



Paula Goodman Maccabee, Executive Director and Counsel

1961 Selby Ave., St. Paul, MN 55104 (651-646-8890)
paula@waterlegacy.org or pmaccabee@justchangelaw.com

October 1, 2025

SENT BY EMAIL TO environmentalrev.dnr@state.mn.us

Becky Horton, EAW Project Manager
Minnesota Department of Natural Resources
500 Lafayette Road North
St. Paul, MN 55155

RE: U.S. Steel Keetac Tailings Storage Facility Project Environmental Assessment
Worksheet

Dear Ms. Horton,

This comment is submitted in response to the U.S. Steel Keetac Tailings Storage Facility Project (“Keetac TSF Project”) Environmental Assessment Worksheet (“EAW”), made available to the public by the Department of Natural Resources (“DNR”) on August 7, 2025 and published in the EQB Monitor on September 2, 2025. WaterLegacy’s comments can be summarized as follows:

- 1) **Dam Safety Intent Unsupported.** The stated purpose of the Keetac TSF Project “to reduce risk and improve the safety of the TSF while minimizing impacts to the environment - with the ultimate goal of reducing the risk of dam failure” is positive. But this intent is not supported in the EAW, which neither describes current or predicted dam safety conditions nor discloses factors of safety that have been and will be applied to the Keetac TSF.
- 2) **Project Description Insufficient.** The EAW fails to provide any illustration of the “dams” and “dikes” proposed to be constructed for the proposed Keetac TSF Project, and creates additional ambiguity about what the proposed Project entails and how it will be regulated by using the term “dike” in a manner that is inconsistent with the way these words are used in applicable Minnesota regulations.
- 3) **Project Changes Incompletely Disclosed.** The EAW does not include critical information required to evaluate whether the proposed Keetac TSF Project is needed and whether it will increase or decrease the risk of dam failure and other potential adverse environmental effects.
- 4) **Wastewater Releases.** The EAW inaccurately states that the Keetac TSF is designed as a “closed system” that does not release pollutants through surface water and minimizes the potential impacts of seepage to and through groundwater, without identifying specific mitigation measures.
- 5) **Dam Safety Permit and Permit to Mine Amendments.** The EAW does not describe the timing, process, or scope of anticipated amendments to the Dam Safety Permit (Permit No. 2022-0721) and Permit to Mine or state that proposed Project

construction is prohibited until the environmental review process is completed and the amendments are approved.

Discussion of Salient Concerns.

1) Dam Safety Intent Unsupported.

The stated purpose, EAW at 8, of the Keetac TSF Project “to reduce risk and improve the safety of the TSF while minimizing impacts to the environment – with the ultimate goal of reducing the risk of dam failure” is laudable. Similarly, it would be a positive step if DNR has selected a factor of safety analysis “that meets or exceeds industry standards and is defensible to independent review.” *Id.* However, the EAW provides no evidence to support this stated Project purpose or dam safety analysis. The EAW provides none of the following pertinent information: a) the chosen minimum factor of safety criteria against which dam stability is now and will be evaluated; b) the current and projected factors of safety at the Keetac tailings dams if the proposed Keetac TSF Project is not built; or c) the projected factors of safety during construction, operations, and closure if the Keetac TSF Project is constructed as proposed. *Id.* at 8-9. This information must be provided to demonstrate that the proposed TSF Project is reasonably related to its stated intent and purpose.

The Keetac EAW also discusses geotechnical monitoring, stating that “Keetac currently has over 190 piezometers, 40 inclinometers, and 3 shape accelerator arrays (SAA) to help measure the performance of the facility.” *Id.* at 8. But the EAW does not specify whether these instruments are functional and does not indicate on a map where they are located. Absent this information and specificity about what “[a]dditional geotechnical investigations,” instruments, and “adoption of new technologies” would be installed to monitor the health and performance of the facility, *id.* at 8-9, the EAW does not demonstrate that the Keetac TSF Project would reduce, rather than increase, the risk of adverse environmental effects caused by dam failure.

2) Project Description Insufficient.

