# SEPA Environmental Checklist

## A. Background

**1. Name of proposed project, if applicable:**

Holden Mine Remedial Action

**2. Name of applicant:**

Washington State Department of Ecology Central Regional Office

**3. Address and phone number of applicant and contact person:**

Valerie Bound
Section Manager, Toxics Cleanup Program
Washington State Department of Ecology
Central Regional Office
15 West Yakima Ave. Suite 200
Yakima, WA 98902-3452

The USDA Forest Service is the lead Agency responsible for the environmental cleanup of the Holden Mine Site (hereafter referred to as "the Site"). The USDA Forest Service (Forest Service), in cooperation with the U.S. Environmental Protection Agency (EPA) and the Washington State Department of Ecology (Ecology), have developed a proposed plan for cleanup.

The Forest Service, EPA, and Ecology are referred to collectively as "the Agencies."

Phase 2 Remediation:

Valerie Bound
Section Manager, Toxics Cleanup Program
Washington State Department of Ecology
Central Regional Office
1250 West Alder Street
Union Gap, WA 98903
(509) 575-2490

A Phase 2 Proposed Plan was issued by the Forest Service in cooperation with EPA, Ecology, and the and the Confederated Tribes and Bands of the Yakama Nation (Yakama Nation) and provided for public comment in June 2026.

**4. Date checklist prepared:**

June 02, 2010, Updated: June 2026 as an Addendum for the Phase 2 Remedial Action

**5. Agency requesting checklist:**

Ecology

**6. Proposed timing of schedule (including phasing, if applicable):**

The Site was an underground copper mine that was operated by the Howe Sound Mining Company (Howe Sound) from 1938 to 1957. Past mining operations at the Site have resulted in an ongoing release of hazardous substances (primarily metals), and an appropriate response action is required under both federal and state law.

Both a remedial investigation (RI) and feasibility study (FS) have been completed for the Site, and a Proposed Plan for Cleanup Action has been prepared and is being issued for public review and comment. The cleanup action will be carried out by Intalco (successor of Howe Sound). Remedial design and construction for the cleanup action is estimated to begin in 2011. Based on the remoteness of the Site and weather conditions, a typical work season spans approximately 5 to 6 months from spring until onset of winter conditions (October/November). Until further data and information is gathered, the exact timing of the construction seasons is unknown.

Remedial construction will likely follow a two-phased approach. It is anticipated that Phase I remedial construction will require approximately two years. Down time between the end of Phase I construction and the beginning of Phase II construction is expected to be five years. It is anticipated Phase II remedial construction, if necessary, will likely require an additional year.

One of the first components to be constructed is a wastewater treatment facility. Building this facility first allows it to be used to treat stormwater runoff as needed during the remaining construction work. Once construction is complete, the environmental cleanup remedy is anticipated to be in operation until the contaminant concentrations of groundwater and surface water are below the proposed cleanup levels.

Phase 2 Remediation:

Phase 2 construction will occur over two consecutive construction seasons (May to October of each year). The exact year construction will begin is not yet known but is anticipated to occur within the next 5 years.

**7. Do you have any plans for future additions, expansion, or further activity related to or connected with this proposal? If yes, explain.**

There are no specific plans for additions or expansions of the project. Environmental monitoring will take place to ensure the remedy is protective of both human health and the environment. Additional cleanup actions and construction would only be necessary at the Site if monitoring information demonstrates the remedy is **not** protective. In that case, a design change to the remedy may be necessary.

**8. List any environmental information you know about that has been prepared, or will be prepared, directly related to this proposal.**

a. Proposed Plan for Holden Mine Site, Chelan County, Washington. Prepared for Forest Service by Hart Crowser. 2010.

- (This SEPA checklist is included as an attachment to the Proposed Plan).

b. Remedial Investigation

- Draft Final Remedial Investigation Report, Holden Mine Site. Prepared for Alumet, Inc. by Dames and Moore. July 28, 1999.

c. Feasibility Study

- Addendum to the Supplemental Feasibility Study (Forest Service, 2010)
- Supplemental Feasibility Study (SFS), Holden Mine Site, Chelan County, Washington. Prepared by the Forest Service, Ecology, and EPA. September 2007.
- Draft Final Feasibility Study, Holden Mine Site. Prepared for Intalco by URS Corporation. February 19, 2004, as modified by the Agencies (Forest Service, August 13, 2007)

d. Holden Mine Site Information Package, Chelan County, Washington. Prepared for EPA National Remedy Review Board by Hart Crowser, Inc. September 1, 2005.

The documents listed above summarize the relevant environmental information for this site. The complete Administrative Record for the Holden Project is available from both the Forest Service and Ecology at the addresses noted in the Proposed Plan.

Phase 2 Remediation:

The following key documents related to the Holden Mine Remediation Project (project) have been prepared since the release of the 2010 SEPA checklist:

a. Phase 2 documents

- Holden Mine Site Phase 2 Remedial Action Proposed Plan. Prepared by the Forest Service, in cooperation with EPA and Ecology. in June 2026.
- Phase 2 Remedial Action Proposal. Prepared for Rio Tinto by Floyd|Snider and CDM Smith. April 2023.

b. Post-Phase 1 Monitoring, Operations, and Maintenance

- Holden Mine Site Performance Standards Verification Plan. Prepared for Rio Tinto by Floyd|Snider. November 2020.

- Phase 1 Operations and Maintenance Plan for Holden Mine. Prepared for Rio Tinto by Floyd|Snider. March 2021.

- Holden Mine Site Performance Standards Verification 2025 Annual Compliance Assessment Report. Prepared for Rio Tinto by Floyd|Snider. December 2025. (Most recent of several annual reports.)

- Holden Mine Remediation Project Annual O&M Report - 2025. Prepared by Rio Tinto. April 2026. (Most recent of several annual reports.)

c. Phase 1 Construction

- 2016 Construction Report, Holden Mine, Chelan County, Washington. Prepared for Rio Tinto by MWH. July 2017.

d. Record of Decision (ROD)

- Record of Decision, Holden Mine Site, Chelan County, Washington. Prepared by the Forest Service, in cooperation with EPA and Ecology. January 2012.

**9. Do you know whether applications are pending for governmental approvals of other proposals directly affecting the property covered by your proposal? If yes, explain.**

None known.

Phase 2 Remediation:

On December 10 to 11, 2025, a landslide damaged Forest Service Road 8301, which provides access to the Site. There is currently no vehicle access to the Site. Road repair options are currently being assessed by Rio Tinto on behalf of Intalco, and road repairs will be conducted as part of a separate project in coordination with the Forest Service.

**10. List any government approvals or permits that will be needed for your proposal, if known.**

The Holden Mine cleanup is being conducted under the joint authority of the Washington State Model Toxics Control Act (MTCA) [Chapter 173-340 WAC] and the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended [CERCLA, 42 U.S.C. § 9601]. For cleanup actions, MTCA states that *only the substantive requirements* of federal, state, and local regulations that are potential applicable or relevant and appropriate requirements (ARARs) *must be met*. Cleanups are exempt from procedural requirements that normally are implemented as permits. CERCLA has a similar provision for federal, state, and/or local permits. Therefore, specific permits are not needed for the proposed Holden Mine cleanup action, which is expected to meet the substantive requirements of the potential ARARs.

Potential ARARs to be met by the proposed cleanup action fall into three categories:

1. chemical-specific
2. location-specific
3. action-specific

Potential ARARs have been identified in the Addendum to the Supplemental Feasibility Study; the key potential ARARs are summarized below:

**Chemical-Specific**

- National Recommended Water Quality Criteria [Federal Water Pollution Control Act (Clean Water Act) 33 USC § 1314(a), Section 304(a)].
- National Toxics Rule [40 CFR Part 131].
- Maximum Contaminant Levels and National Maximum Contaminant Level Goals [40 CFR Part 141].
- Washington State Drinking Water Standards [RCW 119A; Chapter 246-290 WAC].
- Washington State Water Quality Standards for Surface Water [RCW 90.48; Chapter 173-201A WAC].
- Washington State Model Toxics Control Act [RCW 70.105D; Chapter 173-340 WAC].

**Location-specific**

- Aquatic Lands Management - Washington State [RCW 79.90; Chapter 332-30 WAC].
- Clean Water Act (CWA), Section 401 and 404 [33 USC 1344, 40 CFR Part 230, 33 CFR §§ 320-330].
- Endangered Species Act [16 U.S.C. §§ 1531 - 1544].
- Executive Order 11990 - Protection of Wetlands.
- Executive Order 11988 - Protection of Floodplains.
- National Forest Management Act [16 USC §§ 1600 – 1614] (NFMA) and Land and Resource Management Plan for Wenatchee National Forest (LRMP, Forest Service 1990), as Amended by Pacific Northwest Forest Plan (NWFP 1994) and subsequent amendments of the NWFP (2001, 2004, and 2007).
- National Forest "Roadless Rule" [United States Department Of Agriculture Secretary's Memorandum 1042-154, Authority to Approve Road Construction and Timber Harvesting in Certain Lands, dated May 28, 2009].

**Action-specific**

- Washington Model Toxics Control Act [RCW 70.105D; Chapter 173-340 WAC].
- Resource Conservation and Recovery Act [42 USC § 6901], Subtitle C - Hazardous Waste Management [40 CFR Parts 260 to 279], and Subtitle D - Managing Municipal and Solid Waste [40 CFR Parts 257 and 258].
- Washington State Hazardous Waste Management Act and Dangerous Waste Regulations [RCW 70.105; Chapter 173-303 WAC].
- Washington State Solid Waste Handling Standards [RCW 70.95; Chapter 173-350 WAC].
- Federal Water Pollution Control Act--National Pollution Discharge Elimination System [Clean Water Act; 33 USC § 1342, Section 402].

Phase 2 Remediation:

A complete list of the ARARs is included in the 2012 ROD.

The Forest Service will coordinate with U.S. Fish and Wildlife Service (USFWS) on obtaining a letter of concurrence with the 2011 Biological Opinion issued for the project prior to the implementation of Phase 2. The 2011 Biological Opinion was inclusive of both phases of the remedial action.

**11. Give a brief, complete description of your proposal, including the proposed uses and the size of the project and site. There are several questions later in this checklist that ask you to describe certain aspects of your proposal. You do not need to repeat those answers on this page. (Lead agencies may modify this form to include additional specific information on project description.)**

The preferred cleanup action for the Site is presented in the Proposed Plan, of which this SEPA checklist is an appendix. The Proposed Plan was prepared by the Agencies acting in accordance with CERCLA, 42 USC 9601 et seq., as amended, and the regulations promulgated thereunder at the National Oil and Hazardous Substances Pollution Contingency Plan (NCP), 40 CFR Part 300; the MTCA, RCW 70.105D.010-.921, and the regulations promulgated thereunder at Chapter 173-340 WAC; and the State Environmental Policy Act (SEPA), Chapter 43.21C RCW.

The total area disturbed by historical mining activities is approximately 125 acres. The proposed cleanup action includes construction and operation of collection systems (ditches, groundwater barrier walls, drains, etc.) for treating metals-laden water discharging from the underground mine and groundwater impacted by the mine, mill tailings, and waste rock. The work also involves relocation of a segment of the Railroad Creek channel adjacent to the tailings piles. Groundwater at the Site would be collected using a barrier wall and collection system to reduce the amount of contaminated groundwater that would otherwise enter Railroad Creek. The Site waters collected would be treated by an acid neutralization process to remove metals. The metals removed would become a stable metal hydroxide sludge to be disposed of on the Site. The proposed cleanup action also includes regrading of tailings pile and waste rock piles, excavation and disposal of soils that exceed cleanup levels, capping some contaminated soils to isolate them from the environment, and permanent closure of the tailings and waste rock piles to limit potential for future releases.

Phase 2 Remediation:

The above description primarily details the work that occurred under Phase 1 of the project. However, additional cleanup actions are required under Phase 2 to address the mine-impacted water from Tailings Piles 2 and 3 prior to discharging to Railroad Creek. Phase 2 will include the installation of a containment well network along the toe of Tailings Piles 2 and 3. The containment well network will consist of 15 to 17 containment wells, including 4 existing containment wells already installed as part of pilot studies conducted in 2021 and 2022. A subset of the wells installed will be redundant wells so that containment is maintained if a single primary well fails or when a well is taken offline for maintenance. Groundwater intercepted by the containment well network will be routed to a new groundwater containment building where flows from the well network will be combined, then routed to

the existing nearby cleanout reservoir and finally to the existing Mine Water Treatment Plant (MWTP) for treatment prior to discharge to Railroad Creek. During Phase 1, the MWTP was constructed to accommodate Phase 2 flows.

**12. Location of the proposal. Give sufficient information for a person to understand the precise location of your proposed project, including a street address, if any, and section, township, and range, if known. If a proposal would occur over a range of area, provide the range or boundaries of the site(s). Provide a legal description, site plan, vicinity map, and topographic map, if reasonably available. While you should submit any plans required by the agency, you are not required to duplicate maps or detailed plans submitted with any permit applications related to this checklist.**

The Site is located in Chelan County in north central Washington, occupying portions of Sections 7, 8, 17, and 18, T 31 N, R 17 E, and Sections 12 and 13, T 31 N, R 16E. The former mine is located in the Railroad Creek valley about 10 miles upstream (west) of Lake Chelan, on the eastern slopes of the Cascade Mountains. The Site is situated within the Wenatchee National Forest, and the Glacier Peak Wilderness generally bounds the Site to the west, north, and south. Please refer to Figure 1 of the Proposed Plan for a Vicinity Map of the Site.

