December 2021

MARATHON PALLADIUM PROJECT

Fish Habitat Compensation Planning

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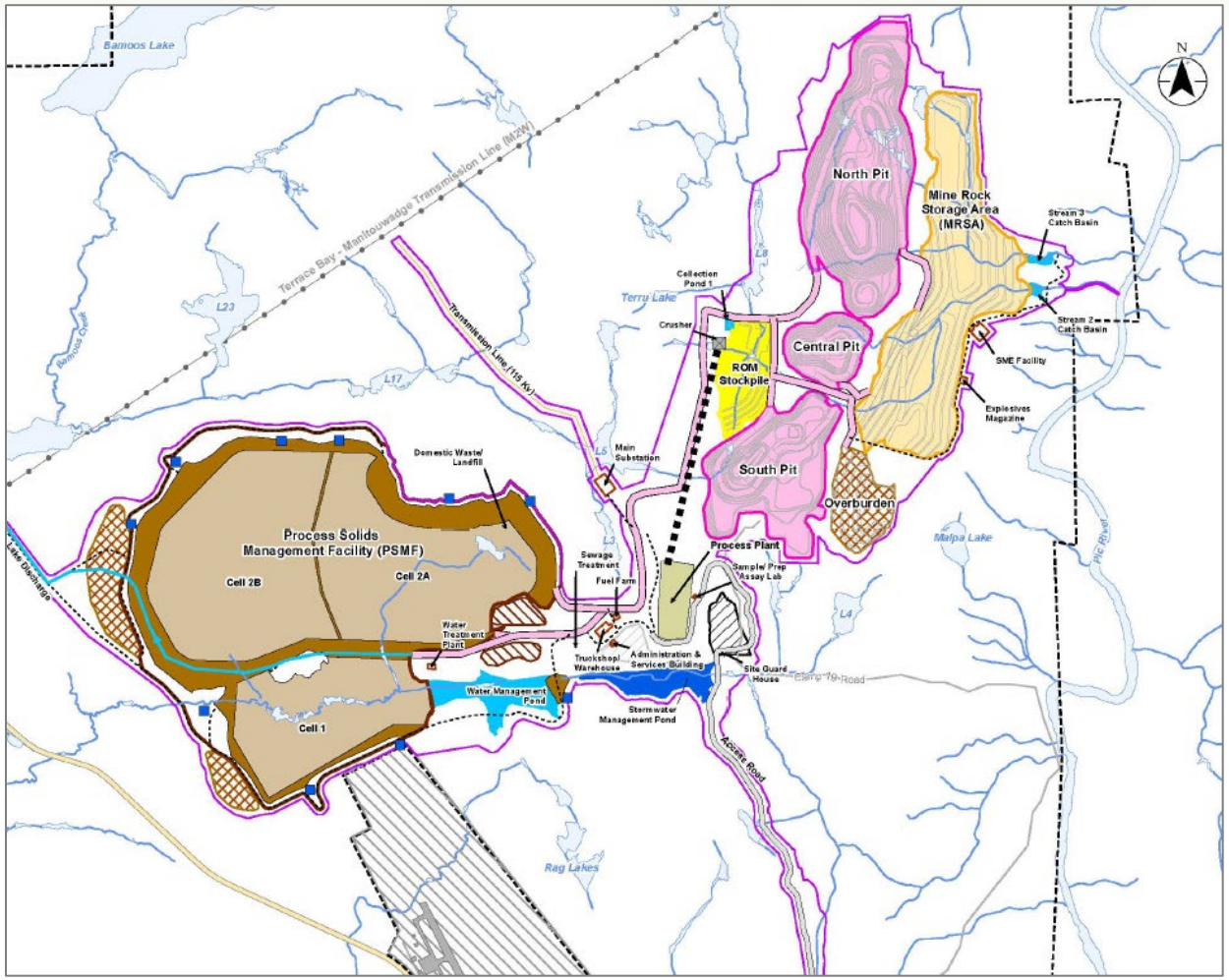
Project Description



Proposed Project Footprint

- Three planned open pits (central, north and south)
  - Measured and indicated resources 179.2 M tonnes
  - PSMF, water management ponds and stockpiles
- Mine rock storage area
  - 85-90% non-acid generating mine rock
  - Long term PAG storage in PSMF and open pits
- Process plant facility
  - 25,200 tonnes per day
- 2.2 km of new transmission line
- 2.5 km of new access road
- Excess water will be treated and discharged to Hare Lake

