Slope (%)	3
Habitat Value	Medium	Valley Fill	Deep Fill
Final score	36	Barrier Result	Barrier
Fix type	Replace with New Open Bottom Structure	Fix Span / Diameter	15
Comments: The system has good flow and a significant outlet drop. Upstream substrate consists primarily of fine materials, likely indicating limited habitat complexity for fish.. 18:21:40			
Photos: PSCIS ID 16602610. From top left clockwise: Road/Site Card, Barrel, Outlet, Downstream, Upstream, Inlet.			

Location and Stream Data	•	Crossing Characteristics	–

Location and Stream Data	•	Crossing Characteristics	–
Date	2024-09-05	Crossing Sub Type	Round Culvert
PSCIS ID	199664	Diameter (m)	0.95
External ID	2201350	Length (m)	33
Crew	AI	Embedded	No
UTM Zone	10	Depth Embedded (m)	–
Easting	505221	Resemble Channel	No
Northing	6085999	Backwatered	Yes
Stream	Tributary to McLeod Lake	Percent Backwatered	30
Road	Unnamed	Fill Depth (m)	4.5
Road Tenure	Canfor R02916 Q	Outlet Drop (m)	0
Channel Width (m)	2.3	Outlet Pool Depth (m)	0.55
Stream Slope (%)	1	Inlet Drop	No
Beaver Activity	No	Slope (%)	10
Habitat Value	Medium	Valley Fill	Deep Fill
Final score	32	Barrier Result	Barrier
Fix type	Replace with New Open Bottom Structure	Fix Span / Diameter	19.5
Comments: A low-gradient, low-energy system with moderate flow. Fish were observed downstream near the highway crossing. The culvert was deteriorating and was poorly installed, causing significant upstream water backup. Medium value habitat due to dense riparian vegetation, including shrubs and ferns.NULL. 17:35:22			
Photos: PSCIS ID 2201350. From top left clockwise: Road/Site Card, Barrel, Outlet, Downstream, Upstream, Inlet.			

Location and Stream Data	•	Crossing Characteristics	–

Location and Stream Data	•	Crossing Characteristics	–
Date	2024-09-04	Crossing Sub Type	Bridge
PSCIS ID	199665	Diameter (m)	22.5
External ID	24755464	Length (m)	5
Crew	AI LS	Embedded	–
UTM Zone	10	Depth Embedded (m)	–
Easting	527121	Resemble Channel	–
Northing	6106753	Backwatered	–
Stream	Tributary to Colbourne Creek	Percent Backwatered	–
Road	Chuchinka-Colbourne FSR	Fill Depth (m)	–
Road Tenure	MoF	Outlet Drop (m)	–
Channel Width (m)	–	Outlet Pool Depth (m)	–
Stream Slope (%)	–	Inlet Drop	–
Beaver Activity	No	Slope (%)	–
Habitat Value	–	Valley Fill	–
Final score	0	Barrier Result	Passable
Fix type	–	Fix Span / Diameter	–
Comments: New bridge in 2024. Small cascades upstream.. 15:27:12			
Photos: PSCIS ID 24755464. From top left clockwise: Road/Site Card, Barrel, Outlet, Downstream, Upstream, Inlet.			

Location and Stream Data	•	Crossing Characteristics	–

Location and Stream Data	•	Crossing Characteristics	–
Date	2024-09-04	Crossing Sub Type	Bridge
PSCIS ID	199666	Diameter (m)	12
External ID	16604219	Length (m)	5
Crew	AI LS	Embedded	–
UTM Zone	10	Depth Embedded (m)	–
Easting	523853	Resemble Channel	–
Northing	6103364	Backwatered	–
Stream	Tributary to Colbourne Creek	Percent Backwatered	–
Road	Chuchinka-Colbourne FSR	Fill Depth (m)	–
Road Tenure	MoF	Outlet Drop (m)	–
Channel Width (m)	–	Outlet Pool Depth (m)	–
Stream Slope (%)	–	Inlet Drop	–
Beaver Activity	No	Slope (%)	–
Habitat Value	–	Valley Fill	–
Final score	0	Barrier Result	Passable
Fix type	–	Fix Span / Diameter	–
Comments: New bridge in 2024. . 17:17:22			
Photos: PSCIS ID 16604219. From top left clockwise: Road/Site Card, Barrel, Outlet, Downstream, Upstream, Inlet.			

Location and Stream Data	•	Crossing Characteristics	–

Location and Stream Data	•	Crossing Characteristics	–
Date	2024-09-04	Crossing Sub Type	Bridge
PSCIS ID	199667	Diameter (m)	12
External ID	16602775	Length (m)	5
Crew	AI LS	Embedded	–
UTM Zone	10	Depth Embedded (m)	–
Easting	523637	Resemble Channel	–
Northing	6102924	Backwatered	–
Stream	Tributary to Colbourne Creek	Percent Backwatered	–
Road	Chuchinka-Colbourne FSR	Fill Depth (m)	–
Road Tenure	MoF	Outlet Drop (m)	–
Channel Width (m)	–	Outlet Pool Depth (m)	–
Stream Slope (%)	–	Inlet Drop	–
Beaver Activity	No	Slope (%)	–
Habitat Value	–	Valley Fill	–
Final score	0	Barrier Result	Passable
Fix type	–	Fix Span / Diameter	–
Comments: New bridge in 2024. This is a large stream. . 17:30:20			
Photos: PSCIS ID 16602775. From top left clockwise: Road/Site Card, Barrel, Outlet, Downstream, Upstream, Inlet.			