The former mine operations area of the Site extends over an area of about 125 acres, not including some smaller, outlying areas that have also been impacted by historical mining (e.g., Honeymoon Heights). Principal features of the Site include the underground mine, remnants of the former mill building (the mill structure was largely destroyed by a fire after the mine closed), main east and west waste rock piles that extend over about 8 acres, and piles of tailings (sandy waste material left from the former mill operation) that extend over about 90 acres. Holden Village, Inc. (a not-for-profit corporation) has operated an interdenominational religious retreat community since the 1960s in the former miner's Village of Holden, just north of the former mine operations area. See Figure 3 of the Proposed Plan for principal Site features. See Figure 14 for the principal remedial components of the proposed cleanup action.

Phase 2 Remediation:

Refer to Figure 4 from the 2026 Phase 2 Proposed Plan for the Site features after the implementation of Phase 1 and Figure 10 from the 2026 Phase 2 Proposed Plan for the Phase 2 remedial components.

## B. Environmental Elements

**1. Earth**

**a. General description of the site:**

**Circle or highlight one: Flat, rolling, hilly, steep slopes, mountainous, other:**

The Site is situated in the Railroad Creek Watershed. The watershed is generally oriented in an east-west direction within the Cascade Mountain Range, and is approximately 20 miles in length. The drainage is glacially carved and is generally U-shaped with relatively steep side slopes. The portion of the drainage near Lake Chelan is gently sloping at the

mouth for about one-half mile, becoming relatively steep with several waterfalls for the first few miles. The drainage then transitions to a more moderate gradient past the Site

**b. What is the steepest slope on the site (approximate percent slope)?**

The slope angle of a majority of the lower to mid-slopes facing Railroad Creek for

Tailings Piles 1 and 3 were observed to range between 22 and 33 degrees (40 to 65 percent slope), with isolated portions of the upper slopes of Tailings Pile 1 in excess of 60 degrees (173 percent slope). The majority of the mid- to upper slopes of the Tailings Pile 2 facing Railroad Creek was observed to be greater than 44 degrees (97 percent slope). The slopes of the waste rock piles are also relatively steep, in some cases approaching 45 degrees (100 percent slope). The proposed cleanup actions include cutting back these steep tailings piles and waste rock slopes to improve stability.

**c. What general types of soils are found on the site (for example, clay, sand, gravel, peat, muck)? If you know the classification of agricultural soils, specify them, and note any agricultural land of long-term commercial significance and whether the proposal results in removing any of these soils.**

Site geology generally consists of stream alluvium and glacial soil materials overlying bedrock within the valley bottom and lower valley walls of the Railroad Creek drainage. The alluvium ranges from silty, sandy gravel to relatively non-silty sand and gravel with cobbles. The glacial materials were interpreted to consist of glacial drift (silt- to boulder sized material) and basal till (densified glacial silt- to boulder-sized material).

Mining-related materials at the Site consist of tailings from the processing of the orebearing bedrock. The tailings consist of fine-grained silt and sand. The Site also includes waste rock piles from development of the underground mine. The waste rock consists of coarse angular rock fragments that include sulfide minerals and some metals, but are generally less mineralized than the ore.

**d. Are there surface indications or history of unstable soils in the immediate vicinity? If so, describe.**

Previous mass releases of tailings materials into Railroad Creek were reported to have occurred downstream of Copper Creek during a 1966 storm event; and earlier, in 1946, according to Forest Service reports. Another substantial release of tailings materials into the creeks occurred during a flood event in October 2003. During this flood, Copper Creek overflowed and eroded portions of Tailings Pile 1 leading to the release of an estimated 600 cubic yards of tailings material into Railroad Creek. During the same period, scour undermined a section of riprap along the base of the western slope of Tailings Pile 2. Emergency response activities were performed to address some of the conditions caused by the flooding, including increasing the flow capacity of Copper Creek south of the tailings piles, armoring a portion of the Railroad Creek bank along Tailings Pile 2, removing log and debris jams, and contouring gullies that formed on Tailings Pile 1. In Spring 2006, tailings erosion was again noted along the east side of Copper Creek, located near the confluence of Copper Creek and Railroad Creek, where tailings material as well as native soils had been eroded. There is risk that additional undercutting by Copper Creek in this

area could lead to slope failures of Tailings Pile 2, which in this area rises at a grade of about 80 percent to a height of more than 80 feet above creek level. Additionally, extensive erosion has continued on Tailings Pile 1, including some of the areas where gullies formed during the October 2003 flood.

As part of the proposed cleanup action, actions will be taken to minimize the potential for tailings pile slope failures, including surface water run-on and runoff controls; regrading and constructing slope toe buttresses to improve stability of the tailings pile slopes; erosion protection; relocating a segment of Railroad Creek; and moving the toe of the tailings pile slopes an appropriate distance away from Copper Creek and Railroad Creek (where not relocated). Following regrading, the tailings piles would be closed in accordance with Washington standards for limited purpose landfills [Chapter 173-350 WAC], which would include capping the tailings piles, and establishing a permanent self-sustaining vegetative cover to provide erosion protection. Following closure, the tailings piles would be subject to periodic observations to monitor for signs of potential slope failures and the need for any improvement in erosion protection over time. Similarly, the main east and west waste rock piles would also be regraded to improve stability, capped, revegetated, and monitored to assure stability over time.

**e. Describe the purpose, type, total area, and approximate quantities and total affected area of any filling, excavation, and grading proposed. Indicate source of fill.**

The proposed cleanup action includes permanent closure of the waste rock and tailings piles to meet Washington State limited purpose landfill requirements as described above.

Final slope inclinations (e.g., 2H:1V) and buttress configurations for waste rock and tailings piles stability needed to satisfy landfill stability requirements will be determined from engineering analyses during the remedial design stage of implementation. This slope inclination needs to account for the tailings pile and waste rock cover material that will be placed on these slopes and the requirement for the cover to be able to sustain native vegetation as part of the state design requirements for a limited purpose landfill. Earthquakes would also need to be considered in the final design of the tailings pile and waste rock slopes and buttresses. The proposed cleanup action involves regrading approximately 385,000 cubic yards (cy) of tailings and 134,000 cy of waste rock.

Tailings material removed from the slopes during regrading would be used as fill and graded to improve surface water runoff on top of the tailings piles. Regrading the waste rock piles would involve disposal of some waste rock on one of the tailings piles prior to closure. The final cover on the regraded waste rock and tailings piles would meet the performance standards for a limited purpose landfill [WAC 173-350-400(3)(e)(i)(A) through (D)], based on acceptable design analyses.

Soil for the cover on the tailing piles and waste rock piles would be obtained from the treatment facility pond excavations, other excavation for remediation (e.g., roadway and ditch construction), and as needed from a borrow pit (e.g., Dan's Camp) established on National Forest land near the Site. The Agencies estimate that about 285,000 cy of soil would be used as cover for the tailings and waste rock piles. Removal of soil from Dan's Camp will potentially result in habitat impacts, including land disturbance, the removal of

timber and other vegetation, over an area of several acres. Measures to mitigate the effects of this soil removal are discussed below in Section B.1.h. While soil removal from Dan's Camp would lead to some habitat impacts, soil placement on the tailings and waste rock piles will benefit terrestrial receptors at the Site by eliminating existing toxicity risks due to exposure to elevated metals concentrations in the tailings and waste rock.

Under the proposed cleanup action about 152,000 cy of riprap would be placed for remedial components including Railroad Creek relocation, Copper Creek channel extension, bank protection/creek stabilization of existing creek channels, and tailings pile buttresses. Potential quarry sites on National Forest land near the Site (e.g., Lightning Ridge) would be evaluated during remedial design to provide a source of the riprap. Mitigation measures for habitat impacts at the selected quarry site are discussed below in Section B.1.h. Additionally, some riprap would be generated during construction to relocate a segment of Railroad Creek.

Soil excavation would occur for the construction of a groundwater barrier wall and collection systems along Railroad Creek in the Lower West Area from the Main Portal discharge point into Railroad Creek to the Copper Creek Diversion and along Tailings Piles 1, 2, and 3. It is anticipated that the barrier wall and collection trench system would be about 8,000 feet in length and could extend as much as 100 to 125 feet below ground surface, depending on the depth of underlying glacial till or bedrock. The groundwater collection system (which includes collection of seeps) would consist of ditch(es), buried trench drain(s), and/or pumped wells, as determined during remedial design. The amount of material excavated for this system, and the suitability for reuse as fill will depend on the information developed during remedial design and construction. Excavated soil, which is unsuitable for reuse due to contamination or gradation, would be disposed of in a limited purpose landfill that would likely be constructed on top of one of the regraded tailings piles.

The east and west wastewater treatment plant sites will require grading and excavation for construction of the facilities, which would include the treatment ponds. Approximately 10 acres would be cleared and excavation would produce an estimated 86,500 cy of soil that would be placed on the tailings piles and waste rock piles as cover material. While the construction of the treatment plants would eliminate some forested habitat at the Site, the treatment of impacted water by the plant once it is operational would reduce toxicity risks to aquatic organisms and improve benthic habitat that is currently degraded by iron precipitation and ferricrete formation.

Excavations of an estimated total of 30,400 cy of soils, tailings, and mill residuals above proposed cleanup levels would occur at the former mill, lagoon area, ventilator portal detention area, ballfield area, and lower west area; and this soil or soil-like material would be relocated to a permanent containment area (limited purpose landfill) on the Site, likely on one of the tailings piles. In the maintenance yard area, soil exceeding proposed cleanup criteria would be capped with a concrete or asphalt slab covering an area of about an acre. Additional cleanup of soil above proposed soil cleanup levels in other areas such as Holden Village, the Honeymoon Heights waste rock piles, areas downslope of the Honeymoon Heights waste rock piles, and areas of visible accumulations of wind-blown tailings north and east of the mine are also included in the proposed cleanup action. The

extent of this additional soil cleanup will need to be determined by additional analyses during remedial design.

Phase 2 Remediation:

Implementation of Phase 2 will not require extensive excavation or grading. Limited excavation/grading work will be required for roadway improvements to facilitate construction access and transportation, drilling pad preparation, installation of the containment well conveyance system, and construction of the groundwater containment building. Excavations and grading are planned to occur within areas already disturbed or constructed as part of the Phase 1 Remedial Action. Excavations are anticipated to produce an estimated 4,000 cy of material. Additionally, the Phase 2 containment wells will be drilled to depths between 35 and 92 feet below ground surface.

The total volume of fill estimated to be needed for Phase 2 is approximately 4,900 cy and will be used for trench backfilling, construction of the groundwater containment building, and the roadway improvements necessary for construction, including the construction of a new temporary access road across the lower portion of Copper Creek. Clean topsoil from excavations of the conveyance system trenches or groundwater containment building construction will be reused as fill during the Site restoration activities, if possible. The remainder of the required fill will be imported to the Site. If contaminated soils or tailings are encountered during drilling activities, then cuttings will be placed in the Sludge Filter Cake Management Facility (SFCMF) located on Tailings Pile 1.

**f. Could erosion occur because of clearing, construction, or use? If so, generally describe.**

Erosion of soil could potentially occur during regrading of the tailings and waste rock piles and placement of the soil cover; during the excavations of the groundwater barrier wall and collection trench systems; during the excavation of contaminated soils in selected portions of the Site; during the excavation and construction of the treatment facility; during road or bridge construction; and during the demolition of the former mill building. All regrading, excavation, demolition, and construction work included in the proposed cleanup action will be performed in accordance with an approved SWPPP that includes best management practices (BMPs) for erosion and sediment control. Stormwater that is impacted by metals runoff would be treated prior to discharge to Railroad Creek.

Phase 2 Remediation:

Installation of the roadway improvements within the Site, including the temporary Copper Creek crossing, the containment well conveyance system, and construction of the groundwater containment building, could potentially result in erosion; however, the measures discussed above and listed in response to question B.1.h will be implemented, where applicable for Phase 2.

**g. About what percent of the site will be covered with impervious surfaces after project construction (for example, asphalt or buildings)?**

Approximately one acre of the property will be covered with an asphalt or concrete cover in the area of the maintenance yard. This cover will prevent direct contact, erosion, and

infiltration from causing further releases from impacted soils to groundwater, and allow continued use of this area by Holden Village for vehicle maintenance purposes.

Two treatment plants will be constructed at the Site for the treatment of impacted groundwater. The impervious area associated with the completed treatment plants footprint, including lined treatment ponds, will cover an area of approximately 5 acres.

Phase 2 Remediation:

Phase 2 will result in a minor increase in the project's impervious surfaces with the groundwater containment building anticipated to cover over 1,000 square feet; however, the building is located within the existing roadway at the toe of Tailings Pile 3, constructed as part of the Phase 1 Remedial Action.

**h. Proposed measures to reduce or control erosion, or other impacts to the earth, if any.**

- Potential erosion during construction would be avoided by implementation of an approved construction stormwater pollution prevention plan (SWPPP) in accordance with Ecology regulations.