Baseline Fisheries Studies on Site

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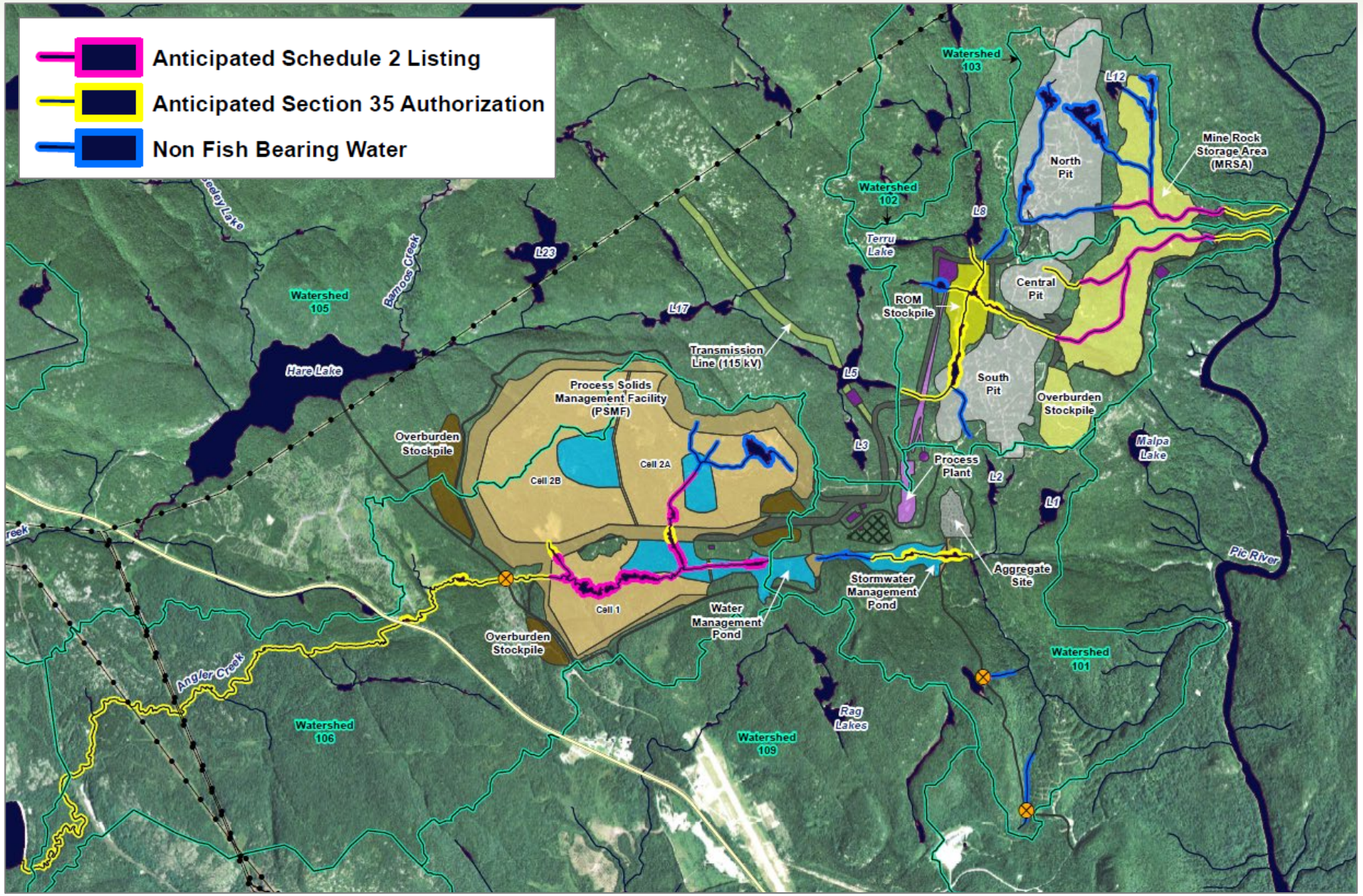
Fish community and fish habitat studies were conducted in 2006, 2007 2009 to 2013.

