Fifteen Mile Stream Gold Project
Map Book

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FIGURE 1.1-1

Fifteen Mile Stream Project Area and Proposed Transportation Routes

Halifax County, NS

FMS Study Area

Upper Musquodoboit

Touquoy Mine Site

Beaver Dam Haul Road

Mooseland

Mooseland Road

Sheet Harbour

Port Dufferin

Tangier

Como Lake

Grand Lake

224

374

7

Legend

- Concentrate haul route (following completion of Beaver Dam Haul Road)
- Initial concentrate haul route
- Project Area

Coordinate System: NAD 1983 CSRS UTM Zone 20N
Projection: Transverse Mercator
Datum: North American 1983 CSRS
Units: Meter

0 2 4 8 Kilometers

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FIGURE 1.1-2

Fifteen Mile Stream Study Area

Trafalgar, NS

Seloam Lake
Existing Access Road
Moser Lake
Fifteen Mile Stream
Seloam Brook
Local Traffic Bypass Road
Organic Material Stockpile
Seloam Brook Realignment
Seloam Lake Water Intake Pipe
Existing Access Road
Open Pit
Till Stockpile
Low Grade Ore Stockpile
Topsoil Pile
Local Traffic Bypass Road
Tailings Management Facility
WRSA (PAG Material)
WRSA (NAG Material)
Plant Facilities
Truck Shop
ROM Pad
East Lake
Powerline
Surplus Water Discharge Pipe
Fifteen Mile Stream
Anti Dam Flowage
374

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4997000

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FMS Planned Infrastructure
- Realignment Channel
- Water Control Structure
- Pit
- Plant
- Truck Shop
- Crusher Pad
- ROM Pad
- Water Treatment
- Plant and Admin Building Footprint
- Seloam Diversion Berm
- Tailings Management Facility
- TMF pond
- Topsoil Stockpile
- Organics Pile
- Till Stockpile
- Low Grade Stockpile
- WRSA (NAG)
- WRSA (PAG)
- Access Road
- Haul Road
- Contractor Laydown Area
- Outflow Channel
- Water Management Pump
- Water Management Pond
- Water Management Ditch
- Water Intake/Discharge Pipe
- Powerline Tie In
- Powerline Tie in Option 2
- Potential Borrow Pit

NSTDB Roads
- Collector
- Local
- Dry Weather / Seasonal
- Track
- Transmission Line
- FMS Study Area

Coordinate System: NAD 1983 CSRS UTM Zone 20N
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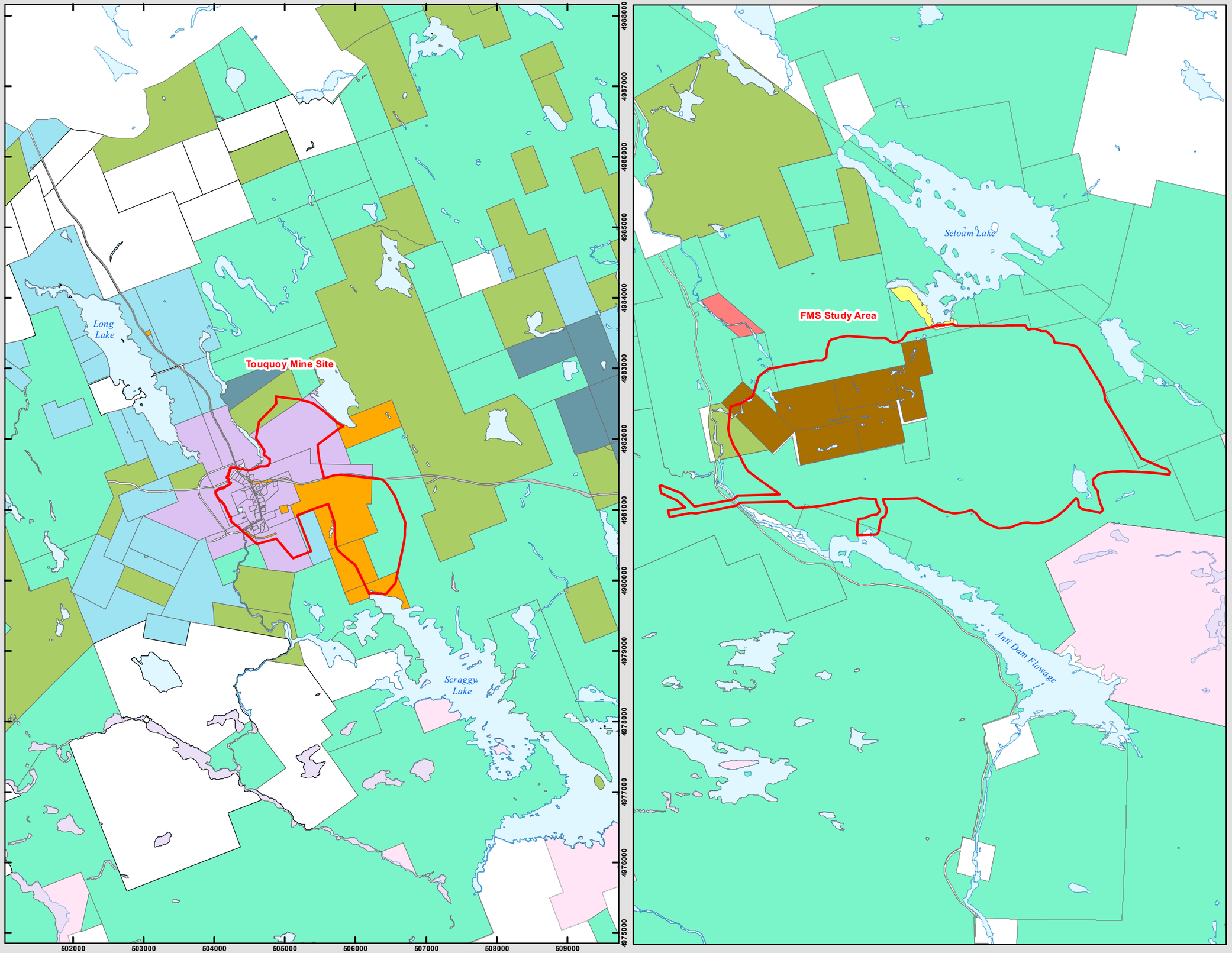

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FIGURE 2.1-1

Property Ownership

Halifax County, NS

- CW Busteed
- MacGregor Properties
- NSPI
- Northern Timber
- AMNS
- Crown
- Private
- Unknown
- Road
- Water
- D.D.V. Gold Limited
- Musquodoboit Lumber Co Ltd
- Northern Timber Nova Scotia Corp
- Wilderness Area
- Provincial Park
- Project Area

Coordinate System: NAD 1983 CSRS UTM Zone 20N
Projection: Transverse Mercator
Datum: North American 1983 CSRS
Units: Meter

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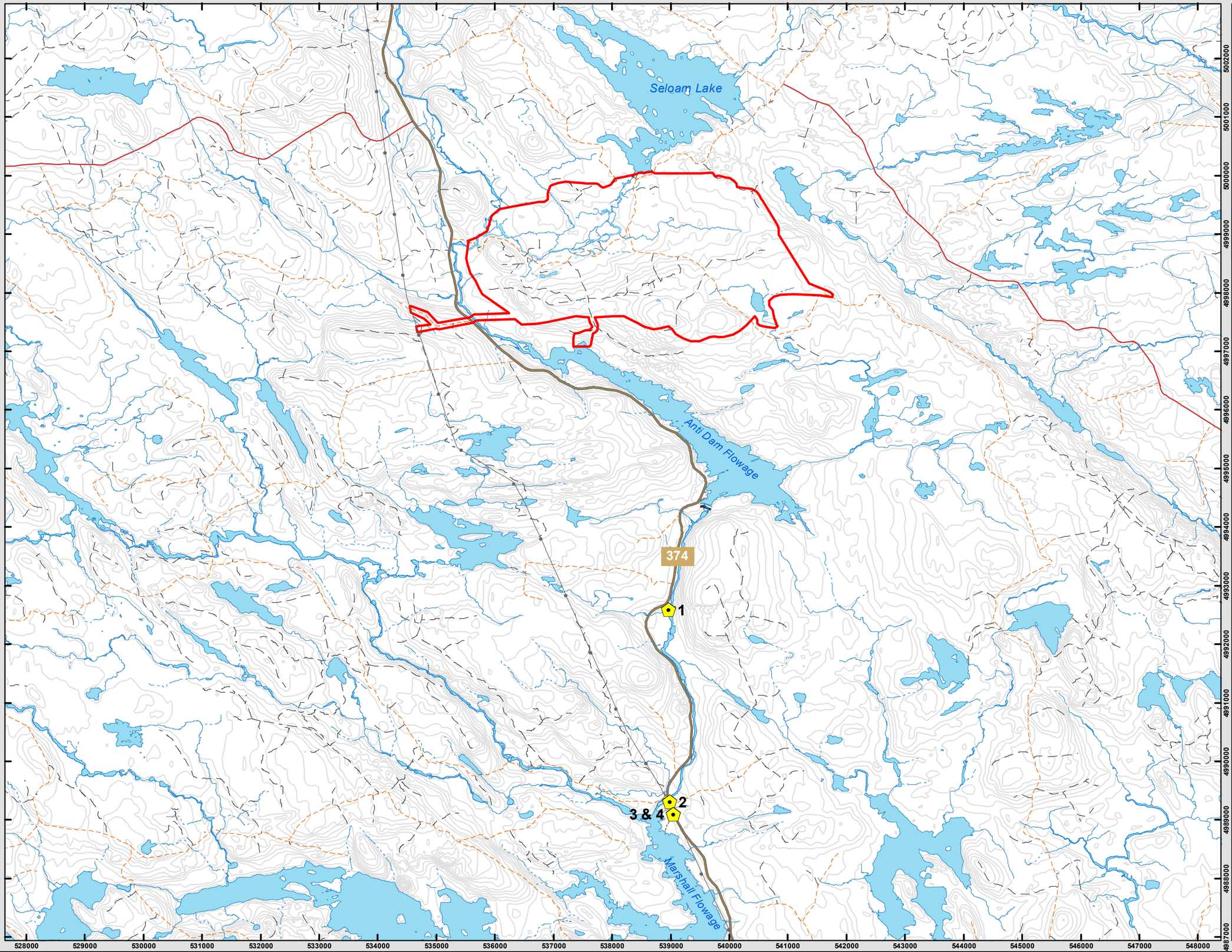

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FIGURE 2.1-2

Closest Residences

Trafalgar, NS

- Closest Residences (ID relates to Table 2.1-1)
- Transmission Line
- Collector
- Local
- Dry Weather / Seasonal
- Diveways (>300 m)
- Track
- FMS Study Area

Coordinate System: NAD 1983 CSRS UTM Zone 20N
Projection: Transverse Mercator
Datum: North American 1983 CSRS
Units: Meter

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FIGURE 2.1-3

Exploration Licences and AMO Locations

Trafalgar, NS

EL: 51860 Atlantic Mining NS Inc.
EL: 52515 1156219 B.C. Limited
EL: 51668 1156219 B.C. Limited
EL: 51669 1156219 B.C. Limited
EL: 51644 1156219 B.C. Limited
EL: 51934 Atlantic Mining NS Inc.
EL: 51643 1156219 B.C. Limited
EL: 06440 Atlantic Mining NS Inc.
EL: 51683 Atlantic Mining NS Inc.
EL: 52901 Atlantic Mining NS Inc.
EL: 10406 Atlantic Mining NS Inc.
EL: 50664 Atlantic Mining NS Inc.
EL: 06439 Atlantic Mining NS Inc.
EL: 05889 Atlantic Mining NS Inc.
EL: 51573 Atlantic Mining NS Inc.
EL: 50714 Rick Horne
EL: 51690 Atlantic Mining NS Inc.
EL: 51938 Atlantic Mining NS Inc.

Seloam Lake
Fifteen Mile Stream
Seloam Brook
Moser Lake
East Lake
Anti Dam Flowage
Local Traffic Bypass Road
Seloam Brook Realignment
Powerline
374

Organic Material Stockpile
Open Pit
Till Stockpile
Low Grade Ore Stockpile
Topsoil Pile
Tailings Management Facility
WRSF (PAG Material)
WRSF (NAG Material)
Plant Facilities
Truck Shop
ROM Pad
Surplus Water Discharge Pipe

- Abandoned Mine Opening

NSTDB Roads
- Collector
- Local
- Dry Weather / Seasonal
- Track
- Transmission Line
- Exploration Licences
- FMS Infrastructure Layout
- FMS Study Area

Coordinate System: NAD 1983 CSRS UTM Zone 20N
Projection: Transverse Mercator
Datum: North American 1983 CSRS
Units: Meter

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Drawn By: AS

Scale when printed @ 11" x 17"
Date: 2020-10-29

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5001000 4999000 4998000 4997000 4996000

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FIGURE 2.1-4

Protected Areas

Halifax County, NS

FMS Study Area

Touquoy Mine Site

Beaver Lake IR

Sheet Harbour IR

Beaver Dam Haul Road

Mooseland Road

Rush Lake Nature Reserve

Abraham Lake Nature Reserve

Liscomb River Wilderness Area

Boggy Lake Wilderness Area

Toadfish Lakes Wilderness Area

Twelve Mile Stream Wilderness Area

Ship Harbour Long Lake Wilderness Area

Cowan Brook Nature Reserve

Tangier Grand Lake Wilderness Area

Concentrate haul route (following completion of Beaver Dam Haul Road)

Initial concentrate haul route

Project Area

Indian Reserve Lands

Liscomb Game Sanctuary

Existing or Pending Protected Areas

Land Trust or Conservation Easement

Nature Reserve

Wilderness Area

Provincial Park

Eastern Shore Islands Important Bird Area

Coordinate System: NAD 1983 CSRS UTM Zone 20N
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Datum: North American 1983 CSRS
Units: Meter

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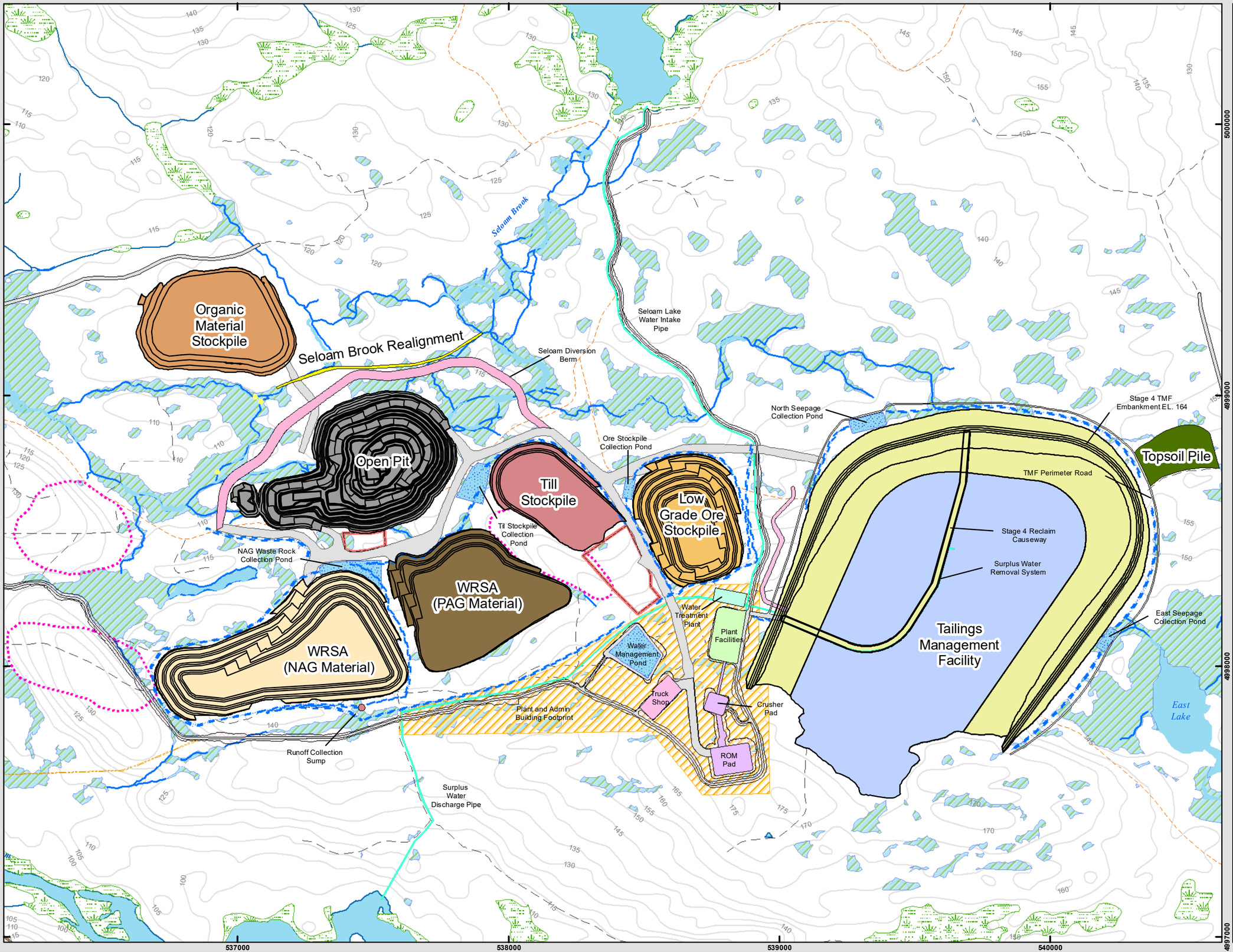
FIGURE 2.1-5

Fifteen Mile Stream General Mine Arrangement

Trafalgar, NS



FMS Planned Infrastructure
- Realignment Channel
- Water Control Structure
- Pit
- Plant
- Truck Shop
- Crusher Pad
- ROM Pad
- Water Treatment
- Plant and Admin Building Footprint
- Seloam Diversion Berm
- Tailings Management Facility
- TMF Pond
- Topsoil Stockpile
- Organics Pile
- Till Stockpile
- Low Grade Stockpile
- WRSA (NAG)
- WRSA (PAG)
- Access Road
- Haul Road
- Road Cut and Fill
- Contractor Laydown Area
- Outflow Channel
- Water Management Pump
- Water Management Pond
- Water Management Ditch
- Water Intake/Discharge Pipe
- Powerline Tie In
- Potential Borrow Pit

NSTDB Roads
- Collector
- Dry Weather / Seasonal
- Track

Coordinate System: NAD 1983 CSRS UTM Zone 20N
Projection: Transverse Mercator
Datum: North American 1983 CSRS
Units: Meter

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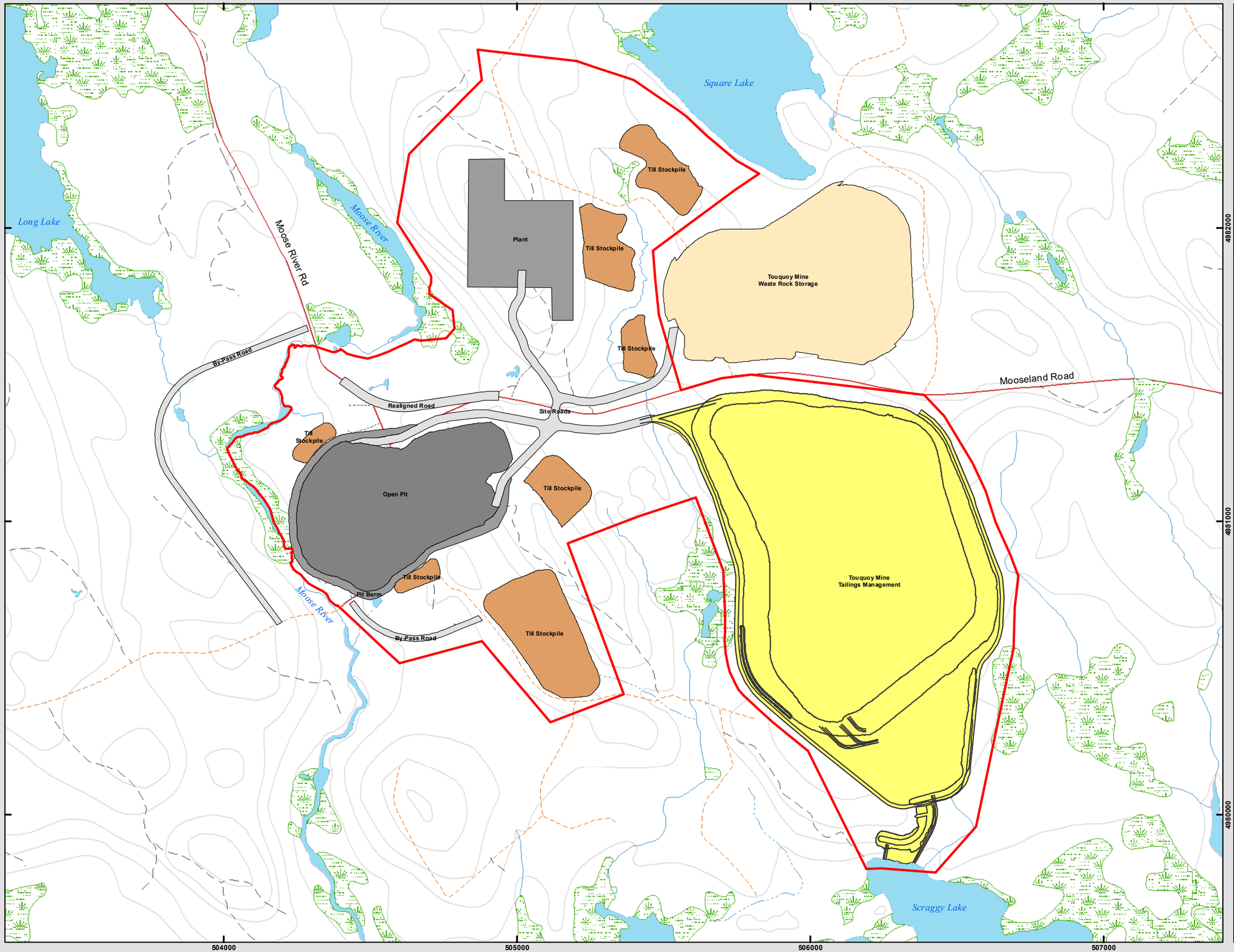
FIGURE 2.1-6

Touquoy Mine Site

Mooseland, NS



Touquoy Mine Infrastructure
- Site Roads
- Tailings Management
- Waste Rock Storage
- Pit
- Plant
- Till Stockpile
- Pit Berm
- Realigned Road
- By-Pass Road

- Touquoy Mine Site
- NSTDB Lakes
- NSE Wetlands
- NSE Mapped Watercourses

NSTDB Roads
- Local
- Dry Weather / Seasonal
- Diveways (>300 m)
- Track

Coordinate System: NAD 1983 CSRS UTM Zone 20N
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FIGURE 2.1-7

Fifteen Mile Stream Study Area Access

Trafalgar, NS

- Current access points that will be restricted

Local Traffic and ATV Bypass Road

- Existing Access Road
- New Road Construction

NSTDB Existing Roads

- Highway
- Local
- Dry Weather / Seasonal
- Track
- Transmission Line
- Proposed Property Boundary
- FMS Proposed Infrastructure

Coordinate System: NAD 1983 CSRS UTM Zone 20N
Projection: Transverse Mercator
Datum: North American 1983 CSRS
Units: Meter

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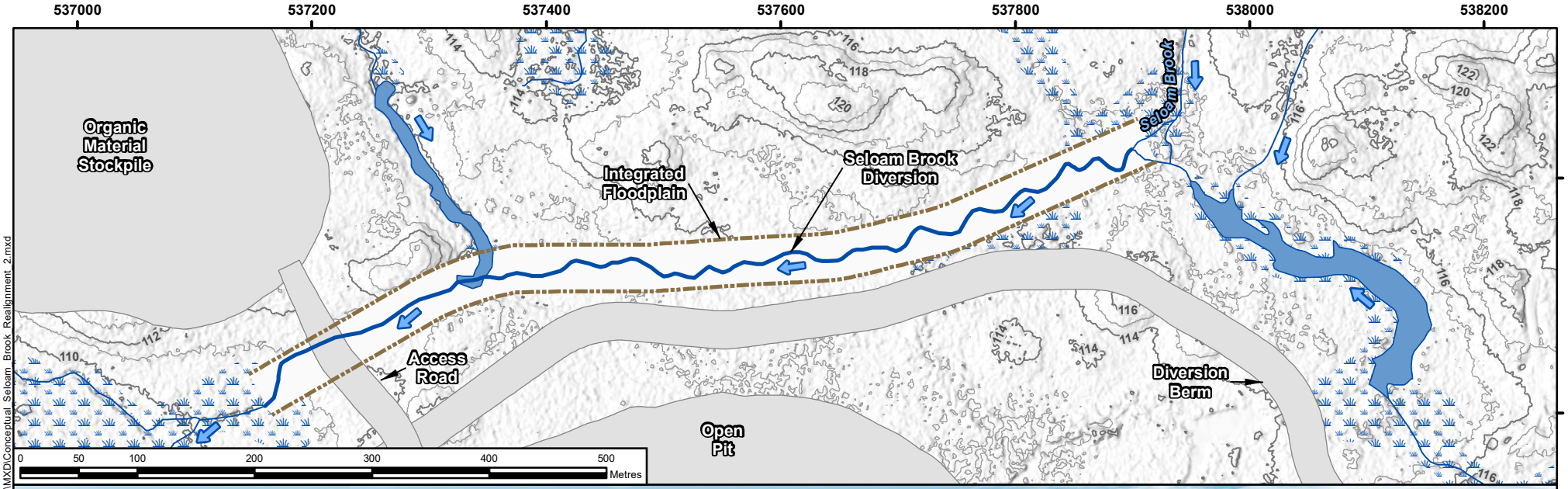

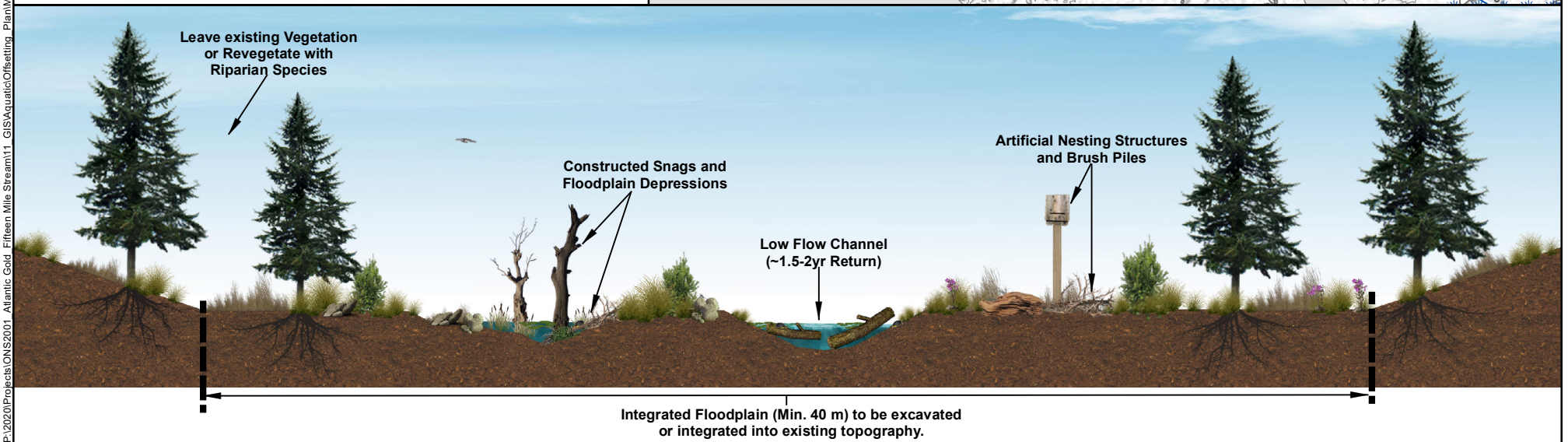

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LEGEND

- Seloam Brook Diversion Channel (Representative - Design to be Developed)
- Integrated Floodplain
- Proposed Mine Feature
- Watercourse
- Waterbody
- Wetland
- Major Contours (2 metre intervals)
- Minor Contours (1 metre intervals)
- Flow Direction

NOTES:
- Proposed site plan layout provided by Knight Piésold Consulting, June 18, 2020.
- Topogarphic base data extracted from Nova Scotia GeoPortal.

Datum: NAD83
Projection: UTM Zone 20N

Atlantic Gold
A St Barbara Ltd Company

wood.

FIFTEEN MILE STREAM GOLD PROJECT

Conceptual Seloam Brook Channel Realignment

PROJECT N°: ONS2001	**FIGURE: 2.2-1**
SCALE: AS SHOWN	DATE: August 2020

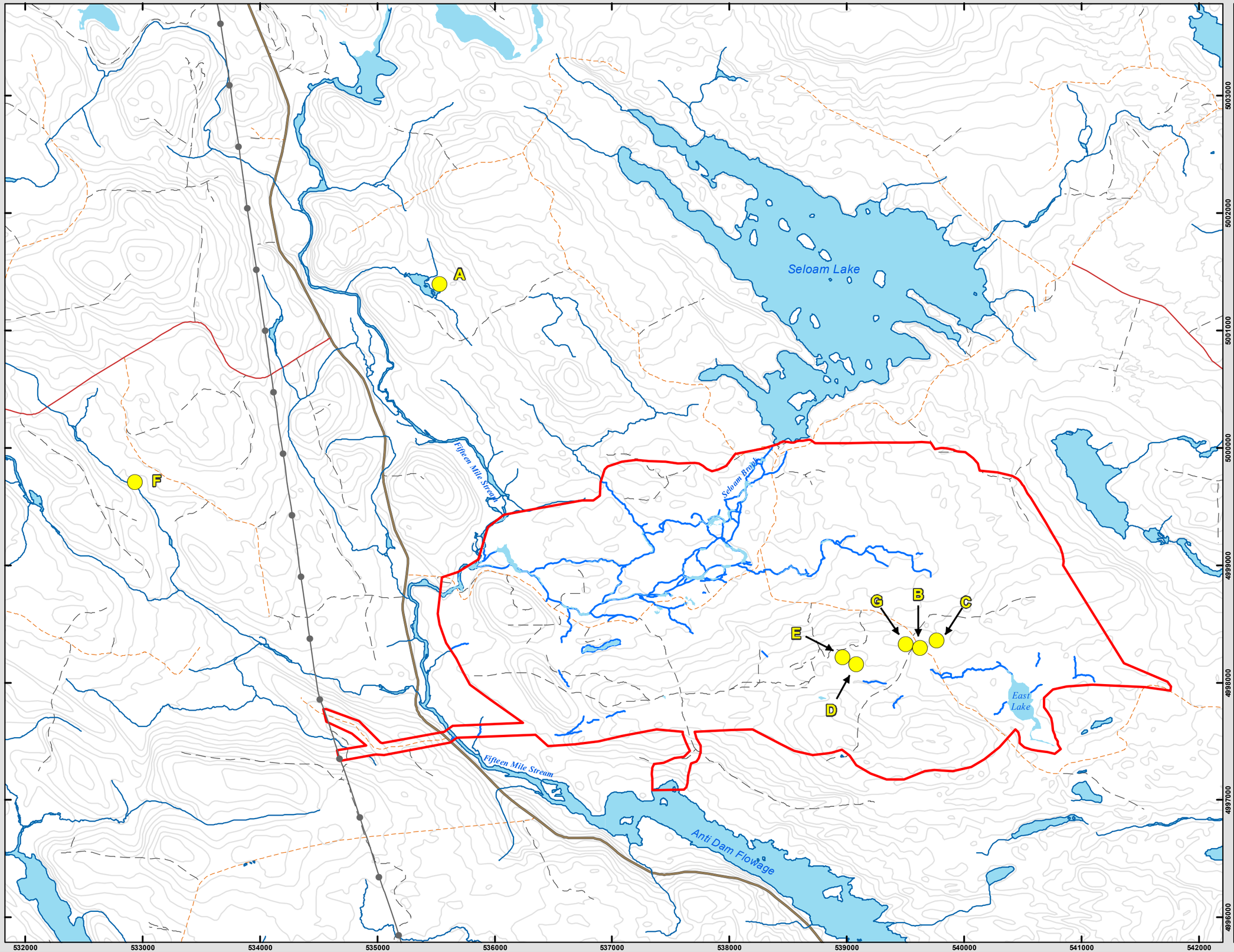

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FIGURE 2.6-1

Fifteen Mile Stream Study Area: Alternative Tailings Management Facility Sites

Trafalgar, NS

- Tailings Management Facility Alternative Centroid
- FMS Study Area

NSTDB Roads & Utilities

- Collector
- Local
- Dry Weather / Seasonal
- Track
- Transmission Line

Coordinate System: NAD 1983 CSRS UTM Zone 20N
Projection: Transverse Mercator
Datum: North American 1983 CSRS
Units: Meter

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Tailings Management Facility

TMF Access Road

Seloam Lake

No Elevation Data Available

Fifteen Mile Stream

374

Local Traffic Bypass Road

Seloam Brook

Seloam Lake Water Intake Pipeline

Moser Lake

Organic Material Stockpile

Seloam Brook Diversion

Diversion Berm

Open Pit

Till Stockpile

Low Grade Ore Stockpile

Water Treatment

Plant Facilities

Crusher

ROM Pad

Water Management Pond

Truck Shop

WRSA (PAG Material)

WRSA (NPAG Material)

Local Traffic Bypass Road

East Lake

Bear Brook

Powerline

Surplus Water Dischrge Pipeline

Anti Dam Flowage

East Brook

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LEGEND

- Utility Line
- Highway
- Local
- Resource / Track
- Watercourse
- Waterbody
- Wetland
- Major Contours (10 metre intervals)
- Minor Contours (5 metre intervals)

Proposed Mine Features

- Watercourse Diversion
- Non-contact Water Diversion Ditch
- Seepage Collection Ditch
- Powerline
- Pipeline
- Open Pit
- TMF Seepage Collection Ponds
- Tailings Management Facility Dam
- Deposited Tailings
- Diversion Berm
- Seepage Collection Ponds
- Water Management Pond
- Low Grade Ore Stockpile
- Organic Material Stockpile
- Till Stockpile
- WRSA (NAG Stockpile)
- WRSA (PAG Stockpile)
- Buildings / Crusher
- Administration Area
- Haul / Access Roads

0 0.5 1 2 3 4 5 Kilometres

NOTES:
- Proposed site plan layout provided by Knight Piésold Consulting, June 18, 2020.
- Topographic base data extracted from Nova Scotia GeoPortal.

Datum: NAD83
Projection: UTM Zone 20N

N W E S

Atlantic Gold A St Barbara Ltd Company

wood.

FIFTEEN MILE STREAM GOLD PROJECT

Alternative A Configuration

PROJECT N°: ONS2001

FIGURE: 2.6-2

SCALE: 1:25,000

DATE: July 2020

536000 538000 540000

5000000

4998000

No Elevation Data Available

Seloam Lake

Moser Lake

Moser River

374

Local Traffic Bypass Road

Seloam Brook

Seloam Lake Water Intake Pipeline

Organic Material Stockpile

Seloam Brook Diversion

Diversion Berm

Open Pit

Till Stockpile

Low Grade Ore Stockpile

WRSA (PAG Material)

WRSA (NPAG Material)

Tailings Management Facility

Water Treatment

Plant Facilities

Crusher

Water Management Pond

Truck Shop

ROM Pad

Surplus Water Dischrge Pipeline

Powerline

Bear Brook

Fifteen Mile Stream

Anti Dam Flowage

East Lake

East Brook

P:\2020\Projects\ONS2001 Atlantic Gold Fifteen Mile Stream\11 GIS\Alternatives Assessment\MXD\AltB Opt4C Site Plan 2.mxd

LEGEND

- Utility Line
- Highway
- Local
- Resource / Track
- Watercourse
- Waterbody
- Wetland
- Major Contours (10 metre intervals)
- Minor Contours (5 metre intervals)

Proposed Mine Features

- Watercourse Diversion
- Non-contact Water Diversion Ditch
- Seepage Collection Ditch
- Powerline
- Pipeline
- Open Pit
- TMF Seepage Collection Ponds
- Tailings Managment Facility Dam
- Deposited Tailings
- Diversion Berm
- Seepage Collection Ponds
- Water Management Pond
- Low Grade Ore Stockpile
- Organic Material Stockpile
- Till Stockpile
- WRSA (NAG Stockpile)
- WRSA (PAG Stockpile)
- Buildings / Crusher
- Administration Area
- Haul / Access Roads

NOTES:
- Proposed site plan layout provided by Knight Piésold Consulting, June 18, 2020.
- Topographic base data extracted from Nova Scotia GeoPortal.

Datum: NAD83
Projection: UTM Zone 20N

0 0.5 1 2 3 4 5 Kilometres

N W E S

Atlantic Gold A St Barbara Ltd Company

wood.

FIFTEEN MILE STREAM GOLD PROJECT

Alternative B Configuration

PROJECT N°: ONS2001

FIGURE: 2.6-3

SCALE: 1:18,000

DATE: July 2020

536000 538000 540000

5000000 4998000

No Elevation Data Available

Seloam Lake
Moser Lake
Moser River
374
Local Traffic Bypass Road
Seloam Brook
Seloam Lake Water Intake Pipeline
Organic Material Stockpile
Seloam Brook Diversion
Diversion Berm
Open Pit
Till Stockpile
Low Grade Ore Stockpile
North Water Management Pond
Tailings Management Facility
Water Treatment
Plant Facilities
South Water Management Pond
Local Traffic Bypass Road
WRSA (PAG Material)
WRSA (NPAG Material)
Water Management Pond
Truck Shop
Crusher
East Lake
Bear Brook
Powerline
Surplus Water Dischrge Pipeline
ROM Pad
Fifteen Mile Stream
Anti Dam Flowage
East Brook

P:\2020\Projects\ONS2001_Atlantic Gold_Fifteen Mile Stream\11_GIS\Alternatives_Assessment\MXD\AltC_Opt4F_Site_Plan_2.mxd

LEGEND

- Utility Line
- Highway
- Local
- Resource / Track
- Watercourse
- Waterbody
- Wetland
- Major Contours (10 metre intervals)
- Minor Contours (5 metre intervals)

Proposed Mine Features

- Watercourse Diversion
- Non-contact Water Diversion Ditch
- Seepage Collection Ditch
- Powerline
- Pipeline
- Open Pit
- TMF Seepage Collection Ponds
- Filtered Tailings Storage
- Dam
- TMF Water Management Pond
- Diversion Berm
- Seepage Collection Ponds
- Water Management Pond
- Low Grade Ore Stockpile
- Organic Material Stockpile
- Till Stockpile
- WRSA (NAG Stockpile)
- WRSA (PAG Stockpile)
- Buildings / Crusher
- Administration Area
- Haul / Access Roads

NOTES:
- Proposed site plan layout provided by Knight Piésold Consulting, June 18, 2020.
- Topographic base data extracted from Nova Scotia GeoPortal.

Datum: NAD83
Projection: UTM Zone 20N

0 0.5 1 2 3 4 5 Kilometres

N W E S

Atlantic Gold A St Barbara Ltd Company

wood.

FIFTEEN MILE STREAM GOLD PROJECT

Alternative C Configuration

PROJECT N°: ONS2001 | **FIGURE: 2.6-4**

SCALE: 1:18,000 | DATE: July 2020

536000 538000 540000

5000000 4998000

No Elevation Data Available

374

Local Traffic Bypass Road

Organic Material Stockpile

Seloam Brook Diversion

Diversion Berm

Seloam Brook

Seloam Lake Water Intake Pipeline

Seloam Lake

Moser Lake

Moser River

Open Pit

Till Stockpile

Low Grade Ore Stockpile

WRSA (PAG Material)

WRSA (NPAG Material)

Tailings Management Facility

Local Traffic Bypass Road

Truck Shop

ROM Pad

Crusher

Plant Facilities

Surplus Water Dischrge Pipeline

Powerline

Bear Brook

Fifteen Mile Stream

Anti Dam Flowage

East Lake

East Brook

P:\2020\Projects\ONS2001_Atlantic Gold_Fifteen Mile Stream\11_GIS\Alternatives_Assessment\MXD\AltD_Opt5C_Site_Plan_2.mxd

LEGEND

- Utility Line
- Highway
- Local
- Resource / Track
- Watercourse
- Waterbody
- Wetland
- Major Contours (10 metre intervals)
- Minor Contours (5 metre intervals)

Proposed Mine Features

- Watercourse Diversion
- Non-contact Water Diversion Ditch
- Seepage Collection Ditch
- Powerline
- Pipeline
- Open Pit
- TMF Seepage Collection Ponds
- Tailings Managment Facility Dam
- Deposited Tailings
- Diversion Berm
- Seepage Collection Ponds
- Low Grade Ore Stockpile
- Organic Material Stockpile
- Till Stockpile
- WRSA (NAG Stockpile)
- WRSA (PAG Stockpile)
- Buildings / Crusher
- Administration Area
- Haul / Access Roads

NOTES:
- Proposed site plan layout provided by Knight Piésold Consulting, June 18, 2020.
- Topographic base data extracted from Nova Scotia GeoPortal.

Atlantic Gold A St Barbara Ltd Company

wood.

