APPENDIX 6.

PREFERRED ROUTE TRANSMISSION LINE WATERCOURSE CROSSING ASSESSMENT BOOKLETS

Site 1 Unnamed Tributary of Goose Creek

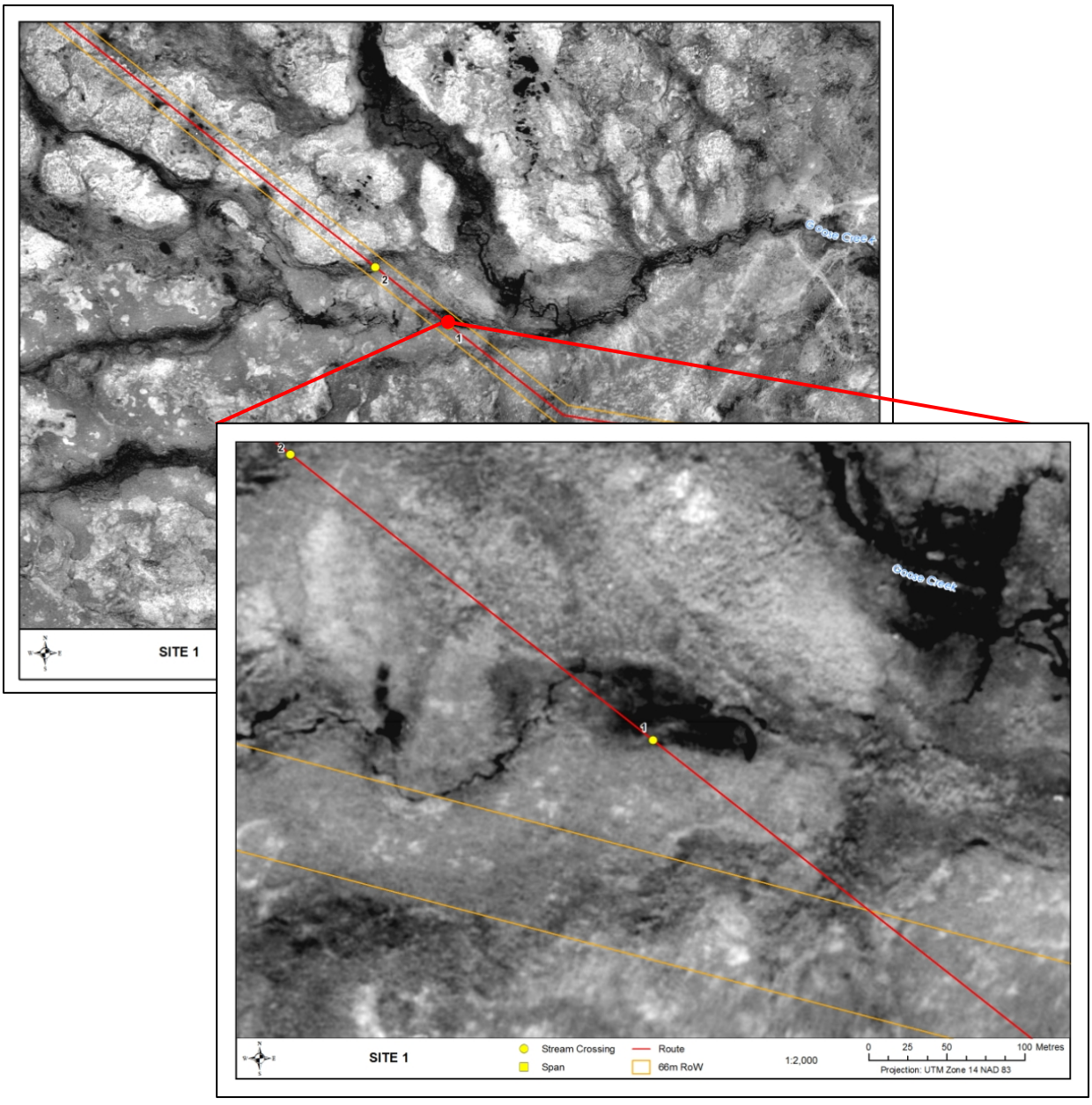
Location

Datum:	NAD 83	
UTM:	*Zone:*	14N
	Easting:	814094
	Northing:	6291412
Data Source:	DOI	

General Morphology

Stream/Lake:	Stream
Pattern:	SI
Confinement:	UN
Stage:	Moderate
Flow Regime:	Intermittent
Morphology:	-
U/S Drainage:	5.47 km^2

Distance to Receiving Water: Goose Creek 0.06 km



Site Conditions

+ Physical Data

Channel Profile

Channel and Flow

Wetted Width (m)	2
Channel Width (m)	-

Banks (%)

Right Bank Stability	-
Left Bank Stability	-

Riparian

Floodplain Distance (m)

Right Bank	158
Left Bank	123

Riparian Distance (m)

Right Bank	177
Left Bank	153

Riparian Vegetation Type (Y/N)

None	-
Grasses/sedges	Y
Shrubs	Y
Conifers	-
Deciduous	-
Mixed Forest	-

Canopy Cover (%) 0

Substrate

Substrate Type (%)

Fines	-
Small Gravel	-
Large Gravel	-
Cobble	-
Boulder	-

Cover Types

Total Cover Available (%)	-
Cover Composition (% of Total)	-
Large Woody Debris	-
Overhanging Vegetation	-
Instream Vegetation	-
Pool	-
Boulder	-
Undercut Bank	-
Surface Turbulence	-
Turbidity	-

Habitat Type

Habitat Composition

Pool	-
Run	-
Flat	-
Riffle	-
Rapid	-

Fish Habitat Classification and Sensitivity

+ Fish Habitat

Fish Habitat Present Yes
DFO Manitoba Agricultural Watershed Classification: -
Fish Habitat Classification: Marginal

Fish Presence: N/A

Comments:
The RoW crosses this unnamed tributary of Goose Creek within headwater bog habitat. Forage fish may occur at this site, but indicator fish are unlikely. The tributary has low to no overwintering potential.

+ Habitat Sensitivity

Sensitivity Rating: Moderate
Comments:
Marginal fish habitat and soft floodplain result in a moderate sensitivity rating.

Site 2 Unnamed Tributary of Goose Creek

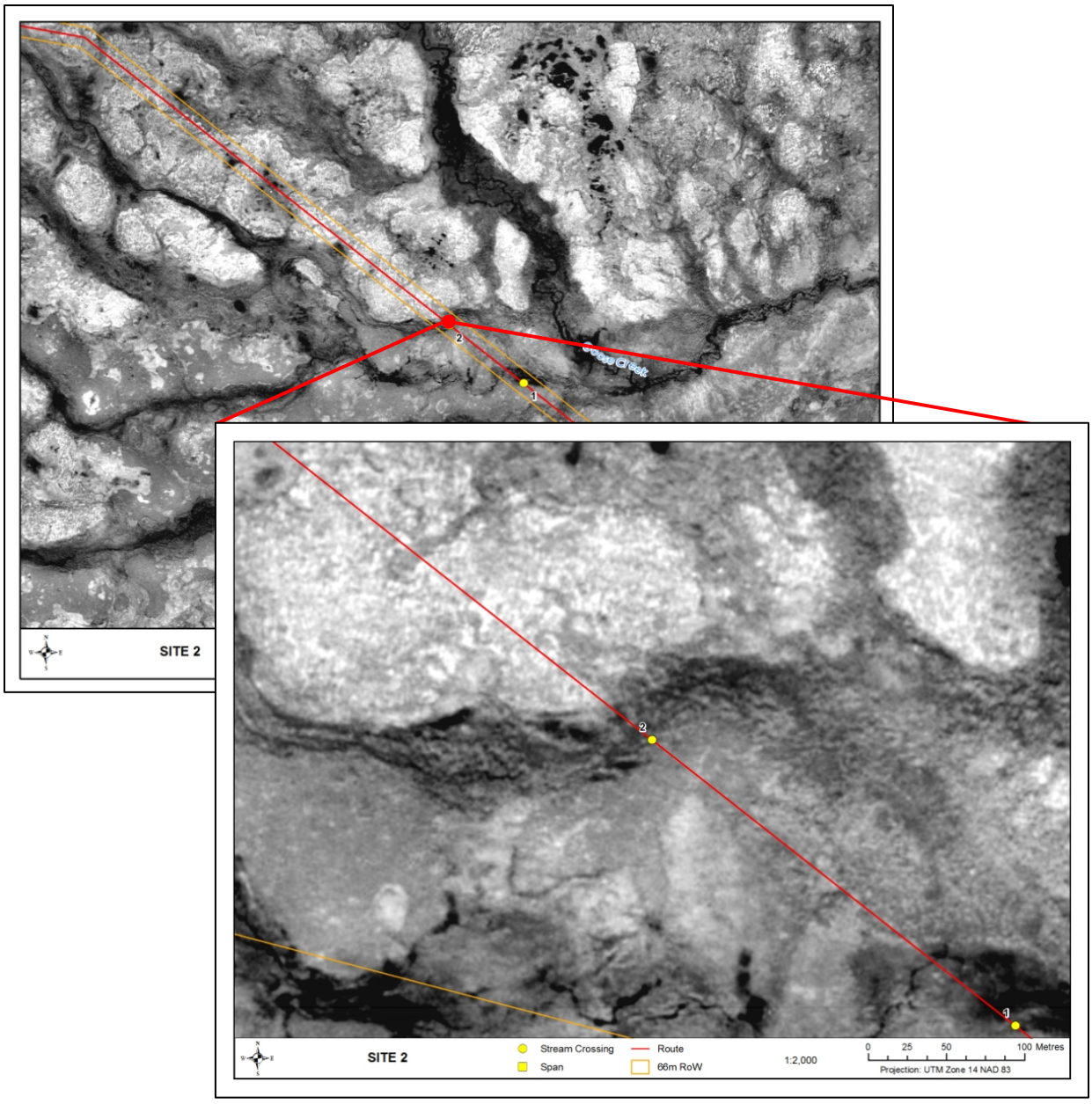
Location

Datum:	NAD 83	
UTM:	*Zone:*	14N
	Easting:	813861
	Northing:	6291596
Data Source:	DOI	

General Morphology

Stream/Lake:	Stream
Pattern:	SI
Confinement:	UN
Stage:	Moderate
Flow Regime:	Intermittent
Morphology:	-
U/S Drainage:	2.36 km^2

Distance to Receiving Water: Goose Creek 0.3 km



Site Conditions

+ Physical Data

Channel Profile

Channel and Flow

Wetted Width (m)	-
Channel Width (m)	-

Banks (%)

Right Bank Stability	-
Left Bank Stability	-

Riparian

Floodplain Distance (m)

Right Bank	0
Left Bank	287

Riparian Distance (m)

Right Bank	33
Left Bank	337

Riparian Vegetation Type (Y/N)

None	-
Grasses/sedges	Y
Shrubs	Y
Conifers	-
Deciduous	-
Mixed Forest	-

Canopy Cover (%) 0

Substrate

Substrate Type (%)

Fines	-
Small Gravel	-
Large Gravel	-
Cobble	-
Boulder	-

Cover Types

Total Cover Available (%)	-
Cover Composition (% of Total)	-
Large Woody Debris	-
Overhanging Vegetation	-
Instream Vegetation	-
Pool	-
Boulder	-
Undercut Bank	-
Surface Turbulence	-
Turbidity	-

Habitat Type

Habitat Composition

Pool	-
Run	-
Flat	-
Riffle	-
Rapid	-

Fish Habitat Classification and Sensitivity

+ Fish Habitat

Fish Habitat Present Yes
DFO Manitoba Agricultural Watershed Classification: -
Fish Habitat Classification: Marginal

Fish Presence: N/A

Comments:
The RoW crosses this unnamed tributary of Goose Creek within headwater bog habitat. Forage fish may occur at this site, but indicator fish are unlikely. The tributary has low to no overwintering potential.

+ Habitat Sensitivity

Sensitivity Rating: Moderate
Comments:
Marginal fish habitat and soft floodplain result in a moderate sensitivity rating.

Site 3

Unnamed Tributary of Goose Creek

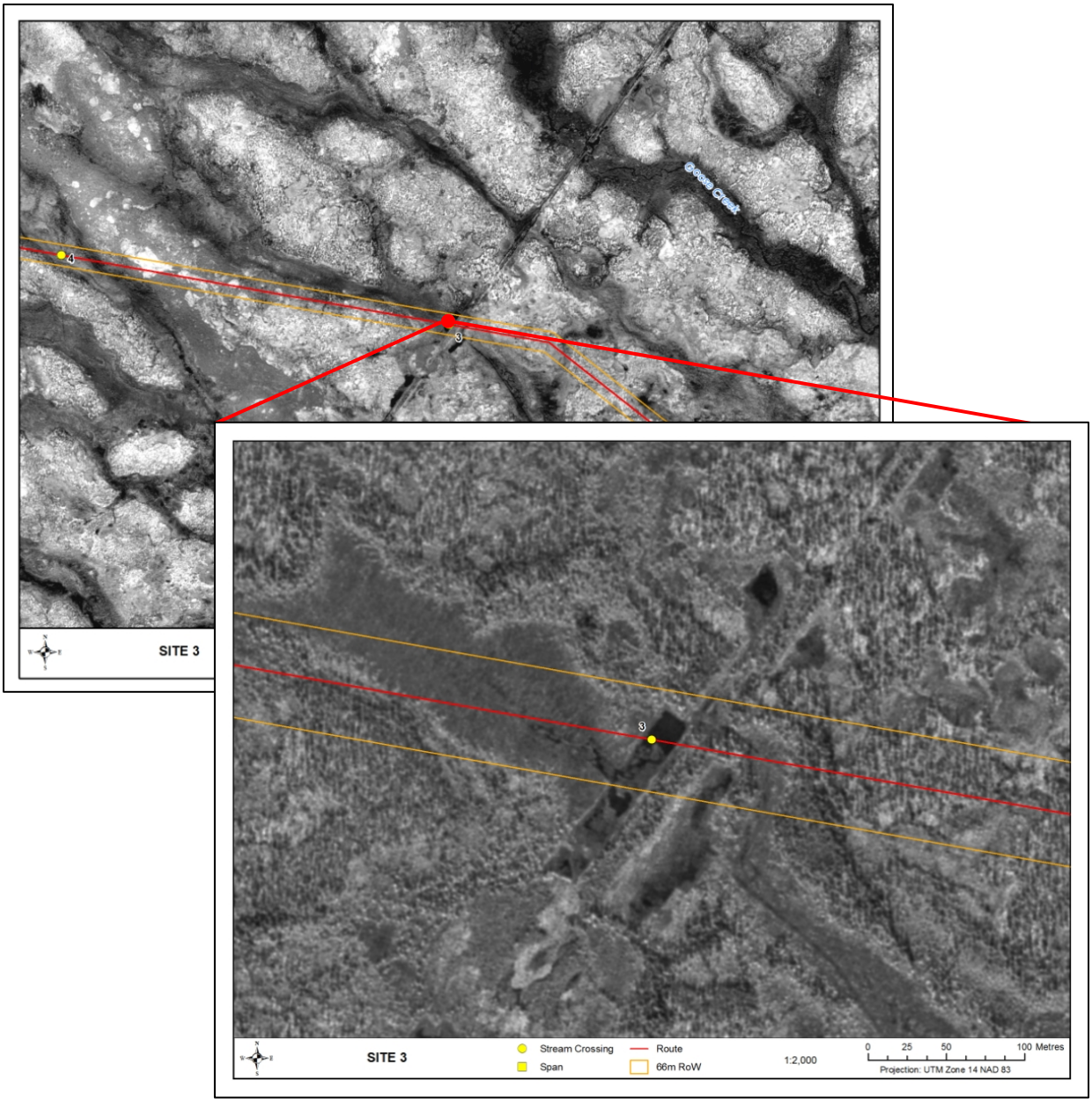
Location

Datum:	NAD 83	
UTM:	*Zone:*	14N
	Easting:	812398
	Northing:	6292558
Data Source:	DOI	

General Morphology

Stream/Lake:	Stream
Pattern:	SI
Confinement:	UN
Stage:	Moderate
Flow Regime:	Ephemeral
Morphology:	-
U/S Drainage:	1.68 km^2

Distance to Receiving Water: Goose Creek 2.19 km



Site Conditions

+ Physical Data

Channel Profile

Channel and Flow

Wetted Width (m)	-
Channel Width (m)	-

Banks (%)

Right Bank Stability	-
Left Bank Stability	-

Riparian

Floodplain Distance (m)

Right Bank	59 (total)
Left Bank	-

Riparian Distance (m)

Right Bank	102 (total)
Left Bank	-

Riparian Vegetation Type (Y/N)

None	-
Grasses/sedges	Y
Shrubs	Y
Conifers	-
Deciduous	-
Mixed Forest	-

Canopy Cover (%) 0

Substrate

Substrate Type (%)

Fines	-
Small Gravel	-
Large Gravel	-
Cobble	-
Boulder	-

Cover Types

Total Cover Available (%)	-
Cover Composition (% of Total)	-
Large Woody Debris	-
Overhanging Vegetation	-
Instream Vegetation	-
Pool	-
Boulder	-
Undercut Bank	-
Surface Turbulence	-
Turbidity	-

Habitat Type

Habitat Composition

Pool	-
Run	-
Flat	-
Riffle	-
Rapid	-

Fish Habitat Classification and Sensitivity

+ Fish Habitat

Fish Habitat Present Yes
DFO Manitoba Agricultural Watershed Classification: -
Fish Habitat Classification: Marginal

Fish Presence: N/A

Comments:
The RoW crosses this unnamed tributary of Goose Creek within headwater bog habitat. Forage fish may occur at this site, but indicator fish are unlikely, and the tributary has low to no overwintering potential. There is an existing cut-line at the site.

+ Habitat Sensitivity

Sensitivity Rating: Moderate
Comments:
Marginal fish habitat and soft floodplain result in a moderate sensitivity rating.

Site 4 Unnamed Tributary of Goose Creek

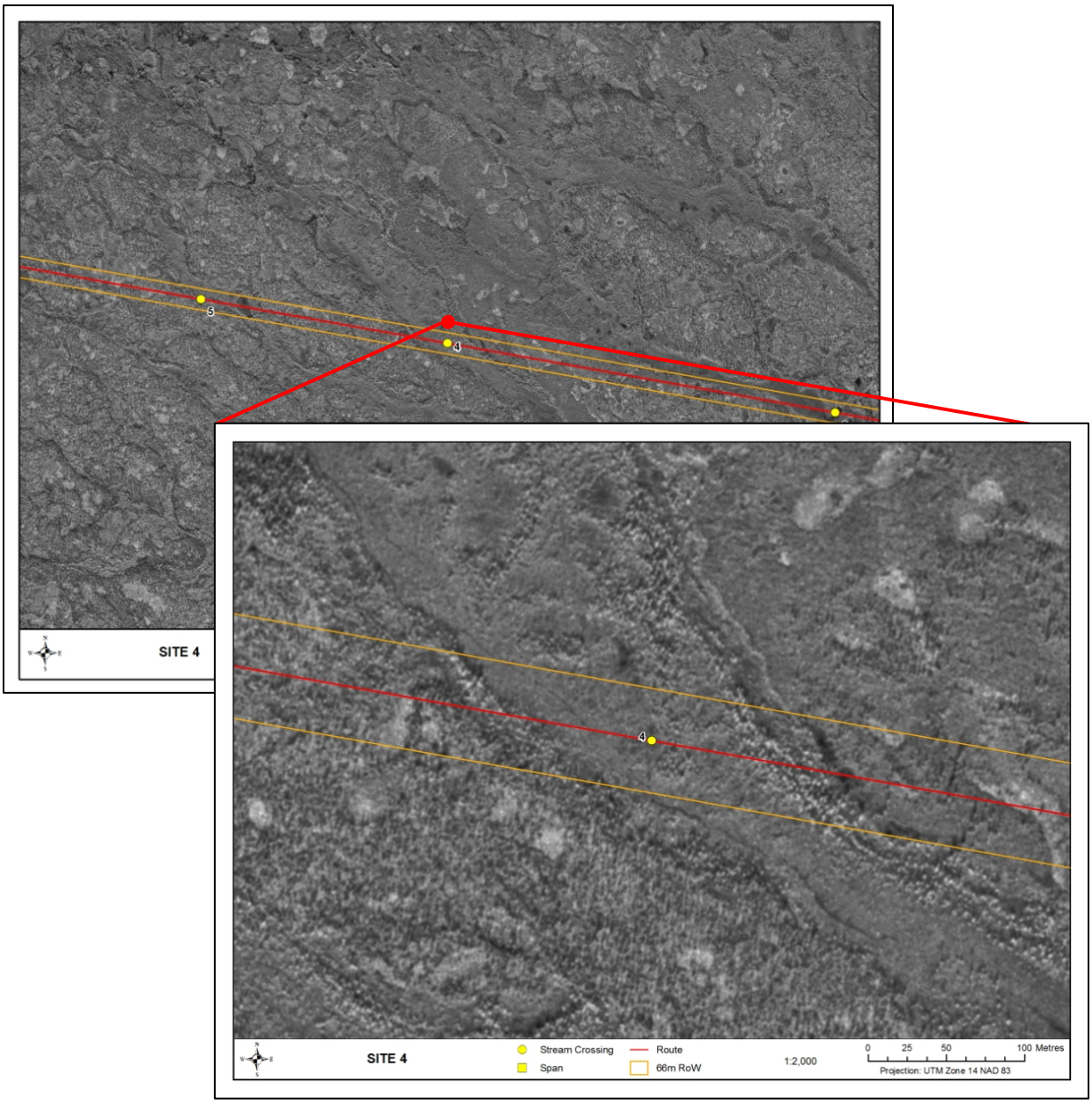
Location

Datum:	NAD 83	
UTM:	*Zone:*	14N
	Easting:	811177
	Northing:	6292776
Data Source:	DOI	

General Morphology

Stream/Lake:	Stream
Pattern:	SI
Confinement:	UN
Stage:	Moderate
Flow Regime:	Ephemeral
Morphology:	-
U/S Drainage:	0.97 km^2

Distance to Receiving Water: Goose Creek 3.96 km



Site Conditions

+ Physical Data

Channel Profile

Channel and Flow

Wetted Width (m)	-
Channel Width (m)	-

Banks (%)

Right Bank Stability	-
Left Bank Stability	-

Riparian

Floodplain Distance (m)

Right Bank	97 (total)
Left Bank	-

Riparian Distance (m)

Right Bank	126 (total)
Left Bank	-

Riparian Vegetation Type (Y/N)

None	-
Grasses/sedges	Y
Shrubs	Y
Conifers	-
Deciduous	-
Mixed Forest	-

Canopy Cover (%) 0

Substrate

Substrate Type (%)

Fines	-
Small Gravel	-
Large Gravel	-
Cobble	-
Boulder	-

Cover Types

Total Cover Available (%)	-
Cover Composition (% of Total)	-
Large Woody Debris	-
Overhanging Vegetation	-
Instream Vegetation	-
Pool	-
Boulder	-
Undercut Bank	-
Surface Turbulence	-
Turbidity	-

Habitat Type

Habitat Composition

Pool	-
Run	-
Flat	-
Riffle	-
Rapid	-

Fish Habitat Classification and Sensitivity

+ Fish Habitat

Fish Habitat Present Yes
DFO Manitoba Agricultural Watershed Classification: -
Fish Habitat Classification: Marginal

Fish Presence: N/A

Comments:
The RoW crosses this unnamed tributary of Goose Creek within headwater bog habitat. Forage fish may occur at this site, but indicator fish are unlikely, and the tributary has low to no overwintering potential.

+ Habitat Sensitivity

Sensitivity Rating: Moderate
Comments:
Marginal fish habitat and soft floodplain result in a moderate sensitivity rating.

Site 5 Unnamed Tributary of Goose Creek

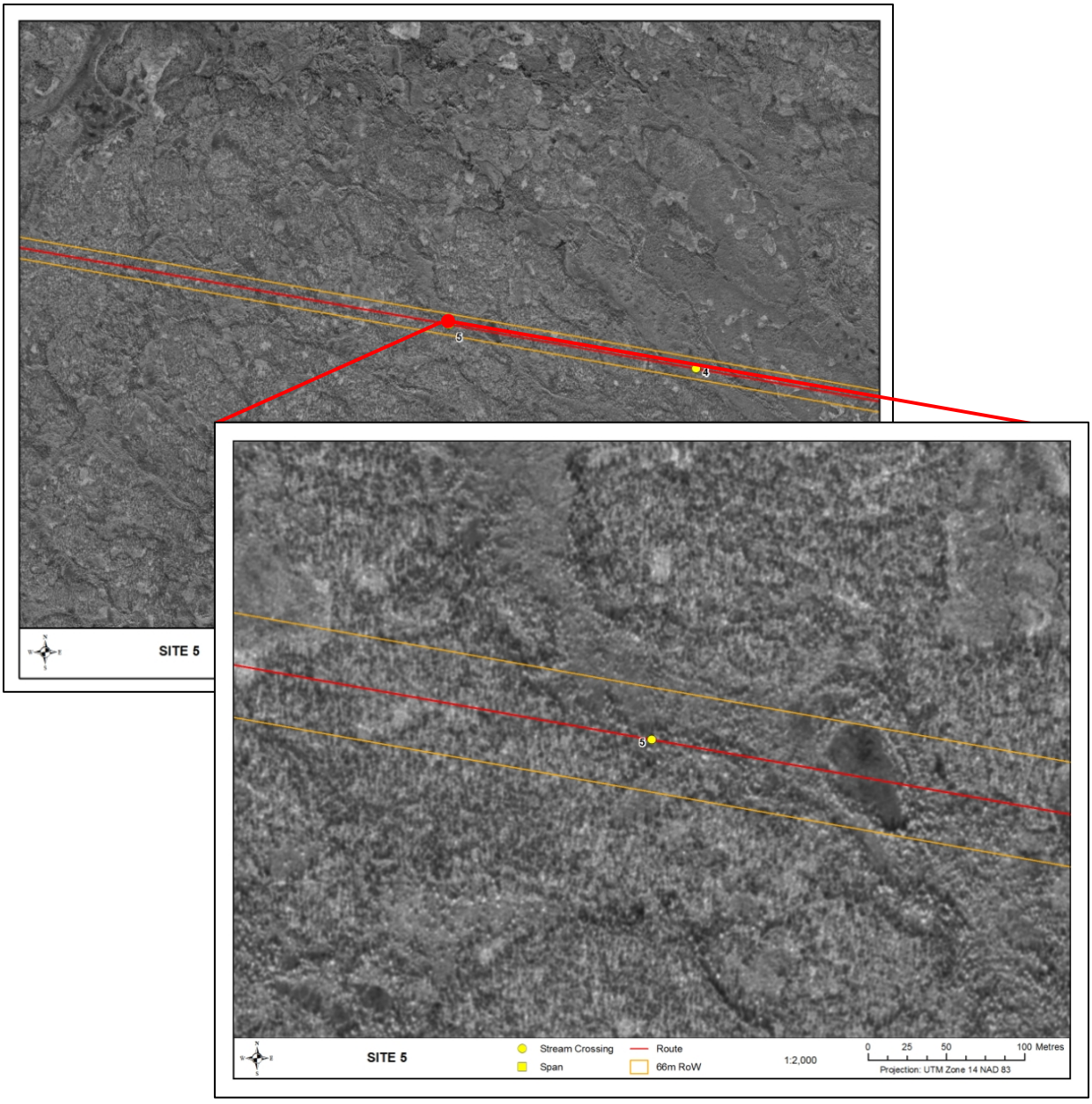
Location

Datum:	NAD 83	
UTM:	*Zone:*	14N
	Easting:	810400
	Northing:	6292915
Data Source:	DOI	

General Morphology

Stream/Lake:	Stream
Pattern:	SI
Confinement:	UN
Stage:	Low
Flow Regime:	Ephemeral
Morphology:	-
U/S Drainage:	0.45 km^2

Distance to Receiving Water: Goose Creek 4.68 km



Site Conditions

+ Physical Data

Channel Profile

Channel and Flow

Wetted Width (m)	-
Channel Width (m)	-

Banks (%)

Right Bank Stability	-
Left Bank Stability	-

Riparian

Floodplain Distance (m)

Right Bank	46 (total)
Left Bank	-

Riparian Distance (m)

Right Bank	62 (total)
Left Bank	-

Riparian Vegetation Type (Y/N)

None	-
Grasses/sedges	Y
Shrubs	Y
Conifers	-
Deciduous	-
Mixed Forest	-

Canopy Cover (%) 0

Substrate

Substrate Type (%)

Fines	-
Small Gravel	-
Large Gravel	-
Cobble	-
Boulder	-

Cover Types

Total Cover Available (%)	-
Cover Composition (% of Total)	-
Large Woody Debris	-
Overhanging Vegetation	-
Instream Vegetation	-
Pool	-
Boulder	-
Undercut Bank	-
Surface Turbulence	-
Turbidity	-

Habitat Type

Habitat Composition

Pool	-
Run	-
Flat	-
Riffle	-
Rapid	-

Fish Habitat Classification and Sensitivity

+ Fish Habitat

Fish Habitat Present Yes
DFO Manitoba Agricultural Watershed Classification: -
Fish Habitat Classification: Marginal

Fish Presence: N/A

Comments:
The RoW crosses this unnamed tributary of Goose Creek within headwater bog habitat. Forage fish may occur at this site, but indicator fish are unlikely, and overall fish habitat is very marginal. The tributary has low to no overwintering potential.

+ Habitat Sensitivity

Sensitivity Rating: Moderate
Comments:
Marginal fish habitat and soft floodplain result in a moderate sensitivity rating.

Site 6

Unnamed Tributary of Tiny Creek

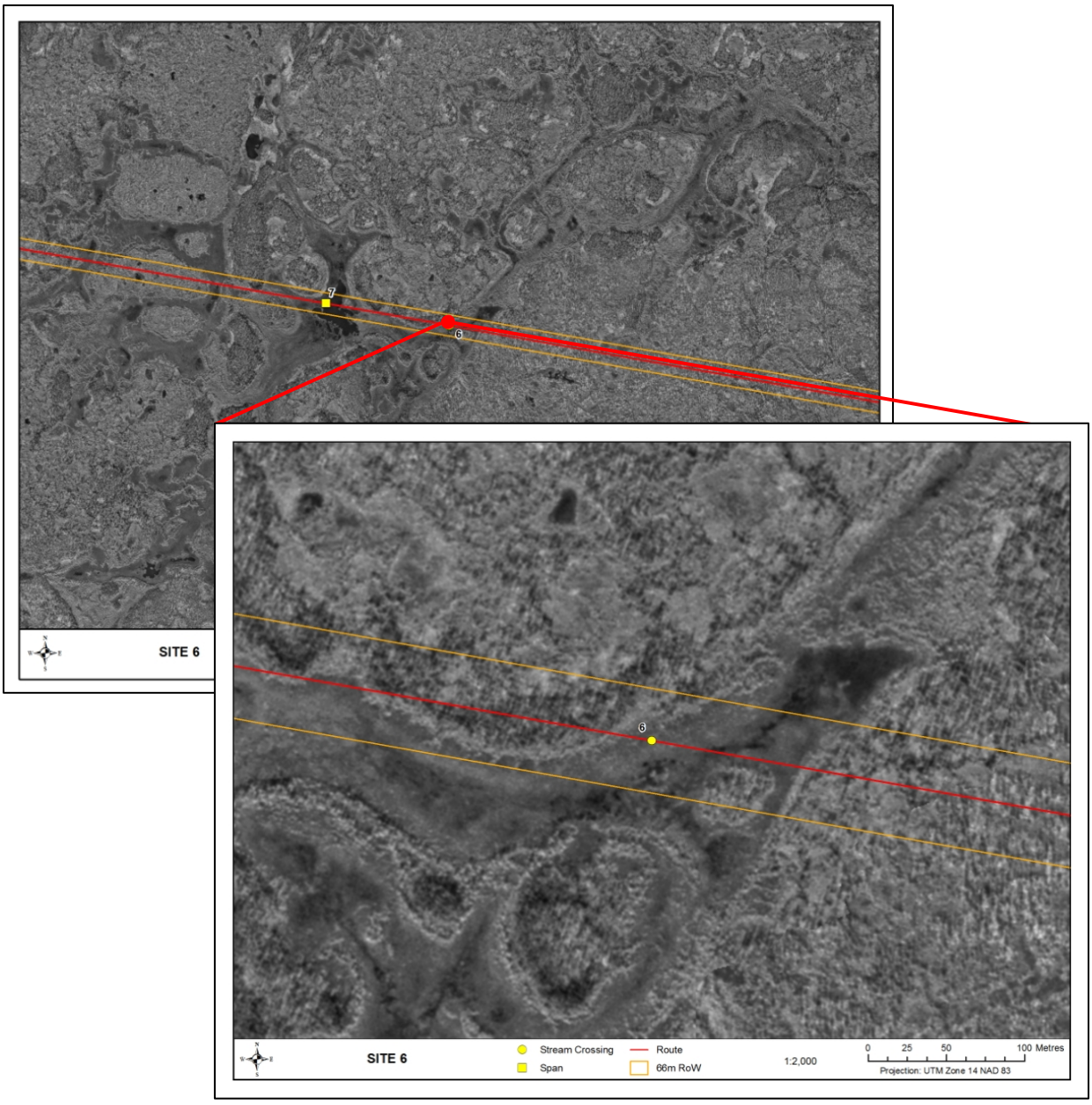
Location

Datum:	NAD 83	
UTM:	*Zone:*	14N
	Easting:	808477
	Northing:	6293259
Data Source:	DOI	

General Morphology

Stream/Lake:	Stream
Pattern:	SI
Confinement:	UN
Stage:	Low
Flow Regime:	Ephemeral
Morphology:	-
U/S Drainage:	0.81 km^2

Distance to Receiving Water: Tiny Creek 7.77 km



Site Conditions

+ Physical Data

Channel Profile

Channel and Flow

Wetted Width (m)	-
Channel Width (m)	-

Banks (%)

Right Bank Stability	-
Left Bank Stability	-

Riparian

Floodplain Distance (m)

Right Bank	121 (total)
Left Bank	-

Riparian Distance (m)

Right Bank	96 (total)
Left Bank	-

Riparian Vegetation Type (Y/N)

None	-
Grasses/sedges	Y
Shrubs	Y
Conifers	-
Deciduous	-
Mixed Forest	-

Canopy Cover (%) 0

Substrate

Substrate Type (%)

Fines	-
Small Gravel	-
Large Gravel	-
Cobble	-
Boulder	-

Cover Types

Total Cover Available (%)	-
Cover Composition (% of Total)	-
Large Woody Debris	-
Overhanging Vegetation	-
Instream Vegetation	-
Pool	-
Boulder	-
Undercut Bank	-
Surface Turbulence	-
Turbidity	-

Habitat Type

Habitat Composition

Pool	-
Run	-
Flat	-
Riffle	-
Rapid	-

Fish Habitat Classification and Sensitivity

+ Fish Habitat

Fish Habitat Present Yes
DFO Manitoba Agricultural Watershed Classification: -
Fish Habitat Classification: Marginal

Fish Presence: N/A

Comments:
The RoW crosses this unnamed tributary of Tiny Creek within headwater bog habitat. Forage fish may occur at this site, but indicator fish are unlikely, and overall fish habitat is very marginal. The tributary has low to no overwintering potential.

+ Habitat Sensitivity

Sensitivity Rating: Moderate
Comments:
Marginal fish habitat and soft floodplain result in a moderate sensitivity rating.

Site 7

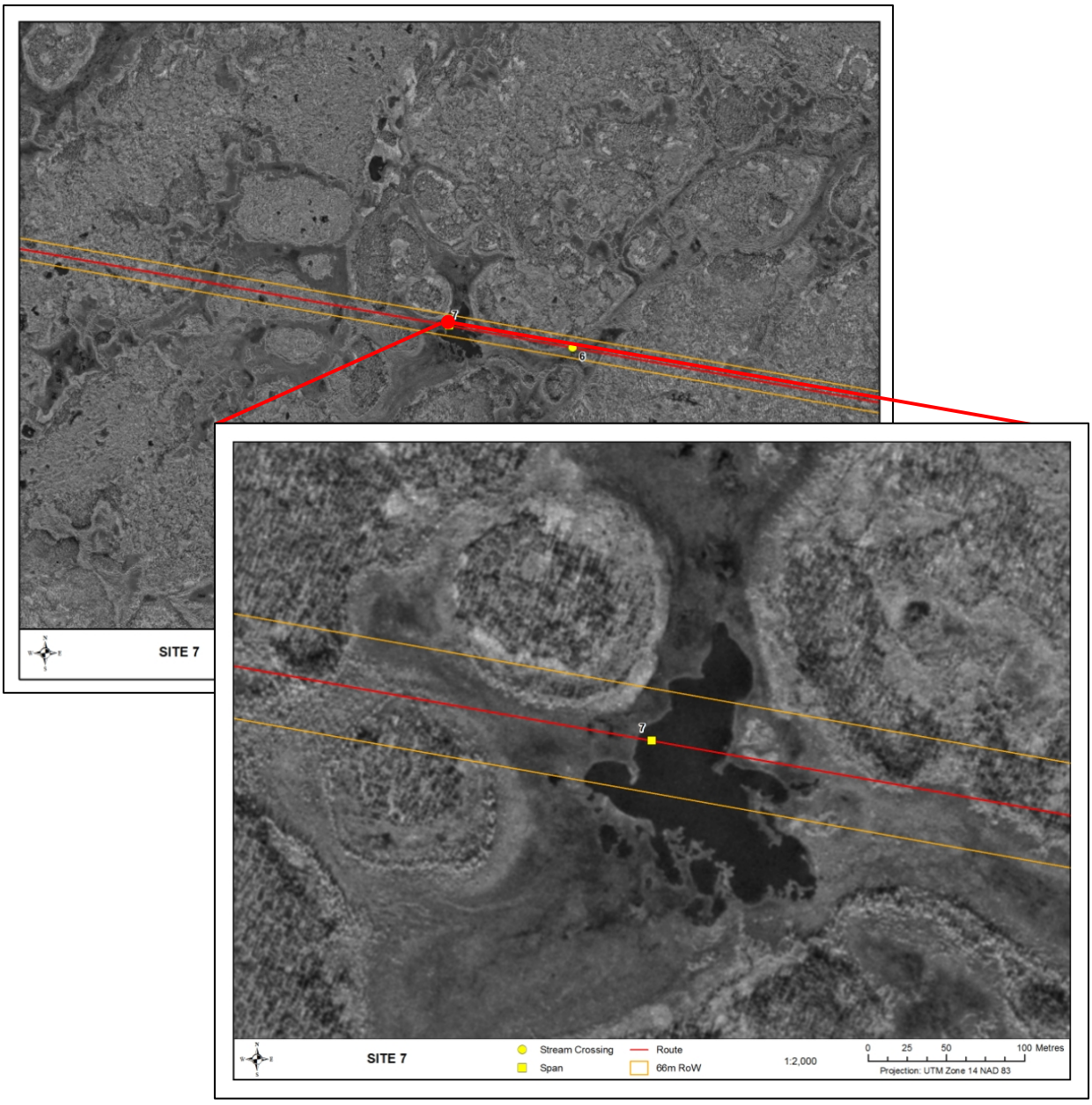
Unnamed wetland

Location

Datum:	NAD 83	
UTM:	*Zone:*	14N
	Easting:	808089
	Northing:	6293329
Data Source:	DOI	

General Morphology

Stream/Lake:	Lake
Pattern:	-
Confinement:	UN
Stage:	Moderate
Flow Regime:	Intermittent
Morphology:	-
U/S Drainage:	-
Distance to Receiving Water:	-



Site Conditions

+ Physical Data

Channel Profile

Channel and Flow

Lake size (ha)	1.09
Lake width at ROW (m)	43

Banks (%)

Right Bank Stability	-
Left Bank Stability	-

Riparian

Floodplain Distance (m)

Right Bank	-
Left Bank	-

Riparian Distance (m)

Right Bank	-
Left Bank	-

Riparian Vegetation Type (Y/N)

None	-
Grasses/sedges	Y
Shrubs	Y
Conifers	-
Deciduous	-
Mixed Forest	-

Canopy Cover (%) 0

Substrate

Substrate Type (%)

Fines	-
Small Gravel	-
Large Gravel	-
Cobble	-
Boulder	-

Cover Types

Total Cover Available (%)	-
Cover Composition (% of Total)	-
Large Woody Debris	-
Overhanging Vegetation	-
Instream Vegetation	-
Pool	-
Boulder	-
Undercut Bank	-
Surface Turbulence	-
Turbidity	-

Habitat Type

Habitat Composition

Pool	-
Run	-
Flat	-
Riffle	-
Rapid	-

Fish Habitat Classification and Sensitivity

+ Fish Habitat

Fish Habitat Present Yes
DFO Manitoba Agricultural Watershed Classification: -
Fish Habitat Classification: No Fish Habitat

Fish Presence: N/A

Comments:
This unnamed wetland likely contains no fish habitat. It is surrounded by wetland habitat, and may be ephemerally connected to Tiny Creek through this wetland/floodplain habitat. However fish are unlikely to travel from Tiny Creek to the wetland.