- An on-site water treatment facility would be constructed prior to any regrading or excavation of the tailings and waste rock, so the water treatment facilities could be used for detention and treatment of runoff impacted by subsequent earthwork.

- The tailings piles will be regraded and/or Railroad Creek relocated such that the tailings will be sloped and set back from the Railroad and Copper Creeks to reduce the potential for future loss of tailings to the creeks in case of slope failure or flooding.

- A soil cover would be placed on the tops and slopes of the waste rock and tailings piles and revegetated with self-sustaining vegetation to eliminate transport by wind or water erosion.

- Tailings pile and waste rock regrading work would occur concurrently with the placement of the soil cover. In this way, the area of unoxidized tailings that is exposed any time could be minimized, thus reducing risk of stormwater runoff conveying exposed tailings into Railroad or Copper Creeks.

- Dust generation on haul roads and in earthwork construction areas would be mitigated with water trucks.

- Additional riprap would be placed between the tailings piles and the creeks, where existing creek channels are to remain, for stream bank protection to mitigate potential erosion of the tailings piles, and possible other areas where channel migration would threaten the remedy.

- A runoff collection ditch would be installed along the base of the tailings piles, which would enable collection of runoff from the regraded slopes and conveyance to downstream detention and the treatment facility.

- Additional BMPs would be implemented as needed to manage erosion and sediment during construction activities.

- Soils with metals concentrations above proposed cleanup levels would be permanently contained in a limited purpose landfill, which is likely to be located on one of the tailings piles. It should be noted that a groundwater barrier and collection system will be located at the toe of the three tailings piles and will contain groundwater contaminated by the tailings that would otherwise discharge into Railroad Creek.

- Collected water will be treated prior to discharge to Railroad Creek.

- The release of bentonite or cement used during construction of the groundwater barrier walls, and sediment that might be produce during construction of pipeline stream crossings would be minimized by BMPs, including location of dry materials storage and mixing facilities away from the creek, good housekeeping to minimize spillage during slurry handling, and advance preparation of a spill management contingency plan.

- Habitat impacts at Dan's Camp and at the selected quarry site will be mitigated through pre-construction surveys; avoidance of impacts to mature forest; following National Forest Service weed prevention requirements (further discussed in Section 4.d); and reclamation of the borrow pit and quarry after excavation is completed.

  Phase 2 Remediation:

  Construction of the Phase 2 Remedial Action will require significantly less excavation and grading than Phase 1, limited work within Copper Creek, and no work within Railroad Creek or the Wetlands East of Tailings Pile 3. Mitigation measures will include those described above that are relevant to the Phase 2 construction activities.

**2. Air**

**a. What types of emissions to the air would result from the proposal during construction, operation, and maintenance when the project is completed? If any, generally describe and give approximate quantities if known.**

The use of large equipment, such as dozers, excavators, loaders, compactors, and trucks, during implementation of the proposed cleanup action for regrading, excavation, and construction work would result in dust and exhaust emissions. URS, the consultant for Intalco, provided some preliminary air emissions estimates in the DFFS. This information is also used in the Supplemental Feasibility Study and was extrapolated to determine an air emission estimate for the proposed cleanup action based on the total volume of tailings and waste rock that would be regraded. Emissions over the duration of construction are estimated to be on the order of 70 combined tons of particulate matter, nitrogen oxides, hydrocarbons, and carbon monoxide. BMPs will be followed to reduce air emissions during construction.

Once the proposed cleanup action has been constructed, the only likely source of air emissions would be from diesel generators used for the operation of the water treatment plant facility and pumping water and sludge. However, alternative means of producing

electrical power will be evaluated during remedial design, and could include hydropower or possibly generators with other fuel sources. If diesel generators are used, is projected that approximately 8,800 gallons of diesel a year would be consumed.

Phase 2 Remediation

Construction equipment for Phase 2 will include generators, drill rig(s), an excavator, a loader, and a dump truck. Emissions throughout the duration of Phase 2 construction are estimated to be on the order of 560 metric tons of carbon dioxide equivalent and 380 pounds of particulate matter emissions. Operational impacts for the Phase 2 containment well system will be within the range of impacts described for Phase 1. Operation of Site infrastructure during Phase 1 has typically consumed approximately 147,000 gallons of diesel fuel per year. This is expected to increase to approximately 176,000 gallons of diesel fuel per year during Phase 2 based on the projected additional MWTP power needs.

**b. Are there any off-site sources of emissions or odor that may affect your proposal? If so, generally describe.**

None known.

**c. Proposed measures to reduce or control emissions or other impacts to air, if any.**

- Water trucks will be used to minimize dust generated from regrading, excavation, and construction work. Additionally, water trucks will be used to minimize road dust.

- The regraded waste rock and tailings piles would be covered with a soil cover, and revegetated, thus reducing long-term wind-blown dust problems.

- Regrading the tailings will be performed in stages with concurrent placement of the soil cover to minimize the potential for wind-blown tailings during construction.

- Regular maintenance will be performed on heavy construction equipment, generators, and other vehicles used to control emissions during construction to assure proper operation, in accordance with state air quality regulations. Typically this would include requirements that gasoline and diesel equipment used on the Site will be less than 5 years old; the equipment will be properly maintained; diesel equipment will use low sulfur diesel (500 ppm or less); and construction measures will be implemented to reduce the idling time of construction equipment.

- Long-term energy requirements for the permanent water treatment system, and alternative sources, such as locally produced hydroelectric generating capacity, will be evaluated during remedial design, to minimize future emissions from the water treatment plant.

Phase 2 Remediation

The above measures for using water trucks to minimize dust generation and conducting regular maintenance on heavy construction equipment, generators, and other vehicles will be implemented for Phase 2 construction. Long-term energy requirements and opportunities to minimize plant emissions and fuel consumption will continue to be evaluated during operations.

**3. Water**

**a. Surface:**

**1) Is there any surface water body on or in the immediate vicinity of the site (including year-round and seasonal streams, saltwater, lakes, ponds, wetlands)? If yes, describe type and provide names. If appropriate, state what stream or river it flows into.**

There are two streams, Railroad and Copper Creeks, in the immediate vicinity of project activities, as well as multiple ephemeral streams (e.g., Honeymoon Heights area drainages). Copper Creek and the ephemeral streams are tributaries of Railroad Creek, which in turn flows into Lake Chelan. See Figure 4 in the Proposed Plan for the location of these creeks relative to the Site. The proposed cleanup actions will reduce releases of acid and metals from the Site into the two creeks. Wetlands are also located near or within the Site, e.g., just east of Tailings Pile 3. See Figure 4 in the Proposed Plan for the locations of USFS mapped wetlands relative to the Site

Phase 2 Remediation:

Since the release of the 2010 SEPA checklist, a Waters of the US and Wetlands Impact Assessment and Mitigation Plan (Mitigation Plan) was prepared for Rio Tinto by Confluence Environmental in 2019. This included conducting an on-site field investigation to confirm the presence and condition of previously delineated wetlands at the Site and determining the Ordinary High Water Mark (OHWM) of Railroad Creek. No formal delineation or determination of Copper Creek occurred. A total of 24 wetlands were examined during the field survey. The wetlands fall within the riverine, slope, and depressional hydrogeomorphic (HGM) classes. The wetland sizes, classifications, locations, and rating scores are included within the Mitigation Plan.

Phase 2 includes work adjacent to Railroad Creek and the Wetlands East of Tailing Pile 3 (referred to as Wetland 1 in the Mitigation Plan), as shown on Figure 10 of the 2026 Proposed Plan. Phase 2 will reduce releases of acid and metals into Railroad Creek and these wetlands and does not include construction activities within either Railroad Creek or on-site wetlands.

**2) Will the project require any work over, in, or adjacent to (within 200 feet) the described waters? If yes, please describe and attach available plans.**

Refer to Figures 4 and 14 in the Proposed Plan for the location of the principal components of the cleanup action in relation to Railroad Creek, Copper Creek, ephemeral streams, and wetlands. Detailed construction plans will be prepared during remedial design after the Agencies issue the ROD.

There are portions of the Site where the toe of the existing tailings piles are immediately adjacent to or within the flood limits of Railroad and Copper Creeks. As part of the proposed cleanup action, the toe of the tailings will be set back from both creeks to reduce the potential for future erosion of the tailings through a combination of tailings regrading and creek relocation. This requires regrading work adjacent to and within portions of Copper Creek and Railroad Creek adjacent to the tailings piles and where the relocated creek channel will intersect the existing creek channel.

Between the regraded tailings piles and Railroad and Copper Creeks, a groundwater barrier wall and collection system will be constructed in the proposed cleanup action, which will intercept and prevent metals-laden groundwater from entering the creeks. A groundwater barrier wall and collection trench system will also be placed adjacent to Railroad Creek in the Lower West Area of the Site, between where the mine portal discharges into Railroad Creek and the Copper Creek Diversion. Pipeline crossings across Copper Creek will be constructed to convey the collected groundwater to the east water treatment facility. Additionally, between the tailings piles and Railroad Creek, a road will be constructed to provide access to monitoring wells, surface water runoff controls (such as a stormwater collection ditch), and the groundwater collection systems. The road would also allow access to riprap along the relocated Railroad Creek banks and the tailings piles slopes so that these areas can be maintained in the future.

Along segments where Railroad Creek is not relocated, existing riprap along Railroad Creek would be supplemented with new riprap to construct barbs to reduce bank erosion and scour adjacent to the bridges and tailings piles. Riprap placement would require stream bank and in-stream work.

Additional work adjacent to Railroad Creek includes the construction of a new vehicle bridge over the creek, and the water treatment facilities. The new bridge would be constructed just east of Tailings Pile 3. The water treatment facility would also be constructed east of Tailings Pile 3, within the footprint of the existing wetland east of Tailings Pile 3. Pipelines would cross beneath Copper Creek to convey contaminated water to the treatment facility. The treatment system would discharge treated groundwater into Railroad Creek via one or more outfalls.

<u>Phase 2 Remediation:</u>

<u>To facilitate construction access and transportation during Phase 2, temporary construction access will be added across Copper Creek, which results in some construction work within this creek. No work will occur within Railroad Creek or the Wetlands East of Tailings Pile 3.</u>

The groundwater containment wells and the groundwater containment building will be located within 200 feet of Railroad Creek and these wetlands, along existing roadways and areas constructed as part of Phase 1 remedial construction. Figure 10 in the 2026 Proposed Plan shows the location of the Phase 2 structures in relation to Railroad Creek and the Wetlands East of Tailings Pile 3.

**3) Estimate the amount of fill and dredge material that would be placed in or removed from surface water or wetlands and indicate the area of the site that would be affected. Indicate the source of fill material.**

The majority of the Railroad Creek channel currently adjacent to the tailings piles will be relocated to the north, and the Copper Creek channel will be extended to intersect the relocated channel. No filling activities are currently planned where Railroad or Copper Creeks will remain in their existing channels, except enhancement and extension of existing riprap as described above. Some excavation within the creek channels would be performed to key in the riprap below estimated depth of scour, and to enable construction of a pipeline crossing Copper Creek for the treatment system. No dredging is anticipated, except for removal of ferricrete, which is an existing byproduct of hazardous substances discharged into Railroad Creek adjacent to the tailings piles. However, relocation of Railroad Creek will address currently known occurrences of ferricrete. The mass of ferricrete to be removed would be determined during remedial design, along with completion of a hydrologic analysis to determine the depth of excavation to key in the riprap.

A portion of the wetland area immediately east of Tailings Pile 3 will be filled to accommodate part of the east water treatment system. The rest of the existing wetland will be significantly modified to serve as an engineered wetland component of the water treatment system

Phase 2 Remediation:

For construction of the temporary Copper Creek crossing for Phase 2, approximately 240 cy of fill material will be placed in this area, including coarse aggregate and common fill. This is all anticipated to be imported material. No dredge or fill will be placed within Railroad Creek or the adjacent Wetlands East of Tailings Pile 3 for construction of Phase 2.

**4) Will the proposal require surface water withdrawals or diversions? Give a general description, purpose, and approximate quantities if known.**

A groundwater barrier wall and collection system is included in the proposed cleanup action to collect contaminated groundwater from the Site for treatment. This water, which would normally enter Railroad or Copper Creek as baseflow, would be discharged to Railroad Creek downstream of the Site contamination sources, resulting in no substantial decrease in flow within Railroad Creek downstream from the tailings piles.

During construction, surface water will be needed for potable water usage for the construction crew and camp, dust control, and other construction purposes. The

Agencies estimated that there will be up to about 50 workers living near the Site during a 5-to 6-month construction season, over two years for Phase I construction and an additional year for Phase II construction. The source of potable water to the construction camp will likely be from Railroad Creek or possibly Copper Creek via the existing Holden Village intake system, located upstream of the Site. The location of the workers' camp has not been determined but may be located in the baseball field area, unless this location would interfere with the proposed cleanup action, or potentially within Holden Village, if amenable to Holden Village and the USFS per the conditions of Holden Village's special use permit. Another, smaller, potential camp associated with the construction unloading and staging area at Lucerne. In addition, water from the creeks and/or Lake Chelan would be used for dust suppression and production of concrete for construction of the water treatment facility. Water used for construction would be obtained in accordance with the requirements for a temporary water right permit.