The EAW fails to include maps or illustrations showing either the locations or structures of Keetac TSF Project proposed “downstream dams” or “modified centerline dikes.” Such documentation—which certainly has been provided in U.S. Steel’s application materials—must be provided with a revised EAW to provide minimum basic information regarding the proposed Project. Without such information, the EAW only discloses on what acreage the TSF will be enlarged, but does not show what will actually be built. The EAW’s narrative explanation below, is not helpful. In fact it is singularly vague:

Vertically raising the existing dams and dikes would be achieved using downstream and modified centerline construction methods, that would extend the dam and dikes beyond the current TSF footprint. Downstream dams and modified centerline dikes are described by their construction methods. In this context, dams are considered to be hydraulic retaining features designed to store water while dikes are features designed to store tailings. Downstream dams are built in stages, starting with a foundation and then adding layers of material downstream. This method ensures that the entire dam is on a stable foundation and is robust enough

to store large amounts of water. Modified centerline dikes are also built in stages starting with the foundation but are raised vertically from the centerline of the original dam. This method ensures the entire dam footprint is supported by a firm foundation while minimizing downstream impacts.

Id. at 8.

As noted above, this narrative is not accompanied by any map or illustration of where or what existing or proposed structures the DNR has decided to view as “dikes” and as “dams.” This concern is exacerbated by the fact that the way DNR has defined dams and dikes is inconsistent with Minnesota rules.

The EAW states that “dams are considered to be hydraulic retaining features designed to store water while dikes are features designed to store tailings.” *Id.* However, Minnesota rules explicitly define “dams” to include all structures that “impound waste materials containing water as well as water,” and “dikes” are included in the definition of “dams” unless the dikes are “constructed for flood control purposes to divert flood waters and which are not intended to act as impoundment structures.” Minn. R. 6115.0320, subp. 5.

Any “dikes” at the Keetac TSF would impound wet slurry tailings and wastewater; they are not diversion projects for flood control or protections of agricultural lands. The EAW should be revised to explicitly designate all proposed containment structures—including those that impound tailings—as “dams.” The EAW should also underscore that *all* proposed “dikes” are, in fact, dams that must meet rule requirements in Minn. R. ch. 6115, including requirements for dam stability under all conditions and compliance with prudent, current engineering and environmental practice. Minn. R. 6115.0410, subp. 8.

The EAW narrative description contains another ambiguity that undermines the ability to evaluate whether the proposed Keetac TSF Project activities support its stated dam safety purpose. The EAW uses the word “foundation” to refer to the substrate underlying both the downstream and “modified centerline” dams proposed for the Project. However, the foundation for any downstream dam is solid ground, rather than tailings. If the foundation for the “modified centerline” dams were also solid ground, the dams would be appropriately designated as “centerline” not “modified” centerline dams. The EAW must disclose where the “modified” centerline dams are located and whether their “foundation” is actually previously deposited fine tailings and slimes. If the foundation for proposed new dams is fine tailings, the EAW must explain that this engineering choice does not improve dam stability and explain whether it is driven by the costs of developing off-site sources for dam construction materials.

3) Project Changes Incompletely Disclosed.

The EAW describes some of the Keetac TSF Project changes, but there are gaps in this description that affect evaluation of the purpose of the Project and its potential for significant environmental effects. First, the EAW does not explain the basis for the scope and scale of its construction. The EAW states that at current mining rates, for the life of the mine through 2048 the Keetac total tailings delivered to the TSF would be 340 million long tons of tailings. EAW at 9. The EAW then states that the proposed Project would allow storage of 590 million long tons

of tailings. *Id.* The EAW also clarifies that the Project “does not propose to increase the permitted life of the mine,” “does not involve any change in mining or processing from what has been permitted,” and that the 2048 life of mine date “includes time for reclamation and closure.” *Id.* The EAW further states that the proposed TSF Project would not be completed until 2063. *Id.* at 11, Table 6.3. The only information in the EAW provides no support for the need to construct a TSF that will not be completed until decades after closure to store 590 million long tons of tailings.¹

In addition, although the Keetac TSF Project proposes a massive increase in wet slurry deposition, the EAW does not describe the volume or percentage of wastewater that will be pumped into the TSF with fine tailings or the volume of wastewater that will be impounded behind what the EAW refers to as “downstream” dams. There is no evaluation of the total water flow and captured precipitation that will be contained in the TSF if the proposed Project is constructed.

4) Wastewater Releases.