+ Habitat Sensitivity

Sensitivity Rating: Low
Comments:
No fish habitat results in a low sensitivity rating.

Site 8

Unnamed Tributary of Goose Creek

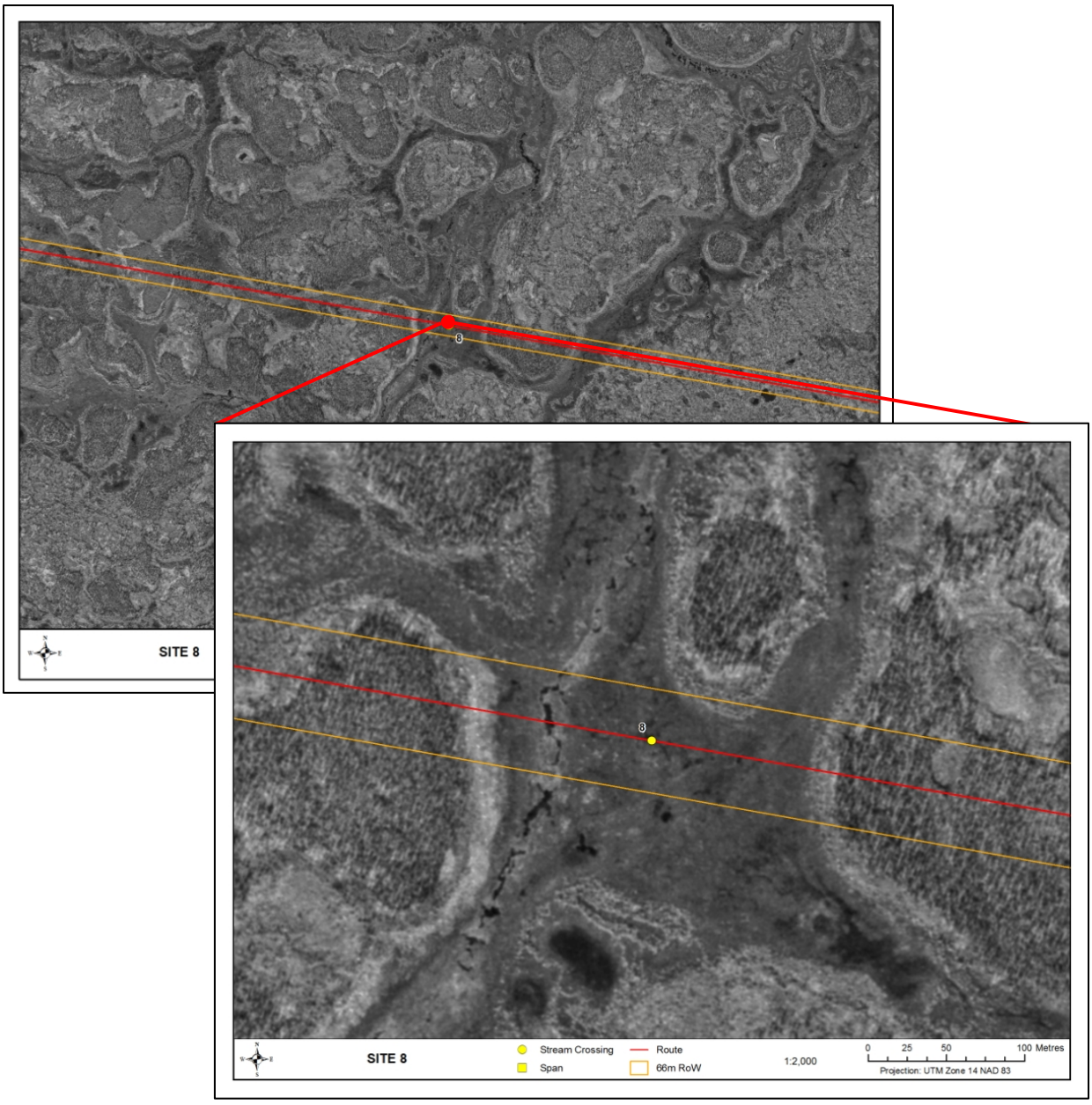
Location

Datum:	NAD 83	
UTM:	*Zone:*	14N
	Easting:	805864
	Northing:	6293726
Data Source:	DOI	

General Morphology

Stream/Lake:	Stream
Pattern:	SI
Confinement:	UN
Stage:	Moderate
Flow Regime:	Intermittent
Morphology:	-
U/S Drainage:	4.07 km^2

Distance to Receiving Water: Goose Creek 4.78 km



Site Conditions

+ Physical Data

Channel Profile

Channel and Flow

Wetted Width (m)	5
Channel Width (m)	-

Banks (%)

Right Bank Stability	-
Left Bank Stability	-

Riparian

Floodplain Distance (m)

Right Bank	34
Left Bank	165

Riparian Distance (m)

Right Bank	52
Left Bank	180

Riparian Vegetation Type (Y/N)

None	-
Grasses/sedges	Y
Shrubs	Y
Conifers	-
Deciduous	-
Mixed Forest	-

Canopy Cover (%) None

Substrate

Substrate Type (%)

Fines	-
Small Gravel	-
Large Gravel	-
Cobble	-
Boulder	-

Cover Types

Total Cover Available (%)	-
Cover Composition (% of Total)	-
Large Woody Debris	-
Overhanging Vegetation	-
Instream Vegetation	-
Pool	-
Boulder	-
Undercut Bank	-
Surface Turbulence	-
Turbidity	-

Habitat Type

Habitat Composition

Pool	-
Run	-
Flat	-
Riffle	-
Rapid	-

Fish Habitat Classification and Sensitivity

+ Fish Habitat

Fish Habitat Present	Yes
DFO Manitoba Agricultural Watershed Classification:	-
Fish Habitat Classification:	Marginal

Fish Presence: N/A

Comments:
The RoW crosses this unnamed tributary of Goose Creek within headwater bog habitat. Forage fish may occur at this site, but indicator fish are unlikely, and overall fish habitat is very marginal. The tributary has low to no overwintering potential.

+ Habitat Sensitivity

Sensitivity Rating: Moderate
Comments:
Marginal fish habitat and soft floodplain result in a moderate sensitivity rating.

Site 9

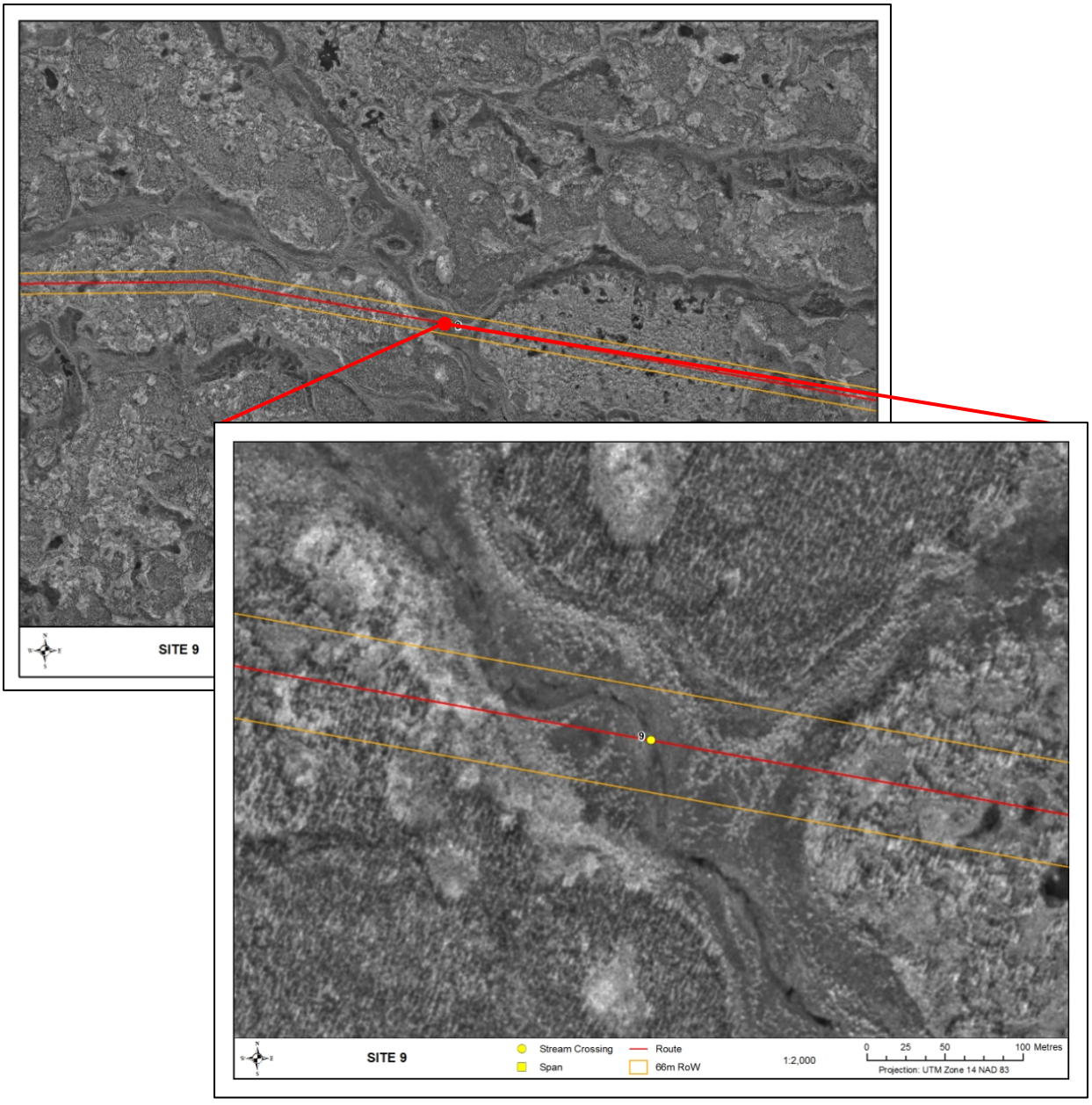
Unnamed Tributary of Goose Creek

Location

Datum:	NAD 83	
UTM:	*Zone:*	14N
	Easting:	803579
	Northing:	6294135
Data Source:	DOI.	

General Morphology

Stream/Lake:	Stream
Pattern:	SI
Confinement:	UN
Stage:	Low
Flow Regime:	Intermittent
Morphology:	-
U/S Drainage:	1.4 km^2
Distance to Receiving Water:	Goose Creek 7.6 km



Site Conditions

+ Physical Data

Channel Profile

Channel and Flow

Wetted Width (m)	11.2
Channel Width (m)	-

Banks (%)

Right Bank Stability	100
Left Bank Stability	100

Riparian

Floodplain Distance (m)

Right Bank	95.4
Left Bank	0

Riparian Distance (m)

Right Bank	142.9
Left Bank	5.5

Riparian Vegetation Type (Y/N)

None	-
Grasses/sedges	Y
Shrubs	Y
Conifers	-
Deciduous	-
Mixed Forest	-

Canopy Cover (%) Trace

Substrate

Substrate Type (%)

Fines	100
Small Gravel	-
Large Gravel	-
Cobble	-
Boulder	-

Cover Types

Total Cover Available (%)	70
Cover Composition (% of Total)	-
Large Woody Debris	10
Overhanging Vegetation	-
Instream Vegetation	90
Pool	-
Boulder	-
Undercut Bank	-
Surface Turbulence	-
Turbidity	-

Habitat Type

Habitat Composition

Pool	-
Run	100
Flat	-
Riffle	-
Rapid	-

Fish Habitat Classification and Sensitivity

+ Fish Habitat

Fish Habitat Present	No
DFO Manitoba Agricultural Watershed Classification:	-
Fish Habitat Classification:	No Fish Habitat

Fish Presence: N/A

Comments:
The RoW crosses this unnamed headwater tributary of Weir River. The tributary is an intermittent stream with low habitat diversity and low overwintering potential. No fish are expected at this site.

+ Habitat Sensitivity

Sensitivity Rating: Low
Comments:
Lack of fish at this crossing results in a low sensitivity rating.

Site 10

Goose Creek

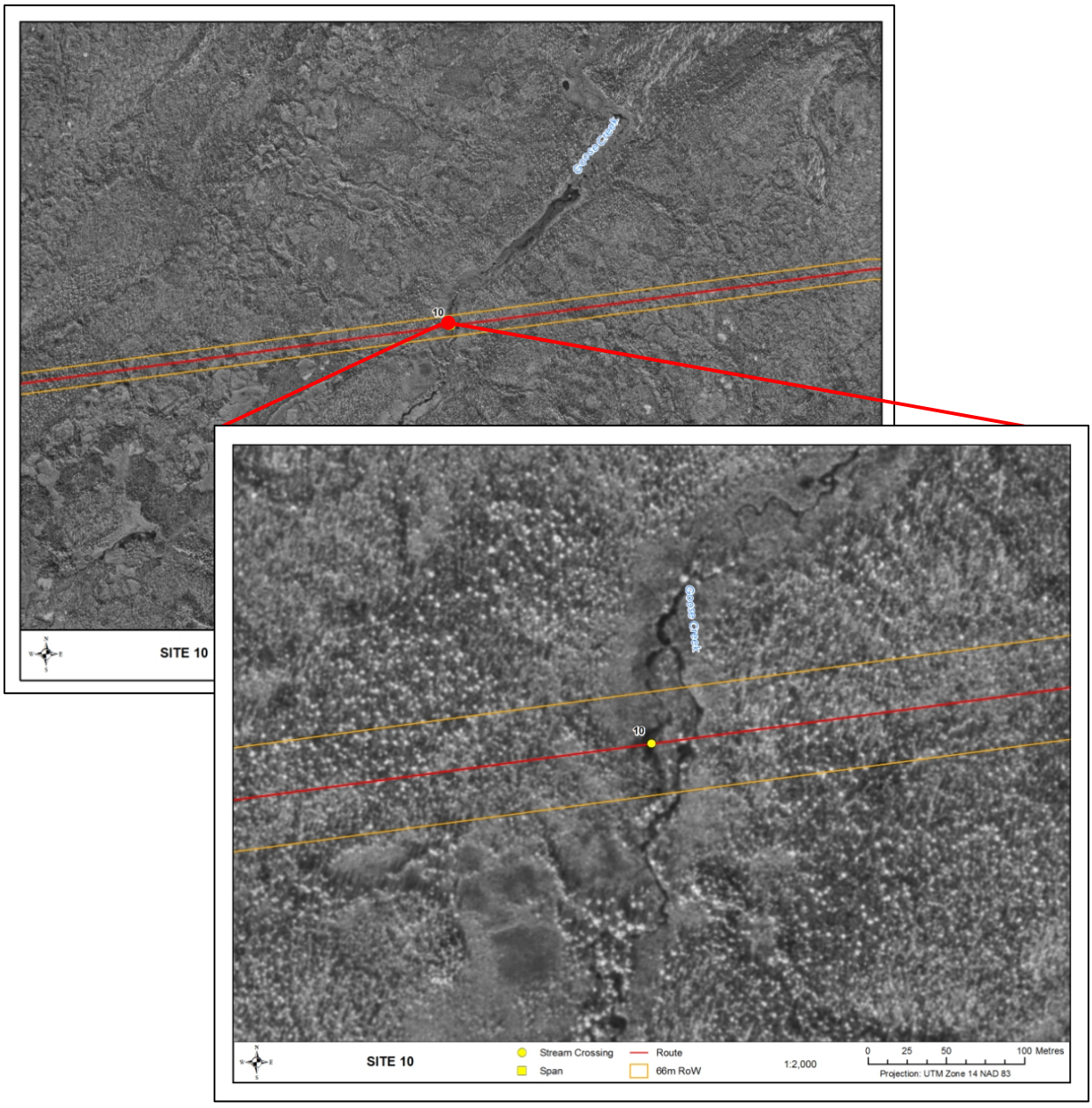
Location

Datum:	NAD 83	
UTM:	*Zone:*	14N
	Easting:	799341
	Northing:	6294065
Data Source:	DOI	

General Morphology

Stream/Lake:	Stream
Pattern:	IR
Confinement:	CO
Stage:	Moderate
Flow Regime:	Perennial
Morphology:	LC
U/S Drainage:	44.9 km^2

Distance to Receiving Water: Nelson River 28.0 km



Site Conditions

+ Physical Data

Channel Profile

Channel and Flow

Wetted Width (m)	9.5
Channel Width (m)	9.5

Banks (%)

Right Bank Stability	100
Left Bank Stability	100

Riparian

Floodplain Distance (m)

Right Bank	40.2
Left Bank	13.0

Riparian Distance (m)

Right Bank	20.7
Left Bank	38.4

Riparian Vegetation Type (Y/N)

None	-
Grasses/sedges	Y
Shrubs	Y
Conifers	-
Deciduous	-
Mixed Forest	-

Canopy Cover (%) Trace

Substrate

Substrate Type (%)

Fines	100
Small Gravel	-
Large Gravel	-
Cobble	-
Boulder	-

Cover Types

Total Cover Available (%)	-
Cover Composition (% of Total)	-
Large Woody Debris	-
Overhanging Vegetation	-
Instream Vegetation	-
Pool	-
Boulder	-
Undercut Bank	-
Surface Turbulence	-
Turbidity	-

Habitat Type

Habitat Composition

Pool	-
Run	100
Flat	-
Riffle	-
Rapid	-

Fish Habitat Classification and Sensitivity

+ Fish Habitat

Fish Habitat Present Yes
DFO Manitoba Agricultural Watershed Classification: -
Fish Habitat Classification: Marginal

Fish Presence: Blacknose dace, brook stickleback, brook trout, burbot, fathead minnow, finescale dace, lake chub, longnose dace, longnose sucker, mottled sculpin, Northern pike, Northern redbelly dace, pearl dace, slimy sculpin, white sucker (FIHCS 2009, Kroeker and MacDonell 2006)

Comments:
The RoW crosses the headwaters of Goose Creek. This perennial stream has low overwintering potential but is suitable for feeding. Goose Creek has documented indicator and forage fish species; however the headwater habitat affected by the crossing likely only supports forage fish species.

+ Habitat Sensitivity

Sensitivity Rating: Low
Comments:
Marginal fish habitat and stable vegetated banks result in a low sensitivity rating.

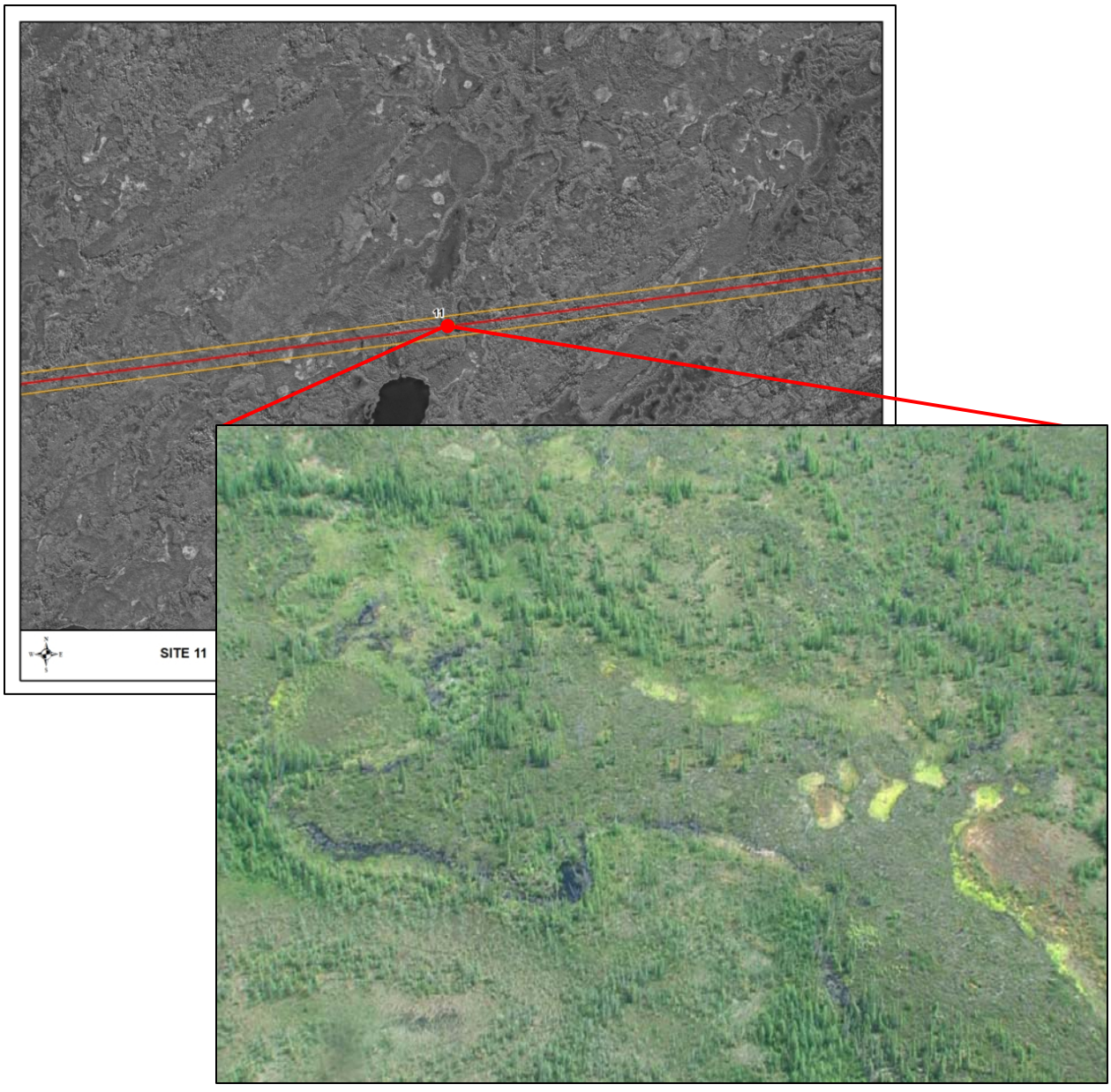
Site 11 Unnamed Tributary of Weir River

Location

Datum:	NAD 83	
UTM:	*Zone:*	14N
	Easting:	792745
	Northing:	6293177
Data Source:	DOI.Video	

General Morphology

Stream/Lake:	Stream
Pattern:	SI
Confinement:	UN
Stage:	Low
Flow Regime:	Intermittent
Morphology:	LC
U/S Drainage:	1.1 km^2
Distance to Receiving Water:	Weir River 18.1 km



Site Conditions

+ Physical Data

Channel Profile

Channel and Flow

Wetted Width (m)	11.2
Channel Width (m)	-

Banks (%)

Right Bank Stability	100
Left Bank Stability	100

Riparian

Floodplain Distance (m)

Right Bank	95.4
Left Bank	0

Riparian Distance (m)

Right Bank	142.9
Left Bank	5.5

Riparian Vegetation Type (Y/N)

None	-
Grasses/sedges	Y
Shrubs	Y
Conifers	-
Deciduous	-
Mixed Forest	-

Canopy Cover (%) Trace

Substrate

Substrate Type (%)

Fines	100
Small Gravel	-
Large Gravel	-
Cobble	-
Boulder	-

Cover Types

Total Cover Available (%)	70
Cover Composition (% of Total)	-
Large Woody Debris	10
Overhanging Vegetation	-
Instream Vegetation	90
Pool	-
Boulder	-
Undercut Bank	-
Surface Turbulence	-
Turbidity	-

Habitat Type

Habitat Composition

Pool	-
Run	100
Flat	-
Riffle	-
Rapid	-

Fish Habitat Classification and Sensitivity

+ Fish Habitat

Fish Habitat Present No
DFO Manitoba Agricultural Watershed Classification: -
Fish Habitat Classification: No Fish Habitat

Fish Presence: N/A

Comments:
The RoW crosses this unnamed headwater tributary of Weir River. The tributary is an intermittent stream with low habitat diversity and low overwintering potential. No fish are expected at this site.

+ Habitat Sensitivity

Sensitivity Rating: Low
Comments:
Lack of fish at this crossing results in a low sensitivity rating.

Site 12

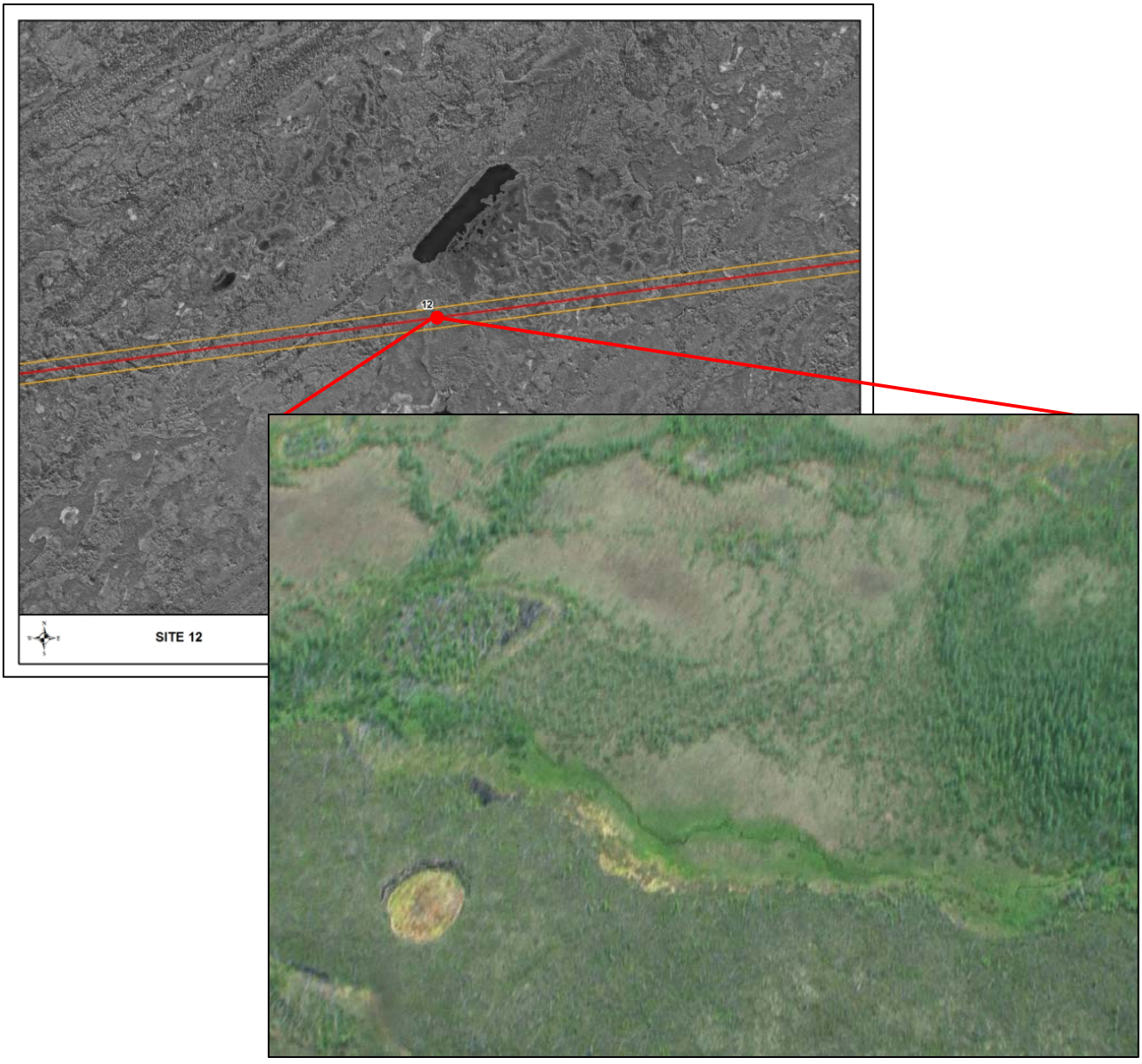
Unnamed Tributary of Weir River

Location

Datum:	NAD 83	
UTM:	*Zone:*	14N
	Easting:	790685
	Northing:	6292900
Data Source:	DOI.Video	

General Morphology

Stream/Lake:	Stream
Pattern:	SI
Confinement:	UN
Stage:	Low
Flow Regime:	Intermittent
Morphology:	LC
U/S Drainage:	2.9 km^2
Distance to Receiving Water:	Weir River 20.5 km



Site Conditions

+ Physical Data

Channel Profile

Channel and Flow

Wetted Width (m)	-
Channel Width (m)	-

Banks (%)

Right Bank Stability	100
Left Bank Stability	100

Riparian

Floodplain Distance (m)

Right Bank	-
Left Bank	-

Riparian Distance (m)

Right Bank	-
Left Bank	-

Riparian Vegetation Type (Y/N)

None	-
Grasses/sedges	Y
Shrubs	Y
Conifers	-
Deciduous	-
Mixed Forest	-

Canopy Cover (%) 0

Substrate

Substrate Type (%)

Fines	-
Small Gravel	-
Large Gravel	-
Cobble	-
Boulder	-

Cover Types

Total Cover Available (%)	-
Cover Composition (% of Total)	-
Large Woody Debris	-
Overhanging Vegetation	-
Instream Vegetation	-
Pool	-
Boulder	-
Undercut Bank	-
Surface Turbulence	-
Turbidity	-

Habitat Type

Habitat Composition

Pool	-
Run	-
Flat	-
Riffle	-
Rapid	-

Fish Habitat Classification and Sensitivity

+ Fish Habitat

Fish Habitat Present	No
DFO Manitoba Agricultural Watershed Classification:	-
Fish Habitat Classification:	No Fish Habitat

Fish Presence: N/A

Comments:
The RoW crosses this unnamed headwater tributary of Weir River. The tributary is an intermittent stream with little habitat for spawning, rearing, feeding, overwintering or migration. No fish are expected at this site.

+ Habitat Sensitivity

Sensitivity Rating: Low
Comments:
Lack of fish at this site results in a low sensitivity rating.

Site 13

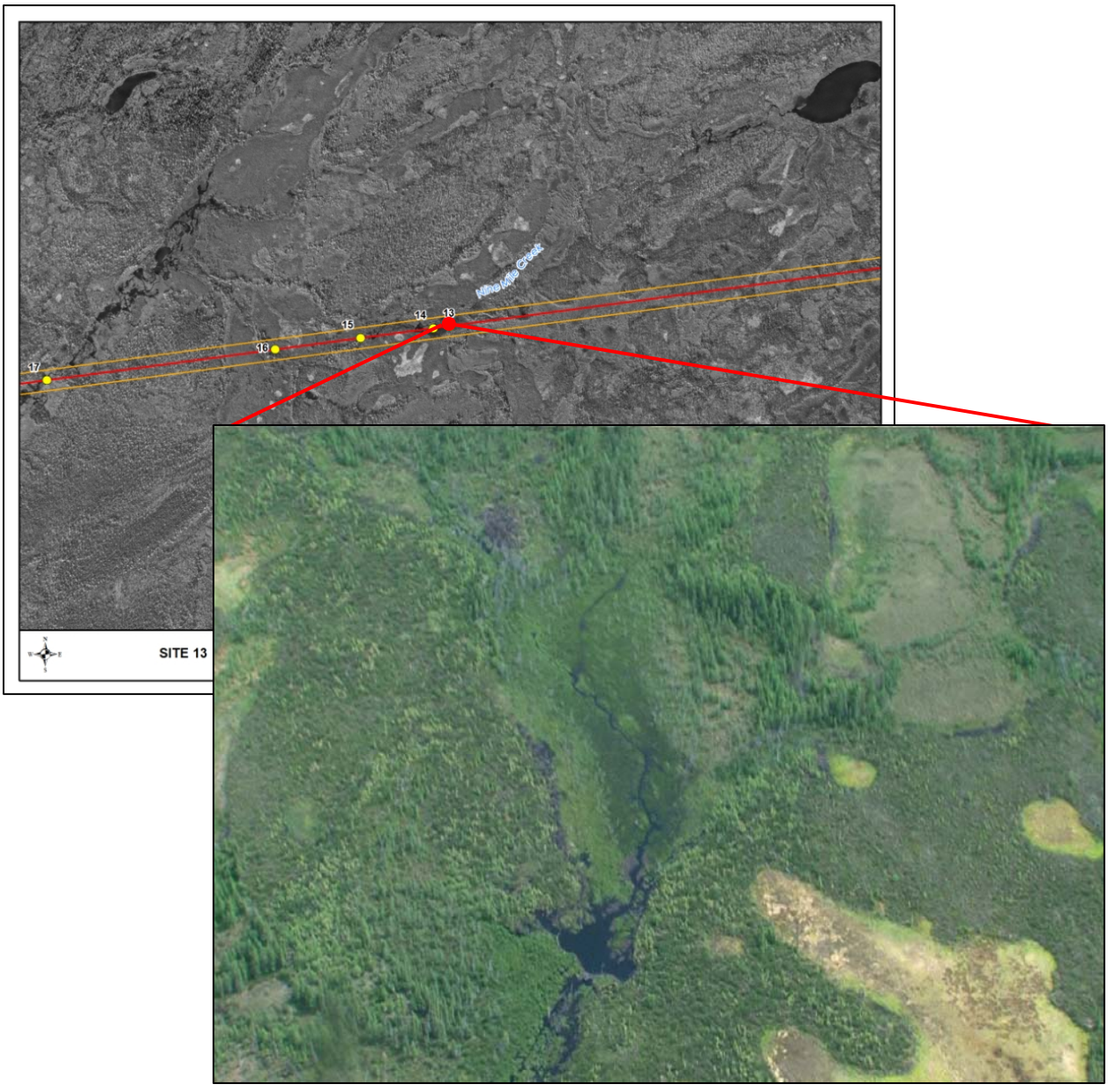
Nine Mile Creek

Location

Datum:	NAD 83	
UTM:	*Zone:*	14N
	Easting:	787107
	Northing:	6292418
Data Source:	DOI.Video	

General Morphology

Stream/Lake:	Stream
Pattern:	SI
Confinement:	UN
Stage:	Low
Flow Regime:	Intermittent
Morphology:	LC
U/S Drainage:	4.9 km^2
Distance to Receiving Water:	Limestone R. 22.0 km



Site Conditions

+ Physical Data

Channel Profile

Channel and Flow	
Wetted Width (m)	-
Channel Width (m)	-
Banks (%)	
Right Bank Stability	100
Left Bank Stability	100

Riparian

Floodplain Distance (m)	
Right Bank	13.3
Left Bank	22.9
Riparian Distance (m)	
Right Bank	35.6
Left Bank	40.5
Riparian Vegetation Type (Y/N)	
None	-
Grasses/sedges	Y
Shrubs	Y
Conifers	-
Deciduous	-
Mixed Forest	-
Canopy Cover (%)	0

Substrate

Substrate Type (%)	
Fines	100
Small Gravel	-
Large Gravel	-
Cobble	-
Boulder	-

Cover Types

Total Cover Available (%)	-
Cover Composition (% of Total)	-
Large Woody Debris	-
Overhanging Vegetation	-
Instream Vegetation	-
Pool	-
Boulder	-
Undercut Bank	-
Surface Turbulence	-
Turbidity	-

Habitat Type

Habitat Composition	
Pool	-
Run	100
Flat	-
Riffle	-
Rapid	-

Fish Habitat Classification and Sensitivity

+ Fish Habitat

Fish Habitat Present Yes
DFO Manitoba Agricultural Watershed Classification: -
Fish Habitat Classification: Marginal

Fish Presence: Brook Trout, Northern Pike, Longnose Sucker, Burbot (FIHCS 2009)

Comments:
The RoW crosses Nine Mile Creek in the extreme headwaters of the creek. Habitat consists of wetland with poor channel definition, low habitat diversity, low overwintering potential and very little water. Only forage fish may be found at this site.

+ Habitat Sensitivity

Sensitivity Rating: Low
Comments:
Poor fish habitat, low flow and abundant vegetation at this crossing results in a low sensitivity rating.