FIFTEEN MILE STREAM GOLD PROJECT

Alternative D Configuration

Datum: NAD83
Projection: UTM Zone 20N

N W E S

0 0.5 1 2 3 4 5 Kilometres

PROJECT N°: ONS2001

FIGURE: 2.6-5

SCALE: 1:18,000

DATE: July 2020

536000
538000
540000
5000000
4998000
No Elevation Data Available
374
Local Traffic Bypass Road
Organic Material Stockpile
Seloam Brook Diversion
Diversion Berm
Seloam Brook
Seloam Lake Water Intake Pipeline
Seloam Lake
Moser Lake
Moser River
Open Pit
Till Stockpile
North Water Management Pond
Low Grade Ore Stockpile
WRSA (PAG Material)
WRSA (NPAG Material)
Tailings Management Facility
Local Traffic Bypass Road
Bear Brook
Truck Shop
ROM Pad
Crusher
Plant Facilities
South Water Management Pond
East Lake
Powerline
Surplus Water Dischrge Pipeline
Fifteen Mile Stream
Anti Dam Flowage
East Brook
P:\2020\Projects\ONS2001_Atlantic Gold_Fifteen Mile Stream\11_GIS\Alternatives_Assessment\MXD\AltE_Opt5F_Site_Plan_2.mxd

LEGEND

- Utility Line
- Highway
- Local
- Resource / Track
- Watercourse
- Waterbody
- Wetland
- Major Contours (10 metre intervals)
- Minor Contours (5 metre intervals)

Proposed Mine Features

- Watercourse Diversion
- Non-contact Water Diversion Ditch
- Seepage Collection Ditch
- Powerline
- Pipeline
- Open Pit
- TMF Seepage Collection Ponds
- Dam
- TMF Water Management Pond
- Filtered Tailings Storage
- Diversion Berm
- Seepage Collection Ponds
- Low Grade Ore Stockpile
- Organic Material Stockpile
- Till Stockpile
- WRSA (NAG Stockpile)
- WRSA (PAG Stockpile)
- Buildings / Crusher
- Administration Area
- Haul / Access Roads

0 0.5 1 2 3 4 5 Kilometres

NOTES:
- Proposed site plan layout provided by Knight Piésold Consulting, June 18, 2020.
- Topographic base data extracted from Nova Scotia GeoPortal.

Datum: NAD83
Projection: UTM Zone 20N

N W E S

Atlantic Gold A St Barbara Ltd Company

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FIFTEEN MILE STREAM GOLD PROJECT

Alternative E Configuration

PROJECT N^{o}: ONS2001	FIGURE: 2.6-6
SCALE: 1:18,000	DATE: July 2020

532000
534000
536000
538000
540000
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5000000
4998000

Seloam Lake
No Elevation Data Available
Moser Lake
Fifteen Mile Stream
374
Local Traffic Bypass Road
Seloam Brook
Seloam Lake Water Intake Pipeline
Organic Material Stockpile
Seloam Brook Diversion
Diversion Berm
Tailings Management Facility
TMF Access Road
Open Pit
Till Stockpile
Low Grade Ore Stockpile
Water Treatment
Plant Facilities
Crusher
ROM Pad
WRSA (PAG Material)
WRSA (NPAG Material)
Water Management Pond
Truck Shop
Surplus Water Dischrge Pipeline
Powerline
Bear Brook Diversion
Bear Brook
Local Traffic Bypass Road
East Lake
Anti Dam Flowage
East Brook

P:\2020\Projects\ONS2001_Atlantic_Gold_Fifteen_Mile_Stream\11_GIS\Alternatives_Assessment\MXD\AIF_Opt7_Site_Plan_2.mxd

LEGEND

- Utility Line
- Highway
- Local
- Resource / Track
- Watercourse
- Waterbody
- Wetland
- Major Contours (10 metre intervals)
- Minor Contours (5 metre intervals)

Proposed Mine Features

- Watercourse Diversion
- Non-contact Water Diversion Ditch
- Seepage Collection Ditch
- Powerline
- Pipeline
- Open Pit
- TMF Seepage Collection Ponds
- Tailings Management Facility Dam
- Deposited Tailings
- Diversion Berm
- Seepage Collection Ponds
- Water Management Pond
- Low Grade Ore Stockpile
- Organic Material Stockpile
- Till Stockpile
- WRSA (NAG Stockpile)
- WRSA (PAG Stockpile)
- Buildings / Crusher
- Administration Area
- Haul / Access Roads

0 0.5 1 2 3 4 5 Kilometres

NOTES:
- Proposed site plan layout provided by Knight Piésold Consulting, June 18, 2020.
- Topographic base data extracted from Nova Scotia GeoPortal.

Datum: NAD83
Projection: UTM Zone 20N

N W E S

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FIFTEEN MILE STREAM GOLD PROJECT

Alternative F Configuration

PROJECT N°: ONS2001 | **FIGURE: 2.6-7**

SCALE: 1:25,000 | DATE: July 2020

536000 538000 540000

5000000 4998000

No Elevation Data Available

Seloam Lake
Seloam Brook
Seloam Lake Water Intake Pipeline
Moser Lake
Moser River
374
Local Traffic Bypass Road
Organic Material Stockpile
Seloam Brook Diversion
Diversion Berm
Open Pit
Till Stockpile
Low Grade Ore Stockpile
Tailings Management Facility
WRSA (PAG Material)
WRSA (NPAG Material)
Water Treatment
Plant Facilities
Crusher
Water Management Pond
Truck Shop
ROM Pad
Surplus Water Dischrge Pipeline
Powerline
Bear Brook
Fifteen Mile Stream
Anti Dam Flowage
East Lake
East Brook

P:\2020\Projects\ONS2001_Atlantic Gold_Fifteen Mile Stream\11_GIS\Alternatives_Assessment\MXD\AltG_Opt4A_Site_Plan_2.mxd

LEGEND

- Utility Line
- Highway
- Local
- Resource / Track
- Watercourse
- Waterbody
- Wetland
- Major Contours (10 metre intervals)
- Minor Contours (5 metre intervals)

Proposed Mine Features

- Watercourse Diversion
- Non-contact Water Diversion Ditch
- Seepage Collection Ditch
- Powerline
- Pipeline
- Open Pit
- TMF Seepage Collection Ponds
- Tailings Management Facility Dam
- Deposited Tailings
- Diversion Berm
- Seepage Collection Ponds
- Water Management Pond
- Low Grade Ore Stockpile
- Organic Material Stockpile
- Till Stockpile
- WRSA (NAG Stockpile)
- WRSA (PAG Stockpile)
- Buildings / Crusher
- Administration Area
- Haul / Access Roads

NOTES:
- Proposed site plan layout provided by Knight Piésold Consulting, June 18, 2020.
- Topographic base data extracted from Nova Scotia GeoPortal.

Datum: NAD83
Projection: UTM Zone 20N

0 0.5 1 2 3 4 5 Kilometres

Atlantic Gold A St Barbara Ltd Company

wood.

FIFTEEN MILE STREAM GOLD PROJECT

Alternative G Configuration

PROJECT N°: ONS2001

FIGURE: 2.6-8

SCALE: 1:18,000

DATE: July 2020

536000
538000
540000
5000000
4998000
No Elevation Data Available
374
Local Traffic Bypass Road
Seloam Lake
Seloam Brook
Seloam Lake Water Intake Pipeline
Moser Lake
Moser River
Organic Material Stockpile
Seloam Brook Diversion
Diversion Berm
Open Pit
Till Stockpile
Low Grade Ore Stockpile
Topsoil Pile
Tailings Management Facility
Water Treatment
Reclaim Causeway/ Pipeline
Plant Facilities
WRSA (PAG Material)
WRSA (NPAG Material)
Water Management Pond
Crusher
Truck Shop
ROM Pad
Surplus Water Dischrge Pipeline
Powerline
Beaver Brook
Fifteen Mile Stream
Anti Dam Flowage
East Lake
East Brook
P:\2020\Projects\ONS2001_Atlantic_Gold_Fifteen_Mile_Stream\11_GIS\Alternatives_Assessment\MXD\Preferred_Alternative_2.mxd

LEGEND

- Property Boundary
- Utility Line
- Highway
- Local
- Resource / Track
- Watercourse
- Waterbody
- Wetland
- Major Contours (10 metre intervals)
- Minor Contours (5 metre intervals)

Proposed Mine Features

- Seloam Brook Diversion
- Emergency Spillway
- Non-contact Water Diversion Ditch
- Seepage Collection Ditch
- Powerline
- Pipeline
- Open Pit
- TMF Seepage Collection Ponds
- Tailings Management Facility Dam
- Deposited Tailings
- Tailings Management Facility Pond
- Low Grade Ore Stockpile
- Organic Material Stockpile
- Topsoil Pile
- Till Stockpile
- WRSA (NAG Stockpile)
- WRSA (PAG Stockpile)
- Diversion Berm
- Water Management Pond
- Seepage Collection Ponds
- Buildings / Crusher
- Administration Area
- Haul / Access Roads

NOTES:
- Proposed site plan layout provided by Knight Piésold Consulting, June 18, 2020.
- Topographic base data extracted from Nova Scotia GeoPortal.

Atlantic Gold A St Barbara Ltd Company

wood.

FIFTEEN MILE STREAM GOLD PROJECT

Preferred Alternative

Datum: NAD83
Projection: UTM Zone 20N

N
W
E
S

0 0.5 1 2 3 4 5 Kilometres

PROJECT N°: ONS2001

FIGURE: 2.6-9

SCALE: 1:18,000

DATE: July 2020

Prepared For:

Atlantic Gold

FIGURE 6.1-1

FMS Study Area Baseline Noise Monitoring Locations

Trafalgar, NS

Station B

Station A

Seloam Lake

Moser Lake

East Lake

Fifteen Mile Stream

Seloam Brook

Anti Dam Flowage

50000000

535000

540000

- Noise Monitoring Locations
- FMS Infrastructure Layout
- Field Delineated Wetlands within FMS Study Area
- NSE Wetlands outside FMS Study Area
- Proposed Property Boundary
- FMS Study Area

Coordinate System: NAD 1983 CSRS UTM Zone 20N
Projection: Transverse Mercator
Datum: North American 1983 CSRS
Units: Meter

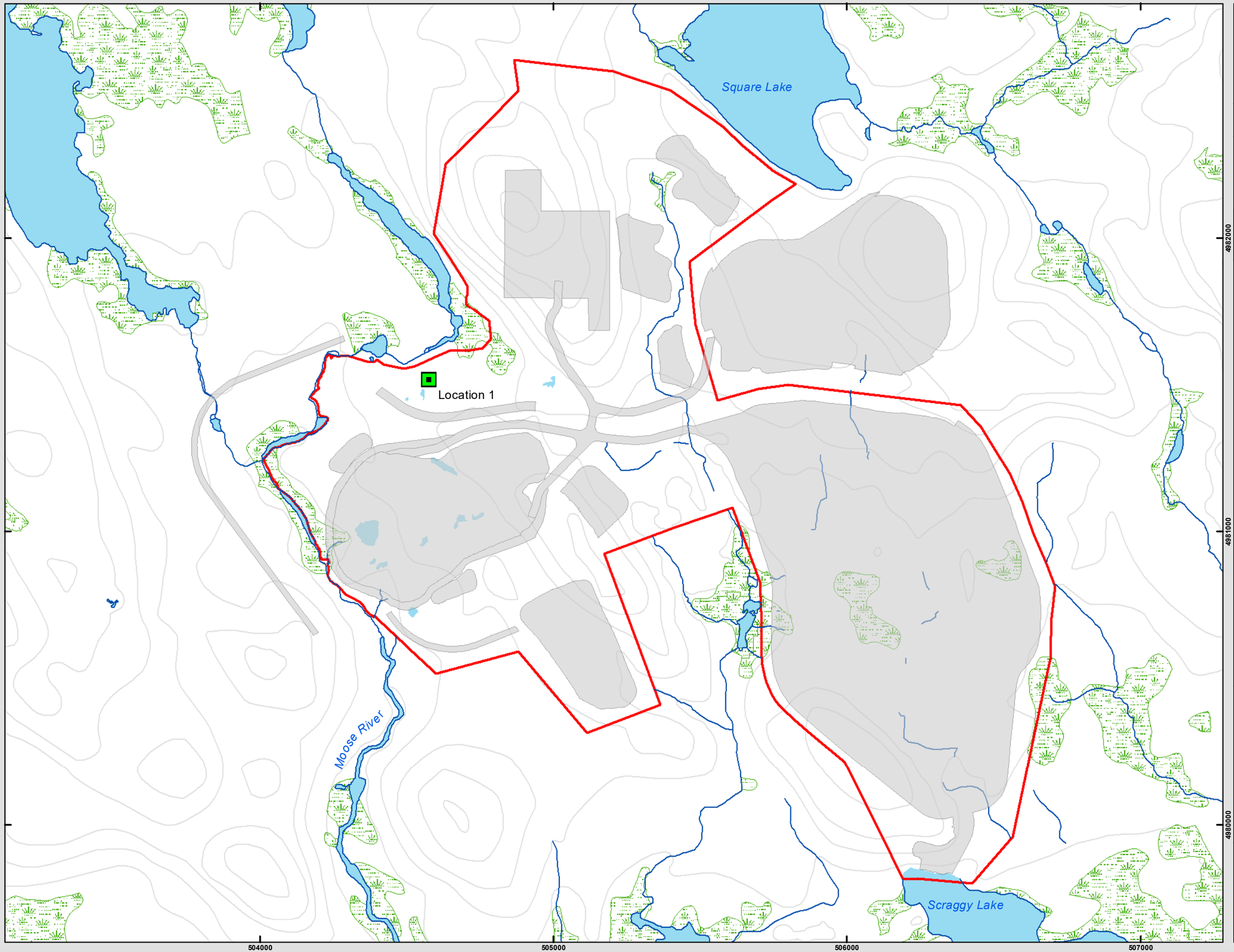
0 250 500 1,000 m

1:21,500 Scale when printed @ 11" x 17"

Drawn By: EP Date: 2020-08-26

Service Layer Credits: Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community

McCallum Environmental Ltd.



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Atlantic Gold

FIGURE 6.1-2

Touquoy Mine Site Baseline Noise Monitoring Locations

Moose River, NS

- Noise Monitoring Location
- Touquoy Infrastructure
- NSE Wetlands
- Touquoy Mine Site

Coordinate System: NAD 1983 CSRS UTM Zone 20N
Projection: Transverse Mercator
Datum: North American 1983 CSRS
Units: Meter

0 125 250 500 m

1:12,000

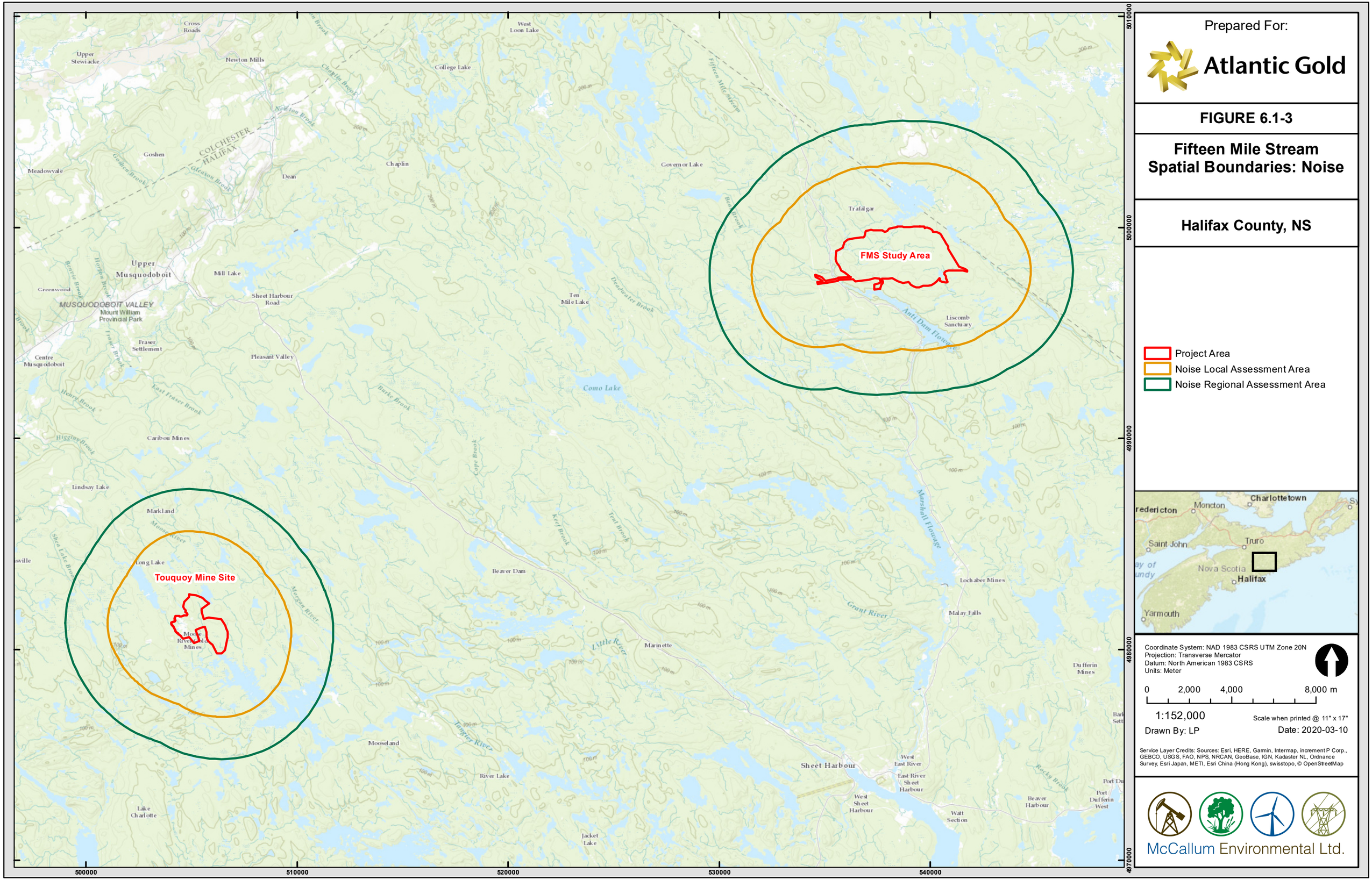
Scale when printed @ 11" x 17"

Drawn By: LP

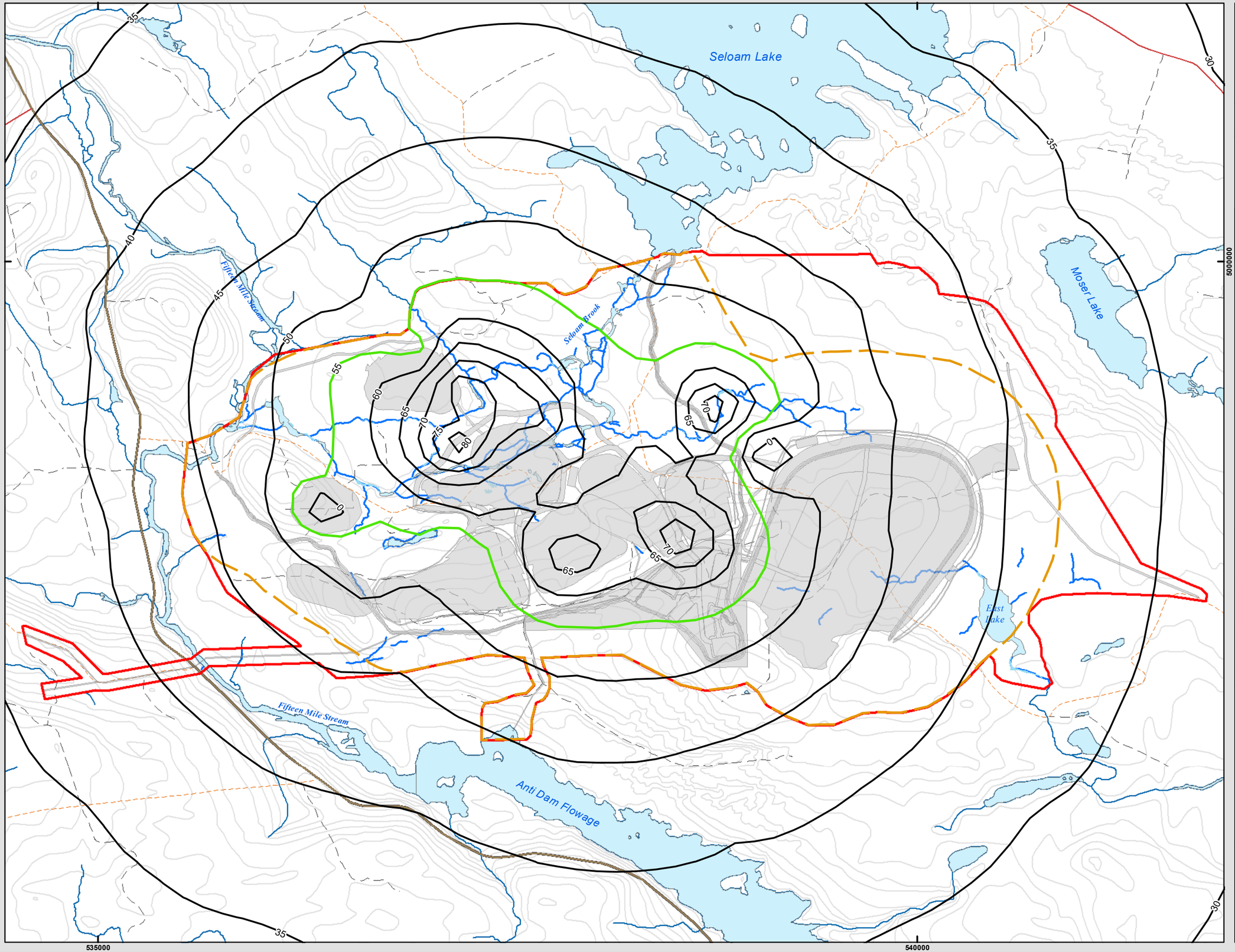
Date: 2019-10-03

Service Layer Credits: Sources: Esri, HERE, DeLorme, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), MapmyIndia, NGCC, © OpenStreetMap contributors, and the GIS User

McCallum Environmental Ltd.



Prepared For:
Atlantic Gold
FIGURE 6.1-3
Fifteen Mile Stream
Spatial Boundaries: Noise
Halifax County, NS
Project Area
Noise Local Assessment Area
Noise Regional Assessment Area
Touquoy Mine Site
FMS Study Area
Upper Musquodoboit
MUSQUODOBOIT VALLEY
Mount William Provincial Park
Trafalgar
Liscomb Sanctuary
Anti Dam Flowage
Como Lake
Sheet Harbour
Marshall Flowage
Grant River
Little River
Tangier River
Moose River
Morgan River
Beaver Dam
Marinette
Mooseland
River Lake
Lake Charlotte
Jacket Lake
Lochaber Mines
Malay Falls
Dufferin Mines
Beaver Harbour
Watt Section
Lindsay Lake
Markland
Long Lake
Caribou Mines
Pleasant Valley
Sheet Harbour Road
Mill Lake
Ten Mile Lake
Governor Lake
Chaplin
Dean
Goshen
Meadowvale
Upper Stewiacke
Newton Mills
College Lake
West Loon Lake
Cross Roads
Fraser Settlement
Centre Musquodoboit
Greenwood
Fifteen Mile Stream
Deadwater Brook
Burke Brook
Cope Brook
Keef Brook
Tent Brook
Moose River
Shea Lake Brook
Henry Brook
East Fraser Brook
Higgins Brook
Fraser Brook
Horton Brook
Benvie Brook
Goshen Brook
Gleason Brook
Newton Brook
Chaplin Brook
Bear Brook
Rocky Brook
Port Dufferin West
Port Du
500000
510000
520000
530000
540000
4970000
4980000
4990000
5000000
5010000
Charlottetown
Moncton
Saint John
Truro
Nova Scotia
Halifax
Yarmouth
Coordinate System: NAD 1983 CSRS UTM Zone 20N
Projection: Transverse Mercator
Datum: North American 1983 CSRS
Units: Meter
0
2,000
4,000
8,000 m
1:152,000
Scale when printed @ 11" x 17"
Drawn By: LP
Date: 2020-03-10
Service Layer Credits: Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, © OpenStreetMap
McCallum Environmental Ltd.



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Atlantic Gold

FIGURE 6.1-4

FMS Study Area
Predicted Sound Levels at Property Boundary

Trafalgar, NS

- All Other Noise Contours (dBA)
- 55 dBA Noise Contour
- FMS Infrastructure Layout
- Proposed Property Boundary
- FMS Study Area

Coordinate System: NAD 1983 CSRS UTM Zone 20N
Projection: Transverse Mercator
Datum: North American 1983 CSRS
Units: Meter

0 300 600 1,200 m

1:21,500 Scale when printed @ 11" x 17"

Drawn By: EP Date: 2020-03-10

Service Layer Credits: Sources: Esri, HERE, DeLorme, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), MapmyIndia, NGCC, © OpenStreetMap contributors, and the GIS User Community

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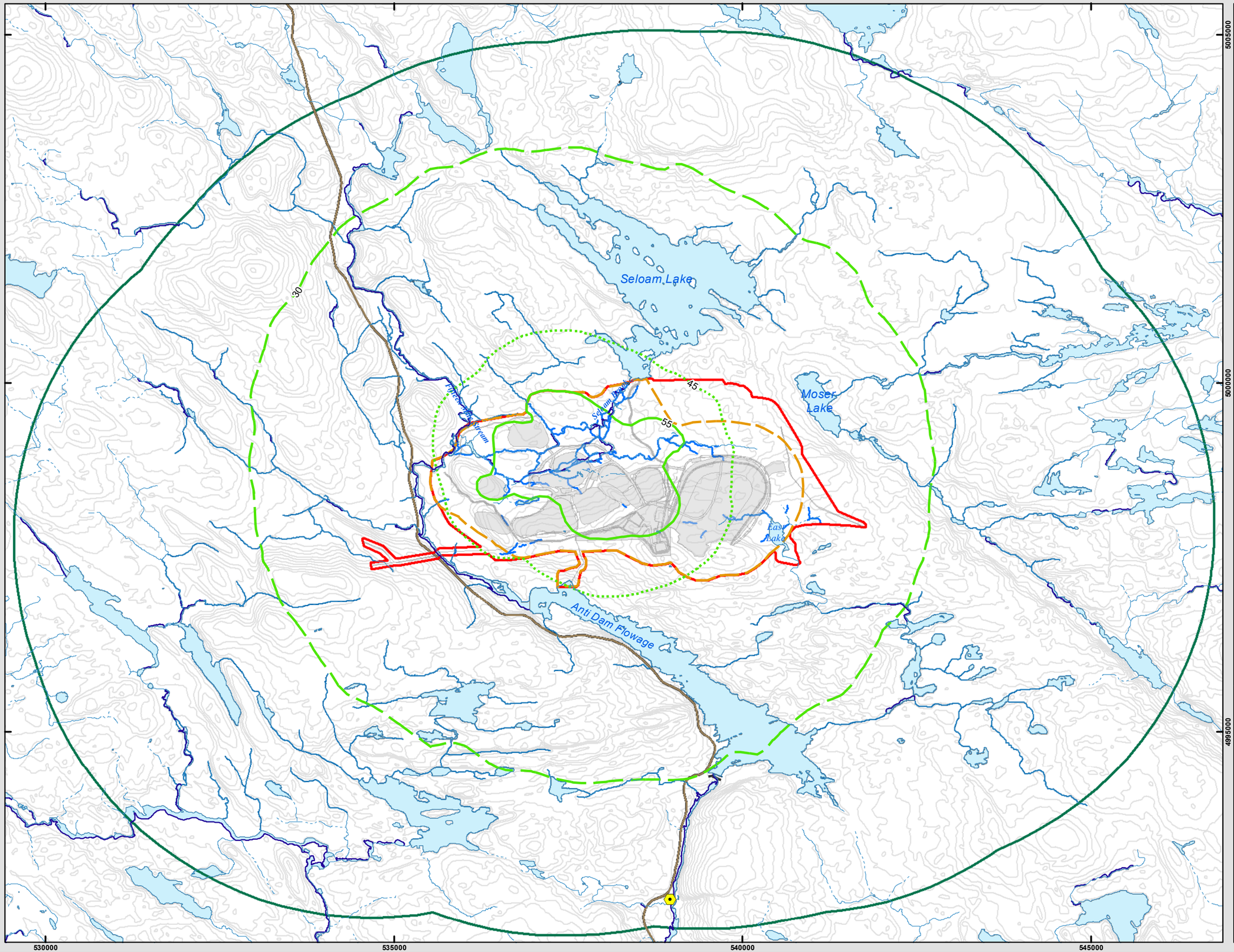

Prepared For:

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FIGURE 6.1-5

FMS Study Area
Noise Contour at 5 km Distance

Trafalgar, NS

- Closest Residences
- 30 dBA Noise Contour
- 45 dBA Noise Contour
- 55 dBA Noise Contour
- FMS Infrastructure Layout
- Noise Regional Assessment Area
- Proposed Property Boundary
- FMS Study Area

Coordinate System: NAD 1983 CSRS UTM Zone 20N
Projection: Transverse Mercator
Datum: North American 1983 CSRS
Units: Meter

0 0.5 1 2 Kilometers

1:50,500 Scale when printed @ 11" x 17"

Drawn By: EP Date: 2020-10-29

Service Layer Credits: Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community

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FIGURE 6.2-1

Fifteen Mile Stream Spatial Boundaries: Air

Halifax County, NS

FMS Study Area

Plant

Air Regional Assessment Area
Air Local Assessment Area
Project Area

Coordinate System: NAD 1983 CSRS UTM Zone 20N
Projection: Transverse Mercator
Datum: North American 1983 CSRS
Units: Meter

0 3.75 7.5 15 Kilometers

1:342,000

Scale when printed @ 11" x 17"

Drawn By: EP

Date: 2020-03-10

Service Layer Credits: Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, © OpenStreetMap

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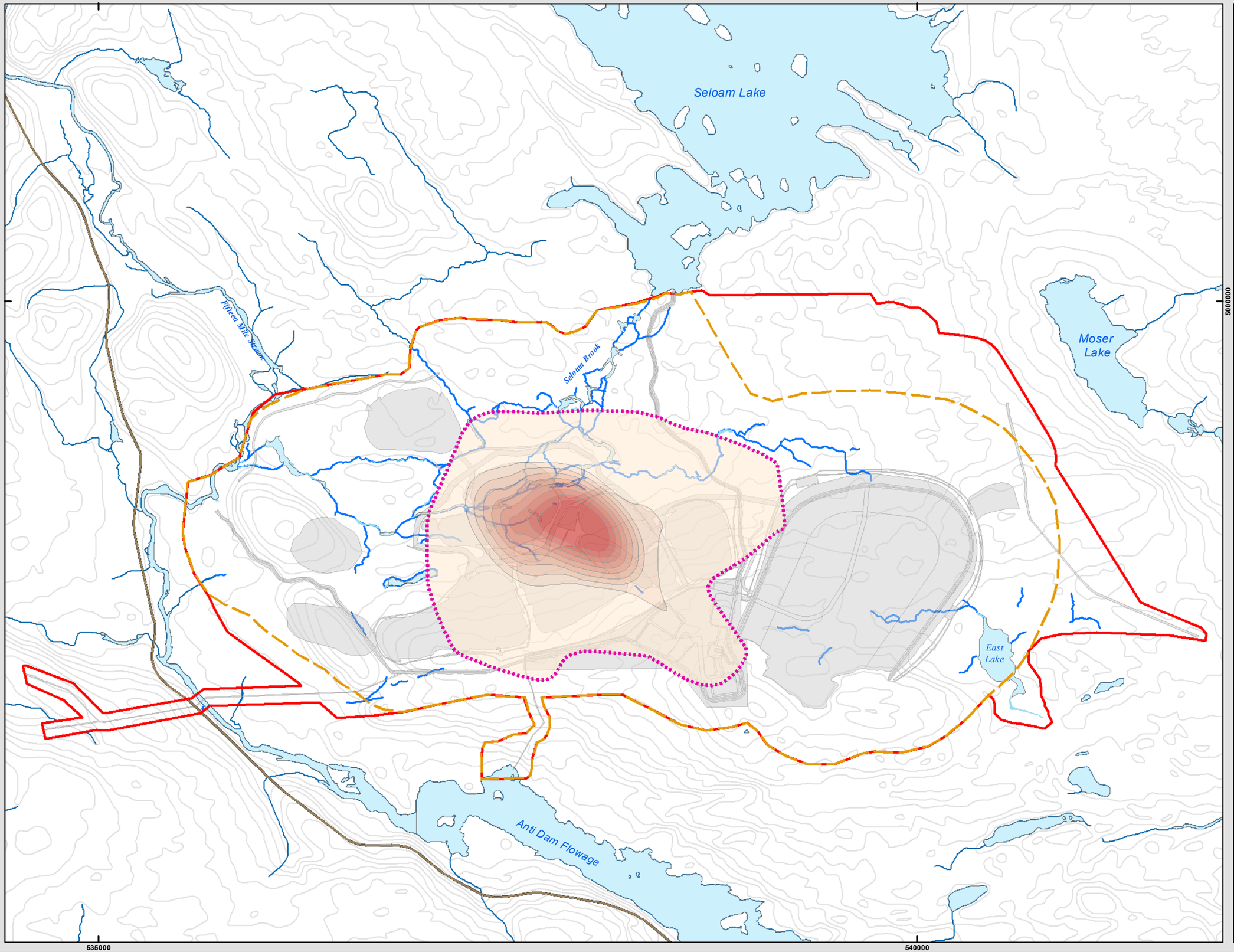
480000 490000 500000 510000 520000 530000 540000 550000 560000 570000 580000 590000

5040000 5030000 5020000 5010000 5000000 4990000 4980000 4970000 4960000



Prepared For:

Atlantic Gold

FIGURE 6.2-2

FMS Study Area Air Contour Total Suspended Particulate Matter 24-Hour Levels with Mitigation

Trafalgar, NS

120 µg/m³ Total Suspended Particulate Matter (Max. Permissible Ground Level Concentration)

TSP Ranges (µg/m³)

- 120-300
- 300-400
- 400-500
- 500-600
- 600-700
- 700-800
- 800-900
- 9001000
- 1000-1485
- 1485
- FMS Infrastructure Layout
- Proposed Property Boundary
- FMS Study Area

Coordinate System: NAD 1983 CSRS UTM Zone 20N
Projection: Transverse Mercator
Datum: North American 1983 CSRS
Units: Meter

0 0.25 0.5 1 Kilometers

1:21,500 Scale when printed @ 11" x 17"

Drawn By: AS Date: 2020-10-29

Service Layer Credits: Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community

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Prepared For:

Atlantic Gold

FIGURE 6.2-3

FMS Study Area Air Contour PM10 24-hour Levels with Mitigation

Trafalgar, NS

- 50 µg/m³ PM10 (Max. Permissible Ground Level Concentrations)

PM10 Ranges (µg/m³)

- 50-60
- 60-70
- 70-80
- 80-90
- 90-100
- 100-200
- 200-300
- FMS Infrastructure Layout
- Proposed Property Boundary
- FMS Study Area

Coordinate System: NAD 1983 CSRS UTM Zone 20N
Projection: Transverse Mercator
Datum: North American 1983 CSRS
Units: Meter

0 0.25 0.5 1 Kilometers

1:21,500 Scale when printed @ 11" x 17"

Drawn By: AS Date: 2020-10-29

Service Layer Credits: Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community

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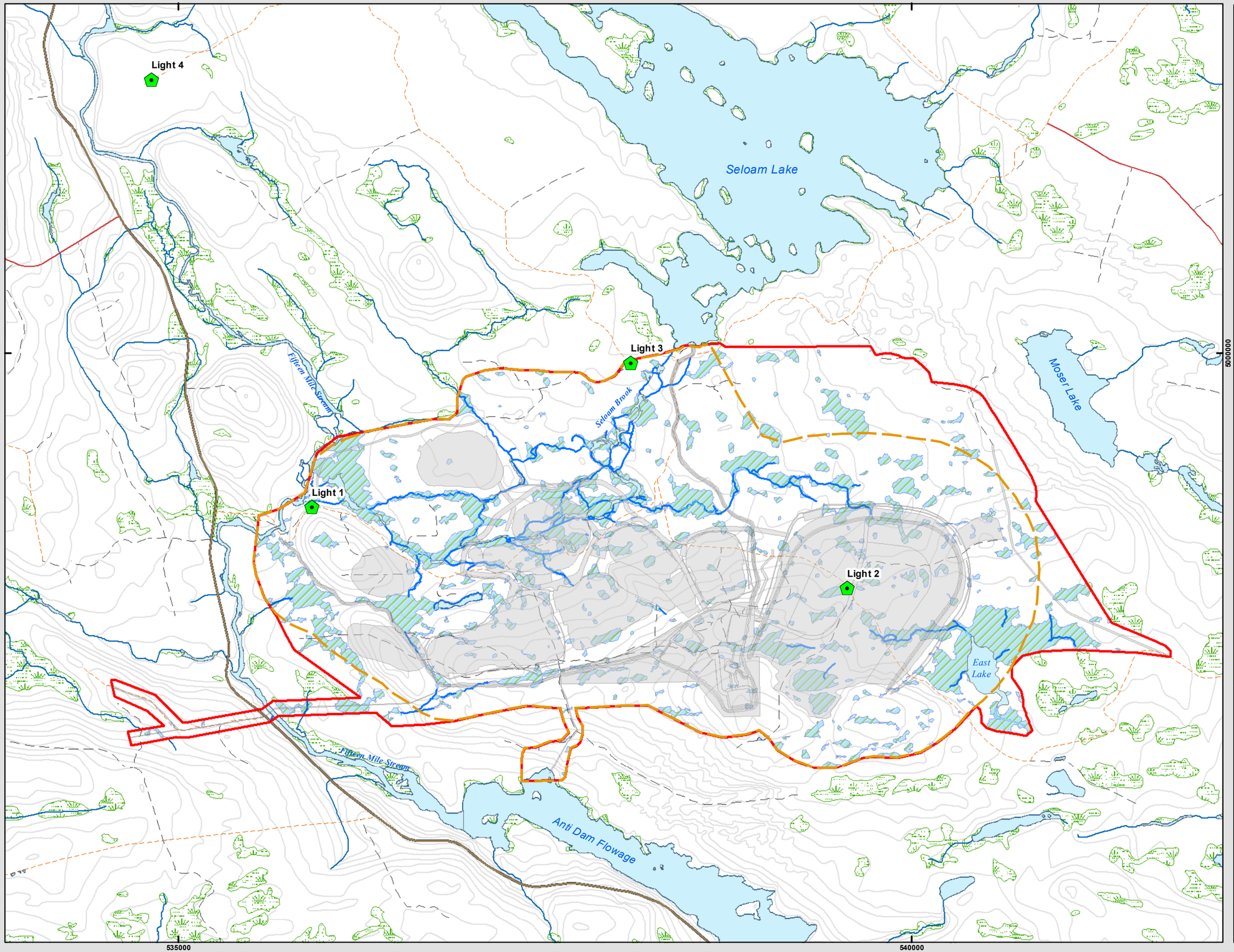


Prepared For:

Atlantic Gold

FIGURE 6.3-1

FMS Study Area
Light Assessment
Monitoring Locations

Trafalgar, NS

- Light Monitoring Locations
- Field Delineated Wetlands within FMS Study Area
- FMS Infrastructure Layout
- NSE Wetlands outside FMS Study Area
- Proposed Property Boundary
- FMS Study Area

Coordinate System: NAD 1983 CSRS UTM Zone 20N
Projection: Transverse Mercator
Datum: North American 1983 CSRS
Units: Meter

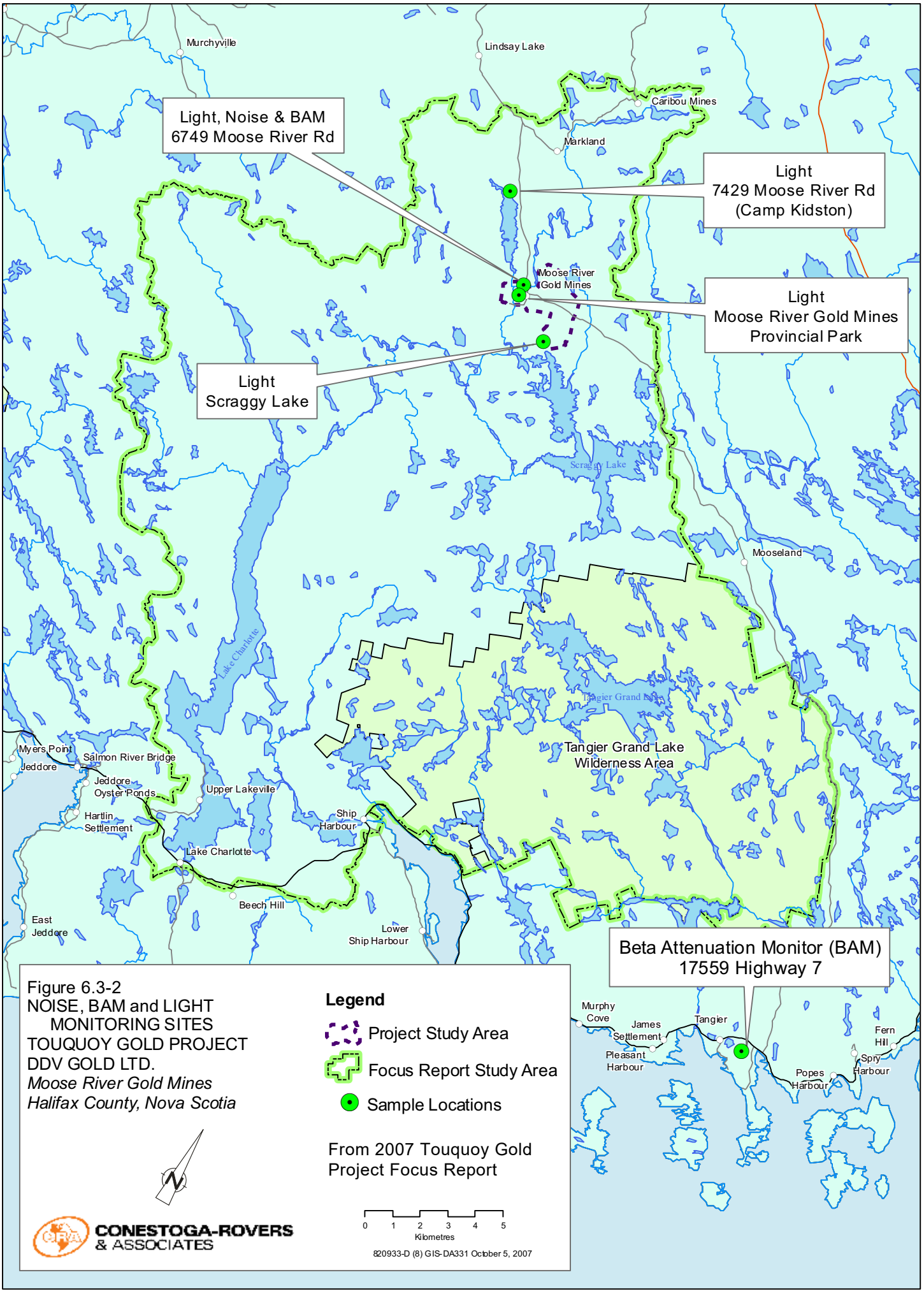
0 0.25 0.5 1 Kilometers

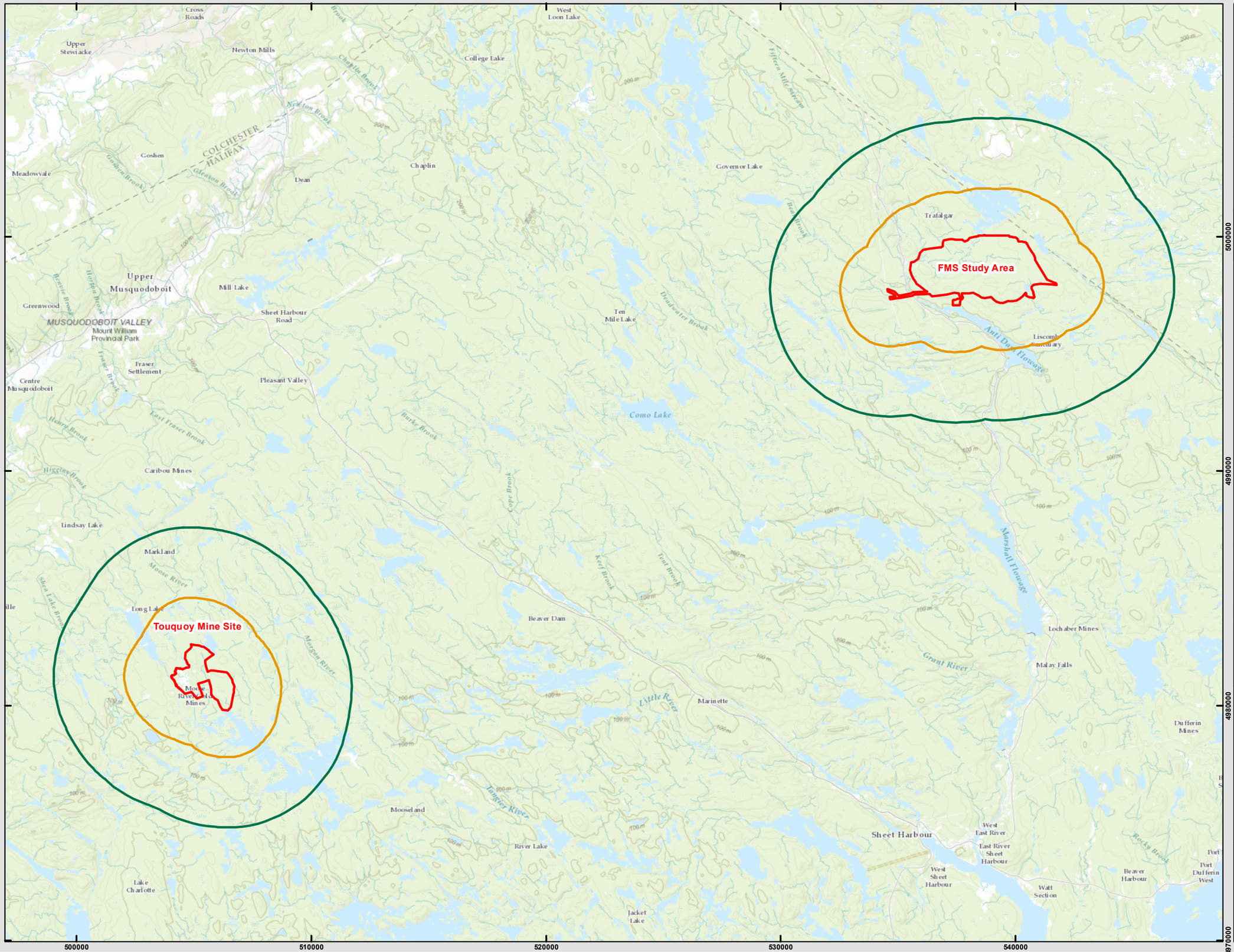
1:24,000 Scale when printed @ 11" x 17"

Drawn By: EP Date: 2020-08-26

Service Layer Credits: Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community

McCallum Environmental Ltd.


