July 2013 version

ENVIRONMENTAL ASSESSMENT WORKSHEET

This Environmental Assessment Worksheet (EAW) form and EAW Guidelines are available at the Environmental Quality Board's website at: Environmental Quality Board https://www.eqb.state.mn.us/content/eaw-process. The EAW form provides information about a project that may have the potential for significant environmental effects. The EAW guidelines provide additional detail and resources for completing the EAW form.

Cumulative potential effects can either be addressed under each applicable EAW Item, or can be addresses collectively under EAW Item 19.

Note to reviewers: Comments must be submitted to the RGU during the 30-day comment period following notice of the EAW in the *EQB Monitor*. Comments should address the accuracy and completeness of information, potential impacts that warrant further investigation and the need for an EIS.

1. **Project Title: Tioga Recreation Area Mountain Bike Trail Project**

2. **Proposer: City of Cohasset, MN**

   Contact person: Max Peters
   Title: Director of Finance and City Operations
   Address: 305 NW 1st Avenue
   City, State, ZIP: Cohasset, MN 55721
   Phone: 218-328-6225
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3. **RGU: Minnesota Department of Natural Resources**

   Contact person: Bill Johnson
   Title: Planning Director
   Address: 500 Lafayette Road North
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   Phone: 651-259-5126
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4. **Reason for EAW Preparation:** (check one)

   Required:
   _ EIS Scoping
   X Mandatory EAW

   Discretionary:
   _ Citizen petition
   _ RGU discretion
   _ Proposer Initiated

   If EAW or EIS is mandatory give EQB rule category subpart number(s) and name(s): The Project meets the mandatory EAW requirement described in Minn. Rules part 4410.4300, subpart 37A Recreation Trails; EAW required to construct trails on forested or other naturally vegetated land that will exceed ten miles.

5. **Project Location:**
   County: Itasca County.
   City/Township: Cohasset.
   PLS Location (¼, ¼, Section, Township, Range): See Table 5-1.
   Watershed (81 major watershed scale): Mississippi River Headwaters Watershed, HUC 07010101.
   GPS Coordinates: Latitude 47.22344, Longitude -93.61435 (Decimal Degrees).
   Tax Parcel Number(s): See Table 5-2.

Table 5-1 Public Land Survey Locations

Township	Range	Section	Quarter(s)
55	26	23	SW
55	26	26	NW; SE; SW
55	26	35	NE; NW

Table 5-2 Tax Parcel Numbers

Parcel	Owner	Acres
05-023-3301	Tax-forfeited	51.4
05-026-2401	State of Minnesota	47.6
05-026-2200	State of Minnesota	57.6
05-026-4201	State of Minnesota	28.4
05-026-3300	State of Minnesota	39.0
05-026-3200	State of Minnesota	31.2
05-025-3100	State of Minnesota	38.8
05-026-3400	State of Minnesota	38.9
05-026-4300	State of Minnesota	39.1
05-035-2201	State of Minnesota	10.5
05-035-2101	State of Minnesota	32.0
05-035-1200	State of Minnesota	39.6
05-035-1100	State of Minnesota	38.6
05-035-1301	State of Minnesota	9.9

At a minimum attach each of the following to the EAW:

- **County map showing the general location of the project;**
- **U.S. Geological Survey 7.5 minute, 1:24,000 scale map indicating project boundaries (photocopy acceptable); and**
- **Site plans showing all significant project and natural features. Pre-construction site plan and post-construction site plan.**

The following figures are attached to this EAW:

- Figure 1 – Site Location
- Figure 2 – Site Layout
- Figure 3 – Site Plan
- Figure 4a – Land Use
- Figure 4b – Land Cover Types
- Figure 5 – NRCS Soils Map
- Figure 6 – Cohasset Policy Areas
- Figure 7 – Zoning and Shoreland Districts
- Figure 8a – Water Resources
- Figure 8b – Water Resources – Wetland Detail

6. **Project Description:**

   a. **Provide the brief project summary to be published in the *EQB Monitor* (approximately 50 words).**

      The City of Cohasset proposes construction of 30 miles of single-track mountain bike trail within the 500-acre Tioga Recreation Area. Facilities include trailhead, parking, signage, restroom facilities, picnic shelters, changing shelters, and bike repair station. Additional outdoor recreational opportunities are available, including hiking and snowshoeing.

   b. **Give a complete description of the proposed project and related new construction, including infrastructure needs. If the project is an expansion include a description of the existing facility. Emphasize: 1) construction, operation methods and features that will cause physical manipulation of the environment or will produce wastes, 2) modifications to existing equipment or industrial processes, 3) significant demolition, removal or remodeling of existing structures, and 4) timing and duration of construction activities.**

      Background

      The City of Cohasset proposes construction of a 30-mile mountain bike trail system referred to as the Tioga Recreation Area Mountain Bike Trail Project (Project). The Project is located within city limits of Cohasset and is less than two miles west of the City of Grand Rapids; see Figure 1.

      The Project would be constructed within the existing 500-acre Tioga Recreation Area, hereby identified as the "Project area." See Figure 2 for the defined Project area as well as the Project layout. Project partners include the City of Cohasset, Itasca County, Department Natural Resources (DNR), the Greater Minnesota Parks and Trails Commission, Department of Iron Range Resources and Rehabilitation (IRRR), and the Grand Rapids Itasca Mountain Bicycling Association (GRIMBA). A majority of the Project area includes School Trust Lands managed by the DNR but also includes tax-forfeited land administered by Itasca County. Necessary approvals have been or would be obtained from each landowner. To use the School Trust Lands to construct the Project, the City of Cohasset is working with the DNR to obtain a lease from the DNR (referred to as "DNR lease"). The Project area is former mineland that was reclaimed by the IRRR in the 1980s.

      The Project consists of 30 miles of natural surface single-track mountain bike trails, a trailhead, interactive signage, a new parking area, and a bike repair station. Although the trails would be designed and purpose-built for mountain biking, the Project would also serve year-round outdoor recreational uses such as hiking, dog walking, trail running, Nordic skiing, snowshoeing, and bird watching. The multi-use trails would be signed and maintained to ensure safe use by the different user groups within the trail corridor. The Project would be the first professionally-built mountain bike trails in Itasca County, which would be designed to promote and foster a sense of place, healthy lifestyles, and the region's natural beauty.

      The Tioga Recreation Area offers vistas of Pokegama Lake, the Mississippi River, the Tioga Mine Pit (a water-filled former open pit iron mine), other nearby smaller lakes, pine stands and hardwood forest, and glacial drift. The existing six miles of former mining road and multiple

waterbodies within the Project area would continue to serve recreational uses such as swimming, fishing, paddle boarding, kayaking, scuba diving, hiking, running, biking, and bird-watching.

Project Components

As shown on Figure 2, specific components of the Project include:

- 5.7 miles of "easy" trails, designated for beginner users (easy trails are illustrated in green);
- 16.5 miles of "more difficult" trails, designated for intermediate users (more difficult trails are illustrated in blue);
- 7.8 miles of "difficult" trails, designated for advanced and expert users (difficult trails are illustrated in black);
- A trailhead located east of the Tioga Mine Pit and west of Tioga Beach Road with the following components:
    - a new gated gravel parking area;
    - an informational kiosk including maps, etiquette guides, and interpretive signage;
    - changing shelters;
    - picnic shelters;
    - a bike repair station; and
    - portable toilets (with a wooden fence surrounding the area);
- Mine safety fencing along the Tioga Mine Pit;
- Tioga Mine Pit Swimming Beach improvements; and
- Relocation of an existing haul road, if necessary, at Proposer expense.

Design and Construction

To maximize trail durability, sustainability, and safety the Project trails have been professionally designed in accordance with the International Mountain Biking Association's (IMBA's) professional design guide that is titled "Trail Solutions – IMBA's Guide to Building Sweet Singletrack." The centerlines are shown in Figure 2.

The constructed trails would not exceed six-feet in width, and may be less than six feet wide for trails designated as "more difficult" and "difficult;" these are the "blue-colored" trails and "black-colored" trails respectively on Figure 2. The final location of each trail may be shifted to minimize environmental effects and/or address final routing considerations during final design. Typical trail ceilings for mountain bike trails range from seven to nine feet.

Project construction is anticipated to commence in the summer of 2018 and conclude in fall 2019. The final schedule depends on the availability of construction funds and contractors. Mechanical and hand tools would be used during construction. Mechanized tools include mini-excavators, mini-skid steerers, powered wheelbarrows, and brush mowers; hand tools include chainsaws, brush cutters, shovels, and picks.

Operations and Maintenance

The recreation area would be free and open for public use year-round from 7 AM to 9 PM. Trail closures or restrictions by the DNR and/or City are anticipated during firearm deer hunting season as well as when warranted by unsuitable and/or unsafe conditions. A gate would be

present at the trailhead to control and/or restrict access to the trails when necessary.