Site 14

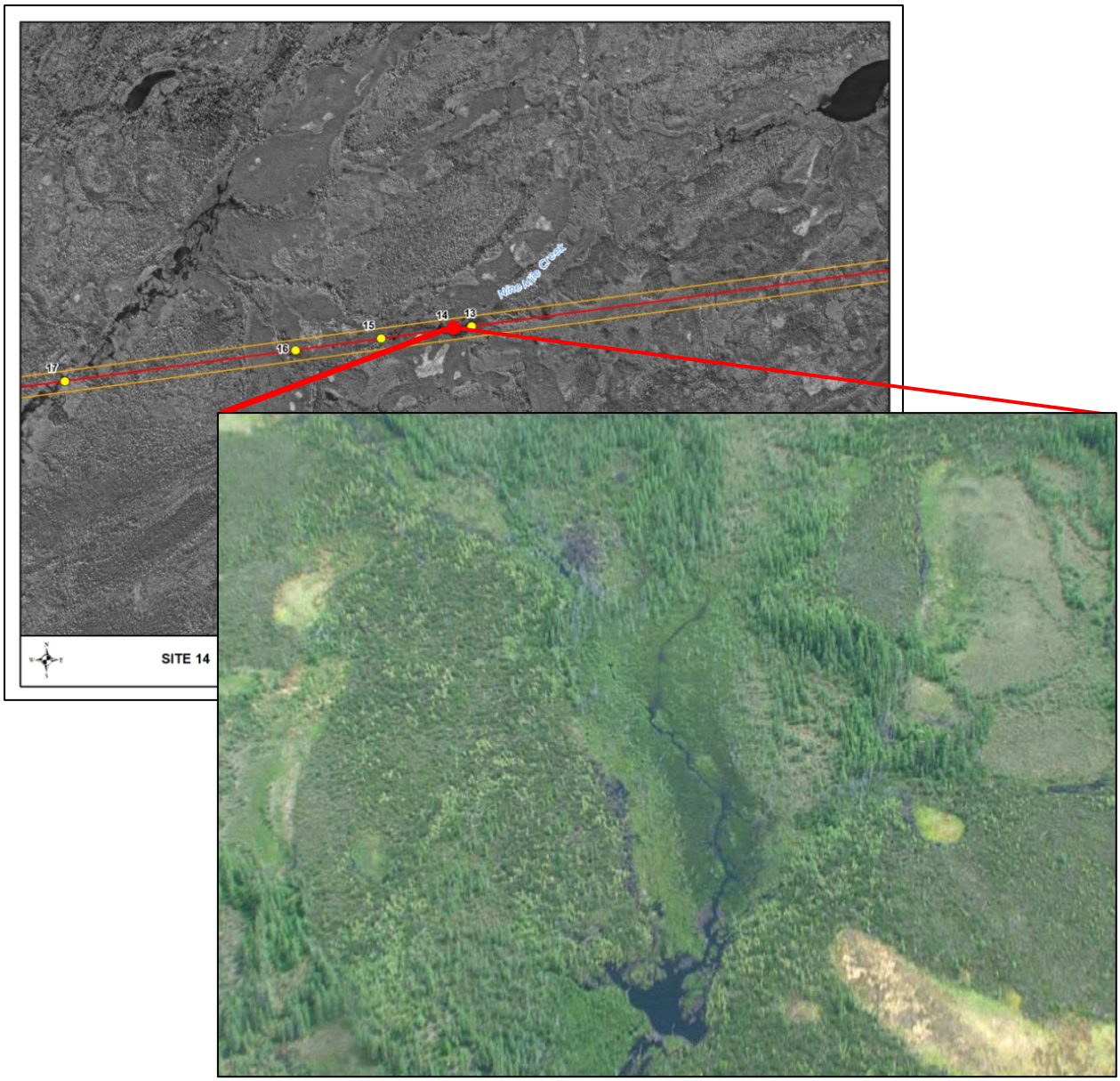
Nine Mile Creek

Location

Datum:	NAD 83	
UTM:	*Zone:*	14N
	Easting:	787054
	Northing:	6292411
Data Source:	DOI.Video	

General Morphology

Stream/Lake:	Stream
Pattern:	SI
Confinement:	UN
Stage:	Low
Flow Regime:	Intermittent
Morphology:	LC
U/S Drainage:	5.0 km^2
Distance to Receiving Water:	Limestone R. 21.9 km



Site Conditions

+ Physical Data

Channel Profile

Channel and Flow

Wetted Width (m)	-
Channel Width (m)	-

Banks (%)

Right Bank Stability	100
Left Bank Stability	100

Riparian

Floodplain Distance (m)

Right Bank	5.3
Left Bank	22.3

Riparian Distance (m)

Right Bank	18.8
Left Bank	45.8

Riparian Vegetation Type (Y/N)

None	-
Grasses/sedges	Y
Shrubs	Y
Conifers	-
Deciduous	-
Mixed Forest	-

Canopy Cover (%) 0

Substrate

Substrate Type (%)

Fines	100
Small Gravel	-
Large Gravel	-
Cobble	-
Boulder	-

Cover Types

Total Cover Available (%)	-
Cover Composition (% of Total)	-
Large Woody Debris	-
Overhanging Vegetation	-
Instream Vegetation	-
Pool	-
Boulder	-
Undercut Bank	-
Surface Turbulence	-
Turbidity	-

Habitat Type

Habitat Composition

Pool	-
Run	100
Flat	-
Riffle	-
Rapid	-

Fish Habitat Classification and Sensitivity

+ Fish Habitat

Fish Habitat Present Yes
DFO Manitoba Agricultural Watershed Classification: -
Fish Habitat Classification: Marginal

Fish Presence: Brook Trout, Northern Pike, Longnose Sucker, Burbot (FIHCS 2009)

Comments:
The RoW crosses Nine Mile Creek in the extreme headwaters of the creek. Habitat consists of wetland with poor channel definition, low habitat diversity, low overwintering potential and very little water. Only forage fish may be found at this site.

+ Habitat Sensitivity

Sensitivity Rating: Low
Comments:
Poor fish habitat, low flow and abundant vegetation at this crossing results in a low sensitivity rating.

Site 15

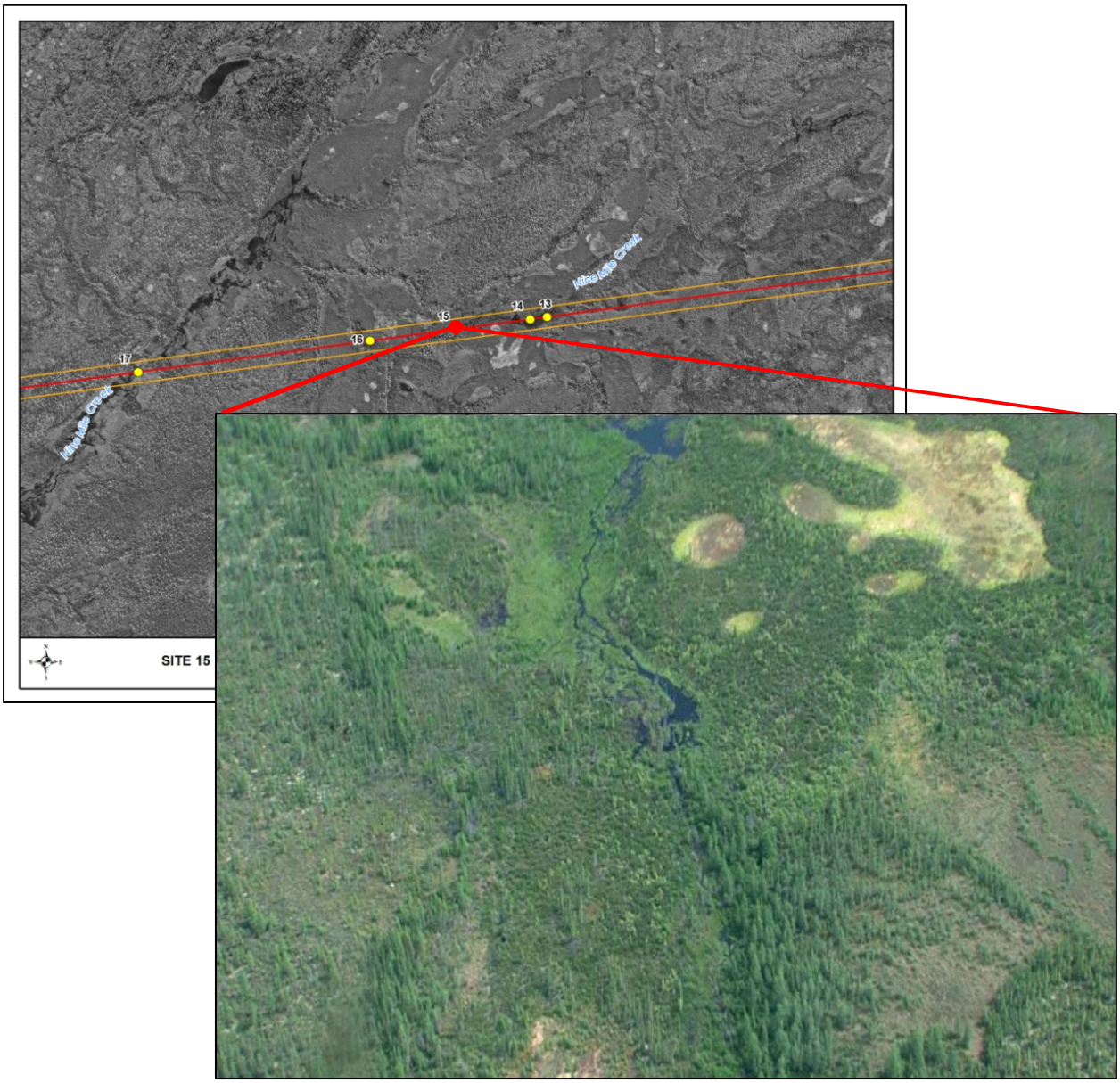
Nine Mile Creek

Location

Datum:	NAD 83	
UTM:	*Zone:*	14N
	Easting:	786825
	Northing:	6292380
Data Source:	DOI.Video	

General Morphology

Stream/Lake:	Stream
Pattern:	SI
Confinement:	UN
Stage:	Low
Flow Regime:	Intermittent
Morphology:	LC
U/S Drainage:	5.1 km^2
Distance to Receiving Water:	Limestone R. 21.6 km



Site Conditions

+ Physical Data

Channel Profile

Channel and Flow

Wetted Width (m)	-
Channel Width (m)	-

Banks (%)

Right Bank Stability	100
Left Bank Stability	100

Riparian

Floodplain Distance (m)

Right Bank	-
Left Bank	-

Riparian Distance (m)

Right Bank	11.7
Left Bank	7.0

Riparian Vegetation Type (Y/N)

None	-
Grasses/sedges	Y
Shrubs	Y
Conifers	-
Deciduous	-
Mixed Forest	-

Canopy Cover (%) Trace

Substrate

Substrate Type (%)

Fines	100
Small Gravel	-
Large Gravel	-
Cobble	-
Boulder	-

Cover Types

Total Cover Available (%)	10
Cover Composition (% of Total)	-
Large Woody Debris	-
Overhanging Vegetation	50
Instream Vegetation	50
Pool	-
Boulder	-
Undercut Bank	-
Surface Turbulence	-
Turbidity	-

Habitat Type

Habitat Composition

Pool	-
Run	100
Flat	-
Riffle	-
Rapid	-

Fish Habitat Classification and Sensitivity

+ Fish Habitat

Fish Habitat Present Yes
DFO Manitoba Agricultural Watershed Classification: -
Fish Habitat Classification: Marginal

Fish Presence: Brook Trout, Northern Pike, Longnose Sucker, Burbot

Comments:
The RoW crosses Nine Mile Creek in the extreme headwaters of the creek. Habitat consists of wetland with poor channel definition, low habitat diversity, low overwintering potential and very little water. Only forage fish may be found at this site.

+ Habitat Sensitivity

Sensitivity Rating: Low
Comments:
Poor fish habitat, low flow and abundant vegetation at this crossing results in a low sensitivity rating.

Site 16

Nine Mile Creek

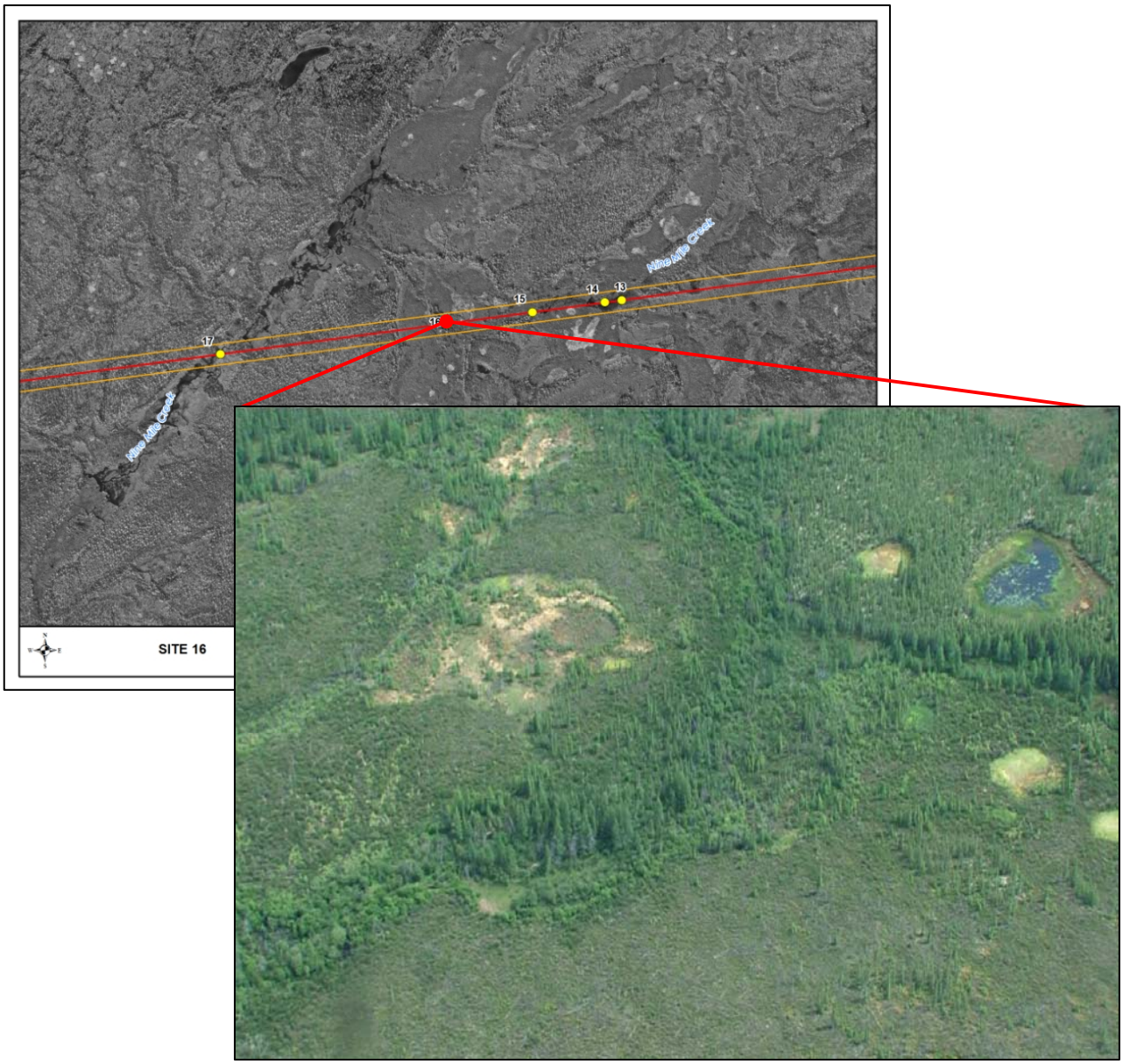
Location

Datum:	NAD 83	
UTM:	*Zone:*	14N
	Easting:	786558
	Northing:	6292344
Data Source:	DOI.Video	

General Morphology

Stream/Lake:	Stream
Pattern:	SI
Confinement:	OC
Stage:	Low
Flow Regime:	Intermittent
Morphology:	LC
U/S Drainage:	5.3 km^2

Distance to Receiving Water: Limestone R. 21.3 km



Site Conditions

+ Physical Data

Channel Profile

Channel and Flow	
Wetted Width (m)	-
Channel Width (m)	-
Banks (%)	
Right Bank Stability	100
Left Bank Stability	100

Riparian

Floodplain Distance (m)	
Right Bank	-
Left Bank	-
Riparian Distance (m)	
Right Bank	-
Left Bank	-
Riparian Vegetation Type (Y/N)	
None	-
Grasses/sedges	Y
Shrubs	Y
Conifers	Y
Deciduous	-
Mixed Forest	-
Canopy Cover (%)	-

Substrate

Substrate Type (%)	
Fines	-
Small Gravel	-
Large Gravel	-
Cobble	-
Boulder	-

Cover Types

Total Cover Available (%)	-
Cover Composition (% of Total)	-
Large Woody Debris	-
Overhanging Vegetation	-
Instream Vegetation	-
Pool	-
Boulder	-
Undercut Bank	-
Surface Turbulence	-
Turbidity	-

Habitat Type

Habitat Composition	
Pool	-
Run	-
Flat	-
Riffle	-
Rapid	-

Fish Habitat Classification and Sensitivity

+ Fish Habitat

Fish Habitat Present Yes
DFO Manitoba Agricultural Watershed Classification: -
Fish Habitat Classification: Marginal

Fish Presence: Brook Trout, Northern Pike, Longnose Sucker, Burbot.

Comments:
The RoW crosses Nine Mile Creek in the extreme headwaters of the creek. Habitat consists of wetland with no defined channel, low habitat diversity, low overwintering potential and very little water. Only forage fish may be found at this site.

+ Habitat Sensitivity

Sensitivity Rating: Low
Comments:
Poor fish habitat, low flow and abundant vegetation at this crossing results in a low sensitivity rating.

Site 17

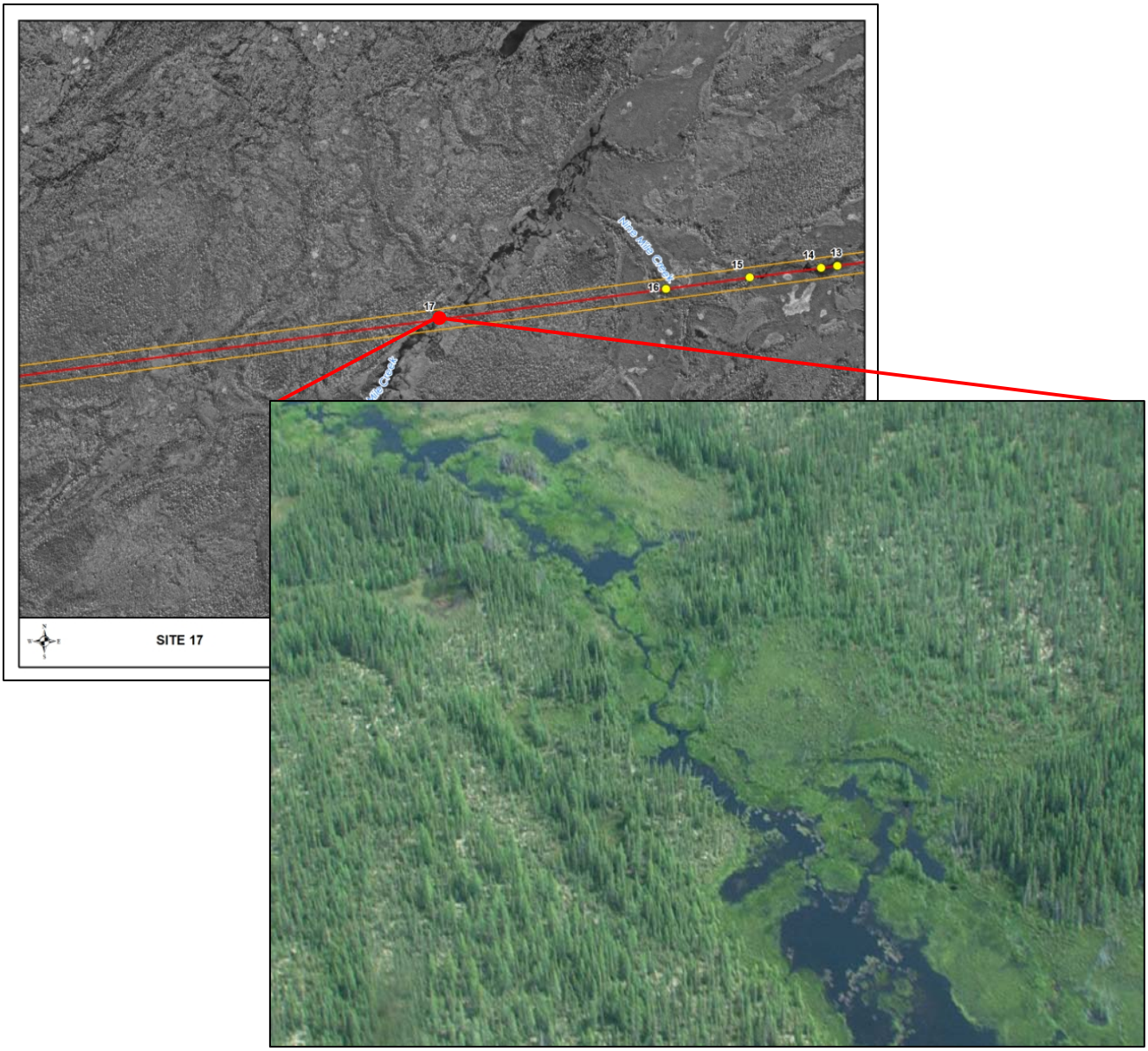
Nine Mile Creek

Location

Datum:	NAD 83	
UTM:	*Zone:*	14N
	Easting:	785839
	Northing:	6292247
Data Source:	DOI.Video	

General Morphology

Stream/Lake:	Stream
Pattern:	SI
Confinement:	OC
Stage:	Low
Flow Regime:	Intermittent
Morphology:	LC
U/S Drainage:	13.3 km^2
Distance to Receiving Water:	Limestone R. 20.3 km



Site Conditions

+ Physical Data

Channel Profile

Channel and Flow	
Wetted Width (m)	7.5
Channel Width (m)	7.5
Banks (%)	
Right Bank Stability	100
Left Bank Stability	100

Riparian

Floodplain Distance (m)	
Right Bank	60.1
Left Bank	3.8
Riparian Distance (m)	
Right Bank	91.9
Left Bank	39.7
Riparian Vegetation Type (Y/N)	
None	-
Grasses/sedges	Y
Shrubs	Y
Conifers	Y
Deciduous	-
Mixed Forest	-
Canopy Cover (%)	0

Substrate

Substrate Type (%)	
Fines	100
Small Gravel	-
Large Gravel	-
Cobble	-
Boulder	-

Cover Types

Total Cover Available (%)	30
Cover Composition (% of Total)	-
Large Woody Debris	-
Overhanging Vegetation	10
Instream Vegetation	40
Pool	50
Boulder	-
Undercut Bank	-
Surface Turbulence	-
Turbidity	-

Habitat Type

Habitat Composition	
Pool	20
Run	80
Flat	-
Riffle	-
Rapid	-

Fish Habitat Classification and Sensitivity

+ Fish Habitat

Fish Habitat Present Yes
DFO Manitoba Agricultural Watershed Classification: -
Fish Habitat Classification: Marginal

Fish Presence: Brook Trout, Northern Pike, Longnose Sucker, Burbot (FIHCS 2009)

Comments:
The RoW crosses Nine Mile Creek in the extreme headwaters of the creek. Habitat consists of wetland with poor channel definition, low habitat diversity, low overwintering potential and very little water. Only forage fish may be found at this site.

+ Habitat Sensitivity

Sensitivity Rating: Low
Comments:
Poor fish habitat, low flow and abundant vegetation at this crossing results in a low sensitivity rating.

Site 18 Unnamed Tributary of McMillan Creek

Location

Datum:	NAD 83	
UTM:	*Zone:*	14N
	Easting:	783392
	Northing:	6291918
Data Source:	DOI.Video	

General Morphology

Stream/Lake:	Stream
Pattern:	SI
Confinement:	UN
Stage:	Low
Flow Regime:	Ephemeral
Morphology:	LC
U/S Drainage:	0.2 km^2
Distance to Receiving Water:	McMillan Creek 11.3km

Site Conditions

+ Physical Data

Channel Profile

Channel and Flow

Wetted Width (m)	-
Channel Width (m)	-

Banks (%)

Right Bank Stability	100
Left Bank Stability	100

Riparian

Floodplain Distance (m)

Right Bank	41.9
Left Bank	23.6

Riparian Distance (m)

Right Bank	50.8
Left Bank	38.4

Riparian Vegetation Type (Y/N)

None	-
Grasses/sedges	Y
Shrubs	Y
Conifers	-
Deciduous	-
Mixed Forest	-

Canopy Cover (%) 0

Substrate

Substrate Type (%)

Fines	100
Small Gravel	-
Large Gravel	-
Cobble	-
Boulder	-

Cover Types

Total Cover Available (%)	-
Cover Composition (% of Total)	-
Large Woody Debris	-
Overhanging Vegetation	-
Instream Vegetation	-
Pool	-
Boulder	-
Undercut Bank	-
Surface Turbulence	-
Turbidity	-

Habitat Type

Habitat Composition

Pool	-
Run	-
Flat	-
Riffle	-
Rapid	-

Fish Habitat Classification and Sensitivity

+ Fish Habitat

Fish Habitat Present No
DFO Manitoba Agricultural Watershed Classification: -
Fish Habitat Classification: No Fish Habitat

Fish Presence: N/A

Comments:
The RoW crosses this unnamed headwater tributary of McMillan Creek. This site is an ephemeral headwater bog area of the creek with low habitat diversity and low overwintering potential. No fish are expected at this site.

+ Habitat Sensitivity

Sensitivity Rating: Low
Comments:
Lack of fish presence at this crossing results in a low sensitivity rating.

Site 19 Unnamed Tributary of McMillan Creek

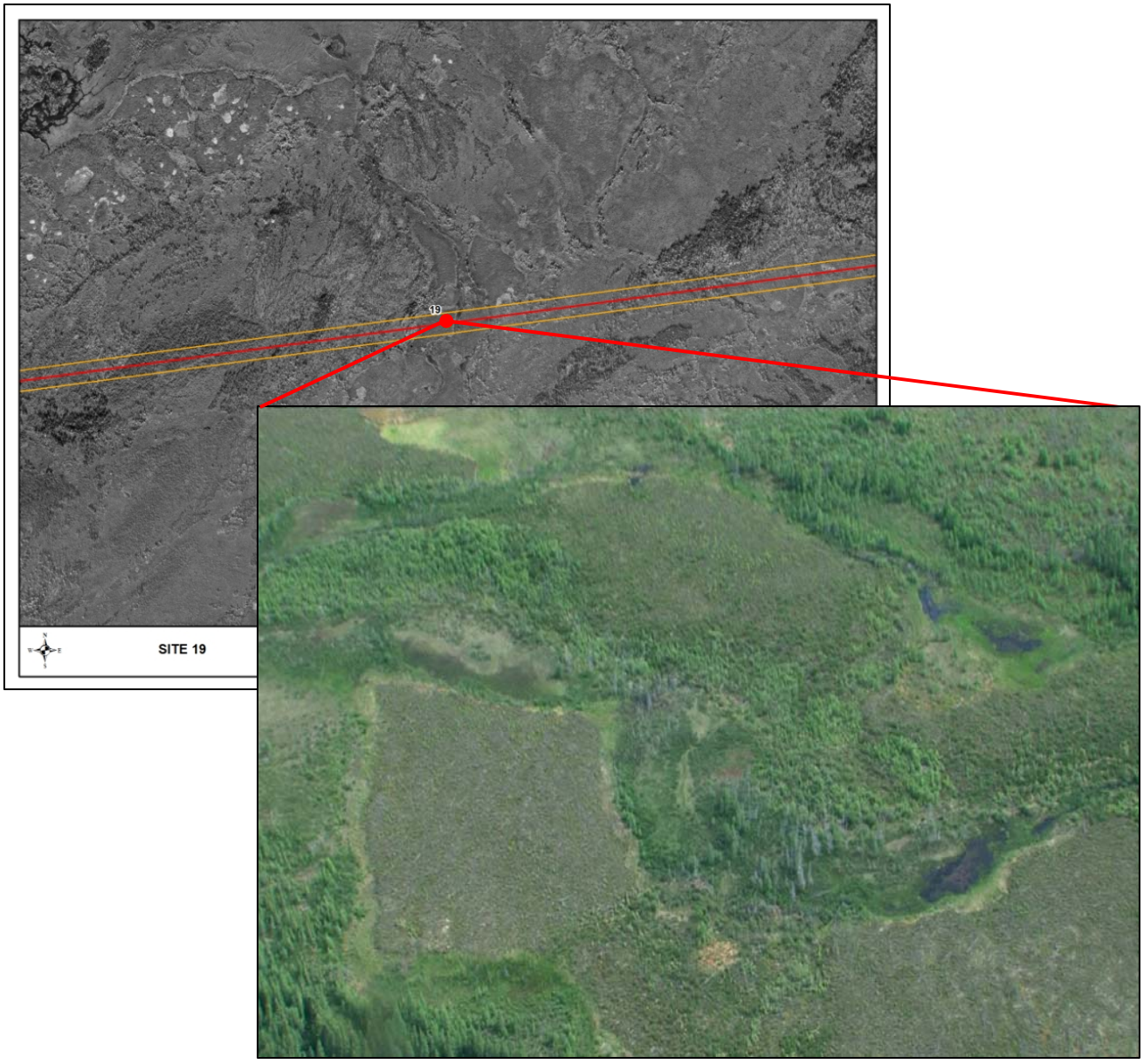
Location

Datum:	NAD 83	
UTM:	*Zone:*	14N
	Easting:	781481
	Northing:	6291660
Data Source:	DOI.Video	

General Morphology

Stream/Lake:	Stream
Pattern:	SI
Confinement:	UN
Stage:	Low
Flow Regime:	Ephemeral
Morphology:	-
U/S Drainage:	1.3 km^2

Distance to Receiving Water: McMillan Cr. 8.8 km



Site Conditions

+ Physical Data

Channel Profile

Channel and Flow

Wetted Width (m)	-
Channel Width (m)	-

Banks (%)

Right Bank Stability	100
Left Bank Stability	100

Riparian

Floodplain Distance (m)

Right Bank	14.9
Left Bank	9.97

Riparian Distance (m)

Right Bank	102.7
Left Bank	110.3

Riparian Vegetation Type (Y/N)

None	-
Grasses/sedges	Y
Shrubs	Y
Conifers	-
Deciduous	-
Mixed Forest	-

Canopy Cover (%) 0

Substrate

Substrate Type (%)

Fines	100
Small Gravel	-
Large Gravel	-
Cobble	-
Boulder	-

Cover Types

Total Cover Available (%)	-
Cover Composition (% of Total)	-
Large Woody Debris	-
Overhanging Vegetation	-
Instream Vegetation	-
Pool	-
Boulder	-
Undercut Bank	-
Surface Turbulence	-
Turbidity	-

Habitat Type

Habitat Composition

Pool	-
Run	-
Flat	-
Riffle	-
Rapid	-

Fish Habitat Classification and Sensitivity

+ Fish Habitat

Fish Habitat Present No
DFO Manitoba Agricultural Watershed Classification: -
Fish Habitat Classification: No Fish Habitat

Fish Presence: N/A

Comments:
The RoW crosses this unnamed headwater tributary of McMillan Creek. This site is an ephemeral headwater bog area of the creek with low habitat diversity and low overwintering potential. No fish are expected at this site.

+ Habitat Sensitivity

Sensitivity Rating: Low
Comments:
Lack of fish presence at this crossing results in a low sensitivity rating.

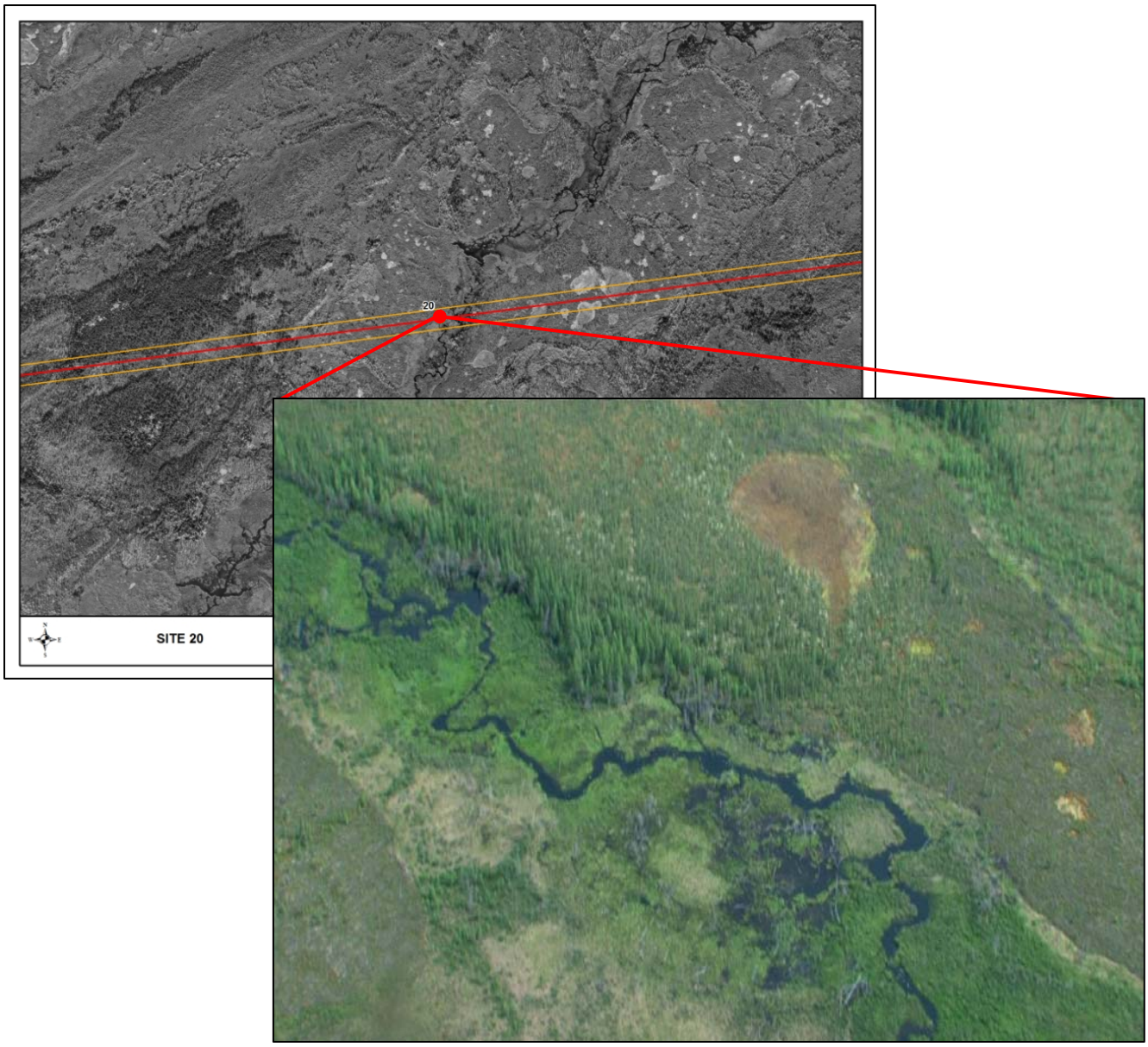
Site 20 Unnamed Tributary of McMillan Creek

Location

Datum:	NAD 83	
UTM:	*Zone:*	14N
	Easting:	779210
	Northing:	6291354
Data Source:	DOI.Video	

General Morphology

Stream/Lake:	Stream
Pattern:	IR
Confinement:	CO
Stage:	Moderate
Flow Regime:	Perennial
Morphology:	LC
U/S Drainage:	30.9 km^2
Distance to Receiving Water:	McMillan Cr. 5.0 km



Site Conditions

+ Physical Data

Channel Profile

Channel and Flow

Wetted Width (m)	22.6
Channel Width (m)	22.6

Banks (%)

Right Bank Stability	100
Left Bank Stability	100

Riparian

Floodplain Distance (m)

Right Bank	21.7
Left Bank	41.8

Riparian Distance (m)

Right Bank	56.1
Left Bank	70.3

Riparian Vegetation Type (Y/N)

None	-
Grasses/sedges	Y
Shrubs	Y
Conifers	Y
Deciduous	-
Mixed Forest	-

Canopy Cover (%) 0

Substrate

Substrate Type (%)

Fines	100
Small Gravel	-
Large Gravel	-
Cobble	-
Boulder	-

Cover Types

Total Cover Available (%)	30
Cover Composition (% of Total)	-
Large Woody Debris	-
Overhanging Vegetation	40
Instream Vegetation	60
Pool	-
Boulder	-
Undercut Bank	-
Surface Turbulence	-
Turbidity	-

Habitat Type

Habitat Composition

Pool	-
Run	100
Flat	-
Riffle	-
Rapid	-

Fish Habitat Classification and Sensitivity

+ Fish Habitat

Fish Habitat Present Yes
DFO Manitoba Agricultural Watershed Classification: -
Fish Habitat Classification: Marginal

Fish Presence: N/A

Comments:
The RoW crosses this unnamed headwater tributary of McMillan Creek approximately 6km from McMillan Creek. The site provides moderate habitat diversity and potential for overwintering. Minnow species are expected at this crossing.

+ Habitat Sensitivity

Sensitivity Rating: Moderate
Comments:
The floodplain is saturated and sensitive to damage in an area with fish presence.

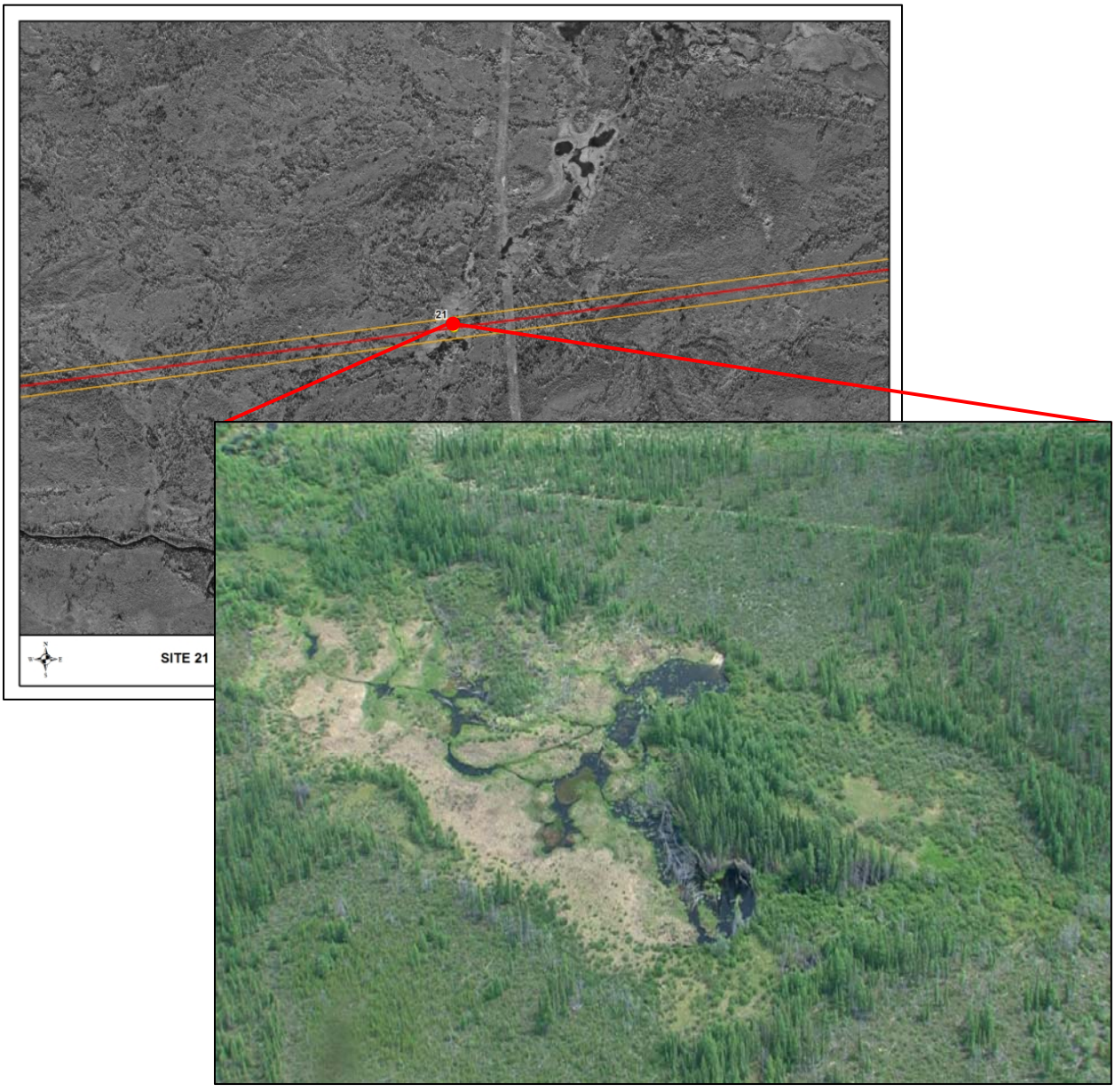
Site 21 Unnamed Tributary of McMillan Creek

Location

Datum:	NAD 83	
UTM:	*Zone:*	14N
	Easting:	773472
	Northing:	6290582
Data Source:	DOI.Video	

General Morphology

Stream/Lake:	Stream
Pattern:	SI
Confinement:	FC
Stage:	Moderate
Flow Regime:	Perennial
Morphology:	LC
U/S Drainage:	9.0 km^2
Distance to Receiving Water:	McMillan Creek 0.9km



Site Conditions

+ Physical Data

Channel Profile

Channel and Flow

Wetted Width (m)	3.2
Channel Width (m)	3.2
Banks (%)	
Right Bank Stability	100
Left Bank Stability	100

Riparian

Floodplain Distance (m)	
Right Bank	60.4
Left Bank	70.9
Riparian Distance (m)	
Right Bank	75.7
Left Bank	79.2
Riparian Vegetation Type (Y/N)	
None	-
Grasses/sedges	Y
Shrubs	-
Conifers	Y
Deciduous	-
Mixed Forest	-
Canopy Cover (%)	-

Substrate

Substrate Type (%)	
Fines	100
Small Gravel	-
Large Gravel	-
Cobble	-
Boulder	-

Cover Types

Total Cover Available (%)	20
Cover Composition (% of Total)	-
Large Woody Debris	-
Overhanging Vegetation	-
Instream Vegetation	50
Pool	50
Boulder	-
Undercut Bank	-
Surface Turbulence	-
Turbidity	-

Habitat Type

Habitat Composition	
Pool	20
Run	80
Flat	-
Riffle	-
Rapid	-

Fish Habitat Classification and Sensitivity

+ Fish Habitat

Fish Habitat Present Yes
DFO Manitoba Agricultural Watershed Classification: -
Fish Habitat Classification: Marginal

Fish Presence: N/A

Comments:
The RoW crosses this unnamed headwater tributary of McMillan Creek approximately 0.9km from McMillan Creek. The site provides moderate habitat diversity and potential for overwintering. Minnow species are expected at this crossing.