Light, Noise & BAM
6749 Moose River Rd
Light
7429 Moose River Rd
(Camp Kidston)
Light
Moose River Gold Mines
Provincial Park
Light
Scraggy Lake
Beta Attenuation Monitor (BAM)
17559 Highway 7
Murchyville
Lindsay Lake
Caribou Mines
Markland
Moose River
Gold Mines
Scraggy Lake
Mooseland
Lake Charlotte
Tangier Grand Lake
Tangier Grand Lake
Wilderness Area
Myers Point
Salmon River Bridge
Jeddore
Jeddore
Oyster Ponds
Upper Lakeville
Hartlin
Settlement
Ship
Harbour
Lake Charlotte
Beech Hill
East
Jeddore
Lower
Ship Harbour
Murphy
Cove
James
Settlement
Tangier
Pleasant
Harbour
Fern
Hill
Spry
Harbour
Popes
Harbour
Figure 6.3-2
NOISE, BAM and LIGHT
MONITORING SITES
TOUQUOY GOLD PROJECT
DDV GOLD LTD.
Moose River Gold Mines
Halifax County, Nova Scotia
Legend
Project Study Area
Focus Report Study Area
Sample Locations
From 2007 Touquoy Gold
Project Focus Report
0 1 2 3 4 5
Kilometres
820933-D (8) GIS-DA331 October 5, 2007
CONESTOGA-ROVERS
& ASSOCIATES



Prepared For:

Atlantic Gold

FIGURE 6.3-3

Fifteen Mile Stream Gold Project Spatial Boundaries: Light

Halifax County, NS

- Light Regional Assessment Area
- Light Local Assessment Area
- Project Area

Coordinate System: NAD 1983 CSRS UTM Zone 20N
Projection: Transverse Mercator
Datum: North American 1983 CSRS
Units: Meter

0 1.25 2.5 5 km

1:150,000

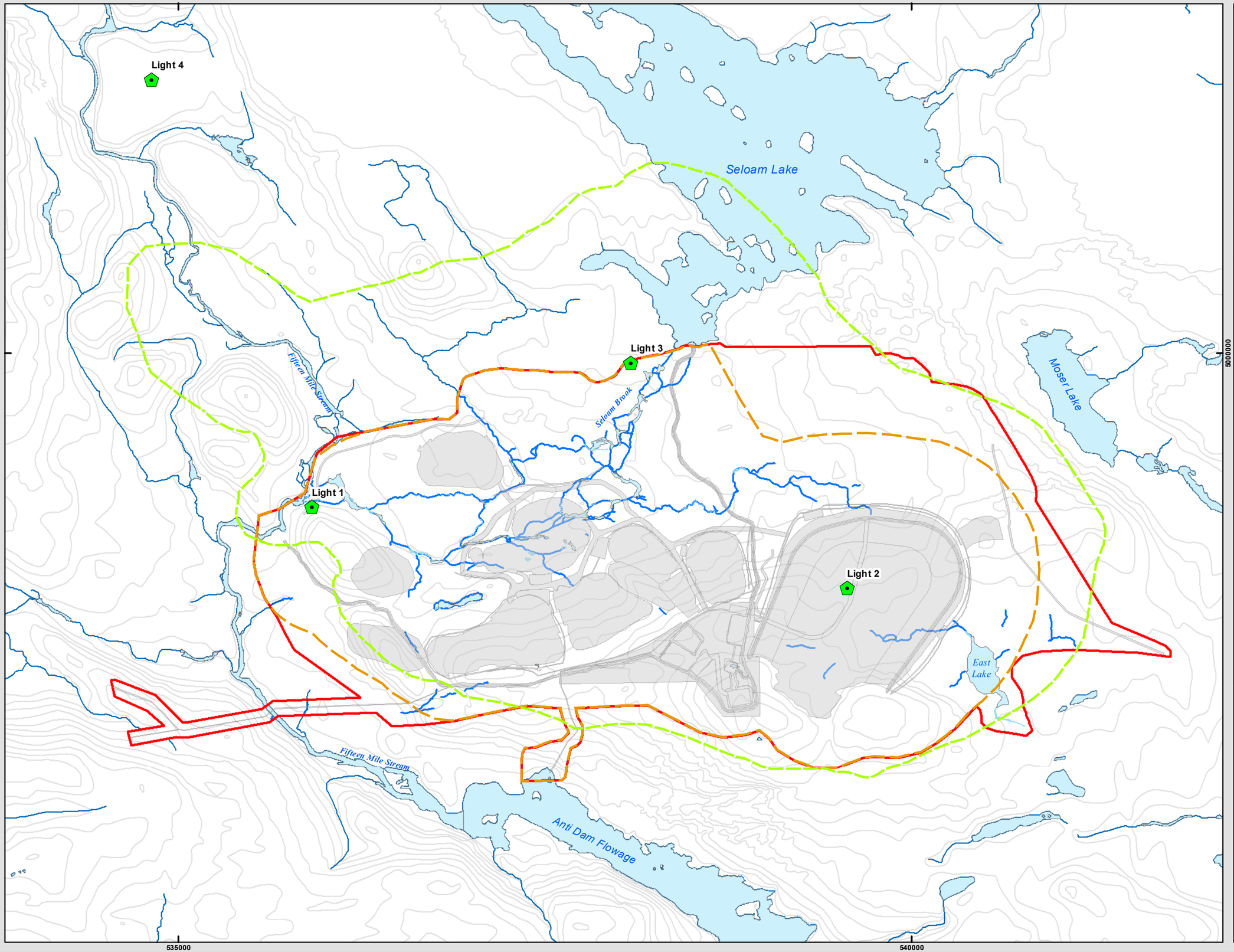
Scale when printed @ 11" x 17"

Drawn By: EP

Date: 2020-03-10

Service Layer Credits: Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, © OpenStreetMap

McCallum Environmental Ltd.



Prepared For:

Atlantic Gold

FIGURE 6.3-4

FMS Study Area
Light Spill Limit

Trafalgar, NS

- Light Monitoring Locations
- Light Spill Limit
- FMS Infrastructure Layout
- Proposed Property Boundary
- FMS Study Area

Coordinate System: NAD 1983 CSRS UTM Zone 20N
Projection: Transverse Mercator
Datum: North American 1983 CSRS
Units: Meter

0 0.25 0.5 1 Kilometers

1:24,000 Scale when printed @ 11" x 17"

Drawn By: EP Date: 2020-10-29

Service Layer Credits: Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community

McCallum Environmental Ltd.

Prepared For:

Atlantic Gold

FIGURE 6.4-1

Fifteen Mile Stream Sediment Sample Locations

Trafalgar, NS

Seloam Lake

Moser Lake

East Lake

Fifteen Mile Stream

Seloam Brook

Anti Dam Flowage

3.3
3.2
3.1
2.3
2.1
1.1
1.3
2.2
1.2
4.1
4.3
4.2
Anti-Dam 2
Anti-Dam 1
Anti-Dam 3
Anti-Dam 4
Anti-Dam 5
Anti-Dam 6

535000
540000
5000000

- Sediment Sample Location
- Field Delineated Watercourses within FMS Study Area
- Field Delineated Wetlands within FMS Study Area
- NSE Wetlands outside FMS Study Area
- FMS Study Area

Coordinate System: NAD 1983 CSRS UTM Zone 20N
Projection: Transverse Mercator
Datum: North American 1983 CSRS
Units: Meter

0 250 500 1,000 m

1:21,500 Scale when printed @ 11" x 17"

Drawn By: EP Date: 2020-03-10

Service Layer Credits: Sources: Esri, HERE, DeLorme, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), MapmyIndia, NGCC, © OpenStreetMap contributors, and the GIS User Community

McCallum Environmental Ltd.

Prepared For:

Atlantic Gold

FIGURE 6.4-2

Fifteen Mile Stream Soil Series

Trafalgar, NS

Seloam Lake
Moser Lake
Seloam Brook
Fifteen Mile Stream
East Lake
Anti Dam Flowage

As/A-4
Bv/A-0
Dv/B-4
Hx/C-4
P
Wv/C-3

535000
540000
5000000

Soil Series

- As/A-4
- Bv/A-0
- Dv/B-4
- Hx/C-4
- P
- Wv/C-3
- FMS Study Area

Coordinate System: NAD 1983 CSRS UTM Zone 20N
Projection: Transverse Mercator
Datum: North American 1983 CSRS
Units: Meter

0 250 500 1,000 m

1:21,500 Scale when printed @ 11" x 17"

Drawn By: AS Date: 2020-10-29

Service Layer Credits: Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community

McCallum Environmental Ltd.

Prepared For:

Atlantic Gold

FIGURE 6.4-3

Fifteen Mile Stream Regional Surficial Geology

Trafalgar, NS

- Bedrock
- Organic Deposits
- Silty Drumlin
- Stony Till Plain
- FMS Study Area

Coordinate System: NAD 1983 CSRS UTM Zone 20N
Projection: Transverse Mercator
Datum: North American 1983 CSRS
Units: Meter

0 250 500 1,000 m

1:21,500 Scale when printed @ 11" x 17"

Drawn By: AS Date: 2020-10-29

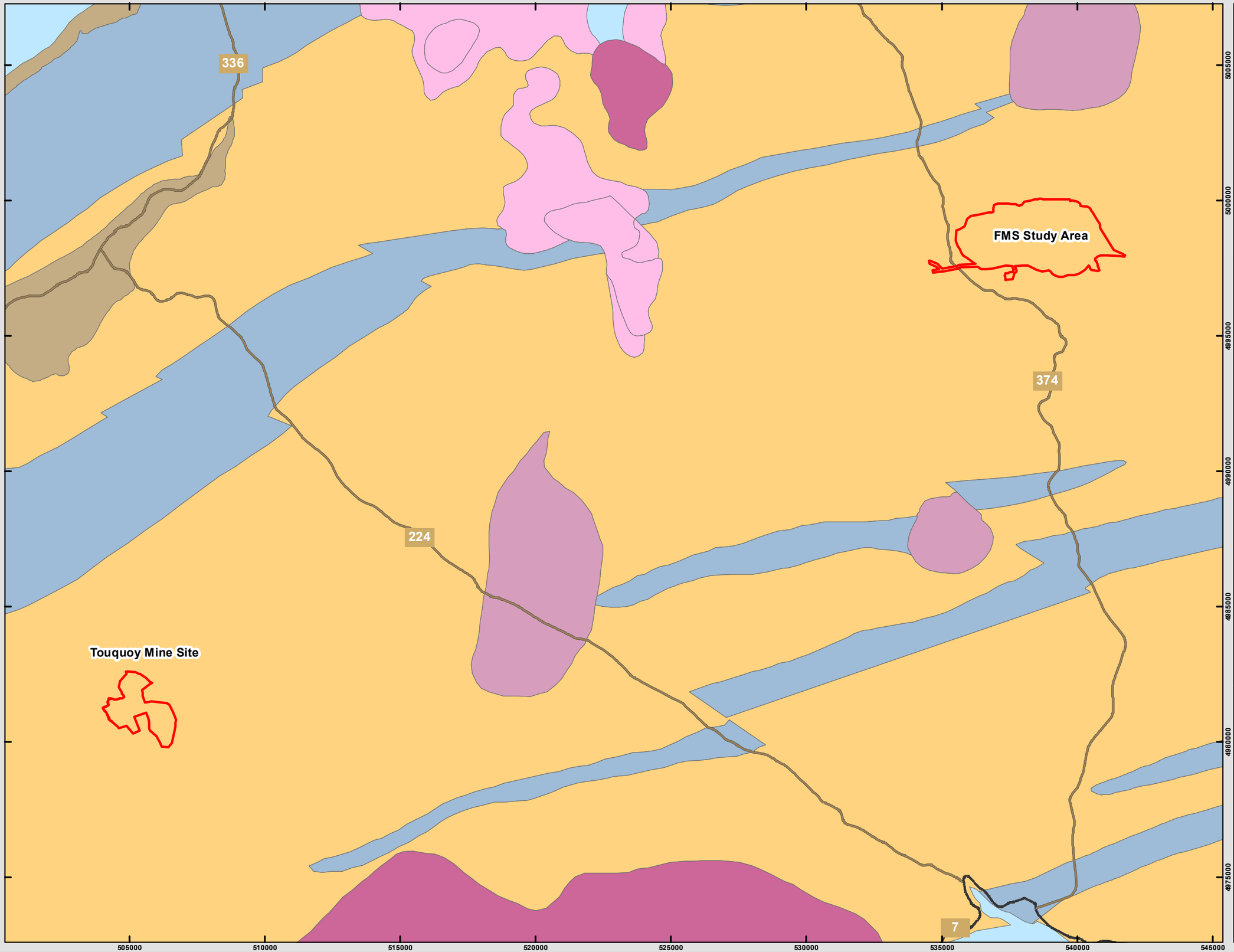
Service Layer Credits: Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community

McCallum Environmental Ltd.

535000

540000

5000000



Prepared For:

Atlantic Gold

FIGURE 6.4-4

Fifteen Mile Stream Regional Bedrock Geology

Trafalgar, NS

- Goldenville Formation
- Halifax Formation
- Liscomb Complex: Paragneiss
- Middle - Late Devonian diorite - grabbro
- Middle - Late Devonian granitoid
- Middle - Late Devonian muscovite biotite monzogranite
- White Quarry, Stewiacke, Carrolls Corner, Macumber and Gays River Formations
- Project Area

Coordinate System: NAD 1983 CSRS UTM Zone 20N
Projection: Transverse Mercator
Datum: North American 1983 CSRS
Units: Meter

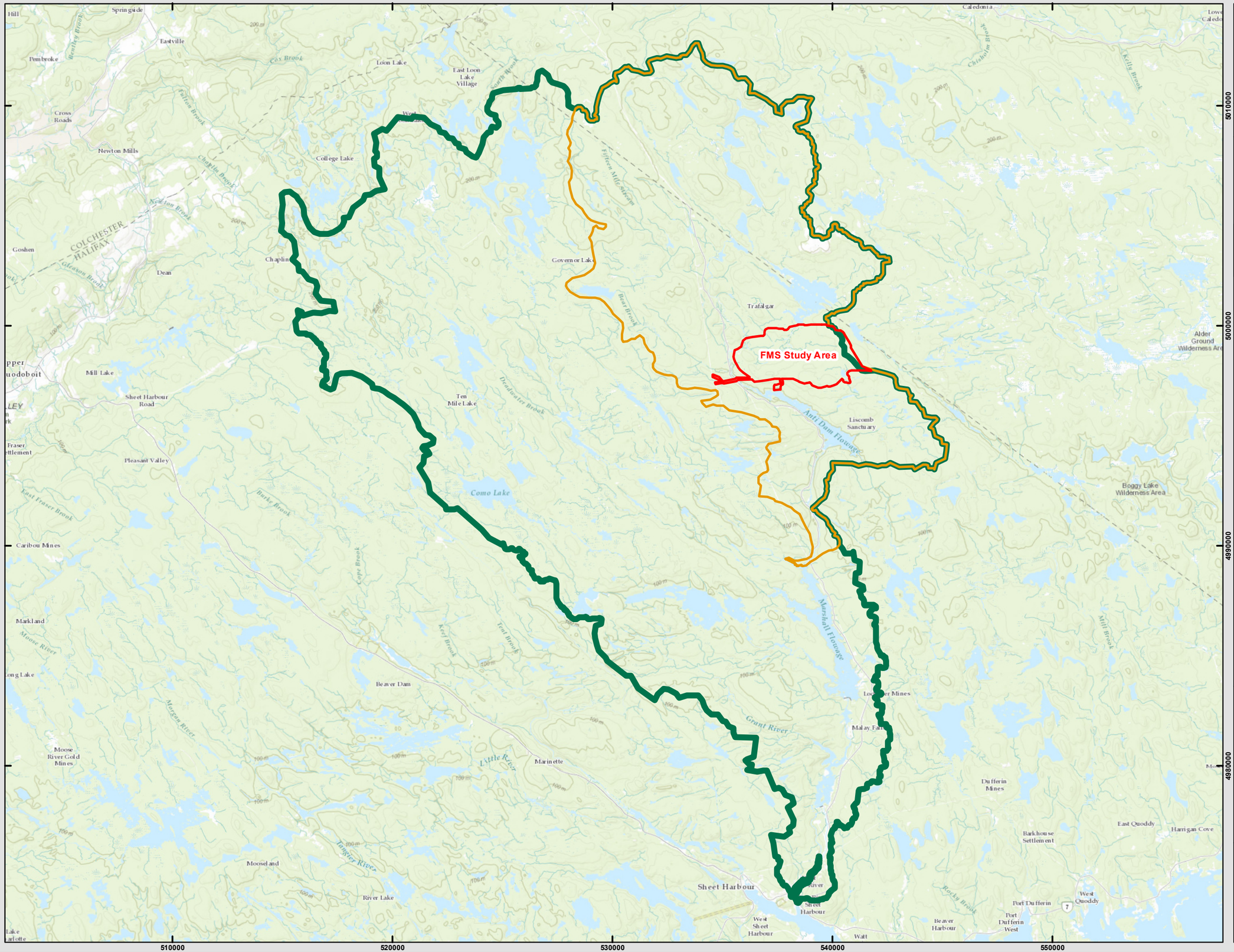
0 1.5 3 6 Kilometers

1:130,000 Scale when printed @ 11" x 17"

Drawn By: EP Date: 2020-10-29

Service Layer Credits: Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community

McCallum Environmental Ltd.



Prepared For:

Atlantic Gold

FIGURE 6.4-11

Fifteen Mile Stream Spatial Boundaries: Geology, Soils and Sediment

Halifax County, NS

- FMS Study Area
- Geology, Soils and Sediment Local Assessment Area
- Geology, Soils and Sediment Regional Assessment Area

Coordinate System: NAD 1983 CSRS UTM Zone 20N
Projection: Transverse Mercator
Datum: North American 1983 CSRS
Units: Meter

0 2 4 8 km

1:160,000

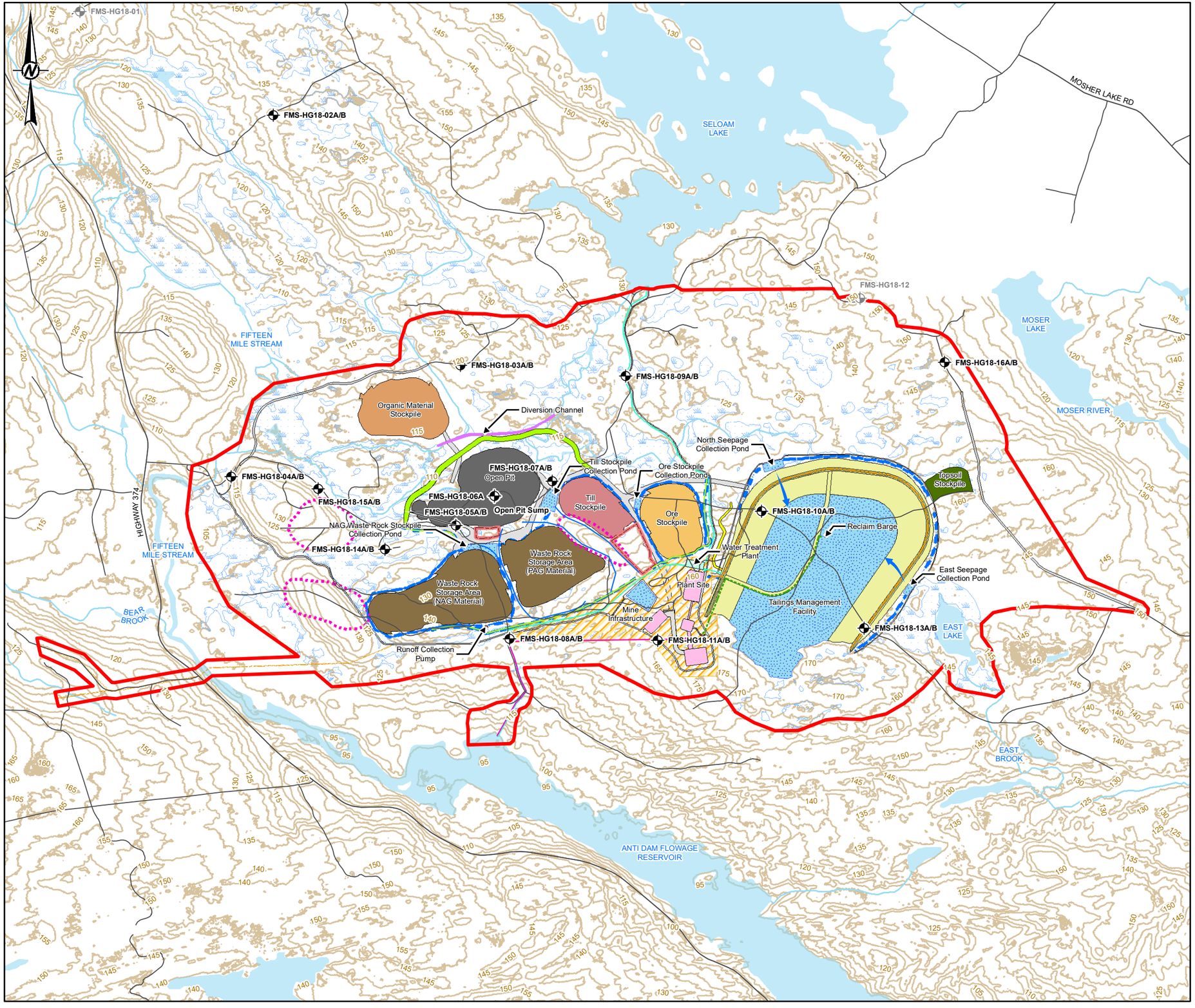
Scale when printed @ 11" x 17"

Drawn By: EP

Date: 2020-03-10

Service Layer Credits: Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, © OpenStreetMap

McCallum Environmental Ltd.



LEGEND

- Hydrogeological Drilling Location
- Removed from Scope
- Existing Road
- FMS Study Area
- Topographic Contour (5m Interval)
- Watercourse
- Waterbody
- Wetland

PROPOSED SITE INFRASTRUCTURE

- Diversion channel
- Pit
- Buildings
- Water Treatment
- Plant and Admin Building Footprint
- Seloam Diversion Berm
- Tailings Management Facility
- Water Management Pond / TMF pond
- Topsoil Stockpile
- Organics Pile
- TillStockpile
- Low Grade Stockpile
- Waste Rock Storage Area
- Access Road / Haul Road
- Contractor Laydown Area
- Outflow Channel
- Water Management Pump
- Water Management Ditch
- Water Intake/Discharge Pipe
- Powerline Tie In Options
- Potential Borrow Pit
- Tailings Pipeline
- Collection Ditch
- Reclaim Pipeline
- Non-Contact Water Ditch
- Water Treatment Pipeline

0 430 860

1:25,000 METRES

NOTE(S)

1. ALL LOCATIONS ARE APPROXIMATE

REFERENCE(S)

1. MCCALLUM ENVIRONMENTAL LTD. EIS PROJECT AREA, (VER.200227, RECEIVED 2020-04-07).
2. PROPOSED INFRASTRUCTURE, (VER.200630, RECEIVED 2020-08-28).

PROJECTION: TRANSVERSE MERCATOR DATUM: NAD 83
COORDINATE SYSTEM: UTM ZONE 20 VERTICAL DATUM: CGVD28

CLIENT
ATLANTIC MINING NS CORP

Atlantic Gold

PROJECT
FIFTEEN MILE STREAM GOLD PROJECT
ENVIRONMENTAL IMPACT STATEMENT

TITLE
DRILLING LOCATIONS AND INFRASTRUCTURE

CONSULTANT
GOLDER

YYYY-MM-DD	2020-10-09
DESIGNED	---
PREPARED	RRD
REVIEWED	MB
APPROVED	PMMC

PROJECT NO.	CONTROL	REV.	FIGURE
1895674	0033	0	6.5-1

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B

0 25mm

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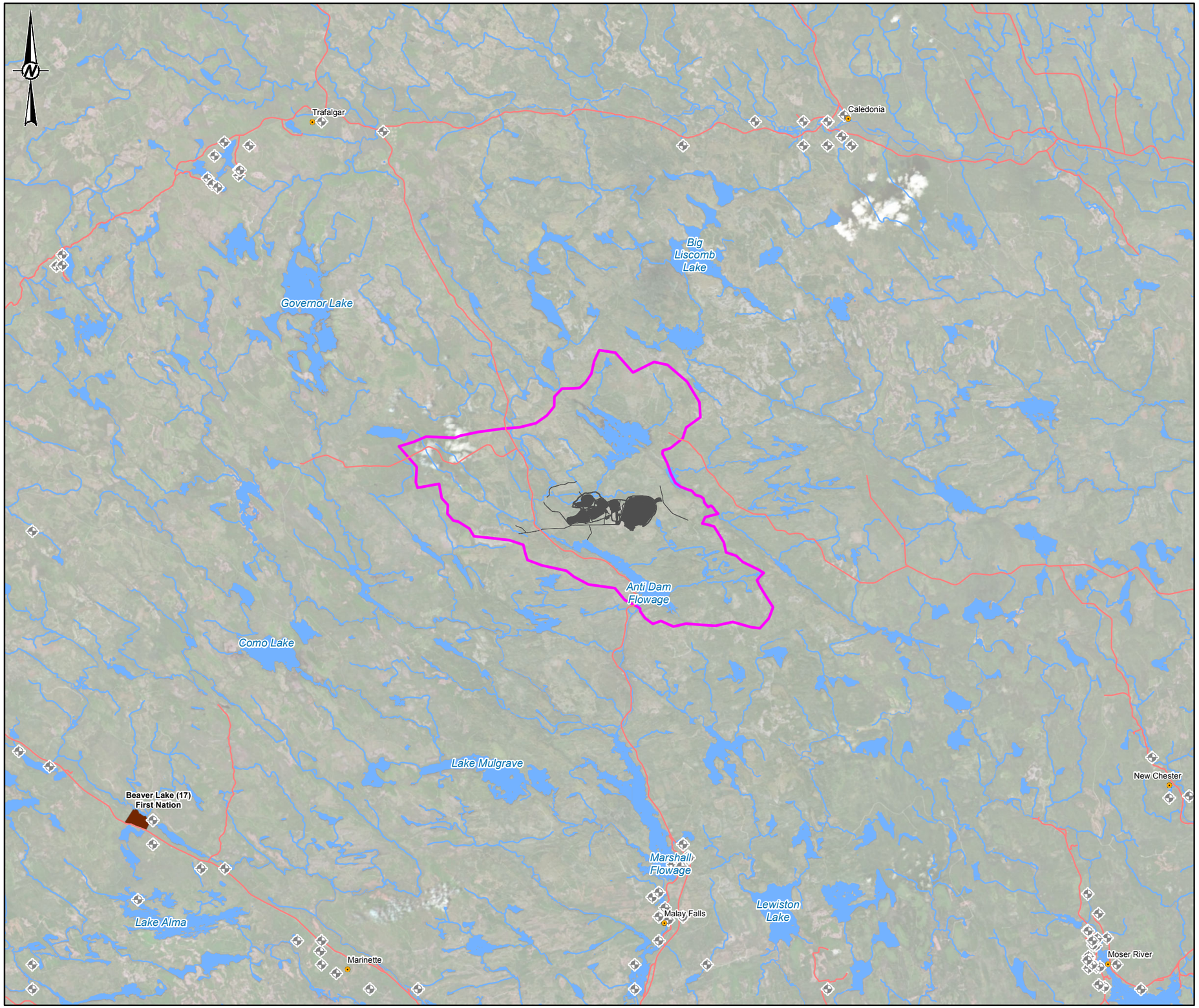

LEGEND

- Nova Scotia Well Logs Database (N.S. DNR, 2018)
- Roads
- Proposed Mine Infrastructure
- Local Assesment Area
- Watercourse
- Waterbody

0 2,500 5,000 7,500

1:160,000 METRES

NOTE(S)

THIS FIGURE WAS PREPATED FOR ATLANTIC GOLD AND IS TO BE READ IN CONJUNCTION WITH THE ACCOMPANYING GOLDER ASSOCIATES LTD. REPORT NO. 1895674

REFERENCE(S)

BASE MAP DATA: ESRI, GARMIN, GEBCO, NOAA NGDC, AND OTHER CONTRIBUTORS
PROJECTION: TRANSVERSE MERCATOR DATUM: NAD 83
COORDINATE SYSTEM: UTM ZONE 20 VERTICAL DATUM: CGVD28

CLIENT
ATLANTIC MINING NS CORP

Atlantic Gold

PROJECT
FIFTEEN MILE STREAM GOLD PROJECT
ENVIRONMENTAL IMPACT STATEMENT

TITLE
LOCATION OF PRIVATE WATER WELLS

CONSULTANT

GOLDER

YYYY-MM-DD	2019-09-12
DESIGNED	---
PREPARED	RRD
REVIEWED	MB
APPROVED	PM

PROJECT NO.	REV.	FIGURE
1895674	0	6.5-2

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B

25mm

0

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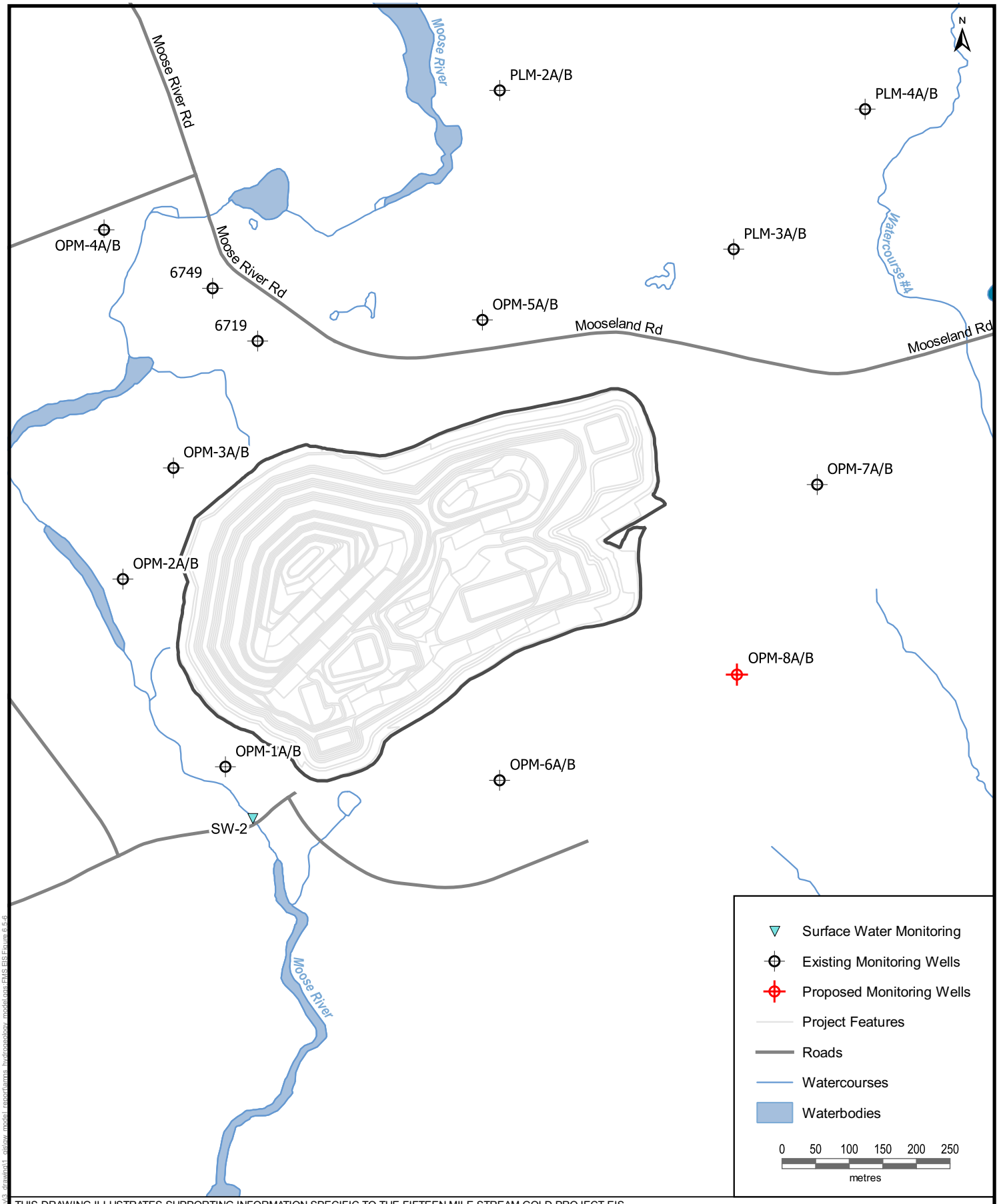


THIS DRAWING ILLUSTRATES SUPPORTING INFORMATION SPECIFIC TO THE FIFTEEN MILE STREAM GOLD PROJECT EIS

NAD83 UTM Zone 20

EXISTING AND PROPOSED MONITORING WELLS AROUND TOUQUOY PIT

FIFTEEN MILE STREAM GOLD PROJECT ENVIRONMENTAL IMPACT STATEMENT

Project:	121619250
Scale:	1:7,500
Date:	2021-01-27
Dwn. By:	JK
App'd By:	-

Figure No.: 6.5-6

Client: Atlantic Gold

V:\1216\active\121619250\4_hydrogeology\3_drawing\1_gis\gw_model_report\amns_hydrogeology_model.qgs:FMS EIS Figure 6.5-6

Prepared For:

Atlantic Gold

FIGURE 6.5-9

Fifteen Mile Stream Spatial Boundaries: Groundwater

Halifax County, NS

FMS Study Area
Groundwater Local Assessment Area
Groundwater Regional Assessment Area

Coordinate System: NAD 1983 CSRS UTM Zone 20N
Projection: Transverse Mercator
Datum: North American 1983 CSRS
Units: Meter

0 2.5 5 10 km

1:234,000

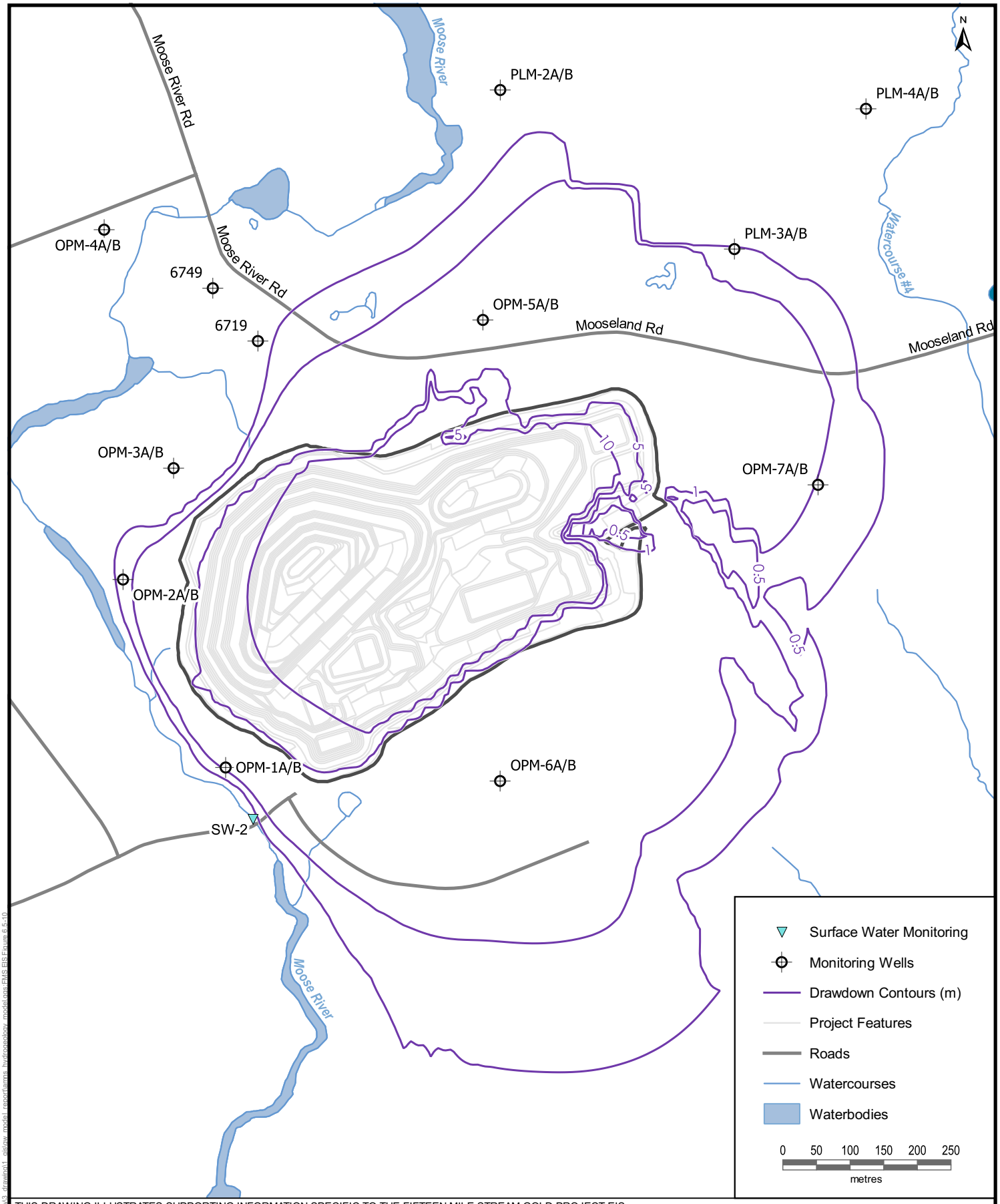
Scale when printed @ 11" x 17"

Drawn By: EP

Date: 2020-03-10

Service Layer Credits: Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, © OpenStreetMap

McCallum Environmental Ltd.