The City would be responsible for maintaining the Project area in good repair, keeping it safe and clean, and removing wastes as outlined in the *Tioga Recreation Area Cooperative Operational Agreement between The City of Cohasset and the Minnesota Department of Natural Resources* (the Operational Agreement). Fencing around Tioga Mine Pit would be constructed and maintained according to state statute on lands leased from both DNR and Itasca County. Under contract with the City, GRIMBA is anticipated to provide long-term trail maintenance and upkeep. A seasonal site manager may also be hired by the City to help manage and maintain the Project area, which could include trail grooming for Nordic skiing. Proposed improvements at the Tioga Mine Pit Beach includes trash and weed removal to ensure the beach is accessible and clean. This modest clean up near the steps to the shore fishing area would be coordinated with the DNR to enhance the fishing opportunities.

c. Project magnitude:

Table 6-1 Project Magnitude

Total Trail Acreage [1]	21.6 acres
Total Corridor Acreage [2]	106.3 acres
Total Project Area Acreage [3]	502.6 acres
Linear project length	29.7 miles
Number and type of residential units	n/a
Commercial building area (in square feet)	n/a
Industrial building area (in square feet)	n/a
Institutional building area (in square feet)	n/a
Other uses – Trailhead Area	4.9 acres
Structure height(s) [4]	Approximately 15 feet

[1] Calculation includes the maximum six-foot-wide anticipated trail width.

[2] Includes the thirty-foot-wide trail corridor and the calculation includes the 21.6 acres of trail acreage.

[3] Acreage includes the Tioga Recreation Area in its entirety.

[4] Structures include the kiosk, portable toilets, picnic shelters, and changing shelters.

d. Explain the project purpose; if the project will be carried out by a governmental unit, explain the need for the project and identify its beneficiaries.

The purpose of the Project is to develop a purpose-built mountain bike trail system within the Tioga Recreation Area that offers a variety of recreational options for residents and visitors that accommodates multiple user groups. The Project is intended to improve the overall health and prosperity of the region through achieving the recreation and trail goals outlined in the City's 2013 Comprehensive Plan.

The Project would address the regional need for a high quality, non-motorized and multi-use recreation area to serve the growing population of long-term residents and year-round visitors. The nearest professionally-built, purpose-built mountain biking recreational opportunity is the

Cuyuna Country State Recreation Area, which is located more than 75 miles south of the Project area.

e. Are future stages of this development including development on any other property planned or likely to happen? _ Yes X No
Refer to Section 19b in Cumulative Effects for additional discussion.

If yes, briefly describe future stages, relationship to present project, timeline and plans for environmental review.

f. Is this project a subsequent stage of an earlier project? _ Yes X No
If yes, briefly describe the past development, timeline and any past environmental review.

7. Cover Types: Estimate the acreage of the site with each of the following cover types before and after development:

Table 7-1 Land Cover

Land Cover [1]	Before (Acres) [2]	After (Acres) [2]
Wetlands	17.1	17.1
Deep water/streams	54.3	54.3
Wooded/forest	341.9	323.3
Brush/Grassland	54.2	51.7
Cropland	0.0	0.0
Lawn/landscaping	34.2	31.5
Impervious surface	0.9	3.3
Other (trails)[3]	0.0	21.4
TOTAL	502.6	502.6

[1] Land cover information reflects DATASOURCE.
[2] Land cover calculations provided in this table includes the six-foot-wide trail and the trailhead area.
[3] The trailhead (impervious surface) includes 0.2 miles of trails.

8. Permits and Approvals Required: List all known local, state and federal permits, approvals, certifications and financial assistance for the project. Include modifications of any existing permits, governmental review of plans and all direct and indirect forms of public financial assistance including bond guarantees, Tax Increment Financing and infrastructure. *All of these final decisions are prohibited until all appropriate environmental review has been completed. See Minnesota Rules, Chapter 4410.3100.*

Table 8-1 Project Permits

Unit of Government	Type of Application	Status
City of Cohasset	Zoning Permit	To be submitted
City of Cohasset	Grading and Filling Permit	To be submitted
City of Cohasset	Conditional Use Permit	To be submitted
DNR	Lease	To be obtained
Itasca County	Trail License	To be obtained
Itasca County	Special Use Permit	Interim permit received
Itasca County	WCA Approval	Submit if needed
MPCA	NPDES/SDS Construction Stormwater General Permit #MNR1000001	To be submitted
MN State Historical Preservation Office (SHPO)	Historic Properties Review	Underway
U.S. Army Corps of Engineers (USACE)	Section 404 Permit	Submit if needed, per mitigation sequencing requirements

Table 8-2 Project Public Funding

Source	Funding	Status
City of Cohasset	$300K toward Project components	Approved 09/12/2017
IRRR	$17.25K, Culture and Tourism Grant	Awarded
IRRR	$25K, Laurentian Vision Partnership Minescapes Grant	Awarded
IRRR	$625K for Project Construction	Awarded
Itasca County Trails Task Force	$10K toward Project components	Awarded
Park and Trail Legacy Grant Program	$50K for Project Design and Engineering	Awarded 09/2017
Park and Trail Legacy Grant Program	$690K for Project construction	Awarded 12/2017
State of MN 2018 Bonding Bill	$1M for Project construction	Pending

Cumulative potential effects may be considered and addressed in response to individual EAW Item Nos. 9-18, or the RGU can address all cumulative potential effects in response to EAW Item No. 19. If addressing cumulative effect under individual items, make sure to include information requested in EAW Item No. 19

9. Land Use:

a. Describe:

i. Existing land use of the site as well as areas adjacent to and near the site, including parks, trails, prime or unique farmlands.

The land within the Project area is public land and accessible from Tioga Beach Road. It is currently used for recreational uses such as swimming, fishing, paddle boarding, kayaking, scuba diving, walking/hiking, running, biking, and bird-watching. Inaccessible forested areas are largely undeveloped.

Tioga Beach Park is part of the City of Cohasset park system and is located northwest of the Project on Pokegama Lake; see Figure 4a. The park provides a swimming beach, picnic area, playground, parking lot, a restroom, fishing pier, and paved multi-use trail.

The paved trail north of Tioga Beach Park links the Tioga Recreation Area to multiple recreation areas in the Cohasset/Grand Rapids Area, such as the Portage Park hiking and skiing trails, the Forest History Center trails, the Taconite State Trail, and the Mesabi Trail. Upon completion, the Mesabi Trail would provide 145 miles of paved trail from Grand Rapids to Ely, Minnesota; see Figure 4a. Outside Tioga Beach Park, the nearest recreation areas to the Project include Portage Park, and the adjacent undeveloped Bass Brook Wildlife Management Area. Both are located approximately two miles northeast from the Project; see Figure 1. Portage Park is managed by the City of Cohasset and offers a half mile-long paved walking trail, a playground, skating rink, and athletic fields. The Bass Brook Wildlife Management Area is managed by the DNR, lies along the Mississippi River, and offers natural hiking trails, cross-country skiing, and bird watching. The paved trail north of Tioga Beach Park is the only recreation trails that intersects the Project area.

The DNR Division of Parks and Trails maintains a Public Water Access located between Pokegama Lake and the Tioga Mine Pit along Tioga Beach Road. Known as the Tioga Public Water Access, the facility includes a trailer launch ramp and parking. The concrete ramp into Pokegama Lake is on the east side of the road. The natural surface parking lot accommodates approximately ten vehicles/trailer stalls and is located on the west side of Tioga Beach Road along the Tioga Mine Pit. DNR proposes to expand the parking area by approximately one acre within the next two years.

Land use within the Project area includes tax-forfeited land administered by Itasca County and School Trust Lands managed by the DNR. Figure 4a illustrates the land use designations included in the City of Cohasset's 2013 Comprehensive Plan. Figure 4a also illustrates parcel boundaries, where future subdivision work may be necessary to properly define the project boundary along the subdivision parcel lines. Land cover, according to the National Land Cover Database, is primarily mixed and deciduous forest; see Figure 4b.

The Itasca County-administered tax-forfeited lands have been subject to ongoing forest management, with forest management focused on a 39-acre northern hardwood stand located

on the parcel. The entire stand was commercially thinned in the fall of 2017, with the next treatment likely to be scheduled in approximately 20 years. This ownership may provide future mineral potential that is reserved by the County.

Lands owned by the State of Minnesota within the Project area may be, or can be used, for logging and/or potential mineral recovery.

Logging. Forest cover on the DNR-managed lands at the project site exhibit a mix northern hardwoods, aspen, and Norway and red pine. Parts of the site are subject to an ongoing, active timber sale lease for northern hardwoods (thinning) and aspen (clearcut with reserves), with Norway pine available as optional timber. The Timber Appraisal Report is available upon request. Future harvest is possible at the site, which could include: a 55-acre red pine stand (harvest period between the present and 2021); a 9-acre aspen stand (harvest period within the next 5 years); a 9-acre northern hardwoods stand (harvest period within the next 5 years); a 13-acre aspen stand (harvest period within the next 5 years); and an 8-acre red pine stand (harvest period within the next 5 years).

Potential Mineral Recovery. Available mineral resources are shown on Figure 2 as the Lease Exclusion Area and the High Resource Value areas. No trails or other Project activities would occur within the Lease Exclusion Area, which is an operating gravel pit. The High Value Resource areas are potential sites where the DNR may opt to extract mineral resources at a future date. Extractable resources include: rock rejects; taconite stockpiles; and lean ore No. 1 stockpiles. The final trail design would consider and accommodate ongoing management activities by the DNR; trails may be subject to future DNR closure for resource extraction.

According to the Natural Resources Conservation Service (NRCS), soil types 618B and 871 are considered prime farmland when drained. As seen in Figure 5, a small segment of trail crosses soil type 618B while no trail intersects 871.

ii. Plans. Describe planned land use as identified in comprehensive plan (if available) and any other applicable plan for land use, water, or resources management by a local, regional, state, or federal agency.