Fish bearing: ~ 8.5 ha

Non fish bearing: ~ 6 ha



Fish Approvals Process

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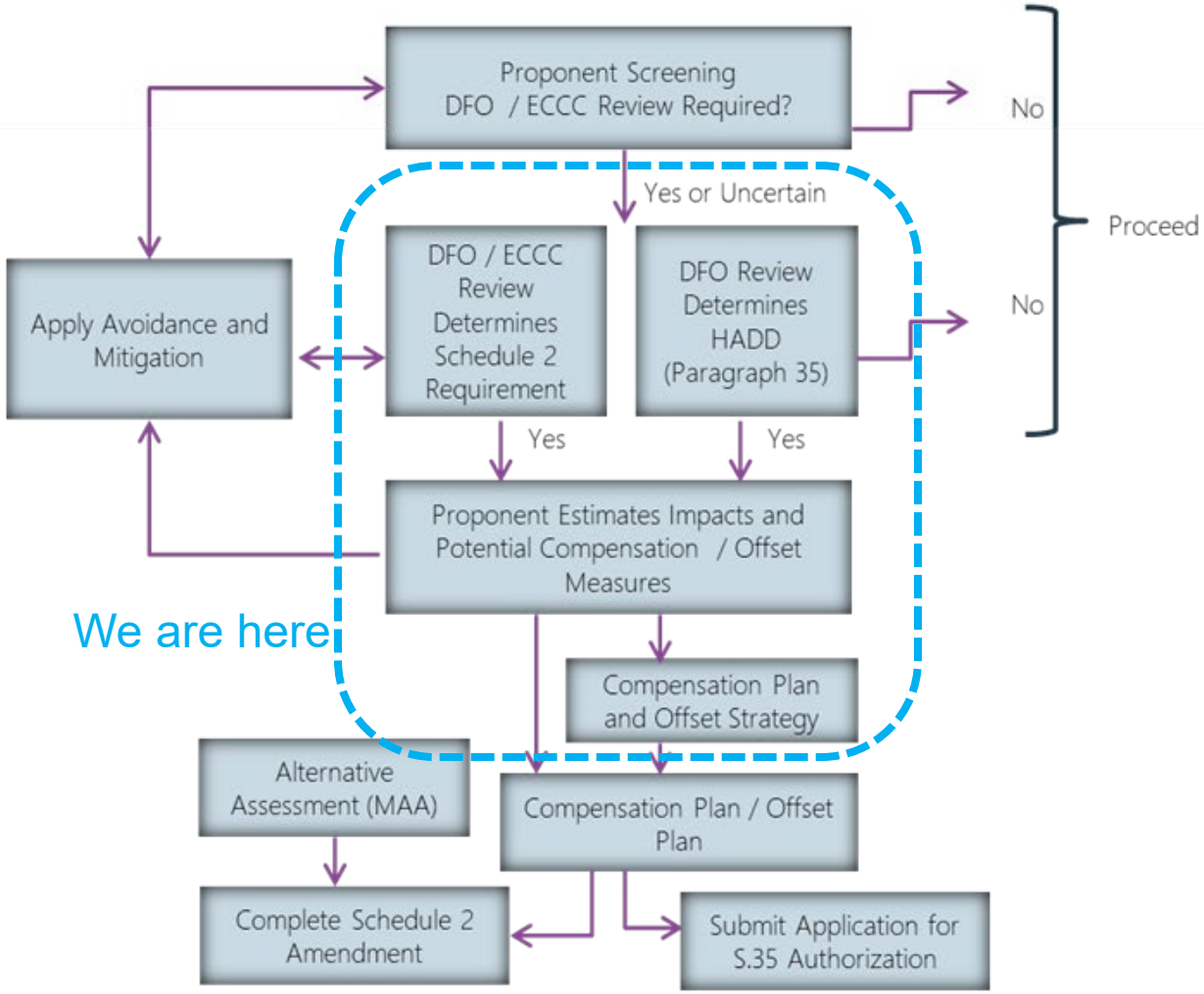
Fisheries Approvals Process

Initial screening by proponent

Provincial and or Federal EA/ IA Process

Variable Timelines, Initiated with completed Plan
(DFO Section 35 = 3-6 months
ECCC Schedule 2 = 1-2 years