THIS DRAWING ILLUSTRATES SUPPORTING INFORMATION SPECIFIC TO THE FIFTEEN MILE STREAM GOLD PROJECT EIS

NAD83 UTM Zone 20

PREDICTED DRAWDOWN CONTOURS FROM FULLY DEWATERED TOUQUOY PIT AT TOUQUOY MINE SITE PRIOR TO DEPOSITION OF FMS TAILINGS

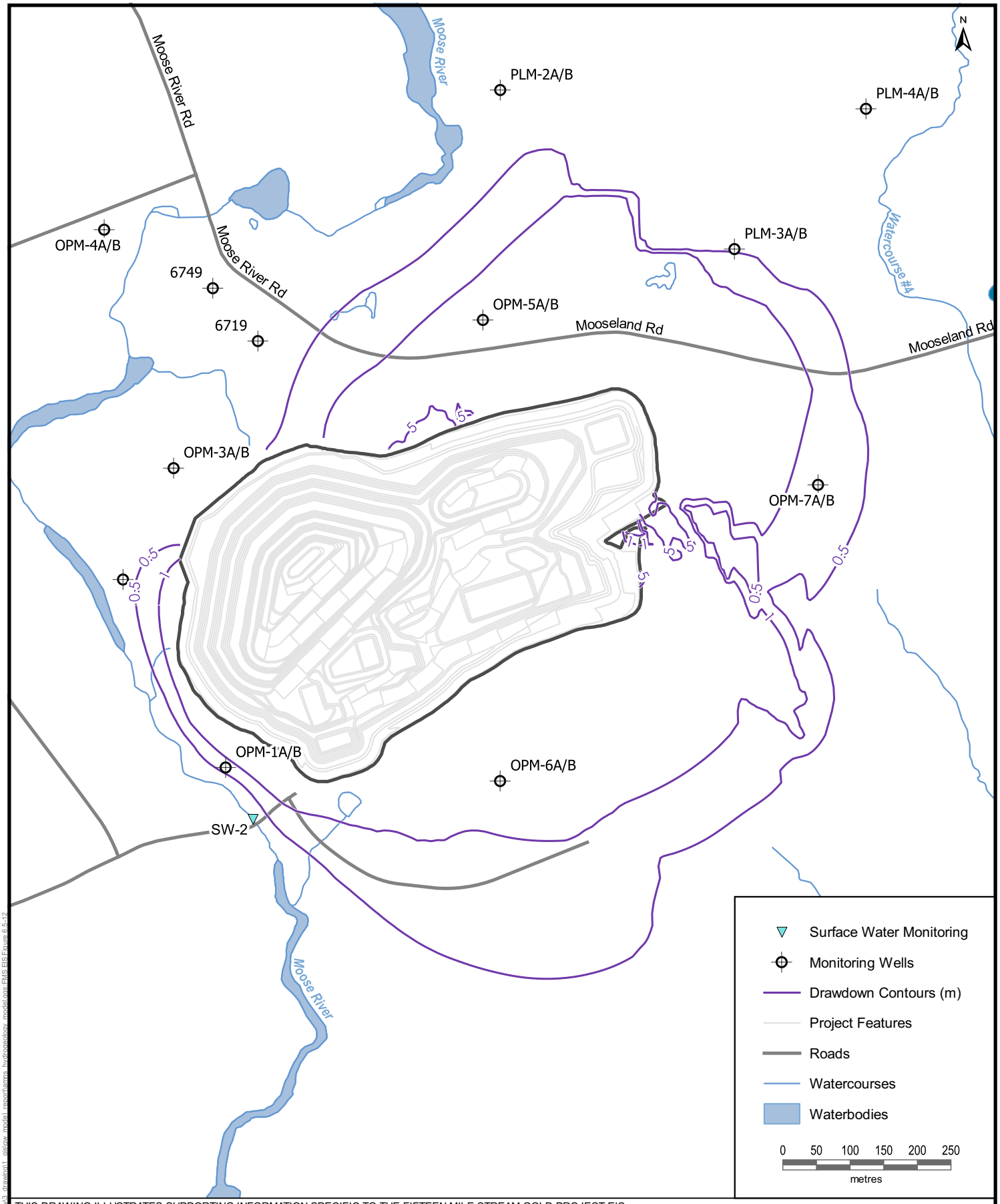
FIFTEEN MILE STREAM GOLD PROJECT ENVIRONMENTAL IMPACT STATEMENT

Project:	121619250
Scale:	1:7,500
Date:	2021-01-27
Dwn. By:	JK
App'd By:	-

Figure No.: 6.5-10

Client: Atlantic Gold

V:\1216\active\121619250\4_hydrogeology\3_drawing\1_gis\gw_model_report\amns_hydrogeology_model.qgs:FMS EIS Figure 6.5-10



THIS DRAWING ILLUSTRATES SUPPORTING INFORMATION SPECIFIC TO THE FIFTEEN MILE STREAM GOLD PROJECT EIS

NAD83 UTM Zone 20

PREDICTED DRAWDOWN CONTOURS FROM FILLED TOUQUOY PIT AT TOUQUOY MINE SITE FOLLOWING DEPOSITION OF FMS TAILINGS

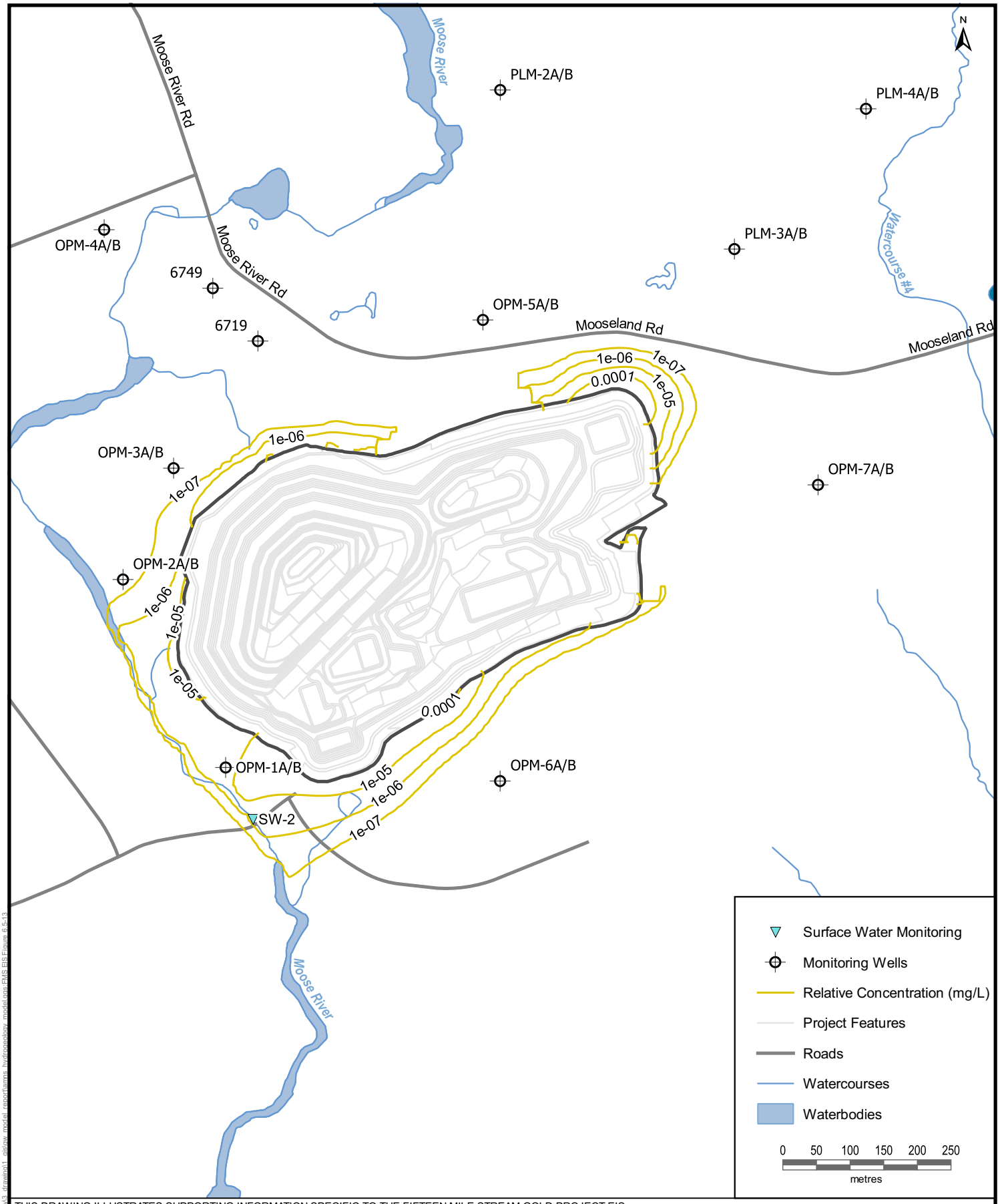
FIFTEEN MILE STREAM GOLD PROJECT ENVIRONMENTAL IMPACT STATEMENT

Project:	121619250
Scale:	1:7,500
Date:	2021-01-27
Dwn. By:	JK
App'd By:	-

Figure No.: 6.5-12

Client: Atlantic Gold

V:\1216\active\121619250\4_hydrogeology\3_drawing\1_gis\gw_model_report\amns_hydrogeology_model.qgs:FMS EIS Figure 6.5-12



THIS DRAWING ILLUSTRATES SUPPORTING INFORMATION SPECIFIC TO THE FIFTEEN MILE STREAM GOLD PROJECT EIS

NAD83 UTM Zone 20

RELATIVE SOLUTE CONCENTRATIONS IN GROUNDWATER (MG/L) AFTER 50 YEARS OF TRAVEL BASED ON CONCENTRATIONS IN TOUQUOY PIT OF 1 MG/L

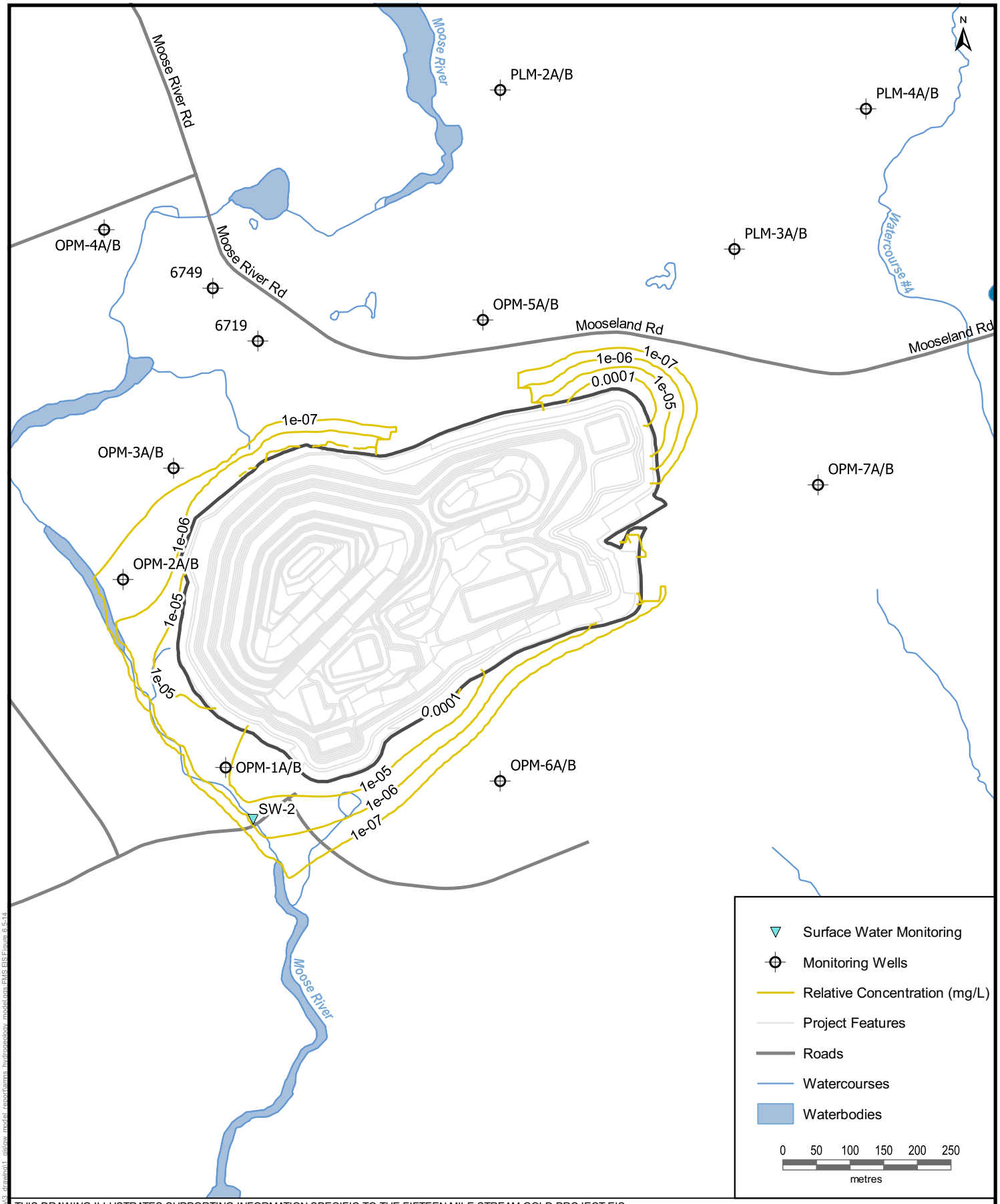
FIFTEEN MILE STREAM GOLD PROJECT ENVIRONMENTAL IMPACT STATEMENT

Project:	121619250
Scale:	1:7,500
Date:	2021-01-27
Dwn. By:	JK
App'd By:	-

Figure No.: 6.5-13

Client: Atlantic Gold

V:\1216\active\121619250\4_hydrogeology\3_drawing\1_gis\gw_model_report\amns_hydrogeology_model.qgs:FMS EIS Figure 6.5-13



THIS DRAWING ILLUSTRATES SUPPORTING INFORMATION SPECIFIC TO THE FIFTEEN MILE STREAM GOLD PROJECT EIS

NAD83 UTM Zone 20

RELATIVE SOLUTE CONCENTRATIONS IN GROUNDWATER (MG/L) AFTER 500 YEARS OF TRAVEL BASED ON CONCENTRATIONS IN TOUQUOY PIT OF 1 MG/L

FIFTEEN MILE STREAM GOLD PROJECT ENVIRONMENTAL IMPACT STATEMENT

Project:	121619250
Scale:	1:7,500
Date:	2021-01-27
Dwn. By:	JK
App'd By:	-

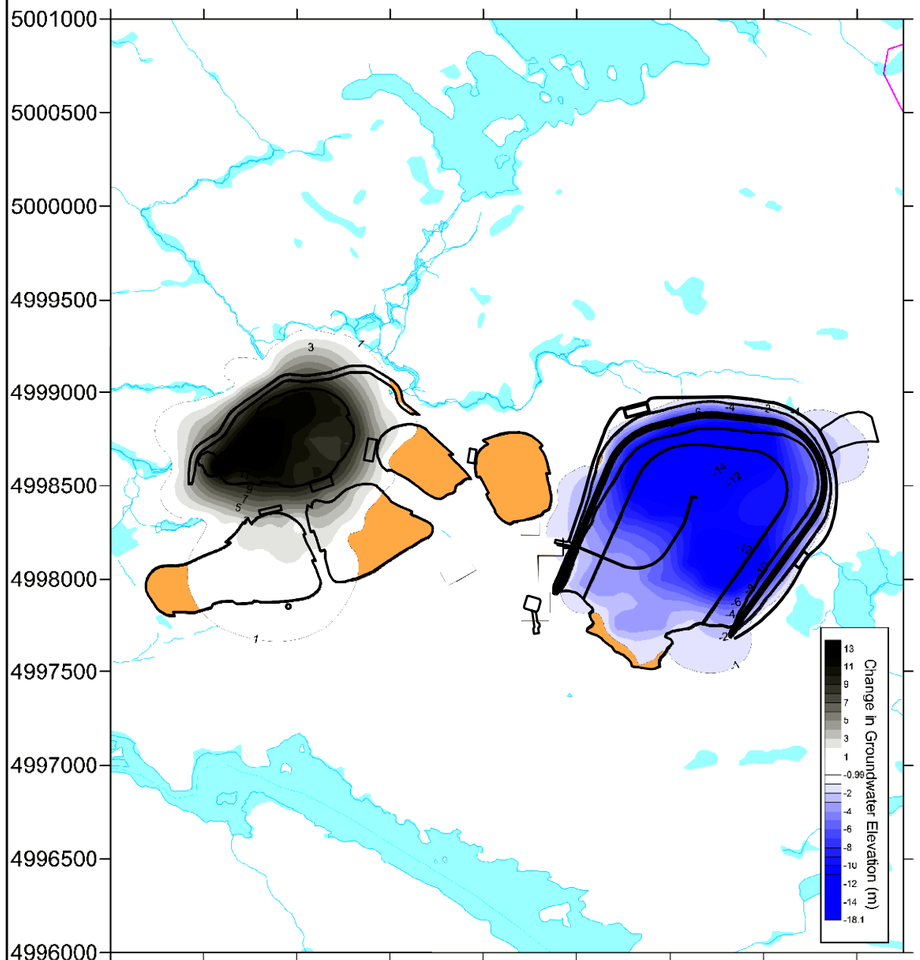
Figure No.: 6.5-14

Client: Atlantic Gold

V:\1216\active\121619250\4_hydrogeology\3_drawing\1_gis\gw_model_report\amns_hydrogeology_model.qgs:FMS EIS Figure 6.5-14

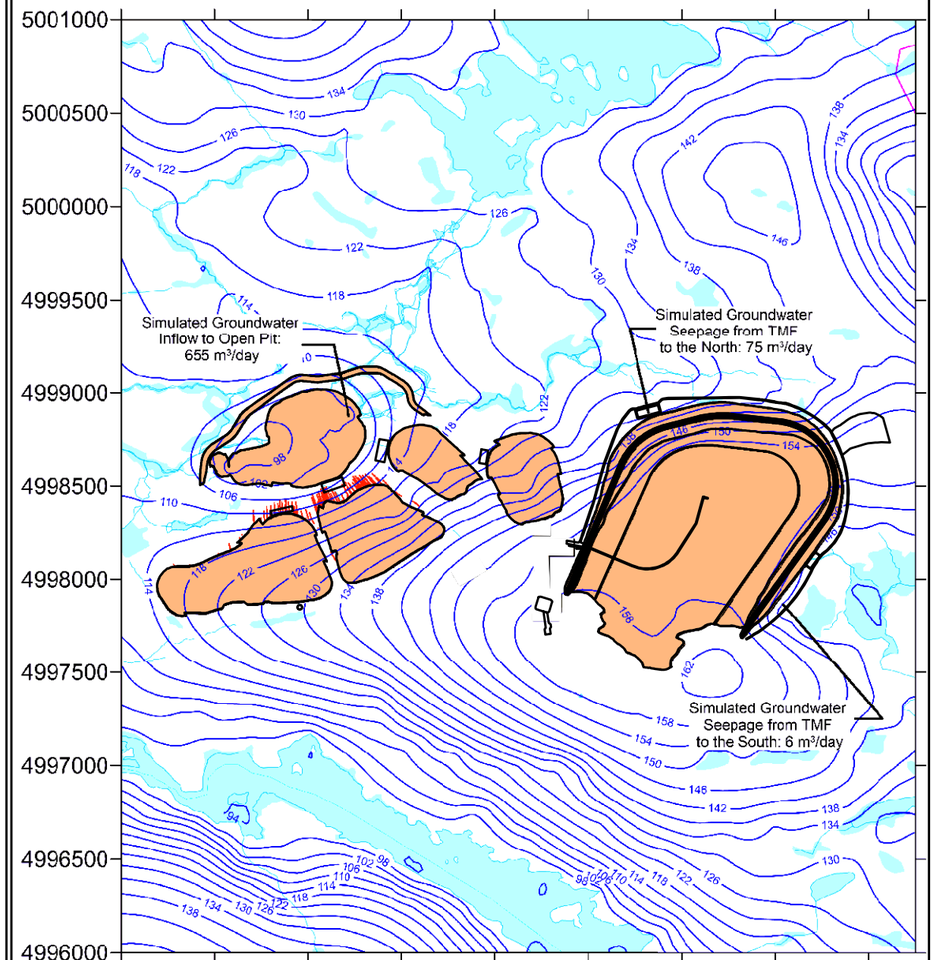
MAP A

Operations - Drawdown



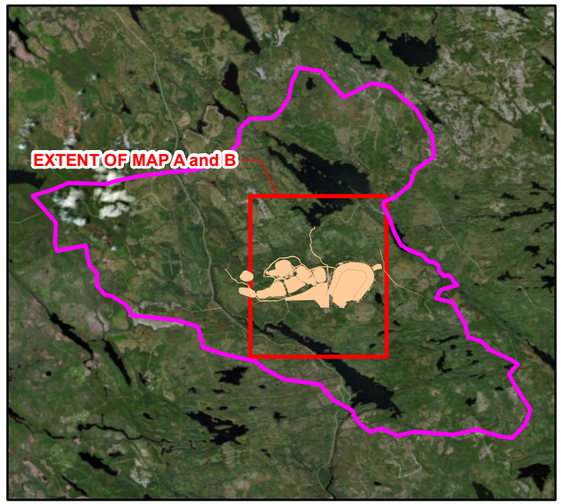
MAP B

Operations - Groundwater Elevation



LEGEND

- SIMULATED GROUNDWATER ELEVATION (MASL)
- PARTICLE TRACKING RESULTS
- MODEL DOMAIN
- MINE INFRASTRUCTURE



NOTE(S)

1. GROUNDWATER ELEVATIONS AND DRAWDOWN ARE REPRESENTATIVE OF MODEL SLICE 4 (INTERFACE BETWEEN OVERBURDEN AND UPPER BEDROCK) AT MODEL SIMULATION TIME 2190 DAYS
2. DRAWDOWN/CHANGE IN WATER LEVEL ELEVATION CONTOURS ARE SPECIFIED AS 1 M INTERVALS, WITH SCALE BAR INDICATING RANGE. CHANGE IS CALCULATED AS CALIBRATION – FORECAST GROUNDWATER ELEVATION VALUES
3. SIMULATED GROUNDWATER ELEVATION CONTOURS AS SPECIFIED AS 4 M INTERVALS

REFERENCE(S)

1. MCCALLUM ENVIRONMENTAL LTD. EIS PROJECT AREA, (VER.200227, RECEIVED 2020-04-07).
2. MCCALLUM ENVIRONMENTAL LTD. PROPOSED INFRASTRUCTURE, (VER.200310, RECEIVED 2020-04-07).

PROJECTION: TRANSVERSE MERCATOR DATUM: NAD 83
COORDINATE SYSTEM: UTM ZONE 20 VERTICAL DATUM: CGVD28

CLIENT
ATLANTIC MINING NS CORP

Atlantic Gold

PROJECT
FIFTEEN MILE STREAM GOLD PROJECT
ENVIRONMENTAL IMPACT STATEMENT

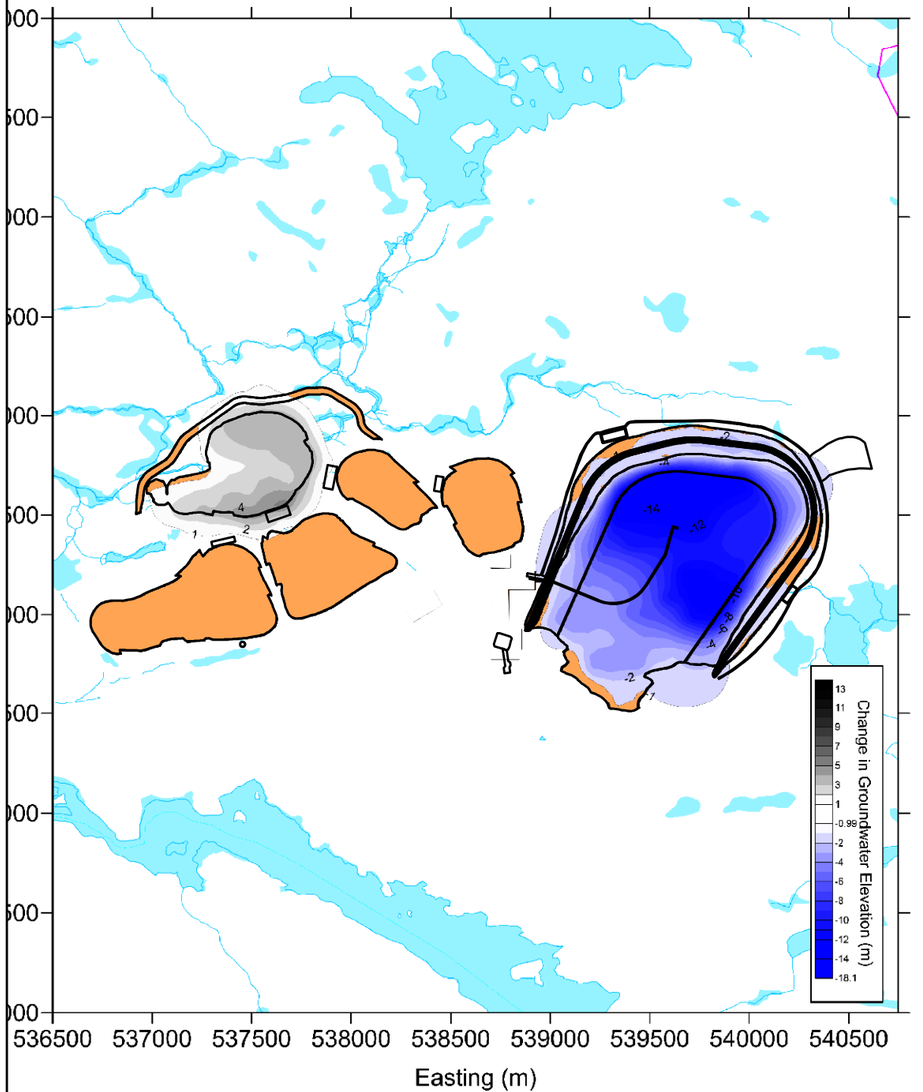
TITLE
SIMULATED GROUNDWATER ELEVATIONS, DRAWDOWN, AND SEEPAGE PATHWAYS
END OF OPERATIONS PERIOD

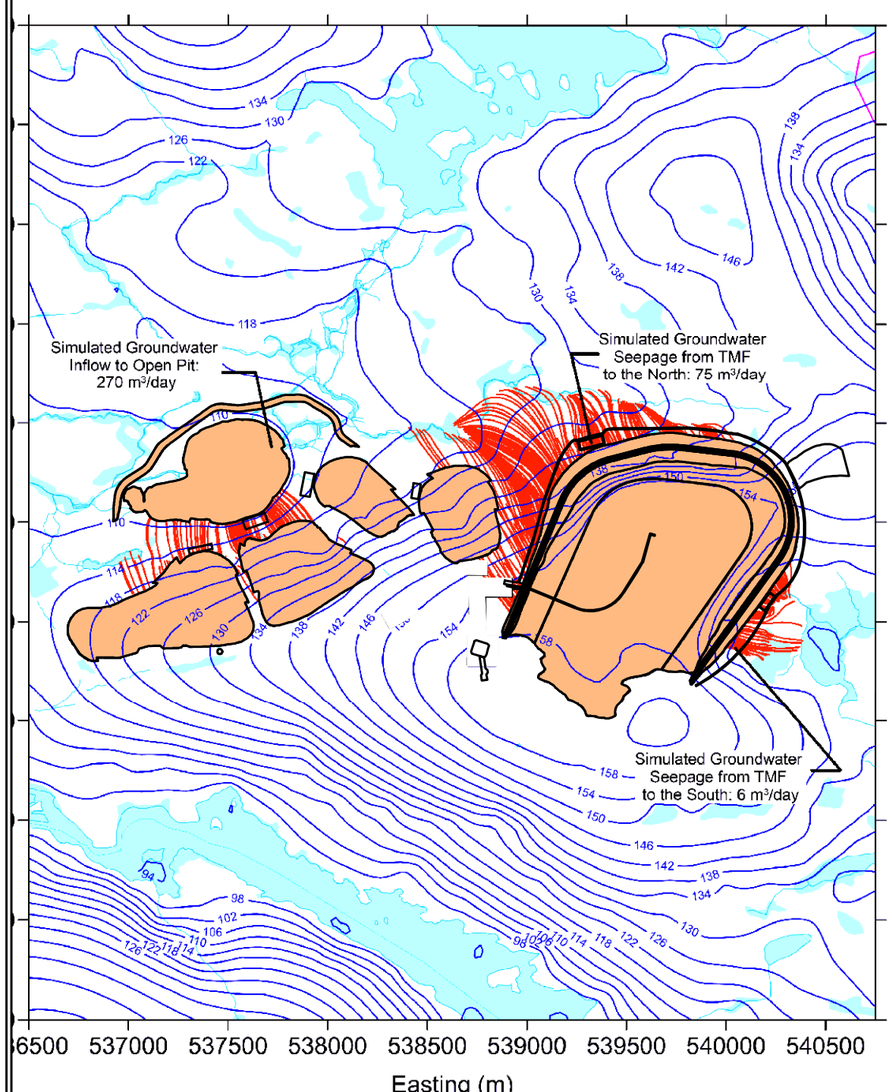
CONSULTANT
GOLDER

YYYY-MM-DD	2020-04-16
DESIGNED	---
PREPARED	RRD
REVIEWED	SD
APPROVED	PMMC

PROJECT NO. 1895674 | REV. 0 | FIGURE 6.5-16

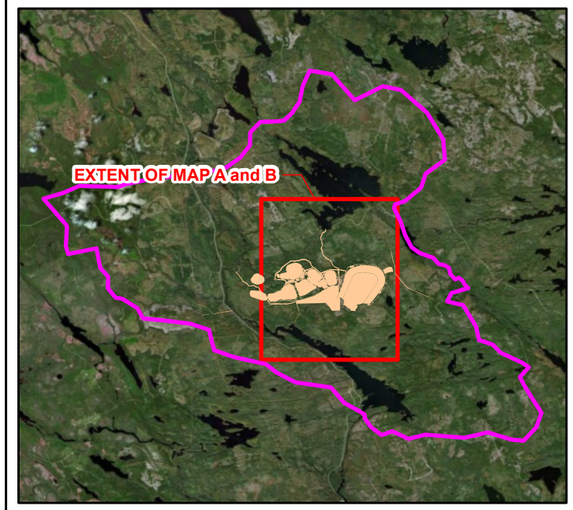
PATH: A:\...Clients\ATLANTIC_GOLD\FifteenMileStream_Cochrane\Hill99_PROJ\1895674\40_PROD\0016_EA_Groundwater\1895674-0016-CH-0007.mxd PRINTED ON: 2020-04-16 AT: 5:21:49 PM
IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ANSI B
0 25mm





LEGEND

- SIMULATED GROUNDWATER ELEVATION (MASL)
- PARTICLE TRACKING RESULTS
- MODEL DOMAIN
- MINE INFRASTRUCTURE



NOTE(S)

1. GROUNDWATER ELEVATIONS AND DRAWDOWN ARE REPRESENTATIVE OF MODEL SLICE 4 (INTERFACE BETWEEN OVERBURDEN AND UPPER BEDROCK) AT MODEL SIMULATION TIME 2190 DAYS
2. DRAWDOWN/CHANGE IN WATER LEVEL ELEVATION CONTOURS ARE SPECIFIED AS 1 M INTERVALS, WITH SCALE BAR INDICATING RANGE. CHANGE IS CALCULATED AS CALIBRATION – FORECAST GROUNDWATER ELEVATION VALUES
3. SIMULATED GROUNDWATER ELEVATION CONTOURS AS SPECIFIED AS 4 M INTERVALS

REFERENCE(S)

1. MCCALLUM ENVIRONMENTAL LTD. EIS PROJECT AREA, (VER.200227, RECEIVED 2020-04-07).
2. MCCALLUM ENVIRONMENTAL LTD. PROPOSED INFRASTRUCTURE, (VER.200310, RECEIVED 2020-04-07).

PROJECTION: TRANSVERSE MERCATOR DATUM: NAD 83
COORDINATE SYSTEM: UTM ZONE 20 VERTICAL DATUM: CGVD28

CLIENT
ATLANTIC MINING NS CORP

Atlantic Gold

PROJECT
FIFTEEN MILE STREAM GOLD PROJECT
ENVIRONMENTAL IMPACT STATEMENT

TITLE
SIMULATED GROUNDWATER ELEVATIONS, DRAWDOWN, AND SEEPAGE PATHWAYS POST-CLOSURE

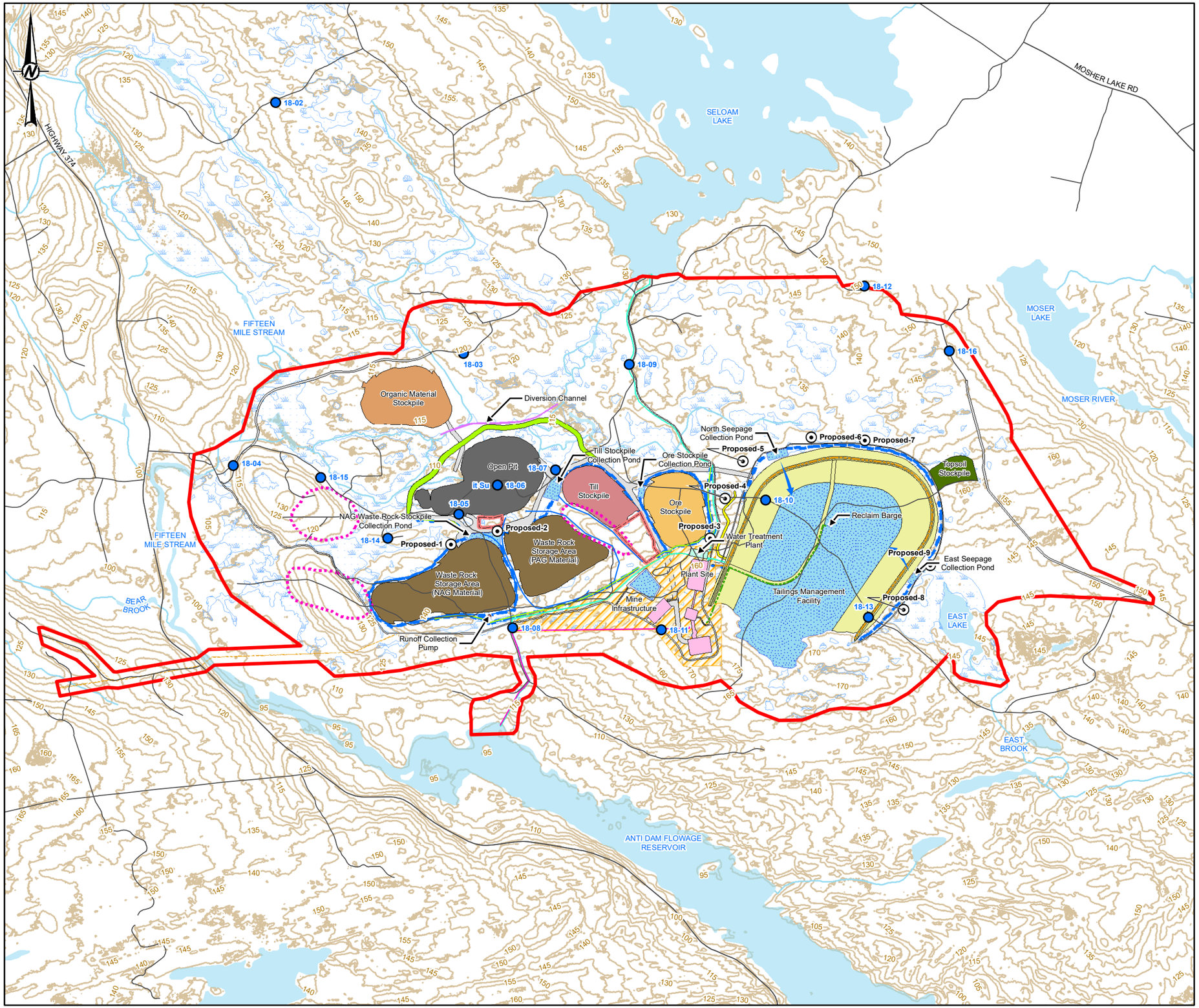
CONSULTANT
GOLDER

YYYY-MM-DD	2020-04-16
DESIGNED	---
PREPARED	RRD
REVIEWED	CA
APPROVED	PMMC

PROJECT NO.	CONTROL	REV.	FIGURE
1895674	0016	0	6.5-17

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B

PATH: A:_Clients\ATLANTIC_GOLD\Fifteen Mile Stream_Cochrane Hill\99_PRO\1895674\440_PROD\0016_EA_Groundwater\1895674-0016-CH-0008.mxd PRINTED ON: 2020-04-16 AT: 5:20:19 PM

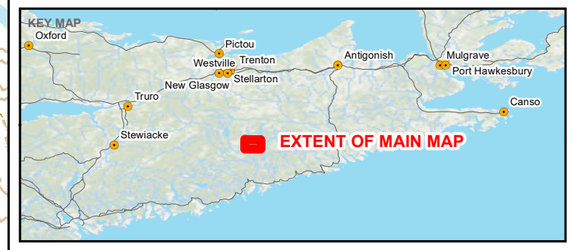


LEGEND

- Current Monitoring Well Location
- Proposed Monitoring Well Location
- Existing Road
- FMS Study Area
- Topographic Contour (5m Interval)
- Watercourse
- Waterbody
- Wetland

PROPOSED SITE INFRASTRUCTURE

- Diversion channel
- Pit
- Buildings
- Water Treatment
- Plant and Admin Building Footprint
- Seloam Diversion Berm
- Tailings Management Facility
- Water Management Pond / TMF pond
- Topsoil Stockpile
- Organics Pile
- TillStockpile
- Low Grade Stockpile
- Waste Rock Storage Area
- Access Road / Haul Road
- Contractor Laydown Area
- Outflow Channel
- Water Management Pump
- Water Management Ditch
- Water Intake/Discharge Pipe
- Powerline Tie In Options
- Potential Borrow Pit
- Tailings Pipeline
- Collection Ditch
- Reclaim Pipeline
- Non-Contact Water Ditch
- Water Treatment Pipeline



0 430 860

1:25,000 METRES

NOTE(S)

1. ALL LOCATIONS ARE APPROXIMATE

REFERENCE(S)

1. MCCALLUM ENVIRONMENTAL LTD. EIS PROJECT AREA, (VER.200227, RECEIVED 2020-04-07).
2. PROPOSED INFRASTRUCTURE, (VER.200630, RECEIVED 2020-08-28).