City of Cohasset. The City's adopted 2013 Comprehensive Plan identifies the project site as occurring in two designated "policy areas," which are the "Natural Resources" policy area and "Shoreland/Lake" policy area; see Figure 6. Specific elements of the Natural Resources policy area applicable to the Project include: enhancing opportunities for tourist recreation, including passive recreation; limiting residential development or conversion of lands to non-natural resource uses; expanding and enhancing passive and active recreational opportunities; and working with public and private entities to develop new trail systems within the Natural Resource area. For the Shoreland/Lake policy area, the elements specifically applicable to the Project include increasing biking and walking trails in shoreland areas and protecting public use.

Itasca County. The vision of the Itasca County 2012-2022 Recreation Resources Plan is to: "Provide quality, comprehensive recreational opportunities that are comprised of developed, semi-developed, and undeveloped areas, facilities, and program services to meet the expressed needs of current and future generations while protecting the natural and scenic resources of Itasca County." Goals of the plan relevant to the Project area include:

- provide parks, recreation, and tourism facilities and programs that are designed to enhance the visitor experience of Itasca County;
- utilize park and recreation facilities and unique sites to promote a sense of land and water stewardship for residents and visitors;
- sustain and develop trails for all uses while balancing the changing needs, demands, and conflicts of the trail users and the natural resources;
- work with cities and townships to provide and enhance campgrounds/parks, recreational trails, and picnic areas throughout the county; and
- provide recreation opportunities for people of all abilities.

iii. Zoning, including special districts or overlays such as shoreland, floodplain, wild and scenic rivers, critical area, agricultural preserves, etc.

The Project is located in areas zoned by the City of Cohasset as Managed Areas, Suburban Residential, and Waterfront Residential. The trails are located in or near the regulated shoreland areas of Tioga Mine Pit, Cavanaugh Lake, and Pokegama Lake. The City of Cohasset's Land Use Control Ordinance defines shoreland as land located within 1,000 feet from the ordinary high water level or a lake, pond, or flowage. The shoreland impact zone is determined by calculating half of the structure setback distance. As described in Minn. Rules part 6120.3000, the Tioga Mine Pit and Cavanaugh Lake are classified as "Natural Environment" lakes, while Pokegama Lake is classified as a "General Development" lake. This means that Tioga Mine Pit and Cavanaugh Lakes have a 75-foot Shoreland Impact Zone while Pokegama Lake has a 37.5-foot Shoreland Impact Zone. See Figure 7 for these features.

A Conditional Use permit is required for recreational trails in all zoning districts within the Project area in accordance with Section 10.081 of the City of Cohasset's Land Use Control Ordinance. The Project would require a Zoning Permit, and a Grading and Filling Permit, in accordance with Sections 10.0502.A and 10.083.G respectively of the same City ordinance. Section 10.083.H permits a public parking area within the shoreland impact zone, which must be designed and constructed to maximize vegetative screening from public waters and minimize and control erosion consistent with the field office technical guides of the local soil and water conservation district or other applicable technical materials.

b. Discuss the project's compatibility with nearby land uses, zoning, and plans listed in Item 9a above, concentrating on implications for environmental effects.

The Project aligns with current and proposed land uses as well as the City's 2013 Comprehensive Plan and Itasca County's 2012-2022 Recreation Resources Plan. Work proposed and performed for the Project would be coordinated with the DNR and outlined in the final DNR lease.

An interim Special Use Permit was acquired from Itasca County to gain access to county-owned property in order to design, construct, and maintain the trails. The interim Special Use Permit is available upon request. Required city permits include a Conditional Use Permit, Zoning Permit, and Grading and Filling Permit.

Future timber harvest on DNR-administered ownerships would be coordinated with the Proposer as needed. Harvest activity could result in temporary trail closures to public use, typically during frozen soil conditions however temporary closures could also occur during drier weather conditions. Repair of damaged trails would be conducted by the Proposer to pre-harvest safety and sustainability objectives appropriate for the site. Future timber harvest is expected to be compatible with the Tioga Recreation Area's management objectives with proper notification and planning.

The Project and proposed expansion of the Tioga Public Water Access parking area are considered compatible actions. Construction and management of both the Project and the expanded public water access parking area would be coordinated between DNR and the City of Cohasset. Measures to ensure compatibility include: 1) Proposer relocation and construction of an existing haul road to just east of the proposed dedicated mountain bike parking area; 2) no amenity construction along the shoreline or north of the existing parking lots and boat launch; 3) joint coordination of connector trail routes in the area; and 4) installation of gates where necessary.

The Project would not affect adjacent land uses or zoning districts.

c. Identify measures incorporated into the proposed project to mitigate any potential incompatibility as discussed in Item 9b above.

The Project is fully compatible with the nearby land use and applicable zoning and plans for the Project area.

10. Geology, Soils and Topography/Land Forms:

a. Geology - Describe the geology underlying the project area and identify and map any susceptible geologic features such as sinkholes, shallow limestone formations, unconfined/shallow aquifers, or karst conditions. Discuss any limitations of these features for the project and any effects the project could have on these features. Identify any project designs or mitigation measures to address effects to geologic features.

Bedrock at the project site belongs to the Animikie Group that is comprised of Precambrian Biwabik Iron Formation (e.g., mineral taconite), slate and greywacke, and Pokegama Quartzite. Up to 250 feet of glacial till overlies the bedrock consisting of unstratified sand, silt, clay, gravel and boulders. Well logs from the Minnesota Well Index suggest the Biwabik Iron Formation, which overlies the Pokegama Quartzite, ranges in depth from approximately 30 to 200 feet within the Project area. Well logs within Project vicinity are available upon request.

Mining historically occurred at the site with subsequent reclamation in the 1980s. There is the potential for future mining within the Project area due to the presence of High Value Resource areas as well as areas where the DNR may opt to extract mineral resources in the future. Although there are no current plans for new mine sites within the Project area, development of new mines would require trails to be relocated to avoid future mining areas at the request of the DNR.

b. Soils and topography - Describe the soils on the site, giving NRCS (SCS) classifications and descriptions, including limitations of soils. Describe topography, any special site conditions relating to erosion potential, soil stability or other soils limitations, such as steep slopes, highly permeable soils. Provide estimated volume and acreage of soil excavation and/or grading. Discuss impacts from project activities (distinguish between construction and operational activities) related to soils and topography. Identify measures during and after project construction to address soil limitations including stabilization, soil corrections or other measures. Erosion/sedimentation control related to stormwater runoff should be addressed in response to Item 11.b.ii.

Soils in the Project area are primarily silt loams and fine sand, in addition to waste rock from historic mining operations; see Figure 5 and Attachment 1. Steep slopes occur within the Project area, which is desirable for some types of recreational trails. A goal of the Project is to minimize potential erosion throughout the trail alignment, particularly in steeply sloped areas. Soils with a severe erosion hazard rating would be identified, with the final trail alignment avoiding soils with high erosion potential when possible. Where erodible soils cannot be avoided, trails would incorporate shallow inclines or trail armoring as primary erosion control measures. Additionally, steep slopes of greater than 33% would be considered and addressed during final trail design and construction; see Figure 3.

The majority of soils within the Project area are well drained with moderate to high permeability. Well drained soils are desirable for natural surface trails as they minimize the potential for trail damage due to rutting and erosion. The preliminary trail alignment has been flagged in the field to avoid high erosion areas and poorly drained soils. If wetland areas or seeps are encountered during final trail design, the trail would be rerouted, or crossed by bridges or boardwalks, to avoid potential wetland impacts.

The final design of the trails would be in accordance with the IMBA's Sustainable Trailbuilding Guidelines. By design, the final trail design would inherently reduce erosion on a long-term scale. Erosion and sediment control best management practices (BMPs) would be implemented during construction and maintenance to provide trail stabilization and minimize soil erosion. BMPs may include, but are not limited to, erosion control blankets, biologs, vegetation buffers, mulch, and silt fencing. Many of these BMPs would be implemented as part of the stormwater pollution prevention measures discussed in Item 11b.ii. Once the facility is operational, if erosion concerns arise, measures would be taken to address the erosion, including temporary trail closure and/or realignment. Routine trail maintenance would be used to preserve trail sustainability as well as provide safe access to all users.

Preliminary estimates of grading and excavation assume an average trail width of 36 inches (3 feet) and an average Project area slope of 16 percent. A three-foot wide trail width was used for the estimates because on average, it is estimated that the final widths of the trails would be substantially less than the maximum six-foot-wide trail assumed throughout this document. Additionally, not all of the trails would require grading or excavation.

The area to be graded is 17.3 acres, including 10.9 acres of trail and 2.4 acres for the trailhead. Assuming that up to 6-inches of Class V gravel with be added to improve parking and access at the trailhead, the total amount of excavated or regraded soil would be approximately 9,500 cubic yards (7,500 – trails; 2,000 – parking area). Excavated or regraded soil would be used in other locations along the trail alignment or trailhead area. Soils or gravel would not be removed from the Project area.

c. NOTE: For silica sand projects, the EAW must include a hydrogeologic investigation assessing the potential groundwater and surface water effects and geologic conditions that could create an increased risk of potentially significant effects on groundwater and surface water. Descriptions of water resources and potential effects from the project in EAW Item 11 must be consistent with the geology, soils and topography/land forms and potential effects described in EAW Item 10.