+ Habitat Sensitivity

Sensitivity Rating: Moderate
Comments:
The floodplain is saturated and sensitive to damage in an area with fish presence.
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Site 22

McMillan Creek

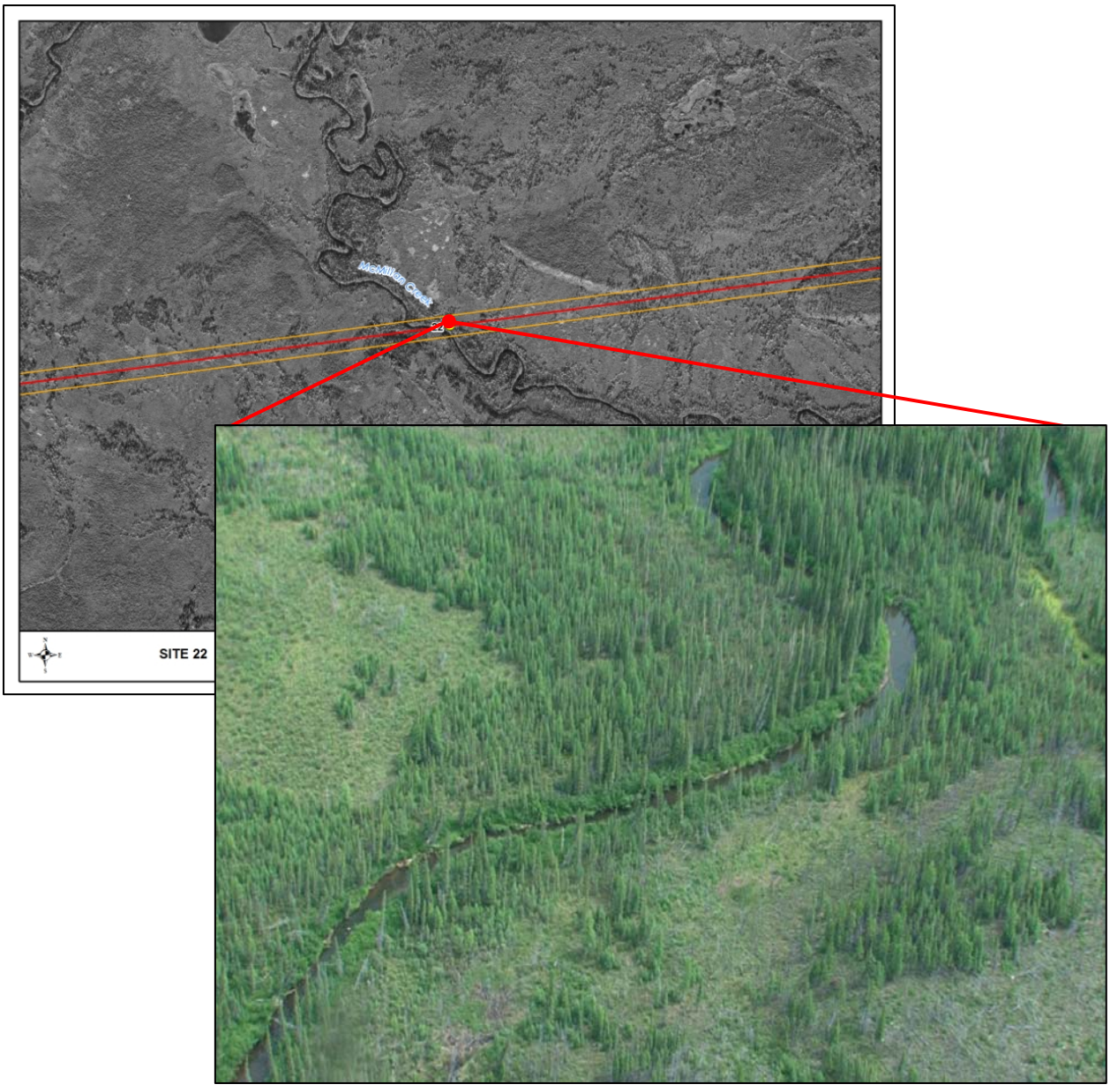
Location

Datum:	NAD 83	
UTM:	*Zone:*	14N
	Easting:	770214
	Northing:	6290143
Data Source:	DOI. Video. Site visit	

General Morphology

Stream/Lake:	Stream
Pattern:	IM
Confinement:	CO
Stage:	Moderate
Flow Regime:	Perennial
Morphology:	LC
U/S Drainage:	343.3 km^2

Distance to Receiving Water: Limestone R. 12 km



Site Conditions

+ Physical Data

Survey Date: 13 October 2010 **Stage:** Moderate

Transect	**1**	**2**	**3**	**4**	**5**
Distance from Crossing (m)	0	33 US	33 DS	150 US	150 DS
Channel Profile					
Channel and Flow					
Channel Width (m)	5.0	-	-	-	-
Wetted Width (m)	5.0	-	-	-	-
Water Depths (m)					
25%	1.0	-	-	-	-
50%	-	-	-	-	-
75%	-	-	-	-	-
Max	-	-	-	-	-
Banks (%)					
Right Bank Stability	70	-	-	-	-
Left Bank Stability	40	-	-	-	-
Riparian					
Floodplain Distance (m)					
Right Bank	-	-	-	-	-
Left Bank	-	-	-	-	-
Riparian Distance (m)					
Right Bank	6.0	-	-	-	-
Left Bank	6.0	-	-	-	-
Riparian Vegetation Type (Y/N)					
None	-	-	-	-	-
Grasses/sedges	Y	-	-	-	-
Shrubs	Y	-	-	-	-
Conifers	-	-	-	-	-
Deciduous	-	-	-	-	-
Mixed Forest	-	-	-	-	-
Canopy Cover (%)	5	-	-	-	-
Substrate					
Substrate Type (%)					
Fines	100	-	-	-	-
Small Gravel	-	-	-	-	-
Large Gravel	-	-	-	-	-
Cobble	-	-	-	-	-
Boulder	-	-	-	-	-
Habitat Type					
Habitat Composition (%)					
Pool	-	-	-	-	
Run	100	-	-	-	
Riffle	-	-	-	-	

Cover Types		
Total Cover Available (%)	US	DS
Cover Composition (% of Total)	5	-
Large Woody Debris	50	-
Overhanging Vegetation	50	-
Instream Vegetation	-	-
Pool	-	-
Boulder	-	-
Undercut Bank	-	-
Surface Turbulence	-	-

Overhead view of site 22 from helicopter

Upstream view at site 22

Downstream view at site 22

Left bank to right bank view at site 22

Fish Habitat Classification and Sensitivity

+ Fish Habitat

Fish Habitat Present Yes
DFO Manitoba Agricultural Watershed Classification: -
Fish Habitat Classification: Important

Fish Presence: Brook trout, Northern pike (FIHCS 2009)

Comments:
The RoW crosses McMillan Creek approximately 2.8km south of McMillan Lake. The site provides moderate habitat diversity and potential for overwintering. Large-bodied indicator species have been documented within McMillan Creek Both large bodied and minnow species are expected at this site.

+ Habitat Sensitivity

Sensitivity Rating: Low
Comments:
Though important habitat, stable vegetated banks result in a low sensitivity rating.

Site 23 Unnamed Tributary of McMillan Creek

Location

Datum:	NAD 83	
UTM:	*Zone:*	14N
	Easting:	768847
	Northing:	6289959
Data Source:	DOI.Video	

General Morphology

Stream/Lake:	Stream
Pattern:	SI
Confinement:	UN
Stage:	Low
Flow Regime:	Ephemeral
Morphology:	-
U/S Drainage:	1.2 km^2

Distance to Receiving Water: McMillan Cr. 0.5 km

Site Conditions

+ Physical Data

Channel Profile

Channel and Flow

Wetted Width (m)	-
Channel Width (m)	-

Banks (%)

Right Bank Stability	100
Left Bank Stability	100

Riparian

Floodplain Distance (m)

Right Bank	-
Left Bank	-

Riparian Distance (m)

Right Bank	-
Left Bank	-

Riparian Vegetation Type (Y/N)

None	-
Grasses/sedges	Y
Shrubs	Y
Conifers	Y
Deciduous	-
Mixed Forest	-

Canopy Cover (%) -

Substrate

Substrate Type (%)

Fines	-
Small Gravel	-
Large Gravel	-
Cobble	-
Boulder	-

Cover Types

Total Cover Available (%)	-
Cover Composition (% of Total)	-
Large Woody Debris	-
Overhanging Vegetation	-
Instream Vegetation	-
Pool	-
Boulder	-
Undercut Bank	-
Surface Turbulence	-
Turbidity	-

Habitat Type

Habitat Composition

Pool	-
Run	-
Flat	-
Riffle	-
Rapid	-

Fish Habitat Classification and Sensitivity

+ Fish Habitat

Fish Habitat Present	No
DFO Manitoba Agricultural Watershed Classification:	-
Fish Habitat Classification:	No Fish Habitat

Fish Presence: N/A

Comments:
The RoW crosses this unknown tributary of McMillan Creek. The site is an ephemeral headwater bog area of the creek with low habitat diversity, low water and low overwintering potential. Fish are not expected at this site.

+ Habitat Sensitivity

Sensitivity Rating: Low
Comments:
No fish habitat results in a low sensitivity rating.

Site 24 Unnamed Tributary of McMillan Creek

Location

Datum:	NAD 83	
UTM:	*Zone:*	14N
	Easting:	768709
	Northing:	6289940
Data Source:	DOI.Video	

General Morphology

Stream/Lake:	Stream
Pattern:	SI
Confinement:	UN
Stage:	Low
Flow Regime:	Ephemeral
Morphology:	-
U/S Drainage:	2.8 km^2

Distance to Receiving Water: McMillan Cr. 0.5 km

Site Conditions

+ Physical Data

Channel Profile

Channel and Flow	
Wetted Width (m)	-
Channel Width (m)	-
Banks (%)	
Right Bank Stability	100
Left Bank Stability	100

Riparian

Floodplain Distance (m)	
Right Bank	-
Left Bank	-
Riparian Distance (m)	
Right Bank	-
Left Bank	-
Riparian Vegetation Type (Y/N)	
None	-
Grasses/sedges	Y
Shrubs	Y
Conifers	Y
Deciduous	-
Mixed Forest	-
Canopy Cover (%)	-

Substrate

Substrate Type (%)	
Fines	-
Small Gravel	-
Large Gravel	-
Cobble	-
Boulder	-

Cover Types

Total Cover Available (%)	-
Cover Composition (% of Total)	-
Large Woody Debris	-
Overhanging Vegetation	-
Instream Vegetation	-
Pool	-
Boulder	-
Undercut Bank	-
Surface Turbulence	-
Turbidity	-

Habitat Type

Habitat Composition	
Pool	-
Run	-
Flat	-
Riffle	-
Rapid	-

Fish Habitat Classification and Sensitivity

+ Fish Habitat

Fish Habitat Present No
DFO Manitoba Agricultural Watershed Classification: -
Fish Habitat Classification: No Fish Habitat

Fish Presence: N/A

Comments:
The RoW crosses this unknown tributary of McMillan Creek. The site is an ephemeral headwater bog area of the creek with low habitat diversity, low water and low overwintering potential. Fish are not expected at this site.

+ Habitat Sensitivity

Sensitivity Rating: Low
Comments:
No fish habitat results in a low sensitivity rating.

Site 25 Unnamed Tributary of McMillan Creek

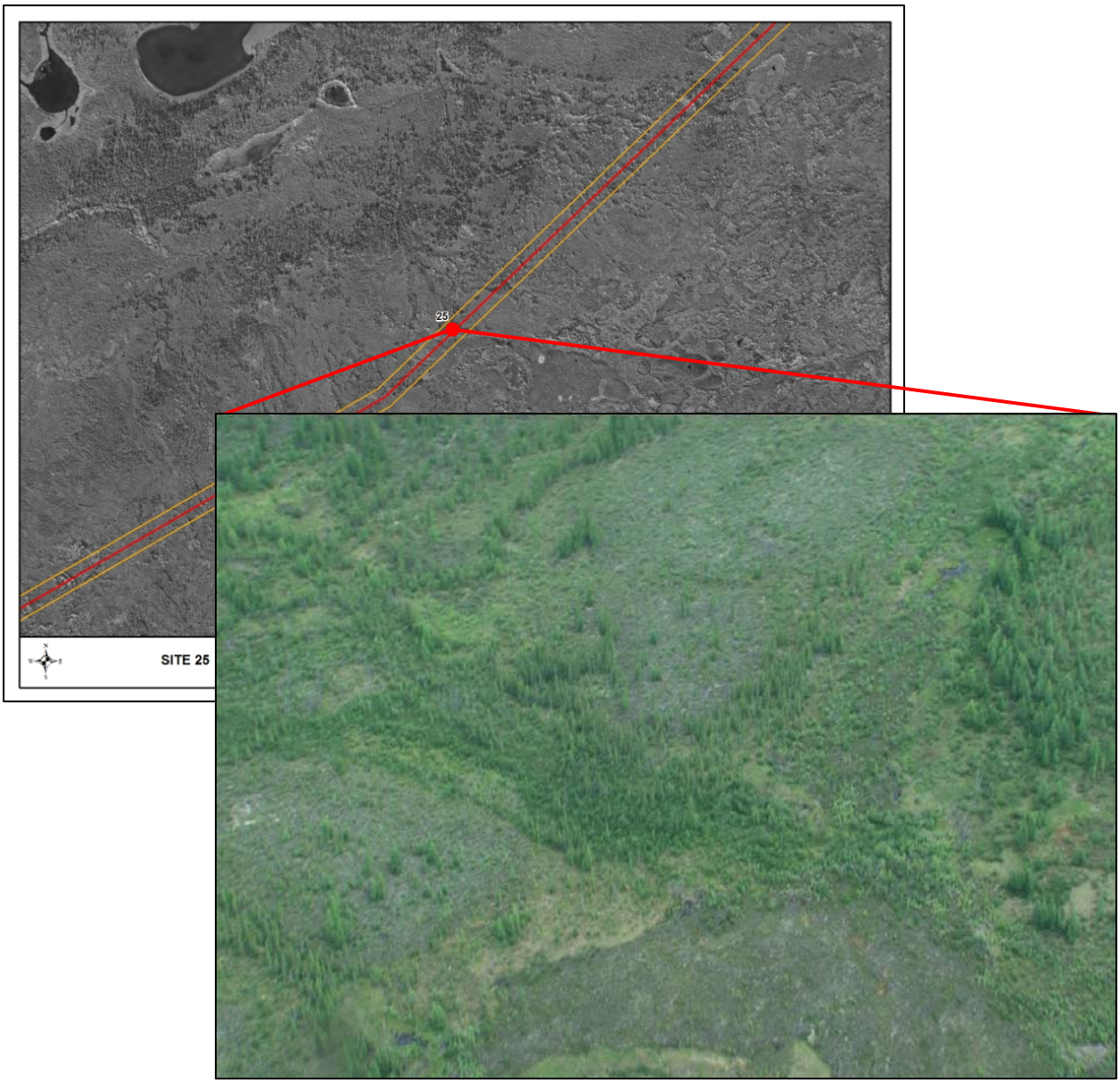
Location

Datum:	NAD 83	
UTM:	*Zone:*	14N
	Easting:	759726
	Northing:	6283711
Data Source:	DOI.Video	

General Morphology

Stream/Lake:	Stream
Pattern:	SI
Confinement:	UN
Stage:	Low
Flow Regime:	Ephemeral
Morphology:	-
U/S Drainage:	0.3 km^2

Distance to Receiving Water: McMillan Cr. 7 km



Site Conditions

+ Physical Data

Channel Profile

Channel and Flow	
Wetted Width (m)	-
Channel Width (m)	-
Banks (%)	
Right Bank Stability	100
Left Bank Stability	100

Riparian

Floodplain Distance (m)	
Right Bank	-
Left Bank	-
Riparian Distance (m)	
Right Bank	-
Left Bank	-
Riparian Vegetation Type (Y/N)	
None	-
Grasses/sedges	Y
Shrubs	Y
Conifers	Y
Deciduous	-
Mixed Forest	-
Canopy Cover (%)	-

Substrate

Substrate Type (%)	
Fines	-
Small Gravel	-
Large Gravel	-
Cobble	-
Boulder	-

Cover Types

Total Cover Available (%)	-
Cover Composition (% of Total)	-
Large Woody Debris	-
Overhanging Vegetation	-
Instream Vegetation	-
Pool	-
Boulder	-
Undercut Bank	-
Surface Turbulence	-
Turbidity	-

Habitat Type

Habitat Composition	
Pool	-
Run	-
Flat	-
Riffle	-
Rapid	-

Fish Habitat Classification and Sensitivity

+ Fish Habitat

Fish Habitat Present No
DFO Manitoba Agricultural Watershed Classification: -
Fish Habitat Classification: No Fish Habitat

Fish Presence: N/A

Comments:
The RoW crosses this unknown tributary of McMillan Creek. The site is an ephemeral headwater bog area of the creek with low habitat diversity, low water and low overwintering potential. Fish are not expected at this site.

+ Habitat Sensitivity

Sensitivity Rating: Low
Comments:
No fish habitat results in a low sensitivity rating.

Site 26 Unnamed Tributary of Limestone River

Location

Datum:	NAD 83	
UTM:	*Zone:*	14N
	Easting:	755973
	Northing:	6281452
Data Source:	DOI.Video	

General Morphology

Stream/Lake:	Stream
Pattern:	SI
Confinement:	UN
Stage:	Low
Flow Regime:	Ephemeral
Morphology:	-
U/S Drainage:	1.8 km^2

Distance to Receiving Water: Limestone R. 1.5 km

Site Conditions

+ Physical Data

Channel Profile

Channel and Flow

Wetted Width (m)	-
Channel Width (m)	-

Banks (%)

Right Bank Stability	100
Left Bank Stability	100

Riparian

Floodplain Distance (m)

Right Bank	-
Left Bank	-

Riparian Distance (m)

Right Bank	-
Left Bank	-

Riparian Vegetation Type (Y/N)

None	-
Grasses/sedges	Y
Shrubs	Y
Conifers	-
Deciduous	-
Mixed Forest	-

Canopy Cover (%) -

Substrate

Substrate Type (%)

Fines	-
Small Gravel	-
Large Gravel	-
Cobble	-
Boulder	-

Cover Types

Total Cover Available (%)	-
Cover Composition (% of Total)	-
Large Woody Debris	-
Overhanging Vegetation	-
Instream Vegetation	-
Pool	-
Boulder	-
Undercut Bank	-
Surface Turbulence	-
Turbidity	-

Habitat Type

Habitat Composition

Pool	-
Run	-
Flat	-
Riffle	-
Rapid	-

Fish Habitat Classification and Sensitivity

+ Fish Habitat

Fish Habitat Present	No
DFO Manitoba Agricultural Watershed Classification:	-
Fish Habitat Classification:	No Fish Habitat

Fish Presence: N/A

Comments:
The RoW crosses this unknown tributary of Limestone River. The site is an ephemeral headwater bog area of the creek with low habitat diversity, low water and low overwintering potential. Fish are not expected at this site.

+ Habitat Sensitivity

Sensitivity Rating: Low
Comments:
No fish habitat results in a low sensitivity rating.

Site 27

Limestone River

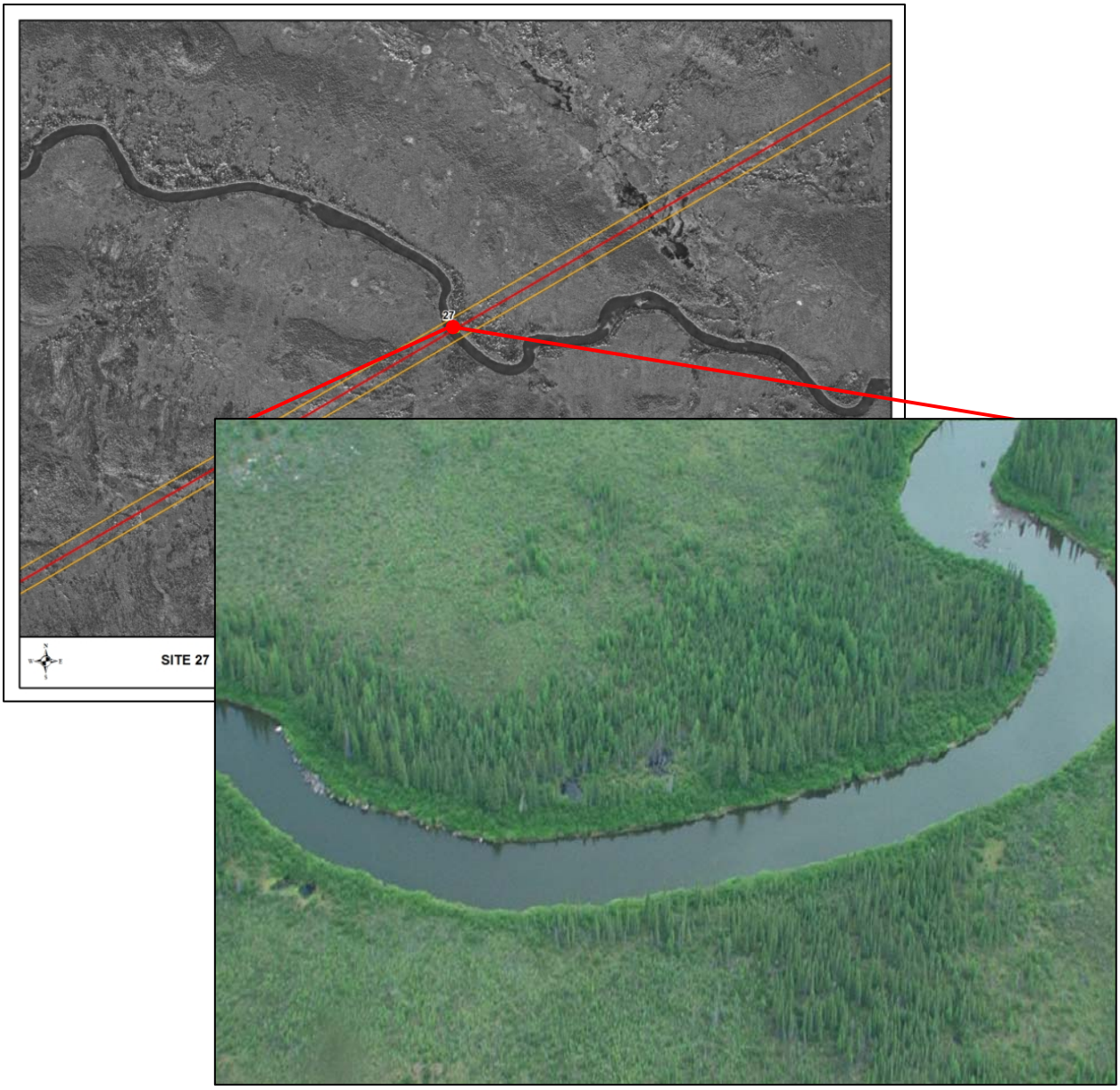
Location

Datum:	NAD 83	
UTM:	*Zone:*	14N
	Easting:	754292
	Northing:	6280478
Data Source:	DOI. Video. Site visit	

General Morphology

Stream/Lake:	Stream
Pattern:	IM
Confinement:	CO
Stage:	Moderate
Flow Regime:	Perennial
Morphology:	LC
U/S Drainage:	2012.4 km^2

Distance to Receiving Water: Nelson River 78 km



Site Conditions

+ Physical Data

Survey Date: 13 October 2010 **Stage:** Moderate

Transect	**1**	**2**	**3**	**4**	**5**
Distance from Crossing (m)	0	33 US	33 DS	150 US	150 DS
Channel Profile					
Channel and Flow					
Channel Width (m)	12.0	-	-	-	-
Wetted Width (m)	12.0	-	-	-	-
Water Depths (m)					
25%	0.7	-	-	-	-
50%	-	-	-	-	-
75%	-	-	-	-	-
Max	-	-	-	-	-
Banks (%)					
Right Bank Stability	100	-	-	-	-
Left Bank Stability	100	-	-	-	-
Riparian					
Floodplain Distance (m)					
Right Bank	-	-	-	-	-
Left Bank	-	-	-	-	-
Riparian Distance (m)					
Right Bank	-	-	-	-	-
Left Bank	4.9	-	-	-	-
Riparian Vegetation Type (Y/N)					
None	-	-	-	-	-
Grasses/sedges	Y	-	-	-	-
Shrubs	Y	-	-	-	-
Conifers	-	-	-	-	-
Deciduous	-	-	-	-	-
Mixed Forest	-	-	-	-	-
Canopy Cover (%)	0	-	-	-	-
Substrate					
Substrate Type (%)					
Fines	100	-	-	-	-
Small Gravel	-	-	-	-	-
Large Gravel	-	-	-	-	-
Cobble	-	-	-	-	-
Boulder	-	-	-	-	-
Habitat Type					
Habitat Composition (%)					
Pool	-	-	-	-	
Run	100	-	-	-	
Riffle	-	-	-	-	
Cover Types					
Total Cover Available (%)		US	DS		
Cover Composition (% of Total)		5	-		
Large Woody Debris		-	-		
Overhanging Vegetation		100	-		
Instream Vegetation		-	-		
Pool		-	-		
Boulder		-	-		
Undercut Bank		-	-		
Surface Turbulence		-	-		

Overhead view of site 27

Upstream view at site 27

Downstream view at site 27

Left bank to right bank view at site 27

Fish Habitat Classification and Sensitivity

+ Fish Habitat

Fish Habitat Present Yes
DFO Manitoba Agricultural Watershed Classification: -
Fish Habitat Classification: Important

Fish Presence: Brook trout, burbot, cisco, freshwater drum, lake sturgeon, lake whitefish, longnose sucker, Northern pike, shorthead redhorse, sliver lamprey (FIHCS 2009)

Comments:
The RoW crosses the Limestone River. This site provides high habitat diversity for fish including habitat for spawning, rearing, feeding, overwintering and migration. Indicator species have been documented within the Limestone river. Various life stages of fish are expected at this site.

+ Habitat Sensitivity

Sensitivity Rating: Low
Comments:
Though important habitat, stable vegetated banks result in a low sensitivity rating.

Site 28

Limestone River

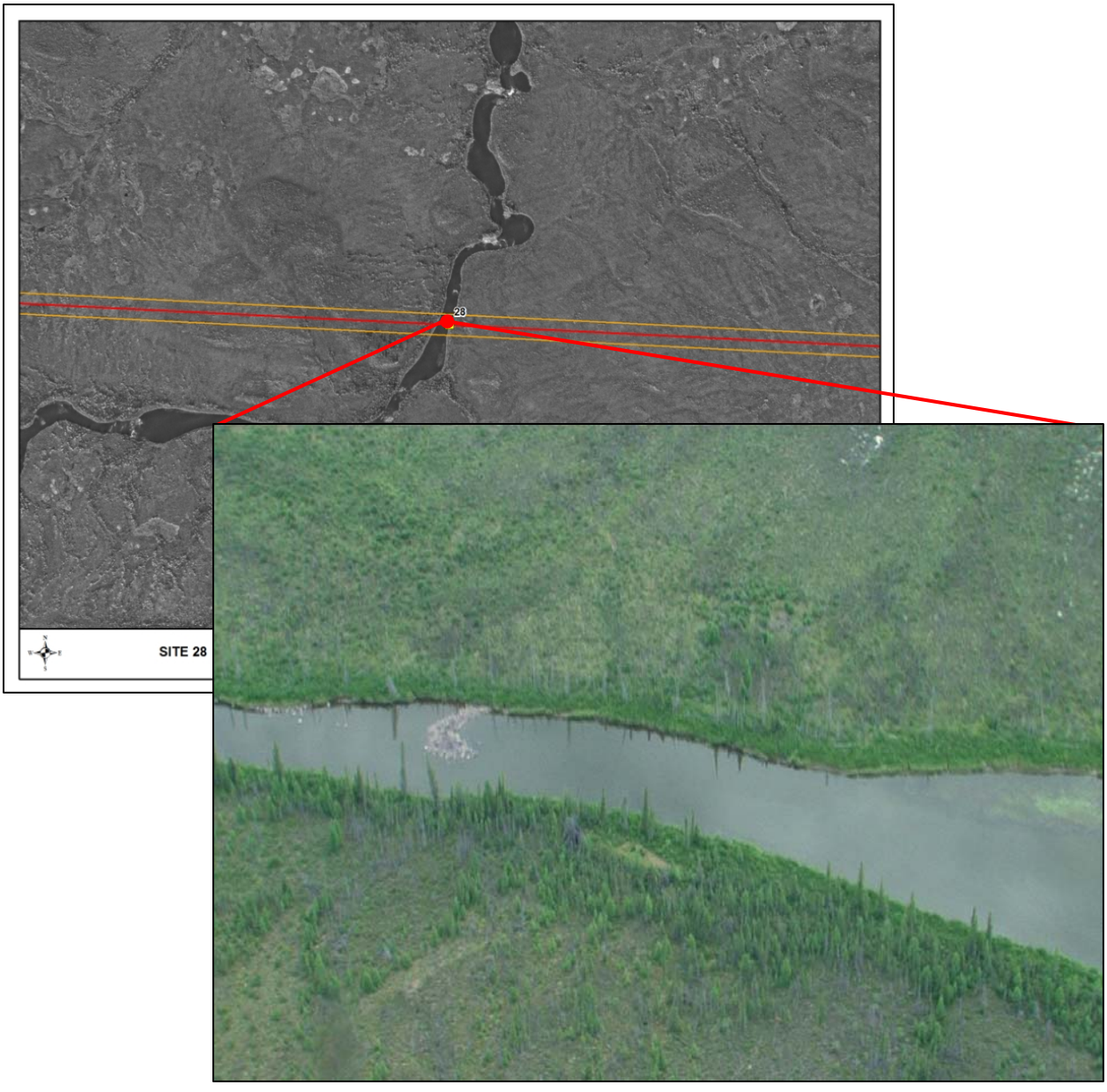
Location

Datum:	NAD 83	
UTM:	*Zone:*	14N
	Easting:	745068
	Northing:	6278994
Data Source:	DOI. Video. Site visit	

General Morphology

Stream/Lake:	Stream
Pattern:	IM
Confinement:	CO
Stage:	Moderate
Flow Regime:	Perennial
Morphology:	LC
U/S Drainage:	1893.6 km^2

Distance to Receiving Water: Nelson River 92.3 km



Site Conditions

+ Physical Data

Survey Date: 13 October 2010 **Stage:** Moderate

Transect	**1**	**2**	**3**	**4**	**5**
Distance from Crossing (m)	0	33 US	33 DS	150 US	150 DS
Channel Profile					
Channel and Flow					
Channel Width (m)	15.0	-	-	-	-
Wetted Width (m)	15.0	-	-	-	-
Water Depths (m)					
25%	0.6	-	-	-	-
50%	-	-	-	-	-
75%	-	-	-	-	-
Max	-	-	-	-	-
Banks (%)					
Right Bank Stability	100	-	-	-	-
Left Bank Stability	100	-	-	-	-
Riparian					
Floodplain Distance (m)					
Right Bank	-	-	-	-	-
Left Bank	-	-	-	-	-
Riparian Distance (m)					
Right Bank	9.8	-	-	-	-
Left Bank	-	-	-	-	-
Riparian Vegetation Type (Y/N)					
None	-	-	-	-	-
Grasses/sedges	Y	-	-	-	-
Shrubs	Y	-	-	-	-
Conifers	-	-	-	-	-
Deciduous	-	-	-	-	-
Mixed Forest	-	-	-	-	-
Canopy Cover (%)	0	-	-	-	-
Substrate					
Substrate Type (%)					
Fines	100	-	-	-	-
Small Gravel	-	-	-	-	-
Large Gravel	-	-	-	-	-
Cobble	-	-	-	-	-
Boulder	-	-	-	-	-
Habitat Type					
Habitat Composition (%)					
Pool	-	-	-	-	
Run	100	-	-	-	
Riffle	-	-	-	-	
Cover Types					
Total Cover Available (%)		US	DS		
Cover Composition (% of Total)		Trace	-		
Large Woody Debris		-	-		
Overhanging Vegetation		100	-		
Instream Vegetation		-	-		
Pool		-	-		
Boulder		-	-		
Undercut Bank		-	-		
Surface Turbulence		-	-		

Overhead view of site 28 from helicopter

Upstream view at site 28

Downstream view at site 28

Right bank to left bank view at site 28

Fish Habitat Classification and Sensitivity

+ Fish Habitat

Fish Habitat Present Yes
DFO Manitoba Agricultural Watershed Classification: -
Fish Habitat Classification: Important

Fish Presence: Brook trout, burbot, cisco, freshwater drum, lake sturgeon, lake whitefish, longnose sucker, Northern pike, shorthead redhorse, sliver lamprey (FIHCS 2009)

Comments:
The RoW crosses the Limestone River. This site provides high habitat diversity for fish including habitat for spawning, rearing, feeding, overwintering and migration. Indicator species have been documented within the Limestone river. Various life stages of fish are expected at this site.

+ Habitat Sensitivity

Sensitivity Rating: Low
Comments:
Though important habitat, stable vegetated banks result in a low sensitivity rating.

Site 29 Unnamed Tributary of Limestone River

Location

Datum:	NAD 83	
UTM:	*Zone:*	14N
	Easting:	739918
	Northing:	6279251
Data Source:	DOI.Video	

General Morphology

Stream/Lake:	Stream
Pattern:	SI
Confinement:	UN
Stage:	Moderate
Flow Regime:	Ephemeral
Morphology:	LC
U/S Drainage:	3.2 km^2
Distance to Receiving Water:	Limestone River 0.6km

Site Conditions

+ Physical Data

Channel Profile

Channel and Flow

Wetted Width (m)	3.3
Channel Width (m)	3.3
Banks (%)	
Right Bank Stability	100
Left Bank Stability	100

Riparian

Floodplain Distance (m)	
Right Bank	75.0
Left Bank	5.32
Riparian Distance (m)	
Right Bank	29.5
Left Bank	14.0
Riparian Vegetation Type (Y/N)	
None	-
Grasses/sedges	Y
Shrubs	-
Conifers	Y
Deciduous	-
Mixed Forest	-
Canopy Cover (%)	Trace

Substrate

Substrate Type (%)	
Fines	100
Small Gravel	-
Large Gravel	-
Cobble	-
Boulder	-

Cover Types

Total Cover Available (%)	20
Cover Composition (% of Total)	-
Large Woody Debris	-
Overhanging Vegetation	50
Instream Vegetation	50
Pool	-
Boulder	-
Undercut Bank	-
Surface Turbulence	-
Turbidity	-

Habitat Type

Habitat Composition	
Pool	20
Run	80
Flat	-
Riffle	-
Rapid	-

Fish Habitat Classification and Sensitivity

+ Fish Habitat

Fish Habitat Present Yes
DFO Manitoba Agricultural Watershed Classification: -
Fish Habitat Classification: Marginal

Fish Presence: N/A

Comments:
The RoW crosses this unknown tributary of Limestone River 0.6km north of the Limestone River. The tributary is an ephemeral stream with low habitat diversity and low overwintering potential. Site 28 is expected to support predominantly minnow species, but may support large bodied species.

+ Habitat Sensitivity

Sensitivity Rating: Moderate
Comments:
The potential for fish presence and a saturated floodplain result in a moderate sensitivity rating.

Site 30 Unnamed Tributary of Limestone River

Location

Datum:	NAD 83	
UTM:	*Zone:*	14N
	Easting:	735678
	Northing:	6279272
Data Source:	DOI.Video	

General Morphology

Stream/Lake:	Stream
Pattern:	IR
Confinement:	UN
Stage:	Low
Flow Regime:	Ephemeral
Morphology:	LC
U/S Drainage:	1.8 km^2
Distance to Receiving Water:	Limestone R. 5 km

Site Conditions

+ Physical Data

Channel Profile

Channel and Flow	
Wetted Width (m)	-
Channel Width (m)	1.9
Banks (%)	
Right Bank Stability	100
Left Bank Stability	100

Riparian

Floodplain Distance (m)	
Right Bank	-
Left Bank	-
Riparian Distance (m)	
Right Bank	3.6
Left Bank	8.3
Riparian Vegetation Type (Y/N)	
None	-
Grasses/sedges	-
Shrubs	Y
Conifers	Y
Deciduous	-
Mixed Forest	-
Canopy Cover (%)	Trace

Substrate

Substrate Type (%)	
Fines	70
Small Gravel	10
Large Gravel	10
Cobble	10
Boulder	-

Cover Types

Total Cover Available (%)	-
Cover Composition (% of Total)	-
Large Woody Debris	-
Overhanging Vegetation	-
Instream Vegetation	-
Pool	-
Boulder	-
Undercut Bank	-
Surface Turbulence	-
Turbidity	-

Habitat Type

Habitat Composition	
Pool	-
Run	-
Flat	-
Riffle	-
Rapid	-

Fish Habitat Classification and Sensitivity

+ Fish Habitat

Fish Habitat Present Yes
DFO Manitoba Agricultural Watershed Classification: -
Fish Habitat Classification: Marginal

Fish Presence: N/A

Comments:
The RoW crosses this unknown tributary of the Limestone River. The tributary is an ephemeral stream with low habitat diversity and low overwintering potential. Forage fish may use this stream.