CLIENT
ATLANTIC MINING NS CORP

Atlantic Gold

PROJECT
FIFTEEN MILE STREAM GOLD PROJECT
ENVIRONMENTAL IMPACT STATEMENT

TITLE
PROPOSED MONITORING WELLS

CONSULTANT
GOLDER

YYYY-MM-DD	2020-10-09
DESIGNED	---
PREPARED	RRD
REVIEWED	CA
APPROVED	PMMC

PROJECT NO.	CONTROL	REV.	FIGURE
1895674	0033	0	6.5-18

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B

0 25mm

PATH: A:_Clients\ATLANTIC_GOLD\FifteenMileStream_Cochrane\Hf\99_PROJ\1895674\40_PROD\0033_ClientRequest\1895674-0033-CH-0003.mxd PRINTED ON: 2020-10-09 AT: 11:57:41 AM

Prepared For:

Atlantic Gold

FIGURE 6.6-1

Fifteen Mile Stream Gold Project Project Locator Watershed Context

Halifax County, NS

FMS Study Area

Touquoy Mine Site

East River Sheet Harbour Secondary Watershed

Fish River-Lake Charlotte Secondary Watershed

Project Area
Tertiary Watersheds
Secondary Watersheds

Coordinate System: NAD 1983 CSRS UTM Zone 20N
Projection: Transverse Mercator
Datum: North American 1983 CSRS
Units: Meter

0 3 6 12 km

1:221,000 Scale when printed @ 11" x 17"

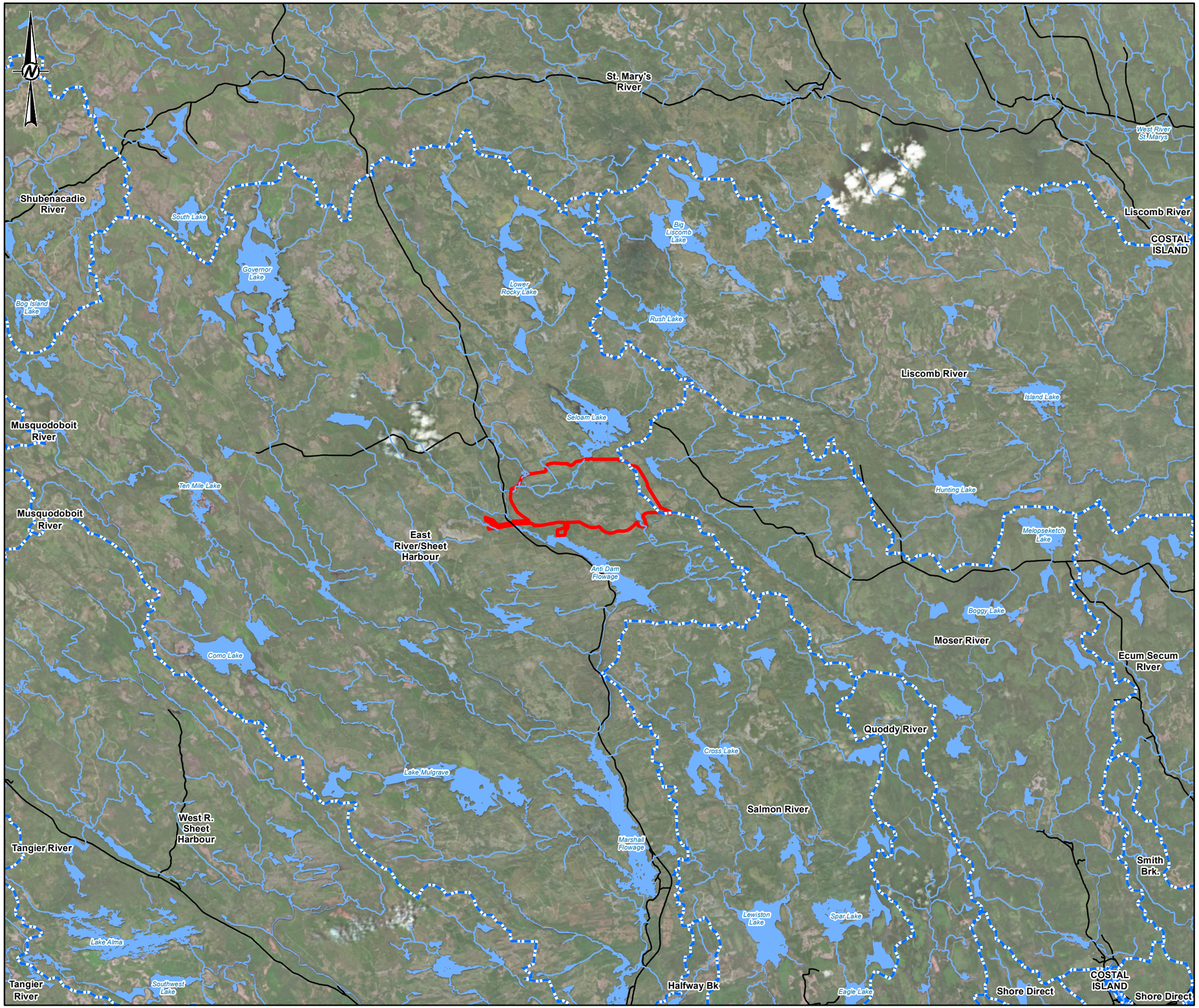
Drawn By: EP Date: 2020-03-10

Service Layer Credits: Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, © OpenStreetMap

McCallum Environmental Ltd.

480000 490000 500000 510000 520000 530000 540000 550000

5010000 5000000 4990000 4980000 4970000 4960000



LEGEND

- Roads
- Fifteen Mile Stream Study Area
- Secondary Watershed Boundary
- Watercourse
- Waterbody

0 2,500 5,000

1:150,000 METRES

NOTE(S)

1. MCCALLUM ENVIRONMENTAL LTD. EIS PROJECT AREA, (VER.200227, RECEIVED 2020-04-07).
2. MCCALLUM ENVIRONMENTAL LTD. PROPOSED INFRASTRUCTURE, (VER.200310, RECEIVED 2020-04-07).

REFERENCE(S)

BASE MAP DATA: ESRI, GARMIN, GEBCO, NOAA NGDC, AND OTHER CONTRIBUTORS
PROJECTION: TRANSVERSE MERCATOR DATUM: NAD 83
COORDINATE SYSTEM: UTM ZONE 20 VERTICAL DATUM: CGVD28

CLIENT
ATLANTIC MINING NS CORP

Atlantic Gold

PROJECT
SURFACE WATER QUALITY AND QUANTITY EFFECTS ASSESSMENT

TITLE
REGIONAL WATERSHEDS

CONSULTANT

GOLDER

YYYY-MM-DD	2020-04-15
DESIGNED	---
PREPARED	RRD
REVIEWED	SK
APPROVED	SK

PROJECT NO.	REV.	FIGURE
1895674	0	6.6-2

PATH: A:\ Clients\ATLANTIC_GOLD\FifteenMileStream_Cochranehill\99_PRO\A1895674\40_PROD\0019_SWQQ_Effects\Assessment\1895674-0019-CS-0001.mxd PRINTED ON: 2020-04-15 AT: 6:05:31 PM

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B
25mm
0

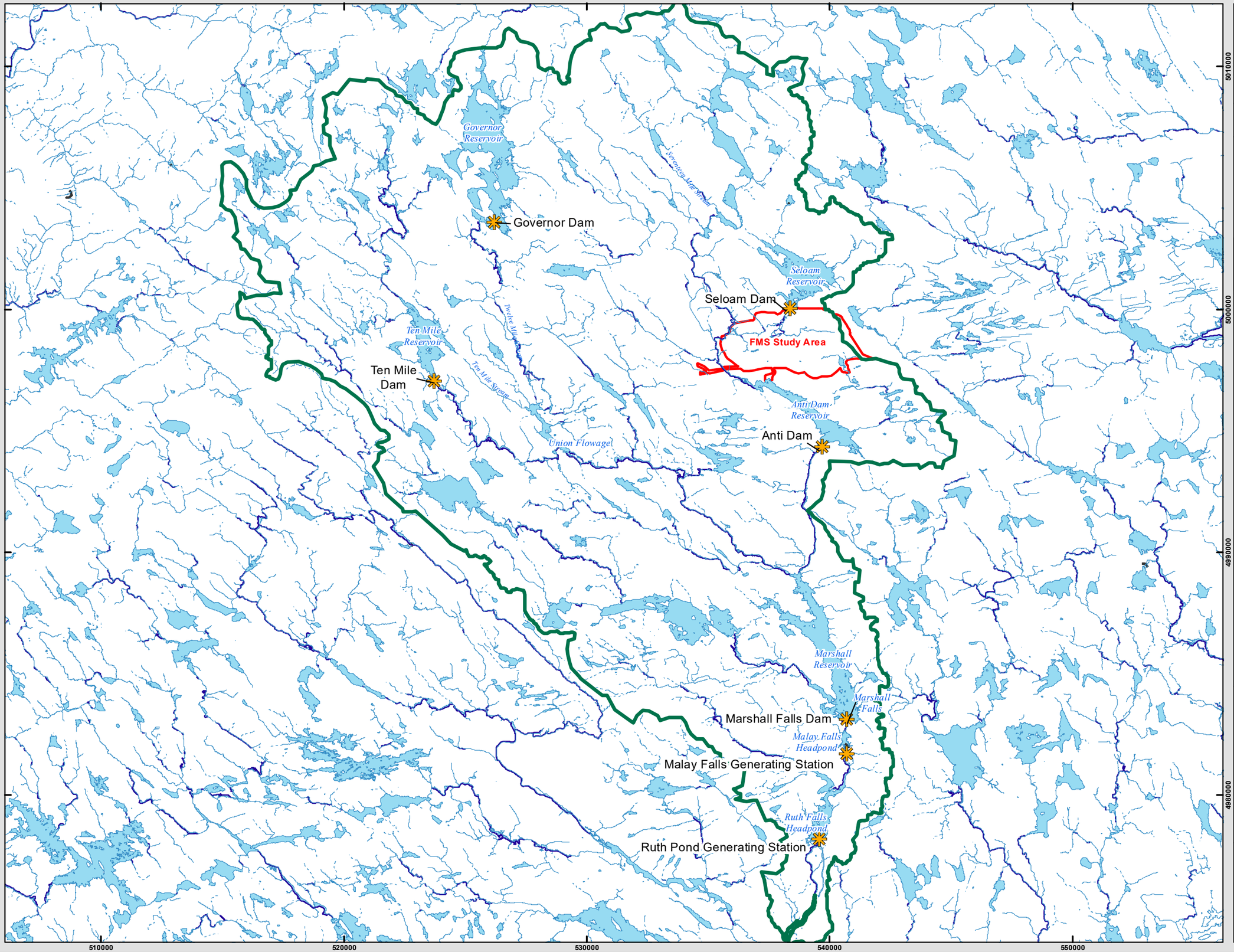
Prepared For:

Atlantic Gold

FIGURE 6.6-3

FMS Study Area East River Sheet Harbour Hydro System: Water Control Features

Halifax County, NS



Water Control Feature
East River Sheet Harbour Secondary Watershed
FMS Study Area

Coordinate System: NAD 1983 CSRS UTM Zone 20N
Projection: Transverse Mercator
Datum: North American 1983 CSRS
Units: Meter

0 2 4 8 km

1:145,000

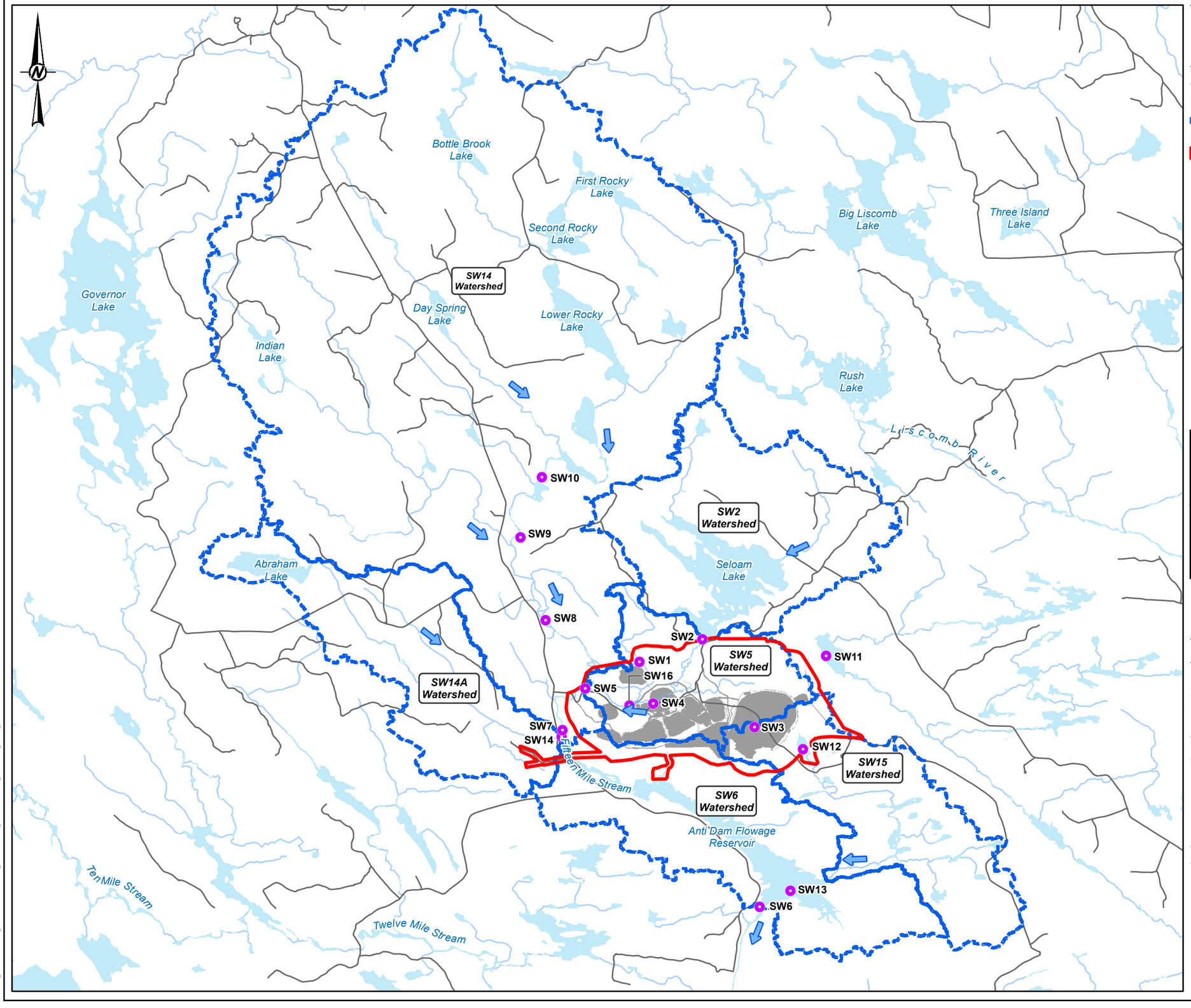
Scale when printed @ 11" x 17"

Drawn By: EP

Date: 2020-03-10

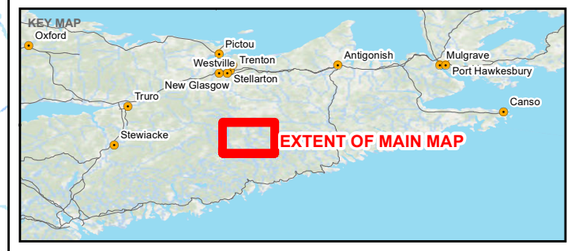
Service Layer Credits: Sources: Esri, HERE, DeLorme, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), MapmyIndia, NGCC, © OpenStreetMap contributors, and the GIS User

McCallum Environmental Ltd.



LEGEND

- Surface Water Flow Direction
- Surface Water Quality Monitoring Stations
- Roads
- Watercourse
- Waterbody
- Watersheds
- Proposed Infrastructure
- Fifteen Mile Stream Study Area



0 900 1,800 2,700

1:80,000 METRES

NOTE(S)

1. ALL LOCATIONS ARE APPROXIMATE

REFERENCE(S)

1. MCCALLUM ENVIRONMENTAL LTD. EIS PROJECT AREA, (VER.200227, RECEIVED 2020-04-07).
2. MCCALLUM ENVIRONMENTAL LTD. PROPOSED INFRASTRUCTURE, (VER.200310, RECEIVED 2020-04-07).

PROJECTION: TRANSVERSE MERCATOR DATUM: NAD 83
COORDINATE SYSTEM: UTM ZONE 20 VERTICAL DATUM: CGVD28

CLIENT
ATLANTIC MINING NS CORP

Atlantic Gold

PROJECT
SURFACE WATER QUALITY BASELINE REPORT
FIFTEEN MILE STREAM GOLD PROJECT

TITLE
SURFACE WATER QUALITY BASELINE MONITORING LOCATIONS

CONSULTANT

GOLDER

YYYY-MM-DD	2020-04-15
DESIGNED	---
PREPARED	RRD
REVIEWED	NK
APPROVED	SK

PROJECT NO.	CONTROL	REV.	FIGURE
1895674	0019	2	6.6-4

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B

0 25mm

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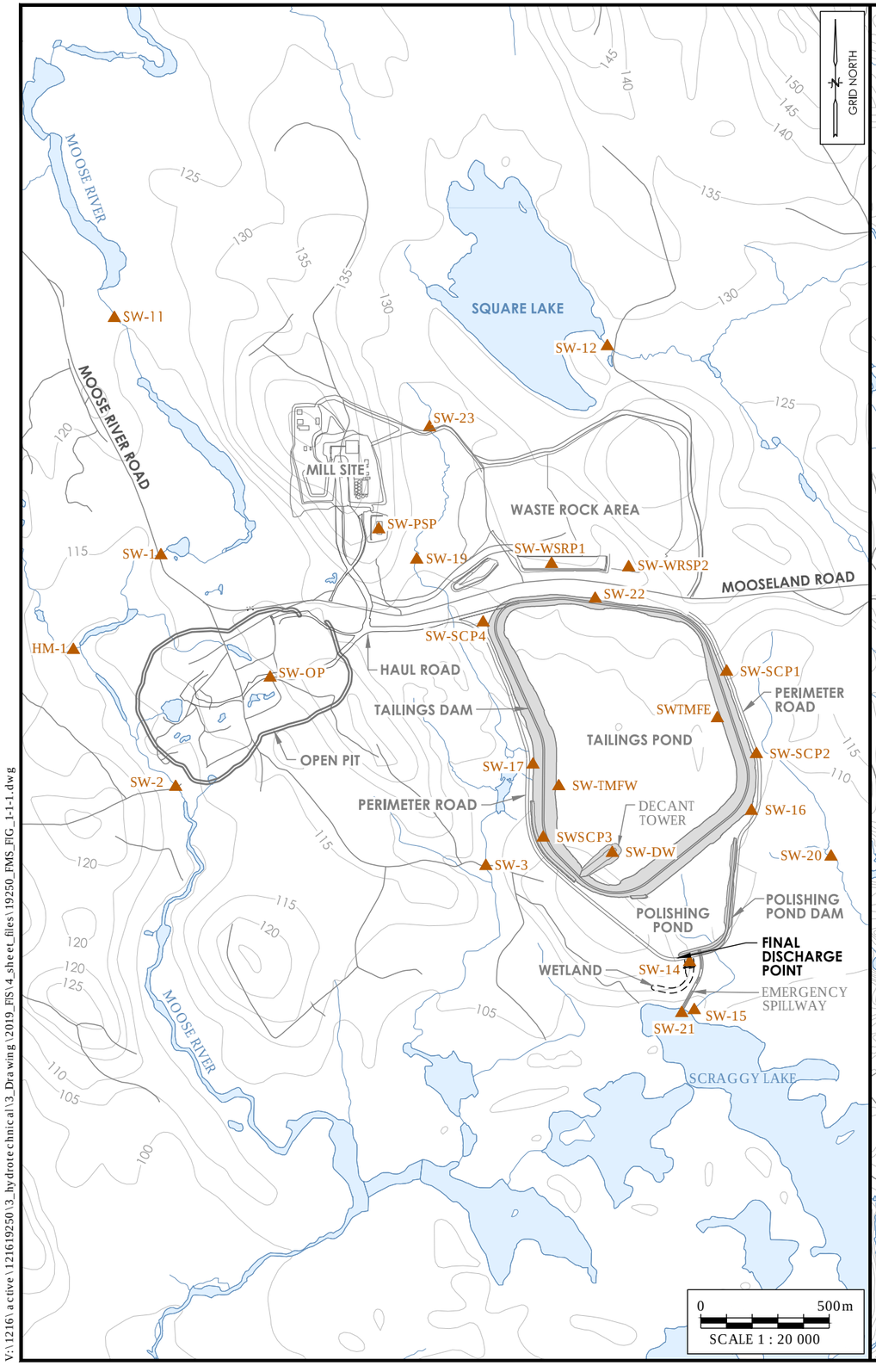

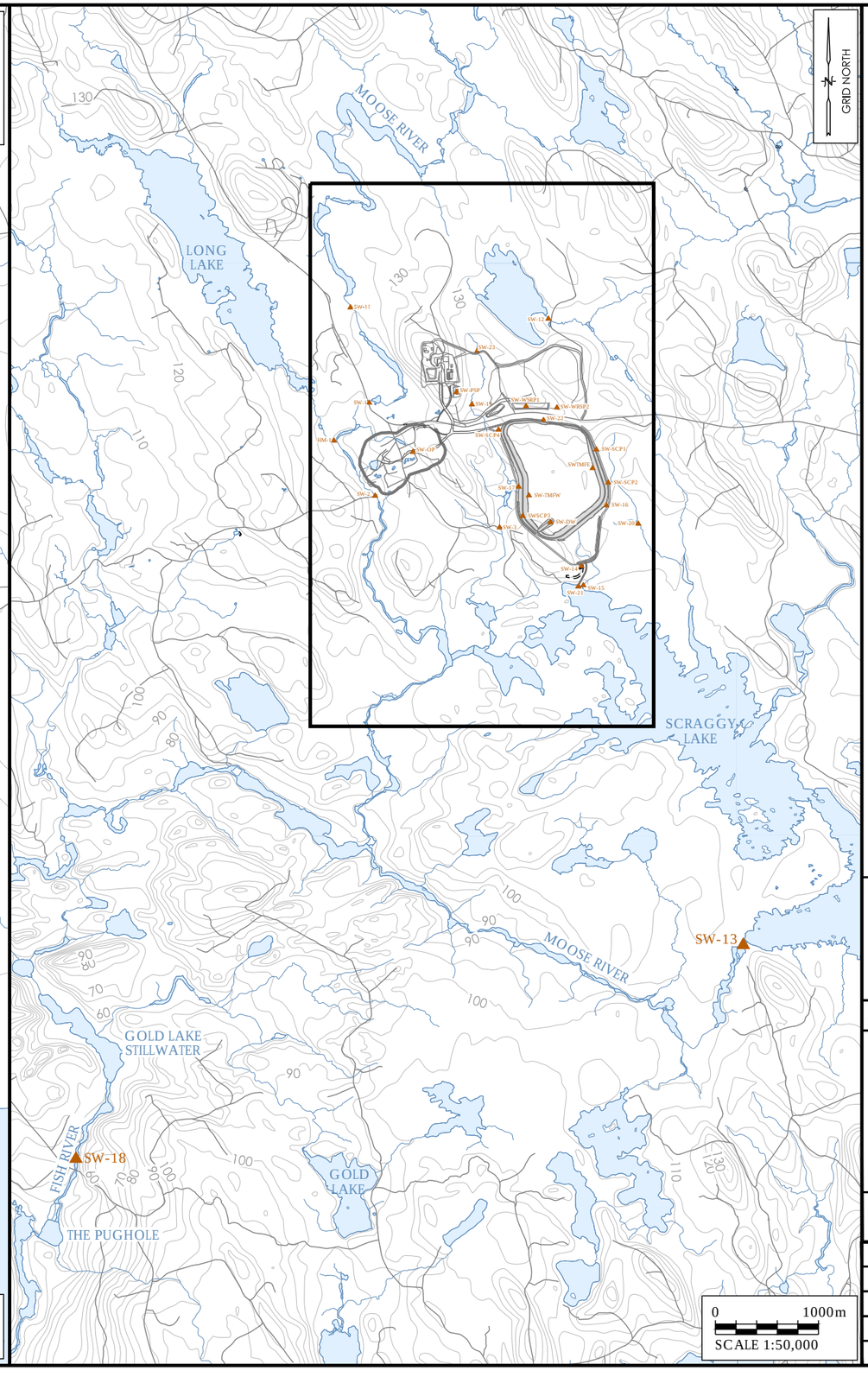

LEGEND

- CONTOUR, 5m (PROVINCIAL DATA)
- ROAD
- TMF INFRASTRUCTURE
- WATERCOURSE
- WATERBODY
- SURFACE WATER MONITORING LOCATIONS

Reference:

1. PROVINCIAL BASE DATA REPRODUCED AND DISTRIBUTED WITH THE PERMISSION OF SERVICE NOVA SCOTIA & MUNICIPAL RELATIONS (SNSMR, 2006) AS PER THE TERMS OF USE OUTLINED IN THE UNRESTRICTED DATA USE LICENSE AGREEMENT FOR GEOGRAPHIC DATA.
2. EXISTING TOPOGRAPHY SHOWN IS BASED ON LIDAR DATA PROVIDED BY CONESTOGA-ROVERS & ASSOCIATES (2010).

THIS FIGURE ILLUSTRATES SUPPORTING INFORMATION SPECIFIC TO THE FIFTEEN MILE STREAM GOLD PROJECT EIS.

Touquoy Mine Site
Surface Water Monitoring Locations

FIFTEEN MILE STREAM GOLD PROJECT
ENVIRONMENTAL IMPACT STATEMENT

Project:	121619250
Scale:	AS SHOWN
Date:	12-SEP-2019
Dwn. By:	MA
App'd By:	RJ

Figure No.: 6.6-5

Client: Atlantic Gold

V:\1216\active\121619250\3_hydrotechnical\3_Drawing\2019_EIS\4_sheet_files\19250_EMS_FIG_1-1-1.dwg

Prepared For:

Atlantic Gold

FIGURE 6.6-6

FMS Study Area Overview of Field Delineated Watercourses

Trafalgar, NS

- NSTDB Mapped Watercourses outside FMS Study Area
- Field Delineated Watercourses within FMS Study Area
- NSE Wetlands outside FMS Study Area
- Field Delineated Wetlands within FMS Study Area
- FMS Study Area

Coordinate System: NAD 1983 CSRS UTM Zone 20N
Projection: Transverse Mercator
Datum: North American 1983 CSRS
Units: Meter

0 250 500 1,000 m

1:21,000 Scale when printed @ 11" x 17"

Drawn By: AS Date: 2020-10-30

Service Layer Credits: Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community

McCallum Environmental Ltd.

Seloam Lake
Moser Lake
East Lake
Fifteen Mile Stream
Seloam Brook
Anti Dam Flowage
LCA: WC12
LCA: WC5
LCA: WC2
LCA: WC7
LCA: WC26
WC 1
WC 2
WC 3
WC 4
WC 5
WC 6
WC 7
WC 8
WC 10
WC 12
WC 13
WC 14
WC 15
WC 16
WC 17
WC 18
WC 19
WC 21
WC 22
WC 23
WC 24
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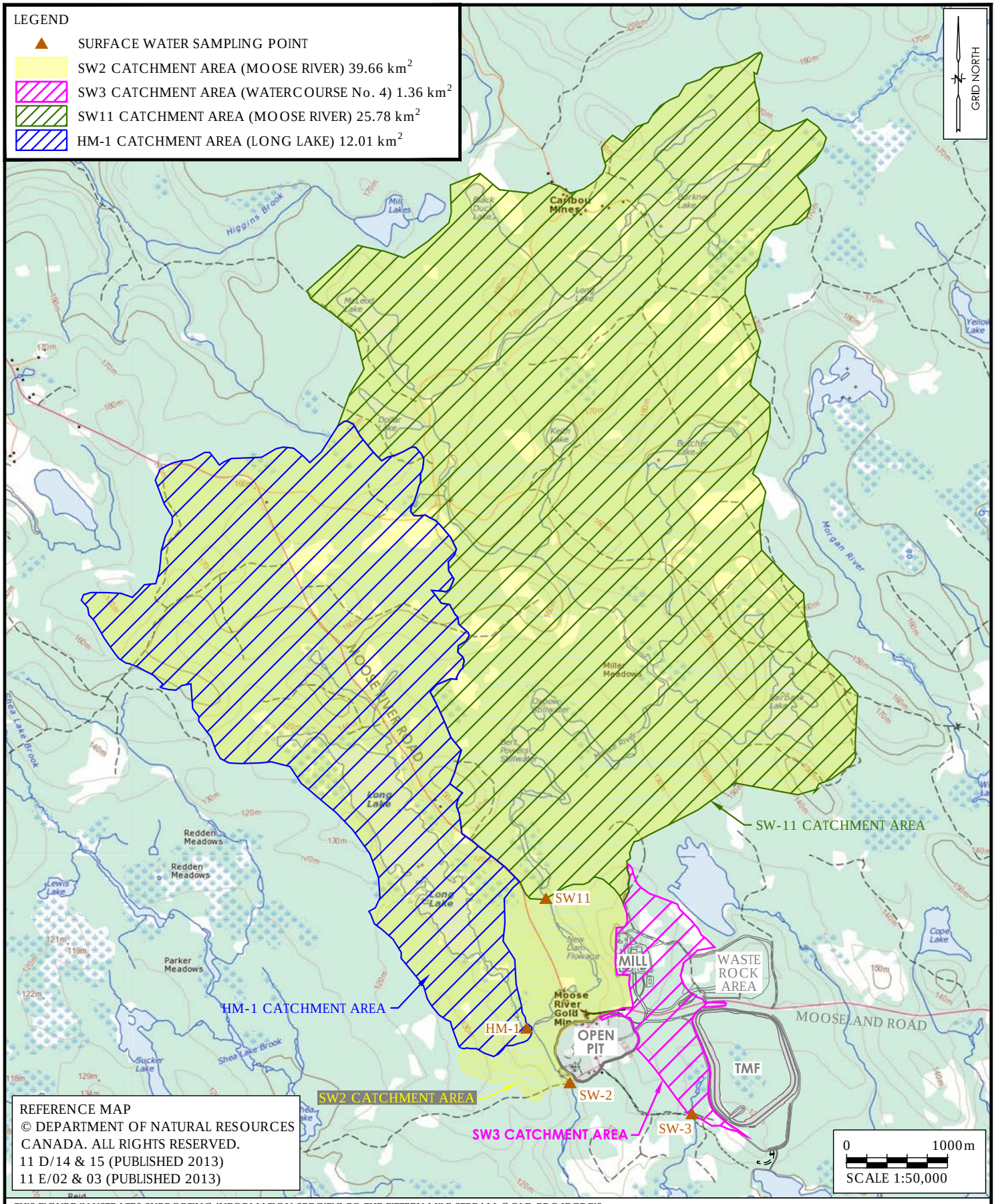
WC 45
WC 46
5000000
535000
540000



THIS FIGURE ILLUSTRATES SUPPORTING INFORMATION SPECIFIC TO THE FIFTEEN MILE STREAM GOLD PROJECT EIS.

Catchment Areas

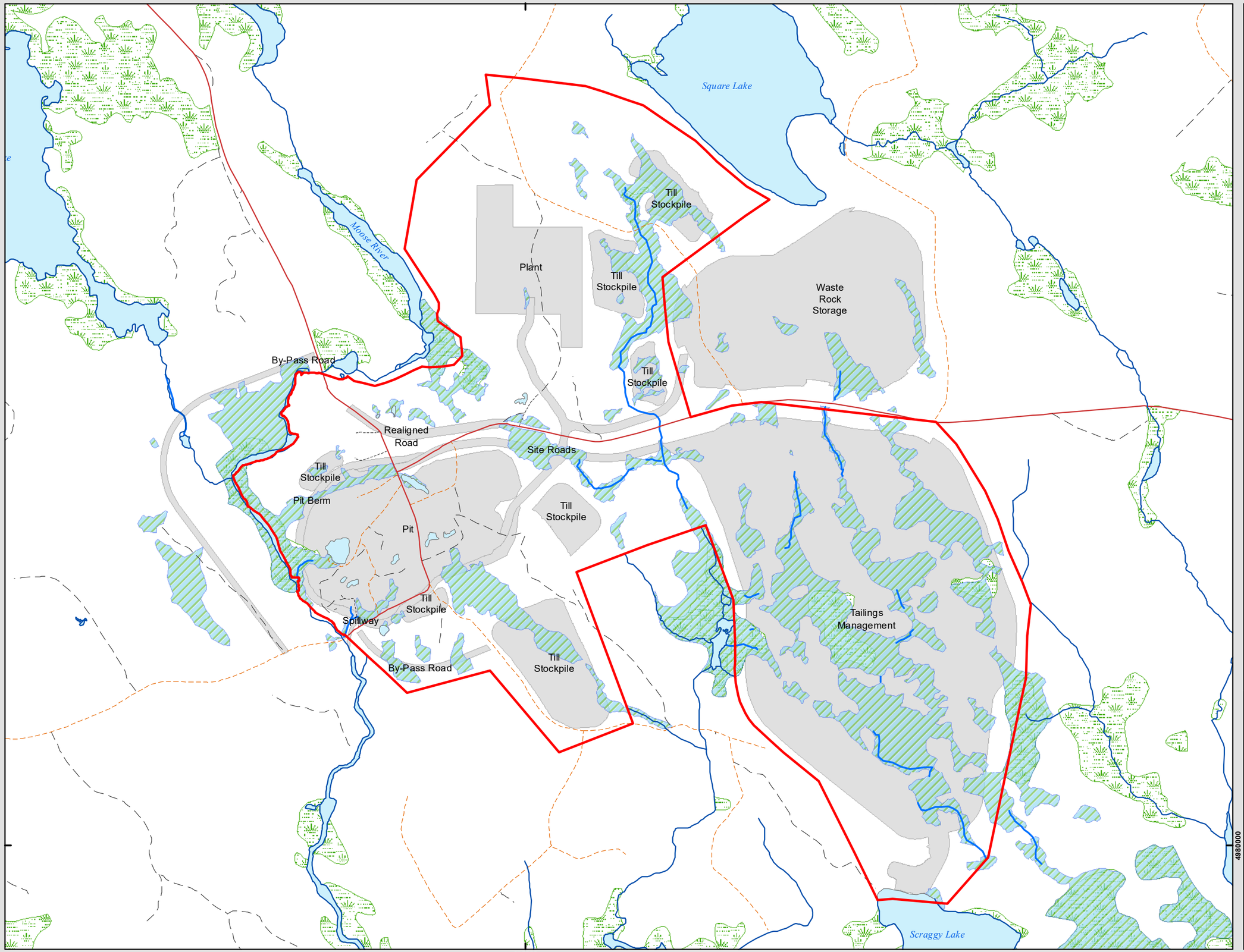
FIFTEEN MILE STREAM GOLD PROJECT ENVIRONMENTAL IMPACT STATEMENT

Project:	121619250
Scale:	N.T.S
Date:	12-SEP-2019
Dwn. By:	MA
App'd By:	RJ

Figure No.: 6.6-7

Client: Atlantic Gold

V:\1216\active\121619250\3_hydrotechnical\3_Drawing\2019_FIS\4_sheet_files\19250_FMS_FIG_1-1-2.dwg



Prepared For:

Atlantic Gold

FIGURE 6.6-8

Touquoy Mine Site
Field Delineated Wetlands and Watercourses

Mooseland, NS

- NSTDB Mapped Watercourse outside Touquoy Mine Site
- Field Delineated Watercourses within Touquoy Mine Site
- Field Delineated Wetlands within Touquoy Mine Site
- NSE Wetlands Outside Touquoy Mine Site
- FMS Study Area

Coordinate System: NAD 1983 CSRS UTM Zone 20N
Projection: Transverse Mercator
Datum: North American 1983 CSRS
Units: Meter

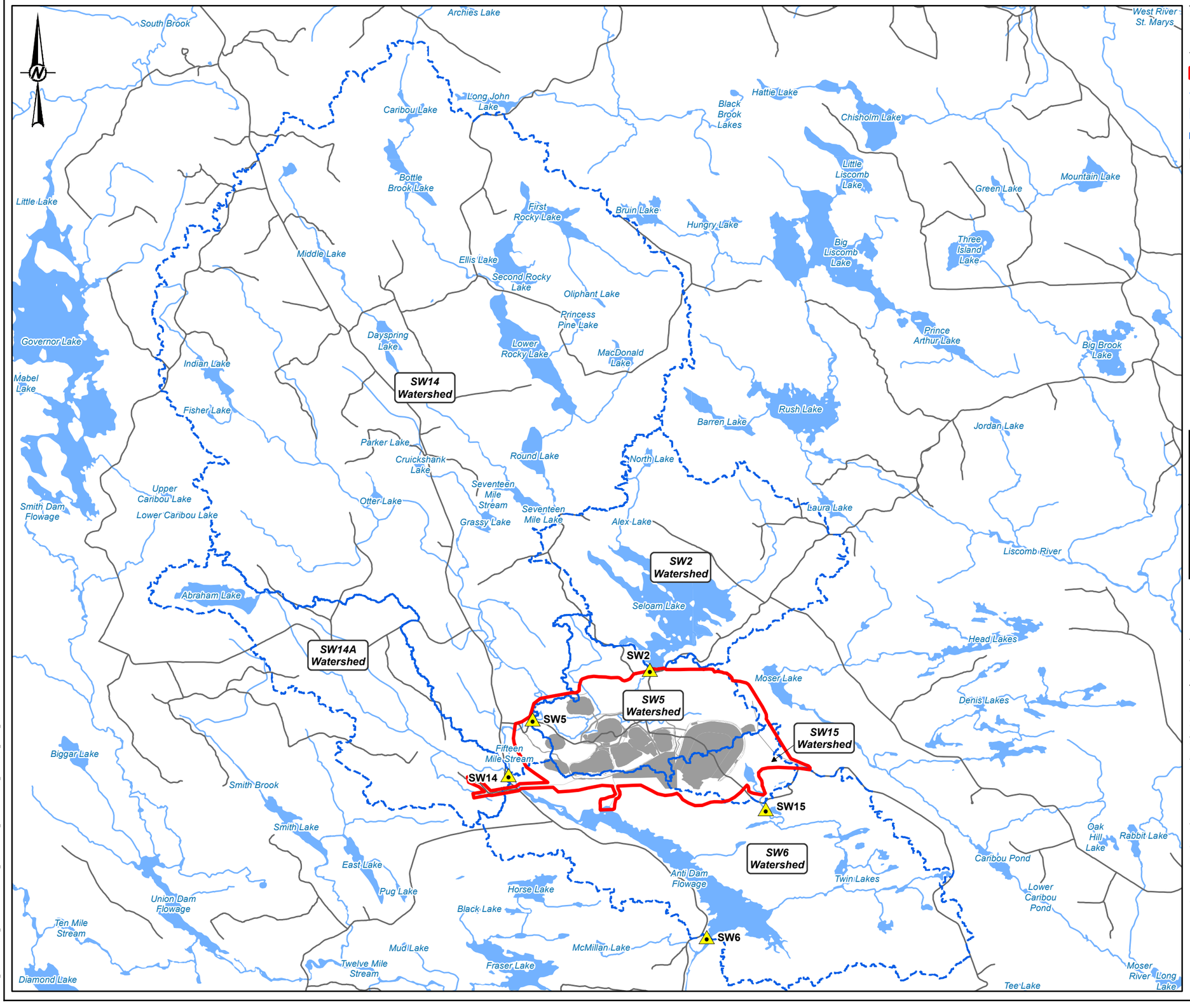
0 125 250 500 m

1:12,000 Scale when printed @ 11" x 17"

Drawn By: AS Date: 2020-10-30

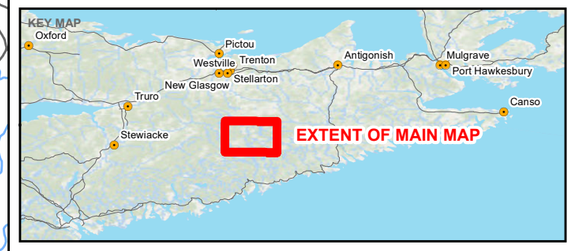
Service Layer Credits: Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community

McCallum Environmental Ltd.



LEGEND

- Hydrological Modelling Location
- Roads
- Fifteen Mile Stream Study Area
- Watercourse
- Waterbody
- Watershed Boundary
- Proposed Infrastructure



0 1,300 2,600

1:80,000 METRES

NOTE(S)

THIS FIGURE WAS PREPATED FOR ATLANTIC GOLD AND IS TO BE READ IN CONJUNCTION WITH THE ACCOMPANYING GOLDER ASSOCIATES LTD. REPORT NO.1895674-10001

REFERENCE(S)

1. MCCALLUM ENVIRONMENTAL LTD. EIS PROJECT AREA, (VER.200227, RECEIVED 2020-04-07).
2.PROPOSED INFRASTRUCTURE, (VER.200630, RECEIVED 2020-08-28).
PROJECTION: TRANSVERSE MERCATOR DATUM: NAD 83
COORDINATE SYSTEM: UTM ZONE 20 VERTICAL DATUM: CGVD28

CLIENT
ATLANTIC MINING NS CORP

Atlantic Gold

PROJECT
SURFACE WATER QUALITY AND QUANTITY EFFECTS ASSESSMENT

TITLE
LOCAL WATERSHEDS AND HYDROLOGICAL MONITORING

CONSULTANT

GOLDER

YYYY-MM-DD	2020-09-01
DESIGNED	---
PREPARED	RRD
REVIEWED	SK
APPROVED	--

PROJECT NO. 1895674 REV. 1 FIGURE 6.6-10

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B

0 25mm

PATH: A:_Clients\ATLANTIC_GOLD\FifteenMileStream_CochraneHill\99_PROJ\1895674\40_PROD\00\19_SWQQ_EffectsAssessment\1895674-0019-CS-0002.mxd PRINTED ON: 2020-09-01 AT: 3:46:33 PM

Prepared For:

Atlantic Gold

FIGURE 6.6-16

Fifteen Mile Stream Gold Project Spatial Boundaries: Surface Water, Wetlands, Fish and Fish Habitat

Halifax County, NS

FMS Study Area

Touquoy Mine Site

Project Area
Aquatic Local Assessment Area
Aquatic Regional Assessment Area

Coordinate System: NAD 1983 CSRS UTM Zone 20N
Projection: Transverse Mercator
Datum: North American 1983 CSRS
Units: Meter

0 2.5 5 10 km

1:230,000

Scale when printed @ 11" x 17"

Drawn By: EP

Date: 2020-03-11

Service Layer Credits: Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, © OpenStreetMap

McCallum Environmental Ltd.