Fish Habitat Offsetting and Compensation Plan

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Updated fish habitat accounting for the proposed project and site infrastructure

Estimated fish habitat loss of 8.53 ha:
- 5.18 ha of loss under Section 35
- 3.35 ha of loss under MDMER

The above habitat loss values include a change in flow to an estimated 2.4 ha

Not proposing offsetting or compensation for non-fish bearing habitat

Total estimated cost of $2M to $3.5M to construct and monitor fish habitat

Guiding Principles:
- Site specificity
- Locally valued species
- Indigenous participation
- Achievable and measurable

Subwatershed	Watercourse/ Waterbody	Section 35	Schedule 2	Non-Fish Bearing	Total Area
101	Tributary 1	4,368	-	753	5,121
	Tributary 2	-	-	538	538
	Tributary 3	-	-	497	497
102	L14	7,030	-	-	7,030
	L15	2,586	-	-	2,586
	Stream 1 - Mainstem	4,117	4,122	-	8,240
	Stream 1 - Trib 1	2,930	-	331	3,261
	Stream 1 - Trib 2	146	-	2,474	2,620
	Stream 1 - Trib 3	672	-	224	895
	Stream 1 - Trib 4	337	402	-	740
103	L9	-	-	6,990	6,990
	L10/L11	-	-	20,142	20,142
	L13	-	-	1,652	1,652
	L13A	-	-	1,726	1,726
	L16	-	-	3,164	3,164
	Stream 1 - Mainstem	1,929	2,136	-	4,066
	Stream 1 - Trib 1	-	440	2,097	2,537
	Stream 1 - Trib 2	-	318	3,020	3,338
106	L24	780	344	-	1,123
	L26	-	-	13,413	13,413
	Angler Creek - Mainstem	25,380	20,850	-	46,230
	Angler Creek - Trib 1	1,466	4,654	1,508	7,628
	Angler Creek - Trib 2	86	184	-	270
	Total square meters	**51,827**	**33,451**	**58,528**	**143,807**
	Total hectares	**5.18**	**3.35**	**5.85**	**14.38**

Offsetting and Compensation Opportunities

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- **Near Term (Independent) Opportunities**
  - ✓ Camp 19 Road Crossing replacement (0.75 ha)
  - ✓ Hare Lake Habitat Enhancement (1.1 ha)
  - ✓ Colonizing Fishless Lakes within Project Area (11.92 ha)
  - ✓ Improving Fish Passage within Hare Creek
  - ✓ Improving Fish Passage within Angler Creek
  - ✓ Fish Passage Improvements Camp 14 Creek
  - ✓ Current River, Thunder Bay Barrier Removals (NSSA)
  - ✓ Shipyard Road, Thunder Bay Habitat Restoration/Creation (AOC RAP / Lakehead University) (4 ha)
  - ✓ St. Mary's River AOC, Sault St. Marie – Whitefish Island Habitat Restoration
  - ✓ Lake Superior nearshore tributaries – passage improvements for salmonids
  - ✓ Other Barrier Removals – McKay Lake, Pic River, Wabuskam Dam, Mazukama Creek
- **Post-project Reclamation Opportunities**
  - ✓ Stream 1 Subwatershed Enhancements (10.4 ha)
  - ✓ Stream 2 & 3 Subwatershed Enhancements
  - ✓ Creation of fish habitat enhancements within eastern drainages to Pic River
  - ✓ Naturalization of Site Drainage
- **Complementary Measures / Other Opportunities**
  - ✓ Lake Sturgeon Research Project - Biigtigong Nishnaabeg
  - ✓ Walleye Population Structure & Spawning Habitat Use – Pays Platt FN / Lakehead University

Offsetting and Compensation Opportunities

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Potential Fish Habitat Opportunities to be evaluated using the following matrix criteria:

- Group/Individual advocating for the alternative
- Compatibility with existing land use
- Habitat area gain
- Construction certainty
- Land tenure certainty

Hare Lake Habitat Enhancement (1.1 ha)

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- **Objectives:**
  - ✓ Habitat enhancement for coldwater species (e.g., Cisco, Lake Trout)
  - ✓ Percentage of profundal habitat credit (est. 2% of lake)

Colonizing Fishless Lakes within Project Area (11.92 ha)