+ Habitat Sensitivity

Sensitivity Rating: Low
Comments:
Stable vegetated banks and poor fish habitat result in a low sensitivity rating.

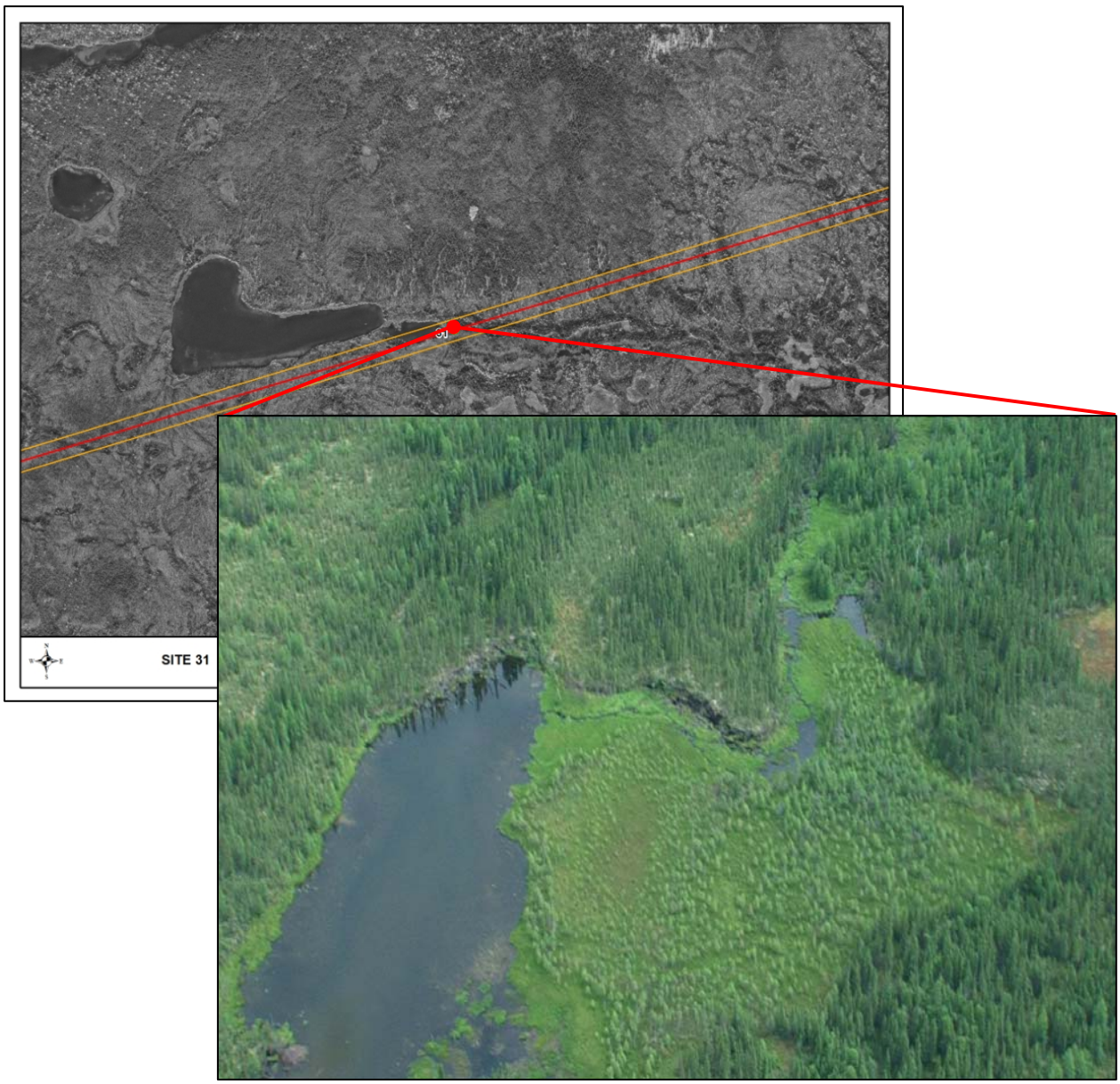
Site 31 Unnamed Tributary of Limestone River

Location

Datum:	NAD 83	
UTM:	*Zone:*	14N
	Easting:	733302
	Northing:	6278553
Data Source:	DOI.Video	

General Morphology

Stream/Lake:	Stream
Pattern:	IR
Confinement:	UN
Stage:	Moderate
Flow Regime:	Ephemeral
Morphology:	LC
U/S Drainage:	2.0 km^2
Distance to Receiving Water:	Limestone R. 5 km



Site Conditions

+ Physical Data

Channel Profile

Channel and Flow

Wetted Width (m)	-
Channel Width (m)	-

Banks (%)

Right Bank Stability	100
Left Bank Stability	100

Riparian

Floodplain Distance (m)

Right Bank	-
Left Bank	-

Riparian Distance (m)

Right Bank	-
Left Bank	-

Riparian Vegetation Type (Y/N)

None	-
Grasses/sedges	Y
Shrubs	-
Conifers	Y
Deciduous	-
Mixed Forest	-

Canopy Cover (%) Trace

Substrate

Substrate Type (%)

Fines	100
Small Gravel	-
Large Gravel	-
Cobble	-
Boulder	-

Cover Types

Total Cover Available (%)	50
Cover Composition (% of Total)	-
Large Woody Debris	20
Overhanging Vegetation	-
Instream Vegetation	50
Pool	20
Boulder	-
Undercut Bank	-
Surface Turbulence	-
Turbidity	-

Habitat Type

Habitat Composition

Pool	20
Run	80
Flat	-
Riffle	-
Rapid	-

Fish Habitat Classification and Sensitivity

+ Fish Habitat

Fish Habitat Present Yes
DFO Manitoba Agricultural Watershed Classification: -
Fish Habitat Classification: Marginal

Fish Presence: N/A

Comments:
The RoW crosses this unknown tributary of the Limestone River. The tributary is a headwater ephemeral stream with moderate habitat diversity and low overwintering potential. It is expected to support minnow populations only.

+ Habitat Sensitivity

Sensitivity Rating: Moderate
Comments:
The floodplain is saturated and sensitive to damage in an area with fish presence, resulting in a moderate sensitivity rating.

Site 32 Unnamed Tributary of Unnamed Lake

Location

Datum:	NAD 83	
UTM:	*Zone:*	14N
	Easting:	731827
	Northing:	6278107
Data Source:	DOI.Video	

General Morphology

Stream/Lake:	Stream
Pattern:	IR
Confinement:	UN
Stage:	Low
Flow Regime:	Ephemeral
Morphology:	LC
U/S Drainage:	1.7 km^2
Distance to Receiving Water:	Unnamed Lake 0.3km

Site Conditions

+ Physical Data

Channel Profile

Channel and Flow

Wetted Width (m)	-
Channel Width (m)	-

Banks (%)

Right Bank Stability	100
Left Bank Stability	100

Riparian

Floodplain Distance (m)

Right Bank	-
Left Bank	-

Riparian Distance (m)

Right Bank	-
Left Bank	-

Riparian Vegetation Type (Y/N)

None	-
Grasses/sedges	Y
Shrubs	-
Conifers	Y
Deciduous	-
Mixed Forest	-

Canopy Cover (%) -

Substrate

Substrate Type (%)

Fines	-
Small Gravel	-
Large Gravel	-
Cobble	-
Boulder	-

Cover Types

Total Cover Available (%)	-
Cover Composition (% of Total)	-
Large Woody Debris	-
Overhanging Vegetation	-
Instream Vegetation	-
Pool	-
Boulder	-
Undercut Bank	-
Surface Turbulence	-
Turbidity	-

Habitat Type

Habitat Composition

Pool	-
Run	-
Flat	-
Riffle	-
Rapid	-

Fish Habitat Classification and Sensitivity

+ Fish Habitat

Fish Habitat Present Yes
DFO Manitoba Agricultural Watershed Classification: -
Fish Habitat Classification: Marginal

Fish Presence: N/A

Comments:
The RoW crosses this unknown tributary of an unknown lake. The tributary is an ephemeral stream with low habitat diversity and low overwintering potential. Forage fish may occur at this site.

+ Habitat Sensitivity

Sensitivity Rating: Low
Comments:
Marginal fish habitat and abundant instream vegetation results in a low sensitivity rating.

Site 33

Limestone River

Location

Datum:	NAD 83	
UTM:	*Zone:*	14N
	Easting:	728334
	Northing:	6276594
Data Source:	DOI. Video. Site visit	

General Morphology

Stream/Lake:	Stream
Pattern:	IM
Confinement:	CO
Stage:	Moderate
Flow Regime:	Perennial
Morphology:	LC
U/S Drainage:	1763.9 km^2
Distance to Receiving Water:	Nelson River 115 km

Site Conditions

+ Physical Data

Survey Date: 15 October 2010 **Stage:** Moderate

Transect	**1**	**2**	**3**	**4**	**5**
Distance from Crossing (m)	0	33 US	33 DS	150 US	150 DS
Channel Profile					
Channel and Flow					
Channel Width (m)	11.0	-	-	-	-
Wetted Width (m)	11.0	-	-	-	-
Water Depths (m)					
25%	1.0	-	-	-	-
50%	-	-	-	-	-
75%	-	-	-	-	-
Max	-	-	-	-	-
Banks (%)					
Right Bank Stability	70	-	-	-	-
Left Bank Stability	70	-	-	-	-
Riparian					
Floodplain Distance (m)					
Right Bank	-	-	-	-	-
Left Bank	-	-	-	-	-
Riparian Distance (m)					
Right Bank	-	-	-	-	-
Left Bank	2.8	-	-	-	-
Riparian Vegetation Type (Y/N)					
None	-	-	-	-	-
Grasses/sedges	Y	-	-	-	-
Shrubs	Y	-	-	-	-
Conifers	Y	-	-	-	-
Deciduous	-	-	-	-	-
Mixed Forest	-	-	-	-	-
Canopy Cover (%)	5	-	-	-	-
Substrate					
Substrate Type (%)					
Fines	100	-	-	-	-
Small Gravel	-	-	-	-	-
Large Gravel	-	-	-	-	-
Cobble	-	-	-	-	-
Boulder	-	-	-	-	-
Habitat Type					
Habitat Composition (%)					
Pool	-	-	-	-	
Run	100	-	-	-	
Riffle	-	-	-	-	

Cover Types		
Total Cover Available (%)	US	DS
Cover Composition (% of Total)	5	5
Large Woody Debris	50	50
Overhanging Vegetation	50	50
Instream Vegetation	-	-
Pool	-	-
Boulder	-	-
Undercut Bank	-	-
Surface Turbulence	-	-

Overhead view of site 33.

Upstream view at site 33.

Downstream view at site 33.

Left bank to right bank view at site 33.

Fish Habitat Classification and Sensitivity

+ Fish Habitat

Fish Habitat Present Yes
DFO Manitoba Agricultural Watershed Classification: -
Fish Habitat Classification: Important

Fish Presence: Brook trout, burbot, cisco, freshwater drum, lake sturgeon, lake whitefish, longnose sucker, Northern pike, shorthead redhorse, sliver lamprey (FIHCS 2009)

Comments:
The RoW crosses the Limestone River. This site provides high habitat diversity for fish including habitat for spawning, rearing, feeding, overwintering and migration. Indicator species have been documented within the Limestone River. Various life stages of fish are expected at this site.

+ Habitat Sensitivity

Sensitivity Rating: Moderate
Comments:
Slightly unstable banks and important fish habitat result in a moderate sensitivity rating.

Site 34 Unnamed Tributary of Limestone River

Location

Datum:	NAD 83	
UTM:	*Zone:*	14N
	Easting:	727632
	Northing:	6276049
Data Source:	DOI.Video	

General Morphology

Stream/Lake:	Stream
Pattern:	IR
Confinement:	UN
Stage:	Low
Flow Regime:	Ephemeral
Morphology:	LC
U/S Drainage:	0.6 km^2
Distance to Receiving Water:	Limestone River 0.2 km

Site Conditions

+ Physical Data

Channel Profile

Channel and Flow

Wetted Width (m)	-
Channel Width (m)	-

Banks (%)

Right Bank Stability	100
Left Bank Stability	100

Riparian

Floodplain Distance (m)

Right Bank	-
Left Bank	-

Riparian Distance (m)

Right Bank	-
Left Bank	-

Riparian Vegetation Type (Y/N)

None	-
Grasses/sedges	Y
Shrubs	-
Conifers	Y
Deciduous	-
Mixed Forest	-

Canopy Cover (%) -

Substrate

Substrate Type (%)

Fines	-
Small Gravel	-
Large Gravel	-
Cobble	-
Boulder	-

Cover Types

Total Cover Available (%)	-
Cover Composition (% of Total)	-
Large Woody Debris	-
Overhanging Vegetation	-
Instream Vegetation	-
Pool	-
Boulder	-
Undercut Bank	-
Surface Turbulence	-
Turbidity	-

Habitat Type

Habitat Composition

Pool	-
Run	-
Flat	-
Riffle	-
Rapid	-

Fish Habitat Classification and Sensitivity

+ Fish Habitat

Fish Habitat Present Yes
DFO Manitoba Agricultural Watershed Classification: -
Fish Habitat Classification: Marginal

Fish Presence: N/A

Comments:
The RoW crosses this unknown tributary of the Limestone River 0.2km from its junction with Limestone River. The tributary is an ephemeral stream with low habitat diversity and low overwintering potential. Site 33 is expected to support predominantly minnow species.

+ Habitat Sensitivity

Sensitivity Rating: Low
Comments:
Stable vegetated banks and marginal fish habitat result in a low sensitivity rating.

Site 35

North Moswakot River

Location

Datum:	NAD 83	
UTM:	*Zone:*	14N
	Easting:	714765
	Northing:	6267856
Data Source:	DOI. Video. Site visit	

General Morphology

Stream/Lake:	Stream
Pattern:	TM
Confinement:	CO
Stage:	Moderate
Flow Regime:	Perennial
Morphology:	LC
U/S Drainage:	170.7 km^2

Distance to Receiving Water: Stephens Lake 6 km

Site Conditions

+ Physical Data

Survey Date: 13 October 2010 **Stage:** Moderate

Transect	**1**	**2**	**3**	**4**	**5**
Distance from Crossing (m)	0	33 US	33 DS	150 US	150 DS
Channel Profile					
Channel and Flow					
Channel Width (m)	8.9	-	-	-	-
Wetted Width (m)	8.9	-	-	-	-
Water Depths (m)					
25%	-	-	-	-	-
50%	-	-	-	-	-
75%	-	-	-	-	-
Max	-	-	-	-	-
Banks (%)					
Right Bank Stability	100	-	-	-	-
Left Bank Stability	100	-	-	-	-
Riparian					
Floodplain Distance (m)					
Right Bank	-	-	-	-	-
Left Bank	-	-	-	-	-
Riparian Distance (m)					
Right Bank	21.6	-	-	-	-
Left Bank	68.0	-	-	-	-
Riparian Vegetation Type (Y/N)					
None	-	-	-	-	-
Grasses/sedges	Y	-	-	-	-
Shrubs	Y	-	-	-	-
Conifers	Y	-	-	-	-
Deciduous	-	-	-	-	-
Mixed Forest	-	-	-	-	-
Canopy Cover (%)	Trace	-	-	-	-
Substrate					
Substrate Type (%)					
Fines	100	-	-	-	-
Small Gravel	-	-	-	-	-
Large Gravel	-	-	-	-	-
Cobble	-	-	-	-	-
Boulder	-	-	-	-	-
Habitat Type					
Habitat Composition (%)					
Pool	-	-	-	-	
Run	100	-	-	-	
Riffle	-	-	-	-	

Cover Types		
Total Cover Available (%)	US	DS
Cover Composition (% of Total)	10	10
Large Woody Debris	50	50
Overhanging Vegetation	-	-
Instream Vegetation	50	50
Pool	-	-
Boulder	-	-
Undercut Bank	-	-
Surface Turbulence	-	-

Overhead view of site 35.

Aerial upstream view of site 35.

Aerial downstream view of site 35.

Fish Habitat Classification and Sensitivity

+ Fish Habitat

Fish Habitat Present Yes
DFO Manitoba Agricultural Watershed Classification: -
Fish Habitat Classification: Important

Fish Presence: N/A

Comments:
The RoW crosses the Moswakot River. The waterbody is a perennial river with habitat for spawning, rearing, feeding, migration and overwintering. Site 35 is expected to support both small and large bodied fish species.

+ Habitat Sensitivity

Sensitivity Rating: Low
Comments:
Though fish habitat is important, stable vegetated banks result in a low sensitivity rating.

Site 36

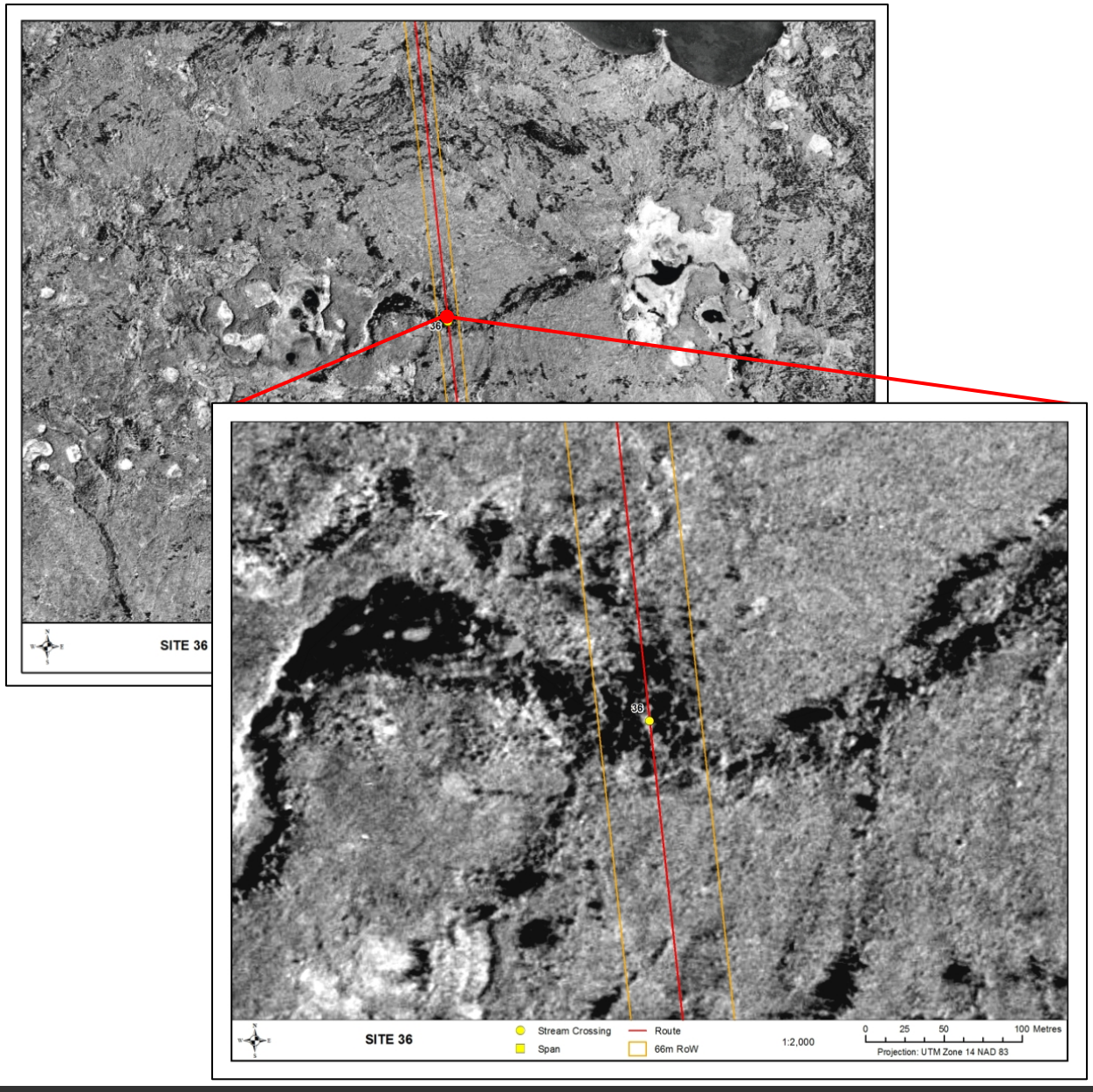
Unnamed Tributary of South Moswakot River

Location

Datum:	NAD 83	
UTM:	*Zone:*	14N
	Easting:	713755
	Northing:	6264884
Data Source:	DOI.	

General Morphology

Stream/Lake:	Stream
Pattern:	SI
Confinement:	UN
Stage:	Moderate
Flow Regime:	Intermittent
Morphology:	
U/S Drainage:	0.9 km^2
Distance to Receiving Water:	South Moswakot River 6 km



Site Conditions

+ Physical Data

Channel Profile

Channel and Flow

Wetted Width (m)	110
Channel Width (m)	50

Banks (%)

Right Bank Stability	-
Left Bank Stability	-

Riparian

Floodplain Distance (m)

Right Bank	-
Left Bank	-

Riparian Distance (m)

Right Bank	-
Left Bank	-

Riparian Vegetation Type (Y/N)

None	-
Grasses/sedges	Y
Shrubs	Y
Conifers	-
Deciduous	-
Mixed Forest	-

Canopy Cover (%) 0

Substrate

Substrate Type (%)

Fines	-
Small Gravel	-
Large Gravel	-
Cobble	-
Boulder	-

Cover Types

Total Cover Available (%)	-
Cover Composition (% of Total)	-
Large Woody Debris	-
Overhanging Vegetation	-
Instream Vegetation	-
Pool	-
Boulder	-
Undercut Bank	-
Surface Turbulence	-
Turbidity	-

Habitat Type

Habitat Composition

Pool	-
Run	-
Flat	-
Riffle	-
Rapid	-

Fish Habitat Classification and Sensitivity

+ Fish Habitat

Fish Habitat Present Yes
DFO Manitoba Agricultural Watershed Classification: -
Fish Habitat Classification: Marginal

Fish Presence: N/A

Comments:
This unnamed tributary of the South Moswakot River likely provides habitat for forage fish, with low overwintering potential. The tributary is surrounded by a soft floodplain, and at the crossing there are two channels meeting the main tributary.

+ Habitat Sensitivity

Sensitivity Rating: Moderate
Comments:
Soft floodplain results in a moderate sensitivity rating, despite marginal fish habitat.

Site 37

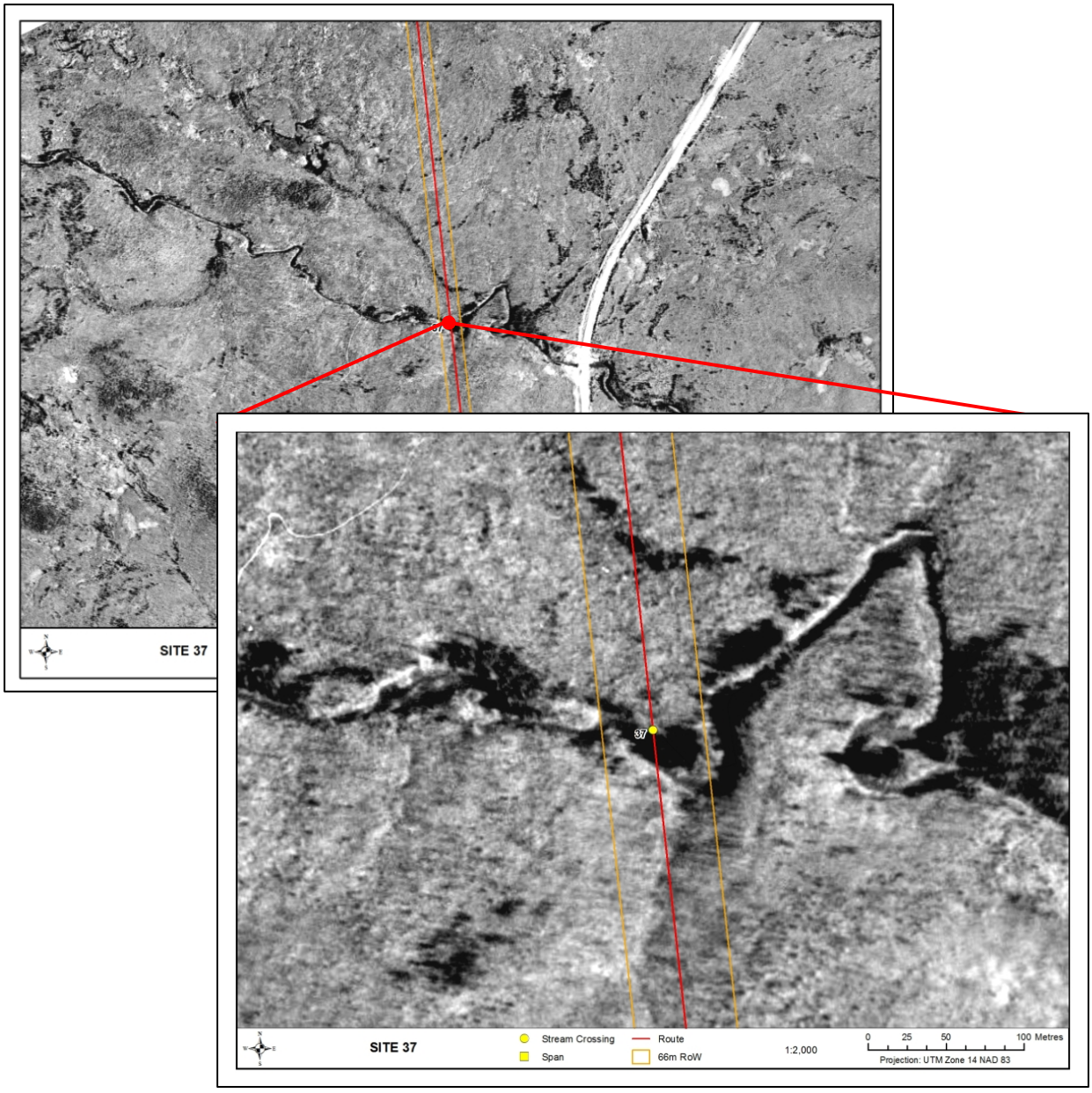
Unnamed Tributary of South Moswakot River

Location

Datum:	NAD 83	
UTM:	*Zone:*	14N
	Easting:	713965
	Northing:	6262983
Data Source:	DOI.	

General Morphology

Stream/Lake:	Stream
Pattern:	IM
Confinement:	UN
Stage:	Moderate
Flow Regime:	Intermittent
Morphology:	
U/S Drainage:	90.3 km^2
Distance to Receiving Water:	South Moswakot River 3.05 km



Site Conditions

+ Physical Data

Channel Profile

Channel and Flow

Wetted Width (m)	-
Channel Width (m)	16

Banks (%)

Right Bank Stability	-
Left Bank Stability	-

Riparian

Floodplain Distance (m)

Right Bank	-
Left Bank	-

Riparian Distance (m)

Right Bank	-
Left Bank	-

Riparian Vegetation Type (Y/N)

None	-
Grasses/sedges	-
Shrubs	Y
Conifers	-
Deciduous	Y
Mixed Forest	-

Canopy Cover (%) -

Substrate

Substrate Type (%)

Fines	-
Small Gravel	-
Large Gravel	-
Cobble	-
Boulder	-

Cover Types

Total Cover Available (%)	-
Cover Composition (% of Total)	-
Large Woody Debris	-
Overhanging Vegetation	-
Instream Vegetation	-
Pool	-
Boulder	-
Undercut Bank	-
Surface Turbulence	-
Turbidity	-

Habitat Type

Habitat Composition

Pool	-
Run	-
Flat	-
Riffle	-
Rapid	-

Fish Habitat Classification and Sensitivity

+ Fish Habitat

Fish Habitat Present Yes
DFO Manitoba Agricultural Watershed Classification: -
Fish Habitat Classification: Important

Fish Presence: N/A

Comments:
This unnamed tributary of the South Moswakot River likely provides habitat for indicator and forage fish, with moderate overwintering potential.

+ Habitat Sensitivity

Sensitivity Rating: Moderate
Comments:
Unknown bank stability and important fish habitat result in a moderate sensitivity rating.

Site 38

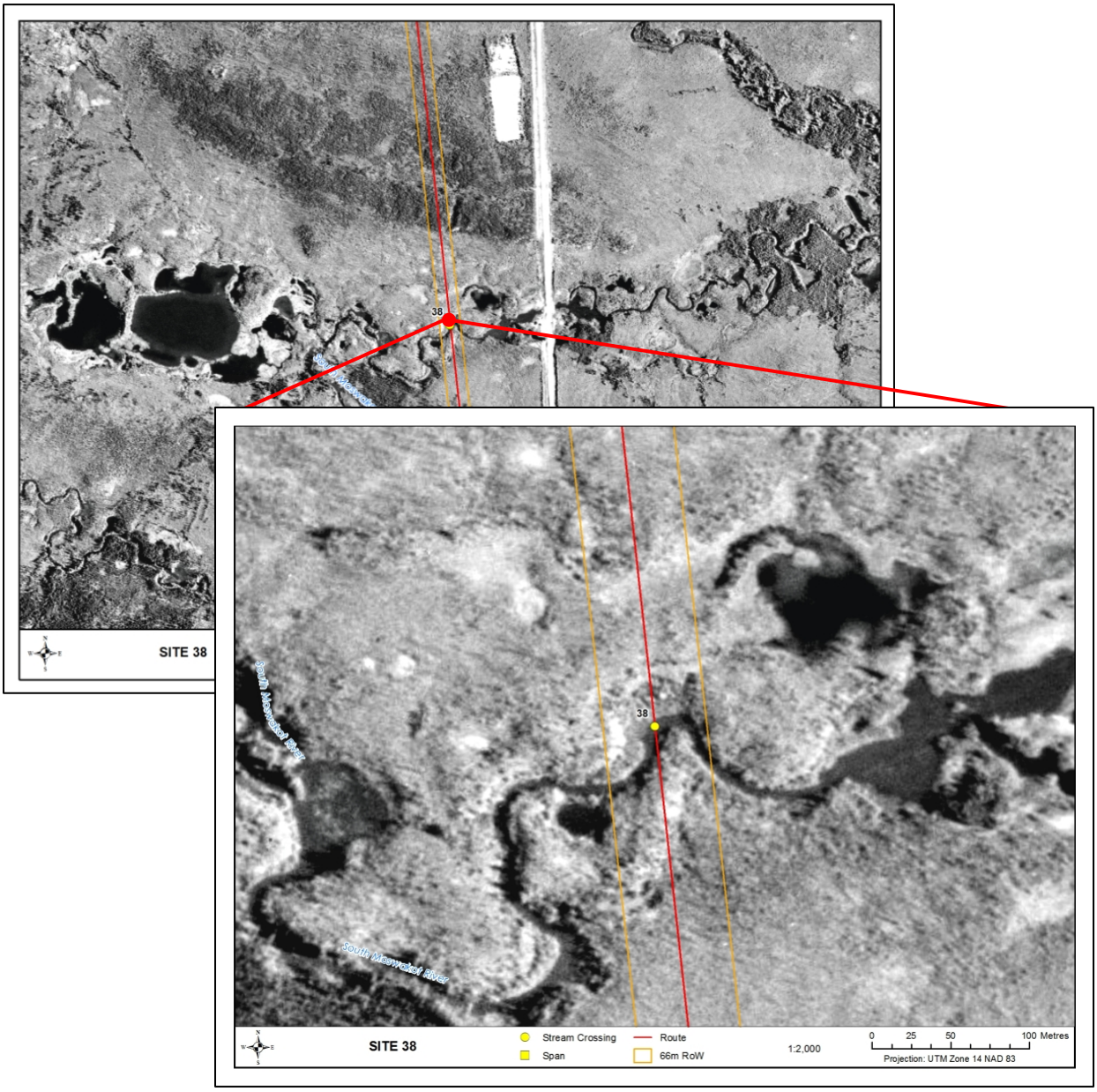
South Moswakot River

Location

Datum:	NAD 83	
UTM:	*Zone:*	14N
	Easting:	714113
	Northing:	6261651
Data Source:	DOI.	

General Morphology

Stream/Lake:	Stream
Pattern:	TM
Confinement:	UN
Stage:	Moderate
Flow Regime:	Perennial
Morphology:	LC
U/S Drainage:	171.2 km^2
Distance to Receiving Water:	Stephens Lake 14.8 km



Site Conditions

+ Physical Data

Channel Profile

Channel and Flow

Wetted Width (m)	11
Channel Width (m)	11

Banks (%)

Right Bank Stability	-
Left Bank Stability	-

Riparian

Floodplain Distance (m)

Right Bank	-
Left Bank	-

Riparian Distance (m)

Right Bank	38
Left Bank	109

Riparian Vegetation Type (Y/N)

None	-
Grasses/sedges	-
Shrubs	Y
Conifers	-
Deciduous	-
Mixed Forest	-

Canopy Cover (%) 0

Substrate

Substrate Type (%)

Fines	-
Small Gravel	-
Large Gravel	-
Cobble	-
Boulder	-

Cover Types

Total Cover Available (%)	-
Cover Composition (% of Total)	-
Large Woody Debris	-
Overhanging Vegetation	-
Instream Vegetation	-
Pool	-
Boulder	-
Undercut Bank	-
Surface Turbulence	-
Turbidity	-

Habitat Type

Habitat Composition

Pool	-
Run	100
Flat	-
Riffle	-
Rapid	-

Fish Habitat Classification and Sensitivity

+ Fish Habitat

Fish Habitat Present Yes
DFO Manitoba Agricultural Watershed Classification: -
Fish Habitat Classification: Important

Fish Presence: N/A

Comments:
The South Moswakot River likely provides habitat for indicator and forage fish, with high overwintering potential. There is a highway crossing the channel 323m downstream of the site.

+ Habitat Sensitivity

Sensitivity Rating: Moderate
Comments:
Unknown bank stability and important fish habitat result in a moderate sensitivity rating.

Site 39

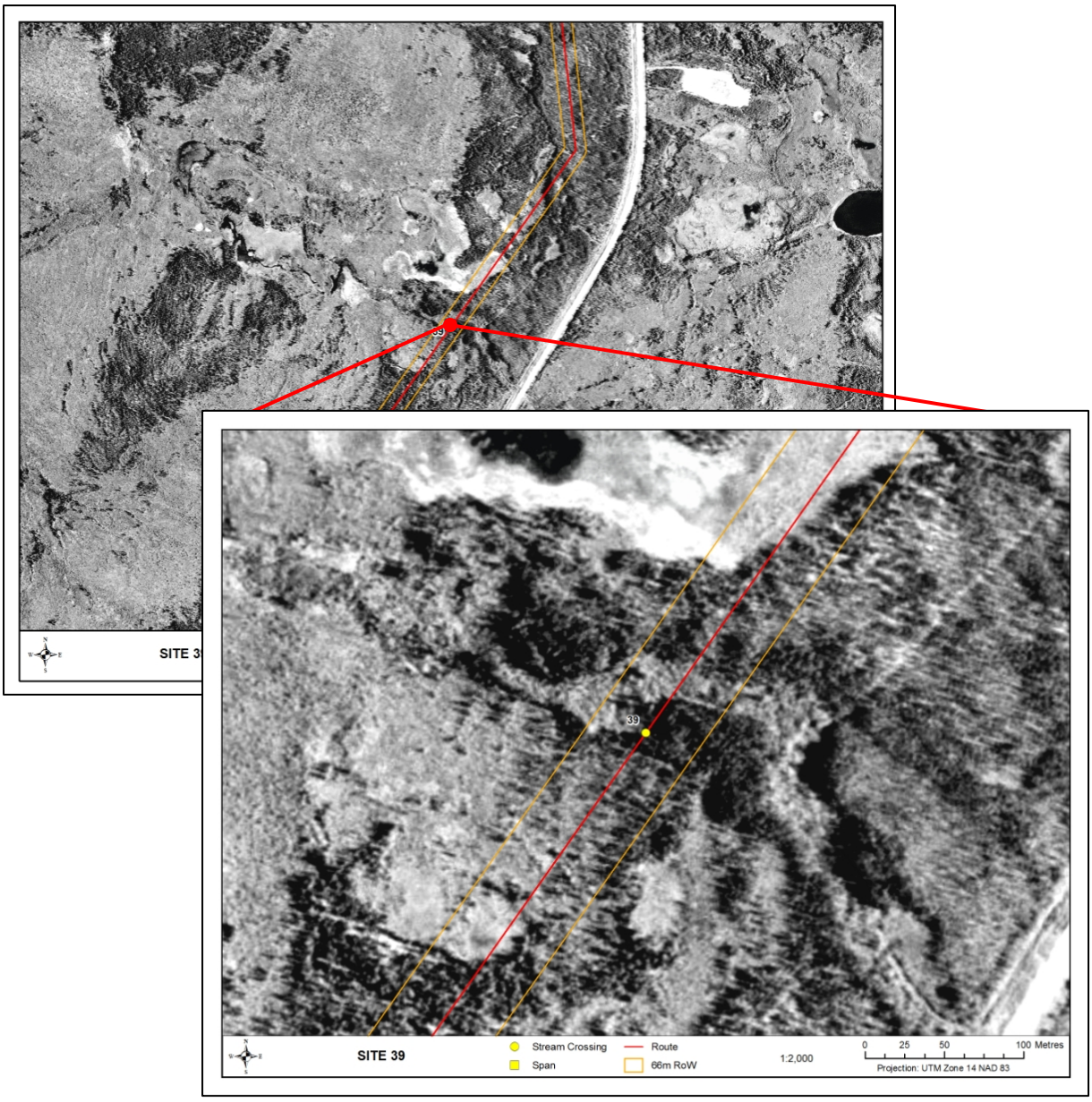
Unnamed Tributary of South Moswakot River

Location

Datum:	NAD 83	
UTM:	*Zone:*	14N
	Easting:	713868
	Northing:	6259786
Data Source:	DOI.	