Phase 2 Remediation:

During Phase 2 remedial construction, water from the creeks and/or Lake Chelan will be used for dust control throughout construction, consistent with the approach currently used during Phase 1 operations for dust and fire suppression. The potable water supply for the construction camp at Dan's Camp, used during the second Phase 2 construction season, is anticipated to be imported by truck.

**5) Does the proposal lie within a 100-year floodplain? If so, note location on the site plan.**

Floodplains have yet to be delineated and will be analyzed during the remedial design phase of the project. Some remedial actions are anticipated to be located within the floodplain of Railroad and Copper Creeks, (e.g., removal of contaminated soils from the lagoon area, excavation and grading of tailings, construction of the groundwater barrier wall and collection system, riprap placement, construction of an access road along the north side of the tailings piles, and construction of a bridge over Railroad Creek). However, these activities are estimated to be completed within two years for Phase I and an additional year for Phase II construction, and will not diminish flood capacity of the existing creek channels. Additionally, changes to floodplains will occur due to relocation of a segment of Railroad Creek which will need to be addressed during remedial design.

The floodplain analysis to be conducted during remedial design will be used to determine proper placement of riprap, and location of the water treatment facilities.

Phase 2 Remediation:

As described above, Phase 2 construction will not diminish the flood capacity of the existing creek channels.

**6) Does the proposal involve any discharges of waste materials to surface waters? If so, describe the type of waste and anticipated volume of discharge.**

The proposed cleanup action provides for long-term collection and treatment of groundwater with elevated metals concentrations. Treated water would be discharged from the treatment plant into Railroad Creek. The NPDES regulations are a potential ARAR; and requirements for point source discharges and stormwater runoff are potentially applicable for the Site, any point source discharge of contaminated water (e.g., discharge following treatment of groundwater and portal drainage), stormwater runoff at the Site, and where the construction site involves 1 acre or more.

The treatment plant is expected to operate as long as contaminated groundwater would otherwise discharge into Railroad Creek. Groundwater collected for treatment is estimated to range from about 2.3 million gallons per day during the spring to 1.5 million gallons per day during the fall months. Treatment would be required to use all known available and reasonable technologies (AKART) to achieve proposed cleanup levels in the treated water discharge. Based on reported experience with similar treatment systems at sites with similar influent water quality, anticipated order of magnitude metals concentrations in the treatment system effluent for the Site's constituents of concern are shown below, followed by the proposed cleanup level in parentheses[1]:

- Aluminum: 100 to 1,000 ug/L (152 ug/L);
- Cadmium: 0.03 to 3 ug/L (0.09 ug/L);
- Copper: 10 to 100 ug/L (1.17 ug/L) ;
- Iron: 200 to 2,000 ug/L (1,000 ug/L)[2];
- Lead: 0.1 to 1 ug/L (0.54 .ug/L); and
- Zinc: 30 to 300 ug/L (11 ug/L).

Comparing these anticipated ranges in effluent values with the respective proposed surface water cleanup levels, iron and lead concentrations in the effluent may meet

[1] Note proposed cleanup values are adjusted for background and hardness where applicable. Note that use of a mixing zone may be appropriate for the treated effluent discharge, as discussed in Appendix F of the SFS.

[2] The Aquatic Life Ambient Freshwater Quality Criteria--Copper 2007 Revision (EPA-822-R-07-001), (the "2007 copper criterion") was published in the Federal Register on February 22, 2007. The 2007 copper criterion provides a basis to determine acute and chronic concentrations for protection of aquatic organisms based on the Biotic Ligand Model. The model determines concentrations that are protective based on an analysis of ambient conditions for a number of parameters. To date, relatively few data have been collected at the Site to provide a basis for predicting acute and chronic copper concentrations for Railroad Creek under this criterion. The Agencies anticipate the cleanup level established at the time of the ROD would be based on the background concentration for dissolved copper in accordance with WAC 173-340730(5)(c), and that this could be modified in accordance with ARARs based on additional data collection following implementation of the remedy.

the proposed cleanup levels, whereas concentrations of aluminum, cadmium, copper, and zinc may not. However, the anticipated range in metal concentrations in the effluent are much lower, often two orders of magnitude, than the blended influent to the treatment plant of groundwater (including the portal drainage) collected from the Site, which represents a net improvement in water quality.

Phase 2 Remediation:

Permitted discharge of treated water from the MWTP constructed as part of the Phase 1 cleanup action will continue in Phase 2. The MWTP operates under a NPDES permit for treatment by pH adjustment and addition of a sulfide reagent, with discharge to Outfall 001 in Railroad Creek. Compliance is monitored through effluent limits on total suspended solids, pH, iron, aluminum, copper, cadmium, lead, and zinc. The MWTP was designed to treat both the current average Phase 1 flow rates of approximately 412 gallons per minute (gpm) and the anticipated average additional Phase 2 flow rates of 358 gpm. The NPDES permit is administered under CERCLA by the USFS remedial project manager and will be renewed for the Phase 2 treatment conditions.

**b. Ground:**

**1) Will groundwater be withdrawn from a well for drinking water or other purposes? If so, give a general description of the well, proposed uses and approximate quantities withdrawn from the well. Will water be discharged to groundwater? Give a general description, purpose, and approximate quantities if known.**

Some groundwater (including portal discharge) that would usually discharge into Railroad Creek from the Site would be intercepted and collected for treatment and be discharged at the treatment system outfall. Based on mass-loading analysis for the Site, the Agencies predicted that approximately 620 million gallons per year of contaminated groundwater would be collected and treated prior to be being discharged into Railroad Creek.

Phase 2 Remediation:

As described earlier, a groundwater containment well network will be installed as part of Phase 2 to intercept contaminated groundwater along the toe of Tailings Piles 2 and 3. This groundwater will be routed for treatment at the existing MWTP, along with existing Phase 1 inflows to the MWTP including the Phase 1 groundwater collection system and the 1500 Level Mine Portal flows. After this water is treated, it will be discharged to Railroad Creek under a NPDES permit with monitoring and reporting to ensure compliance with effluent limits.

In 2024, approximately 220 million gallons of groundwater from the Phase 1 groundwater collection system and the 1500 Level Mine Portal was discharged from the MWTP as treated water, with an average flow of 418 gpm. The average monthly influent flow rate to the MWTP in 2024 ranged from approximately 159 gpm in October to 787 gpm in April. The Phase 2 containment well network pumping rates

are anticipated to add 660 gpm during peak-flow conditions and 185 gpm during low-flow conditions to the existing Phase 1 flows to the MWTP.

Additionally, there is one existing potable well located near the MWTP that was installed during Phase 1 to supply drinking water to the Rio Tinto operations and maintenance (O&M) house that houses Rio Tinto's contractor residents that operate the MWTP year-round. This potable well will also be used to serve the new temporary modular housing constructed by Rio Tinto near the O&M house that will be used to house up to 18 occupants during Phase 2 construction.

**2) Describe waste material that will be discharged into the ground from septic tanks or other sources, if any (domestic sewage; industrial, containing the following chemicals…; agricultural; etc.). Describe the general size of the system, the number of such systems, the number of houses to be served (if applicable), or the number of animals or humans the system(s) are expected to serve.**

Metal hydroxide sludge generated in the process of treating the contaminated groundwater will be disposed of in a limited purpose landfill located on one or more of the tailings piles. The annual volume of sludge produced by treatment will vary over time, both because of changes in the amount of metal in the groundwater to be treated, but also as the sludge consolidates under its own weight. The Agencies estimated that a total of about 10.6 million gallons of sludge would be removed from the east and west treatment system ponds the first year of operation, with a solids content of about 4 percent. Annual sludge generation is anticipated to decrease over time. Estimates of the volume sludge generated will be revised based on on-going pilot treatment studies at the Site. After placement in a landfill cell, and consolidation, the sludge would have a solids content of around 20 percent and would occupy less than a fifth of its initial volume.

Site-specific sludge characterization will need to be conducted during initial start-up of the treatment plant. Sludge characterization conducted at other mine sites has indicated that sludge from the same type of treatment process, which would be used at Holden, is chemically stable and that leachate produced from sludge consolidation is alkaline with metals concentrations in the leachate typically well below the level needed to protect groundwater at the Site. The on-site landfill would conform to the standards for limited purpose landfills [WAC 173-350-400], including a liner and leachate collection system.

During construction, wastewater will be generated in the construction crew camp and will be discharged into the ground through a septic tank. The location of the workers' camp has not been determined but may be located in the baseball field area, unless this location would interfere with the proposed cleanup action, or potentially within Holden Village, if amenable to Holden Village and the USFS per the conditions of Holden Village's special use permit. Another, smaller, potential camp associated with the construction unloading and staging area at Lucerne.

Phase 2 Remediation:

The MWTP currently generates approximately 600 to 900 cy per year of sludge filter cake material through treatment of water from Phase 1 and places this material in the SFCMF on top of Tailings Pile 1. The estimated range of filter cake production rates for both Phase 1 and Phase 2 water treatment is approximately 870 to 1,310 cy per year. With this estimate, the SFCMF is projected to have approximately 80 to 120 years of capacity remaining, which substantially exceeds the minimum estimated design life for the SFCMF of between 23 and 37 years based on the original Phase 1 design estimates.

On-site infrastructure constructed for Phase 1, which will continue to be used for Phase 2, includes a septic system for domestic sewage in the vicinity of the O&M house. The capacity of the septic tanks was increased in 2025 to 2,500 gallons to service the additional temporary worker housing (up to 18 occupants) in addition to the existing O&M housing (14 occupants).

**c. Water Runoff (including stormwater):**

**1) Describe the source of runoff (including storm water) and method of collection and disposal, if any (include quantities, if known). Where will this water flow? Will this water flow into other waters? If so, describe.**

During tailings regrading, stormwater runoff will be collected in a ditch downgradient of the tailings piles and conveyed to the treatment system, prior to discharge to Railroad Creek.

**2) Could waste materials enter ground or surface waters? If so, generally describe.**

Construction will incorporate BMPs to reduce risk of wastes being discharged to groundwater or surface waters. No waste material would intentionally be discharged except water that has been treated in the proposed on-site water treatment facility.

**3) Does the proposal alter or otherwise affect drainage patterns in the vicinity of the site? If so, describe.**

Since the release of the 2010 SEPA Checklist, this question has been added and therefore is included in this Addendum.

Phase 2 will not alter or otherwise affect stormwater drainage patterns in the vicinity of the Site. The project will alter the natural groundwater flow in the vicinity of Tailings Piles 2 and 3 by intercepting and treating flows before discharging them back to Railroad Creek; however, this is not anticipated to impact flows within the creek. Additionally, the Phase 2 containment well network is being designed to minimize the capture of Railroad Creek surface water, and pumping should cause no measurable effect on Railroad Creek stage and flows.

Phase 2 is expected to result in water level changes to the Wetlands East of Tailings Pile 3 due to containment well pumping because the wellfield is designed to prevent

mine-impacted water from discharging to the wetlands and elsewhere downstream. Partial or complete water flow mitigation to these wetlands may be provided seasonally through an existing exfiltration trench at the edge of the Wetlands East of Tailings Pile 3 that was constructed as part of Phase 1. Surface water drainage coming from south of Tailings Pile 3 can be routed to this exfiltration trench.

**d. Proposed measures to reduce or control surface, ground, and runoff water, and drainage pattern impacts, if any.**

- Metals-impacted groundwater (including seeps and portal drainage) from all known sources above proposed cleanup levels at the Site would be collected for treatment before being discharged into Railroad Creek.
- Refer to the list of erosion reduction and control measures in Section B.1.h above that are also mitigation measures for water quality impacts at the Site.
- Work would be performed in accordance with potential ARARs (see Section A.10). A construction SWPPP for the Site would be prepared and implemented. Typically this would include requirements such as having the hydraulic and fuel systems for heavy equipment used for work along the stream bank and in-stream work have their oil and fuel lines inspected for leaks prior to use. Equipment used for in-stream work will be required to use synthetic or vegetable-based biodegradable lubricants and hydraulic fluids.
- Spill prevention and containment requirements would be required by construction contract documents. Requirements that oil and fuel spill containment supplies (floating absorbent booms, absorbent pads, etc.) must be on site during work, would be subject to verification by the Agencies construction inspector(s).
- All heavy equipment and support vehicles that cross Railroad Creek and/or are used for stream bank or in-stream work will need to be cleaned of any oil, grease, or hydraulic fluids that may come in contact with creek water during the crossing.
- Mitigation of construction impacts associated with riprap placement and ferricrete removal would help restore Railroad Creek to more natural flow conditions where the existing channel will remain, such as existed prior to deposition of the tailings. Appropriate design standards based on potential ARARs will be used for any stream channel modifications and relocation. This could include pools or woody debris to reduce the creek velocity and creating slow water habitats. New riprap added along the existing creek and as part of the banks of the relocated creek will be used to construct barbs to reduce bank erosion and scour adjacent to the bridges, LucerneHolden Road, and tailings piles. During remedial design, a hydrologic/geomorphic study will be performed to support design of riprap along existing Railroad and Copper Creek channels, as well as the relocated segment of Railroad Creek and extension of Copper Creek. Channel modifications and riprap installation will reduce reliance on deteriorated riprap and log cribbing that exists west of Copper Creek. Woody debris will be installed, and disturbed areas of the

bank would be planted to restore or establish the riparian corridor to pre-mining conditions.