11. Water Resources:

a. Describe surface water and groundwater features on or near the site in a.i. and a.ii. below.

i. Surface water - lakes, streams, wetlands, intermittent channels, and county/judicial ditches. Include any special designations such as public waters, trout stream/lake, wildlife lakes, migratory waterfowl feeding/resting lake, and outstanding resource value water. Include water quality impairments or special designations listed on the current MPCA 303d Impaired Waters List that are within 1 mile of the project. Include DNR Public Waters Inventory number(s), if any.

The main Project area is located within the Pokegama Lake Watershed, with a small portion of the Project area north of the Tioga Mine Pit located in the Rice Lake-Mississippi River Watershed; see Figure 8a. The Pokegama Lake Watershed and Rice Lake-Mississippi Watershed are both part of the Mississippi-Headwaters Watershed (Hydrologic Unit Code 07010101), which is one of Minnesota's 15 Major Watersheds of the Upper Mississippi River Basin.

Waterbodies within the Project area include Tioga Mine Pit, Pokegama Lake, and unnamed National Wetlands Inventory (NWI) wetlands as illustrated in Figure 8a and Figure 8b. Cavanaugh Lake, Little Cavanaugh Lake, Long Lake, and Jay Gould Lake are located within one mile of the Project area.

Project-related activities occur in the vicinity of four types of wetland plant communities as classified under the "Classification of Wetlands and Deepwater Habitats of the United States (Cowardin, et al., 1979); see Figure 8b. All of these wetlands are classified as *palustrine*, which is defined as non-tidal wetlands dominated by trees, shrubs, persistent emergent, and emergent mosses or lichens. Wetland communities near the project include:

PFO5H (5.1 acres). This is a forest-type wetland community exhibiting dead woody plants, typically taller than 6 m. These wetlands result from a prolonged rise in the water table from impoundment by man or beavers, although other factors could be the cause of vegetation mortality (e.g., fire, salt; insect infestation). The water regime is permanently flooded.

PFO5F (2.0 acres). This is forest-type wetland community exhibiting dead wood plants, typically taller than 6 m. They result from a prolonged rise in the water table from impoundment by man or beavers, although other factors could be the cause of vegetation mortality (e.g., fire; salt; insect infestation). Typically semi-permanently flooded where surface water persists through the growing season in most years.

PFO/SSC (5.0 acres). This is a mixed-type wetland community. The FO class is forested and characterized with wood vegetation 6 m tall or taller. The SS class is scrub-shrub of shorter woody vegetation (<6 m) including true shrubs, saplings, and small or stunted trees or shrubs due to the conditions. These are seasonally flooded, with surface water present over extended periods, especially early in the growing season.

PFOB (3.2 acres). This is a forested wetland community and is characterized with woody vegetation 6 m tall. These are seasonally flooded, with surface water present over extended periods, especially early in the growing season.

Table 11-1 provides a listing of the waterbodies located within one mile of the project area; the table includes the waterbody's name, DNR Public Waters Inventory (PWI) Number, any designations, and any water quality impairments.

Table 11-1 Surface Waters and Designations within One Mile of Project Area

Waterbody Name	Waterbody Type	PWI No.	Special Designation	MPCA 303d Impairment
Cavanaugh	Lake	572P	None	None
Jay Gould	Lake	565P	None	None
Little Cavanaugh	Lake	572P	None	None
Little Jay Gould	Lake	566P	None	None
Loon	Lake	571P	None	None
Long	Lake	570P	None	Proposed – Aquatic Consumption
Pokegama (Main Bay)	Lake	532P	Wild Rice Lake	Aquatic Consumption
Tioga Mine Pit	Lake	946P	Trout Lake Special Water[1]	None
Unnamed Wetlands	Wetlands	NA	None	None

[1]The Tioga Mine Pit is considered a unique and sensitive water under Appendix A of the Minnesota NPDES/SDS Construction Stormwater General Permit.

Pokegama Lake (Main Bay) and Loon Lake are included as approved waterbodies for the Minnesota Statewide Mercury Total Maximum Daily Load (TMDL); Long Lake is on the MPCA's

2018 Draft Impaired Waters List for aquatic consumption. Pokegama Lake supports a lake trout fishery while the reclaimed Tioga Mine Pit is a designated trout lake that is stocked with rainbow trout by DNR; it is a wild rice lake with an estimated 100 acres of wild rice beds. The Tioga Mine Pit is currently managed through a partnership between the City of Cohasset and the DNR. Applicable requirements for PWI waterbodies, impaired waterbodies, and the designated trout lake would be followed as described in the Project's Construction Stormwater Pollution Prevention Plan (SWPPP).

There are no calcareous fens, wildlife lakes, migratory waterfowl lakes, or outstanding resource value waters near the Project area.

ii. Groundwater – aquifers, springs, seeps. Include: 1) depth to groundwater; 2) if project is within a MDH wellhead protection area; 3) identification of any onsite and/or nearby wells, including unique numbers and well logs if available. If there are no wells known on site or nearby, explain the methodology used to determine this.

Depth to groundwater varies throughout the Project area because of the heterogeneity of the glacial till in terms of depth and composition. According to the NRCS soil data, the depth to water for well drained soils is greater than 6.5 feet throughout the Project area. Where poorly drained soils are present throughout the project area, ponded water may be present at the surface. Similar to wetland areas, the final trails would avoid areas exhibiting ponded water and/or cross them with bridges to minimize impacts.

The Project is not located in a Minnesota Department of Health (MDH) wellhead protection area or drinking water supply management area. Multiple exploration wells were installed near the Tioga Mine Pit by the Natural Resources Research Institute in 2000. Eleven (11) of these exploration wells are located within the Project area; see Table 11-2. Well logs are available upon request.

Table 11-2 Wells Located within the Project Area

MDH Unique Well Number(s)	Well Type
312440 – 312450	Exploration

b. Describe effects from project activities on water resources and measures to minimize or mitigate the effects in Item b.i. through Item b.iv. below.

i. Wastewater - For each of the following, describe the sources, quantities and composition of all sanitary, municipal/domestic and industrial wastewater produced or treated at the site.

1) If the wastewater discharge is to a publicly owned treatment facility, identify any pretreatment measures and the ability of the facility to handle the added water and waste loadings, including any effects on, or required expansion of, municipal wastewater infrastructure.

Installation of portable toilets is a project feature. These would available for use by construction crews and trail users during construction, and remain on an ongoing basis following Project completion. The City would arrange for the toilets to be serviced, including disposal of wastes to a properly licensed facility, on a regular basis.

2) If the wastewater discharge is to a subsurface sewage treatment systems (SSTS), describe the system used, the design flow, and suitability of site conditions for such a system.

Not applicable.

3) If the wastewater discharge is to surface water, identify the wastewater treatment methods and identify discharge points and proposed effluent limitations to mitigate impacts. Discuss any effects to surface or groundwater from wastewater discharges.

Not applicable.

ii. Stormwater - Describe the quantity and quality of stormwater runoff at the site prior to and post construction. Include the routes and receiving water bodies for runoff from the site (major downstream water bodies as well as the immediate receiving waters). Discuss any environmental effects from stormwater discharges. Describe stormwater pollution prevention plans including temporary and permanent runoff controls and potential BMP site locations to manage or treat stormwater runoff. Identify specific erosion control, sedimentation control or stabilization measures to address soil limitations during and after project construction.

The Project would require an MPCA-administered Construction Stormwater General Permit because it would result in more than one acre of surface disturbance. The general permit would require a SWPPP to be developed for the Project. Additional BMPs, as well as seasonal construction timing restrictions, would apply under the general permit where discharge has the potential to reach the Tioga Mine Pit and Pokegama Lake. The erosion and sediment control BMPs in the SWPPP should include plans for redundant (i.e., double) downgradient sediment controls for soil disturbing activities that encroach on the existing 50 feet of natural buffers at the surface waters or wetlands at the site.

The SWPPP would also need to meet the requirements in Appendix A, Part C.1, 2, and 3 for the Tioga Mine Pit Lake because it is classified as a special water. This includes maintaining a 100-foot undisturbed buffer to the lake unless construction cannot be completed without encroaching into the buffer. If the buffer is encroached, then redundant BMPs must be employed. Soils must also be temporarily or permanently stabilized within 7 days of soil disturbance on parts of the project site that drain to the special water.

The new parking area at the trailhead would be constructed as a gravel surface and is assumed to be impervious for purposes of stormwater management. The Project involves construction of 2.4 acres of new impervious surface at the trailhead parking area, which results in a total of 3.3 acres when added to existing impervious surface at the Project site. MPCA considers features such as restrooms, changing shelters, picnic shelters, bike repair stations, or any other structures and the parking lot expansion that are planned now but built in the future as impervious surfaces requiring stormwater treatment. This would be a component of the Common Plan of Development as defined in the General Construction Stormwater permit. These additional areas can be included with the sizing of eventual treatment plans, or additional treatment areas would need to be added when these structures are constructed at a later date; this applies even if the additional areas amount to less than one acre of new impervious surface.

Because the project should avoid discharge to the lakes, the new impervious surfaces would be designed and contoured to shed water away from nearby waterbodies as required under the general permit. Provisions for the parking/trailhead area and trails are as follows.