5010000
5000000
4990000
4980000
4970000
4960000

480000 490000 500000 510000 520000 530000 540000 550000

UNDISTURBED CATCHMENT
Diversion
UNDISTURBED CATCHMENT
Diversion
UNDISTURBED CATCHMENT
Diversion
UNDISTURBED CATCHMENT
Diversion
ENVIRONMENT
Catchment runoff[2]
Contact runoff
NON-PAG WASTE ROCK STOCKPILE
PAG WASTE ROCK STOCKPILE
TILL STOCKPILE
ORE STOCKPILE
Runoff
Precipitation
Evaporation
NON-PAG WASTE ROCK POND
TILL POND
ORE AND OPEN PIT POND
Diversion
UNDISTURBED CATCHMENT
Catchment runoff
EGERTON-MACLEAN OPEN PIT
Pit wall runoff
Groundwater inflow
Dewatering
Catchment runoff
Precipitation
POND FOR PLANT SITE
Fresh water
Water in ore
PLANT SITE
WATER TREATMENT PLANT
Water in tailings
Reclaim
Surplus
Embankment runoff
Precipitation
Evaporation
UNDISTURBED CATCHMENT
Catchment runoff
NORTH SEEPAGE COLLECTION POND
Precipitation
Evaporation
Catchment runoff
Beach runoff
TAILINGS MANAGEMENT FACILITY
EAST SEEPAGE COLLECTION POND
Catchment runoff
UNDISTURBED CATCHMENT
Dewater via pumpback system
Dewater via pumpback system
Collected seepage
Seepage losses
Collected seepage
Unrecovered seepage

NOTES:
1. FACILITIES ARE NOT DRAWN TO SCALE.
2. CATCHMENT RUNOFF IS FROM THE STOCKPILE'S UNDISTURBED CATCHMENT AREA AND IS NOT DISTURBED.

REV	DATE	DESCRIPTION	PREP'D	RVW'D
1	12JUN'20	ISSUED WITH REPORT	HW	CKJ

YEAR -1 TO 7

YEAR >= 8

ATLANTIC MINING NS CORP.

FIFTEEN MILE STREAM PROJECT

WATER BALANCE FLOW SCHEMATIC - OPERATIONAL YEAR -1 TO 7

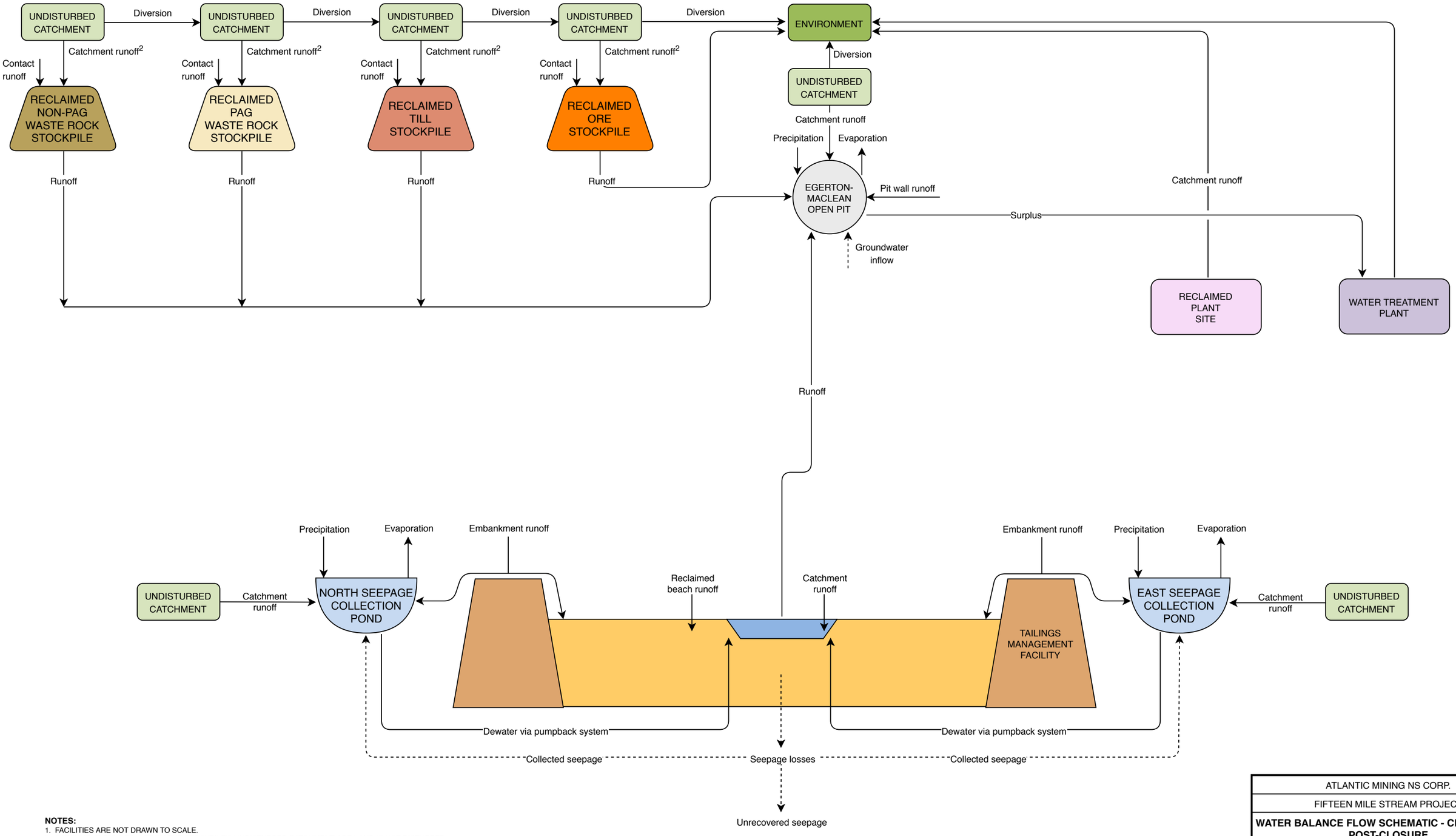
Knight Piésold CONSULTING

P/A NO. VA101-00708/04

REF. NO. 2

FIGURE 6.6-17

REV 1



NOTES:
1. FACILITIES ARE NOT DRAWN TO SCALE.
2. CATCHMENT RUNOFF IS FROM THE STOCKPILE'S UNDISTURBED CATCHMENT AREA AND IS NOT DISTURBED.
3. THE WATER BALANCE MODEL ASSUMES THE TMF SUMP CURRENTLY HAS NO VOLUME OR AREA. ALL RUNOFF IS SENT TO THE OPEN PIT.

REV	DATE	DESCRIPTION	PREP'D	RVW'D
1	12JUN'20	ISSUED WITH REPORT	HW	CKJ

YEAR -1 TO 7

YEAR >= 8

ATLANTIC MINING NS CORP.

FIFTEEN MILE STREAM PROJECT

WATER BALANCE FLOW SCHEMATIC - CLOSURE AND POST-CLOSURE YEAR >= 8

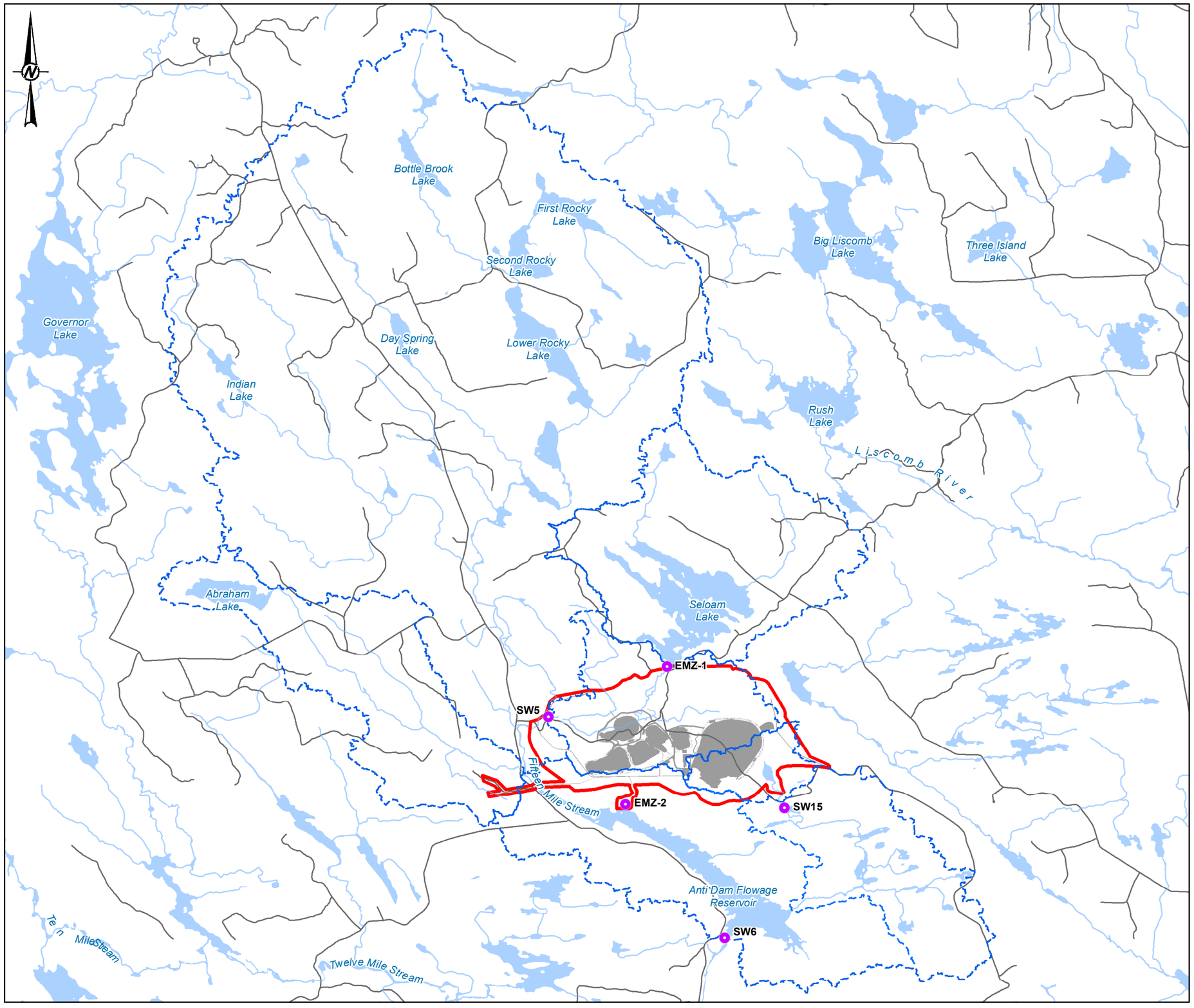
Knight Piésold CONSULTING

P/A NO. VA101-00708/04

REF. NO. 2

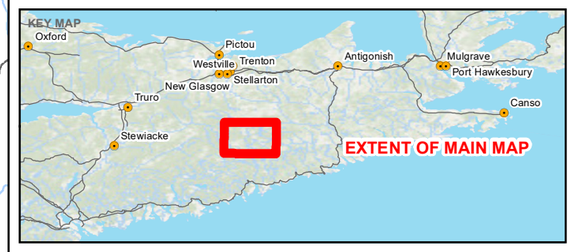
FIGURE 6.6-18

REV 1



LEGEND

- Water Quality Model Assessment Locations
- Roads
- Watercourse
- Waterbody
- Watersheds
- Proposed Infrastructure
- Fifteen Mile Stream Study Area



0 1,300 2,600

1:80,000 METRES

NOTE(S)

1. MCCALLUM ENVIRONMENTAL LTD. EIS PROJECT AREA, (VER.190313, RECEIVED 2019-03-18).
2. MCCALLUM ENVIRONMENTAL LTD. PROPOSED INFRASTRUCTURE, (VER.190620, RECEIVED 2019-06-28).

REFERENCE(S)

BASE MAP DATA: ESRI, GARMIN, GEBCO, NOAA NGDC, AND OTHER CONTRIBUTORS
PROJECTION: TRANSVERSE MERCATOR DATUM: NAD 83
COORDINATE SYSTEM: UTM ZONE 20 VERTICAL DATUM: CGVD28

CLIENT
ATLANTIC MINING NS CORP

Atlantic Gold

PROJECT
SURFACE WATER QUALITY MODELLING ASSESSMENT
FIFTEEN MILE STREAM GOLD PROJECT

TITLE
WATER QUALITY MODEL ASSESSMENT LOCATIONS

CONSULTANT

GOLDER

YYYY-MM-DD	2019-09-18
DESIGNED	---
PREPARED	RRD
REVIEWED	NK
APPROVED	SK

PROJECT NO.	CONTROL	REV.	FIGURE
1895674	0026	0	6.6-20

PATH: A:\Clients\ATLANTIC_GOLD\FifteenMileStream_CochraneHill\99_PROJ\1895674\10_PROD\0022_SW_QualityModellingReport\1895674-0022-CS-0002.mxd PRINTED ON: 2019-09-18 AT 3:28:43 PM

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25mm

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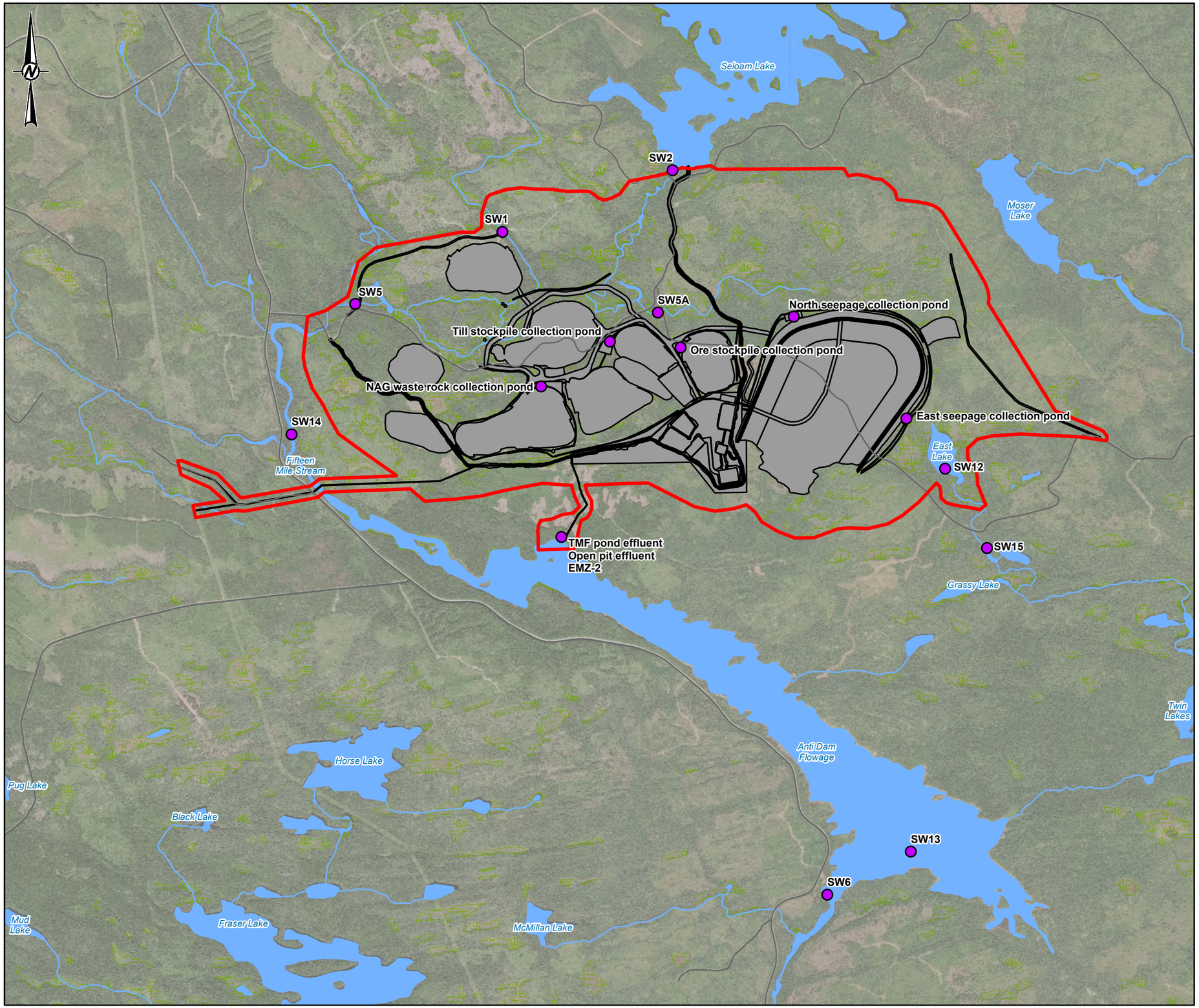

LEGEND

- Surface Water Monitoring Locations
- Roads
- Fifteen Mile Stream Study Area
- Proposed Infrastructure
- Watercourse
- Waterbody
- Wetland

0 500 1,000

1:30,000 METRES

NOTE(S)

THIS FIGURE WAS PREPATED FOR ATLANTIC GOLD AND IS TO BE READ IN CONJUNCTION WITH THE ACCOMPANYING GOLDER ASSOCIATES LTD. REPORT NO.1895674-10001

REFERENCE(S)

1. MCCALLUM ENVIRONMENTAL LTD. EIS PROJECT AREA, (VER.190313, RECEIVED 2019-03-18).
2. PROPOSED INFRASTRUCTURE, (VER.200630, RECEIVED 2020-08-28).

PROJECTION: TRANSVERSE MERCATOR DATUM: NAD 83
COORDINATE SYSTEM: UTM ZONE 20 VERTICAL DATUM: CGVD28

CLIENT
ATLANTIC MINING NS CORP

Atlantic Gold

PROJECT
FIFTEEN MILE STREAM GOLD PROJECT
ENVIRONMENTAL IMPACT STATEMENT

TITLE
LONG TERM SURFACE WATER MONITORING LOCATIONS

CONSULTANT

GOLDER

YYYY-MM-DD	2020-10-09
DESIGNED	---
PREPARED	RRD
REVIEWED	SK
APPROVED	--

PROJECT NO.	CONTROL	REV.	FIGURE
1895674	0033	0	6.6-21

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B

25mm

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Prepared For:

Atlantic Gold

FIGURE 6.7-1

FMS Study Area
Field Delineated Wetlands

Trafalgar, NS

- Field Delineated Watercourses within FMS Study Area
- Field Delineated Wetlands within FMS Study Area
- Wetlands with WESP Transcribed
- NSE Wetlands outside FMS Study Area
- FMS Infrastructure Layout
- FMS Study Area

Coordinate System: NAD 1983 CSRS UTM Zone 20N
Projection: Transverse Mercator
Datum: North American 1983 CSRS
Units: Meter

0 250 500 1,000 m

1:21,000 Scale when printed @ 11" x 17"

Drawn By: EP Date: 2020-10-16

Service Layer Credits: Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community

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FIGURE 6.7-2

FMS Study Area Potential Wetlands of Special Significance

Trafalgar, NS

Blue Felt Lichen Observations by Habitat
- Upland
- Wetland

Mobile Species at Risk Observations
- Canada Warbler
- Common Nighthawk
- Eastern Wood-Pewee
- Evening Grosbeak
- Moose
- Olive-sided Flycatcher
- Rusty Blackbird

- Field Delineated Watercourses
- Potential WSS: Blue Felt Lichen
- NSE Predicted Wetlands of Special Significance
- Field Delineated Wetlands within FMS Study Area
- NSE Wetlands outside FMS Study Area
- FMS Infrastructure Layout
- FMS Study Area

Coordinate System: NAD 1983 CSRS UTM Zone 20N
Projection: Transverse Mercator
Datum: North American 1983 CSRS
Units: Meter

0 250 500 1,000 m

1:21,000 Scale when printed @ 11" x 17"

Drawn By: EP Date: 2020-10-16

Service Layer Credits: Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community

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FIGURE 6.7-3

FMS Study Area Preliminary Wetland Direct Alteration

Trafalgar, NS

- Field Delineated Watercourses within FMS Study Area
- Direct Impacts to Field Delineated Wetlands
- Field Delineated Wetlands within FMS Study Area
- NSE Wetlands outside FMS Study Area
- FMS Study Area

FMS Planned Infrastructure

- Realignment Channel
- Water Control Structure
- Pit
- Plant
- Truck Shop
- Crusher Pad
- ROM Pad
- Water Treatment
- Plant and Admin Building Footprint
- Seloam Diversion Berm
- Tailings Management Facility
- TMF Pond
- Topsoil Stockpile
- Organics Pile
- Till Stockpile
- Low Grade Stockpile
- WRSA (NAG)
- WRSA (PAG)
- Access Road
- Haul Road
- Contractor Laydown Area
- Outflow Channel
- Water Management Pump
- Water Management Pond
- Water Management Ditch
- Water Intake/Discharge Pipe
- Powerline Tie In
- Powerline Tie in Option 2
- Potential Borrow Pit

Coordinate System: NAD 1983 CSRS UTM Zone 20N
Projection: Transverse Mercator
Datum: North American 1983 CSRS
Units: Meter

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1:21,000 Scale when printed @ 11" x 17"

Drawn By: EP Date: 2020-08-26

Service Layer Credits: Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community

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FIGURE 6.7-4

FMS Study Area Anticipated Wetland Impact Area by Type

Trafalgar, NS

- Field Delineated Watercourses within FMS Study Area
- Potential Indirect Impact: Seloam Brook Diversion Flooding
- Potential Indirect Impact: Reduction in Surface Flow
- Direct Impacts to Field Delineated Wetlands
- Field Delineated Wetlands within FMS Study Area
- NSE Wetlands outside FMS Study Area
- FMS Infrastructure Layout
- FMS Study Area

Coordinate System: NAD 1983 CSRS UTM Zone 20N
Projection: Transverse Mercator
Datum: North American 1983 CSRS
Units: Meter

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1:16,000 Scale when printed @ 11" x 17"

Drawn By: EP Date: 2020-08-26

Service Layer Credits: Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community

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FIGURE 6.8-1

FMS Study Area Fish Impact Areas, Aquatic Sampling Locations, and Areas of Open Water

Trafalgar, NS

- Benthic, Water & Sediment Sampling Locations
- Periphyton Sample Locations
- Field Delineated Watercourses within FMS Study Area
- Open Water
- Wetland Accessible to Fish
- Field Delineated Wetlands within FMS Study Area
- NSE Wetlands outside FMS Study Area
- FMS Infrastructure Layout
- FMS Study Area

Coordinate System: NAD 1983 CSRS UTM Zone 20N
Projection: Transverse Mercator
Datum: North American 1983 CSRS
Units: Meter

0 200 400 800 m

1:16,000 Scale when printed @ 11" x 17"

Drawn By: EP Date: 2020-08-28

Service Layer Credits: Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community

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FIGURE 6.8-2

FMS Study Area Electrofishing and Trapping Locations

Trafalgar, NS

- Fish Traps
- Electrofishing Locations
- Field Delineated Watercourses within FMS Study Area
- Open Water
- Wetland Accessible to Fish
- Field Delineated Wetlands within FMS Study Area
- FMS Infrastructure Layout
- NSE Wetlands outside FMS Study Area
- FMS Study Area

Coordinate System: NAD 1983 CSRS UTM Zone 20N
Projection: Transverse Mercator
Datum: North American 1983 CSRS
Units: Meter

0 200 400 800 m

1:16,000 Scale when printed @ 11" x 17"

Drawn By: EP Date: 2020-08-28

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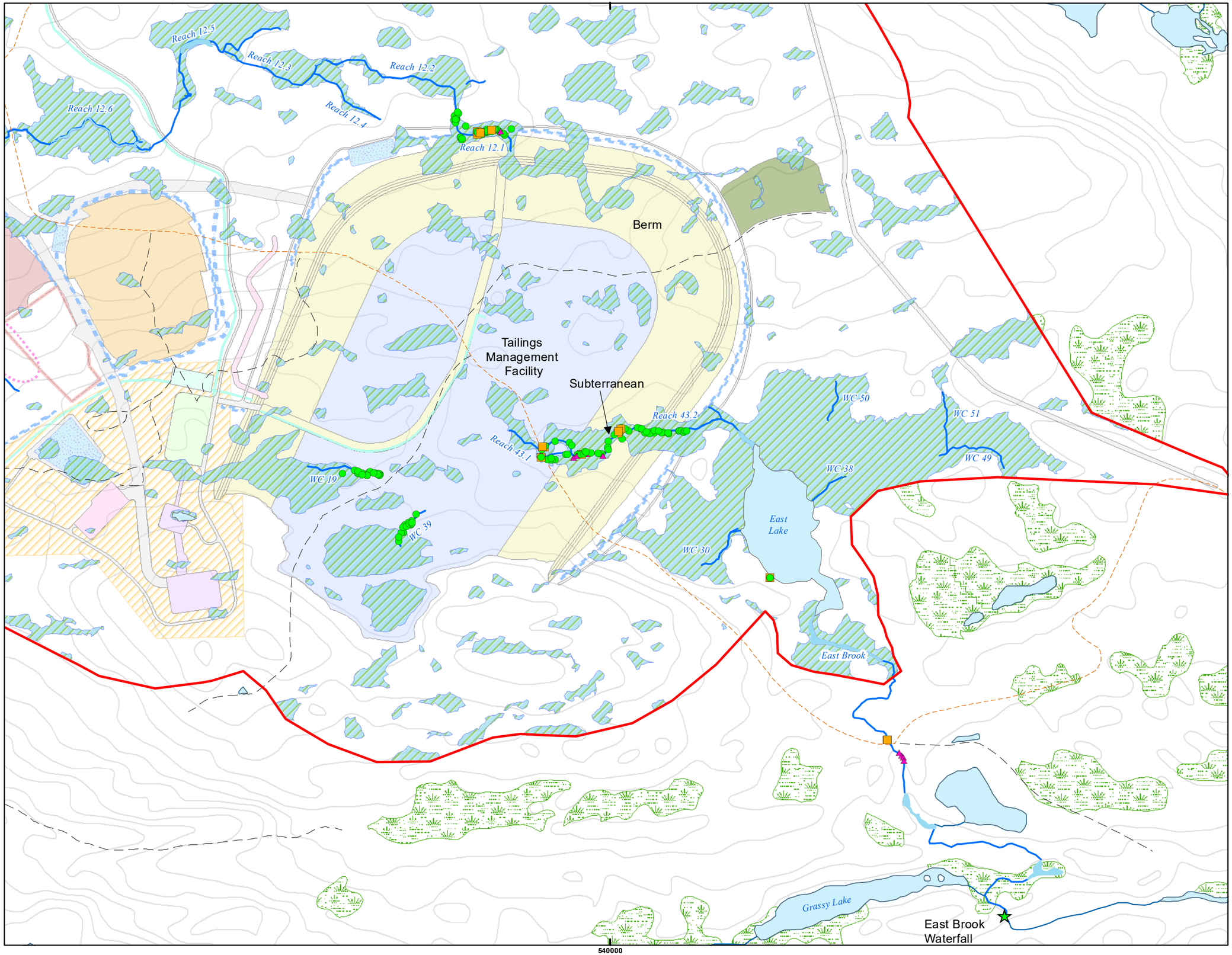

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FIGURE 6.8-3

FMS Study Area Watercourses 12 and 43 Trapping Locations

Trafalgar, NS

Trap Locations (Fall 2019 - Spring 2020)

- Eel Pot
- Fyke Net
- Minnow Trap
- Field Delineated Watercourses within FMS Study Area
- Open Water
- Field Delineated Wetlands within FMS Study Area
- NSE Wetlands outside FMS Study Area
- FMS Study Area

Coordinate System: NAD 1983 CSRS UTM Zone 20N
Projection: Transverse Mercator
Datum: North American 1983 CSRS
Units: Meter

0 125 250 500 m

1:10,000 Scale when printed @ 11" x 17"

Drawn By: EP Date: 2020-08-28

Service Layer Credits: Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community

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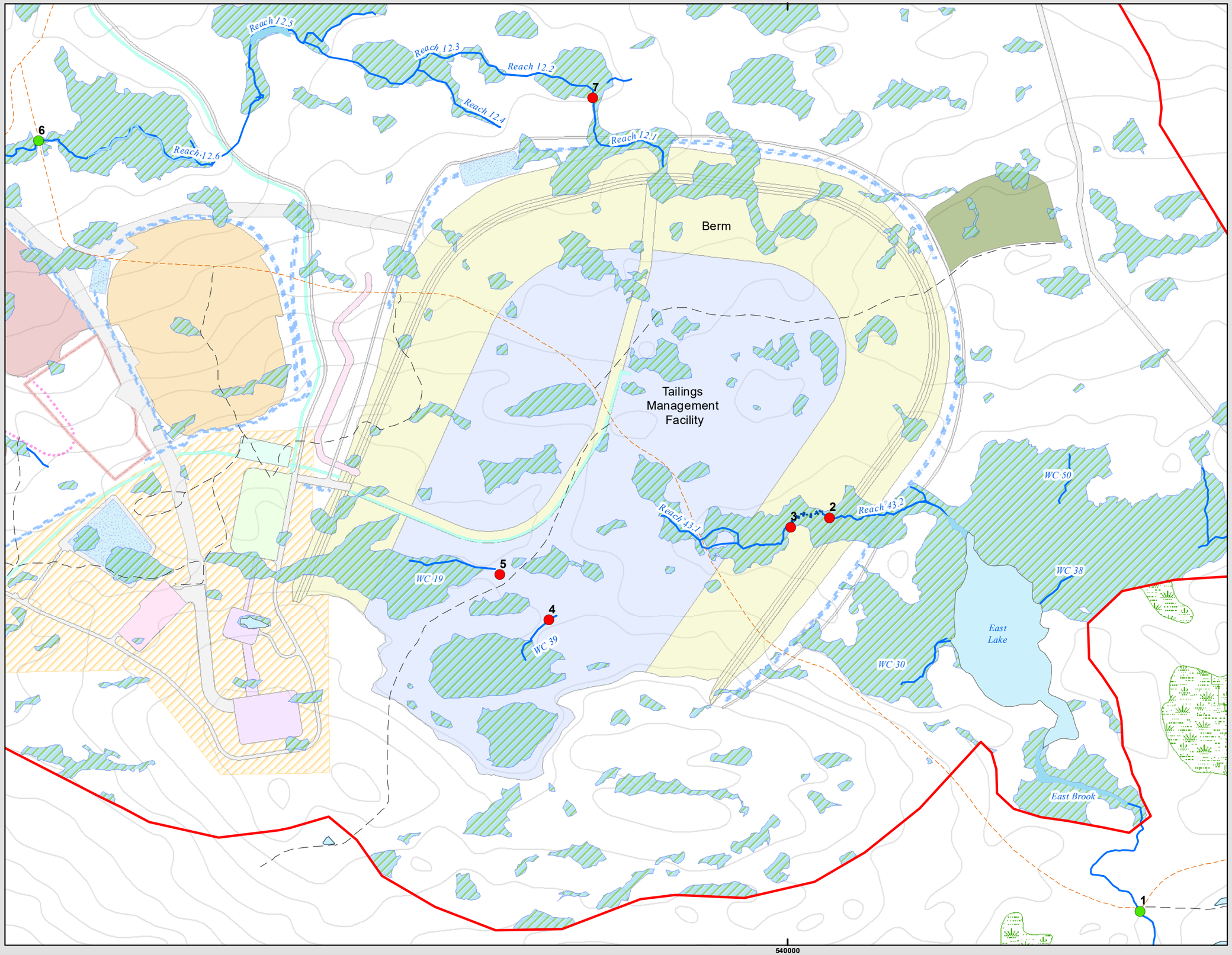

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FIGURE 6.8-4

FMS Study Area
eDNA Sampling Locations

Trafalgar, NS

eDNA Result

- Negative
- Positive
- Field Delineated Watercourses within FMS Study Area
- Subterranean
- Open Water
- Field Delineated Wetlands within FMS Study Area
- NSE Wetlands outside FMS Study Area
- FMS Study Area

Coordinate System: NAD 1983 CSRS UTM Zone 20N
Projection: Transverse Mercator
Datum: North American 1983 CSRS
Units: Meter

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1:8,000 Scale when printed @ 11" x 17"

Drawn By: EP Date: 2020-08-28

Service Layer Credits: Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community

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FIGURE 6.8-5

FMS Study Area Anticipated Fish Habitat Impact Area by Type

Trafalgar, NS

- Water Control Structures: Approximate Locations
- Potential Indirect Impact: Reduction in Surface Flow
- Potential Indirect Impact: Erosion/Sedimentation
- Direct Impact: Infrastructure Footprint
- Direct Impact: MDMER
- Fisheries Resource
- Provincially Regulated Watercourse
- Direct Impacts to Open Water
- Direct Impacts to Wetland Accessible by Fish
- Field Delineated Wetlands within FMS Study Area
- NSE Wetlands outside FMS Study Area
- FMS Infrastructure Layout
- FMS Study Area

Coordinate System: NAD 1983 CSRS UTM Zone 20N
Projection: Transverse Mercator
Datum: North American 1983 CSRS
Units: Meter

0 200 400 800 m

1:15,000 Scale when printed @ 11" x 17"

Drawn By: EP Date: 2020-10-30

Service Layer Credits: Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community

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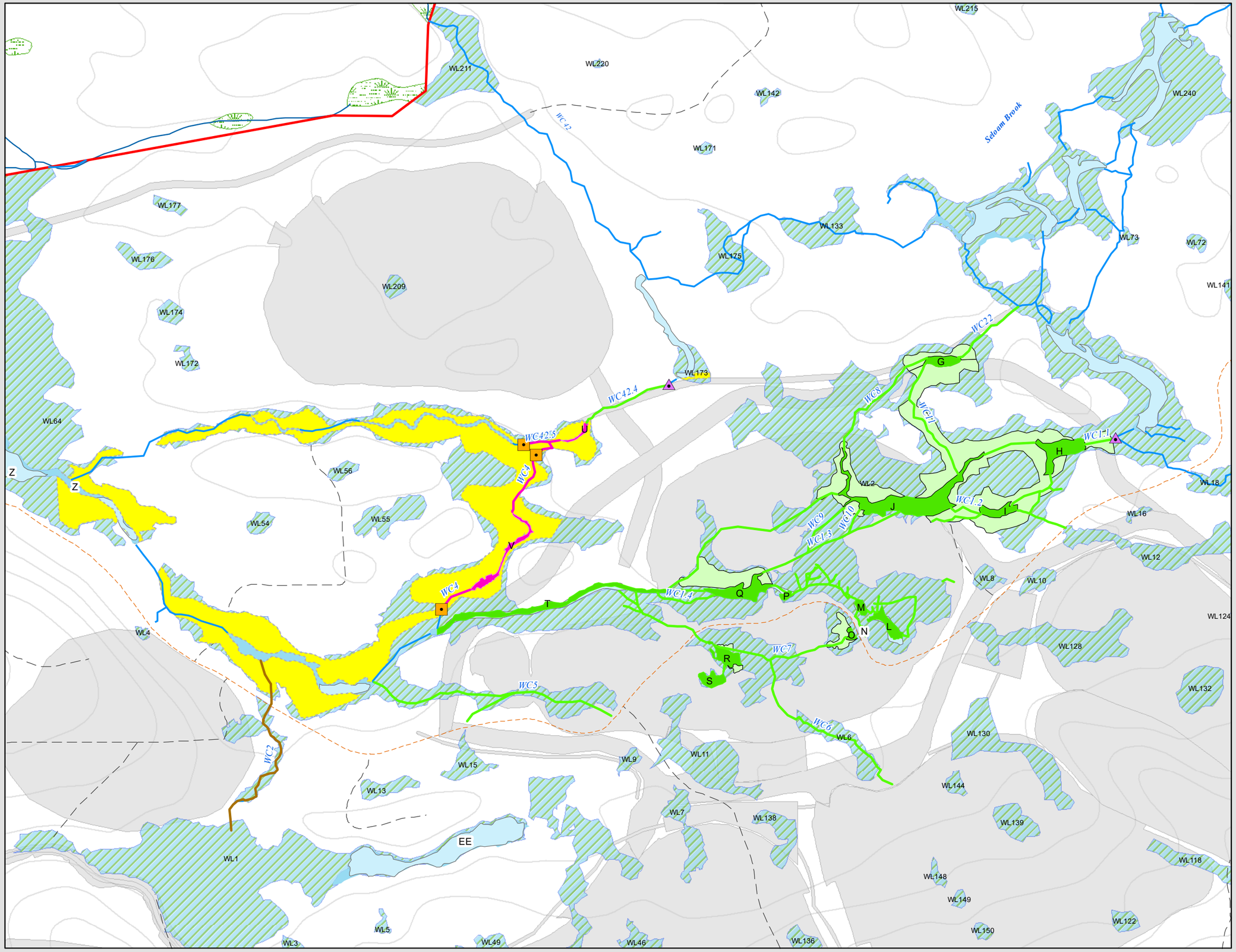

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FIGURE 6.8-6

Seloam Brook Realignment Anticipated Fish Habitat Impacts

Trafalgar, NS

- Inlet Structures: Approximate Locations
- Water Control Structures: Approximate Locations
- Potential Indirect Impact: Reduction in Surface Flow
- Potential Indirect Impact: Erosion/Sedimentation
- Direct Impact: Infrastructure Footprint
- Fisheries Resource
- Predicted Flooding Extent
- Direct Impacts to Open Water
- Direct Impacts to Wetland Accessible by Fish
- Field Delineated Wetlands within FMS Study Area
- NSE Wetlands outside FMS Study Area
- FMS Infrastructure Layout
- FMS Study Area

Coordinate System: NAD 1983 CSRS UTM Zone 20N
Projection: Transverse Mercator
Datum: North American 1983 CSRS
Units: Meter

0 75 150 300 m

1:6,000 Scale when printed @ 11" x 17"

Drawn By: AS Date: 2020-10-29

Service Layer Credits: Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community

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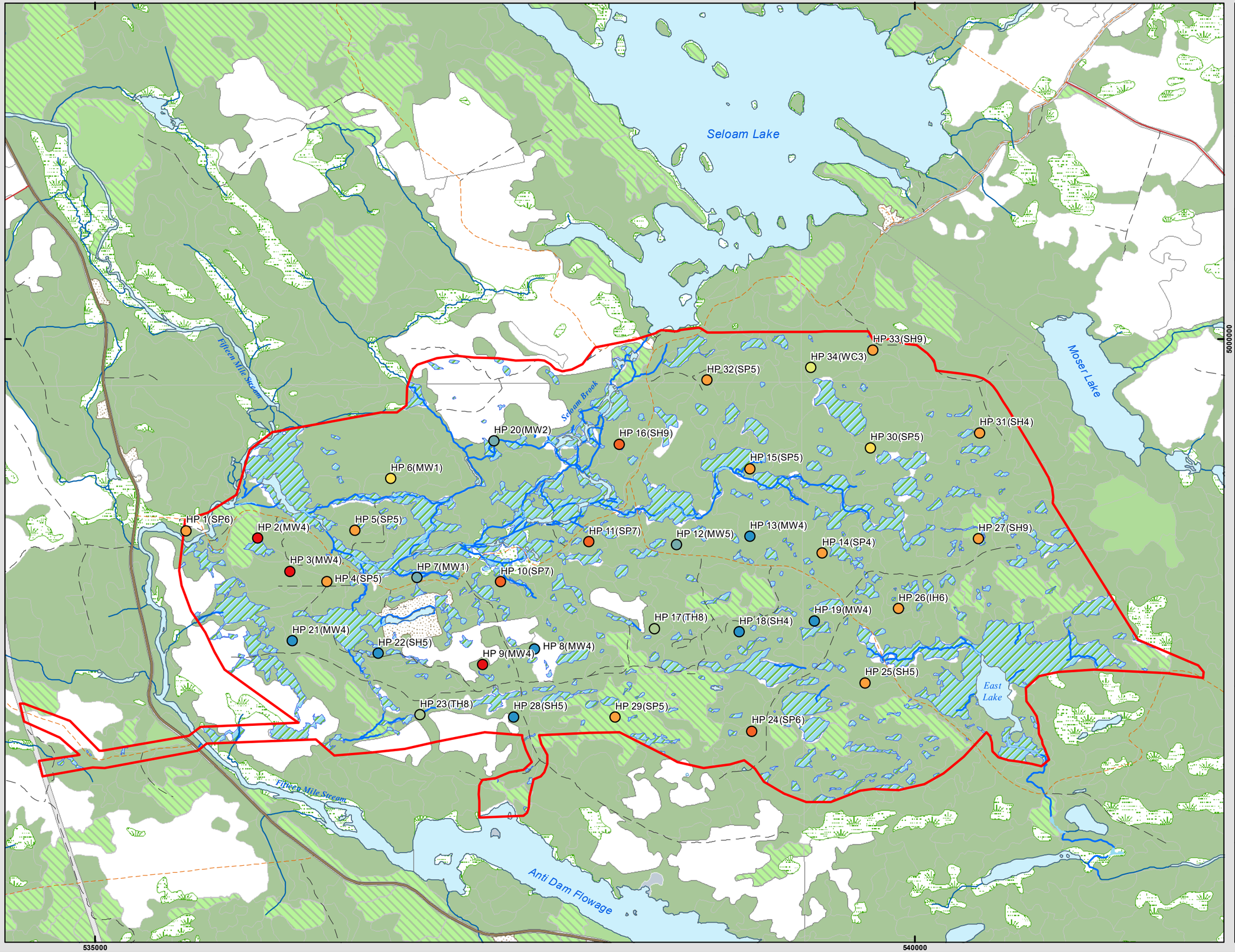
FIGURE 6.9-1

FMS Study Area Habitat Survey Locations

Trafalgar, NS



Ecosite at each Habitat Point (Habitat Point and Vegetation Type)
- AC10
- AC11
- AC13
- AC4
- AC5
- AC6
- AC7
- AC9

- Field Delineated Watercourses within FMS Study Area
- Field Delineated Wetlands within FMS Study Area
- NSE Wetlands outside FMS Study Area
- FMS Study Area

Forest/Non-Forest Grouping
- Clear Cut
- Inland water
- Gravel Pit
- Power, Road or Rail Corridors

Forest Cover Type
- Softwood >75%
- Mixed Forest 25-75%

Coordinate System: NAD 1983 CSRS UTM Zone 20N
Projection: Transverse Mercator
Datum: North American 1983 CSRS
Units: Meter