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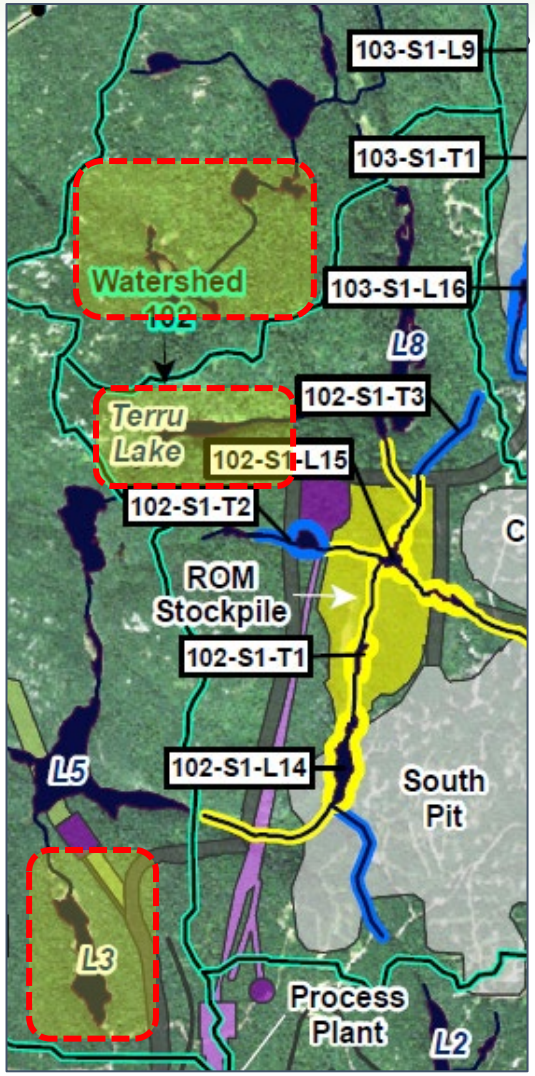