- Ferricrete formations within Railroad Creek will be addressed through removal and/or creek relocation to restore aquatic habitat.

The proposed cleanup action includes construction of source control measures to reduce future metals releases to groundwater. Source controls include removal of contaminated soil by excavation of soils that exceed proposed cleanup criteria from the lagoon, mill building, ventilator portal detention area, and removal or other cleanup of soils above proposed cleanup levels in the Lower West Area, Holden Village, the baseball field, or areas of visible accumulations of wind-blown tailings north and east of the mine. Excavations would be backfilled with clean soil obtained from the water treatment facility, other necessary excavation or Dan's Camp, and revegetated. Source controls would also include capping the tailings and waste rock piles, and soils above proposed cleanup levels in the maintenance yard area.

Phase 2 Remediation

Mitigation measures will include those described above that are relevant to Phase 2. Additionally, water generated from well development or dewatering will be contained and prevented from reaching Railroad Creek and will be piped to the MWTP for treatment prior to being discharged back into Railroad Creek. A minimal amount of in-water work is expected to occur only in Copper Creek with the construction of a temporary construction access road as a part of Phase 2.

**4. Plants**

**a. Check the types of vegetation found on the site:**

☒ **deciduous tree: alder, maple, aspen, other**

☒ **evergreen tree: fir, cedar, pine, other**

☒ **shrubs**

☒ **grass**

☐ **pasture**

☐ **crop or grain**

☐ **orchards, vineyards, or other permanent crops**

☐ **wet soil plants: cattail, buttercup, bullrush, skunk cabbage, other**

☐ **water plants: water lily, eelgrass, milfoil, other**

☒ **other types of vegetation:** See attached Table 4.6-5 from the Remedial Investigation report.

Phase 2 Remediation:

Large areas of the Site were revegetated during Phase 1 in 2017 to 2018, including the tailings piles, waste rock piles, and other areas disturbed during remediation activities.

Species planted and naturally recruited in these areas include Douglas fir (*Pseudotsuga menziesii*), Engelmann spruce (*Picea engelmannii*), lodgepole pine (*Pinus contorta*), western white pine (*Pinus monticola*), black cottonwood (*Populus trichocarpa*), Sitka alder (*Alnus viridis subsp. sinuata*), and snowbrush ceanothus (*Ceanothus velutinus*). Annual monitoring since 2018 demonstrated these areas have achieved or exceeded the primary Year 5 (2022) performance metrics and, in the three growing seasons since that milestone (last monitoring event fall 2025), have continued to show robust vegetation growth and recruitment of native species.

**b. What kind and amount of vegetation will be removed or altered?**

Regrading activities will require removal of trees and shrubs on the slopes and tops of the tailings piles. Existing vegetation currently covers less than about 20 percent of the tailings piles that extend over about 90 acres; these trees and shrubs were planted during previous reclamation work, or to a lesser extent have developed naturally. Closure of the tailings piles would include placement of a soil cap, and revegetation as discussed in Section 4.d below. In addition a total area of about 10 acres of mixed trees and shrubs would be removed from the Lower West Area and the wetlands east of Tailings Pile 3 for construction of the west and east water treatment facilities. Other incidental clearing would be performed to construct or improve run-on diversion swales along the south side of the Site, other construction access, and in areas used for construction staging, and temporary worker's camp(s). Remedial construction may include construction staging and/or a temporary construction workers' camp on roads in the former Winston Townsite and/or the ball field, unless this would interfere with the cleanup. Location of staging area(s) and camp will be determined during remedial design. The proposed location for the workers' camp and staging areas would minimize impacts to vegetation in the National Forest.

Phase 2 Remediation:

Phase 2 will result in the removal of less than 4 acres of existing vegetation planted as part of Phase 1 on Tailings Piles 2 and 3. The majority of the Phase 2 groundwater containment wells, and the corresponding conveyance system, are being constructed along the existing Jet Grout Road and Pioneer Road to minimize the amount of vegetation that will be removed and for easier maintenance access. The remaining containment wells will be located at the northeastern/eastern toe of Tailings Pile 3. Potential staging areas for construction will be located on top of either Tailings Pile 1 or Tailings Pile 3 in areas without existing vegetation or with minimal vegetation present. The construction camp located at Dan's camp during the second season of Phase 2 will primarily occupy an already disturbed area but may encroach or use part of the Dan's Camp area previously restored during Phase 1.

**c. List threatened and endangered species known to be on or near the site.**

Special status species were reviewed in the Remedial Investigation report. Tables 4.611 and 4.6-12 from that report are attached and provide a listing of these species (both animals and plants) that may occur in the vicinity of the Site, along with their potential to occur in the project area. Tables 4.6-13 through 4.6-15 from that report list Forest Service

Survey and Manage species (both animals and plants) with potential to occur in the project area. The list of special status species is revised from time to time in accordance with procedures described in the potential ARARs. The most current lists will be incorporated into remedy planning at the time the ROD is prepared and, thereafter, will be amended as required.

Phase 2 Remediation:

For Phase 2, the Washington Department of Fish and Wildlife (WDFW) Priority Habitat Species (PHS) and USFWS Information for Planning and Consultation (IPaC) were consulted for an updated species list. Whitebark pine (*Pinus albicaulis*), a federally threatened species, was the only plant species mapped as potentially occurring within the vicinity of the project area.

**d. Proposed landscaping, use of native plants, or other measures to preserve or enhance vegetation on the site, if any.**

The Agencies will review and approve the final revegetation plan. Plants currently being considered for revegetation include alders, western white pine, Douglas fir, ponderosa pine, red osier dogwood, and vaccinium.

- The tailings and waste rock piles would be revegetated with the appropriate plant species to be determined during remedial design.

- Riprap placed along the existing Railroad Creek corridor and the relocated segment of Railroad Creek would be revegetated with appropriate riparian vegetation using tublings. The tublings would help protect shoots from browsing animals immediately after planting and are a cost-effective method of planting.

Forest Service weed prevention requirements will be followed to control the spread of noxious weeds during implementation of the proposed cleanup action. These practices include:

- Certifying that equipment used for the project is free of any weeds before the equipment is mobilized to the Site; and

- Inspection and approval for all gravel, fill, quarries, and borrow sources before use and transport. If weeds of concern are present, they will be treated before transport and use. Where weeds occur at borrow pit sites used for the project, the top 8 inches of soil will be removed, stockpiled, and treated for weeds.

Terrestrial monitoring would occur to verify remedy protectiveness, habitat restoration, and the success of revegetation. Details are included in the Conceptual Monitoring Program for the Site, included as Appendix H to the SFS

Phase 2 Remediation:

For Phase 2, any area of the Phase 1 revegetated areas disturbed during construction (i.e., tailings pile areas or Dan's Camp) will be restored in kind.

**e. List all noxious weeds and invasive species known to be on or near the site.**

Since the release of the 2010 SEPA Checklist, this question has been added and therefore is included in this Addendum.

During the 2025 field survey, the following invasive species were identified:

- Bull thistle (*Cirsium vulgare*)
- Canada thistle (*Cirsium arvense*)
- Mullein (*Verbascum thapsus*)
- Foxglove (*Digitalis purpurea*)
- Butter and eggs (*Linaria vulgaris*)

**5. Animals**

**a. List any birds and other animals that have been observed on or near the site or are known to be on or near the site.**

**Birds**: The attached Tables 4.6-7 and 4.6-8 from the remedial investigation report include listings of avian species observed and potentially occurring at and in the vicinity of Holden Mine.

**Mammals**: The attached Tables 4.6-9 and 4.6-10 from the remedial investigation report include listings of all species observed, probably present, and possibly present at Holden Mine.

**Fish**: Fish communities observed in Railroad Creek during the Remedial Investigation include the following: cutthroat trout (*oncorhynchus clarki spp*.), rainbow trout (O. mykiss), mottled sculpin (Cottus bairdi); and (in lower Railroad Creek) Kokanee salmon (O. nerka).

**Amphibians, lizards and snakes**: The attached Table 4.6-6 from the Remedial Investigation report lists species likely to occur within the Railroad Creek drainage.

**b. List any threatened and endangered species known to be on or near the site.**

Special status species were reviewed in the Remedial Investigation report. Tables 4.6-11 and 4.6-12 from that report are attached and provide a listing of these species (both animals and plants) that may occur in the vicinity of the Site, along with their potential to occur in the project area. Tables 4.6-13 through 4.6-15 from that report list Forest Service Survey and Manage species (both animals and plants) with potential to occur in the project area. An updated list will be obtained at the time of the ROD.

Phase 2 Remediation:

The species lists were updated for Phase 2 based on WDFW PHS and USFWS IPaC. The Site is located within designated critical habitat for spotted owl (*Strix occidentalis caurina*), a federally threatened and state endangered species. Additionally, the following threatened and endangered species are mapped as potentially occurring within the vicinity of the Site:

- Canada lynx (*Lynx canadensis*)
- Gray wolf (*Canis lupus*)
- North American wolverine (*Gulo gulo luscus*)
- Mt. Rainer white-tailed ptarmigan (*Lagopus leucura rainierensis*)
- Yellow-billed cuckoo (*Coccyzus americanus*)
- Bull trout (*Salvelinus confluentus*)
- Grizzly bear (*Ursus arctos horribilis*)

The following candidate species for listing as threatened or endangered were also mapped as potentially occurring within the vicinity of the Site:

- Monarch butterfly (*Danaus plexippus*)
- Suckley's cuckoo bumble bee (*Bombus suckleyi*)
- Columbia spotted frog (*Rana luteiventris*)

**c. Is the site part of a migration route? If so, explain.**

The Site is located in the Railroad Creek valley. Valleys such as the Railroad Creek valley are unique habitats within the Chelan drainage basin as they have big meanders, a low gradient for long stretches, backwater areas, and could easily provide migration stopover habitat. The location of this forest at middle elevations in a low-gradient portion of a large glacial valley provides an ideal situation for development of abundant foraging resources, diverse structural components necessary to support reproduction of numerous species, and excellent cover and critical habitat connectivity to facilitate travel between seasonally available resources at low and high elevations. According to Mallory Lenz, a biologist with the Chelan Ranger District, sandhill cranes have been reported in the marshy area along Railroad Creek during their migration period. Deer also use the valley as a migration route.

**d. Proposed measures to preserve or enhance wildlife, if any.**

Proposed measures to preserve or enhance wildlife populations at the Site include the following:

- Improving water quality and habitat in Railroad Creek by the collection and treatment of groundwater (including portal drainage and seeps) sources above proposed cleanup levels at the Site and relocation of a heavily impacted segment of Railroad Creek adjacent to the tailings piles.

- Regrading to improve stability and pulling the tailings piles back away from the edge of the existing creek channels or relocating the creek channel for protection from flood damage would also improve the riparian corridor along Railroad Creek for wildlife. This increase in area of a riparian corridor along the tailings piles will help mitigate the removal of existing riparian habitat needed to construct and operate the water treatment facilities and the additional potential impacts of the barrier and collection system in the Lower West Area. Measures will be taken to minimize impacts on existing riparian habitat in these areas. Woody debris will be installed along the riparian corridor areas at the Site, and disturbed areas of the existing creek banks and relocated creek segment would be replanted to restore the riparian corridor habitat conditions.

- Source control measures (e.g., cleanup actions for the lagoon, mill building, maintenance yard, ventilator portal detention area, and other areas with soils above proposed cleanup levels) would be implemented to eliminate releases of metals to surface water and prevent direct contact with terrestrial ecological receptors.

- Tailings and waste rock piles would be revegetated to prevent erosion and direct contact, and reduce infiltration. This would have a secondary benefit of creating better habitat.

- Ferricrete formations in Railroad Creek would be broken up and the substrate decompacted by mechanical ripping to restore aquatic habitat within the existing creek channel, and the relocated creek segment would be design to prevent formation of ferricrete in the new channel.

- The existing channel, typified by relatively straight high velocity sections with log cribbing and riprap berms at the Site, would be modified and the relocated channel designed to reduce potential for future scour and erosion, based on results of a hydrologic/ geomorphic study during remedial design, and to satisfy potential ARARs.

- Terrestrial and aquatic biological monitoring would be conducted to determine whether the proposed cleanup action is protective and to assess biodiversity and species abundance. Details are included in the Conceptual Monitoring Plan for the Site, included as Appendix H to the SFS.

Phase 2 Remediation:

Construction of Phase 2 is not anticipated to impact wildlife, because the project area is within the existing disturbed area. Therefore, no additional measures have been proposed.

**e. List any invasive animal species known to be on or near the site.**

Phase 2 Remediation:

Since the release of the 2010 SEPA Checklist, this question has been added and therefore is included in this Addendum

No invasive animal species surveys have occurred and none are known to occur on-site.

**6. Energy and Natural Resources**

**a. What kinds of energy (electric, natural gas, oil, wood stove, solar) will be used to meet the completed project's energy needs? Describe whether it will be used for heating, manufacturing, etc.**

Final energy requirements and the best source(s) to provide energy for long-term operation and maintenance for the collection and treatment system would be determined during remedial design. This is likely to involve a combination of energy sources; such as locally generated hydroelectricity for running pumps with diesel generators as backup; and diesel- or gasoline-powered vehicles for maintenance of groundwater collection ditches and disposal of sludge from the water treatment facility.