Location and Stream Data	•	Crossing Characteristics	–

Location and Stream Data	•	Crossing Characteristics	–
Date	2024-09-04	Crossing Sub Type	Bridge
PSCIS ID	199668	Diameter (m)	12
External ID	16602771	Length (m)	5
Crew	AI LS	Embedded	–
UTM Zone	10	Depth Embedded (m)	–
Easting	518282	Resemble Channel	–
Northing	6096051	Backwatered	–
Stream	Tributary to Colbourne Creek	Percent Backwatered	–
Road	Chuchinka-Colbourne FSR	Fill Depth (m)	–
Road Tenure	MoF	Outlet Drop (m)	–
Channel Width (m)	–	Outlet Pool Depth (m)	–
Stream Slope (%)	–	Inlet Drop	–
Beaver Activity	No	Slope (%)	–
Habitat Value	–	Valley Fill	–
Final score	0	Barrier Result	Passable
Fix type	–	Fix Span / Diameter	–
Comments: A 3 m high beaver dam is located just upstream of the road, with a large wetland area upstream.. 18:03:41			
Photos: PSCIS ID 16602771. From top left clockwise: Road/Site Card, Barrel, Outlet, Downstream, Upstream, Inlet.			

Location and Stream Data	•	Crossing Characteristics	–

Location and Stream Data	•	Crossing Characteristics	–
Date	2024-09-04	Crossing Sub Type	Bridge
PSCIS ID	199669	Diameter (m)	9.2
External ID	24755465	Length (m)	4
Crew	LS AI	Embedded	–
UTM Zone	10	Depth Embedded (m)	–
Easting	526514	Resemble Channel	–
Northing	6106241	Backwatered	–
Stream	Tributary to Colbourne Creek	Percent Backwatered	–
Road	Chuchinka-Colbourne FSR	Fill Depth (m)	–
Road Tenure	BCTS	Outlet Drop (m)	–
Channel Width (m)	–	Outlet Pool Depth (m)	–
Stream Slope (%)	–	Inlet Drop	–
Beaver Activity	No	Slope (%)	–
Habitat Value	–	Valley Fill	–
Final score	0	Barrier Result	Passable
Fix type	–	Fix Span / Diameter	–
Comments: New bridge in 2024. . 15:52:56			
Photos: PSCIS ID 24755465. From top left clockwise: Road/Site Card, Barrel, Outlet, Downstream, Upstream, Inlet.			

Location and Stream Data	•	Crossing Characteristics	–

Location and Stream Data	•	Crossing Characteristics	–
Date	2024-09-04	Crossing Sub Type	Bridge
PSCIS ID	199670	Diameter (m)	12.2
External ID	24745509	Length (m)	5
Crew	LS AI	Embedded	–
UTM Zone	10	Depth Embedded (m)	–
Easting	524680	Resemble Channel	–
Northing	6104513	Backwatered	–
Stream	Tributary to Colbourne Creek	Percent Backwatered	–
Road	Chuchinka-Colbourne FSR	Fill Depth (m)	–
Road Tenure	MoF	Outlet Drop (m)	–
Channel Width (m)	–	Outlet Pool Depth (m)	–
Stream Slope (%)	–	Inlet Drop	–
Beaver Activity	No	Slope (%)	–
Habitat Value	–	Valley Fill	–
Final score	0	Barrier Result	Passable
Fix type	–	Fix Span / Diameter	–
Comments: New bridge in 2024. . 16:57:19			
Photos: PSCIS ID 24745509. From top left clockwise: Road/Site Card, Barrel, Outlet, Downstream, Upstream, Inlet.			

Location and Stream Data	•	Crossing Characteristics	–

Location and Stream Data	•	Crossing Characteristics	–
Date	2024-09-04	Crossing Sub Type	Bridge
PSCIS ID	199671	Diameter (m)	6.1
External ID	16601979	Length (m)	4
Crew	LS AI	Embedded	–
UTM Zone	10	Depth Embedded (m)	–
Easting	524391	Resemble Channel	–
Northing	6104000	Backwatered	–
Stream	Tributary to Colbourne Creek	Percent Backwatered	–
Road	Chuchinka-Colbourne FSR	Fill Depth (m)	–
Road Tenure	MoF	Outlet Drop (m)	–
Channel Width (m)	–	Outlet Pool Depth (m)	–
Stream Slope (%)	–	Inlet Drop	–
Beaver Activity	No	Slope (%)	–
Habitat Value	–	Valley Fill	–
Final score	0	Barrier Result	Passable
Fix type	–	Fix Span / Diameter	–
Comments: New bridge in 2024. . 17:07:54			
Photos: PSCIS ID 16601979. From top left clockwise: Road/Site Card, Barrel, Outlet, Downstream, Upstream, Inlet.			

Location and Stream Data	•	Crossing Characteristics	–

Location and Stream Data	•	Crossing Characteristics	–
Date	2024-09-04	Crossing Sub Type	Bridge
PSCIS ID	199672	Diameter (m)	10
External ID	24704177	Length (m)	5
Crew	LS AI	Embedded	–
UTM Zone	10	Depth Embedded (m)	–
Easting	520025	Resemble Channel	–
Northing	6097384	Backwatered	–
Stream	Tributary to Colbourne Creek	Percent Backwatered	–
Road	Chuchinka-Colbourne FSR	Fill Depth (m)	–
Road Tenure	MoF	Outlet Drop (m)	–
Channel Width (m)	–	Outlet Pool Depth (m)	–
Stream Slope (%)	–	Inlet Drop	–
Beaver Activity	No	Slope (%)	–
Habitat Value	–	Valley Fill	–
Final score	0	Barrier Result	Passable
Fix type	–	Fix Span / Diameter	–
Comments: Bridge. Stream was dry at time of assessment. . 17:50:42			
Photos: PSCIS ID 24704177. From top left clockwise: Road/Site Card, Barrel, Outlet, Downstream, Upstream, Inlet.			

Location and Stream Data	•	Crossing Characteristics	–