The EAW states that the Keetac TSF is designed as a “closed system with no direct discharge to surface waters.” *Id.* at 46. But that is not how the TSF actually operates. In its draft NPDES/SDS permit for the Keetac Tailings Basin, the Minnesota Pollution Control Agency (“MPCA”) recently found that surface drainage from the tailings basin area, “flows to the West Swan River, unnamed wetlands, Hay Creek to Swan Lake, Reservoir 2, Reservoir 2 North and Welcome Creek.” Tailings Basin Permit² at 4. In fact, the EAW proposes a seepage reduction feature along the upstream face of the water retention dam to reduce seepage through the dam. EAW at 44. The increased size, tailings volume, and wastewater volume if the proposed Project is built have the potential to increase the adverse environmental effects of direct surface seepage.

The EAW acknowledges that the “Project would increase the overall potential for seepage of process water into the groundwater system.” *Id.* at 77. In addition, for the West Swan River, the EAW states that there is “[p]otential groundwater seepage from TSF.” *Id.* at 37, Table 12.2. However, the EAW provides neither analysis nor mitigation to address potential environmental effects from increased polluted discharge to groundwater and through groundwater to surface water.

The Minnesota Supreme Court has held that groundwater protection regulations apply to protect groundwater beneath mine waste containment facilities from the adverse effects of a “discharge or deposit” that “may pollute the underground waters.” *In re Denial of Contested Case Hearing Requests and Issuance of NPDES/SDS Permit for the Proposed NorthMet Project*, 993 N.W.2d 627, 664 (Minn. 2023) (citing Minn. R. 7060.0600, subp. 2). In addition, seepage through

¹ If there is a mining or processing expansion project contemplated that requires the enlargement of Keetac TSF dams to allow storage of 590 million long tons of tailings, that project should be evaluated concurrently to determine the appropriate size and scope of TSF changes.

² A copy of the MPCA’s Draft NPDES/SDS Permit for the U.S. Steel Tailings Basin (MN0055948) (“TB Permit”) is provided as Attachment A.

groundwater may be the functional equivalent of a direct discharge adversely affecting surface water. *County of Maui, Hawaii v. Hawaii Wildlife Fund*, 140 S. Ct. 1462, 1469-78 (2020).

Although the EAW hypothesizes that processing finer tailings might offset the increase in seepage of process water through the tailings, no specific facts or analysis in the EAW support this theory. EAW at 77. Moreover, there are no mitigation measures for the Keetac TSF Project that regulate or control potential adverse effects from seepage to and through groundwater. Currently, there is no groundwater monitoring at the Keetac TSF, and the draft NPDES/SDS permit for the Keetac tailings basin doesn't propose any. *See* TB Permit at 48-68. The EAW's suggestion that "installation of new monitoring wells" would be needed even to detect changes to seepage conditions and groundwater quality, EAW at 77, underscores that there is no measurement, let alone mitigation, to evaluate or control polluted seepage to groundwater.

In addition, MPCA has never regulated Keetac TSF seepage through groundwater that has the potential for adverse environmental effects on surface water. Despite both the *Maui* case and a detailed technical analysis done by the U.S. Environmental Protection Agency ("EPA") concluding that another U.S. Steel tailings basin is a point source that is the functional equivalent of a direct discharge to surface waters,³ monitoring proposed for the Keetac TSF is insufficient to conduct a functional equivalent analysis and no evaluation at all is required until the next permit reissuance, at least five years away. *See* TB Permit at 26.

Finally, the EAW describes no existing or proposed "mitigation measures specifically designed" to reduce environmental effects to groundwater or surface water from increased Keetac TSF seepage should the proposed Project be constructed. Minn. R. 4410.1700, subp. 7(B). These effects have the potential to be significant.

5) Dam Safety Permit and Permit to Mine Amendments.