**b. Would your project affect the potential use of solar energy by adjacent properties? If so, generally describe.**

No. The project would not create shaded areas that would affect nearby properties.

**c. What kinds of energy conservation features are included in the plans of this proposal? List other proposed measures to reduce or control energy impacts, if any.**

The proposed water treatment facility would use large ponds for sedimentation following acid neutralization to remove dissolved metals, and solar drying to help dewater the sludge. Feasibility of these and other treatment system components needs to be verified during remedial design. The treatment systems would rely on gravity flow (rather than pumps) to the extent practicable.

Phase 2 Remediation:

Long-term energy requirements and opportunities to minimize energy needs and fuel consumption will continue to be evaluated during operations.

## 7. Environmental Health

**a. Are there any environmental health hazards, including exposure to toxic chemicals, risk of fire and explosion, spill, or hazardous waste, that could occur because of this proposal? If so, describe.**

The proposed cleanup action summarized in the Proposed Plan is intended to cleanup and control releases of hazardous substances and mitigate associated environmental health hazards resulting from past mining operations that have caused an ongoing release of hazardous substances from the Site.

Chemicals to be stored and used at the Site during construction and for the lifetime of the project include diesel and gasoline fuel for vehicles, and hydrated lime for neutralization of the acid mine drainage. Diesel fuel may be used to operate treatment system pumps for water and sludge. Lime would be used to reduce acidity in the groundwater treatment process. The Agencies estimate that long-term operation of the treatment system would require an energy equivalent of about 8,800 gallons of diesel fuel per year. In the early years of remediation, an estimated 2,300 tons of lime would be used each year for neutralization of the acid mine drainage.

Phase 2 Remediation:

The proposed remedial action technology for Phase 2 has been updated in the 2026 Proposed Plan; however, the function and goal are the same as presented within the 2010 Proposed Plan, which is to intercept mine-impacted groundwater along the toe of Tailings Piles 2 and 3 and prevent discharge to Railroad Creek.

Potential hazards associated with the MWTP and other site operations infrastructure constructed as part of the Phase 1 Remedial Action will continue in Phase 2. Site operations require on-site storage of diesel fuel for generators to power the MWTP, housing, and other site infrastructure. Approximately 147,000 gallons of diesel are consumed each year. The MWTP operates under a NPDES permit for treatment by pH adjustment and addition of a sulfide reagent. Consumables with potential hazards that are stored at the Site include gasoline for on-site vehicles, lime (approximately 212 tons per year), and sodium hydrosulfide (NaSH; 1,760 gallons per year). Phase 2 treatment operations are expected to increase the annual diesel usage to approximately 176,000 gallons per year, the annual lime usage to approximately 248 tons per year, and the annual usage of NaSH to 2,500 gallons per year. The additional usage is not expected to change the volumes of these materials stored at the Site. Gasoline usage for on-site vehicles is not expected to change.

**1) Describe any known or possible contamination at the site from present or past uses.**

Since the release of the 2010 SEPA Checklist, this question has been added therefore it is included in this Addendum.

As described throughout this SEPA Checklist Addendum, the Holden Mine was historically operated to produce copper and to a lesser extent zinc and gold. Mining started in the late 1800s and early 1900s along Railroad Creek. The underground mine

and facilities were initially developed in the Honeymoon Heights area, located on the hillside at the western end of the Site and where multiple mine portals and waste rock piles remain. Later, the mine operations were expanded by Howe Sound Company (former Site operator) to include ore milling and processing, with these operations occurring between 1938 and 1957. As part of these operations, an ore haul-out tunnel (the 1500 Level Main Portal) was constructed near the mill facility. Ore removal resulted in the development of about 56 miles of underground mine workings, and the ore processing generated approximately 10 million tons of tailings, the majority of which were hydraulically placed in three piles, Tailings Piles 1, 2, and 3, covering approximately 75 acres north and east of the former Mill Building. Additionally, approximately 250,000 tons of waste rock was placed in two piles on the west and east sides of the former Mill Building. After mining operations ceased at the Site in 1957, the mine partially filled with groundwater, which became contaminated and began to drain out of the 1500 Level Main Portal, discharging water overland and directly into Railroad Creek. Over decades, rain, snowmelt, and groundwater have carried metals and acidic water into soils, creeks, and sediment downstream.

**2) Describe existing hazardous chemicals/conditions that might affect project development and design. This includes underground hazardous liquid and gas transmission pipelines located within the project area and in the vicinity.**

Since the release of the 2010 SEPA Checklist, this question has been added and is therefore included in this Addendum.

As described above, the Site has a complex history of copper, zinc, and gold mining, resulting in widespread contamination and hazardous conditions from former mine infrastructure, including access to portals (mine openings). During Phase 1 construction, the underground mine workings were closed to prevent human access, control water discharges, and reduce air movement through the mine workings.

No other contamination or hazardous conditions are present within the vicinity of the Site.

**3) Describe any toxic or hazardous chemicals that might be stored, used, or produced during the project's development or construction, or at any time during the operating life of the project.**

Since the release of the 2010 SEPA Checklist, this question has been added therefore this is included in this Addendum.

For Phase 2 construction, it is anticipated that construction equipment will require the use of diesel and gasoline fuel. Refer to the Phase 2 Remediation response under question B.7.a for additional details about diesel, gasoline, lime, and sodium hydrosulfide stored and used at the Site for long-term Site operations.

**4) Describe special emergency services that might be required.**

Normal medical emergency services that are typical of large construction projects could be required during construction of the proposed cleanup action. Provision of emergency services would be addressed in the site-specific construction health and safety plan. Since the Site is in a very remote location, contact with police, fire departments, or medical emergency responders would need to be via satellite phone.

Phase 2 Remediation:

As part of Phase 1 operations and planned to continue during Phase 2 construction, an EMT is on-site full time. Additionally, communication and emergency response protocols are established with the local police and fire departments. Communication at the Site includes Starlink with cellular phone access.

**5) Proposed measures to reduce or control environmental health hazards, if any.**

Implementation of the proposed cleanup action would be performed in accordance with a site-specific health and safety plan, and a SWPPP. Remedial actions to address Site contamination are detailed in the Proposed Plan (this SEPA checklist is an attachment to the Proposed Plan).

**b. Noise**

**1) What types of noise exist in the area which may affect your project (for example: traffic, equipment, operation, other)?**

The Site is located within the National Forest with limited local habitation. The predominant source of noise in the area currently consists of human-generated noises from Holden Village activities, including buses, motorized equipment and vehicles, and occasional chain saws, generators, and construction-related noise. These noises would not affect the remedial action.

**2) What types and levels of noise would be created by or associated with the project on a short-term or a long-term basis (for example: traffic, construction, operation, other)? Indicate what hours noise would come from the site.**

Noise generated from the project has the potential to impact both people and wildlife. The DFFS provides some preliminary analysis of noise from construction and operation activities associated with implementation of different remedy alternatives, particularly with regard to impacts to Holden Village. While this preliminary analysis did not include the proposed cleanup action, construction and operation activities are similar and, therefore, the DFFS analysis is relevant and is discussed below.

In the short term, noise associated with traffic, heavy construction equipment (dozers, excavators, loaders, compactors, and trucks), and generators would be created during construction of the remedy, for portions of 3 years, during typical 5- to 6-month construction seasons. No construction work for the proposed cleanup action is anticipated to occur at night. Most vehicle traffic would be diverted

around Holden Village. Peak construction noise levels at the Holden Village perimeter were estimated in the DFFS to be around 53 decibels ("moderate noise"). The average construction noise level at the Village perimeter was estimated to be around 47 decibels ("faint noise"). Noise from heavy construction equipment would occur during tailings pile and waste rock regrading, construction of the treatment facilities, construction of the groundwater barrier wall and collection system, source control (e.g., removal of contaminated soil) in various areas of the Site, demolition of the mill building, creek relocation, and other remedial actions taken at the Site. Additionally, noise and vibration from potential blasting where the relocated channel is anticipated to be in bedrock adjacent to Tailings Pile 2 will be noticeable at Holden Village during construction. Further details on the remedial actions are described in the Proposed Plan. Noise and vibration from the borrow pit and riprap quarry operations may also be noticeable at Holden Village during construction depending on the locations selected, and will likely have some potential impact on wildlife surrounding these areas.

In the long term, noise would be associated with operation of the treatment plant, sludge disposal, and maintenance of the remedial action. The treatment plant will likely require a generator (diesel or hydroelectric) that will be necessary for some treatment processes, such as pumping water and sludge disposal. Fuel and lime would be delivered to the treatment facility by truck on a regular basis as well. Regular maintenance activities would also include construction vehicles (such as a backhoe) for maintaining the collection system and upgradient diversion swales.

Phase 2 Remediation:

Construction of Phase 2 will span a shorter period (two construction seasons) than Phase 1 (seven construction seasons) and is substantially smaller in scale than the Phase 1 construction elements described in the text above. During Phase 2 construction, noise associated with traffic, heavy construction equipment (an excavator, a loader, and a dump truck), drill rigs, and generators will be created, similar to current operational and environmental monitoring activities. No Phase 2 construction work is anticipated to occur at night. Noise levels will be within the range described above.

**3) Proposed measures to reduce or control noise impacts, if any.**

Measures to reduce or control noise impacts to Holden Village from the project include:

- A majority of vehicle traffic would be diverted around Holden Village during construction of the Proposed Plan.
- Construction activities are anticipated to be limited to daytime operations.
- The larger of the treatment plants (i.e., east treatment plant) would be located over a half mile from the eastern edge of Holden Village. The west treatment plant would be located approximately 1000 feet west of the western edge of Holden Village.

- For the east treatment plant trucks delivering fuel and lime would not have to go through the village. For the smaller west treatment plant trucks delivering fuel and lime may use access roads established during construction to bypass the village and/or may need to pass through the village.

- Generator(s) associated with the treatment plants would be located inside a sound dampening structure.

- The location of the workers' camp has not been determined but may be located away from Holden Village in the baseball field area, unless this location would interfere with the proposed cleanup action, or potentially within Holden Village, if amenable to Holden Village and the USFS per the conditions of Holden Village's special use permit. Another, smaller, potential camp associated with the construction unloading and staging area at Lucerne.

Measures to reduce or control noise impacts to wildlife from the project would include annual wildlife surveys and timing restrictions during high impact activities. Treatment activities causing noise above ambient levels and located within 1/4 mile of specified areas (e.g. suitable spotted owl nesting, roosting, and foraging habitat) would be conducted outside of the primary nesting season (March 1 - July 31), unless surveys have been completed and for example, spotted owls are not located within the suitable habitat. Surveys are conducted over a two-year survey period, and are considered current for two years following completion of the surveys. If any of the specified areas would actually be removed or disturbed under the remedy, then the timing restriction changes, and activities would be revised accordingly. Such measures would be implemented in accordance with the Land and Resource Management Plan for Wenatchee National Forest as Amended by Pacific Northwest Forest Plan (NWFP, 1994) and subsequent amendments of the NWFP (2001, 2004, and 2007), and other potential ARARs.

Phase 2 Remediation:

The above measures will also be utilized for Phase 2 construction; however, some measures will not be required due to the scope of construction. No work will occur within or near Holden Village. During the first season of Phase 2 construction, workers will be housed at the existing O&M house and the temporary construction housing near the O&M house. These housing facilities will continue to be used during the second season of Phase 2 construction, but the main camp used during the second season of construction (estimated to house 30 to 40 people) will be located at Dan's Camp, which is located approximately 7 miles to the east of the Site along Forest Service Road 8301.

## 8. Land and Shoreline Use

### a. What is the current use of the site and adjacent properties? Will the proposal affect current land uses on nearby or adjacent properties? If so, describe.

The Site is situated on National Forest System Lands administered by the Okanogan-Wenatchee National Forests, and on patented mining and mill site claims (private land) owned by Holden Village, Inc. Affected areas of public land would continue to be managed as part of the National Forest following implementation of the proposed cleanup action. The Forest Service has withdrawn the area around the Site from mineral entry. The withdrawal includes approximately 1,265 acres of National Forest land from location and entry of new mining claims under the United States mining laws [30 U.S.C. Ch. 2] (1994). A legal description of the mineral withdrawal is provided in BLM Public Land Order No. 7533 [67 FR 50894].

Holden Village, Inc. currently occupies and runs a non-denominational religious retreat in the former mining company town under a special use permit from the Forest Service. This community includes approximately 60 Holden Village staff that reside in the Village year round, and during the summer months, the combined staff and visitor population can be on the order of 500 people at any given time. The Holden Village community relies on their incoming and outgoing visitor population to contribute to the ongoing maintenance work necessary to sustain operations and various programmatic services essential to their ongoing mission. In this way, the community is very unique and fragile, and cannot remain viable if made to endure long stretches of construction work where visitors are not able to be accommodated. Holden Village has indicated it is in their best interest to temporarily close during peak remedy construction periods, and then resume operations at a similar level after implementation of the proposed cleanup action. Excluding visitors and staff of Holden Village, seasonal visitors include recreational users of the National Forest (e.g., hikers, fisherman, hunters, horse campers). After construction, it is expected that the Railroad Creek Watershed will continue to be occupied by at most a few hundred permanent residents, along with seasonal visitors on the order of 5,000 to 10,000 persons each year.