General Morphology

Stream/Lake:	Stream
Pattern:	IM
Confinement:	UN
Stage:	Low
Flow Regime:	Intermittent
Morphology:	
U/S Drainage:	11.9 km^2
Distance to Receiving Water:	South Moswakot River 1.83 km



Site Conditions

+ Physical Data

Channel Profile

Channel and Flow

Wetted Width (m)	-
Channel Width (m)	6

Banks (%)

Right Bank Stability	-
Left Bank Stability	-

Riparian

Floodplain Distance (m)

Right Bank	8
Left Bank	30

Riparian Distance (m)

Right Bank	26
Left Bank	38

Riparian Vegetation Type (Y/N)

None	-
Grasses/sedges	Y
Shrubs	Y
Conifers	Y
Deciduous	-
Mixed Forest	-

Canopy Cover (%) -

Substrate

Substrate Type (%)

Fines	-
Small Gravel	-
Large Gravel	-
Cobble	-
Boulder	-

Cover Types

Total Cover Available (%)	-
Cover Composition (% of Total)	-
Large Woody Debris	-
Overhanging Vegetation	-
Instream Vegetation	-
Pool	-
Boulder	-
Undercut Bank	-
Surface Turbulence	-
Turbidity	-

Habitat Type

Habitat Composition

Pool	-
Run	-
Flat	-
Riffle	-
Rapid	-

Fish Habitat Classification and Sensitivity

+ Fish Habitat

Fish Habitat Present Yes
DFO Manitoba Agricultural Watershed Classification: -
Fish Habitat Classification: Marginal

Fish Presence: N/A

Comments:
This unnamed tributary of the South Moswakot River likely provides habitat for forage fish, with low overwintering potential. It is surrounded by a soft grass floodplain. There is a highway crossing the channel 370m upstream of the site.

+ Habitat Sensitivity

Sensitivity Rating: Moderate
Comments:
Soft floodplain results in a moderate sensitivity rating, despite marginal fish habitat.

Site 40

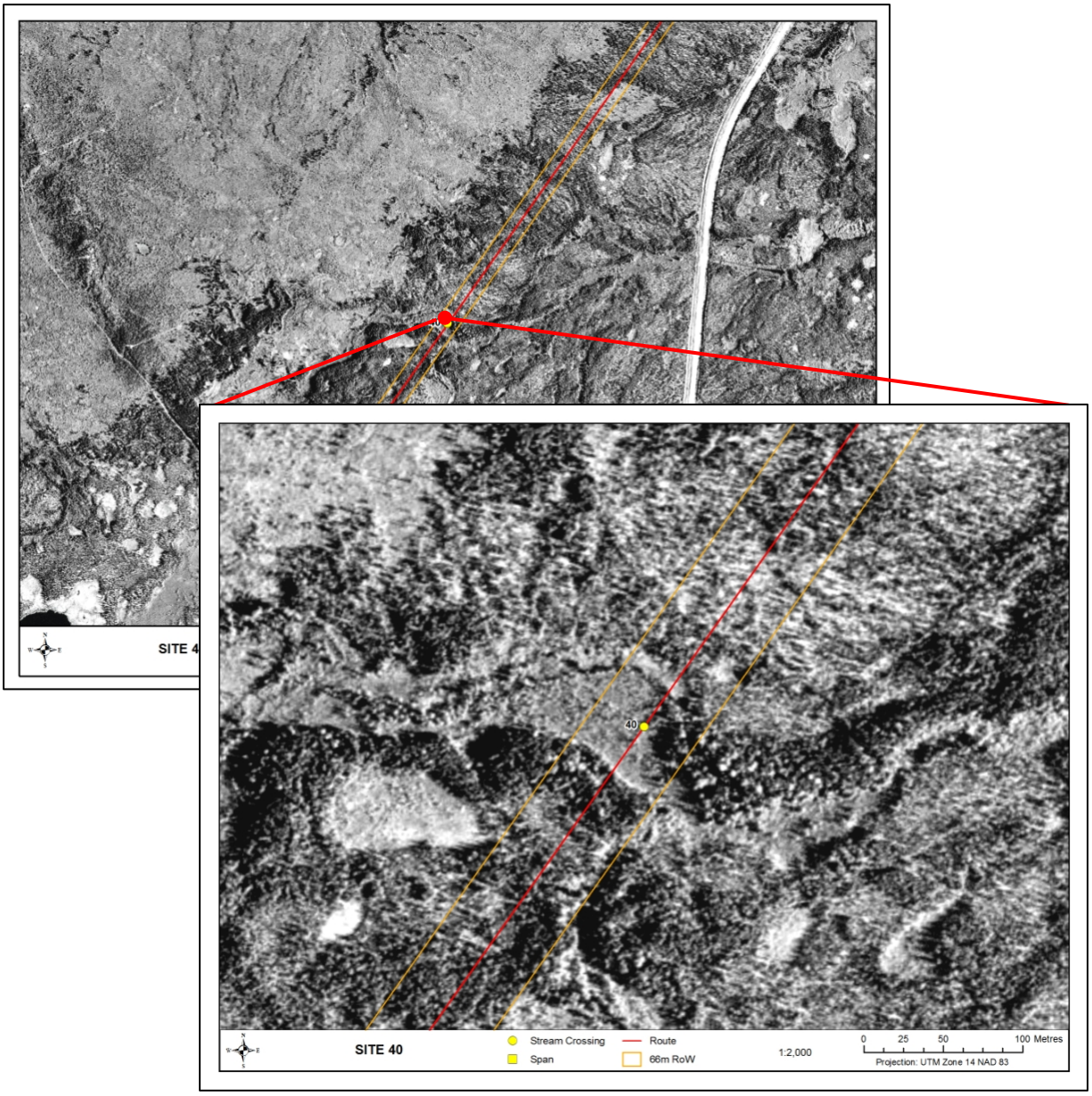
Unnamed Tributary of South Moswakot River

Location

Datum:	NAD 83	
UTM:	*Zone:*	14N
	Easting:	712814
	Northing:	6258294
Data Source:	DOI.	

General Morphology

Stream/Lake:	Stream
Pattern:	IM
Confinement:	UN
Stage:	Low
Flow Regime:	Intermittent
Morphology:	-
U/S Drainage:	6.3 km^2
Distance to Receiving Water:	South Moswakot River 4.76 km



Site Conditions

+ Physical Data

Channel Profile

Channel and Flow

Wetted Width (m)	-
Channel Width (m)	-

Banks (%)

Right Bank Stability	-
Left Bank Stability	-

Riparian

Floodplain Distance (m)

Right Bank	52 (total)
Left Bank	-

Riparian Distance (m)

Right Bank	75 (total)
Left Bank	-

Riparian Vegetation Type (Y/N)

None	-
Grasses/sedges	Y
Shrubs	Y
Conifers	-
Deciduous	Y
Mixed Forest	-

Canopy Cover (%) 0

Substrate

Substrate Type (%)

Fines	-
Small Gravel	-
Large Gravel	-
Cobble	-
Boulder	-

Cover Types

Total Cover Available (%)	-
Cover Composition (% of Total)	-
Large Woody Debris	-
Overhanging Vegetation	-
Instream Vegetation	-
Pool	-
Boulder	-
Undercut Bank	-
Surface Turbulence	-
Turbidity	-

Habitat Type

Habitat Composition

Pool	-
Run	-
Flat	-
Riffle	-
Rapid	-

Fish Habitat Classification and Sensitivity

+ Fish Habitat

Fish Habitat Present Yes
DFO Manitoba Agricultural Watershed Classification: -
Fish Habitat Classification: Marginal

Fish Presence: N/A

Comments:
This unnamed tributary of the South Moswakot River likely provides habitat for forage fish, with low overwintering potential. It is surrounded by a soft grass floodplain.

+ Habitat Sensitivity

Sensitivity Rating: Moderate
Comments:
Soft floodplain results in a moderate sensitivity rating, despite marginal fish habitat.

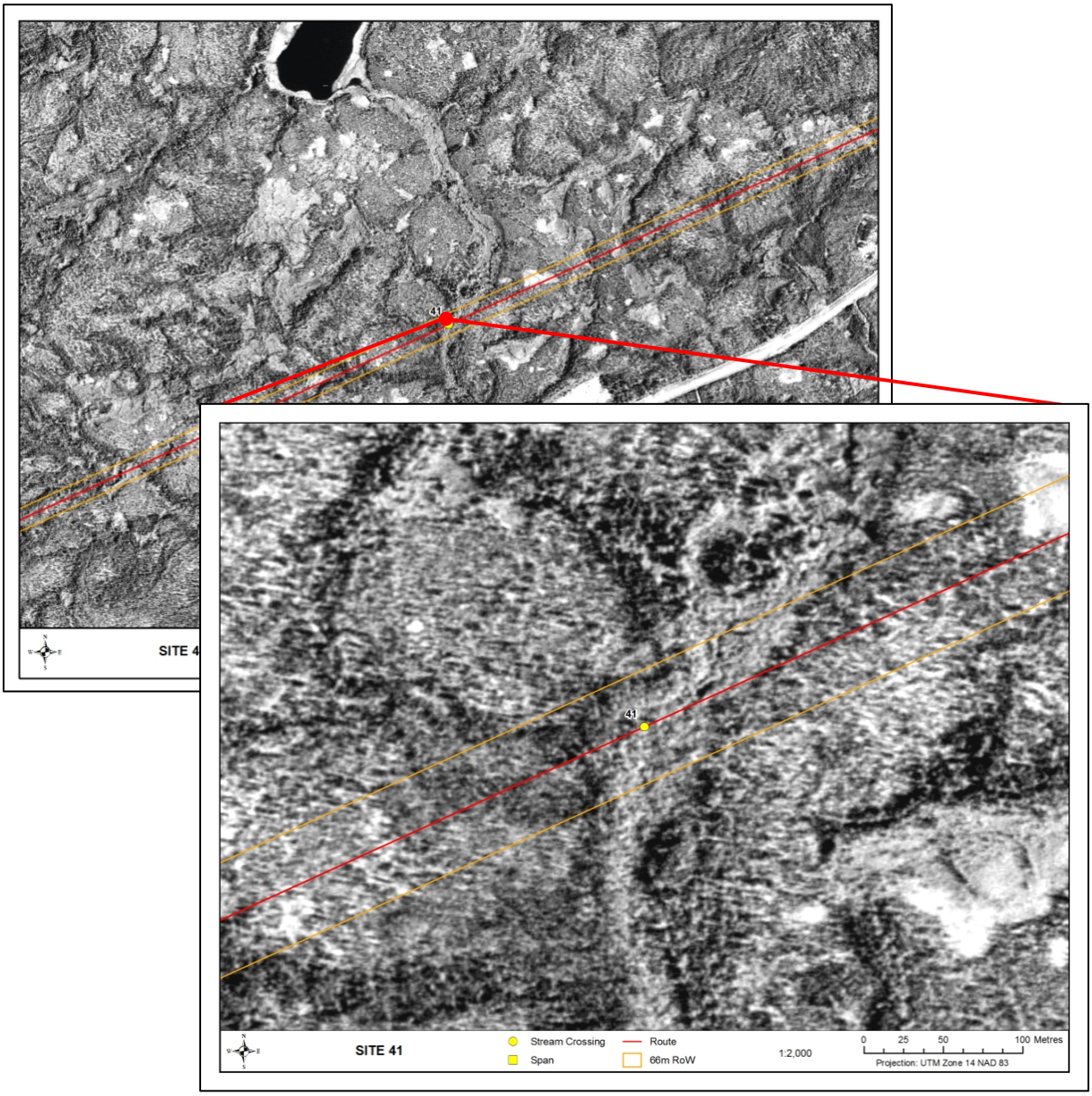
Site 41 Unnamed Tributary of Stephens Lake

Location

Datum:	NAD 83	
UTM:	*Zone:*	14N
	Easting:	706977
	Northing:	6254164
Data Source:	DOI.	

General Morphology

Stream/Lake:	Stream
Pattern:	IM
Confinement:	UN
Stage:	Low
Flow Regime:	Intermittent
Morphology:	-
U/S Drainage:	4.5 km^2
Distance to Receiving Water:	Stephens Lake 33.64 km



Site Conditions

+ Physical Data

Channel Profile

Channel and Flow

Wetted Width (m)	-
Channel Width (m)	6

Banks (%)

Right Bank Stability	-
Left Bank Stability	-

Riparian

Floodplain Distance (m)

Right Bank	37 (total)
Left Bank	-

Riparian Distance (m)

Right Bank	97 (total)
Left Bank	-

Riparian Vegetation Type (Y/N)

None	-
Grasses/sedges	-
Shrubs	Y
Conifers	-
Deciduous	Y
Mixed Forest	-

Canopy Cover (%) 0

Substrate

Substrate Type (%)

Fines	-
Small Gravel	-
Large Gravel	-
Cobble	-
Boulder	-

Cover Types

Total Cover Available (%)	-
Cover Composition (% of Total)	-
Large Woody Debris	-
Overhanging Vegetation	-
Instream Vegetation	-
Pool	-
Boulder	-
Undercut Bank	-
Surface Turbulence	-
Turbidity	-

Habitat Type

Habitat Composition

Pool	-
Run	-
Flat	-
Riffle	-
Rapid	-

Fish Habitat Classification and Sensitivity

+ Fish Habitat

Fish Habitat Present Yes
DFO Manitoba Agricultural Watershed Classification: -
Fish Habitat Classification: Marginal

Fish Presence: N/A

Comments:
This unnamed tributary of the South Moswakot River likely provides habitat for forage fish, with low overwintering potential. It is surrounded by a soft grass floodplain.

+ Habitat Sensitivity

Sensitivity Rating: Moderate
Comments:
Soft floodplain results in a moderate sensitivity rating, despite marginal fish habitat.

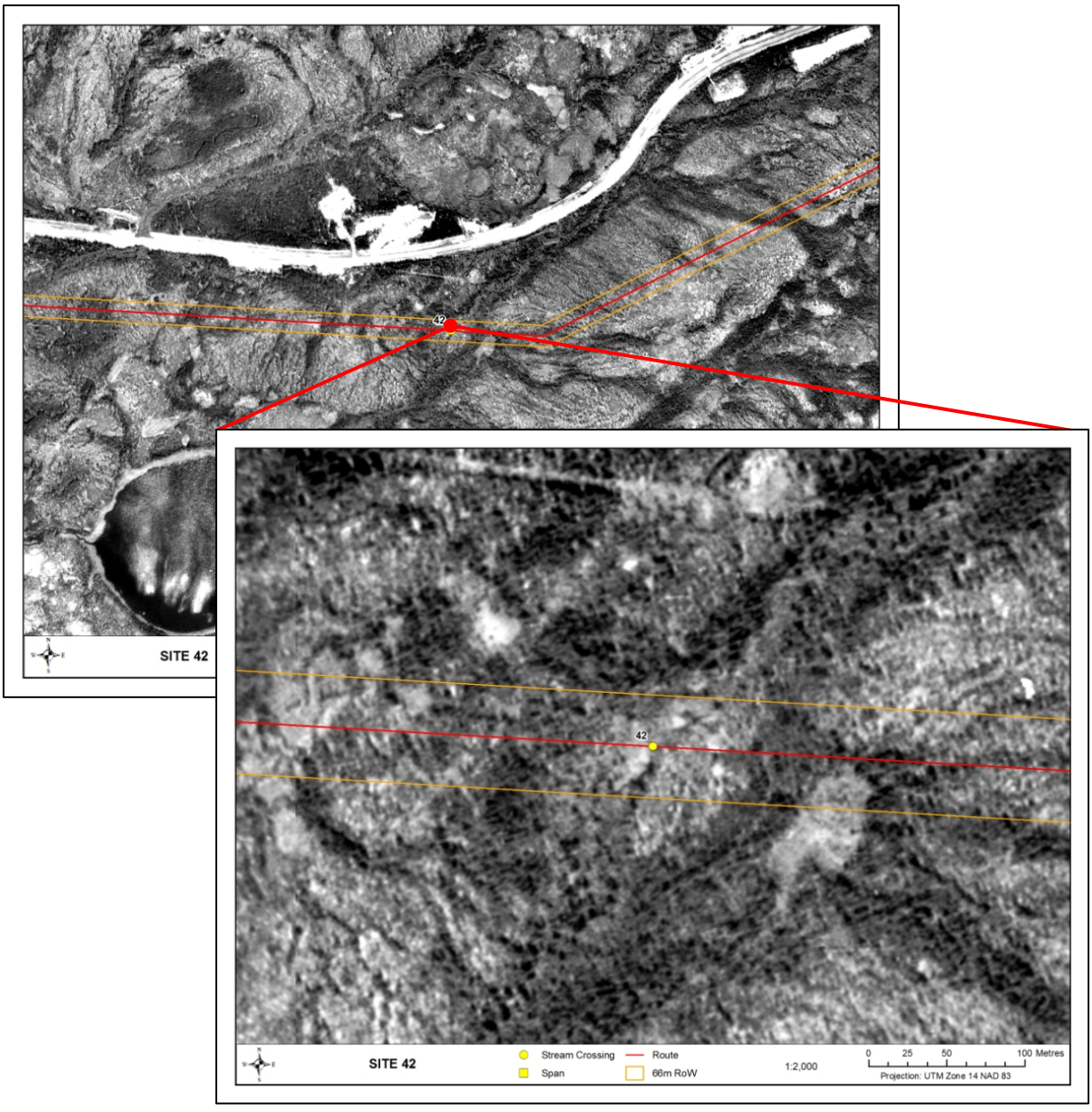
Site 42 Unnamed Tributary of Assean River

Location

Datum:	NAD 83	
UTM:	*Zone:*	14N
	Easting:	690229
	Northing:	6252641
Data Source:	DOI.	

General Morphology

Stream/Lake:	Stream
Pattern:	IM
Confinement:	UN
Stage:	Low
Flow Regime:	Intermittent
Morphology:	-
U/S Drainage:	1.8 km^2
Distance to Receiving Water:	Assean River 8.12 km



Site Conditions

+ Physical Data

Channel Profile

Channel and Flow

Wetted Width (m)	-
Channel Width (m)	-

Banks (%)

Right Bank Stability	-
Left Bank Stability	-

Riparian

Floodplain Distance (m)

Right Bank	-
Left Bank	-

Riparian Distance (m)

Right Bank	37 + 50
Left Bank	-

Riparian Vegetation Type (Y/N)

None	-
Grasses/sedges	-
Shrubs	Y
Conifers	Y
Deciduous	-
Mixed Forest	-

Canopy Cover (%) -

Substrate

Substrate Type (%)

Fines	-
Small Gravel	-
Large Gravel	-
Cobble	-
Boulder	-

Cover Types

Total Cover Available (%)	-
Cover Composition (% of Total)	-
Large Woody Debris	-
Overhanging Vegetation	-
Instream Vegetation	-
Pool	-
Boulder	-
Undercut Bank	-
Surface Turbulence	-
Turbidity	-

Habitat Type

Habitat Composition

Pool	-
Run	-
Flat	-
Riffle	-
Rapid	-

Fish Habitat Classification and Sensitivity

+ Fish Habitat

Fish Habitat Present Yes
DFO Manitoba Agricultural Watershed Classification: -
Fish Habitat Classification: Marginal

Fish Presence: N/A

Comments:
This unnamed tributary of the Assean River breaks into two channels at the RoW. It is an intermittent stream likely providing marginal habitat for forage fish, and low overwintering potential. Bank stability is unknown at the RoW.

+ Habitat Sensitivity

Sensitivity Rating: Moderate
Comments:
Unknown bank stability results in a moderate sensitivity rating, despite marginal fish habitat.

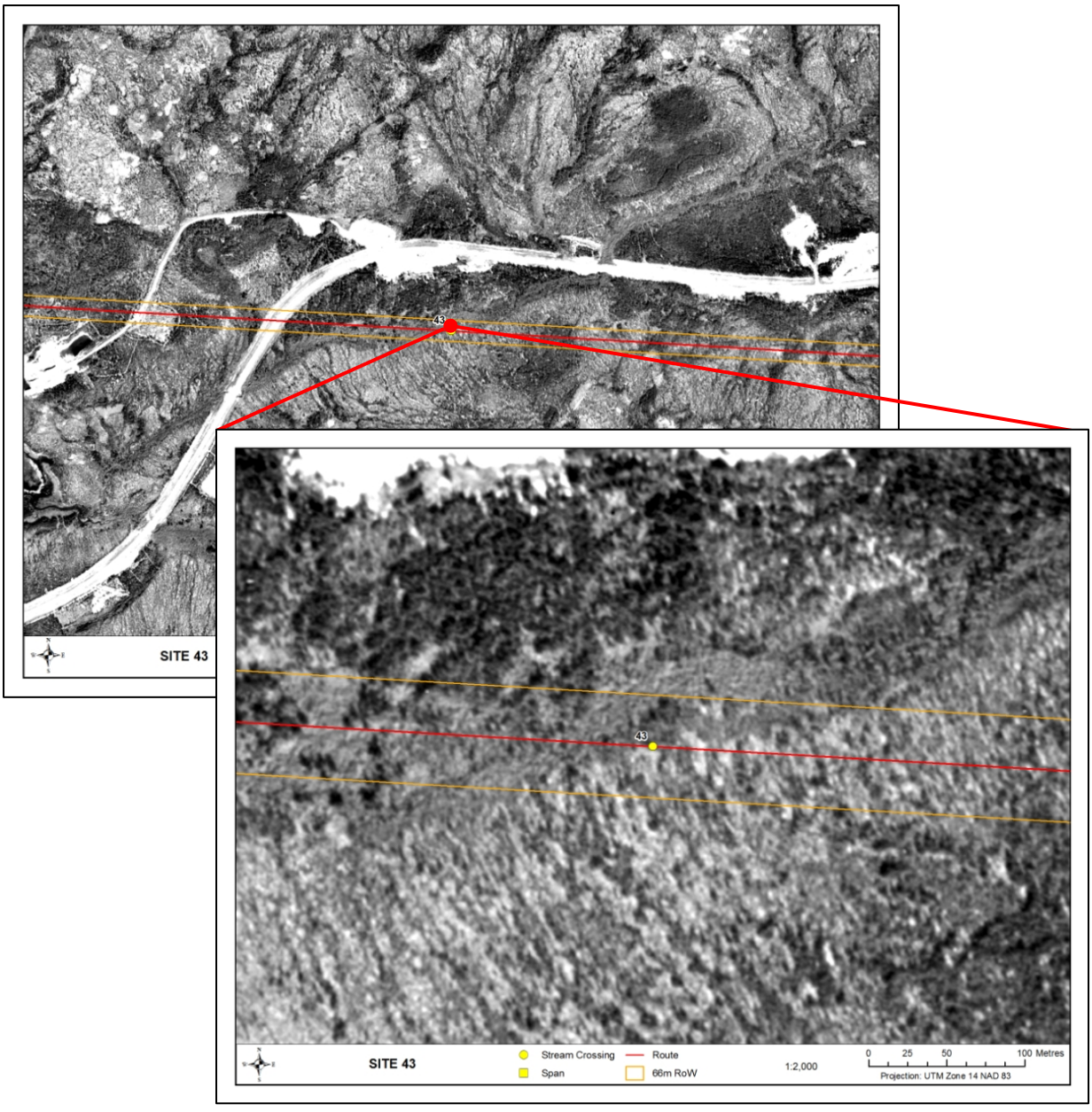
Site 43 Unnamed Tributary of Assean River

Location

Datum:	NAD 83	
UTM:	*Zone:*	14N
	Easting:	688781
	Northing:	6252726
Data Source:	DOI.	

General Morphology

Stream/Lake:	Stream
Pattern:	IR
Confinement:	UN
Stage:	Low
Flow Regime:	Intermittent
Morphology:	-
U/S Drainage:	9.2 km^2
Distance to Receiving Water:	Assean River 6.37 km



Site Conditions

+ Physical Data

Channel Profile

Channel and Flow

Wetted Width (m)	-
Channel Width (m)	-

Banks (%)

Right Bank Stability	-
Left Bank Stability	-

Riparian

Floodplain Distance (m)

Right Bank	-
Left Bank	-

Riparian Distance (m)

Right Bank	72 (total)
Left Bank	-

Riparian Vegetation Type (Y/N)

None	-
Grasses/sedges	-
Shrubs	Y
Conifers	Y
Deciduous	-
Mixed Forest	-

Canopy Cover (%) -

Substrate

Substrate Type (%)

Fines	-
Small Gravel	-
Large Gravel	-
Cobble	-
Boulder	-

Cover Types

Total Cover Available (%)	-
Cover Composition (% of Total)	-
Large Woody Debris	-
Overhanging Vegetation	-
Instream Vegetation	-
Pool	-
Boulder	-
Undercut Bank	-
Surface Turbulence	-
Turbidity	-

Habitat Type

Habitat Composition

Pool	-
Run	-
Flat	-
Riffle	-
Rapid	-

Fish Habitat Classification and Sensitivity

+ Fish Habitat

Fish Habitat Present	Yes
DFO Manitoba Agricultural Watershed Classification:	-
Fish Habitat Classification:	Marginal

Fish Presence: N/A

Comments:
This unnamed tributary of the Assean River is an intermittent stream. Although difficult to confirm from aerial imagery, there appears to be poor channel development at the site; therefore habitat is considered marginal. Fish use is limited to forage fish species. Bank conditions are unknown, and there may be a soft riparian/floodplain area surrounding the channel.

+ Habitat Sensitivity

Sensitivity Rating: Moderate
Comments:
Unknown bank stability and potential for a soft riparian/floodplainresults in a moderate sensitivity rating.

Site 44

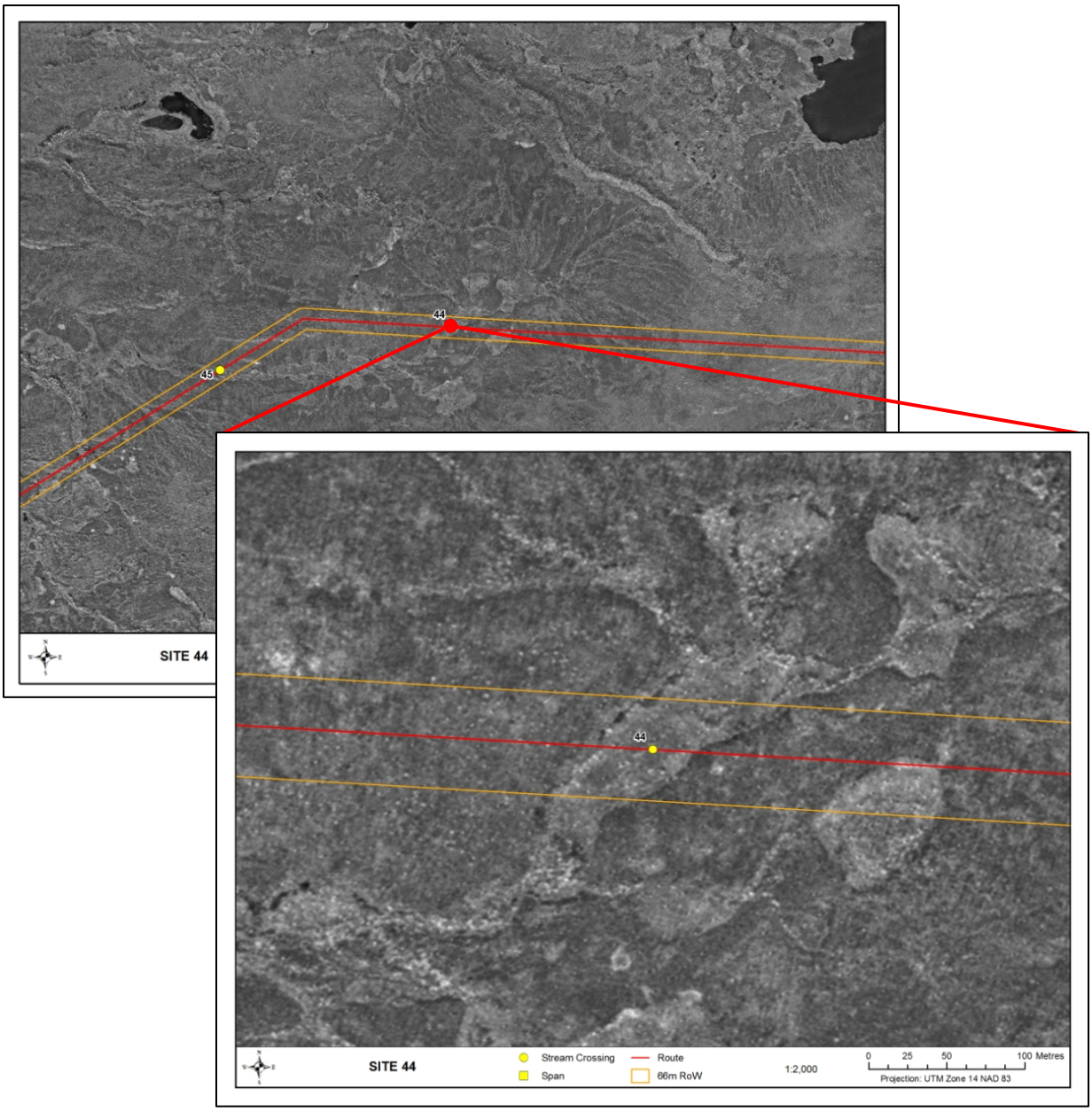
Unnamed Tributary of Apetowachakamasik Lake

Location

Datum:	NAD 83	
UTM:	*Zone:*	14N
	Easting:	685019
	Northing:	6252948
Data Source:	DOI.	

General Morphology

Stream/Lake:	Stream
Pattern:	SI
Confinement:	UN
Stage:	Low
Flow Regime:	Intermittent
Morphology:	-
U/S Drainage:	0 km^2
Distance to Receiving Water:	Apetowachakamasik Lake 2.21 km



Site Conditions

+ Physical Data

Channel Profile

Channel and Flow

Wetted Width (m)	-
Channel Width (m)	-

Banks (%)

Right Bank Stability	-
Left Bank Stability	-

Riparian

Floodplain Distance (m)

Right Bank	66 (total)
Left Bank	-

Riparian Distance (m)

Right Bank	69 (total)
Left Bank	-

Riparian Vegetation Type (Y/N)

None	-
Grasses/sedges	Y
Shrubs	Y
Conifers	-
Deciduous	-
Mixed Forest	-

Canopy Cover (%) 0

Substrate

Substrate Type (%)

Fines	-
Small Gravel	-
Large Gravel	-
Cobble	-
Boulder	-

Cover Types

Total Cover Available (%)	-
Cover Composition (% of Total)	-
Large Woody Debris	-
Overhanging Vegetation	-
Instream Vegetation	-
Pool	-
Boulder	-
Undercut Bank	-
Surface Turbulence	-
Turbidity	-

Habitat Type

Habitat Composition

Pool	-
Run	-
Flat	-
Riffle	-
Rapid	-

Fish Habitat Classification and Sensitivity

+ Fish Habitat

Fish Habitat Present Yes
DFO Manitoba Agricultural Watershed Classification: -
Fish Habitat Classification: Marginal

Fish Presence: N/A

Comments:
The RoW crosses the headwaters of this unnamed tributary of Apetowachakamasik Lake. It is an intermittent stream likely providing habitat for forage fish, with low overwintering potential. It is surrounded by a soft floodplain.

+ Habitat Sensitivity

Sensitivity Rating: Moderate
Comments:
Soft floodplain results in a moderate sensitivity rating, despite marginal fish habitat.

Site 45

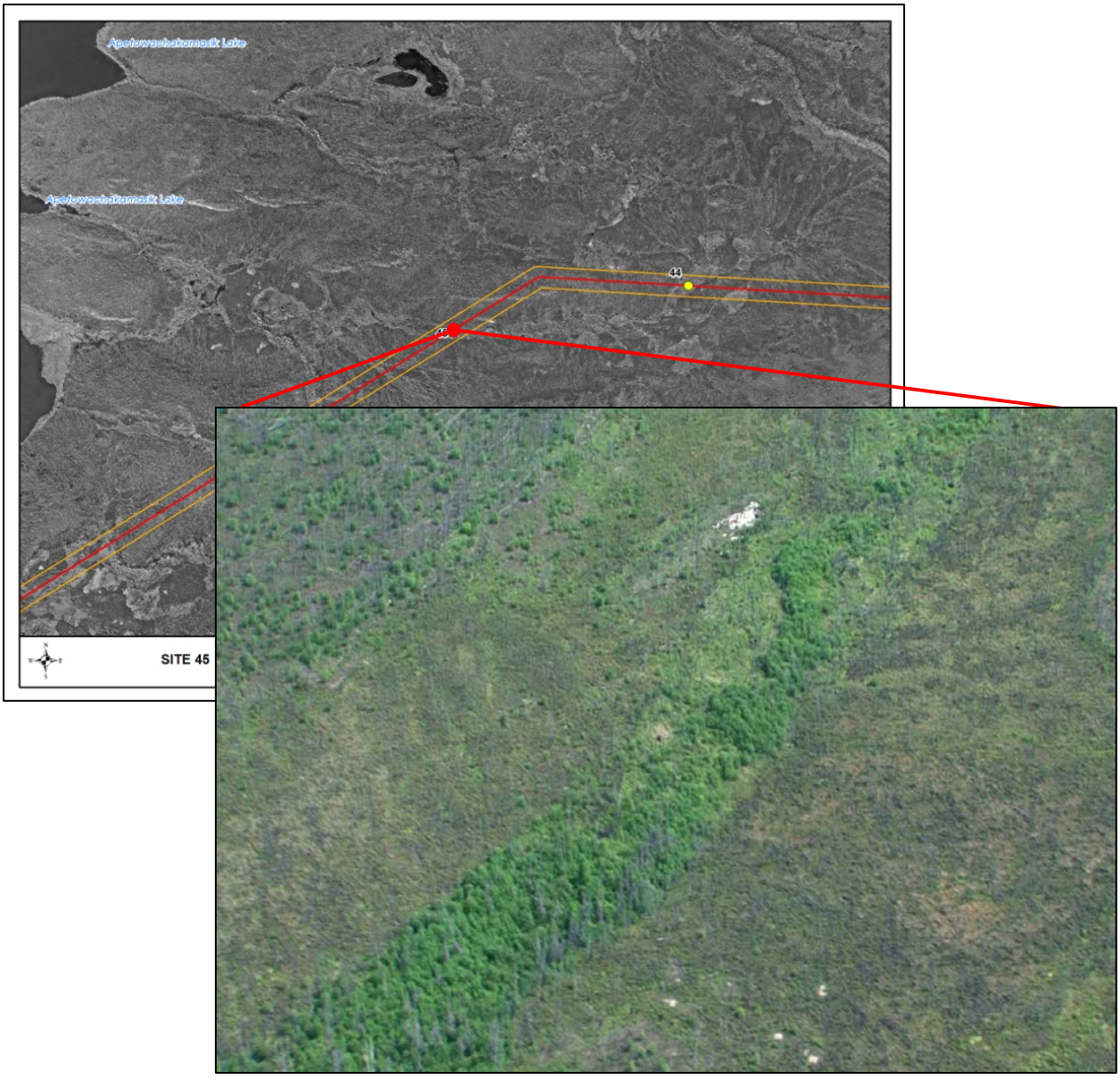
Unnamed Tributary of Apetowachakamasik Lake

Location

Datum:	NAD 83
UTM:	*Zone:* 14N
	Easting: 684293
	Northing: 6252815
Data Source:	DOI. Video

General Morphology

Stream/Lake:	Stream
Pattern:	SI
Confinement:	UN
Stage:	Low
Flow Regime:	Ephemeral
Morphology:	LC
U/S Drainage:	1.1 km^2
Distance to Receiving Water:	Apetowachakamasik Lake 1.4 km



Site Conditions

+ Physical Data

Channel Profile

Channel and Flow

Wetted Width (m)	-
Channel Width (m)	-

Banks (%)

Right Bank Stability	100
Left Bank Stability	100

Riparian

Floodplain Distance (m)

Right Bank	9.66
Left Bank	32.6

Riparian Distance (m)

Right Bank	15.7
Left Bank	40.5

Riparian Vegetation Type (Y/N)

None	-
Grasses/sedges	Y
Shrubs	Y
Conifers	Y
Deciduous	-
Mixed Forest	-

Canopy Cover (%) -

Substrate

Substrate Type (%)

Fines	-
Small Gravel	-
Large Gravel	-
Cobble	-
Boulder	-

Cover Types

Total Cover Available (%)	-
Cover Composition (% of Total)	-
Large Woody Debris	-
Overhanging Vegetation	-
Instream Vegetation	-
Pool	-
Boulder	-
Undercut Bank	-
Surface Turbulence	-
Turbidity	-

Habitat Type

Habitat Composition

Pool	-
Run	-
Flat	-
Riffle	-
Rapid	-

Fish Habitat Classification and Sensitivity

+ Fish Habitat

Fish Habitat Present Yes
DFO Manitoba Agricultural Watershed Classification: -
Fish Habitat Classification: Marginal

Fish Presence: N/A

Comments:
The RoW crosses this unnamed tributary of the Apetowachakamasik Lake. The tributary is an ephemeral stream with low habitat diversity and low overwintering potential. Forage fish may be found at this site.

+ Habitat Sensitivity

Sensitivity Rating: Low
Comments:
Poor fish habitat and abundant instream vegetation results in a low sensitivity rating.