Parking and Trailhead Areas. The Construction Stormwater General Permit would require that stormwater be retained on these parts of the site via infiltration (if possible) or other volume reduction practices and not discharged to surface waters unless prohibited due to high seasonal water tables or bedrock. One available measure is to create pervious islands within the parking area itself to capture stormwater, which can be achieved using either infiltration or filtration techniques.

Trails. Depending on the soil type along the trails, water would either directly infiltrate into the soil or shed runoff to adjacent vegetation for infiltration. Trails with soils derived from mine waste rock, such as would be expected at stockpiles and on overburden, are likely to be pervious and directly infiltrate stormwater. Trails composed of native soils, which contain smaller particle sizes than stockpiled rock, would be compacted within the active tread during construction and ongoing trail use and would be designed to shed water to adjacent vegetation. The trail design would incorporate the IMBA's Sustainable Trailbuilding Guidelines, which were created specifically to allow trails to drain water in a non-erosive manner. Some key guidelines include:

- *Avoid the Fall Line.* Fall line trails usually follow the shortest route down a hill along the same path that water flows. This means water is focused down the length of the trail, which is problematic. The speeding water strips the trail of soil, thus exposing roots, creating gullies, and scarring the environment.
- *Avoid Flat Areas.* If the trail does not exhibit any lateral slope, then there is potential for the trail to become a localized water collection basin. The trail tread must always be slightly higher than the ground on at least one side for the water to properly drain off the trail.
- *Follow the Half Rule.* A trail's grade should not exceed half the grade of the sideslope being traversed; if the trail does not do this then it is considered a fall line trail.

- *The 10% Average Guideline.* Overall, a trail's grade should be maintained at 10% average grade or less, which is the most sustainable grade to prevent erosion. Short sections may exceed 10% as long as the Half Rule is used.
- *Maximum Grades of 15-25%.* Only exceed the specified maximum grade of 15-25% for very short distances or under special conditions, such as bedrock surfaces or other sustainable features.
- *Grade Reversals.* Grade reversals are recommended every 20 to 50 feet to allow water to exit the trail tread at the lowest point along that segment.
- *Trail Outslope.* The outer edge of the trail should be slightly lower than the hillside or inside edge by 5 percent, which would encourage water to sheet across the trail rather than traveling down the trail center.

In addition to incorporating erosion control measures into the trail design, other BMPs are available such as erosion control blankets, biologs, vegetation buffers, mulch, and silt fencing that would be implemented as appropriate during construction.

During operations, and in accordance with the conditions of the approved DNR lease, the City would regularly inspect for erosion that may occur and would stabilize the exposed areas as needed.

iii. Water appropriation - Describe if the project proposes to appropriate surface or groundwater (including dewatering). Describe the source, quantity, duration, use and purpose of the water use and if a DNR water appropriation permit is required. Describe any well abandonment. If connecting to an existing municipal water supply, identify the wells to be used as a water source and any effects on, or required expansion of, municipal water infrastructure. Discuss environmental effects from water appropriation, including an assessment of the water resources available for appropriation. Identify any measures to avoid, minimize, or mitigate environmental effects from the water appropriation.

Not applicable; no water appropriation is anticipated during construction or operation of the Project.

iv. Surface Waters

1) Wetlands - Describe any anticipated physical effects or alterations to wetland features such as draining, filling, permanent inundation, dredging and vegetative removal. Discuss direct and indirect environmental effects from physical modification of wetlands, including the anticipated effects that any proposed wetland alterations may have to the host watershed. Identify measures to avoid (e.g., available alternatives that were considered), minimize, or mitigate environmental effects to wetlands. Discuss whether any required compensatory wetland mitigation for unavoidable wetland impacts will occur in the same minor or major watershed, and identify those probable locations.

No wetlands or designated public waters are proposed to be crossed by the trails. During the initial trail design wetland crossings were avoided based on existing NWI data; see Figures 8a and 8b. A project objective is for final trail alignments to be "field fit" to ensure that wetland impacts are avoided during trail construction. If field review indicates a wetland crossing cannot be avoided to meet project objectives, then bridges or elevated boardwalks placed on piers or driven pilings would be used to mitigate potential impacts to wetlands. The following BMPs would be used to avoid altering the wetland's cross-section and/or hydrological characteristics, which is a means of reducing potential impacts. Specifically:

- Avoiding crossing open bodies of water or other wetlands when possible.
- Designing crossing(s) to traverse a narrow section of wetland.
- Designing crossing(s) to keep disturbance to a minimum.
- Minimizing the number of pilings by spanning as much of the wetland as possible between pilings.
- Avoiding disturbance to wetland soils and other vegetation.
- Avoiding fragmenting wetland wildlife habitat by building away from identifiable wildlife travel corridors.

The Proposer does not anticipate any wetland mitigation would be required if these measures are employed in the design, location, and installation of any elevated boardwalk or bridge structures. This is because any effects would not meet the criteria be considered permanent wetland impacts under applicable regulations. Consultation would occur with the applicable agencies to confirm potential permitting requirements, including whether permanent impacts may or may not result, if a bridge or elevated crossing is required.

Although it is possible that new bridges or boardwalks that cross wetlands may not result in jurisdictional impacts, these types of structures would be included in the calculation of the total amount of impervious surface that would require storm-water treatment under the Construction Stormwater General Permit. Additional treatment areas would need to be added to account for these structures even if the amount of impervious surface is less than one acre. The Proposer commits to meet applicable regulations and stormwater control requirements.

2) Other surface waters - Describe any anticipated physical effects or alterations to surface water features (lakes, streams, ponds, intermittent channels, county/judicial ditches) such as draining, filling, permanent inundation, dredging, diking, stream diversion, impoundment, aquatic plant removal and riparian alteration. Discuss direct and indirect environmental effects from physical modification of water features. Identify measures to avoid, minimize, or mitigate environmental effects to surface water features, including in-water Best Management Practices that are proposed to avoid or minimize turbidity/sedimentation while physically altering the water features. Discuss how the project will change the number or type of watercraft on any water body, including current and projected watercraft usage.

Not applicable; the Project would not physically affect or alter any surface water features (i.e., lakes, streams, ponds, intermittent channels, or county ditches).

12. Contamination/Hazardous Materials/Wastes:

a. Pre-project site conditions - Describe existing contamination or potential environmental hazards on or in close proximity to the project site such as soil or ground water contamination, abandoned dumps, closed landfills, existing or abandoned storage tanks, and hazardous liquid or gas pipelines. Discuss any potential environmental effects from pre-project site conditions that would be caused or exacerbated by project construction and operation. Identify measures to avoid, minimize or mitigate adverse effects from existing contamination or potential environmental hazards. Include development of a Contingency Plan or Response Action Plan.

The Project would be constructed on undeveloped forestland and reclaimed, forested minelands. The reclaimed mineland includes stockpiles of low grade iron ore and rock overburden, both of which are not anticipated to pose environmental hazards.

Additionally, no known environmental hazards due to historic sites such as landfills, abandoned dumps other than reclaimed mine waste, storage tanks, or hazardous liquids have been identified within the Project area. Therefore, the Project is not expected to cause or exacerbate any existing environmental hazards.

b. Project related generation/storage of solid wastes - Describe solid wastes generated/stored during construction and/or operation of the project. Indicate method of disposal. Discuss potential environmental effects from solid waste handling, storage and disposal. Identify measures to avoid, minimize or mitigate adverse effects from the generation/storage of solid waste including source reduction and recycling.

A solid waste receptacle would be placed at the trailhead prior to any construction activities and would be serviced regularly by the City of Cohasset. All solid wastes generated during the construction and operations would either be disposed of at the trailhead waste receptacle or taken offsite for disposal in accordance with applicable requirements. No environmental effects are anticipated as a result of Project-related solid waste generation.

c. Project related use/storage of hazardous materials - Describe chemicals/hazardous materials used/stored during construction and/or operation of the project including method of storage. Indicate the number, location and size of any above or below ground tanks to store petroleum or other materials. Discuss potential environmental effects from accidental spill or release of hazardous materials. Identify measures to avoid, minimize or mitigate adverse effects from the use/storage of chemicals/hazardous materials including source reduction and recycling. Include development of a spill prevention plan.

The use of mechanical equipment fluids and fuels during construction and long-term operation poses the primary potential source of environmental contamination. Fuel containers transported for trail construction and future maintenance would not exceed 10 gallons; fueling

would be performed more than 100 feet from wetlands and surface waters. Equipment operators would perform daily checks on equipment with fluids to confirm that the equipment is in proper working order, free of leaks, and equipped with spark arrestors, if applicable. While the release of fluids or fuels is not anticipated, construction and maintenance crews would carry appropriately-sized spill kits onsite and immediately clean all spills. Any waste resulting from spill cleanup would be carried offsite and properly disposed. No above or below ground storage tanks are proposed for the Project.

d. Project related generation/storage of hazardous wastes - Describe hazardous wastes generated/stored during construction and/or operation of the project. Indicate method of disposal. Discuss potential environmental effects from hazardous waste handling, storage, and disposal. Identify measures to avoid, minimize or mitigate adverse effects from the generation/storage of hazardous waste including source reduction and recycling.

Not applicable; the Project is not anticipated to generate hazardous waste.