0 300 600 1,200 m

1:21,500 Scale when printed @ 11" x 17"

Drawn By: EP Date: 2020-03-20

Service Layer Credits: Sources: Esri, HERE, DeLorme, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), MapmyIndia, NGCC, © OpenStreetMap contributors, and the GIS User Community

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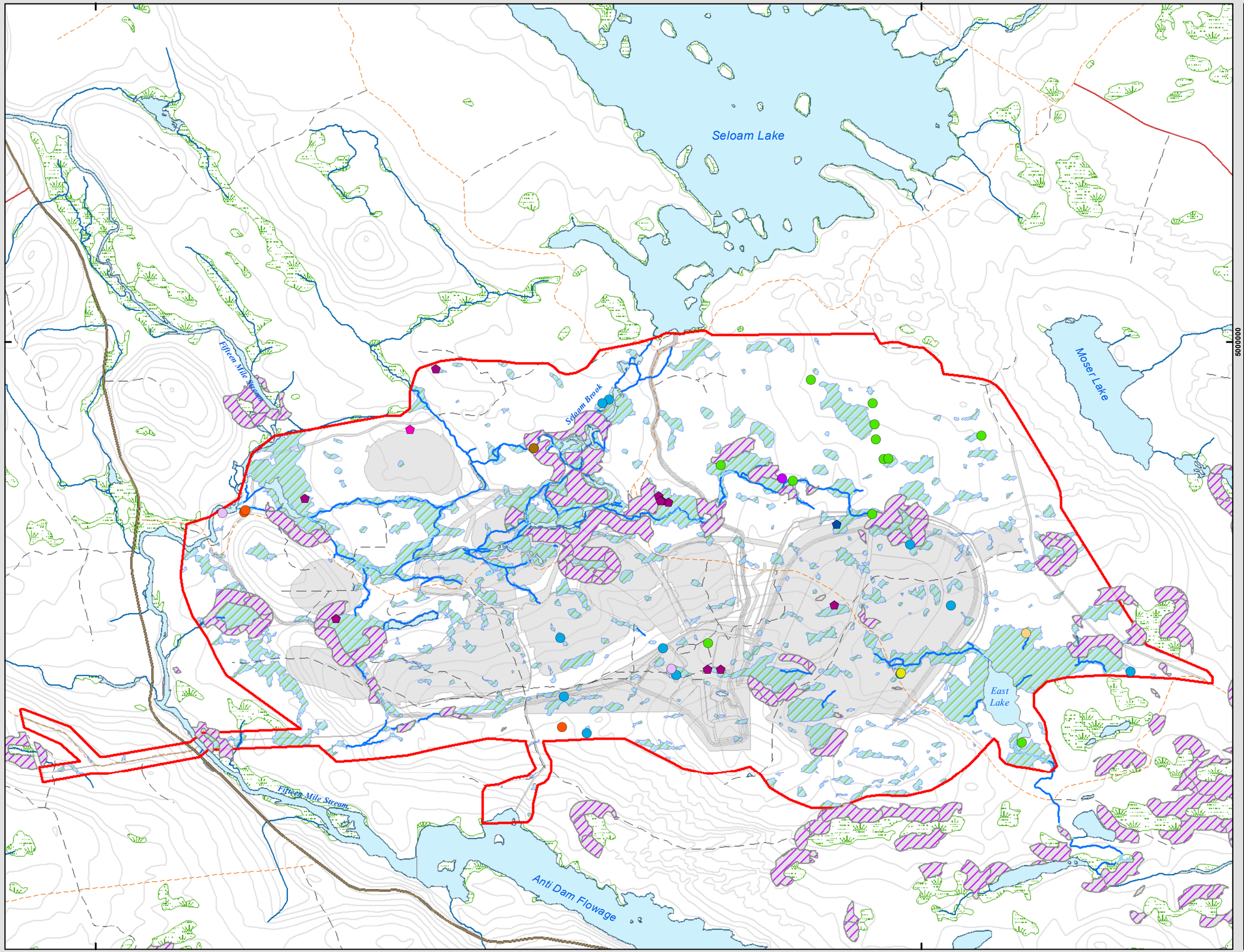
FIGURE 6.9-2

FMS Study Area
Priority Flora Species

Trafalgar, NS



Priority Flora Species

- Blue Felt Lichen (COSEWIC & SARA SC, NSESA V, S3)
- Appressed Jellyskin Lichen (S3)
- Blistered Tarpaper Lichen (S3)
- Corrugated Shingles Lichen (S3)
- Crumpled Bat's Wing Lichen (S2S3)
- Eastern Candlewax Lichen (S2S3)
- Fringe Lichen (S3S4)
- Ghost Antler Lichen (S2S3)
- Silvery-flowered Sedge (S3S4)
- Southern Twayblade (S3)
- Wiegand's Sedge (S3)
- Field Delineated Watercourses within FMS Study Area
- Boreal Felt Lichen Predictive Habitat
- Field Delineated Wetlands within FMS Study Area
- NSE Wetlands outside FMS Study Area
- FMS Infrastructure Layout
- FMS Study Area

Coordinate System: NAD 1983 CSRS UTM Zone 20N
Projection: Transverse Mercator
Datum: North American 1983 CSRS
Units: Meter

0 300 600 1,200 m

1:21,500 Scale when printed @ 11" x 17"

Drawn By: AS Date: 2020-10-30

Service Layer Credits: Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community

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FIGURE 6.9-3

FMS Study Area Spatial Boundaries: Habitat and Flora

Halifax County, NS

FMS Study Area
Habitat and Flora Local Assessment Area
Habitat and Flora Regional Assessment Area

Coordinate System: NAD 1983 CSRS UTM Zone 20N
Projection: Transverse Mercator
Datum: North American 1983 CSRS
Units: Meter

0 2.5 5 10 km

1:190,000

Scale when printed @ 11" x 17"

Drawn By: EP

Date: 2020-03-20

Service Layer Credits: Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, © OpenStreetMap

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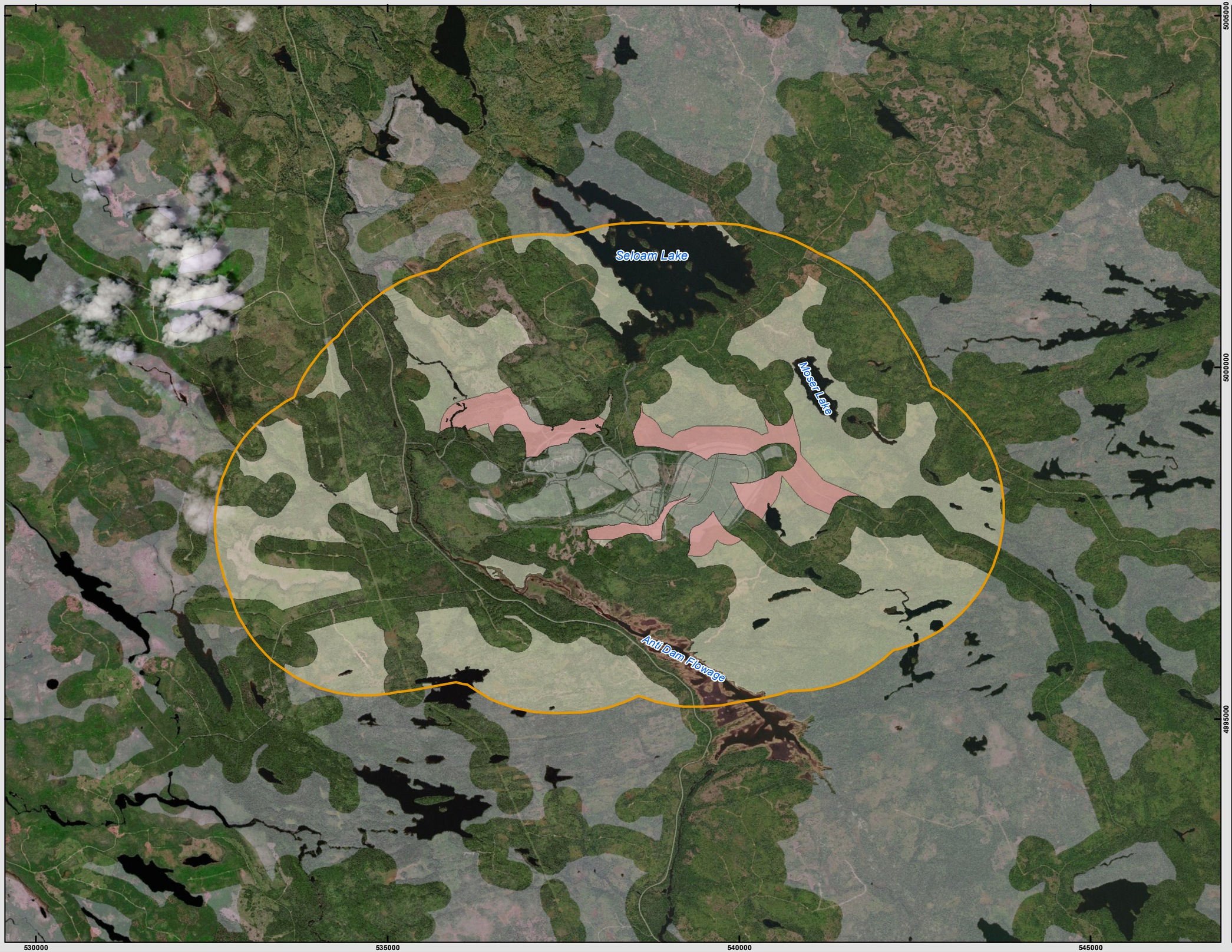

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FIGURE 6.9-4

FMS Study Area Interior Forest Local Assessment Area

Trafalgar, NS

- Predicted Interior Forest Affected by Project
- Predicted Interior Forest in Local Assessment Area
- Predicted Interior Forest in Regional Assessment Area
- FMS Infrastructure Layout
- Terrestrial Fauna and Avifauna Local Assessment Area

Coordinate System: NAD 1983 CSRS UTM Zone 20N
Projection: Transverse Mercator
Datum: North American 1983 CSRS
Units: Meter

0 0.5 1 2 Kilometers

1:50,000 Scale when printed @ 11" x 17"

Drawn By: EP Date: 2020-08-28

Service Layer Credits: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community
Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c)

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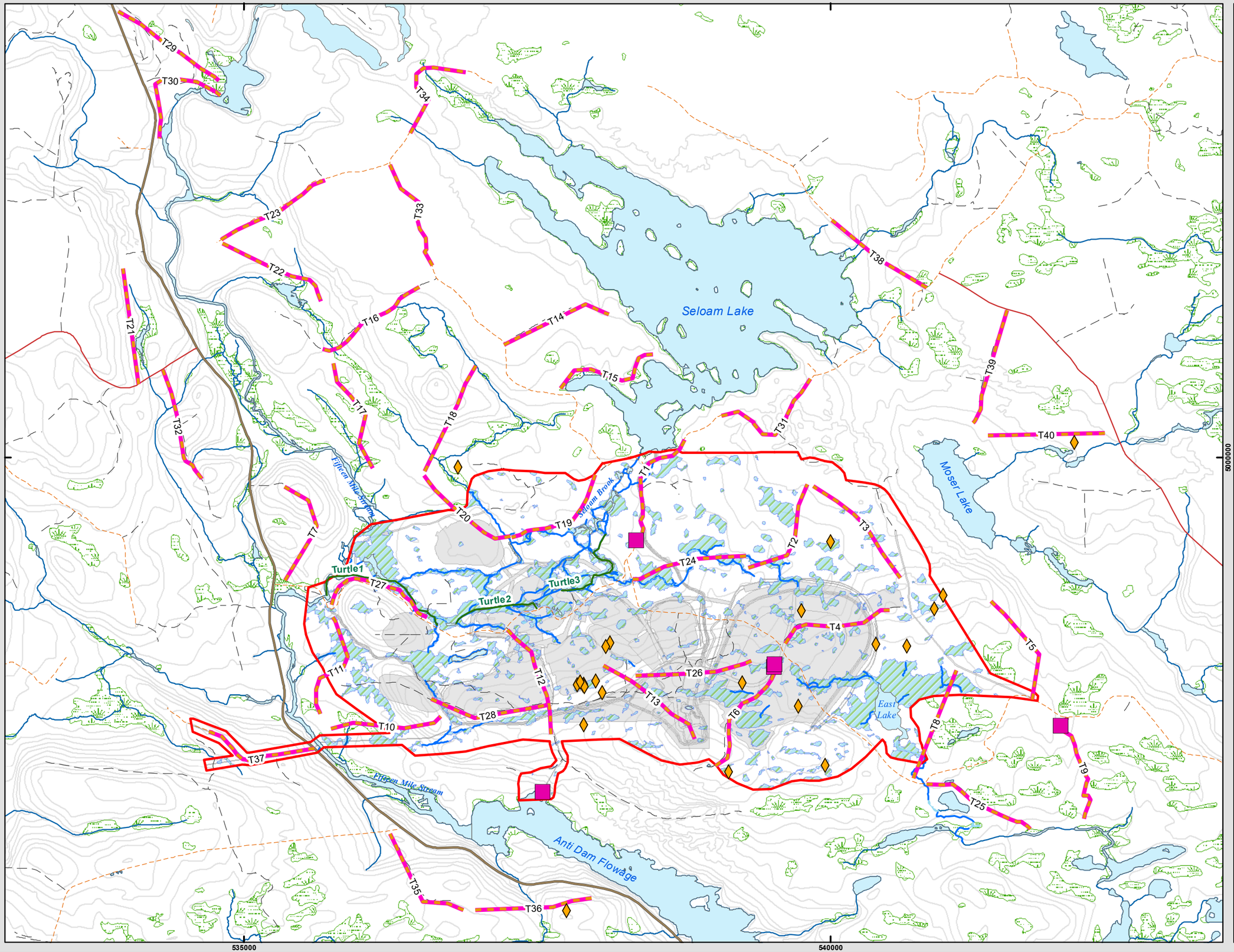

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FIGURE 6.10-1

FMS Study Area Terrestrial Fauna Methods and Results

Trafalgar, NS

- Mainland Moose Scat Observations
- Mainland Moose Track Observations
- Mainland Moose Survey Transects
- Wood Turtle Transects
- Field Delineated Watercourses within FMS Study Area
- Field Delineated Wetlands within FMS Study Area
- NSE Wetlands outside FMS Study Area
- FMS Infrastructure Layout

Coordinate System: NAD 1983 CSRS UTM Zone 20N
Projection: Transverse Mercator
Datum: North American 1983 CSRS
Units: Meter

0 375 750 1,500 m

1:30,000 Scale when printed @ 11" x 17"

Drawn By: EP Date: 2020-08-28

Service Layer Credits: Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community

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FIGURE 6.10-2

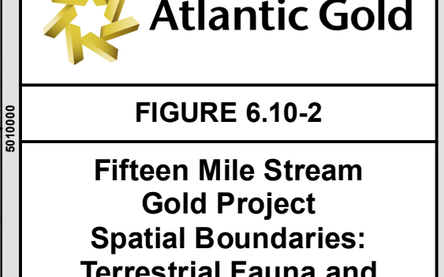
Fifteen Mile Stream Gold Project Spatial Boundaries: Terrestrial Fauna and Avifauna

Halifax County, NS

FMS Study Area

Touquoy Mine Site

Project Area
Terrestrial Fauna and Avifauna Local Assessment Area
Terrestrial Fauna and Avifauna Regional Assessment Area



Coordinate System: NAD 1983 CSRS UTM Zone 20N
Projection: Transverse Mercator
Datum: North American 1983 CSRS
Units: Meter

0 3.5 7 14 km

1:225,000

Drawn By: EP

Scale when printed @ 11" x 17"

Date: 2020-03-24

Service Layer Credits: Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, © OpenStreetMap

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490000 500000 510000 520000 530000 540000 550000

5010000 5000000 4990000 4980000 4970000 4960000

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FIGURE 6.10-3

FMS Study Area Interior Forest Regional Assessment Area

Trafalgar, NS

Predicted Interior Forest Affected by Project

Predicted Interior Forest in Regional Assessment Area

Fauna and Avifauna Regional Assessment Area

Coordinate System: NAD 1983 CSRS UTM Zone 20N
Projection: Transverse Mercator
Datum: North American 1983 CSRS
Units: Meter

0 2.25 4.5 9 Kilometers

1:228,000 Scale when printed @ 11" x 17"

Drawn By: EP Date: 2020-03-26

Service Layer Credits: Sources: Esri, HERE, DeLorme, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), MapmyIndia, NGCC, © OpenStreetMap contributors, and the GIS User Community

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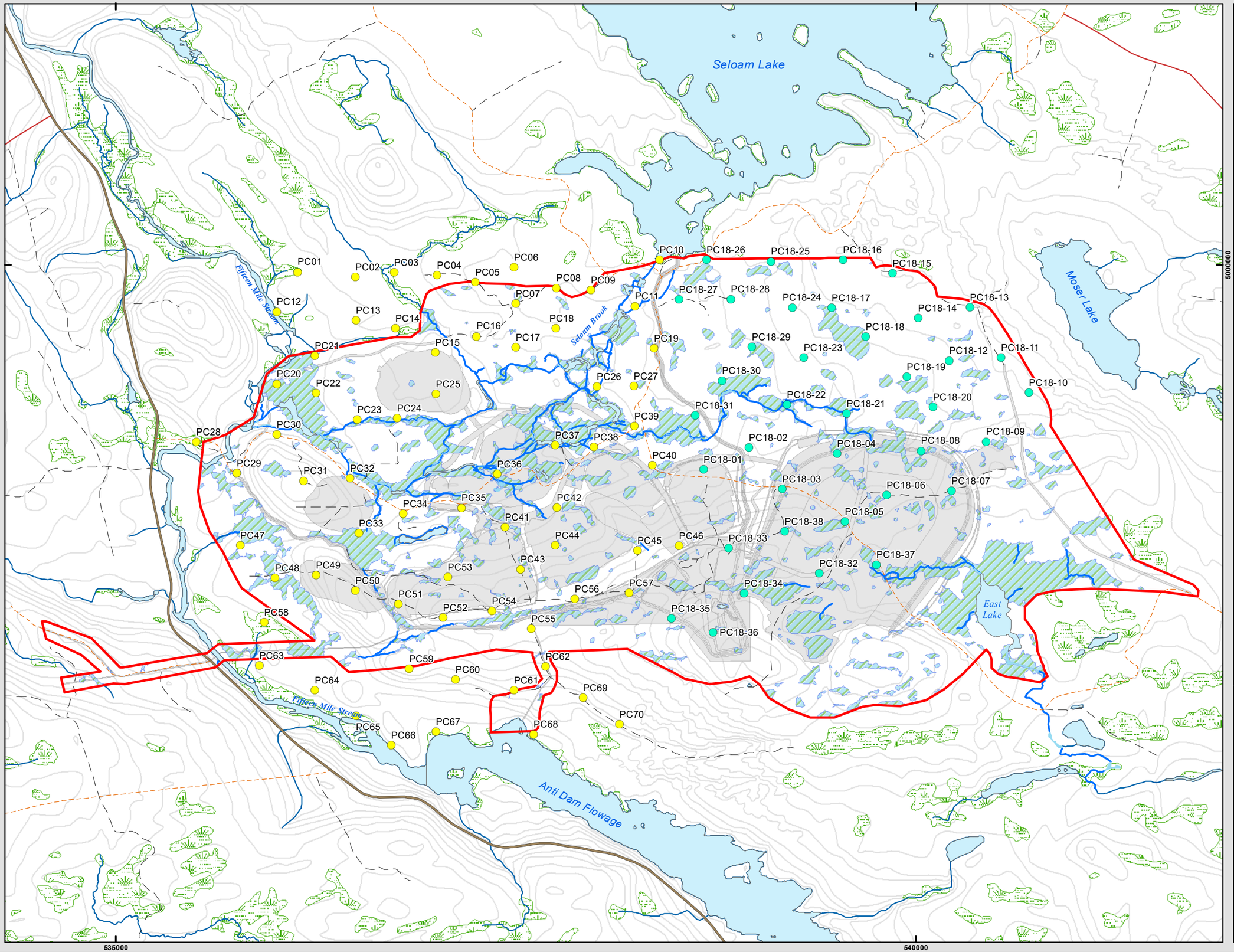

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FIGURE 6.11-1

FMS Study Area
Avian Baseline Program
Locations: Breeding Bird Survey

Trafalgar, NS

- 2017 Breeding Bird Survey Locations
- 2018 Breeding Bird Survey Locations
- Field Delineated Watercourses within FMS Study Area
- Field Delineated Wetlands within FMS Study Area
- NSE Wetlands outside FMS Study Area
- FMS Study Area
- FMS Infrastructure Layout

Coordinate System: NAD 1983 CSRS UTM Zone 20N
Projection: Transverse Mercator
Datum: North American 1983 CSRS
Units: Meter

0 300 600 1,200 m

1:22,000 Scale when printed @ 11" x 17"

Drawn By: EP Date: 2020-08-28

Service Layer Credits: Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community

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FIGURE 6.11-2

FMS Study Area Avian Survey Locations: Common Nighthawk, Owl, and Winter Wildlife Surveys

Trafalgar, NS

- Common Nighthawk Survey Location
- Nocturnal Owl Survey Location
- Field Delineated Watercourses within FMS Study Area
- Winter Wildlife Survey Transects
- Field Delineated Wetlands within FMS Study Area
- NSE Wetlands outside FMS Study Area
- FMS Infrastructure Layout
- FMS Study Area

Coordinate System: NAD 1983 CSRS UTM Zone 20N
Projection: Transverse Mercator
Datum: North American 1983 CSRS
Units: Meter

0 375 750 1,500 m

1:30,000 Scale when printed @ 11" x 17"

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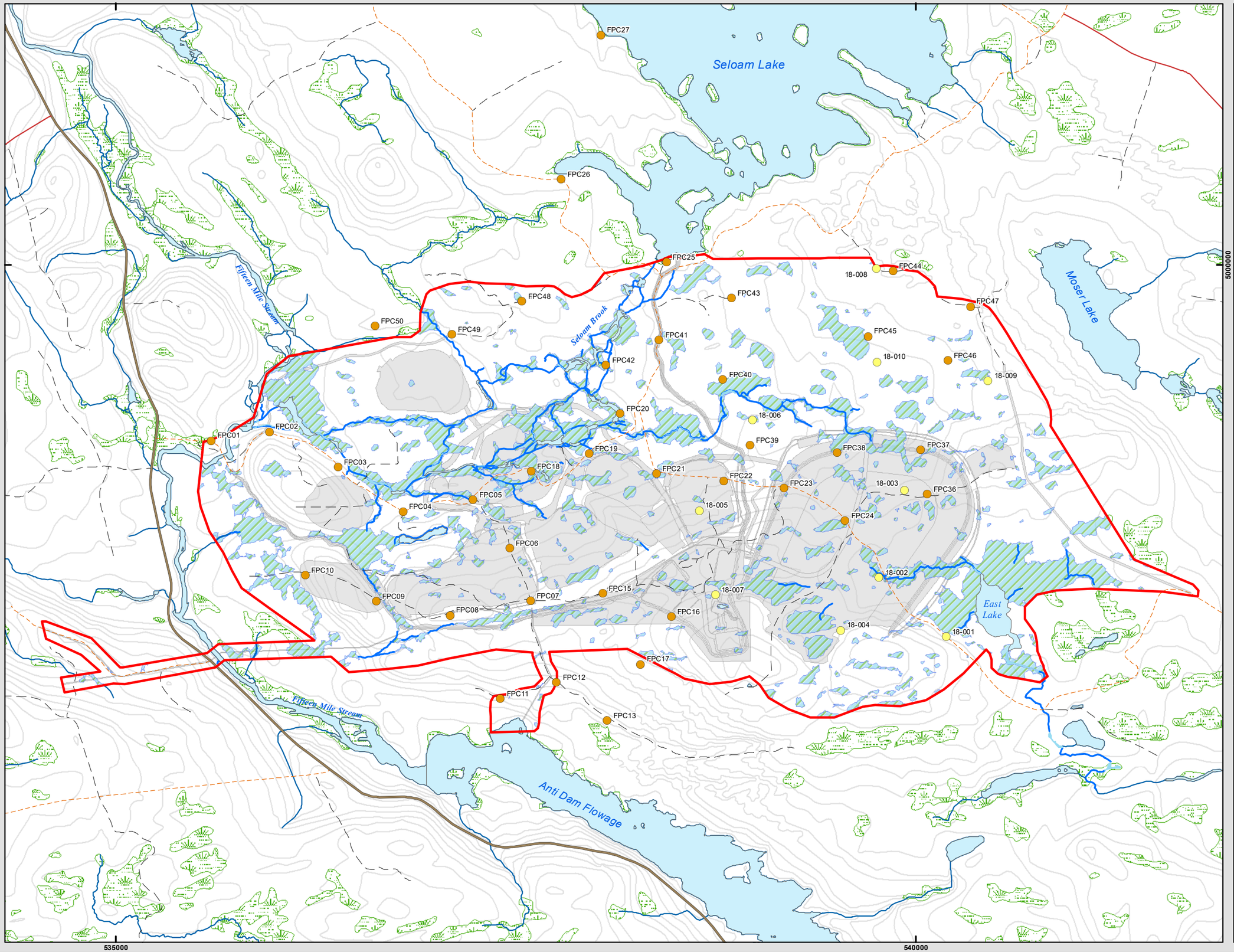

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FIGURE 6.11-3

FMS Study Area Avian Baseline Program Locations: Fall Migration Surveys

Trafalgar, NS

- 2017 Fall Migration Survey Location
- 2018 Fall Migration Survey Location
- FMS Infrastructure Layout
- Field Delineated Watercourses within FMS Study Area
- Field Delineated Wetlands within FMS Study Area
- NSE Wetlands outside FMS Study Area
- FMS Study Area

Coordinate System: NAD 1983 CSRS UTM Zone 20N
Projection: Transverse Mercator
Datum: North American 1983 CSRS
Units: Meter

0 300 600 1,200 m

1:22,000 Scale when printed @ 11" x 17"

Drawn By: EP Date: 2020-08-28

Service Layer Credits: Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community

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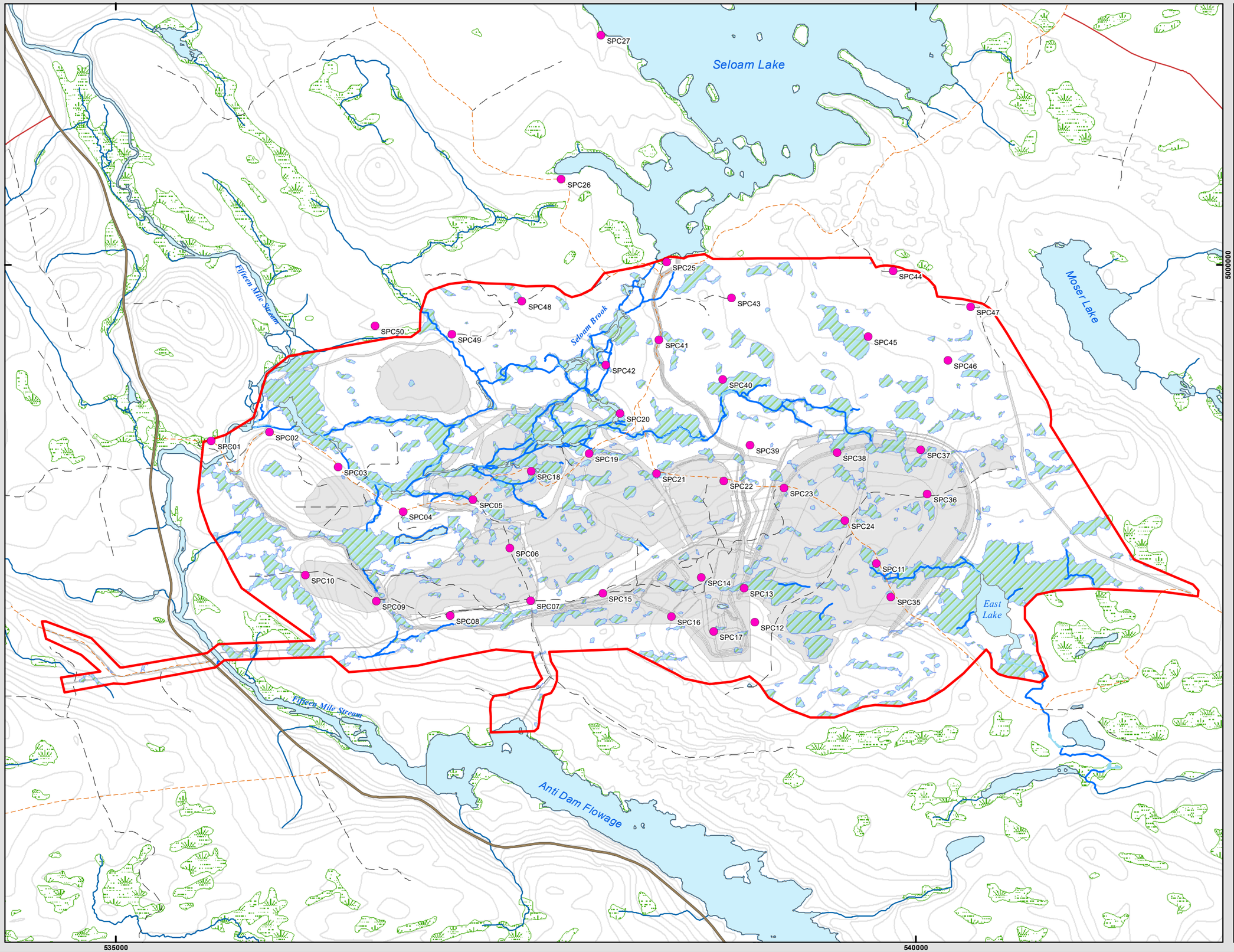

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FIGURE 6.11-4

FMS Study Area Avian Baseline Program Locations: Spring Migration Surveys

Trafalgar, NS

- Spring Migration Survey Location
- Field Delineated Watercourses within FMS Study Area
- Field Delineated Wetlands within FMS Study Area
- NSE Wetlands outside FMS Study Area
- FMS Infrastructure Layout
- FMS Study Area

Coordinate System: NAD 1983 CSRS UTM Zone 20N
Projection: Transverse Mercator
Datum: North American 1983 CSRS
Units: Meter

0 300 600 1,200 m

1:22,000 Scale when printed @ 11" x 17"

Drawn By: AS Date: 2020-10-30

Service Layer Credits: Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community

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FIGURE 6.11-5

FMS Study Area Priority Avifauna Species at Risk

Trafalgar, NS

Priority Avifauna Species

- Canada Warbler
- Common Nighthawk
- Eastern Wood-Pewee
- Evening Grosbeak
- Olive-sided Flycatcher
- Rusty Blackbird
- Field Delineated Watercourses within FMS Study Area
- Field Delineated Wetlands within FMS Study Area
- NSE Wetlands outside FMS Study Area
- FMS Infrastructure Layout
- FMS Study Area

Coordinate System: NAD 1983 CSRS UTM Zone 20N
Projection: Transverse Mercator
Datum: North American 1983 CSRS
Units: Meter

0 250 500 1,000 m

1:21,000 Scale when printed @ 11" x 17"

Drawn By: AS Date: 2020-10-30

Service Layer Credits: Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community

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Seloam Lake
Moser Lake
East Lake
Fifteen Mile Stream
Seloam Brook
Local Traffic Bypass Road
Seloam Brook Realignment
Organic Material Stockpile
Open Pit
Till Stockpile
Low Grade Ore Stockpile
WRSA (PAG Stockpile)
WRSA (NAG Stockpile)
Tailings Management Facility
Plant and Admin Buildings
Anti Dam Flowage
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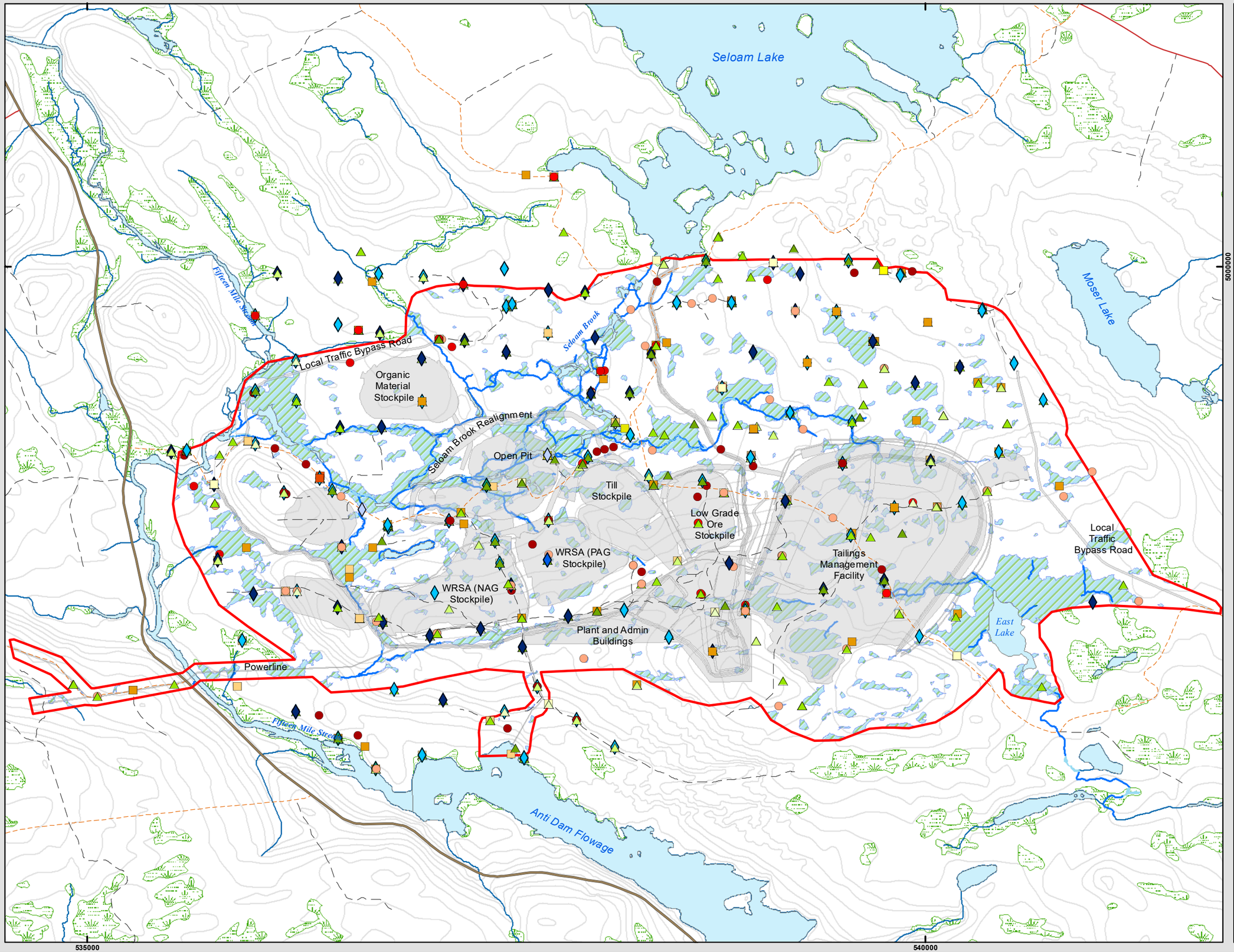
FIGURE 6.11-6

FMS Study Area Priority Avifauna Species of Conservation Interest

Trafalgar, NS



Priority Avifauna Species

- American Kestrel
- Bay-breasted Warbler
- Black-backed Woodpecker
- Blackpoll Warbler
- Boreal Chickadee
- Cape May Warbler
- Gray Jay
- Greater Yellowlegs
- Northern Goshawk
- Pine Grosbeak
- Pine Siskin
- Purple Finch
- Red Crossbill
- Red-breasted Merganser
- Red-breasted Nuthatch
- Ruby-crowned Kinglet
- Semipalmated Plover
- Spotted Sandpiper
- Swainson's Thrush
- Tennessee Warbler
- Wilson's Snipe
- Yellow-bellied Flycatcher

- NSE Mapped Watercourses outside FMS Study Area
- Field Delineated Watercourses within FMS Study Area
- Field Delineated Wetlands within FMS Study Area NSE
- Wetlands outside FMS Study Area
- FMS Infrastructure Layout
- FMS Study Area

Coordinate System: NAD 1983 CSRS UTM Zone 20N
Projection: Transverse Mercator
Datum: North American 1983 CSRS
Units: Meter

0 250 500 1,000 m

1:21,000 Scale when printed @ 11" x 17"

Drawn By: AS Date: 2020-10-30

Service Layer Credits: Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community

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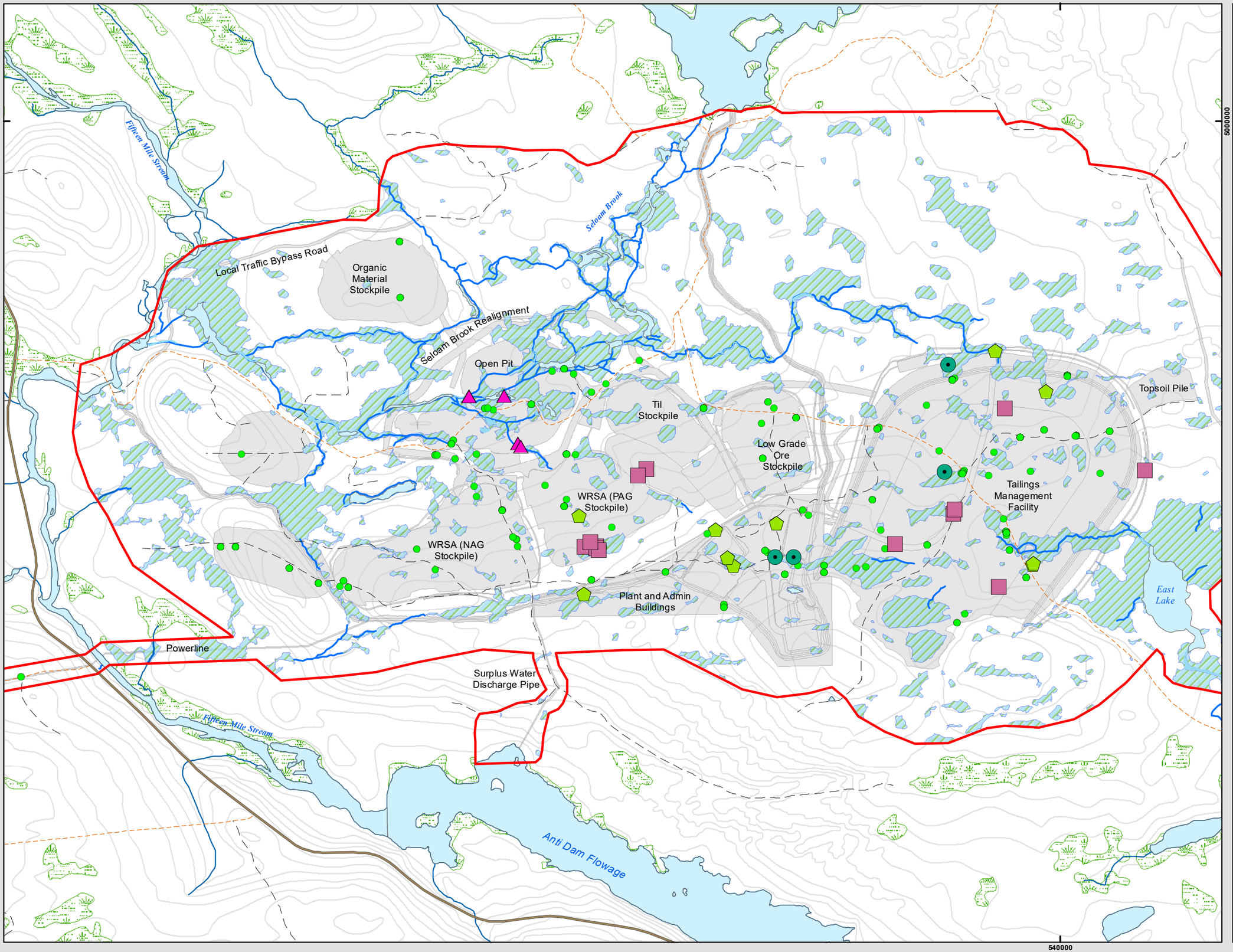
FIGURE 6.12-1

FMS Study Area SAR/SOCI in Infrastructure Impact Area

Trafalgar, NS



Priority Species

- Avifauna
- Fish
- Lichen
- Mammal
- Vascular Plant

- Field Delineated Watercourses within FMS Study Area
- Field Delineated Wetlands within FMS Study Area
- NSE Wetlands outside FMS Study Area
- FMS Infrastructure Layout
- FMS Study Area

Coordinate System: NAD 1983 CSRS UTM Zone 20N
Projection: Transverse Mercator
Datum: North American 1983 CSRS
Units: Meter

0 200 400 800 m

1:16,000 Scale when printed @ 11" x 17"

Drawn By: AS Date: 2020-10-30

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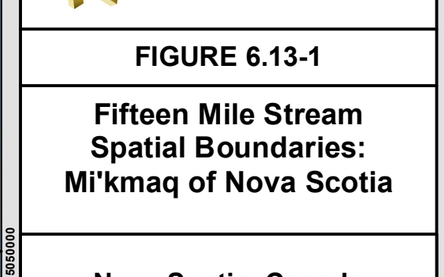
FIGURE 6.13-1

Fifteen Mile Stream Spatial Boundaries: Mi'kmaq of Nova Scotia

Nova Scotia, Canada

FMS Study Area
Mi'kmaq Local Assessment Area
Mi'kmaq Regional Assessment Area



Coordinate System: NAD 1983 CSRS UTM Zone 20N
Projection: Transverse Mercator
Datum: North American 1983 CSRS
Units: Meter