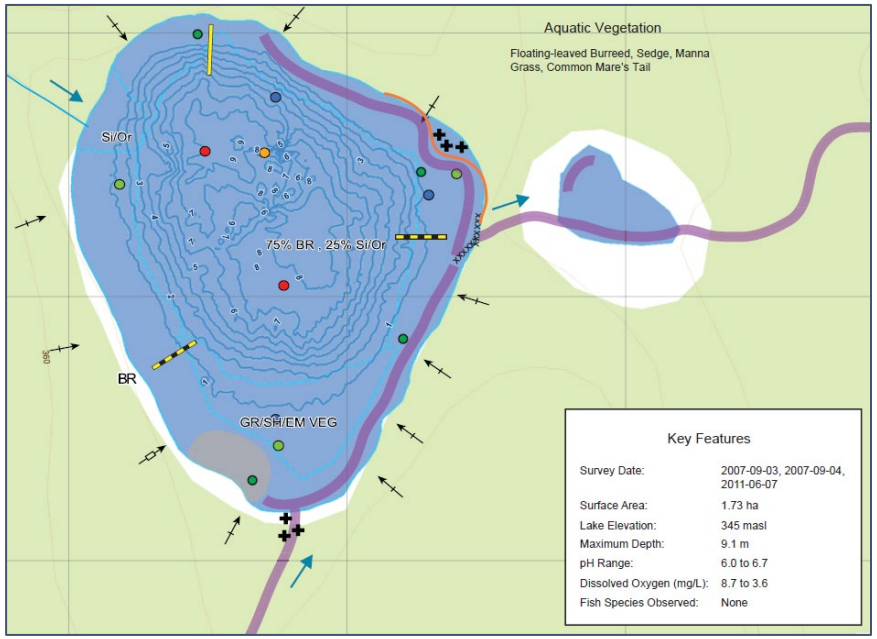
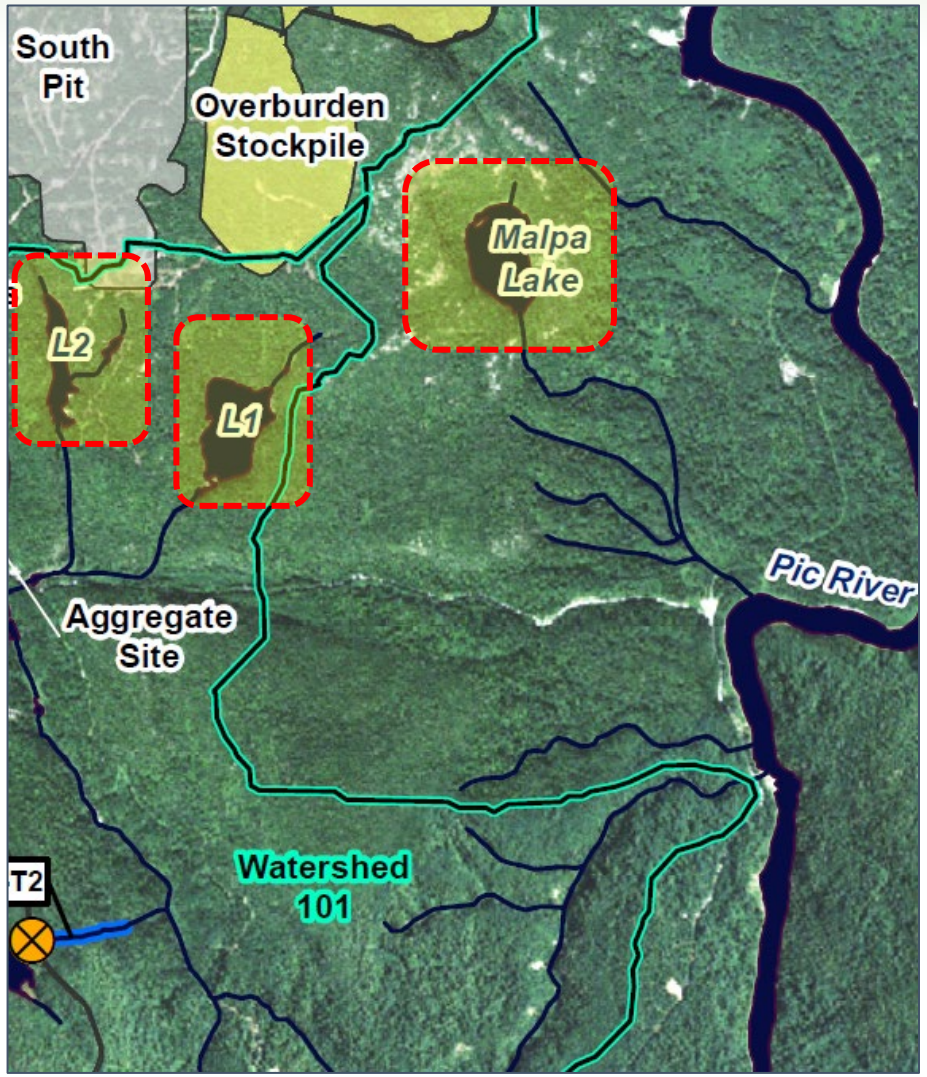