13. Fish, Wildlife, Plant Communities, and Sensitive Ecological Resources (rare features):

a. Describe fish and wildlife resources as well as habitats and vegetation on or in near the site.

General Landscape Characteristics. The proposed project site is located within the Ecological Classification System's St. Louis Moraines subsection of the Northern Minnesota Drift and Plains section of the Laurentian Mixed Forest Province. Rolling to steep slopes characterize much of this subsection with end moraines being the dominant landform. Typical pre-settlement vegetation was primarily northern mixed hardwood forest, mixed white pine/red pine forest, and aspen-birch forest. Northern mixed hardwoods comprise present day vegetation within the subsection, although early-successional quaking aspen has become more prevalent in the region as a result of disturbance associated with timber demand and subsequent harvest.

Fishery Resources. The majority of the project site is a peninsula surrounded by Pokegama Lake. Two lesser waterbodies, Cavanaugh Lake and the Tioga Mine Pit, are also present with all three lakes supporting a respective fishery. Gamefish management in Pokegama Lake targets walleye, muskellunge, and northern pike; other species present include: largemouth bass; smallmouth bass; lake trout; black crappie; bluegill; and yellow perch. Cavanaugh Lake is a small bass-panfish lake with northern pike, black crappie, and yellow perch also present. The Tioga Mine Pit is a designated Trout Lake that is stocked annually with rainbow trout; other species present include largemouth bass, rock bass, and white sucker.

Wildlife Resources. Wildlife present in Project area are primarily those species associated with the upland mixed forests and scrub-shrub wetlands found intermittently throughout the Project site. Wildlife species expected to use the project area would be generalists associated with upland forest such as raccoon, skunk, white-tailed deer, and black bear. The project area is also expected to support a variety of nongame wildlife species including songbirds, raptors, and bats. The project area likely provides habitat for eagles and osprey due to close proximity to lakes.

Vegetation. Upland vegetation is typical for northern hardwood stands (some of which is subject to near-term prescriptive thinning) and recently clearcut aspen acreage, the latter exhibiting growth of early successional plant species for a number of years until aspen regrows on that part of the site. Pine is also present, some of which is also subject to harvest. Wetlands are present whose vegetation includes: flooded forest; seasonally-flooded forest and scrub-shrub; and erect, rooted, perennial hydrophytes such as duckweed and floating water lily.

b. Describe rare features such as state-listed (endangered, threatened or special concern) species, native plant communities, Minnesota County Biological Survey Sites of Biodiversity Significance, and other sensitive ecological resources on or within close proximity to the site. Provide the license agreement number (LA-____) and/or correspondence number (ERDB 20180294) from which the data were obtained and attach the Natural Heritage letter from the DNR. Indicate if any additional habitat or species survey work has been conducted within the site and describe the results.

There are no known occurrences of state-listed plant or wildlife species on the site.

Natural Heritage Information System Correspondence

The Minnesota Natural Heritage Information System (NHIS) database was reviewed for rare plants and animals within a one-mile radius in March 2018; see Attachment 2: 2018 Natural Heritage Review Correspondence. Based on this review there are no known occurrences of rare species in the search area. The Natural Heritage Review also identified the following issues:

Candidate Site of Biodiversity Significance. The project site is partially within an area that has been preliminarily identified by the Minnesota Biological Survey (MBS) as a *Moderate* Site of Biodiversity Significance. Sites ranked as *Moderate* contain occurrences of rare species and/or moderately disturbed native plant communities, and/or landscapes that have a strong potential for recovery. The DNR Natural Heritage Review letter provided a series of recommendations to minimize disturbance, which included:

- minimize width of trail;
- operate within already-disturbed areas as much as possible;
- avoid routing trails through wet swales or depressions, or sensitive rock outcrop areas;
- bridge all stream and wetland crossings;
- minimize construction equipment and vehicular disturbance in the area;
- do not park equipment or stockpile supplies in the area;
- do not place spoil within sensitive areas;
- employ effective erosion prevention and sediment control measures;
- pre-inspect and clean all equipment for invasive species prior to entering the site;
- trail maintenance should address erodible soils, especially in steep areas;
- use signage to encourage visitors to stay on designated trails;
- revegetate disturbed soil with native species suitable to the local habitats as soon after construction as possible; and
- use clean, weed-free mulches, topsoils, and seed mixes.

Lake of Biological Significance. Pokegama Lake has been identified as a Lake of *Outstanding* Biological Significance. Lakes of Biological Significance were ranked as *Outstanding*, *High*, or *Moderate* based on unique plant and animal presence. This particular lake was ranked *Outstanding* based on its fish and plant population. Deterioration of water quality should be minimized.

Wild Rice Lake. Pokegama Lake is a designated Wild Rice Lake with an estimated 100 acres of wild rice present. It is important that deterioration of water quality is minimized through effectively preventing project-related erosion and sedimentation during construction and operations over the life of the project.

The Proposer queried the US Fish and Wildlife Service (USFWS) Information for Planning and Conservation (IPaC) online tool in December 2017 for the project area against records for federally-listed plant and wildlife species. The following species were identified as potentially occurring in the project vicinity:

- The Northern long-eared bat (*Myotis septentrionalis*) is a species that roosts and broods young in large trees that have shaggy bark, cavities, or otherwise exhibit signs of decay, particularly aspen. It is federally-listed as a threatened species and state-listed as a species of special concern.
- The project area is within the range of the Canada lynx (*Lynx canadensis*). It is federally-listed as a threatened species and state-listed as a species of special concern. Lynx population cycles are related to snowshoe hare populations, with the hares typically associated with spruce and fir boreal forests.
- The project area is within the range of the gray wolf (*Canis lupus*) with Itasca County identified as critical habitat by the USFWS. It is federally-listed as a threatened species in Minnesota. Principal prey include white-tailed deer, moose, beaver, snowshoe hare, and muskrat.

No additional habitat or species survey work has been completed within the site.

c. Discuss how the identified fish, wildlife, plant communities, rare features and ecosystems may be affected by the project. Include a discussion on introduction and spread of invasive species from the project construction and operation. Separately discuss effects to known threatened and endangered species.

Fisheries Resources. No impacts to fisheries resources are anticipated with the project.

Wildlife Resources and Habitat. Wildlife and their habitats would be affected by activities related to trail development and usage. Potential project-related environmental effects to wildlife include: changes in ground habitat resulting from limited removal of understory vegetation along the trail route; accidental introduction of invasive species; and disturbance and alteration of use patterns of wildlife species, especially avoidance of the installed trail network by those species that are sensitive to human intrusion. Some degree of understory habitat fragmentation would occur but overstory habitat integrity should remain with little or no

project-related change in canopy coverage. The suitability of existing travel corridors through the area proposed for the trailhead and parking may be diminished during construction and subsequent recreational uses. Construction- and maintenance-related effects would be temporary, while species sensitive to human intrusion may show long-term responses, for example abandonment of preferred foraging or nesting areas. Disturbance that alters behaviors within a local population, which then results in displacement effects, may ultimately affect the health and status of some local populations, including local reductions. Species predisposed to use manmade trails as part of their life histories, such as white-tailed deer, could benefit from the trails. No regional consequences are anticipated.

Vegetation. Trail construction should not appreciably affect the dominant overstory vegetation and adjacent subcanopy if the project goal of minimizing new canopy openings is realized. Ground layer vegetation would typically remaining intact except for the six-foot wide treadway itself. Over time grasses, which are the most tolerant of trampling and maintenance clipping, would be the type of vegetation most likely to survive in the managed trail corridor. Currently closed canopy areas are likely to remain after construction because little tree removal would be necessary for many parts of the site due to previous clearcut harvest and thinning activities. To the degree any open canopy habitats persists as a function of ongoing trail management, the corridors can result in locally high richness and diversity throughout the breadth of the clearings.

Candidate Site of Moderate Biodiversity Significance. If the site is designated as a Site of *Moderate* Biodiversity Significance, and because the existing vegetation and natural communities constitute the basis for the proposed *Moderate*-level significance, then project implementation would likely diminish this site's contributions to the ecological integrity of the greater area of biodiversity significance. Although it is not possible to predict the degree of potential decline, the DNR Natural Heritage Review letter identified measures available to minimize potential change in ecological integrity due to the project.

Lake of Biological Significance. The project is not expected to adversely affect the water quality or biota of Pokegama Lake.

Wild Rice Lake. The project is not expected to adversely affect wild rice resources in Pokegama Lake.

Bald Eagle. Suitable habitat for the bald eagle is present within the vicinity of the Project area and construction activities could produce physical, visual, and noise disturbance effects to bald eagles. This is particularly relevant during the nesting season from February 15 to August 15 when eagles are most sensitive to human disturbance.

Northern Long-eared Bats. Potential summer roosting and foraging habitat for the federally-threatened northern long-eared bat may be present within the proposed Project area. According to guidance provided by the USFWS, northern long-eared bat habitat can be classified as trees measuring at least 3 inches in diameter with peeling bark or crevices. According to USFWS and DNR data, there are no known roost trees or hibernacula within the township in which the Project would occur, which means no prohibited take would occur according to the

final 4 (d) rule published by USFWS. For northern long-eared bats in general, any project-related removal of large trees with suitable bark, cavities, or degree of decay could diminish available roosting and rearing habitat. Tree removal during the summer months could dislocate and thus directly affect nursing females with pups.