The Village utilizes portions of the former mine operations area of the Site (primarily on the patented claims) for various infrastructure, including a vehicle maintenance yard and garage, hydroelectric power plant, potable water treatment facility, recycling, solid waste storage, firewood staging area, and portable sawmill. The Village uses the surface of the West Waste Rock Pile for the storage of miscellaneous materials and solid waste. There are several hiking trails throughout the area, and Holden Village residents and/or visitors use parts of the mill site and tailings piles for recreational purposes on an occasional basis.

Phase 2 Remediation:

Holden Village is still in operation at the Site. The scale of construction from Phase 2 is significantly smaller than Phase 1 and construction is not anticipated to have any impacts to Holden Village's operations beyond the closure of trails located on the tailings piles in the vicinity of the construction work. Access restrictions will be communicated to Holden Village in advance and signs will be placed at all trail and road access points.

**b. Has the project site been used as working farmlands or working forest lands? If so, describe. How much agricultural or forest land of long-term commercial significance will be converted to other uses because of the proposal, if any? If resource lands have not been designated, how many acres in farmland or forest land tax status will be converted to nonfarm or nonforest use?**

Since the release of the 2010 SEPA Checklist, this question has been added and therefore is included in this Addendum.

The Site has never been used as working farmland or forest land.

**1) Will the proposal affect or be affected by surrounding working farm or forest land normal business operations, such as oversize equipment access, the application of pesticides, tilling, and harvesting? If so, how?**

Since the release of the 2010 SEPA Checklist, this question has been added and therefore is included in this Addendum.

The project will not affect or be affected by working farm or forest lands.

**c. Describe any structures on the site.**

Structures located on the south side of Railroad Creek at the Site include the mill building, a small building that was formerly operated by Holden Village as a museum, Holden Village's maintenance shop, hydroelectric power plant, and potable water treatment facility. There are approximately 25 Holden Village structures located on the north side of Railroad Creek. See Figure 3 of the Proposed Plan for building location and approximate footprints.

Phase 2 Remediation:

Additional structures at the Site that were constructed as a part of Phase 1 include the subsurface groundwater containment barrier well and groundwater collection system, the portal bulkheads, and the MWTP. Refer to Figure 4 of the 2026 Proposed Plan for the structure location and approximate footprints.

**d. Will any structures be demolished? If so, what?**

The former mill building would be demolished in whole or in part as needed to remove contaminants, as described in the proposed cleanup action. The mill building burned after the mine closed, leaving exposed steel beams, intermittent concrete walls, foundation elements, and unprocessed ore and mineral salts present on the surface of abandoned tanks and other equipment. Some demolition will be necessary within an area of one to two acres to safely remove soils and mineral processing residuals that are above proposed cleanup levels.

Phase 2 Remediation:

The existing East Seeps collection structures will be removed to support construction of the groundwater containment building. These East Seeps collection structures will no longer be needed because this groundwater will be intercepted and contained as part of the Phase 2 groundwater containment well network.

**e. What is the current zoning classification of the site?**

The Chelan County Code is potentially applicable to the private portions of the Site and not applicable to USFS federal lands. The majority of the Site is located within the Wenatchee National Forest and is subject to the Wenatchee Forest Land and Resource Management Plan. For the privately owned portions of the Site, the current zoning classification is commercial forest, according to the Chelan County Planning Department.

**f. What is the current comprehensive plan designation of the site?**

For the private portions of the Site, the current comprehensive plan designation is commercial forest, according to the Chelan County Planning Department.

**g. If applicable, what is the current shoreline master program designation of the site?**

Not applicable for the Site.

Phase 2 Remediation:

The shoreline jurisdiction of the area of Railroad Creek adjacent to Phase 2 work is designated as natural within the Chelan County Shoreline Management Plan. The area to the west of Phase 2 work area is designated as rural.

**h. Has any part of the site been classified as a critical area by the city or county? If so, specify.**

Formal delineation studies have not been conducted, but the area downstream of Tailings Pile 3 includes riparian wetlands. The Railroad Creek valley in the vicinity of Holden is a glacially carved, broad, relatively low-gradient valley. Photos and topographic maps from prior to development of the Holden Mine depict a meandering stream with a well developed floodplain and multiple channels in the area where the mine was constructed. Where the tailings piles are currently located, the valley floor was a relatively flat, wetland meadow. Farther upstream from the tailings piles, the stream channels were interwoven through riparian forest. The valley is bounded on both the north and south sides by steep mountainsides covered with conifer forest on undisturbed slopes, and deciduous vegetation in areas disturbed by humans and by natural processes, such as avalanche and landslide paths. This forest provides habitat for a multitude of riparian-dependent species, and important resources for both riparian and upland species.

The area where the mine operated is the largest of only a few floodplain valley reaches in the Railroad Creek drainage. Moreover, this is one of the few floodplain valleys in the

entire Lake Chelan drainage, and so it is important to the overall ecology of the Lake Chelan Basin.

Phase 2 Remediation:

As described under response to question B.3.a.1, a Mitigation Plan prepared for Rio Tinto by Confluence Environmental confirmed the presence and boundary of 24 wetlands and the OHWM of Railroad Creek. The wetlands fall within the riverine, slope, and depressional HGM classes. The wetland sizes, classifications, locations, and rating scores are included within the Mitigation Plan. Copper Creek is also located within the Site, but the OHWM was not delineated.

**i. Approximately how many people would reside or work in the completed project?**

The residential population of the Site, i.e., Holden Village, are not expected to be altered significantly after construction of the proposed cleanup action is completed (see Section B.8.a. above). Treatment plant operation and Site monitoring are expected to require one person working part-time under normal conditions, with up to several people potentially involved on occasions for monitoring or maintenance activities.

Phase 2 Remediation:

Monitoring and maintenance activities specific to Phase 2 are expected to be similar to those activities being performed for the Phase 1 Remedial Action. No additional personnel will be needed to cover the incremental Phase 2 Preferred Alternative operations and monitoring. Including MWTP operations, Site O&M, and EMT support, there are typically 10 full-time staff on-site.

**j. Approximately how many people would the completed project displace?**

None.

**k. Proposed measures to avoid or reduce displacement impacts, if any.**

Not applicable.

**l. Proposed measures to ensure the proposal is compatible with existing and projected land uses and plans, if any.**

Remedial actions associated with the proposed cleanup action are expected to enhance the existing and projected land uses. Treatment of impacted groundwater, source control actions, and planned vegetation measures are expected to beneficially impact aquatic and terrestrial species.

The Agencies understand that Holden Village, Inc. has legitimate concerns for the viability of its operations if remedial construction results in closure or significantly constrains operations of the Village for more than two consecutive years, or if there is a second closure within five years of the conclusion of the first construction period. The Agencies are sensitive to this request. Ultimately, Intalco will develop a proposed remedy

construction schedule, which is subject to Agency approval. However, the Agencies will strive to ensure that the schedule is consistent with the expressed preferences of Holden Village, and the preferred alternative (Alternative 14) proposes implementing remedy construction in two phases. Under this approach, a two-year phase one would be followed by a five-year break before phase two.

Phase 2 Remediation:

The construction of Phase 2 will not result in the closure of or significantly constrain the operations at Holden Village.

**m. Proposed measures to reduce or control impacts to agricultural and forest lands of long-term commercial significance, if any.**

Since the release of the 2010 SEPA Checklist, this question has been added and therefore is included in this Addendum.

The project will not have an impact to agricultural or forest lands of long-term commercial significance.

**9. Housing**

**a. Approximately how many units would be provided, if any? Indicate whether high, middle, or low-income housing.**

No permanent housing would be provided for any income category. Remedial construction may include a temporary construction workers' camp in an area that would not interfere with the cleanup. Location of staging area(s) and camp will be determined during remedial design. Estimates by the Agencies indicate the camp would house a peak population of about 50 people for up to 5 to 6 months annually for construction over the Phase I (2year) and Phase II (1-year) construction periods.

Phase 2 Remediation:

During the first season of Phase 2 construction, workers will be housed at the existing O&M house or the temporary construction housing near the O&M house, with a total of 32 occupants in these facilities at the peak. These occupants will include Phase 2 construction workers, MTWP operators, and other Rio Tinto staff. These housing facilities near the Site will continue to be used during the second season of Phase 2 construction, but the main construction camp used during the second season of construction (estimated to house 30 to 40 workers at the peak of construction) will be located at Dan's Camp, which is located approximately 7 miles to the east of the site along Forest Service Road 8301.

**b. Approximately how many units, if any, would be eliminated? Indicate whether high, middle, or low-income housing.**

No housing would be eliminated with implementation of the proposed cleanup action.

**c. Proposed measures to reduce or control housing impacts, if any.**

The temporary construction camp would be removed following completion of the proposed cleanup action. No permanent impacts are expected to be associated with providing temporary housing during construction

**10. Aesthetics**

**a. What is the tallest height of any proposed structure(s), not including antennas; what is the principal exterior building material(s) proposed?**

Single-story buildings associated with the east and west treatment plants would be added to the Site. The building has not yet been designed/purchased. Other structures would include lime storage and generator facilities associated with the east and west treatment facilities. Dimensions of these structures would be determined during remedial design. The east treatment plant would be located approximately one half mile east from Holden Village, and the west treatment plant would be located approximately 1000 feet west from Holden Village. Portions of the east facility may be visible from the road, and portions of the west treatment facility will likely be visible from the road.

Phase 2 Remediation:

The groundwater containment building will be a one-story building with a maximum height of 13 feet. The building exterior will be primarily a metal (siding and roof) with a concrete stem wall at the base of the building.

The Phase 2 containment wells will be installed and completed in flush mounted vaults.

**b. What views in the immediate vicinity would be altered or obstructed?**

No views are expected to be obstructed by the treatment plant complex.

**c. Proposed measures to reduce or control aesthetic impacts, if any.**

Vegetation screens would be maintained during construction between the treatment plants and the main road to minimize potential aesthetic impacts.

**11. Light and Glare**

**a. What type of light or glare will the proposal produce? What time of day would it mainly occur?**

The constructions season for the proposed cleanup action is anticipated to occur over periods of 2 years for Phase I and 1 year for Phase II construction, approximately 5 to 6 months per year to avoid winter conditions at the Site. Lighting for construction activities may be required early in the morning or late in the evening, depending on the type of activity (e.g., maintenance of construction equipment) and time of the year the work is occurring.

No artificial outdoor lighting is anticipated to be needed once construction of the proposed cleanup action is complete.

Phase 2 Remediation:

Phase 2 construction is anticipated to occur over two consecutive construction seasons from approximately May through October to avoid winter snow conditions. Because of the extended daylight hours during this time, is not anticipated that any additional lighting will be required during construction.

**b. Could light or glare from the finished project be a safety hazard or interfere with views?**

None expected.

**c. What existing off-site sources of light or glare may affect your proposal?**

None.

**d. Proposed measures to reduce or control light and glare impacts, if any.**

N/A.

**12. Recreation**

**a. What designated and informal recreational opportunities are in the immediate vicinity?**

The Site is located on National Forest System Lands and is bounded to the west, north, and south by the Glacier Peak Wilderness Area. Typical recreational activities of this National Forest land include hiking, fishing, hunting, camping, etc. Holden Village residents and/or visitors use parts of the Site and tailings piles for recreational purposes on an occasional basis.

**b. Would the proposed project displace any existing recreational uses? If so, describe.**

No existing recreational uses expected to be permanently eliminated by implementation of the remedy. The Agencies anticipate there would be temporary trail closures as well as interruption of some Holden Village activities on the south side of Railroad Creek during construction.

Phase 2 Remediation:

Remedial site access restrictions will be communicated to the USFS and Holden Village in advance and signs will be placed at all access points. Informal recreational use of the Jet Grout Road and Pioneer Road as trails will be temporary impacted as these roads will be closed to facilitate Phase 2 construction. It is not anticipated that the project will impact the use of designated USFS trails or other recreational facilities.

**c. Proposed measures to reduce or control impacts on recreation, including recreation opportunities to be provided by the project or applicant, if any.**

Limits and duration of temporary trail closures and other curtailment of Holden Village activities on the south side of Railroad Creek would be determined during remedial design. Following implementation of the remedy, fish populations in Railroad Creek are expected to increase, and could lead to increased recreational use of the area.

**13. Historic and Cultural Preservation**

**a. Are there any buildings, structures, or sites, located on or near the site that are over 45 years old listed in or eligible for listing in national, state, or local preservation registers? If so, specifically describe.**

A "Draft Determination of Eligibility Report," dated 1991, was prepared by the USFS and nominated the Holden Mine Historic District to the National Register of Historic Places, focusing on the Holden Mine mill and mine complex with its associated buildings and features, the Holden Village townsite, and the outlying properties known as Honeymoon Heights and the Winston home sites. This report recommended that the District be expanded to include sites at Lucerne. It was submitted in 2001 to the State Historic Preservation Office. In May 2001, the State Historic Preservation Office (SHPO) concurred that Holden Village was eligible, but did not indicate whether the entire Holden Mine Historic District was eligible. Concurrence on the eligibility of the district is still pending.