0 10 20 40 km

1:760,000

Scale when printed @ 11" x 17"

Drawn By: EP

Date: 2020-03-24

Service Layer Credits: Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, © OpenStreetMap

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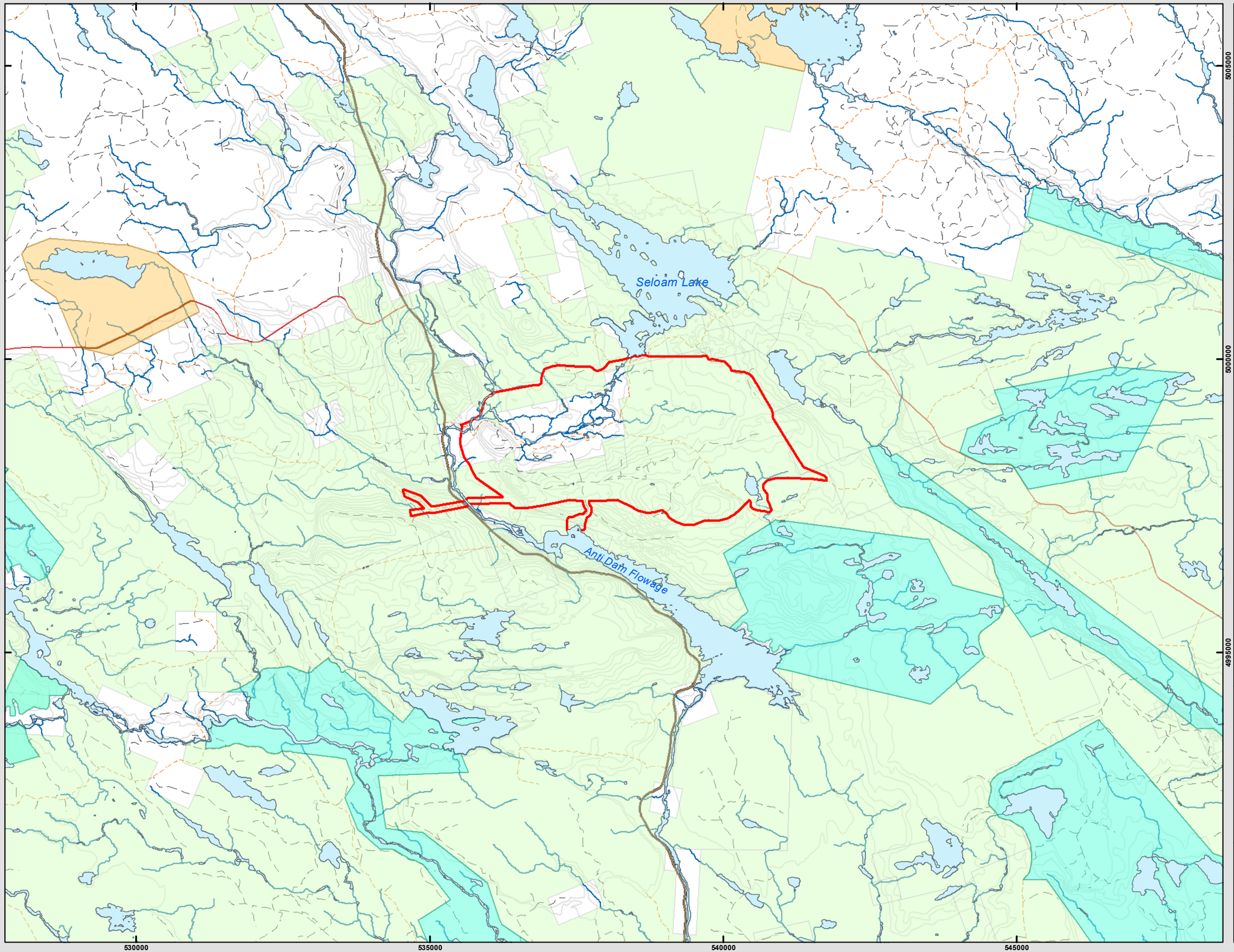

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FIGURE 6.13-4

Fifteen Mile Stream
Crown vs. Private Land

Trafalgar, NS

- Private Land
- Nature Reserve
- Wilderness Area
- Crown Land
- FMS Study Area

Coordinate System: NAD 1983 CSRS UTM Zone 20N
Projection: Transverse Mercator
Datum: North American 1983 CSRS
Units: Meter

0 0.75 1.5 3 Kilometers

1:60,000 Scale when printed @ 11" x 17"

Drawn By: EP Date: 2020-03-24

Service Layer Credits: Sources: Esri, HERE, DeLorme, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), MapmyIndia, NGCC, © OpenStreetMap contributors, and the GIS User Community

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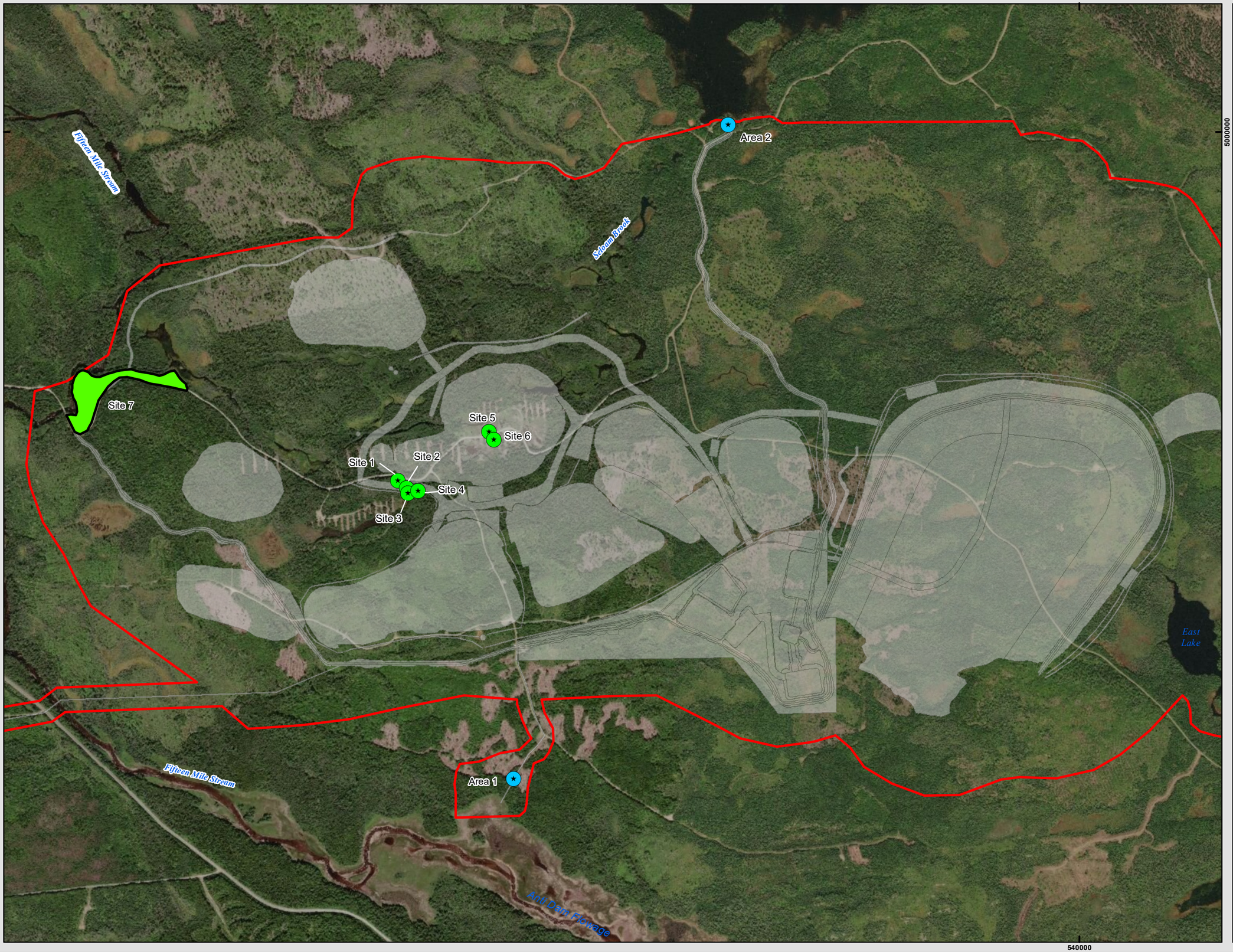

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FIGURE 6.14-1

FMS Study Area Archaeological Screening and Reconnaissance

Trafalgar, NS

FMS Infrastructure Layout

FMS Study Area

Coordinate System: NAD 1983 CSRS UTM Zone 20N
Projection: Transverse Mercator
Datum: North American 1983 CSRS
Units: Meter

0 187.5 375 750 m

1:15,000

Scale when printed @ 11" x 17"

Drawn By: EP

Date: 2020-08-28

Service Layer Credits: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community
Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c)

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FIGURE 6.14-2

FMS Study Area Spatial Boundaries: Cultural Heritage

Halifax County, NS

FMS Study Area
Cultural Heritage Local Assessment Area
Cultural Heritage Regional Assessment Area

Coordinate System: NAD 1983 CSRS UTM Zone 20N
Projection: Transverse Mercator
Datum: North American 1983 CSRS
Units: Meter

0 0.75 1.5 3 km

1:55,000

Scale when printed @ 11" x 17"

Drawn By: EP

Date: 2021-02-04

Service Layer Credits: Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community

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FIGURE 6.15-1

Fifteen Mile Stream Gold Project Spatial Boundaries: Socio-economic

Halifax County, NS

Project Area
Socio-economic Local Assessment Area
Socio-economic Regional Assessment Area

Coordinate System: NAD 1983 CSRS UTM Zone 20N
Projection: Transverse Mercator
Datum: North American 1983 CSRS
Units: Meter

0 5 10 20 km

1:372,000

Scale when printed @ 11" x 17"

Drawn By: EP

Date: 2020-03-24

Service Layer Credits: Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, © OpenStreetMap

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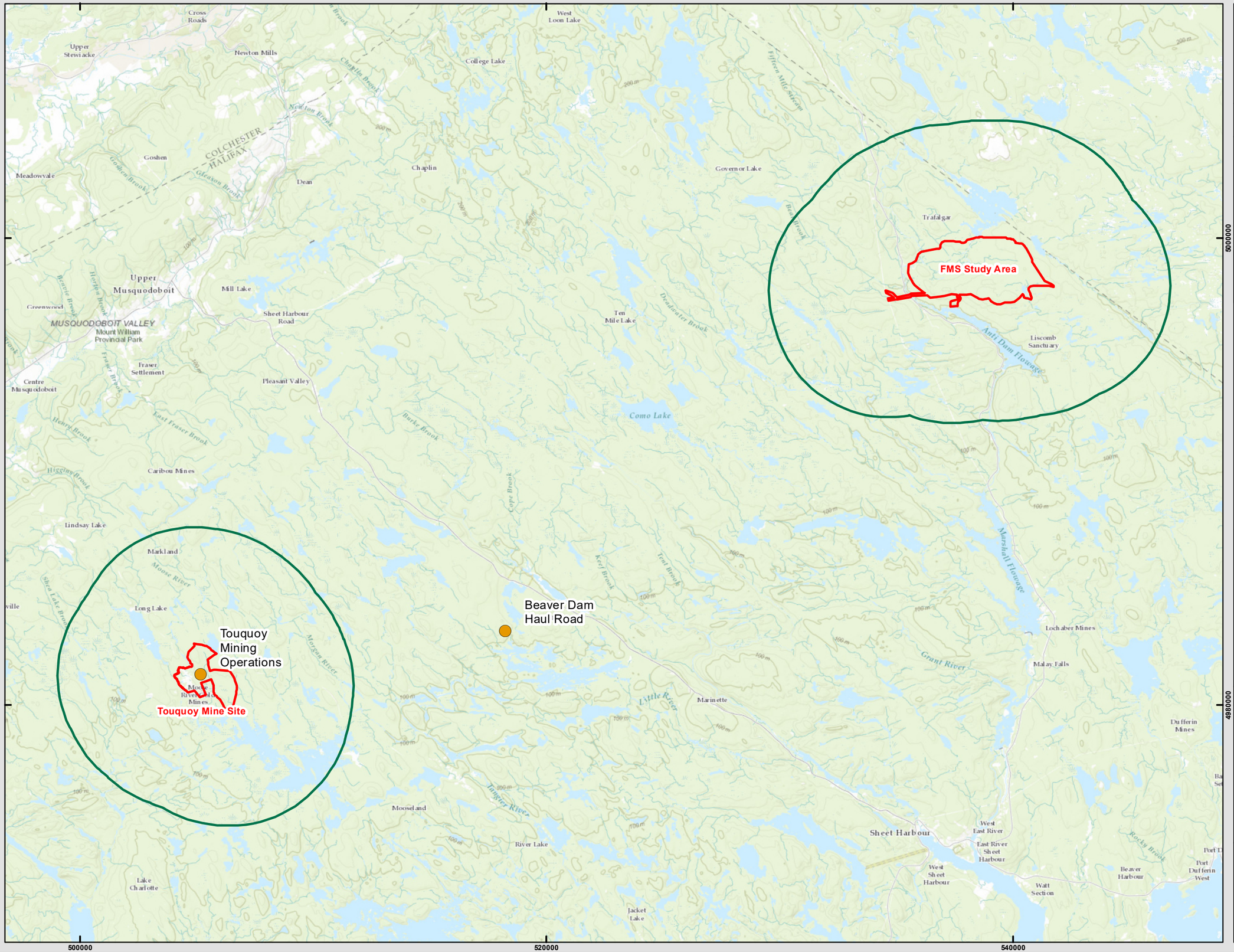

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FIGURE 8.5-1

Fifteen Mile Stream Gold Project Cumulative Effects Assessment: Noise

Nova Scotia, Canada

- Projects Evaluated in the Cumulative Effects Assessment
- Project Area
- Noise Regional Assessment

Note: Forestry operations occur throughout the RAA and are not displayed on this figure

Coordinate System: NAD 1983 CSRS UTM Zone 20N
Projection: Transverse Mercator
Datum: North American 1983 CSRS
Units: Meter

0 2 4 8 km

1:151,000

Scale when printed @ 11" x 17"

Drawn By: EP

Date: 2020-03-24

Service Layer Credits: Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, © OpenStreetMap

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FIGURE 8.5-2

Fifteen Mile Stream Gold Project Cumulative Effects Assessment: Air

Nova Scotia, Canada

Cochrane Hill Gold Project

FMS Study Area

Mosher Lake Limestone Co.

Great Northern Timber Pellet Facility

Taylor Lumber Co. Ltd. mill

Beaver Dam Mine Project

Beaver Dam Haul Road

Touquoy Mining Operations

Touquoy Mine Site

Dufferin Gold Mine

Great Northern Timber Wood Chipping and Shipping

Port of Sheet Harbour

Sheet Harbour Quarry

Tangier Gold Mine

Projects Evaluated in the Cumulative Effects Assessment

Project Area

Air Regional Assessment

Note: Forestry operations occur throughout the RAA and are not displayed on this figure

Coordinate System: NAD 1983 CSRS UTM Zone 20N
Projection: Transverse Mercator
Datum: North American 1983 CSRS
Units: Meter

0 5 10 20 km

1:342,000

Scale when printed @ 11" x 17"

Drawn By: EP

Date: 2020-03-24

Service Layer Credits: Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, © OpenStreetMap

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480000 500000 520000 540000 560000 580000

5040000 5020000 5000000 4980000 4960000

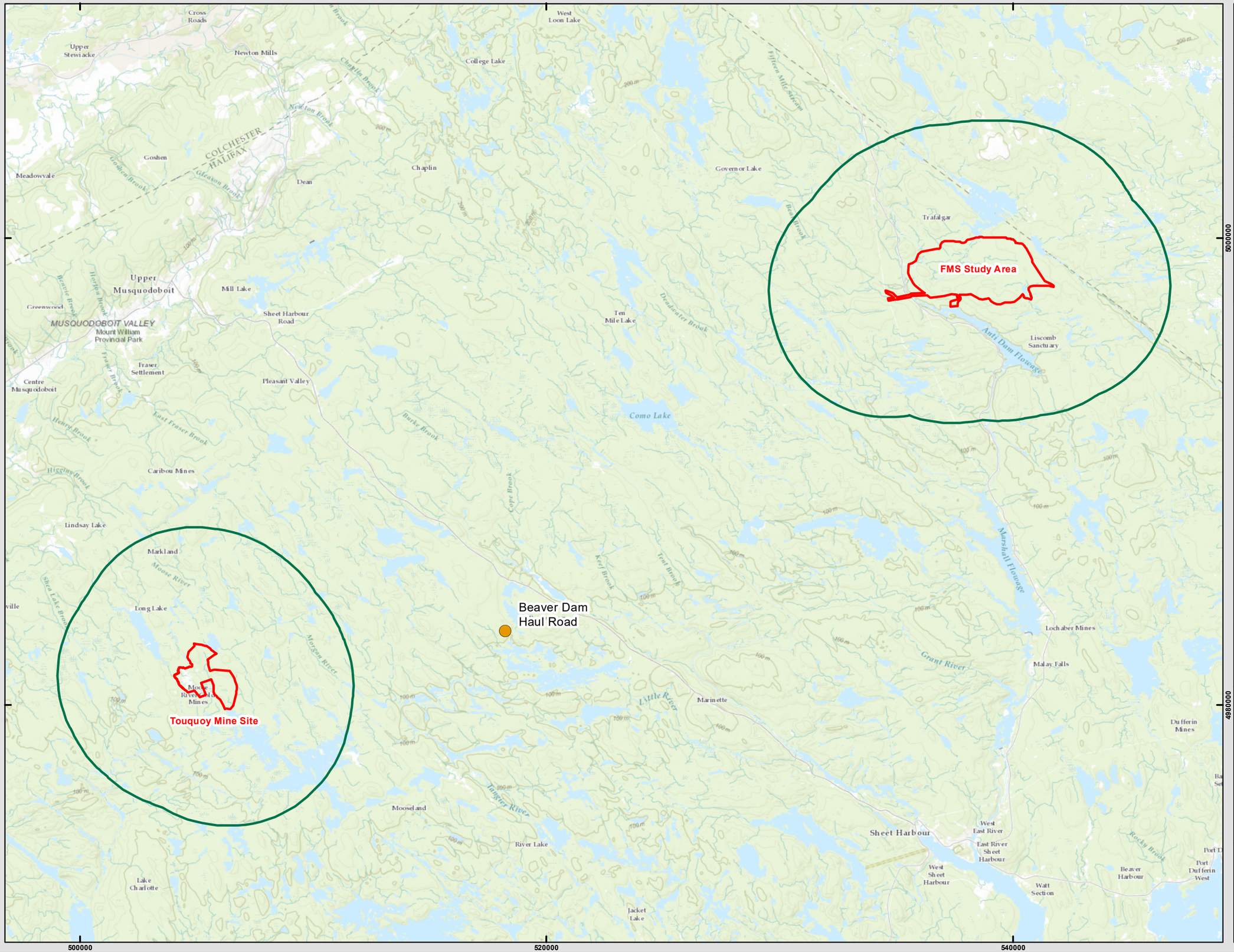

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FIGURE 8.5-3

Fifteen Mile Stream Gold Project Cumulative Effects Assessment: Light

Nova Scotia, Canada

- Projects Evaluated in the Cumulative Effects Assessment
- Project Area
- Light Regional Assessment

Note: Forestry operations occur throughout the RAA and are not displayed on this figure

Coordinate System: NAD 1983 CSRS UTM Zone 20N
Projection: Transverse Mercator
Datum: North American 1983 CSRS
Units: Meter

0 2 4 8 km

1:151,000

Scale when printed @ 11" x 17"

Drawn By: EP

Date: 2020-03-24

Service Layer Credits: Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, © OpenStreetMap

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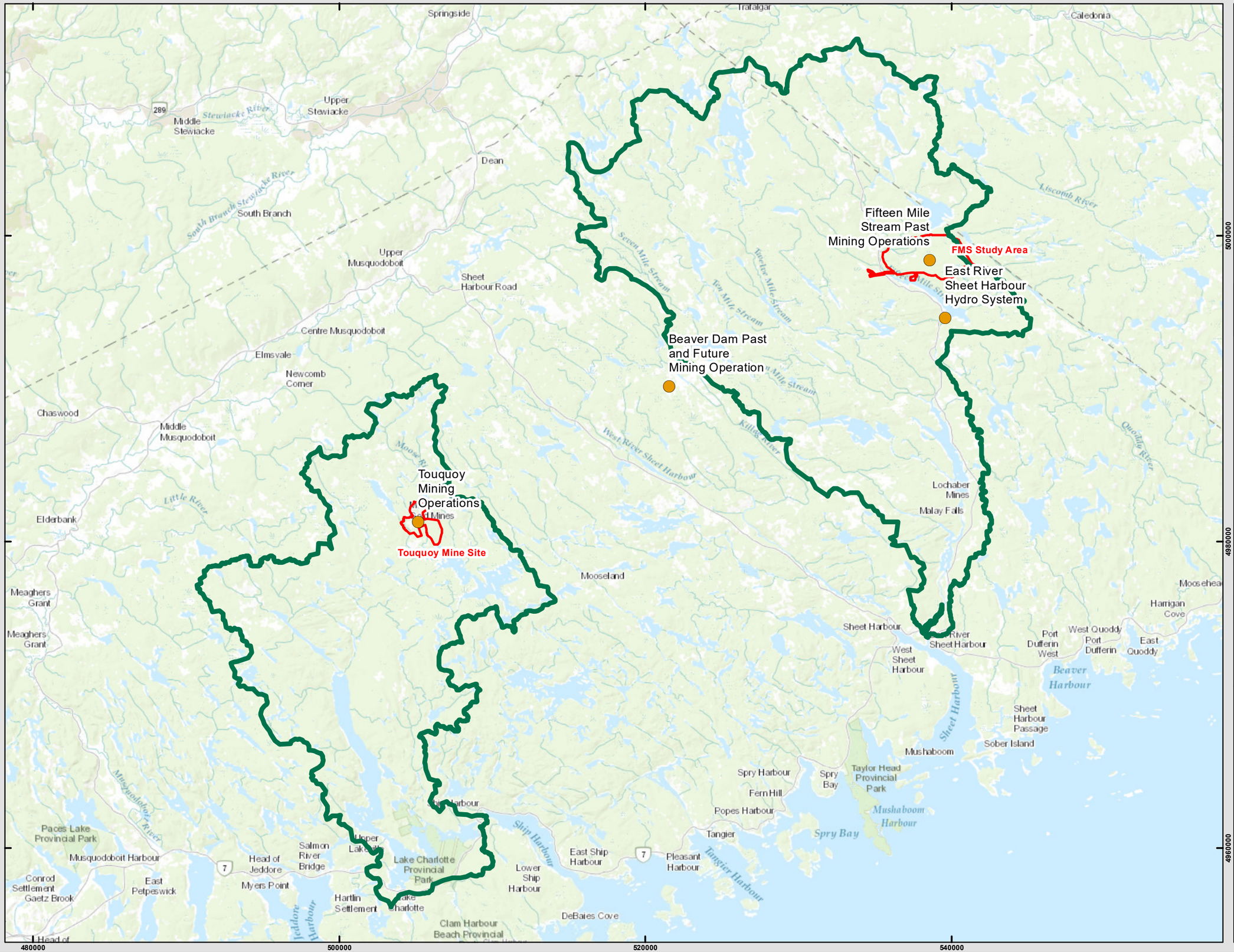

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FIGURE 8.5-4

Fifteen Mile Stream Gold Project Cumulative Effects Assessment: Surface Water Quality and Quantity & Fish and Fish Habitat

Nova Scotia, Canada

- Projects Evaluated in the Cumulative Effects Assessment
- Project Area
- Aquatic Regional Assessment Area

Note: Forestry operations occur throughout the RAA and are not displayed on this figure

Coordinate System: NAD 1983 CSRS UTM Zone 20N
Projection: Transverse Mercator
Datum: North American 1983 CSRS
Units: Meter

0 3.25 6.5 13 km

1:230,000

Scale when printed @ 11" x 17"

Drawn By: EP

Date: 2020-03-26

Service Layer Credits: Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, © OpenStreetMap

McCallum Environmental Ltd.

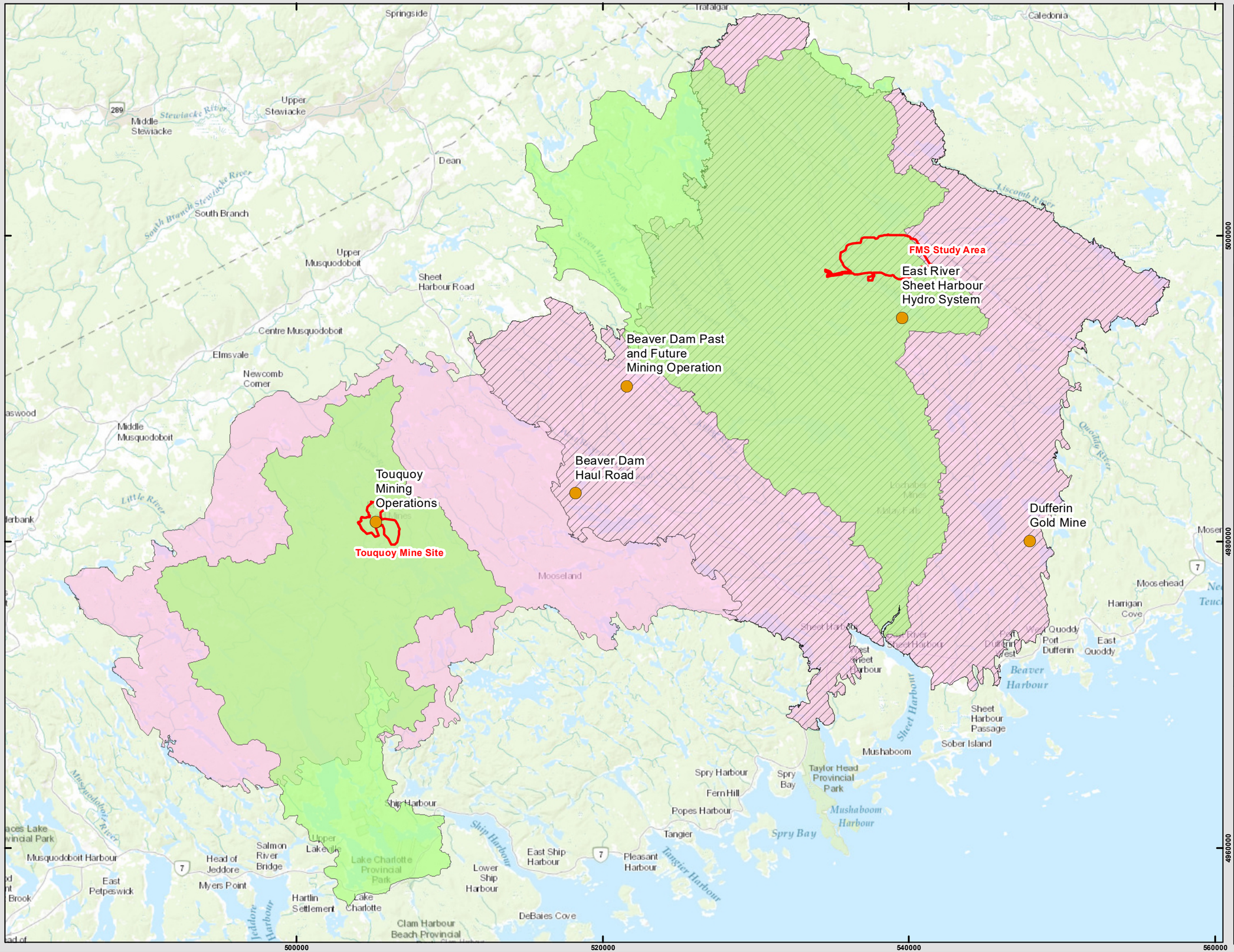

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FIGURE 8.5-5

Fifteen Mile Stream Gold Project Cumulative Effects Assessment: Species of Conservation Interest and Species at Risk

Nova Scotia, Canada

- Projects Evaluated in the Cumulative Effects Assessment
- Project Area
- Habitat and Flora Regional Assessment Area
- Terrestrial Fauna and Avifauna Regional Assessment Area
- Aquatic Regional Assessment Area

Note: Forestry operations occur throughout the RAA and are not displayed on this figure

Coordinate System: NAD 1983 CSRS UTM Zone 20N
Projection: Transverse Mercator
Datum: North American 1983 CSRS
Units: Meter

0 3.25 6.5 13 km

1:230,000

Scale when printed @ 11" x 17"

Drawn By: EP

Date: 2020-03-26

Service Layer Credits: Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, © OpenStreetMap

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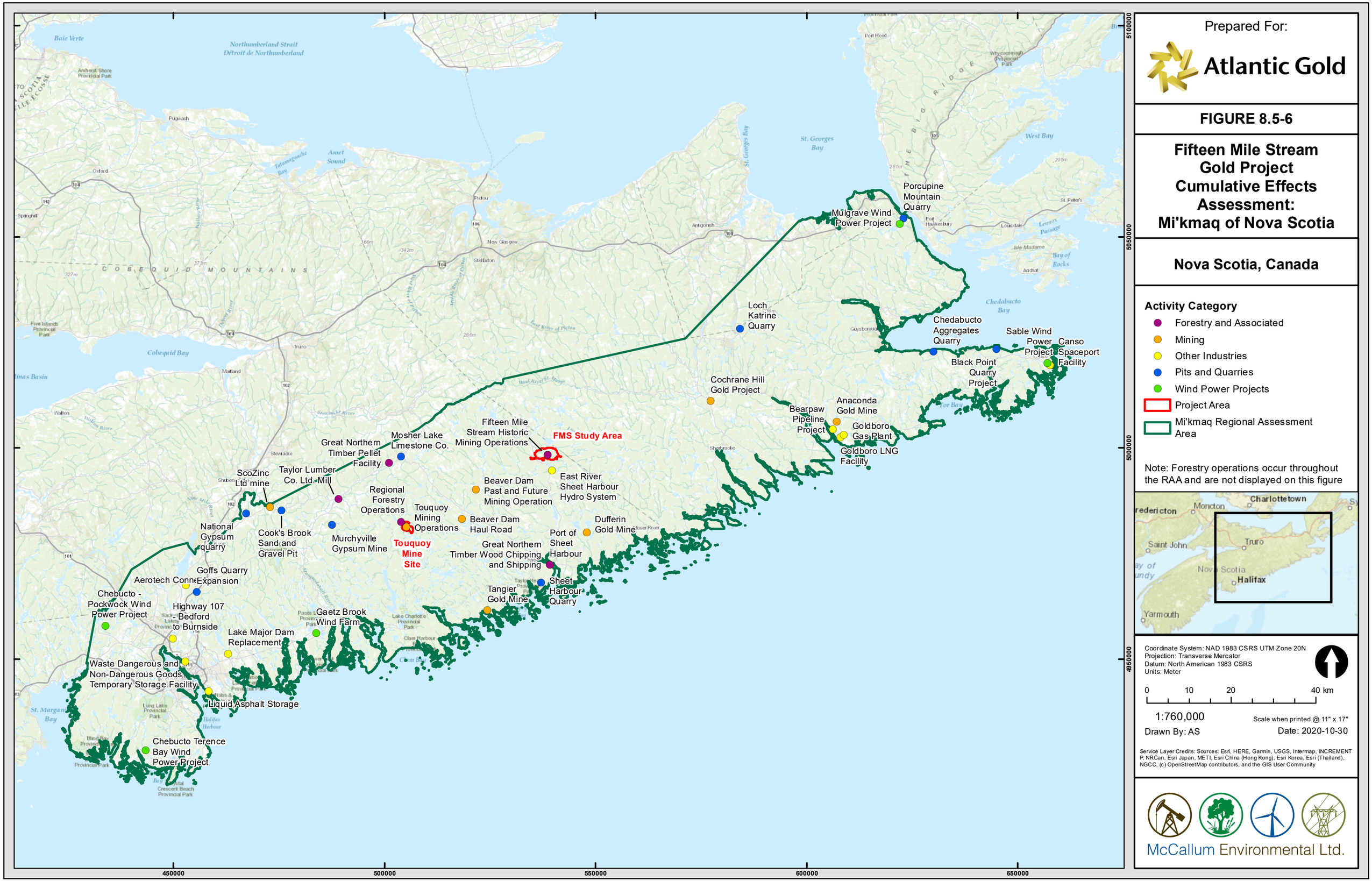

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FIGURE 8.5-6
Fifteen Mile Stream Gold Project Cumulative Effects Assessment: Mi'kmaq of Nova Scotia
Nova Scotia, Canada
Activity Category
Forestry and Associated
Mining
Other Industries
Pits and Quarries
Wind Power Projects
Project Area
Mi'kmaq Regional Assessment Area
Note: Forestry operations occur throughout the RAA and are not displayed on this figure
Coordinate System: NAD 1983 CSRS UTM Zone 20N
Projection: Transverse Mercator
Datum: North American 1983 CSRS
Units: Meter
0 10 20 40 km
1:760,000
Scale when printed @ 11" x 17"
Drawn By: AS
Date: 2020-10-30
Service Layer Credits: Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community
McCallum Environmental Ltd.
Porcupine Mountain Quarry
Mulgrave Wind Power Project
Loch Katrine Quarry
Chedabucto Aggregates Quarry
Sable Wind Power Project
Canso Spaceport Facility
Black Point Quarry Project
Cochrane Hill Gold Project
Anaconda Gold Mine
Bearpaw Pipeline Project
Goldboro Gas Plant
Goldboro LNG Facility
Fifteen Mile Stream Historic Mining Operations
FMS Study Area
Mosher Lake Limestone Co.
Great Northern Timber Pellet Facility
ScoZinc Ltd mine
Taylor Lumber Co. Ltd. Mill
Regional Forestry Operations
Beaver Dam Past and Future Mining Operation
East River Sheet Harbour Hydro System
Touquoy Mining Operations
Beaver Dam Haul Road
Dufferin Gold Mine
National Gypsum quarry
Cook's Brook Sand and Gravel Pit
Murchyville Gypsum Mine
Touquoy Mine Site
Port of Sheet Harbour
Great Northern Timber Wood Chipping and Shipping
Goffs Quarry Expansion
Aerotech Conne
Sheet Harbour Quarry
Tangier Gold Mine
Chebucto - Pockwock Wind Power Project
Highway 107 - Bedford to Burnside
Gaetz Brook Wind Farm
Lake Major Dam Replacement
Waste Dangerous and Non-Dangerous Goods Temporary Storage Facility
Liquid Asphalt Storage
Chebucto Terence Bay Wind Power Project
Northumberland Strait
Détroit de Northumberland
Baie Verte
Amet Sound
St. Georges Bay
West Bay
Chedabucto Bay
Cobequid Bay
Bay of Rocks
Lennox Passage
Tor Bay
St. Margaret Bay
Halifax Harbour
Clam Harbour
Lake Charlotte Provincial Park
Long Lake Provincial Park
Crescent Beach Provincial Park
Pictou
New Glasgow
Stellarton
Antigonish
Truro
Matland
Walton
Oxford
Springhill
Pugwash
Port Hood
Port Hawkesbury
Louisdale
Sherbrooke
Guysborough
Antichat
Stewiacke
Shubenacadie
Lake Ainslie
Port Hawkesbury
Whycocomagh Provincial Park
Amherst Shore Provincial Park
Five Islands Provincial Park
Tatamagouche Bay
Pictou Harbour
Isle Madame
Lennox Passage
Port Hood
Charlottetown
Moncton
Saint John
Truro
Nova Scotia
Halifax
Yarmouth
450000
500000
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600000
650000
5100000
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FIGURE 8.5-7a

Fifteen Mile Stream Gold Project CEA: Access to Crown Land within the Mi'kmaq of Nova Scotia RAA

Nova Scotia, Canada

Mulgrave Wind Power Project
Porcupine Mountain Quarry
Bearpaw Pipeline Project
Loch Katrine Quarry
Cochrane Hill Gold Project
Fifteen Mile Stream Historic Mining Operations
Beaver Dam Past and Future Mining Operation
Beaver Dam Haul Road
Great Northern Timber Pellet Facility
Mosher Lake Limestone Co.
Taylor Lumber Co. Ltd. Mill
Cook's Brook Sand and Gravel Pit
Murchyville Gypsum Mine
ScoZinc Ltd mine
National Gypsum quarry
Goffs Quarry Expansion
Aerotech Connector
Highway 107 - Bedford to Burnside
Chebucto - Pockwock Wind Power Project
FMS Study Area
Touquoy Mine Site
Chedabucto Aggregates Quarry
Black Point Quarry Project
Sable Wind Power Project
Canso Spaceport Facility
Anaconda Gold Mine
Goldboro LNG Facility
Goldboro Gas Plant
East River Sheet Harbour Hydro System
Dufferin Gold Mine
Great Northern Timber Wood Chipping and Shipping
Port of Sheet Harbour
Sheet Harbour Quarry
Tangier Gold Mine
Gaetz Brook Wind Farm
Touquoy Mining Operations
Lake Major Dam Replacement
Liquid Asphalt Storage
Waste Dangerous and Non-Dangerous Goods Temporary Storage Facility
Chebucto Terence Bay Wind Power Project

Crown Land
Project Area
Mi'kmaq Regional Assessment Area

Note: Forestry operations occur throughout the RAA and are not displayed on this figure

Coordinate System: NAD 1983 CSRS UTM Zone 20N
Projection: Transverse Mercator
Datum: North American 1983 CSRS
Units: Meter

0 10 20 40 km

1:760,000

Scale when printed @ 11" x 17"

Drawn By: AS

Date: 2020-10-30

Service Layer Credits: Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community

McCallum Environmental Ltd.

5050000
5000000
4950000
4900000
450000
500000
550000
600000
650000

Cook's Brook Sand and Gravel Pit

ScoZinc Ltd mine

National Gypsum quarry

Goffs Quarry Expansion

Aerotech Connector

Chebucto - Pockwock Wind Power Project

Highway 107 - Bedford to Burnside

Waste Dangerous and Non-Dangerous Goods Temporary Storage Facility

Lake Major Dam Replacement

Liquid Asphalt Storage

Gaetz Brook Wind Farm

Murchyville Gypsum Mine

Taylor Lumber Co. Ltd. mill

Touquoy Mining Operations

Chebucto Terence Bay Wind Power Project

4960000

4940000

4920000

420000

440000

460000

480000

500000

Prepared For:

Atlantic Gold

FIGURE 8.5-7b

Fifteen Mile Stream Gold Project CEA: Access to Crown Land within the Mi'kmaq Regional Assessment Area Western

Nova Scotia, Canada

- Crown Land
- Projects Evaluated in the Cumulative Effects Assessment
- Mi'kmaq Regional Assessment Area

Note: Forestry operations occur throughout the RAA and are not displayed on this figure

Coordinate System: NAD 1983 CSRS UTM Zone 20N
Projection: Transverse Mercator
Datum: North American 1983 CSRS
Units: Meter

0 4 8 16 km

1:300,000

Scale when printed @ 11" x 17"

Drawn By: AS

Date: 2020-10-30

Service Layer Credits: Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community

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East River
Sheet Harbour
Hydro System

Beaver Dam Past
and Future
Mining Operation

Great Northern
Timber Pellet
Facility

Mosher Lake
Limestone Co.

Fifteen Mile
Stream Historic
Mining Operations

Cochrane Hill
Gold Project

Beaver Dam
Haul Road

Touquoy
Mining
Operations

Dufferin
Gold Mine

Port of
Sheet
Harbour

Sheet
Harbour
Quarry

Great Northern
Timber Wood Chipping
and Shipping

Tangier
Gold Mine

500000
520000
540000
560000
580000

5020000
5000000
4980000
4960000

Prepared For:

Atlantic Gold

FIGURE 8.5-7c

Fifteen Mile Stream Gold Project CEA: Access to Crown Land within the Mi'kmaq Regional Assessment Area Central

Nova Scotia, Canada

- Crown Land
- Projects Evaluated in the Cumulative Effects Assessment
- Mi'kmaq Regional Assessment Area

Note: Forestry operations occur throughout the RAA and are not displayed on this figure

Coordinate System: NAD 1983 CSRS UTM Zone 20N
Projection: Transverse Mercator
Datum: North American 1983 CSRS
Units: Meter

0 4 8 16 km

1:300,000

Scale when printed @ 11" x 17"

Drawn By: EP

Date: 2019-10-02

Service Layer Credits: Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, © OpenStreetMap

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Mulgrave Wind Power Project

Porcupine Mountain Quarry

Loch Katrine Quarry

Cochrane Hill Gold Project

Bearpaw Pipeline Project

Chedabucto Aggregates Quarry

Black Point Quarry Project

Sable Wind Power Project

Canso Spaceport Facility

Anaconda Gold Mine

Goldboro Gas Plant

Goldboro LNG Facility

580000 600000 620000 640000 660000

5060000 5040000 5020000 5000000

Prepared For:

Atlantic Gold

FIGURE 8.5-7d

Fifteen Mile Stream Gold Project CEA: Access to Crown Land within the Mi'kmaq Regional Assessment Area Eastern

Nova Scotia, Canada

- Crown Land
- Projects Evaluated in the Cumulative Effects Assessment
- Mi'kmaq Regional Assessment Area

Note: Forestry operations occur throughout the RAA and are not displayed on this figure

Coordinate System: NAD 1983 CSRS UTM Zone 20N
Projection: Transverse Mercator
Datum: North American 1983 CSRS
Units: Meter

0 4 8 16 km

1:300,000

Scale when printed @ 11" x 17"

Drawn By: EP

Date: 2019-10-02

Service Layer Credits: Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, © OpenStreetMap

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