The EAW does not describe the timing, process, or scope of anticipated amendments to the Dam Safety Permit (Permit No. 2022-0721) and Permit to Mine. The DNR issued a Permit to Mine amendment to enlarge the maximum height of Keetac Stage 2 exterior dams in 2022; issued a Permit to Mine amendment for a plant expansion in 2023; and changed the mining area in the Permit to Mine to include Reservoir 6 and other areas in 2025. EAW at 15. None of these documents, including the 2025 mapping of the mine site identified as "Appendix N" to the EAW were provided to the public or included with release of the EAW.⁴

The EAW states that both an amended Permit to Mine and an amended Dam Safety Permit are required for the Keetac TSF Project. *Id.* at 22, Table 9.1. The EAW states that "an amended Permit to Mine will be required prior to starting Project work," but does not state whether DNR considers this major TSF change to be a substantial change requiring notice and public comment.

³ EPA, U.S. Steel's Minntac Tailings Basin Wastewater Discharge, Functional Equivalent of a Direct Discharge Technical Assistance, July 2023, Attachment B.

Minn. Stat. § 93.481, subd. 3(b). The DNR should clarify that the Keetac TSF Project represents a substantial change to the existing permit, which is subject to notice and public comment.

Next, although the EAW states that the purpose of the Keetac TSF Project is to reduce dam failure risks and improve dam safety, *supra* 2, the EAW does not state that the Dam Safety Permit must be amended before Project work can begin. Since the Dam Safety process is likely to be the only permitting process that will consider dam failure risks, amendment of the Dam Safety Permit should be required before construction can begin.

For prior TSF projects, even commenters detailing dam safety concerns in the environmental review process were denied both an opportunity to participate in the amendment process and notice when a dam permit is reissued until after any opportunity for judicial review has lapsed. If DNR is serious about amending the Keetac TSF Dam Safety Permit to improve dam safety, this situation is easily remedied. DNR has discretion to invite public comments on the proposed Dam Safety Permit amendment and to provide prompt notice of its decision to amend a dam safety permit to persons other than the permittee. These steps should be taken.

Finally, recent situations suggest that permittees may believe that DNR authorizes project construction prior to completion of the environmental review process. The EAW as well as direct communications with the permittee should remind U.S. Steel that Minnesota statutes and rules prohibit project construction once an EAW is required until either a negative declaration is issued on the need for an environmental impact statement (“EIS”) or an EIS is prepared and deemed adequate. Minn. Stat. § 116D.04, subd. 2b; Minn. R. 4410.

Conclusion

On several salient issues, the material contained in the EAW is incomplete or inaccurate, Minn. R. 4410.1600. The EAW doesn’t support the purpose and need for a project at the scale of the Keetac TSF Project and does not substantiate that the proposed Project would reduce rather than increase the risk of dam failure. The Keetac TSF Project also has the potential for significant environmental effects due to the increase discharge of polluted water to groundwater and through groundwater and surface drainage to surface water, and does not adequately consider, let alone provide mitigation measures to avoid or minimize these risks. Minn. R. 4410.1700.

DNR should revise the EAW to address the insufficiencies described in these comments, either to substantiate the need for 590 million long tons of tailings storage or to modify the Project consistent with the 2048 life of the mine. The EAW should also be revised either to substantiate the stated Project purpose of increasing dam safety and reducing the risk of dam failure or to acknowledge increased potential for harm. That revised EAW should also transparently and accurately describe the Keetac TSF Project construction plan and water containment projections, consider the environmental effects of dam failure and increased discharge of polluted wastewater, and specify appropriate mitigation measures. Absent such a revised EAW, an EIS should be prepared for the Keetac TSF Project.

In addition, WaterLegacy requests that DNR clarify the permitting process for the Keetac TSF Project as follows: 1) confirm that the Permit to Mine amendment for the Project is a substantial amendment requiring public notice and comment; 2) clarify that project construction cannot begin until both the Permit to Mine and the Dam Safety Permit amendments are approved; and 3)

WaterLegacy Comments – Keetac EAW

October 1, 2025

Page 7

commit to providing public notice to commenters and others who request notice prior to and at the time of the Dam Safety Permit amendment. In addition, pursuant to Minn. Stat. § 116D.04, subd. 2b, DNR should inform the permittee that construction is not authorized by the DNR and is prohibited by law until environmental review is completed.

Thank you for your consideration of our comments. Please feel free to contact me should you have any questions.

Sincerely yours,

A handwritten signature in cursive script that reads "Paula G. Maccabee". The signature is written in black ink and has a fluid, connected style.

Paula G. Maccabee

WaterLegacy Executive Director and Counsel

Enclosures: Attachments A-B