Site 46

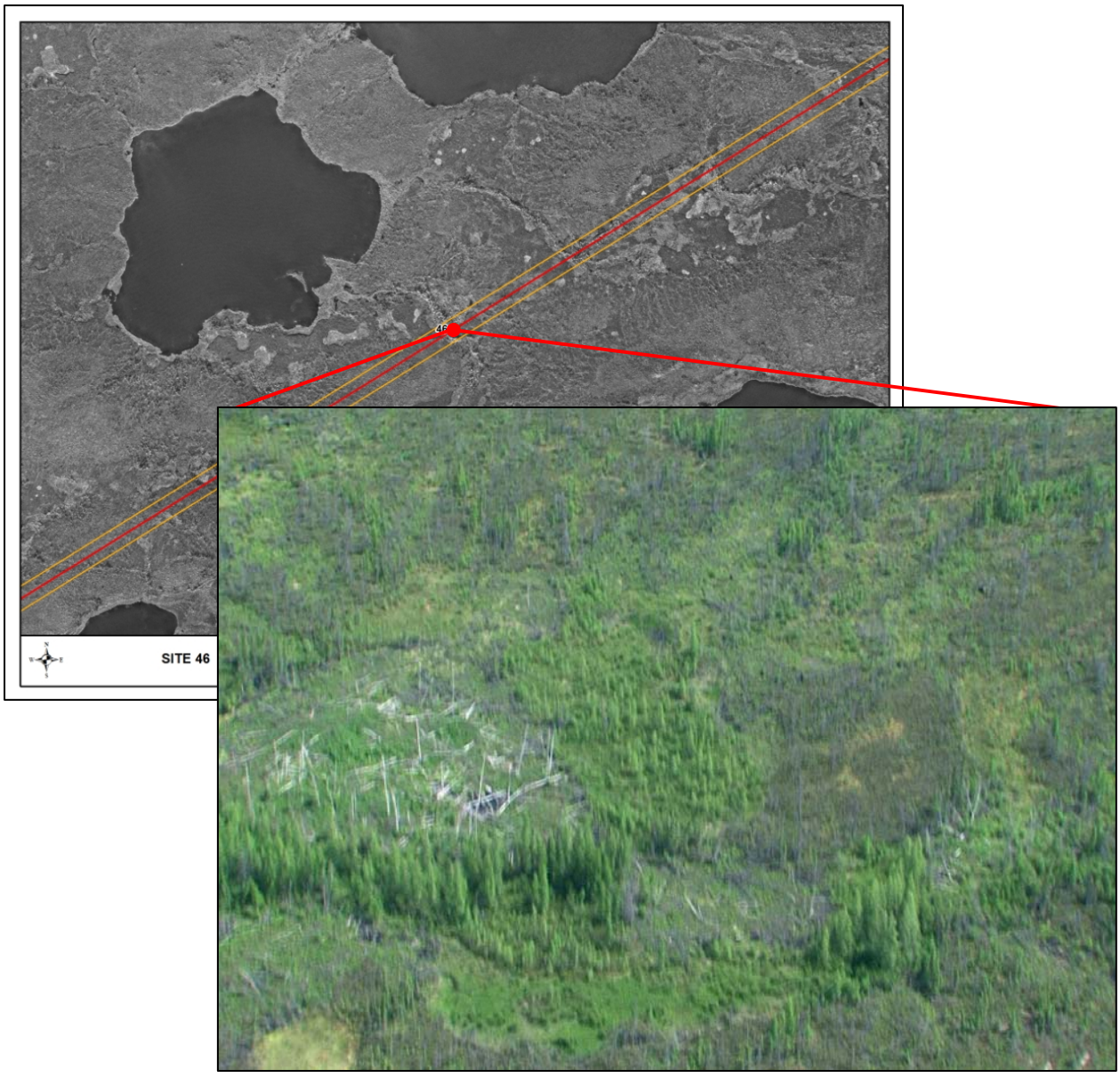
Unnamed Tributary of Apetowachakamasik Lake

Location

Datum:	NAD 83
UTM:	*Zone:* 14N
	Easting: 682418
	Northing: 6251649
Data Source:	DOI. Video

General Morphology

Stream/Lake:	Stream
Pattern:	SI
Confinement:	UN
Stage:	Low
Flow Regime:	Ephemeral
Morphology:	LC
U/S Drainage:	1.5 km^2
Distance to Receiving Water:	Apetowachakamasik Lake 4 km



Site Conditions

+ Physical Data

Channel Profile

Channel and Flow

Wetted Width (m)	-
Channel Width (m)	-

Banks (%)

Right Bank Stability	100
Left Bank Stability	100

Riparian

Floodplain Distance (m)

Right Bank	103.4
Left Bank	45.2

Riparian Distance (m)

Right Bank	140.8
Left Bank	56.8

Riparian Vegetation Type (Y/N)

None	-
Grasses/sedges	Y
Shrubs	Y
Conifers	Y
Deciduous	-
Mixed Forest	-

Canopy Cover (%) -

Substrate

Substrate Type (%)

Fines	-
Small Gravel	-
Large Gravel	-
Cobble	-
Boulder	-

Cover Types

Total Cover Available (%)	-
Cover Composition (% of Total)	-
Large Woody Debris	-
Overhanging Vegetation	-
Instream Vegetation	-
Pool	-
Boulder	-
Undercut Bank	-
Surface Turbulence	-
Turbidity	-

Habitat Type

Habitat Composition

Pool	-
Run	-
Flat	-
Riffle	-
Rapid	-

Fish Habitat Classification and Sensitivity

+ Fish Habitat

Fish Habitat Present Yes
DFO Manitoba Agricultural Watershed Classification: -
Fish Habitat Classification: Marginal

Fish Presence: N/A

Comments:
The RoW crosses this unnamed tributary of the Apetowachakamasik Lake. The tributary is an ephemeral stream with low habitat diversity and low overwintering potential. Site 45 is expected to support forage fish with higher water levels.

+ Habitat Sensitivity

Sensitivity Rating: Low
Comments:
Lack of water and marginal fish habitat results in a low sensitivity rating.

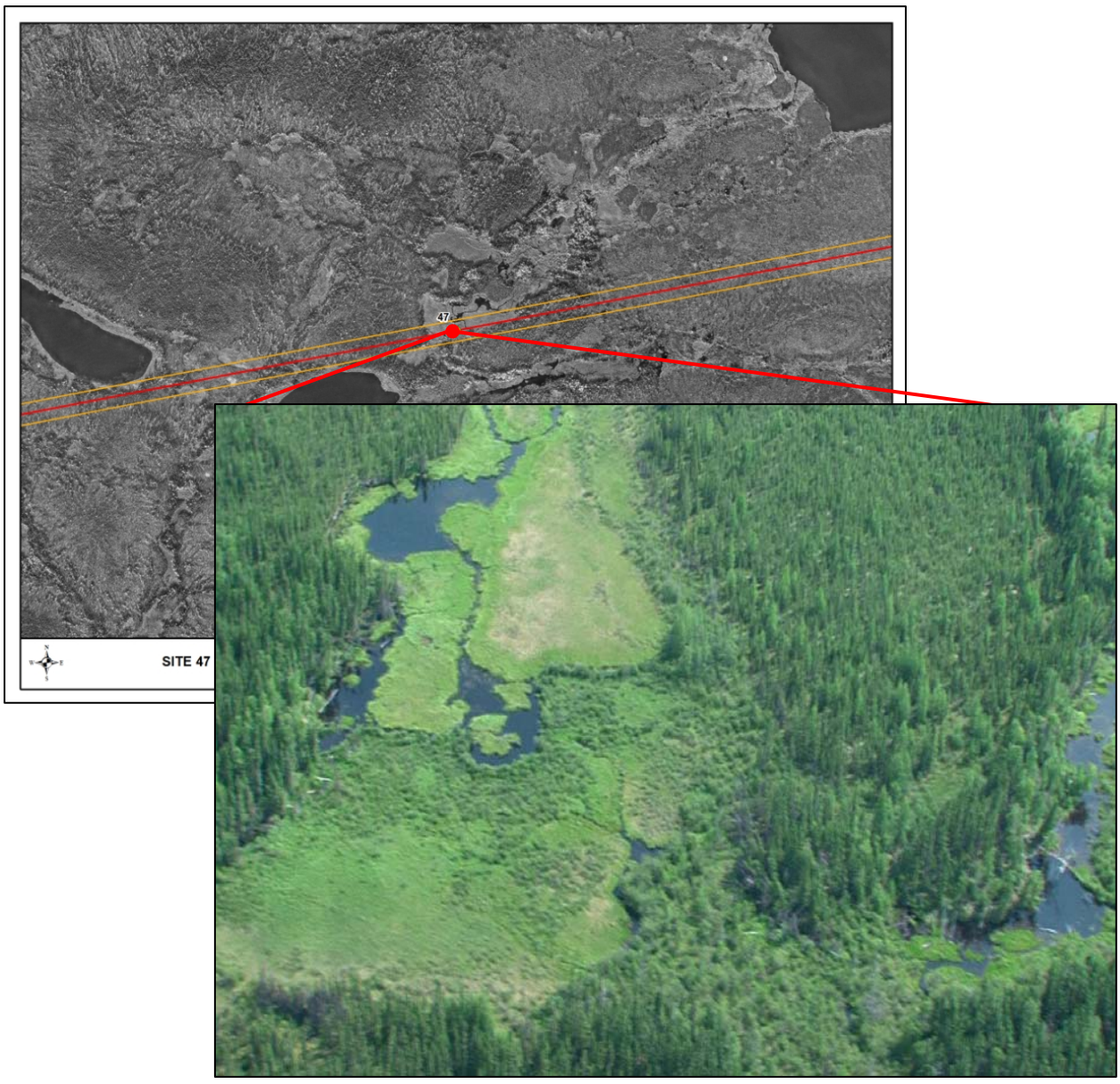
Site 47 Unnamed Tributary of Assean River

Location

Datum:	NAD 83
UTM:	*Zone:* 14N
	Easting: 678980
	Northing: 6250131
Data Source:	DOI. Video

General Morphology

Stream/Lake:	Stream
Pattern:	SI
Confinement:	UN
Stage:	Low
Flow Regime:	Ephemeral
Morphology:	LC
U/S Drainage:	5.4 km^2
Distance to Receiving Water:	Assean River 2.3km



Site Conditions

+ Physical Data

Channel Profile

Channel and Flow

Wetted Width (m)	-
Channel Width (m)	-

Banks (%)

Right Bank Stability	100
Left Bank Stability	100

Riparian

Floodplain Distance (m)

Right Bank	43.1
Left Bank	107.0

Riparian Distance (m)

Right Bank	25.5
Left Bank	90.5

Riparian Vegetation Type (Y/N)

None	-
Grasses/sedges	Y
Shrubs	Y
Conifers	Y
Deciduous	-
Mixed Forest	-

Canopy Cover (%) -

Substrate

Substrate Type (%)

Fines	100
Small Gravel	-
Large Gravel	-
Cobble	-
Boulder	-

Cover Types

Total Cover Available (%)	10
Cover Composition (% of Total)	-
Large Woody Debris	-
Overhanging Vegetation	-
Instream Vegetation	100
Pool	-
Boulder	-
Undercut Bank	-
Surface Turbulence	-
Turbidity	-

Habitat Type

Habitat Composition

Pool	40
Run	60
Flat	-
Riffle	-
Rapid	-

Fish Habitat Classification and Sensitivity

+ Fish Habitat

Fish Habitat Present Yes
DFO Manitoba Agricultural Watershed Classification: -
Fish Habitat Classification: Marginal

Fish Presence: N/A

Comments:
The RoW crosses this unnamed tributary of the Assean River. The tributary is an ephemeral stream with low habitat diversity and low overwintering potential. Fish passage from downstream may only be possible during high water levels at which time site 46 is expected to possibly support minnow species from the Assean River.

+ Habitat Sensitivity

Sensitivity Rating: Moderate
Comments:
The floodplain is sensitive to damage during construction in an area with potential fish presence.

Site 48

Crying River

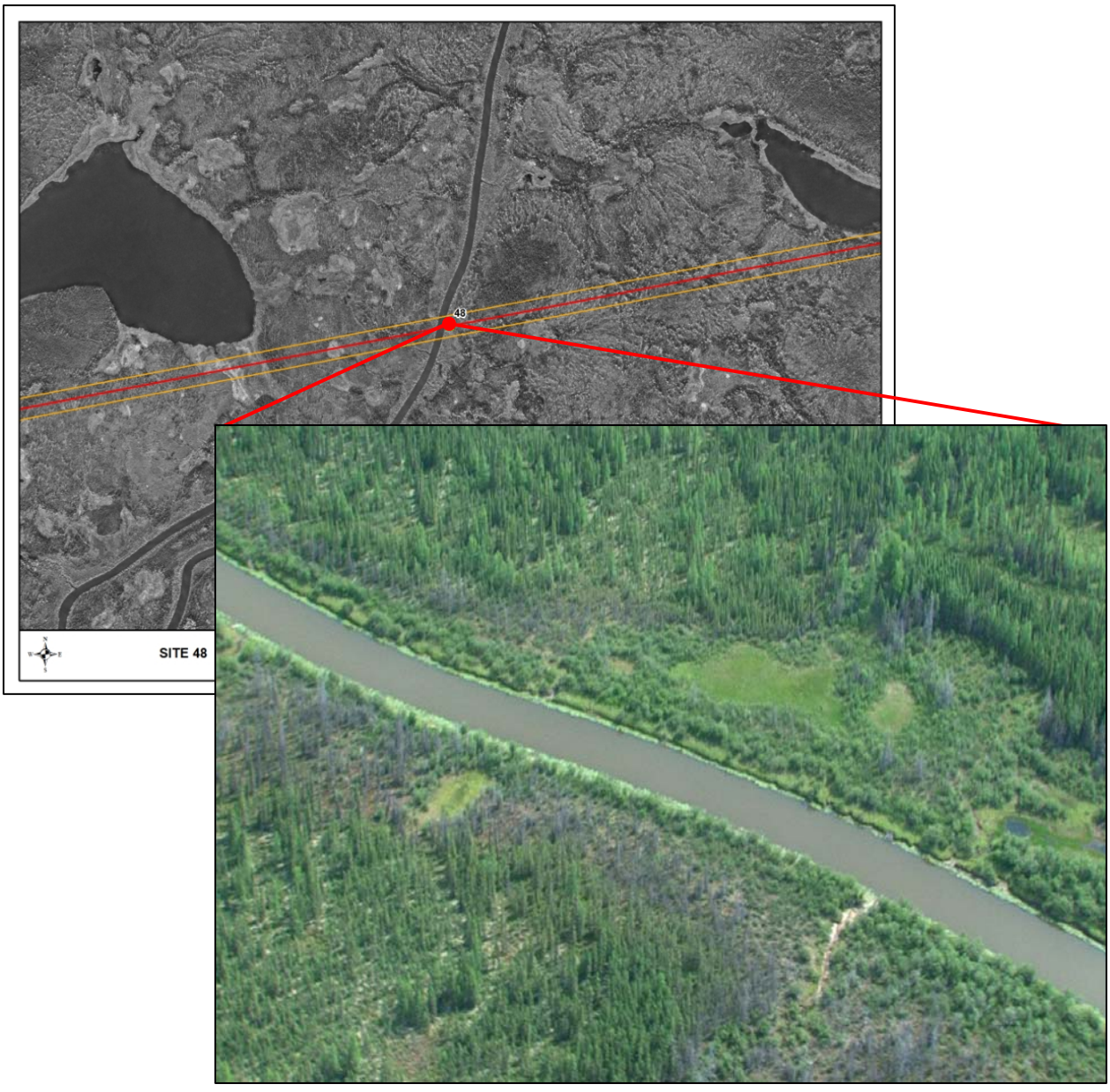
Location

Datum:	NAD 83
UTM:	*Zone:* 14N
	Easting: 676613
	Northing: 6249674
Data Source:	DOI. Video. Site visit

General Morphology

Stream/Lake:	Stream
Pattern:	IM
Confinement:	CO
Stage:	Flood
Flow Regime:	Perennial
Morphology:	LC
U/S Drainage:	1153.4 km^2

Distance to Receiving Water: Stephens Lake 27 km



Site Conditions

+ Physical Data

Survey Date: 13 October 2010 **Stage:** Flooded

Transect	**1**	**2**	**3**	**4**	**5**
Distance from Crossing (m)	0	33 US	33 DS	150 US	150 DS
Channel Profile					
Channel and Flow					
Channel Width (m)	~10.0	-	-	-	-
Wetted Width (m)	~27.0	-	-	-	-
Water Depths (m)					
25%	0.5	-	-	-	-
50%	-	-	-	-	-
75%	-	-	-	-	-
Max	-	-	-	-	-
Banks					
Right Bank Stability (%)	100	-	-	-	-
Left Bank Stability (%)	100	-	-	-	-
Right Bank Slope (°)	0	-	-	-	-
Left Bank Slope (°)	0	-	-	-	-
Riparian					
Floodplain Distance (m)					
Right Bank	~17.0	-	-	-	-
Left Bank	~17.0	-	-	-	-
Riparian Distance (m)					
Right Bank	-	-	-	-	-
Left Bank	-	-	-	-	-
Riparian Vegetation Type (Y/N)					
None	-	-	-	-	-
Grasses/sedges	Y	-	-	-	-
Shrubs	Y	-	-	-	-
Conifers	-	-	-	-	-
Deciduous	-	-	-	-	-
Mixed Forest	-	-	-	-	-
Canopy Cover (%)	10	-	-	-	-
Substrate					
Substrate Type (%)					
Fines	100	-	-	-	-
Small Gravel	-	-	-	-	-
Large Gravel	-	-	-	-	-
Cobble	-	-	-	-	-
Boulder	-	-	-	-	-
Habitat Type					
Habitat Composition (%)					
Pool	-	-	-	-	
Run	100	-	-	-	
Riffle	-	-	-	-	

Cover Types		
Total Cover Available (%)	US	DS
Cover Composition (% of Total)	5	-
Large Woody Debris	20	-
Overhanging Vegetation	Trace	-
Instream Vegetation	80	-
Pool	-	-
Boulder	-	-
Undercut Bank	-	-

Overhead view of site 48.

Upstream view at site 48.

Downstream view at site 48.

Left bank to right bank view at site 48.

Fish Habitat Classification and Sensitivity

+ Fish Habitat

Fish Habitat Present Yes
DFO Manitoba Agricultural Watershed Classification: -
Fish Habitat Classification: Important

Fish Presence: N/A

Comments:
The RoW crosses the Crying River. This site provides high habitat diversity for fish including habitat for spawning, rearing, feeding, overwintering and migration. Various species and life stages of fish are expected at this site

+ Habitat Sensitivity

Sensitivity Rating: Low
Comments:
Though important fish habitat, stable vegetated banks result in a low sensitivity rating.

Site 49 Unnamed Tributary of Hunting River

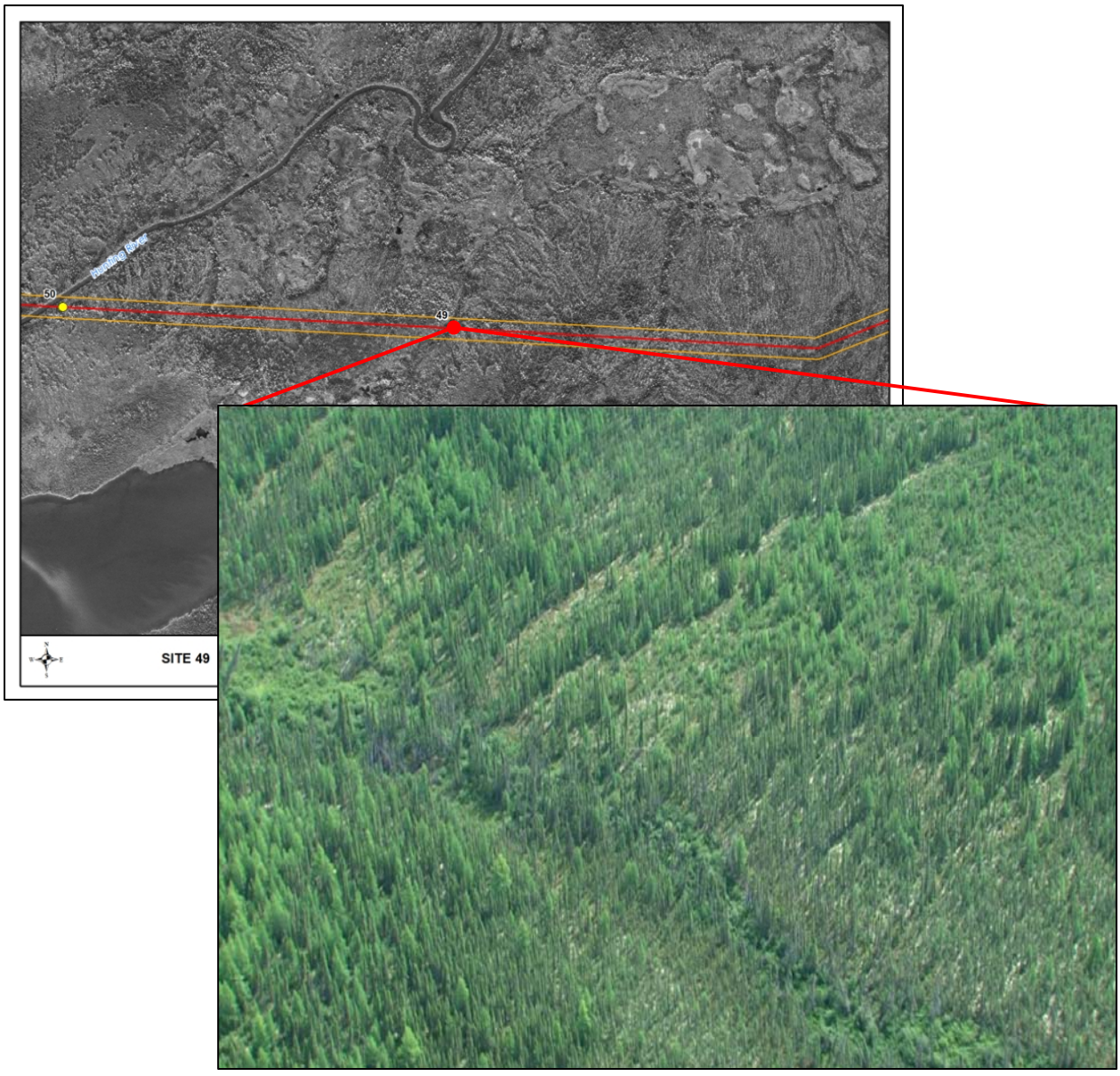
Location

Datum:	NAD 83	
UTM:	*Zone:*	14N
	Easting:	671345
	Northing:	6248509
Data Source:	DOI. Video	

General Morphology

Stream/Lake:	Stream
Pattern:	IR
Confinement:	UN
Stage:	Low
Flow Regime:	Ephemeral
Morphology:	LC
U/S Drainage:	4.4 km^2

Distance to Receiving Water: Hunting River 0.7km



Site Conditions

+ Physical Data

Channel Profile

Channel and Flow

Wetted Width (m)	-
Channel Width (m)	-

Banks (%)

Right Bank Stability	100
Left Bank Stability	100

Riparian

Floodplain Distance (m)

Right Bank	-
Left Bank	-

Riparian Distance (m)

Right Bank	-
Left Bank	-

Riparian Vegetation Type (Y/N)

None	-
Grasses/sedges	Y
Shrubs	-
Conifers	Y
Deciduous	-
Mixed Forest	-

Canopy Cover (%) -

Substrate

Substrate Type (%)

Fines	-
Small Gravel	-
Large Gravel	-
Cobble	-
Boulder	-

Cover Types

Total Cover Available (%)	-
Cover Composition (% of Total)	-
Large Woody Debris	-
Overhanging Vegetation	-
Instream Vegetation	-
Pool	-
Boulder	-
Undercut Bank	-
Surface Turbulence	-
Turbidity	-

Habitat Type

Habitat Composition

Pool	-
Run	-
Flat	-
Riffle	-
Rapid	-

Fish Habitat Classification and Sensitivity

+ Fish Habitat

Fish Habitat Present Yes
DFO Manitoba Agricultural Watershed Classification: -
Fish Habitat Classification: Marginal

Fish Presence: N/A

Comments:
The RoW crosses this unnamed tributary of Hunting River. The tributary is an ephemeral stream with low habitat diversity and low overwintering potential. Fish passage from other areas may only be possible during high water levels. Forage fish may be found at this site.

+ Habitat Sensitivity

Sensitivity Rating: Low
Comments:
Poor fish habitat and abundant instream vegetation results in a low sensitivity rating.

Site 50

Hunting River

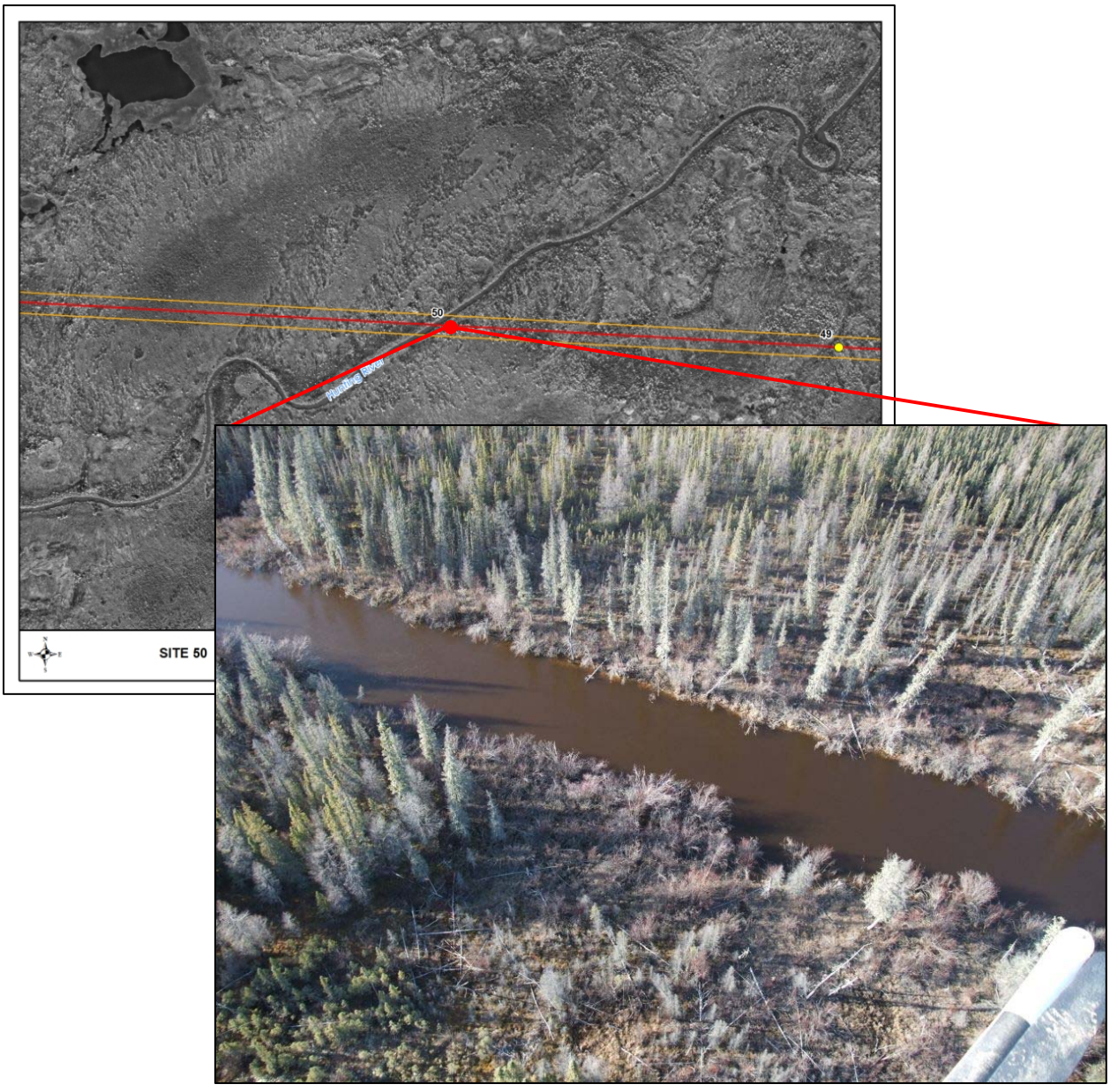
Location

Datum:	NAD 83	
UTM:	*Zone:*	14N
	Easting:	670124
	Northing:	6248576
Data Source:	DOI. Video. Site visit	

General Morphology

Stream/Lake:	Stream
Pattern:	IR
Confinement:	CO
Stage:	Moderate
Flow Regime:	Perennial
Morphology:	LC
U/S Drainage:	651.2 km^2

Distance to Receiving Water: Assean River 1.6 km



Site Conditions

+ Physical Data

Survey Date: 13 October 2010 **Stage:** Flooded

Transect	**1**	**2**	**3**	**4**	**5**
Distance from Crossing (m)	0	33 US	33 DS	150 US	150 DS
Channel Profile					
Channel and Flow					
Channel Width (m)	14.5	-	-	-	-
Wetted Width (m)	14.5	-	-	-	-
Water Depths (m)					
25%	-	-	-	-	-
50%	-	-	-	-	-
75%	-	-	-	-	-
Max	-	-	-	-	-
Banks					
Right Bank Stability (%)	100	-	-	-	-
Left Bank Stability (%)	100	-	-	-	-
Right Bank Slope (°)	-	-	-	-	-
Left Bank Slope (°)	-	-	-	-	-
Riparian					
Floodplain Distance (m)					
Right Bank	-	-	-	-	-
Left Bank	-	-	-	-	-
Riparian Distance (m)					
Right Bank	22.1	-	-	-	-
Left Bank	32.1	-	-	-	-
Riparian Vegetation Type (Y/N)					
None	-	-	-	-	-
Grasses/sedges	Y	-	-	-	-
Shrubs	Y	-	-	-	-
Conifers	Y	-	-	-	-
Deciduous	-	-	-	-	-
Mixed Forest	-	-	-	-	-
Canopy Cover (%)	Trace	-	-	-	-
Substrate					
Substrate Type (%)					
Fines	100	-	-	-	-
Small Gravel	-	-	-	-	-
Large Gravel	-	-	-	-	-
Cobble	-	-	-	-	-
Boulder	-	-	-	-	-
Habitat Type					
Habitat Composition (%)					
Pool	-	-	-	-	
Run	100	-	-	-	
Riffle	-	-	-	-	

Cover Types		
Total Cover Available (%)	US	DS
Cover Composition (% of Total)	10	10
Large Woody Debris	-	-
Overhanging Vegetation	100	100
Instream Vegetation	-	-
Pool	-	-
Boulder	-	-
Undercut Bank	-	-

Overhead view of site 50.

Upstream view at site 50.

Downstream view at site 50.

Fish Habitat Classification and Sensitivity

+ Fish Habitat

Fish Habitat Present	Yes
DFO Manitoba Agricultural Watershed Classification:	-
Fish Habitat Classification:	Important

Fish Presence: Burbot, cisco, freshwater drum, lake whitefish, longnose sucker, Northern pike, shorthead redhorse, slimy sculpin, trout perch, walleye, white sucker, yellow perch (FIHSC 2009).

Comments:
The RoW crosses the Hunting River. This site provides moderate habitat diversity for fish including habitat for spawning, rearing, feeding, overwintering and migration. Indicator species have been documented within the Hunting River and various life stages of fish are expected at this site

+ Habitat Sensitivity

Sensitivity Rating: Low
Comments:
Though important fish habitat, stable vegetated banks result in a low sensitivity rating.

Site 51 Unnamed Tributary of Hunting River

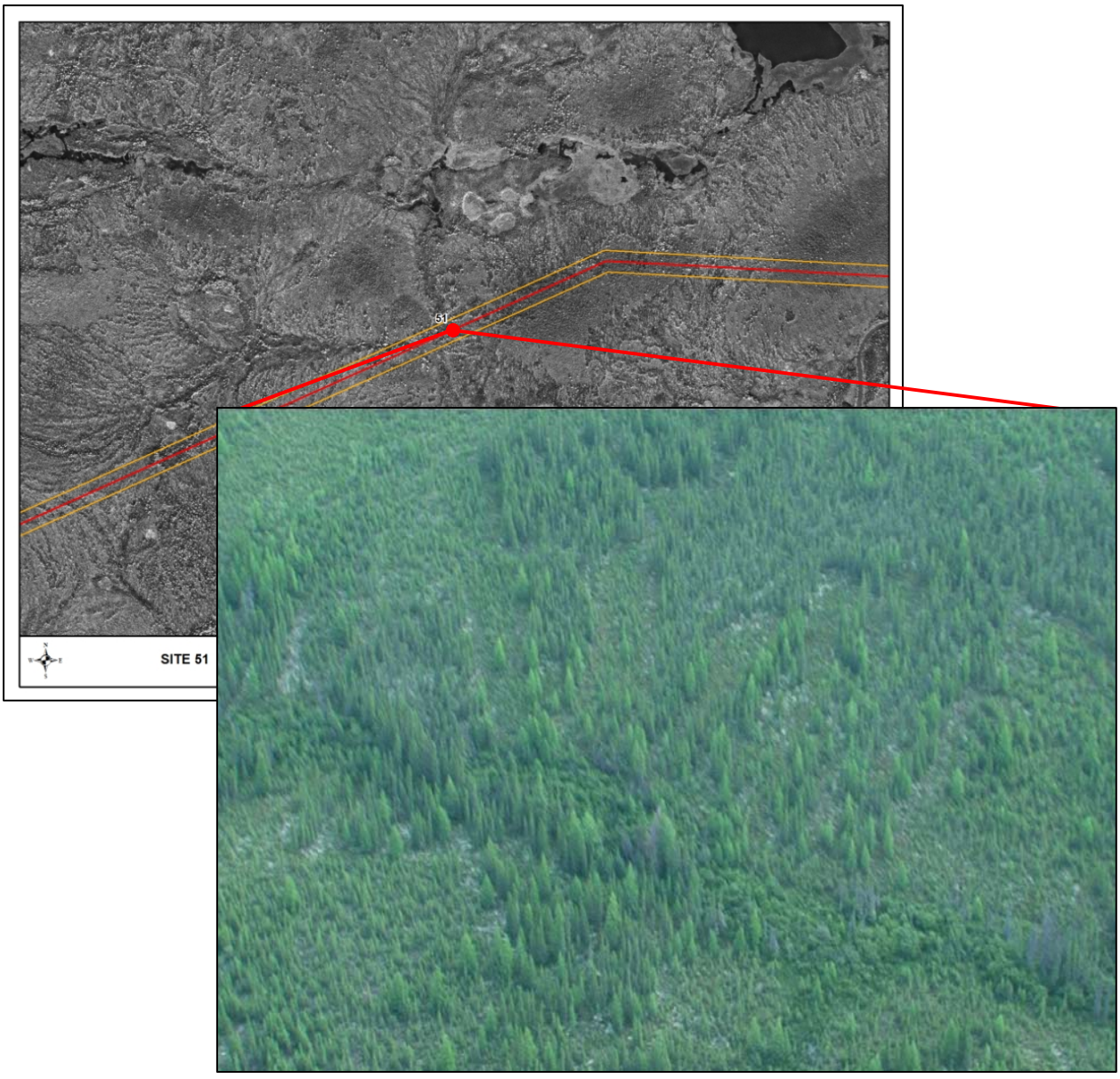
Location

Datum:	NAD 83
UTM:	*Zone:* 14N
	Easting: 668100
	Northing: 6248450
Data Source:	DOI. Video

General Morphology

Stream/Lake:	Stream
Pattern:	SI
Confinement:	UN
Stage:	Low
Flow Regime:	Ephemeral
Morphology:	LC
U/S Drainage:	4.1 km^2

Distance to Receiving Water: Hunting River 0.5km



Site Conditions

+ Physical Data

Channel Profile

Channel and Flow	
Wetted Width (m)	-
Channel Width (m)	-
Banks (%)	
Right Bank Stability	100
Left Bank Stability	100

Riparian

Floodplain Distance (m)	
Right Bank	-
Left Bank	-
Riparian Distance (m)	
Right Bank	-
Left Bank	-
Riparian Vegetation Type (Y/N)	
None	-
Grasses/sedges	Y
Shrubs	-
Conifers	Y
Deciduous	-
Mixed Forest	-
Canopy Cover (%)	-

Substrate

Substrate Type (%)	
Fines	-
Small Gravel	-
Large Gravel	-
Cobble	-
Boulder	-

Cover Types

Total Cover Available (%)	-
Cover Composition (% of Total)	-
Large Woody Debris	-
Overhanging Vegetation	-
Instream Vegetation	-
Pool	-
Boulder	-
Undercut Bank	-
Surface Turbulence	-
Turbidity	-

Habitat Type

Habitat Composition	
Pool	-
Run	-
Flat	-
Riffle	-
Rapid	-

Fish Habitat Classification and Sensitivity

+ Fish Habitat

Fish Habitat Present No
DFO Manitoba Agricultural Watershed Classification: -
Fish Habitat Classification: No Fish Habitat

Fish Presence: N/A

Comments:
The RoW crosses this unnamed tributary of the Hunting River. The tributary is an ephemeral stream with low habitat diversity and low overwintering potential. Fish passage from other areas is only possible when the site is flooded. No fish expected at this crossing.

+ Habitat Sensitivity

Sensitivity Rating: Low
Comments:
Lack of fish presence results in a low sensitivity rating.

Site 52

Awaweyaykamak Creek

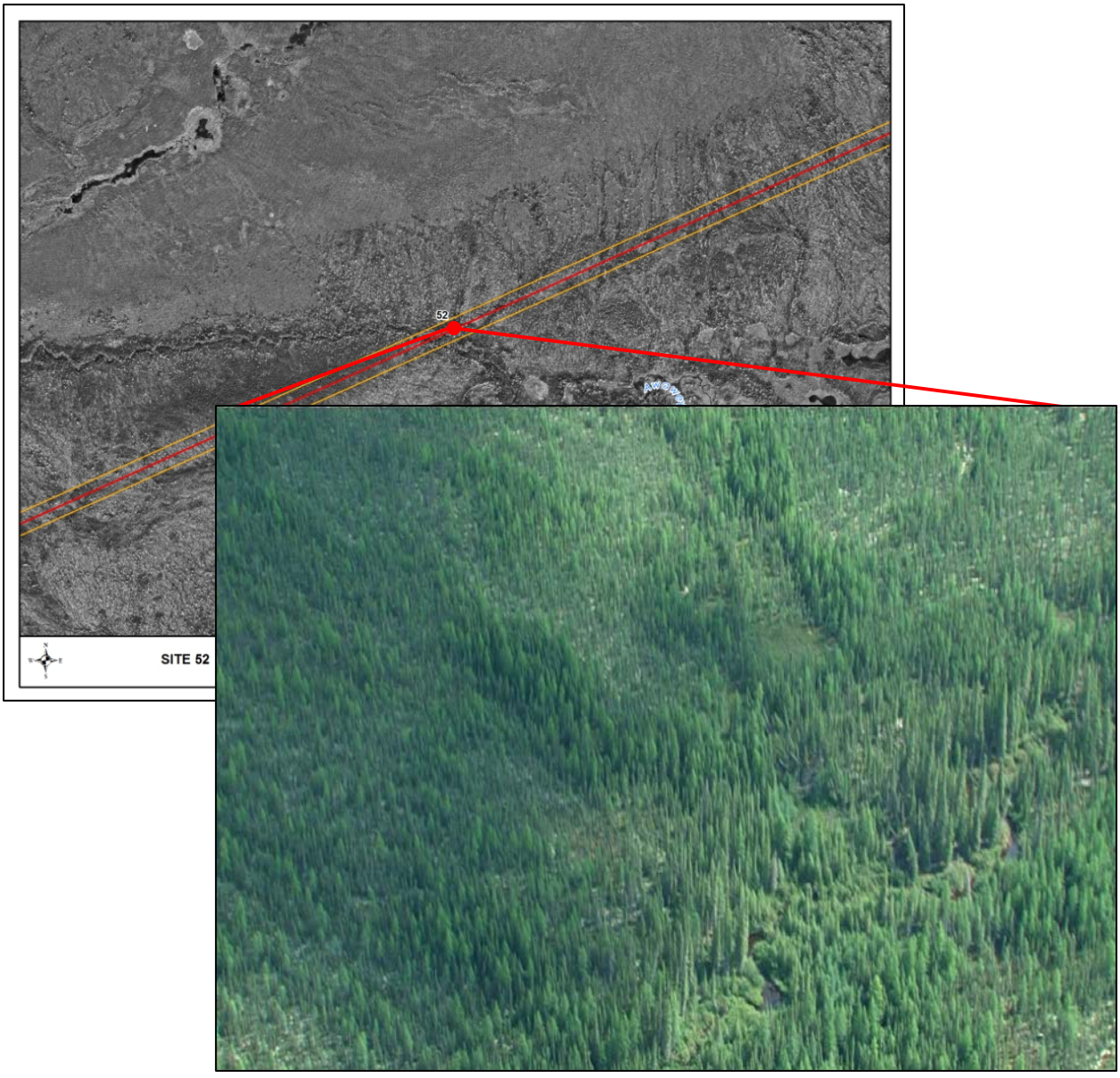
Location

Datum:	NAD 83	
UTM:	*Zone:*	14N
	Easting:	665103
	Northing:	6247104
Data Source:	DOI. Video	

General Morphology

Stream/Lake:	Stream
Pattern:	IR
Confinement:	UN
Stage:	Low
Flow Regime:	Intermittent
Morphology:	LC
U/S Drainage:	42.9 km^2

Distance to Receiving Water: Hunting River 1.8km



Site Conditions

+ Physical Data

Channel Profile

Channel and Flow

Wetted Width (m)	2.50
Channel Width (m)	2.50

Banks (%)

Right Bank Stability	85
Left Bank Stability	85

Riparian

Floodplain Distance (m)

Right Bank	-
Left Bank	-

Riparian Distance (m)

Right Bank	15.3
Left Bank	14.7

Riparian Vegetation Type (Y/N)

None	-
Grasses/sedges	-
Shrubs	Y
Conifers	Y
Deciduous	-
Mixed Forest	-

Canopy Cover (%) 5

Substrate

Substrate Type (%)

Fines	60
Small Gravel	10
Large Gravel	10
Cobble	20
Boulder	-

Cover Types

Total Cover Available (%)	-
Cover Composition (% of Total)	-
Large Woody Debris	-
Overhanging Vegetation	-
Instream Vegetation	-
Pool	-
Boulder	-
Undercut Bank	-
Surface Turbulence	-
Turbidity	-

Habitat Type

Habitat Composition

Pool	-
Run	-
Flat	-
Riffle	-
Rapid	-

Fish Habitat Classification and Sensitivity

+ Fish Habitat

Fish Habitat Present Yes
DFO Manitoba Agricultural Watershed Classification: -
Fish Habitat Classification: Marginal

Fish Presence: N/A

Comments:
The RoW crosses the Awaweyaykamak Creek. The tributary is an intermittent stream with moderate habitat diversity and low overwintering potential. Site 51 is expected to support minnow and possibly large bodied species from Hunting River.