Canada Lynx and Gray Wolf. The proposed Project occurs within or near habitat suitable for Canada lynx and gray wolf. Typically these species occupy forested areas similar to that present throughout the Project area. The Canada lynx and gray wolf prefer den sites in upland areas that offer protection from the weather and human disturbance. The Project is not likely to adversely affect the lynx or wolf because of: 1) the lack of suitable den habitat; 2) the long-ranging roaming nature of the species; and 3) both species' predisposition to avoid human disturbance and interaction. Any impacts would be limited to the project site and no landscape-scale effects are anticipated.

Invasive Species. Project-related construction and ongoing visitor use (once operational) can provide opportunities for the introduction and/or spread of invasive plant species. Invasive species can adversely affect wildlife habitat and lessen biodiversity, the latter due to invasive species outcompeting native plants. Soil disturbance due to construction, or unmanaged trail development or use, can provide conditions suitable for establishment of invasive plant species introduced to the site by animals, birds and wind, operator clothing, or on equipment, trucks, or bicycles originating from offsite infested areas. Materials such as gravel could provide seedstock for the introduction of invasive plant species to the project site. The site has not been surveyed for the presence of invasive species.

d. Identify measures that will be taken to avoid, minimize, or mitigate adverse effects to fish, wildlife, plant communities, and sensitive ecological resources.

Wildlife Resources. There are measures available to minimize operational impacts to wildlife. These include: retaining vegetative communities and associated habitat to the extent practicable; controlling the potential introduction and spread of invasive plant species; maintaining the minimum corridor width to six feet in meeting project objectives; limiting adverse effects to adjacent vegetation; and limiting development to the west/southwest of the lower parking area to maintain any existing travel corridors. Application of soil erosion and sedimentation BMPs can also lessen potential adverse effects to wildlife habitat.

Candidate Site of Moderate Biodiversity Significance. Project construction and operation would adhere to sustainable trail development guidelines that mirror the recommendations provided by the DNR Natural Heritage Review. Implementing these measures should allow the site to retain some biodiversity value, especially with successful invasive species control. Although the overall contribution to the ecological integrity of the greater unit would be diminished, some value would remain.

Bald Eagle. Following the National Bald Eagle Management Guidelines is the principal means to ensure no impacts to nesting bald eagles. Specifically, work would not occur within 660 feet of an occupied nesting during the nesting season, which occurs from approximately February 15 to

August 15 in northern Minnesota. Surveys to determine the presence of active nest would be conducted by a qualified biologist prior to tree clearing and/or construction as outlined in the Operational Agreement.

Northern Long-eared Bat. Tree clearing, if required, would be conducted in accordance with the 4(d) rule to ensure no prohibited take of the northern long-eared bat occurs. Specifically, no trees would be cleared within 150 feet of a known, occupied roost tree from June 1 to July 31, and no trees would be cleared within 0.25 miles of a known hibernaculum at any time. Data collection of known, occupied roost trees and hibernacula is updated by the DNR and USFWS on a regular basis and data would be reviewed upon DNR and USFWS data releases, expected to occur in April of every year.

Canada Lynx and Gray Wolf. There are project measures available to minimize impacts to any lynx or wolves that may use the project site. These include: controlling the potential introduction and spread of invasive plant species; maintaining the minimum corridor width to meet project objectives; and limiting impacts to adjacent vegetation. The Proposer commits to avoid denning sites if found.

Invasive Species. If the Project is implemented, then the Tioga Recreation Area Cooperative Operational Agreement identifies that invasive species must be managed in accordance with Minnesota Statutes Chapter 84D and Minnesota Rules part 6216. The DNR Lease would require a site survey for invasive species prior to project implementation. During construction and operation, proper site management would include measures to prevent, detect, monitor, educate, and eradicate (where practical) invasive species at the project site. Construction BMPs available to limit introduction of invasive species include: 1) inspecting and cleaning equipment prior to entering the site; 2) minimizing soil disturbance to the extent practicable; 3) minimizing the import of new materials by reusing onsite materials; 4) locating and using staging areas that are free of invasive species; and 5) monitoring revegetation once construction is complete. The Proposer also commits to use clean non-native materials for construction purposes, such as the Class V gravel proposed for the parking-staging area. Keeping riders on designated trails would limit the potential for transporting invasive species to un-infested parts of the site. Installing a portable wash station would provide a place to rinse equipment such as for boats, bikes, paddle boards, kayaks, or similar items.

Soil erosion and sedimentation BMPs would be installed to further prevent impacts to plant and fish communities outside of the directly affected areas. BMPs may include, but are not limited to, measures such as: 1) employing a sustainable trail design; and 2) use of erosion control blankets, biologs, vegetation buffers, mulch, and silt fencing as appropriate. Also see Section 11b.ii.

No other fish, wildlife, plant communities, or sensitive ecological resources are expected to be affected and therefore no additional measures are planned.

14. Historic Properties:

Describe any historic structures, archeological sites, and/or traditional cultural properties on or in

close proximity to the site. Include: 1) historic designations, 2) known artifact areas, and 3) architectural features. Attach letter received from the State Historic Preservation Office (SHPO). Discuss any anticipated effects to historic properties during project construction and operation. Identify measures that will be taken to avoid, minimize, or mitigate adverse effects to historic properties.

A data request was sent to SHPO to identify known cultural resources within one mile of the Project area. Four records, all of which are archaeological sites, were identified within one mile of the Project area. The files for these four resources were reviewed at SHPO's office. The Proposer's file review indicated Archaeological Site 21IC0060 may be partially within the Project boundary, while Archaeological Sites 21IC0005, 21IC0067, and 21IC0080 appear to be outside the project boundary.

A letter was sent to the SHPO that described the project, current land use and ownership, and the four nearby archaeological sites. Due to the nature and location of the proposed project, SHPO recommended that a Phase I archaeological survey be completed to identify any historic, industrial, or prehistoric archaeological sites within the Project area that may not have been previously recorded; see Attachment 3 regarding SHPO correspondence for SHPO Project No. 2018-1206.

The Phase I archaeological survey was completed in the spring of 2018 and submitted to SHPO for review and concurrence. No historic, industrial, or prehistoric archaeological sites were found; see Attachment 3a. In addition, no historic properties were identified as being eligible for National Register listing. The Proposer has prepared a draft Unanticipated Discoveries Plan (UDP) to govern accidental unearthing or damage of previously unknown archaeological sites or human skeletal remains; see Attachment 3b. The UDP would be a part of the cultural resources review conducted with SHPO.

15. Visual:

Describe any scenic views or vistas on or near the project site. Describe any project related visual effects such as vapor plumes or glare from intense lights. Discuss the potential visual effects from the project. Identify any measures to avoid, minimize, or mitigate visual effects.

The Project would create opportunities for scenic recreation for visitors. The topography of the Project site provides an elevation gain of approximately 200 feet from the surrounding lakes to the highest elevation of 1,500 feet above mean sea level. Project users would be presented with a scenic vista comprised of nearby forests, lakes, and the Mississippi River.

Construction would occur during typical daylight hours and would only introduce temporary lighting at a small, localized scale, and only if needed. No permanent lighting is proposed as part of the Project.

Given the Project would not alter vistas or lighting, it is not expected to generate any adverse visual effects on or near the Project area.

16. Air:

a. Stationary source emissions - Describe the type, sources, quantities and compositions of any emissions from stationary sources such as boilers or exhaust stacks. Include any hazardous air pollutants, criteria pollutants, and any greenhouse gases. Discuss effects to air quality including any sensitive receptors, human health or applicable regulatory criteria. Include a discussion of any methods used assess the project's effect on air quality and the results of that assessment. Identify pollution control equipment and other measures that will be taken to avoid, minimize, or mitigate adverse effects from stationary source emissions.

Not applicable; the Project would not introduce any stationary emission sources.

b. Vehicle emissions - Describe the effect of the project's traffic generation on air emissions. Discuss the project's vehicle-related emissions effect on air quality. Identify measures (e.g. traffic operational improvements, diesel idling minimization plan) that will be taken to minimize or mitigate vehicle-related emissions.

The Project is not anticipated to generate a substantial increase in traffic-related air emissions during construction activities. A small increase in vehicle-related air emissions may be expected as a result of increased visitation by trail and other recreation users. The Project is not expected to cause any substantial decrease in air quality.

c. Dust and odors - Describe sources, characteristics, duration, quantities, and intensity of dust and odors generated during project construction and operation. (Fugitive dust may be discussed under item 16a). Discuss the effect of dust and odors in the vicinity of the project including nearby sensitive receptors and quality of life. Identify measures that will be taken to minimize or mitigate the effects of dust and odors.

In addition to hand tools, portions of the trail construction would be performed using small diesel or gasoline powered mechanized equipment such as mini-excavators, mini-skid steers, powered wheelbarrows, chainsaws, and brush-cutters. These tools would emit some exhaust fumes during operation. The trail construction would result in minimal odors and dust during daylight hours.

The temporary construction of the trailhead components (e.g., parking area, informational kiosk, bike repair station, portable toilets) would use typical construction equipment such as trucks, graders, excavators, and similar equipment. Dust would be controlled with water or a chemical dust suppressant that would be applied if necessary.

Maintenance activities would be primarily performed with zero emission hand tools. Standard trail use on the native mineral soils is not anticipated to generate substantial dust. During dry weather periods, the vegetation adjacent to the trail would help mitigate minor dust generation.