Summary of Fishless Lakes (habitat details):

- ✓ L1 = 2.92 ha, max depth 12 m
- ✓ L2 = 1.27 ha, max depth 3.5 m
- ✓ Malpa Lake = 3.36 ha, max depth 3.1 m
- ✓ L3 = 2.04 ha, max depth 4.4 m
- ✓ Terru Lake = 0.60 ha, max depth 6.5 m
- ✓ L22 = 1.73 ha, max depth 9.1 m

Total 11.92 ha +





Shipyard Road – Habitat Restoration/Creation (4 ha)

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- **Objectives:**
  - ✓ Restoring aquatic habitat features, improving wetland complexity
  - ✓ Create channelized habitat and improve connectivity with Lake Superior
  - ✓ Increase coastal wetland area within north shore region
  - ✓ Provide spawning and rearing habitat for fish species

- **Ancillary Benefits:**
  - ✓ Improved habitat complexity for other biota (e.g., turtles, birds)
  - ✓ Remediate historically disturbed site

Stream 1 Subwatershed Enhancements (10.4 ha)

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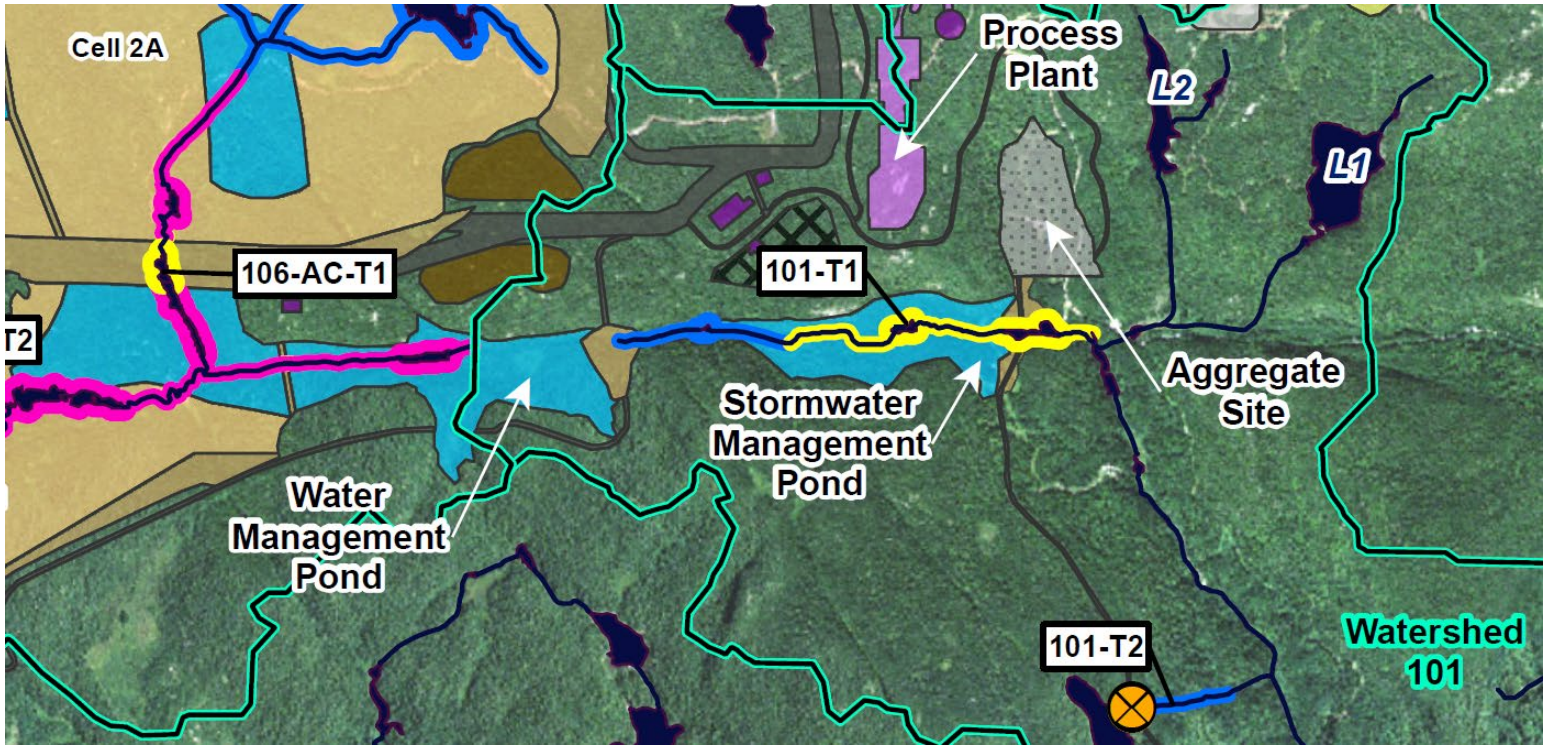
- Naturalize the Water Management Pond and Stormwater Management Pond
- Create fish habitat, include enhancement features
- Time lag associated with habitat availability



Compensation and Offsetting Accounting

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Accounting based on five (5) opportunities – other opportunities available to improve compensation and offsetting:

- Total Impacts = 8.53 ha
- Near term Opportunities = 17.77 ha
- Post-project Reclamation Opportunities = 10.5 ha
- Complementary Measures = 0 (however, several FN communities have expressed interest in research project funding)
- Ratio 8.53 ha : up to 28.27 ha means ratio well above 1 : 1

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More Information on the Project can be found at
www.genmining.com
and the Impact Assessment Registry at
https://iaac-aeic.gc.ca/050/evaluations/proj/54755?culture=en-CA

If you have additional questions,

please email us at comments@genpgm.com