+ Habitat Sensitivity

Sensitivity Rating: Moderate
Comments:
Bank instability may be sensitive to damage during construction, resulting in increased sediment released into the creek.

Site 53 Unnamed Tributary of Hunting River

Location

Datum:	NAD 83
UTM:	*Zone:* 14N
	Easting: 657552
	Northing: 6243713
Data Source:	DOI. Video

General Morphology

Stream/Lake:	Stream
Pattern:	SI
Confinement:	UN
Stage:	Low
Flow Regime:	Ephemeral
Morphology:	LC
U/S Drainage:	3.3 km^2

Distance to Receiving Water: Hunting River 2.8km

Site Conditions

+ Physical Data

Channel Profile

Channel and Flow	
Wetted Width (m)	-
Channel Width (m)	25.4
Banks (%)	
Right Bank Stability	100
Left Bank Stability	100

Riparian

Floodplain Distance (m)	
Right Bank	11.9
Left Bank	11.3
Riparian Distance (m)	
Right Bank	27.4
Left Bank	30.4
Riparian Vegetation Type (Y/N)	
None	-
Grasses/sedges	Y
Shrubs	Y
Conifers	Y
Deciduous	-
Mixed Forest	-
Canopy Cover (%)	-

Substrate

Substrate Type (%)	
Fines	-
Small Gravel	-
Large Gravel	-
Cobble	-
Boulder	-

Cover Types

Total Cover Available (%)	-
Cover Composition (% of Total)	-
Large Woody Debris	-
Overhanging Vegetation	-
Instream Vegetation	-
Pool	-
Boulder	-
Undercut Bank	-
Surface Turbulence	-
Turbidity	-

Habitat Type

Habitat Composition	
Pool	-
Run	-
Flat	-
Riffle	-
Rapid	-

Fish Habitat Classification and Sensitivity

+ Fish Habitat

Fish Habitat Present Yes
DFO Manitoba Agricultural Watershed Classification: -
Fish Habitat Classification: Marginal

Fish Presence: N/A

Comments:
The RoW crosses this unnamed tributary of Hunting River. The tributary is an ephemeral stream with low habitat diversity and low overwintering potential. Fish passage from downstream areas may only be possible during high water level. Forage fish may use this site under high water conditions.

+ Habitat Sensitivity

Sensitivity Rating: Low
Poor fish habitat and abundant instream vegetation results in a low sensitivity rating.

Site 54 Unnamed Tributary of Hunting River

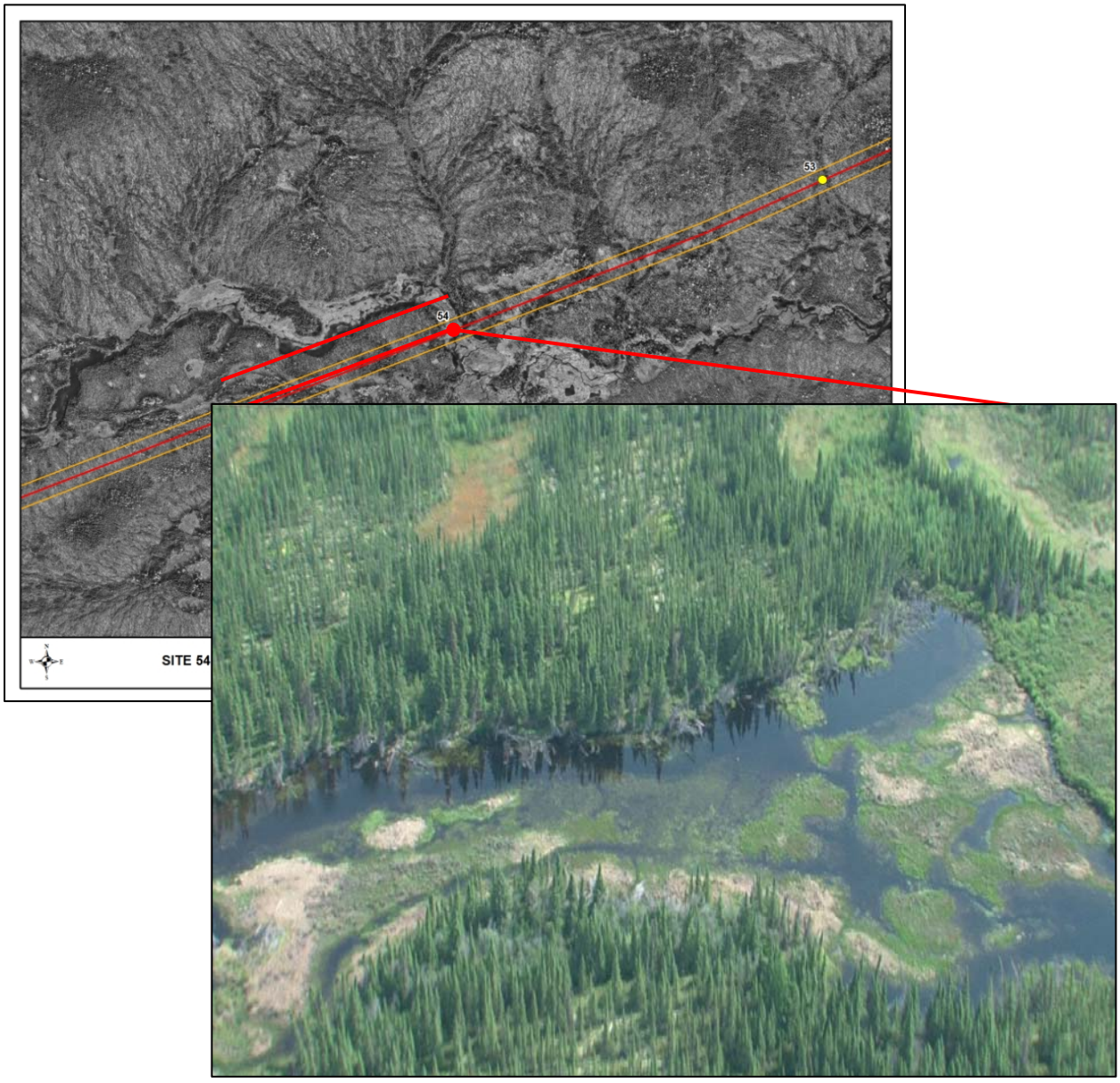
Location

Datum:	NAD 83
UTM:	*Zone:* 14N
	Easting: 656411
	Northing: 6243250
Data Source:	DOI. Video

General Morphology

Stream/Lake:	Stream
Pattern:	IR
Confinement:	UN
Stage:	Low
Flow Regime:	Ephemeral
Morphology:	LC
U/S Drainage:	15.3 km^2

Distance to Receiving Water: Hunting River 3.7km



Site Conditions

+ Physical Data

Channel Profile

Channel and Flow	
Wetted Width (m)	14.3
Channel Width (m)	60.9
Banks (%)	
Right Bank Stability	100
Left Bank Stability	100

Riparian

Floodplain Distance (m)	
Right Bank	35.1
Left Bank	29.1
Riparian Distance (m)	
Right Bank	55.6
Left Bank	50.7
Riparian Vegetation Type (Y/N)	
None	-
Grasses/sedges	Y
Shrubs	-
Conifers	Y
Deciduous	-
Mixed Forest	-
Canopy Cover (%)	-

Substrate

Substrate Type (%)	
Fines	100
Small Gravel	-
Large Gravel	-
Cobble	-
Boulder	-

Cover Types

Total Cover Available (%)	70
Cover Composition (% of Total)	-
Large Woody Debris	-
Overhanging Vegetation	-
Instream Vegetation	100
Pool	-
Boulder	-
Undercut Bank	-
Surface Turbulence	-
Turbidity	-

Habitat Type

Habitat Composition	
Pool	40
Run	60
Flat	-
Riffle	-
Rapid	-

Fish Habitat Classification and Sensitivity

+ Fish Habitat

Fish Habitat Present Yes
DFO Manitoba Agricultural Watershed Classification: -
Fish Habitat Classification: Marginal

Fish Presence: N/A

Comments:
The RoW crosses this unnamed tributary of Hunting River. The tributary is an ephemeral stream with moderate habitat diversity and low overwintering potential. Predominantly, forage fish are expected at site however larger bodied fish may be present with higher water levels.

+ Habitat Sensitivity

Sensitivity Rating: Moderate
Comments:
Floodplain is sensitive to damage during construction in an area with fish presence.

Site 56

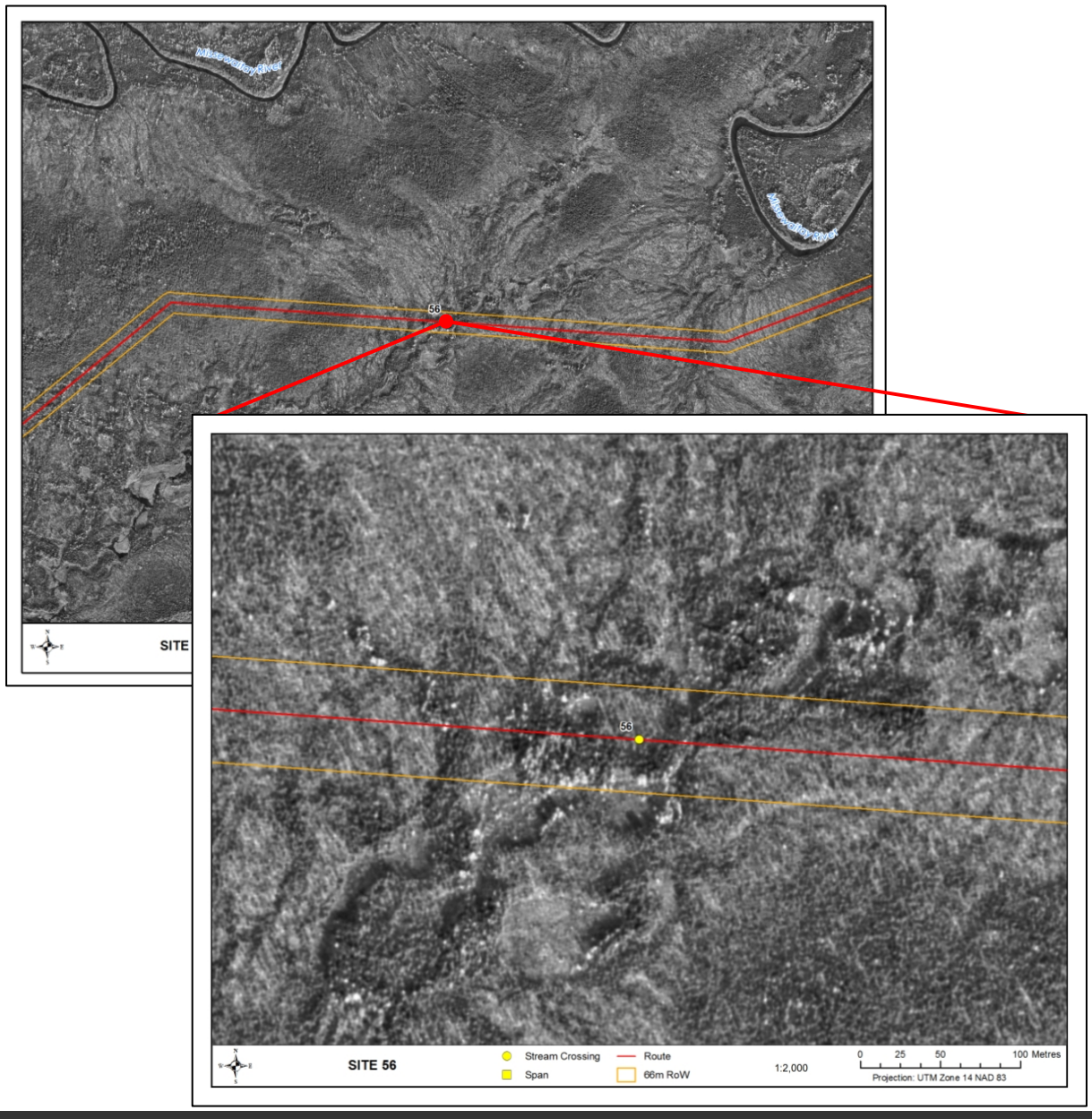
Unnamed tributary of Hunting Lake

Location

Datum:	NAD 83	
UTM:	*Zone:*	14N
	Easting:	648304
	Northing:	6240528
Data Source:	DOI.	

General Morphology

Stream/Lake:	Stream
Pattern:	IM
Confinement:	UN
Stage:	Low
Flow Regime:	Ephemeral
Morphology:	-
U/S Drainage:	0 km^2
Distance to Receiving Water:	Hunting Lake 1.94 km



Site Conditions

+ Physical Data

Channel Profile

Channel and Flow

Wetted Width (m)	-
Channel Width (m)	5

Banks (%)

Right Bank Stability	-
Left Bank Stability	-

Riparian

Floodplain Distance (m)

Right Bank	-
Left Bank	-

Riparian Distance (m)

Right Bank	8
Left Bank	13

Riparian Vegetation Type (Y/N)

None	-
Grasses/sedges	-
Shrubs	Y
Conifers	-
Deciduous	Y
Mixed Forest	-

Canopy Cover (%) -

Substrate

Substrate Type (%)

Fines	-
Small Gravel	-
Large Gravel	-
Cobble	-
Boulder	-

Cover Types

Total Cover Available (%)	-
Cover Composition (% of Total)	-
Large Woody Debris	-
Overhanging Vegetation	-
Instream Vegetation	-
Pool	-
Boulder	-
Undercut Bank	-
Surface Turbulence	-
Turbidity	-

Habitat Type

Habitat Composition

Pool	-
Run	-
Flat	-
Riffle	-
Rapid	-

Fish Habitat Classification and Sensitivity

+ Fish Habitat

Fish Habitat Present Yes
DFO Manitoba Agricultural Watershed Classification: -
Fish Habitat Classification: Marginal

Fish Presence: N/A

Comments:
The RoW crosses the headwaters of this unnamed tributary of Hunting Lake. The tributary likely provides habitat for forage fish, with low overwintering potential. It is surrounded by a soft floodplain.

+ Habitat Sensitivity

Sensitivity Rating: Moderate
Comments:
Soft floodplain results in a moderate sensitivity rating, despite marginal fish habitat.

Site 57 Unnamed Tributary of Hunting Lake

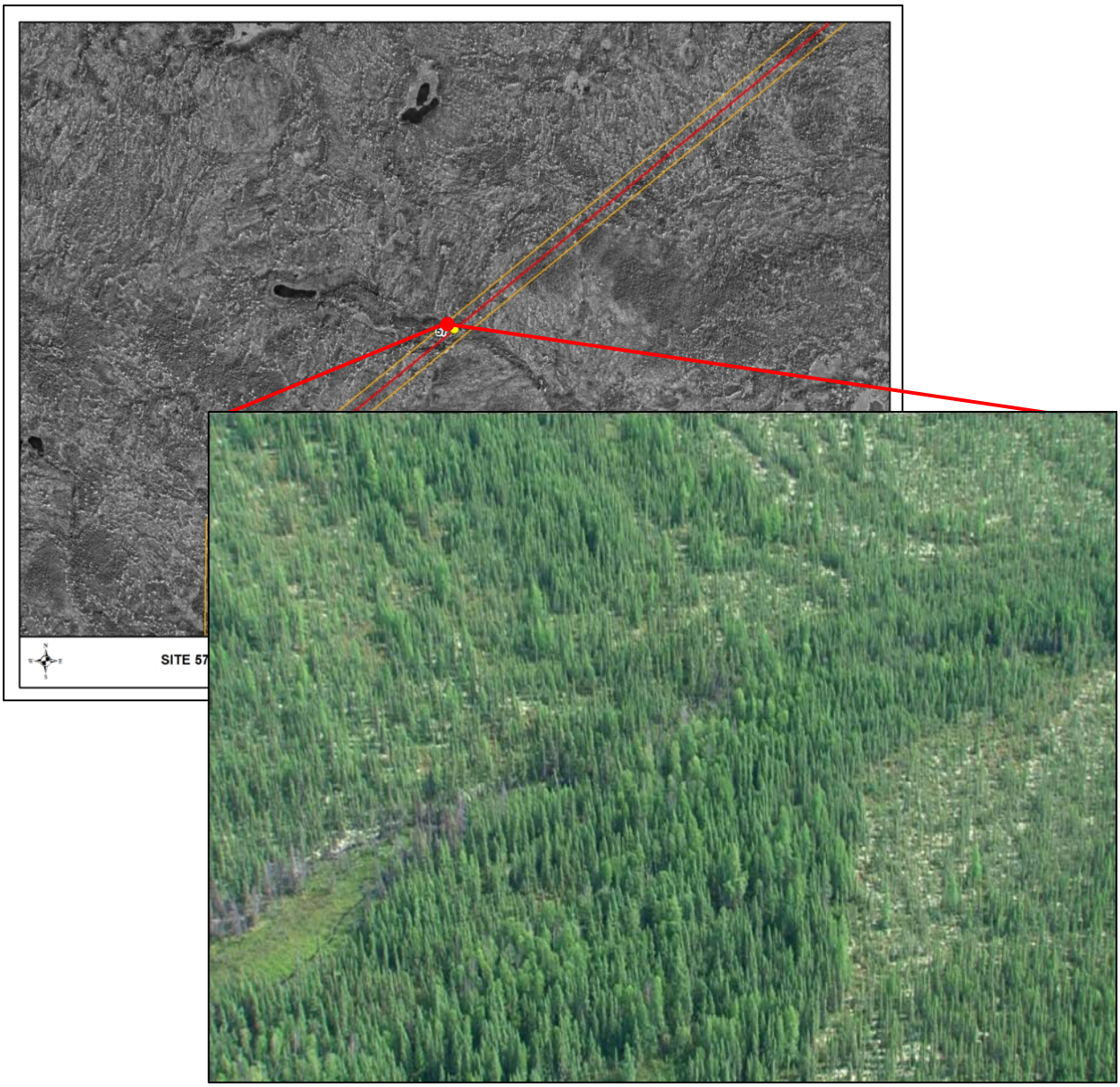
Location

Datum:	NAD 83
UTM:	*Zone:* 14N
	Easting: 644166
	Northing: 6237928
Data Source:	DOI. Video

General Morphology

Stream/Lake:	Stream
Pattern:	IM
Confinement:	UN
Stage:	Low
Flow Regime:	Intermittent
Morphology:	-
U/S Drainage:	0.2 km^2

Distance to Receiving Water: Hunting Lake 3.72 km



Site Conditions

+ Physical Data

Channel Profile

Channel and Flow

Wetted Width (m)	-
Channel Width (m)	-

Banks (%)

Right Bank Stability	100
Left Bank Stability	100

Riparian

Floodplain Distance (m)

Right Bank	-
Left Bank	-

Riparian Distance (m)

Right Bank	75 (total)
Left Bank	-

Riparian Vegetation Type (Y/N)

None	-
Grasses/sedges	Y
Shrubs	-
Conifers	Y
Deciduous	-
Mixed Forest	-

Canopy Cover (%) -

Substrate

Substrate Type (%)

Fines	-
Small Gravel	-
Large Gravel	-
Cobble	-
Boulder	-

Cover Types

Total Cover Available (%)	-
Cover Composition (% of Total)	-
Large Woody Debris	-
Overhanging Vegetation	-
Instream Vegetation	-
Pool	-
Boulder	-
Undercut Bank	-
Surface Turbulence	-
Turbidity	-

Habitat Type

Habitat Composition

Pool	-
Run	100
Flat	-
Riffle	-
Rapid	-

Fish Habitat Classification and Sensitivity

+ Fish Habitat

Fish Habitat Present Yes
DFO Manitoba Agricultural Watershed Classification: -
Fish Habitat Classification: Marginal

Fish Presence: N/A

Comments:
The RoW crosses the headwaters of this unnamed tributary of Hunting Lake. It is an intermittent stream with low habitat diversity and low overwintering potential. Fish passage from downstream areas may only be possible during high water levels. Predominantly forage fish are expected at site when flooded. A soft grass floodplain surrounds the channel.

+ Habitat Sensitivity

Sensitivity Rating: Moderate
Comments:
Soft floodplain results in a moderate sensitivity rating, despite marginal fish habitat.

Site 58 Unnamed tributary of Hunting Lake

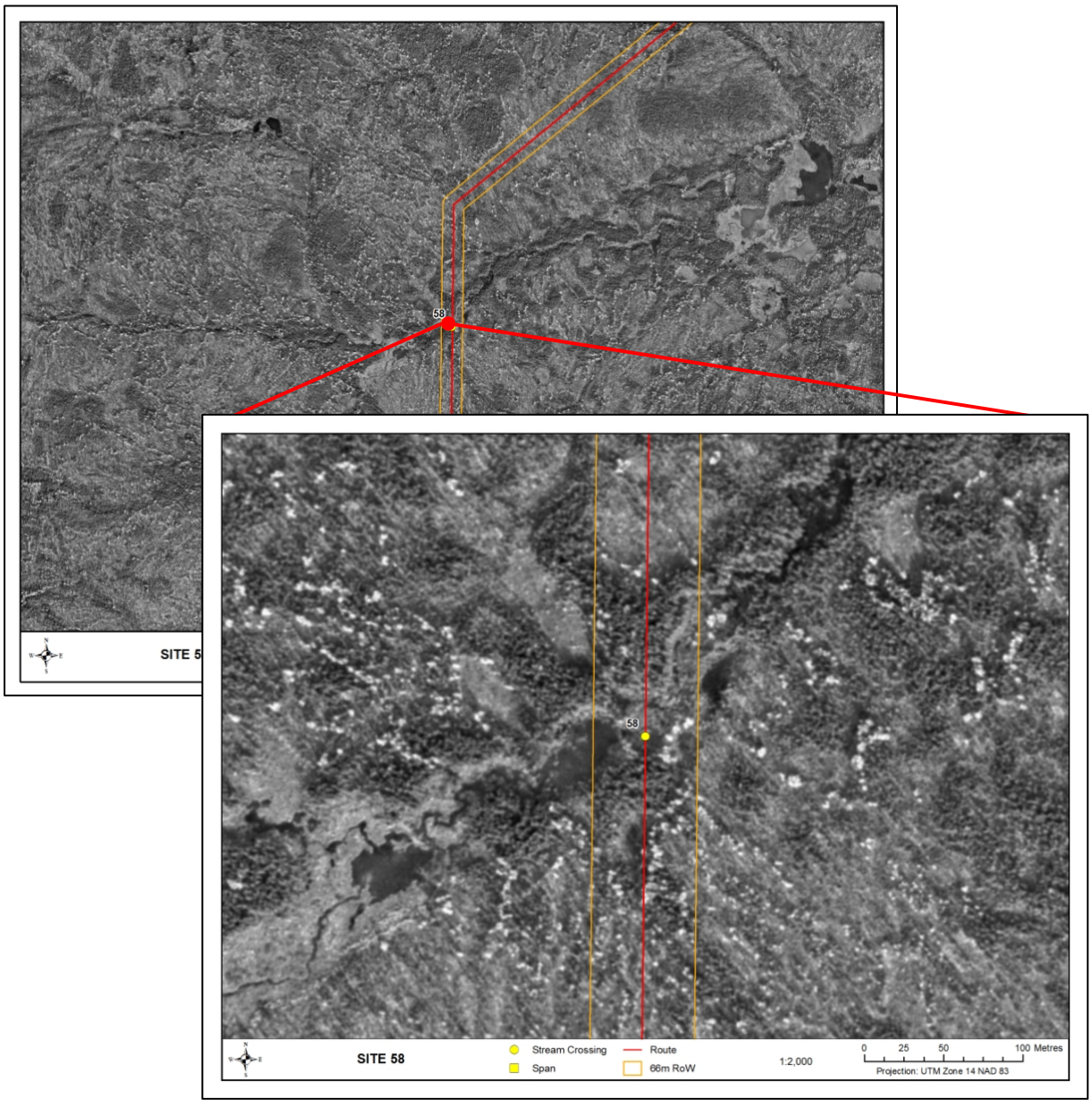
Location

Datum:	NAD 83	
UTM:	*Zone:*	14N
	Easting:	643421
	Northing:	6236939
Data Source:	DOI.	

General Morphology

Stream/Lake:	Stream
Pattern:	IR
Confinement:	UN
Stage:	Moderate
Flow Regime:	Intermittent
Morphology:	-
U/S Drainage:	8.8 km^2

Distance to Receiving Water: Hunting Lake 4.02 km



Site Conditions

+ Physical Data

Channel Profile

Channel and Flow	
Wetted Width (m)	3
Channel Width (m)	-
Banks (%)	
Right Bank Stability	-
Left Bank Stability	-

Riparian

Floodplain Distance (m)	
Right Bank	21
Left Bank	25
Riparian Distance (m)	
Right Bank	24
Left Bank	28
Riparian Vegetation Type (Y/N)	
None	-
Grasses/sedges	-
Shrubs	Y
Conifers	-
Deciduous	Y
Mixed Forest	-
Canopy Cover (%)	0

Substrate

Substrate Type (%)	
Fines	-
Small Gravel	-
Large Gravel	-
Cobble	-
Boulder	-

Cover Types

Total Cover Available (%)	-
Cover Composition (% of Total)	-
Large Woody Debris	-
Overhanging Vegetation	-
Instream Vegetation	-
Pool	-
Boulder	-
Undercut Bank	-
Surface Turbulence	-
Turbidity	-

Habitat Type

Habitat Composition	
Pool	25
Run	75
Flat	-
Riffle	-
Rapid	-

Fish Habitat Classification and Sensitivity

+ Fish Habitat

Fish Habitat Present Yes
DFO Manitoba Agricultural Watershed Classification: -
Fish Habitat Classification: Marginal

Fish Presence: N/A

Comments:
This unnamed tributary of Hunting Lake is an intermittent stream which likely provides habitat for forage fish, with low overwintering potential. It is surrounded by a soft floodplain.

+ Habitat Sensitivity

Sensitivity Rating: Moderate
Comments:
Soft floodplain results in a moderate sensitivity rating, despite marginal fish habitat.

Site 59

Unnamed tributary of Assean Lake

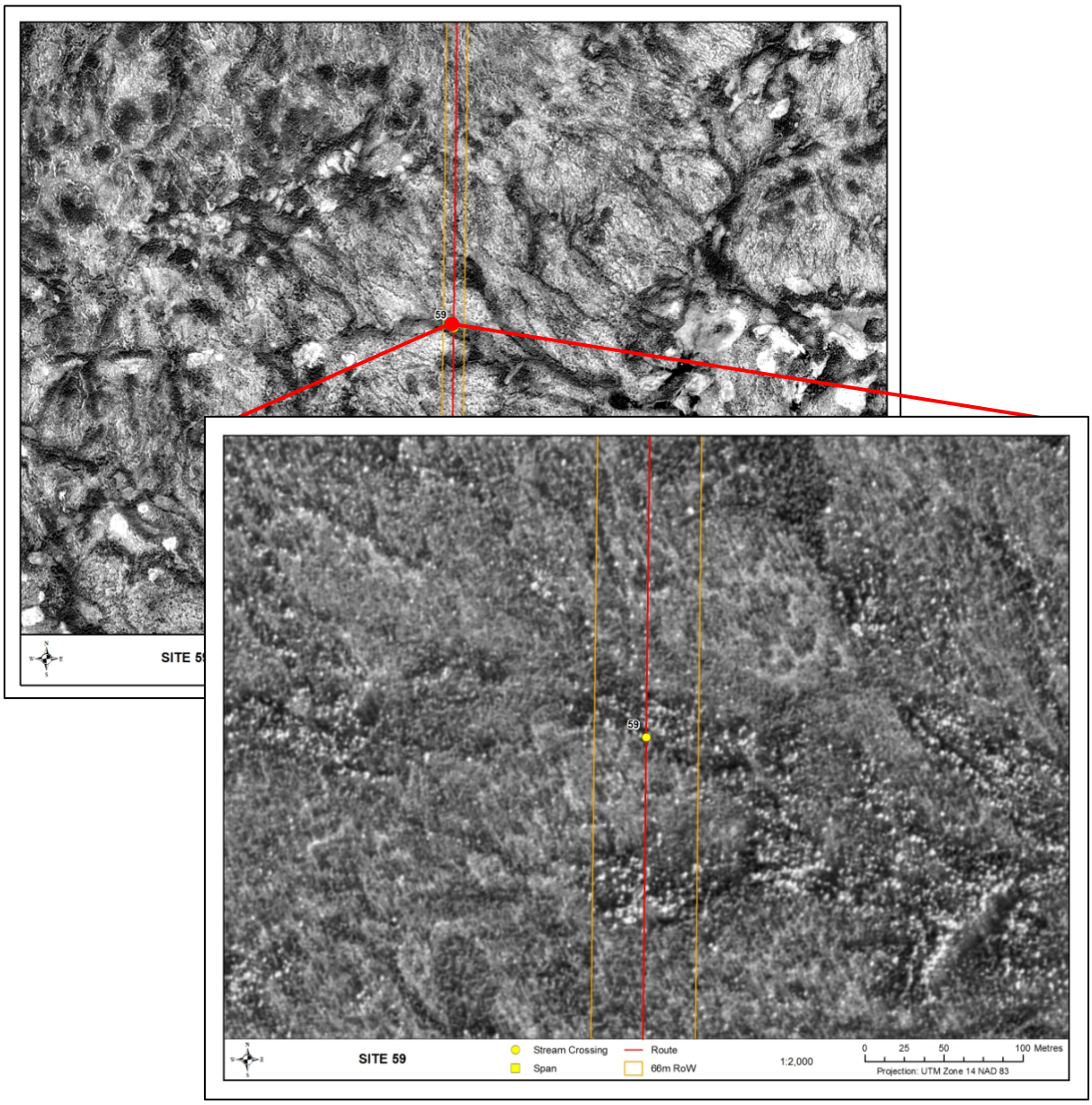
Location

Datum:	NAD 83	
UTM:	*Zone:*	14N
	Easting:	643398
	Northing:	6234822
Data Source:	DOI.	

General Morphology

Stream/Lake:	Stream
Pattern:	IM
Confinement:	UN
Stage:	Low
Flow Regime:	Ephemeral
Morphology:	-
U/S Drainage:	0.4 km^2

Distance to Receiving Water: Assean Lake 7.75 km



Site Conditions

+ Physical Data

Channel Profile

Channel and Flow

Wetted Width (m)	0
Channel Width (m)	5

Banks (%)

Right Bank Stability	-
Left Bank Stability	-

Riparian

Floodplain Distance (m)

Right Bank	-
Left Bank	-

Riparian Distance (m)

Right Bank	6
Left Bank	6

Riparian Vegetation Type (Y/N)

None	-
Grasses/sedges	-
Shrubs	Y
Conifers	-
Deciduous	Y
Mixed Forest	-

Canopy Cover (%) -

Substrate

Substrate Type (%)

Fines	-
Small Gravel	-
Large Gravel	-
Cobble	-
Boulder	-

Cover Types

Total Cover Available (%)	-
Cover Composition (% of Total)	-
Large Woody Debris	-
Overhanging Vegetation	-
Instream Vegetation	-
Pool	-
Boulder	-
Undercut Bank	-
Surface Turbulence	-
Turbidity	-

Habitat Type

Habitat Composition

Pool	-
Run	-
Flat	-
Riffle	-
Rapid	-

Fish Habitat Classification and Sensitivity

+ Fish Habitat

Fish Habitat Present Yes
DFO Manitoba Agricultural Watershed Classification: -
Fish Habitat Classification: Marginal

Fish Presence: N/A

Comments:
This unnamed tributary of Assean Lake is an ephemeral stream which likely provides habitat for forage fish, with low overwintering potential.

+ Habitat Sensitivity

Sensitivity Rating: Low
Comments:
Very marginal fish habitat results in a low sensitivity rating, despite unknown bank stability.

Site 60 Unnamed Tributary of Assean Lake

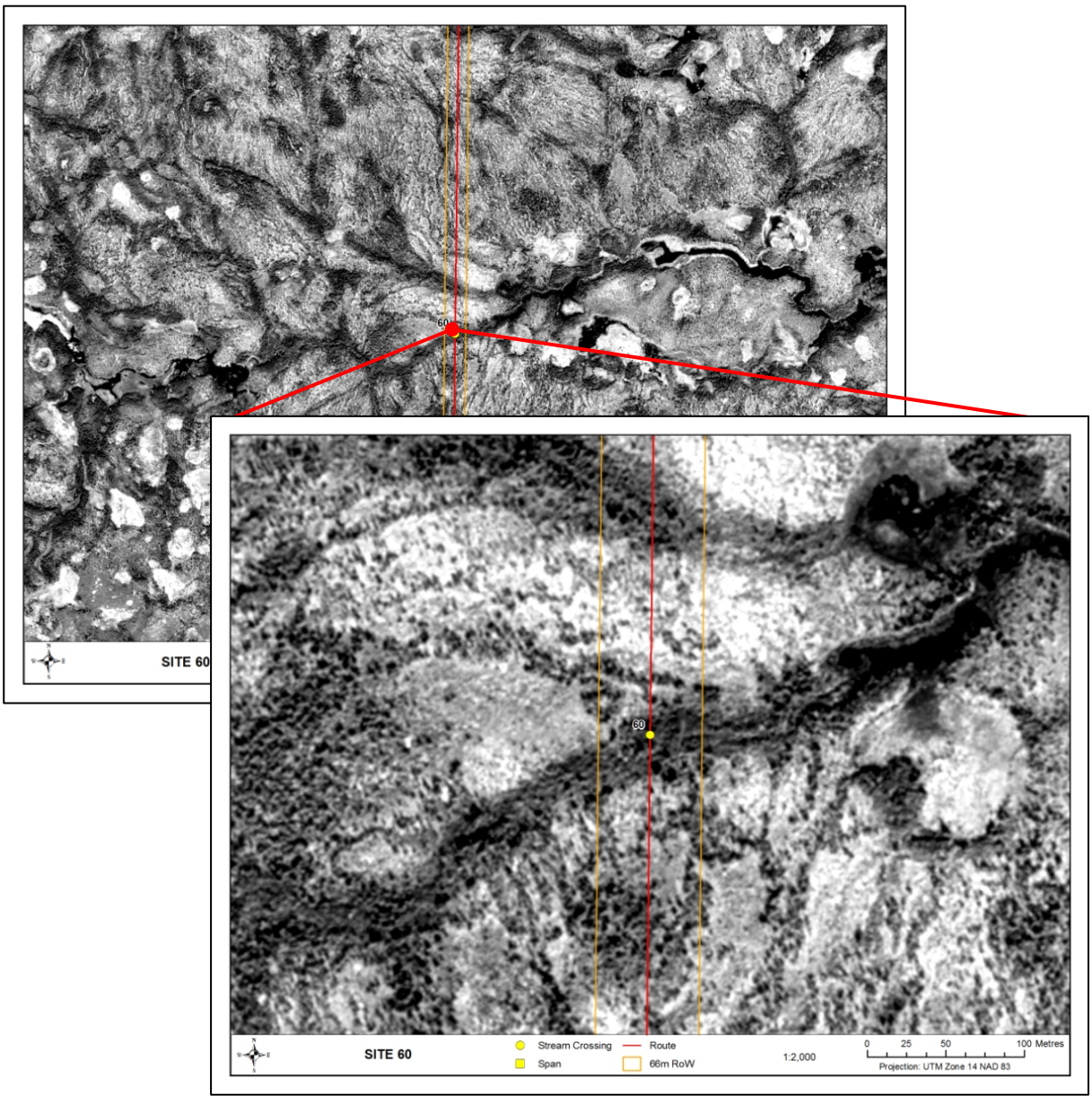
Location

Datum:	NAD 83	
UTM:	*Zone:*	14N
	Easting:	643386
	Northing:	6233774
Data Source:	DOI	

General Morphology

Stream/Lake:	Stream
Pattern:	IM
Confinement:	UN
Stage:	-
Flow Regime:	Intermittent
Morphology:	-
U/S Drainage:	2.3 km^2

Distance to Receiving Water: Assean River 7.14 km



Site Conditions

+ Physical Data

Channel Profile

Channel and Flow

Wetted Width (m)	-
Channel Width (m)	-

Banks (%)

Right Bank Stability	-
Left Bank Stability	-

Riparian

Floodplain Distance (m)

Right Bank	35 (total)
Left Bank	-

Riparian Distance (m)

Right Bank	56 (total)
Left Bank	-

Riparian Vegetation Type (Y/N)

None	-
Grasses/sedges	-
Shrubs	-
Conifers	-
Deciduous	-
Mixed Forest	-

Canopy Cover (%) -

Substrate

Substrate Type (%)

Fines	-
Small Gravel	-
Large Gravel	-
Cobble	-
Boulder	-

Cover Types

Total Cover Available (%)	-
Cover Composition (% of Total)	-
Large Woody Debris	-
Overhanging Vegetation	-
Instream Vegetation	-
Pool	-
Boulder	-
Undercut Bank	-
Surface Turbulence	-
Turbidity	-

Habitat Type

Habitat Composition

Pool	-
Run	-
Flat	-
Riffle	-
Rapid	-

Fish Habitat Classification and Sensitivity

+ Fish Habitat

Fish Habitat Present Yes
DFO Manitoba Agricultural Watershed Classification: -
Fish Habitat Classification: Marginal

Fish Presence: N/A

Comments:
This unnamed tributary of Assean Lake likely provides habitat for forage fish, with low overwintering potential. It is surrounded by a soft floodplain.

+ Habitat Sensitivity

Sensitivity Rating: Moderate
Comments:
Soft floodplain results in a moderate sensitivity rating, despite marginal fish habitat.