Any proposed modifications to the structures and/or immediately surrounding areas are required to be reviewed by the USFS and SHPO. A Section 106 report will be prepared for the proposed cleanup action.

**b. Are there any landmarks, features, or other evidence of Indian or historic use or occupation? This may include human burials or old cemeteries. Are there any material evidence, artifacts, or areas of cultural importance on or near the site? Please list any professional studies conducted at the site to identify such resources.**

Since the release of the 2010 SEPA Checklist, this question has been refined. The answer below reflects what was included in the previous checklist and additional information about the Site has been added under the Phase 2 Remediation response below.

Proposed historic landmarks including the Holden Mine mill and mine complex with its associated buildings and features, the Holden Village townsite, and Honeymoon Heights and the Winston home sites are located within or adjacent to the Site. An assessment of the Holden Mine is provided in the historic district nomination document.

Phase 2 Remediation:

The Site lies within the traditional territory of the Chelan, a Middle Columbia group of Interior Salish whose territory extended east from the Cascade Crest, along both sides of Lake Chelan and the Chelan River to the Columbia River (Chalfant 1974; Miller 1998; Ray 1974; Ruby and Brown 1992), with 17 ethnographic-period villages identified along Lake Chelan and the Chelan River. Evidence of Indigenous use within the Site includes the Winston Peeled Cedars and the precontact sites at Lucerne, which were identified during archaeological investigations in the 1970s. Additional evidence of lakeside occupation

reflecting longer term and more sedentary activities may be found in both surface and subsurface contexts in the Lucerne vicinity.

The Refrigerator Harbor lithic scatter reflects tool production, with chipped and ground stone tools already identified. Any additional discoveries of pre-contact artifacts or features would hold significant importance. Historic Euro-American activity began with 19th century mineral prospecting, followed by the establishment of lodging and resource facilities at Lucerne around the turn of the 20th century. The area saw significant development when Holden Mine began operations in 1937, with employee housing built at Honeymoon Heights, Winston, and Holden Village. Honeymoon Heights and Winston structures were later razed, but Holden Village remains an active, year-round retreat.

Most of Lucerne Bar has been systematically surveyed for cultural resources, documenting both pre-contact and historic use of the area. Most of the recorded sites are related to historic shoreline use representing docking facilities or industrial locations and are not eligible for listing on the National Register of Historic Places. One pre-contact site has been tested and determined to be eligible for listing on the National Register of Historic Places, and one other site with a pre-contact component remains unevaluated. Only one recorded site used subsurface information to determine eligibility, and all other sites were discovered through surface observation.

**c. Describe the methods used to assess the potential impacts to cultural and historic resources on or near the project site. Examples include consultation with tribes and the department of archeology and historic preservation, archaeological surveys, historic maps, GIS data, etc.**

Since the release of the 2010 SEPA Checklist, this question has been added and therefore is included in this Addendum.

Areas involved in the Phase 1 remedy implementation were archaeologically cleared by the Forest Service in 2011 and 2013 as part of National Historic Preservation Act Section 106 Compliance prior to Phase 1 construction. These clearances included a desktop literature review and field survey. Phase 2 is expected to involve minimal ground-disturbing activities, and Phase 2 work is confined within the Phase 1 footprint and constructed areas. The areas archaeologically cleared during Phase 1 that apply to Phase 2 include Tailings Pile 3 and Dan's Camp.

Coordination with Yakama Nation on remedy selection has also occurred throughout the project, including project deliverable review.

**d. Proposed measures to avoid, minimize, or compensate for loss, changes to, and disturbance to resources. Please include plans for the above and any permits that may be required.**

Any proposed modifications to the structures and/or immediately surrounding areas are required to be reviewed by the USFS and SHPO. Demolition of the derelict mill building will be limited to what is needed to safely perform cleanup of residual processing wastes and impacted soil under and around the mill structures.

Phase 2 Remediation:

Because the Holden Mine Historic District has been extensively inventoried for archaeological resources, continuous monitoring by a qualified archaeologist during ground-disturbing activities within the boundary of the Historic District is not required. However, in a landscape littered with historic mining debris, the potential for discovery of archaeological features and artifacts during remediation remains high. The discovery of human remains in this setting is unlikely but must be acknowledged as a possibility. Therefore, an Inadvertent Discovery Plan has been prepared for the project for Rio Tinto by Floyd|Snider in 2025. The Inadvertent Discovery Plan outlines the steps and provides guidance for the unanticipated discovery of cultural resources, human remains, or unanticipated effects on historic properties within the Site.

**14. Transportation**

**a. Identify public streets and highways serving the site or affected geographic area and describe proposed access to the existing street system. Show on site plans, if any.**

The Site is accessed by a dirt road that originates at Lucerne and extends west on the north side of Railroad Creek (See Figure 2 of the Proposed Plan). Lucerne is located on Lake Chelan at the mouth of Railroad Creek and can only be reached be reached via a passenger ferryboat service, or by private boat or float plane.

**b. Is the site or affected geographic area currently served by public transit? If so, generally describe. If not, what is the approximate distance to the nearest transit stop?**

No public transit is available within or connecting to Holden. Lucerne is accessible by commercial ferry on a regular basis, the ferry dock is about 11 miles east of the former mine.

**c. Will the proposal require any new or improvements to existing roads, streets, pedestrian, bicycle, or state transportation facilities, not including driveways? If so, generally describe (indicate whether public or private).**

The Agencies anticipate that improvements and maintenance to the existing road between Lucerne and Holden Village would be necessary. For example, the bridge at Ten-Mile Creek would need to be improved to withstand the increased traffic load associated with construction traffic and equipment. Also the surface of the dirt road would require gravel application and grading after and/or during construction of the proposed cleanup action. Improvements will also need to be made to existing roads at the Site. A bridge would also be constructed across Railroad Creek at the east end of Tailings Pile 3. This bridge may be temporary for use during construction of the proposed cleanup action, or could be permanent, subject to determination by the Agencies during remedial design.

A gravel-surfaced maintenance access road would be constructed along the toe of the tailings pile associated with the groundwater collection system. This road would be accessible only for construction in the short term, and maintenance and monitoring activities for the proposed cleanup action in the long term.

Phase 2 Remediation:

Gravel-surfaced construction access roads will be expanded/modified to support Phase 2 implementation, including a short section of access road running between the existing Jet Grout Road and the top of Tailings Pile 3 in the vicinity of the groundwater containment building and a short section of access road providing temporary construction access across the lower portion of Copper Creek from the Jet Grout Road to Tailings Pile 1.

**d. Will the project or proposal use (or occur in the immediate vicinity of) water, rail, or air transportation? If so, generally describe.**

Based on the remote access to the Site, construction and operation equipment, fuel, and lime would be transported by barge from Chelan to Lucerne where it will then be transported up valley to the Site by truck. The barge use required for this project could impact residents around Lake Chelan by increasing commercial traffic on the lake, and possibly by decreasing the occasional or overall availability of barges for non-construction activity. The greatest potential impacts would occur during construction of the remedial action, a 5- to 6-month construction season each year over a period of about two years for Phase I construction and an additional year for Phase II construction, as heavy equipment and supplies are being transferred to and from the Site. Impacts after construction of the remedial action would be decreased substantially as barges would be used for fuel and lime delivery to the Site, likely varying between one delivery per week and one delivery per month.

Construction workers can reach the Site by taking a passenger ferry boat service, private boat, or float plane to Lucerne and then by truck or other vehicle to Holden.

**e. How many vehicular trips per day would be generated by the completed project or proposal? If known, indicate when peak volumes would occur and what percentage of the volume would be trucks (such as commercial and nonpassenger vehicles). What data or transportation models were used to make these estimates?**

Operation and maintenance of the completed project are anticipated to require less than one vehicular trip per day. Frequency of deliveries of fuel and lime would depend on final design and supply arrangements, but would likely vary between one delivery per week and one delivery per month.

Phase 2 Remediation:

Operations and maintenance (O&M) activities associated with the completed project are expected to generate slightly greater than one vehicular trip per day on average.

Vehicle use is routine and consistent with the past 10 years of established site operations. Typical daily and periodic traffic includes:

- **Daily:** Road and site inspections (generally 1 light-duty vehicle round trip)
- **Weekly:** Staff shift rotations and barge-related cargo transport (typically 1–2 pickup trucks per event)

- **Seasonal peaks:**
    - Spring and Fall fuel and reagent deliveries represent the highest traffic volumes, with approximately 16–17 truckloads per campaign, occurring over short delivery windows
- **Periodic:** Engineering, geotechnical, environmental inspections, and specialty contractor visits (~14 events/year combined)

**Peak Traffic Conditions**

Peak traffic volumes occur during spring and fall delivery campaigns, when multiple truck trips may occur over several consecutive days. Outside of these periods, traffic remains low and intermittent.

**Vehicle Mix**

- The majority of routine daily traffic consists of light-duty vehicles (pickup trucks)
- Truck traffic (commercial/nonpassenger vehicles) is episodic, primarily associated with fuel and reagent deliveries
- On an annualized basis, truck traffic represents a minority of total trips, but constitutes the majority of traffic during short-duration delivery campaigns

**Data Sources and Methodology**

These estimates are based on:

- Historical O&M operations over the past 10 years, reflecting actual traffic patterns at the site
- Known delivery schedules and logistics planning assumptions (barge-to-truck supply chain)
- Professional judgment and comparison to existing site conditions, consistent with planning-level transportation assessment practices

No formal transportation modeling was performed, as traffic volumes are low, highly predictable, and consistent with long-established operational conditions.

**f. Will the proposal interfere with, affect, or be affected by the movement of agricultural and forest products on roads or streets in the area? If so, generally describe.**

Since the release of the 2010 SEPA Checklist, this question has been added and therefore is included in this Addendum.

Phase 2 remediation will not affect or be affected by the movement of agricultural and forest products.

**g. Proposed measures to reduce or control transportation impacts, if any.**

The bridge to be constructed across Railroad Creek at the east end of Tailing Pile 3, would allow construction traffic to access the former mine operations area of the Site while avoiding driving through Holden Village. The Agencies also expect that all traffic to a temporary construction workers camp (for example if in the baseball field area west of Holden Village), and to a potential construction staging area in the former Winston townsite, could also be routed across this bridge, south of the mine and then across the existing Holden Village vehicle bridge, to avoid construction traffic through the Village.

Construction would include a spill prevention, control, and countermeasure (SPCC) plan to reduce risks and mitigate potential impacts of potential fuel spills or other material used in construction and subsequently during long-term operations of the water treatment system.

**15. Public Services**

**a. Would the project result in an increased need for public services (for example: fire protection, police protection, public transit, health care, schools, other)? If so, generally describe.**

No increase anticipated.

**b. Proposed measures to reduce or control direct impacts on public services, if any.**

Not applicable.

**16. Utilities**

**Circle utilities currently available at the site:**

**a. electricity, natural gas, water, refuse service, telephone, sanitary sewer, septic system, other:**

There is no commercial utility or telephone service to the area. Holden Village's electricity is supplied by a privately owned hydroelectric generator powered by diversion of a portion of the Copper Creek flow. Holden Village obtains potable water from Copper Creek upstream of the Site. Holden Village uses intensive recycling and composting for solid waste management. Holden Village wastewater is treated with a privately owned and maintained septic system located east of the village.

**b. Describe the utilities that are proposed for the project, the utility providing the service, and the general construction activities on the site or in the immediate vicinity which might be needed.**

During construction of the proposed cleanup action, temporary utilities will need to be supplied to the camp used for construction workers, including water, electricity, and a septic system. Water may be obtained through the current Holden Village system or via withdrawal from Railroad Creek upstream of the Site. Electricity to the camp would likely be provided using diesel generators. The Holden Village septic system may be used to handle the wastewater generated by the camp, or alternative systems may be needed for temporary use during the Phase I (2-year) and Phase II (1-year) construction periods.

The proposed cleanup action includes construction, use, and closure of limited purpose landfills for disposal of solid waste and contaminated soils generated during the cleanup, and for long-term disposal of sludge from the water treatment facility.

Additional utilities are required for long-term use to power the treatment facility, e.g., to pump water and sludge from the treatment facility to a limited purpose landfill on the tailings piles. Electrical energy for operation of the treatment facility would come from diesel, liquid petroleum gas, or hydroelectrical generators, as determined during remedial design.

Phase 2 Remediation:

During both Phase 2 construction seasons, workers will be housed in the existing O&M house and the adjacent temporary worker housing, relying on the existing potable well for drinking water and the existing septic system. Additionally, a temporary construction camp will be located at Dan's Camp during the second construction season to house additional workers. Potable water for this construction camp at Dan's Camp is anticipated to be imported by truck. Waste generated from the construction facilities at Dan's Camp is anticipated to be transported off-site. Diesel generators would be used to supply energy to both the O&M house/temporary worker housing and construction camp.

## C. Signature

**The above answers are true and complete to the best of my knowledge. I understand that the lead agency is relying on them to make its decision.**

X

SEPA Responsible Offical

**Type name of signee:** Click or tap here to enter text.

**Position and agency/organization:** Click or tap here to enter text.

**Date submitted:** Click or tap to enter a date.

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