There are no known sensitive receptors near the Project.

17. **Noise:**

Describe sources, characteristics, duration, quantities, and intensity of noise generated during project construction and operation. Discuss the effect of noise in the vicinity of the project including 1) existing noise levels/sources in the area, 2) nearby sensitive receptors, 3) conformance to state noise standards, and 4) quality of life. Identify measures that will be taken to minimize or mitigate the effects of noise.

Existing noise conditions in the Project area consist of natural sounds (e.g., wind-blown vegetation; insects; and birds), limited vehicle traffic, residential yard maintenance, and motorized recreational equipment (e.g., snowmobiles, boats; jetskis).

During trail construction, small diesel- or gasoline-powered mechanized equipment (e.g., mini-excavators; mini-skid steers) would generate noise when operating. Noise levels can be lessened by employing noise-reduction mufflers on construction and other maintenance equipment. This noise would be temporary in nature and would occur only during daylight hours. Construction of the trailhead components would also generate noise from equipment preparing the area such as trucks, graders, excavators, and similar equipment.

Residential homes are located less than 500 feet from some parts of the site. Ongoing trail maintenance activity is expected to be limited to daytime hours, which are defined under state noise rules as those hours between 7 AM to 10 PM. Although maintenance would largely utilize hand tools and/or small equipment such as snowmobiles, chainsaws, brush cutters, or similar, conducting the work during daytime hours would assist in maintaining noise standards for nearby residences. Otherwise, trail maintenance is expected to be indistinguishable from other maintenance activity in surrounding areas. No substantial change in long-term noise impacts is expected under normal use of the project, thus no change in quality of life is expected.

18. **Transportation:**

a. **Describe traffic-related aspects of project construction and operation. Include: 1) existing and proposed additional parking spaces, 2) estimated total average daily traffic generated, 3) estimated maximum peak hour traffic generated and time of occurrence, 4) indicate source of trip generation rates used in the estimates, and 5) availability of transit and/or other alternative transportation modes.**

The project site does not currently include designated parking areas. Visitors typically park in the overflow parking lot for the Tioga Public Water Access. The Project trailhead parking area would create an estimated 100 parking spaces. The Project is expected to generate 110 trips per day, with a maximum peak hour traffic of 7 trips per hour projected on Saturday afternoons. These traffic estimates are based on an extrapolation from use levels at the Cuyuna Country State Recreation Area, which has a similarly-sized trail system located approximately 75 miles from the proposed project.

Bicyclists and hikers would be able to access the Project along existing streets and trails due to its location within the City limits of Cohasset and proximity to the City of Grant Rapids. No public transit would be available.

Discuss the effect on traffic congestion on affected roads and describe any traffic improvements necessary. The analysis must discuss the project's impact on the regional transportation system.
If the peak hour traffic generated exceeds 250 vehicles or the total daily trips exceeds 2,500, a traffic impact study must be prepared as part of the EAW. **Use the format and procedures described in the Minnesota Department of Transportation's Access Management Manual, Chapter 5** ***(available at: http://www.dot.state.mn.us/accessmanagement/resources.html)*** **or a similar local guidance.**

The minor increase in traffic generated by the Project is not anticipated to affect traffic congestion on adjacent roads or the regional transportation system (110 trips per day, with maximum peak hour traffic of 7 trips per hour). A majority of vehicle traffic to access the Project would originate from County Road 63 to Tioga Beach Road; see Figure 1. The average annual daily traffic estimate provided by the Minnesota Department of Transportation (MNDOT) is 5,300 vehicles for this road. A center turn lane is present on the north and south sides of County Road 63 at the Tioga Beach Road intersection. While no traffic estimates for Tioga Beach Road are available from MNDOT, the addition of 110 trips per day is not expected to create adverse traffic impacts. Given the locally modest increase in traffic due to the project, project-related traffic is not expected to adversely affect local roads or the regional transportation system.

b. Identify measures that will be taken to minimize or mitigate project related transportation effects.

It is anticipated that the 100 new parking spots to be created as part of the trailhead construction would mitigate potential Project-related parking congestion on Tioga Beach Road.

19. Cumulative Potential Effects: (Preparers can leave this item blank if cumulative potential effects are addressed under the applicable EAW Items)

a. **Describe the geographic scales and timeframes of the project related environmental effects that could combine with other environmental effects resulting in cumulative potential effects.**

The geographic scale of the project-related environmental effects includes the immediate Tioga Recreation Area, as defined within the project boundary depicted on Figure 2 that also includes the area of the Tioga Public Water Access. This is general locale for future activity associated with the project, future forest management and timber harvest, and anticipated expansion of the Tioga Public Water Access parking lot.

The timeframe for considering potential cumulative environmental effects would be approximately the first five years of facility construction and operation. This time period covers project construction and early operations, planned timber harvest, and when the public water access parking is projected to be expanded.

Potential project-related environmental effects that can interact with other reasonably foreseeable project include noise, traffic, and water quality. The proposed project would temporarily generate noise during the phases of construction, with the potential for noise generation during ongoing maintenance and wintertime trail grooming. The project would increase traffic levels above existing conditions that would vary as a function of aggregate recreational use of the site. The project would also result in nominal changes in stormwater quality during construction.

b. Describe any reasonably foreseeable future projects (for which a basis of expectation has been laid) that may interact with environmental effects of the proposed project within the geographic scales and timeframes identified above.

The City of Cohasset identified that future additions within the Project area may include a fishing pier at Tioga Mine Pit, road/parking improvements, and an extension of paved trails. Currently, there are no plans or funding sources for amenities within the Project area other than the trails and trailhead area discussed in this document. Additionally, there are plans to expand the City of Cohasset Tioga Beach Park located directly northeast of the Project area; see Figure 1. Similarly, there are no immediate plans for execution of the shore fishing area, nor has it received funding. Because no plans or funding have come forward for these actions, they are not considered reasonably foreseeable for assessing potential cumulative environmental effects of the proposed project.

The DNR Division of Forestry anticipates future harvest is possible at the site within the Project boundary, including: a 55-acre red pine stand (between present and 2021); a 9-acre old aspen stand (within the next 5 years); a 9-acre northern hardwoods stand (within the next 5 years); a 13-acre aspen stand (within the next 5 years); and an 8-acre red pine stand (within the next 5 years. All of this DNR-prescribed harvest activity is considered a reasonably foreseeable action for assessing potential cumulative effects of the proposed project. Because Itasca County does not anticipate any additional harvest activity within the 20-year project timeframe, no cumulative effects are projected.

The DNR Division of Parks and Trails proposes to expand the parking area at the Tioga Public Water Access by approximately one acre over the next two years. This is considered a reasonably foreseeable action for assessing potential cumulative effects of the proposed project.

No other projects are known to be proposed within the vicinity of the project at this time.

c. Discuss the nature of the cumulative potential effects and summarize any other available information relevant to determining whether there is potential for significant environmental effects due to these cumulative effects.

Construction-related noise, traffic, and water quality effects of timber harvest and expansion of the public water access parking area would overlap and interact with the Project's impacts. The

cumulative potential effects would be limited to the first 2 to 5 years of the project until planned timber harvest and the parking lot expansion are complete.

Cumulative noise effects are possible over the first five years of the Project, either when timber harvest activity is occurring or when construction of the expanded parking for the public water access is underway. For timber harvest, these effects would be most likely under frozen soil conditions, when harvest often occurs and when recreational trail grooming could be necessary. The relative frequency of when trail grooming would occur concurrent with harvest activity is expected to be low. For expanding the parking area, it is possible construction for it might occur simultaneous with some project-related construction. This would be expected to occur during daylight hours and would end when construction is complete. State noise standards are not expected to be exceeded.

Once all site development is complete, cumulative traffic effects would persist over the 20-year term of the DNR lease at the site from individual vehicles entering, parking, and leaving the respective recreation area and public water access facilities. Traffic effects would likely have seasonal peaks around the three major summer holidays, as well as other peak-use levels around special events (e.g., fishing contests; organized biking events). Given the location of the parking facilities, cumulative traffic is expected to be limited to the upper reach of Tioga Beach Road that accesses the site.

Cumulative water quality effects are possible but are not expected if both the project and expansion of the Tioga Public Water Access parking area both meet the conditions of the MPCA-administered Construction Stormwater General Permit. This is because measures required under the general permit are designed to limit erosion and subsequent offsite transport of sediment and nutrients to adjacent waterbodies. Monitoring would be required to ensure effective control of water leaving the site.

20. Other Potential Environmental Effects: If the project may cause any additional environmental effects not addressed by items 1 to 19, describe the effects here, discuss the how the environment will be affected, and identify measures that will be taken to minimize and mitigate these effects.

No additional environmental effects are anticipated.

RGU CERTIFICATION. *(The Environmental Quality Board will only accept **SIGNED** Environmental Assessment Worksheets for public notice in the EQB Monitor.)*

I hereby certify that:

- The information contained in this document is accurate and complete to the best of my knowledge.
- The EAW describes the complete project; there are no other projects, stages or components other than those described in this document, which are related to the project as connected actions or phased actions, as defined at Minnesota Rules, parts 4410.0200, subparts 9c and 60, respectively.
- Copies of this EAW are being sent to the entire EQB distribution list.

Signature _____ Date June 11, 2018_____

Title Planning Director State_____